



United States Department of the Interior

FISH AND WILDLIFE SERVICE



Raleigh Field Office
P.O. Box 33726
Raleigh, NC 27636-3726

Date: _____

Self-Certification Letter

Project Name _____

IPaC Project Code: _____ IPaC Record Locator # _____

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Raleigh Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. Based on your analysis, mark all the determinations that apply:

- ☐ “no effect” determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- ☐ “may affect, not likely to adversely affect” determinations for proposed/listed species and/or proposed/designated critical habitat; and/or
- ☐ “no Eagle Act permit required” determinations for eagles.

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the “no effect” or “not likely to adversely affect” determinations for proposed and listed species and proposed and designated critical habitat; the “may affect” determination for Northern long-eared bat; and/or the “no Eagle Act permit required” determinations for eagles. Additional coordination with this office is not needed. Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species. Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for 1 year. Information about the online project review process including instructions, species information, and other information regarding project reviews within North Carolina is available at our website <http://www.fws.gov>. If you have any questions, you can write to us at Raleigh@fws.gov or please contact Leigh Mann of this office at 919-856-4520, ext. 10.

Sincerely,

/s/Pete Benjamin

Pete Benjamin
Field Supervisor
Raleigh Ecological Services

Enclosures - project review package



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Ecological Services Field Office
Post Office Box 33726
Raleigh, NC 27636-3726
Phone: (919) 856-4520 Fax: (919) 856-4556



In Reply Refer To:

December 05, 2023

Project Code: 2024-0023160

Project Name: West Lumberton Flood Gate at VFW Road and Railroad Underpass

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). If your project area contains suitable habitat for any of the federally-listed species on this species list, the proposed action has the potential to adversely affect those species. If suitable habitat is present, surveys should be conducted to determine the species' presence or absence within the project area. The use of this species list and/or North Carolina Natural Heritage program data should not be substituted for actual field surveys.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see <https://www.fws.gov/program/migratory-bird-permit/what-we-do>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Raleigh Ecological Services Field Office

Post Office Box 33726
Raleigh, NC 27636-3726
(919) 856-4520

PROJECT SUMMARY

Project Code: 2024-0023160
Project Name: West Lumberton Flood Gate at VFW Road and Railroad Underpass
Project Type: Levee / Dike - Maintenance/Modification
Project Description: The West Lumberton Flood Gate at VFW Road and Railroad Underpass project (proposed project) is located near Interstate 95 (I-95) in the vicinity of VFW Road, Cox Road, Hackett Street, and the CSX railroad crossing within the City of Lumberton (City), North Carolina. The proposed limits of disturbance consist of public rights-of-way, Hackett Street, Cox Road, VFW Road, the CSX railroad line, and portions of five parcels. The City has requested HUD CDBG-MIT funding through the NCORR Infrastructure Recovery Program to construct a permanent, mechanically powered floodgate system and related drainage and flood improvements to prevent future flood occurrences through a CSX railroad underpass beneath I-95 in an area of Lumberton that has suffered devastation from extreme river flooding, primarily associated with hurricanes. The proposed project will enhance the City's existing earthen levee system built in 1977 by the U.S Department of Agriculture (USDA) Soil Conservation Service and flood control system which protects southern and western Lumberton from river flooding. The proposed project will disturb approximately 4.9 acres mostly within previously disturbed railroad and roadway easements and industrial businesses' lawns.

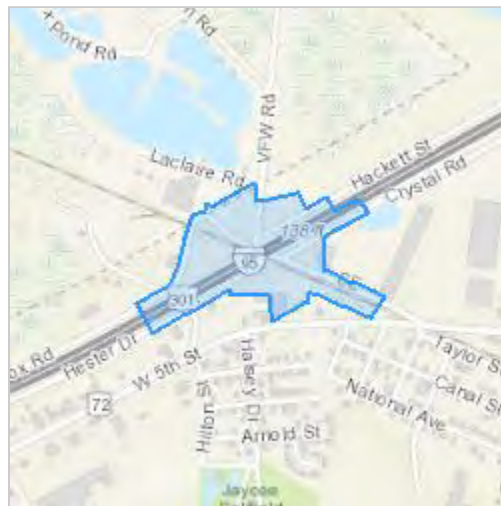
The proposed project entails construction of an approximately 30-foot flood gate to swing over the CSX railroad tracks with concrete wing flood walls extending outward from both sides of the gate and connecting concrete wing wall sections to a proposed earthen berm with supportive sheet piling that ties the system into the I-95 proposed embankment; slope revetment; riprap groin protection; two 15-foot-wide gravel access drives with turnout onto Cox Road and corresponding 34-lf and 36-lf, 15-inch reinforced concrete piping (RCP) culverts; 2-foot x 2-foot and 3-foot x 3-foot sluice gates; water main offset; railroad ditch grading; removal and reinstallation of steel casing and 6-inch watermain south of the flood gate, as needed; abandonment of AT&T line; and all surfaces to be restored to existing grade after construction. Temporary construction includes four construction entrances, a staging area, two check dams, and a 26-linear-foot (lf), 15-inch HDPE. The sluice gates shall be self-contained stainless steel slide gates with a wall thimble offset sufficient to accommodate handwheel operation. CSX will remove and reinstall 34-foot rail sections and two timber crossies from each track with contractor to install sections of shoring (TRS) sheet piling which will remain in-place and be cut off a minimum of 2-feet below the top-of-tie. The contractor shall coordinate with CSX to schedule the final construction sequence including track

windows for all phases of work where track(s) will be blocked or out of service and execute with CSX a temporary construction crossing agreement. CSX and contractor will schedule a 12-hour track window to install the jump span bridge with CSX removing a 50-foot track section and contractor excavating materials, cutting off piles, and installing wales, struts, pile caps, and jump span bridge. Erosion and sediment control measures include filter fabric under 24-inch class 2 riprap east of the flood gate; geotextile fabric under 18-inch class B riprap and 6-inch stone groin protection riprap along southeastern portion of the earthen berm; two stone riprap check dams; site grading; and silt fencing.

NC DOT is undertaking the widening of this section of I-95 and site conditions anticipated upon completion of this NC DOT project are shown on C-102, Existing Conditions, in the attached site plans (Appendix A). The NC DOT project includes realignment of Cox Road and Hackett Street, I-95 embankment and bridge surfacing, a drainage channel, I-95 replacement bridge, retaining walls near Cox Road, and temporary and permanent NC DOT easements and ROWs, all to be completed by NC DOT before construction commences on this proposed project.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@34.62752195,-79.04000527888812,14z>



Counties: Robeson County, North Carolina

ENDANGERED SPECIES ACT SPECIES

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Red-cockaded Woodpecker <i>Picoides borealis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7614	Endangered
Wood Stork <i>Mycteria americana</i> Population: AL, FL, GA, MS, NC, SC No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8477	Threatened

REPTILES

NAME	STATUS
American Alligator <i>Alligator mississippiensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/776	Similarity of Appearance (Threatened)

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

FLOWERING PLANTS

NAME	STATUS
Michaux's Sumac <i>Rhus michauxii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5217	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

-
1. The [Bald and Golden Eagle Protection Act](#) of 1940.
 2. The [Migratory Birds Treaty Act](#) of 1918.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO BALD AND GOLDEN EAGLES WITHIN THE VICINITY OF YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Brown-headed Nuthatch <i>Sitta pusilla</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9427	Breeds Mar 1 to Jul 15
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read the supplemental information and specifically the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

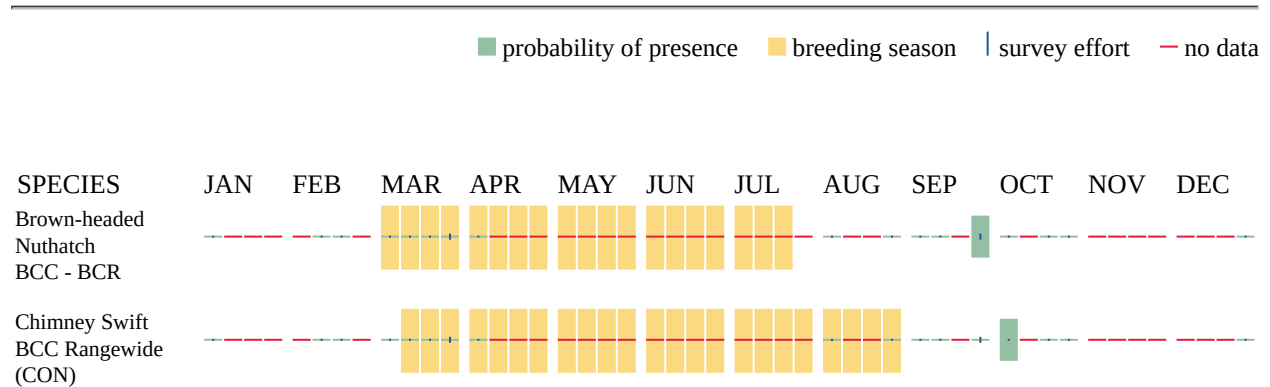
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
 - Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
 - Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
 - Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>
-

IPAC USER CONTACT INFORMATION

Agency: State of North Carolina

Name: Andrea Gievers

Address: P.O. Box 110465

City: Durham

State: NC

Zip: 27709

Email: andrea@arcolaenv.com

Phone: 8456821700



Roy Cooper, Governor

D. Reid Wilson, Secretary

Misty Buchanan
Deputy Director, Natural Heritage Program

NCNHDE-24245

December 6, 2023

Andrea Gievers
NCORR
P.O. Box 110465
Durham, NC 27709
RE: West Lumberton Flood Gate at VFW Road and Railroad Underpass

Dear Andrea Gievers:

The North Carolina Natural Heritage Program (NCNHP) appreciates the opportunity to provide information about natural heritage resources for the project referenced above.

Based on the project area mapped with your request, a query of the NCNHP database indicates that there are no records for rare species, important natural communities, natural areas, and/or conservation/managed areas within the proposed project boundary. Please note that although there may be no documentation of natural heritage elements within the project boundary, it does not imply or confirm their absence; the area may not have been surveyed. The results of this query should not be substituted for field surveys where suitable habitat exists. In the event that rare species are found within the project area, please contact the NCNHP so that we may update our records.

The attached 'Potential Occurrences' table summarizes rare species and natural communities that have been documented within a one-mile radius of the property boundary. The proximity of these records suggests that these natural heritage elements may potentially be present in the project area if suitable habitat exists. Tables of natural areas and conservation/managed areas within a one-mile radius of the project area, if any, are also included in this report.

If a Federally-listed species is found within the project area or is indicated within a one-mile radius of the project area, the NCNHP recommends contacting the US Fish and Wildlife Service (USFWS) for guidance. Contact information for USFWS offices in North Carolina is found here:

<https://www.fws.gov/offices/Directory/ListOffices.cfm?statecode=37>.

Please note that natural heritage element data are maintained for the purposes of conservation planning, project review, and scientific research, and are not intended for use as the primary criteria for regulatory decisions. Information provided by the NCNHP database may not be published without prior written notification to the NCNHP, and the NCNHP must be credited as an information source in these publications. Maps of NCNHP data may not be redistributed without permission.

The NC Natural Heritage Program may follow this letter with additional correspondence if a Dedicated Nature Preserve, Registered Heritage Area, Land and Water Fund easement, or Federally-listed species are documented near the project area.

If you have questions regarding the information provided in this letter or need additional assistance, please contact the NCNHP at natural.heritage@dncr.nc.gov.

Sincerely,
NC Natural Heritage Program

Natural Heritage Element Occurrences, Natural Areas, and Managed Areas Within a One-mile Radius of the Project Area
West Lumberton Flood Gate at VFW Road and Railroad Underpass
December 6, 2023
NCNHDE-24245

Element Occurrences Documented Within a One-mile Radius of the Project Area

Taxonomic Group	EO ID	Scientific Name	Common Name	Last Observation Date	Element Occurrence Rank	Accuracy	Federal Status	State Status	Global Rank	State Rank
Caddisfly	41587	Rhyacophila sp. 1	a caddisfly	2016-03-12	E	3-Medium	---	Significantly Rare	G2G3	S2
Dragonfly or Damselfly	33769	Somatochlora georgiana	Coppery Emerald	2004-Pre	H?	5-Very Low	---	Significantly Rare	G3G4	S1?
Dragonfly or Damselfly	33789	Triacanthagyna trifida	Phantom Darner	2004-Pre	H?	5-Very Low	---	Significantly Rare	G5	SH
Freshwater Fish	29762	Cyprinella sp. cf. zanema	Thinlip Chub	2010-07-07	E	3-Medium	---	Special Concern	G2Q	S2
Freshwater Fish	31779	Enneacanthus chaetodon	Blackbanded Sunfish	2010-07-07	E	3-Medium	---	Significantly Rare	G3G4	S3
Freshwater Fish	36966	Notropis chalybaeus	Ironcolor Shiner	1997-05-27	H?	3-Medium	---	Threatened	G4	S2S3
Natural Community	27516	Blackwater Bottomland Hardwoods (Swamp Transition Subtype)	---	2017	AB	2-High	---	---	G3G5	S3
Natural Community	41269	Cypress--Gum Swamp (Blackwater Subtype)	---	2017	A	3-Medium	---	---	G4?	S4
Reptile	29301	Micrurus fulvius fulvius	Eastern Coralsnake	2009-08	D	3-Medium	---	Endangered	G5	S1
Vascular Plant	26672	Ditrysinia fruticosa	Sebastian-bush	2008-05-07	A?	4-Low	---	Significantly Rare Peripheral	G5	S2
Vascular Plant	472	Ludwigia brevipes	Long Beach Seedbox	1954-09-13	H	3-Medium	---	Significantly Rare Throughout	G2	S1
Vascular Plant	19463	Xyris floridana	Florida Yellow-eyed-grass	1963-08-27	H	4-Low	---	Special Concern Vulnerable	G5T4T5	S1

Natural Areas Documented Within a One-mile Radius of the Project Area

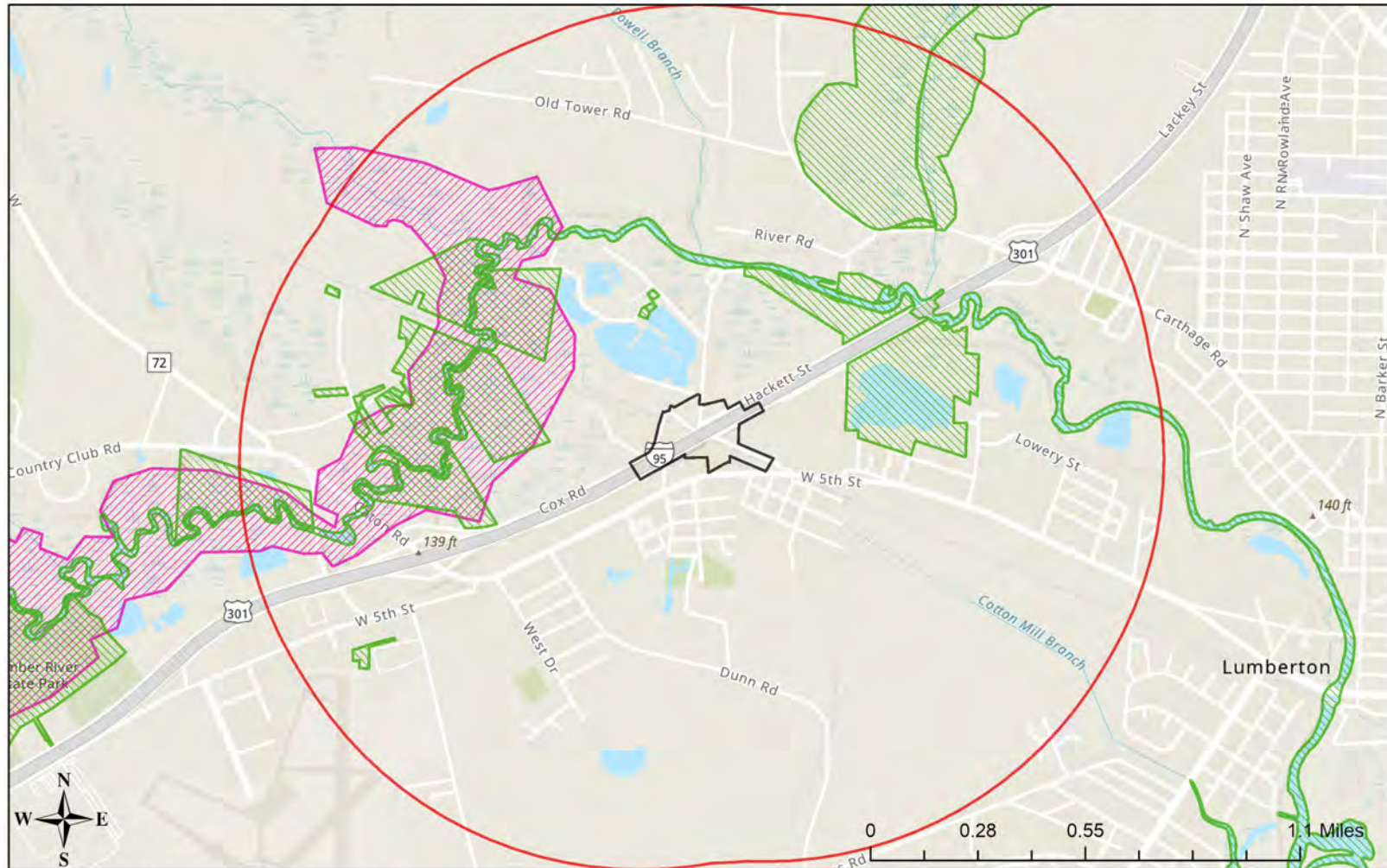
Site Name	Representational Rating	Collective Rating
Lumber River Swamp/Avent Landing	R2 (Very High)	C5 (General)

Managed Areas Documented Within a One-mile Radius of the Project Area

Managed Area Name	Owner	Owner Type
City of Lumberton - Luther Britt Park	City of Lumberton	Local Government
City of Lumberton Open Space	City of Lumberton	Local Government
City of Lumberton Open Space	City of Lumberton	Local Government
City of Lumberton Open Space	City of Lumberton	Local Government
Lumber River Conservancy Preserve	Lumber River Conservancy	Private
Lumber River State Park	NC DNCR, Division of Parks and Recreation	State
NC Department of Transportation Mitigation Site	NC Department of Transportation	State
Robeson County Open Space	Robeson County	Local Government
Robeson County Open Space	Robeson County	Local Government
Lumber National Wild and Scenic River	US National Park Service	Federal
Lumber State Natural and Scenic River	NC DNCR, Division of Parks and Recreation	State
NC Hazard Mitigation Buyout Property - Robeson County	NC DPS, Division of Emergency Management	State
NC Hazard Mitigation Buyout Property - Robeson County	NC DPS, Division of Emergency Management	State
NC Hazard Mitigation Buyout Property - Robeson County	NC DPS, Division of Emergency Management	State
NC Hazard Mitigation Buyout Property - Robeson County	NC DPS, Division of Emergency Management	State
NC Hazard Mitigation Buyout Property - Robeson County	NC DPS, Division of Emergency Management	State
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NC Hazard Mitigation Buyout Property - Robeson County	NC DPS, Division of Emergency Management	State
NC Hazard Mitigation Buyout Property - Robeson County	NC DPS, Division of Emergency Management	State
NC Division of Mitigation Services Easement	NC DEQ, Division of Mitigation Services	State

Definitions and an explanation of status designations and codes can be found at <https://ncnhde.natureserve.org/help>. Data query generated on December 6, 2023; source: NCNHP, Fall (October) 2023. Please resubmit your information request if more than one year elapses before project initiation as new information is continually added to the NCNHP database.

NCNHDE-24245: West Lumberton Flood Gate at VFW Road and Railroad Underpass



December 6, 2023

- NHP Natural Area (NHNA)
- Managed Area (MAREA)
- Buffered Project Boundary
- Project Boundary

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community
 Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Gievers, Andrea

From: Ratcliffe, Judith
Sent: Wednesday, December 6, 2023 8:40 AM
To: Gievers, Andrea
Subject: RE: West Lumberton Flood Gate - Tricolored Bat Review

Follow Up Flag: Follow up
Flag Status: Flagged

Hello Andrea,

Thank you for the opportunity to review **West Lumberton Flood Gate at VFW Road and Railroad Underpass** located near Interstate 95 in the vicinity of VFW Road, Cox Road, Hackett Street, and the CSX railroad crossing within the City of Lumberton, Robeson County, NC. There are no documented Tricolored Bat maternity roost trees within 150 feet of this project boundary.

There are no Tricolored Bat hibernacula within 0.25 mile of this project boundary.

There are no documented Northern Long-eared Bat maternity roost trees within 150 feet of this project boundary.

There are no Northern Long-eared Bat hibernacula within 0.25 mile of this project boundary.

Sincerely,

Judith Ratcliffe

JUDITH RATCLIFFE

Zoologist, NC Natural Heritage Program

[121 W Jones St](#) MSC 1651 Raleigh, NC 27699

919 707 9395 office **NEW PHONE NUMBER**

judith.ratcliffe@dnrc.nc.gov **NEW EMAIL ADDRESS effective August 1, 2023**



Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

[Facebook](#) [Twitter](#) [Instagram](#) [YouTube](#)

From: Gievers, Andrea <andrea.l.gievers@rebuild.nc.gov>
Sent: Tuesday, December 5, 2023 3:37 PM
To: Ratcliffe, Judith <judith.ratcliffe@dnrc.nc.gov>
Subject: West Lumberton Flood Gate - Tricolored Bat Review

Hello Judy:

The North Carolina Office of Recovery and Resiliency (NCORR) as a recipient of Community Development Block Grant – Mitigation (CDBG-MIT) funds from the United States Department of Housing and Urban Development (HUD) is considering funding this proposed Infrastructure Recovery Program project, **West Lumberton Flood Gate at VFW Road and Railroad Underpass** located near Interstate 95 in the vicinity of VFW Road, Cox Road, Hackett Street, and the CSX railroad crossing within the City of Lumberton, Robeson County, NC. This project has been reconfigured to accommodate NC DOT's I-95 widening in the area. Originally, there was one acre of trees to be removed but I haven't received an

update. I have attached the proposed project maps, site plans, and shapefiles to assist in your Tricolored Bat review. Please feel free to contact me if you have any questions or need anything at all. Thank you so much for your time and assistance!

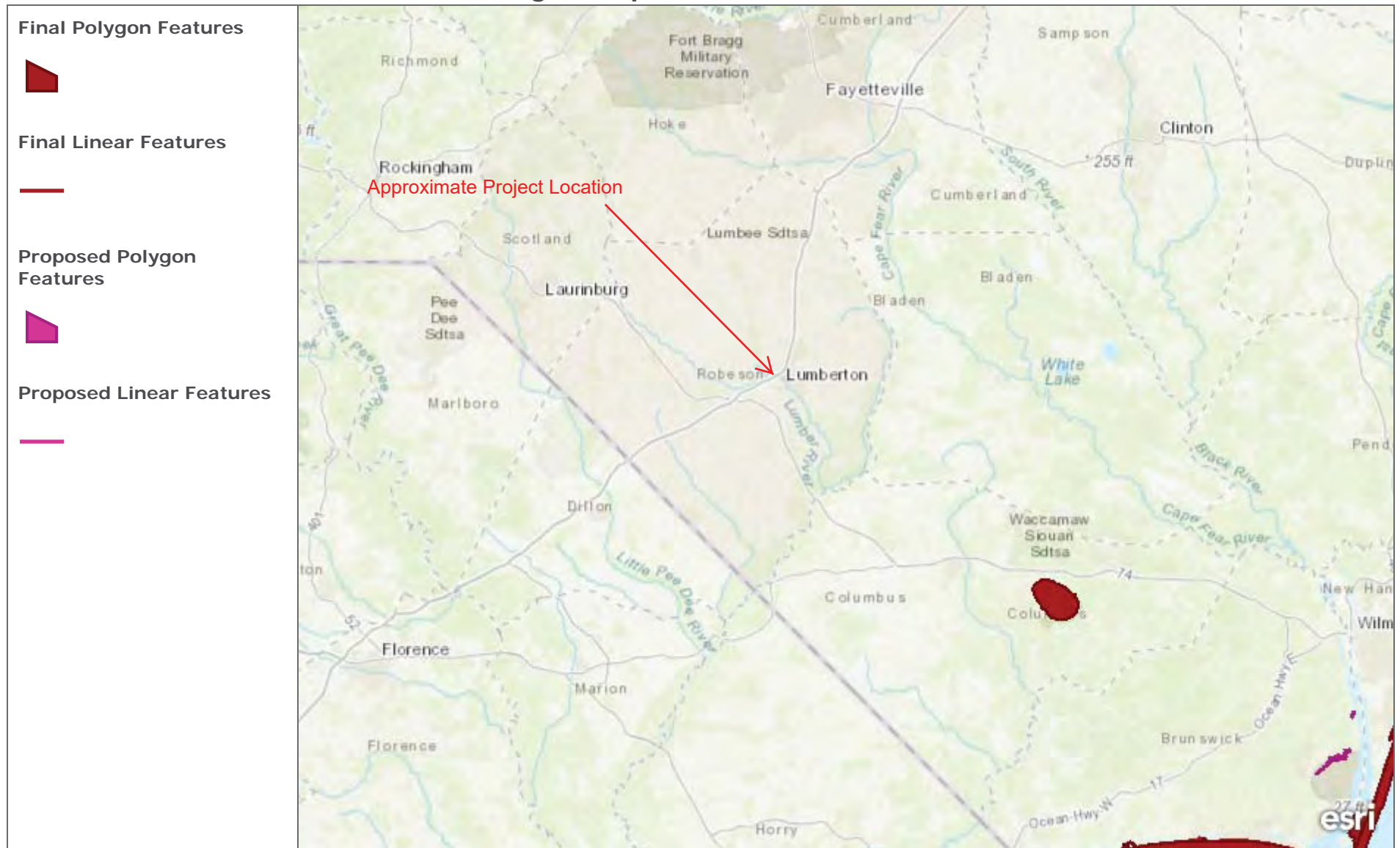
Sincerely,

Andrea

Andrea Gievers, JD, MSEL, ERM
Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

Email correspondence to and from this address may be subject to the North Carolina Public Records Law and may be disclosed to third parties by an authorized state official.

Critical Habitat for Threatened & Endangered Species [USFWS]



A specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

Esri, HERE, Garmin, FAO, USGS, NGA, EPA, NPS

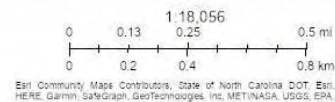


NOAA Critical Habitat Report - West Lumberton Flood Gate

Area of Interest (AOI) Information

Area : 1.28 km²

Dec 6 2023 12:48:38 Eastern Standard Time



0.25-mile Buffer

Summary

Name	Count	Area(km²)	Length(m)
All Critical Habitat Polyline	0	N/A	0
All Critical Habitat Polygon	0	0	N/A

Species Conclusions Table

Project Name: West Lumberton Flood Gate at VFW Road and Railroad
Underpass

Date: 11/27/2023

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Tricolored Bat (<i>Perimyotis subflavus</i>)	Suitable habitat present, species not present	Not likely to jeopardize the continued existence	Based on the presence of potential suitable roosting habitat in forested areas and man- made structures within the project limits, the project is <i>not likely to jeopardize the continued existence</i> of the Tricolored Bat.
Red-cockaded Woodpecker (<i>Picoides borealis</i>)	No suitable habitat present	No effect	Based on the lack of mature open stands of pine trees and dense underbrush within the project limits, the project will have <i>no effect</i> on the Red-cockaded Woodpecker.
Wood Stork (<i>Mycteria americana</i>)	No suitable habitat present	No effect	Based on the lack of mixed hardwood, mangrove, or cypress stands within swamps or islands in the project limits, and no wetlands located on-site or immediately adjacent to the project limits, the project will have <i>no effect</i> on the Wood Stork.
American Alligator (<i>Alligator mississippiensis</i>)	No suitable habitat present	No effect	Because the American alligator is listed as threatened due to similarity of appearance, USFWS ESA Section 7 consultation is not required for the species. The American crocodile range does not overlap with the American alligator in North Carolina.
Monarch butterfly (<i>Danaus plexippus</i>)	Suitable habitat present, species not present	No effect	The monarch butterfly's habitat is ubiquitous throughout the state and disturbance to areas with potentially suitable habitat is minimal. Therefore, the project will have <i>no effect</i> on the Monarch Butterfly.

Michaux's Sumac (<i>Rhus michauxii</i>)	Suitable habitat present, species not present	No effect	Routine mowing occurs along roadsides and highway and power line/utility rights-of-way located within the project limits, Based on the anticipated continual disturbance associated with roadway/utility maintenance, the effects of the project are not likely to reduce the fitness of an individual of a listed species Therefore, the project will have <i>no effect</i> on Michaux's Sumac.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	Unlikely to disturb nesting bald eagles	No Eagle Act Permit required	No water bodies large enough or sufficiently open to be considered potential feeding sources were identified within the project limits. Since there was no foraging habitat within the review area, a survey of the project study area and the area within 660 feet of the project limits was not conducted. Per the NCNHP database report, there are no occurrences of the bald eagle or their nests at or within 1-mile of the project limits. Therefore, any disturbance of the project site is unlikely to disturb nesting bald eagles and no Eagle Act Permit is required.
Critical Habitat	Not present	No effect	Critical habitat was not identified in the IPaC official species report or the NCNHP report within the project limits or a 1-mile radius.

Acknowledgement: I agree that the above information about my proposed project is true. I used all of the provided resources to make an informed decision about impacts in the immediate and surrounding areas.

Susan Morrison

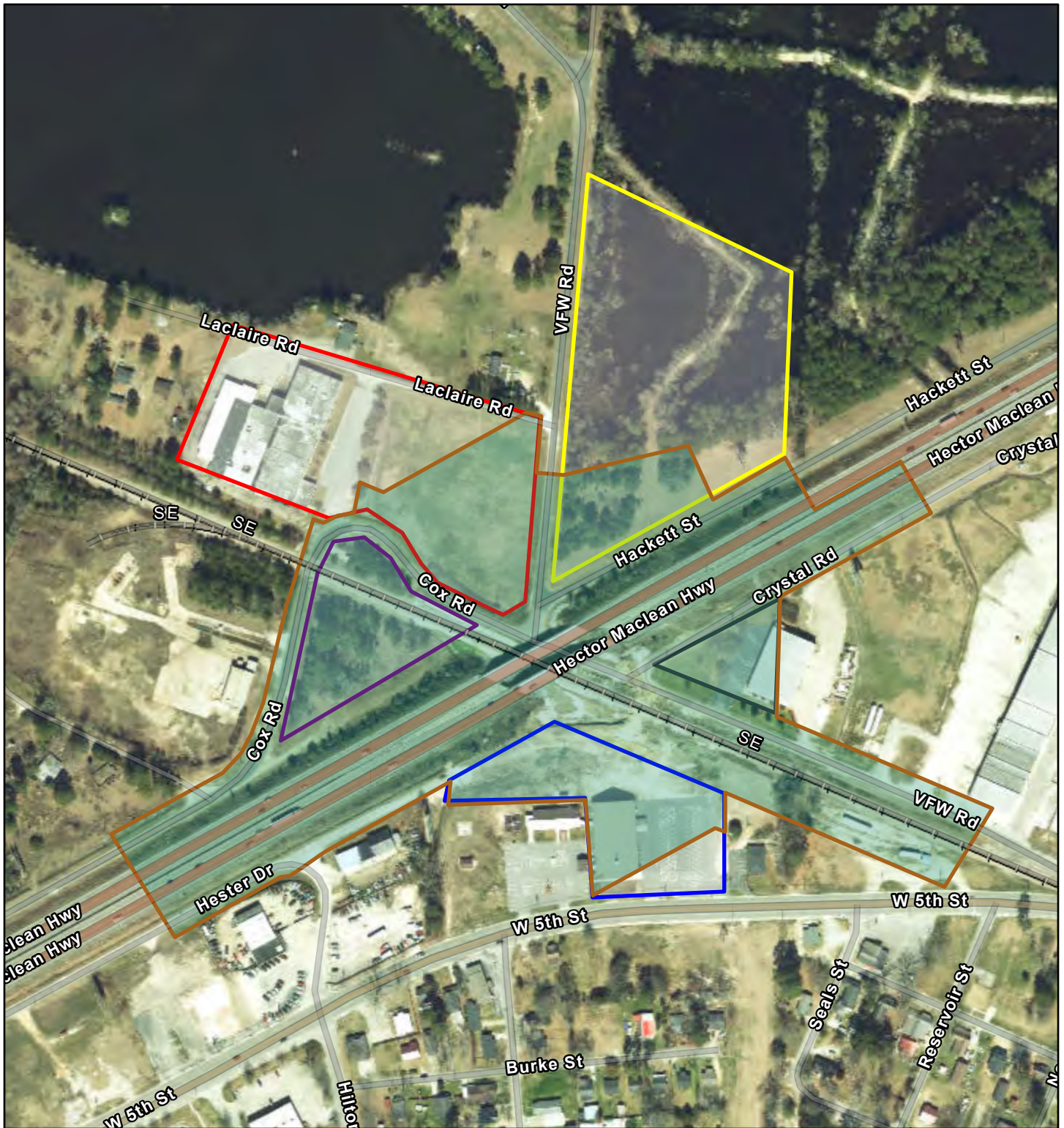
Susan Morrison / Senior Project Manager

Signature/Title

11/27/2023

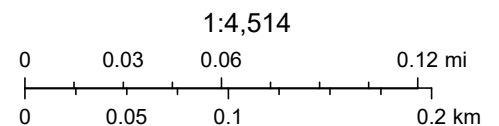
Date

West Lumberton Flood Gate - Aerial Map



December 1, 2023

- | | |
|--|---|
|  WLFG Project Action Area |  2460 Cox Rd #938179143700 |
|  550 VFW Rd #938189443052 |  VFW & Hackett #938280300700 |
|  2306 W 5th St #938189201500 |  Railroads |
|  2400 Cox Rd #938179684407 | |



NC CGIA, Maxar, Esri Community Maps Contributors, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, EPA OEI

W. Lumberton Flood Gate

Design Plans C-101 Existing Conditions

Legend

DO NOT SCALE



300 ft

[illegible][illegible]

W. Lumberton Flood Gate
Design Plans C-102 Post-NC DOT I-95 Project

DO NOT SCALE

PROPOSED FLOOD GATE

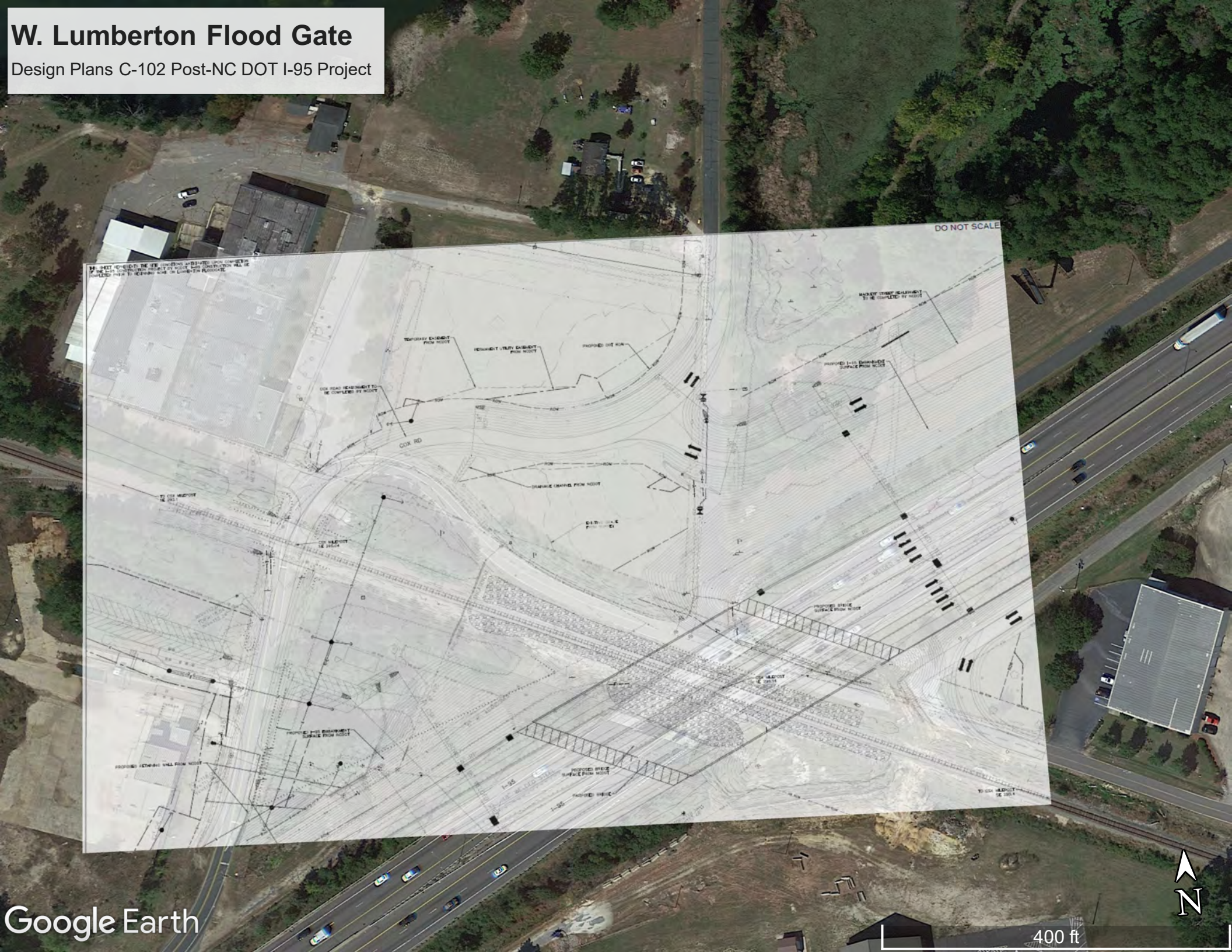
PROPOSED ROAD

PROPOSED DRAINAGE

PROPOSED FLOOD WALL

400 ft

Google Earth

[illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible]

W. Lumberton Flood Gate

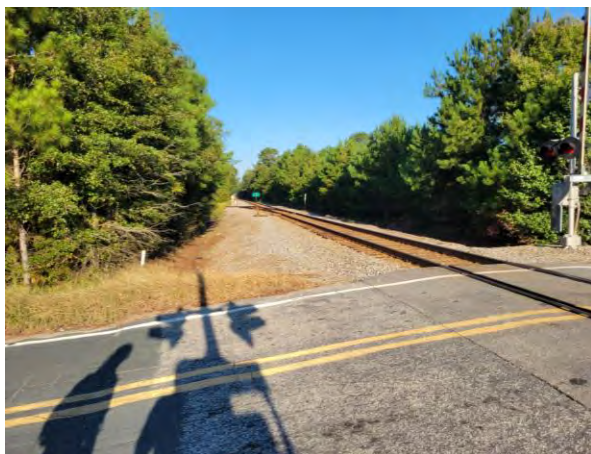
Design Plans C-201 NCORR Project

- NOTES:
1. OFFSET WATERLINE AS NEEDED DURING CONSTRUCTION TO MINIMIZE INTERFERENCE OF SERVICE. MAXIMUM ALLOWABLE INTERFERENCE OF SERVICE IS 4 HOURS. REFER TO DETAIL 3 SHEET C-201.
 2. WATERLINE OFFSET CAN BE USED AS TEMPORARY OF FINAL LOCATION OF PIPE. FINAL PIPE PENETRATION THROUGH WALL SHALL BE PER DETAIL PROVIDED IN STRUCTURAL SHEET.
 3. ALL SERVICES SHALL BE DUCTILE IRON.
 4. PROVIDE CITY OF LUMBERTON AT LEAST TWO WEEKS NOTICE AHEAD OF INTERDISCUSSION OF SERVICE AND COORDINATE WITH CITY ON LOCATION AND OPERATION OF CUTOFF VALVES.
 5. STEEL CASINGS, BRACKETS, AND CARRIER PIPE SHALL BE RESTORED AS EXISTING.
 6. HANG LOCATION NO OFFSET IS ALLOWED.
 7. STEEL CASINGS SHALL BE BELIEVED AT CUT LOCATIONS. MECHANICAL JOINTS SHALL BE USED TO RESTRAIN CARRIER PIPE.
 8. MAXIMUM ALLOWABLE INTERRUPTION OF SERVICE FOR WATERLINE UNDER STEEL CASINGS IS TWO WEEKS.

LINE TOTALS				
LINE	LENGTH	INVERT	OUTLET	DIAMETER
L-1	17.1	100.00	100.00	36"
L-2	17.1	100.00	100.00	36"
L-3	17.1	100.00	100.00	36"
L-4	17.1	100.00	100.00	36"
L-5	17.1	100.00	100.00	36"
L-6	17.1	100.00	100.00	36"
L-7	17.1	100.00	100.00	36"
L-8	17.1	100.00	100.00	36"
L-9	17.1	100.00	100.00	36"
L-10	17.1	100.00	100.00	36"
L-11	17.1	100.00	100.00	36"
L-12	17.1	100.00	100.00	36"
L-13	17.1	100.00	100.00	36"
L-14	17.1	100.00	100.00	36"
L-15	17.1	100.00	100.00	36"
L-16	17.1	100.00	100.00	36"
L-17	17.1	100.00	100.00	36"
L-18	17.1	100.00	100.00	36"
L-19	17.1	100.00	100.00	36"
L-20	17.1	100.00	100.00	36"



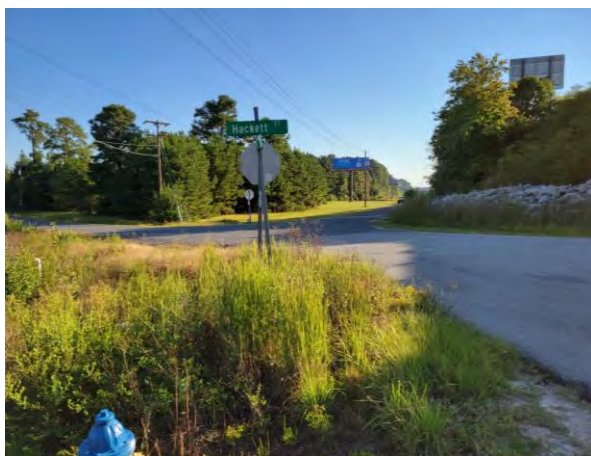
Site Visit, 9/28/2021 – West Lumberton Flood Gate



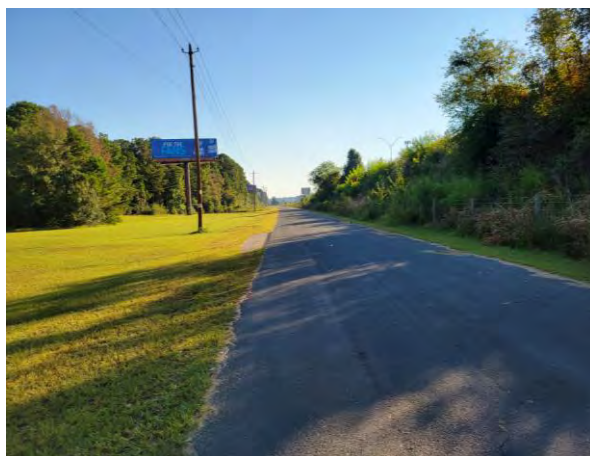
Northwest view of CSX Railroad from its crossing with Cox Road within the Site.



Southeast view of CSX Railroad from its crossing with Cox Road within the Site.



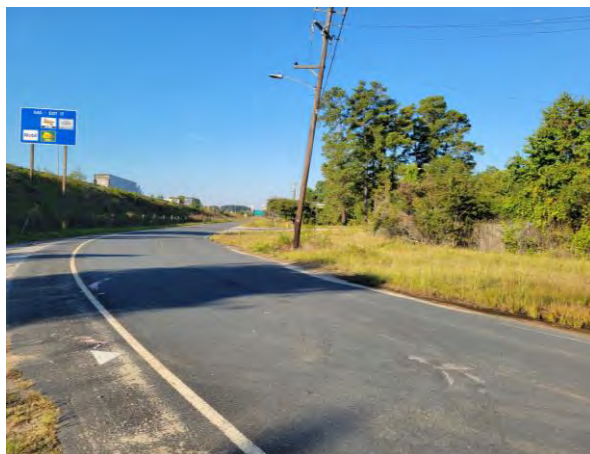
Northeastern view at the intersection of Hackett Street and VFW Road.



Northeastern view up Hackett Street, adjacent to I-95.

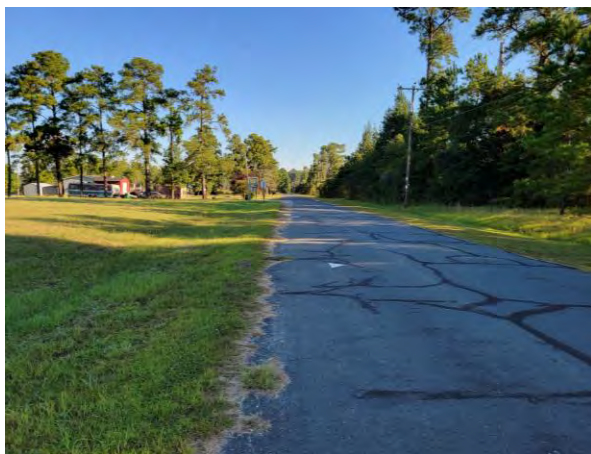


Southeastern view down Cox Road through the Site.



Southwestern view down Cox Road, adjacent to I-95.

Site Visit, 9/28/2021 – West Lumberton Flood Gate



Northern view up VFW Road, northeast of the I-95 overpass.



Southern view down VFW Road toward the I-95 overpass.



Southeastern view along VFW Road and the CSX railroad, underneath the I-95 overpass.



Southwestern view along the CSX railroad, underneath the I-95 Overpass



Representative view of wastewater lift station located within the Site, west of I-95.



Western view of the I-95 overpass along VFW Road and Cox Road.

Site Visit, 9/28/2021 – West Lumberton Flood Gate



Southwestern view along the I-95 overpass from the intersection of Cox Road and VFW Road.



Southeastern view of the I-95 overpass and CSX railroad tracks from the intersection of Cox Road and VFW Road.



Representative view of private residences adjoining the northwestern Site boundary.



Representative view of Titan Flow Control, Inc. adjacent to the western Site boundary.



Representative view of OmniSource metal recycling facility adjacent to the southwestern Site boundary.



Southern view down VFW Road and its intersection with Crystal Road, southeast of the I-95 overpass.

**Previous Consultation November 8, 2021
with Previous Design**



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Raleigh ES Field Office

551-F Pylon Drive

Raleigh, North Carolina 27606

November 8, 2021

Matt Arlyn
NCORR
PO Box 114065
Durham, NC 27709

Re: West Lumberton Flood Gate – Robeson County

Dear Mr. Arlyn:

This letter is to inform you that the Service has established an on-line project planning and consultation process which assists developers and consultants in determining whether a federally-listed species or designated critical habitat may be affected by a proposed project. For future projects, please visit the Raleigh Field Office's project planning website at <https://www.fws.gov/raleigh/pp.html>. If you are only searching for a list of species that may be present in the project's Action Area, then you may use the Service's Information, Planning, and Consultation System (IPaC) website to determine if any listed, proposed, or candidate species may be present in the Action Area and generate a species list. The IPaC website may be viewed at <https://ecos.fws.gov/ipac/>. The IPaC web site contains a complete and frequently updated list of all endangered threatened species protected by the provisions of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.)(Act), a list of federal species of concern¹ that are known to occur in each county in North Carolina, and other resources.

Section 7 of the Act requires that all federal agencies (or their designated non-federal representative), in consultation with the Service, insure that any action federally authorized, funded, or carried out by such agencies is not likely to jeopardize the continued existence of any federally-listed endangered or threatened species. A biological assessment or evaluation may be prepared to fulfill that requirement and in determining whether additional consultation with the Service is necessary. In addition to the federally-protected species list, information on the species' life histories and habitats and information on completing a biological assessment or evaluation can be found on our web page at <http://www.fws.gov/raleigh>. Please check the web site often for updated information or changes.

¹ The term "federal species of concern" refers to those species which the Service believes might be in need of concentrated conservation actions. Federal species of concern receive no legal protection and their designation does not necessarily imply that the species will eventually be proposed for listing as a federally endangered or threatened species. However, we recommend that all practicable measures be taken to avoid or minimize adverse impacts to federal species of concern.

If your project contains suitable habitat for any of the federally-listed species known to be present within the county where your project occurs, the proposed action has the potential to adversely affect those species. As such, we recommend that surveys be conducted to determine the species' presence or absence within the project area. The use of North Carolina Natural Heritage program data should not be substituted for actual field surveys.

If you determine that the proposed action may affect (i.e., likely to adversely affect or not likely to adversely affect) a federally-protected species, you should notify this office with your determination, the results of your surveys, survey methodologies, and an analysis of the effects of the action on listed species, including consideration of direct, indirect, and cumulative effects, before conducting any activities that might affect the species. If you determine that the proposed action will have no effect (i.e., no beneficial or adverse, direct or indirect effect) on federally listed species, then you are not required to contact our office for concurrence (unless an Environmental Impact Statement is prepared). However, you should maintain a complete record of the assessment, including steps leading to your determination of effect, the qualified personnel conducting the assessment, habitat conditions, site photographs, and any other related articles.

With regard to the above-referenced project, we offer the following remarks. Our comments are submitted pursuant to, and in accordance with, provisions of the Endangered Species Act.

Based on the information provided and other information available, it appears that the proposed action is not likely to adversely affect any federally-listed endangered or threatened species, their formally designated critical habitat, or species currently proposed for listing under the Act at these sites. We believe that the requirements of section 7(a)(2) of the Act have been satisfied for your project. Please remember that obligations under section 7 consultation must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner that was not considered in this review; or, (3) a new species is listed or critical habitat determined that may be affected by the identified action.

However, the Service is concerned about the potential impacts the proposed action might have on aquatic species. Aquatic resources are highly susceptible to sedimentation. Therefore, we recommend that all practicable measures be taken to avoid adverse impacts to aquatic species, including implementing directional boring methods and stringent sediment and erosion control measures. An erosion and sedimentation control plan should be submitted to and approved by the North Carolina Division of Land Resources, Land Quality Section prior to construction. Erosion and sedimentation controls should be installed and maintained between the construction site and any nearby down-gradient surface waters. In addition, we recommend maintaining natural, vegetated buffers on all streams and creeks adjacent to the project site.

The North Carolina Wildlife Resources Commission has developed a Guidance Memorandum (a copy can be found on our website at (<http://www.fws.gov/raleigh>) to address and mitigate secondary and cumulative impacts to aquatic and terrestrial wildlife resources and water quality. We recommend that you consider this document in the development of your projects and in completing an initiation package for consultation (if necessary).

We hope you find our web page useful and informative and that following the process described above will reduce the time required, and eliminate the need, for general correspondence for species' lists. If you have any questions or comments, please contact John Ellis of this office at (919) 856-4520 ext. 26.

Sincerely,

Pete Benjamin
Field Supervisor

A handwritten signature in blue ink, appearing to read "John Ellis for". The signature is written in a cursive, flowing style. It is positioned to the right of the printed name "Pete Benjamin" and the title "Field Supervisor".

Gievers, Andrea

From: Gievers, Andrea
Sent: Monday, November 8, 2021 4:29 PM
To: Mann, Leigh
Subject: RE: [EXTERNAL] Early Notice HUD 24 CFR §55.20 - West Lumberton Flood Gate, Lumberton, NC

Thank you so much. We appreciate your input. We will incorporate accordingly into the Environmental Assessment. Please feel free to contact me if you have any additional questions. Thank you.

Sincerely,

Andrea

Andrea Gievers, JD, MSEL, ERM
Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

From: Mann, Leigh <leigh_mann@fws.gov>
Sent: Monday, November 8, 2021 4:07 PM
To: Gievers, Andrea <andrea.l.gievers@rebuild.nc.gov>
Subject: Re: [EXTERNAL] Early Notice HUD 24 CFR §55.20 - West Lumberton Flood Gate, Lumberton, NC

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to [Report Spam](#).

Mrs. Gievers,

Please find the attached pdf letter for the above listed project addressed to Mr. Arlyn. Let us know if you need anything additional.

Leigh Mann
Office Automation
USFWS Raleigh ES FO
551-F Pylon Drive
Raleigh, NC 27606
Office: 1-919-856-4520 ext. 10
Fax: 1-919-856-4556
leigh_mann@fws.gov

NOTE: This email correspondence and any attachments to and from this sender is subject to the Freedom of Information Act (FOIA) and may be disclosed to third parties.

From: Ellis, John <john_ellis@fws.gov>
Sent: Wednesday, November 3, 2021 10:48 AM
To: andrea.l.gievers@rebuild.nc.gov <andrea.l.gievers@rebuild.nc.gov>; Mann, Leigh <leigh_mann@fws.gov>
Subject: Fw: [EXTERNAL] Early Notice HUD 24 CFR §55.20 - West Lumberton Flood Gate, Lumberton, NC

Andrea,

Are there any drawings or maps you can provide?

John
Aandrea.l.gievers@rebuild.nc.gov>
Sent: Friday, October 29, 2021 4:19 PM
To: Ellis, John <john_ellis@fws.gov>
Subject: [EXTERNAL] Early Notice HUD 24 CFR §55.20 - West Lumberton Flood Gate, Lumberton, NC

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hello Mr. John Ellis:

Please find attached the *Early Notice and Public Review for a Proposed Activity in a 100-year Floodplain* publishing October 30, 2021 for the NCORR Infrastructure Recovery Program's West Lumberton Flood Gate proposed project in the City of Lumberton, Robeson County, NC. Please feel free to contact me if you have any questions or prefer a different method of contact. Thank you for your time.

Sincerely,

Andrea

Andrea Gievers, JD, MSEL, ERM
Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

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Gievers, Andrea

From: Gievers, Andrea
Sent: Wednesday, November 3, 2021 11:36 AM
To: Ellis, John; Mann, Leigh
Subject: RE: [EXTERNAL] Early Notice HUD 24 CFR §55.20 - West Lumberton Flood Gate, Lumberton, NC
Attachments: WLumberton Flood Gate for USFWS 11.3.21.pdf

Hello John:

I have assembled and attached the proposed project location map, conceptual site plan, IPaC, and NCNHP information from Timmons Groups who is performing the review.

This is the second design of the project and, unfortunately, I do not know if your Office was previously contacted. The original design was for the City of Lumberton under U.S. Department of Commerce Economic Development Administration (EDA) funding. Engineering designs have since changed with flood gates now proposed on the western side of I-95, rather than on the eastern side. Thus, VFW Road and Hackett Street will be re-aligned as described now, and the re-alignment of Crystal Road will no longer be required as part of project construction in the area.

Please feel free to contact me if you need any additional information. Thank you and have a great day!

Sincerely,

Andrea

Andrea Gievers, JD, MSEL, ERM
Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

From: Ellis, John <john_ellis@fws.gov>
Sent: Wednesday, November 3, 2021 10:48 AM
To: Gievers, Andrea <andrea.l.gievers@rebuild.nc.gov>; Mann, Leigh <leigh_mann@fws.gov>
Subject: Fw: [EXTERNAL] Early Notice HUD 24 CFR §55.20 - West Lumberton Flood Gate, Lumberton, NC

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Are there any drawings or maps you can provide?

John
Aandrea.l.gievers@rebuild.nc.gov
Sent: Friday, October 29, 2021 4:19 PM
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Hello Mr. John Ellis:

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Sincerely,

Andrea

Andrea Gievers, JD, MSEL, ERM
Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

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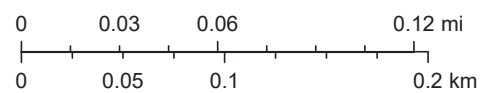
Site Location - West Lumberton Flood Gate



September 29, 2021

 Project Site

1:4,514



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Ecological Services Field Office
Post Office Box 33726
Raleigh, NC 27636-3726
Phone: (919) 856-4520 Fax: (919) 856-4556



In Reply Refer To:
Consultation Code: 04EN2000-2021-SLI-2321
Event Code: 04EN2000-2021-E-04786
Project Name: West Lumberton Flood Gate

September 28, 2021

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The species list generated pursuant to the information you provided identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

Section 7 of the Act requires that all federal agencies (or their designated non-federal representative), in consultation with the Service, insure that any action federally authorized, funded, or carried out by such agencies is not likely to jeopardize the continued existence of any federally-listed endangered or threatened species. A biological assessment or evaluation may be prepared to fulfill that requirement and in determining whether additional consultation with the Service is necessary. In addition to the federally-protected species list, information on the species' life histories and habitats and information on completing a biological assessment or

evaluation and can be found on our web page at <http://www.fws.gov/raleigh>. Please check the web site often for updated information or changes

If your project contains suitable habitat for any of the federally-listed species known to be present within the county where your project occurs, the proposed action has the potential to adversely affect those species. As such, we recommend that surveys be conducted to determine the species' presence or absence within the project area. The use of North Carolina Natural Heritage program data should not be substituted for actual field surveys.

If you determine that the proposed action may affect (i.e., likely to adversely affect or not likely to adversely affect) a federally-protected species, you should notify this office with your determination, the results of your surveys, survey methodologies, and an analysis of the effects of the action on listed species, including consideration of direct, indirect, and cumulative effects, before conducting any activities that might affect the species. If you determine that the proposed action will have no effect (i.e., no beneficial or adverse, direct or indirect effect) on federally listed species, then you are not required to contact our office for concurrence (unless an Environmental Impact Statement is prepared). However, you should maintain a complete record of the assessment, including steps leading to your determination of effect, the qualified personnel conducting the assessment, habitat conditions, site photographs, and any other related articles.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

Not all Threatened and Endangered Species that occur in North Carolina are subject to section 7 consultation with the U.S Fish and Wildlife Service. Atlantic and shortnose sturgeon, sea turtles, when in the water, and certain marine mammals are under purview of the National Marine Fisheries Service. If your project occurs in marine, estuarine, or coastal river systems you should also contact the National Marine Fisheries Service, <http://www.nmfs.noaa.gov/>

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office. If you have any questions or comments, please contact John Ellis of this office at john_ellis@fws.gov.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Raleigh Ecological Services Field Office

Post Office Box 33726

Raleigh, NC 27636-3726

(919) 856-4520

Project Summary

Consultation Code: 04EN2000-2021-SLI-2321

Event Code: Some(04EN2000-2021-E-04786)

Project Name: West Lumberton Flood Gate

Project Type: Federal Grant / Loan Related

Project Description: The proposed West Lumberton Flood Gate project will be located west of Interstate 95 (I-95) in the vicinity of Cox Road, VFW Road, Hackett Street, and the CSX railroad crossing within the City of Lumberton. The proposed project will enhance the City's existing earthen levee, constructed in 1977 by the US Department of Agriculture Soil Conservation Service, and flood control system by constructing a permanent, mechanically operated floodgate system to reduce flood occurrences thru a CSX penetration under I-95. The project area is approximately 3.08-acres in size.

Proposed construction in the project area includes:

- Construction two swing type flood gates and concrete wing walls, approximately 35-feet wide each,
- Constructing approximately 800 linear feet of earthen levee extension from the existing I-95 bridge abutment to the flood gate,
- Re-aligning portions of VFW Roads and Hackett Street to accommodate the northern flood gate, and
- Miscellaneous appurtenances and pavement repair.

There are no proposed wetland, stream, floodplain, or floodway crossings. Fill material will be provided from permitted borrow sites. Final height and locations of new floodgate system will be determined upon further surveying investigation and engineering design. Proposed activities will be general contained within previously disturbed railroad and road rights-of-way, with minimal increase in the current footprint.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@34.62789425,-79.04097517148989,14z>



Counties: Robeson County, North Carolina

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Red-cockaded Woodpecker <i>Picoides borealis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7614	Endangered
Wood Stork <i>Mycteria americana</i> Population: AL, FL, GA, MS, NC, SC No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8477	Threatened

Reptiles

NAME	STATUS
American Alligator <i>Alligator mississippiensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/776	Similarity of Appearance (Threatened)

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Michaux's Sumac <i>Rhus michauxii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5217	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



Roy Cooper, Governor

D. Reid Wilson, Secretary

Walter Clark

Director, Division of Land and Water Stewardship

NCNHDE-15876

September 29, 2021

Susan Morrison
Timmons Group
5410 Trinity Road
Raleigh, NC 27607
RE: West Lumberton Flood Gate; 49420

Dear Susan Morrison:

The North Carolina Natural Heritage Program (NCNHP) appreciates the opportunity to provide information about natural heritage resources for the project referenced above.

Based on the project area mapped with your request, a query of the NCNHP database indicates that there are no records for rare species, important natural communities, natural areas, and/or conservation/managed areas within the proposed project boundary. Please note that although there may be no documentation of natural heritage elements within the project boundary, it does not imply or confirm their absence; the area may not have been surveyed. The results of this query should not be substituted for field surveys where suitable habitat exists. In the event that rare species are found within the project area, please contact the NCNHP so that we may update our records.

The attached 'Potential Occurrences' table summarizes rare species and natural communities that have been documented within a one-mile radius of the property boundary. The proximity of these records suggests that these natural heritage elements may potentially be present in the project area if suitable habitat exists. Tables of natural areas and conservation/managed areas within a one-mile radius of the project area, if any, are also included in this report.

If a Federally-listed species is found within the project area or is indicated within a one-mile radius of the project area, the NCNHP recommends contacting the US Fish and Wildlife Service (USFWS) for guidance. Contact information for USFWS offices in North Carolina is found here: <https://www.fws.gov/offices/Directory/ListOffices.cfm?statecode=37>.

Please note that natural heritage element data are maintained for the purposes of conservation planning, project review, and scientific research, and are not intended for use as the primary criteria for regulatory decisions. Information provided by the NCNHP database may not be published without prior written notification to the NCNHP, and the NCNHP must be credited as an information source in these publications. Maps of NCNHP data may not be redistributed without permission.

The NC Natural Heritage Program may follow this letter with additional correspondence if a Dedicated Nature Preserve, Registered Heritage Area, Land and Water Fund easement, or Federally-listed species are documented near the project area.

If you have questions regarding the information provided in this letter or need additional assistance, please contact Rodney A. Butler at rodney.butler@ncdcr.gov or 919-707-8603.

Sincerely,
NC Natural Heritage Program

Natural Heritage Element Occurrences, Natural Areas, and Managed Areas Within a One-mile Radius of the Project Area
West Lumberton Flood Gate
Project No. 49420
September 29, 2021
NCNHDE-15876

Element Occurrences Documented Within a One-mile Radius of the Project Area

Taxonomic Group	EO ID	Scientific Name	Common Name	Last Observation Date	Element Occurrence Rank	Accuracy	Federal Status	State Status	Global Rank	State Rank
Dragonfly or Damselfly	33769	Somatochlora georgiana	Coppery Emerald	2004-Pre	H?	5-Very Low	---	Significantly Rare	G3G4	S1?
Dragonfly or Damselfly	33789	Triacanthagyna trifida	Phantom Darner	2004-Pre	H?	5-Very Low	---	Significantly Rare	G5	SH
Freshwater Fish	29762	Cyprinella sp. cf. zanema	Thinlip Chub	2010-07-07	E	3-Medium	---	Special Concern	G2Q	S2
Freshwater Fish	31779	Enneacanthus chaetodon	Blackbanded Sunfish	2010-07-07	E	3-Medium	---	Significantly Rare	G3G4	S3
Freshwater Fish	36966	Notropis chalybaeus	Ironcolor Shiner	1997-05-27	H?	3-Medium	---	Significantly Rare	G4	S2S3
Natural Community	27516	Blackwater Bottomland Hardwoods (Swamp Transition Subtype)	---	2017	AB	2-High	---	---	G3G5	S3
Reptile	29301	Micrurus fulvius fulvius	Eastern Coralsnake	2009-08	D	3-Medium	---	Endangered	G5	S1
Vascular Plant	26672	Ditrysinia fruticosa	Sebastian-bush	2008-05-07	A?	4-Low	---	Significantly Rare	G5	S2
Vascular Plant	472	Ludwigia brevipes	Long Beach Seedbox	1954-09-13	H	3-Medium	---	Peripheral Significantly Rare Throughout	G2	S1

Natural Areas Documented Within a One-mile Radius of the Project Area

Site Name	Representational Rating	Collective Rating
Lumber River Swamp/Avent Landing	R3 (High)	C5 (General)

Managed Areas Documented Within a One-mile Radius of the Project Area

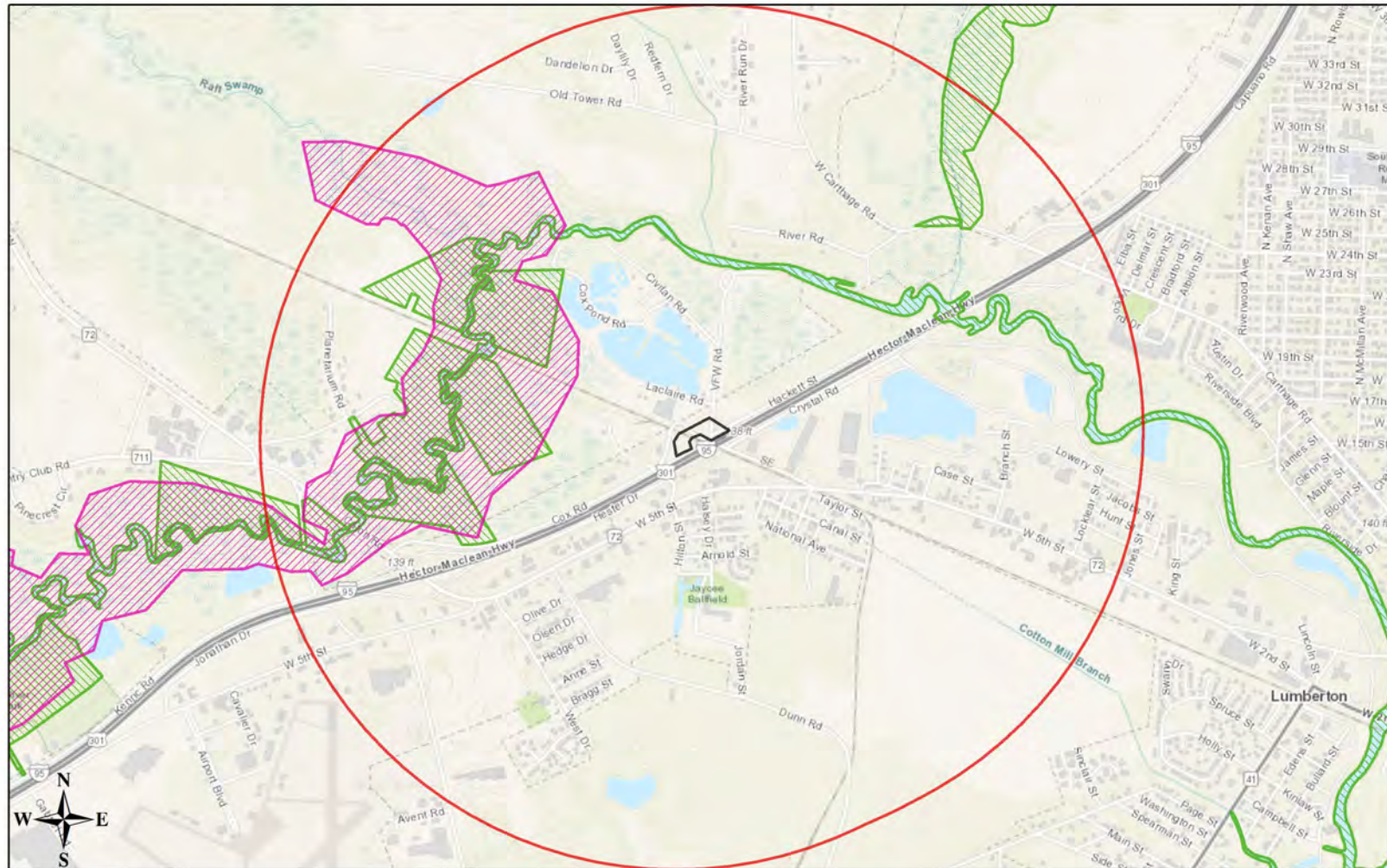
Managed Area Name	Owner	Owner Type
Lumber National Wild and Scenic River	US National Park Service	Federal
Lumber River State Park	NC DNCR, Division of Parks and Recreation	State
Lumber State Natural and Scenic River	NC DNCR, Division of Parks and Recreation	State

Managed Areas Documented Within a One-mile Radius of the Project Area

Managed Area Name	Owner	Owner Type
Robeson County Open Space	Robeson County: multiple local government	Local Government
NC Department of Transportation Mitigation Site	NC Department of Transportation	State
NC Division of Mitigation Services Easement	NC DEQ, Division of Mitigation Services	State
Lumber River Conservancy Preserve	Lumber River Conservancy	Private

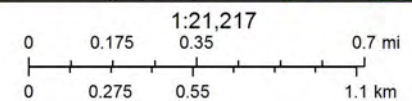
Definitions and an explanation of status designations and codes can be found at <https://ncnhde.natureserve.org/help>. Data query generated on September 29, 2021; source: NCNHP, Q2 July 2021. Please resubmit your information request if more than one year elapses before project initiation as new information is continually added to the NCNHP database.

NCNHDE-15876: West Lumberton Flood Gate



September 29, 2021

- Project Boundary
- Buffered Project Boundary
- NHP Natural Area (NHNA)
- Managed Area (MAREA)



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Gievers, Andrea

From: Gievers, Andrea
Sent: Wednesday, November 3, 2021 11:36 AM
To: Ellis, John; Mann, Leigh
Subject: RE: [EXTERNAL] Early Notice HUD 24 CFR §55.20 - West Lumberton Flood Gate, Lumberton, NC
Attachments: WLumberton Flood Gate for USFWS 11.3.21.pdf

Hello John:

I have assembled and attached the proposed project location map, conceptual site plan, IPaC, and NCNHP information from Timmons Groups who is performing the review.

This is the second design of the project and, unfortunately, I do not know if your Office was previously contacted. The original design was for the City of Lumberton under U.S. Department of Commerce Economic Development Administration (EDA) funding. Engineering designs have since changed with flood gates now proposed on the western side of I-95, rather than on the eastern side. Thus, VFW Road and Hackett Street will be re-aligned as described now, and the re-alignment of Crystal Road will no longer be required as part of project construction in the area.

Please feel free to contact me if you need any additional information. Thank you and have a great day!

Sincerely,

Andrea

Andrea Gievers, JD, MSEL, ERM
Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

From: Ellis, John <john_ellis@fws.gov>
Sent: Wednesday, November 3, 2021 10:48 AM
To: Gievers, Andrea <andrea.l.gievers@rebuild.nc.gov>; Mann, Leigh <leigh_mann@fws.gov>
Subject: Fw: [EXTERNAL] Early Notice HUD 24 CFR §55.20 - West Lumberton Flood Gate, Lumberton, NC

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Andrea,

Are there any drawings or maps you can provide?

John
Aandrea.l.gievers@rebuild.nc.gov
Sent: Friday, October 29, 2021 4:19 PM
To: Ellis, John <john_ellis@fws.gov>
Subject: [EXTERNAL] Early Notice HUD 24 CFR §55.20 - West Lumberton Flood Gate, Lumberton, NC

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hello Mr. John Ellis:

Please find attached the *Early Notice and Public Review for a Proposed Activity in a 100-year Floodplain* publishing October 30, 2021 for the NCORR Infrastructure Recovery Program's West Lumberton Flood Gate proposed project in the City of Lumberton, Robeson County, NC. Please feel free to contact me if you have any questions or prefer a different method of contact. Thank you for your time.

Sincerely,

Andrea

Andrea Gievers, JD, MSEL, ERM
Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

Email correspondence to and from this address may be subject to the North Carolina Public Records Law and may be disclosed to third parties by an authorized state official.

Gievers, Andrea

From: Mann, Leigh <leigh_mann@fws.gov>
Sent: Monday, November 8, 2021 4:07 PM
To: Gievers, Andrea
Subject: Re: [EXTERNAL] Early Notice HUD 24 CFR §55.20 - West Lumberton Flood Gate, Lumberton, NC
Attachments: 20211108_LTRSNT_FWS_NCORR_WestLumbertonFloodGate.pdf

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Mrs. Gievers,

Please find the attached pdf letter for the above listed project addressed to Mr. Arlyn. Let us know if you need anything additional.

Leigh Mann
Office Automation
USFWS Raleigh ES FO
551-F Pylon Drive
Raleigh, NC 27606
Office: 1-919-856-4520 ext. 10
Fax: 1-919-856-4556
leigh_mann@fws.gov

NOTE: This email correspondence and any attachments to and from this sender is subject to the Freedom of Information Act (FOIA) and may be disclosed to third parties.

From: Ellis, John <john_ellis@fws.gov>
Sent: Wednesday, November 3, 2021 10:48 AM
To: andrea.l.gievers@rebuild.nc.gov <andrea.l.gievers@rebuild.nc.gov>; Mann, Leigh <leigh_mann@fws.gov>
Subject: Fw: [EXTERNAL] Early Notice HUD 24 CFR §55.20 - West Lumberton Flood Gate, Lumberton, NC

Andrea,

Are there any drawings or maps you can provide?

John
Aandrea.l.gievers@rebuild.nc.gov
Sent: Friday, October 29, 2021 4:19 PM
To: Ellis, John <john_ellis@fws.gov>
Subject: [EXTERNAL] Early Notice HUD 24 CFR §55.20 - West Lumberton Flood Gate, Lumberton, NC

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Hello Mr. John Ellis:

Please find attached the *Early Notice and Public Review for a Proposed Activity in a 100-year Floodplain* publishing October 30, 2021 for the NCORR Infrastructure Recovery Program's West Lumberton Flood Gate proposed project in the City of Lumberton, Robeson County, NC. Please feel free to contact me if you have any questions or prefer a different method of contact. Thank you for your time.

Sincerely,

Andrea

Andrea Gievers, JD, MSEL, ERM
Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

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Appendix I:

Farmlands Protection

USDA NRCS and NCORR Correspondence and
NCORR Submission Package

Gievers, Andrea

From: Janway, Ryan - FPAC-NRCS, NC <Ryan.Janway@usda.gov>
Sent: Thursday, December 14, 2023 10:12 AM
To: Gievers, Andrea
Cc: Jones, Michael - FPAC-NRCS, NC; May, Kristin - FPAC-NRCS, NC
Subject: [External] RE: West Lumberton Flood Gate Project - Exemptions
Attachments: FPPA Procedure for Applicants NRCS-NC.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

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Good morning Andrea,

I appreciate you sending such detailed information for this project. This is a complicated one but hopefully I can help. To start I've attached a document with our instructions for applicants which also lists Actions Exempt from FPPA.

As you said, the majority of the proposed project area is already classified as an Urban area. If I am understanding the NCDOT design plans correctly it looks like they are planning to shift Hackett St. about 80 feet north. This would put the remaining "non-Urban" area under the exemption category for Urban Development and/or Construction within an existing right-of-way (the new ROW from these repositioned roads). Therefore the FPPA process will not be applicable for this project.

Please let me know if you have any questions or need more information regarding this project.

Thanks and have a great day,

Ryan Janway
USDA-NRCS
Natural Resource Specialist, Acting GIS Specialist
4407 Bland Rd
Raleigh, NC 27609
Ryan.Janway@usda.gov

From: Gievers, Andrea <andrea.l.gievers@rebuild.nc.gov>
Sent: Wednesday, December 6, 2023 9:49 AM
To: Muzzy, Laura - FPAC-NRCS, NC <Laura.Muzzy@usda.gov>
Cc: Janway, Ryan - FPAC-NRCS, NC <Ryan.Janway@usda.gov>
Subject: West Lumberton Flood Gate Project - Exemptions

Hello Laurie & Ryan:

This is another project where I am not sure which is the best exemption to pick. Once again there is a lot going on. I think the fact that NC DOT is widening I-95 before our project that is the most solid, "already committed to urban development" exemption. As a lawyer, I overanalyze, so getting to know how you evaluate it will help me get the right perspective. Plus, clarification on when to say it is "already committed to urban development" or "water storage" with

all of these levee and disaster recovery projects. I just want to ensure I have got it right. Thanks for your help and putting up with me! 😊

- 1) Only a small triangular portion of the proposed project *action area* (brown outline on yellow-outlined parcel on 1st map) is not a **Tigerweb Urban Area**. The soils there are LaB (not Prime Farmland) and Jo (Prime Farmland, if drained).
- 2) This parcel is close to the 1977 Lumberton levee and the levee appears to have a pipe that goes to this parcel.
- 3) This parcel is full of water in the north – ponds and probably wetlands. The southern portion where NC DOT and we are working is the only dry ground.
- 4) NC DOT stopped our project about two years ago and made us redesign it fully to accommodate their I-95 widening. On the small non-Urban parcel, NC DOT will be making the I-95 embankment, moving over Cox Rd, Hackett St and VFW Rd, so it will be “developed” in the same area before our project builds an earthen berm to tie into the embankment there, so that makes it “already committed to urban development?”
- 5) The original design included the portions northwest of I-95 and USDA NRCS staff, Joshua Davis, on November 12, 2021 stated “After doing some studying up on the FFPA as well as looking into the location of the proposed project, it’s my belief that this will not require filling out an AD-1006. As you mentioned, the land is not being utilized for agriculture and the area is still prone to flooding due to lack of drainage. With that in mind I believe you should be good to move forward as-is.” The project has been revised since then. I just received the 95% site plans last Tuesday and the project will be lucky to meet its funding construction deadlines now after NC DOT held it up. Thank you so much for your help!

Sincerely,

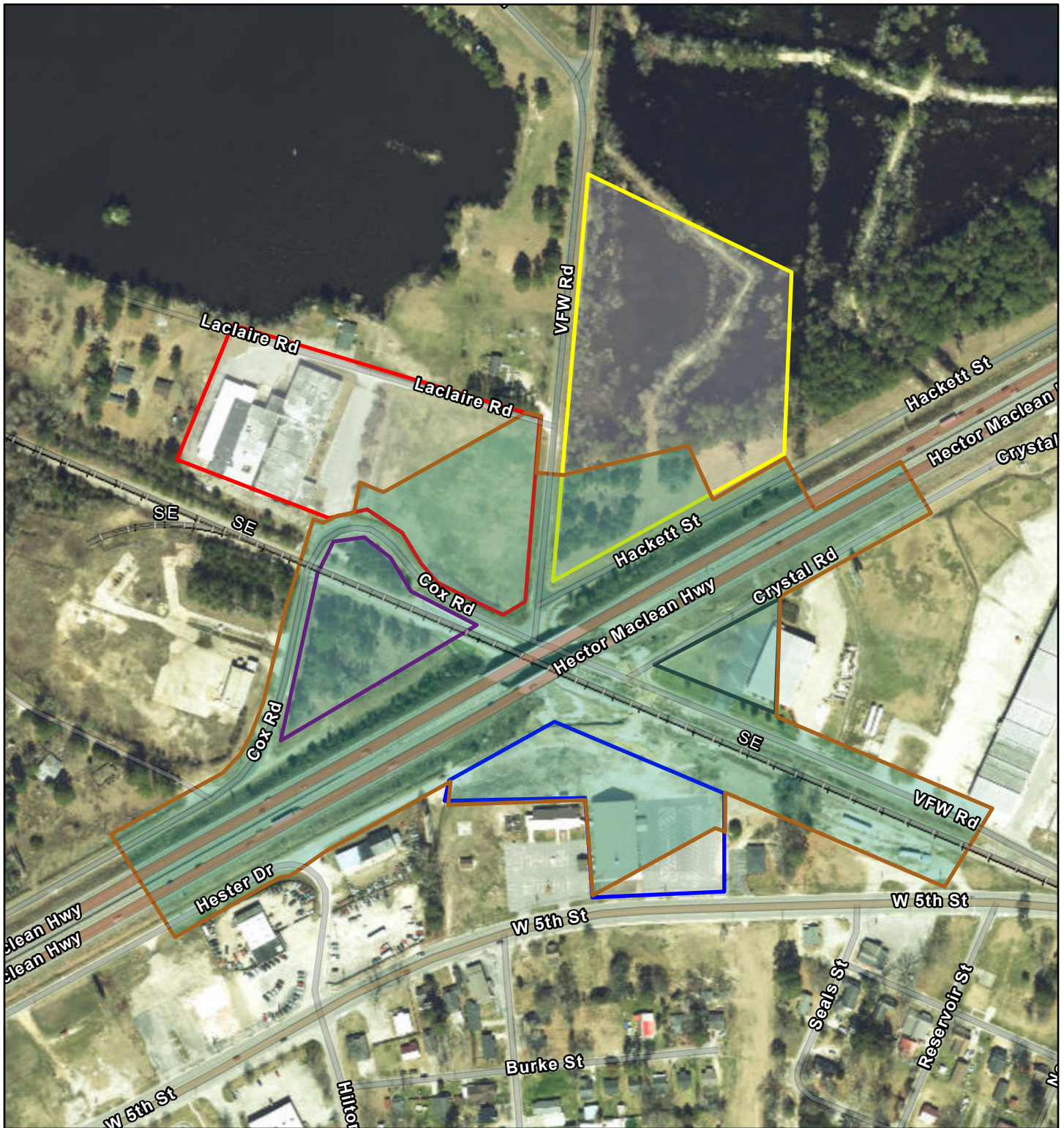
Andrea

Andrea Gievers, JD, MSEL, ERM
Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700








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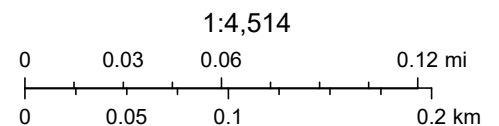
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West Lumberton Flood Gate - Aerial Map



December 1, 2023

- | | | | |
|--|-----------------------------|---|-----------------------------|
|  | WLFG Project Action Area |  | 2460 Cox Rd #938179143700 |
|  | 550 VFW Rd #938189443052 |  | VFW & Hackett #938280300700 |
|  | 2306 W 5th St #938189201500 |  | Railroads |
|  | 2400 Cox Rd #938179684407 | | |



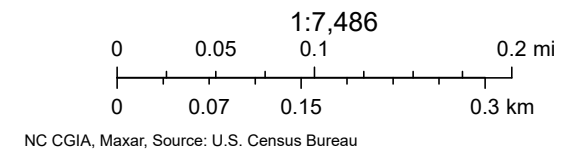
NC CGIA, Maxar, Esri Community Maps Contributors, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, EPA OEI

West Lumberton Flood Gate - TIGERweb Urban Areas Map



November 27, 2023

Counties 2020 Urban Areas Counties
States 2020 Urban Areas States



West Lumberton Flood Gate - TIGERweb Urban Areas



December 1, 2023

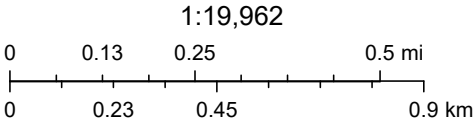
Counties

States

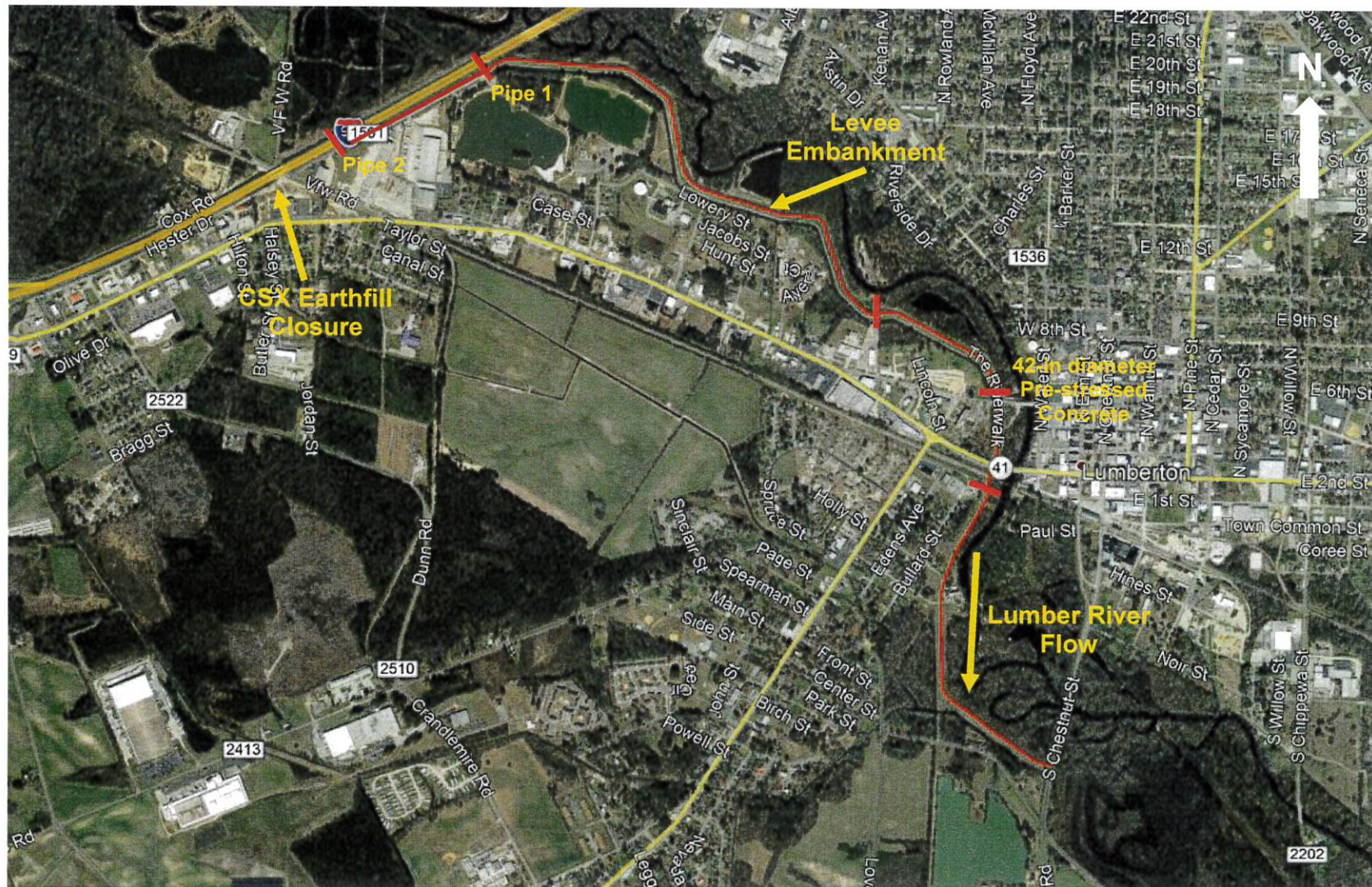
2020 Urban Areas

Counties

States

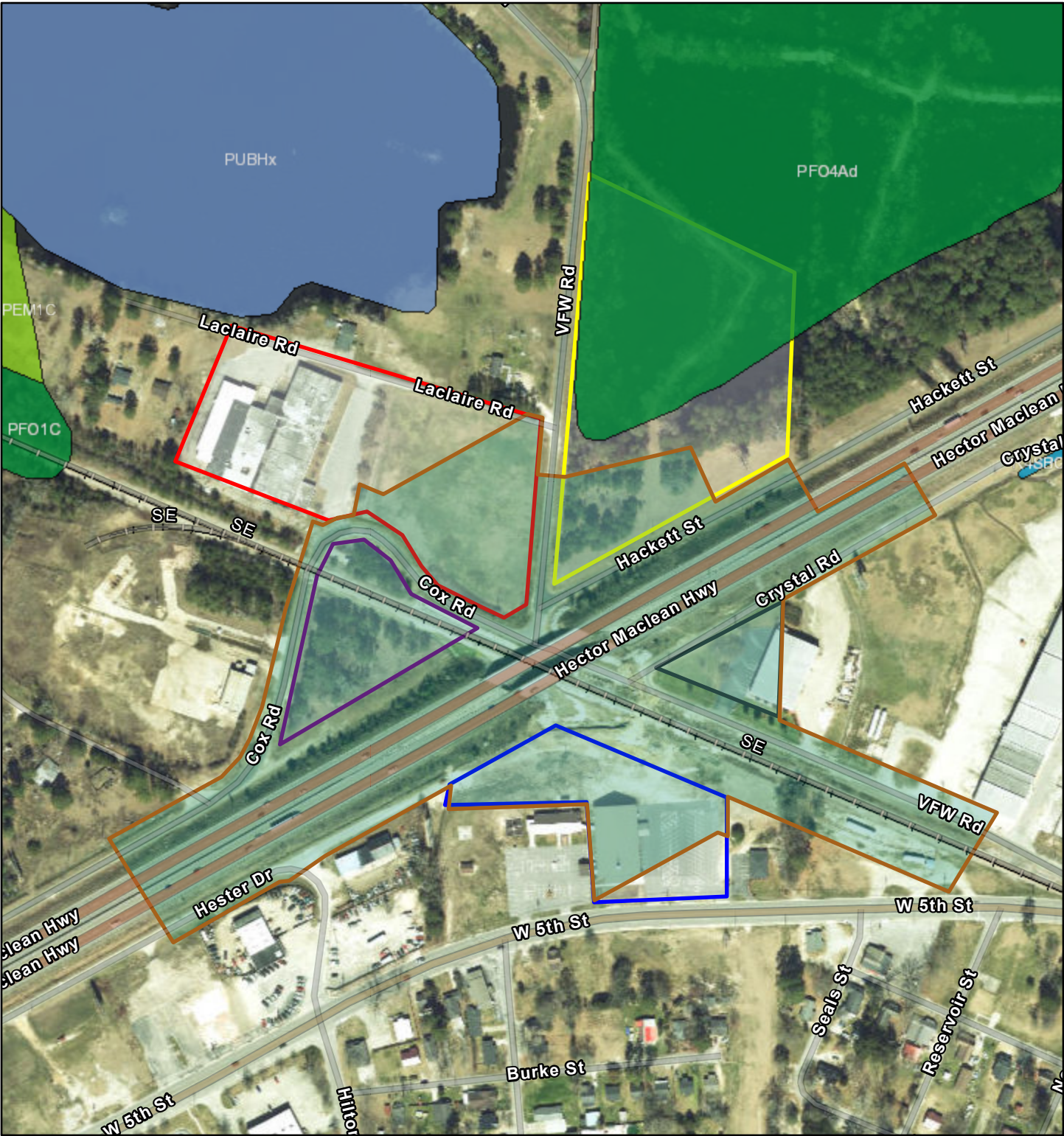


NC CGIA, Maxar, Source: U.S. Census Bureau



PROJECT MAP

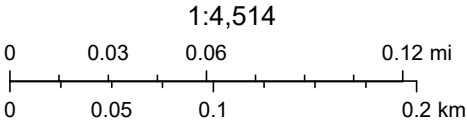
West Lumberton Flood Gate - NWI Map



December 1, 2023

- Wetlands

 - Estuarine and Marine Deepwater
 - Estuarine and Marine Wetland
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Freshwater Pond
 - Lake
 - Other
- Riverine
 - WLFG Project Action Area
 - 550 VFW Rd #938189443052
 - 2306 W 5th St #938189201500
 - 2400 Cox Rd #938179684407
 - 2460 Cox Rd #938179143700
 - VFW & Hackett #938280300700
 - Railroads



U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov, NC CGIA, Maxar, Esri Community Maps Contributors, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, EPA OEI

W. Lumberton Flood Gate

Design Plans C-201 NCORR Project

- NOTES:
1. OFFSET WATERLINE AS NEEDED DURING CONSTRUCTION TO MINIMIZE INTERRUPTION OF SERVICE. MAXIMUM ALLOWABLE INTERRUPTION OF SERVICE IS 4 HOURS. REFER TO DETAIL 3 SHEET C-201.
 2. WATERLINE OFFSET CAN BE USED AS TEMPORARY OF FINAL LOCATION OF PIPE. FINAL PIPE PENETRATION THROUGH WALL SHALL BE PER DETAIL PROVIDED IN STRUCTURAL SHEET 16.
 3. ALL VALVES SHALL BE DUCTILE IRON.
 4. PROVIDE CITY OF LUMBERTON AT LEAST TWO WEEKS NOTICE AHEAD OF INTERRUPTION OF SERVICE AND COORDINATE WITH CITY ON LOCATION AND OPERATION OF CUTOFF VALVES.
 5. STEEL CASINGS, BRACKETS AND CARRIER PIPE SHALL BE RESTORED AS EXISTING. IN SAME LOCATION, NO OFFSET IS ALLOWED.
 6. STEEL CASINGS SHALL BE WELDED AT CUT LOCATIONS. MECHANICAL JOINTS SHALL BE USED TO RESTRAIN CARRIER PIPE.
 7. MAXIMUM ALLOWABLE INTERRUPTION OF SERVICE FOR WATERLINE INSIDE STEEL CASING IS TWO WEEKS.

LINE TABLE					
LINE	STATION	DESCRIPTION	DATE	BY	CHECKED
L-1	1+00.00	START OF FLOOD GATE	10/1/11	J. L. BROWN	J. L. BROWN
L-1	1+00.00	START OF FLOOD GATE	10/1/11	J. L. BROWN	J. L. BROWN
L-1	1+00.00	START OF FLOOD GATE	10/1/11	J. L. BROWN	J. L. BROWN
L-1	1+00.00	START OF FLOOD GATE	10/1/11	J. L. BROWN	J. L. BROWN
L-1	1+00.00	START OF FLOOD GATE	10/1/11	J. L. BROWN	J. L. BROWN
L-1	1+00.00	START OF FLOOD GATE	10/1/11	J. L. BROWN	J. L. BROWN
L-1	1+00.00	START OF FLOOD GATE	10/1/11	J. L. BROWN	J. L. BROWN
L-1	1+00.00	START OF FLOOD GATE	10/1/11	J. L. BROWN	J. L. BROWN
L-1	1+00.00	START OF FLOOD GATE	10/1/11	J. L. BROWN	J. L. BROWN
L-1	1+00.00	START OF FLOOD GATE	10/1/11	J. L. BROWN	J. L. BROWN



United States
Department of
Agriculture

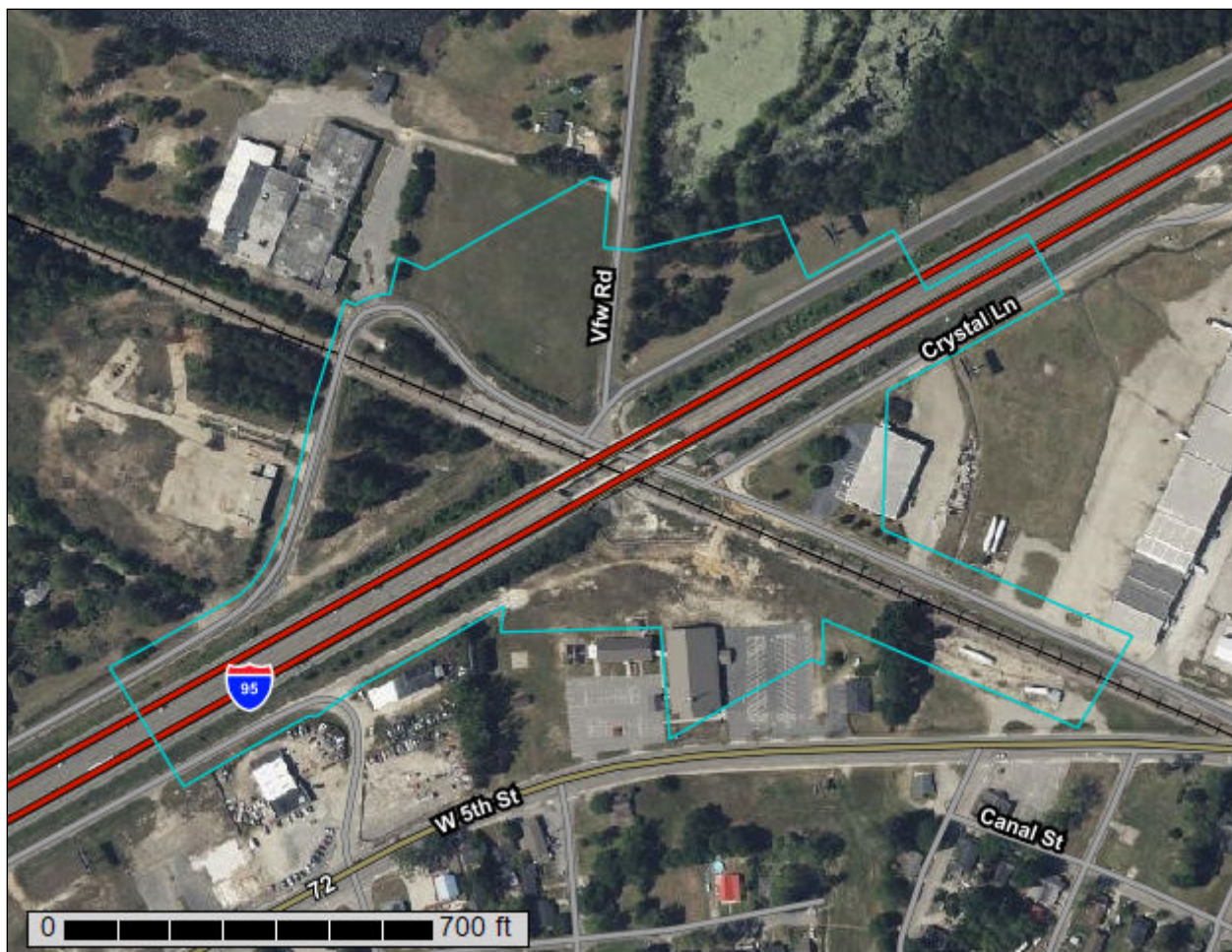
NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Robeson County, North Carolina**

West Lumberton Flood Gate



December 1, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

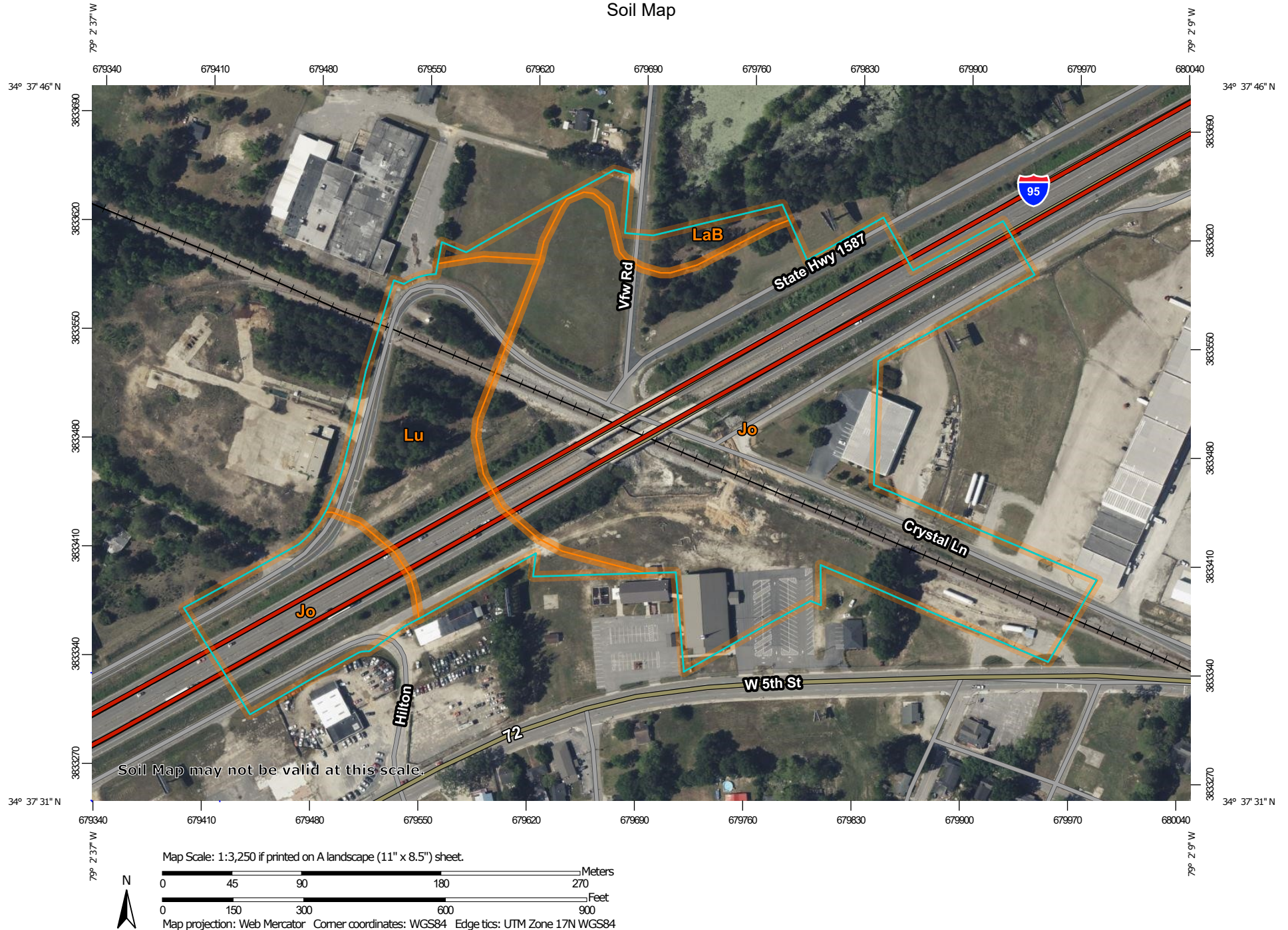
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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

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MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)


Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit


 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop


 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole


 Slide or Slip

 Sodic Spot


 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals


Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Robeson County, North Carolina
Survey Area Data: Version 22, Sep 13, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 17, 2022—May 20, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Jo	Johns sandy loam	19.3	76.9%
LaB	Lakeland sand, 0 to 6 percent slopes	1.0	4.0%
Lu	Lumbee sandy loam	4.8	19.1%
Totals for Area of Interest		25.1	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the

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development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Robeson County, North Carolina

Jo—Johns sandy loam

Map Unit Setting

National map unit symbol: 3vf7
Elevation: 80 to 330 feet
Mean annual precipitation: 38 to 55 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 210 to 265 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Johns and similar soils: 85 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Johns

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy alluvium over sandy alluvium

Typical profile

Ap - 0 to 8 inches: fine sandy loam
E - 8 to 15 inches: fine sandy loam
Bt - 15 to 32 inches: sandy clay loam
2Cg - 32 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C
Ecological site: F153AY040NC - Moist Loamy Rises and Flats
Hydric soil rating: No

Minor Components

Lumbee, undrained

Percent of map unit: 5 percent

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Landform: Backswamps on stream terraces
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F153AY060NC - Wet Loamy Flats and Depressions
Hydric soil rating: Yes

LaB—Lakeland sand, 0 to 6 percent slopes

Map Unit Setting

National map unit symbol: 3vfb
Elevation: 80 to 330 feet
Mean annual precipitation: 38 to 55 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 210 to 265 days
Farmland classification: Not prime farmland

Map Unit Composition

Lakeland and similar soils: 80 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lakeland

Setting

Landform: Ridges on marine terraces
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy marine deposits and/or eolian sands

Typical profile

A - 0 to 6 inches: sand
C1 - 6 to 48 inches: sand
C2 - 48 to 80 inches: sand

Properties and qualities

Slope: 0 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s

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Hydrologic Soil Group: A
Ecological site: F153AY010NC - Dry Sands
Hydric soil rating: No

Minor Components

Leon

Percent of map unit: 5 percent
Landform: Flats on marine terraces
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: F153AY070NC - Wet Spodosol Flats and Depressions
Hydric soil rating: Yes

Lu—Lumbee sandy loam

Map Unit Setting

National map unit symbol: 3vfc
Elevation: 80 to 330 feet
Mean annual precipitation: 38 to 55 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 210 to 265 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Lumbee, drained, and similar soils: 85 percent
Lumbee, undrained, and similar soils: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lumbee, Drained

Setting

Landform: Backswamps on stream terraces
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy alluvium over sandy alluvium

Typical profile

Ap - 0 to 6 inches: sandy loam
E - 6 to 14 inches: sandy loam
Btg - 14 to 36 inches: sandy clay loam
2Cg - 36 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)

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Depth to water table: About 0 to 12 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Ecological site: F153AY060NC - Wet Loamy Flats and Depressions
Hydric soil rating: Yes

Description of Lumbee, Undrained

Setting

Landform: Backswamps on stream terraces
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy alluvium over sandy alluvium

Typical profile

Ap - 0 to 6 inches: sandy loam
E - 6 to 14 inches: sandy loam
Btg - 14 to 36 inches: sandy clay loam
2Cg - 36 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Rare
Frequency of ponding: Occasional
Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: B/D
Ecological site: F153AY060NC - Wet Loamy Flats and Depressions
Hydric soil rating: Yes

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Building Site Development

Building site development interpretations are designed to be used as tools for evaluating soil suitability and identifying soil limitations for various construction purposes. As part of the interpretation process, the rating applies to each soil in its described condition and does not consider present land use. Example interpretations can include corrosion of concrete and steel, shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping.

Shallow Excavations (West Lumberton Flood Gate)

ENG - Engineering

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately

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favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

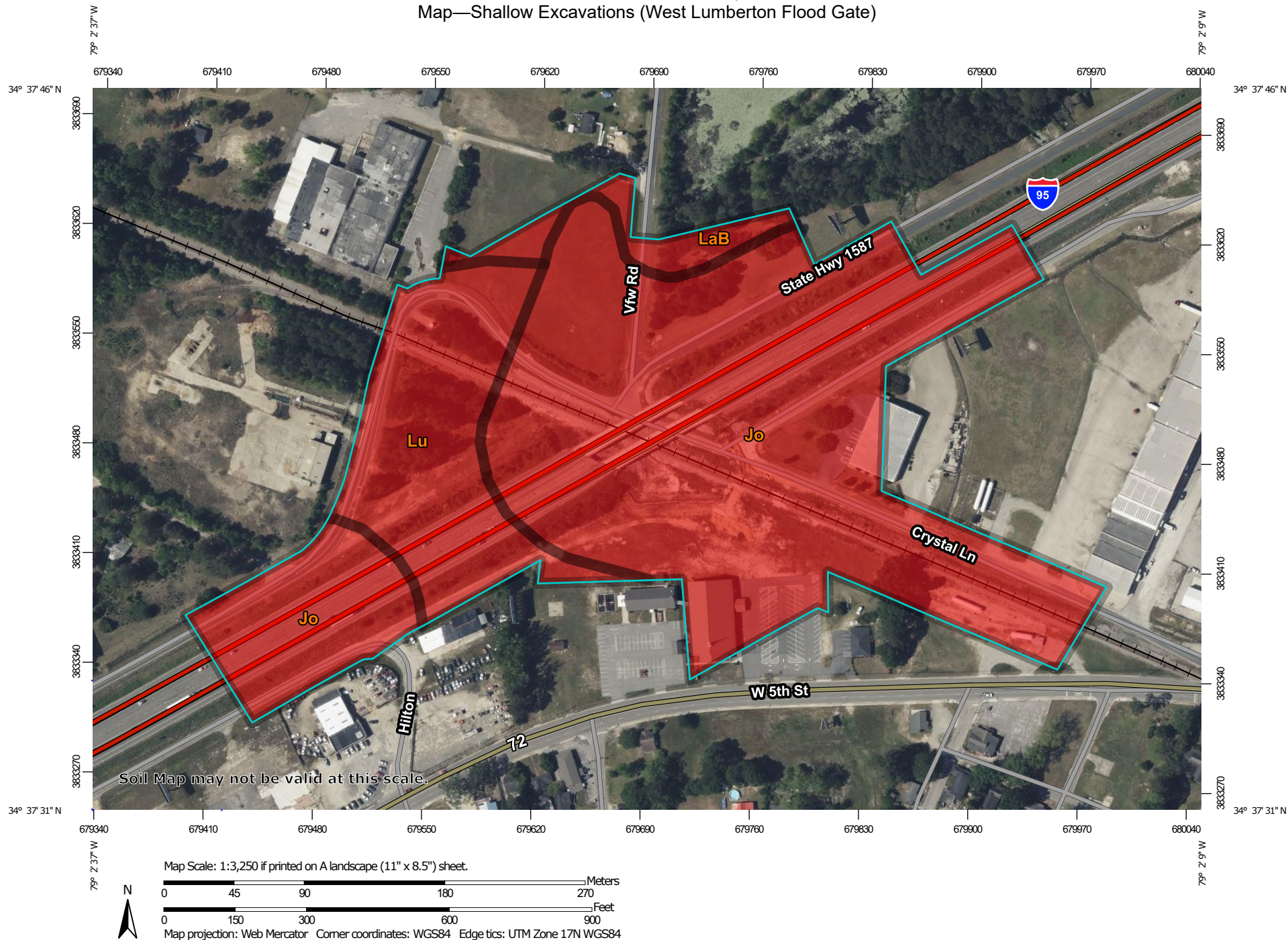
Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

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Map—Shallow Excavations (West Lumberton Flood Gate)




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MAP LEGEND

Area of Interest (AOI)





 Area of Interest (AOI)

Background





 Aerial Photography

Soils





Soil Rating Polygons

 Very limited
 Somewhat limited
 Not limited
 Not rated or not available


Soil Rating Lines

 Very limited
 Somewhat limited
 Not limited
 Not rated or not available






Soil Rating Points

 Very limited
 Somewhat limited
 Not limited
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Robeson County, North Carolina
Survey Area Data: Version 22, Sep 13, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 17, 2022—May 20, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Tables—Shallow Excavations (West Lumberton Flood Gate)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI		
Jo	Johns sandy loam	Very limited	Johns (85%)	Depth to saturated zone (1.00)	19.3	76.9%		
				Dusty (0.01)				
				Unstable excavation walls (0.01)				
			Lumbee, undrained (5%)	Ponding (1.00)				
				Depth to saturated zone (1.00)				
				Dusty (0.02)				
				Unstable excavation walls (0.01)				
LaB	Lakeland sand, 0 to 6 percent slopes	Very limited	Lakeland (80%)	Unstable excavation walls (1.00)	1.0	4.0%		
			Leon (5%)	Depth to saturated zone (1.00)			Unstable excavation walls (1.00)	
Lu	Lumbee sandy loam	Very limited	Lumbee, drained (85%)	Depth to saturated zone (1.00)	4.8	19.1%		
				Dusty (0.02)				
				Unstable excavation walls (0.01)				
			Lumbee, undrained (15%)	Ponding (1.00)				
				Depth to saturated zone (1.00)				
				Dusty (0.02)				
				Unstable excavation walls (0.01)				
Totals for Area of Interest					25.1	100.0%		

Rating	Acres in AOI	Percent of AOI
Very limited	25.1	100.0%
Totals for Area of Interest	25.1	100.0%

Rating Options—Shallow Excavations (West Lumberton Flood Gate)

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

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Custom Soil Resource Report

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Original Design NRCS Correspondence

From: [Davis, Joshua - NRCS, Lumberton, NC](#)
To: [Susan Morrison](#)
Subject: RE: [External Email]Re: West Lumberton Flood Gate at VFW Road and Railroad Underpass
Date: Friday, November 12, 2021 4:01:11 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Susan,

After doing some studying up on the FFPA as well as looking into the location of the proposed project, it's my belief that this will not require filling out an AD-1006. As you mentioned, the land is not being utilized for agriculture and the area is still prone to flooding due to lack of drainage. With that in mind I believe you should be good to move forward as-is.

From: Susan Morrison <Susan.Morrison@timmons.com>
Sent: Friday, November 12, 2021 11:56 AM
To: Davis, Joshua - NRCS, Lumberton, NC <joshua.davis@usda.gov>
Subject: [External Email]Re: West Lumberton Flood Gate at VFW Road and Railroad Underpass
Importance: High

[External Email]

If this message comes from an **unexpected sender** or references a **vague/unexpected topic**;
Use caution before clicking links or opening attachments.
Please send any concerns or suspicious messages to: Spam.Abuse@usda.gov

Good Morning Joshua—

I just wanted to follow up on my question below regarding whether a Farmland Conversion Impact Rating analysis is needed for the West Lumberton Flood Gate project.

We did receive the attached concept plan showing impacts from the project engineer, which reflects temporary and permanent impacts of approximately 3.5 acres and 1.6 acres, respectively.

Please let me know if I can provide additional information.

Thanks!

Susan Morrison, AICP
Senior Project Manager

TIMMONS GROUP | www.timmons.com
5410 Trinity Rd, Suite 102 | Raleigh, NC 27607
Office: 919.532.3260 | Cell: 480.558.6943
Email: Susan.Morrison@Timmons.com
Your Vision Achieved Through Ours

To send me files greater than 20MB [click here](#).

From: Susan Morrison

Sent: Friday, October 29, 2021 7:00 PM

To: joshua.davis@usda.gov

Subject: West Lumberton Flood Gate at VFW Road and Railroad Underpass

Hi Joshua—

We're trying to determine if a proposed flood gate project in Lumberton is subject to the Farmland Protection Policy Act. The project is being partially funded by HUD CDBG-Disaster Recovery funds as well as by the EDA. The project falls completely within an area that is "prime farmland if drained" on the attached NRCS Farmland Classification map.

The project includes a flood gate that will swing over CSX railroad tracks, but will also include an 800-ft extension of an earthen levee and re-aligning portions of two roadways, VFW Road and Hackett Street, to accommodate the flood gate. The project will mostly fall within previously disturbed railroad and roadway ROW/easements, except there are portions of the levee that do not. I don't believe the project area has technically been drained since it's still very much a flood hazard area—and the City was devastated by Hurricanes Matthew in 2016 and Florence in 2018.

The project does not fall within a Census-designated "Urban Area," but the land proposed for this project that does not fall within ROW/easements is not currently used for agriculture and does not seem sufficient enough that it could be used for ag given its location. Can you confirm that the use would likely not be considered a conversion from ag to non-ag?

We weren't sure if we would need to complete a Farmland Conversion Impact Rating analysis using Form AD-1006. If so, please let me know and we can determine from the project engineer the total acres to be converted and submit the form.

Thank you!

Susan Morrison, AICP

Environmental Project Manager

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Office: 919.532.3260 | Cell: 480.558.6943

Email: Susan.Morrison@Timmons.com

Your Vision Achieved Through Ours

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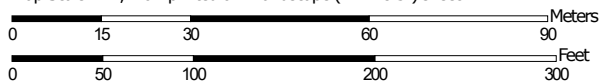
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Farmland Classification—Robeson County, North Carolina (West Lumberton Flood Gate)



Soil Map may not be valid at this scale.

Map Scale: 1:1,270 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84



**Natural Resources
Conservation Service**


Web Soil Survey
National Cooperative Soil Survey

9/13/2023
Page 1 of 5

Farmland Classification—Robeson County, North Carolina
(West Lumberton Flood Gate)









MAP LEGEND








Area of Interest (AOI)






 Area of Interest (AOI)








Soils



Soil Rating Polygons

-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season









-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of statewide importance, if drained
-  Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if irrigated

-  Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if irrigated and drained
-  Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
-  Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60

-  Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if warm enough
-  Farmland of statewide importance, if thawed
-  Farmland of local importance
-  Farmland of local importance, if irrigated

-  Farmland of unique importance
-  Not rated or not available

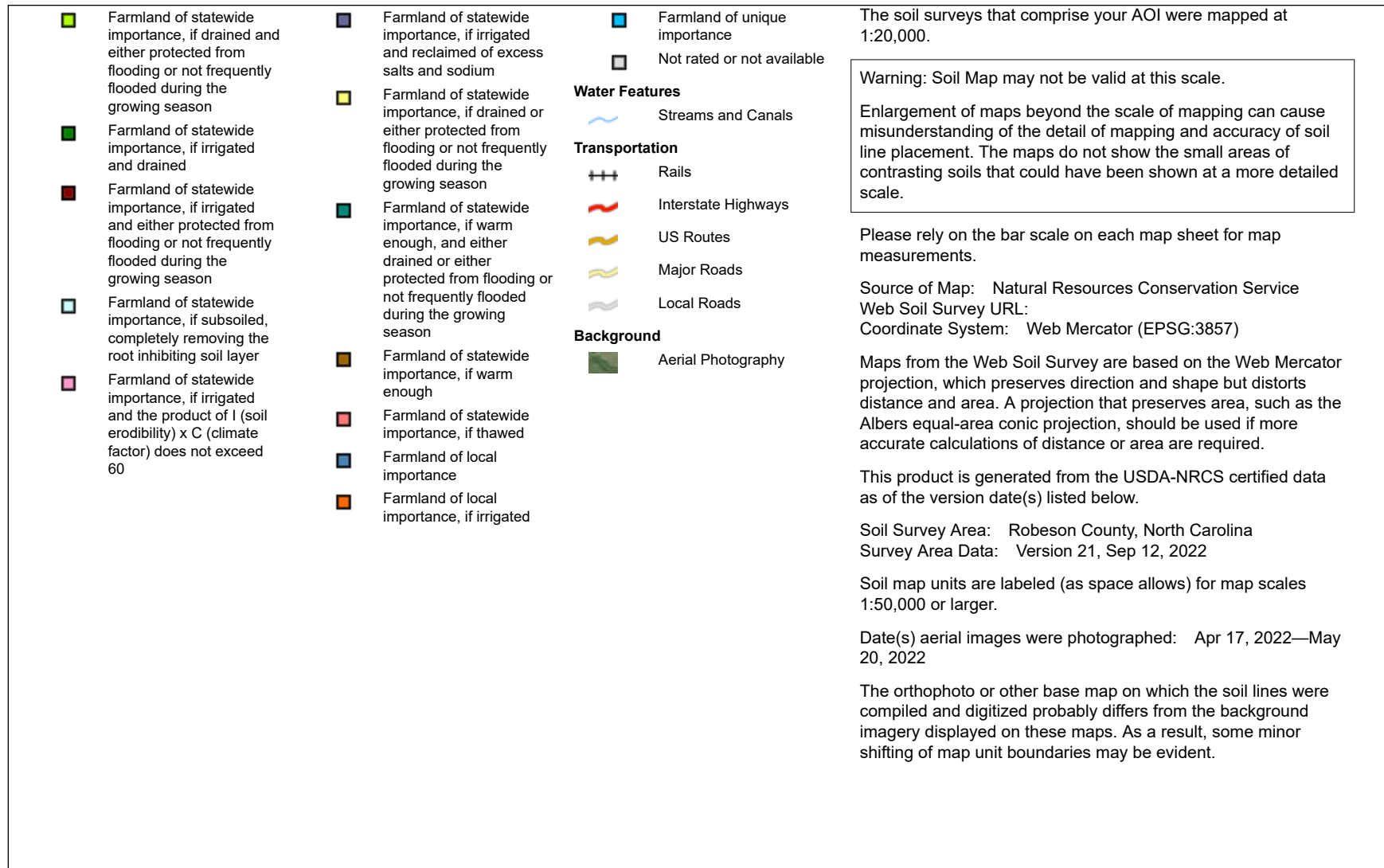
Soil Rating Lines

-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Farmland Classification—Robeson County, North Carolina
(West Lumberton Flood Gate)

	Prime farmland if subsoiled, completely removing the root inhibiting soil layer		Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium		Farmland of unique importance		Prime farmland if subsoiled, completely removing the root inhibiting soil layer
	Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60		Farmland of statewide importance, if irrigated and drained		Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season	Soil Rating Points			Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
	Prime farmland if irrigated and reclaimed of excess salts and sodium		Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season		Not prime farmland		Prime farmland if irrigated and reclaimed of excess salts and sodium
	Farmland of statewide importance		Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer		Farmland of statewide importance, if warm enough		Prime farmland if protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance
	Farmland of statewide importance, if drained		Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60		Farmland of statewide importance, if thawed		Prime farmland if irrigated		Farmland of statewide importance, if drained
	Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season				Farmland of local importance		Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
	Farmland of statewide importance, if irrigated				Farmland of local importance, if irrigated		Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season		Farmland of statewide importance, if irrigated

Farmland Classification—Robeson County, North Carolina
(West Lumberton Flood Gate)



Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Jo	Johns sandy loam	Prime farmland if drained	2.1	67.2%
Lu	Lumbee sandy loam	Prime farmland if drained	1.0	32.8%
Totals for Area of Interest			3.1	100.0%

Description

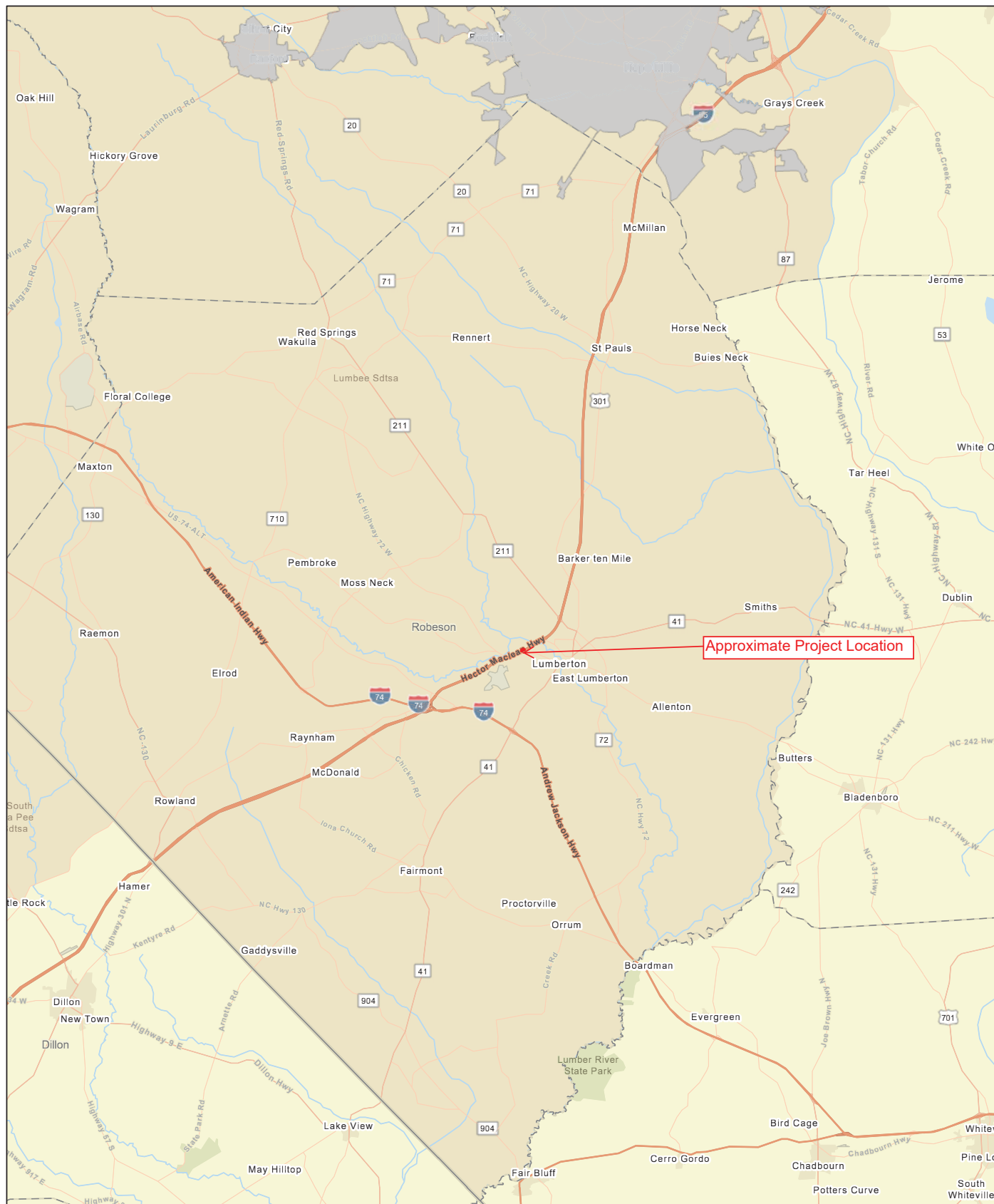
Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

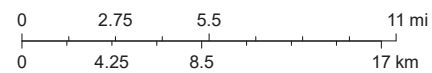
Urbanized Areas



September 13, 2023

- Project 1
- Urbanized Areas

1:288,895



Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, EPA OEI

Appendix J:

EO 11988 Floodplain Management and EO 11990 Wetlands Protection Determination

West Lumberton Flood Gate at VFW Road and Railroad Underpass Project
EO 11988 Floodplain Management and EO 11990 Protection of Wetlands Determination
Infrastructure Recovery Program

January 5, 2024

Introduction & Overview

The purpose of Executive Order (EO) 11988 Floodplain Management is “to avoid to the extent possible the long- and short-term adverse impacts associated with occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.” The purpose of EO 11990 Protection of Wetlands is “to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.” This determination contains the analysis prescribed by 24 CFR Part 55.

The North Carolina Office of Recovery and Resiliency (NCORR) has received an application from the City of Lumberton to use Community Development Block Grant – Mitigation (CDBG-MIT) funding from the Infrastructure Recovery Program to implement the West Lumberton Flood Gate at VFW Road and Railroad Underpass project (“proposed action”) located near Interstate 95 (I-95) in the vicinity of VFW Road, Cox Road, Hackett Street, and the CSX railroad crossing within the City of Lumberton (City), Robeson County, North Carolina. The analysis that follows focuses on floodplain and wetland impacts, as there are direct floodplain impacts and an incidental wetland on the proposed action site’s parcels. Based on the City’s historic flooding, type of land use and improvements, need for the proposed action and use, and other case characteristics described herein, it is concluded that there is a reasonable basis to proceed with funding for this proposed action despite modification of floodplain and new construction on a parcel containing an incidental wetland. The CDBG-MIT funding is administered through the NCORR Infrastructure Recovery Program which is developing sustainable and resilient communities. Thus, alternatives preventing or impeding the development of sustainable and resilient communities are not considered reasonable alternatives.

Description of Proposed Action and Land Use

Purpose and Need for the Proposed Action

The City is seeking to mitigate future storm flooding as experienced and exacerbated by the effects of the landfall of Hurricanes Matthew (October 8, 2016) and Florence (September 14, 2018). The purpose of this proposed action is to enhance the City’s existing earthen levee and flood control system to mitigate against 100-year flood events flowing from the west side of the I-95 underpass via the CSX railroad crossing in the vicinity of VFW Road, Cox Road, and Hackett Street.

The City of Lumberton, incorporated in 1859, was established on the banks of the Lumber River with the first businesses situated along the waterfront. The City maintains an existing earthen levee system built in 1977 by the U.S Department of Agriculture (USDA) Soil Conservation Service in coordination with Robeson County Drainage District #1 and the City. This levee is considered a key feature in the Lumber River Basin (see 2018 Lumber River Basin Flood Analysis and Mitigation Strategies Study [Lumber River Mitigation Study], pg. 5). “The VFW and CSX Railroad underpass at I-95 was constructed at a lower elevation than designs specified, and a 10-foot wide earthen dike was to have been constructed in the area though the improvements never made, and controlling the breach depended on an emergency sandbagging effort at the underpass [to] prevent water spilling landward of the levee during a significant

event” according to the Lumber River Mitigation Study (pgs. 5-6). At the time of construction, the City was obligated by written agreement to maintain and operate the levee system including the responsibility to provide a temporary flood barrier at the CSX railroad underpass. The proposed action site (I-95 overpass opening at CSX railroad, Cox Road, and VFW Road) was identified during the levee design as a weak point where 100-year and greater flood events can penetrate to the protected side of the levee. During storm events, the City is supposed to coordinate and implement a detailed sandbag closure protocol which involves placing sandbags over the railroad and stretching from the south and north I-95 bridge abutments. As Hurricane Matthew approached the area in October 2016, the original forecast predicted that the storm would turn east out to sea, avoiding the City. Thus, the sandbag protocol action threshold was not met and was not implemented. At the last minute, the storm track forecast and intensity changed leaving no time for the sandbag protocol implementation. Flood waters entered the protected side of the levee through this opening, flooding southern and western Lumberton. In September 2018, Hurricane Florence was forecasted to impact the area, so the City, NC DOT and NC National Guard constructed a temporary sandbag and earthen barrier that only provided approximately 48 hours of protection before succumbing to the extreme river flooding. Again, flood waters entered the protected side of the levee through this opening, flooding the same general areas of southern and western Lumberton. According to the 2020 Preliminary Engineering Report, “[s]everal days are needed to properly construct a temporary flood barrier capable of protecting West and South Lumberton during an intense flood event.” The City undertook to find an expeditious and cost-effective way to address the issues encountered relying on a temporary sandbag protocol during past storms and hurricanes. Further discussion on the plans and need for a flood gate at this proposed location are discussed in the Lumber River Mitigation Study.

The City proposes this permanent flood gate system and related drainage improvements to mitigate future flooding on the protected side of the existing levee system by eliminating the ability for flood waters from the Lumber River from entering through the opening under I-95 at the CSX railroad, which is critical to protect lives and property in southern and western Lumberton. By prohibiting the type of catastrophic flooding that was seen during Hurricane Matthew, the City of Lumberton will be able to confidently restore much needed housing and businesses to these historically low- to moderate-income and predominately minority neighborhoods, without the threat of future flooding. The flood gate construction and operation will require close coordination between the City of Lumberton, CSX railroad and the North Carolina Department of Transportation (NC DOT) including routine test closures and maintenance performed by the City of Lumberton. An operational protocol will be established between the City of Lumberton and CSX for activation of the flood gates. City staff will work directly with the CSX Roadmaster in determining the timing for clearance of the railroad and closure of the gates. This activity shall only take place during times of imminent flooding danger. A routine maintenance schedule shall also be established for insuring the safe and continued operation of the gates into the foreseeable future.

During Hurricane Matthew in 2016 and again with Hurricane Florence in 2018, flood waters entered the protected side of the levee and disrupted City-wide services such as the potable water supply and electric utility grid for several days. The levee system helps maintain access to and operation of several critical facilities behind the levee, such as the City’s water treatment plant, two power grid point of delivery transformer sub stations, the City’s Electric Utility Department, and a City Fire Station. Failure to make the proposed improvements will result in the area continuing to experience flooding during future storm events, which in turn has impacts across the entire city. In the case of Hurricane Matthew, the loss of the water treatment plant as a result of flooding left residents City-wide completely without public water for 10 days, with only restricted use non-potable water available another 20 days. Without the necessary improvements, the City will continue to experience flooding with resultant property damage, utility and municipal service interruptions, and threat to public health and safety. As properties are repeatedly damaged, owners will likely stop making repairs and instead choose to relocate their businesses, possibly outside of the City’s jurisdiction. The City will potentially experience impacts to the local economy both

directly from the lost businesses, as well as indirectly through the elimination of jobs that local residents rely upon. The devastation suffered by the residents, churches, businesses and industries in the affected areas could have been avoided had a flood gate system been in place. There has been broad community support for this proposed action from not only the residents of South and West Lumberton but also from the City's industrial base, which will also be protected by these efforts.

Proposed Action Description

The proposed action entails construction of an approximately 30-foot flood gate to swing over the CSX railroad tracks with concrete wing flood walls extending outward from both sides of the gate and connecting concrete wing wall sections to a proposed earthen berm with supportive sheet piling that ties the system into the I-95 proposed embankment; slope revetment; riprap groin protection; two 15-foot-wide gravel access drives with turnout onto Cox Road and corresponding 34-linear-foot (lf) and 36-lf, 15-inch reinforced concrete piping (RCP) culverts; 2-foot x 2-foot and 3-foot x 3-foot sluice gates; water main offset; railroad ditch grading; removal and reinstallation of steel casing and 6-inch watermain south of the flood gate, as needed; abandonment of AT&T line; and all surfaces to be restored to existing grade after construction. Temporary construction includes four construction entrances, a staging area, two check dams, and a 26-lf, 15-inch HDPE. The sluice gates shall be self-contained stainless steel slide gates with a wall thimble offset sufficient to accommodate handwheel operation. CSX will remove and reinstall 34-foot rail sections and two timber crossties from each track with contractor to install sections of shoring (TRS) sheet piling which will remain in-place and be cut off a minimum of 2-feet below the top-of-tie. The contractor shall coordinate with CSX to schedule the final construction sequence including track windows for all phases of work where track(s) will be blocked or out of service and execute with CSX a temporary construction crossing agreement. CSX and contractor will schedule a 12-hour track window to install the jump span bridge with CSX removing a 50-foot track section and contractor excavating materials, cutting off piles, and installing wales, struts, pile caps, and jump span bridge. Erosion and sediment control measures include filter fabric under 24-inch class 2 riprap east of the flood gate; geotextile fabric under 18-inch class B riprap and 6-inch stone groin protection riprap along southeastern portion of the earthen berm; two stone riprap check dams; site grading; and silt fencing. The proposed action location maps and site plans are included in **Appendix 1**.

The project components will be elevated well above the 100-year base flood elevation (BFE) in order to protect lives and property from potential flash floods. The 100-year floodplain in the proposed flood gate system area has a BFE from 123.56 feet to 123.71 feet (North American vertical datum [NAVD]88). The proposed flood wall will have a 134-foot top-of-wall elevation compared to the top of the railroad bed elevation which is around 120 feet. Therefore, the wall extension will be approximately 14 feet high above the railroad bed. According to the proposed action's Hydrologic and Hydraulic Analysis (H&H Analysis), the City desires to pursue Federal Emergency Management Agency (FEMA) accreditation of the levee protection system which requires a minimum top elevation equal to the 100-year BFE plus 4.5 feet of freeboard (128.5 feet, NAVD88). Thus, as designed, the top of flood gate elevation will meet this requirement. The flood gate over the railroad tracks will be swing-hinged closed in line with the concrete wing walls during future storm events and flooding. This design will provide long-term flood prevention and minimize potential flood damage to the surrounding properties.

NC DOT is undertaking the widening of this section of I-95 and site conditions anticipated upon completion of this NC DOT project are shown on C-102, Existing Conditions (Post-I-95 Construction), in the attached site plans (**Appendix 1**). The NC DOT project includes realignment of Cox Road, VFW Road and Hackett Street, I-95 embankment and bridge surfacing, a drainage channel, I-95 replacement bridge, retaining walls near Cox Road, and temporary and permanent NC DOT easements and ROWs, to be completed by NC DOT in this proposed action area.

Proposed Action Location

The proposed action is located near Interstate 95 (I-95) in the vicinity of VFW Road, Cox Road, Hackett Street, and the CSX railroad crossing within the City of Lumberton, Robeson County, North Carolina. The proposed limits of disturbance (LOD) consist of public rights-of-way, Hackett Street, Cox Road, VFW Road, the CSX railroad line, and portions of five parcels. According to the Robeson County online parcel data, two parcels are owned by Freeman Investments Inc., a 7.16-acre lot at VFW and Hackett Rd., Parcel Pin #938280300700 and an 0.83-acre lot at 550 VFW Rd., Parcel Pin #938189443052; one 6.3-acre lot is owned by Spartan LLC (fka Titan Flow Control) at 2400 Cox Rd., Parcel Pin #938179684407; one 6.34-acre lot is owned by Lumberton Recycling Co. Inc./ Omnisource Southeast LLC at 2460 Cox Rd., Parcel Pin #938179143700; and a 2.8-acre lot owned by the West Lumberton Baptist Church at 2306 W. 5th St., Parcel Pin #938189201500 (**Appendix 1**). The proposed action will disturb approximately 4.9 acres mostly within previously disturbed railroad and roadway easements and industrial businesses' lawns.

All of the proposed action site is located in 100-year floodplain with the five parcels totaling 23.43 acres and no areas in regulatory floodway. The proposed action will result in temporary impacts to approximately 4.9 acres of 100-year floodplain (Zone AE) which includes four construction entrances, a staging area, two check dams, and a 26-lf, 15-inch HDPE. The permanent impacts to 4.7 acres of 100-year floodplain includes the construction of an approximately 30-foot flood gate to swing over the CSX railroad tracks with concrete wing flood walls extending outward from both sides of the gate and connecting concrete wing wall sections to a proposed earthen berm with supportive sheet piling that ties the system into the I-95 proposed embankment; slope revetment; riprap groin protection; two 15-foot-wide gravel access drives with turnout onto Cox Road and corresponding 34-lf and 36-lf, 15-inch reinforced concrete piping culverts; 2-foot x 2-foot and 3-foot x 3-foot sluice gates; water main offset; railroad ditch grading; removal and reinstallation of steel casing and 6-inch watermain south of the flood gate, as needed; and all surfaces to be restored to existing grade after construction. CSX will remove and reinstall 34-foot rail sections and two timber crossties from each track with contractor to install sections of shoring sheet piling cut off a minimum of 2-feet below the top-of-tie. CSX and contractor will schedule a 12-hour track window to install the jump span bridge with CSX removing a 50-foot track section and contractor excavating materials, cutting off piles, and installing wales, struts, pile caps, and jump span bridge.

Applicable Regulatory Procedure Per EO 11988 and EO 11990

The proposed action corresponds with a noncritical action not excluded under 24 CFR §55.12. The regulations under 24 CFR 55 apply to all HUD (or responsible entity) actions that are subject to potential harm by location in floodplains or wetlands. According to 24 CFR 55.1(a)(3), “[c]overed actions include the proposed acquisition, construction, demolition, improvement, disposition, financing, and use of properties located in floodplains or wetlands for which approval is required either from HUD, under any applicable HUD program, or from a responsible entity authorized by 24 CFR part 58.” Funding is permissible for the use in floodplain and at a parcel with incidental wetland if the proposed action is processed under 24 CFR §55.20 and the findings of the determination are affirmative to suggest that the proposed action may proceed.

In accordance with 24 CFR 55, the proposed action involves construction of a permanent flood gate system and related drainage improvements in Robeson County which is a participating community in good standing in the regular program of the National Flood Insurance Program (NFIP). Substantial Improvement/ Substantial Damage calculations do not apply to this proposed action. However, this proposed action involves “modification” of floodplain. As such, the full eight-step floodplain

determination process in §55.20 is required, and the following analysis examines each step in an EO 11988 Floodplain Management Determination process.

Based on the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) map, there will be “new construction” on a parcel containing an approximately 4.44 acre wetland located on one parcel in the proposed action area. The Freshwater Forested/ Shrub Wetland (PFO4Ad) located on the VFW Rd. and Hackett St. parcel #938280300700 is part of a 69.51-acre wetland feature (**Appendix 1**). There are no other wetlands located on the other parcels. Due to the use of HUD funds, compliance with EO 11990 through completion of the eight-step process under 24 CFR 55.20 is required for projects with potential wetland impacts. Thus, in accordance with the decision-making process set forth in 24 CFR Part 55, the following analysis examines each step in an EO 11990 Protection of Wetlands Determination process.

Step 1. Determine Whether the Proposed Action is Located in the 100-year Floodplain (500-year for Critical Actions) or results in New Construction in Wetlands.

According to the FEMA Flood Insurance Rate Map (FIRM) panels 3710938100K and 3710938200K, both effective on 12/6/2019, and Preliminary FIRMs (PFIRMs), effective on 8/29/2014, all five parcels (23.43 acres) are located in 100-year floodplain (Zone AE, Special Flood Hazard Area [SFHA]) with a BFE from 123.56 feet to 123.71 feet (NAVD 88) in the proposed flood gate system area (**Appendix 1**). The I-95 corridor (only highway and embankment on current FIRM) is located within Zone X – Area of Minimal Flood Hazard and Zone X – Area with Reduced Flood Risk Due to Levee. There is no FEMA-designated regulatory floodway on the proposed action site. The City of Lumberton (370203K) is a participating community in the NFIP. The proposed action will result in approximately 4.9 acres of temporary impacts and approximately 4.7 acres of permanent impacts to the 100-year floodplain. This proposed action involves constructing a permanent flood gate system with concrete wing walls and an earthen berm, two access drives and associated improvements. These are not insurable structures according to the NFIP Flood Insurance Manual effective October 1, 2022. As such, the full eight-step floodplain determination process in §55.20 is required, and the following analysis examines each step in an EO 11988 Floodplain Management Determination process.

Based on the USFWS NWI map, there is a wetland located on one parcel in the proposed action area. The proposed action involves new construction and there is an approximately 4.44-acre NWI-mapped Freshwater Forested/ Shrub Wetland (PFO4Ad) located on the VFW Rd. and Hackett St. parcel #938280300700 that is part of a 69.51-acre wetland feature (**Appendix 1**). There are no other wetlands located on the other parcels. Since no activities are proposed in wetlands, a US Army Corps of Engineers (USACE) Approved Jurisdictional Determination and No Permit Required Letter are being obtained and Clean Water Act Section 404 and 401 permits will not be required. Applicable recommendations from the NC Department of Environmental Quality (DEQ) Division of Water Resources (DWR) will be followed. The full eight-step wetlands determination process in §55.20 is required, and the following analysis examines each step in an EO 11990 Protection of Wetlands Determination process.

The proposed action will comply with a Floodplain Development Permit, NC DEMLR Erosion and Sediment Control Permit, NPDES Construction Stormwater Permit (NCG010000), and all applicable federal, State and local laws, regulations, and permit requirements and conditions. All necessary permits will be identified and obtained prior to commencing work and appended to the *West Lumberton Flood Gate at VFW Road and Railroad Underpass Project Environmental Assessment (EA) Environmental Review Record (ERR)* (*West Lumberton Flood Gate Project EA ERR*) when received from the permitting agencies.

Step 2. Initiate Public Notice for Early Review of Proposal.

Because the proposed action is located in floodplain and wetlands, NCORR published an early notice and posted supporting documentation that allowed for public and agency input on the decision to provide funding for construction and development activities. Supporting documentation incorporated into the early notice was posted for public review to the NCORR ReBuild NC website and included: proposed action location maps with boundaries shown; Robeson County parcel data; site plans; FEMA FIRMette, NEPAassist FEMA FIRMs, and PFIRMSs with parcel boundaries shown; the NFIP Community Status Book; H&H Analysis; USFWS NWI Map; Total Wetlands Area Map, and USACE correspondence. The early public notice and 15-day comment period is complete. No new, substantive public comments were received.

The early notice and corresponding 15-day public comment period started on December 9, 2023 with the *"Early Notice and Public Review of a Proposed Activity in a 100-Year Floodplain and Wetland"* being published in The Robesonian newspaper, with the 15-day period expiring on December 26, 2023. The notice targeted local residents within the community. The notice was also posted at <https://www.rebuild.nc.gov/about/plans-policies-reports/environmental-reviews> and sent via Federal Express and email to the following federal and state agencies on December 9, 2023: HUD NC Field Office; FEMA; U.S. Environmental Protection Agency (EPA); USFWS; and NC State Environmental Clearinghouse. The notice was also sent to Robeson County and the City of Lumberton (where it was posted at the City Hall). Project information was sent to the NC State Historic Preservation Office (SHPO) and Catawba Indian Nation for review and comment under Section 106 of the National Historic Preservation Act of 1966 (NHPA) and a project notification letter was sent to the Lumbee Tribe of North Carolina (See *West Lumberton Flood Gate Project EA ERR*). (See **Appendix 2** for the early notice distributed to these agencies, the newspaper publication affidavit, and distribution documentation).

Step 3. Identify and Evaluate Practicable Alternatives to Locating the Proposed Action in a 100-year Floodplain or Wetland.

The North Carolina Infrastructure Recovery Program empowers the State's most impacted communities with the technical expertise needed to develop thorough and implementable reconstruction plans to build physically, socially, and economically resilient and sustainable communities.

Alternative resiliency strategies and solutions were evaluated to address the flooding experienced in Lumberton during Hurricane Matthew. The North Carolina Resilient Redevelopment Planning (NCRRP) program as part of the 2016 Disaster Recovery Act relied upon stakeholder engagement and public involvement as an essential component. Meetings were held on strategies for resilient redevelopment in Robeson County with local officials on March 2, March 23, and April 17, 2017. Each meeting incorporated a public open house and an in-depth working session with county officials, subject matter experts, and county and municipal planners. North Carolina Emergency Management (NCEM) utilized data, resources, and technical expertise from State agencies, the private sector, and the University of North Carolina system to determine innovative best practice strategies (HMRRP-RC, pg. 1-4). A master list of mitigation strategies for the Lumber River Basin to be explored was presented in the Lumber River Mitigation Study (pg. 46). The twelve mitigation strategies were established by NCEM based on similar project's strategies, resilient redevelopment plans, and input from partners and stakeholders. These identified twelve strategies include: 1) New Detention Structures, 2) Retrofit of Existing Detention Structures, 3) Offline Storage, 4) Channel Modification, 5) New Embankment Structures, 6) *Existing Levee Repair/ Enhancement* (proposed action), 7) Roadway Elevation/ Clear Spanning, 8) Large Scale Wet Floodproofing, 9) Elevation/ Acquisition/ Relocation, 10) Land Use Strategies, 11) River Corridor Greenspace, and 12) Wildlife Management. Alternative strategies including conveyance routes and

methods were researched but not recommended for further study (Lumber River Mitigation Study, pg. 66-67). A bypass channel of the Lumber River around Lumberton was determined to be significantly more expensive, disturb a much larger area, and potentially cause significant environmental issues. Similarly, an upstream impoundment area would require the purchase of several hundred acres of property located upstream from Lumberton. This impoundment strategy was determined to significantly alter the landscape of the region and be cost-prohibitive for initial land acquisition and continual operations and maintenance associated with the system.

The “Lumberton Levee Enhancements” (proposed action) was identified as a high priority infrastructure strategy with a 2nd overall ranking according to the Robeson County Hurricane Matthew Resilient Redevelopment Plan (HMRRP-RC) (pg. 4-1). This entailed “[i]nstallation of flood gates and reinforcements that will prevent the 500-year flood from flowing through the I-95 overpass opening at VFW Road and CXS crossing. Also, rebuilding and reinforcing I-95 bridge abutments to minimize opening and protect from scour during flooding” (pg. 4-34). The proposed action was also acknowledged as necessary and “pending” in the Lumber River Mitigation Study under 6) *Existing Levee Repair/Enhancement*. The pending implementation of the flood gate system altered potential flood damage cost estimates and resultant cost-benefit ratios accordingly for other evaluated mitigation strategies. The City has identified the proposed action site to mitigate flooding experienced on the protected side of the existing levee system, which is critical to protect lives and property in southern and western Lumberton. In addition, the levee system helps maintain access to and operation of several critical facilities behind the levee, such as the City’s water treatment plant, two power grid point of delivery transformer sub stations, the City’s Electric Utility Department, and a City Fire Station. Failure to make the proposed improvements will result in the area continuing to experience flooding during future storm events, which in turn has impacts across the entire city.

Alternative locations and designs for the flood gate system were considered during the lengthy design phase. The proposed action has been designed with agency input, particularly the NC DOT which is undertaking the widening of I-95. The proposed action had been designed in different locations along I-95 before NC DOT and the City agreed upon this final design. One alternative location on the east side of I-95 was identified and considered for the proposed action. During initial stakeholder meetings with representatives from the City of Lumberton, Atkins Global, CSX, FHWA, NC DOT, NC Dam Safety Program, USACE, NCEM Floodplain Mapping, NC Golden Leaf Foundation and other entities, it was decided that the proposed flood gate would be positioned on the east side of I-95 at the CSX undercrossing. The City proceeded with the design of the flood gate which included extensive hydrologic and hydraulic modeling, geotechnical investigation, earthen levee profiles and existing road realignments. During these early stages of conceptual planning, before the I-95 improvements were proposed, the City was given direction from NC DOT to place the flood gate on the east side of I-95, so that in case of an overtopping event or gate failure, the bridge over the railroad would not get washed out. After the City was about 60 percent complete with the east side design, NC DOT began discussing plans for I-95 improvements. At this time, NC Dam Safety and FHWA expressed concerns about flood waters impounded under the bridge for a prolonged time when the east side gates are closed, saturating the soil under the bridge, and potentially causing damage or failure. As a result, these entities required the City to move the gate to the west side of I-95 and design with a safety factor that no overtopping will occur. The proposed east side of I-95 location was therefore eliminated from further consideration.

The purpose of this proposed action is to enhance the City’s existing earthen levee and flood control system to mitigate against 100-year flood events flowing from the west side of the I-95 underpass via the CSX railroad crossing in the vicinity of VFW Road, Cox Road, and Hackett Street. Due to the type of improvement and its connection to the City’s existing earthen levee and flood control system, floodplain impacts were unavoidable (see Existing Levee System Map in **Appendix A** of *West Lumberton Flood Gate Project EA ERR*). However, the proposed action was designed not to encroach into the onsite

wetland. The proposed action and site location are the most suitable, feasible options selected by the City after a costly and lengthy design process to assist its residents and community to be protected from future storm events.

The “No Action” Alternative is not considered feasible since flooding in the area causes property damage to homes, churches, public facilities, businesses and industries; interrupts City-wide services such as the potable water supply and electric utility grid for days; and blocks transportation accessibility with roadway flooding during and after storm events. The proposed action site was identified during levee design as a vulnerable weak point where 100-year and greater flood events can penetrate to the protected side of the levee. This proposed action is critically necessary to protect the residents and community from future storm events. Whereas, the “No Action” Alternative would leave the community vulnerable to future flooding and mitigation action would be compromised due to lack of financial support. Thus, the “No Action” Alternative is not feasible in relation to the desired objective of creating area resiliency to future flooding events and the proposed action is still practicable in light of potential adverse impacts on the floodplain.

The above-identified alternatives will be re-evaluated in response to public comments received.

Step 4. Identify and Evaluate Potential Direct and Indirect Impacts Associated with the Occupancy or Modification of 100-year Floodplain and Wetland and the Potential Direct and Indirect Support of Floodplain and Wetland Development that Could Result from Proposed Action.

The focus of floodplain evaluation should be on adverse impacts to lives and property, and on natural and beneficial floodplain values. Natural and beneficial values include consideration of potential for adverse impacts on water resources such as natural moderation of floods, water quality maintenance, and groundwater recharge.

According to the FEMA Report – A Unified National Program for Floodplain Management, the two definitions commonly used in evaluating actions in floodplain are “structural” and “non-structural” activities. Per the report, structural activity is usually intended to mean adjustments that modify the behavior of flood waters through the use of measures such as public works dams, levees, and channel work. Non-structural is usually intended to include all other adjustments (e.g., regulations, insurance, etc.) in the way society acts when occupying or modifying a floodplain. These definitions are used in describing impacts that may arise in association with potential advancement of this case.

Natural Moderation of Floods, Water Quality Maintenance, and Groundwater Recharge

Natural floodplains and wetlands provide flood risk reduction benefits by slowing runoff and storing flood water, maintaining water quality, and recharging groundwater. Flood water storage and conveyance will be affected by the proposed action during storm events. The proposed action is designed to protect the area from flooding that causes property damage to homes, churches, public facilities, businesses and industries; interrupts City-wide services such as the potable water supply and electric utility grid for days; and blocks transportation accessibility with roadway flooding (including access to and operation of several critical facilities located behind the levee, such as the City’s water treatment plant, two power grid point of delivery transformer sub stations, the City’s Electric Utility Department, and a City Fire Station) during and after storm events. The flood gate over the railroad tracks will be swing-hinged closed in line with the concrete wing walls during future storm events and flooding. This design will provide long-term flood prevention and minimize potential flood damage to the surrounding properties.

The proposed action will construct a permanent flood gate system and related drainage improvements. During hurricanes and large flood events, the proposed flood gate system will quickly and efficiently block flood waters from penetrating the protected side of the levee through the proposed action site. Currently, the community is reliant upon a burdensome temporary sandbag protocol that has failed to protect western and southern Lumberton during Hurricanes Matthew and Florence. The flood gate system, like the sandbag protocol, aims to keep flood waters from entering the properties located in the levee interior. This barricade will keep flood waters from flowing through the City and instead allow it to remain outside of the levee protected area where it will dissipate back to the Lumber River and potentially upstream. The Lumber River Basin consists of and connects to multiple streams and wetlands in the area. According to NC DEQ DWR, these streams include the Cotton Mill Branch, Gum Branch Canal, Jacob Swamp (Branch), Little Jacob Branch, Five Mile Branch, Raft Swamp, and the Lumber River (two stream indices). The NC DEQ DWR review identified the presence of surface waters classified as Water Supply Critical Area and WS-IV, B, Sw, HQW; High Quality Waters of the State in the project study area, see table below.

Stream Name	River Basin	Stream Classification(s)	Stream Index Number
Cotton Mill Branch	Lumber	C;Sw	14-14
Lumber River	Lumber	WS-IV,B,Sw, HQW	14-(7)
Lumber River	Lumber	C;Sw	14-(13)
Gum Branch Canal	Lumber	C;Sw	14-14-1
Jacob Swamp (Branch)	Lumber	C;Sw	14-17
Little Jacob Branch	Lumber	C;Sw	14-17-1
Five Mile Branch	Lumber	C;Sw	14-12-6
Raft Swamp	Lumber	WS-IV;Sw	14-10-(5.5)

surface water present in the general vicinity of project area

The area located north and west of the proposed action area is mostly forested, heavily vegetated and relatively flat with a pond, open water, wetlands, and the Lumber River which will decrease upstream erosion and provide an avenue for dissipation and wetland hydrology recharge after storms. Extreme rainfall events create significant stream discharge throughout the Lumber River Basin area. Flooding in the urban area that should be protected by the levee creates a greater hazard not only to the population and properties located therein but by allowing industrial, commercial, and residential waste and debris including sewage and chemical storage structures such as aboveground storage tanks to enter into the water which in turn can retreat back into the pond, open water, wetlands, and the Lumber River Basin. According to the HMRRP-RC (pg. 3-7), Hurricane Matthew created a large amount of natural debris that required removal including along W 5th Street in West Lumberton where tons of sand flowed through the I-95 underpass and was deposited throughout the area.” There were numerous fuel and waste spills throughout the area (pg. 4-98). Further, “[m]ovement of polluted sediments with chemical or biological contaminants from urban areas poses unknown long-term risks to water quality of the region as well as to the human health” (Water Quality Responses from Major Hurricanes in Robeson County: A Review and Historic Data Analysis, Liudmila Maslova, 2017, at <https://repository.lib.ncsu.edu/server/api/core/bitstreams/a4012d02-7386-439f-8b88-a194f93090fd/content>). The installation of this permanent flood gate system will mitigate the flood waters that are allowed to flow from the Lumber River into the urban areas of West and South Lumberton and recede back into the Lumber River Basin which is beneficial.

The flood gate will have a more efficient effect than temporary sandbags in keeping water out and towards the Lumber River Basin. This will have an impact on flood water storage and conveyance. The H&H Analysis completed for the proposed action discusses potential upstream impacts more in depth (**Appendix 1**). However, the NC DOT I-95 widening and improvements project is also a contributing factor which is evaluated in the H&H Analysis. According to the proposed action’s H&H Analysis, the

City desires to pursue FEMA accreditation of the levee protection system which requires a minimum top elevation equal to the 100-year BFE plus 4.5 feet of freeboard (128.5 feet, NAVD88). Thus, as designed, the top of flood gate elevation will meet this requirement.

The NC DEQ's Division of Energy, Mineral and Land Resources (DEMLR) "determined in October 2021 that the proposed flood gate is subject to the jurisdiction of the Dam Safety Law of 1967 and will have a Class C high hazard and large size classification. This classification implies that the proposed flood gate should be designed to withstand the $\frac{3}{4}$ Probable Maximum Flood (PMF). In determining the design elevation of the gate, a statistical analysis was performed and the recurrence interval of the flood of record was estimated to be about 200-years. Hydraulic simulations were performed without the gate and with the gate and the proposed I-95 configuration in place, to estimate the resulting peak elevations of the 100-year through the PMF return period events, and the flood of record" (H&H Analysis, pg. 1). During 100-year flood conditions, peak water surface elevation upstream of the gate is estimated to increase 0.3 feet from both installation of the flood gate system and raising of I-95. During $\frac{1}{4}$ PMF flood conditions, peak water surface elevation upstream of the gate is estimated to increase 1.2 feet from both installation of the flood gate system and raising of I-95. During 500-year and $\frac{1}{3}$ PMF flood conditions, peak water surface elevation upstream of the gate is estimated to increase 2.1 feet from both installation of the flood gate system and raising of I-95. During 1,000-year and $\frac{3}{4}$ PMF flood conditions, peak water surface elevation upstream of the gate is estimated to increase 2.3 feet from both installation of the flood gate system and raising of I-95. In cases of extreme flooding, the Lumber River Basin and surrounding communities will be inundated including the protected side of the levee. The City will consult NC DEQ DWR with the results of the H&H Analysis and follow any applicable regulations, guidelines, recommendations, and permit condition and requirements. Given the potential for the proposed project to impact surface waters classified as Water Supply Critical Area and WS-IV, B, Sw, HQW; High Quality Waters of the State, NC DEQ DWR requests the City strictly adhere to NC regulations entitled *Design Standards in Sensitive Watersheds* (15A NCAC 04B .0124) throughout design and construction (See **Appendix V** in *West Lumberton Flood Project EA ERR*).

The proposed action is not anticipated to result in direct or indirect, temporary or permanent impacts to an approximately 4.44-acre NWI-mapped Freshwater Forested/ Shrub Wetland (PFO4Ad) located on the VFW Rd. and Hackett St. parcel #938280300700 that is part of a 69.51-acre wetland feature. There are no other wetlands located on the other parcels. The proposed action designs have been completed in accordance with agency input to minimize impacts to the wetlands, environment and community. Since no activities are proposed in wetlands, a USACE Approved Jurisdictional Determination and No Permit Required Letter are being obtained and Clean Water Act Section 404 and 401 permits will not be required. Applicable recommendations from the NC DEQ DWR will be followed. The proposed action will comply with a Floodplain Development Permit, NC DEMLR Erosion and Sediment Control Permit, NPDES Construction Stormwater Permit (NCG010000), and all applicable federal, State and local laws, regulations, and permit requirements and conditions which shall be obtained before commencing work and appended to the *West Lumberton Flood Gate Project EA ERR*. Applicable regulations and recommendations from the NC DEQ DWR will be followed. Best Management Practices (BMPs) and erosion and sedimentation control measures include filter fabric under 24-inch class 2 riprap east of the flood gate; geotextile fabric under 18-inch class B riprap and 6-inch stone groin protection riprap along southeastern portion of the earthen berm; two stone riprap check dams; temporary stabilizing vegetation; silt fencing; and site grading. Native plants will be utilized during landscaping and site restoration at the proposed action site. Additionally, the proposed action can implement the following voluntary conservation measures to benefit wildlife and, in particular, pollinators: plant native trees, shrubs, and flowering plants in landscaping, use plants that bloom spring through fall, and remove/control invasive plant species present. Further, the City has full-time staff in charge of inspecting and maintaining the system post-installation to ensure proper performance and address routine repairs as needed. With proper maintenance, any eroded area can be repaired and stabilized. Thus, measures will be implemented to

ensure the proposed action will have no significant direct or indirect impacts to floodplain and wetlands during construction and operation as a permanent flood gate system. This will ensure that water quality, the ability to maintain water quality, and groundwater recharge are not impacted by the proposed action.

Living Resources such as Flora and Fauna

The proposed action will disturb approximately 4.9 acres mostly within previously disturbed railroad and roadway easements and industrial businesses' lawns. For this proposed action, the USFWS Raleigh Ecological Services' online 10-step project review process was completed. The proposed action was determined to have "No Effect" on proposed, threatened, endangered, or candidate species and proposed or designated critical habitat under USFWS jurisdiction, a "Not Likely to Jeopardize the Species' Continued Existence" determination for the proposed Tricolored Bat, and a "No Eagle Act Permit Required" determination for the Bald Eagle. A Self-certification Letter and 10-step Project Review Package were prepared and submitted to the USFWS Raleigh Ecological Services Field Office (FO) on December 11, 2023. On December 21, 2023, Ms. Kathy Matthews, USFWS Fish and Wildlife Biologist, responded that the "*Service agrees that the project is not likely to adversely affect any listed species.*" **The City and its contractors are recommended to not cut trees during the coldest months (December 15-February 14). The City and its contractors are prohibited from cutting trees during the pup season (April 15 - July 31). Once the Tricolored Bat is officially listed, the City and its contractors will need to consult with USFWS unless tree cutting has been completed.**

The proposed action designs have been completed in accordance with agency input to minimize impacts to the wetlands, environment and community. The proposed action will comply with a Floodplain Development Permit, NC DEMLR Erosion and Sediment Control Permit, NPDES Construction Stormwater Permit (NCG010000), and all applicable federal, State and local laws, regulations, and permit requirements and conditions which shall be obtained before commencing work and appended to the *West Lumberton Flood Gate Project EA ERR*. Applicable regulations and recommendations from the NC DEQ DWR will be followed. BMPs and erosion and sedimentation control measures include filter fabric under 24-inch class 2 riprap east of the flood gate; geotextile fabric under 18-inch class B riprap and 6-inch stone groin protection riprap along southeastern portion of the earthen berm; two stone riprap check dams; temporary stabilizing vegetation; silt fencing; and site grading. Native plants will be utilized during landscaping and site restoration at the proposed action site. Additionally, the proposed action can implement the following voluntary conservation measures to benefit wildlife and, in particular, pollinators: plant native trees, shrubs, and flowering plants in landscaping, use plants that bloom spring through fall, and remove/control invasive plant species present. Further, the City has full-time staff in charge of inspecting and maintaining the system post-installation to ensure proper performance and address routine repairs as needed. With proper maintenance, any eroded area can be repaired and stabilized. Thus, as designed and with mitigation measures implemented, the proposed action will have no or minimal impacts to living resources, such as flora and fauna, during construction and operation as a permanent flood gate system.

Impacts to Property and Lives

The State of North Carolina was adversely impacted by the landfall of Hurricanes Matthew (October 8, 2016) and Florence (September 14, 2018). During the Hurricane Matthew storm event, the City of Lumberton experienced widespread flood damage, especially in areas to the south and west, causing residents in these areas to be stranded, disruption of City-wide services such as the potable water supply and electric utility grid for several days, and widespread damage to property. According to the HMRRP-RC (pg. 3-6), roads and bridges overtopping are common flood occurrences in Robeson County and at the

“height of the flooding, residents of South Lumberton needed to be rescued by boat and helicopter since the road[s] were impassable even by the most robust of vehicles.” Thus, the “Lumberton Levee Enhancements” (proposed action) was identified as a high priority infrastructure strategy with a 2nd overall ranking according to the HMRRP-RC (pg. 4-1).

Due to Hurricane Matthew, the City of Lumberton suffered damages to 2,367 structures totaling \$251,574,000 as a direct result of flooding and backwater from the main stem of the Lumber River (Lumber River Mitigation Study, pg. 27). According to the HMRRP-RC (pg. 4-44), WH Knuckles Elementary School, Lumberton Junior High School, and West Lumberton Elementary School were identified as requiring restoration after Hurricane Matthew. West Lumberton Elementary School was declared a total loss after being inundated with flood waters and students temporarily attended classes at Lumberton Junior High School. According to the HMRRP-RC (pg. 3-4 and 3-5), Lumberton accounted for 71% of Public Assistance claims (often closely tied to infrastructure) in Robeson County. In “West and South Lumberton, a majority of the homes were flooded with water from the Lumber River overtopping I-95 and running through the VFW Road/CSX underpass of I-95, plus runoff from Jacobs Swamp and its tributaries” (HMRRP-RC, pg. 3-3).

Due to Hurricane Matthew, the City of Lumberton suffered damages to 2,367 structures totaling \$251,574,000 as a direct result of flooding and backwater from the main stem of the Lumber River (Lumber River Mitigation Study, pg. 27). This area is further identified as *most at risk* for continued flooding (HMRRP-RC, pg. 3-4). Table 5-4 in the Lumber River Mitigation Study (pg. 44) shows the baseline estimated damages on a community level, without considering structures interior to the levee at Lumberton. This information was used to compare potential damages with and without the flood gate system at the Lumberton levee. According to the 2020 BCR Regional Hazard Mitigation Plan (pg. 243), there are a total of 128 critical facilities exposed to 100-year river flooding in the City with an estimated \$4,166,242 in potential damages. There are 20 identified high potential loss properties in the City with an estimated \$2,213,828 in potential damages (pg. 248). Thus, without the necessary improvements, the City will continue to experience flooding with resultant property damage, utility and municipal service interruptions, and threat to public health and safety. As properties are repeatedly damaged, owners will likely stop making repairs and instead choose to relocate their businesses, possibly outside of the City’s jurisdiction. The City will potentially experience impacts to the local economy both directly from the lost businesses, as well as indirectly through the elimination of jobs that local residents rely upon. The devastation suffered by the residents, churches, public facilities, businesses and industries in the affected areas could have been avoided had a flood gate system been in place. There has been broad community support for this project from not only the residents of South and West Lumberton but also from the City’s industrial base, which will also be protected by these efforts. By mitigating the type of catastrophic flooding that was seen during Hurricane Matthew, the City of Lumberton will be able to confidently restore much needed housing and businesses to these historically low- to moderate-income and predominately minority neighborhoods, without the threat of future flooding. Additionally, the proposed action will further protect the residents’ public health and safety by reducing flood impacts to infrastructure and enhancing emergency response operations and accessibility during and after severe storm events. Therefore, the proposed action is not anticipated to have adverse impacts to property and lives, but rather aims to provide critically necessary protection to property and public health and safety in the surrounding area during storm events.

Cultural Resources such as Archaeological, Historic and Recreational Aspects

The proposed action will disturb approximately 4.9 acres mostly within previously disturbed railroad and roadway easements and industrial businesses' lawns. As part of this review, the SHPO, Chief and Tribal Historic Preservation Offices (THPO) of all applicable Tribes, Nations, and Communities were consulted by NCORR regarding any historic properties of religious and cultural significance in the area that could be affected by the proposed action. On December 6, 2023 (revised plans email) and October 29, 2021 (original plans submission), NCORR submitted the proposed action to the North Carolina State Historic Preservation Office (NC SHPO) for review and concurrence of a preliminary finding of "No Historic Properties Affected" pursuant to 36 CFR 800.4(d)(1). NC SHPO responses to the revised plans were received on December 8, 2023 and December 7, 2023, and to the original plans on November 17, 2021. The NC SHPO Environmental Review Coordinator stated on December 8, 2023 that "[w]e have conducted a review of the project and are aware of no historic resources which would be affected by the project. Therefore, we have no comment on the project as proposed." The December 7, 2023 NC SHPO response stated that "[b]ased on the results of no NRHP eligible sites identified during the 2020 archaeological survey of the original APE as part of TIP I-6064, PA 19-04-0007, it is unlikely that any archaeological resources that may be eligible for inclusion in the National Register of Historic Places will be affected by the project within the revised flood gate APE. We, therefore, recommend that no archaeological investigation be conducted in connection with the revised APE. We have determined that the project as proposed will not have an effect on any historic structures."

According to the HUD Tribal Directory Assessment Tool (TDAT), the Catawba Indian Nation is the only federally-recognized tribe with interests in Robeson County, North Carolina. On December 6, 2023 (revised plans email), NCORR consulted with the Catawba Indian Nation for discussion of historic properties in the proposed action area that may have religious and cultural significance. The original Section 106 review packages were sent to the Catawba Indian Nation's Chief Bill Harris and Dr. Wenonah G. Haire, THPO on October 29, 2021. On December 7, 2023 (revised plans email), Ms. Caitlin Rogers responded that the "Catawba THPO has no concerns with the revised West Lumberton Flood Gate Project." On December 3, 2021 (original plans submission), Ms. Caitlin Rogers responded that "[t]he Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. **However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.**" The proposed action is in compliance with Section 106 of the NHPA. On October 29, 2021, NCORR Director Ms. Laura Hogshead sent a notification letter for the proposed action to the Lumbee Tribe of North Carolina's Chairman Harvey Godwin, Jr., and no response was received. The SHPO and Catawba Indian Nation Section 106 review and consultation documentation is included in the *West Lumberton Flood Gate Project EA ERR* along with the Lumbee Tribe of NC project notification letter.

There are several parks and recreational facilities located in the City of Lumberton according to the City website (<https://www.lumbertonnc.gov/Facilities?clear=True>). The closest park to the proposed action site is the Jaycee Ballfield followed by McMillan's Beach, Velcord Park, PC Brooks Play Lot, James L. Stephens Park, Optimist Airport Park, and Lumber River State Park. The Lumber River is a designated Wild and Scenic River with numerous paddling put-in/take-out access points within a mile of the proposed action site including McMillan's Beach and Stephens Park. Tom Avent Landing is a Lumber River State Park paddle-in/canoe campsite located approximately 1.5 miles southwest of the proposed action site. The City's Luther Britt Park at 671 Branch Street has walking trails around two lakes, playground equipment (Lumberton Play Park), picnic facilities with three shelters, a bike trail, a beach/swimming, fishing, paddle boats, canoes, horse shoe pits, and two basketball courts. The proposed action will not introduce new development that would generate demand for parks, open spaces or recreational areas or impede their access. Rather, this public infrastructure improvement project aims to

protect the area from flooding that causes property damage; interrupts City-wide services; and blocks transportation accessibility with roadway flooding during and after storm events. Thus, the proposed action would not have an adverse effect on existing parks, open spaces or recreational areas.

Agricultural, Aquacultural, and Forestry Resources

The proposed action's activities will disturb approximately 4.9 acres mostly within previously disturbed railroad and roadway easements and industrial businesses' lawns which are not ideal for agricultural and forestry resources. This proposed action involves constructing a permanent flood gate system with concrete wing walls and an earthen berm, two access drives and associated improvements which has the potential to irreversibly convert agricultural land. According to the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey, the proposed action site contains Johns sandy loam (Jo) and Lumbee sandy loam (Lu) which are classified as *Prime Farmland, if drained*. Lakeland sand, 0 to 6 percent slopes (LaB) is also present onsite but is designated as *Not Prime Farmland*. Projects are subject to Farmland Protection Policy Act (FPPA) requirements if they may irreversibly convert farmland to nonagricultural use and are completed by a Federal agency or with assistance from a Federal agency. "Farmland" does not include "land already in or committed to urban development or water storage." According to the TIGERweb Urban Areas Map, a majority of the proposed action site is located in a designated Urban Area except for a small triangular portion located between VFW Road and I-95. The remaining non-Urban area is slated for redevelopment by NC DOT. According to Mr. Ryan Janway, USDA NRCS Natural Resource/ Acting GIS Specialist, "[a]s you said, the majority of the proposed project area is already classified as an Urban area. If I am understanding the NCDOT design plans correctly it looks like they are planning to shift Hackett St. about 80 feet north. This would put the remaining "non-Urban" area under the exemption category for Urban Development and/or Construction within an existing right-of-way (the new ROW from these repositioned roads). Therefore, the FPPA process will not be applicable for this project." Thus, the proposed action will not directly affect agricultural land.

The proposed action was redesigned for the NC DOT I-95 widening project in the proposed action area. NC DOT will be performing significant ground disturbance and cutting trees in our proposed action area for the realignment of Cox Road, VFW Road and Hackett Street, I-95 embankment and bridge surfacing, a drainage channel, I-95 replacement bridge, retaining walls near Cox Road, and temporary and permanent NC DOT easements and ROWs. There is an estimated 0.25 acres of woody vegetation that will be cleared. This is a conservative estimate since some areas will be cleared during the I-95 widening construction. Thus, the proposed action will not have a direct adverse impact on forestry resources.

The project designs have been completed in accordance with agency input to minimize impacts to the wetlands, environment and community. The proposed action is not anticipated to result in direct or indirect, temporary or permanent impacts to an approximately 4.44-acre NWI-mapped Freshwater Forested/ Shrub Wetland (PFO4Ad) located on the VFW Rd. and Hackett St. parcel #938280300700 that is part of a 69.51-acre wetland feature. There are no other wetlands located on the other parcels. Since no activities are proposed in wetlands, a USACE Approved Jurisdictional Determination and No Permit Required Letter are being obtained and Clean Water Act Section 404 and 401 permits will not be required. Applicable recommendations from the NC DEQ DWR will be followed. The proposed action will comply with a Floodplain Development Permit, NC DEMLR Erosion and Sediment Control Permit, NPDES Construction Stormwater Permit (NCG010000), and all applicable federal, State and local laws, regulations, and permit requirements and conditions which shall be obtained before commencing work and appended to the *West Lumberton Flood Gate Project EA ERR*. Applicable regulations and recommendations from the NC DEQ DWR will be followed. BMPs and erosion and sedimentation control measures include filter fabric under 24-inch class 2 riprap east of the flood gate; geotextile fabric

under 18-inch class B riprap and 6-inch stone groin protection riprap along southeastern portion of the earthen berm; two stone riprap check dams; temporary stabilizing vegetation; silt fencing; and site grading. Native plants will be utilized during landscaping and site restoration at the proposed action site. Additionally, the proposed action can implement the following voluntary conservation measures to benefit wildlife and, in particular, pollinators: plant native trees, shrubs, and flowering plants in landscaping, use plants that bloom spring through fall, and remove/control invasive plant species present. Further, the City has full-time staff in charge of inspecting and maintaining the system post-installation to ensure proper performance and address routine repairs as needed. With proper maintenance, any eroded area can be repaired and stabilized. Overall, the proposed action site consists of mostly previously disturbed railroad and roadway easements and industrial businesses' lawns and is not used for agriculture, aquaculture or forestry and, thus, the proposed action is not expected to have an adverse impact on agricultural, aquacultural or forestry resources.

Wetland Evaluation

The purpose of wetland evaluation is to consider factors relevant to a proposed action's effect on the survival and quality of wetlands. These factors should include public health (including water supply and water quality), maintenance of natural systems, cost increases attributed to construction in wetland, and other uses of wetland in the public interest. The natural approximately 4.44-acre Freshwater Forested/ Shrub Wetland (PFO4Ad) will remain intact because the proposed action has been designed so as to not encroach into the wetland. Since the proposed action will avoid the wetland and incorporate BMPs and erosion and sedimentation controls, negative impacts to wetland functions and values are not anticipated to this approximately 4.44-acre wetland located on the VFW Rd. and Hackett St. parcel #938280300700 or offsite wetlands. The proposed action's potential to impact wetland functions and values is evaluated further below.

The proposed action is not anticipated to result in direct or indirect, temporary or permanent impacts to this Freshwater Forested/ Shrub Wetland (PFO4Ad) located on the VFW Rd. and Hackett St. parcel #938280300700 that is part of a 69.51-acre wetland feature. There are no other wetlands located on the other parcels. Since no activities are proposed in wetlands, a USACE Approved Jurisdictional Determination and No Permit Required Letter are being obtained and Clean Water Act Section 404 and 401 permits will not be required. Applicable recommendations from the NC DEQ Division of Water Resources (DWR) will be followed. The proposed action will comply with a Floodplain Development Permit, NC DEMLR Erosion and Sediment Control Permit, NPDES Construction Stormwater Permit (NCG010000), and all applicable federal, State and local laws, regulations, and permit requirements and conditions which shall be obtained before commencing work and appended to the *West Lumberton Flood Gate Project EA ERR*. Applicable regulations and recommendations from the NC DEQ DWR will be followed. BMPs and erosion and sedimentation control measures include filter fabric under 24-inch class 2 riprap east of the flood gate; geotextile fabric under 18-inch class B riprap and 6-inch stone groin protection riprap along southeastern portion of the earthen berm; two stone riprap check dams; temporary stabilizing vegetation; silt fencing; and site grading. Native plants will be utilized during landscaping and site restoration at the proposed action site. Additionally, the proposed action can implement the following voluntary conservation measures to benefit wildlife and, in particular, pollinators: plant native trees, shrubs, and flowering plants in landscaping, use plants that bloom spring through fall, and remove/control invasive plant species present. Further, the City has full-time staff in charge of inspecting and maintaining the system post-installation to ensure proper performance and address routine repairs as needed. With proper maintenance, any eroded area can be repaired and stabilized. Thus, measures will be implemented to ensure the proposed action will have no significant direct or indirect impacts to wetlands during construction and operation as a permanent flood gate system.

Public Health, Safety, and Welfare, Including Water Supply, Quality, Recharge, and Discharge; Pollution; Flood and Storm Hazards and Hazard Protection; and Sediment and Erosion

Wetlands have unique natural characteristics that play an integral role in the ecology of the watershed. The natural and beneficial functions and values related to hydrology and water quality include slowing down stormwater runoff, providing surface and subsurface retention, and filtering out pollutants. Further, wetlands provide flood risk reduction benefits by slowing runoff and storing flood water.

Currently, the natural approximately 4.44 acre wetland located on the VFW Rd. and Hackett St. parcel functions as a collection point for Lumber River overflow and stormwater from the surrounding properties. The natural and beneficial functions and values for hydrology and water quality include slowing down stormwater runoff, providing surface and subsurface retention, and filtering out pollutants. The natural approximately 4.44-acre Freshwater Forested/ Shrub Wetland (PFO4Ad) will remain intact because the proposed action has been designed so as to not encroach into the wetland. Thus, the proposed action is not anticipated to result in direct or indirect impacts to the natural wetland which will continue to provide these functions and values.

Public Health, Safety, and Welfare and Flood and Storm Hazards and Hazard Protection

The State of North Carolina was adversely impacted by the landfall of Hurricanes Matthew (October 8, 2016) and Florence (September 14, 2018). During the Hurricane Matthew storm event, the City of Lumberton experienced widespread flood damage, especially in areas to the south and west, causing residents in these areas to be stranded, disruption of City-wide services such as the potable water supply and electric utility grid for several days, and widespread damage to property. According to the HMRRP-RC (pg. 3-6), roads and bridges overtopping are common flood occurrences in Robeson County and at the “height of the flooding, residents of South Lumberton needed to be rescued by boat and helicopter since the road[s] were impassable even by the most robust of vehicles.” In “West and South Lumberton, a majority of the homes were flooded with water from the Lumber River overtopping I-95 and running through the VFW Road/CSX underpass of I-95, plus runoff from Jacobs Swamp and its tributaries” (HMRRP-RC, pg. 3-3). According to the HMRRP-RC (pg. 3-4 and 3-5), Lumberton accounted for 71% of Public Assistance claims (often closely tied to infrastructure) in Robeson County. In addition, WH Knuckles Elementary School, Lumberton Junior High School, and West Lumberton Elementary School were identified as requiring restoration after Hurricane Matthew (HMRRP-RC, pg. 4-44). West Lumberton Elementary School was declared a total loss after being inundated with flood waters and students temporarily attended classes at Lumberton Junior High School. This area is further identified as *most at risk* for continued flooding (HMRRP-RC, pg. 3-4). Thus, the “Lumberton Levee Enhancements” (proposed action) was identified as a high priority infrastructure strategy with a 2nd overall ranking according to the HMRRP-RC (pg. 4-1).

The purpose of this proposed action is to enhance the City’s existing earthen levee and flood control system to mitigate against 100-year flood events flowing from the west side of the I-95 underpass via the CSX railroad crossing in the vicinity of VFW Road, Cox Road, and Hackett Street. The City of Lumberton, incorporated in 1859, was established on the banks of the Lumber River with the first businesses situated along the waterfront. The City maintains an existing earthen levee system built in 1977 which is considered a key feature in the Lumber River Basin (Lumber River Mitigation Study, pg. 5). “The VFW and CSX Railroad underpass at I-95 was constructed at a lower elevation than designs specified, and a 10-foot wide earthen dike was to have been constructed in the area though the improvements never made, and controlling the breach depended on an emergency sandbagging effort at the underpass [to] prevent water spilling landward of the levee during a significant event” according to the Lumber River Mitigation Study (pgs. 5-6). During Hurricane Matthew in 2016 and again with Hurricane Florence in 2018, flood waters entered the protected side of the levee through the proposed

action site which is the identified weak point in the levee design. This flooding disrupted City-wide services such as the potable water supply and electric utility grid for several days. The levee system helps maintain access to and operation of several critical facilities behind the levee, such as the City's water treatment plant, two power grid point of delivery transformer sub stations, the City's Electric Utility Department, and a City Fire Station. During Hurricane Matthew, the loss of the water treatment plant as a result of flooding left residents City-wide completely without public water for 10 days, with only restricted use non-potable water available another 20 days.

Without the necessary improvements, the City will continue to experience flooding with resultant property damage, utility and municipal service interruptions, and threat to public health and safety. As properties are repeatedly damaged, owners will likely stop making repairs and instead choose to relocate their businesses, possibly outside of the City's jurisdiction. The City will potentially experience impacts to the local economy both directly from the lost businesses, as well as indirectly through the elimination of jobs that local residents rely upon. The devastation suffered by the residents, churches, public facilities, businesses and industries in the affected areas could have been avoided had a flood gate system been in place. There has been broad community support for this proposed project from not only the residents of South and West Lumberton but also from the City's industrial base, which will also be protected by these efforts. The proposed action aims to finally address this opening in the existing deficient levee and flood control system, receive FEMA accreditation, provide long-term flood hazard prevention for the levee interior properties, and protect the public health, safety and welfare. Therefore, the proposed action should strengthen flood and storm hazard protection in the community during and after future storm events which is critical for the public health, safety, and welfare.

Water Supply, Quality, Recharge, Discharge, Pollution, and Sediment and Erosion

The proposed action involves the construction of a permanent flood gate system and related drainage improvements and, therefore, will not increase the demand on the local water supply. West and South Lumberton are currently provided potable water service from the City of Lumberton's potable water distribution system. The City produces water from a combination of surface water drawn from the Lumber River and ground water pulled from local wells. Water is treated at the City's Water Treatment Facility prior to distribution to its customers. This project is not expected to directly impact the potable water consumption patterns within West and South Lumberton. During construction, the water mains near the flood gate might be offset, as needed, to minimize interruption of service with a maximum allowable service interruption of 4 hours. The water main offset can be used as temporary of final location of pipe with final pipe penetration through the wall as detailed in the structural plans in **Appendix 1**. All pipes will be ductile iron. Steel casings, spacers, and carrier pipe shall be restored in-place with no offset allowed. The Contractor will provide the City with at least two weeks prior notice of service interruption and coordinate on location and operation of cutoff valves. The maximum allowable service interruption for water lines inside steel casing is two weeks.

The proposed action will not introduce any new development that would generate wastewater. The proposed action will not increase demands on wastewater or sanitary sewer infrastructure. Any additional wastewater generated during construction activities would be temporary. The proposed action will not include the discharge of sewer to surfaces of the proposed action site or surrounding properties. BMPs will be utilized during construction to prevent soil and/ or debris from being washed offsite.

For the construction, expansion, or alteration of a public water system, plans and specifications must be approved by the DWR / Public Water Supply Section prior to the award of a contract or the initiation of construction as per 15A NCAC 18C .0300 et. seq. In addition, all public water supply systems must comply with State and federal drinking water monitoring requirements. If any wells are discovered on

the proposed action site, then abandonment of wells must be in accordance with Title 15A. Subchapter 2C.0100. Further, any relocation of existing water lines will require plans to be submitted to the DWR / Public Water Supply Section prior to construction. All applicable federal, State and local permits will be obtained for the proposed action prior to construction and activities will comply with their requirements and conditions. Therefore, the proposed action is not anticipated to have an adverse impact on water supply quality or capacity onsite and in the surrounding area.

The natural approximately 4.44-acre Freshwater Forested/ Shrub Wetland (PFO4Ad) will remain intact because the proposed action has been designed so as to not encroach into the wetland. Thus, the functions and values provided by this and nearby wetlands for recharge, discharge, pollution filtration and sediment and erosion control are not anticipated to be adversely impacted by this proposed action. Normal stormwater discharge is not anticipated to negatively impact natural wetland hydrology and should aid in recharging downstream wetland hydrology. Erosion control capabilities of wetlands can be overwhelmed during hurricanes and extreme flooding. The proposed action will cause increased standing and receding flood waters upstream and outside of the levee interior during future storm and flooding events compared to the City using the sandbag protocol or no mitigation measures. As discussed above, a tremendous amount of sand and natural debris can be transported during extreme flooding. The Lumber River is heavily vegetated in this area which should prevent significant erosion. The vicinity of the proposed action area has been subject to heavy erosion during Hurricanes Matthew and Florence and other flooding events. The proposed action incorporates BMPs and erosion and sedimentation control measures such as filter fabric under 24-inch class 2 riprap east of the flood gate; geotextile fabric under 18-inch class B riprap and 6-inch stone groin protection riprap along southeastern portion of the earthen berm; two stone riprap check dams; temporary stabilizing vegetation; silt fencing; and site grading. Further, the City has full-time staff in charge of inspecting and maintaining the system post-installation to ensure proper performance and address routine repairs as needed. With proper maintenance, any eroded area can be repaired and stabilized. The proposed action will comply with a Floodplain Development Permit, NC DEMLR Erosion and Sediment Control Permit, NPDES Construction Stormwater Permit (NCG010000), and all applicable federal, State and local laws, regulations, and permit requirements and conditions which shall be obtained before commencing work and appended to the *West Lumberton Flood Gate Project EA ERR*. Applicable regulations and recommendations from the NC DEQ DWR will be followed. Since no activities are proposed in wetlands, a USACE Approved Jurisdictional Determination and No Permit Required Letter are being obtained and Clean Water Act Section 404 and 401 permits will not be required. Further, the City has full-time staff in charge of inspecting and maintaining the system post-installation to ensure proper performance and address routine repairs as needed. With proper maintenance, any eroded area can be repaired and stabilized. Therefore, the proposed action is not anticipated to have a significant adverse impact on the wetlands functions for water supply, quality, recharge, and discharge; pollution filtration; flood and storm hazards and hazard protection; and sediment and erosion.

Maintenance of Natural Systems, Including Conservation and Long-Term Productivity of Existing Flora and Fauna; Species and Habitat Diversity and Stability; Natural Hydrologic Function; Wetland Type; Fish; Wildlife; Timber; and Food and Fiber Resources

Maintenance of Natural Systems, Including Conservation and Long-Term Productivity of Existing Flora and Fauna; and Species and Habitat Diversity and Stability; Wetland Type; Fish; and Wildlife

The natural approximately 4.44-acre Freshwater Forested/ Shrub Wetland (PFO4Ad) will remain intact because the proposed action has been designed so as to not encroach into the wetland. Construction for the proposed action will result in approximately 0.25 acres of wooded habitat loss. However, the flood reduction benefits of the proposed action will outweigh this loss of wooded area. Native plants are

recommended to be utilized during landscaping and site restoration. The proposed action is not anticipated to exceed 4.9 acres of disturbance. The proposed action has been designed and re-designed, and mitigation measures incorporated to have the minimal impacts on these features.

For this proposed action, the USFWS Raleigh Ecological Services' online 10-step project review process was completed. The USFWS Official Species List identified a total of six threatened, endangered or candidate species and no critical habitat for the proposed action area. These species include the proposed endangered Tricolored Bat (*Perimyotis subflavus*), endangered Red-cockaded Woodpecker (*Picoides borealis*), threatened Wood Stork *Mycteria americana*), threatened American Alligator (*Alligator mississippiensis*), endangered Michaux's Sumac *Rhus michauxii*), and candidate Monarch Butterfly (*Danaus plexippus*). There are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. The Official Species List identified two migratory birds including the Brown-headed Nuthatch (*Sitta pusilla*) and Chimney Swift (*Chaetura pelagica*) within the vicinity of the proposed action area. According to the NC NHP database, there are no federally-listed species within the proposed action area. Based on the USFWS IPaC and USFWS and National Marine Fisheries Service (NMFS) Critical Habitat Mappers results, there are no critical habitats identified within one mile of the proposed action area.

The NC NHP was consulted for additional information on the Tricolored Bat which is proposed for listing. According to Ms. Judith Ratcliffe, Zoologist at the NC NHP, "[t]here are no documented Tricolored Bat maternity roost trees within 150 feet of this project boundary. There are no documented Tricolored Bat hibernacula within 0.25 mile of this project boundary." **The City and its contractors are recommended to not cut trees during the coldest months (December 15- February 14). The City and its contractors are prohibited from cutting trees during the pup season (April 15 - July 31). Once the Tricolored Bat is officially listed, the City and its contractors will need to consult with USFWS unless tree cutting has been completed.**

The revised proposed action is anticipated to be completed after NC DOT completes its I-95 widening in the proposed action area. NC DOT will be performing significant ground disturbance and cutting trees in our proposed action area for the realignment of Cox Road, VFW Road and Hackett Street, I-95 embankment and bridge surfacing, a drainage channel, I-95 replacement bridge, retaining walls near Cox Road, and temporary and permanent NC DOT easements and ROWs, all to be completed by NC DOT. There is an estimated 0.25 acres of woody vegetation that will be cleared for this proposed action. This is a conservative estimate since some areas will be cleared during the I-95 widening construction. It is anticipated that due to the proposed action any migratory birds in the area will temporarily leave the area during construction which will have been previously significantly disturbed with the NC DOT project. The proposed action was determined to have "No Effect" on threatened, endangered, or candidate species and proposed or designated critical habitat under USFWS jurisdiction, a "Not Likely to Jeopardize the Species' Continued Existence" determination for the proposed Tricolored Bat, and a "No Eagle Act Permit Required" determination for the Bald Eagle. A Self-certification Letter and 10-step Project Review Package were prepared and submitted to the USFWS Raleigh Ecological Services Field Office (FO) on December 11, 2023. On December 21, 2023, Ms. Kathy Matthews, USFWS Fish and Wildlife Biologist, responded that the "Service agrees that the project is not likely to adversely affect any listed species."

Natural Hydrologic Function

The effects of Hurricane Matthew on Robeson County riverine flooding were high especially along the Lumber River and in Lumberton where several major streams converge with the Lumber River (HMRP-RC, pg. 3-1). The hydrology of the Lumber River Basin has been studied in various reports. The City of Lumberton levee is considered a key feature in the Lumber River Basin (Lumber River Mitigation Study, pg. 5). The Lumber River Mitigation Study calibrated the hydrologic model to Hurricane Matthew.

However, “[a]ll storms have many variables that contribute to magnitude of flooding.” According to the Lumber River Mitigation Study (pg. 29), there are “portions of the Lumber River watershed that exhibit behavior not easily modeled using 1-dimensional hydrologic analysis, such as flood wave attenuation and the complex diversion occurring from the short-circuiting of the levee in Lumberton during Hurricane Matthew at the VFW Road and CSX Railroad underpass breach. This behavior is not necessarily captured by parameters used in this model, making the calibration effort increasingly difficult moving downstream (specifically at Lumberton). However, the approach implemented provides a useful benchmark for the hydrologic response of the Lumber River watershed during Matthew, pertinent to this high planning-level analysis.” Further, “there are particular difficulties with the diversion of flow that was visually observed, though with no discharge measurement, that occurred at the VFW Road and CSX Railroad underpass. In order to account for this discharge through the underpass which was not captured by the USGS gage in Lumberton, multiple diversions were added to the HMS model to represent this situation. A coarse 1-dimensional unsteady hydraulic model was developed, utilizing lateral structures along the levee and this underpass, in order to develop a rating curve for this breach in the levee. This aspect of the levee at Lumberton presented difficulties in calibrating the hydrologic model, and should be revisited with much greater detail in future studies, including detailed 2-dimensional rain on grid combined hydrologic and hydraulic modeling.” As for the hydraulic modeling, the study notes that water surface elevations on the interior side of the Lumberton levee were based on NCEM models calibrated to observe Hurricane Matthew high water marks along the main stem using discharges from the calibrated rainfall-runoff model. “However, the models provided are 1-dimensional, and do not include a natural valley analysis of the levee at Lumberton. A natural valley analysis is a method for determining flood elevations for the interior or landward area of a levee, generally reserved for levees that are not certified as providing sufficient protection from the 1% annual chance event like the levee at Lumberton” (see Lumber River Mitigation Study, pgs. 37-38). “Therefore, water surface elevations on the riverward side of the levee were also used for the landward side of the levee for this planning level analysis.” “Further complicating the issue is the pending installation of a flood gate at the existing VFW Road and CSX Railroad underpass breach in the levee; the behavior of this breach is depicted in Figure 4-8. As mentioned previously, it is highly recommended that more refined study be performed for this area using more detailed methods, including 2-dimensional hydraulic modeling, before any sort of flood protection design take place.”

The H&H Analysis completed for the design of the flood gate is included in **Appendix 1**. The H&H Analysis includes a hydrologic analysis of the Lumber River from the headwaters located near Eagle Springs, North Carolina (NC) to the confluence of the Lumber River and Jacob Swamp located about 4 miles downstream of Lumberton. A hydraulic model was developed along the Lumber River and of its tributaries near the city of Lumberton to establish flood elevations for use in the flood gate closure design. The minimum elevation of the flood gate will therefore have to be above the 100-year water surface elevation plus 4.5 feet to meet FEMA accreditation requirements. The levee is currently not FEMA accredited. It is the desire of the City of Lumberton to have a flood gate that can, at a minimum, prevent flooding from events like that of Hurricanes Matthew and Florence, which are the highest recorded flooding events in Lumberton. Flood frequency analysis was performed to estimate the recurrence intervals of historic floods (Hurricane Matthew and Hurricane Florence) near the site.

The project designs have been completed in accordance with agency input to minimize impacts to the wetlands, environment and community. The proposed action will comply with a Floodplain Development Permit, NC DEMLR Erosion and Sediment Control Permit, NPDES Construction Stormwater Permit (NCG010000), and all applicable federal, State and local laws, regulations, and permit requirements and conditions which shall be obtained before commencing work and appended to the *West Lumberton Flood Gate Project EA ERR*. Applicable regulations and recommendations from the NC DEQ DWR will be followed. BMPs and erosion and sedimentation control measures include filter fabric under 24-inch class 2 riprap east of the flood gate; geotextile fabric under 18-inch class B riprap and 6-inch stone groin

protection riprap along southeastern portion of the earthen berm; two stone riprap check dams; temporary stabilizing vegetation; silt fencing; and site grading. Native plants will be utilized during landscaping and site restoration at the proposed action site. Additionally, the proposed action can implement the following voluntary conservation measures to benefit wildlife and, in particular, pollinators: plant native trees, shrubs, and flowering plants in landscaping, use plants that bloom spring through fall, and remove/control invasive plant species present. Further, the City has full-time staff in charge of inspecting and maintaining the system post-installation to ensure proper performance and address routine repairs as needed. With proper maintenance, any eroded area can be repaired and stabilized. The proposed action will disturb approximately 4.9 acres mostly within previously disturbed railroad and roadway easements and industrial businesses' lawns (urban areas) which are not ideal nor used for timber, and food and fiber resources. Thus, there will be minimal to no effect on living resources such as natural systems such as flora and fauna, timber, and food and fiber resources.

Cost Increases Attributed to Wetland-Required New Construction and Mitigation Measures to Minimize Harm to Wetlands that May Result from Such Use

Alternative locations and designs were considered during the lengthy design phase. However, this proposed action design was coordinated in conjunction with NC DOT to accommodate their I-95 widening project in the area. The proposed action had been designed in different locations, including east of I-95, before NC DOT and the City agreed upon this final design. The proposed action site (I-95 overpass opening at CSX railroad, Cox Road, and VFW Road) was identified during the levee design as a weak point where 100-year and greater flood events can penetrate to the protected side of the levee. Due to the type of improvement and its connection to the City's existing earthen levee and flood control system, floodplain impacts were unavoidable (see Existing Levee System Map in **Appendix A** of *West Lumberton Flood Gate Project EA ERR*). However, the proposed action was designed not to encroach into the onsite wetland.

The costs of damages incurred during past hurricanes and the estimated damages from future storms have been identified in various reports. This area is further identified as most at risk for continued flooding (HMRRP-RC, pg. 3-4). Table 5-4 in the Lumber River Mitigation Study (pg. 44) shows the baseline estimated damages on a community level, without considering structures interior to the levee at Lumberton. This information was used to compare potential damages with and without the flood gate system at the Lumberton levee. According to the 2020 BCR Regional Hazard Mitigation Plan (pg. 243), there are a total of 128 critical facilities exposed to 100-year river flooding in the City with an estimated \$4,166,242 in potential damages. There are 20 identified high potential loss properties in the City with an estimated \$2,213,828 in potential damages (pg. 248). Thus, without the necessary improvements, the City will continue to experience flooding with resultant property damage, utility and municipal service interruptions, and threat to public health and safety. As properties are repeatedly damaged, owners will likely stop making repairs and instead choose to relocate their businesses, possibly outside of the City's jurisdiction. The City will potentially experience impacts to the local economy both directly from the lost businesses, as well as indirectly through the elimination of jobs that local residents rely upon. The devastation suffered by the residents, churches, public facilities, businesses and industries in the affected areas could have been avoided had a flood gate system been in place. There has been broad community support for this project from not only the residents of South and West Lumberton but also from the City's industrial base, which will also be protected by these efforts. By mitigating the type of catastrophic flooding that was seen during Hurricane Matthew, the City of Lumberton will be able to confidently restore much needed housing and businesses to these historically low- to moderate-income and predominately minority neighborhoods, without the threat of future flooding.

The proposed action is not anticipated to result in direct or indirect, temporary or permanent impacts to approximately 4.44 acres of NWI-mapped Freshwater Forested/ Shrub Wetland (PFO4Ad) located on the VFW Rd. and Hackett St. parcel #938280300700 that is part of a 69.51-acre wetland feature. There are no other wetlands located on the other parcels. No activities are proposed in wetlands and a USACE Approved Jurisdictional Determination and No Permit Required Letter are being obtained. Since no direct or indirect, temporary or permanent wetland impacts are proposed, then Clean Water Act Section 404 and 401 permits and compensatory mitigation are not required. The project designs have been completed in accordance with agency input to minimize impacts to the wetlands, environment and community. The proposed action will comply with a Floodplain Development Permit, NC DEMLR Erosion and Sediment Control Permit, NPDES Construction Stormwater Permit (NCG010000), and all applicable federal, State and local laws, regulations, and permit requirements and conditions which shall be obtained before commencing work and appended to the *West Lumberton Flood Gate Project EA ERR*. Applicable regulations and recommendations from the NC DEQ DWR will be followed. BMPs and erosion and sedimentation control measures include filter fabric under 24-inch class 2 riprap east of the flood gate; geotextile fabric under 18-inch class B riprap and 6-inch stone groin protection riprap along southeastern portion of the earthen berm; two stone riprap check dams; temporary stabilizing vegetation; silt fencing; and site grading. Native plants will be utilized during landscaping and site restoration at the proposed action site. Additionally, the proposed action can implement the following voluntary conservation measures to benefit wildlife and, in particular, pollinators: plant native trees, shrubs, and flowering plants in landscaping, use plants that bloom spring through fall, and remove/control invasive plant species present. Further, the City has full-time staff in charge of inspecting and maintaining the system post-installation to ensure proper performance and address routine repairs as needed. With proper maintenance, any eroded area can be repaired and stabilized. Measures will be implemented to ensure the proposed action will have no significant direct or indirect impacts to onsite or offsite wetlands during construction and operation as a permanent flood gate system. Thus, there are no identifiable costs associated with the incidental wetland anticipated to be incurred. However, there are numerous identifiable costs that can be attributed to not implementing the proposed action.

Other Uses of Wetland in the Public Interest, Including Recreational, Scientific, and Cultural Uses

The natural approximately 4.44-acre Freshwater Forested/ Shrub Wetland (PFO4Ad) will remain intact because the proposed action has been designed so as to not encroach into the wetland. Further, no direct or indirect impacts to onsite or offsite wetlands are proposed or anticipated.

The natural wetland located on the VFW Rd. and Hackett St. parcel #938280300700 has no identifiable recreational, scientific, or cultural uses that will be impacted by the proposed action. The site is currently used as a borrow pit. As part of the 24 CFR 58 environmental review, the SHPO and Catawba Indian Nation were consulted regarding historic properties of religious and cultural significance in the area that could be affected by the proposed action. On December 6, 2023 (revised plans email), NCORR consulted with the Catawba Indian Nation for discussion of historic properties in the proposed action area that may have religious and cultural significance. The original Section 106 review packages were sent to the Catawba Indian Nation's Chief Bill Harris and Dr. Wenonah G. Haire, THPO on October 29, 2021. On December 7, 2023 (revised plans email), Ms. Caitlin Rogers responded that the "Catawba THPO has no concerns with the revised West Lumberton Flood Gate Project." On December 3, 2021 (original plans submission), Ms. Caitlin Rogers responded that "[t]he Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. **However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.**" The proposed action is in compliance with Section 106 of the National Historic Preservation Act of 1966

NHPA. On October 29, 2021, NCORR Director Ms. Laura Hogshead sent a notification letter for the proposed action to the Lumbee Tribe of North Carolina's Chairman Harvey Godwin, Jr., and no response was received. The SHPO and Catawba Indian Nation Section 106 review and consultation documentation is included in the *West Lumberton Flood Gate Project EA ERR* along with the Lumbee Tribe of NC project notification letter. Thus, the proposed action does not have any foreseeable impact on recreational, scientific, or cultural uses of this wetland or offsite wetlands.

Step 5. Where Practicable, Design or Modify the Proposed Action to Minimize the Potential Adverse Impacts to and from the 100-Year Floodplain and the Wetland and to Restore and Preserve its Natural and Beneficial Functions and Values.

The purpose of this proposed action is to enhance the City's existing earthen levee and flood control system to mitigate against 100-year flood events flowing from the west side of the I-95 underpass via the CSX railroad crossing in the vicinity of VFW Road, Cox Road, and Hackett Street. The proposed action site (I-95 overpass opening at CSX railroad, Cox Road, and VFW Road) was identified during the levee design as a weak point where 100-year and greater flood events can penetrate to the protected side of the levee. The City has identified the proposed action site to mitigate flooding experienced on the protected side of the existing levee system, which is critical to protect lives and property in southern and western Lumberton. In addition, the levee system helps maintain access to and operation of several critical facilities behind the levee, such as the City's water treatment plant, two power grid point of delivery transformer sub stations, the City's Electric Utility Department, and a City Fire Station. Failure to make the proposed improvements will result in the area continuing to experience flooding during future storm events, which in turn has impacts across the entire City. The proposed action has been designed with agency input, particularly the NC DOT which is undertaking the widening of I-95. The NC DOT project includes realignment of Cox Road, VFW Road and Hackett Street, I-95 embankment and bridge surfacing, a drainage channel, I-95 replacement bridge, retaining walls near Cox Road, and temporary and permanent NC DOT easements and ROWs, all to be completed by NC DOT in this proposed action area.

Alternative locations and designs were considered during the lengthy design phase. However, this proposed action design was coordinated in conjunction with NC DOT to accommodate their I-95 widening project in the area. The proposed action had been designed in different locations along I-95 before NC DOT and the City agreed upon this final design. Due to the type of improvement and its connection to the City's existing earthen levee and flood control system, floodplain impacts were unavoidable (see Existing Levee System Map in **Appendix A** of *West Lumberton Flood Gate Project EA ERR*). However, the proposed action was designed not to encroach into the onsite wetland.

All of the proposed action site is located in 100-year floodplain with the five parcels totaling 23.43 acres and no areas in regulatory floodway. The proposed action will result in temporary impacts to approximately 4.9 acres of 100-year floodplain (Zone AE) and permanent impacts to 4.7 acres of 100-year floodplain. The proposed action is not anticipated to result in direct or indirect, temporary or permanent impacts to approximately 4.44 acres of NWI-mapped Freshwater Forested/ Shrub Wetland (PFO4Ad) located on the VFW Rd. and Hackett St. parcel #938280300700 that is part of a 69.51-acre wetland feature. There are no other wetlands located on the other parcels. Since no activities are proposed in wetlands, a USACE Approved Jurisdictional Determination and No Permit Required Letter are being obtained and Clean Water Act Section 404 and 401 permits are not required. The proposed action designs have been completed in accordance with agency input to minimize impacts to the wetlands, environment and community. The proposed action will comply with a Floodplain Development Permit, NC DEMLR Erosion and Sediment Control Permit, NPDES Construction Stormwater Permit (NCG010000), and all applicable federal, State and local laws, regulations, and permit requirements and conditions which shall be obtained before commencing work and appended to the *West Lumberton Flood*

Gate Project EA ERR. Applicable regulations and recommendations from the NC DEQ DWR will be followed. BMPs and erosion and sedimentation control measures include filter fabric under 24-inch class 2 riprap east of the flood gate; geotextile fabric under 18-inch class B riprap and 6-inch stone groin protection riprap along southeastern portion of the earthen berm; two stone riprap check dams; temporary stabilizing vegetation; silt fencing; and site grading. Native plants will be utilized during landscaping and site restoration at the proposed action site. Additionally, the proposed action can implement the following voluntary conservation measures to benefit wildlife and, in particular, pollinators: plant native trees, shrubs, and flowering plants in landscaping, use plants that bloom spring through fall, and remove/control invasive plant species present. Further, the City has full-time staff in charge of inspecting and maintaining the system post-installation to ensure proper performance and address routine repairs as needed. With proper maintenance, any eroded area can be repaired and stabilized. Thus, measures will be implemented to ensure the proposed action will have no significant direct or indirect impacts to floodplain and wetlands during construction and operation as a permanent flood gate system. The proposed action and location are the most suitable, feasible options selected by the City after a costly and lengthy design process to assist its residents and community to be protected from future storm events; the “No Action” alternative would not effectively address the area’s flooding; and mitigation measures include erosion and sedimentation controls, permit conditions, a project design that minimizes impacts, and native plants used in site restoration.

Step 6. Reevaluate the Alternatives and Proposed Action.

This public infrastructure improvement project aims to protect the area from flooding that causes property damage to homes, churches, public facilities, businesses and industries; interrupts City-wide services such as the potable water supply and electric utility grid for days; and blocks transportation accessibility with roadway flooding during and after storm events. West and South Lumberton have been devastated during Hurricanes Matthew and Florence and remain vulnerable to future storm events without the proposed action. The proposed action site was identified during levee design as a vulnerable weak point where 100-year and greater flood events can penetrate to the protected side of the levee. The City has selected the proposed action site to mitigate flooding experienced on the protected side of the existing levee system, which is critical to protect lives and property in southern and western Lumberton. The flood gate system will provide a new level of flood hazard protection that will allow the community to invest in a safer and more resilient and sustainable future in an area that has previously been threatened and devastated by flooding. The City of Lumberton will be able to confidently restore much needed housing and businesses to these historically low- to moderate-income and predominately minority neighborhoods without the threat of future flooding.

NCORR has considered the alternatives and mitigation measures to be taken to minimize adverse impacts and to restore and preserve natural and beneficial values. Alternative resiliency strategies were evaluated to address the flooding experienced in Lumberton during Hurricane Matthew. A series of meetings were held including public open houses and in-depth working sessions with county officials, subject matter experts, and county and municipal planners. North Carolina Emergency Management utilized data, resources, and technical expertise from State agencies, the private sector, and the UNC system to determine innovative best practice strategies. The proposed action was identified as a high priority infrastructure strategy. This location at the CSX railroad I-95 underpass was identified as the most vulnerable weak point where flood events can penetrate to the protected side of the levee. Alternative locations and designs for the flood gate system were considered during the lengthy design phase using agency input, particularly the NC DOT which is undertaking the widening of I-95. The proposed action was designed in different locations, including east of I-95, before NC DOT and the City agreed upon this final design. The NC DOT project includes realignment of Cox Road, VFW Road and Hackett Street, I-95 embankment and bridge surfacing, a drainage channel, I-95 replacement bridge, retaining walls near

Cox Road, and temporary and permanent NC DOT easements and ROWs in the area of this proposed action. The proposed action is not anticipated to exceed 4.9 acres of disturbance. The “No Action” Alternative is not considered feasible since flooding in the area causes property damage to homes, churches, businesses and industries; interrupts City-wide services such as the potable water supply and electric utility grid for days; and blocks transportation accessibility with roadway flooding during and after storm events. This proposed action is critically necessary to protect the residents and community from future storm events. Whereas, the “No Action” Alternative would leave the community vulnerable to future flooding and mitigation action would be compromised due to lack of financial support. Due to the type of improvement and its connection to the City’s existing earthen levee and flood control system, floodplain impacts were unavoidable. However, the proposed action was designed not to encroach into the onsite wetland.

Implementation of the proposed action will abide by all applicable federal, State and local laws, regulations, and permit requirements and conditions. Permits required for this proposed action shall be obtained before commencing work and appended to the *West Lumberton Flood Gate Project EA ERR* when received from the permitting agencies. The impacts of these alternatives will be re-evaluated in response to any public comments received.

Step 7. Issue Findings and Public Explanation.

It is the finding of this report that there is no better alternative than to provide funding for the West Lumberton Flood Gate Project. The City has selected this public infrastructure improvement project to protect the area from flooding that causes property damage to homes, churches, public facilities, businesses and industries; interrupts City-wide services such as the potable water supply and electric utility grid for days; and blocks transportation accessibility with roadway flooding during and after storm events. Further, the proposed action will mitigate flooding experienced on the protected side of the existing levee system, which is critical to protect lives and property in southern and western Lumberton.

A final notice, formally known as “*Final Notice and Public Explanation of a Proposed Activity in a 100-Year Floodplain and Wetland*” is being published in accordance with 24 CFR 55. However, this notice was combined with the *Notice of Finding of No Significant Impact (FONSI)* and *Notice of Intent to Request Release of Funds (NOI-RRF)* for a 15-day comment period. The 15-day comment period starts with the combined notice publishing in The Robesonian newspaper on January 6, 2024 and ends on January 22, 2024. The notice will be posted at <https://www.rebuild.nc.gov/about/plans-policies-reports/environmental-reviews> and sent via Federal Express and email to the following state and federal agencies: HUD NC Field Office; FEMA; EPA; USFWS; USACE; NPS; and NC State Environmental Clearinghouse. The notice will also be sent to Robeson County and the City of Lumberton. Project information was sent to the NC SHPO and Catawba Indian Nation for review and comment under Section 106 of the NHPA and a project notification letter was sent to the Lumbee Tribe of North Carolina (see *West Lumberton Flood Project EA ERR*). (See **Appendix 3** for the final notice distributed to these agencies).

Supporting documentation, including this EO 11988 Floodplain Management and EO 11990 Protection of Wetlands Determination, incorporated into the Final Notice, was posted for public review to the NCORR ReBuild NC website and included the Early Notice documentation (proposed action location maps with boundaries shown; Robeson County parcel data; site plans; FEMA FIRMette, NEPAAssist FEMA FIRMs, and PFIRMSs with parcel boundaries shown; the NFIP Community Status Book; H&H Analysis; USFWS NWI Map; Total Wetlands Area Map, and USACE correspondence) and additional appendices noted herein. The EA was also posted to the NCORR ReBuild NC website allowing for public and agency input on the decision to provide funding for construction and development activities. Any substantive

comments received will be addressed, and incorporated into the EA prior to proceeding with the submission of a request for release of funds.

Step 8. Implementation and Continuing Responsibility of the Responsible Entity and Recipient.

NCORR is the responsible entity and will provide educational materials, when available. It is acknowledged there is a continuing responsibility by the responsible entity to ensure, to the extent feasible and necessary, compliance with the Steps herein.

APPENDIX I

EARLY NOTICE FLOODPLAIN AND WETLANDS MAPS

- **Proposed Project Location Maps, Robeson County Parcel Data, and Site Plans**
- **FEMA FIRMette, NEPAassist FEMA FIRMs, PFIRMs, NFIP Community Status Book, and Hydrologic and Hydraulic Analysis**
- **USFWS National Wetlands Inventory (NWI) Map, Total Wetlands Area Map, and USACE Correspondence**

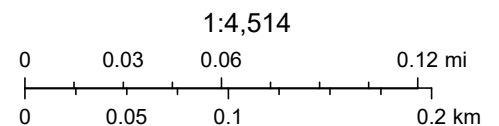
- **Proposed Project Location Maps**
- **Robeson County Parcel Data**
- **Site Plans**

West Lumberton Flood Gate - Aerial Map



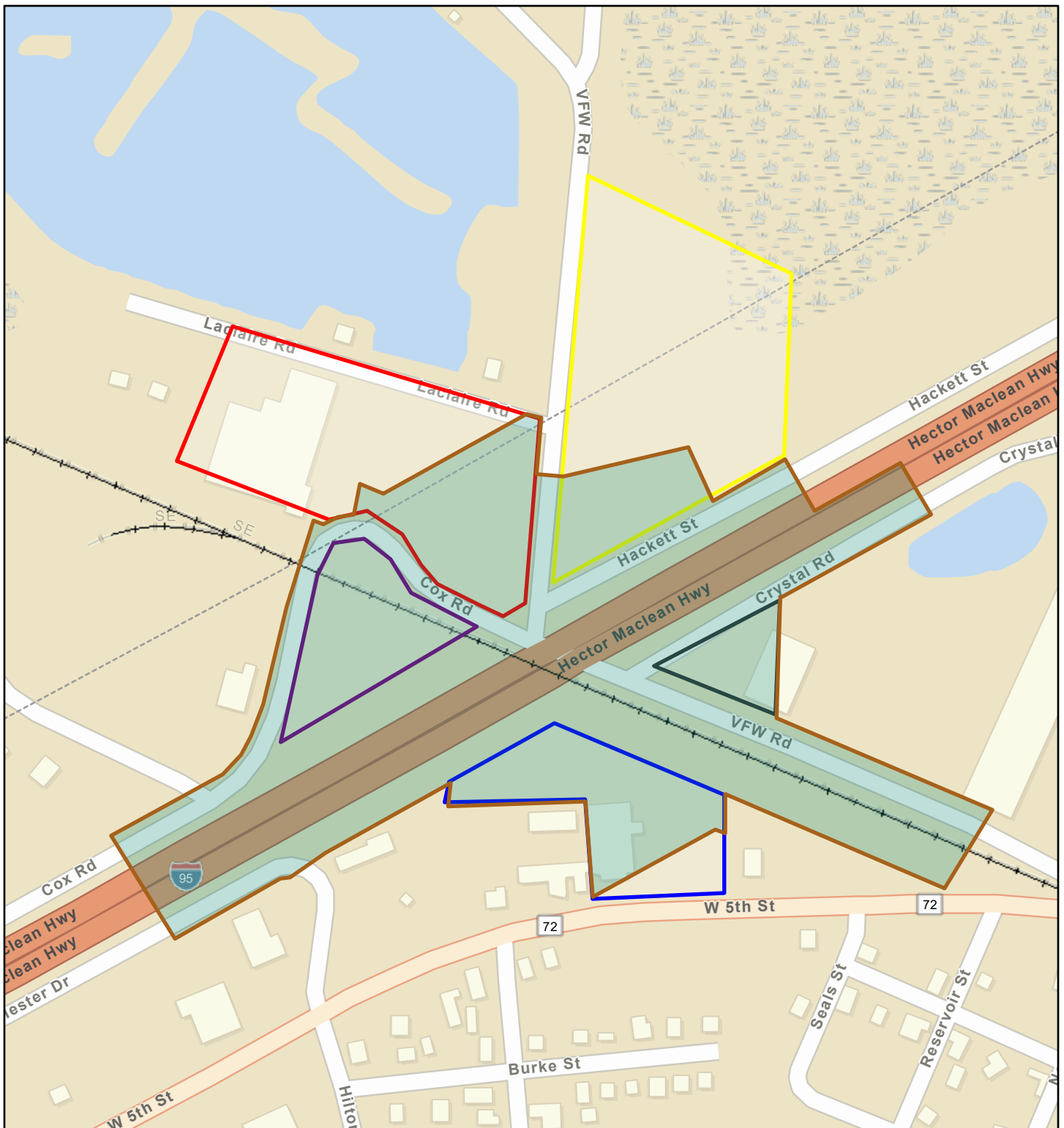
December 1, 2023

- | | | | |
|--|-----------------------------|---|-----------------------------|
|  | WLFG Project Action Area |  | 2460 Cox Rd #938179143700 |
|  | 550 VFW Rd #938189443052 |  | VFW & Hackett #938280300700 |
|  | 2306 W 5th St #938189201500 |  | Railroads |
|  | 2400 Cox Rd #938179684407 | | |



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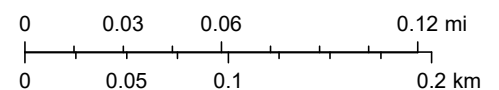
West Lumberton Flood Gate - Street Map



December 1, 2023

1:4,514

- WLFG Project Action Area
- 550 VFW Rd #938189443052
- 2306 W 5th St #938189201500
- 2400 Cox Rd #938179684407
- 2460 Cox Rd #938179143700
- VFW & Hackett #938280300700
- Railroads






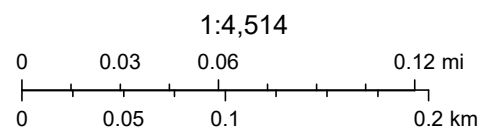
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West Lumberton Flood Gate - Topographic Map



December 1, 2023

- | | |
|--|---|
|  WLFG Project Action Area |  2460 Cox Rd #938179143700 |
|  550 VFW Rd #938189443052 |  VFW & Hackett #938280300700 |
|  2306 W 5th St #938189201500 |  2400 Cox Rd #938179684407 |
|  Railroads | |



County of Robeson, NC



MAPNO	101102012
PIN_NUMBER	938280300700
PARCELTYPE	Base Parcel
CONFLICTNOTATION	
DEEDEDACRES	7.71000004
OWNERTYPE	null
STATUS	null
OLDMAPNO	1011-02-012
NUMMOD	null
LOT	null
NBHD_CODE	32C27
TAX_YEAR	2023
PAR_CODE	
MAP	9382
SUBMAP	
BLOCK	80
PARCEL	3007
SUBPARCEL	00
PHYLOCAT	56700
CITYCODE	
ROUTENUM	0
OWNERID	8543007
CUROWNID	8543007

OWNAM1	FREEMAN INVESTMENTS INC
OWNAM2	
OWNAM3	
OWADR1	P O BOX 162
OWADR2	
OWADR3	
OWADR4	
OWCITY	LUMBERTON
OWSTATE	NC
OWZIP	283590000
STNUM	0
STSUFFIX	
STDIR	
STNAME	VFW & HACKETT
STTYPE	RD
STDIRSUF	
UNITNO	
DEEDACRE	7.16
MAPACRE	7.16
DISTCODE	27
TOWNCODE	10
PARDESC3	J62
PARDESC1	I-00
NBHCLASS	
NBHCODE	32C27
EXEMCODE	
DEEDBOOK	
DEEDPAGE	
DEEDYEAR	1989
PLATBOOK	
PLATPAGE	
DATESOLD	0
LEGDESC1	A JC BENNETT BORROW PIT
LEGDESC2	
LEGDESC3	
PARDESC4	
GROUPPAR	938280300700
REQREVIEW	
PHYSTRADR	VFW & HACKETT RD
SCHCODE	0
AREACODE	1
LNDASVCUR	19800
IMPASVCUR	0
QUALCODE	

RECTYPE	null
SALEAMT	0
SALEINST	
DEEDSTMP	0



Robeson County Government

PROPERTY REPORT - PRINT

Property Owner FREEMAN INVESTMENTS INC		Owner's Mailing Address P O BOX 162 LUMBERTON , NC 283590000		Property Location Address VFW & HACKETT RD							
Administrative Data Parcel Ref No. 101102012 PIN 938280300700 Account No. 8543007 Tax District RAFT SWAMP FIRE Land Use Code I-00 Land Use Desc INDUSTRIAL VACANT Subdiv Code Subdiv Desc Neighborhood 32C27		Administrative Data Legal Desc A JC BENNETT BORROW PIT Deed Bk/Pg 00691 / 0078 Plat Bk/Pg / Sales Information Grantor Sold Date 0--0 Sold Amount \$ 0		Valuation Information Market Value \$ 19,800 Market Value - Land and all permanent improvements, if any, effective January 1, 2010, date of County's most recent General Reappraisal Assessed Value \$ 19,800 If Assessed Value not equal Market Value then subject parcel designated as a special class -agricultural, horticultural, or forestland and thereby eligible for taxation on basis of Present-Use and/or reduction from a formal appeal procedure Land Supplemental Map Acres 7.16 Tax District Note JACOB SWAMP MAINTENANCE Present-Use Info							
Improvement Detail (1st Major Improvement on Subject Parcel) Year Built 0 Built Use/Style Current Use / * Percent Complete 0 Heated Area (S/F) 0 ** Bathroom(s) 0 Full Bath(s) 0 Half Bath(s) ** Bedroom(s) 0 Fireplace (Y/N) N Basement (Y/N) N Attached Garage (Y/N) N *** Multiple Improvements 000 * Note - As of January 1 ** Note - Bathroom(s), Bedroom(s), shown for description only *** Note - If multiple improvements equal "MLT" then parcel includes additional major improvements											
Improvement Valuation (1st Major Improvement on Subject Parcel) <table border="1"> <tr> <td>* Improvement Market Value \$</td> <td>** Improvement Assessed Value \$</td> </tr> <tr> <td>0</td> <td>0</td> </tr> </table> * Note - Market Value effective Date equal January 1, 2010, date of County's most recent General Reappraisal ** Note - If Assessed Value not equal Market Value then variance resulting from formal appeal procedure						* Improvement Market Value \$	** Improvement Assessed Value \$	0	0		
* Improvement Market Value \$	** Improvement Assessed Value \$										
0	0										
Land Value Detail (Effective Date January 1, 2010, date of County's most recent General Reappraisal) <table border="1"> <tr> <td>Land Market Value (LMV) \$</td> <td>Land Present-Use Value (PUV) \$ **</td> <td>Land Total Assessed Value \$</td> </tr> <tr> <td>19,800</td> <td>19,800</td> <td>19,800</td> </tr> </table> ** Note: If PUV equal LMV then parcel has not qualified for present use program						Land Market Value (LMV) \$	Land Present-Use Value (PUV) \$ **	Land Total Assessed Value \$	19,800	19,800	19,800
Land Market Value (LMV) \$	Land Present-Use Value (PUV) \$ **	Land Total Assessed Value \$									
19,800	19,800	19,800									

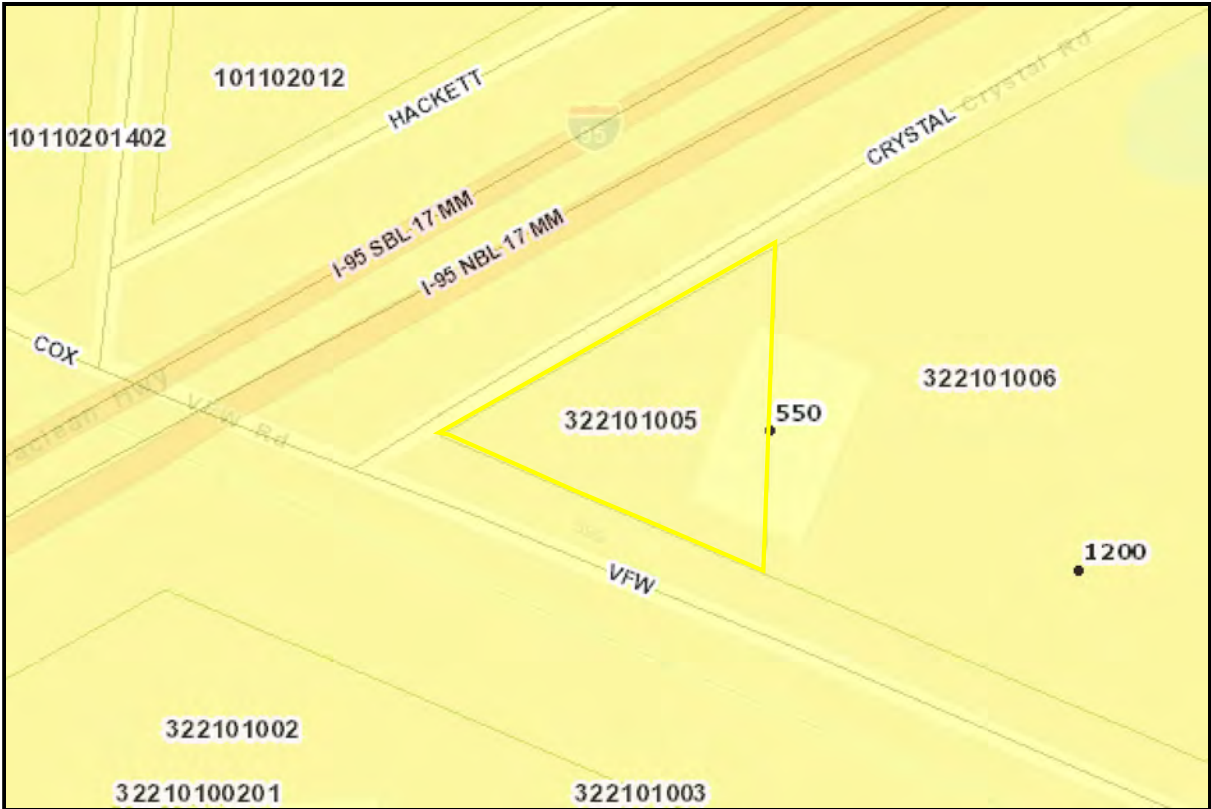
Parcel Sketch:

No Sketch Available

Parcel Photo:

No Photo Available

County of Robeson, NC



MAPNO	322101005
PIN_NUMBER	938189443052
PARCELTYPE	Base Parcel
CONFLICTNOTATION	null
DEEDEDACRES	null
OWNERTYPE	Private
STATUS	null
OLDMAPNO	3221-01-005
NUMMOD	null
LOT	null
NBHD_CODE	000000
TAX_YEAR	2023
PAR_CODE	
MAP	9381
SUBMAP	
BLOCK	89
PARCEL	4420
SUBPARCEL	00
PHYLOCAT	36171
CITYCODE	
ROUTENUM	0
OWNERID	8543000
CUROWNID	8543000

OWNAM1	FREEMAN INVESTMENTS INC
OWNAM2	
OWNAM3	
OWADR1	P O BOX 162
OWADR2	
OWADR3	
OWADR4	
OWCITY	LUMBERTON
OWSTATE	NC
OWZIP	283590000
STNUM	550
STSUFFIX	
STDIR	
STNAME	V. W. F.
STTYPE	RD
STDIRSUF	
UNITNO	
DEEDACRE	0.83
MAPACRE	0.83
DISTCODE	52
TOWNCODE	32
PARDESC3	
PARDESC1	C-80
NBHCLASS	
NBHCODE	32C25
EXEMCODE	
DEEDBOOK	
DEEDPAGE	
DEEDYEAR	1989
PLATBOOK	
PLATPAGE	
DATESOLD	0
LEGDESC1	LT JC BENNETT S/S I 95 OF
LEGDESC2	B1 IS HOUSING FOR A/C UNI
LEGDESC3	T ATTACHED TO REAR OF BLD
PARDESC4	
GROUPPAR	938189442000
REQREVIEW	
PHYSTRADR	550 V. W. F. RD
SCHCODE	0
AREACODE	1
LNDASVCUR	18700
IMPASVCUR	226500
QUALCODE	

RECTYPE	null
SALEAMT	0
SALEINST	
DEEDSTMP	0

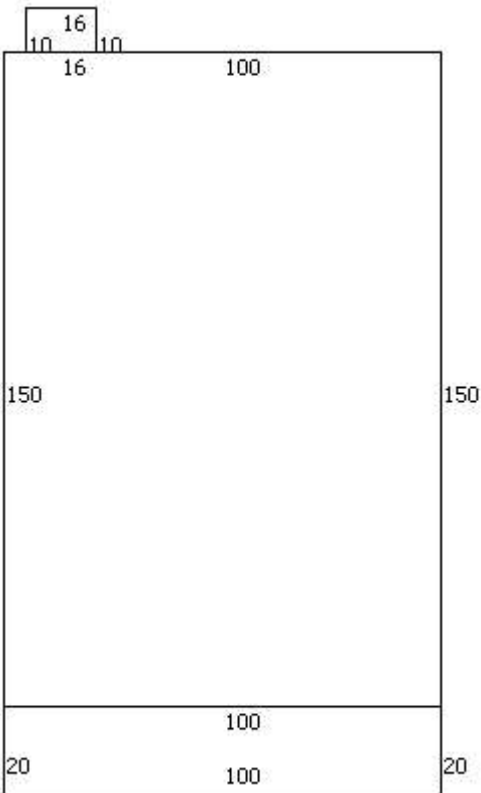


Robeson County Government

PROPERTY REPORT - PRINT

Property Owner FREEMAN INVESTMENTS INC		Owner's Mailing Address P O BOX 162 LUMBERTON , NC 283590000		Property Location Address 550 V. W. F. RD							
Administrative Data Parcel Ref No. 322101005 PIN 938189442000 Account No. 8543000 Tax District TOWN LUMBERTON Land Use Code C-80 Land Use Desc WAREHOUSES Subdiv Code Subdiv Desc Neighborhood 32C25		Administrative Data Legal Desc LT JC BENNETT S/S I 95 OF B1 IS HOUSING FOR A/C UNI Deed Bk/Pg 00691 / 0078 Plat Bk/Pg / Sales Information Grantor Sold Date 0--0 Sold Amount \$ 0		Valuation Information Market Value \$ 245,200 Market Value - Land and all permanent improvements, if any, effective January 1, 2010, date of County's most recent General Reappraisal Assessed Value \$ 245,200 If Assessed Value not equal Market Value then subject parcel designated as a special class -agricultural, horticultural, or forestland and thereby eligible for taxation on basis of Present-Use and/or reduction from a formal appeal procedure Land Supplemental Map Acres 0.83 Tax District Note Present-Use Info							
Improvement Detail (1st Major Improvement on Subject Parcel) Year Built 1990 Built Use/Style WAREHOUSE Current Use C / * Percent Complete 100 Heated Area (S/F) 17,000 ** Bathroom(s) 0 Full Bath(s) 0 Half Bath(s) ** Bedroom(s) 0 Fireplace (Y/N) N Basement (Y/N) N Attached Garage (Y/N) N *** Multiple Improvements 001 * Note - As of January 1 * * Note - Bathroom(s), Bedroom(s), shown for description only * * * Note - If multiple improvements equal "MLT" then parcel includes additional major improvements											
Improvement Valuation (1st Major Improvement on Subject Parcel) <table border="1"> <tr> <td>* Improvement Market Value \$</td> <td>** Improvement Assessed Value \$</td> </tr> <tr> <td>226,500</td> <td>226,500</td> </tr> </table> * Note - Market Value effective Date equal January 1, 2010, date of County's most recent General Reappraisal ** Note - If Assessed Value not equal Market Value then variance resulting from formal appeal procedure						* Improvement Market Value \$	** Improvement Assessed Value \$	226,500	226,500		
* Improvement Market Value \$	** Improvement Assessed Value \$										
226,500	226,500										
Land Value Detail (Effective Date January 1, 2010, date of County's most recent General Reappraisal) <table border="1"> <tr> <td>Land Market Value (LMV) \$</td> <td>Land Present-Use Value (PUV) \$ **</td> <td>Land Total Assessed Value \$</td> </tr> <tr> <td>18,700</td> <td>18,700</td> <td>18,700</td> </tr> </table> ** Note: If PUV equal LMV then parcel has not qualified for present use program						Land Market Value (LMV) \$	Land Present-Use Value (PUV) \$ **	Land Total Assessed Value \$	18,700	18,700	18,700
Land Market Value (LMV) \$	Land Present-Use Value (PUV) \$ **	Land Total Assessed Value \$									
18,700	18,700	18,700									

Parcel Sketch:



Parcel Photo:

No Photo Available

County of Robeson, NC



MAPNO	10110201402
PIN_NUMBER	938179684407
PARCELTYPE	Base Parcel
CONFLICTNOTATION	
DEEDEDACRES	6.3
OWNERTYPE	null
STATUS	null
OLDMAPNO	1011-02-01402
NUMMOD	null
LOT	null
NBHD_CODE	32C27
TAX_YEAR	2023
PAR_CODE	
MAP	9381
SUBMAP	
BLOCK	79
PARCEL	6844
SUBPARCEL	07
PHYLOCAT	13183
CITYCODE	
ROUTENUM	0
OWNERID	1073076
CUROWNID	1226876

OWNAM1	FIRST INDUSTRIAL B&L LLC
OWNAM2	
OWNAM3	
OWADR1	101 S TRYON STREET SUITE 2420
OWADR2	
OWADR3	
OWADR4	
OWCITY	CHARLOTTE
OWSTATE	NC
OWZIP	28202
STNUM	2400
STSUFFIX	
STDIR	
STNAME	COX
STTYPE	RD
STDIRSUF	
UNITNO	
DEEDACRE	6.3
MAPACRE	6.3
DISTCODE	27
TOWNCODE	10
PARDESC3	
PARDESC1	I-20
NBHCLASS	
NBHCODE	32C27
EXEMCODE	
DEEDBOOK	null
DEEDPAGE	null
DEEDYEAR	null
PLATBOOK	null
PLATPAGE	null
DATESOLD	null
LEGDESC1	A N/S SR1598
LEGDESC2	TITAN FLOW CONTROL
LEGDESC3	
PARDESC4	
GROUPPAR	938179684407
REQREVIEW	
PHYSTRADR	2400 COX RD
SCHCODE	0
AREACODE	1
LNDASVCUR	115000
IMPASVCUR	435700
QUALCODE	null

RECTYPE	null
SALEAMT	null
SALEINST	null
DEEDSTMP	null

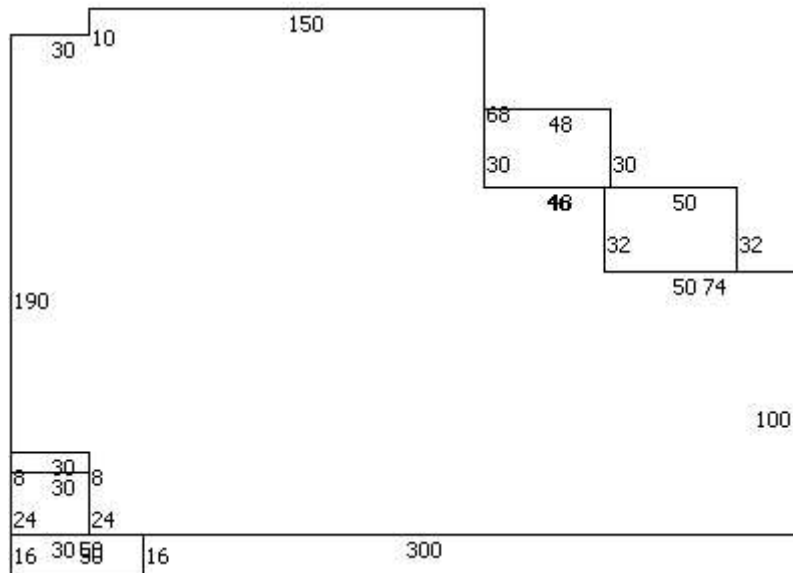


Robeson County Government

PROPERTY REPORT - PRINT

Property Owner SPARTAN LLC		Owner's Mailing Address 290 CORPORATE DR LUMBERTON , NC 28358		Property Location Address 2400 COX RD							
Administrative Data Parcel Ref No. 10110201402 PIN 938179684407 Account No. 1073076 Tax District RAFT SWAMP FIRE Land Use Code I-20 Land Use Desc LIGHT INDUSTRIAL Subdiv Code Subdiv Desc Neighborhood 32C27		Administrative Data Legal Desc A N/S SR1598 TITAN FLOW CONTROL Deed Bk/Pg 01637 / 0232 Plat Bk/Pg / Sales Information Grantor SPARTAN LLC Sold Date 2023-04-26 Sold Amount \$ 50,000		Valuation Information Market Value \$ 550,700 Market Value - Land and all permanent improvements, if any, effective January 1, 2010, date of County's most recent General Reappraisal Assessed Value \$ 550,700 If Assessed Value not equal Market Value then subject parcel designated as a special class -agricultural, horticultural, or forestland and thereby eligible for taxation on basis of Present-Use and/or reduction from a formal appeal procedure Land Supplemental Map Acres 6.3 Tax District Note Present-Use Info							
Improvement Detail (1st Major Improvement on Subject Parcel) Year Built 1977 Built Use/Style MFG/PROCESSING Current Use C / * Percent Complete 100 Heated Area (S/F) 49,972 ** Bathroom(s) 0 Full Bath(s) 0 Half Bath(s) ** Bedroom(s) 0 Fireplace (Y/N) N Basement (Y/N) N Attached Garage (Y/N) N *** Multiple Improvements 001 * Note - As of January 1 ** Note - Bathroom(s), Bedroom(s), shown for description only *** Note - If multiple improvements equal "MLT" then parcel includes additional major improvements											
Improvement Valuation (1st Major Improvement on Subject Parcel) <table border="1"> <tr> <td>* Improvement Market Value \$</td> <td>** Improvement Assessed Value \$</td> </tr> <tr> <td>435,700</td> <td>435,700</td> </tr> </table> * Note - Market Value effective Date equal January 1, 2010, date of County's most recent General Reappraisal ** Note - If Assessed Value not equal Market Value then variance resulting from formal appeal procedure						* Improvement Market Value \$	** Improvement Assessed Value \$	435,700	435,700		
* Improvement Market Value \$	** Improvement Assessed Value \$										
435,700	435,700										
Land Value Detail (Effective Date January 1, 2010, date of County's most recent General Reappraisal) <table border="1"> <tr> <td>Land Market Value (LMV) \$</td> <td>Land Present-Use Value (PUV) \$ **</td> <td>Land Total Assessed Value \$</td> </tr> <tr> <td>115,000</td> <td>115,000</td> <td>115,000</td> </tr> </table> ** Note: If PUV equal LMV then parcel has not qualified for present use program						Land Market Value (LMV) \$	Land Present-Use Value (PUV) \$ **	Land Total Assessed Value \$	115,000	115,000	115,000
Land Market Value (LMV) \$	Land Present-Use Value (PUV) \$ **	Land Total Assessed Value \$									
115,000	115,000	115,000									

Parcel Sketch:



Parcel Photo:

No Photo Available

County of Robeson, NC



MAPNO	101103010
PIN_NUMBER	938179143700
PARCELTYPE	Base Parcel
CONFLICTNOTATION	
DEEDEDACRES	6.73000002
OWNERTYPE	Private
STATUS	null
OLDMAPNO	1011-03-010
NUMMOD	null
LOT	null
NBHD_CODE	32C27
TAX_YEAR	2023
PAR_CODE	
MAP	9381
SUBMAP	
BLOCK	79
PARCEL	1437
SUBPARCEL	00
PHYLOCAT	13200
CITYCODE	
ROUTENUM	0
OWNERID	1004662001
CUROWNID	1004662001

OWNAM1	OMNISOURCE SOUTHEAST LLC
OWNAM2	
OWNAM3	
OWADR1	7575 W JEFFERSON BLVD
OWADR2	
OWADR3	
OWADR4	
OWCITY	FORT WAYNE
OWSTATE	IN
OWZIP	46508-4131
STNUM	2460
STSUFFIX	
STDIR	
STNAME	COX
STTYPE	RD
STDIRSUF	
UNITNO	
DEEDACRE	6.34
MAPACRE	6.34
DISTCODE	52
TOWNCODE	10
PARDESC3	
PARDESC1	C-80
NBHCLASS	
NBHCODE	32C27
EXEMCODE	
DEEDBOOK	null
DEEDPAGE	null
DEEDYEAR	null
PLATBOOK	null
PLATPAGE	null
DATESOLD	null
LEGDESC1	AC CHARLES STEVENS DIV LU
LEGDESC2	MBERTON RECYCLING CO
LEGDESC3	
PARDESC4	
GROUPPAR	938179143700
REQREVIEW	
PHYSTRADR	2460 COX RD
SCHCODE	0
AREACODE	1
LNDASVCUR	58600
IMPASVCUR	35000
QUALCODE	null

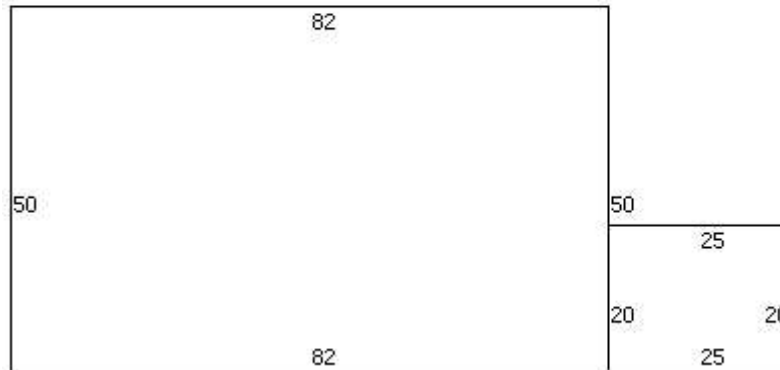
RECTYPE	null
SALEAMT	null
SALEINST	null
DEEDSTMP	null



Robeson County Government

PROPERTY REPORT - PRINT

Property Owner OMNISOURCE SOUTHEAST LLC		Owner's Mailing Address 7575 W JEFFERSON BLVD FORT WAYNE , IN 46508-4131		Property Location Address 2460 COX RD							
Administrative Data Parcel Ref No. 101103010 PIN 938179143700 Account No. 1004662001 Tax District TOWN LUMBERTON Land Use Code C-80 Land Use Desc WAREHOUSES Subdiv Code Subdiv Desc Neighborhood 32C27		Administrative Data Legal Desc AC CHARLES STEVENS DIV LU MBERTON RECYCLING CO Deed Bk/Pg 01994 / 0786 Plat Bk/Pg / Sales Information Grantor LUMBERTON RECYCLING CO INC C/O OMINSOURCE SOUTHEAST Sold Date 2015-05-29 Sold Amount \$ 0		Valuation Information Market Value \$ 93,600 Market Value - Land and all permanent improvements, if any, effective January 1, 2010, date of County's most recent General Reappraisal Assessed Value \$ 93,600 If Assessed Value not equal Market Value then subject parcel designated as a special class -agricultural, horticultural, or forestland and thereby eligible for taxation on basis of Present-Use and/or reduction from a formal appeal procedure Land Supplemental Map Acres 6.34 Tax District Note Present-Use Info							
Improvement Detail (1st Major Improvement on Subject Parcel) Year Built 1981 Built Use/Style WAREHOUSE Current Use C / * Percent Complete 100 Heated Area (S/F) 4,600 ** Bathroom(s) 0 Full Bath(s) 0 Half Bath(s) ** Bedroom(s) 0 Fireplace (Y/N) N Basement (Y/N) N Attached Garage (Y/N) N *** Multiple Improvements 001 * Note - As of January 1 * * Note - Bathroom(s), Bedroom(s), shown for description only * * * Note - If multiple improvements equal "MLT" then parcel includes additional major improvements											
Improvement Valuation (1st Major Improvement on Subject Parcel) <table border="1"> <tr> <td>* Improvement Market Value \$</td> <td>** Improvement Assessed Value \$</td> </tr> <tr> <td>35,000</td> <td>35,000</td> </tr> </table> * Note - Market Value effective Date equal January 1, 2010, date of County's most recent General Reappraisal ** Note - If Assessed Value not equal Market Value then variance resulting from formal appeal procedure						* Improvement Market Value \$	** Improvement Assessed Value \$	35,000	35,000		
* Improvement Market Value \$	** Improvement Assessed Value \$										
35,000	35,000										
Land Value Detail (Effective Date January 1, 2010, date of County's most recent General Reappraisal) <table border="1"> <tr> <td>Land Market Value (LMV) \$</td> <td>Land Present-Use Value (PUV) \$ **</td> <td>Land Total Assessed Value \$</td> </tr> <tr> <td>58,600</td> <td>58,600</td> <td>58,600</td> </tr> </table> ** Note: If PUV equal LMV then parcel has not qualified for present use program						Land Market Value (LMV) \$	Land Present-Use Value (PUV) \$ **	Land Total Assessed Value \$	58,600	58,600	58,600
Land Market Value (LMV) \$	Land Present-Use Value (PUV) \$ **	Land Total Assessed Value \$									
58,600	58,600	58,600									

Parcel Sketch:**Parcel Photo:**

No Photo Available

County of Robeson, NC



MAPNO	322101002
PIN_NUMBER	938189201500
PARCELTYPE	Base Parcel
CONFLICTNOTATION	
DEEDEDACRES	2.81999993
OWNERTYPE	null
STATUS	null
OLDMAPNO	3221-01-002
NUMMOD	null
LOT	null
NBHD_CODE	32080
TAX_YEAR	2023
PAR_CODE	
MAP	9381
SUBMAP	
BLOCK	89
PARCEL	2015
SUBPARCEL	00
PHYLOCAT	36168
CITYCODE	LUMB
ROUTENUM	0
OWNERID	47029000
CUROWNID	47029000

OWNAM1	WEST LUMBERTON BAPTIST CHURCH
OWNAM2	
OWNAM3	
OWADR1	2320 W 5TH STREET
OWADR2	
OWADR3	
OWADR4	
OWCITY	LUMBERTON
OWSTATE	NC
OWZIP	283580000
STNUM	2306
STSUFFIX	
STDIR	
STNAME	5TH
STTYPE	ST
STDIRSUF	
UNITNO	
DEEDACRE	2.8
MAPACRE	2.8
DISTCODE	52
TOWNCODE	32
PARDESC3	
PARDESC1	E-10
NBHCLASS	
NBHCODE	32080
EXEMCODE	E10
DEEDBOOK	01160
DEEDPAGE	0884
DEEDYEAR	2001
PLATBOOK	
PLATPAGE	
DATESOLD	0
LEGDESC1	A N/S W 5TH STREET BENNET
LEGDESC2	T S GARAGE
LEGDESC3	
PARDESC4	
GROUPPAR	938189201500
REQREVIEW	
PHYSTRADR	2306 5TH ST
SCHCODE	0
AREACODE	1
LNDASVCUR	176200
IMPASVCUR	2005300
QUALCODE	

RECTYPE	null
SALEAMT	0
SALEINST	
DEEDSTMP	0



Robeson County Government

PROPERTY REPORT - PRINT

Property Owner WEST LUMBERTON BAPTIST CHURCH		Owner's Mailing Address 2320 W 5TH STREET LUMBERTON , NC 283580000	Property Location Address 2306 5TH ST
Administrative Data Parcel Ref No. 322101002 PIN 938189201500 Account No. 47029000 Tax District TOWN LUMBERTON Land Use Code E-10 Land Use Desc RP CHURCHES Subdiv Code Subdiv Desc Neighborhood 32080		Administrative Data Legal Desc A N/S W 5TH STREET BENNET T S GARAGE Deed Bk/Pg 01160 / 0884 Plat Bk/Pg / Sales Information Grantor Sold Date 0--0 Sold Amount \$ 0	Valuation Information Market Value \$ 2,181,500 Market Value - Land and all permanent improvements, if any, effective January 1, 2010, date of County's most recent General Reappraisal Assessed Value \$ 2,181,500 If Assessed Value not equal Market Value then subject parcel designated as a special class -agricultural, horticultural, or forestland and thereby eligible for taxation on basis of Present-Use and/or reduction from a formal appeal procedure Land Supplemental Map Acres 2.8 Tax District Note Present-Use Info

Improvement Detail

(1st Major Improvement on Subject Parcel)

Year Built	2005
Built Use/Style	RELIGIOUS
Current Use	B /
* Percent Complete	100
Heated Area (S/F)	18,000
** Bathroom(s)	0 Full Bath(s) 0 Half Bath(s)
** Bedroom(s)	0
Fireplace (Y/N)	N
Basement (Y/N)	N
Attached Garage (Y/N)	N
*** Multiple Improvements	001

* Note - As of January 1

** Note - Bathroom(s), Bedroom(s), shown for description only

*** Note - If multiple improvements equal "MLT" then parcel includes additional major improvements

Improvement Valuation (1st Major Improvement on Subject Parcel)

* Improvement Market Value \$	** Improvement Assessed Value \$
2,005,300	2,005,300

* Note - Market Value effective Date equal January 1, 2010, date of County's most recent General Reappraisal

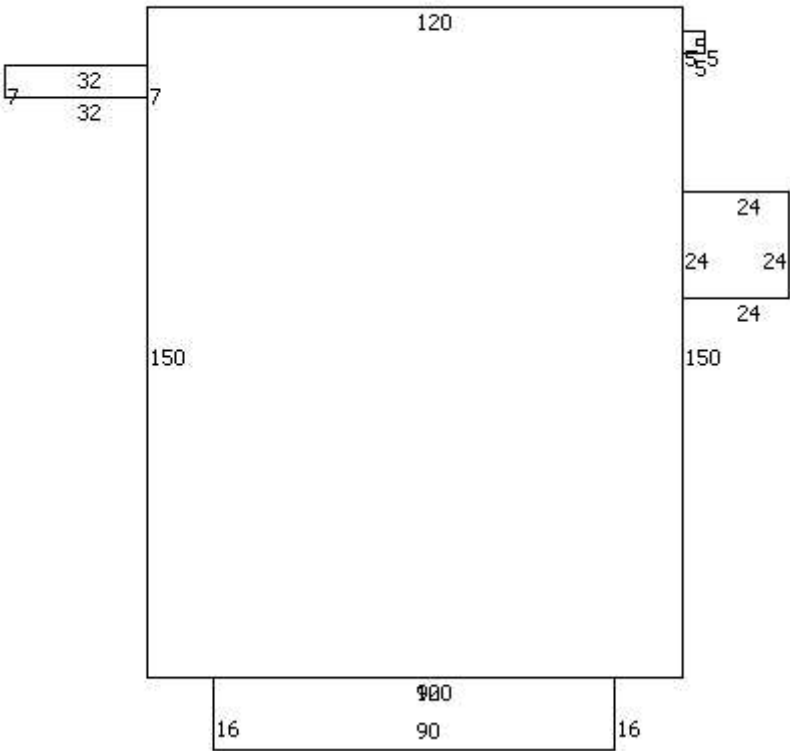
** Note - If Assessed Value not equal Market Value then variance resulting from formal appeal procedure

Land Value Detail (Effective Date January 1, 2010, date of County's most recent General Reappraisal)

Land Market Value (LMV) \$	Land Present-Use Value (PUV) \$ **	Land Total Assessed Value \$
176,200	176,200	176,200

** Note: If PUV equal LMV then parcel **has not** qualified for present use program

Parcel Sketch:

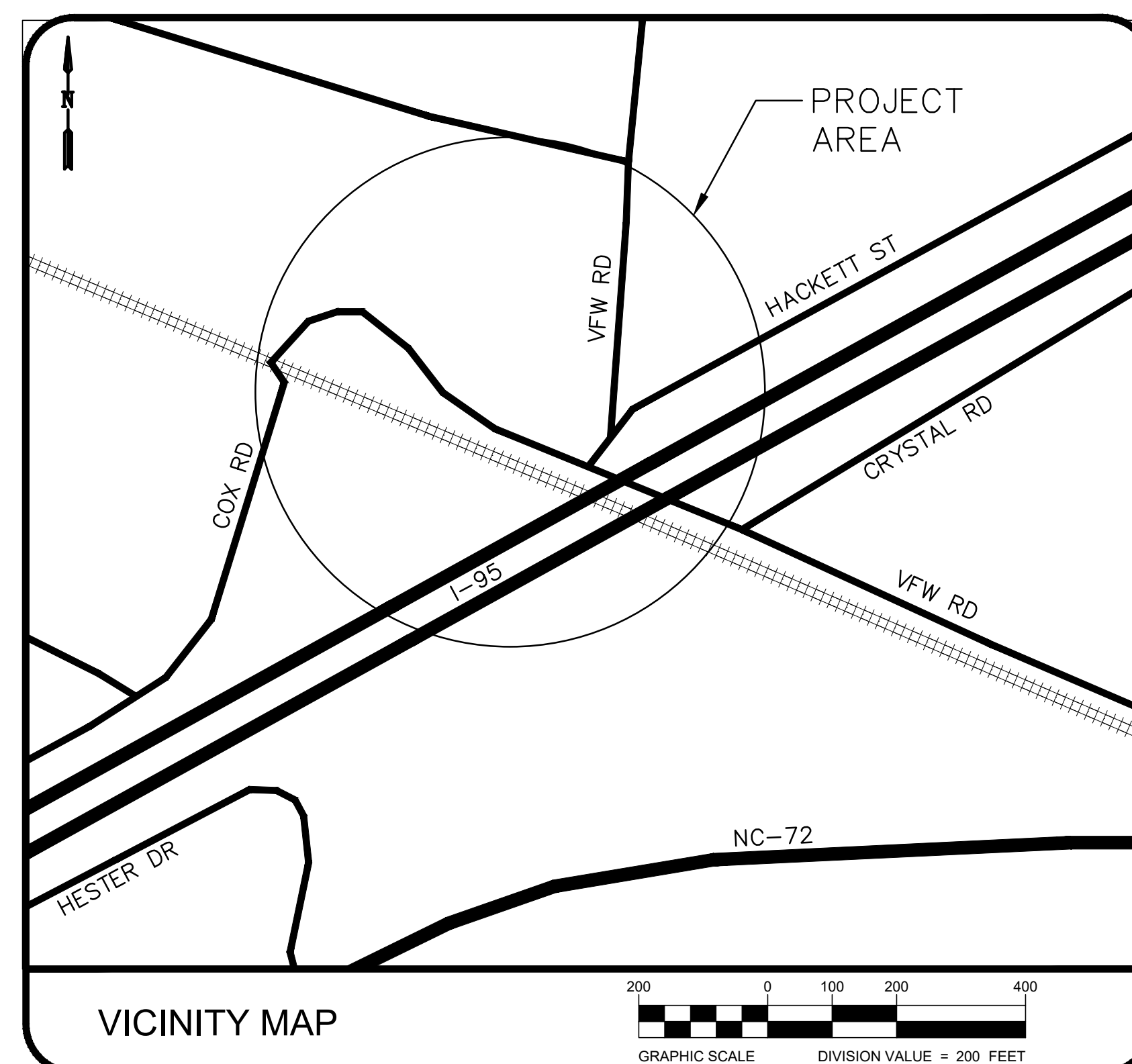


Parcel Photo:

No Photo Available

WEST LUMBERTON FLOODGATE AT VFW ROAD AND RAILROAD UNDERPASS CITY OF LUMBERTON

ROBESON COUNTY, NORTH CAROLINA



95% SUBMITTAL
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CONSTRUCTION

APRIL 2023

ATKINS

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Tel: +1 (919) 378-9111
NC Firm License # C-0459
mcgillassociates.com




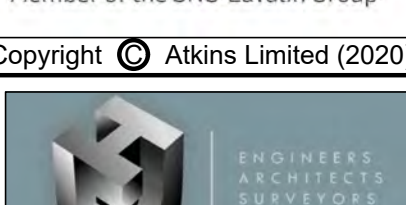


SCHEDULE OF DRAWINGS	
G-001	Cover
G-002	Schedule of Drawings
CG-003	Notes and Legend
CG-004	NCDEQ NCG01 General Permit Notes
CG-005	NCDEQ NCG01 General Permit Notes
C-101	Existing Conditions (Pre- I-95 Construction)
C-102	Existing Conditions (Post- I-95 Construction)
C-201	Site Plan
C-202	Erosion Control
C-301	Cross Sections
C-501	Details 1 of 2
C-502	Details 2 of 2
STRUCTURAL SHEETS	
SG-001	Structural General Notes
SG-002	Structural General Notes
SG-003	Sheet Index
S-101	Overall Foundation Plan View (1 of 2)
S-102	Overall Foundation Plan View (2 of 2)
S-103	Monolith 1 Plan View
S-104	Monolith 2 Plan View
S-105	Monolith 3 Plan View
S-106	Monolith 4 Plan View
S-107	Monolith 5 Plan View
S-108	Monolith 6 Plan View
S-109	Monolith 7 Plan View
S-110	Monolith 8 Plan View
S-111	Monolith 9 Plan View
S-112	Monolith 10 Plan View
S-113	I-Wall 1 Plan View
S-114	I-Wall 2 Plan View
S-115	Railroad Plan View
S-116	Slope Protection (1 of 2)
S-117	Slope Protection (2 of 2)
S-301	Monolith 1 Section
S-302	Monolith 2 Section
S-303	Monolith 3 Section
S-304	Monolith 4 Section
S-305	Monolith 5 Section
S-306	Monolith 6 Section
S-307	Monolith 7 Section
S-308	Monolith 8 Section
S-309	Monolith 9 Section
S-310	Monolith 10 Section
S-311	Gate Column Section
S-312	I-Wall 1 Section
S-313	I-Wall 2 Section

S-501	Gate Elevation
S-502	Swing Gate Detail (1 of 3)
S-503	Swing Gate Detail (2 of 3)
S-504	Swing Gate Detail (3 of 3)
S-505	Swing Gate Lower Hinge Detail (1 of 6)
S-506	Swing Gate Lower Hinge Detail (2 of 6)
S-507	Swing Gate Lower Hinge Detail (3 of 6)
S-508	Swing Gate Lower Hinge Detail (4 of 6)
S-509	Swing Gate Lower Hinge Detail (5 of 6)
S-510	Swing Gate Lower Hinge Detail (6 of 6)
S-511	Swing Gate Upper Hinge Detail (1 of 3)
S-512	Swing Gate Upper Hinge Detail (2 of 3)
S-513	Swing Gate Upper Hinge Detail (3 of 3)
S-514	Seal Plate and Corner Angle Detail
S-515	Rails and Component Part Detail (1 of 2)
S-516	Rails and Component Part Detail (2 of 2)
S-517	Swing Gate Seal Detail (1 of 2)
S-518	Swing Gate Seal Detail (2 of 2)
S-519	Swing Gate Latching Detail
S-520	Latching Detail (1 of 2)
S-521	Latching Detail (2 of 2)
S-522	Ladder Detail (1 of 3)
S-523	Ladder Detail (2 of 3)
S-524	Ladder Detail (3 of 3)
S-525	Miscellaneous Details
S-526	Settlement Details
S-527	Scour Protection Detail (1 of 2)
S-528	Scour Protection Detail (2 of 2)
S-529	Drainage and Utility Details
S-530	Typical Joint Details (1 of 4)
S-531	Typical Joint Details (2 of 4)
S-532	Typical Joint Details (3 of 4)
S-533	Typical Joint Details (4 of 4)
S-534	Typical Pile Detail
S-535	Pile Load Test
CS-100	Railroad TRS (1 of 5)
CS-101	Railroad TRS (2 of 5)
CS-102	Railroad TRS (3 of 5)
CS-103	Railroad TRS (4 of 5)
CS-104	Railroad TRS (5 of 5)

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DO NOT USE FOR
CONSTRUCTION

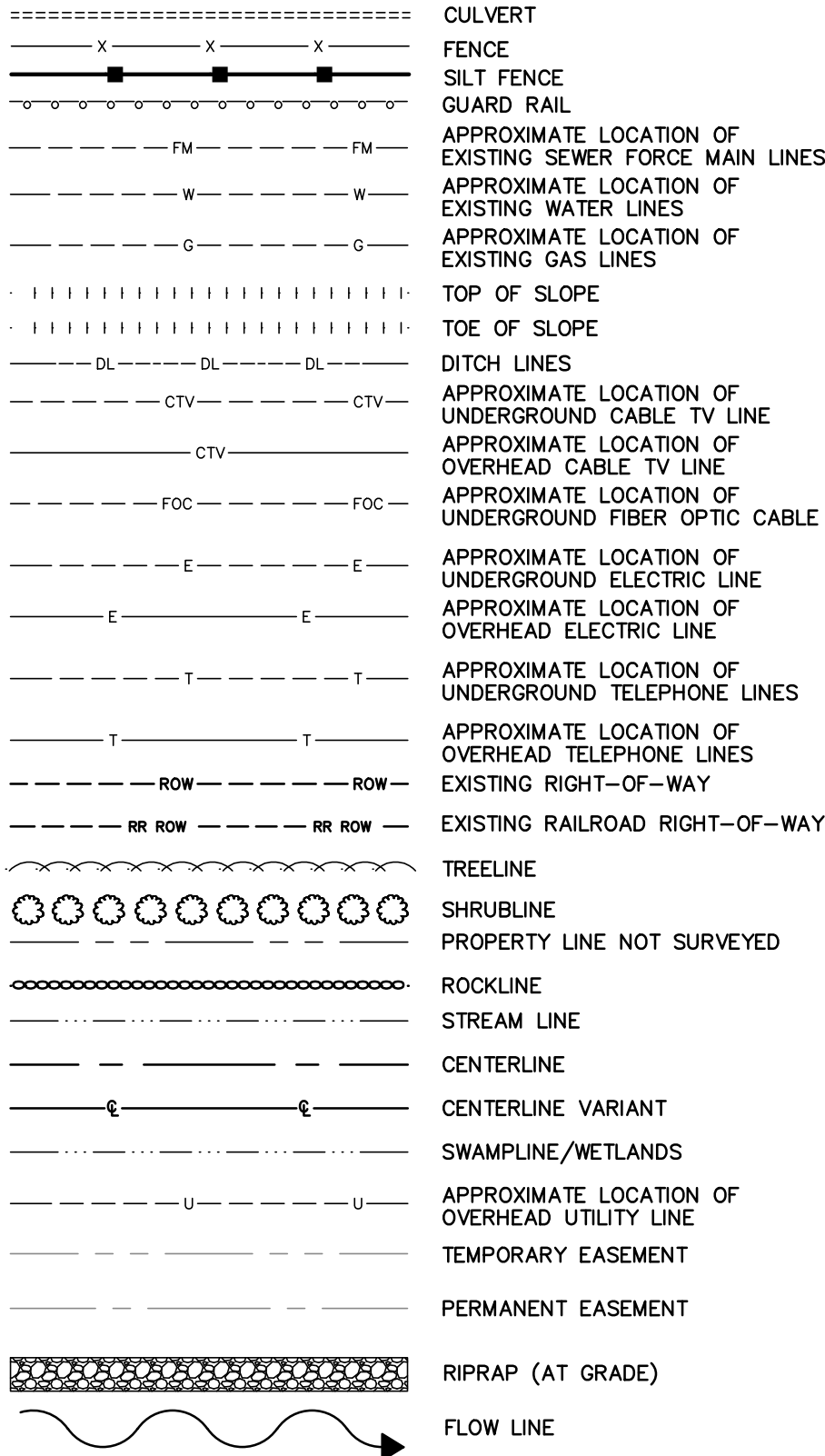


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Seal					Seal				
Rev.	Date	Description				By	Chk'd	App'd	
Drawing Status							Suitability		
FOR INFORMATION							SO		
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					5400 Trinity Road Suite 107 Raleigh, NC 27607 Tel: +1 (919) 378-9111 NC Firm License # C-0459 mcgillassociates.com				
Client									
Project Title									
WEST LUMBERTON FLOOD G AT VFW ROAD AND RAILROAD UNDERP ENGINEERING SERVICES									
Drawing Title									
SCHEDULE OF DRAWINGS									
Scale	Designed		Drawn		Checked		Authorized		
NTS	CH		CH		DS		MH		
Original Size	Date	Date		Date		Date		Date	
22x34	--/--/--	--/--/--		--/--/--		--/--/--		--/--/--	
Drawing Number								Revision	
200068207-G-002								000	

LEGEND

	TELEPHONE PEDESTAL		CALCULATED POINT
	ELECTRIC PEDESTAL		1/2" REBAR SET WITH CAP
	CABLE TV PEDESTAL		CONCRETE MONUMENT
	SIGN		RIGHT-OF-WAY MONUMENT
	UNDERGROUND CABLE TV SIGN		D.O.T. CONTROL POINT
	UNDERGROUND FIBER OPTIC CABLE SIGN		REBAR FOUND
	UNDERGROUND TELEPHONE CABLE SIGN		RAILROAD SPIKE
	UNDERGROUND GAS LINE SIGN		PK NAIL FOUND / SET
	UNDERGROUND ELECTRIC LINE SIGN		SPINDLE FOUND / SET
	LIGHT POLE		HUB & TACK SET
	UTILITY POLE		CONTROL POINT NAIL SET / FOUND
	NCDOT UTILITY POLE		CONTROL POINT/NAIL SET GPS
	GUY WIRE ANCHOR		CONTROL POINT TEMPORARY MARK
	TRAFFIC SIGNAL POLE		NATIONAL GEODETIC SURVEY METAL ROD
	RAILROAD CROSSING SIGNAL		NATIONAL GEODETIC SURVEY CONCRETE MONUMENT
	MANHOLE		TEMPORARY CONTROL POINT SET
	SANITARY SEWER MANHOLE		NETWORK TRIANGULATION POINT
	STORM DRAIN MANHOLE		STAKE FOUND
	COMMUNICATION MANHOLE		INTERSTATE HIGHWAY
	ELECTRICAL MANHOLE		U.S. HIGHWAY
	JUNCTION BOX		FINISHED FLOOR ELEVATION
	SPIGOT/YARD HYDRANT		MONITORING WELL
	SEWER CLEAN-OUT		PIEZOMETER
	ELECTRIC SERVICE STUB-OUT		LANDFILL GAS MONITORING PROBE
	GAS SERVICE STUB-OUT		SURFACE WATER SAMPLING LOCATION
	CATCH BASIN		LANDFILL GAS VENT
	CURB INLET		LANDFILL GAS COLLECTION WELLHEAD
	WATER METER		POTABLE WATER WELL
	FIRE HYDRANT		MAILBOX OR PAPER BOX
	WATER VALVE		POSTAL DROP BOX
	BLOW OFF VALVE		SATELLITE DISH
	GAS METER		STATUE, BIRD BATHS, ETC.
	GAS VALVE		TREES
	IRRIGATION CONTROL VALVE		SHRUBS / BUSHES
	POST INDICATOR VALVE		(H) HORIZONTAL GROUND DISTANCE
	ELECTRIC JUNCTION BOX OR OUTLET		(G) NC STATE PLANE GRID DISTANCE
	TRAFFIC SIGNAL BOX		



IPS	IRON PIN SET	CPP	CORRUGATED PLASTIC PIPE
CMU	CONCRETE MASONRY UNIT	DIP	DUCTILE IRON PIPE
R/W	RIGHT OF WAY	E&T	ELECTRIC & TELEPHONE
CL	CENTERLINE	FOC	FIBER OPTIC CABLE
C	CURVE (SEE CURVE TABLE)	GIP	GALVANIZED IRON PIPE
POB	POINT OF BEGINNING	O/H	OVERHEAD
CP	CALCULATED POINT	RCP	REINFORCED CONCRETE PIPE
PB	PLAT BOOK	U/G	UNDERGROUND
DB	DEED BOOK	VCP	VITRIFIED CLAY PIPE
L	LINE (SEE LINE TABLE)	PVC	POLYVINYL CHLORIDE PIPE
BLDG	BUILDING	FFE	FINISHED FLOOR ELEVATION
CIP	CAST IRON PIPE	PG	PAGE
CMP	CORRUGATED METAL PIPE	REF	REFERENCE
CONC	CONCRETE	DOT	DEPARTMENT OF TRANSPORTATION
PROP	PROPOSED	NGS	NATIONAL GEODETIC SURVEY
EX/EXIST	EXISTING	NCSP	NORTH CAROLINA STATE PLANE
		MTR BOX	METER BOX
		EL	ELEVATION

GENERAL CONSTRUCTION NOTES

- SURVEY IS REFERENCED TO HORIZ: NAD83, STATE PLANE (FEET) NORTH CAROLINA (FIFS 3200) VERTICAL: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) BY MCGILL ASSOCIATES.
- CONSTRUCTION OF THE FLOODGATE PROJECT IS ANTICIPATED TO PRECEDE THE CONSTRUCTION OF THE I-95 CONSTRUCTION PROJECT BY OTHERS. THE DESIGN OF THE FLOODGATE IS BASED ON BEST AVAILABLE DATA OF ANTICIPATED FIELD CONDITIONS BASED ON DESIGN DRAWINGS FOR THE I-95 PROJECT PROVIDED BY OTHERS. CONTRACTOR SHALL VERIFY THAT BUILT CONDITIONS MATCH THE DESIGN AS SHOWN ON SHEET C-201 PRIOR TO BID. NO CHANGE ORDER IS ALLOWED FOR DIFFERING FIELD CONDITIONS.
- CONTRACTOR SHALL VERIFY ALL ELEVATIONS BEFORE INSTALLATION OF FACILITIES.
- NOT ALL UTILITIES ARE SHOWN. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXISTING UTILITIES AND UTILITY INFORMATION PRESENTED ON THESE DRAWINGS. ANY DISCREPANCIES SHALL BE ADDRESSED TO THE ENGINEER IN WRITING. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING AND COORDINATING WORK WITH THE AFFECTED UTILITY COMPANIES WHETHER THE CONTRACTOR PERFORMS THE WORK OR A UTILITY COMPANY PERFORMS THE WORK. ANY DAMAGE DONE TO EXISTING UTILITIES (SHOWN OR NOT SHOWN ON PLANS) SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL CONTACT NC ONE CALL AT 1-800-632-4949 AT LEAST THREE WORKING DAYS PRIOR TO CONSTRUCTION. NON-SUBSCRIBERS SHALL BE CONTACTED DIRECTLY.
- UNLESS OTHERWISE STATED, ALL FILL AREAS SHALL BE CONSTRUCTED IN LAYERS OF 8" MAXIMUM THICKNESS, WITH WATER ADDED OR SOIL CONDITIONED TO THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE ENGINEER AND COMPACTED WITH A SHEEP'S FOOT ROLLER TO A COMPACTION EQUAL TO OR GREATER THAN 95% OF THE DENSITY OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH THE STANDARD PROCTOR METHOD OF MOISTURE-DENSITY RELATIONSHIP TEST, ASTM D696 OR AASHTO-99 UNLESS SPECIFIED IN OTHER SPECIFICATIONS. MATERIAL AND COMPACTION REQUIREMENTS FOR LEVEE AND LEVEE TIE-IN ARE INCLUDED IN GEOTECHNICAL SPECIFICATIONS.
- ALL PUBLIC ROADWAYS SHALL REMAIN OPEN AT ALL TIMES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ROAD SURFACES CLEAN AND FREE OF CONSTRUCTION SEDIMENT AND DEBRIS AT ALL TIMES.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE LOCAL CITY, STATE, AND FEDERAL REGULATIONS AND PERMIT REQUIREMENTS.
- CONTRACTOR SHALL OBTAIN AND PROVIDE TO THE OWNER TEMPORARY STREET AND DRIVEWAY ACCESS PERMIT FOR CONSTRUCTION ENTRANCES PRIOR TO ANY CONSTRUCTION ACTIVITY.
- ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED OR SODDED UPON COMPLETION OF CONSTRUCTION UNLESS OTHERWISE SPECIFIED.

GENERAL EROSION CONTROL NOTES

- ENTIRE AREA TO BE GRADED SHALL BE CLEARED AND GRUBBED. NO FILL SHALL BE PLACED ON ANY AREA NOT CLEARED AND GRUBBED.
- ALL DISTURBED NATURAL GROUND SHALL BE SEEDED.
- ALL SOIL EROSION CONTROL MEASURES REQUIRED BY THE GRADING PLAN SHALL BE PERFORMED PRIOR TO GRADING, CLEARING, OR GRUBBING. ALL EROSION CONTROL DEVICES SUCH AS SILT FENCES, ETC. SHALL BE MAINTAINED IN WORKABLE CONDITION FOR THE LIFE OF THE PROJECT AND SHALL BE REMOVED AT THE COMPLETION OF THE PROJECT ONLY ON THE ENGINEER'S APPROVAL. PAYMENT SHALL BE CONSIDERED INCIDENTAL TO CLEARING AND GRUBBING. IF DURING THE LIFE OF THE PROJECT A STORM CAUSES SOIL EROSION WHICH CHANGES FINISH GRADES OR CREATES "GULLIES" AND "WASHED AREAS," THESE SHALL BE REPAIRED AT NO EXTRA COST, AND ALL SILT WASHED OFF OF THE PROJECT SITE ONTO ADJACENT PROPERTY SHALL BE REMOVED AS DIRECTED BY THE ENGINEER AT NO EXTRA COST. THE CONTRACTOR SHALL ADHERE TO ANY APPROVED EROSION CONTROL PLANS WHETHER INDICATED IN THE CONSTRUCTION PLANS OR UNDER SEPARATE COVER.
- DISPOSABLE MATERIAL
 - CLEARING AND GRUBBING WASTES SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF BY THE CONTRACTOR AT HIS EXPENSE, UNLESS OTHERWISE SPECIFIED.
 - THE CONTRACTOR SHALL REMOVE SOLID WASTE FROM THE SITE AND PROPERLY DISPOSE OF IT AT HIS EXPENSE.
 - ON SITE BURNING IS NOT ACCEPTABLE.
- ALL DEVICES SHALL BE MAINTAINED ON ALL CONSTRUCTION SITES, BORROW SITES, AND WASTE PILE (SPOIL) SITES, INCLUDING CONTRACTOR OWNED OR LEASED BORROW PITS ASSOCIATED WITH THE PROJECT. SUFFICIENT MATERIALS REQUIRED FOR STABILIZATION AND/OR REPAIR OF EROSION CONTROL MEASURES AND STORMWATER ROUTING AND TREATMENT SHALL BE ON-SITE AT ALL TIMES.
- AN NPDES CONSTRUCTION STORMWATER PERMIT (NC0910000) IS REQUIRED FOR CONSTRUCTION PROJECTS THAT DISTURB ONE OR MORE ACRES OF LAND. THE NC0910000 PERMIT ALLOWS STORMWATER TO BE DISCHARGED DURING LAND DISTURBING CONSTRUCTION ACTIVITIES AS STIPULATED IN THE CONDITIONS OF THE PERMIT. IF THE PROJECT IS COVERED BY THE PERMITS, FULL COMPLIANCE WITH PERMIT CONDITIONS INCLUDING THE EROSION AND SEDIMENTATION CONTROL PLAN, INSPECTIONS AND MAINTENANCE, SELF-MONITORING, RECORD KEEPING AND REPORTING REQUIREMENTS IS REQUIRED.
- ALL PROPOSED AND APPROVED TEMPORARY FILL AND CULVERTS MUST BE REMOVED AND THE IMPACTED AREA RETURNED TO NATURAL CONDITIONS WITHIN 60 CALENDAR DAYS AFTER THE TEMPORARY IMPACT IS NO LONGER NECESSARY. THE IMPACTED AREAS WILL BE RETURNED TO ORIGINAL GRADE, INCLUDING EACH STREAM'S ORIGINAL CROSS SECTIONAL DIMENSIONS, PLANFORM PATTERN, AND LONGITUDINAL BED PROFILE. ALL TEMPORARY IMPACTS SHOULD BE RESTORED AND STABILIZED WITH NATIVE VEGETATION.
- THE CONTRACTOR OR OTHER RESPONSIBLE ENTITY WILL REPORT ANY PETROLEUM SPILL OF 25 GALLONS OR MORE; ANY SPILL REGARDLESS OF AMOUNT THAT CAUSES A SHEEN ON SURFACE WATERS; ANY PETROLEUM SPILL REGARDLESS OF SIZE THAT OCCURS WITHIN 100-FEET OF SURFACE WATER; AND ANY PETROLEUM SPILL LESS THAN 25 GALLONS THAT CANNOT BE CLEANED UP WITHIN 24 HOURS.

NORTH CAROLINA LAND QUALITY SECTION EROSION CONTROL NOTES

GENERAL: ALL EROSION CONTROL MEASURES ARE TO BE PERFORMED IN STRICT ACCORDANCE WITH REQUIREMENTS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCEQ), DIVISION OF ENERGY, MINERAL, AND LAND RESOURCES (DEMLR), LAND QUALITY SECTION. THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE COMPLIED WITH FOR ALL WORK.

- INSTALL ALL EROSION CONTROL MEASURES AS REQUIRED BY THE NCEQ.
- PROCEED WITH GRADING, CLEARING, AND GRUBBING. NO OFF SITE DISPOSAL OF MATERIAL IS ALLOWED UNLESS THE DISPOSAL SITE HAS AN APPROVED EROSION CONTROL PLAN.
- SEED AND MULCH DENUDED AREA WITHIN TIME FRAME SPECIFIED (SEE TABLE). SEED AND SOIL AMENDMENTS SHALL BE PLACED ON A PREPARED SEEDBED AT THE FOLLOWING RATES PER ACRE. STRAW MULCH SHALL BE TACKED WITH TACKING AGENT APPLIED BY HYDROSEEDER.

CREeping RED FESCUE	100 LBS (NATURAL AREAS AND STREAMBANKS)
STRAW MULCH	60-80 BALES

FOR SUMMER ADD TO THE ABOVE:	
GERMAN MILLET (SETARIA ITALICA)	40 LBS
SMALL-STEMMED SUDAN GRASS (SORGHUM BICOLOR)	50 LBS

FOR WINTER SEEDING ADD TO THE ABOVE:	
RYE GRAIN (SECALE CEREALE)	120 LBS

IF HYDROSEEDING, WOOD CELLULOSE MAY BE USED IN ADDITION TO STRAW MULCH AT THE RATE OF 1000 LBS PER ACRE.

ALL SEEDING SHALL BE MAINTAINED, WATERED, ETC., UNTIL A PERMANENT VEGETATIVE GROUND COVER IS ESTABLISHED OVER ALL DISTURBED AREAS. FOR ALL SLOPES 2:1 OR STEEPER ADD TO THE ABOVE:	
PURGE LIVE SEED SWITCHGRASS	4 LBS
BROWNTOP MILLET OR PEARL MILLET (PENNISETUM GLAUCUM)	8 LBS
GRAIN SORGHUM (SORGHUM BICOLOR (L) MOENCH SSP. BICOLOR)	2 LBS

ALL SLOPES 2:1 OR STEEPER SHALL BE COVERED BY EROSION CONTROL MATTING.

CSX GENERAL NOTES

FOR ALL WORK WITHIN THE CSX RAILROAD, CONTRACTOR SHALL ABIDE WITH THE FOLLOWING:

- ANY SOIL REMOVAL WILL COMPLY WITH CSX SOIL AND WATER MANAGEMENT POLICY. CSX REQUIRES THAT SOILS GENERATED FROM ITS PROPERTY BE EITHER PROPERLY DISPOSED OF IN A CSX APPROVED DISPOSAL FACILITY OR REUSED ON CSX PROPERTY. THE MANAGEMENT OF SOILS GENERATED FROM CSX PROPERTY SHOULD BE PLANNED FOR AND PROPERLY PERMITTED (IF APPLICABLE) PRIOR TO INITIATING ANY WORK ON CSX PROPERTY.
- IN THE EVENT SOILS CANNOT BE REUSED ON CSX PROPERTY, THE CSX ENVIRONMENTAL DEPARTMENT WILL HANDLE WASTE CHARACTERIZATION AND PROFILING INTO AN APPROVED DISPOSAL FACILITY. AN ESTIMATED QUANTITY OF WASTE TO BE REMOVED FROM THE PROJECT AREA WILL BE PROVIDED TO CSX BY THE CONTRACTOR.
- ANY PETROLEUM SPILL OR RELEASE OF HAZARDOUS SUBSTANCES WITHIN A CSX RIGHT-OF-WAY SHALL BE REPORTED TO CSX'S PSCC NUMBER AT (904) 359-7551 OR (800) 232-0144 IMMEDIATELY.

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Client

Project Title
**WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES**

Drawing Title
NOTES AND LEGEND

Scale	Designed	Drawn	Checked	Authorized
NTS	CH	CH	DS	MH
Original Size 22x34	Date --/--	Date --/--	Date --/--	Date --/--
Drawing Number 100068207-CG-003	Revision 000			

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GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes		
Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none">Temporary grass seed covered with straw or other mulches and tackifiersHydroseedingRolled erosion control products with or without temporary grass seedAppropriately applied straw or other mulchPlastic sheeting	<ul style="list-style-type: none">Permanent grass seed covered with straw or other mulches and tackifiersGeotextile fabrics such as permanent soil reinforcement mattingHydroseedingShrubs or other permanent plantings covered with mulchUniform and evenly distributed ground cover sufficient to restrain erosionStructural methods such as concrete, asphalt or retaining wallsRolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated Stormwater before discharging offsite.
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

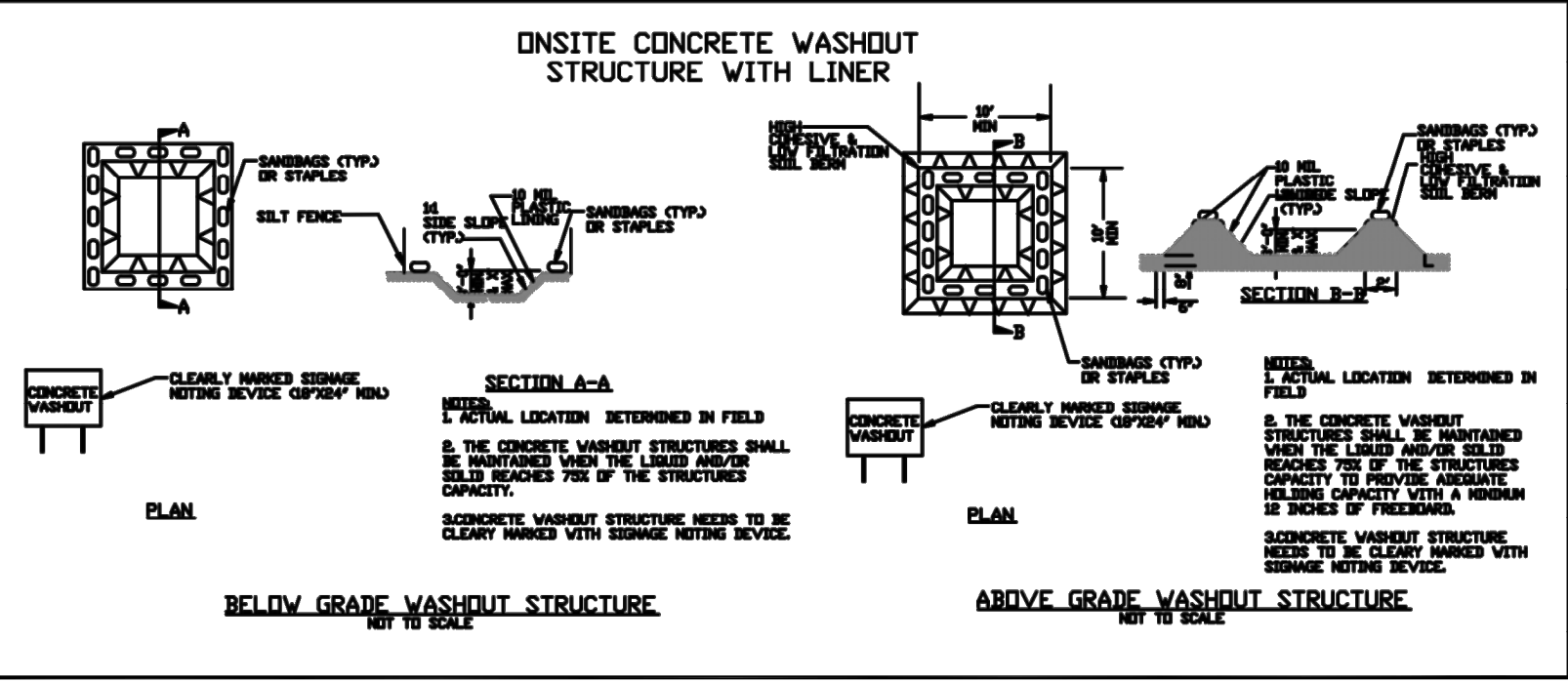
- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



CONCRETE WASHOUTS

- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
- Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

- Create designated hazardous waste collection areas on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

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Seal	Seal
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Rev.	Date	Description	By	Chk'd	App'd

Drawing Status	FOR INFORMATION	SO
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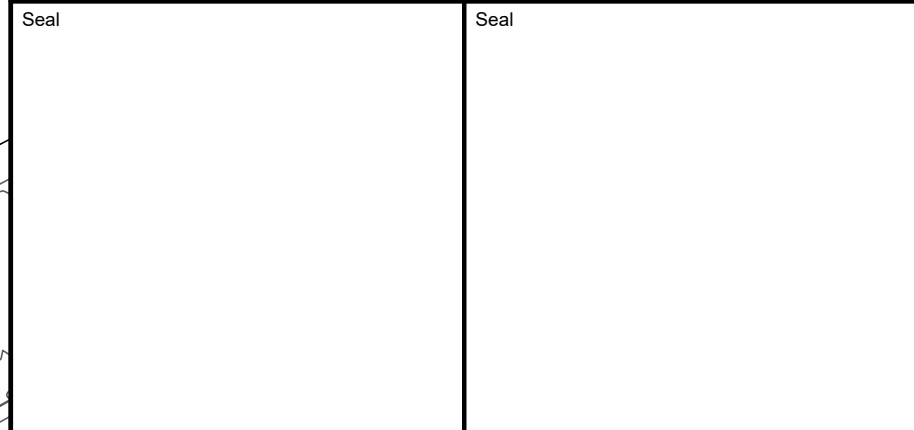


Project Title
**WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES**

Drawing Title
**NCDEQ NCG01 GENERAL
PERMIT NOTES**

Scale NTS	Designed CH	Drawn CH	Checked DS	Authorized MH
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-CG-004				Revision 000

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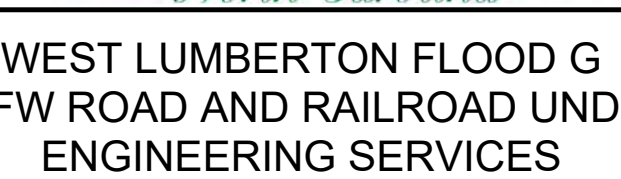
Rev.	Date	Description	By	Chk'd	App'd
Drawing Status				Suitability	

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EXISTING CONDITIONS
(PRE- I-95 CONSTRUCTION)

[illegible]

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This engineering plan view illustrates a proposed infrastructure project. A dashed line indicates the "PROPOSED RETAINING WALL FROM NCDOT". To its right, a solid line marks the "PROPOSED I-95 EMBANKMENT SURFACE FROM NCDOT". The drawing includes several vertical curve data points: one with $INV=112.8$, $TOP=118.84$, and $INV=112.24$; another with $TOP=118.06$, $WV=111.74$, and $WV=117.24$; and a third with $TOP=117.24$. Roadway labels include "TO CSX MILEPOST SE 293.1", "CSX MILEPOST SE 295.04", and "COX ROAD R BE COMPL". Other features shown are "METAL GATE", "RR ROW", "ROW", "CONC", "6\" CONCR", "72\" CHL 35N", and various stationing markers like "122", "120", "119", "115", "114", "113", "112", "111", "110", "109", "108", "107", "106", "105", "104", "103", "102", "101", "100", "99", "98", "97", "96", "95", "94", "93", "92", "91", "90", "89", "88", "87", "86", "85", "84", "83", "82", "81", "80", "79", "78", "77", "76", "75", "74", "73", "72", "71", "70", "69", "68", "67", "66", "65", "64", "63", "62", "61", "60", "59", "58", "57", "56", "55", "54", "53", "52", "51", "50", "49", "48", "47", "46", "45", "44", "43", "42", "41", "40", "39", "38", "37", "36", "35", "34", "33", "32", "31", "30", "29", "28", "27", "26", "25", "24", "23", "22", "21", "20", "19", "18", "17", "16", "15", "14", "13", "12", "11", "10", "9", "8", "7", "6", "5", "4", "3", "2", "1", "0".

PROPOSED DOT ROW-

COX ROAD REALIGNMENT TO
BE COMPLETED BY NCDOT

HACKETT STREET REALIGNMENT
TO BE COMPLETED BY NCDOT

PROPOSED I-95 EMBANKMENT
SURFACE FROM NCDOT

COX RD

TO CSX MILEPOST
SE 293.1

CSX MILEPOST
SE 295.04

INV=112.50
TOP=118.84
INV=112.24

PROPOSED BRIDGE
SURFACE FROM NCDOT

CSX MILEPOST
SE 295.14

PROPOSED I-95 EMBANKMENT
SURFACE FROM NCDOT

PROPOSED RETAINING WALL FROM NCDOT

PROPOSED BRIDGE
SURFACE FROM NCDOT

PROPOSED BRIDGE

TO CSX MILEPOST
SF 295.4

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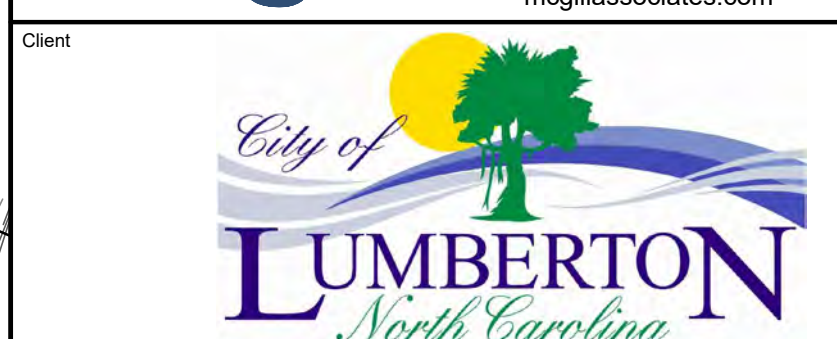


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Project Title

WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES

EXISTING CONDITIONS
(POST- I-95 CONSTRUCTION)

Scale 1"=40'	Designed CH	Drawn CH	Checked DS	Authorized MH
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-C-102				Revision 000

1. OFFSET WATERLINE AS NEEDED DURING CONSTRUCTION TO MINIMIZE INTERRUPTION OF SERVICE. MAXIMUM ALLOWABLE INTERRUPTION OF SERVICE IS 4 HOURS. REFER TO DETAIL 3 SHEET C-301.
2. WATERLINE OFFSET CAN BE USED AS TEMPORARY OF FINAL LOCATION OF PIPE. FINAL PIPE PENETRATION THROUGH WALL SHALL BE PER DETAIL PROVIDED IN STRUCTURAL SHEETS.
3. ALL PIPES SHALL BE DUCTILE IRON.
4. PROVIDE CITY OF LUMBERTON AT LEAST TWO WEEKS NOTICE AHEAD OF INTERRUPTION OF SERVICE AND COORDINATE WITH CITY ON LOCATION AND OPERATION OF CUTOFF VALVES.
5. STEEL CASINGS, SPACERS, AND CARRIER PIPE SHALL BE RESTORED AS EXISTING IN SAME LOCATION. NO OFFSET IS ALLOWED.
6. STEEL CASING SHALL BE WELDED AT CUT LOCATIONS. MECHANICAL JOINTS SHALL BE USED TO RESTRAIN CARRIER PIPE.
7. MAXIMUM ALLOWABLE INTERRUPTION OF SERVICE FOR WATERLINE INSIDE STEEL CASING IS TWO WEEKS.

Line Table: Wall CL Alignment				
Line #	Length	Direction	Start Point	End Point
L1	96.11	N24° 40' 09.23"W	(1987700.15,319372.56)	(1987660.03,319459.90)
L2	176.53	N23° 00' 27.04"E	(1987660.03,319459.90)	(1987729.03,319622.38)
L3	71.84	N70° 13' 43.98"E	(1987729.03,319622.38)	(1987796.64,319646.68)
L4	10.52	N81° 12' 28.78"E	(1987796.64,319646.68)	(1987807.03,319648.29)
L5	12.94	N89° 20' 58.14"E	(1987807.03,319648.29)	(1987819.97,319648.44)
L6	32.06	S72° 42' 19.97"E	(1987819.97,319648.44)	(1987850.58,319638.91)
L7	6.55	S72° 42' 19.97"E	(1987850.58,319638.91)	(1987856.84,319636.96)
L8	93.45	S71° 25' 10.57"E	(1987856.84,319636.96)	(1987945.42,319607.18)
L9	85.53	S71° 25' 20.35"E	(1987945.42,319607.18)	(1988026.49,319579.93)

40 0 20 40 80

GRAPHIC SCALE DIVISION VALUE = 40 FEET



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Rev.	Date	Description	By	Chk'd	App'd
Drawing Status			Suitability		
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Project Title

WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES

SITE PLAN

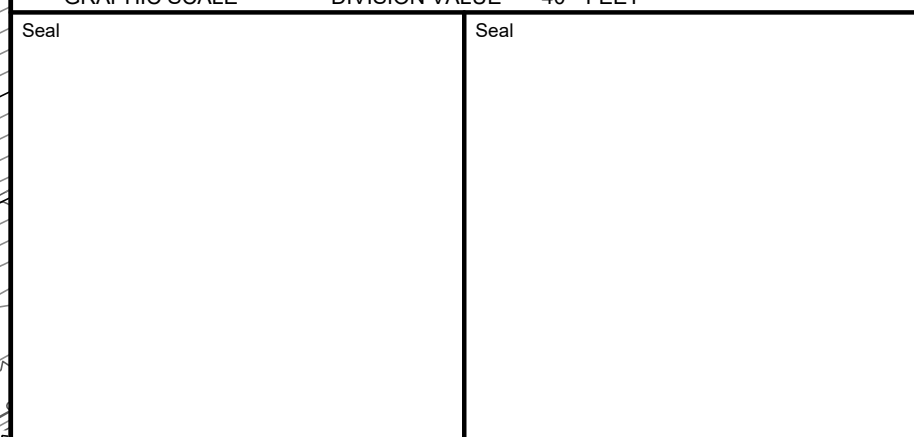
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Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-C-201				Revision 000

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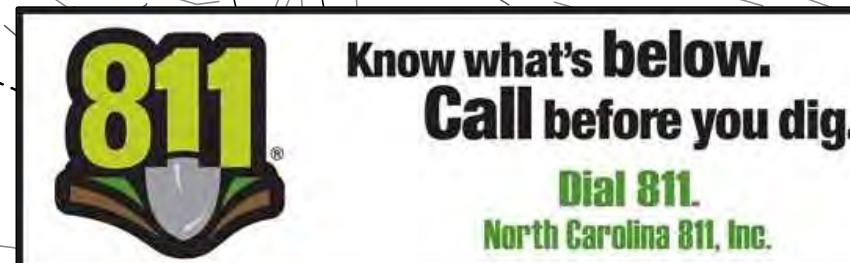
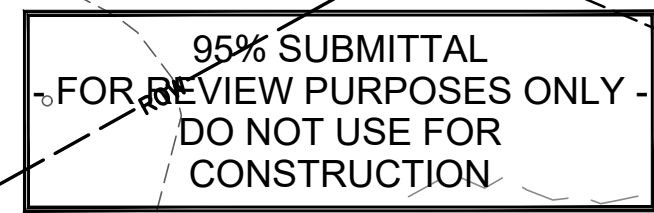


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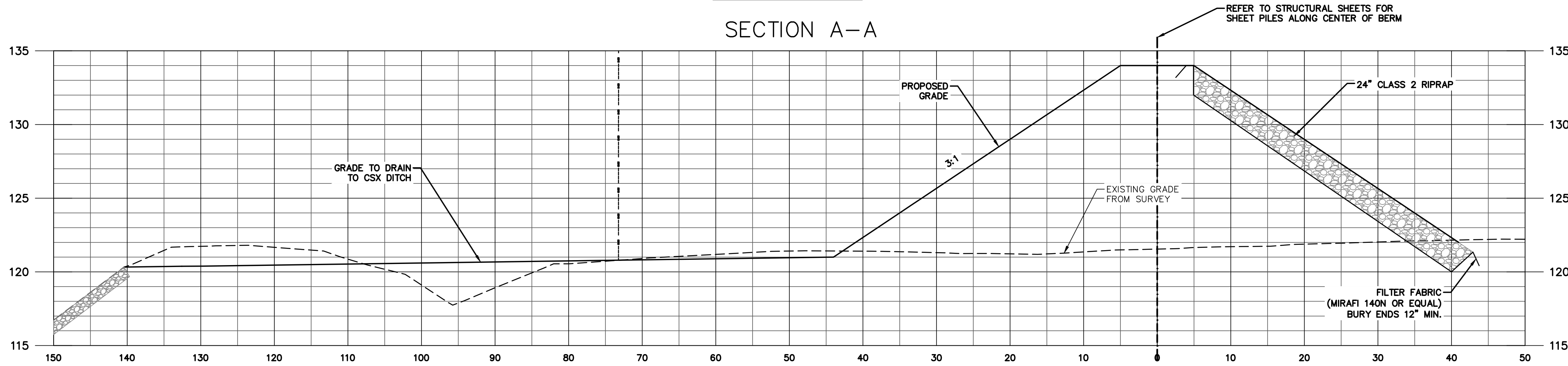
Drawing Title

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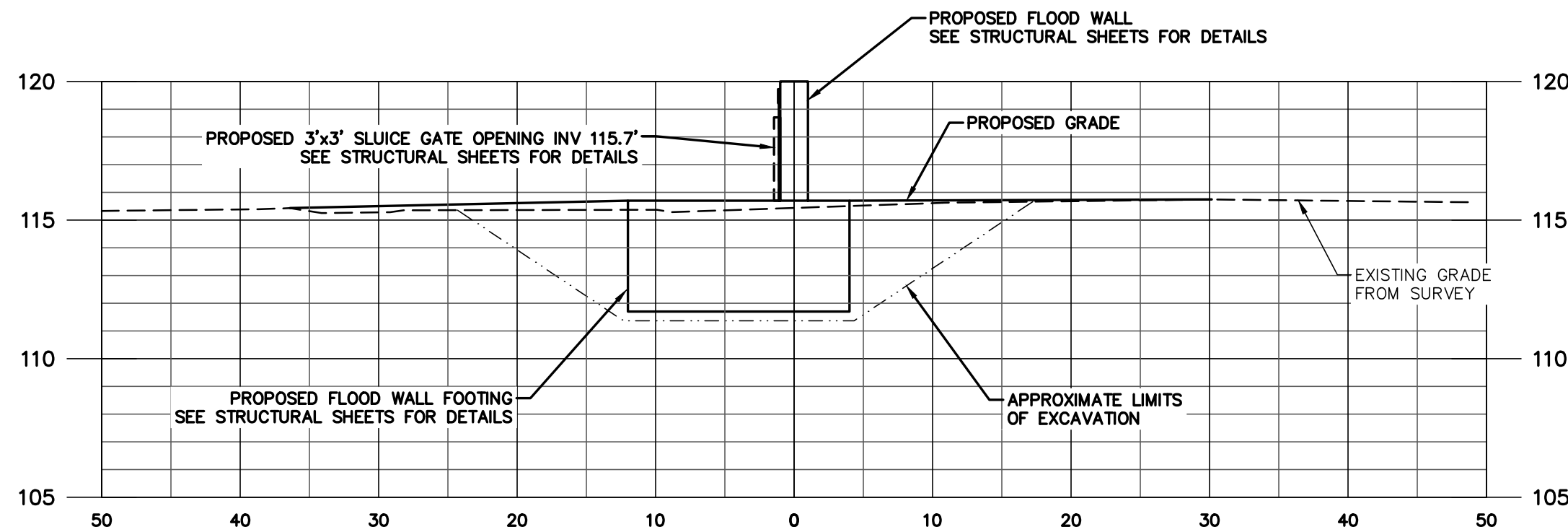


SECTION
SCALE: HORIZ. 1"= 40'
VERT. 1"= 20'

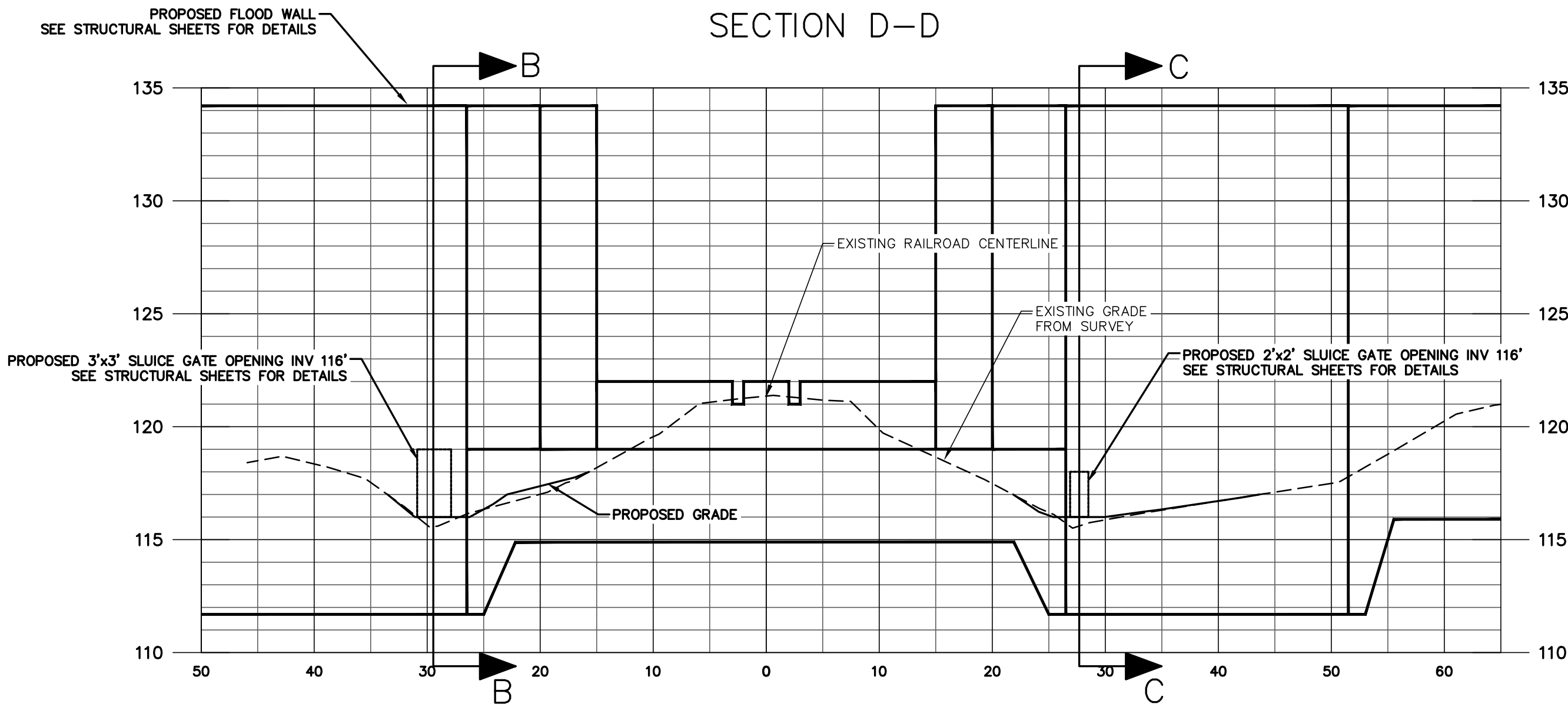
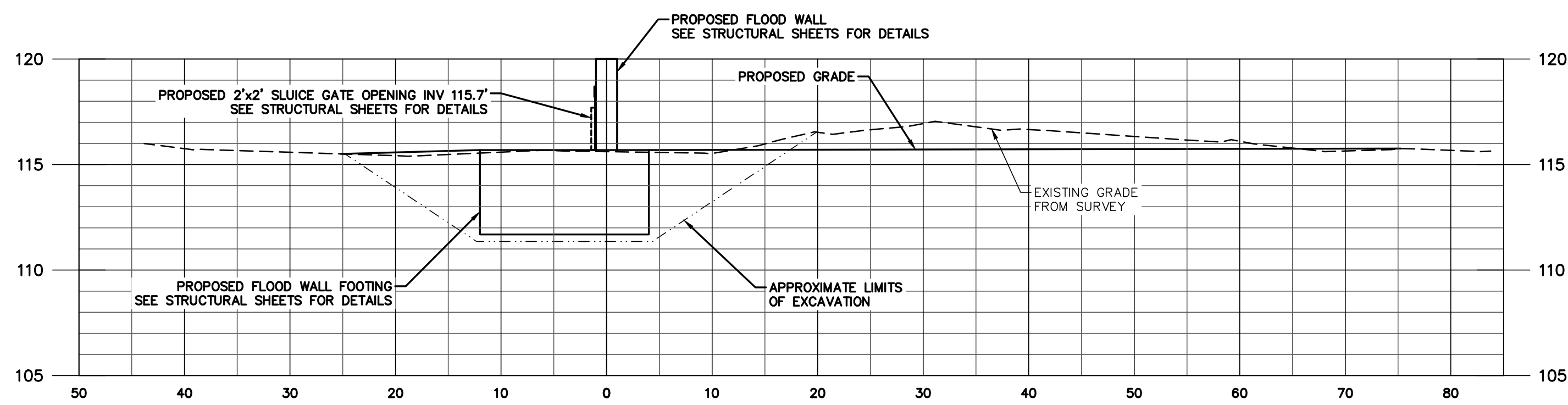
DO NOT SCALE



SECTION B-B



SECTION C-C



NOTE:
SLUICE GATES SHALL BE SELF-CONTAINED STAINLESS
STEEL SLIDE GATES BY RODNEY HUNT OR EQUIVALENT
WITH A WALL THIMBLE OFFSET SUFFICIENT TO
ACCOMMODATE HANDWHEEL OPERATION

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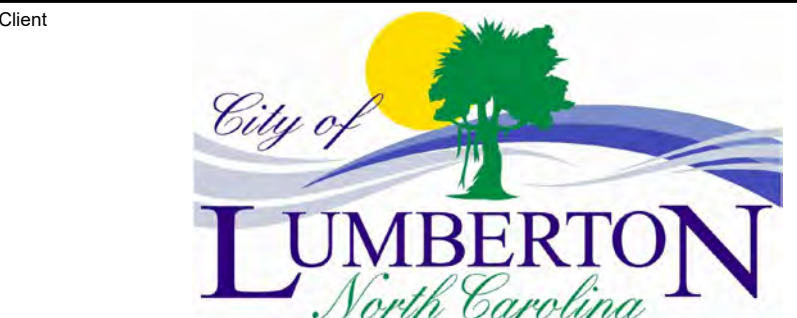
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Project Title
WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES

Drawing Title
CROSS SECTIONS

Scale	Designed CH	Drawn CH	Checked DS	Authorized MH
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-C-301	Revision 000			



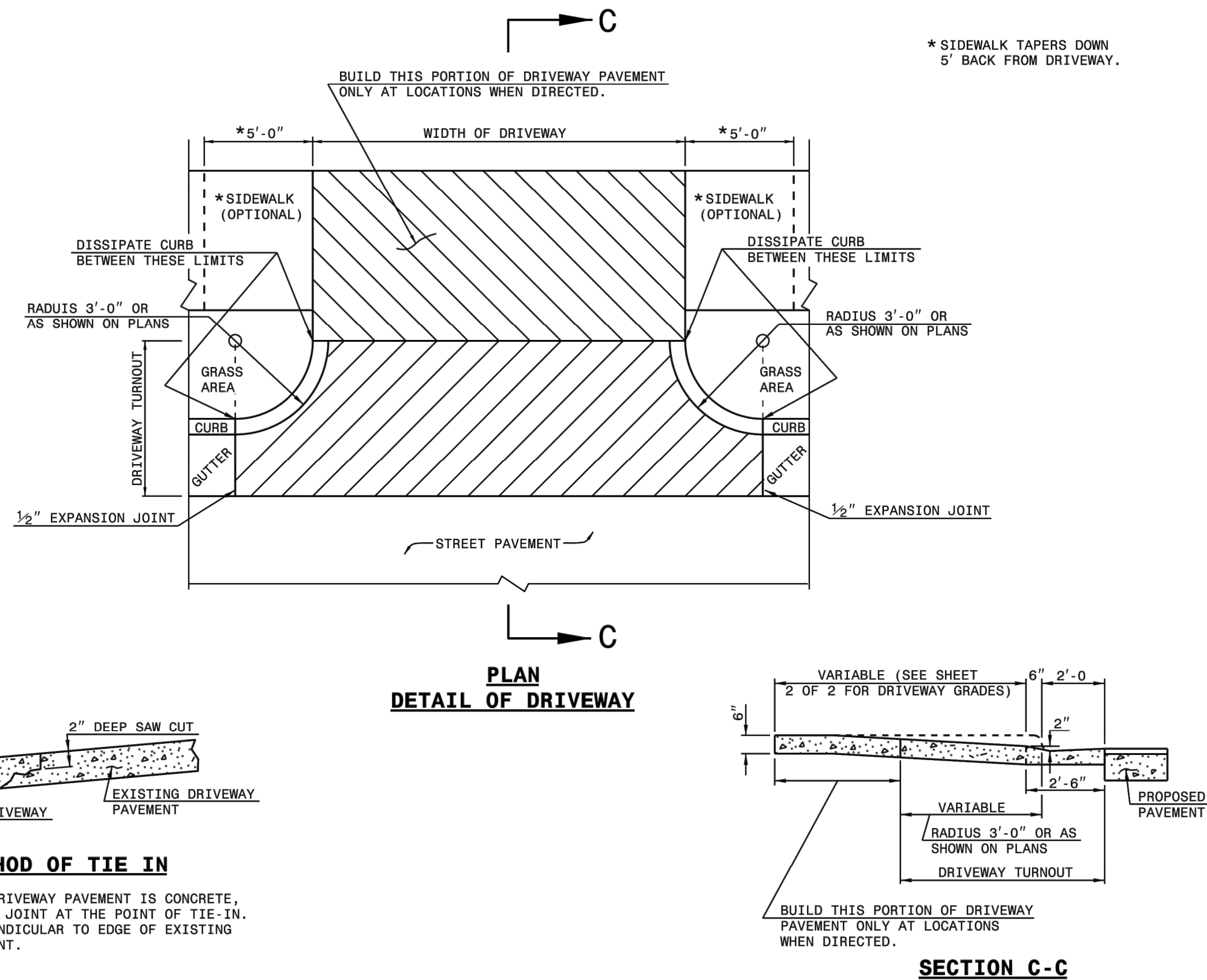
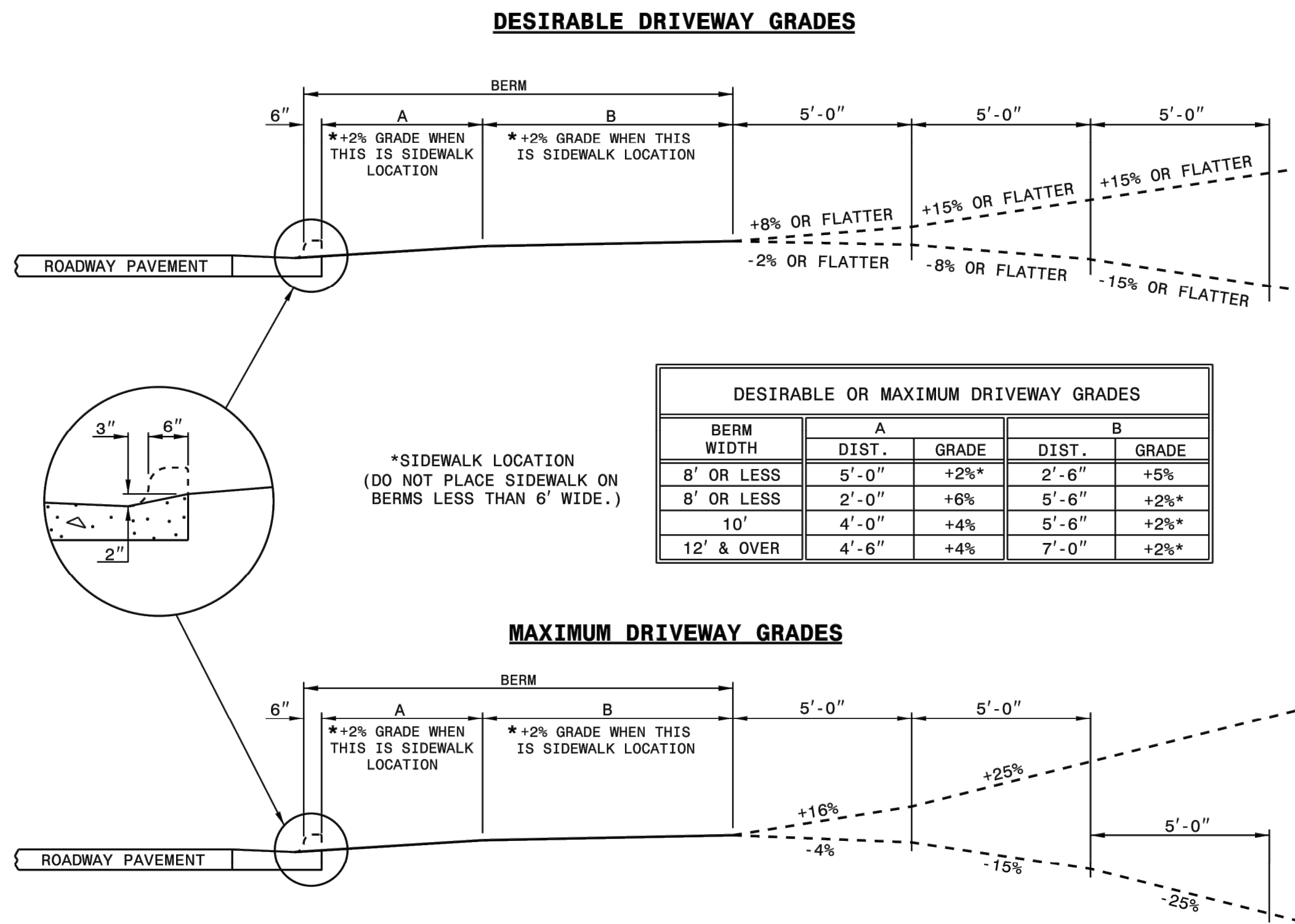
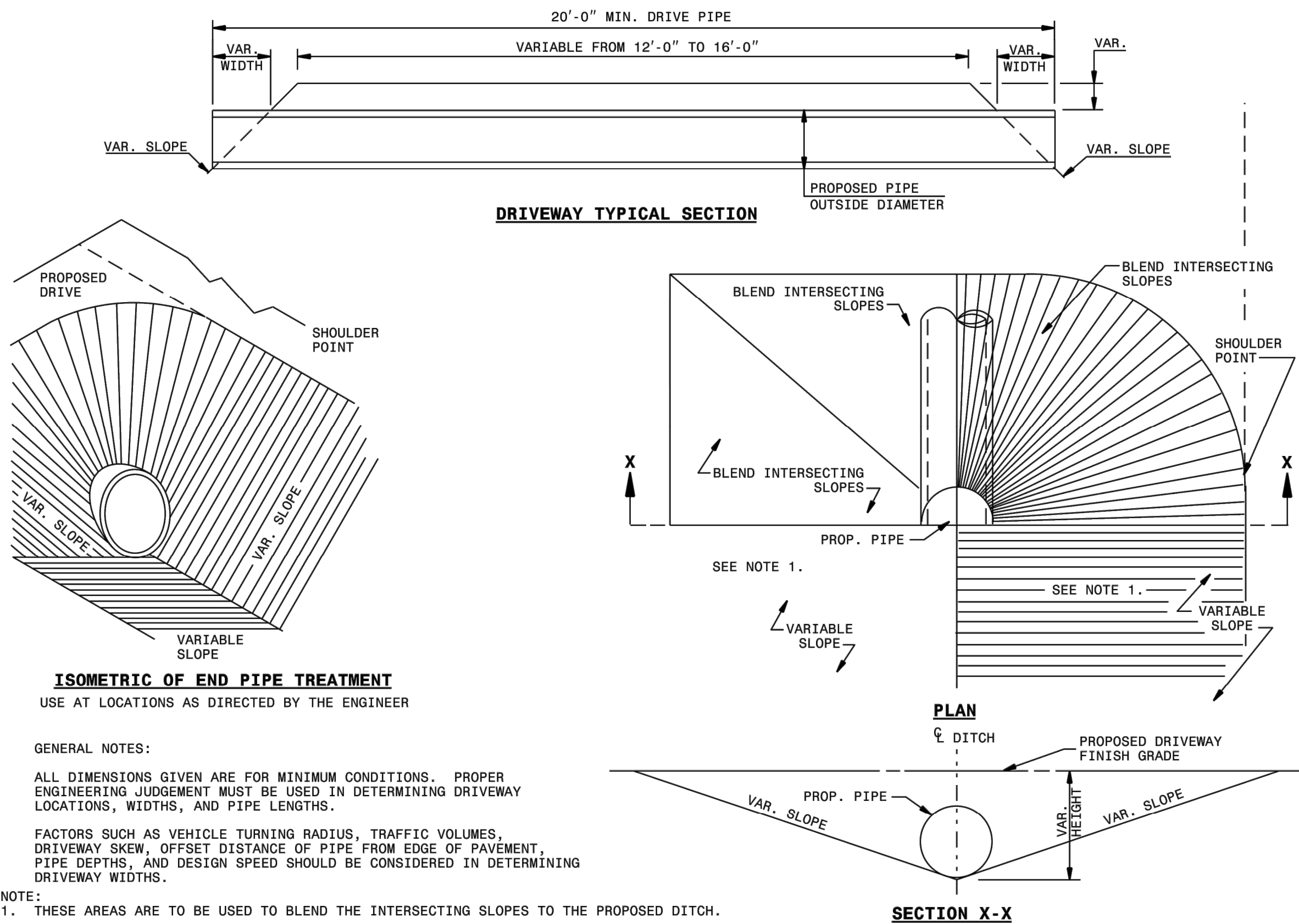
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Drawing Number				Revision
100068207-C-501				000



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Project Title

WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES

DETAILS 2 OF 2

Scale	Designed	Drawn	Checked	Authorized
NTS	CH	CH	DS	MH
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-C-502				Revision 000

4
Inches
1
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1/2

STEEL NOTES:

- ALL WELDING SHALL BE ELECTRIC WELDING. WORKMANSHIP AND TECHNIQUE, WHERE APPLICABLE, SHALL CONFORM TO THE AMERICAN WELDING SOCIETY (SEE SPECS.) STRUCTURAL WELDING CODE.
- WELDING SYMBOLS SHOWN ARE THOSE ADOPTED BY THE AMERICAN WELDING SOCIETY AND INDICATE ONLY SIZE AND TYPE OF WELDS REQUIRED. DETAILED INFORMATION SHALL BE SHOWN ON THE SHOP DRAWINGS AND SUBMITTED BY THE CONTRACTOR FOR APPROVAL.
- DIMENSIONS SHOWN OR CALLED FOR ARE THE FINAL DIMENSIONS; ALLOWANCES MUST BE MADE FOR MACHINING.
- ITEMS MARKED C.R.S. SHALL BE CORROSION RESISTANT STEEL (STAINLESS STEEL), SEE SPECIFICATIONS.
- STEEL SHEET PILING SHALL CONFORM TO ASTM A572, GRADE 50.
- STEEL H-PILES SHALL CONFORM TO ASTM A572, GRADE 50.

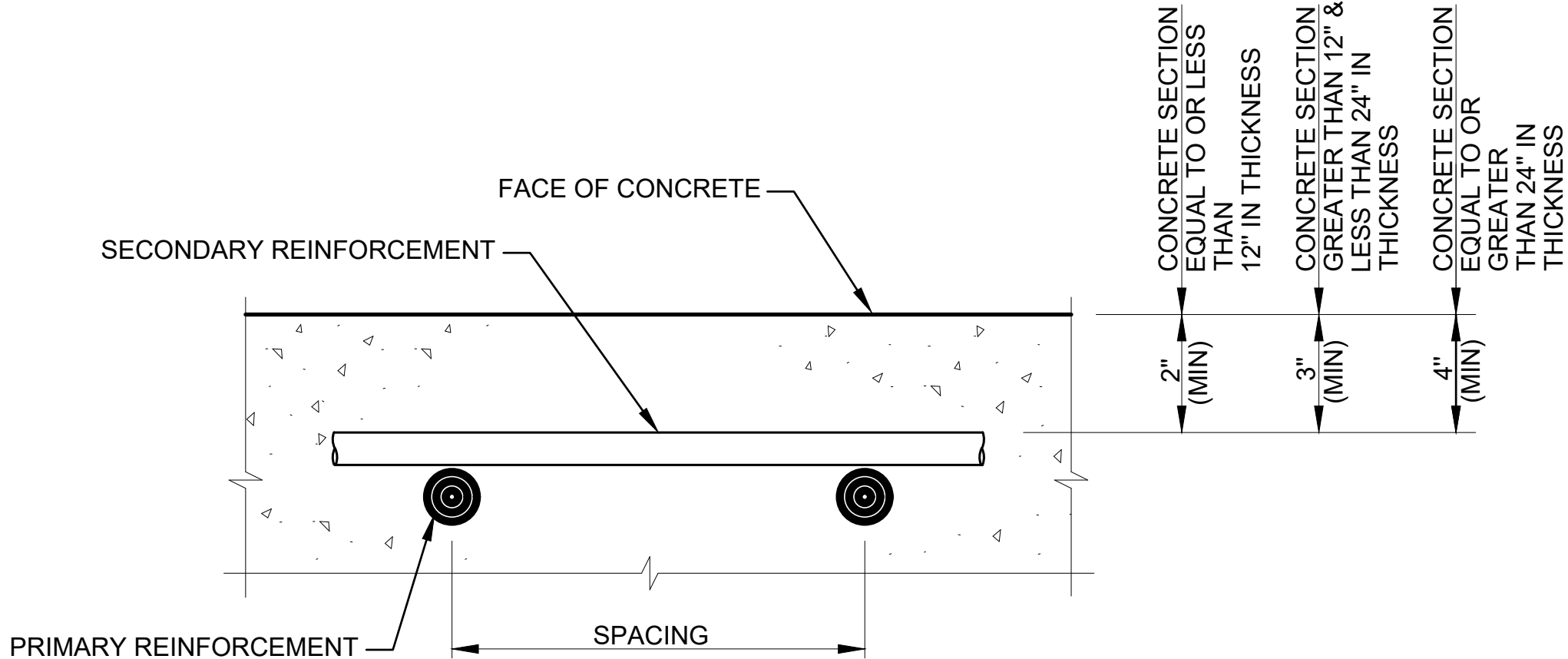
CONCRETE NOTES:

- CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH (F_c) OF 4000 PSI AT 28 DAYS (90 DAYS IF POZZOLAN IS USED), UNLESS OTHERWISE NOTED.
- STABILIZATION SLAB CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH (F_c) OF 2500 PSI AT 28 DAYS (90 DAYS IF POZZOLAN IS USED).
- REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH (F_y) OF 60,000 PSI.
- CONSTRUCTION JOINTS SHALL BE PROVIDED WHERE SHOWN. WHERE NOT SHOWN, CONSTRUCTION JOINTS SHALL BE PLACED AT LOCATIONS LEAST LIKELY TO IMPAIR THE INTEGRITY OF THE CONCRETE STRUCTURE. CONSTRUCTION JOINT LOCATIONS NOT OTHERWISE SHOWN ON THE PLANS SHALL BE APPROVED BY THE CONTRACTING OFFICER.
- UNLESS OTHERWISE NOTED, PROVIDE 3/4" CHAMFER AT ALL EXPOSED JOINTS, EDGES, EXTERNAL CORNERS, AND VERTICAL EXPANSION JOINTS.
- UNLESS NOTED OTHERWISE, CLEAR COVER SHALL BE:
2" FOR SECTIONS EQUAL TO OR LESS THAN 12" THICK
3" FOR SECTIONS GREATER THAN 12" AND LESS THAN 24" THICK
4" FOR SECTIONS GREATER THAN 24" THICK
- ALL BENDS OF REINFORCEMENT AND ALL BAR SPACERS AND SUPPORTS SHALL BE IN ACCORDANCE WITH SP-66, AMERICAN CONCRETE INSTITUTE DETAILING MANUAL - 2004.
- REINFORCING BAR DESIGNATION NUMBERS CONFORM TO THE NUMBERING SYSTEM OF THE CONCRETE REINFORCING STEEL INSTITUTE.
- REINFORCING BARS SHALL BE CONTINUOUS AT ALL CORNERS UNLESS OTHERWISE NOTED.
- REINFORCEMENT, WHERE NECESSARY TO AVOID OPENINGS, PIPES, EMBEDDED ITEMS AND OTHER OBSTRUCTIONS, SHALL BE BENT OR SHIFTED AS DIRECTED BY THE CONTRACTING OFFICER.
- THE EMBEDMENT AND SPLICE TABLE SHALL BE USED IN DETERMINING LAP SPLICES AND EMBEDMENT LENGTHS WHERE LENGTHS ARE NOT OTHERWISE INDICATED. SPLICE LENGTHS SHALL BE BASED ON THE SMALLER BAR BEING LAPPED. THE CONTRACTOR WILL BE ALLOWED TO MAKE SPLICES IN ADDITION TO THOSE INDICATED IN THE DRAWINGS, WHERE ESSENTIAL TO CONSTRUCTIBILITY, SUBJECT TO APPROVAL BY THE CONTRACTING OFFICER. SPLICES OTHER THAN THOSE SHOWN ON THE DRAWINGS AND OTHER THAN ANY ADDITIONAL SPLICES REQUIRED BY THE CONTRACTING OFFICER, WILL BE AT THE CONTRACTOR'S EXPENSE.
- ALL EXTERIOR FORMED SURFACES NOT COVERED BY BACK FILL SHALL BE CLASS "A" FINISH AND SURFACES COVERED BY BACK FILL SHALL BE CLASS "D" FINISH, UNLESS OTHERWISE NOTED.
- FOR "T-WALL" STEMS, CONCRETE PLACEMENT SHALL BE BY PUMP / TREMIE OR THE CONTRACTOR SHALL EMPLOY TEMPORARY "WINDOWS" IN THE FORMS TO FACILITATE CONCRETE PLACEMENT AND CONSOLIDATION.

REINFORCEMENT EMBEDMENT AND SPLICE TABLES - 4000 PSI								
BAR SIZE	BASIC TABLE				ALTERNATE TABLE			
	MINIMUM EMBEDMENT LENGTH, INCHES		MINIMUM LAP LENGTH INCHES		MINIMUM EMBEDMENT LENGTH, INCHES		MINIMUM LAP LENGTH INCHES	
	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER
3	18	14	24	18	12	12	14	12
4	25	19	32	25	15	12	19	15
5	31	24	40	31	18	14	24	18
6	37	28	48	37	22	17	29	22
7	54	42	70	54	32	25	42	32
8	62	47	80	62	37	28	48	37
9	69	53	90	69	42	32	54	42
10	77	59	100	77	46	36	60	46
11	85	65	110	85	51	39	66	51

NOTES:

- USE THE BASIC TABLE IF ALL OF THE FOLLOWING CONDITIONS ARE MET:
A) CENTER TO CENTER BAR SPACING LATERALLY IS AT LEAST 4 BAR DIAMETERS
B) CONCRETE COVER IS AT LEAST 2 BAR DIAMETERS, AND
C) EDGE DISTANCE TO THE FIRST BAR IN A LAYER IS AT LEAST 2 BAR DIAMETERS.
- THE ALTERNATE TABLE MAY BE USED IF ALL OF THE FOLLOWING CONDITIONS ARE MET:
A) CENTER TO CENTER BAR SPACING LATERALLY IS AT LEAST 6 BAR DIAMETERS
B) CONCRETE COVER IS AT LEAST 2 BAR DIAMETERS, AND
C) EDGE DISTANCE TO THE FIRST BAR IN A LAYER IS AT LEAST 2.5 BAR DIAMETERS.
- IF CONCRETE COVER OR EDGE DISTANCE IS LESS THAN 2 BAR DIAMETERS OR THE CENTER TO CENTER BAR SPACING LATERALLY IS LESS THAN 4 DIAMETERS, SEE ACI 318 FOR APPROPRIATE GUIDANCE.
- TOP BARS ARE HORIZONTAL BARS AND BARS INCLINED LESS THAN 45 DEGREES WITH RESPECT TO A HORIZONTAL PLANE WHICH ARE PLACED SUCH THAT MORE THAN 12 INCHES OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.



REINFORCEMENT CLEARANCE DETAIL
NTS

ABBREVIATIONS					
* UNLESS OTHERWISE NOTED ON EACH SHEET					
APP.	APPARENT	FES	FLARED END SECTION	SPEC	SPECIFICATIONS
APPROX	APPROXIMATE	GALV	GALVANIZED	SST	STAINLESS STEEL
ALT W/	ALTERNATE WITH	HT	HEIGHT	SURV	SURVEY
ALUM	ALUMINUM	IF	INSIDE FACE	T&B	TOP AND BOTTOM
B/L	BASELINE	LG	LONG	T.O.C.	TOP OF CASTING
BITUM	BITUMINOUS	L/W	LANDWARD	TYP	TYPICAL
BOT	BOTTOM	MAX	MAXIMUM	UNO	UNLESS NOTED OTHERWISE
C/L	CENTER LINE	MIN	MINIMUM	UGND	UNDERGROUND
C&G	CURB & GUTTER	MIRR	MIRRORED	W/	WITH
CLR	CLEAR	MISC	MISCELLANEOUS	W/L	WALL LINE
CJ	CONSTRUCTION JOINT	N/S	NORFOLK SOUTHERN	WM	WATER MAIN
CMP	CORRUGATED METAL PIPE	NF	NEAR FACE		
CONC	CONCRETE	NO	NUMBER		
DIA., Ø	DIAMETER	OF	OUTSIDE FACE		
DWG.	DRAWING	OC	ON CENTER		
E.F.	EACH FACE	PROJ	PROJECT		
EJ	EXPANSION JOINT	R/W	RIGHT OF WAY		
ELEV.	ELEVATION	RCP	REINFORCED CONCRETE PIPE		
E.W.	EACH WAY	REQ'D	REQUIRED		
EXIST.	EXISTING	R.R.	RAILROAD		
EQ.	EQUAL	SP	SPACE		
FTG	FOOTING	S/W	SIDEWALK		
FF	FAR FACE	SAN	SANITARY		

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Client

City of
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Project Title

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AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES

Drawing Title

GENERAL NOTES

Scale	Designed	Drawn	Checked	Authorized
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Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-G-001	Revision 000			

4
Inches
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1/2
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Drawing Legend

SHEET NO.	SHEET TITLE
G	GENERAL
G-001	GENERAL NOTES
G-002	SHEET INDEX
S	STRUCTURAL - GATE BAY AND T-WALLS
S-101	OVERALL FOUNDATION PLAN AND PROFILE VIEW (1 OF 2)
S-102	OVERALL FOUNDATION PLAN AND PROFILE VIEW (2 OF 2)
S-103	MONOLITH 1 PLAN VIEW
S-104	MONOLITH 2 PLAN VIEW
S-105	MONOLITH 3 PLAN VIEW
S-106	MONOLITH 4 PLAN VIEW
S-107	MONOLITH 5 PLAN VIEW
S-108	MONOLITH 6 PLAN VIEW
S-109	MONOLITH 7 PLAN VIEW
S-110	MONOLITH 8 PLAN VIEW
S-111	MONOLITH 9 PLAN VIEW
S-112	MONOLITH 10 PLAN VIEW
S-113	I-WALL 1 PLAN VIEW
S-114	I-WALL 2 PLAN VIEW
S-115	RAILROAD PLAN VIEW
S-301	MONOLITH 1 SECTION
S-302	MONOLITH 2 SECTION
S-303	MONOLITH 3 SECTION
S-304	MONOLITH 4 SECTION
S-305	MONOLITH 5 SECTION
S-306	MONOLITH 6 SECTION
S-307	MONOLITH 7 SECTION
S-308	MONOLITH 8 SECTION
S-309	MONOLITH 9 SECTION
S-310	MONOLITH 10 SECTION
S-311	I-WALL 1 SECTION
S-312	I-WALL 2 SECTION
S-501	GATE ELEVATION
S-502	SWING GATE DETAIL (1 OF 3) -NOT INCLUDED IN SET
S-503	SWING GATE DETAIL (2 OF 3) -NOT INCLUDED IN SET
S-504	SWING GATE DETAIL (3 OF 3) -NOT INCLUDED IN SET
S-505	SWING GATE LOWER HINGE DETAIL (1 OF 6) -NOT INCLUDED IN SET
S-506	SWING GATE LOWER HINGE DETAIL (2 OF 6) -NOT INCLUDED IN SET
S-507	SWING GATE LOWER HINGE DETAIL (3 OF 6) -NOT INCLUDED IN SET
S-508	SWING GATE LOWER HINGE DETAIL (4 OF 6) -NOT INCLUDED IN SET
S-509	SWING GATE LOWER HINGE DETAIL (5 OF 6) -NOT INCLUDED IN SET
S-510	SWING GATE LOWER HINGE DETAIL (6 OF 6) -NOT INCLUDED IN SET
S-511	SWING GATE UPPER HINGE DETAIL -NOT INCLUDED IN SET
S-512	SWING GATE LATCHING DETAIL
S-513	LATCHING DETAIL (1 OF 2) -NOT INCLUDED IN SET
S-514	LATCHING DETAIL (2 OF 2) -NOT INCLUDED IN SET
S-515	LADDER DETAIL (1 OF 3)
S-516	LADDER DETAIL (2 OF 3)
S-517	LADDER DETAIL (3 OF 3)
S-518	MISCELLANEOUS DETAILS -NOT INCLUDED IN SET
S-519	SETTLEMENT DETAILS -NOT INCLUDED IN SET
S-520	SWING GATE SEAL DETAILS (1 OF 2)
S-521	SWING GATE SEAL DETAILS (2 OF 2)
S-522	SCOUR PROTECTION DETAIL (1 OF 2)
S-523	SCOUR PROTECTION DETAIL (2 OF 2)
S-524	DRAINAGE AND UTILITY DETAILS
S-525	T-WALL JOINT DETAILS -NOT INCLUDED IN SET
S-526	RAILS AND COMPONENT PART DETAIL (1 OF 2)
S-527	RAILS AND COMPONENT PART DETAIL (2 OF 2)
S-528	TYPICAL PILE DETAIL
CS	RAILROAD TRS
CS-100	RAILROAD TRS (1 OF 6)
CS-101	RAILROAD TRS (2 OF 6)
CS-102	RAILROAD TRS (3 OF 6)
CS-103	RAILROAD TRS (4 OF 6)
CS-104	RAILROAD TRS (5 OF 6)
CS-105	RAILROAD TRS (6 OF 6)

Seal	Seal
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Project Title	WEST LUMBERTON FLOOD G AT VFW ROAD AND RAILROAD UNDERP ENGINEERING SERVICES
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Drawing Title	SHEET INDEX
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Scale	Designed	Drawn	Checked	Authorized
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Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number	100068207-G-002			Revision 000

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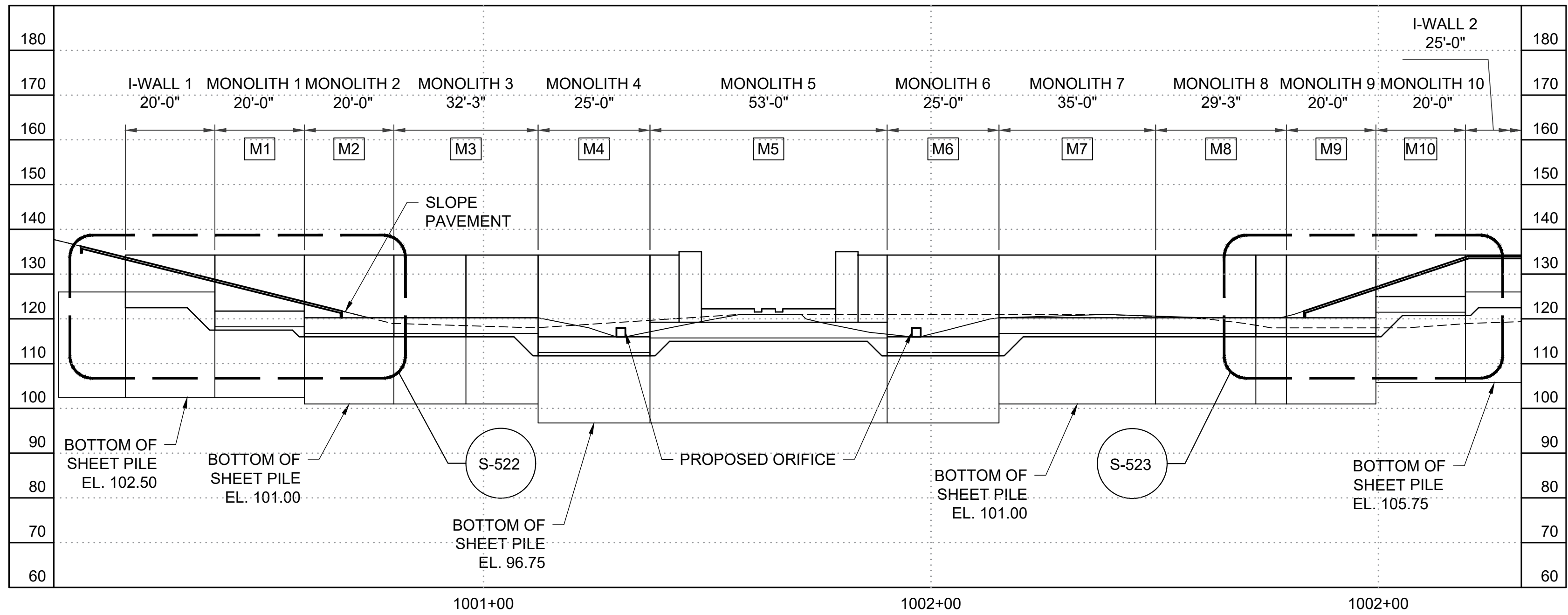
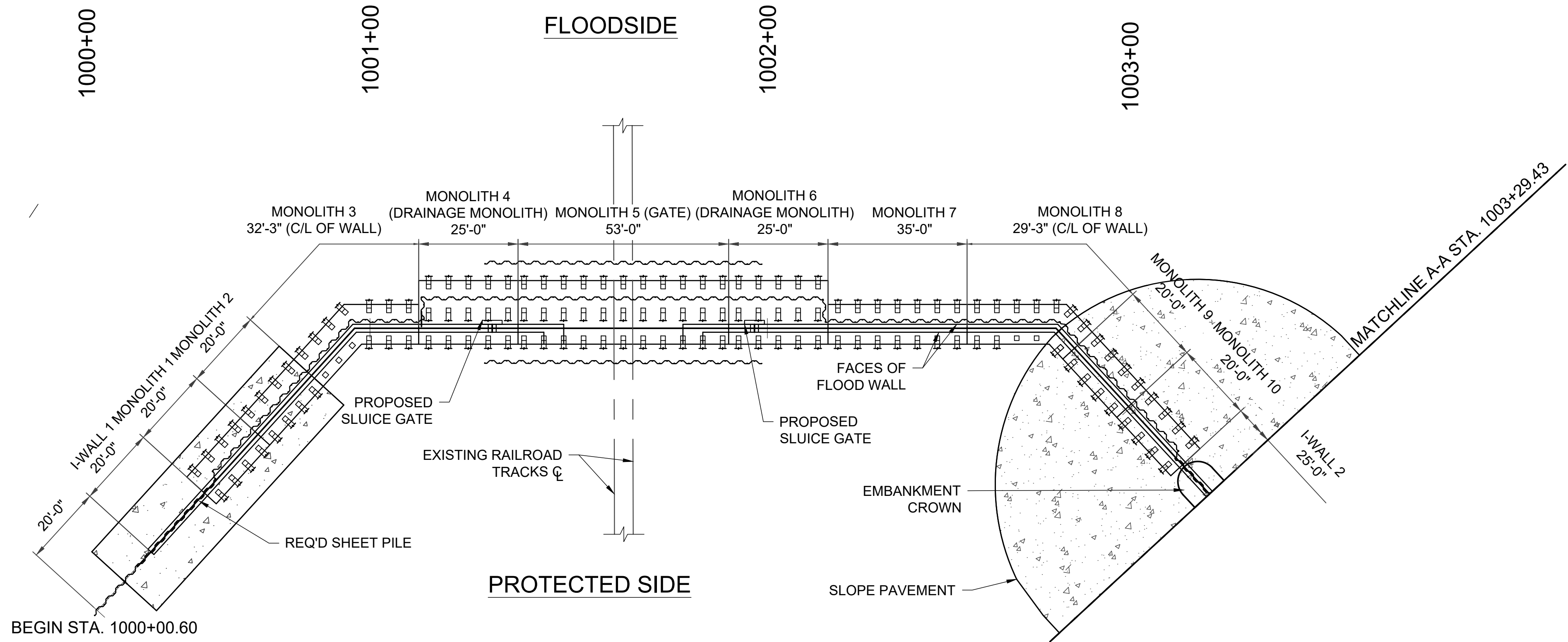


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4
1
1/2
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Inches

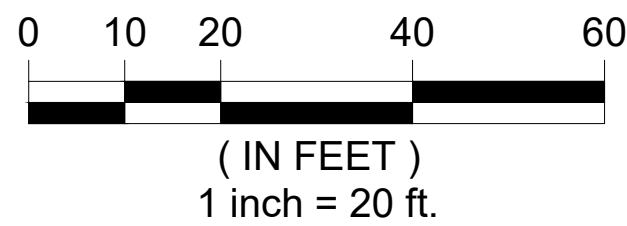
DO NOT SCALE

Drawing Legend



PLAN VIEW
SCALE: 1"=20'

PROFILE VIEW
SCALE: 1"=20'



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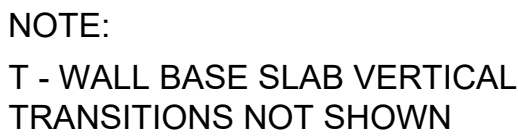


Project Title
WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES

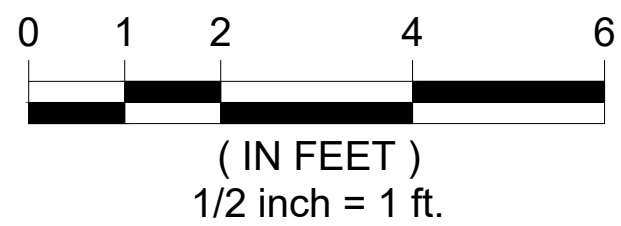
Drawing Title
OVERALL FOUNDATION
PLAN VIEW (1 OF 2)

Scale 1"=20'	Designed --	Drawn --	Checked --	Authorized --
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-S-101	Revision 000			

Drawing Legend



SCALE: 1/2"=1'



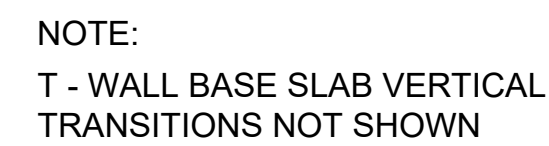
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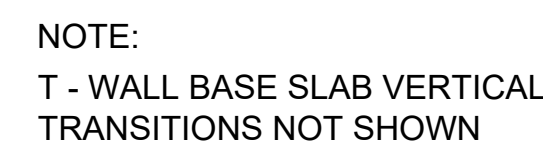
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Drawing Legend



Scale 1/2" = 1"	Designed --	Drawn --	Checked --	Authorized --
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-S-104				Revision 000

Drawing Legend




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Drawing Title

MONOLITH 3
PLAN VIEW

Scale 1/2" = 1'	Designed --	Drawn --	Checked --	Authorized --
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-S-105				Revision 000

Drawing Legend



SCALE: 1/2"=1'



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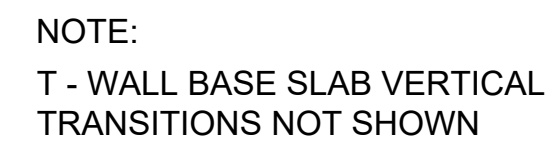
Project Title

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Drawing Title

MONOLITH 4
PLAN VIEW

Scale 1/2" = 1'	Designed --	Drawn --	Checked --	Authorized --
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-S-106				Revision 000



(IN FEET)
 $\frac{3}{8}$ inch = 1 ft.

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The logo for the City of Lumberton, North Carolina. It features a stylized green palm tree in the center. Above the tree is a large yellow sun. Below the tree are three wavy blue lines representing water. The text "City of" is written in a cursive font above the tree. Below the tree, the word "LUMBERTON" is written in large, bold, purple capital letters. Underneath "LUMBERTON", the words "North Carolina" are written in a smaller, cursive font.

Project Title

WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES

Drawing Title

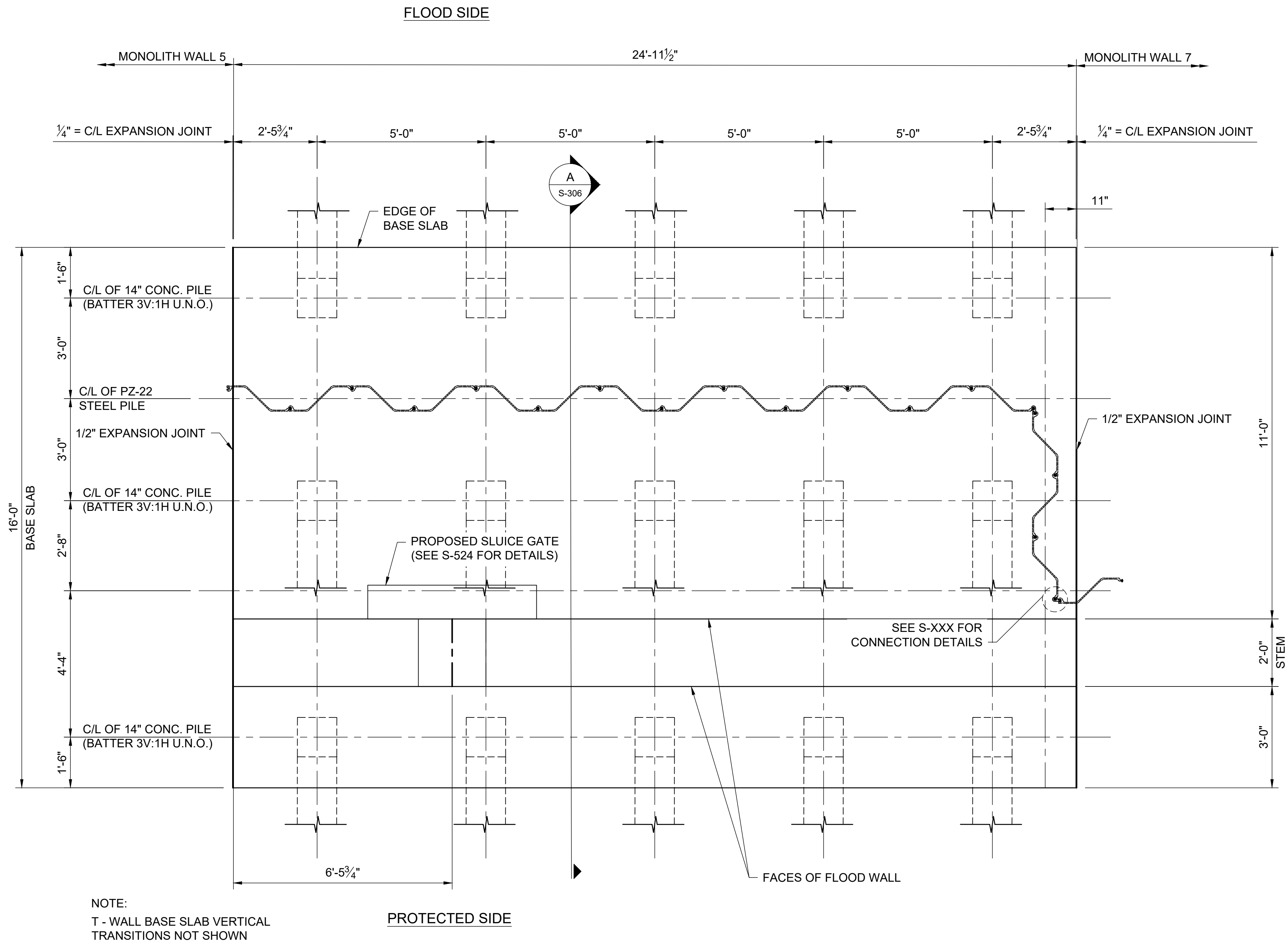
MONOLITH 5
PLAN VIEW

Scale	Designed	Drawn	Checked	Authorized
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Drawing Number				Revision
100068207-S-107				000

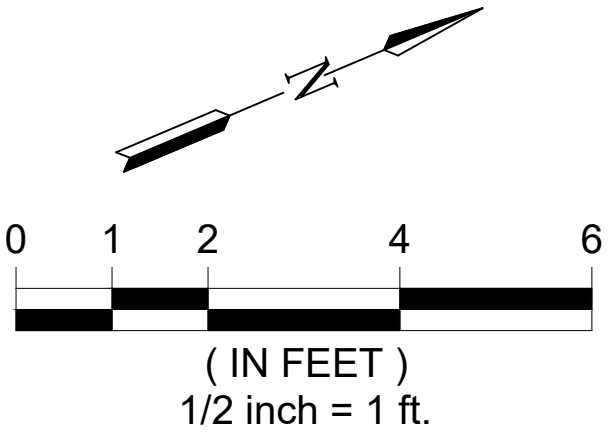
4
Inches
1
1/2
0

DO NOT SCALE

Drawing Legend



DRAINAGE MONOLITH 6 PLAN VIEW
SCALE: 1/2"=1'



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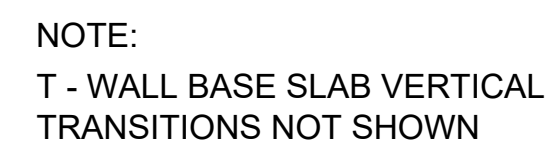
City of
LUMBERTON
North Carolina

Project Title
**WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES**

Drawing Title
**MONOLITH 6
PLAN VIEW**

Scale 1/2"= 1'	Designed --	Drawn --	Checked --	Authorized --
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-S-108	Revision 000			

Drawing Legend



(IN FEET)
 $\frac{1}{2}$ inch = 1 ft.

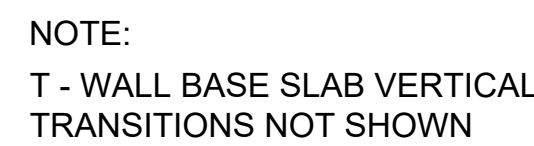


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Drawing Number 100068207-S-109				Revision 000

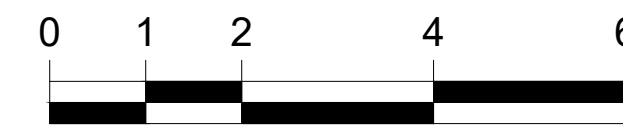
Drawing Legend

Inches

07



SCALE: 1/2"=1



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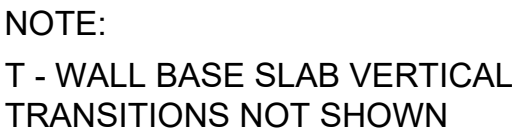
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Drawing Title

MONOLITH 8
PLAN VIEW

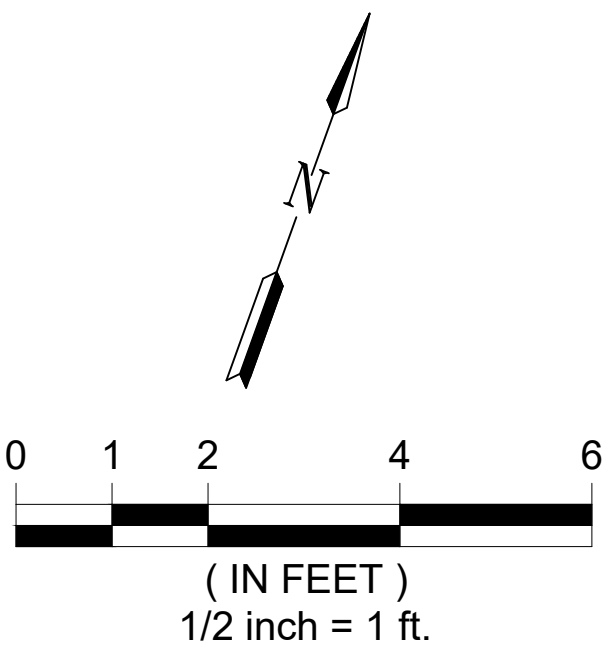
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Drawing Number 100068207-S-110				Revision 000

Drawing Legend



MONOLITH 9 PLAN VIEW

SCALE: 1/2"=1'



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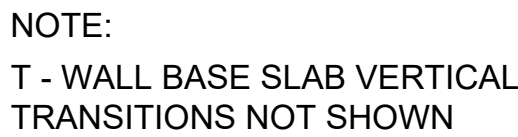
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AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES

Drawing Title

MONOLITH 9
PLAN VIEW

Scale 1/2" = 1'	Designed --	Drawn --	Checked --	Authorized --
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-S-111				Revision 000

Drawing Legend



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Project Title

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Drawing Title

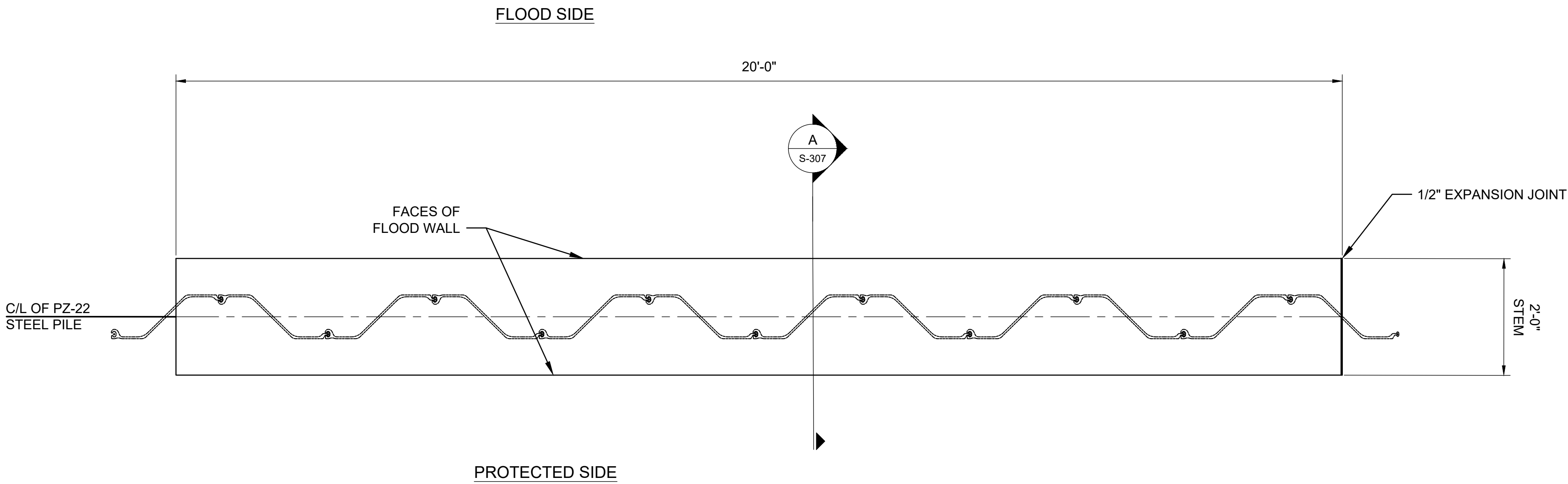
MONOLITH 10
PLAN VIEW

Scale 1/2" = 1'	Designed --	Drawn --	Checked --	Authorized --
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-S-112				Revision 000

4
Inches
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1/2
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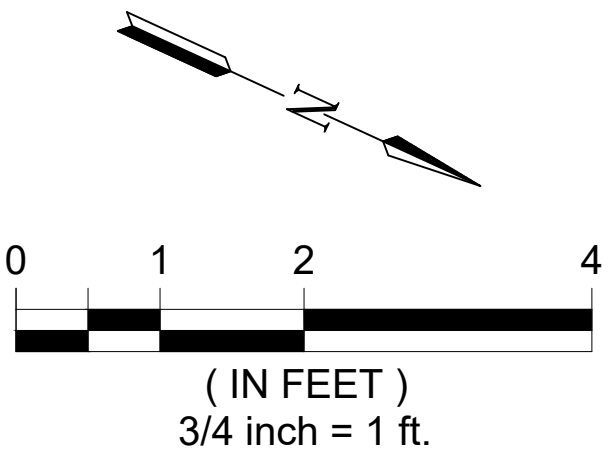
DO NOT SCALE

Drawing Legend



I-WALL 1 PLAN VIEW

SCALE: 3/4"=1'



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Client	 City of LUMBERTON North Carolina
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Project Title	WEST LUMBERTON FLOOD G AT VFW ROAD AND RAILROAD UNDERP ENGINEERING SERVICES
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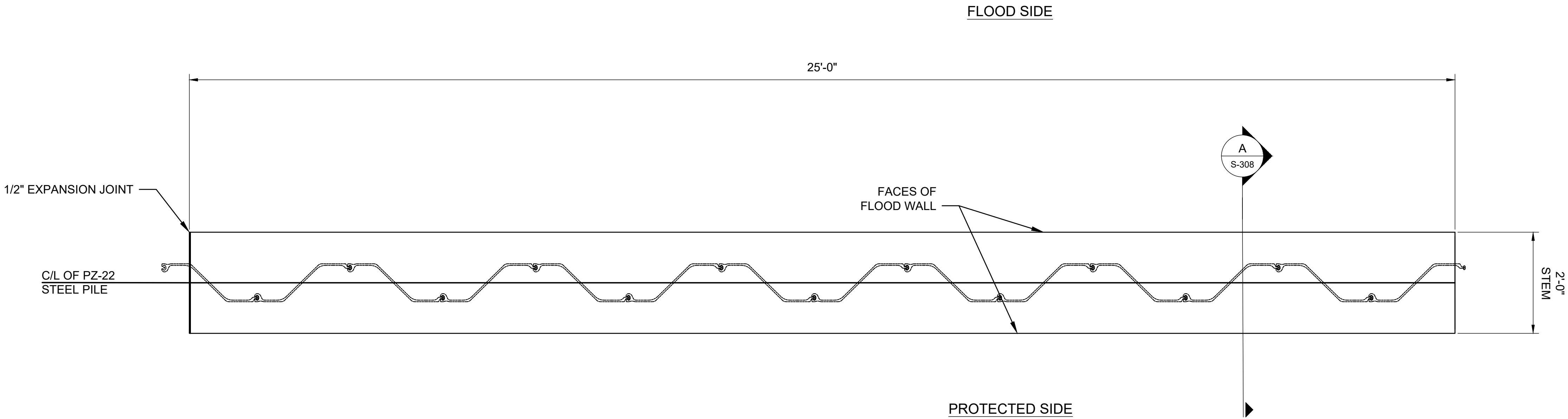
Drawing Title	I-WALL 1 PLAN VIEW
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Drawing Number	100068207-S-113	Revision	000						

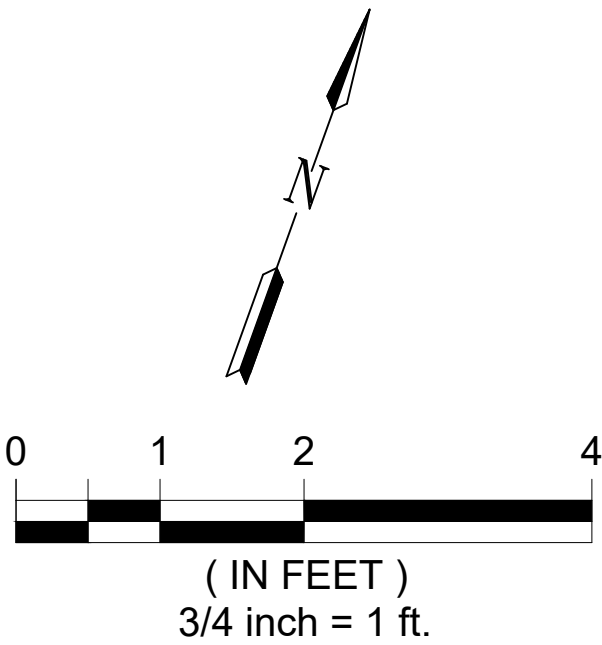
4
Inches
1
1/2
0

DO NOT SCALE

Drawing Legend



I-WALL 2 PLAN VIEW
SCALE: 3/4"=1'



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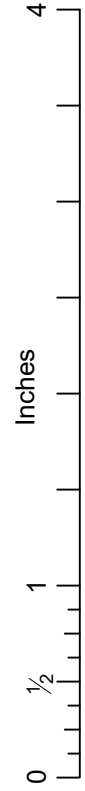
Client



Project Title
WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
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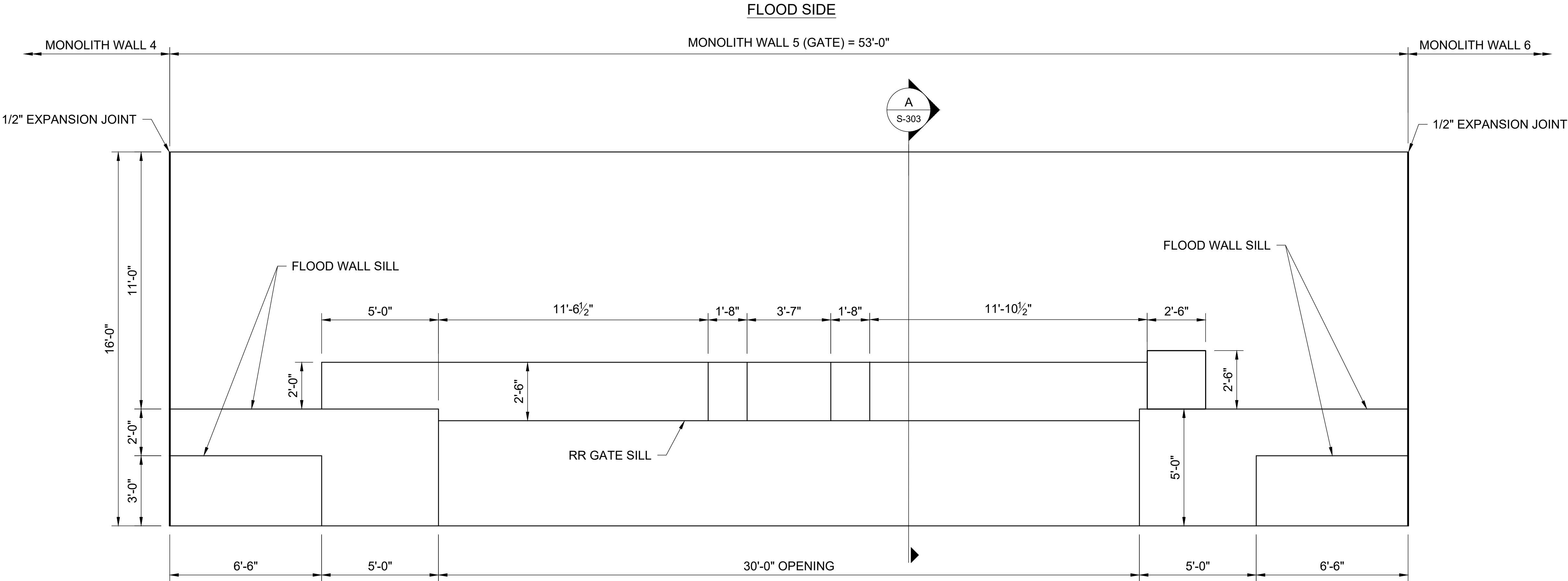
Drawing Title
I-WALL 2
PLAN VIEW

Scale 3/4"= 1'	Designed --	Drawn --	Checked --	Authorized --
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Drawing Number 100068207-S-114	Revision 000			



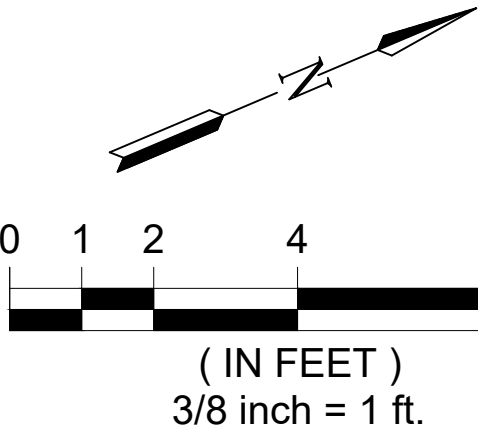
DO NOT SCALE

Drawing Legend



PROTECTED SIDE

RAILROAD PLAN VIEW
SCALE: 3/8"=1'



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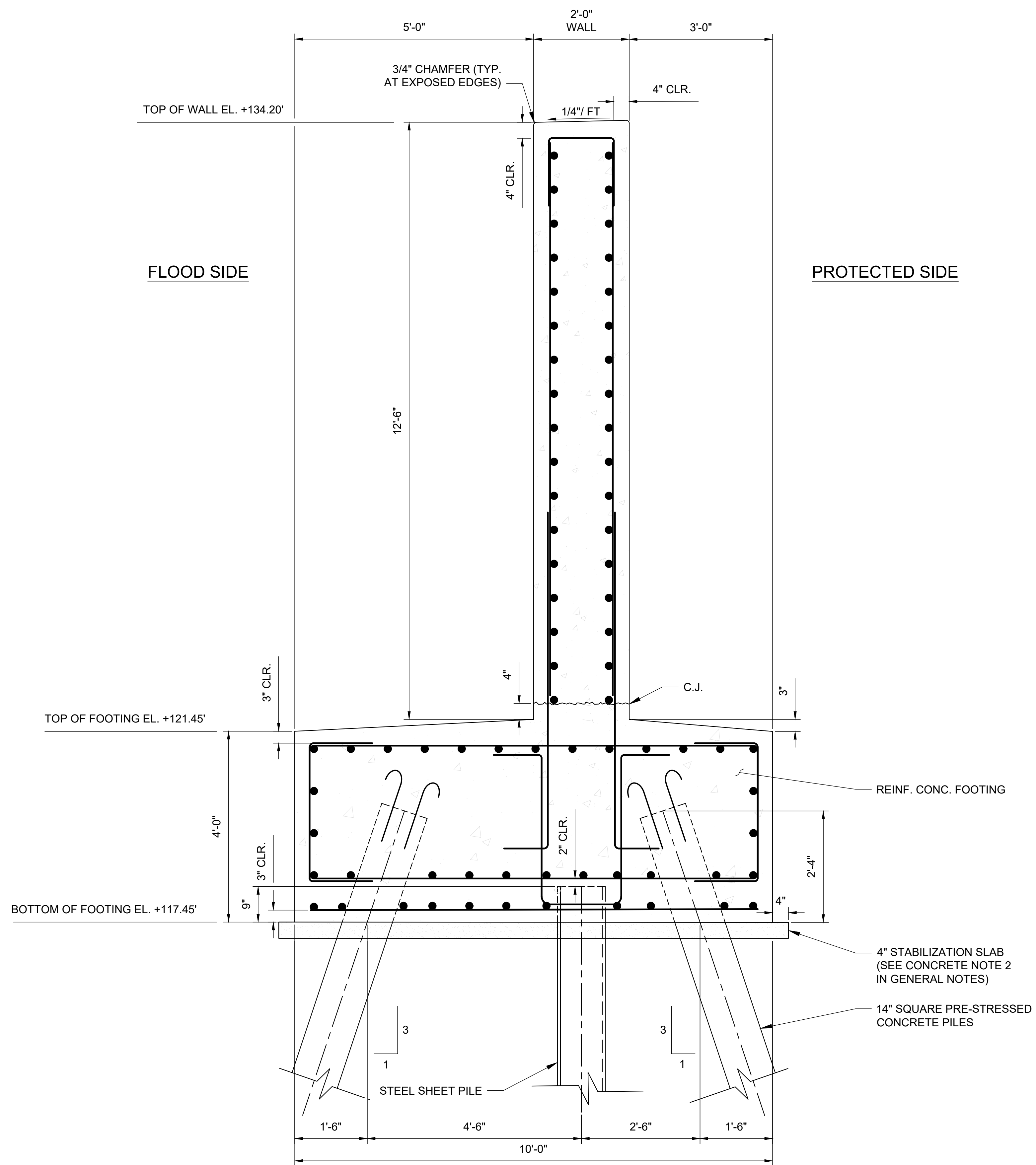
Client

City of
LUMBERTON
North Carolina

Project Title
WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES

Drawing Title
RAIL ROAD
PLAN VIEW

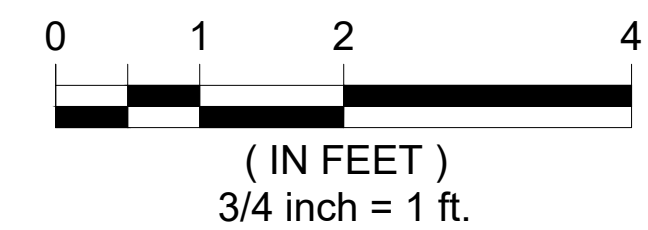
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Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-S-115	Revision 000			



MONOLITH 1 SECTION

SCALE: 3/4"=1'

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DO NOT SCALE

Drawing Legend

Seal	Seal
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[illegible]

Rev.	Date	Description	By	Chkd	App'd
Drawing Status				Suitability	
FOR INFORMATION				SO	

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The logo for the City of Lumberton, North Carolina. It features a yellow sun in the upper left, a green palm tree in the center, and blue wavy lines representing water or a path. The text "City of" is in a cursive font, "LUMBERTON" is in a large, bold, serif font, and "North Carolina" is in a smaller, cursive font at the bottom.

Project Title

WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES

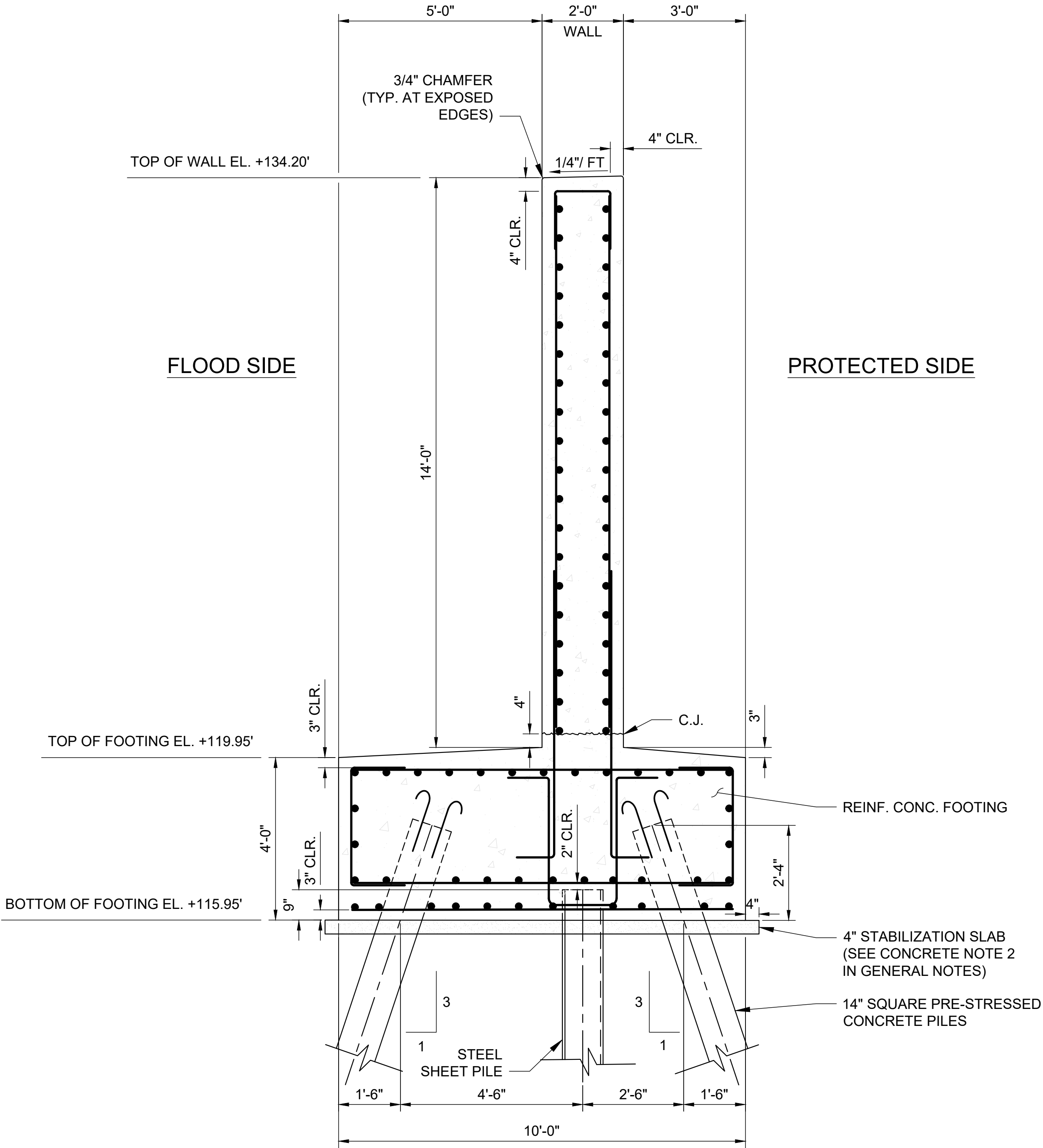
Drawing Title

MONOLITH 1
SECTION

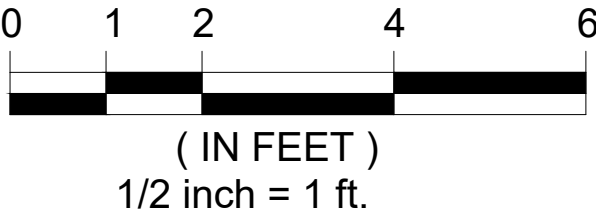
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Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-S-301				Revision 000

DO NOT SCALE

Drawing Legend



MONOLITH 2 SECTION
SCALE: 1/2"=1'



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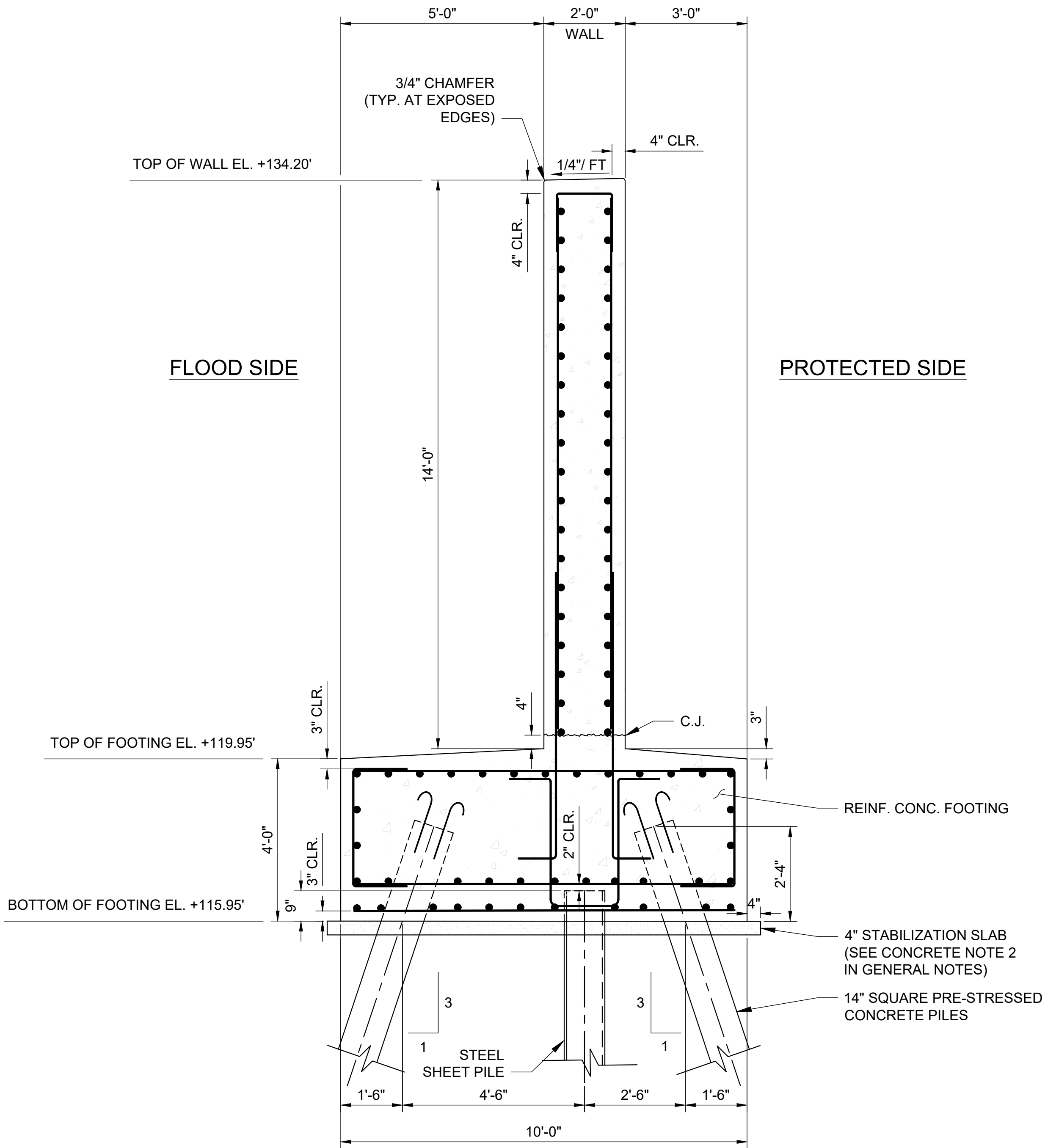
Project Title
WEST LUMBERTON FLOOD G
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Drawing Title
MONOLITH 2
SECTION

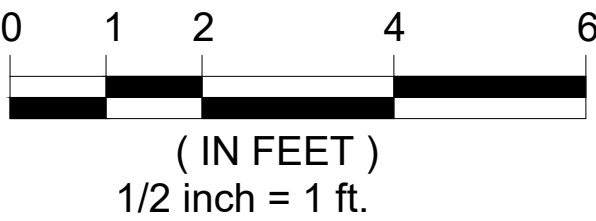
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Original Size 22x34	Date --/--	Date --/--	Date --/--	Date --/--
Drawing Number 100068207-S-302	Revision 000			

DO NOT SCALE

Drawing Legend



MONOLITH 3 SECTION
SCALE: 1/2"=1'



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Project Title
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AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES

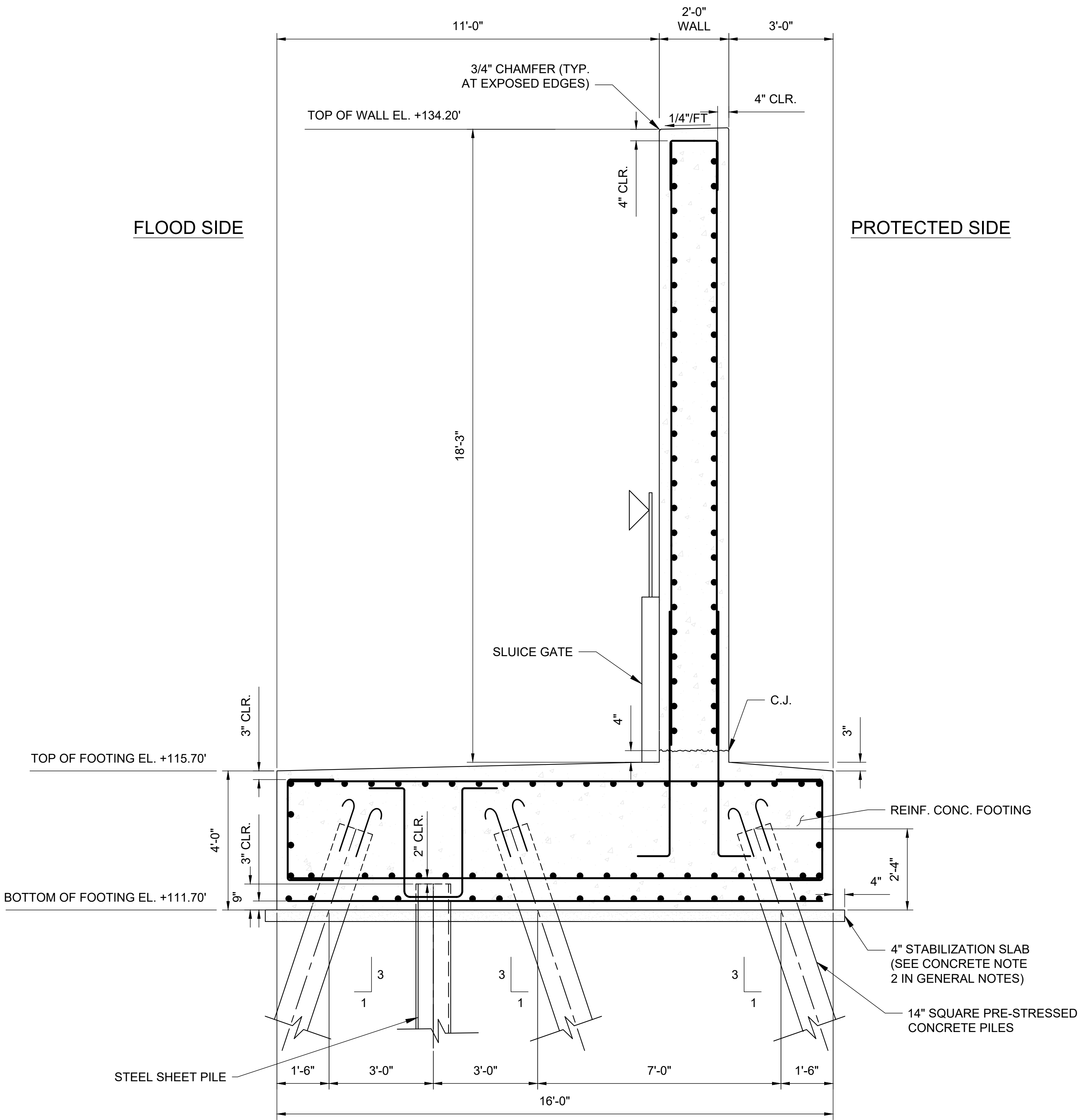
Drawing Title
MONOLITH 3
SECTION

Scale 1/2" = 1'	Designed --	Drawn --	Checked --	Authorized --
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-S-303	Revision 000			

4
Inches
1
0 1/2

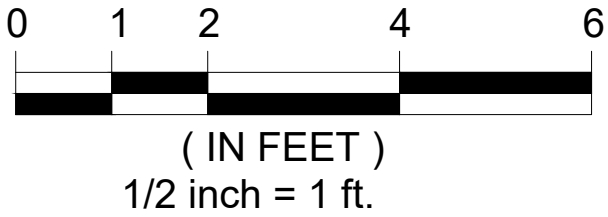
DO NOT SCALE

Drawing Legend



MONOLITH 4 (DRAINAGE) SECTION

SCALE: 1/2"=1'



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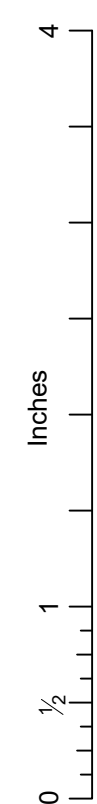
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Drawing Title
MONOLITH 4
SECTION

Scale 1/2" = 1'	Designed --	Drawn --	Checked --	Authorized --
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-S-304	Revision 000			



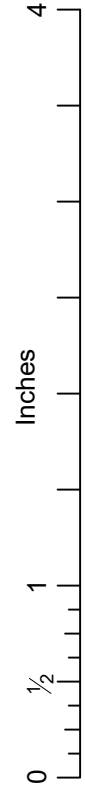
(IN FEET)
1/2 inch = 1 ft.



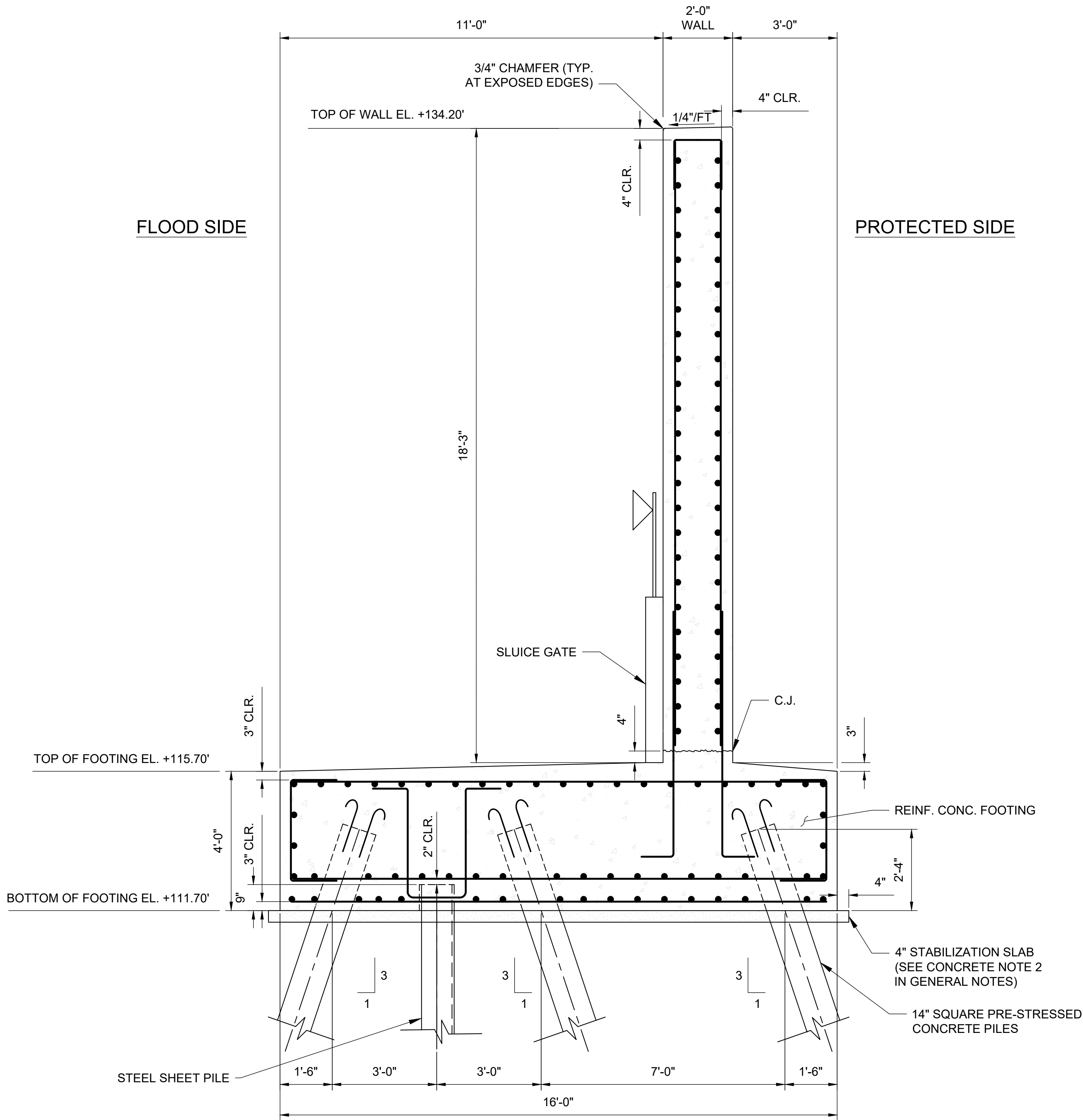
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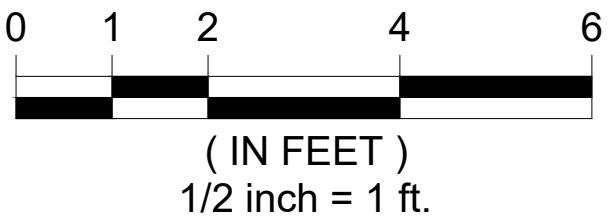


DO NOT SCALE



MONOLITH 6 (DRAINAGE) SECTION

SCALE: 1/2"=1'



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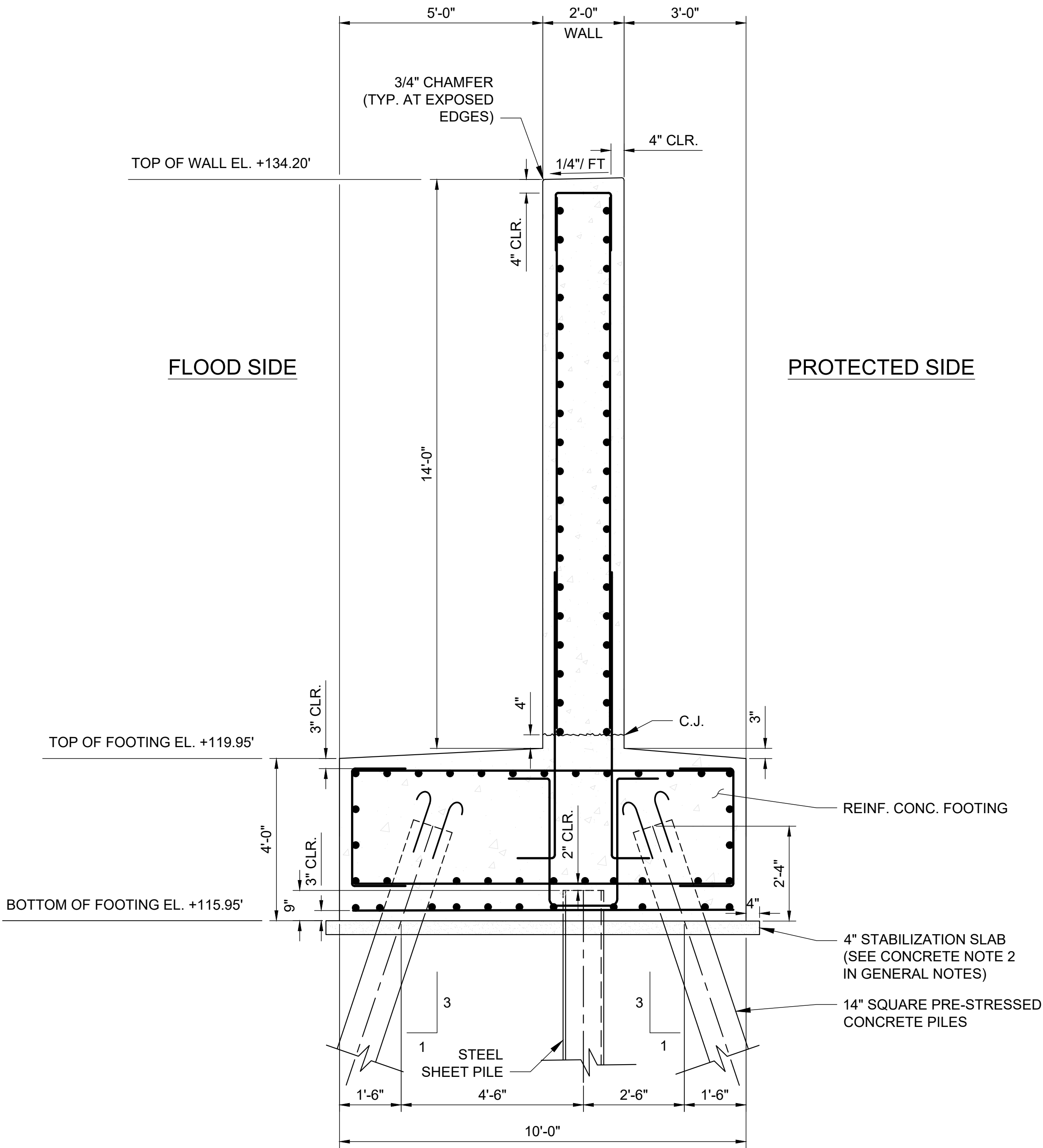
Drawing Title
MONOLITH 6
SECTION

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Drawing Number	100068207-S-306	Revision	000						

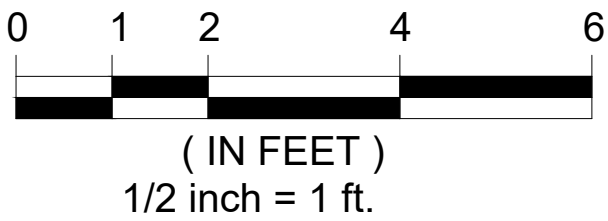
4
Inches
1
0
1/2

DO NOT SCALE

Drawing Legend



MONOLITH 7 SECTION
SCALE: 1/2"=1'



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Project Title
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AT VFW ROAD AND RAILROAD UNDERP
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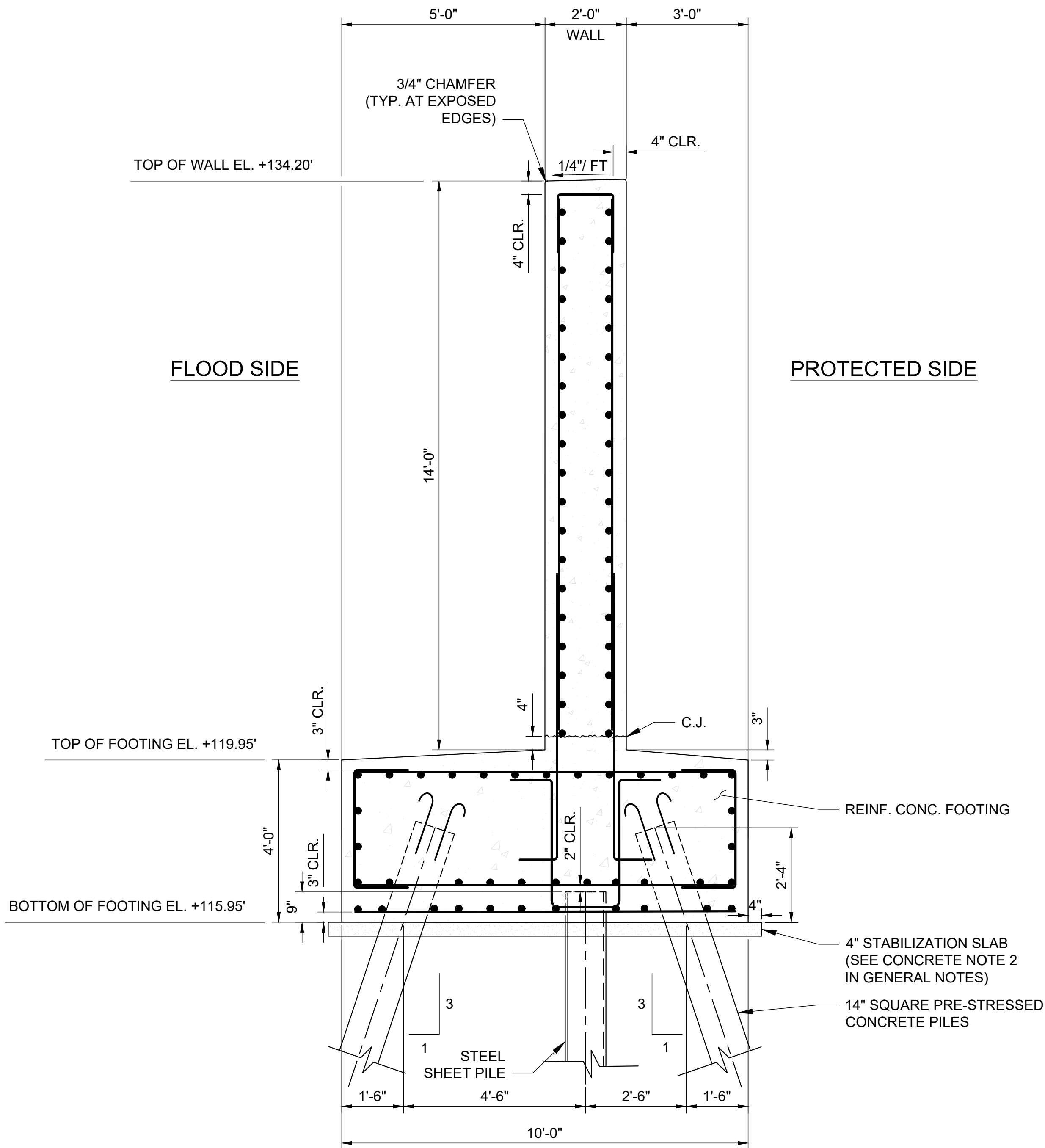
Drawing Title
MONOLITH 7
SECTION

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Drawing Number 100068207-S-307	Revision 000			

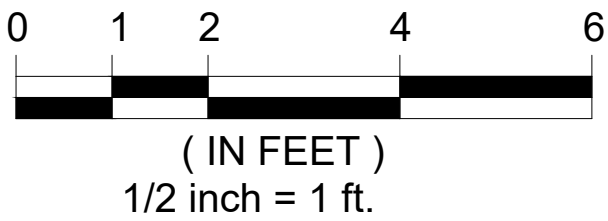
4
Inches
1
0
1/2

DO NOT SCALE

Drawing Legend



MONOLITH 8 SECTION
SCALE: 1/2"=1'



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AT VFW ROAD AND RAILROAD UNDERP
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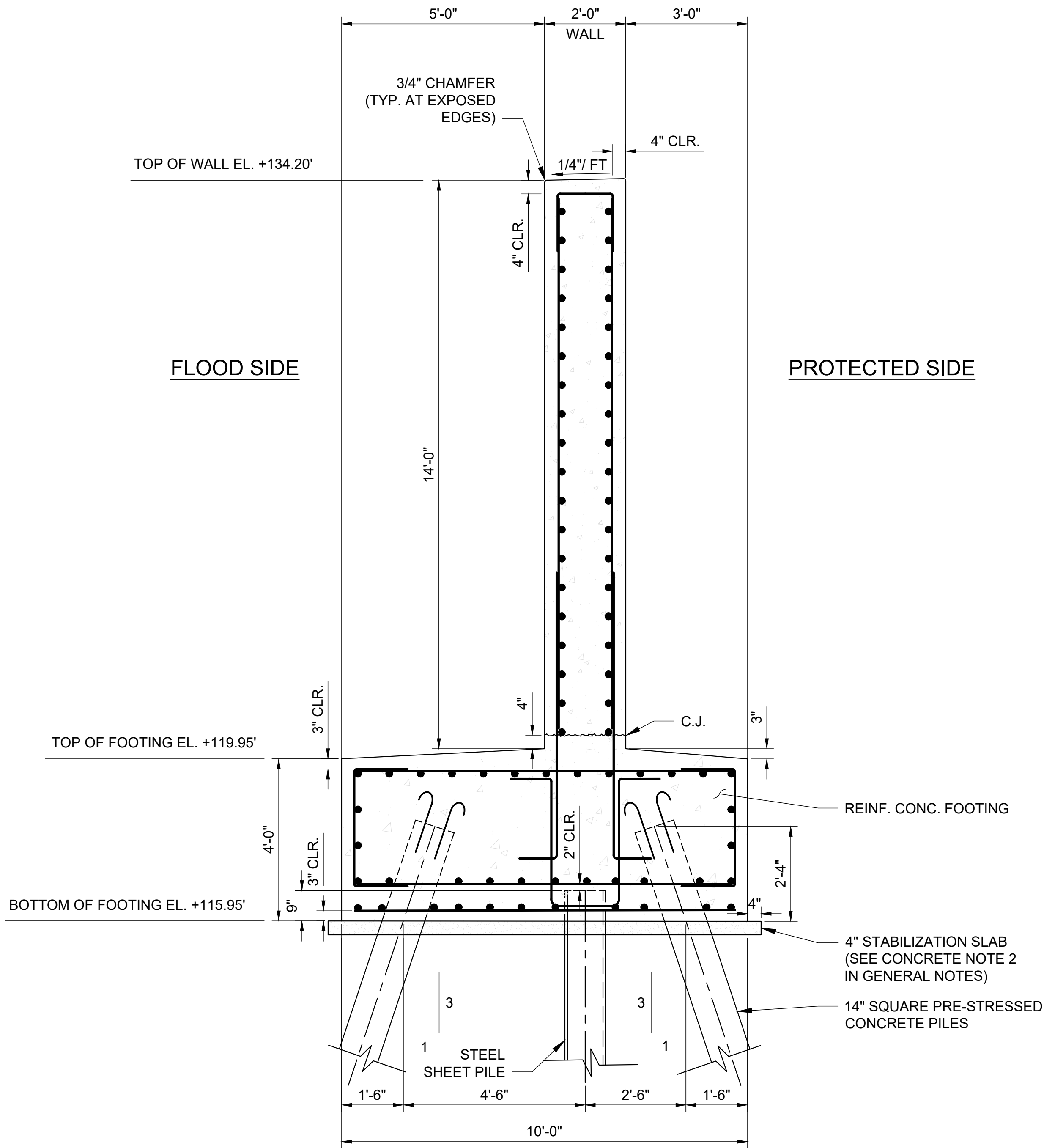
Drawing Title
MONOLITH 8
SECTION

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Original Size 22x34	Date --/--	Date --/--	Date --/--	Date --/--
Drawing Number 100068207-S-308	Revision 000			

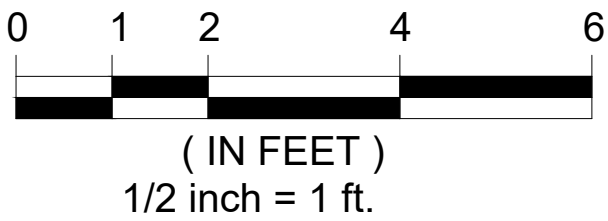
0 1/2 1 4
Inches

DO NOT SCALE

Drawing Legend



MONOLITH 9 SECTION
SCALE: 1/2"=1'



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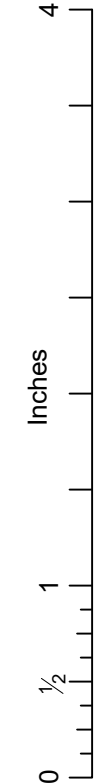
Client

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Project Title
WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES

Drawing Title
MONOLITH 9
SECTION

Scale 1/2" = 1'	Designed --	Drawn --	Checked --	Authorized --
Original Size 22x34	Date --/--	Date --/--	Date --/--	Date --/--
Drawing Number 100068207-S-309	Revision 000			



(IN FEET)
1/2 inch = 1 ft.

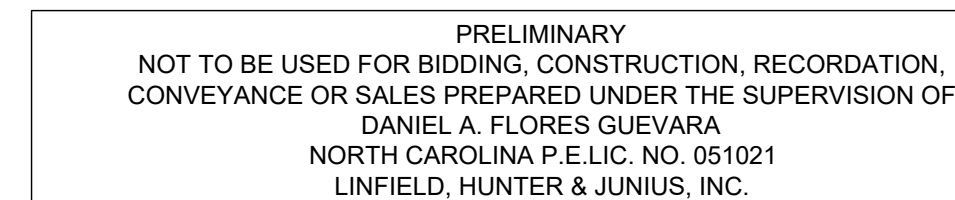
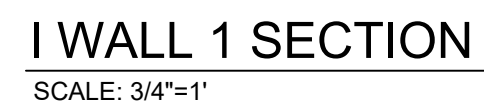


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Drawing Legend											
Seal						Seal					

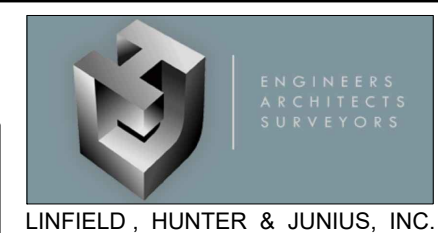
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Project Title	<h1 style="margin: 0;">WEST LUMBERTON FLOOD G AT VFW ROAD AND RAILROAD UNDERP ENGINEERING SERVICES</h1>
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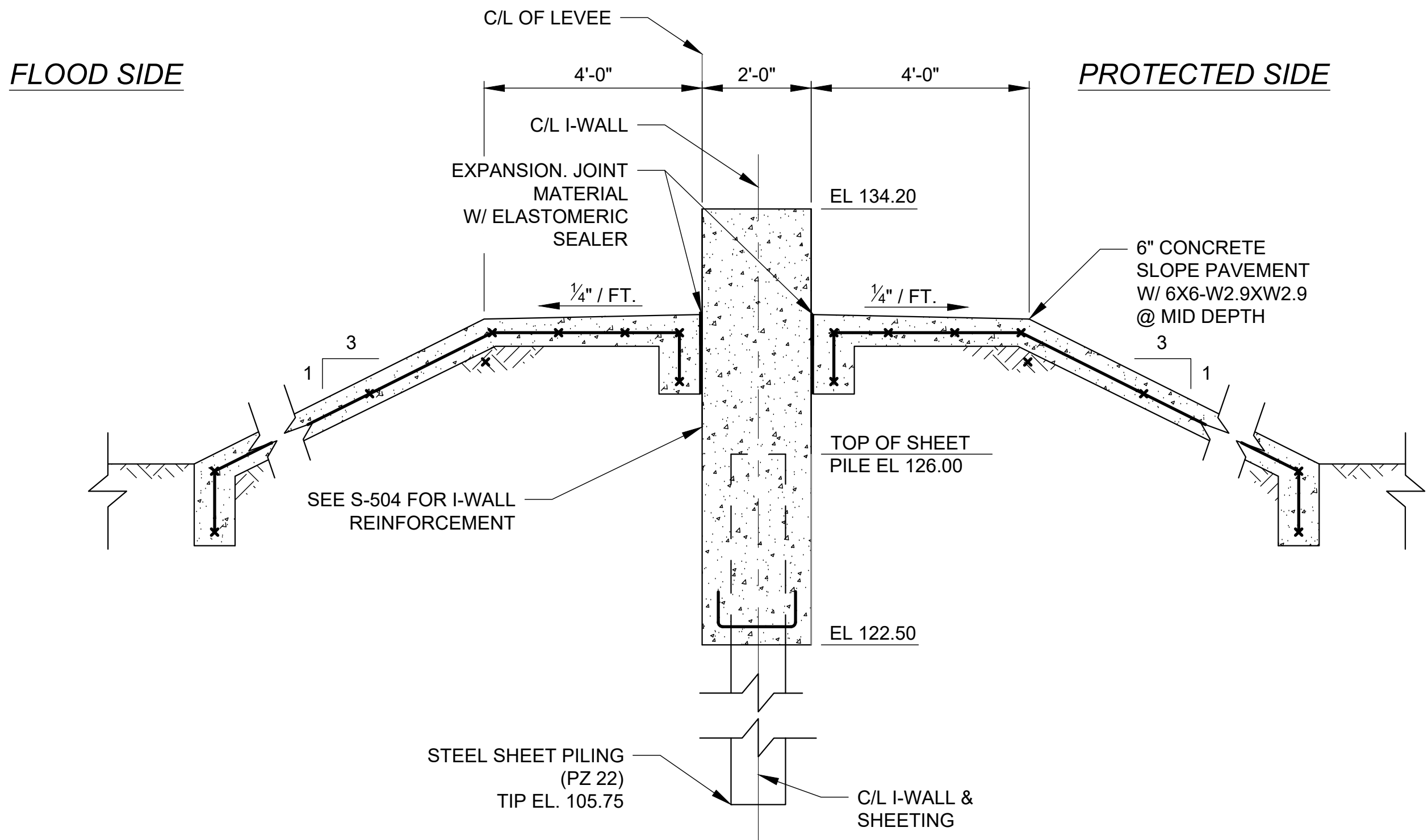
I-WALL 1
SECTION

Scale 3/4"= 1'	Designed ---	Drawn ---	Checked ---	Authorized ---
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-S-311				Revision 000

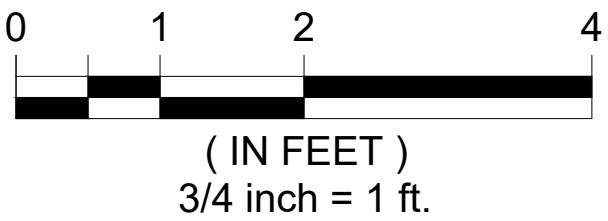
4
Inches
1
1/2
0

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Drawing Legend



I WALL 2 SECTION
SCALE: 3/4"=1'



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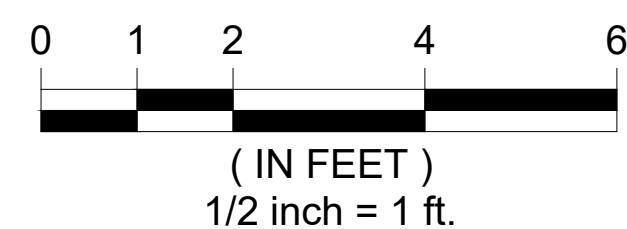
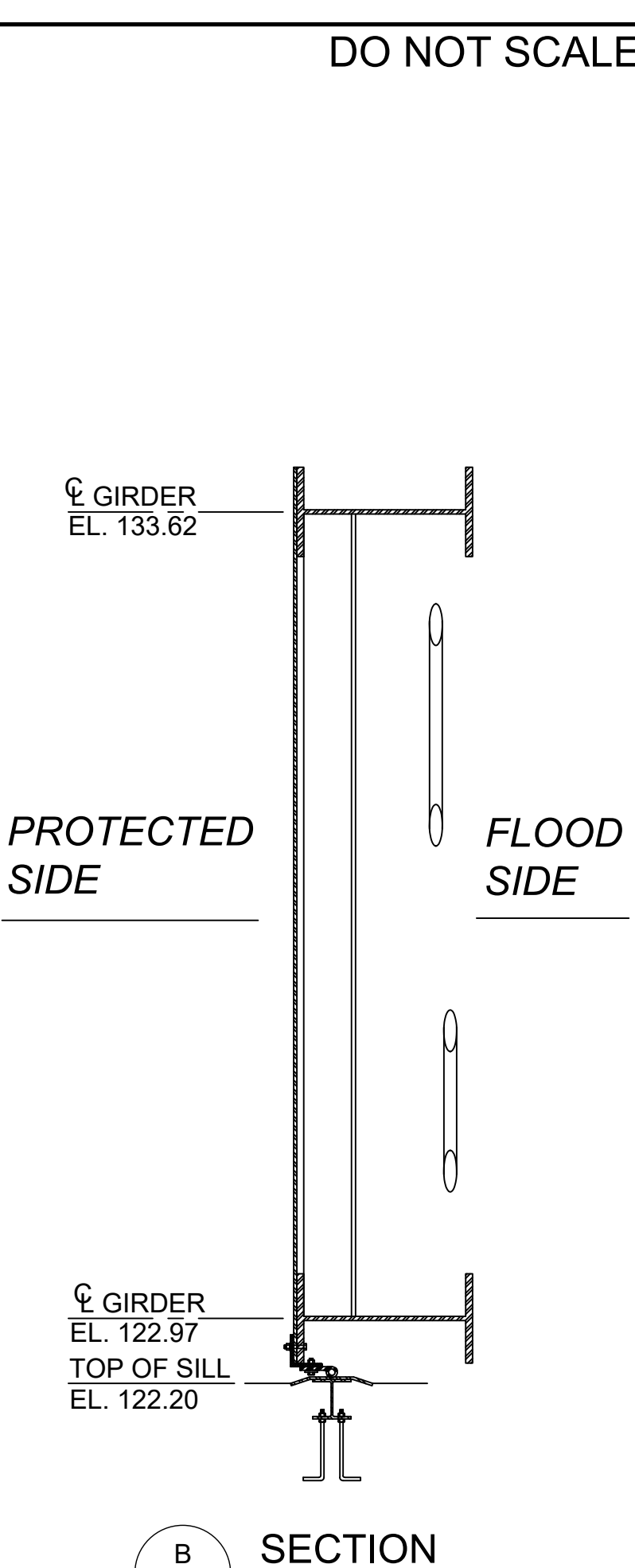
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Client	 City of LUMBERTON North Carolina
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Project Title	WEST LUMBERTON FLOOD G AT VFW ROAD AND RAILROAD UNDERP ENGINEERING SERVICES
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Drawing Title	I-WALL 2 SECTION
---------------	---------------------

Scale	3/4"= 1'	Designed	--	Drawn	--	Checked	--	Authorized	--
Original Size	22x34	Date	--/--/--	Date	--/--/--	Date	--/--/--	Date	--/--/--
Drawing Number	100068207-S-312	Revision	000						



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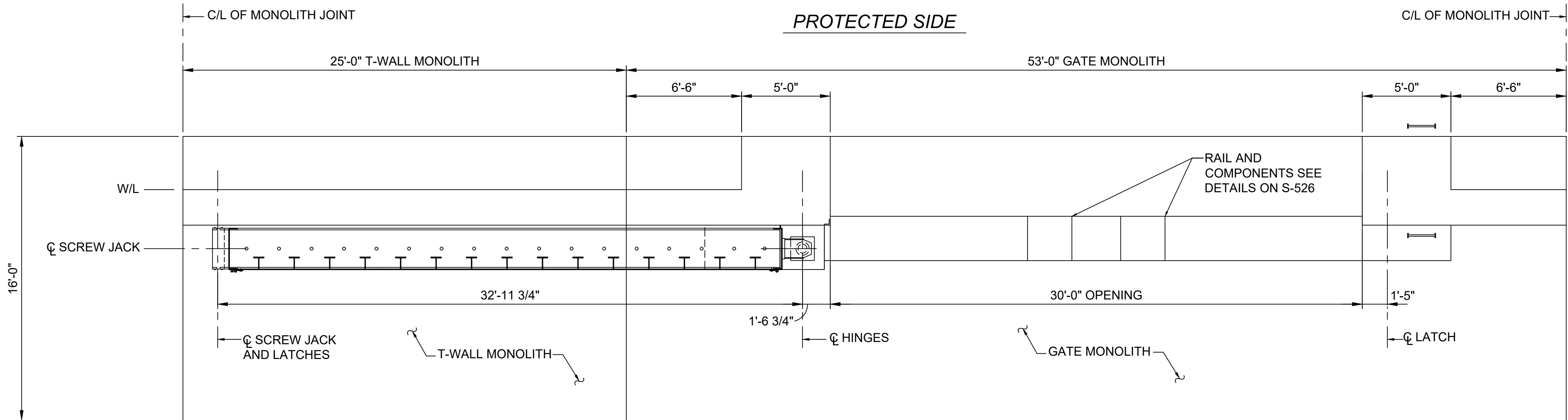
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Drawing Legend									
Seal					Seal				

4
1
1/2
0
Inches

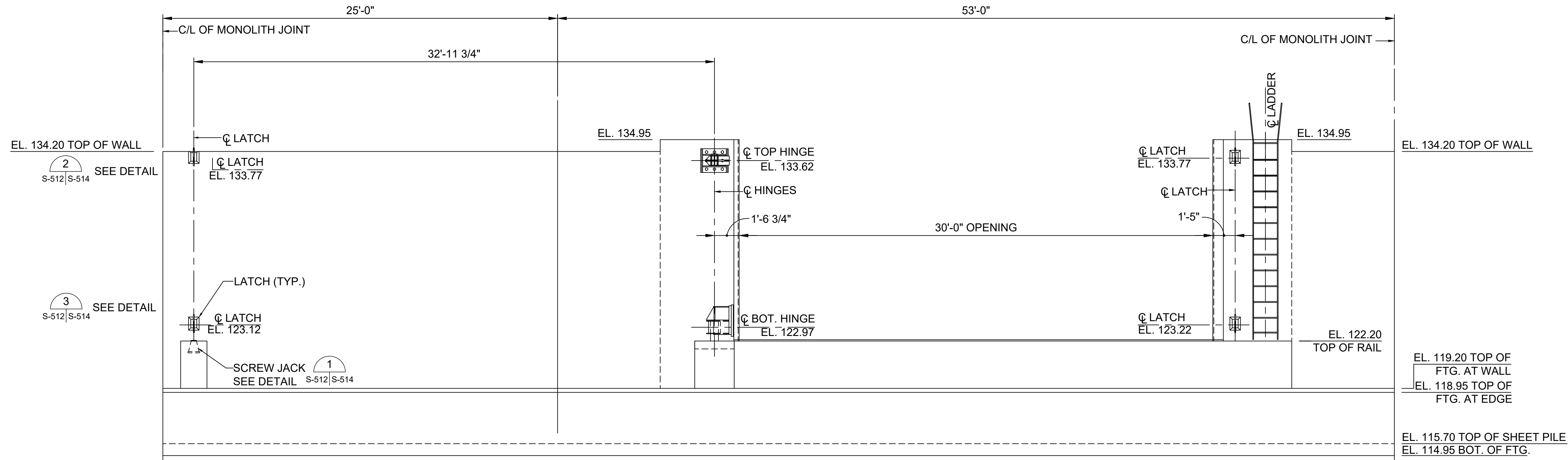
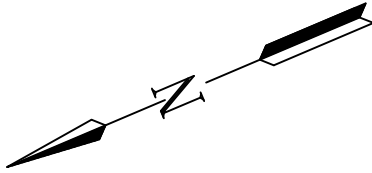
DO NOT SCALE

Drawing Legend



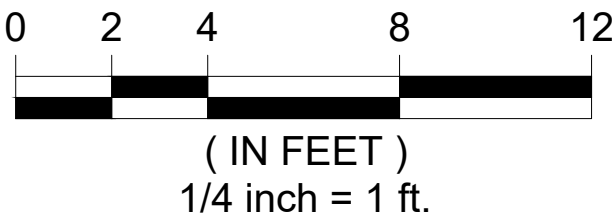
**GATE MONOLITH 5 PLAN
(GATE IN OPEN POSITION)**

SCALE: 1/4" = 1'-0"



FLOOD SIDE ELEVATION

SCALE: 1/4" = 1'-0"



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Client

City of LUMBERTON
North Carolina

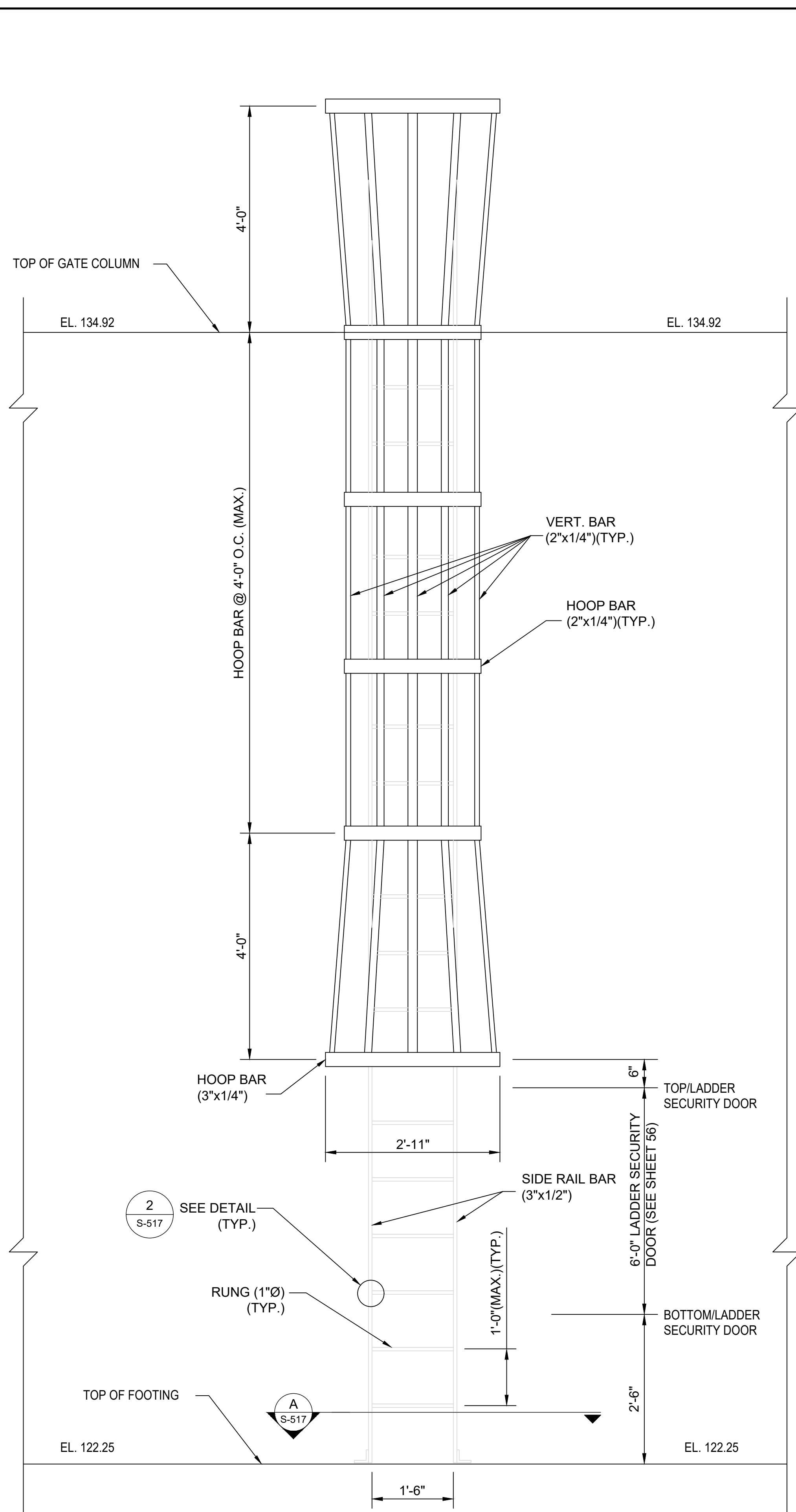
Project Title
**WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES**

Drawing Title
**SWING GATE
LATCHING DETAIL**

Scale	Designed	Drawn	Checked	Authorized
1/4" = 1'	--	--	--	--
Original Size	Date	Date	Date	Date
22x34	--/--	--/--	--/--	--/--
Drawing Number	Revision			
100068207-S-512				000



Scale SEE DWG.	Designed --	Drawn --	Checked --	Authorized --
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-S-515				Revision 000

[illegible]

Drawing Legend

Seal	Seal
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[illegible]

Rev.	Date	Description	By	Chk'd	App'd
Drawing Status					Suitability
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The logo for the City of Lumberton, North Carolina. It features a stylized green palm tree in the center. Behind the tree is a large yellow sun. Below the tree are three wavy lines in shades of blue and purple, representing water or a landscape. The text "City of" is written in a cursive font above the tree. Below the wavy lines, the word "LUMBERTON" is written in large, bold, purple capital letters. Underneath "LUMBERTON", the words "North Carolina" are written in a green cursive font.

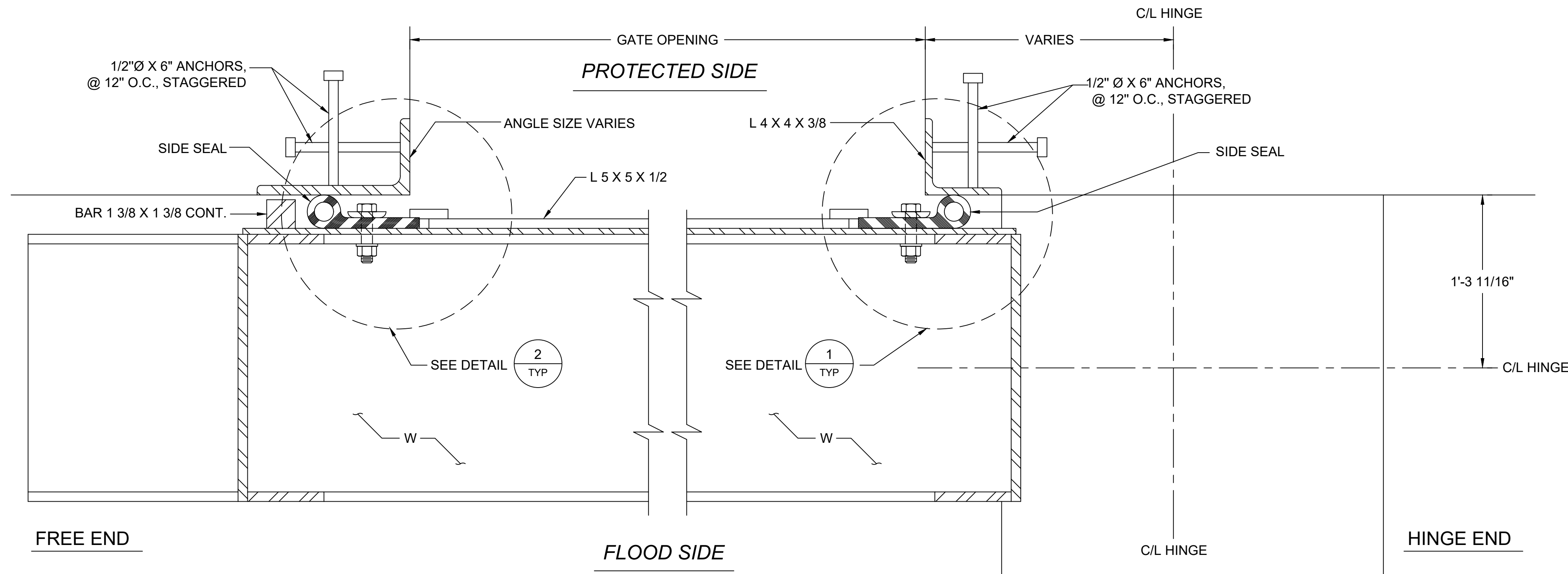
Project Title

WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES

Drawing Title

LADDER DETAIL (2 OF 3)

Scale 3/4" = 1'-0"	Designed --	Drawn --	Checked --	Authorized --
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-S-516				Revision 000



C.R.S.

9/16"Ø HOLES,
FOR 1/2"Ø BOLTS

0.3125

R=5/16"

1.00 1.00

2.00

1/2" Ø X 6" ANCHORS,
@ 12" O.C., STAGGERED

L 8 X 4 X 1/2

FACE OF COLUMN

0.5000

5.0000

1.5000

SIDE SEAL

BAR 1 3/8 X 1 3/8 CONT.

1 3/4" Ø

5/16 SKIN PL

R=5/16"

SEAL RETAINING BAR 2 X 5/16,
C.R.S., SEE DETAIL

0.5625

1" Ø

9/16" X 1 1/2" VERTICAL
SLOTTED HOLES IN BEAM
FLANGES AND SKIN PL

END PL

1.5000

6.7500

2.7500

FLANGE W

1/2" Ø BOLTS W/WASHERS,
@ 12" O.C., C.R.S.

0 $\frac{1}{2}$ 1 2

(IN INCHES)
12 inch = 1 ft.

0 3 6 12

(IN INCHES)
3 inch = 1 ft.

0 1 2 4

(IN INCHES)
6 inch = 1 ft.

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Drawing Legend

[illegible]

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Client

The logo for the City of Lumberton, North Carolina. It features a stylized green tree with a yellow sun behind it, set against a background of blue and white wavy lines representing water. The text "City of" is in a cursive font, "LUMBERTON" is in a large, bold, serif font, and "North Carolina" is in a smaller, cursive font below it.

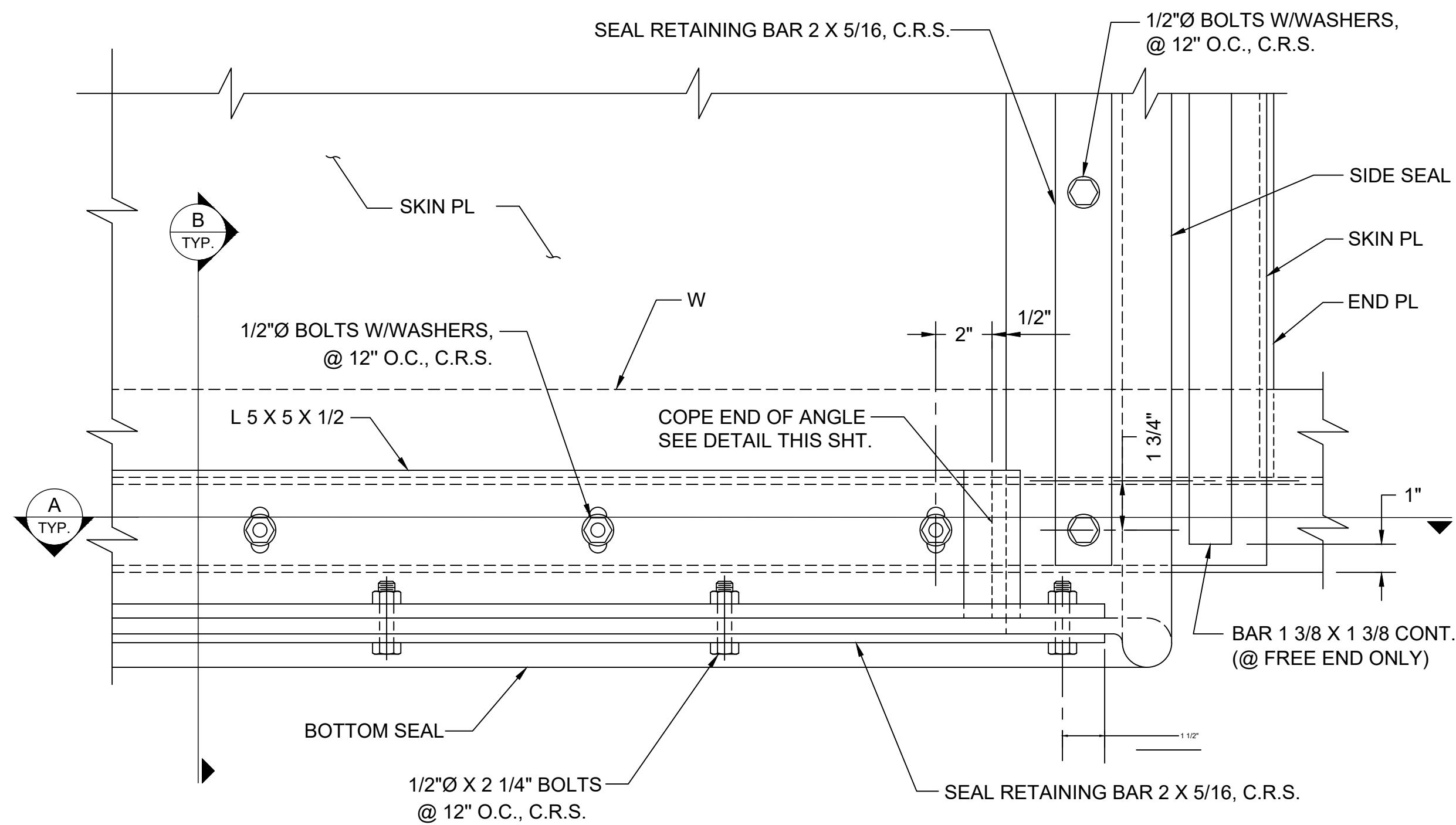
Project Title

WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES

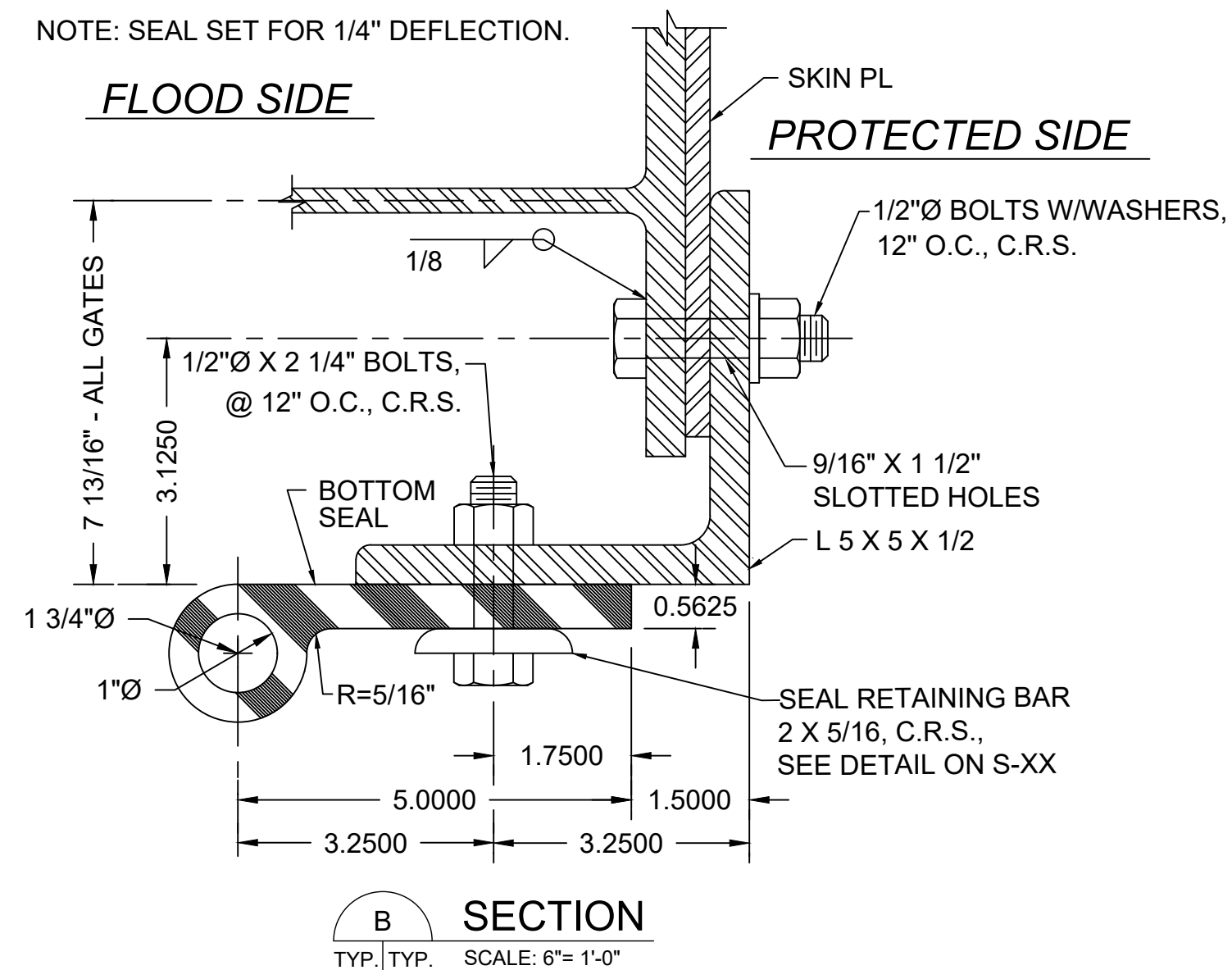
Drawing Title

SWING GATE
SEAL DETAIL (1 OF 2)

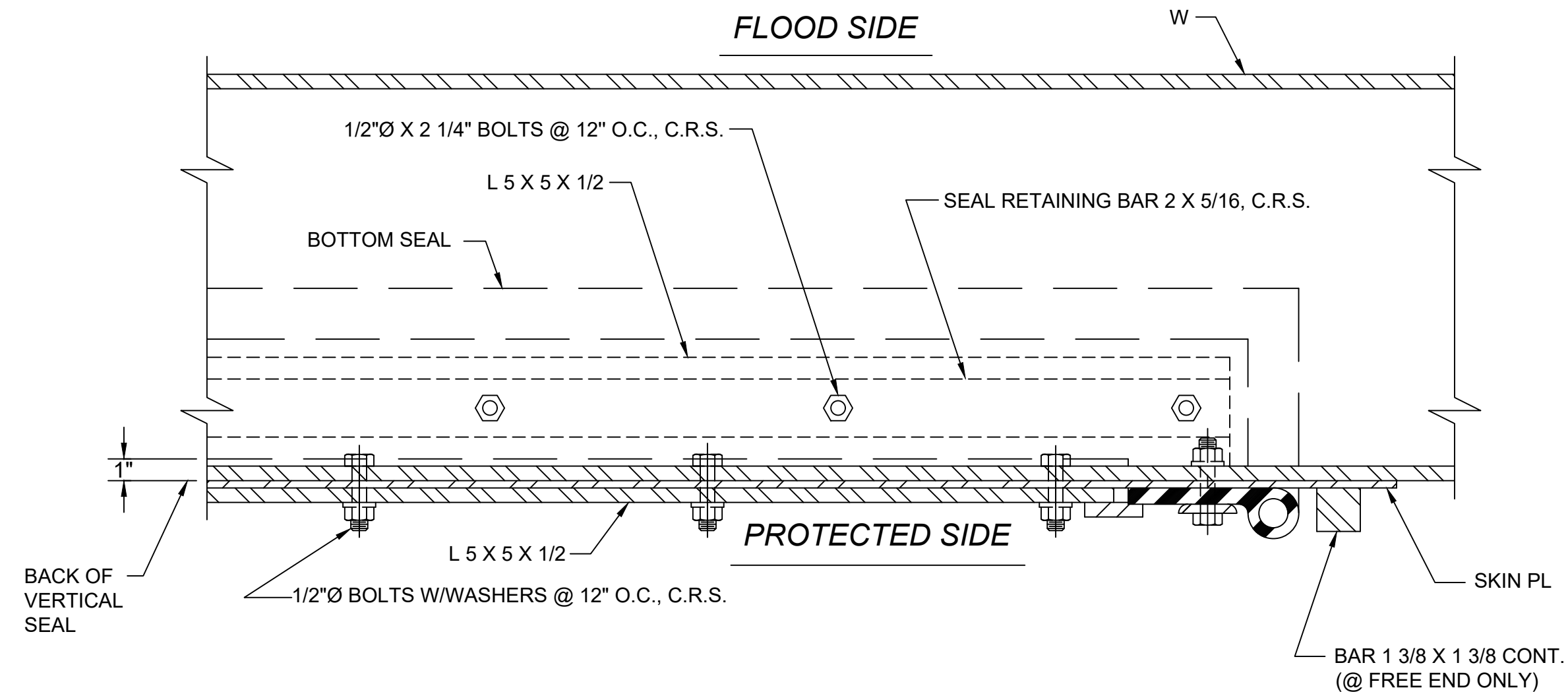
Scale SEE DWG.	Designed --	Drawn --	Checked --	Authorized --
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-S-520				Revision 000



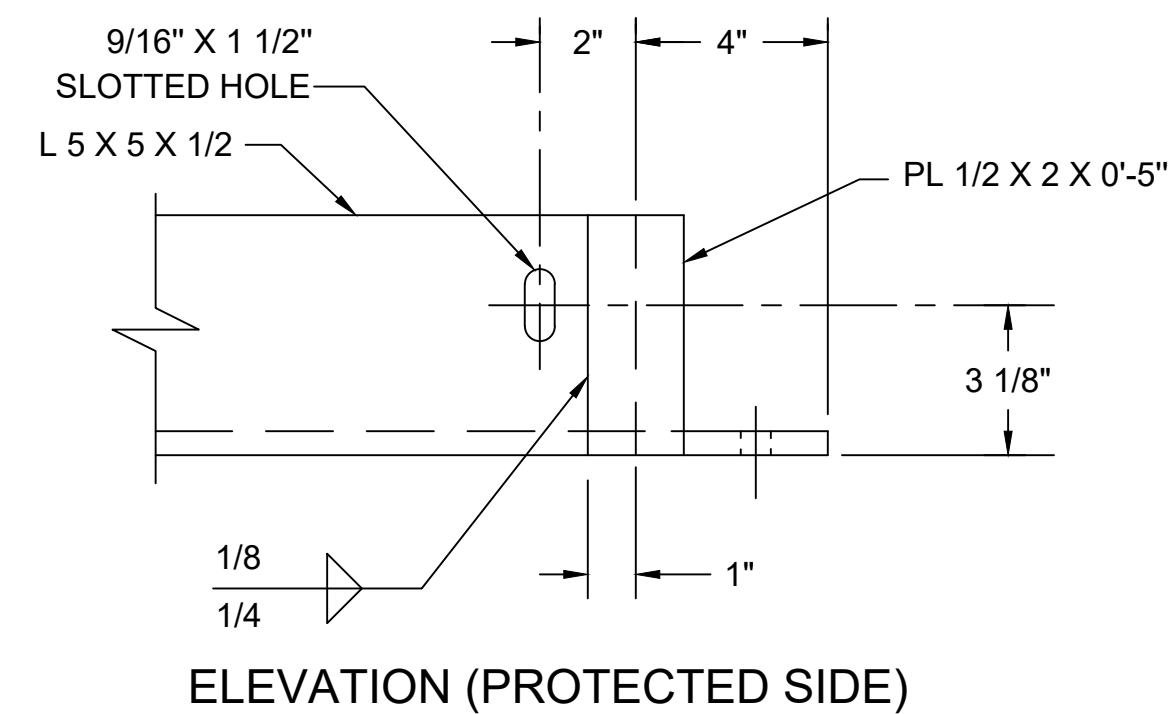
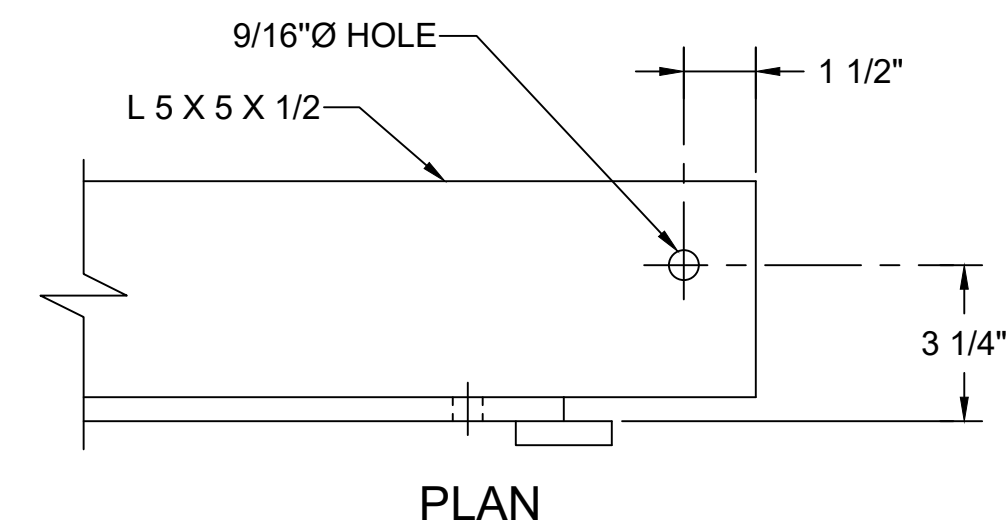
SCALE: 3" = 1'-0"



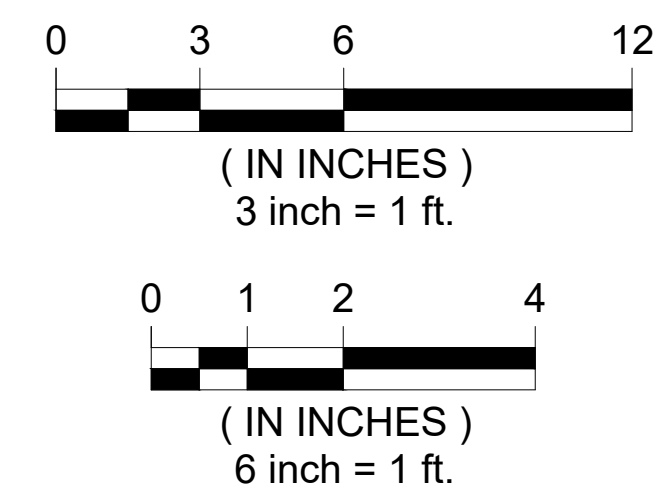
1. FOR GENERAL NOTES, SEE G-001.
2. ALL SPLICES WILL BE FACTORY MADE IN HEAVY STEEL PRESS TYPE MOLDS UNDER PRESSURE AND HEAT.
3. ALL SPLICE JOINTS MUST DEVELOP STRENGTH OF AT LEAST 50% OF THE MINIMUM TENSILE STRENGTH REQUIRED OF THE RUBBER.
4. SEAL CLAMP ANGLES SHALL BE PAINTED ON ALL SIDES PRIOR TO ASSEMBLY.
5. AFTER ASSEMBLY AND SEAL ADJUSTMENTS ARE MADE, ALL GAPS IN SEALS AND SEAL SUPPORTS SHALL BE SEALED WITH A SILICONE RUBBER SEALANT TO PROVIDE WATERTIGHT JOINTS.



SECTION
TYP. TYP. SCALE: 3"= 1'-0"







END OF L 5 X 5 X 1/2
SCALE: 3" = 1'-0"



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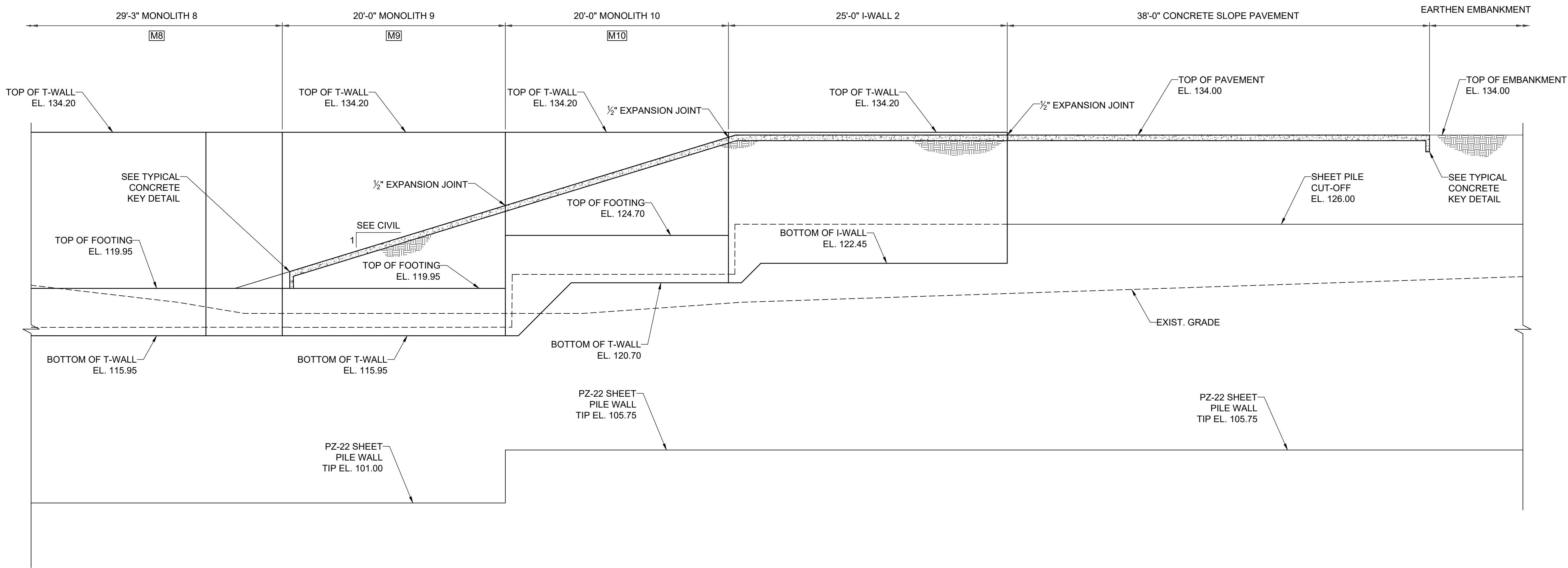
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Drawing Legend					
Seal			Seal		
Rev.	Date	Description	By	Chk'd	App'd
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Client					
					
Project Title					
WEST LUMBERTON FLOOD G AT VFW ROAD AND RAILROAD UNDERP ENGINEERING SERVICES					
Drawing Title					
SWING GATE SEAL DETAIL (2 OF 2)					
Scale	Designed	Drawn	Checked	Authorized	
SEE DWG. Original Size 22x34	-- Date --/--/--	-- Date --/--/--	-- Date --/--/--	-- Date --/--/--	
Drawing Number				Revision	
100068207-S-521				000	

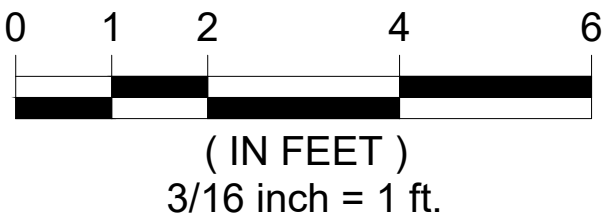
4
Inches
1
1/2
0

DO NOT SCALE

Drawing Legend



SLOPE PAVEMENT ELEVATION- NORTH SIDE
SCALE: 3/16" = 1'-0"



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Drawing Status					Suitability
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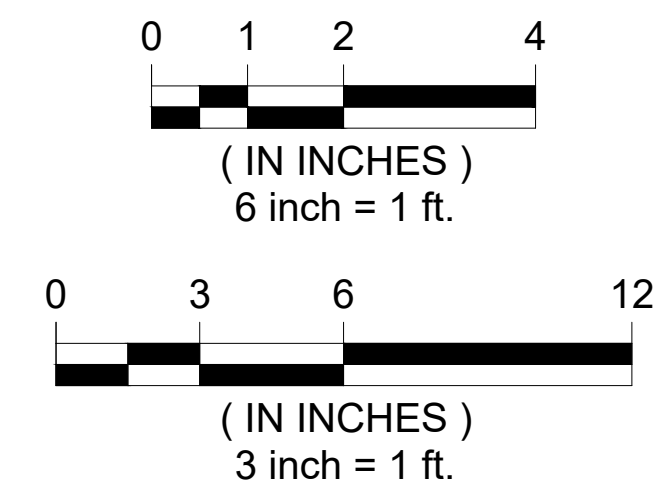
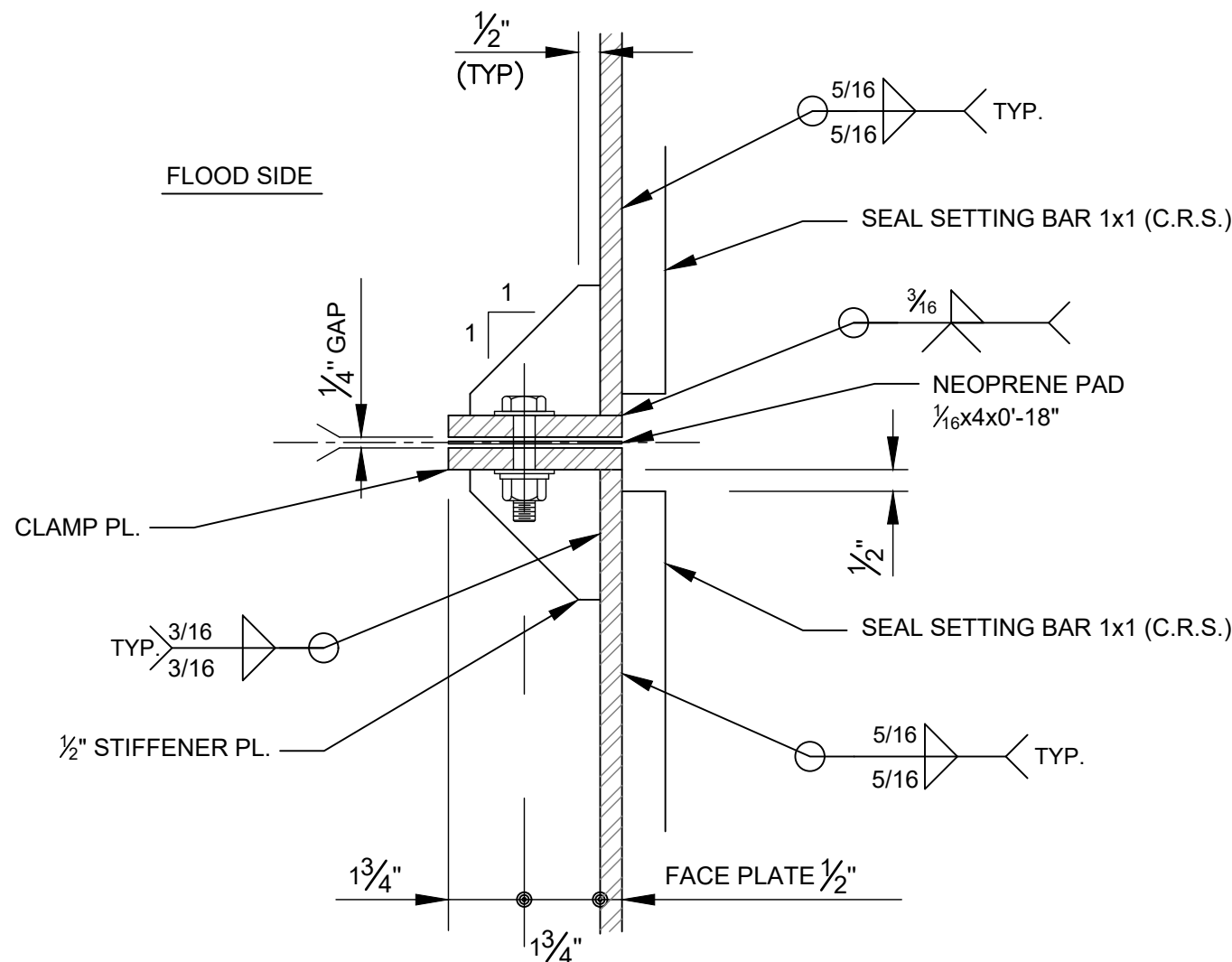
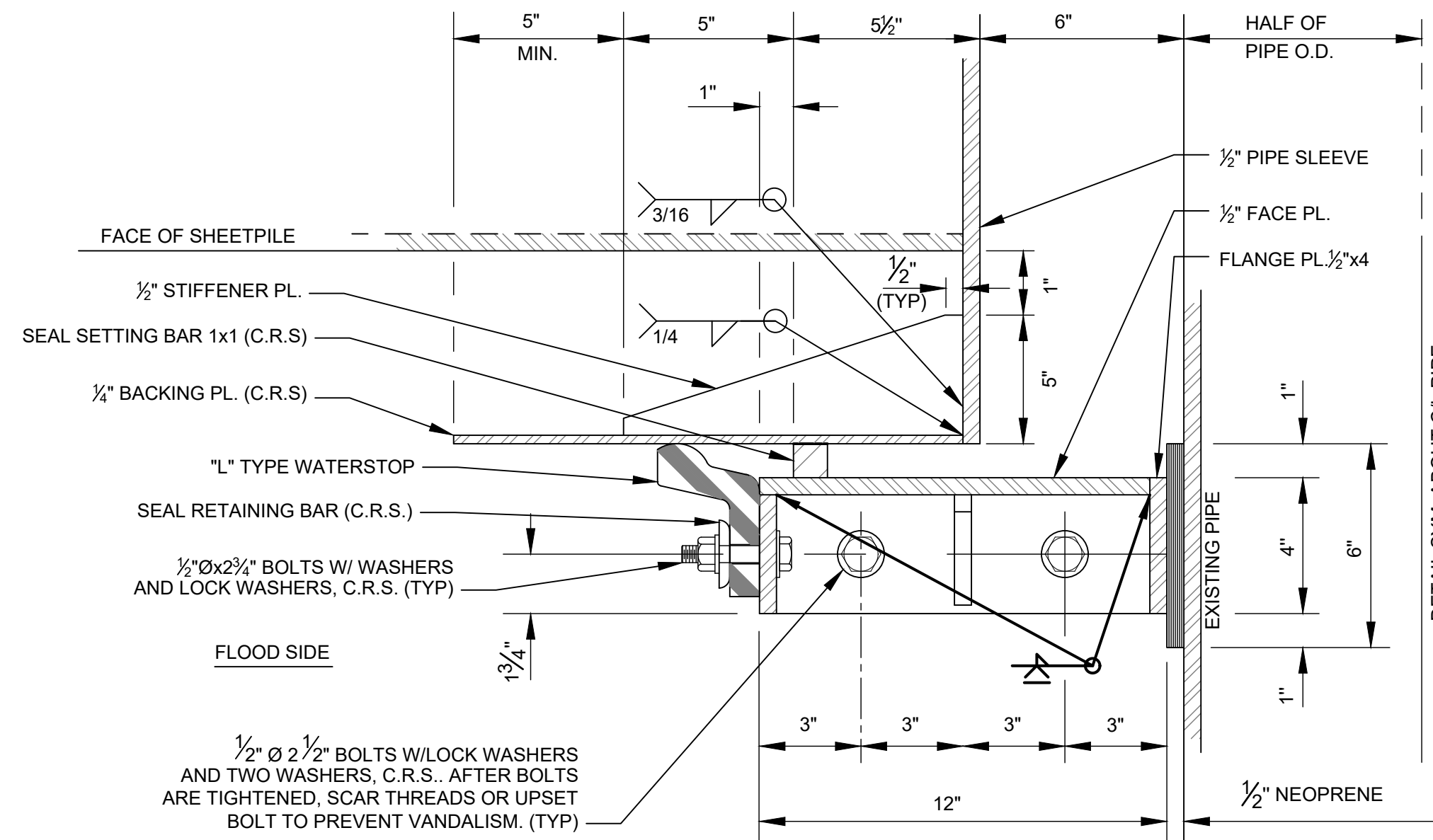
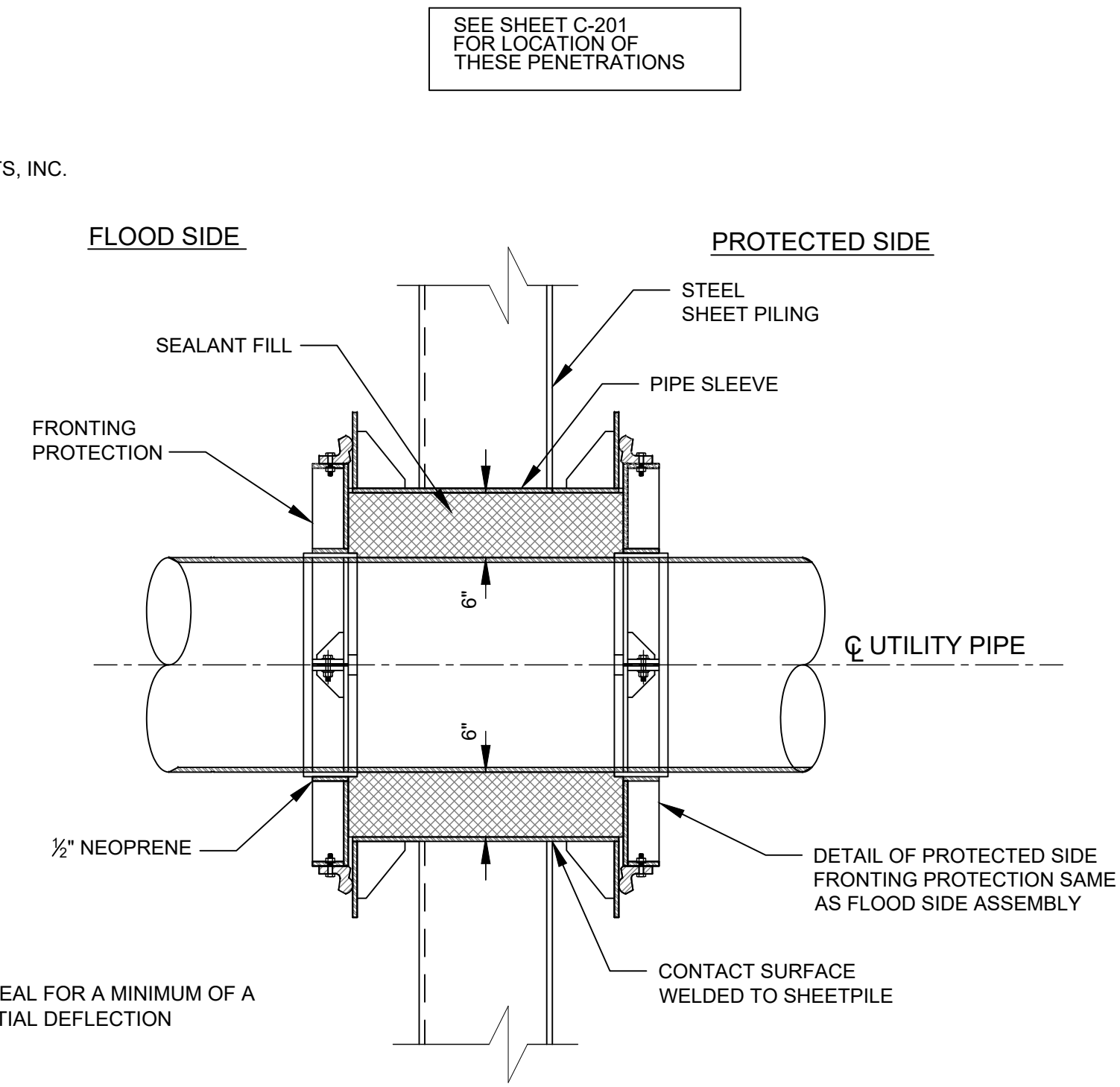
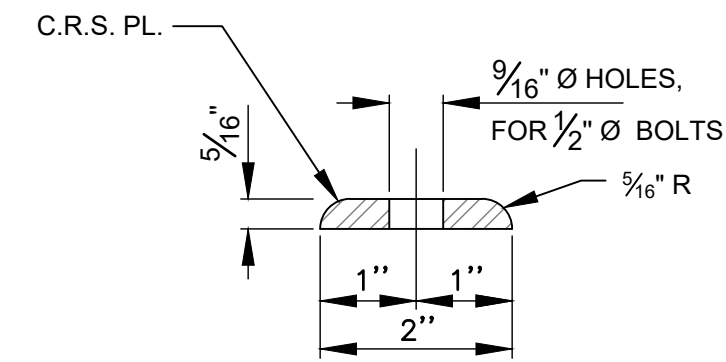
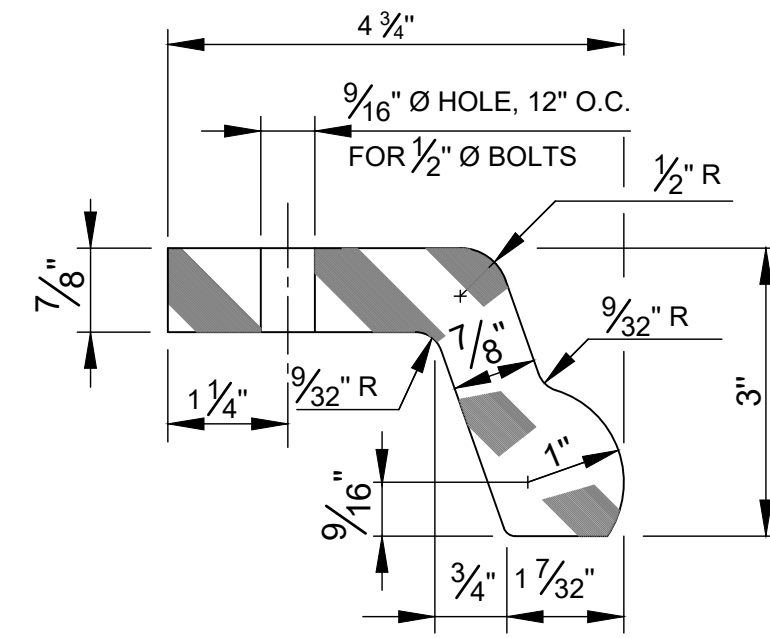
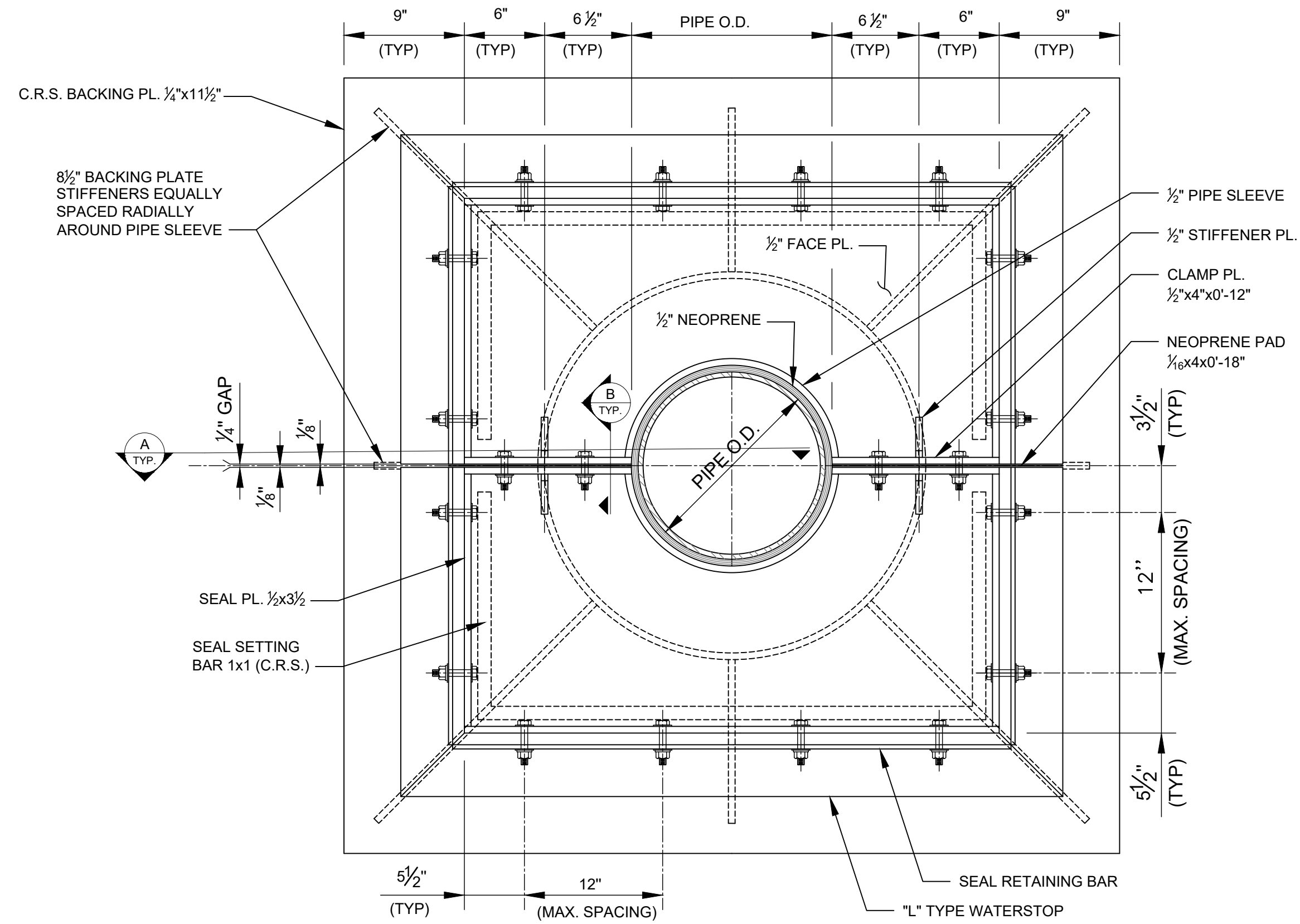
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Project Title
WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES

Drawing Title
SCOUR PROTECTION
DETAIL (2 OF 2)

Scale 3/16"= 1'	Designed --	Drawn --	Checked --	Authorized --
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-S-523	Revision 000			



- NOTES:
1. THIS DETAIL IS BASED ON THE NEW WALL FACE BEING PERPENDICULAR TO THE PIPE.
 2. ALL FLANGE MATERIAL ATTACHED TO THE SHEETPILE SHALL BE STEEL.
 3. ALL MATERIAL FOR FRONTING PROTECTION SHALL BE ALUMINUM, UNLESS OTHERWISE NOTED.
 4. ALL STRUCTURAL ALUMINUM PLATES SHALL BE ASTM B 209, TYPE 6061-T6.
 5. ALL CORROSION-RESISTANT STEEL (C.R.S.) SHALL BE TYPE 316.
 6. WELDS SHOWN ARE TYPICAL FOR SIMILAR JOINTS AND ALL WELDS ON WALL SIDE OF FACE PLATE SHALL BE FLUSH WITH BASE METAL.
 7. AFTER THE TWO FRAMES ARE LOOSELY CLAMPED ON THE PIPE, THE TOTAL ASSEMBLY SHALL BE PUSHED AGAINST THE WALL, SETTING THE SEALS. THEN TIGHTEN CLAMP PLATES TO CLOSE THE 1/4" GAP.
 8. UPON COMPLETION OF THE ASSEMBLY, APPLY A ANAEROBIC ADHESIVE (LOCTITE THREADLOCKER 290 OR EQUAL) TO ALL NUT AND BOLT JUNCTURES
 9. INCLUDE THE COST OF THE WORK ON THIS SHEET IN THE LUMP SUM PRICE FOR "DRAINAGE CANAL CROSSINGS AND END TREATMENT"

ALL PLATE $\frac{1}{2}$ "
UNLESS OTHERWISE NOTED

NOTE:
SET SEAL FOR A MINIMUM OF A
1/4" INITIAL DEFLECTION

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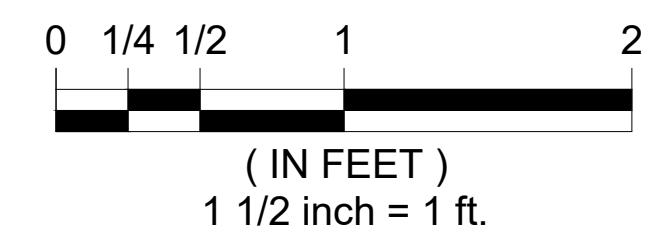
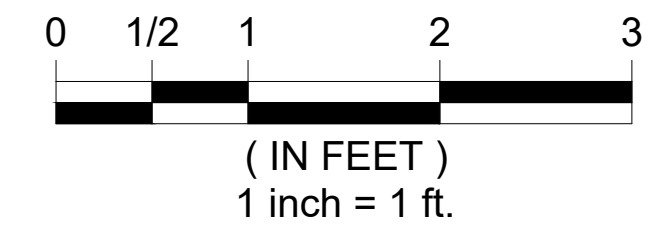
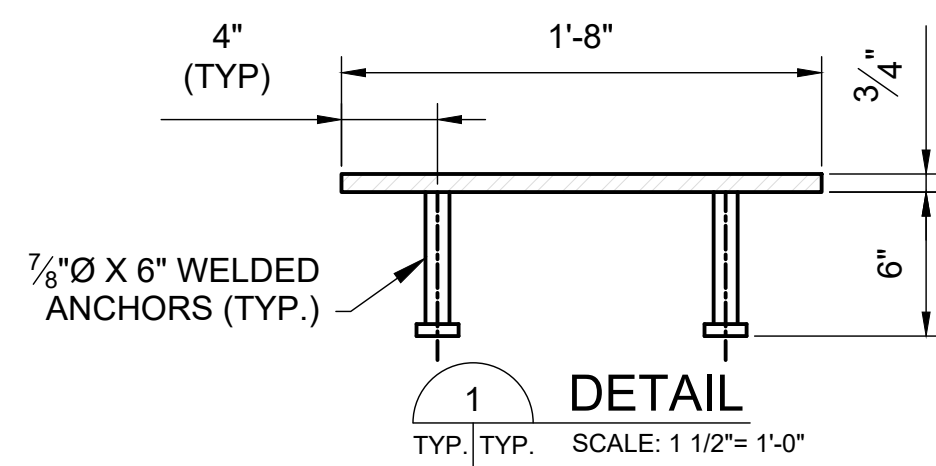
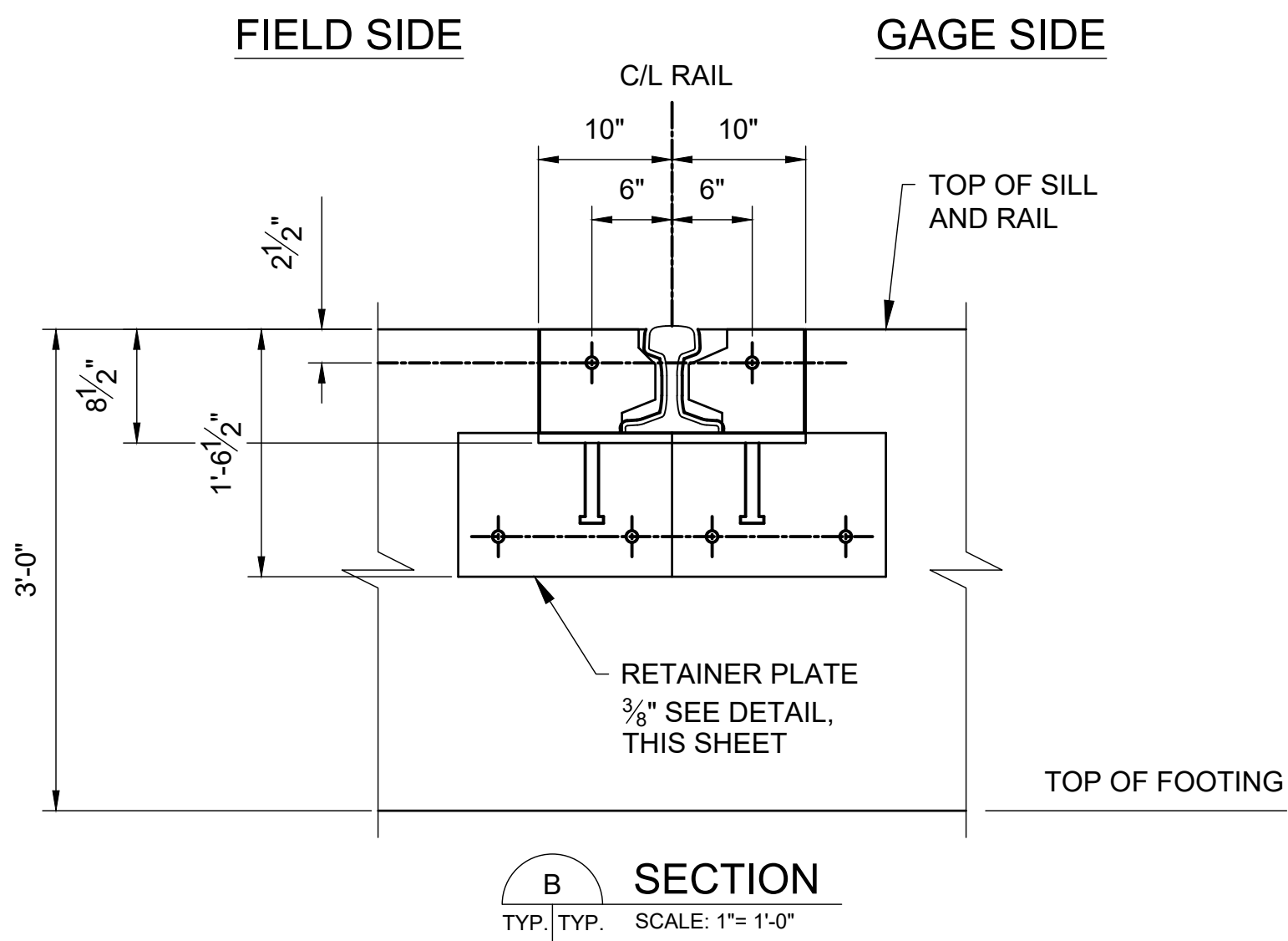
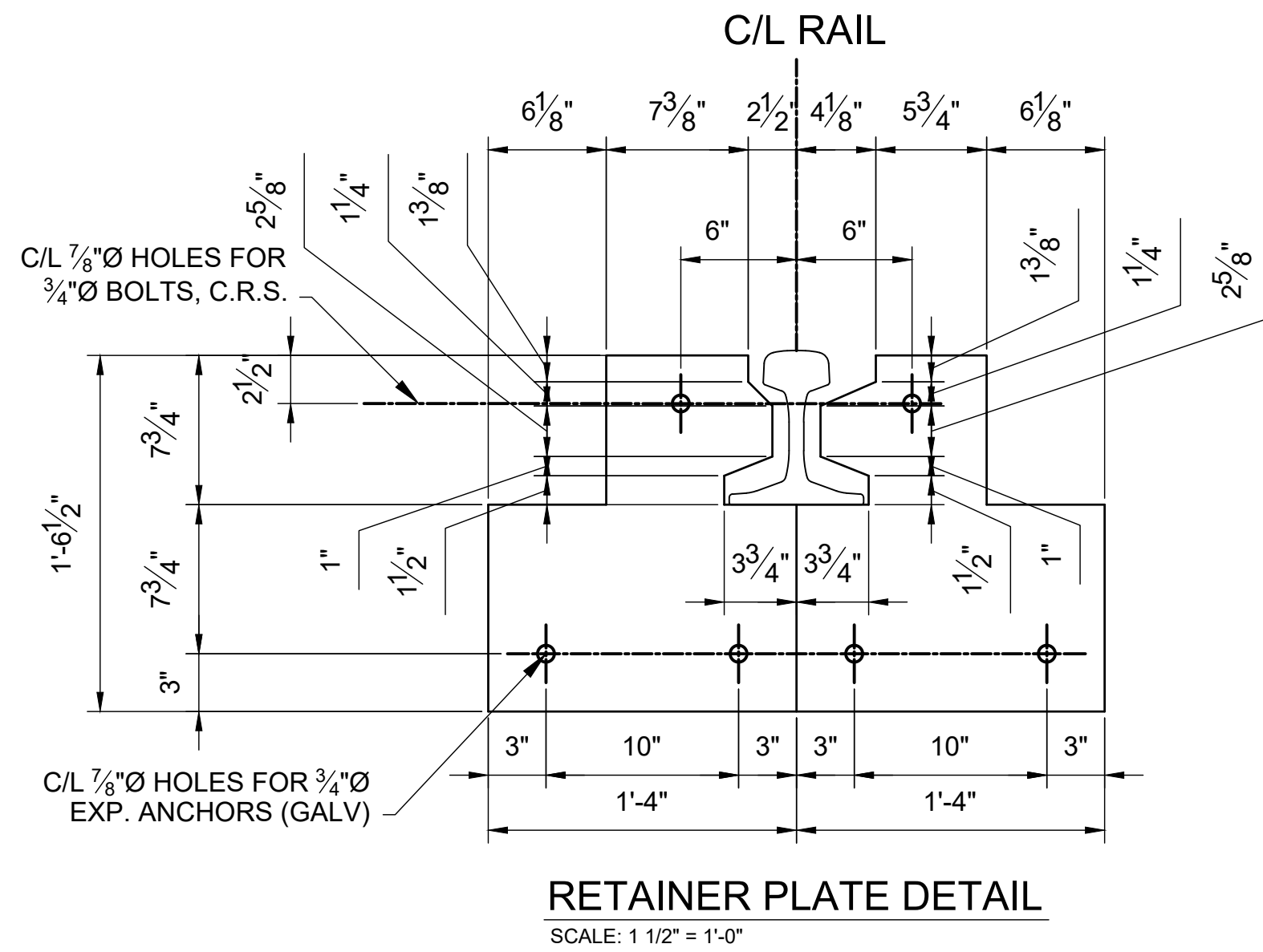
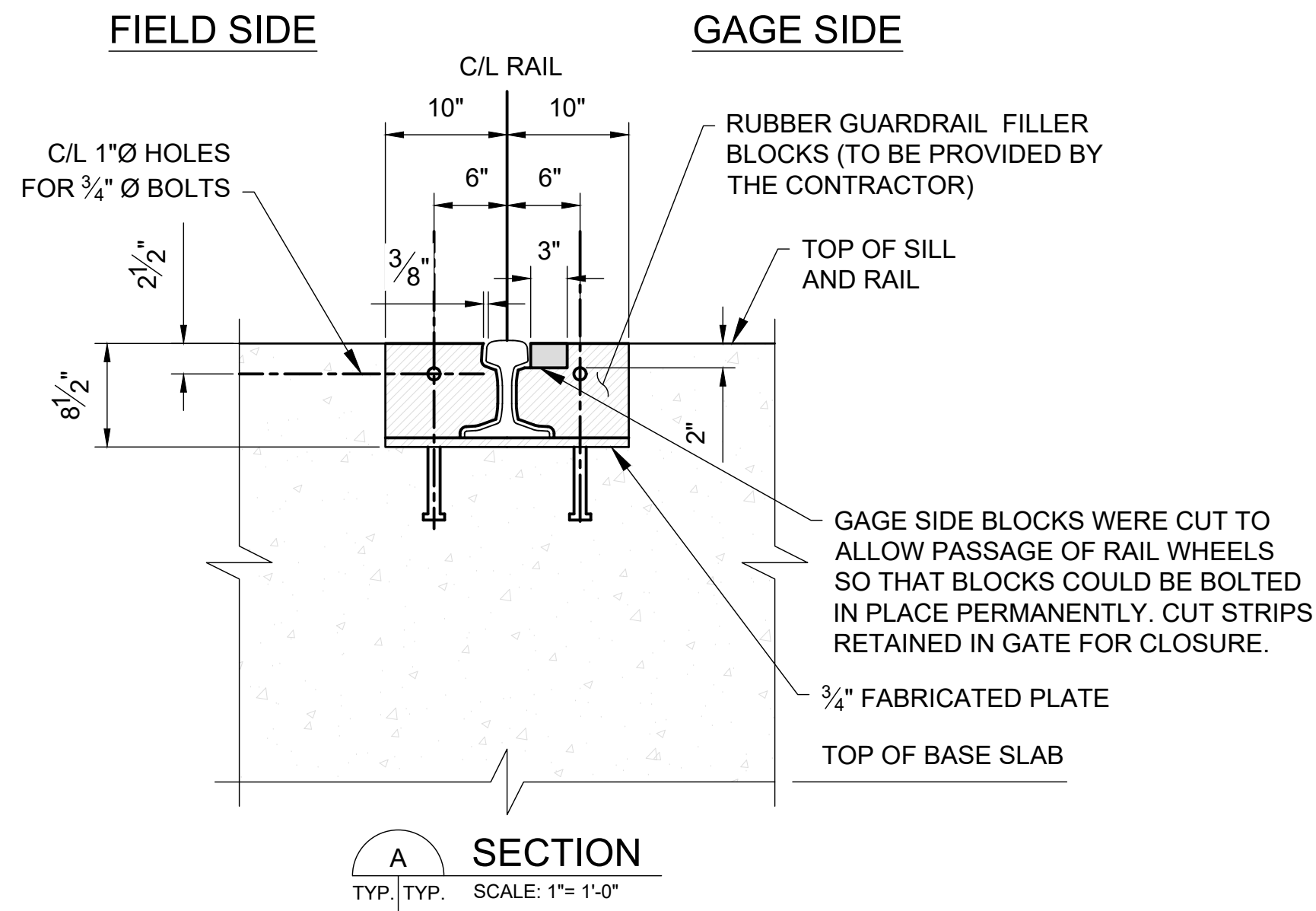
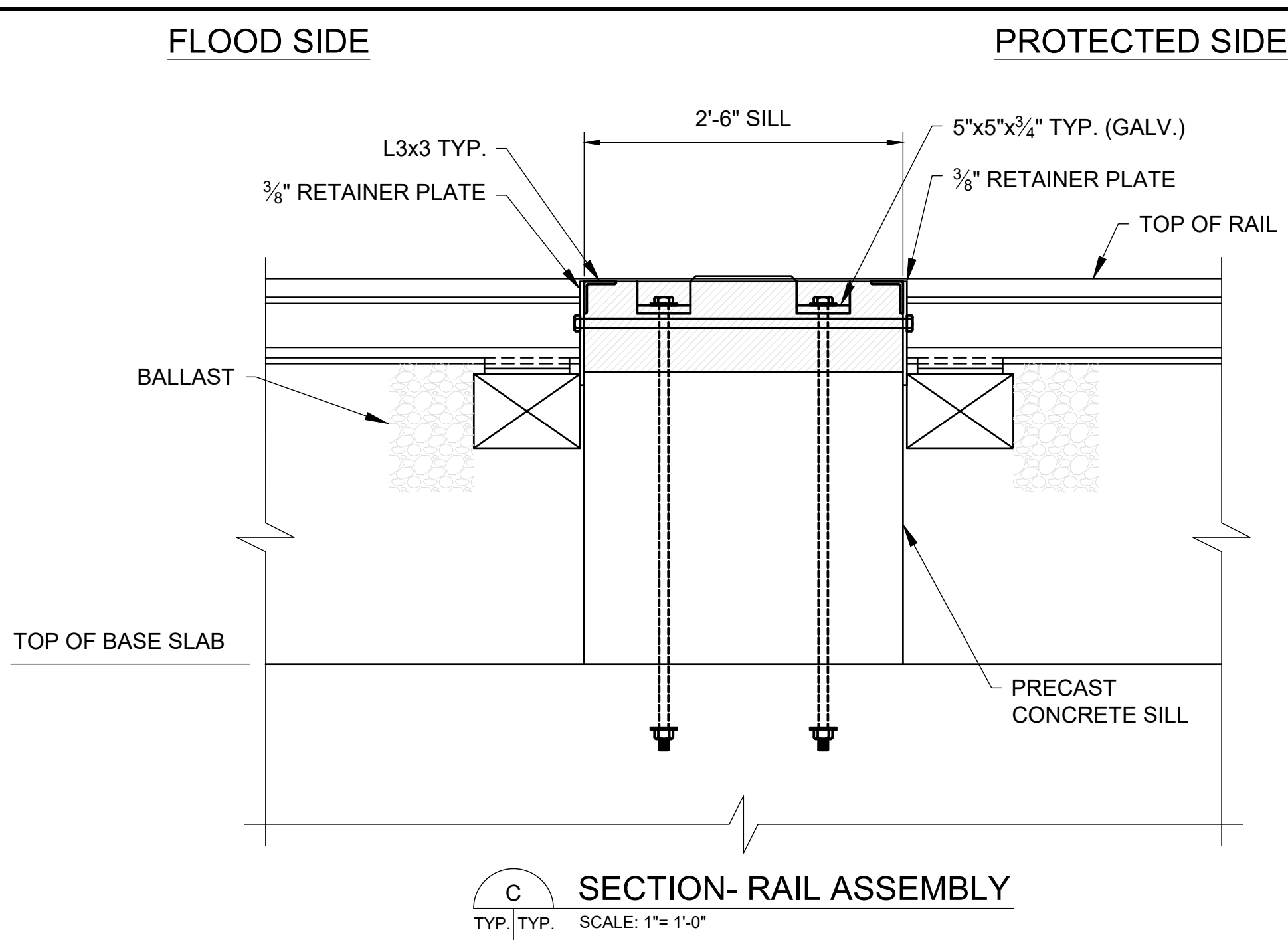
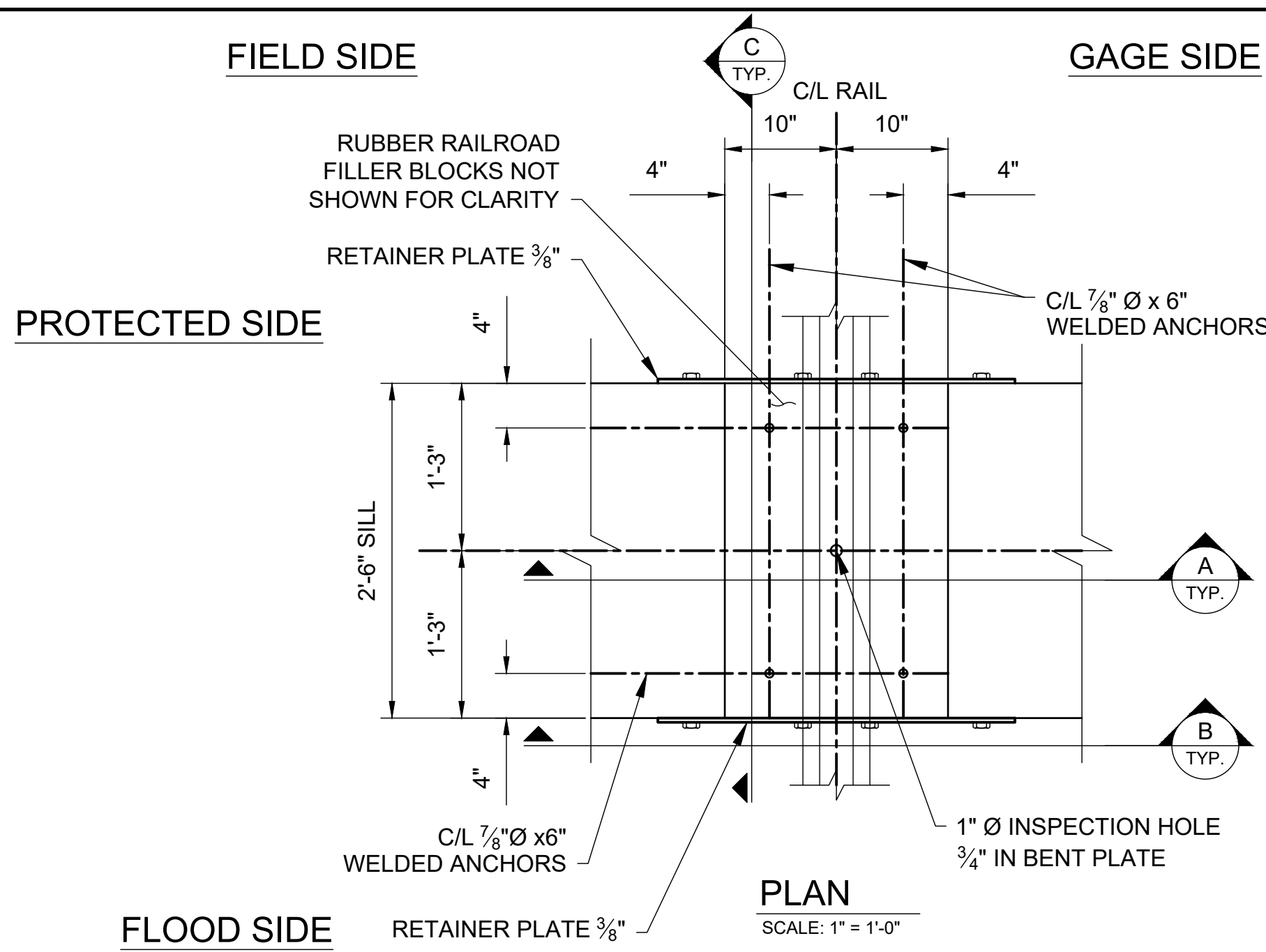
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Drawing Legend

Seal					Seal				

Scale SEE DWG.	Designed --	Drawn --	Checked --	Authorized --
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-S-524				Revision 000

4
1
1/2
0
Inches



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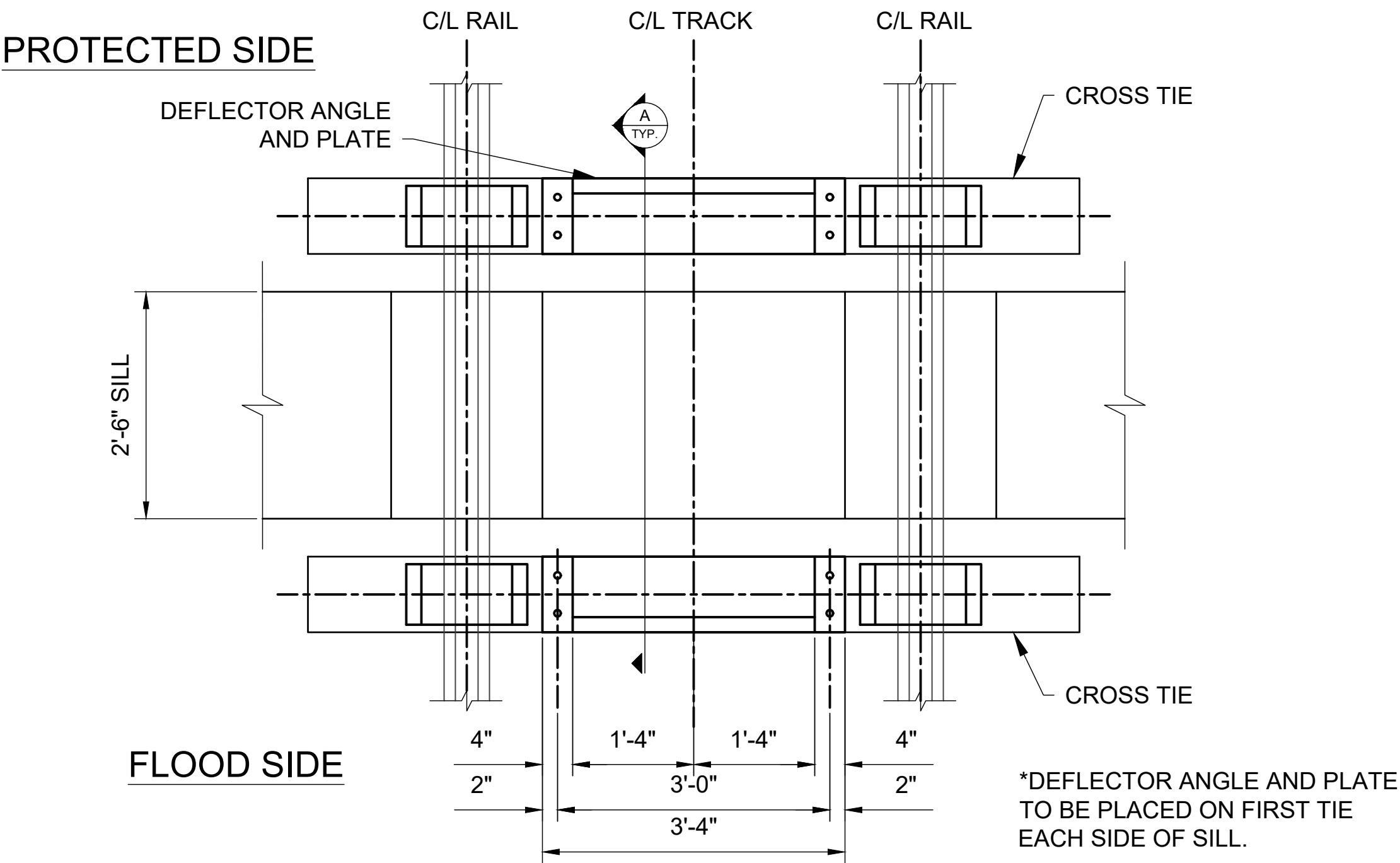


Project Title
WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES

Drawing Title
RAIL AND COMPONENT
PART DETAIL (1 OF 2)

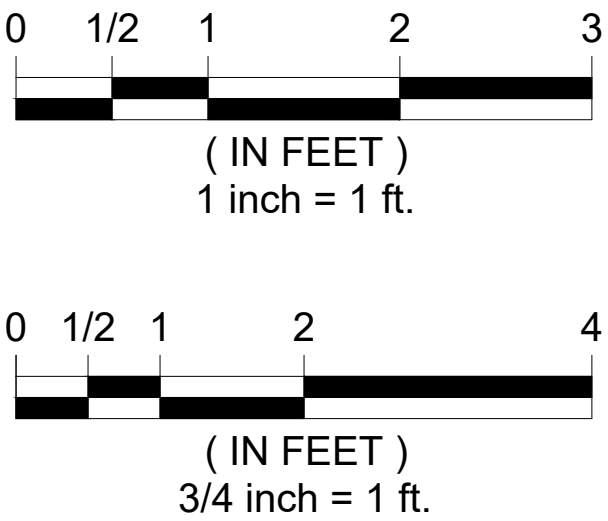
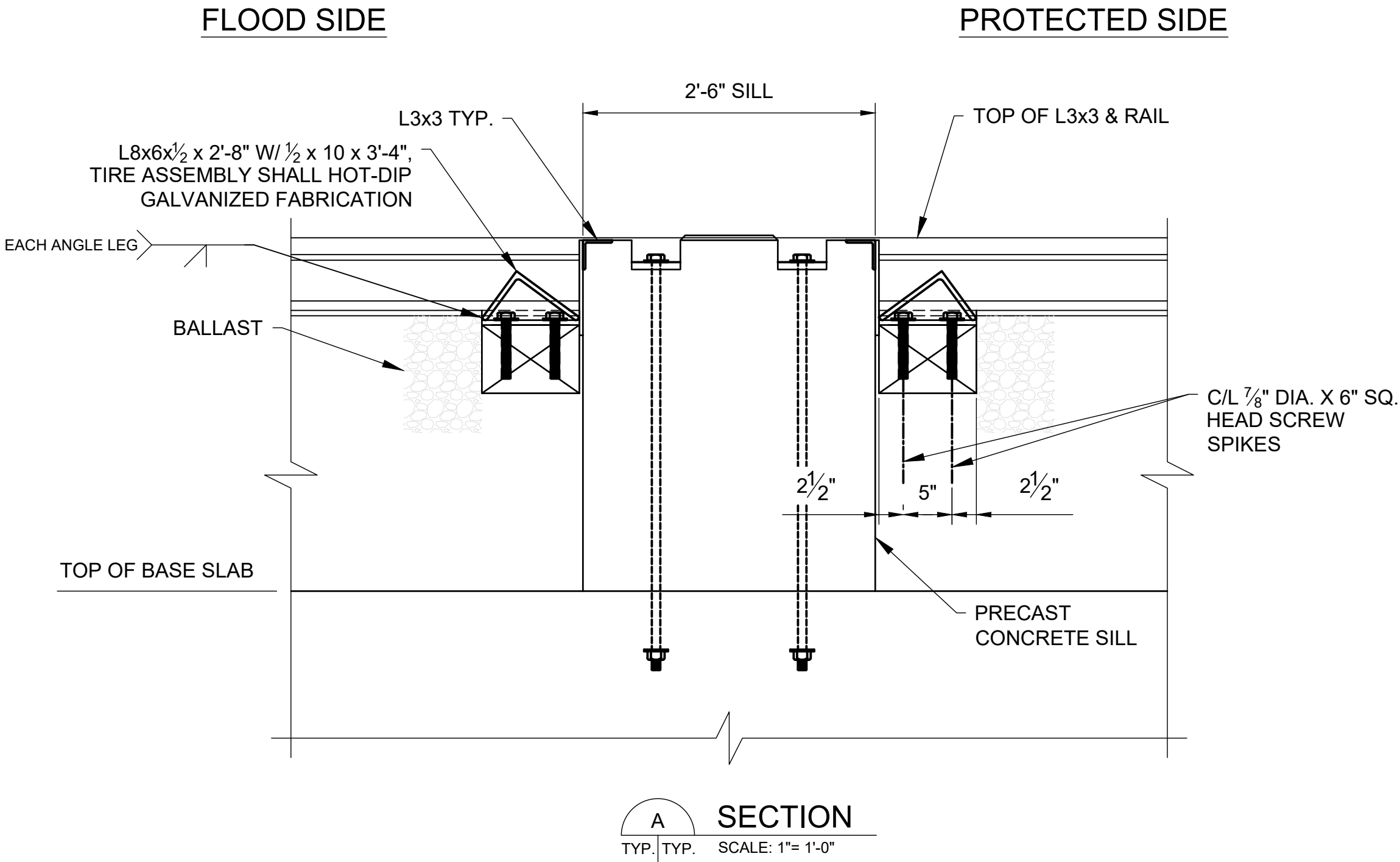
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Original Size	Date	Date	Date	Date
22x34	--/--	--/--	--/--	--/--
Drawing Number	Revision			
100068207-S-526				000

4
Inches
1
0 1/2



PLAN - DEFLECTOR ANGLE AND PLATE DETAIL

SCALE: 3/4" = 1'-0"



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Client		 City of Lumberton North Carolina			
Project Title		WEST LUMBERTON FLOOD G AT VFW ROAD AND RAILROAD UNDERP ENGINEERING SERVICES			
Drawing Title		RAIL AND COMPONENT PART DETAIL (2 OF 2)			
Scale	Designed	Drawn	Checked	Authorized	
SEE DWG.	--	--	--	--	
Original Size	Date	Date	Date	Date	
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Drawing Number					Revision
100068207-S-527					000

Drawing Legend

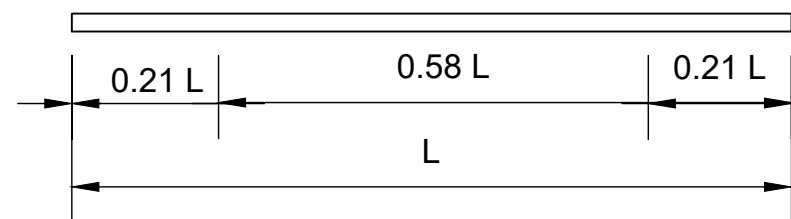


Diagram illustrating the cross-section of a pile cap. The cap is shown with a central vertical section. The top layer is labeled "HOOKED BARS FROM PILE TYPE." and the bottom layer is labeled "14" SQ. PPC PILE TYPE." The cap is shown with a central vertical section. The cap is shown with a central vertical section.

Technical drawing of a spiral reinforcement bar (PL) showing dimensions and specifications:

- PL (PAYMENT LENGTH)**: Total length of the bar.
- DRIVING HEAD**: 1'-3" at the top end.
- 2" CL**: 2-inch clearance at the top end.
- 3/4" CHAMFER**: Chamfer dimension at the top end.
- 12'-0"**: Main length of the bar.
- 8. 1/2" Ø, 7 WIRE, LOW RELAXATION STRANDS, GR 270**: Strand specifications.
- 4. #8**: Bar size specification.
- 6" PITCH**: Pitch of the spiral.
- 16 TURNS AT 3" = 4'-0"**: Turns at the bottom end.
- 5 TURNS AT 1" = 5"**: Turns at the bottom end.
- 1"**: Dimension at the bottom end.
- SPIRAL, WIRE SIZE W4**: Spiral wire size specification.

NOTE:
GRIND PRESTRESSED STRANDS FLUSH
WITH PILE HEAD AND PILE TIP.

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Rev.	Date	Description	By	Chk'd	App'd
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Project Title

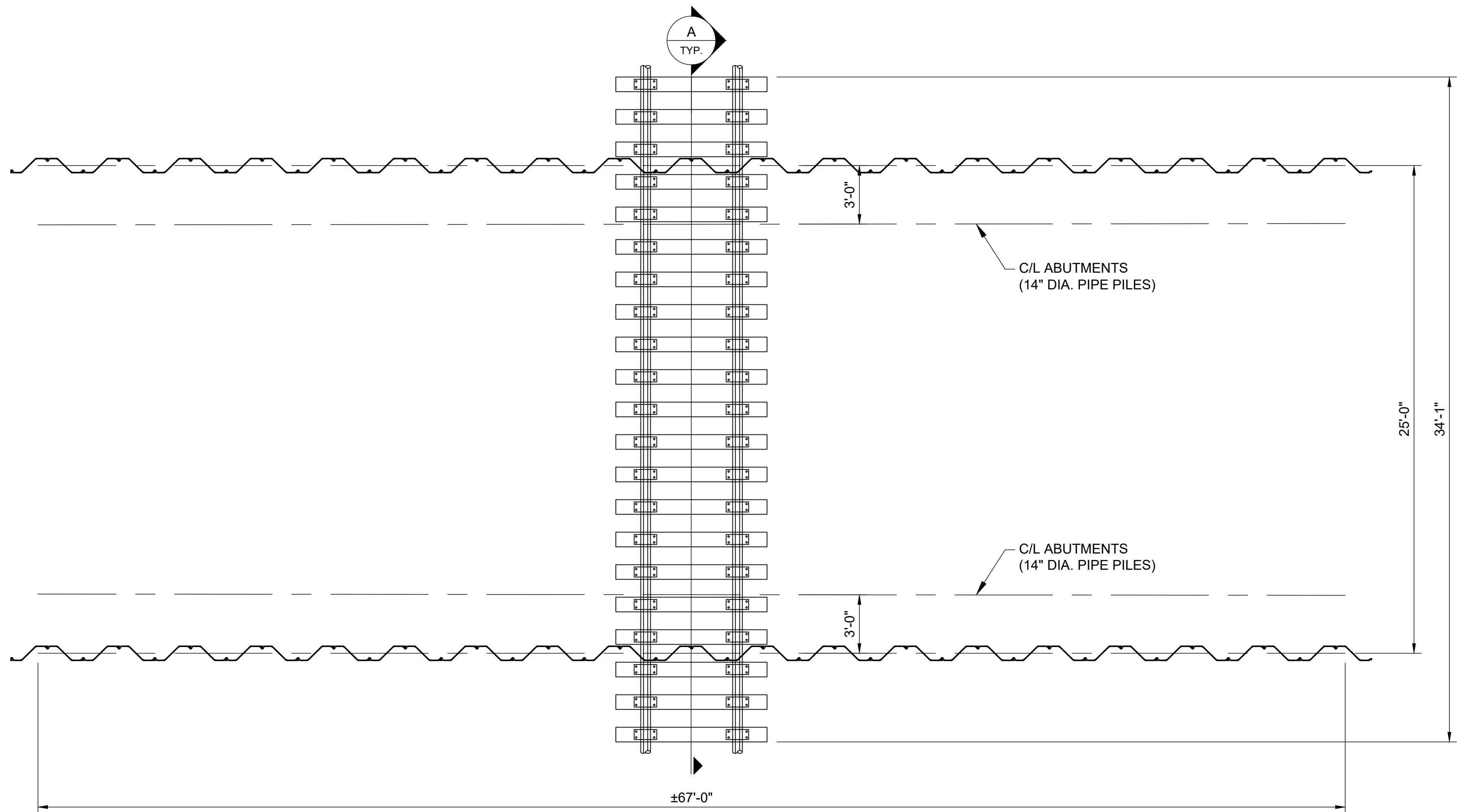
WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES

Drawing Title

TYPICAL PILE DETAIL

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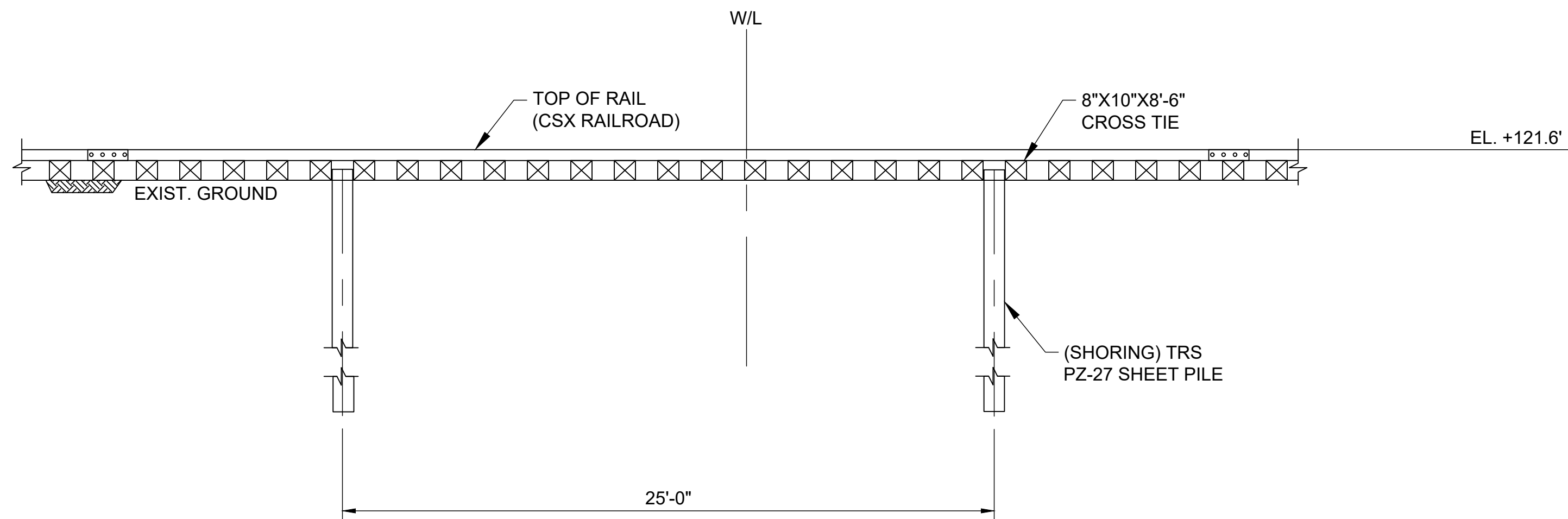
Drawing Legend



PHASE 1 CONSTRUCTION SEQUENCING:

1. CONTRACTOR COORDINATES FINAL CONSTRUCTION SEQUENCE WITH THE RAILROAD COMPANY AND EXECUTES A TEMPORARY CONSTRUCTION CROSSING AGREEMENT WITH CSX RAILROAD.
2. THE CONTRACTOR SHALL COORDINATE WITH THE RAILROAD COMPANY TO SCHEDULE TRACK WINDOWS TO INSTALL SECTIONS OF SHORING SHEET PILING. THE RAILROAD COMPANY WILL REMOVE 34-FOOT SECTIONS OF RAIL FROM EACH TRACK. CONTRACTOR TO INSTALL SECTIONS OF SHORING (TRS) SHEET PILING. FINAL ELEVATION OF SHORING SHEET PILING SHALL BE AS SHOWN IN THE PLANS. SHORING SHEET PILING SHALL REMAIN IN-PLACE AT THE COMPLETION OF THE PROJECT AND WILL BE CUT-OFF A MINIMUM OF 2-FT BELOW THE TOP-OF-TIE.

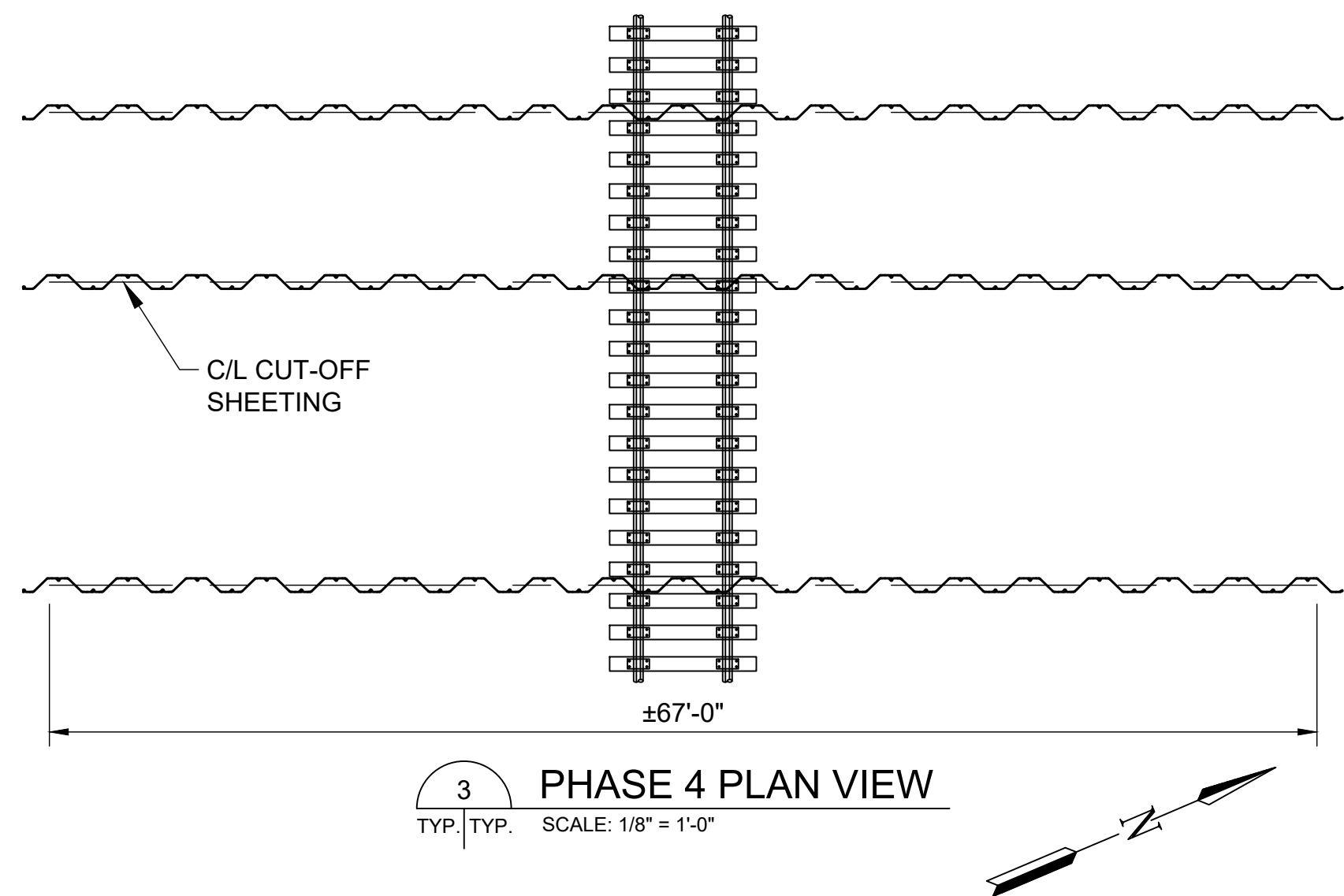
PROTECTED SIDE



(IN FEET)
1/4 inch = 1 ft.



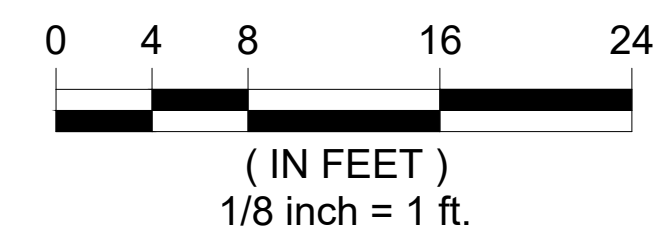
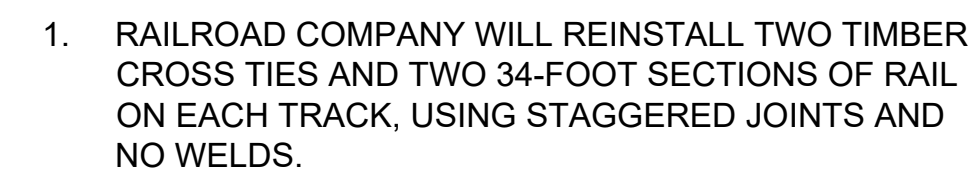
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Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-CS-100				Revision 000



Drawing Legend

1. CONTRACTOR AND RAILROAD COMPANY WILL COORDINATE AND SCHEDULE STOPPAGE OF TRAIN OPERATIONS (TRACK WINDOW) ON ALL TRACKS TO INSTALL PERMANENT CUT OFF SHEET PILING.
2. RAILROAD COMPANY WILL REMOVE 34-FT TRACK SECTIONS & TWO TIMBER CROSSTIES FROM EACH TRACK. CONTRACTOR TO DRIVE CUT-OFF SHEET PILING AFTER RAILS AND CROSS TIES ARE REMOVED.
3. CONTRACTOR TO INSTALL PERMANENT CUT-OFF SHEET PILING BEGINNING AT OWNER'S NORTH PROPERTY LINE AND PROGRESSING SOUTHWARD TO A POINT TEN FEET NORTH OF TRACK.

1. CONTRACTOR DRIVES PERMANENT CUT-OFF SHEET PILING FROM A POINT TEN FEET NORTH OF THE TRACK TO INTERSECT WITH THE PZ-27 SHEET PILING, CUT-OFF SHEET PILING SHALL BE "CHASED DOWN" BELOW THE ELEVATION OF THE BOTTOM CHORD OF THE PROPOSED JUMP SPAN BRIDGE.



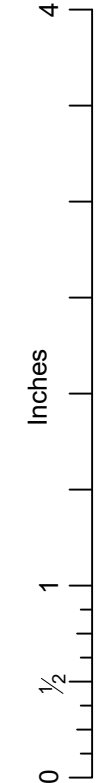
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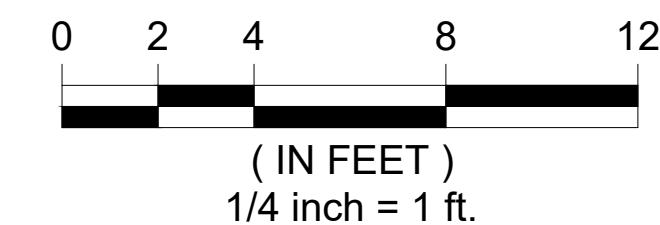
Drawing Legend



1. CONTRACTOR AND RAILROAD COMPANY WILL COORDINATE AND SCHEDULE TRACK WINDOWS FOR PILING INSTALLATION (14" DIA. PIPE, AND CONCRETE PILES). THE RAILROAD COMPANY WILL REMOVE TIMBER CROSSTIES AT EACH PILE INSTALLATION LOCATION AS SHOWN IN THE PLANS. PIPE PILES SHALL BE "CHASED-DOWN" (DRIVEN WITH FOLLOWERS) TWELVE INCHES BELOW TOP-OF-TIE (TOP OF RAILROAD TIMBER CROSSTIE). CONCRETE PILES SHALL BE DRIVEN TO FINAL GRADE.

A simple line drawing of a compass needle, oriented diagonally from the bottom-left to the top-right. The needle has a pointed tip and a flat base. In the center of the needle, there is a stylized letter 'Z' with small horizontal lines extending from its top and bottom strokes.

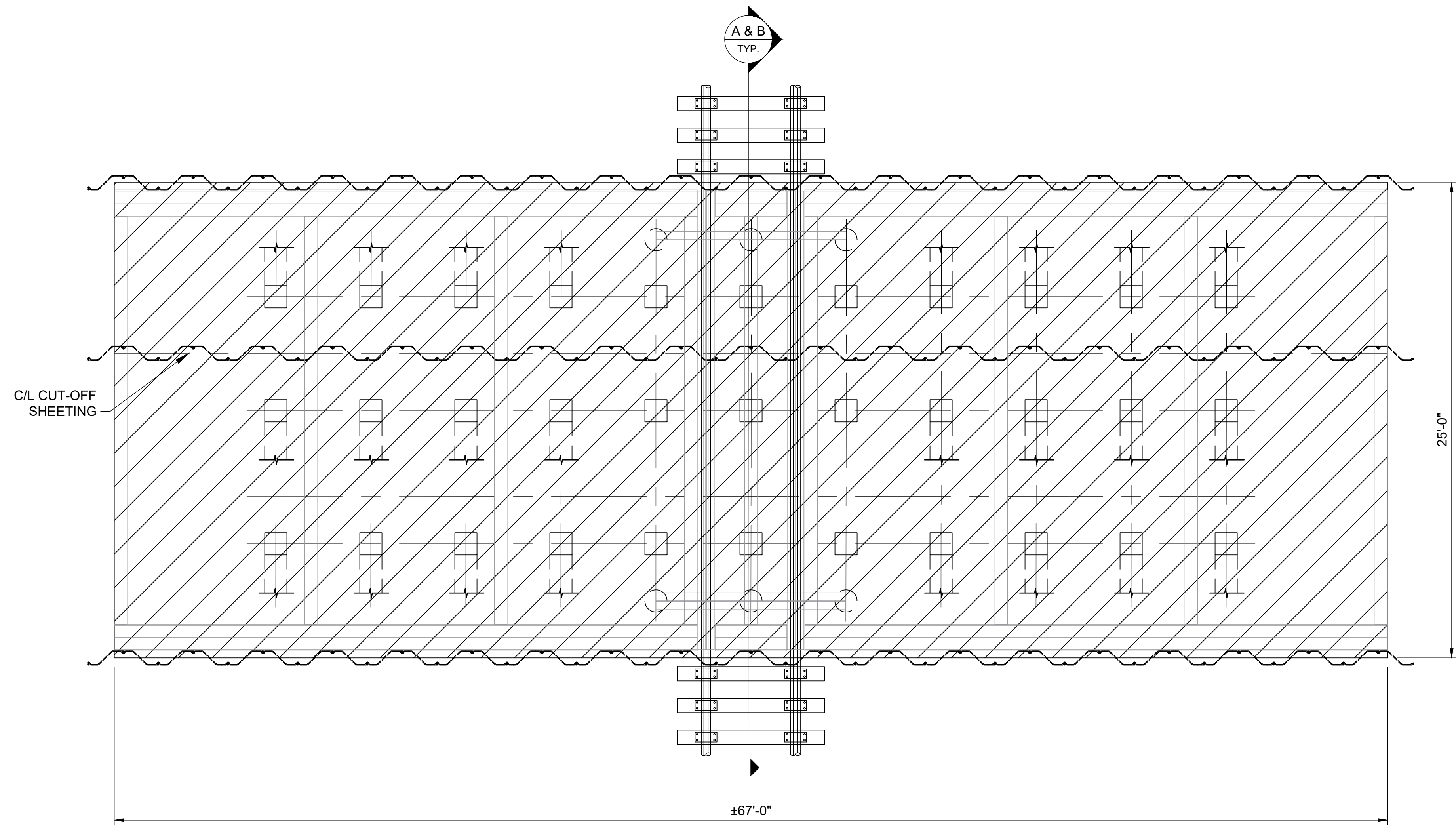
PROTECTED SIDE



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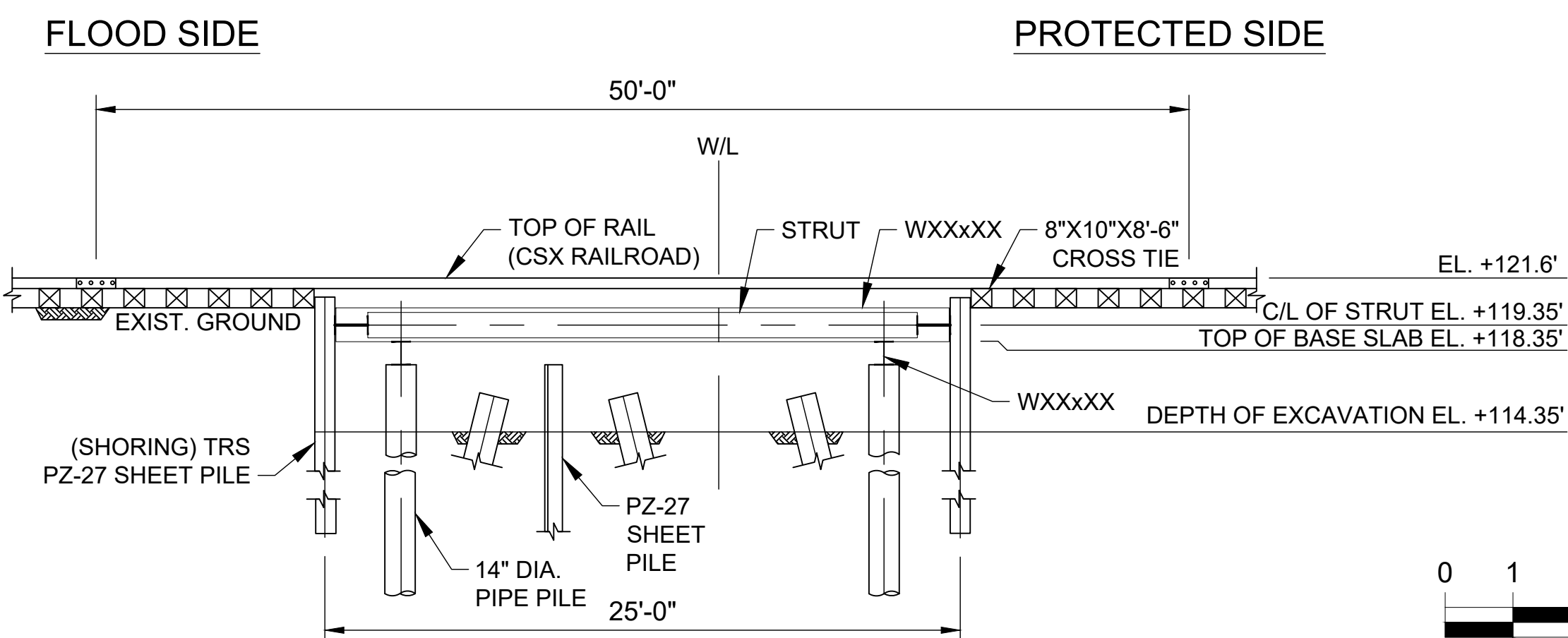
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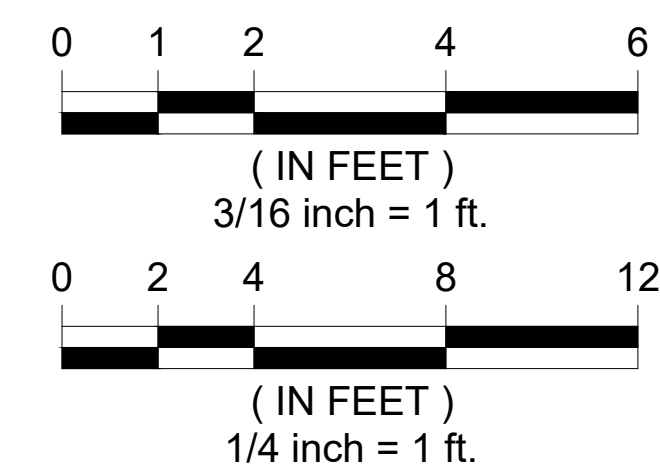
Drawing Legend

1. CONTRACTOR AND RAILROAD COMPANY WILL COORDINATE AND SCHEDULE ONE 12-HR TRACK WINDOW TO INSTALL THE JUMP SPAN BRIDGE.
2. RAILROAD COMPANY WILL REMOVE ONE 50-FT. SECTION OF TRACK.
3. CONTRACTOR TO EXCAVATE MATERIAL, CUT-OFF PILES, INSTALL WALES & STRUTS, INSTALL PILE CAPS, AND INSTALL THE JUMP SPAN BRIDGE.
4. RAILROAD COMPANY WILL INSTALL ONE 50-FT. PRE-ASSEMBLED TRACK PANEL, AND WELD JOINTS ON EACH TRACK.



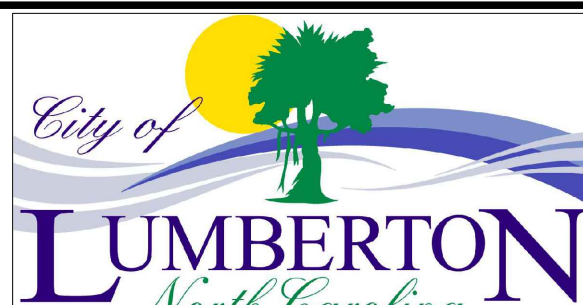
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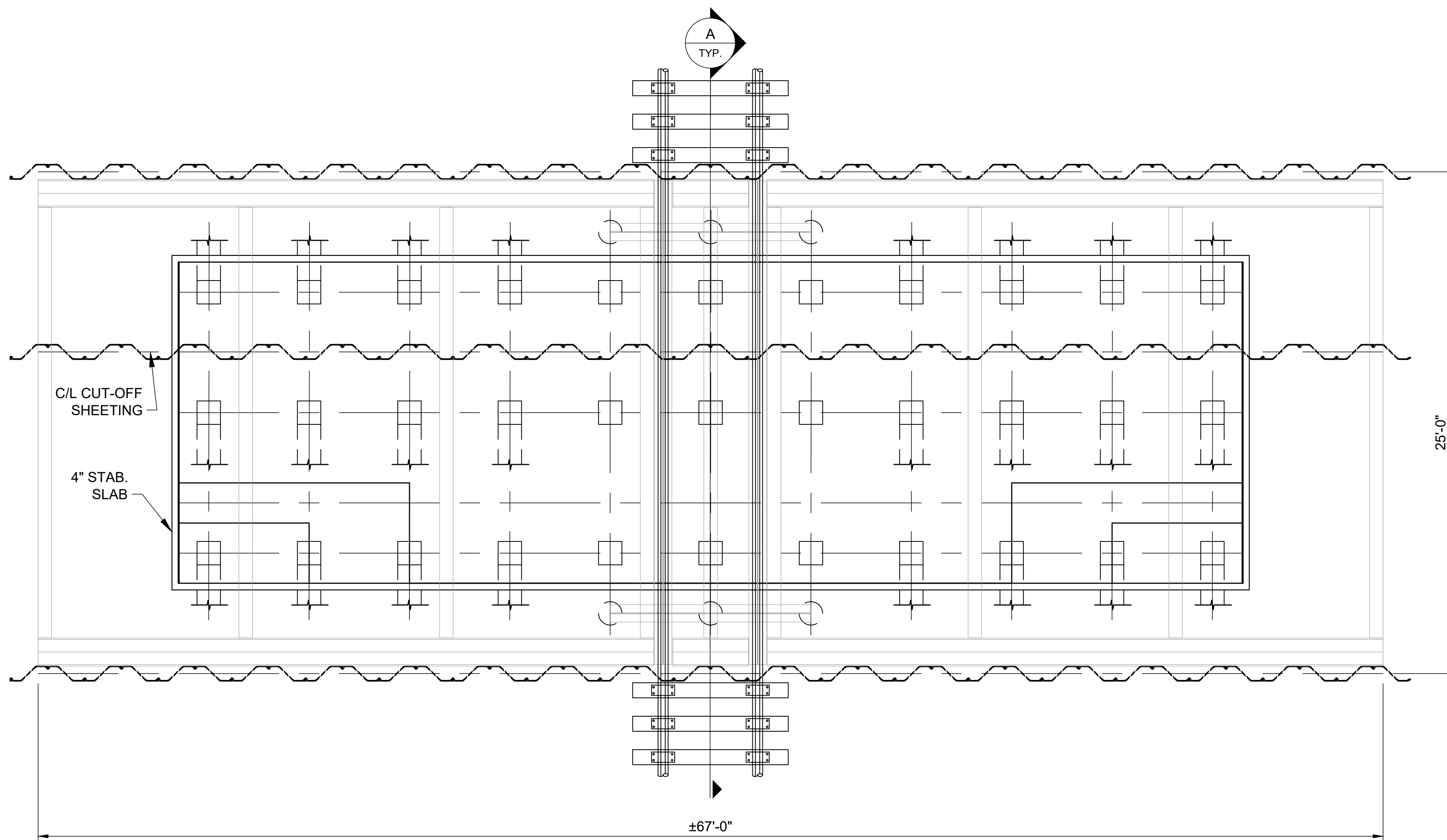
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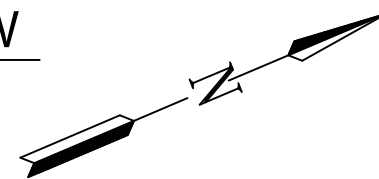
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Drawing Legend					
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Client					
					
Project Title					
WEST LUMBERTON FLOOD G AT VFW ROAD AND RAILROAD UNDERP ENGINEERING SERVICES					
Drawing Title					
RAILROAD TRS (4 OF 6)					
Scale SEE DWG.	Designed --	Drawn --	Checked --	Authorized --	
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Drawing Number				Revision	
100068207-CS-103				000	

Drawing Legend

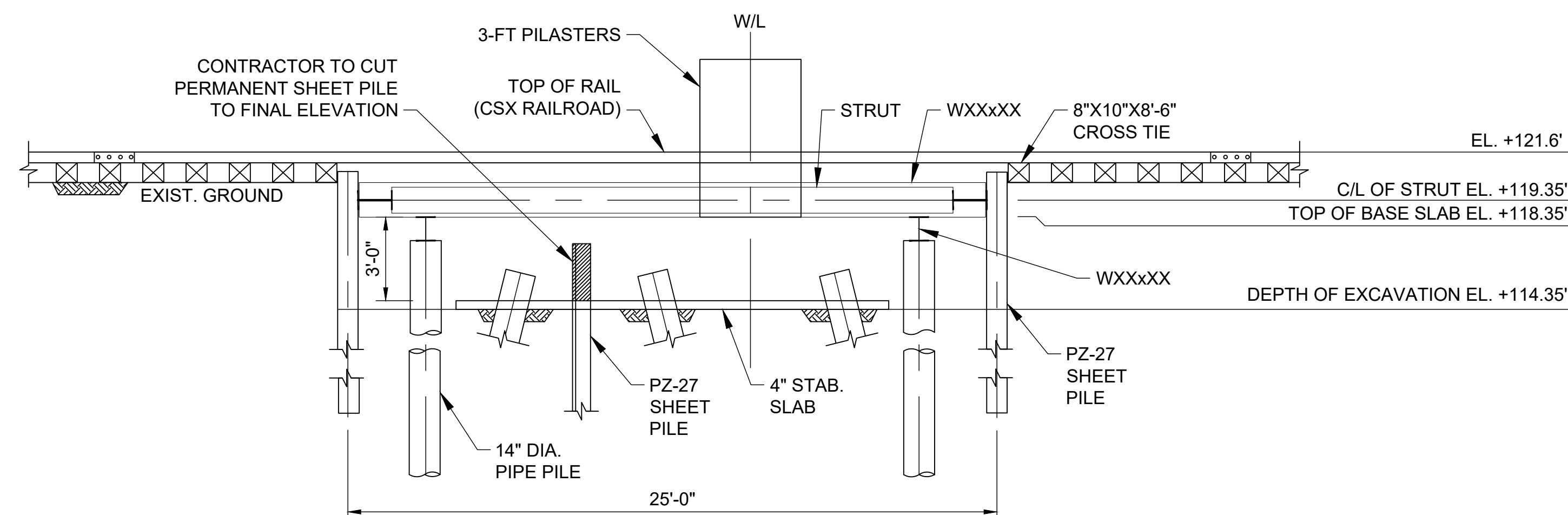


1 PHASE 7 PLAN VIEW
TYP. TYP. SCALE: 1/4" = 1'-0"



FLOOD SIDE

PROTECTED SIDE

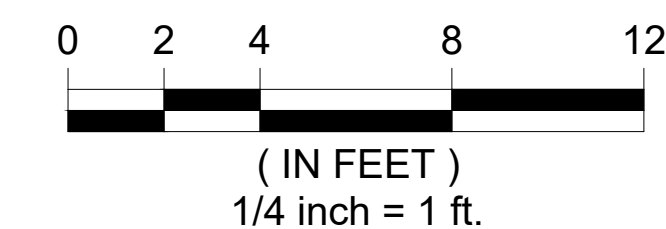


 SECTION
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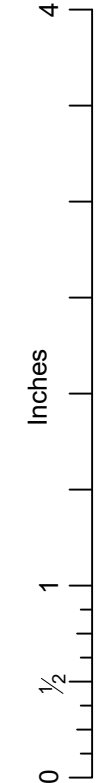
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Drawing Title

RAILROAD TRS (5 OF 6)

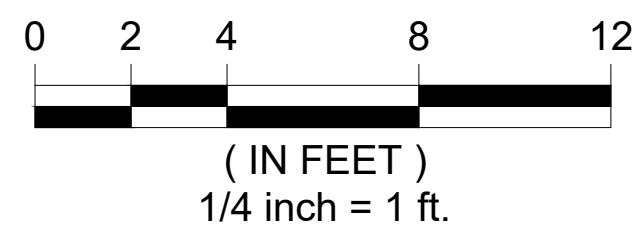
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Drawing Number 100068207-CS-104				Revision 000



A diagram showing a double-headed arrow pointing to a central 'Z' symbol, which is also a double-headed arrow.



PROTECTED SIDE



1. CONTRACTOR AND RAILROAD COMPANY WILL COORDINATE AND SCHEDULE TRACK WINDOWS TO REMOVE JUMP SPAN BRIDGE AND COMPLETE THE INSTALLATION OF THE SILL WALL.
2. RAILROAD COMPANY WILL CUT RAILS ON SECTIONS OF TRACK OVER JUMP SPAN BRIDGE.
3. CONTRACTOR REMOVES JUMP SPAN BRIDGE, INCLUDING THE CUT TRACK SECTIONS.
4. CONTRACTOR INSTALLS CAST-IN-PLACE SILL, CUT OFF SHORING AND JUMP SPAN BRIDGE PILES, AND INSTALLS SUBGRADE TO AN ELEVATION 21 INCHES BELOW TOP-OF-TIE.

1. RAILROAD COMPANY WILL PLACE TWELVE INCHES OF BALLAST ROCK, INSTALL PRE-FABRICATED TRACK PANELS ON ALL TRACKS, AND SURFACE THE TRACKS.
2. RAILROAD COMPANY WILL SCHEDULE TRACK WINDOWS TO WELD JOINTS ON TRACK PANELS ON ALL TRACKS.

1. THE CONTRACTOR AND RAILROAD COMPANY TO SCHEDULE TRACK WINDOWS TO PLACE STEEL SWING GATE DURING PLACEMENT OF THE GATE, THE CONTRACTOR SHALL MAINTAIN A MINIMUM CLEARANCE OF 15'-0" FROM THE CENTERLINE OF TRACKS. IF CLEARANCE REQUIRED IS LESS THAN 15'-0", A FLAGMAN AND RAILROAD INSPECTOR SHALL BE PRESENT.

[illegible]

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Scale	Designed	Drawn	Checked	Authorized
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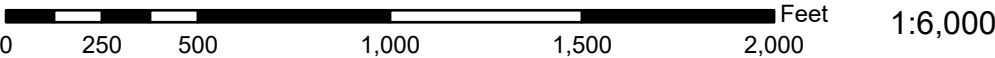
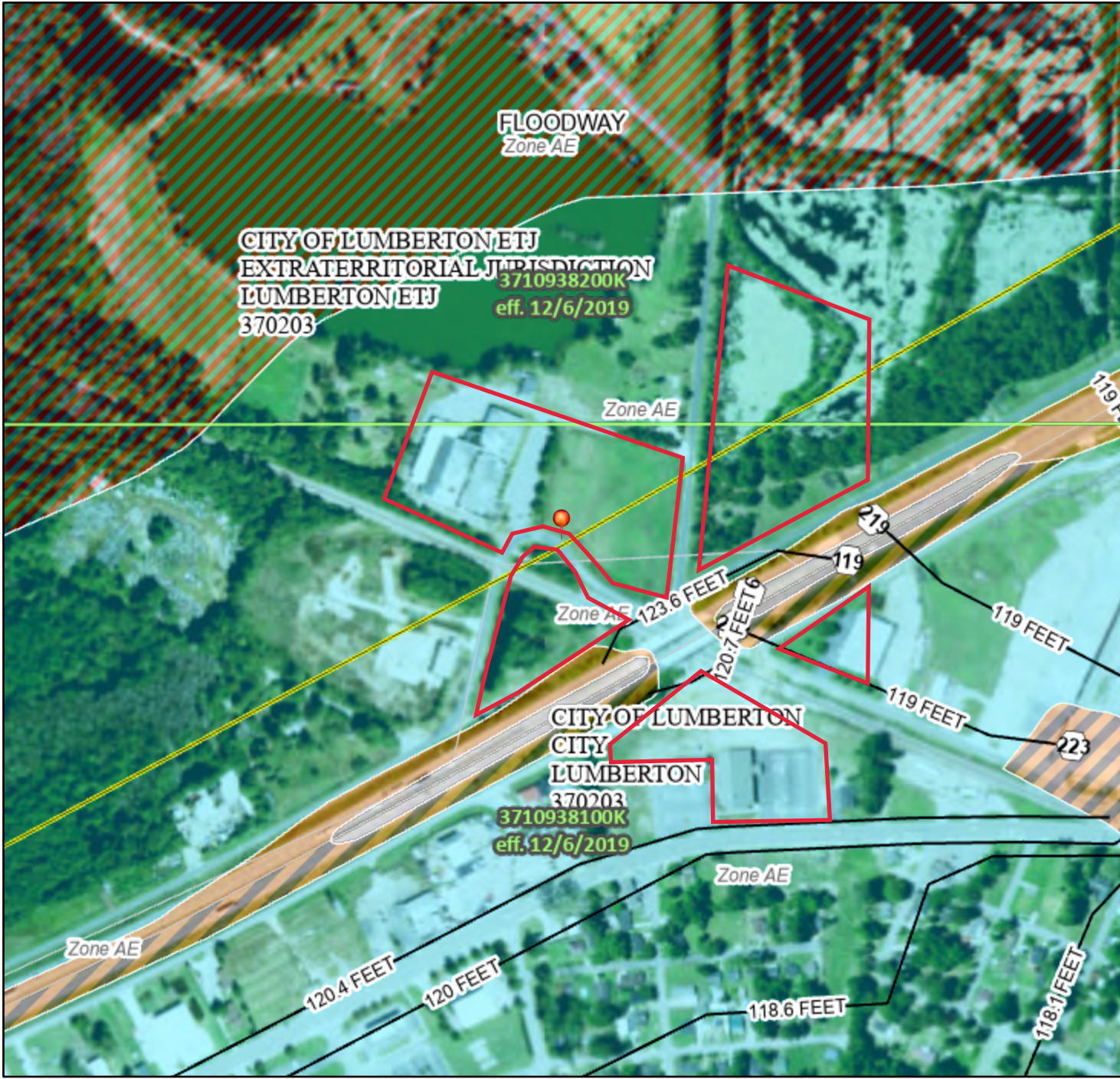
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Drawing Number				Revision
100068207-CS-105				000

- **FEMA FIRMeette**
- **NEPAssist FEMA FIRMs**
- **PFIRMs**
- **NFIP Community Status Book**
- **Hydrologic and Hydraulic Analysis**

National Flood Hazard Layer FIRMMette



79°2'46"W 34°37'57"N



Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped



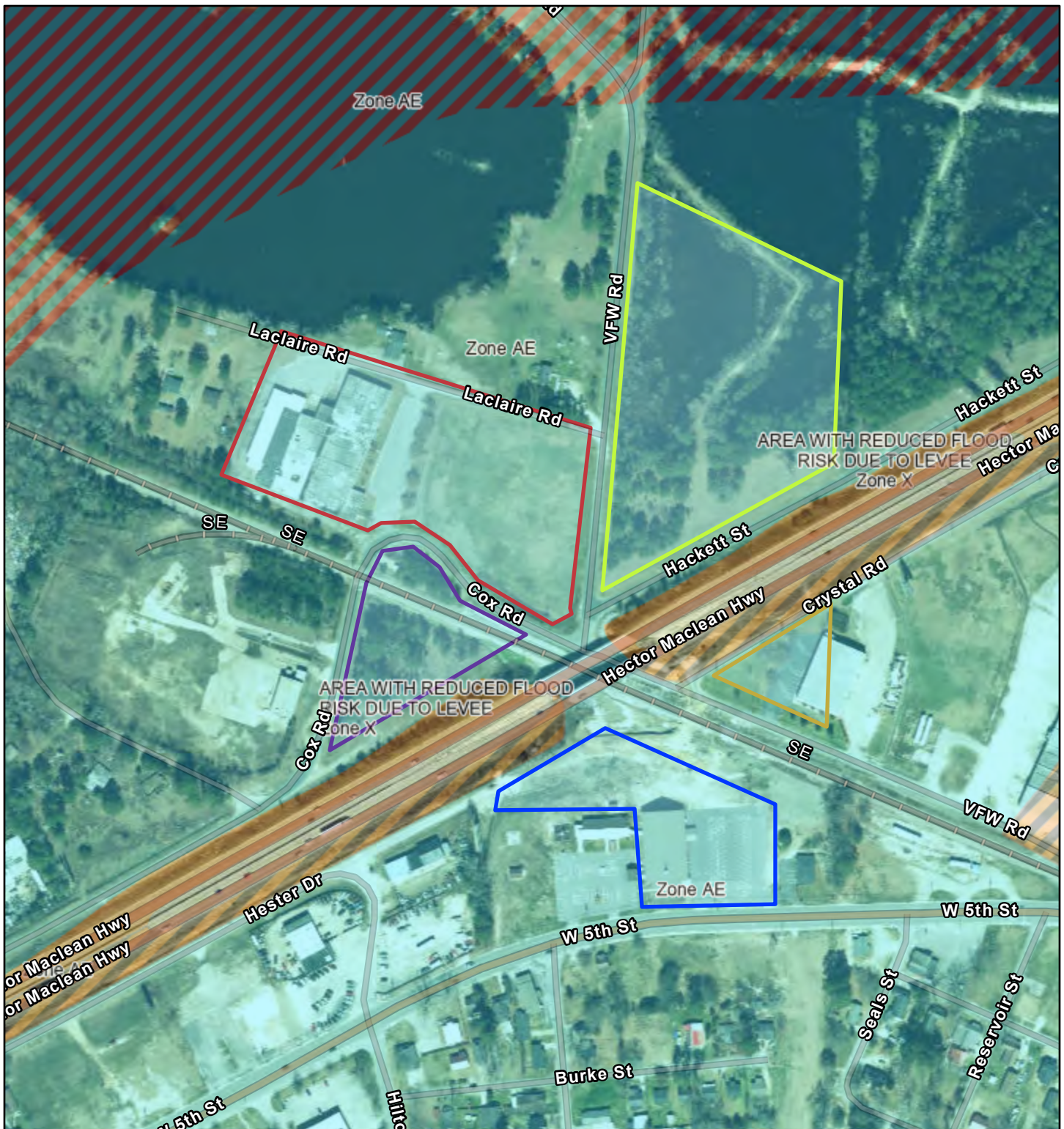
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This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

West Lumberton Flood Gate - FEMA FIRM



November 29, 2023

Flood Hazard Zones

1% Annual Chance Flood Hazard

Regulatory Floodway

Special Floodway

Area of Undetermined Flood Hazard

0.2% Annual Chance Flood Hazard

Future Conditions 1% Annual Chance Flood Hazard

Area with Reduced Risk Due to Levee

Area with Risk Due to Levee

2400 Cox Rd #938179684407

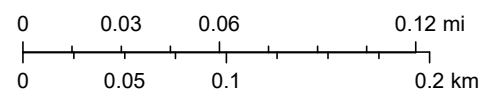
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550 VFW Rd #938189443052

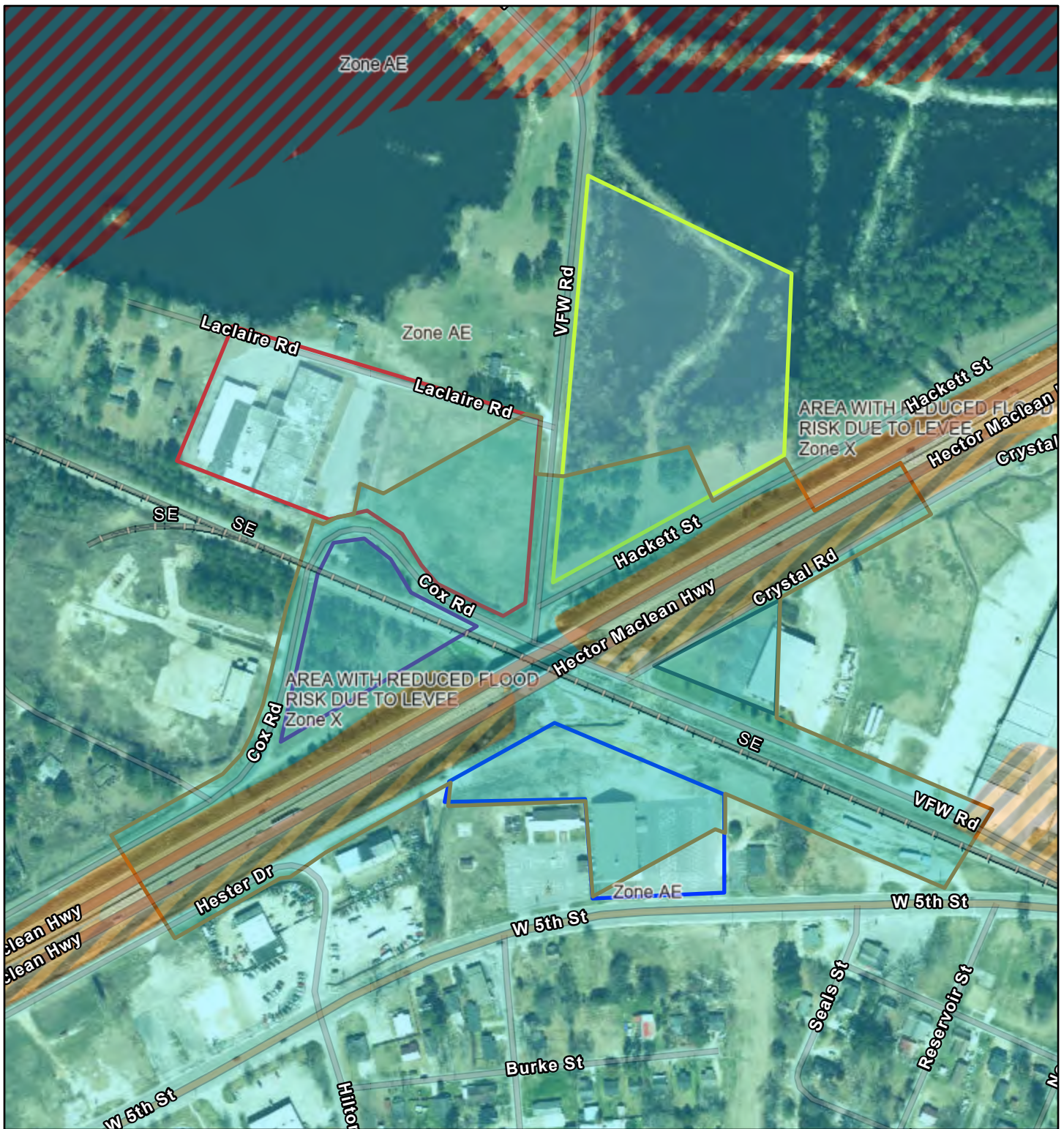
VFW & Hackett #938280300700

1:4,514



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West Lumberton Flood Gate - FEMA FIRM with Action Area

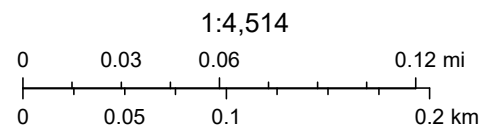


December 1, 2023

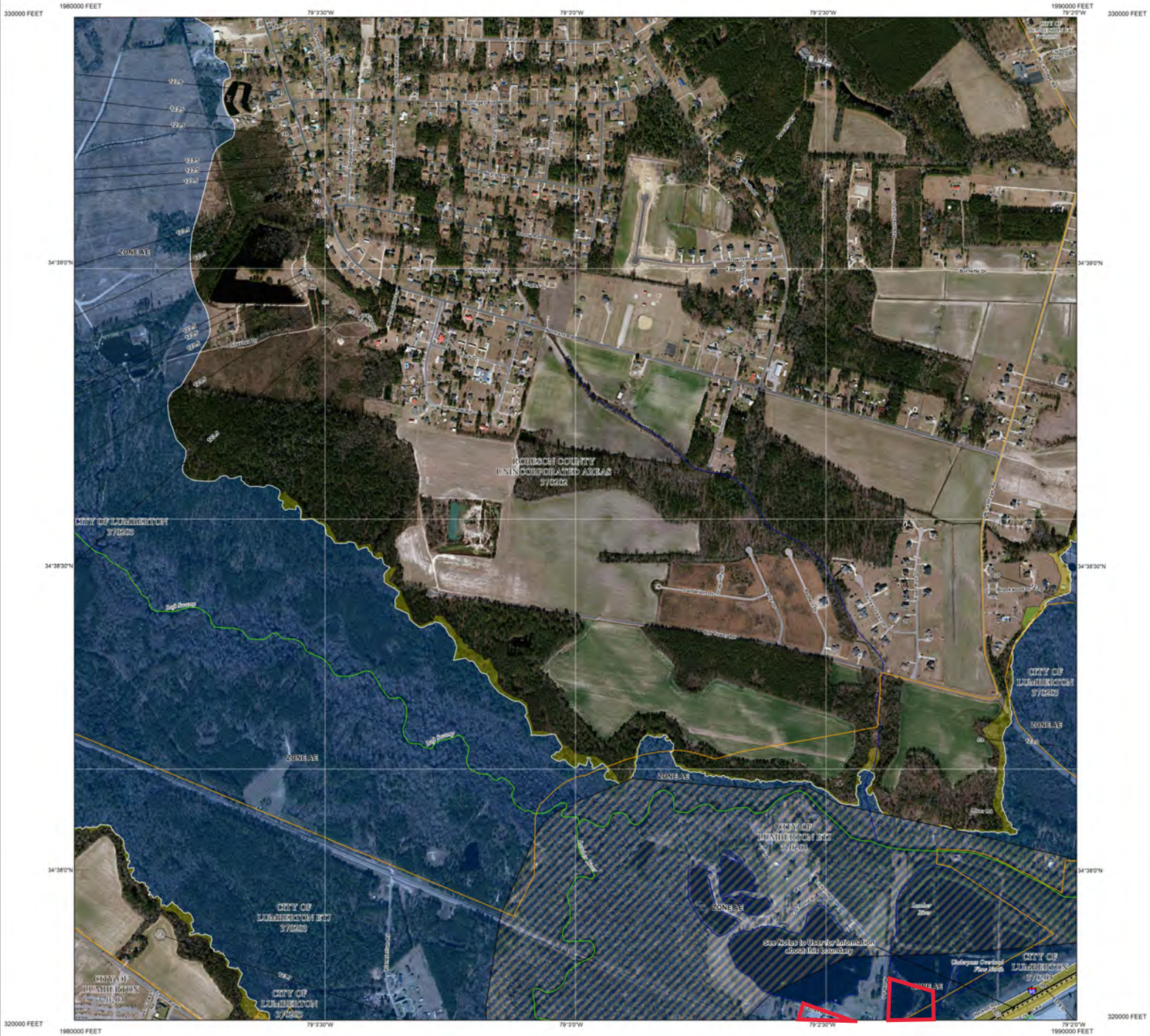
Flood Hazard Zones

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee

- Area with Risk Due to Levee
- WLFG Project Action Area
- 550 VFW Rd #938189443052
- 2306 W 5th St #938189201500
- 2400 Cox Rd #938179684407
- 2460 Cox Rd #938179143700
- VFW & Hackett #938280300700
- Railroads



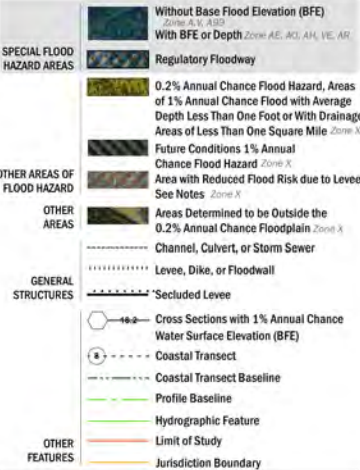
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The digital Flood Insurance Rate Map (FIRM) was produced through a unique cooperative partnership between the State of North Carolina and the Federal Emergency Management Agency (FEMA). The State of North Carolina has implemented a long term approach to floodplain management to decrease the costs associated with flooding. This is demonstrated by the State's commitment to map flood hazard areas at the local level. As a part of this effort, the State of North Carolina has joined in a Cooperating Technical State agreement with FEMA to produce and maintain this digital FIRM.

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP FOR FIRM PANEL LAYOUT
THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT [HTTPS://FRIS.NC.GOV/FRIS](https://fris.nc.gov/fris)



NOTES TO USERS

For information and questions about this map, available products associated with the FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-368-2627) or visit the FEMA Map Service Center website at <https://msc.fema.gov>. An accompanying Flood Insurance Study report, Letter of Map Revision (LORM) or Letter of Map Amendment (LOMA) having portions of this panel, and digital versions of this FIRM may be available. Visit the North Carolina Floodplain Mapping Program website at <http://www.ncfloodmaps.com> or contact the FEMA Map Service Center.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM notes. These may be ordered directly from the Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6622.

Flood Insurance Study (FIS) means an examination, evaluation, and determination of flood hazards, corresponding water surface elevations, flood hazard risk zones, and other flood data in a community issued by the North Carolina Floodplain Mapping Program (NCFMP). The Flood Insurance Study (FIS) is comprised of the following products and together, the Digital Flood Hazard Database, the Water Surface Elevation Profiles, the digitally derived, automated Flood Insurance Rate Map and the Flood Insurance Survey Report. A Flood Insurance Survey is a compilation and presentation of flood risk data for specific watersheds, lakes, and coastal flood hazard areas within a community. This report contains detailed flood elevation data, data tables and FIRM outlines. When a Flood Study is completed for the NCFMP, the digital information, reports and maps are assembled into an FIS. Information shown on this FIRM is provided in digital format by the NCFMP. Base map information shown on this FIRM was provided in digital format by the NCFMP. The source of this information can be determined from the metadata available in the Digital Flood Hazard Database and in the Technical Support Data Notebook (TSDN).

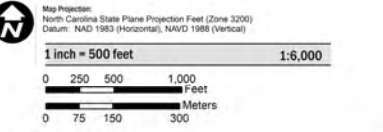
ACCREDITED LEVEE NOTES TO USERS: If an accredited levee now appears on this panel check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at <https://www.fema.gov/national-flood-insurance-program>.

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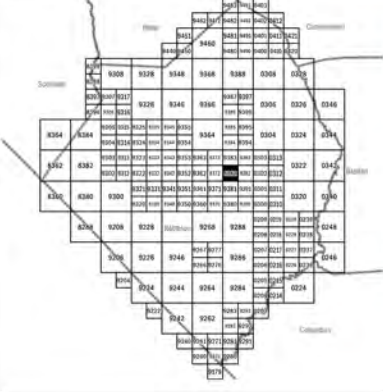
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SCALE



PANEL LOCATOR



National Flood Insurance Program

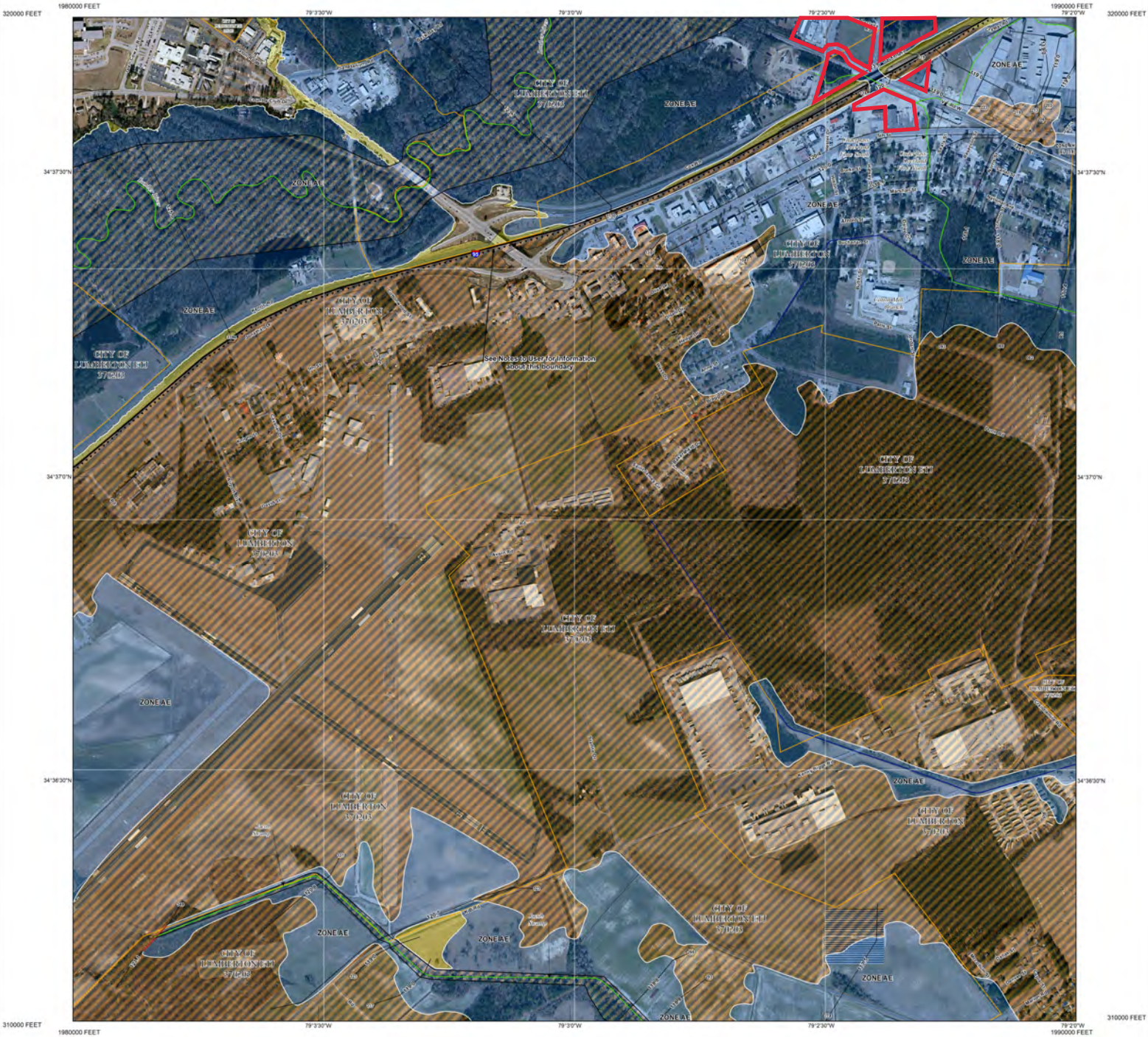
NORTH CAROLINA FLOODPLAIN MAPPING PROGRAM
NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP
NORTH CAROLINA

PANEL 9382

Panel Contains:
COMMUNITY LUMBERTON, CITY OF
ROBERTSON COUNTY

CID PANEL SUFFIX
370203 9382 K
370202 9382 K

VERSION NUMBER 2.3.3.2
MAP NUMBER 3710938200K
MAP REVISED December 06, 2019



The digital Flood Insurance Rate Map (FIRM) was produced through a unique cooperative partnership between the State of North Carolina and the Federal Emergency Management Agency (FEMA). The State of North Carolina has implemented a long term approach to floodplain management to decrease the costs associated with flooding. This is demonstrated by the State's commitment to map flood hazard areas at the local level. As a part of this effort, the State of North Carolina has joined in a Cooperating Technical State agreement with FEMA to produce and maintain this digital FIRM.

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP FOR FIRM PANEL LAYOUT
THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT [HTTPS://FRIS.NC.GOV/FRIS](https://fris.nc.gov/fris)



NOTES TO USERS

For information and questions about this map, available products associated with the FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-368-3627) or visit the FEMA Map Service Center website at <https://msc.fema.gov>. An accompanying Flood Insurance Study report, Letter of Map Revision (LOR) or Letter of Map Amendment (LOMA) having portions of this panel, and digital versions of this FIRM may be available. Visit the North Carolina Floodplain Mapping Program website at <http://www.ncfloodmaps.com> or contact the FEMA Map Service Center.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM notes. These may be ordered directly from the Map Service Center at the number listed above.

For community and countywide map data refer to the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6622.

Flood Insurance Study (FIS) means an examination, evaluation, and determination of flood hazards, corresponding water surface elevations, flood hazard risk zones, and other flood data in a community issued by the North Carolina Floodplain Mapping Program (NCFMP). The Flood Insurance Study (FIS) is comprised of the following products and together, the Digital Flood Hazard Database, the Water Surface Elevation Dataset, the digitally derived, automated Flood Insurance Rate Map and the Flood Insurance Survey Report. A Flood Insurance Survey is a compilation and presentation of flood risk data for specific watercourses, lakes, and coastal flood hazard areas within a community. This report contains detailed flood elevation data, data tables and FIRM outlines. When a flood study is completed for the NCFMP, the digital information, reports and maps are assembled into an FIS. Information shown on this FIRM is provided in digital format by the NCFMP. Base map information shown on this FIRM was provided in digital format by the NCFMP. The source of this information can be determined from the metadata available in the Digital FLOOD database and in the Technical Support Data Notebook (TSDN).

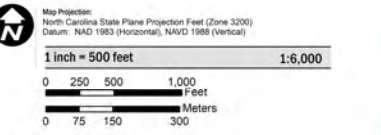
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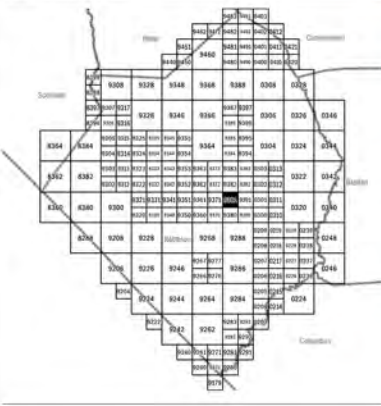
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SCALE



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National Flood Insurance Program

NORTH CAROLINA FLOODPLAIN MAPPING PROGRAM
NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP
NORTH CAROLINA

PANEL 9381

Panel Contains:
COMMUNITY: LUMBERTON, CITY OF
CID: 370203
PANEL SUFFIX: 9381
K

VERSION NUMBER: 2.3.3.2
MAP NUMBER: 3710938100K
MAP REVISED: December 06, 2019



Community Status Book Report

Communities Participating in the National Flood Program



NORTH CAROLINA

CID	Community Name	County	Init FHBM Identified	Init FIRM Identified	Curr Eff Map Date	Reg-Emer Date	Tribal	CRS Entry Date	Curr Eff Date	Curr Class	% Disc SFHA	% Disc Non SFHA
370323#	LOWELL, CITY OF	GASTON COUNTY	08/15/75	03/05/90	11/04/09	03/05/90	No					
370537#	LUCAMA, TOWN OF	WILSON COUNTY		11/03/04	04/16/13	11/03/04	No					
370203K	LUMBERTON, CITY OF	ROBESON COUNTY	06/28/74	11/05/80	12/06/19	11/05/80	No					
370090K	MACCLESFIELD, TOWN OF	EDGECOMBE COUNTY	12/28/73	03/18/80	06/02/15	03/25/80	No					
370150#	MACON COUNTY *	MACON COUNTY	06/30/78	06/01/01	04/19/10	06/01/01	No					
370152#	MADISON COUNTY *	MADISON COUNTY	07/22/77	09/02/82	01/06/10	09/02/82	No					
370207#	MADISON, TOWN OF	ROCKINGHAM COUNTY	11/22/74	11/16/77	01/02/09	11/16/77	No					
370389#	MAGGIE VALLEY, TOWN OF	HAYWOOD COUNTY	07/08/77	04/17/84	04/03/12	04/17/84	No					
370669#	MAGNOLIA, TOWN OF	DUPLIN COUNTY		02/16/06	02/16/07	07/23/10	No					
370056#	MAIDEN, TOWNSHIP OF	LINCOLN COUNTY/CATAWBA COUNTY	09/20/74	09/03/80	07/07/09	09/03/80	No					
375355K	MANTEO, TOWN OF	DARE COUNTY	01/12/73	01/12/73	06/19/20	01/05/73	No	10/01/91	10/01/21	5	25%	10%
370266#	MARION, CITY OF	MCDOWELL COUNTY	09/10/82	07/15/88	01/06/10	05/01/87	No					
370385#	MARS HILL, TOWN OF	MADISON COUNTY	07/02/76	08/19/87	01/06/10	08/19/87	No					
370154#	MARSHALL, TOWN OF	MADISON COUNTY	06/14/74	05/15/78	01/06/10	05/15/78	No					
370474#	MARSHVILLE, TOWN OF	UNION COUNTY		07/05/94	03/02/09	12/15/09	No					
370155K	MARTIN COUNTY *	MARTIN COUNTY	11/29/74	07/16/91	06/19/20	07/16/91	No					
370514#	MARVIN, VILLAGE OF	UNION COUNTY		01/17/97	02/19/14	12/28/98	No					
370310#	MATTHEWS, TOWN OF	MECKLENBURG COUNTY		02/04/04	02/19/14	02/04/04	No					
370587F	MAXTON, TOWN OF	SCOTLAND COUNTY/ROBESON COUNTY		01/19/05	12/06/19	05/26/20	No					
370208#	MAYODAN, TOWN OF	ROCKINGHAM COUNTY		07/18/77	01/02/09	07/18/77	No					
370330#	MAYSVILLE, TOWN OF	JONES COUNTY		07/02/04	02/16/06	08/19/86	No					
370101#	MCADENVILLE, TOWN OF	GASTON COUNTY	06/21/74	06/01/87	11/04/09	06/01/87	No					
370148#	MCDOWELL COUNTY*	MCDOWELL COUNTY	12/20/74	07/15/88	01/06/10	07/15/88	No					
370390J	MEBANE, CITY OF	ORANGE COUNTY/ALAMANCE COUNTY		11/05/80	11/17/17	11/05/80	No					
370158F	MECKLENBURG COUNTY *	MECKLENBURG COUNTY	10/22/76	06/01/81	11/16/18	06/01/81	No	10/01/91	04/01/21	5	25%	10%
370426L	MESIC, TOWN OF	PAMLICO COUNTY		07/02/04	06/19/20	09/04/85	No	05/01/19	04/01/21	8	10%	05%
370500J	MICRO, TOWN OF	JOHNSTON COUNTY		10/20/00	06/20/18	11/08/16	No					
370445#	MIDDLESEX, TOWN OF	NASH COUNTY		01/20/82	07/07/14	03/19/99	No					
370182L	MIDLAND, TOWN OF	CABARRUS COUNTY	12/27/74	05/05/81	11/16/18	06/01/09	No					
370393#	MIDWAY, TOWN OF	DAVIDSON COUNTY		03/16/09	06/16/09	02/05/19	No					
370529#	MINERAL SPRINGS, TOWN OF	UNION COUNTY		07/18/83	03/02/09	05/17/00	No					
370418K	MINNESOTT BEACH, TOWN OF	PAMLICO COUNTY	03/02/79	08/05/85	06/19/20	09/23/85	No	10/01/92	10/01/21	8	10%	05%
370539E	MINT HILL, TOWN OF	MECKLENBURG COUNTY		02/04/04	11/16/18	12/21/07	No					
370026#	MISENHEIMER, VILLAGE OF	STANLY COUNTY		09/03/08	06/16/09	02/17/10	No					
370161#	MITCHELL COUNTY *	MITCHELL COUNTY	06/30/78	09/04/86	06/02/09	09/04/86	No					
370309#	MOCKSVILLE, TOWN OF	DAVIE COUNTY	07/11/75	06/27/00	06/16/09	09/17/08	No					
370657#	MOMEYER, TOWN OF	NASH COUNTY		11/03/04	(NSFHA)	12/29/05	No					
370236#	MONROE, CITY OF	UNION COUNTY	09/20/74	01/19/83	03/02/09	01/19/83	No					
370336#	MONTGOMERY COUNTY*	MONTGOMERY COUNTY	10/13/78	06/01/81	06/16/09	02/20/97	No					
370476#	MONTREAT, TOWN OF	BUNCOMBE COUNTY		05/06/96	01/06/10	09/19/05	No					
370164H	MOORE COUNTY *	MOORE COUNTY	10/13/78	12/15/89	11/17/17	12/15/89	No					
370314#	MOORESVILLE, TOWN OF	IREDELL COUNTY	04/25/75	05/01/80	06/16/09	05/01/80	No					
370048#	MOREHEAD CITY, TOWN OF	CARTERET COUNTY	02/22/74	02/16/77	11/03/05	02/16/77	No	10/01/92	05/01/20	6	20%	10%
370035#	MORGANTON,CITY OF	BURKE COUNTY	03/22/74	02/19/87	07/07/09	02/19/87	No					
370242K	MORRISVILLE, TOWN OF	WAKE COUNTY	10/29/76	11/01/78	07/19/22	11/01/78	No					
370226B	MOUNT AIRY,CITY OF	SURRY COUNTY	06/28/74	12/01/81	11/18/16	12/01/81	No					
370102L	MOUNT HOLLY, CITY OF	GASTON COUNTY	01/09/74	09/28/79	09/02/15	09/28/79	No					
370369K	MOUNT OLIVE, TOWN OF	DUPLIN COUNTY/WAYNE COUNTY	06/17/77	02/17/82	06/20/18	02/17/82	No					
370470J	MOUNT PLEASANT, TOWN OF	CABARRUS COUNTY		11/02/94	11/16/18	02/24/12	No					
370419#	MURFREESBORO,TOWN OF	HERTFORD COUNTY	11/10/78	06/01/87	08/03/09	06/01/87	No					
370061#	MURPHY, TOWN OF	CHEROKEE COUNTY	03/08/74	07/03/86	04/19/10(M)	07/03/86	No					
375356K	NAGS HEAD, TOWN OF	DARE COUNTY		11/10/72	06/19/20	11/10/72	No	10/01/91	04/01/22	5	25%	10%

West Lumberton Flood Gate Closure Structure

at the VFW Road and CSX Railroad Interstate 95
Underpass

Hydrologic and Hydraulic Analysis

City of Lumberton

9 January 2023



Notice

This document and its contents have been prepared and are intended solely as information for City of Lumberton and use in relation to the design of the flood gate closure structure at the VFW Road and CSX Railroad Interstate 95 Underpass.

SNC-Lavalin assumes no responsibility for the use of the information presented in this report for purposes other than for the design of the flood gate closure structure.

This document has 174 pages including the cover.

Document history

Revision	Purpose description	Originated	Checked	Reviewed	Authorized	Date
Rev 0.0	Floodgate Closure Structure Design	KH	EB	DS	AS	3/19/2020
Rev 1.0	Floodgate Closure Structure Design	KH	EB	DS	AS	10/19/2020
Rev 2.0	Floodgate Closure Structure Design	KH	EB	DS	AS	1/09/2023

Client signoff

Client	City of Lumberton
Project	West Lumberton Flood Gate Closure Structure at the VFW Road and CSX Railroad Interstate 95 Underpass
Job number	100068207
Client signature / date	

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Acronyms and Abbreviations

1D	one-dimensional
2D	two-dimensional
C	conversion factor
cfs	cubic foot per second
CFR	Code of Federal Regulations
CN	curve number
C _p	peaking coefficient
C _t	basin coefficient
D	average depth of water along fetch line
DEMLR	Division of Energy, Mineral and Land Resources (NCDEQ)
ECONet	North Carolina Environment and Climate Observing Network
FEMA	Federal Emergency Management Agency
F _s	maximum fetch distance
F _t	feet
FWL	ratio of winds over water to winds over land
g	gravity
GIS	Geographic Information System
GPS	Global Positioning System
H	wave height at the toe of the structure
HEC-HMS	Hydrologic Engineering Center's Hydrologic Modeling System
HEC-MetVue	Hydrologic Engineering Center's Meteorological Visualization Utility Engine
HEC-RAS	Hydrologic Engineering Center's River Analysis System
H&H	hydrologic and hydraulic
HMR	Hydrometeorological Reports
hr	hour
HWM	high water mark
I _a	initial loss
in	inch
in/hr	inch per hour
KFAY	Fayetteville Airport CRONOS rainfall gage
KMEB	Laurinburg-Maxton Airport CRONOS rainfall gage
KSOP	Moore County Airport CRONOS rainfall gage
L	length of main channel
L _d	deep water wavelength
L _c	length of main channel to the centroid
LiDAR	Light Detection and Ranging
LILE	NC Electric Cooperative Anson Peaking Plant CRONOS rainfall gage
mi	mile
MOVE	Maintenance of variance estimator
PMF	Probable Maximum Flood
PMP	Probable Maximum Precipitation
mph	miles per hour
NAVD	North American Vertical Datum
NC	North Carolina

NC CRONOS	North Carolina Climate Retrieval and Observations Network of the Southeast Database
NCDOT	North Carolina Department of Transportation
NCDEQ	North Carolina Department of Environmental Quality
NCFMP	North Carolina Floodplain Mapping Program
NCSCO	North Carolina State Climate Office
NLCD	National Land Cover Database
NLUM	Lumberton CRONOS rainfall gage
NOAA	National Oceanic and Atmospheric Administration
NRCK	Rockingham CRONOS rainfall gage
NRCS	Natural Resources Conservation Service
NUWH	Uwharrie-Troy CRONOS rainfall gage
NWS	National Weather Service
R	wave runup
s	seconds
SCS	Soil Conservation Service
S _e	set-up
sq mi	square mile
SSURGO	Soil Survey Geographic Database
t	time
T _d	deep water wave period
T _p	hydrograph lag
U	average wind velocity
U _{1hr}	one hour averaged wind speed
U ₃₃	wind speed at height of 33 feet
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USGS	United States Geological Survey
U _t	fastest wind speed at a specified duration
U _w	overwater wind speed
U _z	wind speed at a distance of z above surface
WHIT	Border Belt Tobacco Res Station CRONOS rainfall gage
WSE	water surface elevation
yr	year
z	elevation

Executive Summary

The western part of the City of Lumberton is protected from flooding from the Lumber River by a levee system that consists of three segments: the levee that was designed and constructed by the Natural Resources Conservation Service (NRCS) (formerly the Soil Conservation Service), a portion of I-95 highway embankment, and a portion of Alamac Road. An opening exists within the I-95 highway embankment portion of the levee system to allow a CSX rail corridor and VFW Road to traverse under the highway. During extreme storms, the Lumber River overflows its banks and floods the western part of the city through this opening. Flow also overtops low segments of the I-95 portion of the levee protection system. Floodwaters from recent extreme weather events, like Hurricane Matthew (2016) and Hurricane Florence (2018) flooded the city through the opening in the I-95 embankment, causing major damages to residences and businesses. The City of Lumberton plans to improve its flood resiliency by installing a flood gate closure structure along the opening within the I-95 highway embankment to prevent future flooding. The North Carolina Department of Transportation (NCDOT) also plans to widen and raise the I-95 portion of the flood protection system to increase capacity and to prevent the I-95 highway embankment from overtopping. This report documents the detailed hydrologic and hydraulic (H&H) study of the Lumber River that was performed to establish the height of the proposed flood gate closure structure.

It is the desire of the City of Lumberton to be protected from flooding events with magnitudes like that of the flood of record (Hurricane Florence) and to pursue FEMA accreditation of the levee protection system. For the levee system to be accredited, its minimum top elevation must be equal to the 100-year elevation plus 4.5 feet of freeboard (128.5 feet, North American Vertical Datum [NAVD]88). The North Carolina Department of Environmental Quality's Division of Energy, Mineral and Land Resources (DEMLR) determined in October 2021 that the proposed floodgate is subject to the jurisdiction of the Dam Safety Law of 1967 and will have a Class C high hazard and large size classification. This classification implies that the proposed floodgate should be designed to withstand the $\frac{3}{4}$ Probable Maximum Flood (PMF). In determining the design elevation of the gate, a statistical analysis was performed and the recurrence interval of the flood of record was estimated to be about 200-years. Hydraulic simulations were performed without the gate and with the gate and the proposed I-95 configuration in place, to estimate the resulting peak elevations of the 100-year through the Probable Maximum Flood (PMF) return period events, and the flood of record.

Based on the results of the analysis, the recommended range of top of gate elevations and gate heights that meets the objectives of the City of Lumberton and regulatory requirements are shown in tabular form below:

Design Storm	Recommended Top of Gate Elevation and Gate Height			
	Max. Stillwater Elevation (feet, NAVD88)	Freeboard (feet)	Top of Gate Elevation (feet, NAVD88)	Gate Height (feet)
100 YR	124.0	5.4	129.4	9.4
$\frac{1}{4}$ PMF	126.0	6.6	132.6	12.6
500 YR	127.6	6.6	134.2	14.2

Reference Elevations: 1. Minimum elevation for levee accreditation = 128.5 feet (ft), NAVD88
 2. Flood of record elevation at gate location assuming gate is in place and I-95 raised = 125.6 ft, NAVD88
 3. Elevation of $\frac{3}{4}$ PMF at gate location assuming gate is in place and I-95 raised = 128.8 ft, NAVD88
 4. Elevation of PMF at gate location assuming gate is in place and I-95 raised = 129.2 ft, NAVD88
 5. Average ground elevation at gate location is 120.0 ft
 6. $\frac{1}{4}$ PMF is the largest storm that does not overtop the levee and proposed I-95
 7. Levee is overtopped during the 500-year storm.

The recommended range of top of flood gate elevations of 129.4 to 134.2 feet, NAVD88 ensures that the gate is not overtopped up to the PMF if freeboard is not accounted and meets all the regulatory requirements. The $\frac{1}{4}$ PMF is the largest event that does not overtop the levees. Minor overtopping of the levee occurs during the 500-year event. Selection of the design gate height from this range should be based on cost, floodplain impacts, and minimum desired level of service.

1. Introduction

1.1. Authorization and Study Purpose

Atkins was authorized to conduct this study through its contract with City of Lumberton dated October 18, 2019. The contract is to provide engineering services for the design of a flood gate closure structure at the VFW Road and CSX Railroad Interstate 95 (I-95) Underpass in the City of Lumberton.

The City of Lumberton is susceptible to flooding from the Lumber River. A levee system provides flood prevention to the City of Lumberton. The levee system consists of three segments: the levee that was designed and constructed by the Natural Resources Conservation Service (NRCS) (formerly the Soil Conservation Service), a portion of I-95 highway embankment, and a portion of Alamac Road (**Figure 1-1**). The levee begins at the tie in with I-95, approximately 1,100 feet north-east of VFW Road and extends south-east to the tie-in with Alamac Road, running parallel to the Lumber River. An opening exists within the I-95 highway embankment to allow a CSX rail corridor and VFW Road to traverse under the highway. During extreme storms, the Lumber River overflows its banks and through the opening in I-95 flooding portions of the City of Lumberton. Floodwaters from recent extreme weather events, like Hurricane Matthew (2016) and Hurricane Florence (2018) flooded the city through the opening in the I-95 embankment, causing major damages to residences and businesses. During Hurricane Matthew, no attempts were made to close the opening, resulting in significant flows into the protected area. In preparation for Hurricane Florence, sandbags and temporary barriers were placed across the opening. Although these measures provided temporary protection they eventually failed. And, therefore, the City of Lumberton wants to install permanent protection such as flood gates within the opening under I-95. The gate would have to be closed over the CSX railroad corridor and local road to protect the southern part of the city from flooding.. The purpose of this project is to design and install the flood gate at this most vulnerable location to improve the flood resilience of the City of Lumberton.

To establish the height of the flood gate closure structure, a detailed hydrologic and hydraulic (H&H) study of the Lumber River is required. The H&H study includes a hydrologic analysis of the Lumber River from the headwaters located near Eagle Springs, North Carolina (NC) to the confluence of the Lumber River and Jacob Swamp located about 4 miles downstream of Lumberton. A hydraulic model was developed along the Lumber River and of its tributaries near the city of Lumberton to establish flood elevations for use in the flood gate closure design.

It is worth noting that there is a second opening in the levee protection system along Alamac Road. This opening is a bridge that allows Jacob Swamp to connect with the Lumber River. Although flow in the Lumber River backs up through this opening under extreme flooding conditions, it does not result in extensive flooding compared to flow through the I-95 opening. The opening within Alamac road is not a focus of this study.

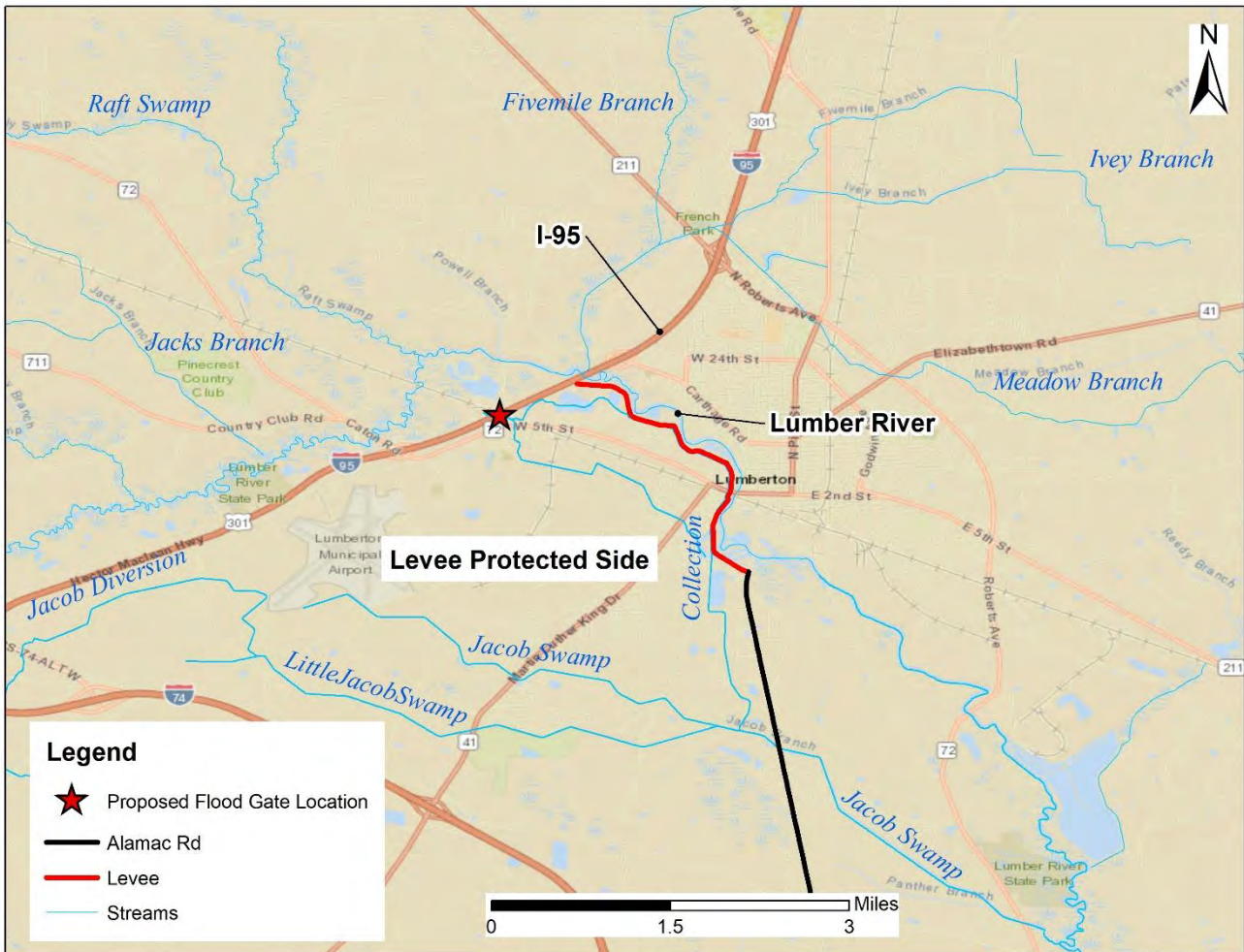


Figure 1-1. Lumberton site location map.

1.2. Assumptions and Limitations

The assumptions and limitations of the analysis and report are as follows:

- The analysis and results presented in this report are for the sole purpose of designing the flood gate.
- Top elevations of the Lumberton levee system including the existing I-95 highway are based on terrain data described in **Section 3.1**. The top of levee elevations from the terrain match elevations from a survey performed by others as described in this report. Atkins does not guarantee the accuracy of this data.
- The geometry of the proposed I-95 embankment and hydraulic structures that traverse the highway embankment are based on 25-percent design plans from NCDOT and is subject to change. Atkins does not guarantee the accuracy of this data.
- Atkins relied on hydraulic structure data included in the effective Federal Emergency Management Agency (FEMA) models. Atkins spot checked the information gathered on these structures by comparing them to field observations but does not guarantee the accuracy of all the data.
- Atkins relied on the high-water mark, streamflow, and stage data collected by the United States Geological Survey (USGS) for model calibration. Atkins does not guarantee the accuracy of this data.

2. Hydrological Setting

2.1. Watershed Location and Size(s)

The Lumber River basin is in southeastern North Carolina, approximately 30 miles (mi) south of Fayetteville, NC, and has a total drainage area of 748 mi² at the confluence of the Lumber River and Jacob Swamp (**Figure 2-1**). The drainage area to the USGS gage along Lumber River in Lumberton is 708 mi². The location of the USGS gage is approximately 1.7 miles downstream from the proposed flood gate closure location. The Lumber River basin at the gage location is entirely within the state of North Carolina and encompasses portions of six different counties: Robeson, Hoke, Scotland, Moore, Richmond, and Montgomery.

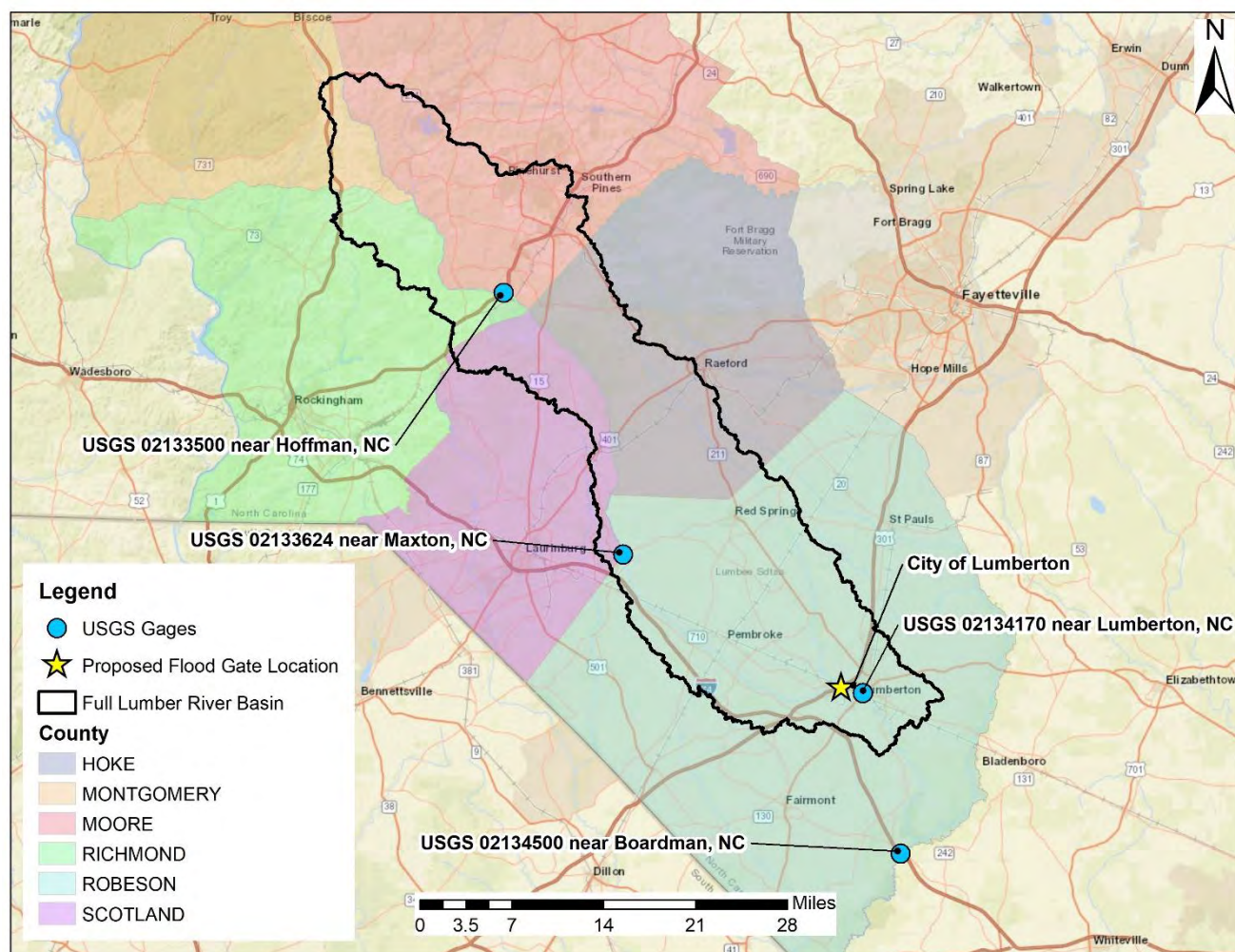


Figure 2-1. Lumber River basin location within southeastern North Carolina.

2.2. Climate

The National Oceanic and Atmospheric Administration (NOAA) provides precipitation and temperature data for the entire United States. The state of North Carolina is divided into eight climate regions (NOAA, 2020). The Lumber River basin is in two of the regions: Southern Piedmont for the northern quarter and Southern Coastal Plains for much of the basin. The mean annual temperature for these regions is 59.7°F and 61.5°F, respectively. This is above the national average of 52.02°F. The mean annual precipitations for the NOAA-defined NC climate regions of Southern Piedmont and Southern Coastal Plain are 46.59-in and 49.23-in, respectively, which are well above the national average of 29.94-in (NOAA, 2020).

Due to its proximity to the Atlantic seaboard, eastern NC is highly susceptible to coastal events including tropical events that mainly occur during the official hurricane season (June 1st to November 30th) as well as extratropical events such as nor'easters and storms that trail along stalled frontal boundaries. Historical data shows that the North Carolina coast is most likely to have a hurricane in September and October based on the prevailing wind patterns (NOAA, 2019a). In 2015, 2016, and 2018, annual precipitation depths were about 14-in, 11-in, and 22-in, respectively, above the annual North Carolina mean (1901-2019) (NOAA, 2020), primarily due to tropical storms and hurricanes.

2.3. Historical Floods

2.3.1. Storms Prior to 2000

Records of major flooding caused by tropical storms dates to the 1600s. However, no flow measurements were available until after the installation of the USGS Gage 02134170 (on Lumber River at Lumberton, NC) circa the year 2000. Notable storms that occurred prior to 2000 include:

- The flood of October 1954 was the result of Hurricane Hazel which made landfall on October 14, 1954, as a category 4 storm near Calabash, NC, approximately 70 miles southeast from Lumberton, NC. Total rainfall was reported to be over 7 inches in parts of NC, including near the upstream portion of the Lumber River basin, with totals between 5 to 6 inches closer to Lumberton, NC (North Carolina State Climate Office (NCSCO), 2015). While tropical events occurred prior to 1954, Hurricane Hazel was noted as one of the most catastrophic in the twentieth century (Barnes, 1998), thus selected as the earliest record of interest.
- The flood of September 1996 was the result of Hurricane Fran which made landfall on September 5, 1996, as a category 3 storm near where the Cape Fear River reaches the Atlantic Ocean (NCSCO, 2015). This is approximately 75 miles southeast of Lumberton, NC. A total of 5 to 10 inches of rainfall across parts of eastern and central NC was reported (USGS, 2016).
- The flood of September 1999 was the result of Hurricane Floyd, which made landfall on September 16, 1999, as a category 2 storm near Cape Fear, NC, approximately 75 miles southeast of Lumberton, NC. Rainfall records across the state ranged from 12 to 20 inches. The rainfall total at the Lumberton Airport was 8.48 inches (NOAA, 2019b) and 7.62 inches in Lumberton (USGS, 2016).

2.3.2. Storm and Flood of September 2004

Significant rainfall fell across the entire state of North Carolina in September 2004 as a result of Hurricane Frances. Hurricane Frances impacted North Carolina from September 7-8 and mainly hit the western part of the state but did result in significant rainfall in the eastern half (National Weather Service [NWS], 2004). Rainfall gages near the Lumber River basin reported total rainfall depths from the storm from 4.31 to 11.87 inches (NCSCO, 2020). The USGS gage on Lumber River at Lumberton (USGS 02134170) reported a peak streamflow of 7,420 cubic feet per second (cfs) in the early hours of September 11, 2004 (USGS, 2020).

2.3.3. Storm and Flood of October 2016

The flood of October 2016 was the result of Hurricane Matthew which made landfall on October 8, 2016, as a Category 1 storm southeast of McClellanville, South Carolina, approximately 110 miles southwest of Lumberton, NC. A front moved inland, pushing the storm north and east towards North Carolina. The storm moved back into the Atlantic Ocean on October 9. While the storm was only over land for two days the sharp turn of the path slowed down the forward speed, resulting in heavy precipitation for 2 days over the eastern portions of both North Carolina and South Carolina (NOAA, 2019c). The total recorded precipitation depth in Lumberton, NC from this storm was 12.53 inches, which is the highest recorded until 2018 (previously 7.62 inches in 1999) (Weaver et al., 2016). Recorded peak flows at the USGS gages in Lumberton (02134170) and Boardman, NC (02134500) were 14,600 cfs and 38,200 cfs, respectively (USGS, 2020). The recorded peak of 38,200 cfs at the USGS gage in Boardman, NC is the highest ever recorded flow to date and it resulted in a peak stage of 14.43 ft (USGS, 2016). The Boardman gage is approximately 15 miles downstream of the USGS Lumberton gage.

Based on high water marks (HWM) provided by the USGS, flood depths in and around Lumberton ranged from 0.65 to 6.89 ft. The levee did not overtop or fail during Hurricane Matthew. Flooding in the area was caused by overtopping of I-95, flow through the I-95 opening at VFW Road/CSX Railroad underpass, and inadequate capacity of the internal drainage system (**Figure 2-2**).



Figure 2-2. Flooding along I-95 and inside the Lumberton Levee from Hurricane Matthew; area to right of road is the levee protected side of Lumberton (Source: City of Lumberton).

2.3.4. Storm and Flood of September 2018

The flood of September 2018 was the result of Hurricane Florence. Hurricane Florence made landfall on September 14, 2018, as a Category 1 storm at Wrightsville Beach, NC, approximately 75 miles southeast of Lumberton, NC. After making landfall, the storm turned southwest into South Carolina, where it moved inland and then turned north before becoming a tropical depression. While the winds were lower as a result of being a Category 1 storm, the system moved slowly at about 2 to 3 miles per hour over North and South Carolina, resulting in large rainfall amounts. Rainfall continued over a four-day period across the southeastern portion of North Carolina (NOAA, 2019c). Total rainfall values reported by NOAA at stations 2.3 miles northeast of Lumberton and 2.6 east-southeast of Lumberton are 22.8 inches and 21.4 inches, respectively. Hurricane Florence resulted in the highest ever recorded peak flow at the USGS gage in Lumberton (02134170 Lumber River at Lumberton) of 17,100 cfs with a peak stage of 22.21 ft. Hurricane Florence caused major flooding within the City of Lumberton as floodwaters passed through the opening under I-95 at the VFW Road and CSX railroad intersection into the city (**Figure 2-3**). USGS estimates about 12-percent of the total recorded peak flow passed through the opening under I-95.



Figure 2-3. Flooding under I-95 at VFW Road and CSX railroad in Lumberton, NC from Hurricane Florence (Source: City of Lumberton).

3. Data Collection

Data used for modeling included field data along with available hydrologic, terrain, and land data. Field data, including high water marks and survey, is provided in **Appendix A**. Hydrologic data, including rainfall, streamflow, and parameter calculations, is provided in **Appendix B**. Hydraulic data, including levee data, is provided in **Appendix C**.

3.1. Terrain and Watershed Data

Terrain tiles were QL2 Light Detection and Ranging (LiDAR) obtained from the North Carolina Floodplain Mapping Program (NCFMP). QL2 data has a standard of 2 points per square meter, allowing for higher resolution than previous LiDAR. The projection of the data source was in NAD_1983_StatePlane_North_Carolina_FIPS_3200_Feet. The vertical datum is NAVD 88. The terrain was for the entirety of Robeson County and portions of Hoke, Scotland, Moore, Richmond, and Montgomery counties and all are 10 ft resolution. The tiles within the project area were mosaiced using ArcGIS. The elevation within the Lumber River basin ranges from 102 to 734 ft NAVD 88 (**Figure 3-1**).

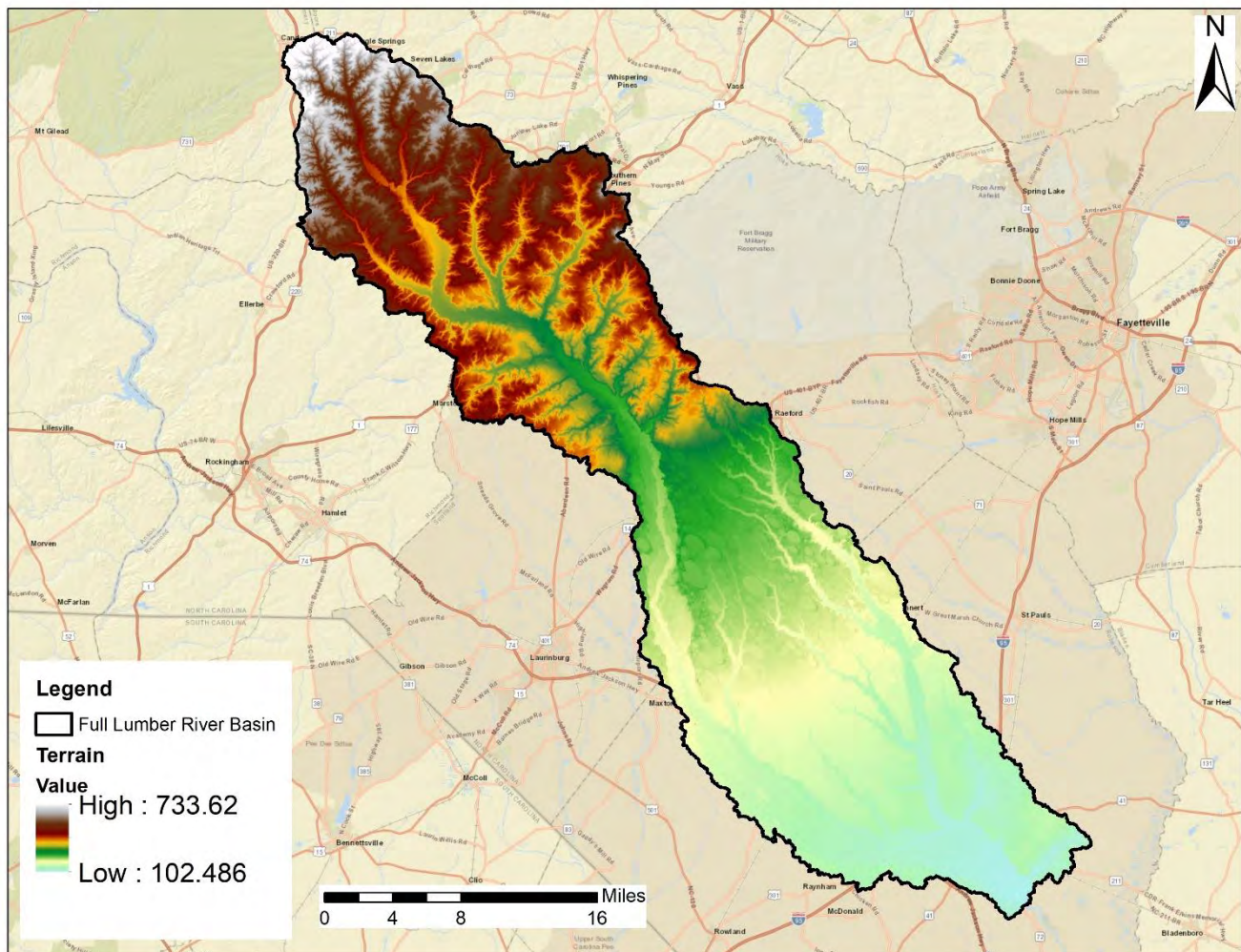


Figure 3-1. Lumber River basin terrain.

The LiDAR terrain source did not account for bathymetry. Bathymetric data for Lumber River were obtained from the Preliminary Lumber River one-dimensional (1D) Hydrologic Engineering Center's River Analysis System (HEC-RAS) model obtained from NCFMP as part of this project. Channel banks were edited to ensure that the channel thalweg and top width were captured. The bank-to-bank elevations at each cross-section were

exported as the bathymetry using RASMapper. This same procedure was followed for Jacob Swamp and Little Jacob Swamp.

For Fivemile Branch, Meadow Branch, Gum Branch, Cotton Mill Branch and Collection Canal, cross section data was obtained in the field for at least two points along the channel. This procedure is explained in further detail in **Section 3.6.2**. A slope was interpolated from the two surveyed cross sections, and the slope was used to drop the channel inverts along each reach. This procedure was completed using 1D HEC-RAS models and the bathymetry generated using the approach described for Lumber River and Jacob Swamp.

The separate bathymetric terrains were then mosaiced with the original terrain, giving bathymetry the priority in ArcGIS. At confluences, tributary elevations were altered to match that of the main reach to ensure the terrain merged smoothly.

3.2. Precipitation Data

Hourly precipitation in the area was obtained from the North Carolina Climate Retrieval and Observations Network of the Southeast Database (NC CRONOS)/ North Carolina Environment and Climate Observing Network (ECONet) Database, which was developed by the State Climate Office of North Carolina (2019). There are eleven precipitation gages within or nearby the drainage basin, eight of which had precipitation data for selected calibration and verification storms (**Figure 3-2**). Gages with available data varied across storms (**Table 3-1**).

For each event, Thiessen polygons were created based on the rainfall gages with available data to estimate the rainfall contribution from each gage for each sub-basin (**Figure 3-3**). Thiessen polygons were created for each event based on gages with available data to determine which gages to use for precipitation data for each sub-basin. Depending on the outcome of the Thiessen polygon divisions, some gages with available data were not used, as highlighted for the 2004 event in **Figure 3-3**. Sub-basin delineation is discussed in **Section 5.3**. Additional details on the Thiessen polygon procedure are included in **Appendix B1**. The area proportions determined from the Thiessen polygons were applied as weights to the precipitation data from the contributing gages. The storm hyetograph applied to a sub-basin is the weighted average from all contributing rainfall gages. A summary of gage availability, weighted rainfall data sets, and the applied range of rainfall per event is provided in **Table 3-1**.

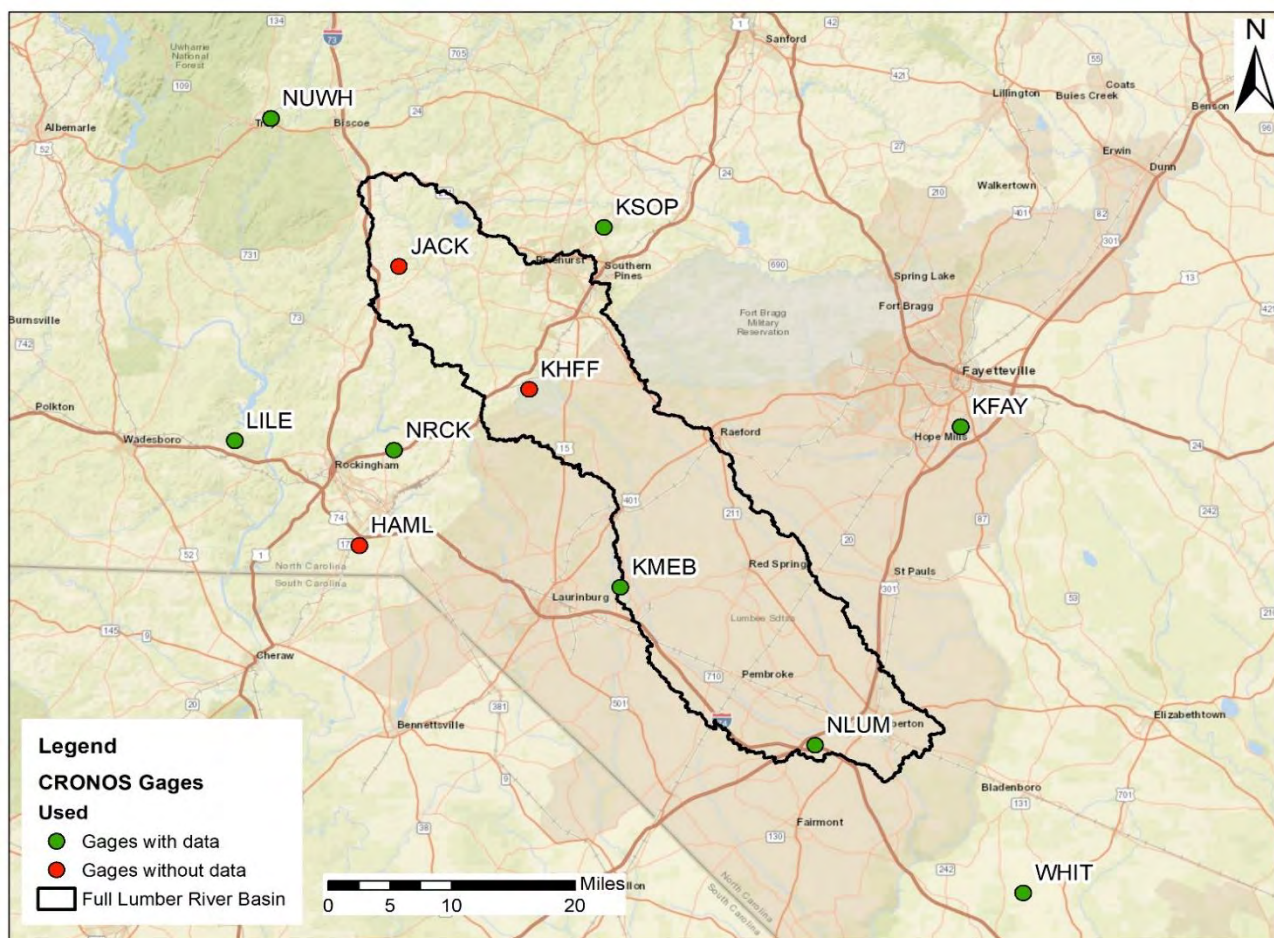


Figure 3-2. CRONOS rainfall gages in and near the Lumber River basin.

Table 3-1. Precipitation gage availability and utilization in models.

Event	Gages Available	Gages Used
Sept 2004	5 (KFAY, HAML, KMEB, NRCK, WHIT)	KFAY, KMEB, NRCK, WHIT
Oct 2015	4 (LILE, NLUM, NUWH, WHIT)	LILE, NLUM, NUWH
Oct 2016	5 (KSOP, LILE, NLUM, NUWH, WHIT)	KSOP, LILE, NLUM, NUWH
Sept 2018	4 (LILE, NLUM, NRCK, WHIT)	NLUM, NRCK

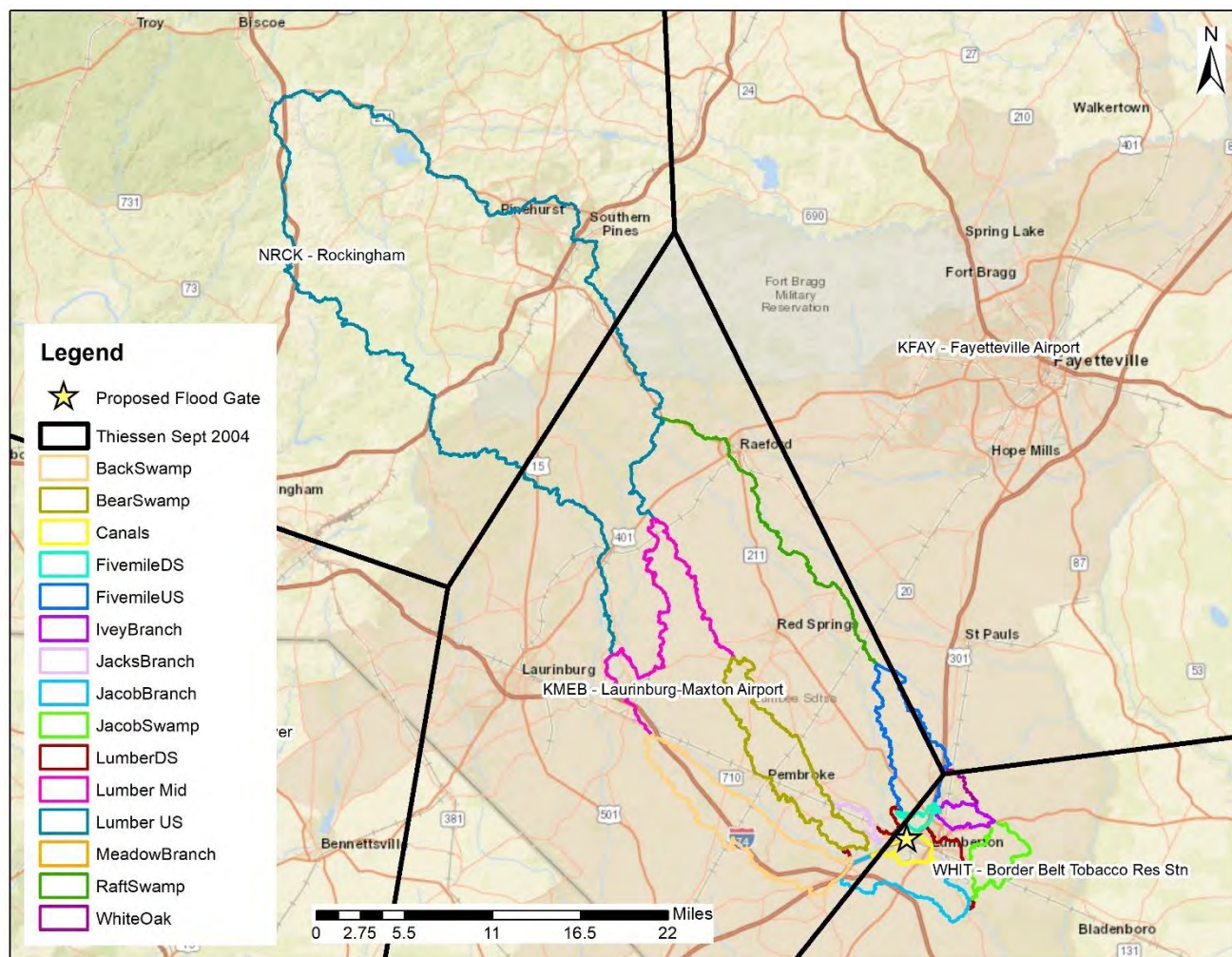


Figure 3-3. Example of Thiessen polygons used to calculate weighted rainfall; shown is the 2004 event Thiessen polygons.

3.3. Streamflow Data

There is a USGS stream gage approximately 1.7 miles downstream of the Lumberton flood gate location, USGS 02134170 Lumber River at Lumberton, NC (**Figure 3-4**). Fifteen (15) minute river discharge (cfs) and gage height (ft) were obtained for the full period of record (July 2, 2000 to present) (USGS, 2020) (**Appendix E2.1**). Additionally, there is a gage upstream on Lumber River in Maxton, NC (USGS 02133624) with a drainage area of 365 sq mi and a gage downstream of our modeled basin on Lumber River in Boardman, NC (USGS 02134500) with a drainage area of 1,228 sq mi (**Figure 3-4**).

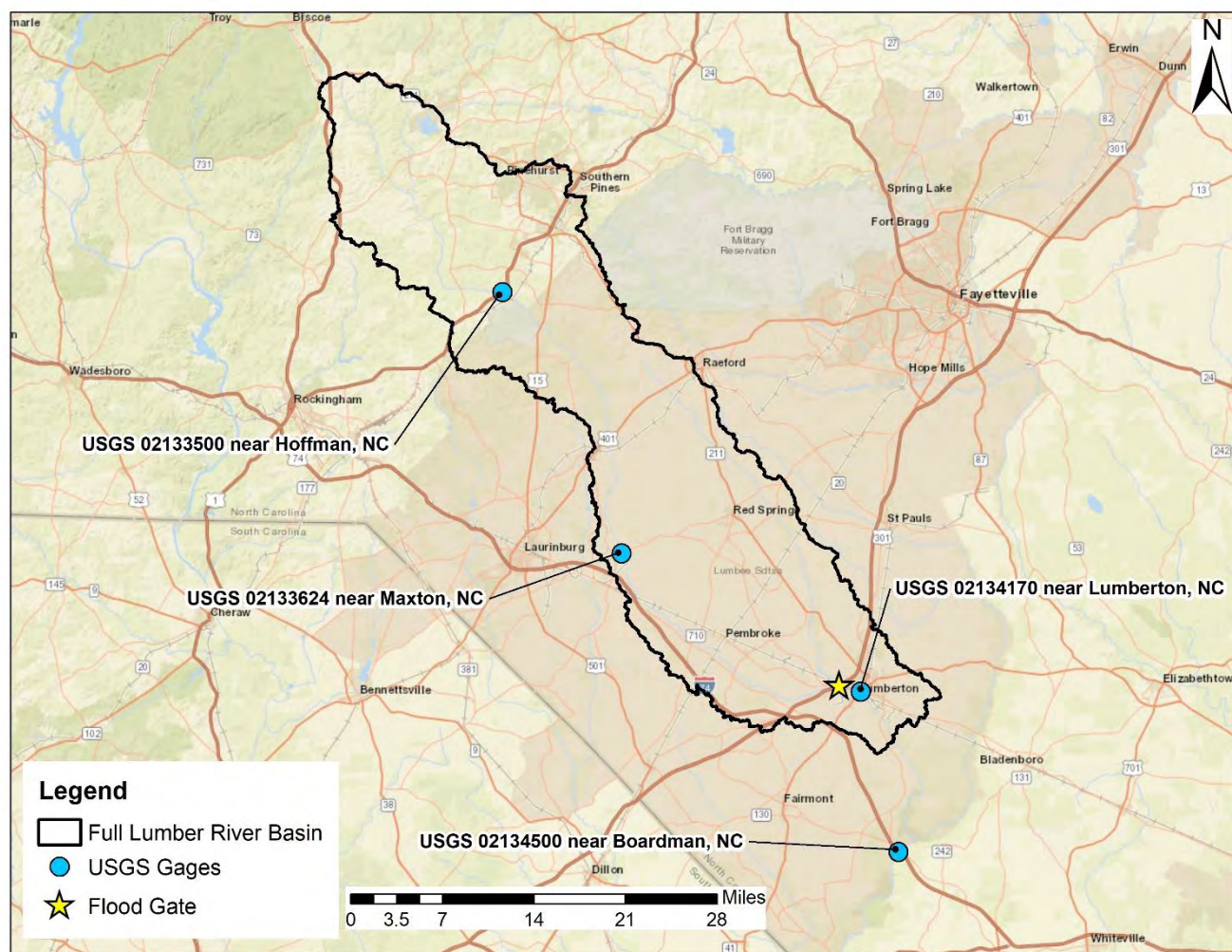


Figure 3-4. USGS gage (02134170 Lumber River at Lumberton, NC) within the Lumber River basin.

3.4. Soils Data

Hydrologic soil group data was obtained from the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) GeoSpatial Data Gateway (USDA, 2020). Gridded soil survey from the Soil Survey Geographic (gSSURGO) database was downloaded for all required counties. Most of the basin consists of B and C soils, with some D soils and minimal A soils (**Figure 3-5**).

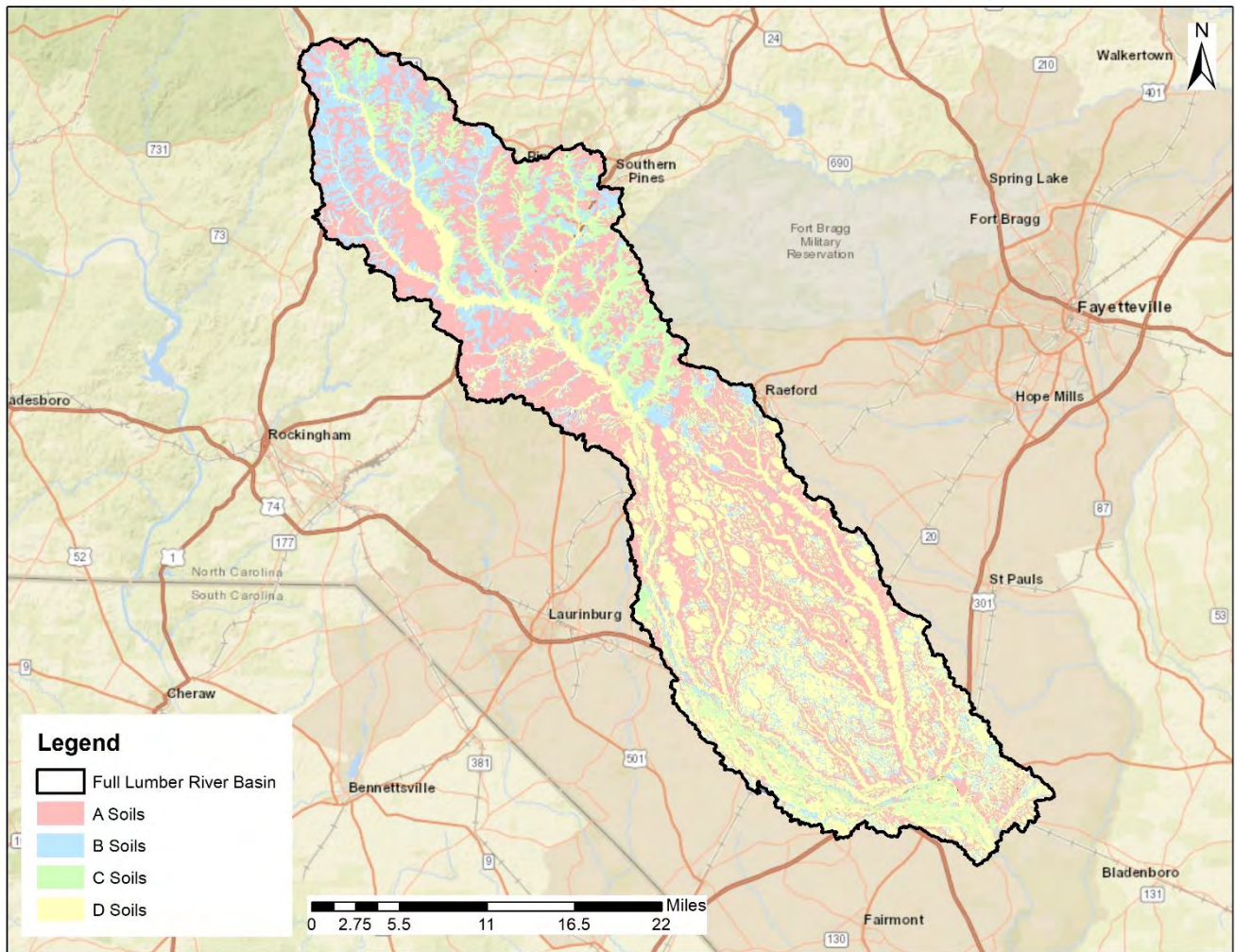


Figure 3-5. Lumber River basin soil type distribution.

3.5. Land Use Data

Land use data was obtained from the 2016 National Land Cover Database (NLCD) (**Figure 3-6**) (USDA, 2020). The northern portion of the watershed is primarily evergreen forest, while the southern half is cultivated crops and the developed area of Lumberton, NC.

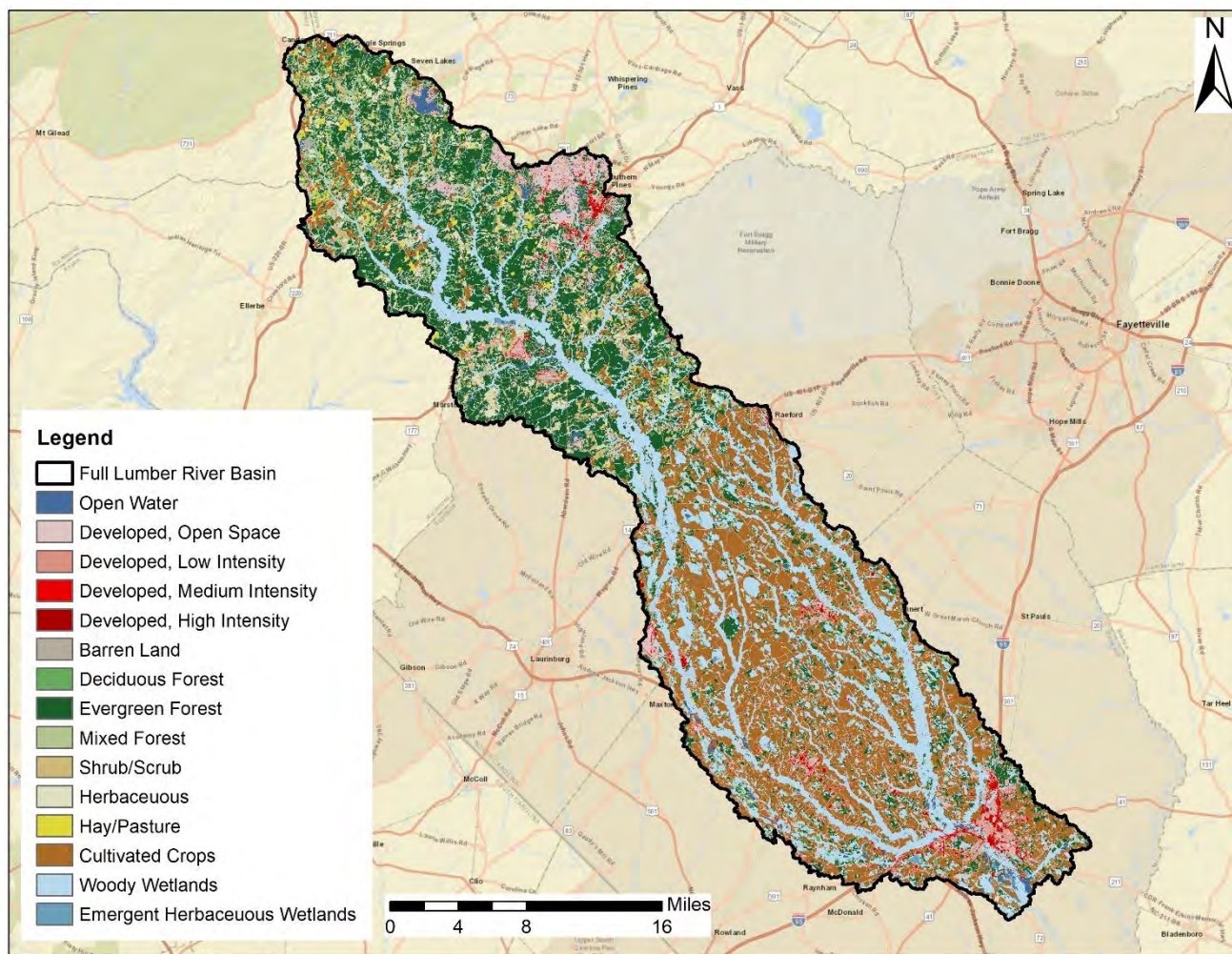


Figure 3-6. Lumber River basin 2016 land cover type.

3.6. Field Survey and Data Collection

A field survey was conducted to validate structure dimensions from effective models/inspection reports and collect dimensions for structures without pre-existing data. A field survey was also conducted to gather cross section information for reaches within the levee protected area that did not have an effective model with bathymetry. **Figure 3-7** below shows the locations of these structures and the cross-section locations. The location map and field measurements are provided in **Appendix A1** and photographs for each structure are shown in **Appendix E1**. The team also gathered high water mark information from Hurricanes Florence and Matthew.

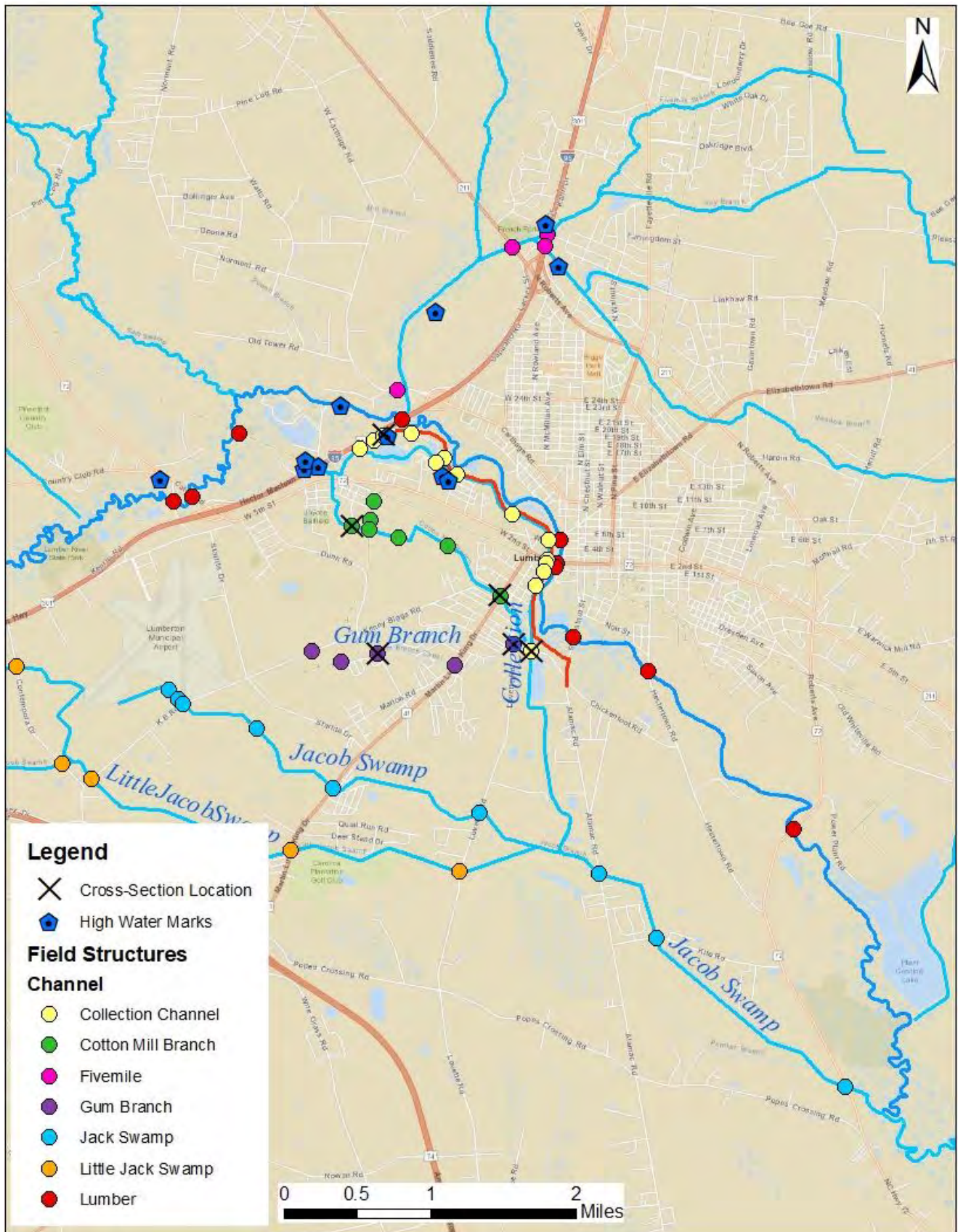


Figure 3-7. Collected field data for structures, high water marks, and survey points.

Additional structure surveys were conducted by McGill Associates for selected structures along the main reaches, Lumber River, and Fivemile Branch. McGill surveyed one structure on Lumber River/I-95 in the vicinity of the proposed flood gate and four structures on Fivemile Branch.

3.6.1. Structure Data

An inventory of hydraulic structures within the project area was derived before the field survey. The initial list of structures came from the effective FEMA models for Lumber River, Jacob Swamp, Little Jacob Swamp, Fivemile Branch, Collection Canal, Cotton Mill Branch, and Raft Swamp. These were all obtained from the North Carolina Flood Risk Information System website (NCFMP, 2019). The second source of known structures was the NCDOT Bridges Map (NCDOT, 2019). Inspection reports were obtained from NCDOT for the structures found on the NCDOT Bridges Map. Other structures were found using aerial imagery or data. Levee data was obtained from AECOM Project No. 60548447, Lumberton Flood Mitigation Report Levee Plans, provided in **Appendix C2**.

The team collected general structure dimensions, material, skew, bed material and condition, normal depth, channel width, structure condition, scour, sedimentation, obstructions, and guardrail height. More specifically, data for bridges included: number of spans, width of spans, pier dimensions, cap dimensions, girder thickness, seat dimensions, depth from low chord to channel invert, length of bridge, and width of bridge. Data collection for culverts included: culvert type, number of barrels, rise, span/diameter, bed to crown, abutment type, scour, and length of culvert.

The above data was obtained using Global Positioning System (GPS), measuring tapes, measuring wheels and rods. The team also looked for any additional structures not found in aerial imagery or ongoing construction.

3.6.2. Cross Sections

Collection Canal, Gum Branch, and Cotton Mill Branch were surveyed at a minimum of two locations along the reach. This allowed for a slope to be interpolated along the channel bed. The cross sections were taken at the upstream side of a structure.

To collect the cross-section data, the survey team used a laser level, GPS, and rod. A benchmark was determined using GPS coordinates (at top of bank). The elevation of the benchmark was estimated using LiDAR data. The team then took a back sight reading and found the height of instrument. Foresight readings were taken throughout the channel. Points were taken approximately every 5 feet across the channel to capture top of bank, edge of water and channel inverts. calculations were performed to determine the channel elevations from the collected measurements. Cross-section data and plots are provided in **Appendix A3**.

3.6.3. High Water Marks

Eleven high water mark (HWM) locations and depths were obtained from a field visit with City of Lumberton waterworks department personnel (**Figure 3-8**). The City of Lumberton personnel provided the history of each water mark during the field visit. At each mark, the location, height of water from the ground, and event were noted, along with photos for each. An example of a recorded HWM photo is shown in **Figure 3-9**. Measured HWM depths were converted to elevations based on the terrain data described in **Section 3.1**.

Additionally, HWM for Hurricanes Matthew and Florence were obtained from the USGS Flood Event Viewer application ((United States Geological Survey, 2019) (**Figure 3-8**).

The high-water mark located just upstream of the proposed gate location was surveyed by McGill Associates. This HWM can be seen in **Figure 3-8** below. Additional details are included in **Appendix A2**.

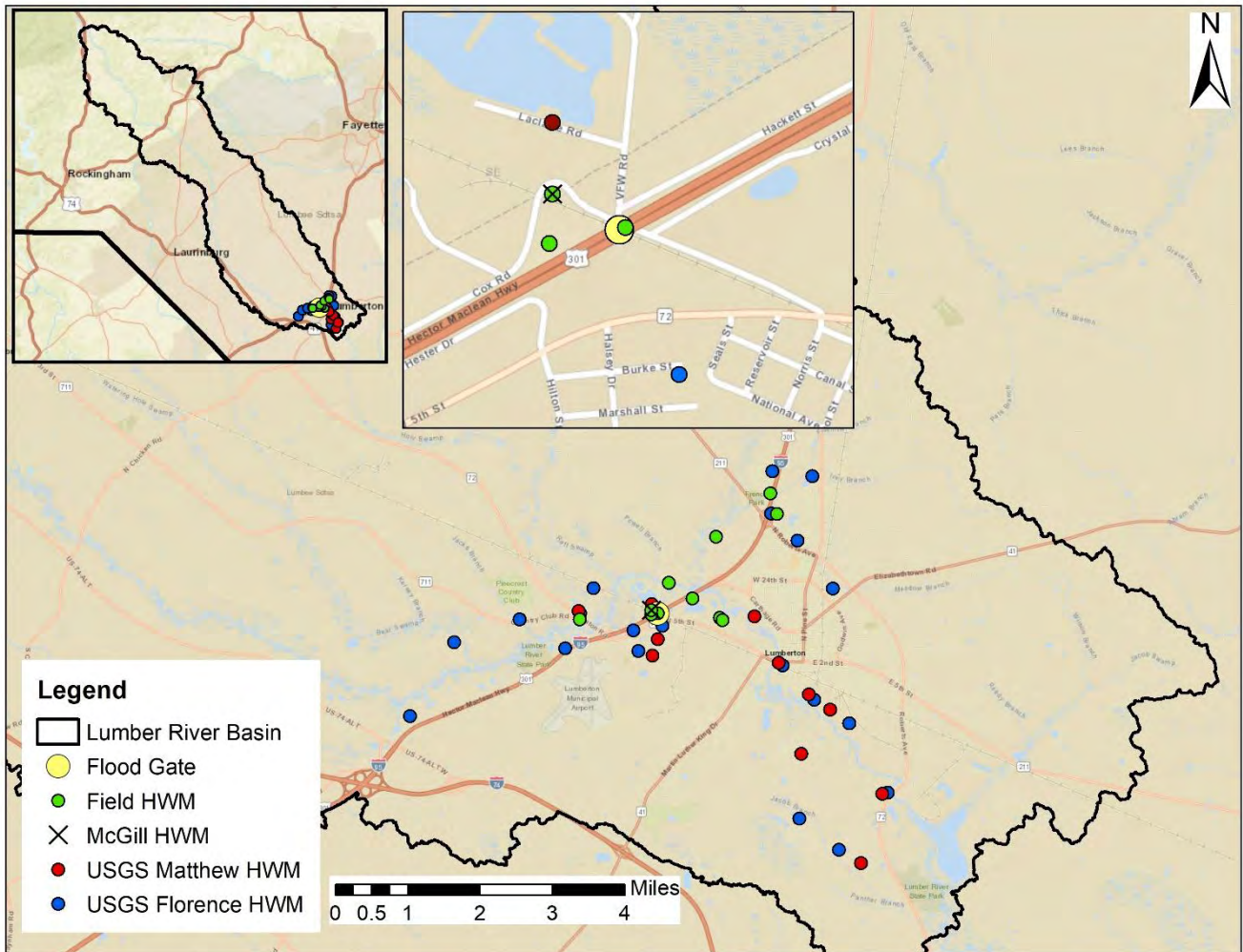


Figure 3-8. Location of field and USGS high water marks.



Figure 3-9. Example of HWM from Lumberton field visit near the VFW Road and railroad intersection by the flood gate location.

4. Design Flood Selection

4.1. Review of FEMA Levee Accreditation Guidelines

FEMA provides guidelines and requirements that must be met for levee systems to be accredited (FEMA, 1986). The FEMA requirements, as specified in 44 Code of Federal Regulations (CFR) 65.10 (FEMA, 2006), related to levee height are as follows:

- Levees must have a minimum freeboard of 3 feet above the 100-year flood elevation (base flood elevation), with
- an additional 1 foot of freeboard at locations within 100 feet of structures (such as bridges) or wherever the flow is restricted, and
- an additional 0.5 foot of freeboard at the upstream end of a levee.

The minimum elevation of the flood gate will therefore have to be above the 100-year water surface elevation plus 4.5 feet to meet FEMA accreditation requirements. The levee is currently not FEMA accredited.

4.2. Flood Frequency Analysis

It is the desire of the City of Lumberton to have a flood gate that can, at a minimum, prevent flooding from events like that of Hurricanes Matthew and Florence, which are the highest recorded flooding events in Lumberton. Flood frequency analysis was performed to estimate the recurrence intervals of historic floods (Hurricane Matthew and Hurricane Florence) near the site. For reference, the recorded peak flow rate from Hurricane Matthew at the Lumberton and Boardman gages were 14,600 cfs and 38,200 cfs, respectively, and the recorded peak flows for Hurricane Florence at the Lumberton and Boardman gages were 17,100 cfs and 35,400 cfs, respectively.

Flow measurements at the Lumberton gage during Hurricane Matthew did not account for flow that was diverted through the I-95 opening at the VFW Road and the CSX railroad track. The actual peak flow at Lumberton from Hurricane Matthew is therefore larger than the reported peak flow of 14,600 cfs. USGS records indicate that diverted flow through the I-95 opening during Hurricane Florence was about 2,000 cfs, approximately 12% of the total flow (USGS Correspondence, **Appendix B6**). Based on the recorded water surface elevations at the USGS gage in Lumberton (119.7 feet for Hurricane Florence versus 119.4 feet for Hurricane Matthew) for the two events, a similar amount of flow can be assumed to have been diverted through the I-95 opening during Hurricane Matthew. This implies that the actual peak flow at Lumberton from Hurricane Matthew is about 16,600 cfs. This estimate is consistent with the simulated peak flow from the Hydrologic Engineering Center's Hydrologic Modeling System (HEC-HMS) model as described in **Section 5.6** and **Table 5-8**. Additional analysis was performed with the adjusted peak flow for Hurricane Matthew to assess the sensitivity of the estimated return periods to the change in the peak flowrate for that event.

PeakFQ (version 7.3) (USGS, 2019a) was utilized for the analysis. This version of the software was released in 2019 and uses Bulletin #17C methodology (USGS, 2019b) for the flood frequency computation. Log Pearson Type III distribution was used for the analysis. Peak streamflow data was downloaded for two USGS gages:

1. USGS 02134170 – Lumber River at Lumberton, NC
 - Near proposed Lumberton flood gate site
2. USGS 02134500 – Lumber River at Boardman, NC
 - Approximately 15 miles downstream of the Lumberton gage

The flood frequency analysis was conducted for the gage at Lumberton (Gage 1). This gage had a record from 2001-2018 and the downstream gage (Gage 2) had a record from 1901-2018.

Two different methods were used in estimating the return periods to assess the impact gage record length and method for gage adjustment based on nearby gage(s) with longer records:

- Method 1 uses Gage 1 observed data only.
- Method 2 extends the record at Gage 1 based on Gage 2 using the MOVE method.

4.2.1. Method 1

The results of the analysis based only on the Gage 1 records with the reported and adjusted peak flow rates of 14,600 cfs, and 16,600 cfs for Hurricane Matthew are shown in **Table 4-1** and **Figures 4-1** and **4-2**. Based on this data, the return periods for Hurricane Matthew and Florence are between 30 to 50 years. The Log Pearson Type III analysis for this is included in **Appendix E4.2**. The upper (95%) and lower (5%) confidence limits of the peak flow estimates are also reported to show the potential range of peak flows that could occur for each return period.

Table 4-1. Calculated discharge per return period at the Lumberton gage (USGS 02134170).

Return Period (years)	With Reported Matthew Peak Flow Rate			With Adjusted Matthew Peak Flow Rate		
	Peak Flow (cfs)	Peak Flow 5% Lower Bound	Peak Flow 95% Upper Bound	Peak Flow (cfs)	Peak Flow 5% Lower Bound	Peak Flow 95% Upper Bound
1.25	1,654	1,122	2,269	1,645	1,109	2,267
2	3,130	2,283	4,375	3,145	2,282	4,427
5	6,139	4,389	9,687	6,254	4,440	9,979
10	8,856	6,103	15,830	9,099	6,218	16,510
25	13,240	8,603	28,460	13,740	8,836	30,140
50	17,270	10,680	43,080	18,050	11,030	46,170
100	22,020	12,920	64,080	23,170	13,410	69,470
200	27,600	15,330	94,040	29,230	15,990	130,100
500	36,460	18,760	153,600	38,940	19,700	171,000

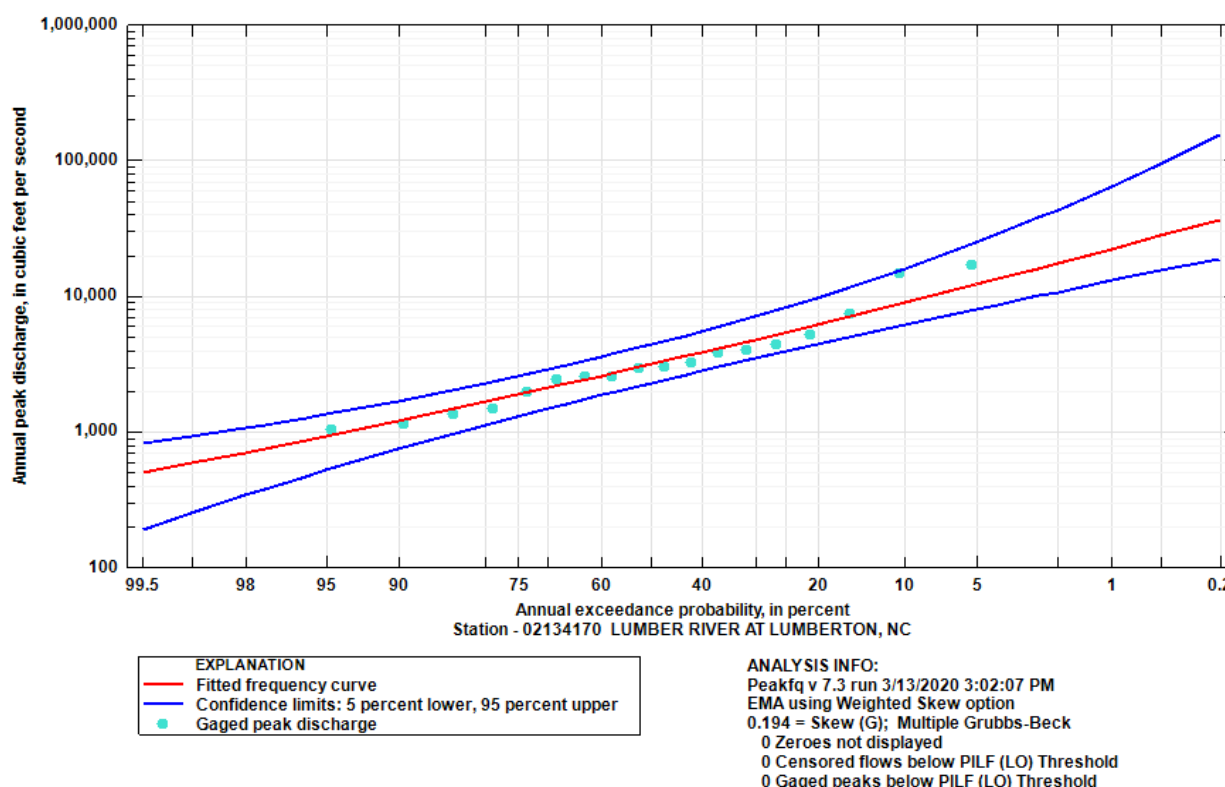


Figure 4-1. Discharge-Frequency curve for Lumberton gage with reported Hurricane Matthew peak flow rate.

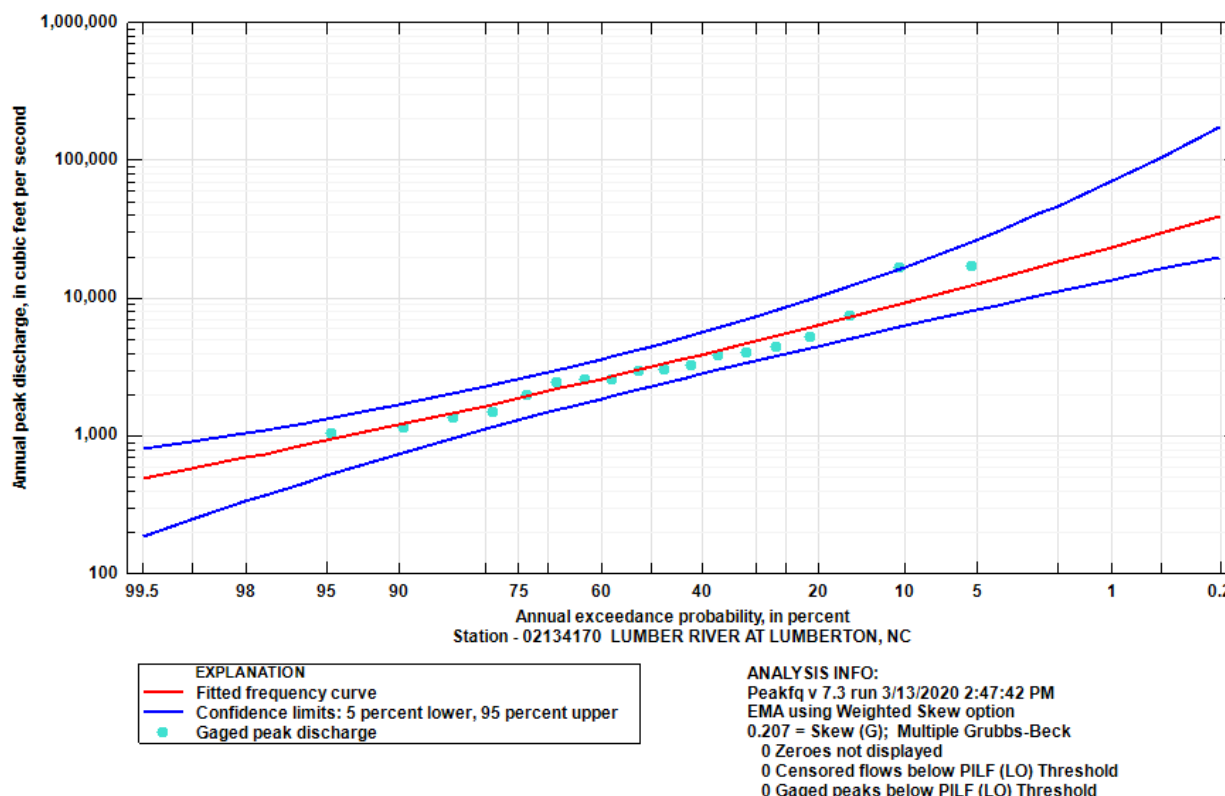


Figure 4-2. Discharge-Frequency curve for Lumberton gage with adjusted Hurricane Matthew peak flow rate.

4.2.2. Method 2

The maintenance of variance estimator (MOVE) method described in Bulletin #17C (USGS, 2019 b) was used to extend Gage 1 records. This method extends a shorter record series using a supplemental series while maintaining the variance of the extended series. The procedure of the MOVE adds observations (ne) to the original records (y). The values of the new observations have the information to transfer the mean and variance of the original records. The statistical analysis following this procedure resulted in a total of 38 records (n1+ne), compared to 18 in the original records (n1). A linear regression model was developed to estimate an additional 20 observations (ne). The 38 records were used as inputs for PeakFQ analysis (**Appendix E4.2**). **Table 4-2** and **Figure 4-3** below show the frequency analysis results.

Table 4-2. Calculated discharge per return period based on the extended Lumberton gage records (USGS 02134170).

Return Period (years)	Peak Flow (cfs)	Peak Flow 5% Lower Bound	Peak Flow 95% Upper Bound
1.25	2,080	1,736	2,442
2	3,305	2,821	3,898
5	5,419	4,547	6,734
10	7,109	5,826	9,393
25	9,588	7,561	14,000
50	11,700	8,923	18,580
100	14,040	10,330	24,370
200	16,640	11,800	31,680
500	20,530	13,820	44,300

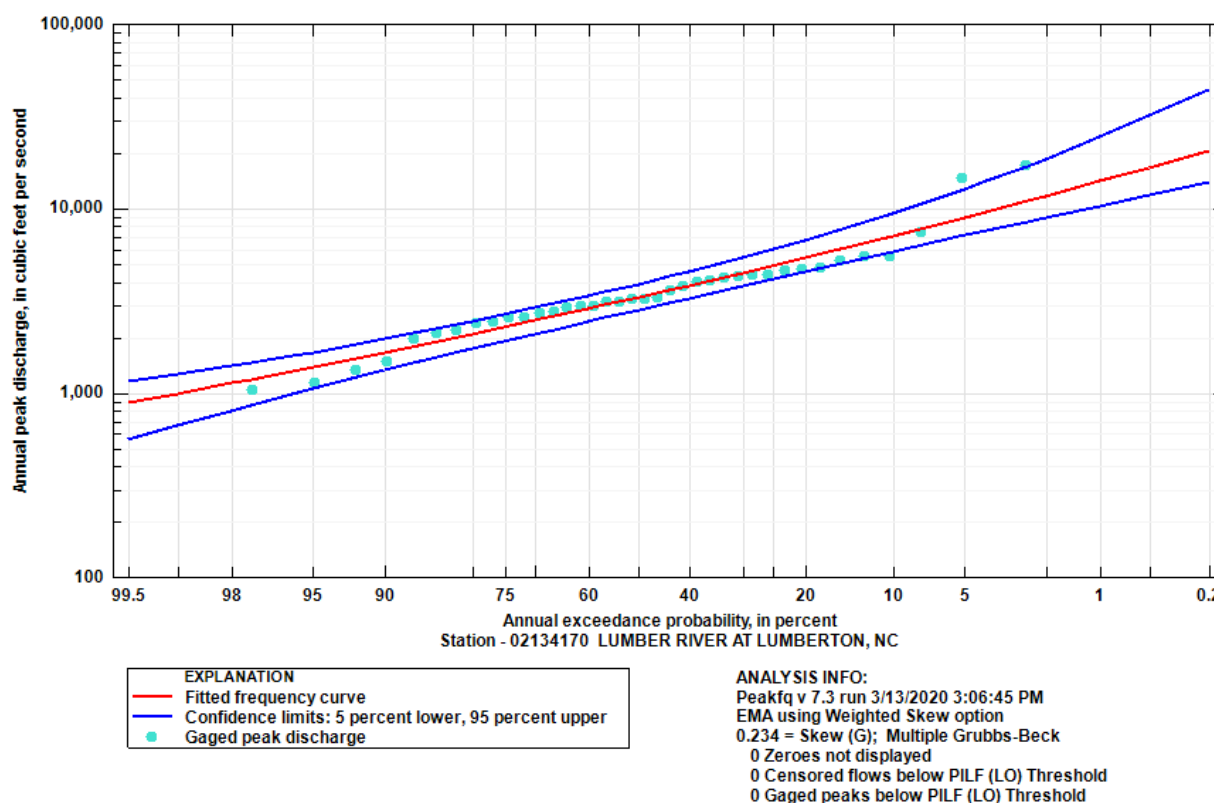


Figure 4-3. Discharge-Frequency curve for Lumberton gage with extended record.

The estimated return periods for Hurricane Matthew and Florence are approximately 120 and 235 years, respectively. The extended record calculations and the Log Pearson Type III analysis for this is included in **Appendix E4.1**.

When using the updated peak flow value of 16,600 cfs for Hurricane Matthew in the analysis, the return period for hurricane Matthew and Florence are approximately 170 and 190 years, respectively. The extended record calculations and the Log Pearson Type III analysis is included in **Appendix E4.1**. **Table 4-3** and **Figure 4-4** below show the results of the analysis using the adjusted flow for Hurricane Matthew.

Table 4-3. Calculated discharge per return period based on the extended Lumberton gage records (USGS 02134170) and altered Hurricane Matthew.

Return Period (years)	Peak Flow (cfs)	Peak Flow 5% Lower Bound	Peak Flow 95% Upper Bound
1.25	2,080	1,742	2,436
2	3,325	2,844	3,916
5	5,500	4,626	6,837
10	7,255	5,964	9,609
25	9,852	7,795	14,460
50	12,080	9,242	19,320
100	14,560	10,750	25,500
200	17,340	12,320	33,340
500	21,520	14,500	46,990

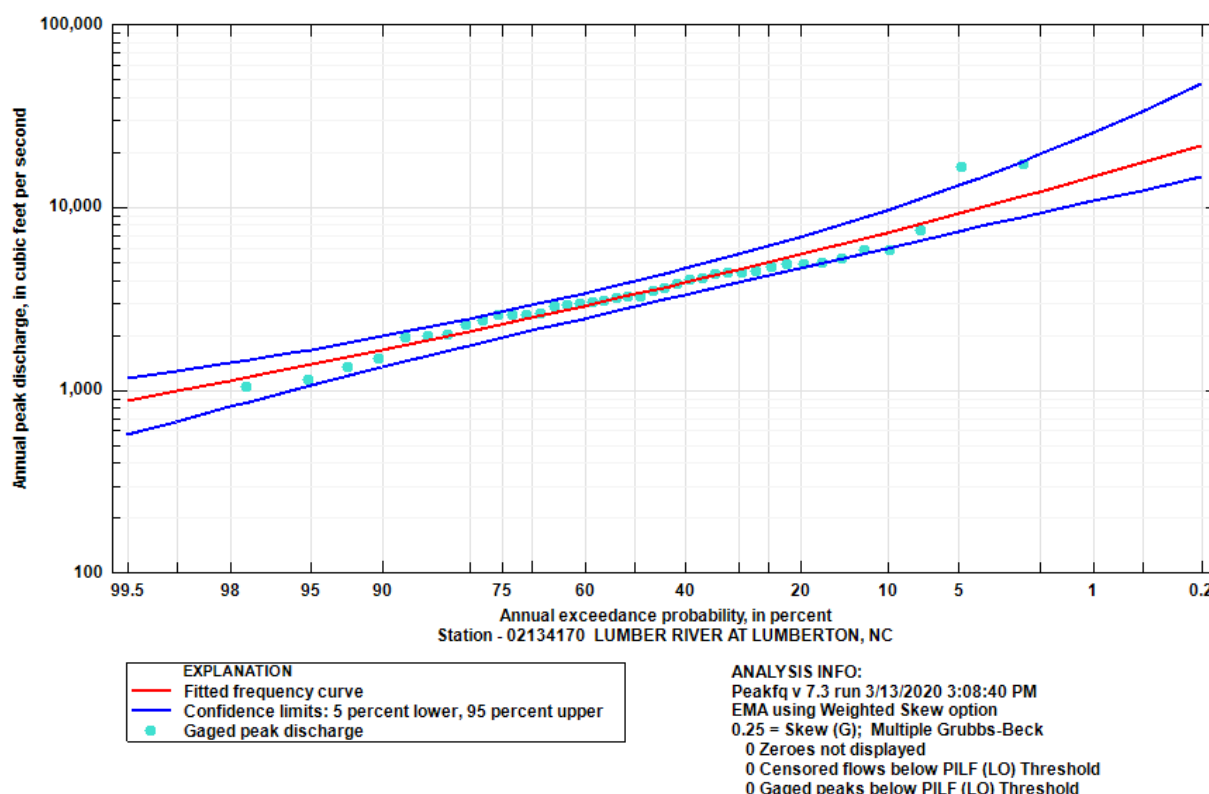


Figure 4-4. Discharge-Frequency curve for Lumberton gage (USGS 02134170) with extended record and altered Hurricane Matthew.

4.2.3. Gage Weighted Regression Estimates

Regional regression flow rate for each return period was calculated using USGS-developed regional regression equations for North Carolina (USGS, 2009). StreamStats was used to determine the basin percentage in each hydrologic region (1-5). A total of 45-percent of Lumber River basin is in Region 3 and 55-percent is in Region 4 (USGS, 2016). Based on the PeakFQ estimated gage peak flow at the Lumberton gage (USGS 02134170), regression estimated peak flow, and variance of prediction for each value, the gage weighted peak flow was estimated for the 2 – 500-year return periods (**Table 4-4**). The resulting return periods for Hurricanes Matthew and Florence remain the same as using only the gage estimates. The gage weighted regression calculation is included in **Appendix E4.3**.

Table 4-4. Regional regression weighted peak flow rate estimates for Methods 2 approaches.

Return Period (yrs)	Regression Peak Flow Rate (cfs)	Weighted Peak Flow Rate (cfs)	
		Method 2 – unaltered Matthew	Method 2 – altered Matthew
2	4,006	3,410	3,429
5	6,740	5,546	5,616
10	8,797	7,320	7,449
25	11,440	9,903	10,125
50	13,620	12,090	12,400
100	15,799	14,463	14,864
200	18,043	17,029	17,539
500	20,993	20,678	21,347

4.3. Recommended Design Flood Frequency

The results of the analysis indicate that there is a high amount of uncertainty regarding the return periods for floods produced by Hurricanes Matthew and Florence at Lumberton, NC. This is due to the limited gage records at that location. Updating the limited gage data at the USGS gage at Lumberton based on the longer record at the USGS gage in Boardman provides more realistic estimates of the return periods. Based on this approach, the return periods for the flood produced by both Hurricanes Matthew and Florence are about 170 and 190 years, respectively.

The minimum top of gate elevation must be the higher of the peak water surface elevation from Hurricane Florence at the gate location or the 100-year elevation at the gate plus 4.5 feet of freeboard. The return period of such a flood will be about 200-years or greater.

5. Hydrologic Model Development

5.1. General Methodology

The Hydrologic Engineering Center Hydrologic Modeling System (HEC-HMS) version 4.2.1 software was used to model the Lumber River basin and develop outflow hydrographs for each sub-basin. HEC-HMS is a rainfall-runoff model developed by the U.S. Army Corps of Engineers (USACE, 2017) and is widely used for detailed rainfall-runoff modeling across the United States.

HEC-HMS has three main components: watershed physical description (basin model), meteorology description (meteorological model), and hydrologic simulation. For each basin and/or sub-basin a method can be selected for canopy, surface, loss, transform, and baseflow. The meteorological model represents the precipitation input needed by sub-basin elements in the basin model. Hydrologic simulation encompasses control specifications, which detail the simulation times (dates, times, time interval).

The watershed physical description process involved the addition of sub-basins, junctions at the end of each sub-basin, and reaches connecting the junctions. This allowed all sub-basins to be connected and set up how water will move through the model from upstream to downstream.

5.2. HEC-HMS Model Parameters

The modeling methods were selected from methods available in HEC-HMS Version 4.2.1. The hydrologic modeling methods selected were chosen based on the availability of data and ability to define modeling method parameters with this data. Predictive ability of the modeling method based on experience was also a factor. Based on these factors, the Snyder Unit Hydrograph method was selected and used to characterize the rainfall-runoff relationship of the sub-basins within the watershed. The Snyder Unit Hydrograph method allows for parameters to be compared across events and sub-basins so that the method can be transformed to ungagged sub-basins. The method is relatively simple yet detailed enough to provide an adequate unit runoff response for predicting large floods based on calibrated parameters.

For all the sub-basins, the loss method was set to 'Initial and Constant' and a transform method of 'Snyder Unit Hydrograph'. **Table 5-1** summarizes the watershed physical parameters required for the selected modeling methods. A summary of the equations and required parameters for each method are included in the HEC-HMS Technical Reference Manual (USACE, 2000). The initial loss was calculated using the Soil Conservation Service (SCS) runoff curve number method (USDA, 1986). Imperviousness was set to zero (0%) for all sub-basins as this was incorporated into the curve number and thus initial loss value. The remaining loss parameter is constant loss. The two parameters required for the transform method are the standard lag and peaking coefficient. The constant loss, lag time, and peaking coefficient are variables based on basin characteristics and thus were calibrated. Initial losses were also adjusted during calibration based on known antecedent soil conditions for each calibration and verification storm.

The hydrologic simulation control specifications were individually set for each simulation event based on the corresponding dates and times.

Rainfall and streamflow data were added as time series data. A precipitation gage was added for each basin for each simulated event. The number of precipitation gages added per event was based on the number of rainfall gages with available data and the associated weighted rainfall developed. The precipitation gages included values covering the full time period of the control specification with a one-hour interval. Discharge gages were added for each event at the calibration points within the model (USGS Gage 02133624 at Maxton and USGS Gage 02134170 at Lumberton). The discharge gages contained the discharge data for each storm as recorded at those gage locations. Discharge was added at a fifteen-minute interval.

Cross-section data was also added for each reach for use in flow routing.

Initial parameter approximations were estimated using Geographic Information System (GIS) data and applicable parameter ranges. Model parameters were refined through calibration and validated by comparing model results to historic flow measurements.

The calibrated and verified model was then used to simulate design flood hydrographs that were routed in a hydraulic model.

Table 5-1. HEC-HMS modeling methods and required parameters.

Modeling Method	Parameter	Description	Acceptable Values
Initial and Constant-Rate Loss Method	Initial Loss (in)	Initial loss parameter that accounts for the moisture condition in the watershed at the beginning of the simulation – loss from canopy interception, surface storage, and infiltration.	Based on curve number (CN)
	Constant Loss (in/hr)	Infiltration rate during saturated soil conditions.	0+
	Impervious Area (%)	Impervious area directly connected to the channel network (no losses are computed).	0% (for this study)
Snyder Synthetic Unit Hydrograph	Standard Lag (hr)	The time from the center of mass of excess rainfall to the hydrograph peak.	Based on C_t , which ranges from 0.4 to 8, and sub-basin lengths
	Peaking Coefficient (C_p)	Dimensionless parameter affecting hydrograph shape.	0.4 to 0.8

5.3. Sub-basin Delineation

Sub-basins were based on delineation of smaller channels/ tributaries within the Lumber River basin (**Figure 5-1**) using StreamStats, which uses coarser terrain (30 ft x 30 ft) (USGS, 2016). Delineation was done where each channel joins into Lumber River. Additionally, a sub-basin was delineated at the USGS gage in Maxton, NC to allow for hydrograph calibration at the location. The streamstats delineated sub-basins were verified using the QL2 LiDAR, which has a finer tile size of 10 ft x 10 ft and edits were made to the sub-basin boundaries as necessary. Fourteen (14) sub-basins were delineated. There are twelve (12) sub-basins for tributaries to the Lumber River and an additional two (2) sub-basins within the HEC-HMS model to account for the drainage area right along the channel, which was not accounted for in the other basins. The sub-basins are called: Back Swamp, Bear Swamp, Fivemile downstream, Fivemile upstream, Lumberton Canals, Ivey Branch, Jacks Branch, Jacob Branch, Jacob Swamp, Lumber downstream, Lumber upstream, Meadow Branch, Raft Swamp, and White Oak (**Figure 5-1** and **Figure 5-2**). StreamStats for each basin are provided in **Appendix E2.2**.

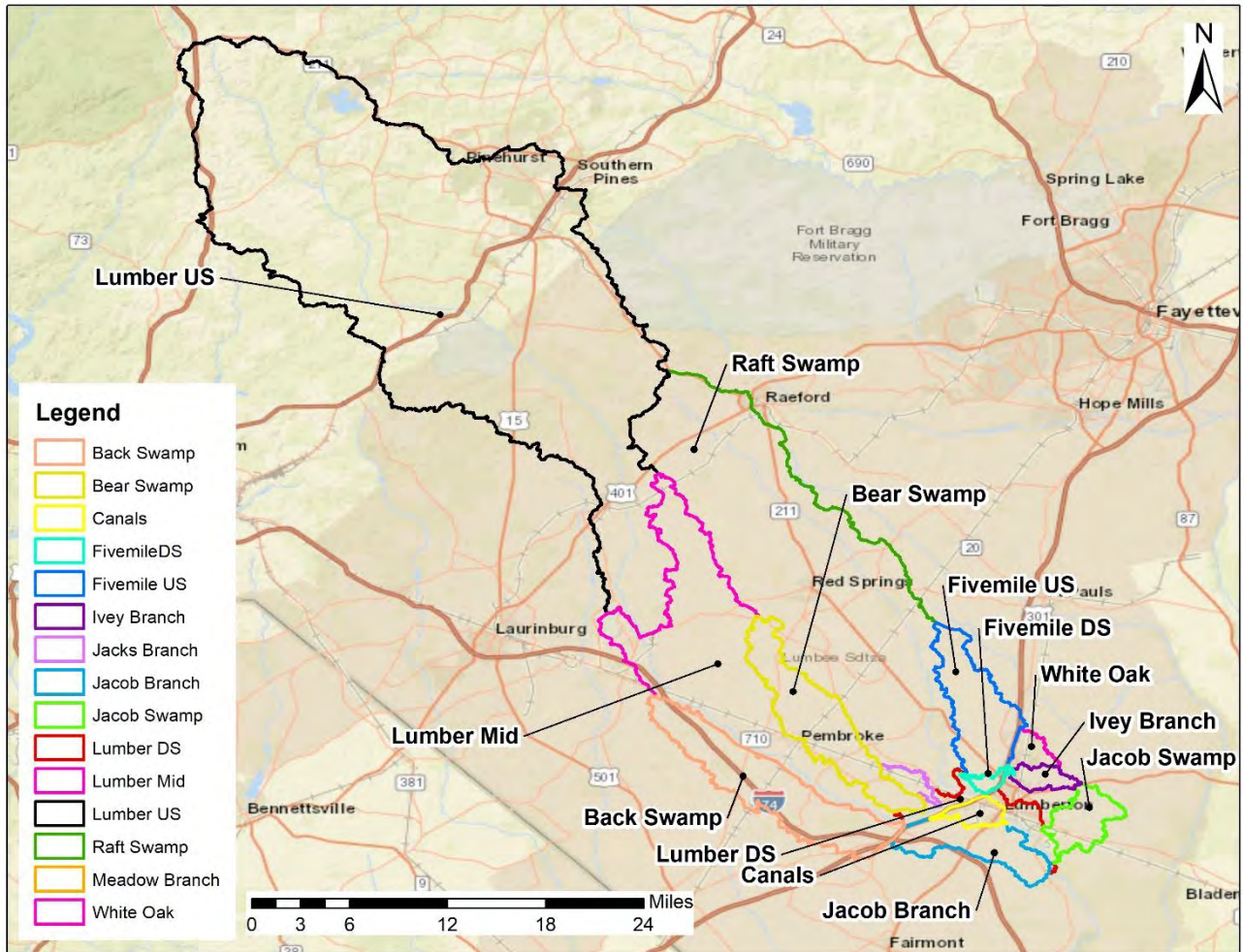


Figure 5-1. Lumber River sub-basin delineation.

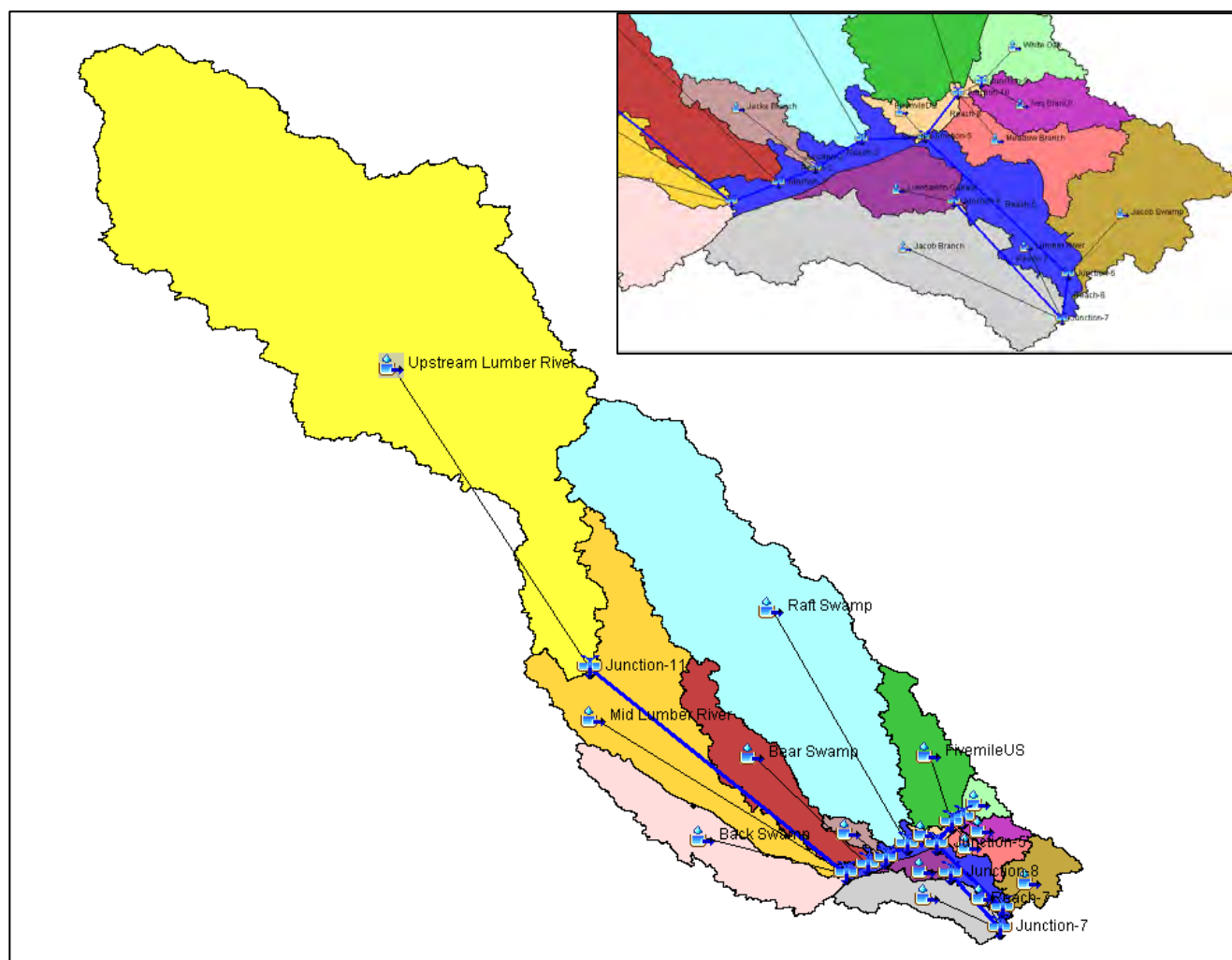


Figure 5-2. HEC-HMS sub-basins, reaches, and junctions.

5.4. Initial Parameter Estimation

Initial parameters were set constant across all sub-basins using: constant loss of 0.4 in/hr, basin coefficient (C_t) of 2.2, and peaking coefficient (C_p) of 0.4. The values were selected as they were the lower end for each parameter range. The starting initial loss estimates for the basins were estimated based on the sub-basin curve number, CN. The standard lag was calculated using the C_t and the previously calculated length of main channel (L , mi) and length of channel to centroid (L_c , mi). The initial loss, constant loss, C_t , and C_p were changed during the calibration process.

5.4.1. Curve Number and Initial Losses

5.4.1.1. Curve Number

The curve number for each sub-basin is a useful basin characteristic and is needed to calculate other parameters, such as the initial loss rate. To calculate a sub-basin curve number, the soil type and land cover is required.

A composite curve number was calculated for each sub-basin because each sub-basin had multiple soil types and land use classifications. Good condition curve numbers (USDA, 1986) were paired with the associated 2016 NLCD land cover classifications. ArcGIS was used to calculate the area of each land use classification associated with each soil type. The area of each land use per soil type was used to create a curve number for each soil type, and then those were used to calculate a composite curve number for each sub-basin (**Table 5-2**). Curve number calculation are provided in **Appendix B4**.

Table 5-2. Sub-basin composite curve numbers.

Sub-basin	Curve Number
Back Swamp	85.7
Bear Swamp	83.1
Fivemile DS	82.8
Fivemile US	81.7
Lumberton Canals	83.2
Ivey Branch	79.4
Jacks Branch	82.2
Jacob Branch	85.2
Jacob Swamp	79.9
Lumber DS	84.3
Lumber Mid	82.9
Lumber US	62.1
Meadow Branch	78.0
Raft Swamp	78.9
White Oak	79.6

5.4.1.2. Initial Losses

Based on the curve number, the initial loss was calculated using the SCS runoff method (USACE, 1986). The good condition curve number was used to calculate S (**Equation 5-1**), a value related to soil and cover conditions, which was then used to calculate the initial loss (I_a) (**Equation 5-2**) (**Table 5-3**). The initial loss for each sub-basin was input into the HEC-HMS model and was not altered during calibration.

$$S = \frac{1000}{CN} - 10 \quad (5-1)$$

$$I_a = 0.2S \quad (5-2)$$

Table 5-3. Calculated sub-basin initial losses.

Sub-basin	S	I_a (in)
Back Swamp	1.67	0.33
Bear Swamp	2.03	0.41
Fivemile DS	2.08	0.42
Fivemile US	2.24	0.45
Lumberton Canals	2.02	0.40
Ivey Branch	2.59	0.52
Jacks Branch	2.17	0.43
Jacob Branch	1.74	0.35
Jacob Swamp	2.52	0.50
Lumber DS	1.86	0.37
Lumber Mid	2.06	0.41
Lumber US	6.10	1.22
Meadow Branch	2.82	0.56
Raft Swamp	2.67	0.53
White Oak	2.56	0.51

5.4.2. Snyder Unit Hydrograph Parameters

As previously stated, Snyder unit hydrograph was selected for the transform method. The equation for lag is (Equation 5-3):

$$t_p = CC_t(LL_c)^{0.3} \quad (5-3)$$

Where t_p is the hydrograph lag (hr), C is a conversion factor (1 for foot-pound system), C_t is a basin coefficient, L is the length of the main channel (mi), and L_c is the length of the channel from the outlet to the nearest watershed centroid (mi).

GIS was used to calculate L and L_c . The flow path was drawn from the outlet of the sub-basin along the channel to the most remote point in the watershed. A centroid for each sub-basin was calculated in GIS (Figure 5-3). Based on the centroid, the length of channel to this point was measured. Values for L and L_c are available in Appendix B3.

The basin coefficient, C_t , is a dimensionless parameter that can range from 0.4 in the mountains to 8.0 along the coast. Since this is not a physically-based parameter it was determined via calibration.

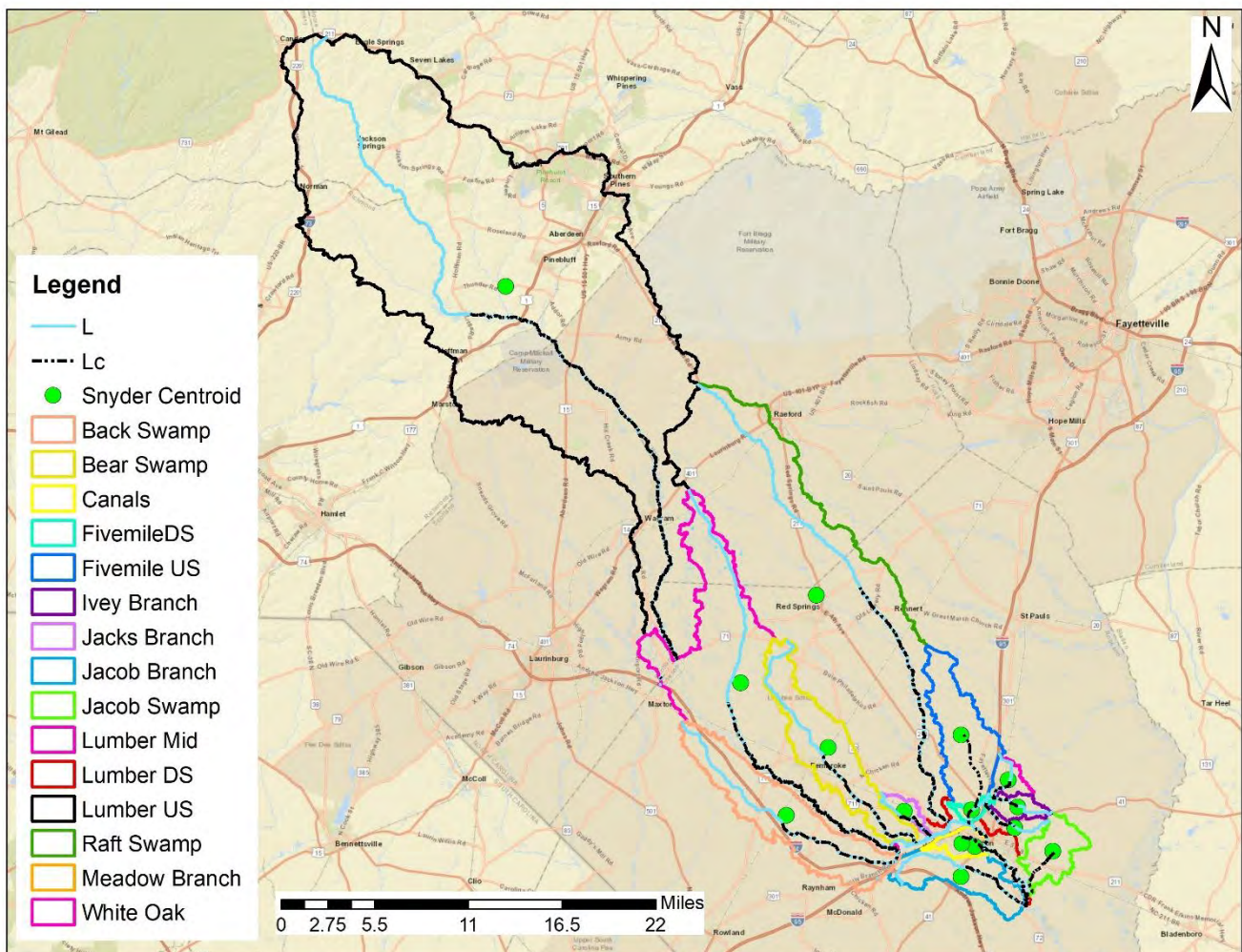


Figure 5-3. Centroid, channel length (L), and channel length to centroid (L_c) of each sub-basin for Snyder hydrograph development.

5.4.3. Reach Routing Parameters

Routing of sub-basin hydrographs within a watershed is necessary to capture the attenuation of flow while moving downstream through the channel and floodplain. In the hydrologic model this is performed using routing

reaches. The Muskingum-Cunge hydrologic routing method was used for the main river reaches throughout the Lumber River watershed. This method was chosen based on the need for a routing method capable of properly calculating discharge through a routing reach for a wide range of flow conditions.

A representative 8-point cross-section was derived for each reach from representative 1-D HEC-RAS cross-sections from the FEMA effective model or LiDAR data and used to characterize the reach channel and floodplain. A location was selected that was reasonably characteristic of the reach of interest. This primarily relates to the typical channel and floodplain width under high flow conditions. The 8-point cross-sections are included in **Appendix B5**. The adopted routing parameters used for this study are listed in **Table 5-4**.

Table 5-4. Muskingum-Cunge routing parameters used for hydrologic modeling.

Reach	HMS Junctions	Length (ft)	Slope (ft/ft)	Channel N-Value	Left N-Value	Right N-Value	Cross-section
1	0 to 1	11284	0.0002	0.045	0.1	0.1	8-point
2	1 to 2	10922	0.0006	0.045	0.13	0.1	8-point
3	2 to 3	14490	0.0002	0.045	0.15	0.09	8-point
4	3 to 4	7220	0.0003	0.045	0.13	0.11	8-point
5	4 to 5	39679	0.0002	0.045	0.125	0.125	8-point
6	5 to 6	7849	0.0003	0.045	0.125	0.125	8-point
7	7 to 6	24525	0.0008	0.065	0.035	0.16	8-point
8	8 to 4	6644	0.0002	0.045	0.12	0.12	8-point
9	11 to 1	183005	0.0003	0.08	0.16	0.16	8-point

5.5. Model Calibration to Historic Events

Four events were selected based on peak discharge: September 2004, October 2015, October 2016 (Hurricane Matthew), and September 2018 (Hurricane Florence) (**Table 5-5**). A complete hydrograph (rising limb, peak, and falling limb) was needed for analysis to allow for calibration to the storm peak and full storm volume. Of these, three calibration events were selected: September 2004, October 2015, and September 2018. The 2004 and 2015 events were peak water-year gage events, with peaks of 7,420 and 2,390 respectively. The 2018 event corresponds to Hurricane Florence, which is one of the largest rainfall events to hit the state of North Carolina. The peak flow at the USGS Lumberton gage set a peak record at 17,100 cfs. Hydrographs of the selected events for both gages are provided in **Appendix B2**.

Table 5-5. Peak streamflow reported at USGS gages in Lumberton and Maxton for each study event.

Event	USGS Gage 02134170 at Lumberton, NC		USGS Gage 02133624 at Maxton, NC	
	Peak Streamflow (cfs)	Time of Peak	Peak Streamflow (cfs)	Time of Peak
Sept 2004	7,420	9/11/2004 2:00	2,280	9/11/2004 8:00
Oct 2015	2,390	10/9/2015 15:45	2,460	10/6/2015 12:15
Oct 2016	14,600	10/10/2016 7:00	6,790	10/11/2016 6:45
Sept 2018	17,100	9/17/2018 11:00	12,300	9/19/2018 4:00

The points of comparing simulated and observed peak flow rate, volume, and time of peak are at a junction along Lumber River where the USGS gage in Lumberton is located and at the location of the USGS gage in Maxton. During calibration trials the peak simulated flow rate, hydrograph shape, and time of peak flowrate were compared to what was observed at the USGS gages from the respective storm event.

Calibration of the model to the observed values at the USGS gage in Lumberton was prioritized over the observed values at the USGS gage in Maxton due to the proximities of the two gage locations to the location of the proposed gate.

Hurricane Florence was the first event to be calibrated due to its magnitude. The calibration parameters were changed for each of the sub-basins, relative to basin characteristics, until the peak flow rate, volume, and time to peak were as close to that of the observed as the model could achieve (**Figure 5-4**). The first set of

calibrated constant loss, C_t , and C_p values were applied to the other two calibration events for an initial baseline and adjusted iteratively until the simulated hydrographs matched reasonably well with the observed hydrographs for those storms. Results for each calibration are shown in **Tables 5-6, 5-7, and 5-8**. The calibrated parameters were able to accurately model the peak flow rate and time of peak for all the storms. Except for the October 2015 storm, the calibrated parameters were also able to accurately model the hydrograph shapes and volumes for the storms. The October 2015 storm is the smallest of the three storms, with a return period of less than 2 years. Since the design storms are more like the other two storms in terms of magnitude, additional iterations of the calibration parameters to get a better match for the volume for that storm was not necessary.

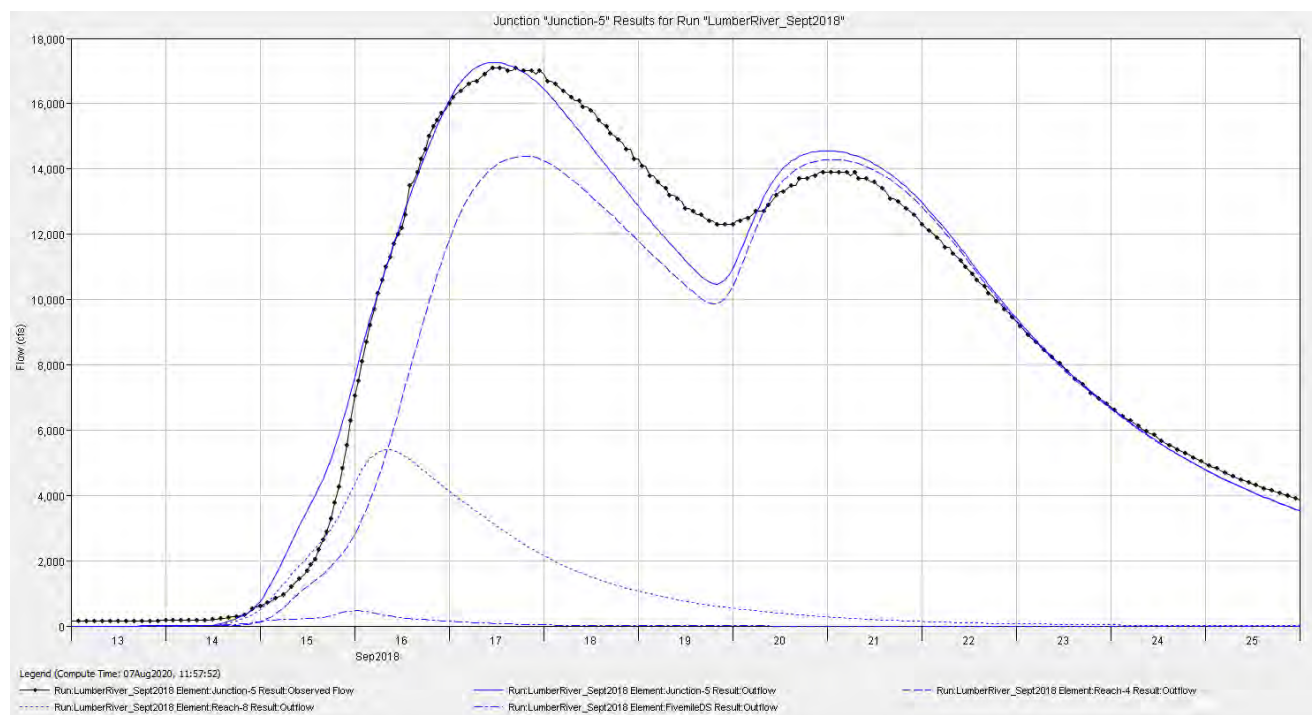


Figure 5-4. Comparison of observed gage flow (black) and simulated flow (solid blue) for the September 2018 (Hurricane Florence) calibrated event.

Table 5-6. Peak flow comparison between observed and simulated calibrated events.

Storm	Peak Flow rate (cfs)		
	Observed	Simulated	% Difference
At Lumberton Gage (USGS 02134170)			
Sept 2004	7,420	7,097	-4%
Oct 2015	2,390	2,421	1%
Sept 2018	17,100	17,257	1%
At Maxton Gage (USGS 02133624)			
Sept 2004	2,280	3,439	51%
Oct 2015	2,460	2,330	-5%
Sept 2018	12,300	8,281	-33%

Table 5-7. Time of peak comparison between observed and simulated calibrated events.

Storm	Time Date and Time		
	Observed	Simulated	Difference (hrs)
At Lumberton Gage (USGS 02134170)			
Sept 2004	9/11/2004 0:30	9/11/2004 12:00	10
Oct 2015	10/9/2015 15:45	10/9/2015 12:00	-3.75
Sept 2018	9/17/2018 11:00	9/17/2018 11:00	0
At Maxton Gage (USGS 02133624)			
Sept 2004	9/11/2004 8:00	9/11/2004 6:00	-2
Oct 2015	10/6/2015 14:00	10/6/2015 11:00	-3
Sept 2018	9/19/2018 4:00	9/19/2018 11:00	7

Table 5-8. Volume comparison between observed (USGS 02134170 at Lumberton) and simulated calibrated events.

Storm	Volume (ac-ft)		
	Observed	Simulated	% Difference
At Lumberton Gage (USGS 02134170)			
Sept 2004	152,897	149,569	-2%
Oct 2015	38,912	27,568	-29%
Sept 2018	230,179	229,185	-0.4%
At Maxton Gage (USGS 02133624)			
Sept 2004	59,436	39,728	-33%
Oct 2015	29,054	21,498	-26%
Sept 2018	79,108	59,424	-25%

The calibrated parameters for each of the three calibration storms were averaged to obtain the calibrated parameters for the sub-basins. The calibrated parameters are shown in **Table 5-9**.

Table 5-9. Average calibrated HEC-HMS parameters.

Sub-basin	Constant Loss (in/hr)	Initial Loss (in)	C _t	Lag Time based on C _t (hr)	C _p
Back Swamp	0.14	0.36	7	31.3	0.40
Bear Swamp	0.14	0.41	7	31.8	0.40
Fivemile DS	0.05	0.44	7	9.1	0.40
Fivemile US	0.05	0.42	7	23.7	0.40
Lumberton Canals	0.05	0.43	7	13.9	0.40
Ivey Branch	0.05	0.58	7	12.6	0.40
Jacks Branch	0.05	0.39	7	21.1	0.40
Jacob Branch	0.05	0.34	7	22.4	0.40
Jacob Swamp	0.05	0.52	7	18.2	0.40
Lumber DS	0.05	0.37	7	33.0	0.40
Lumber Mid	0.14	0.43	8	62.7	0.40
Lumber US	0.14	5	7	76.0	0.73
Meadow Branch	0.05	0.68	7	15.2	0.40
Raft Swamp	0.19	0.46	8	56.2	0.40
White Oak	0.05	0.5	7	12.3	0.40

It is noted that the calibrated initial loss for the Lumber US sub-basin is higher than normal. This will likely lead to underestimation of more frequent storm events. The calibrated parameters noted in Table 5-9 are appropriate for storms with recurrence intervals similar to that of the design storm for the flood gate project (100yr or greater). A spreadsheet with the simulated results and calibrated parameters is provided in **Appendix E2.3**.

5.6. Model Validation to Historic Events

Following calibration, the average parameters were applied to a verification event. Hurricane Matthew, October 2016, was selected as the verification event. As previously discussed, Matthew was another large hurricane to hit North Carolina, setting many rainfall and streamflow records prior to Florence. Verification using the average parameters overpredicted the peak flow rate but matched the time of peak (**Tables 5-10, 5-11, and 5-12**). Graphical inspection of the observed and simulated hydrographs also indicates a good match of the rising and falling limbs (**Figure 5-5**). As discussed in **Section 4.2**, the recorded peak flow at the USGS gage of 14,600 cfs during Hurricane Matthew did not account for the diverted flow through the I-95 opening. Thus, this verification, while higher, is an accurate representation of the peak flows in the area.

Table 5-10. Peak flow comparison between observed and simulated for a verification event.

Storm	Peak Flow rate (cfs)		
	Observed	Simulated	% Difference
At Lumberton Gage (USGS 02134170)			
Oct 2016	14,600	16,550	13%
At Maxton Gage (USGS 02133624)			
Oct 2016	6,750	3,277	-51%

Table 5-11. Time of peak flow comparison between observed and simulated for a verification event.

Storm	Time Date and Time		
	Observed	Simulated	Difference (hrs)
At Lumberton Gage (USGS 02134170)			
Oct 2016	10/10/2016 7:00	10/10/2016 10:00	3
At Maxton Gage (USGS 02133624)			
Oct 2016	10/11/2016 8:00	10/11/2016 14:00	6

Table 5-12. Volume comparison between observed and simulated for a verification event.

Storm	Volume (acre-ft)		
	Observed	Simulated	% Difference
At Lumberton Gage (USGS 02134170)			
Oct 2016	223,956	197,598	-12%
At Maxton Gage (USGS 02133624)			
Oct 2016	82,111	27,026	-67%

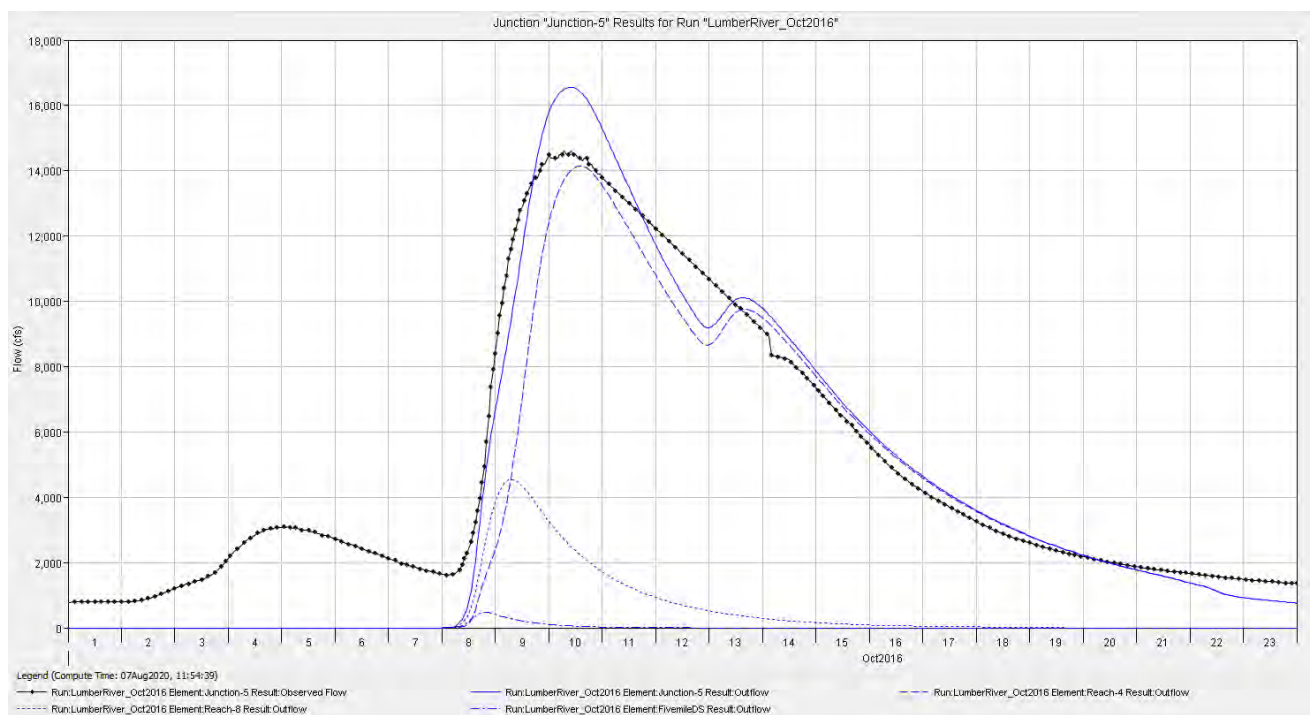


Figure 5-5. Comparison of observed gage flow (black) and simulated flow (solid blue) for the October 2016 (Hurricane Matthew) verification event.

5.7. Design Flood Simulations

Using the calibrated and verified parameters, floods from a 100-year through the Probable Maximum Flood (PMF) were simulated in HEC-HMS. The 100-year through 1,000-year flows were generated using the procedure described in Section 5.7.1. The Probable Maximum Precipitation (PMP) and resulting PMF values were estimated using the procedure described in Section 5.7.2

5.7.1. 100-Year through 1,000-Year Flows

Analysis of the durations of previous rainfall events within the Lumber Basin ranged from 24 to 72 hours, with most of the major events having a duration of 48-hours. Thus, a 48-hour rainfall event was selected as the design flood duration for the 100-year to 1000-year return period events. Based on the location, an SCS Type II rainfall distribution (NRCS, 2019) was used. A spreadsheet with the distribution was downloaded from the NRCS website (NRCS, 2019). The spreadsheet provides the distribution for the peak 24-hour period which is assumed to occur during the first 24-hour period for any duration storm. Based on our sensitivity analysis, this assumption provided more conservative peak flow estimates compared to other placements of the peak 24-hour period. For the 48-hour duration storm, the difference between the total 24-hour and 48-hour total rainfall depths is distributed evenly on the second day. For the 72-hour storm, the difference between the total 24-hour and 72-hour total rainfall depths is distributed evenly on the second and third days. Electronic files of the sensitivity analysis are included in **Appendix E2.7**. NOAA Atlas 14 was used to find the rainfall totals associated with 100-year to 1000-year return periods, assuming a 48-hour event.

5.7.2. PMP and PMF Estimation

The PMP values for the Lumberton flood gate dam were estimated using the Hydrologic Engineering Center's HEC-MetVue (version 3.0) and HEC-HMS (version 4.8) software packages (**Appendix E5**). The HEC-MetVue software has HMR52 plugin extension that allows the modeler to use NOAA's Hydrometeorological Reports HMR 51 and 52 (HMR 51/52) to estimate the storm characteristics and generate PMP hyetographs. The initial storm parameters obtained from the HEC-MetVue model were optimized to maximize peak flow at the watershed outlet. The parameters were optimized using the HMR 52 precipitation method in the HEC-HMS meteorologic model. The calibrated HEC-HMS model described in the above sections was used for the

optimization run. This calibrated model required an upgrade from version 4.2.1 to version 4.8 to perform the optimization run. The initial and optimized storm parameters are summarized below in **Table 5-13** and the positions of the storms based on the initial and optimized parameters are shown in **Figure 5-6** and **Figure 5-7**, respectively.

The optimized storm parameters were used in the HEC-MetVue model (**Appendix E5**) to generate the average PMP depths and hyetographs. The resulting 72-hour PMP depths and volumes for the sub-basins are summarized below in **Table 5-14**. The hyetographs from HEC-MetVue were then saved to a DSS file and linked to the calibrated HEC-HMS (version 4.2.1) model to estimate the Probable Maximum Flood (PMF).

Discharge ratio factors of 0.25, 0.5, 0.67, and 0.75 were applied to the subbasins in the HEC-HMS simulation run to generate the ¼ PMF, 1/3 PMF, ½ PMF, 2/3 PMF, and ¾ PMF, respectively (**Appendix E5**).

Table 5-13. Initial and optimized parameters for the HEC-METVue model.

HMR 52 Storm Characteristics	HEC-MetVue (Initial Parameters)	HEC-HMS (Optimized Parameters)
X Coordinate	-79.33	-79.413
Y Coordinate	34.93	34.995
Orientation (deg.)	145.63	141.51
Peak Intensity	Hours 36 to 42	Hours 36 to 42
Area (sq. mi.)	984.04	982.84

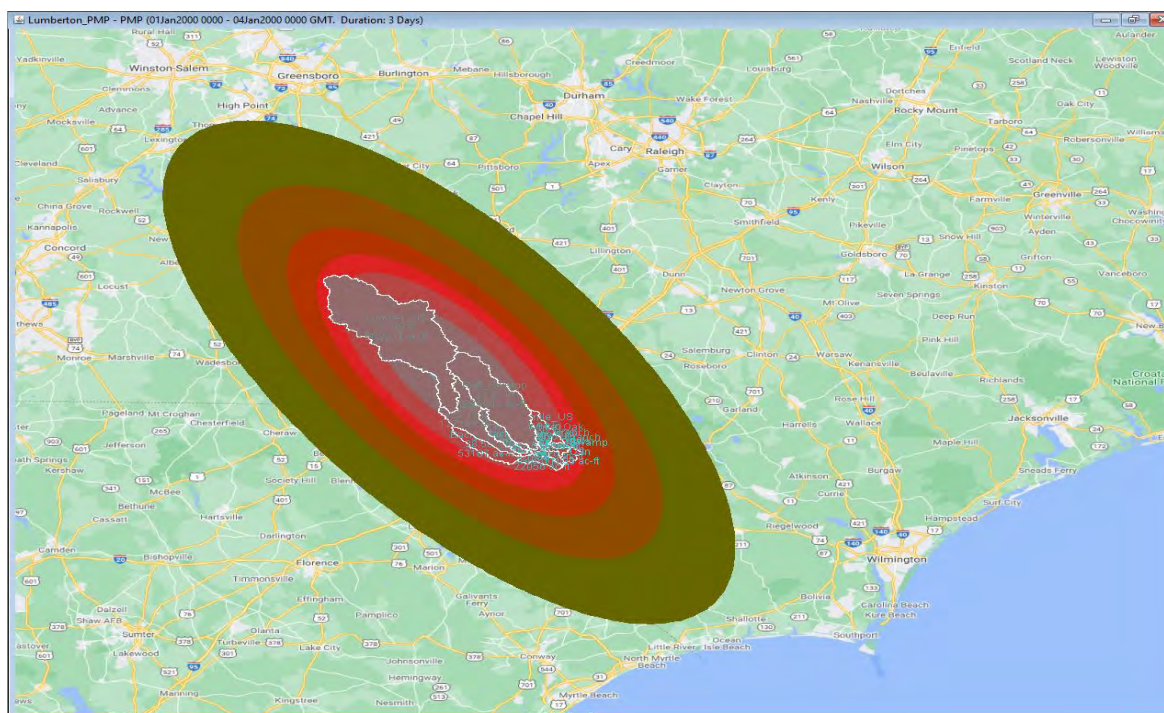


Figure 5-6. HMR 52 storm position with HEC-MetVue (initial) parameters

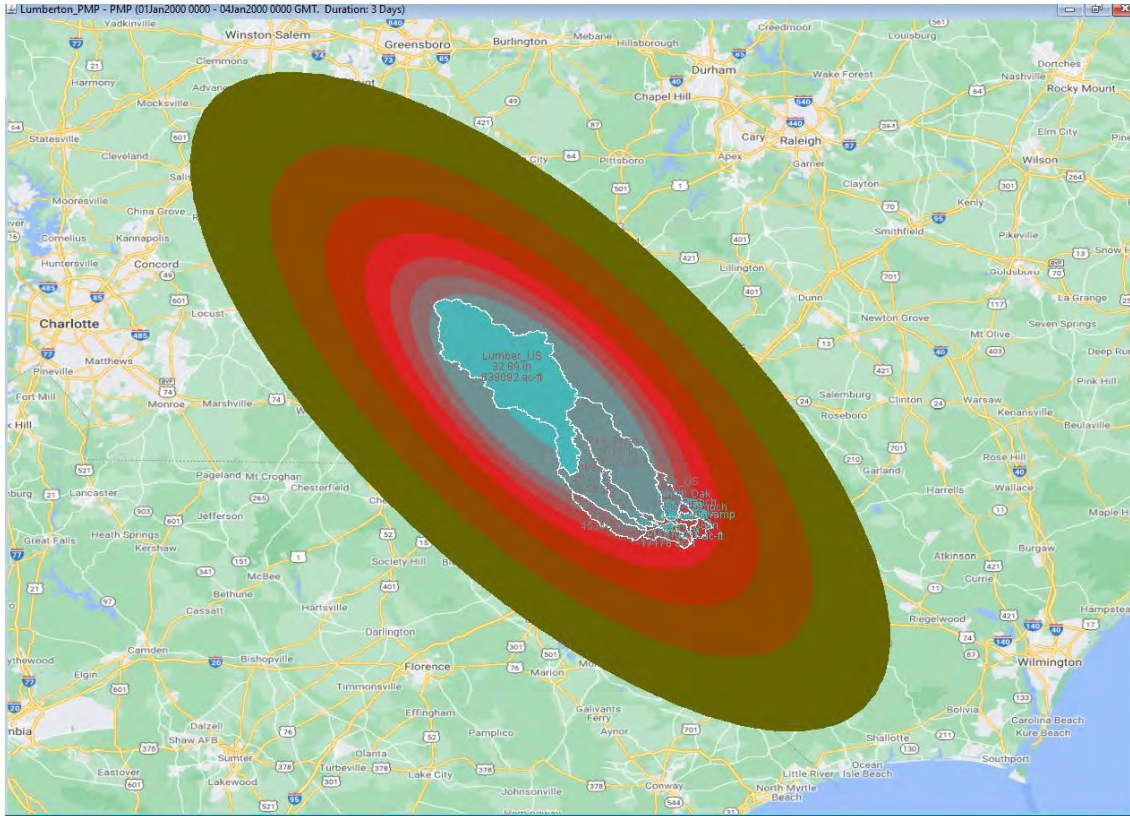


Figure 5-7. HMR 52 storm position with HEC-HMS (optimized) parameters.

Table 5-14. Average PMP depths from optimized HMR 52 storm parameters.

Name	Average Depth (in)	Volume (ac-ft)
Back Swamp	24.38	45340
Bear Swamp	28.27	42664
Fivemile DS	23.17	2092
Fivemile US	25.33	29744
Ivey Branch	20.97	4214
Jacks Branch	25.55	4100
Jacob Branch	20.91	17178
Jacob Swamp	18.68	9531
Lumber DS	21.79	11787
Lumber Mid	29.81	118036
Lumber US	32.89	639092
Lumberton Canals	22.3	4616
Meadow Branch	20.73	5483
Raft Swamp	30.63	272525
White Oak	21.8	4322
Watershed	30.4	1210726

5.7.3. Results

The total rainfall depths ranged from 10.2 inches (100-yr) to 14.9 inches (1,000-yr) (**Table 5-15**). The total rainfall for watershed for the full PMP storm event is 30.4 inches. The design flood hydrographs are provided in **Appendix E2.2**. Rainfall distributions are provided in **Appendix E2.4**.

Table 5-15. Design Rainfall Depths.

Recurrence Interval (Yrs)	Rainfall Duration		
	24 Hours	48 Hours	72 Hours
100	8.99	10.20	10.60
500	11.90	13.30	13.70
1,000	13.30	14.90	15.20
Full PMP (Watershed Average)	30.4		

The developed rainfall distribution was added to the HEC-HMS model as a cumulative precipitation gage for each event (**Appendix E2.4**). The simulated peak flow rates, FEMA peak flow rates (FEMA, 2014) and gage statistics (**Section 4.2**), at the location of the USGS gage in Lumberton are shown in **Table 5-16**. Simulated peak flow rates were lower than both those from FEMA and the gage statistics. The FEMA peak flow estimates are based on regression equations which are regionally based and not specific to the Lumber River Basin. The simulated results are from a calibrated and verified model for the basin and hence provide a more reliable estimate of both the peak flow and streamflow hydrograph for the basin.

Table 5-16. Peak flow comparison between simulated HEC-HMS, FEMA reports, and gage statistics.

Recurrence Interval (Yrs)	Simulated Peak Flow (cfs)	FEMA Peak Flow (cfs)	Gage Statistics Flow (cfs)	% Difference FEMA	% Difference Gage
100	13,140	14,900	14,000	-13%	-11%
500	22,110	20,200	20,530	9%	3%
1,000	26,990	-	-	-	-
1/4 PMF	17,370	-	-	-	-
1/3 PMF	23,590	-	-	-	-
1/2 PMF	36,210	-	-	-	-
2/3 PMF	48,990	-	-	-	-
3/4 PMF	55,450	-	-	-	-
Full PMF	74,960	-	-	-	-

Additionally, partial duration rainfall distributions were created based on the NOAA Atlas 14 precipitation-frequency data for each return period and simulated in HEC-HMS. The partial duration rainfall distribution is an updated distribution compared to the SCS distribution (NRCS, 2019). The spreadsheet to develop the rainfall temporal distribution was also downloaded from the NRCS website (NRCS, 2019). However, this distribution produced lower stream flows than that of the SCS method and thus were not utilized for the hydraulic analysis. A comparison of the 48-hour duration peak flows from the SCS and partial duration distribution methods are shown in **Table 5-17**. Partial distributions are provided in **Appendix E2.4**. The HEC-HMS model is included the electronic **Appendix E2.1**.

Table 5-17. Comparison of Peakflows from SCS and Partial Duration Rainfall Distributions.

Recurrence Interval (Yrs)	SCS Type II Peak Flow (cfs)	Partial Duration Peak Flow (cfs)
100	13,140	10,670
500	22,110	19,330
1,000	26,990	23,980

6. Hydraulic Model Development

A detailed two-dimensional model of the City of Lumberton, Lumber River, and its tributaries in the vicinity of the city was developed to help determine design flood elevations for the proposed gate. The model was developed using version 6.0 of the USACE HEC-RAS model (USACE, 2021). This section summarizes data used, assumptions and results of the hydraulic modeling effort.

6.1. Model Development

The two-dimensional (2D) domain was selected to include all areas of flood concern within the extents of Lumber River. The domain extends along each river that confluences with Lumber River: Raft Swamp, Back Swamp, Bear Swamp, White Oak Branch, Meadow Branch, Jacob Swamp, Ivey Branch, Jack's Branch and Fivemile Branch. It also extends in the Northeast region to include North Lumberton so that project impacts related to flooding levels can be assessed at those locations. Except for inflow and outflow boundary locations, the model boundary was placed at relatively high ground so that flooding is fully contained within the computational mesh. The locations of the boundary conditions were placed far enough from the location of the proposed gate so that boundary condition impacts would be negligible. The location and geometry of the flood gate within the model is based on the proposed layout of the flood gate. The model domain is shown in **Figure 6-1** (see **Section 6.1.2**).

6.1.1. Manning's N Coefficients

Base model Manning's n coefficients were based on land use classes selected from **Table 6-1**. Values were based on the "normal" column. A GIS shapefile of Lumber River and Fivemile Branch was used to override the land use of Lumber River and Fivemile Branch. The channel segment was assigned a base Manning's n coefficient of 0.045. The initial roughness coefficients were modified during the model calibration phase. The calibrated roughness values and the procedure followed are documented in **Section 6.2.5**.

Table 6-1. Manning's n coefficient ranges per land cover type.

	NLCD Classification	Manning's Roughness			Source
		Minimum	Normal	Maximum	
11	Open Water	0.025	0.03	0.033	Chow, 1959
21	Developed, Open Space	0.01	0.013	0.016	Calenda et al., 2005
22	Developed, Low Intensity	0.038	0.05	0.063	Calenda et al., 2005
23	Developed, Medium Intensity	0.056	0.075	0.094	Calenda et al., 2005
24	Developed, High Intensity	0.075	0.1	0.125	Calenda et al., 2005
31	Barren Land	0.025	0.03	0.035	Chow, 1959
41	Deciduous Forest	0.1	0.12	0.16	Chow, 1959
42	Evergreen Forest	0.1	0.12	0.16	Chow, 1959
43	Mixed Forest	0.1	0.12	0.16	Chow, 1959
52	Scrub/Shrub	0.035	0.05	0.07	Chow, 1959
71	Grassland Herbaceous	0.025	0.03	0.035	Chow, 1959
81	Pasture/Hay	0.03	0.04	0.05	Chow, 1959
82	Cultivated Crops	0.025	0.035	0.045	Chow, 1959
90	Woody Wetlands	0.08	0.1	0.15	Chow, 1959
95	Emergent Herbaceous Wetland	0.075	0.1	0.15	Chow, 1959
	Channel	0.035	0.045	0.05	Chow, 1959

6.1.2. Mesh Development

The 2D model domain for the hydraulic analysis is shown in **Figure 6-1**. The mesh utilized refinement regions, 2D connections, and breaklines to accurately capture focal points and variations within the terrain. **Figure 6-1-A(1)** shows the extent of the 2D domain with breaklines and 2D Connections. **Figure 6-1-A(2)** is an example of one of the refinement regions utilized in the mesh. This one is located at the gate. **Figure 6-1-A(3)** is a zoomed in example of how breaklines were applied and enforced. This breakline is representing the centerline of Lumber River.

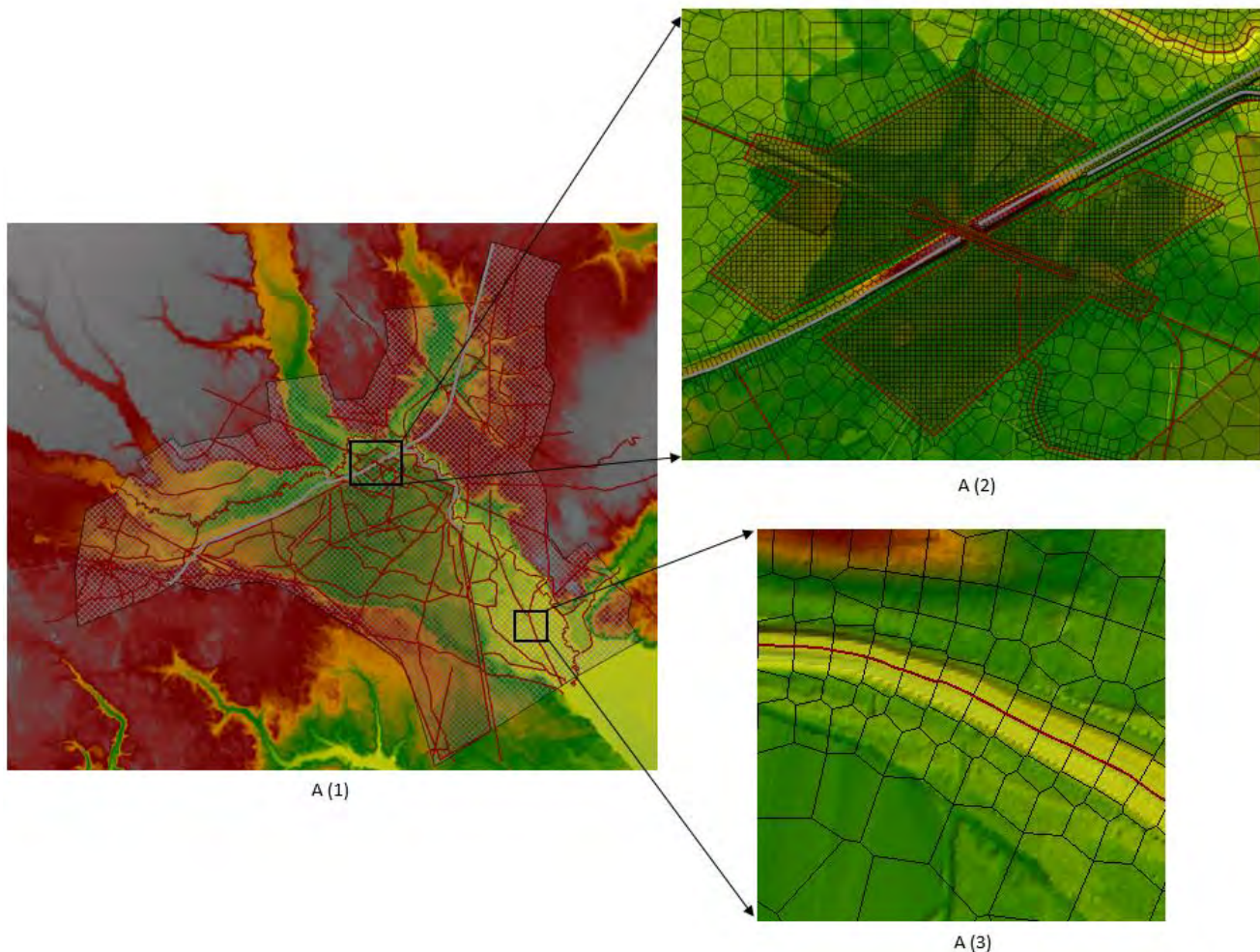


Figure 6-1. Lumber River 2D external model domain.

A mesh resolution of 250-feet was applied to the 2D flow area. Refinement regions were used to represent areas of higher urbanization, Lumber River, and the flood gate location. A resolution of 100-ft was applied for urban areas and Lumber River, while a resolution of 50-feet was used for the flood gate location.

A breakline was enforced with 100-foot spacing along the Lumber River stream centerline to capture the lowest points in the terrain and account for total storage capacity. Breaklines were drawn and enforced with 50-foot spacing along all additional channels within the domain. Breaklines were then drawn along points of higher elevation representing roads, railroads, or berms. These were enforced with a spacing that varied between 50 and 100-feet. Within the flood gate opening, breaklines were also drawn with a spacing of 25-feet to properly align the grid representing the railroad.

6.1.3. Lumberton Levee System

The Lumberton levee was included as a 2D connection with top of levee elevations taken from AECOM Project No. 60548447, Lumberton Flood Mitigation Report. Provided surveyed top of levee elevations were within a few inches of the top of levee elevations in the terrain. See **Appendix C2** for detailed comparison. For levee segments that were not surveyed, LiDAR elevations were utilized. Levee grid size was enforced as 20x20-feet to define the top width.

Gravity drains were not modeled. Gravity drains are pipes within the levee embankments that drain rainfall trapped on the landward side of the levee system through the levee embankment. The gravity drains have gates on the pipe outlet to restrict river backwater from backing up in the pipe during periods of high river flows. The gravity drains therefore do not serve any hydraulic purpose when modelling flows in the Lumber River.

6.1.4. Hydraulic Structures

HEC-RAS v6.0 provides the capability to model bridges within a 2D model. This version was utilized to model all the hydraulic structures within the modeled domain as either culverts or bridges. The normal 2D equation was selected as the overflow computation method as it is computationally more stable compared to the weir equation option. A full list of structures within the hydraulic model and their areas are included in **Appendices C1 and E3.3**.

Bridges along Lumber River were modeled using bridge geometry data from the effective model. **Figure 6-2** below shows an example of a bridge that was modeled.

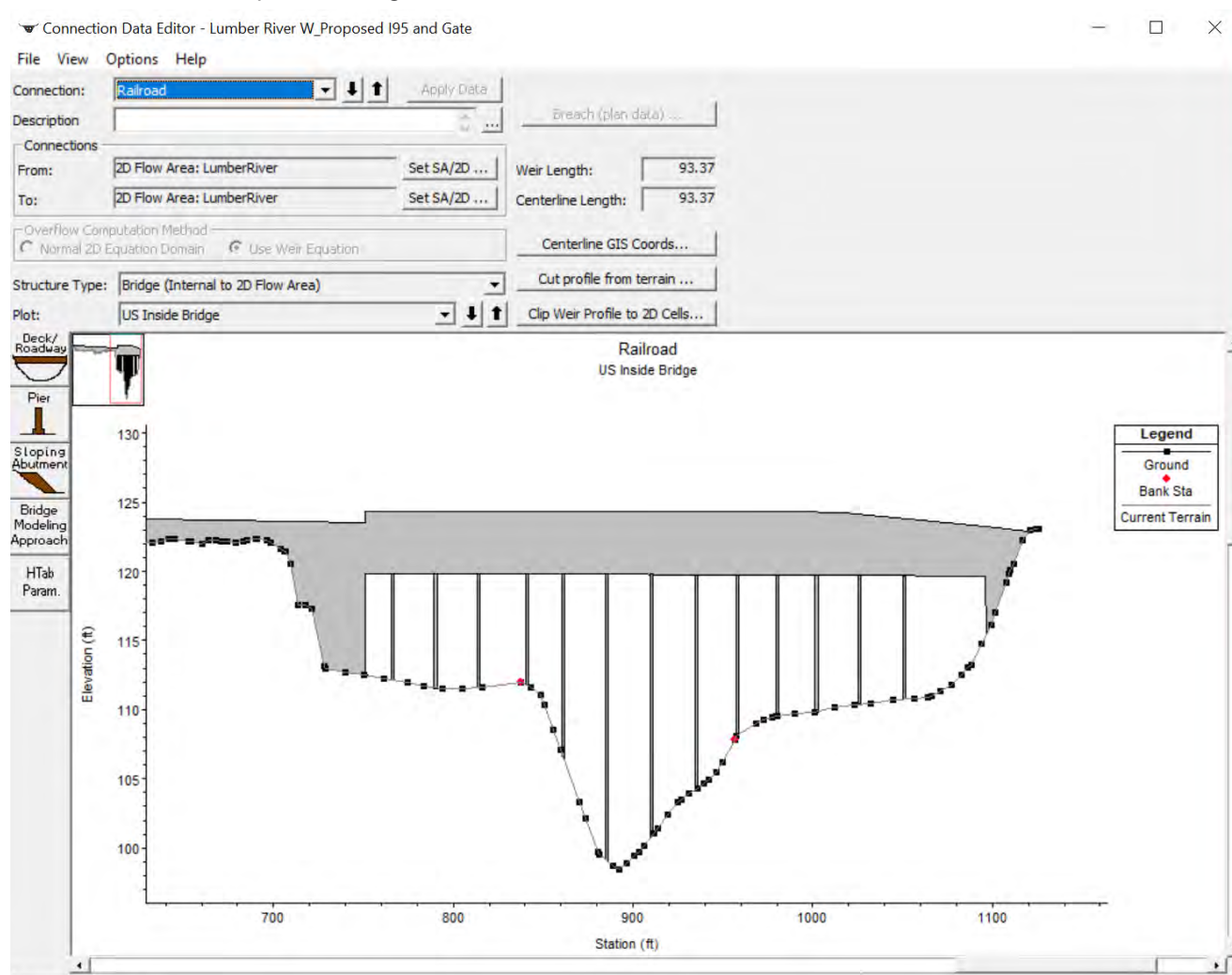


Figure 6-2. Bridge example.

Large culverts on Fivemile Branch were modeled as 2D connections with a rectangular notch when possible. However, for the culverts on I-95, the structure length was too long to be considered for a notch, so they were modeled as culverts. For these structures, roadway and deck elevations were taken from LiDAR. See **Figure 6-3** for an example of a long culvert on I-95.

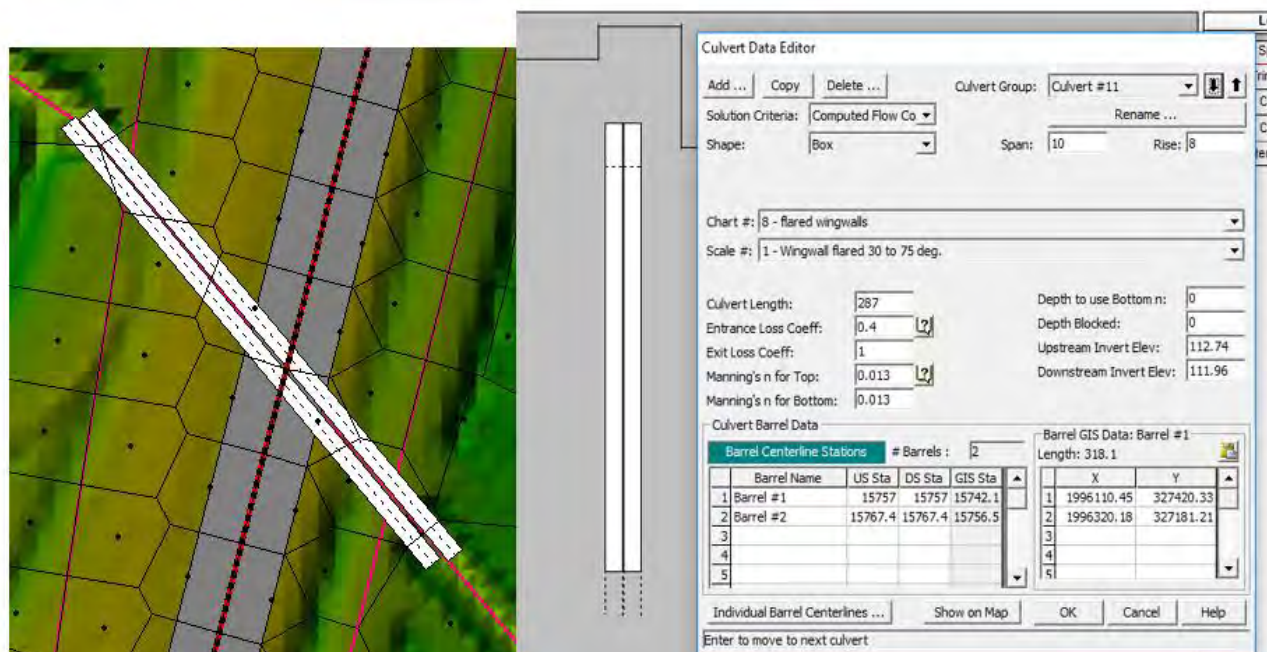


Figure 6-3. I-95 Meadow Branch culvert 2D connection example.

6.2. Boundary Conditions

There are nine inflow locations representing flow from Lumber River, Raft Swamp, Jacob Swamp, Jacks Branch, Fivemile Branch, Meadow Branch, Ivey Branch, and White Oak Branch. Flows from Back Swamp were included in the flows for Lumber River. There are no significant inflows within the project area that would cause direct impact. A normal depth boundary condition was applied at the downstream end of the model and upstream along Back Swamp to prevent flows reaching that boundary from piling up. The normal depth was set to a friction slope of 0.001 after averaging the slope of several locations along the boundary. The boundary condition locations are shown in **Figure 6-4**.

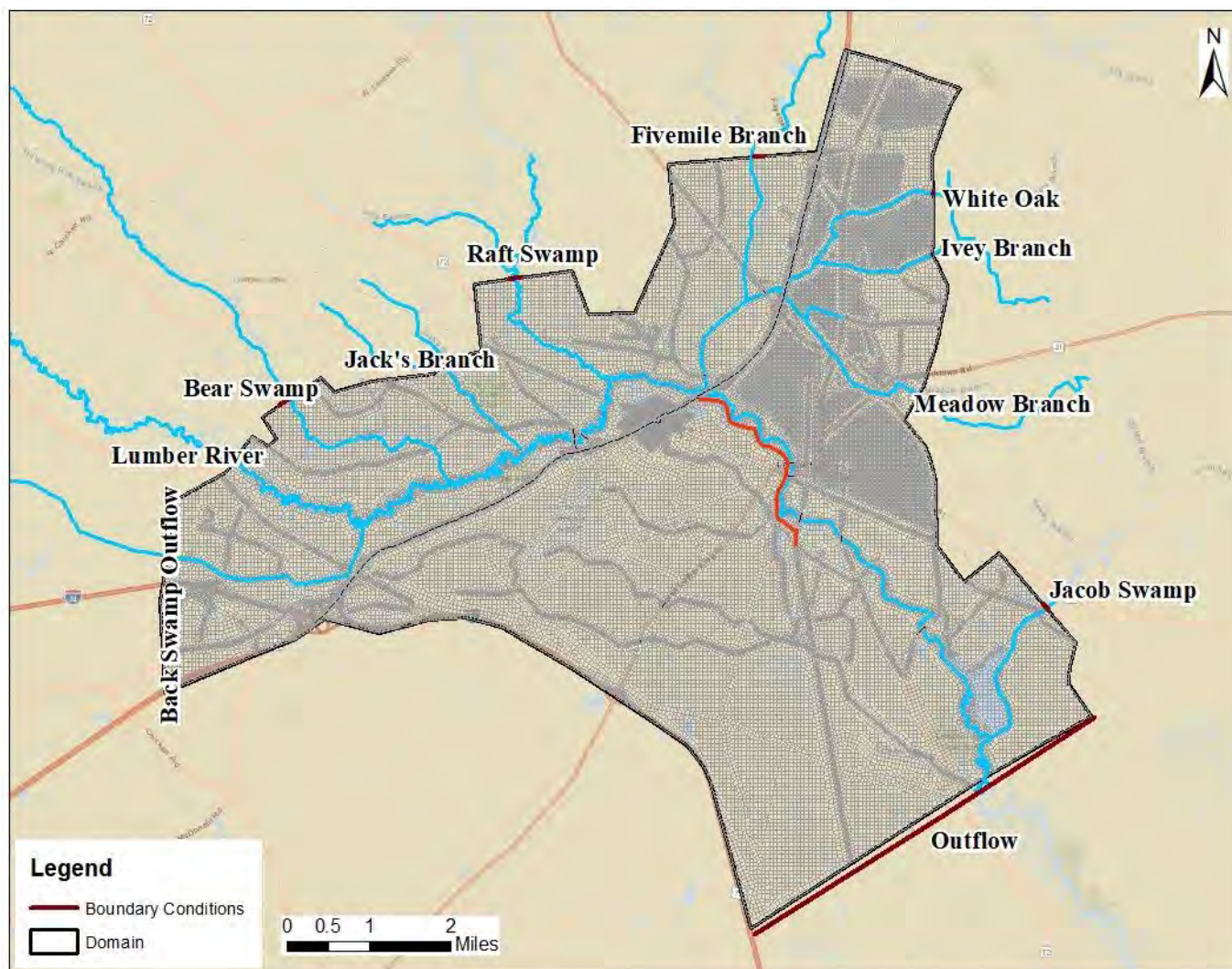


Figure 6-4. Boundary condition locations.

6.3. Model Execution

The completed models were executed using a fixed timestep of 5 seconds. The selected timestep provided stable results without unduly prolonging the simulation time. The Shallow Water Equations with a Eulerian-Lagrangian approach to solving for advection (SWE-ELM equation set) was used for all simulations.

Stage and flow hydrograph data at hydraulic structure locations were reviewed and verified to be appropriate. In certain cases, minor instabilities were noted in the flow data going through the structures, however, this did not impact the stages and hence do not impact the accuracy of the results.

6.4. Model Calibration and Verification

The 2D HEC-RAS model was calibrated and verified by comparing the simulated peak stages and flows to observed peak stages and flows, and high-water marks.

Observed data used for calibration and verification included USGS streamflow gage data at the USGS gage in Lumberton (USGS Gage 02134170), high water marks obtained during field data collection, a surveyed high-water mark, and high-water marks from the USGS National Water Information System Database (USGS, 2019).

Available peak flows and stages at the USGS gage in Lumberton were reviewed to identify significant flooding events for use in calibration and verification. Two flooding events were identified and selected for use in

calibration and verification (**Table 6-2**). Hurricane Florence in September 2018 was used for calibration and Hurricane Matthew from October 2016, was used for verification.

Table 6-2. Lumber River historical storms used for calibration and verification.

Storm	Peak Flow (cfs)	Peak Stage (ft, NAVD88)	Purpose
Sept 2018 (Hurricane Florence)	17,100	119.69	Calibration
Oct 2016 (Hurricane Matthew)	16,600 ¹	119.36	Verification

¹ Flow adjusted to account for bypass flow through I-95 opening. Recorded flow at gate without bypass flow was 14,600 cfs.

The inflows for these storms were derived from the HEC-HMS model generated in the hydrology phase of this project. Manning's n-coefficients were adjusted iteratively until the simulated values matched the observed values at both the USGS gage location and at the high-water mark locations. The comparison between the calibrated model results and observed data for the two storms are provided in **Table 6-3**. **Figure 6-5** shows the differences between the simulated water surface elevations and the observed high-water marks for Hurricane Florence (September 2018).

Matching HWMs in the vicinity of the proposed gate was prioritized over matching water surface elevations at the USGS gage location during the calibration process.

Table 6-3. Observed versus simulated results at the USGS Gage in Lumberton.

Gage vs. Simulated Results						
Storm	Peak Flowrate (cfs)			Peak Stage (ft, NAVD88)		
	Observed	Simulated	% Difference	Observed	Simulated	Difference (ft)
Calibration						
Sept 2018 (Hurricane Florence)	17,100	15,877	-7.2	119.69	120.63	0.94

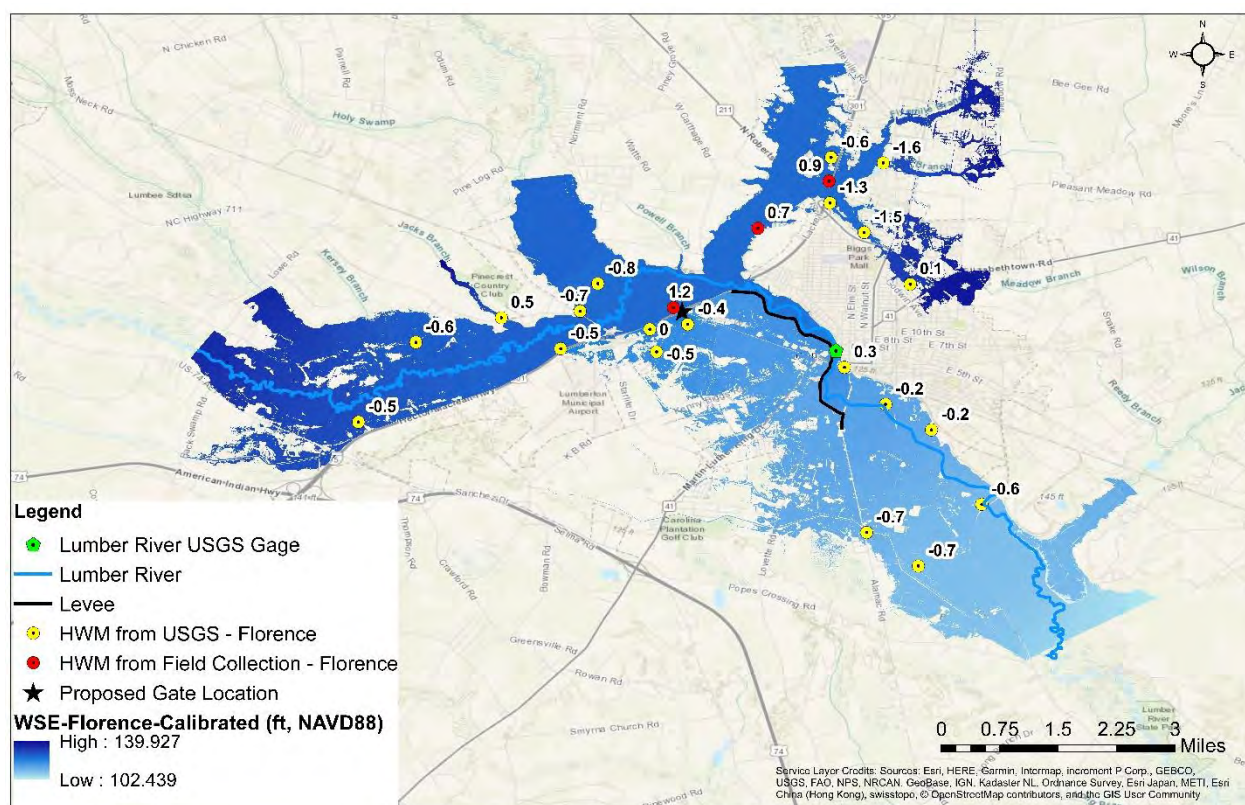


Figure 6-5. High water marks comparison for Hurricane Florence.

The difference between the simulated peak water surface elevation and the USGS high-water marks ranges from -1.6 feet to 1.2 feet. Near the gate, the model results are within 0.5 feet of the USGS HWM elevations. The simulated peak water surface elevation is about 1.2 feet higher than the observed elevation at the location of the surveyed high-water mark near the proposed gate location. Along Lumber River, the results indicate that the simulated results are within 1 foot of the HWM elevations, although mostly lower than the HWM elevations. The model results at the USGS gage location were 0.9 feet higher than the recorded gage elevation. The analysis shows that for USGS high-water marks around the gate location, the model tends to underpredict values. Whereas for field collected high-water marks around the gate location, the model overpredicts values. This trend may reflect inherent errors associated with the collection of the high-water mark data. Achieving calibration results that fall in-between the two data sets was the desired goal.

Note that the resulting flows in HEC-RAS at the USGS gage location are slightly different from those applied as boundary conditions due to attenuation of the peak flows within the HEC-RAS model and 2-dimensional distribution of the flows.

The final calibrated roughness coefficients that were assigned to the various land use classifications are provided in **Table 6-4**. Results of the various calibration iterations are included in **Appendix C3**.

During the calibration process, the Manning's n values were generally increased to achieve a better match between simulated and observed water levels. Changes to the Manning's n values for all land use classes are within the published Manning's n value ranges (**Table 6-1**). Additionally, Manning's n refinement regions were created for portions of the Lumber River and the area in the immediate vicinity of the proposed gate location. This was done to better capture the variations in land uses in those areas and were necessary in achieving good calibration results. The land use classes and assigned Manning's n values for the refinement regions are included in **Table 6-4**.

The calibrated Manning's n coefficient was used to simulate Hurricane Matthew for verification. The results are shown in **Table 6-5**.

Table 6-4. Calibrated Manning's n coefficients.

NLCD Code	NLCD Classification	Base N	Final Calibrated N
11	Open Water	0.03	0.033
21	Developed, Open Space	0.013	0.016
22	Developed, Low Intensity	0.05	0.063
23	Developed, Medium Intensity	0.075	0.094
24	Developed, High Intensity	0.1	0.125
31	Barren Land	0.03	0.03
41	Deciduous Forest	0.12	0.12
42	Evergreen Forest	0.12	0.12
43	Mixed Forest	0.12	0.12
52	Scrub/Shrub	0.05	0.05
71	Grassland Herbaceous	0.03	0.03
81	Pasture/Hay	0.04	0.04
82	Cultivated Crops	0.035	0.045
90	Woody Wetlands	0.1	0.15
95	Emergent Herbaceous Wetland	0.1	0.1
	Channel	0.045	0.065
	Area Upstream of Gate	0.05	0.05
	Black's Tire and Auto Service	0.1	0.1
	I-95	0.013	0.013
	Ponds	0.03	0.033
	Railroad Area	0.02	0.02
	Wetland Upstream of I-95	0.1	0.1
	Wooded Area	0.12	0.12

Table 6-5. Lumber River verification historical storms data versus simulated results.

Gage vs. Simulated Results						
Storm	Peak Flowrate (cfs)			Peak Stage (ft, NAVD88)		
	Observed	Simulated	% Difference	Observed	Simulated	Difference (ft)
Verification						
Oct 2016 (Hurricane Matthew)	16,600	14,924	-10.1	119.36	120.42	1.06

Like Hurricane Florence, final water surface elevations produced from the Hurricane Matthew simulation were compared to the USGS high-water mark elevations. The results of this comparison can be seen in **Figure 6-6**. The trend noted in calibration was consistent throughout the verification process.

The results of calibration trial runs are included in **Appendix C3**. The calibration of HEC-RAS model is included in the electronic **Appendix E3.1**. The calibration model consists of 2 geometries, 2 unsteady flow files and 3 plans. Each unsteady flow file is a different storm event, and each geometry is a different trial, utilizing different roughness coefficients. Ultimately, there was a base Manning's n coefficient plan, and three trials were run for the calibration storm. The verification storm (Hurricane Matthew) was only run once with the final geometry.

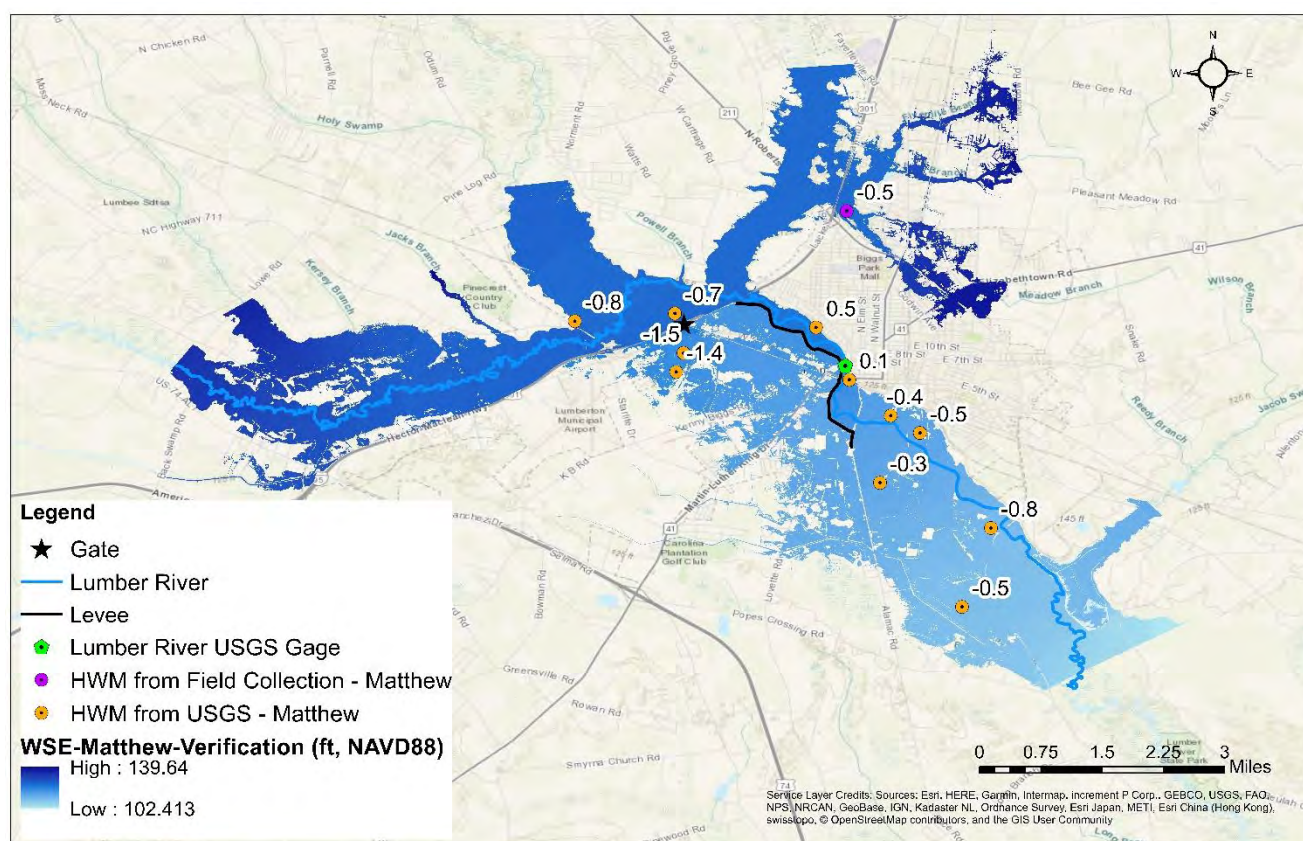


Figure 6-6. High water marks comparison for Hurricane Matthew.

6.5. Design Flood Simulations and Results

6.5.1. Design Flood Simulations

The 100-year, 500-year, 1,000-year, 1/4 PMF, 1/3 PMF, 1/2 PMF, 2/3 PMF, 3/4 PMF and PMF peak stages at the proposed gate location were simulated using the calibrated HEC-RAS model. The hydrographs developed in

Section 5.7 were used as the inflow boundary conditions for the simulations. As stated in **Section 5.7**, the duration of all the design storms was 48 hours.

Geometry files were created for the existing conditions (without the proposed gate), and for the proposed conditions (with the proposed floodgate in place and I-95 embankment raised). Both geometry files use the calibrated and verified Manning's n-coefficients.

Nineteen different runs were performed using two different geometry files. The ten plans are:

1. **100yr Without Gate** – Unsteady flow: 100YR, Geometry: Lumber River without Gate
2. **100yr with Gate and Proposed I-95** – Unsteady flow: 100YR, Geometry: Lumber River with Proposed I-95 and Gate
3. **500yr Without Gate** – Unsteady flow: 500YR, Geometry: Lumber River without Gate
4. **500yr With Gate and Proposed I-95** – Unsteady flow: 500YR, Geometry: Lumber River with Proposed I-95 and Gate
5. **1,000yr Without Gate** – Unsteady flow: 1,000YR, Geometry: Lumber River without Gate
6. **1,000yr With Gate and Proposed I-95** – Unsteady flow: 1,000YR, Geometry: Lumber River with Proposed I-95 and Gate
7. **Florence Design** – Unsteady flow: Hurricane Florence, Geometry: Lumber River with Proposed I-95 and Gate
8. **0.25PMF Without Gate** – Unsteady flow: 0.25PMP, Geometry: Lumber River without Gate
9. **0.25 PMF With Gate and Proposed I-95** – Unsteady flow: 0.25PMP, Geometry: Lumber River with Proposed I-95 and Gate
10. **0.33 PMF Without Gate** – Unsteady flow: 0.33PMP, Geometry: Lumber River without Gate
11. **0.33 PMF With Gate and Proposed I-95** – Unsteady flow: 0.33PMP, Geometry: Lumber River with Proposed I-95 and Gate
12. **0.5 PMF Without Gate** – Unsteady flow: 0.5PMP, Geometry: Lumber River without Gate
13. **0.5 PMF With Gate and Proposed I-95** – Unsteady flow: 0.5PMP, Geometry: Lumber River with Proposed I-95 and Gate
14. **0.67 PMF Without Gate** – Unsteady flow: 0.67PMP, Geometry: Lumber River without Gate
15. **0.67 PMF With Gate and Proposed I-95** – Unsteady flow: 0.67PMP, Geometry: Lumber River with Proposed I-95 and Gate
16. **0.75 PMF Without Gate** – Unsteady flow: 0.75PMP, Geometry: Lumber River without Gate
17. **0.75 PMF With Gate and Proposed I-95** – Unsteady flow: 0.67PMP, Geometry: Lumber River with Proposed I-95 and Gate
18. **FullPMP Without Gate** – Unsteady flow: FullPMP, Geometry: Lumber River without Gate
19. **PMF With Gate and Proposed I-95** – Unsteady flow: FullPMP, Geometry: Lumber River with Proposed I-95 and Gate

Plans using the geometry “Lumber River without Gate” represent existing conditions; without the gate in place and without a raised I-95. Plans with the geometry “Lumber River with Proposed I-95 and Gate” represent proposed conditions with the flood gate and proposed I-95 raised embankment configuration in place.

Simulations with and without the gate provide insights into possible impacts from the installation of the flood gate and raising of I-95.

Hurricane Florence was also simulated with the proposed conditions geometry to determine the resulting peak water surface elevation at the proposed gate location for the flood of record.

The models are included in the electronic **Appendix E3.2**.

6.5.2. Hydraulic Results

6.5.2.1. Water Surface Elevations

The maximum water surface elevations from the ten simulations are summarized in **Table 6-6**. The maximum water surface elevations were extracted from a profile line along the upstream end of the proposed gate location in RasMapper.

Table 6-6. Maximum Water Surface Elevation (WSE) from simulations at the flood gate location .

Storm Event	Maximum WSE (feet, NAVD88)	
	Existing Conditions	Proposed Conditions
100 YR	123.7	124.0
Hurricane Florence	124.8	125.6
¼ PMF	124.8	126.0
500 YR	125.5	127.6
1/3 PMF	125.6	127.7
1,000 YR	125.8	128.1
½ PMF	126.1	128.4
2/3 PMF	126.4	128.7
¾ PMF	126.5	128.8
PMF	126.8	129.2

Under the 100-year flood conditions, Lumber River overtops its banks and flows through the I-95 opening at the VFW Road (proposed gate location). The peak water surface elevation upstream of the gate is 123.7 feet, NAVD88. No segments of the levee system are overtopped. Installing the floodgate and raising I-95 results in an increase in the peak water surface elevation of 0.3 feet (**Table 6-6**) upstream of the gate. Inundation maps for these simulations are included in **Appendix C4**.

Under the ¼ PMF flood conditions, Lumber River overtops its banks and flows through the I-95 opening at the VFW Road (proposed gate location). The peak water surface elevation upstream of the gate is 124.8 feet, NAVD88. No segments of the levee system are overtopped. Installing the floodgate and raising I-95 results in an increase in the peak water surface elevation by 1.2 feet (**Table 6-6**) upstream of the gate. Inundation maps for these simulations are included in **Appendix C4**.

Under the 500-year flood conditions, Lumber River overtops its banks and flows through the I-95 opening at the VFW Road (proposed gate location). About 2,500 cfs of flow goes through the I-95 opening. In addition to flow through the I-95 opening, flow overtops the low segments of I-95 east and west of the proposed gate location. The overtopping flowrate at the low segments of I-95 is about 2,800 cfs on the west side and about 2,500 cfs on the east side. No overtopping occurs with the gate in place and I-95 raised. However, minor overtopping of the levee occurs at the intersection of the levee and NC72 where the levee is relatively low. Peak water surface elevation upstream of the gate under this scenario is 127.6 feet, NAVD88. Installing the floodgate and raising I-95 results in an increase in the peak water surface elevation 2.1 feet (**Table 6-6**) upstream of the gate. Inundation maps for these simulations are included in **Appendix C4**.

Under the 1/3 PMF flood conditions, Lumber River overtops its banks and flows through the I-95 opening at the VFW Road (proposed gate location). In addition to flow through the I-95 opening, flow overtops at multiple locations along I-95 and causes widespread inundation in the city. Overtopping occurs on the west side of I-95 farther away from the gate location when the gate is in place and I-95 raised. The levee is also overtopped at multiple locations. Peak water surface elevation upstream of the gate under this scenario is 127.7 feet, NAVD88. Installing the floodgate and raising I-95 results in an increase in the peak water surface elevation 2.1 feet (**Table 6-6**) upstream of the gate. Inundation maps for these simulations are included in **Appendix C4**.

Under the 1,000-year flood conditions, Lumber River overtops its banks and flows through the I-95 opening at the VFW Road (proposed gate location). In addition to flow through the I-95 opening, flow overtops at multiple locations along I-95 and the levee and causes widespread inundation in the city. Overtopping occurs on the west side of I-95 farther away from the gate location when the gate is in place and I-95 raised. Peak water surface elevation upstream of the gate under this scenario is 128.1 feet, NAVD88. Installing the floodgate and raising I-95 will result in an increase in the peak water surface elevation of 2.3 feet (**Table 6-6**) upstream of the gate. Inundation maps for these simulations are included in **Appendix C4**.

Under the ½ PMF, 2/3 PMF, ¾ PMF and full PMF flood conditions, Lumber River overtops its banks and flows through the I-95 opening at the VFW Road (proposed gate location). Flow also overtops at multiple locations along I-95 and the levee and causes widespread inundation in the city. The peak water surface elevations upstream of the gate without the gate and with the gate installed and I-95 raised for the different PMF runs are listed in **Table 6-6**. For the ¾ PMF flood condition, the peak water surface elevation upstream of the gate is 128.8 feet when the gate is in place and I-95 raised. Installing the floodgate and raising I-95 results in an increase in the peak water surface elevation by 2.3 feet (**Table 6-6**) upstream of the gate for the ¾ PMF flood condition.

Peak water surface elevations upstream of the gate for the flood of record (Hurricane Florence) under existing conditions is 124.8 feet, NAVD88. Installing the gate and raising I-95 to prevent overtopping increases the peak water surface elevation to 125.6 feet, NAVD88.

When comparing the simulated 100-year existing conditions (without gate) inundation boundary to the effective floodplain, the internal flooding estimated by the model is less extensive (**Figure 6-7**). This difference is due to the fact that the effective floodplain includes mapping for Jacob Swamp and Little Jacob Swamp, whereas the model does not include either stream as an inflow. However, in the northeast and northwest corners of the domain, the simulated boundary is predicted to spread further. Jack's Branch, to the west of Raft Swamp, is not included in the effective floodplain, but shows substantial flow within the model. The same scenario occurs with Ivey Branch, north of Meadow Branch.

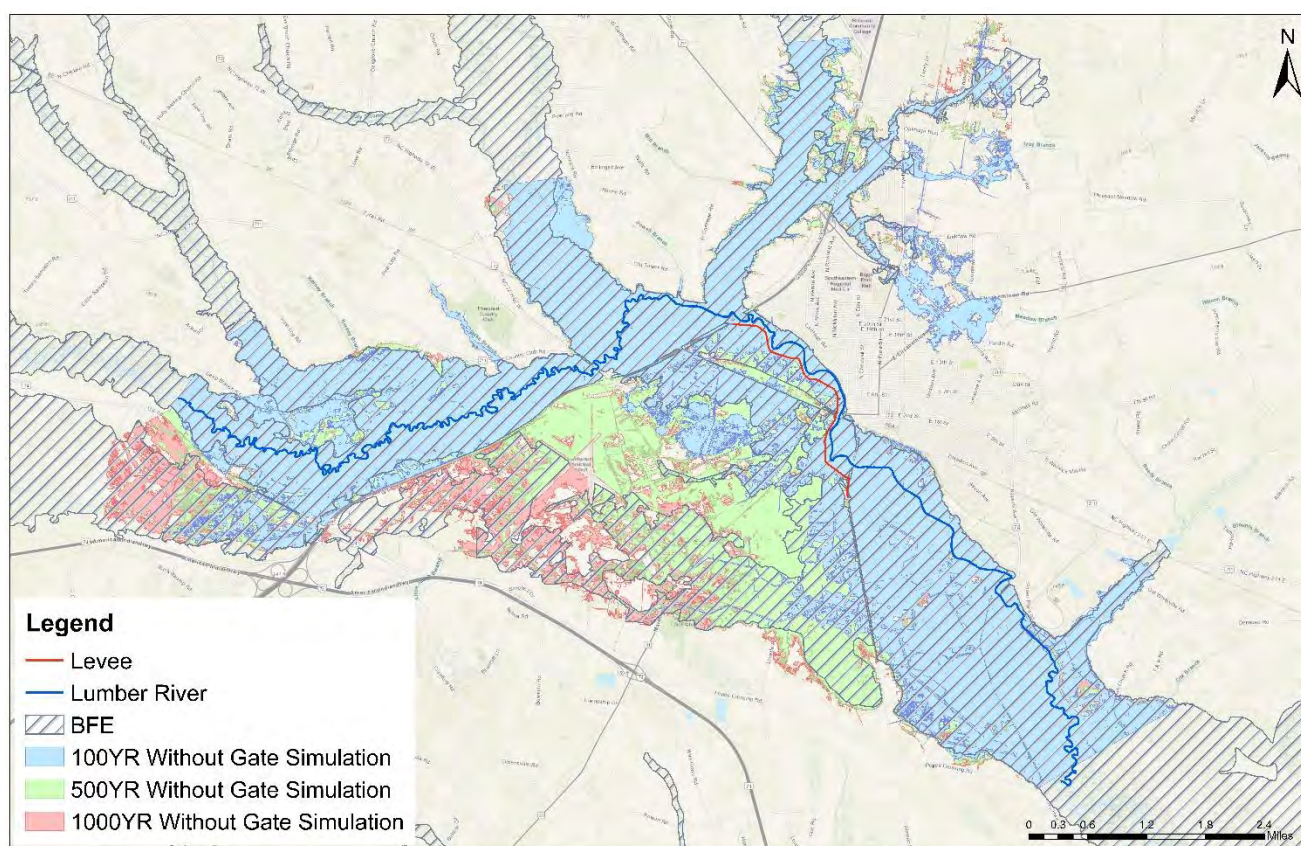


Figure 6-7. Inundation boundaries without floodgate

6.5.2.2. Impacts of Flood Gate Installation

The impacts of the flood gate installation in terms of increases in water surface elevations were assessed by comparing flood depths and inundation areas from model simulations with and without the flood gate for the 100-year, and 500-year floods.

Figures 6-8 and 6-9 show the difference in water surface elevations and extents of impact of the proposed projects (floodgate and raising of I-95) for the 100-year and 500-year storms. The results show that proposed projects will result in peak water surface elevation increases of up to about 0.4 feet are expected during the 100-year flood (**Figure 6-8**) and up to about 3 feet during the 500-year flood (**Figure 6-9**).

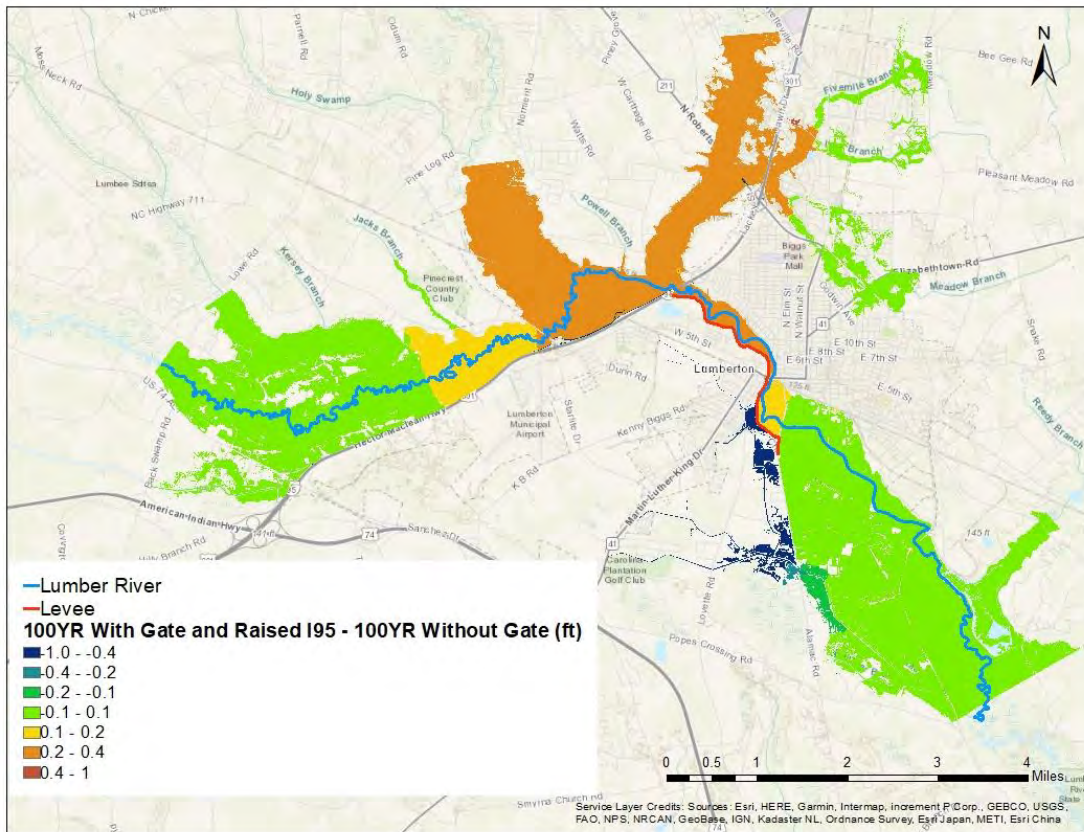


Figure 6-8. WSE (ft) without flood gate compared to with flood gate and I-95 raised for 100YR storm.

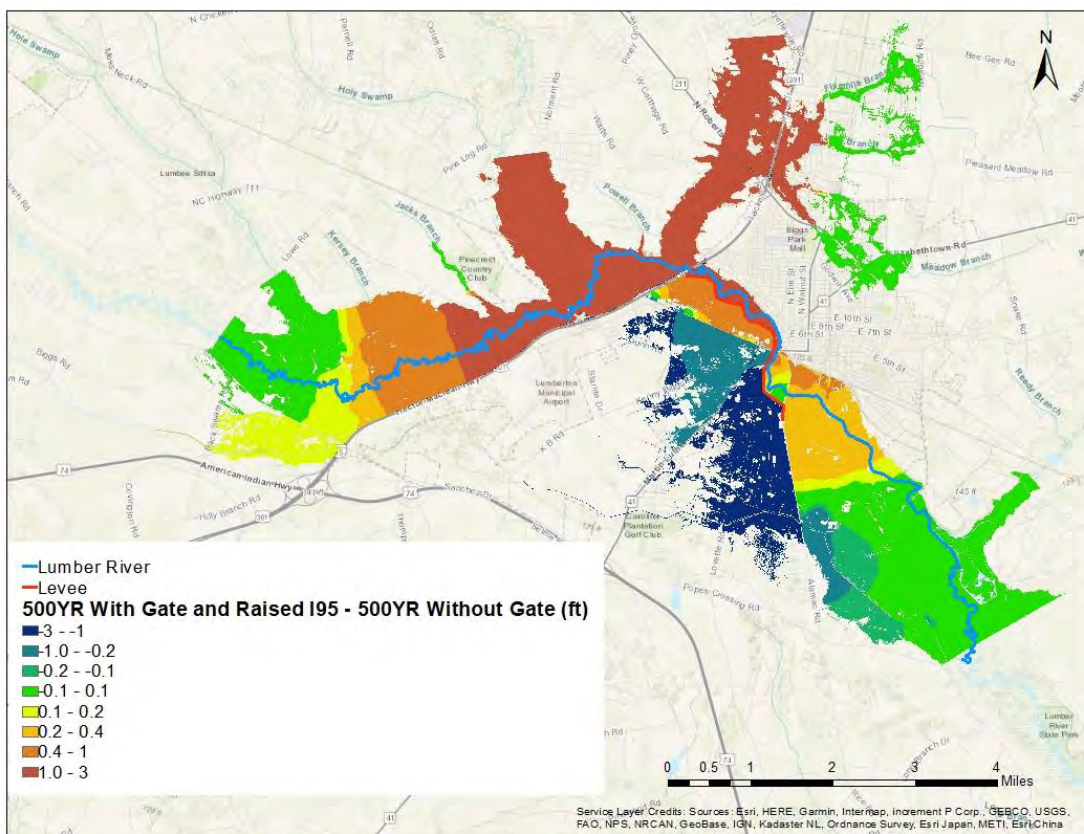


Figure 6-9. WSE (ft) without flood gate compared to with flood gate and I-95 raised for 500YR storm.

7. Freeboard Estimation

The proposed flood gate will impound water leading to temporary pond-like situation at the northern side of the gate. This situation is expected to last for about 5 days during the design flood. During this temporary pond-like situation, wind setup caused by the horizontal stress exerted on the water surface by the winds and runup associated with wind generated waves (**Figure 7-1**) may develop. The height of the flood gate should include freeboard allowance that considers these wind effects on the surface of water.

This section outlines the procedure used to calculate the wind setup and wave run-up based on simplified wave models.

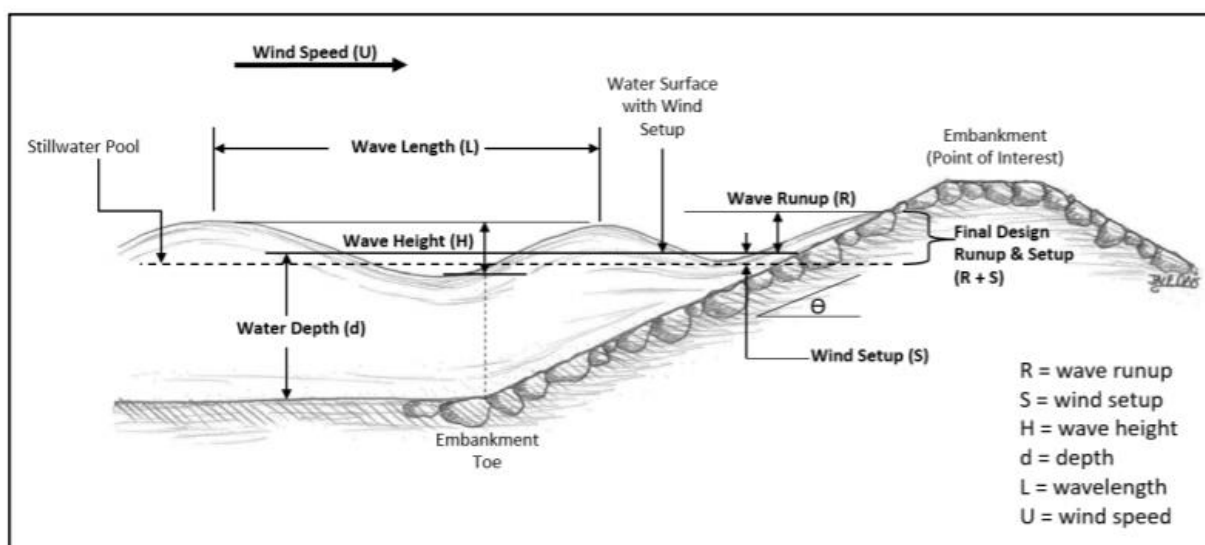


Figure 7-1. Definition sketch for wave runup and wind setup (USACE, 1997).

In general, the different steps involved in calculating wave run-up are as follows:

- Estimate average wind speed over an appropriate fetch
- Estimate wave height and wave period
- Estimate wind setup and wave-runup

Above steps are described in more detail in the following sections.

7.1. Estimate average wind speed over an appropriate fetch

7.1.1. Fetch

Fetch is defined as the unobstructed distance along which wind blows over the surface of water to create wind generated waves. The inundation extents computed from H&H modeling for the 500-year storm with gate and I-95 raised was superimposed on satellite imagery to determine the longest unobstructed distance (measured along a straight line) that is exposed to wind effects when water pools behind the Lumberton Flood Gate during the flood. The longest fetch was estimated to be around 2 miles to the northwest of the flood gate (red line in **Figure 7-2**).

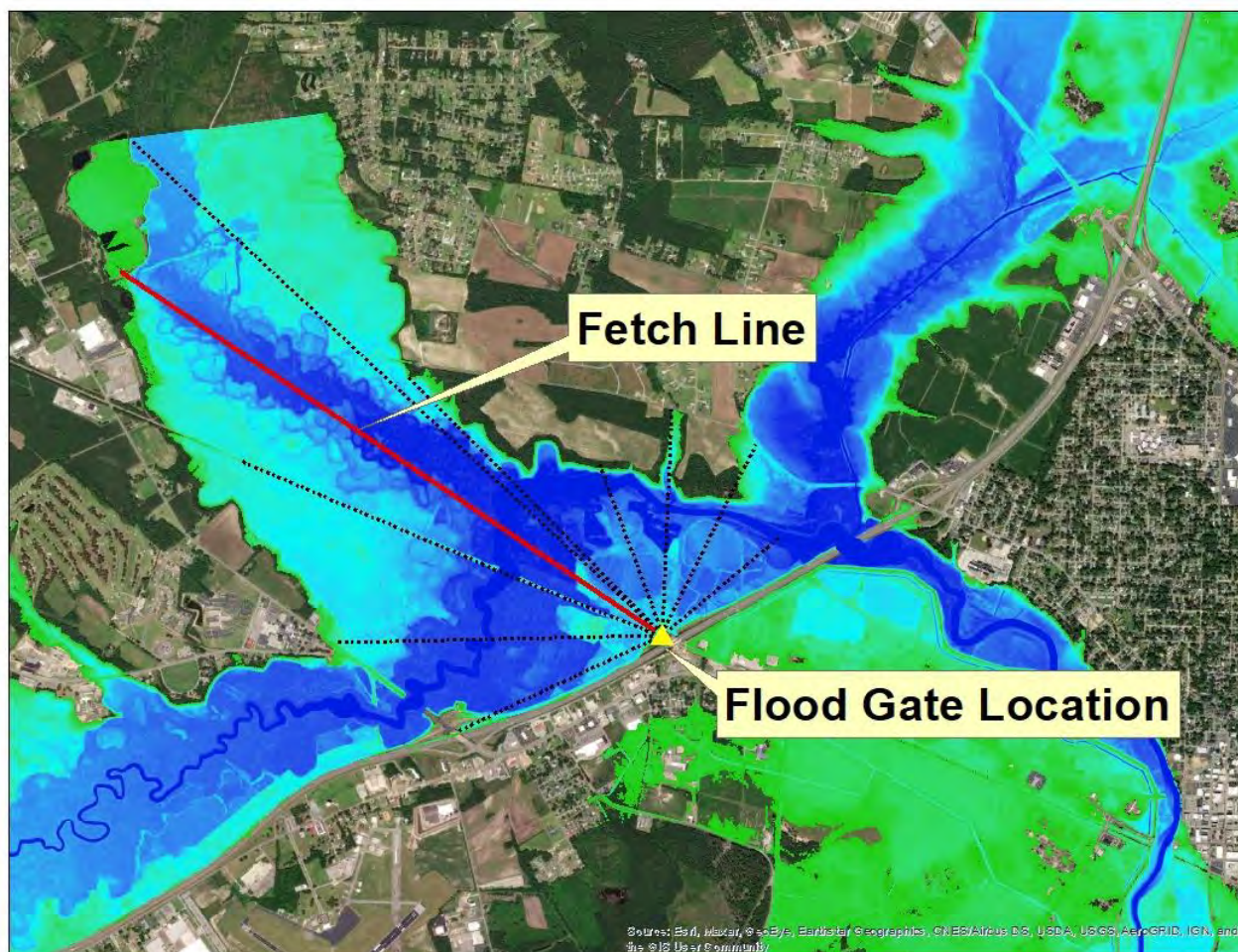


Figure 7-2. Fetch line (red) superimposed on 500-year depth raster and satellite imagery.

7.1.2. Wind Speed

Annual extreme fastest mile wind speed measured at 30 feet for 138 stations around United States was used to draw maps for the 2-year, 50-year and 100-year mean recurrence intervals (Thorn, 1968, shown in **Appendix D**). The 2-yr return period wind speed from that dataset was used as the input to compute the design wind speed. The estimated 2-year fastest mile wind speed over the state of North Carolina is 50 miles per hour.

The following assumptions (USACE, 1989) are made about the wind speed used as input for wave growth models:

- Wind fields are well organized and can be adequately described using an average wind speed and direction over the entire fetch
- Wind speed should be corrected to the 33-foot (10 meter) level.
- Wind speed should be representative of the average wind speed measured over the fetch
- When the fetch length is 10 miles (16 kilometers) or less, the wind has not fully adjusted to the frictional characteristics of the waves.
- When the fetch length is greater than 10 miles (16 kilometers), thermal stability effects must be included in the wind speed transformation.

To satisfy these assumptions, the following adjustments are made to the wind speed.

7.1.2.1. Height Adjustment

Since the wind speed was measured at 30 feet, an adjustment was applied to get the equivalent wind speed at a height of 33 feet using the 1/7 power law (USACE, 1989) (**Equation 7-1**):

$$U_{33} = \left(\frac{33}{z}\right)^{\frac{1}{7}} * U_z \quad (7-1)$$

Where U_{33} is the wind speed at the 33-foot level (miles per hour [mph]), z is the elevation above the surface (ft), and U_z is the wind speed at a distance of z above the surface (mph). When z is 30 feet and U_{30} is 50 mph, U_{33} is equal to 50.68 mph.

7.1.2.2. Overland Wind Adjustment

The fastest mile data is based on measurements at land-based stations. Under comparable meteorological conditions, wind velocities over water are higher than over land surfaces because of smoother and more uniform surface conditions. Factors to adjust land-based wind speed measurements to account for these effects are presented on page 15-2 of USACE, 1997 (see **Appendix D**). For a wind fetch of 2 miles (see **section 7.1.1**), the ratio of winds over water to the winds over land (FWL) was estimated to be 1.21. The overwater wind speed, U_w was calculated using **Equation 7-2**.

$$U_w = FWL * U_{33} \quad (7-2)$$

$$U_w = 1.21 * 50.68 = 61.32 \text{ mph}$$

Where FLW is the ratio of winds over water to winds over land, and U_{33} is the previously calculated wind speed at the 33-foot level (mph). With an FWL of 1.21 and the U_{33} of 50.68 mph, the U_w is 61.32 mph.

7.1.2.3. Computing Adjusted Wind Speeds based on Averaging Time

There are two approaches (fetch-limited and duration-limited) for determining the characteristics of wind generated waves. Fetch-limited conditions assume that the wind blows with a constant speed and direction over a certain fetch for sufficient time for the waves to travel the entire fetch length (Ozeren et al., 2009). Within this time steady state conditions are achieved within the fetch. If the wind duration is less than the required time for the waves to travel the fetch, then the wave conditions will be time dependent, and such wave conditions are described as duration-limited.

In the present work, since the wind generated waves are limited by the extent of the ponded areas adjacent to the flood gate, the assumption of fetch-limited conditions is appropriate. Therefore, a minimum duration (t) must be selected to meet the assumptions of the fetch-limited conditions discussed above. An averaging interval (larger than the minimum duration, t) over which wind speeds are relatively constant should also be selected and the corresponding averaged wind speed must be computed.

The equations for computing wind speeds over different averaging intervals are based on Figure 5-26 in USACE, 1989 (also shown in **Appendix D**).

First, the duration corresponding to a fastest mile wind speed of 50 mph was determined from the relationship $t=3600/U$ (from Figure 5-35 in USACE, 1989), where U_t is the fastest mile wind speed. Thus, $t = 72$ s.

The 72s fastest mile winds to which overland adjustment has been applied is converted to 1 hour averaged wind speed using equation below (**Equation 7-3**):

$$\frac{U_t}{U_{1hr}} = 1.277 + 0.296 \tanh \left(0.9 \log \left(\frac{49}{t} \right) \right) \quad (7-3)$$

$$\frac{U_{72}}{U_{1hr}} = 1.277 + 0.296 \tanh \left(0.9 \log \left(\frac{49}{72} \right) \right)$$

$$U_{1hr} = 50.13 \text{ mph}$$

7.2. Estimate Wave Height and Wave Period

Deepwater wave characteristics based on the fetch and adjusted wind speeds computed in **Section 7.1** are determined using hindcasting charts for deep water waves (Figure 5-34, USACE, 1989, shown in **Appendix D**). The computed wave heights, periods and minimum duration are shown in **Table 7-1**

Table 7-1. Deep water wave characteristics.

Adjusted Wind Speed (mph)	Fetch (miles)	Duration (min)	Deep water Wave Height (ft)	Deep water Wave Period (s)
50.13	2	45	3	3

The minimum duration computed from the chart is around 45 minutes, therefore the assumption of fetch-limited conditions is valid if we assume a duration of 1 hour. Therefore, the design deep water wave height and period is selected to be equal to 3 ft and 3 seconds (s) respectively.

Next, we compute the deep-water wavelength (**Equation 7-4**) using the dispersion relationship to verify the assumption of deep-water conditions.

$$L_d = \frac{gT_d^2}{2\pi} \quad (7-4)$$

Where L_d is the deep-water wavelength (ft), g is gravity (ft/s²), and T_d is the deep-water wave period (s). When T_d is 3 s, the deep-water wavelength (L_d) is 46.12 ft.

$$L_d = \frac{32.2 \times 3^2}{2\pi} = 46.12 \text{ feet}$$

For deep water wave growth to be unimpeded by the bottom, the ratio of water depth to wavelength must be equal to or greater than 0.5 (USACE, 1989). Design flood depth at the gate is about 8 feet so the ratio of the water depth to wavelength is 0.17 which is significantly less than half the wavelength. Therefore, the assumption of deep-water wave growth is not applicable. The wave height and period should therefore be based on shallow water curves. The hindcasting charts for computing shallow water wave characteristics at a depth of ten feet is shown in **Appendix D**, Figure D-5 (or Figure 5-36 USACE, 1989). For a wind speed of 50.13 mph and fetch of 2 miles, the shallow water wave height and wave period are **2.5 feet** and **2.75 s** respectively.

7.3. Estimate wind setup and wave runup

7.3.1 Wind Setup

Set-up (S_e) is the piling up of water at the leeward end, and a lowering of water level at the windward end in a reservoir caused by wind (**Figure 7-1**). Wind set-up can be estimated for the reservoir, based on the following equation (USACE, 1989) (**Equation 7-5**):

$$S_e = \frac{U^2 \cdot F_s}{1400D} \quad (7-5)$$

Where S_e is set-up in feet above the still water level (ft), U is the average wind velocity (mph) over the maximum fetch distance (F_s) (mi) that influences the wind, and D is the average depth of water along the fetch line (ft). When D is 13 ft and F_s is 2 ft the S_e is 0.3 ft.

$$S_e = \frac{50.13^2 \times 2}{1400 \times 13} = 0.3 \text{ ft}$$

7.3.2 Wave Runup

Wave runup is defined as the height above still water level to which a wave will rise on a structure or beach (**Figure 7-1**).

The upper limit for relative runup on smooth vertical walls (derived from laboratory experiments), is presented in the U.S Army Corps of Engineers miscellaneous paper CERC-90-4 (USACE, 1990) and is equal to (**Equation 7-6**):

$$\frac{R}{H} = 2.5 \quad (7-6)$$

Where R is the wave runup (ft) and H is the wave height at the toe of the structure (ft). For a wave height of 2.5 ft, the runup is 6.25 ft.

$$R = 2.5 * 2.5 = 6.25 \text{ ft}$$

7.4. Sensitivity Analysis

A sensitivity analysis was performed to understand the variability of the computed wave runup and was setup with changes in the fetch and wind speed for the 100-year, 500-year and the ¼ PMF return period events. As stated in Section 3, the top elevation of the flood gate should be at a minimum higher than the elevation from the flood of record, which has a return period of about of 200 years. The sensitivity analysis provides a range of values for freeboard for the 100-year and 500-year floods to provide lower and upper freeboard threshold estimates.

The direction of the prevailing winds determines the fetch length. The black dashed lines in **Figure 7-2** indicate the different fetch lines that may be applicable depending on the wind direction over the study area. Thus, the fetch length can vary between a maximum of 2 feet to a minimum of 0.6 feet. Also plotted were the modeled depths along the fetch to confirm that the average depth along the fetch length (around 12 feet) is large enough to overtop the vegetation in that area and thereby provide an unobstructed path for the winds. The wind setup and wave runup computed for the different fetch-wind speed combinations are summarized in **Table 7-2**. These quantities were found to be sensitive to changes in the fetch.

Table 7-2. Summary of sensitivity analysis.

Design Storm	Fetch (mi)	Wind Speed (mph)	Wave Runup (ft)	Wind Setup (ft)	Total Wind and Wave Component (ft)
100-Year	2	50	5	0.4	5.4
	0.6	50	3.8	0.1	3.9
500-Year	2	50	6.3	0.3	6.6
	0.6	50	3.8	0.1	3.9
¼ PMF	2	50	6.3	0.3	6.6
	0.6	50	3.8	0.1	3.9

7.5. Results

The estimated range of freeboard to account for wind-wave action is 3.9 feet to 5.4 feet for the 100-year flood and 3.9 feet to 6.6 feet for the 500-year and ¼ PMF return period events. The lower bound estimate of 3.9 feet results from the use of a fetch of 0.6 miles during either the 100-year or 500-year or ¼ PMF event. The upper bound estimates of 5.4 and 6.6 feet corresponds to a fetch of 2 miles during the 100-year and 500-year or ¼ PMF events, respectively.

8. Recommendations

The recommended range of top of gate elevations and gate heights are shown in **Table 8.1**.

Table 8-1. Recommended Range of Gate Heights

Design Storm	Recommended Top of Gate Elevation and Gate Height			
	Max. Stillwater Elevation (feet, NAVD88)	Freeboard (feet)	Top of Gate Elevation (feet, NAVD88)	Gate Height (feet)
100 YR	124.0	5.4	129.4	9.4
¼ PMF	126.0	6.6	132.6	12.6
500 YR	127.6	6.6	134.2	14.2

Reference Elevations: 1. Minimum elevation for levee accreditation = 128.5 feet (ft), NAVD88
 2. Flood of record elevation at gate location assuming gate is in place and I-95 raised = 125.6 ft, NAVD88
 3. Elevation of ¾ PMF at gate location assuming gate is in place and I-95 raised = 128.8 ft, NAVD88
 4. Elevation of PMF at gate location assuming gate is in place and I-95 raised = 129.2 ft, NAVD88
 5. Average ground elevation at gate location is 120.0 ft
 6. ¼ PMF is the largest storm that does not overtop the levee and proposed I-95
 7. Levee is overtopped during the 500-year storm.

The resulting peak elevation upstream of the gate for the flood of record, the minimum elevation required for levee accreditation, and the ¾ PMF and PMF peak water surface elevations are also shown in the table for reference. The range of recommended top of flood gate elevation of 129.4 feet, NAVD88 to 134.2 feet, NAVD88 all meet the minimum requirements for levee certification. The recommended top of gate elevation also ensures that the gate is not overtopped even during the PMF, if freeboard is not considered. Selection of the gate height from the range provided should consider the following factors:

- Cost;
- Floodplain Impacts; and
- Minimum desired level of service

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Appendices



Appendix A. Field Data

HYDRAULIC STRUCTURE DATA

Complete Structure List from Field Data Collection															
Label Name	Channel	Street Name	Field Accessible?	Status	Latitude	Longitude	Structure Type	Material	Inlet	Rise	Span	Diameter	# Piers	Culvert Length	Obstruction/Buried
E1	Fivemile Branch	Dawn Dr (next to I-95)		Will be surveyed	34.650605	-79.012221	2RCBC	Concrete		8	10				
E2	Meadow Branch	Dawn Dr (next to I-95)		Will be surveyed	34.649444	-79.012578	2RCBC	Concrete		8	10				
E3	Fivemile Branch	N Roberts Ave (SR 211)		Will be surveyed	34.649424	-79.016424	3RCBC	Concrete		9	14				
E4	Fivemile Branch	W Carthage Rd (SR 1536)		Will be surveyed	34.635177	-79.030266	3RCBC	Concrete		11	14				
E5	Lumber River	Kenric Rd (SR 1539)		Effective	34.624071	-79.057228	Bridge				194.9		2		
E6	Lumber River	S Caton Rd		Effective	34.624567	-79.054882	Bridge				354.9		4		
E7	Lumber River	CSX Railroad	Not accessible	Effective	34.630821	-79.04933	Bridge				350		14		
E8	Lumber River	I-95		Effective	34.632279	-79.029675	2 Bridges						7		
E9	Lumber River	5th Street		Effective	34.620186	-79.010729	Bridge				236.6		5		
E10	Lumber River	W 2nd St		Effective	34.617969	-79.011103	Bridge				282.9		5		
E11	Lumber River	CSX Railroad		Effective	34.617576	-79.011324	Bridge						14		
E12	Lumber River	Alamac Rd (SR 2289)		Effective	34.610595	-79.009171	Bridge				330.5		6		
E13	Lumber River	S Chippewa St/ Hestertown Rd		Will be surveyed	34.607211	-79.000088	Bridge				198		4		
E14	Lumber River	NC HWY 72		Effective	34.591539	-78.982678	Bridge				360.9		7		
E15	Small Trib Little Jacob Swamp	NC Hwy 72		Missing	34.584553	-79.986302	Arch Culvert	Aluminum		6.4	26				
L11	Little Jacob Swamp Diversion	Contempora Dr (SR 2513)		Effective	34.607631	-79.076069	Circular Culverts (2)	CMP	Headwall			4.5		60	Look at field sketch; Left = 3.1', Right = 1.8'
L12	Little Jacob Swamp	Contempora Dr (SR 2513)		Effective	34.597965	-79.070544	Circular Culvert	Concrete	Square edge entrance with headwall			5		40	
L13	Little Jacob Swamp	KB Rd (SR 2413)		Effective	34.596479	-79.067027	Circular Culverts (2)	CMP	L @ Mitered to conform to slope; R @ Headwall					60	
L14	Little Jacob Swamp	MLK Dr (NC 41)		Effective	34.589393	-79.043117	Arch (2)	Corrugated Metal	90 degree headwall	7.1	15			60	
L15	Little Jacob Swamp	Lovette Rd (SR 2204)		Effective	34.587254	-79.022739	Arch	Corrugated Metal	90 degree headwall	8	20			40	
J51	Jacob Swamp	Culvert in Field		Missing	34.605287	-79.057754									
J52	Jacob Swamp	Culvert in Field		Missing	34.604426	-79.056623									
J53	Jacob Swamp	KB Rd (SR 2413)		Effective	34.603918	-79.055988	CMP	Corrugated Metal	Thin wall projecting			6		50	
J54	Jacob Swamp	Culvert in Field	Not accessible	Missing	34.601447	-79.047198	Culvert								
J55	Jacob Swamp	MLK Dr (NC 41)		Effective	34.595612	-79.038041	Box Culverts (2)	Concrete	Wingwall flared 30 to 75 deg	4.5	6			40	
J56	Jacob Swamp	Lovette Rd (SR 2204)		Effective	34.59306	-79.020421	Bridge			7.4 to LC	24		0	40	
J57	Jacob Swamp	Alamac Rd (SR 2289)	Not accessible	Effective	34.587111	-79.006068	Bridge								
J58	Jacob Swamp	SR 2305		Effective	34.580668	-78.99918	Bridge			11 to LC	90		1		
J59	Jacob Swamp	Wilmington Hwy (NC 72)		Effective	34.565913	-78.976465	Bridge			14 to LC	90		2		
GB1	Gum Branch	Kenny Biggs Rd (SR 2413)		Missing	34.609149	-79.040569	Elliptical CMP (2)	CMP	90-deg HW	5	8				
GB2	Gum Branch	Railroad	Not accessible	Missing	34.608131	-79.036988	Culvert								
GB3	Gum Branch	Crandlemire Rd		Missing	34.608943	-79.032704	2 CMP	CMP	Stone HW			6			
GB4	Gum Branch	MLK Dr (NC 41)		Missing	34.60779	-79.023378	Arched Bridge			7.3	23.5				
GB4.5	Gum Branch						CMP	CMP				5.5		39	
GB5	Gum Branch	Lovette Rd (SR 2204)		Missing	34.609855	-79.016345	2 Arched CMP	CMP		6	12				
CM1	Cotton Mill Branch	School St		Missing	34.621688	-79.035749	Culvert	Plastic				4			
CM2	Cotton Mill Branch	Railroad	Not accessible	Missing	34.624044	-79.033085	Culvert								
CM3	Cotton Mill Branch	Railroad		Missing	34.622187	-79.033458	Culvert								
CM4	Cotton Mill Branch	Railroad	Not accessible	Missing	34.621246	-79.033609	Culvert								
CM5	Cotton Mill Branch	Culvert in Field		Missing	34.620526	-79.030114	Culvert								
CM6	Cotton Mill Branch	Culvert in Field	Not accessible	Missing	34.619697	-79.024166	Culvert								
CM7	Cotton Mill Branch	MLK Dr (NC 41)		Effective	34.614704	-79.01783	2RCBC	Concrete	Flared WW, Beveled	8	9				
CC1	Collection Canal	Crystal Rd		Missing	34.629362	-79.03478	Pipe Culvert	Concrete	Proj.			2		52	
CC2	Collection Canal	Crystal Rd		Missing	34.630156	-79.033034	Pipe Culvert	Concrete, Open Bottom	3:1 Tapered Inlet, Proj.	3	1			54	
CC3	Collection Canal	Crystal Rd	Obstructed	Missing	34.630653	-79.03194	Culvert								Completely obstructed
CC4	Collection Canal	The Riverwalk (Levee)		Missing	34.630864	-79.028611	Bridge	Aluminum			37.4		0	3	
CC5	Collection Canal	The Riverwalk (Levee)		Missing	34.628388	-79.024622	Arched Bridge	Aluminum		9' to LC	59		0	8.9	
CC6	Collection Canal	Lowery St	Not accessible	Missing	34.62794	-79.025577	Culvert								Outlet Submersed, no inlet found
CC6.5	Collection Canal						Pipe Culvert	Concrete				1.5			Couldn't located inlet
CC7	Collection Canal	The Riverwalk (Levee)		Missing	34.62674	-79.023144	Bridge	Wood			51		2	5.7	
CC8	Collection Canal	The Riverwalk (Levee)		Missing	34.622822	-79.016516	2 Pipes	CMP				4			
CC9.5	Collection Canal						Bridge				41		2	7	
CC9	Collection Canal	W 5th Street		Missing	34.62021	-79.01208	RCP	Concrete	90 degree headwall			6			
CC10	Collection Canal	MLK Dr (NC 41)		Missing	34.618242	-79.012282	Pipe Culvert	CMP	90 degree headwall			7			
CC11	Collection Canal	Railroad	Not accessible	Missing	34.61793	-79.012451	Pipe Culvert	CMP				7			Completely blocked with Sediment
CC12	Collection Canal	Bullard St/ The Riverwalk		Missing	34.617154	-79.012644	2 CMP	CMP	Proj.			4		29.5	
CC12.5	Collection Canal			Missing			RCP	Concrete				3		76	
CC13	Collection Canal	Fig St/ The Riverwalk		Missing	34.615763	-79.013626	Culvert (long)	RCP	Proj.			5/7			
CC14	Collection Canal	Chicken Foot Rd		Missing	34.609231	-79.014287	Arch Culvert	CMP	HW	9	22				

Legend

Field Structures

Channel

Collection Channel

Cotton Mill Branch

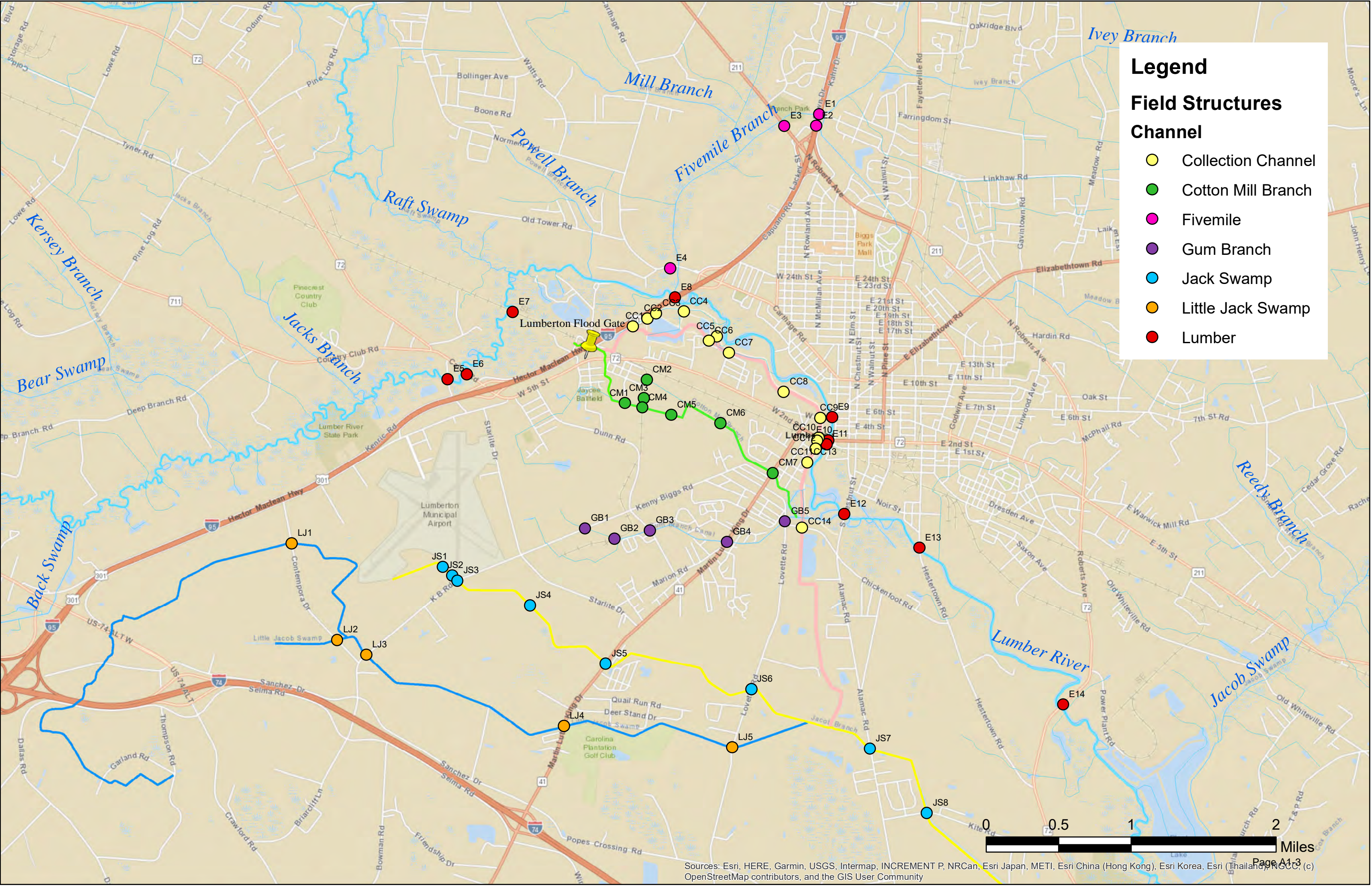
Fivemile

Gum Branch

Jack Swamp

Little Jack Swamp

Lumber

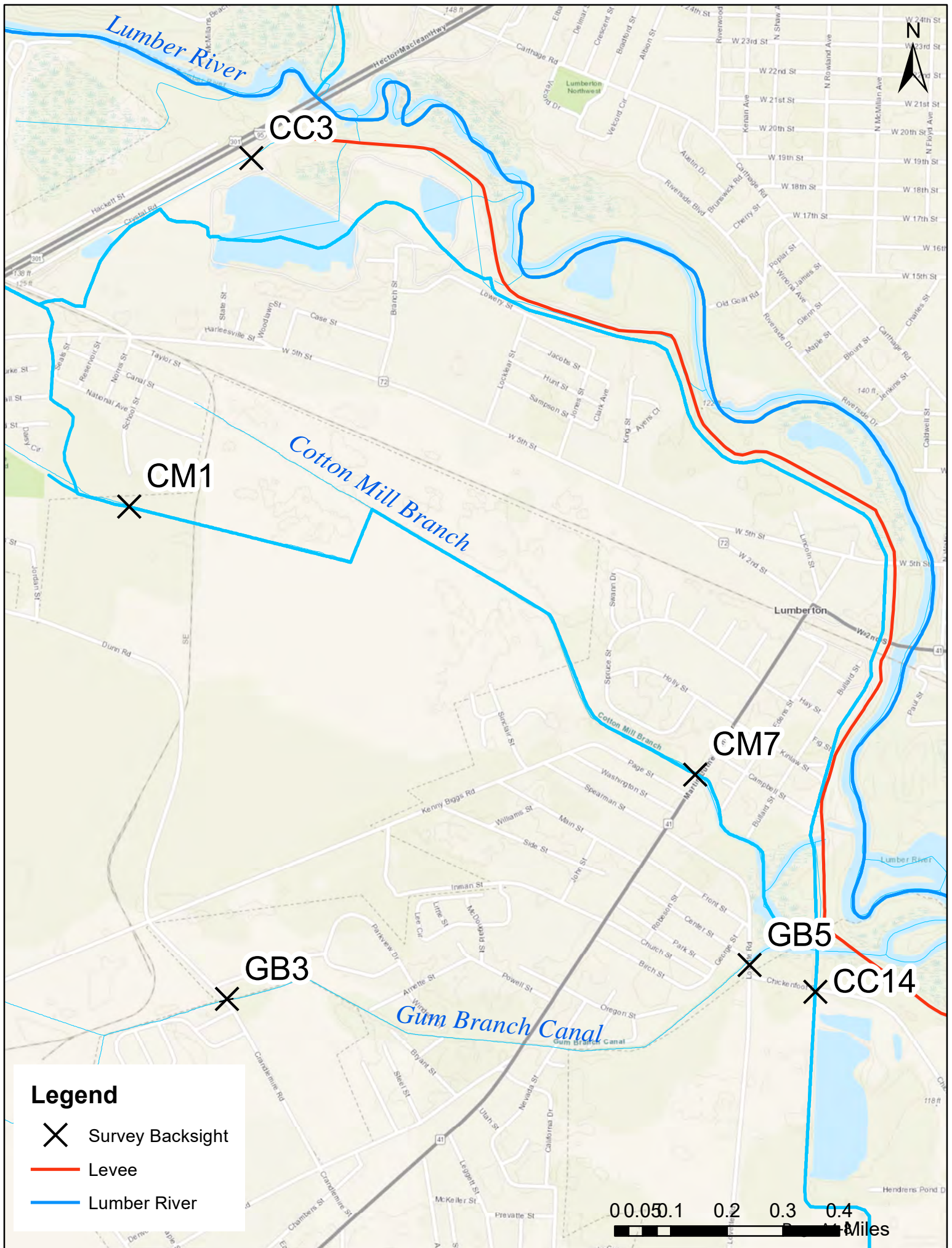


HIGH-WATER MARKS DATA



Number	Street Name	Business/Address	Height	Latitude	Longitude	Storm	Notes
1	1451 Lowery St	Lumberton Water Plant	39" from floor	34.626688	-79.024735	Matthew	
2	1451 Lowery St	Lumberton Water Plant Maintenance Building	41" from floor	34.626243	-79.024175	Matthew	
3		Well Site #2 (Park)	42-43" from ground	34.630742	-79.031307	Matthew	
4		VFW Crest by future Flood Gate	36" from crest	34.627654	-79.039719	Florence	
5	2460 Cox Rd	Lift Station #23	85"	34.627352	-79.04139	Florence	Top of barbed wire
6		Steel building by CSX Railroad (by gate location)	36"	34.628221	-79.041324	Florence	
7		Raw Water Intake	120"	34.633669	-79.037256	Matthew; Florence	
8	415 County Club Dr	Lift Station #21		34.626366	-79.058788	Florence	68" from mound to bottom of generator; 40" from ground to mound base
9	2385 Lackey St	Lift Station #25	77"	34.64292	-79.025638	Florence	
10	3621 Dawn Drive	Lift Station #27	66"	34.65168	-79.012432	Florence	
11		Ramada Inn - Lift Station #31	45" from floor	34.647553	-79.010911	Matthew?	

CHANNEL CROSS-SECTION DATA



Cross Section Data Analysis

Table 1. CC3 Survey Data

Station	BS	HI	FS	Elev
BM	4.36	119.2087		114.8487
0			4.36	114.8487
5			5.99	113.2187
15.5			9.15	110.0587
19			11.8	107.4087
22.5			11.3	107.9087
25.7			8	111.2087
30			5.82	113.3887
33			5.44	113.7687

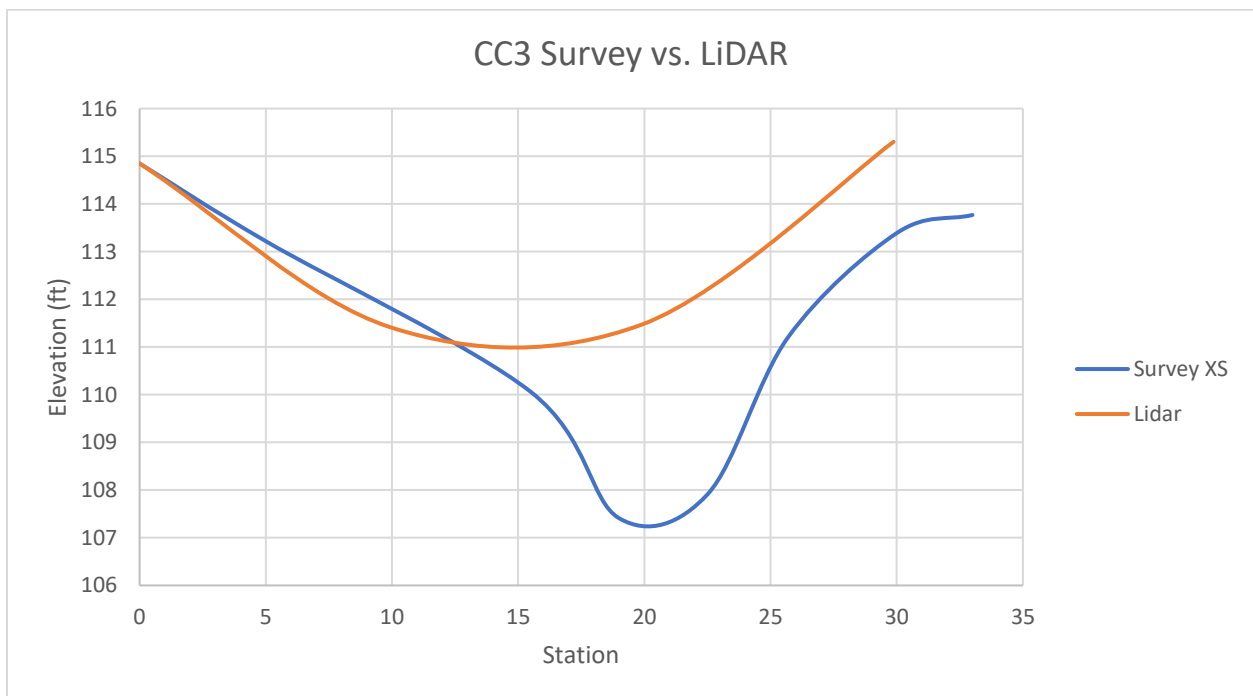


Figure 1. CC3 cross section

Table 2. CC14 Survey Data

Station	BS	HI	FS	Elev
BM	3.39	115.75		112.36
0			3.39	112.36
5			3.79	111.96
13			6.92	108.83
21			13.14	102.61
34			14.35	101.4
48			14.37	101.38
56			10.16	105.59
64			5.71	110.04
75			3.93	111.82

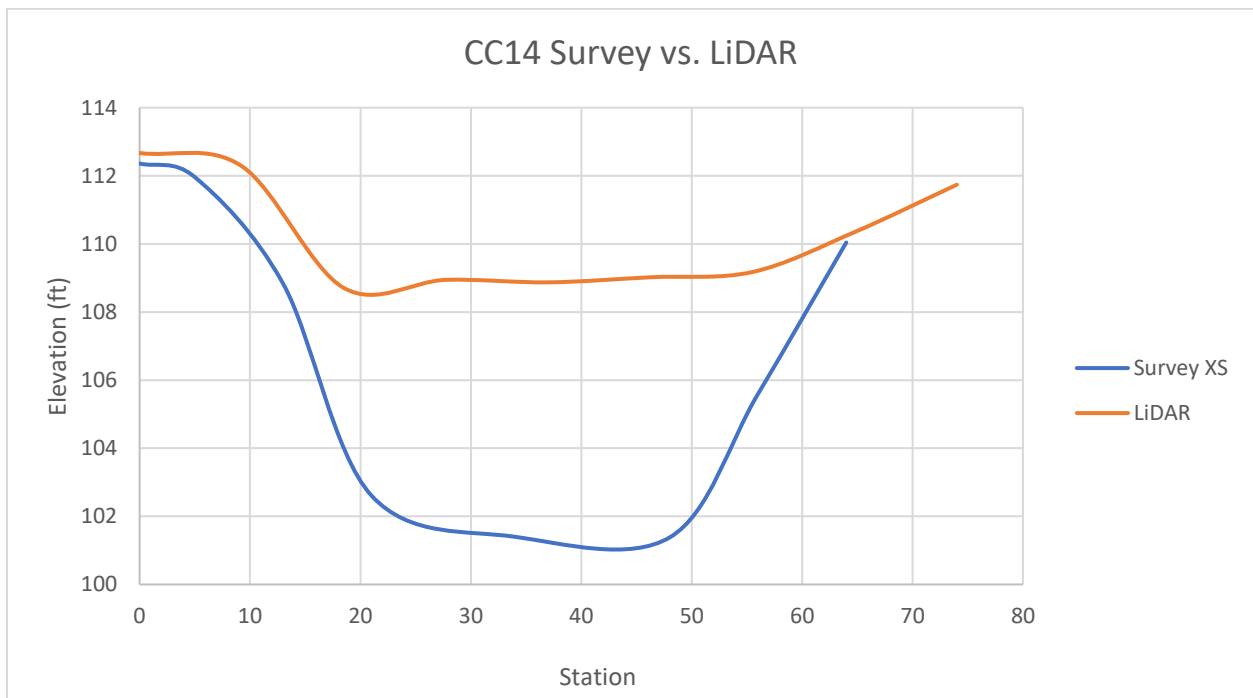


Figure 2. CC14 cross section

Table 3. CM7 Survey Data

Station	BS	HI	FS	Elev
BM	3.35	119.37		116.02
0			4.97	114.4
8			6.03	113.34
13			11.78	107.59
16			12.84	106.53
20			13.4	105.97
22			12.46	106.7
26			12.67	106.9
27.5			12.47	111.07
33			8.3	113.85
37			5.52	114.31
43			5.06	119.37

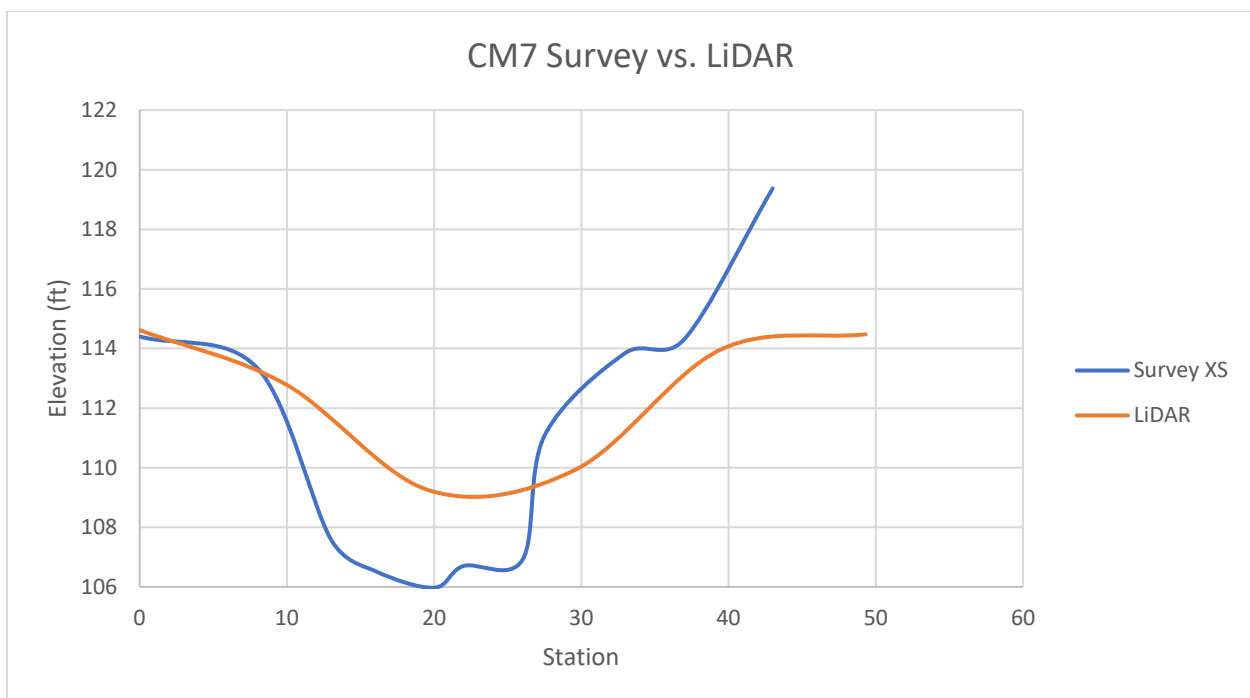


Figure 3. CM7 cross section

Table 4. GB3 Survey Data

Station	BS	HI	FS	Elev
BM	4.52	121.16		116.64
0			5.88	115.28
17			5.64	115.52
25			8.04	113.12
30			11.43	109.73
34.5			12.45	108.71
44			11.69	110.53
48.5			10.63	114.26
53			6.9	114.94
60			6.22	121.16

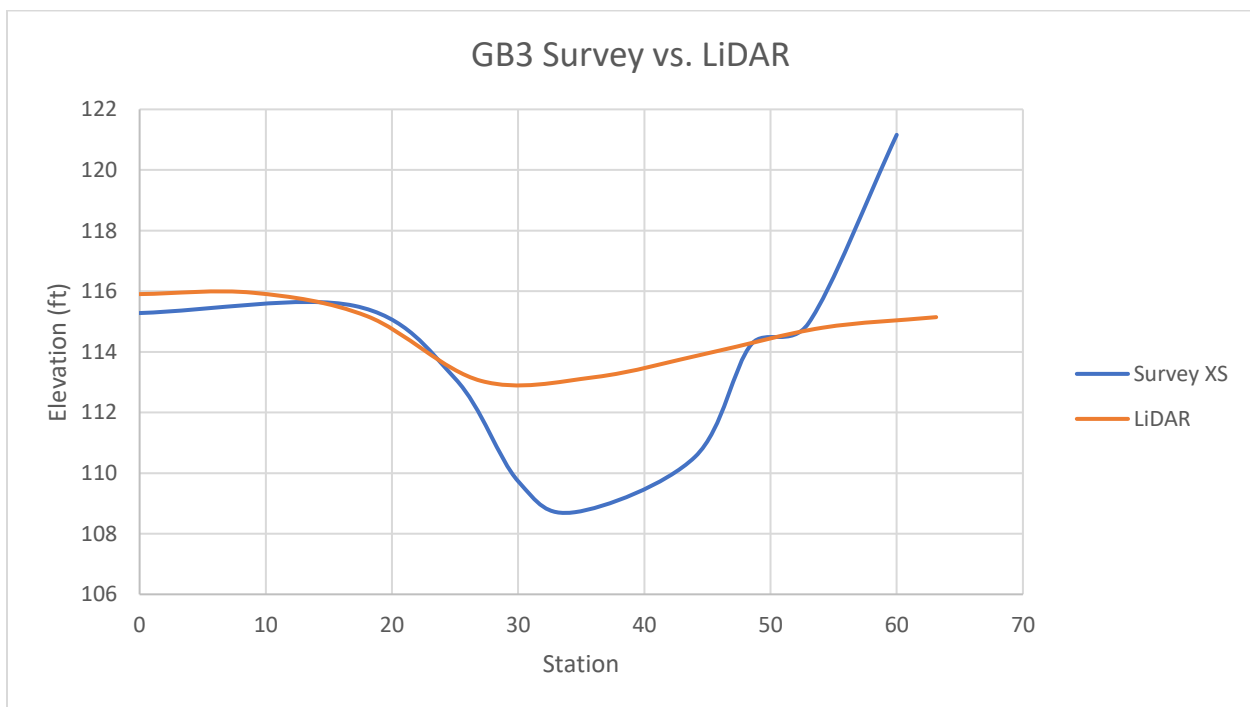


Figure 4. GB3 cross section

Table 5. GB5 Survey Data

Station	BS	HI	FS	Elev	
BM	4.48	117.3		112.82	
0			6.39	110.91	
6			6.76	110.54	
11			10.23	107.07	
21			12.46	104.84	
35			10.4	106.9	
42.5			4.32	117.3	not reliable

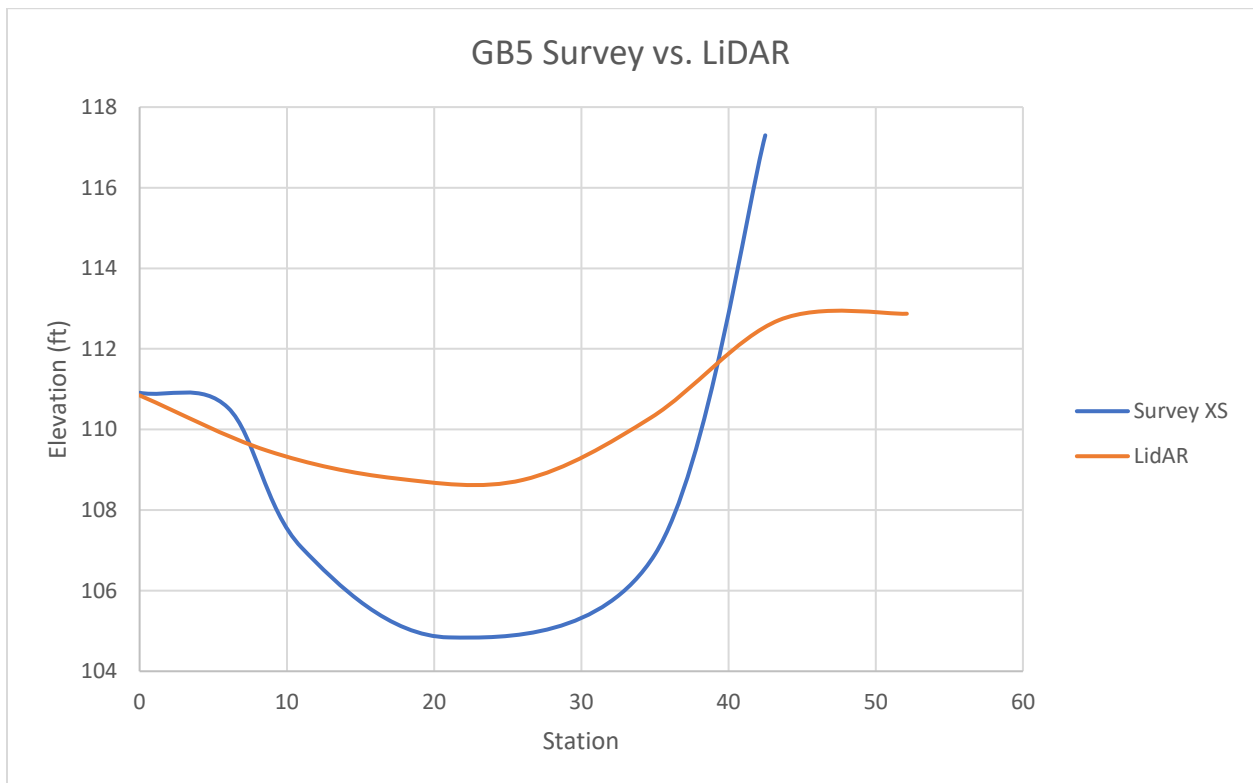


Figure 5. GB5 cross section

Table 6. CM1 Survey Data

Station	BS	HI	FS	Elev
BM	5.42	122.15		116.73
0			6.21	115.94
9			5.89	116.26
13			8.78	113.37
17			10.59	111.56
21			11.67	110.48
27			10.6	111.55
30.5			8.72	113.43
36			5.22	116.93

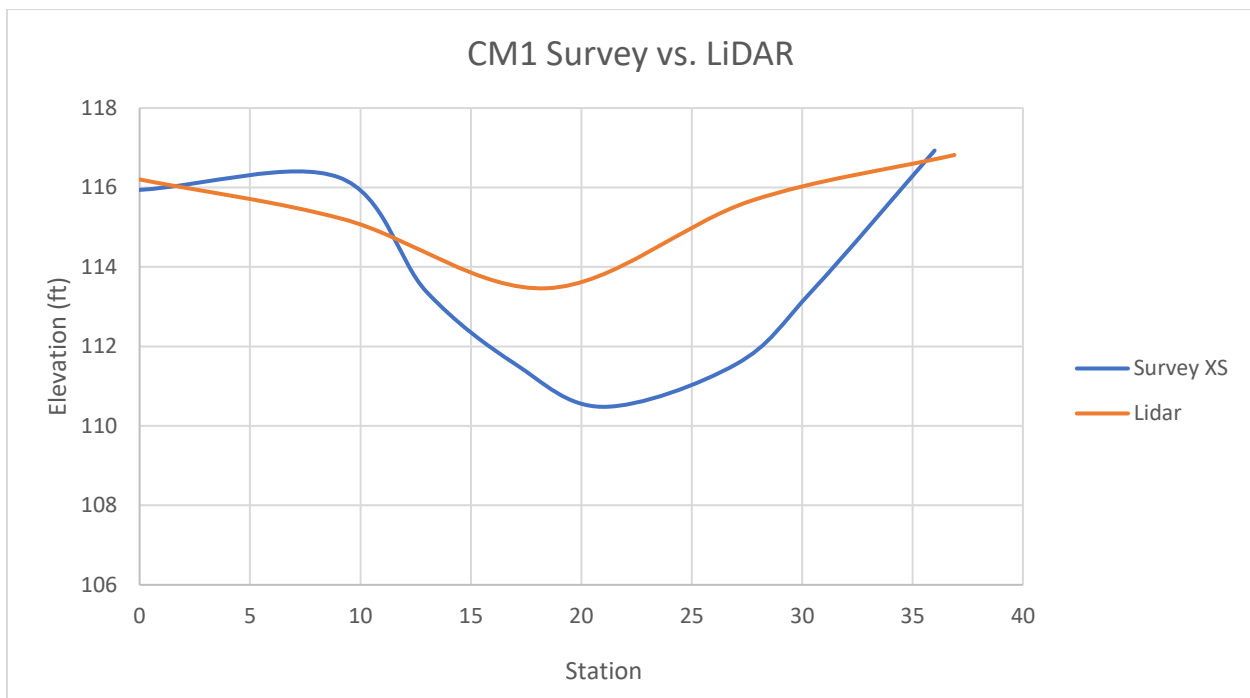


Figure 6. CM1 cross section

Appendix B. Hydrologic Analysis

B1 Rainfall Data and Analysis

Thiessen Polygon Procedure

1. Determine precipitation gage data availability for specific event (see table below)
2. Use a point shapefile with only the available gages to create a set of Thiessen polygons in GIS
3. Determine which polygons overlay the sub-basins
4. If a basin is within two or more polygons, calculate the area in each polygon and its proportion in relation to the sub-basin's total area. This proportion will become the weight
5. For sub-basins that have area-based weights collect the raw data from all rainfall gages being used (polygons falling within). The incremental rainfall for each gage will be multiplied by the appropriate area-based weight. The weighted rainfall from each of the gages utilized will be added across each time interval to get the new weighted rainfall.
6. Any sub-basin that completely falls within one thiessen polygon will use the rainfall gage data from that one gage with no weighting applied

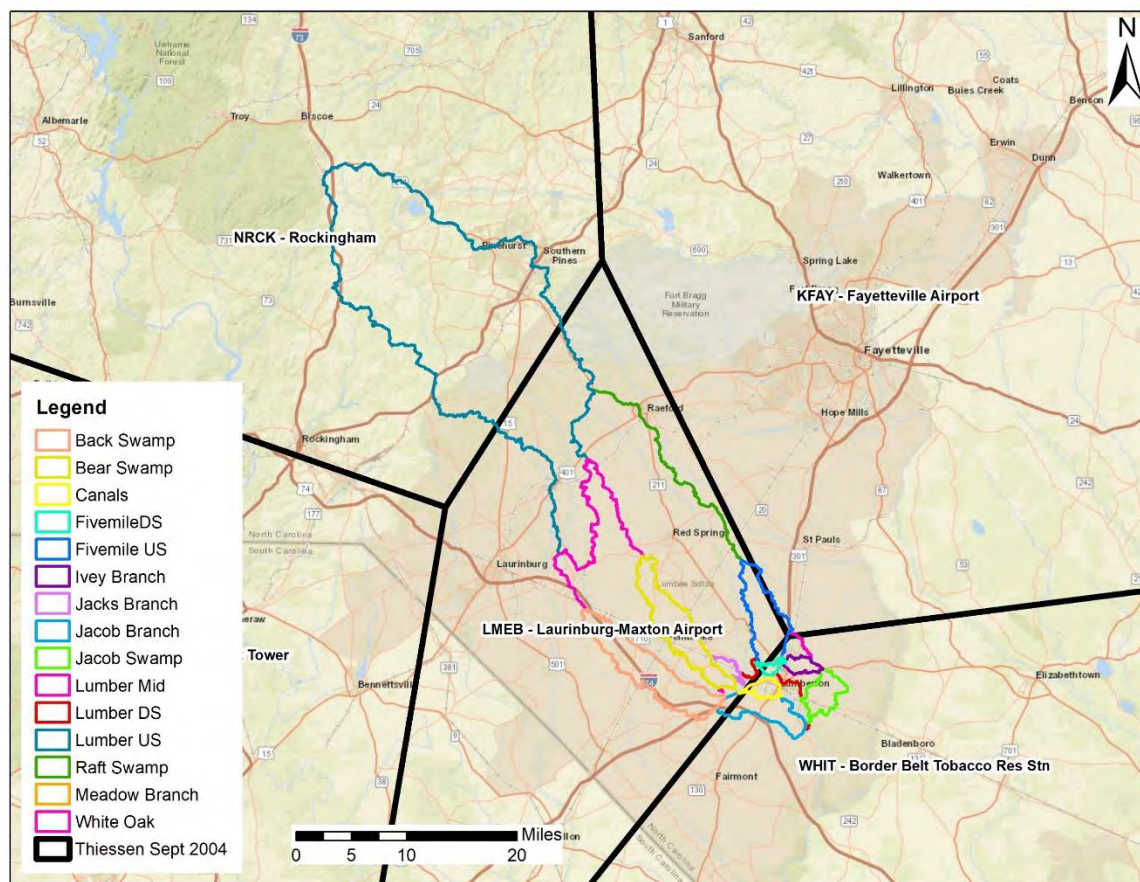
Gage	Sep-04	Oct-15	Oct-16	Sep-18
Fayetteville Airport				
Hamlet				
Jackson Springs				
Laurinburg				
Lilesville				
Lumberton				
Mackall Airfield				
Moore Airport				
Rockingham				
Troy				
Whiteville				

Event	Gage Rainfall Range (in)
Sept 2004	4.31 – 11.87
Oct 2015	5.74 – 7.40
Oct 2016	8.12 – 12.59
Sept 2018	12.95 – 17.53

Thiessen Weights

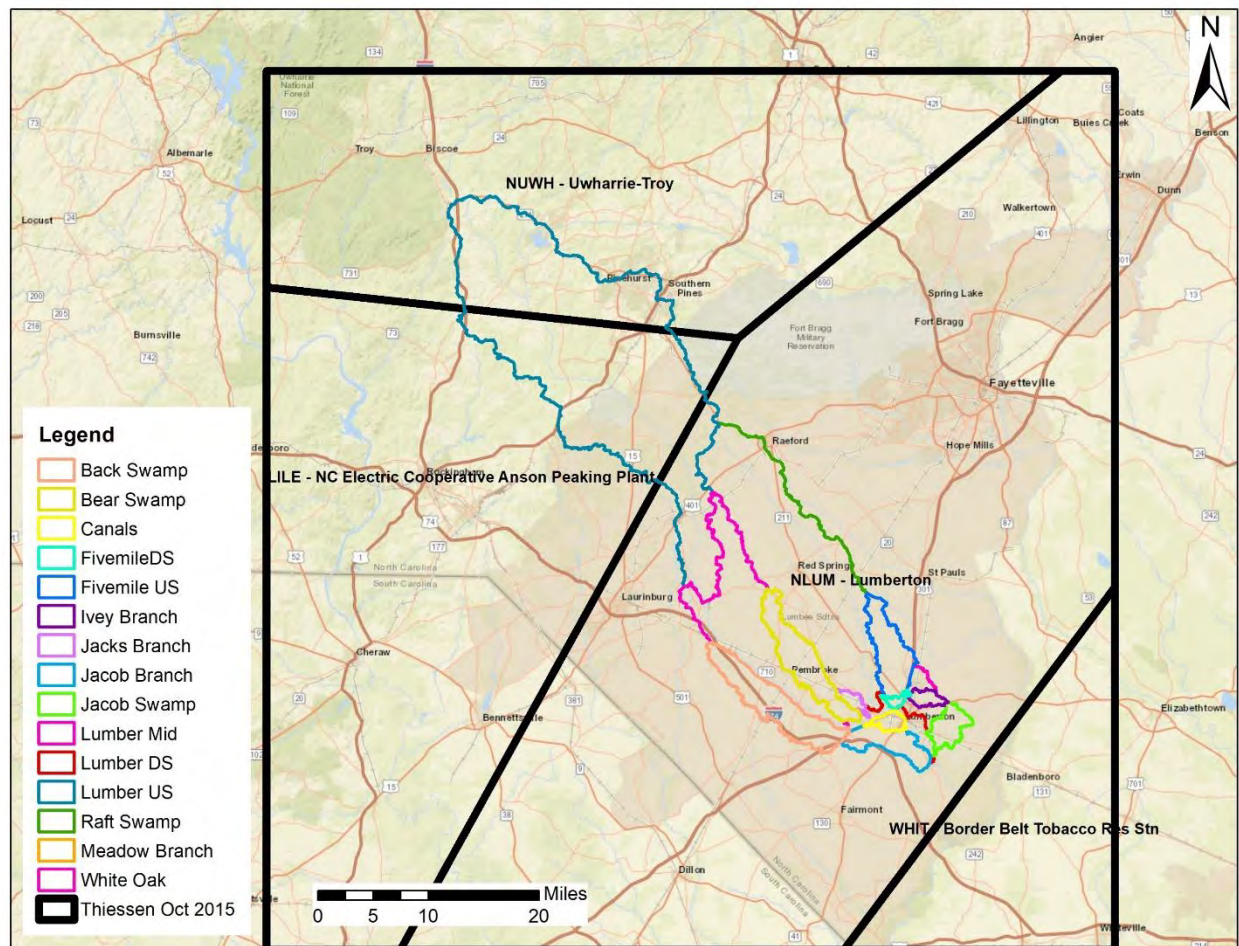
September 2004

Sub-basin	KFAY	KMEB	NRCK	WHIT
Back Swamp	0	1	0	0
Bear Swamp	0	1	0	0
Fivemile DS	0	0.13	0	0.87
Fivemile US	0.08	0.86	0	0.06
Internal Canals	0	0.03	0	0.97
Ivey Branch	0	0	0	1
Jacks Branch	0	1	0	0
Jacob Branch	0	0.14	0	0.86
Jacob Swamp	0	0	0	1
Lumber DS	0	0.32	0	0.68
Lumber Mid	0	1	0	0
Lumber US	0	0.24	0.76	0
Meadow Branch	0	0	0	1
Raft Swamp	0	1	0	0
White Oak	0.05	0	0	0.95



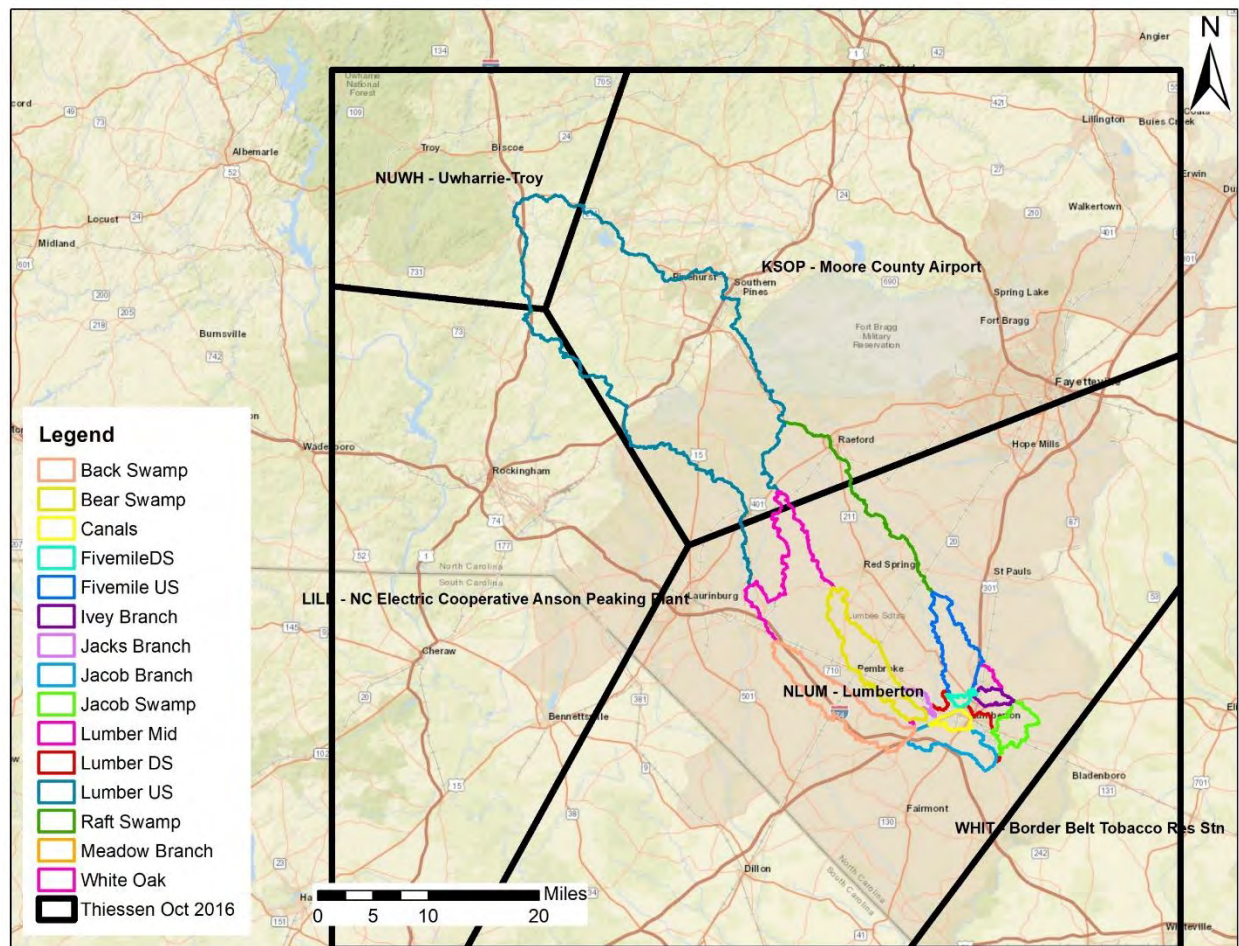
October 2015

Sub-basin	LILE	NLUM	NUWH
Back Swamp	0	1	0
Bear Swamp	0	1	0
Fivemile DS	0	1	0
Fivemile US	0	1	0
Internal Canals	0	1	0
Ivey Branch	0	1	0
Jacks Branch	0	1	0
Jacob Branch	0	1	0
Jacob Swamp	0	1	0
Lumber DS	0	1	0
Lumber Mid	0	1	0
Lumber US	0.5	0.14	0.36
Meadow Branch	0	1	0
Raft Swamp	0	1	0
White Oak	0	1	0



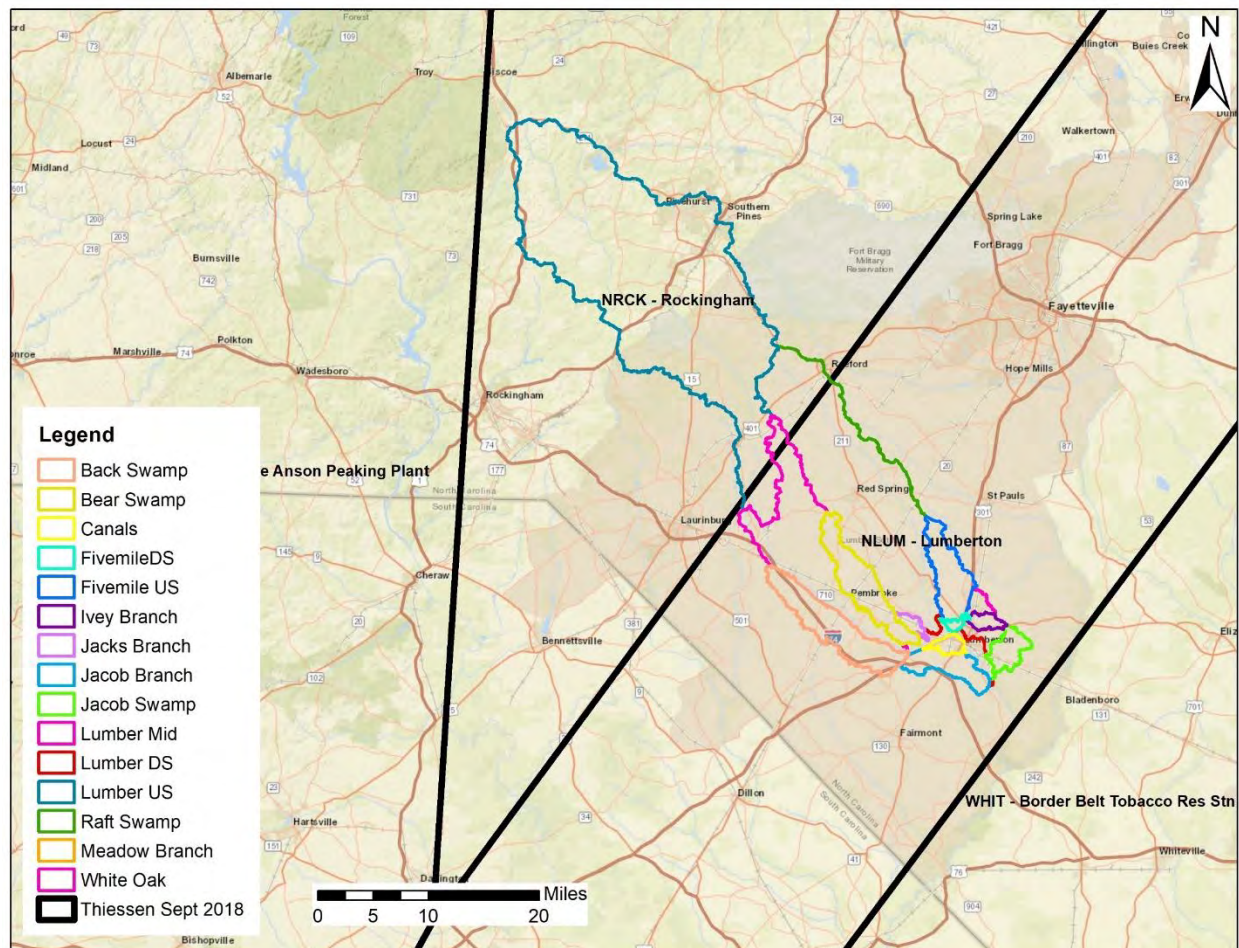
October 2016

Sub-basin	KSOP	LILE	NLUM	NUWH
Back Swamp	0	0	0	0
Bear Swamp	0	0	0	0
Fivemile DS	0	0	0	0
Fivemile US	0	0	0	0
Internal Canals	0	0	0	0
Ivey Branch	0	0	0	0
Jacks Branch	0	0	0	0
Jacob Branch	0	0	0	0
Jacob Swamp	0	0	0	0
Lumber DS	0	0	0	0
Lumber Mid	0.02	0	0.98	0
Lumber US	0.82	0.02	0.06	0.1
Meadow Branch	0	0	0	0
Raft Swamp	0.22	0	0.78	0
White Oak	0	0	0	0



September 2018

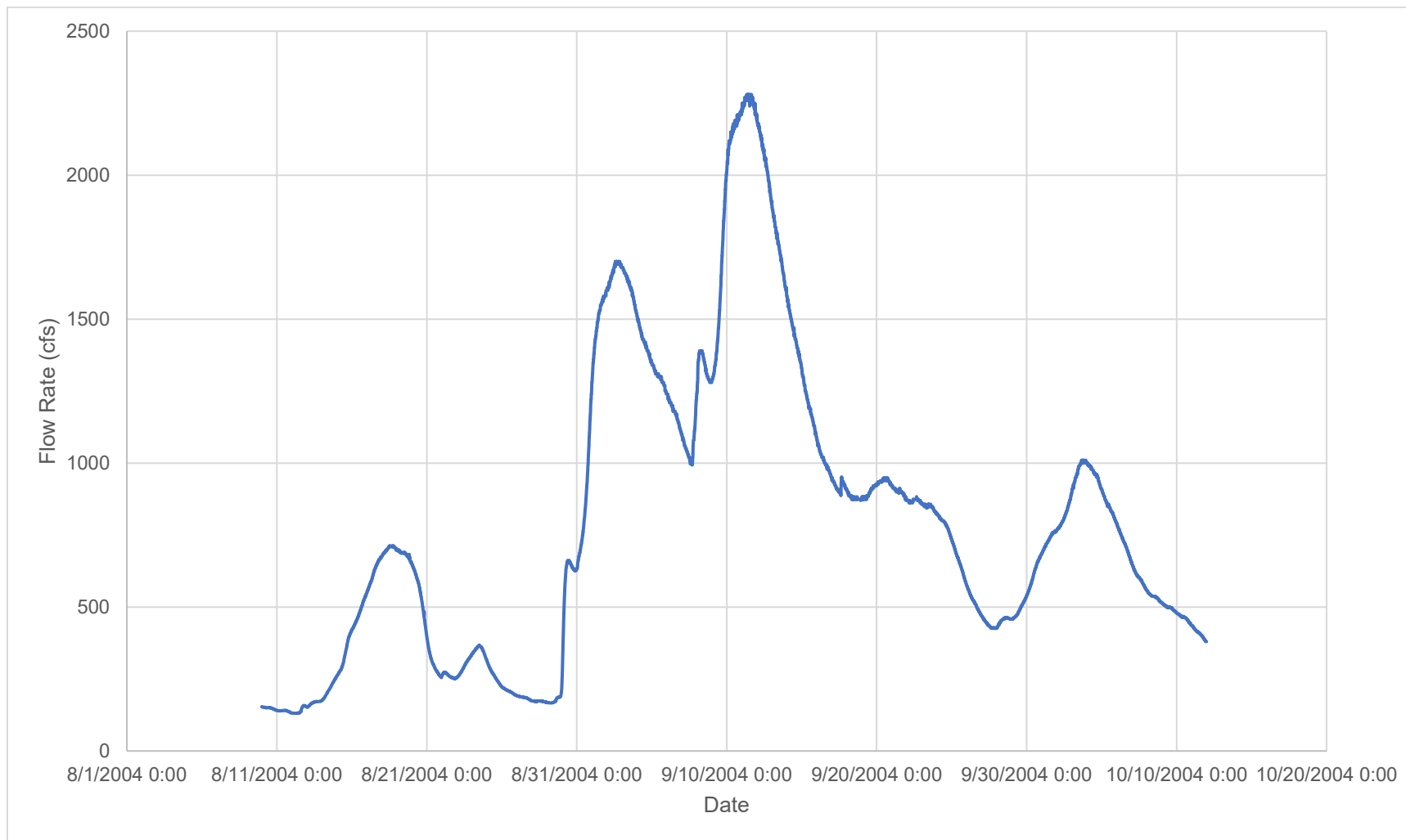
Sub-basin	NLUM	NRCK
Back Swamp	1	0
Bear Swamp	1	0
Fivemile DS	1	0
Fivemile US	1	0
Internal Canals	1	0
Ivey Branch	1	0
Jacks Branch	1	0
Jacob Branch	1	0
Jacob Swamp	1	0
Lumber DS	1	0
Lumber Mid	0.95	0.05
Lumber US	0.03	0.97
Meadow Branch	1	0
Raft Swamp	0.81	0.19
White Oak	1	0



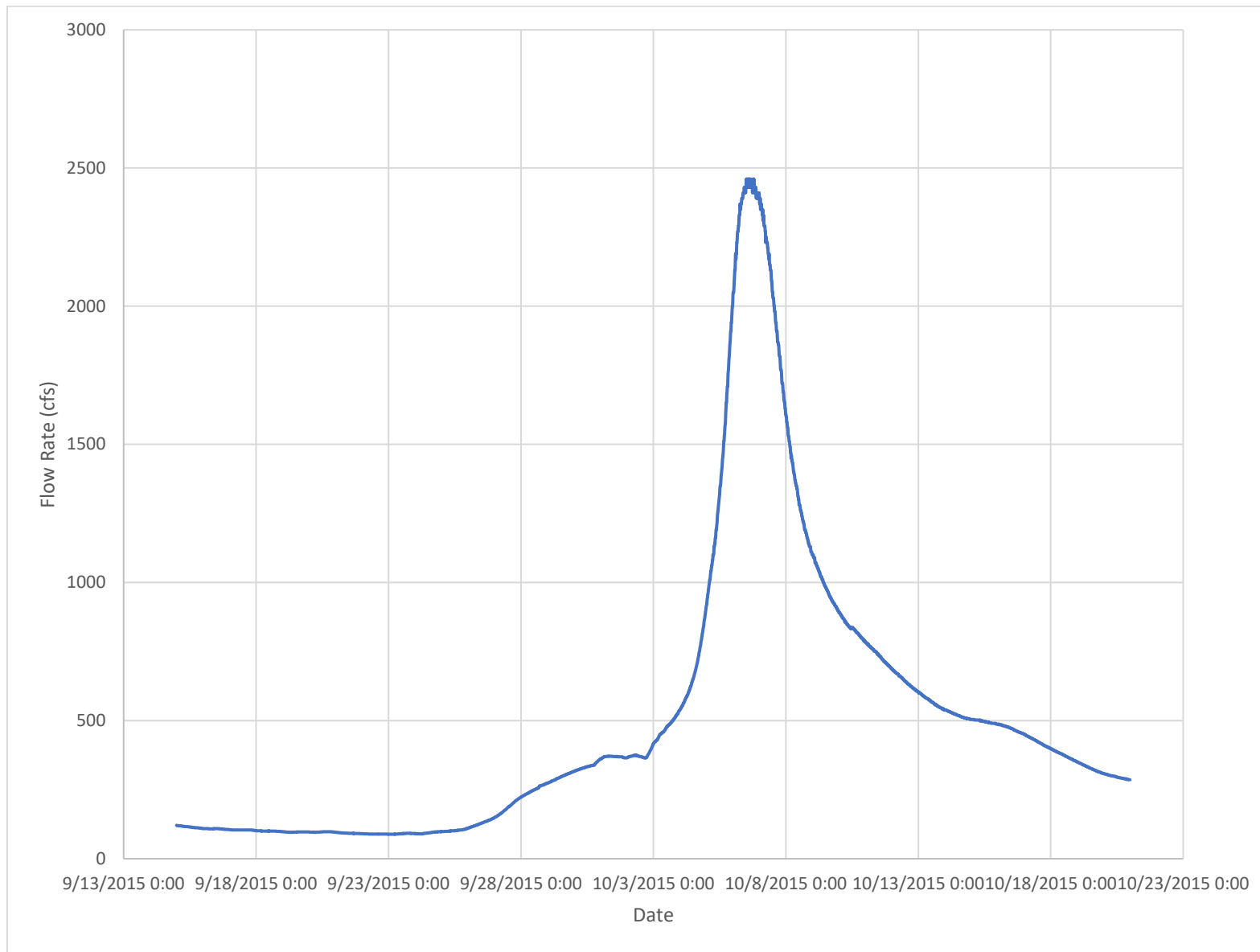
B2 Streamflow Data

USGS 02133624 Lumber River at Maxton, NC

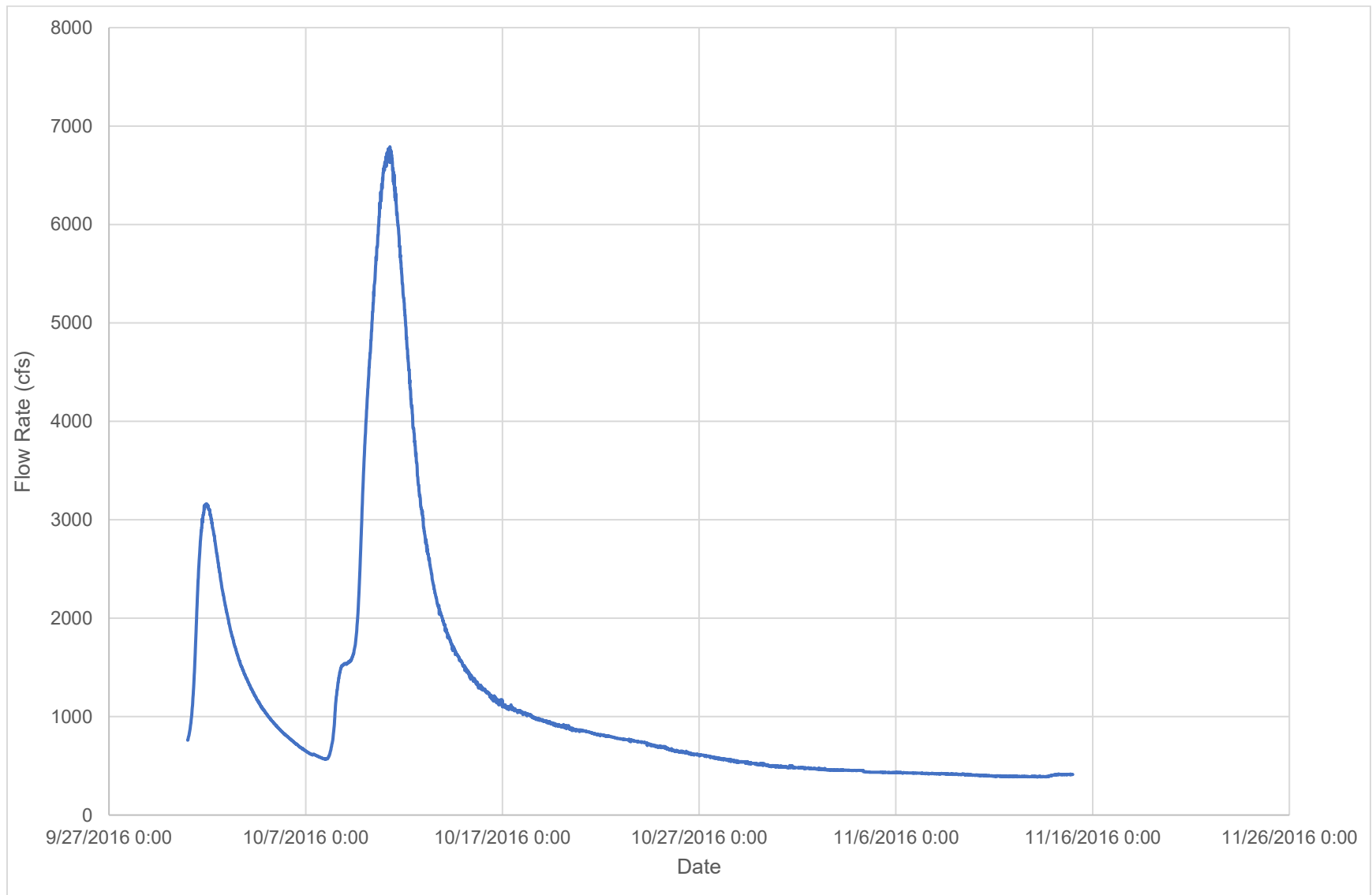
September 2004



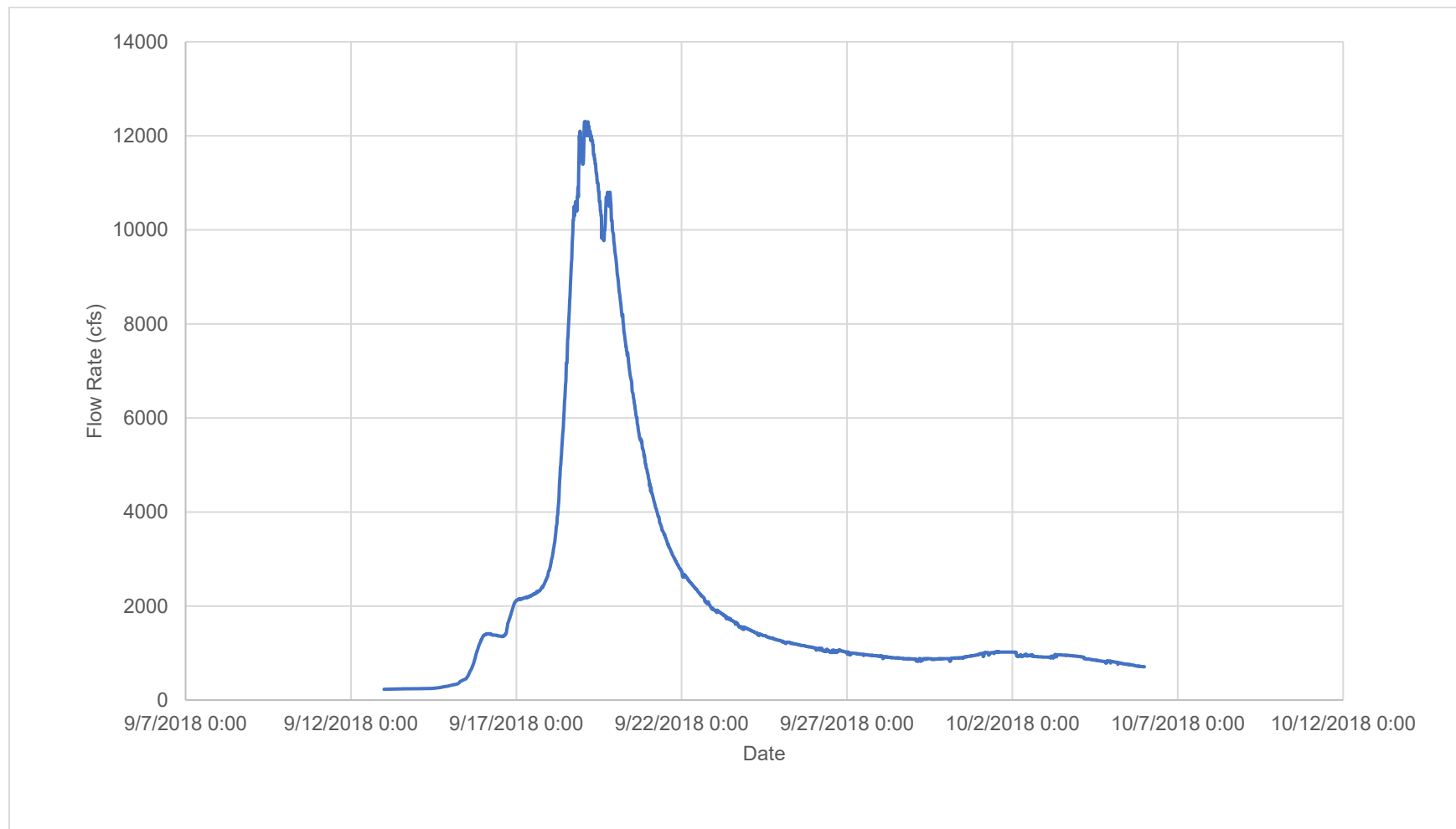
October 2015



October 2016

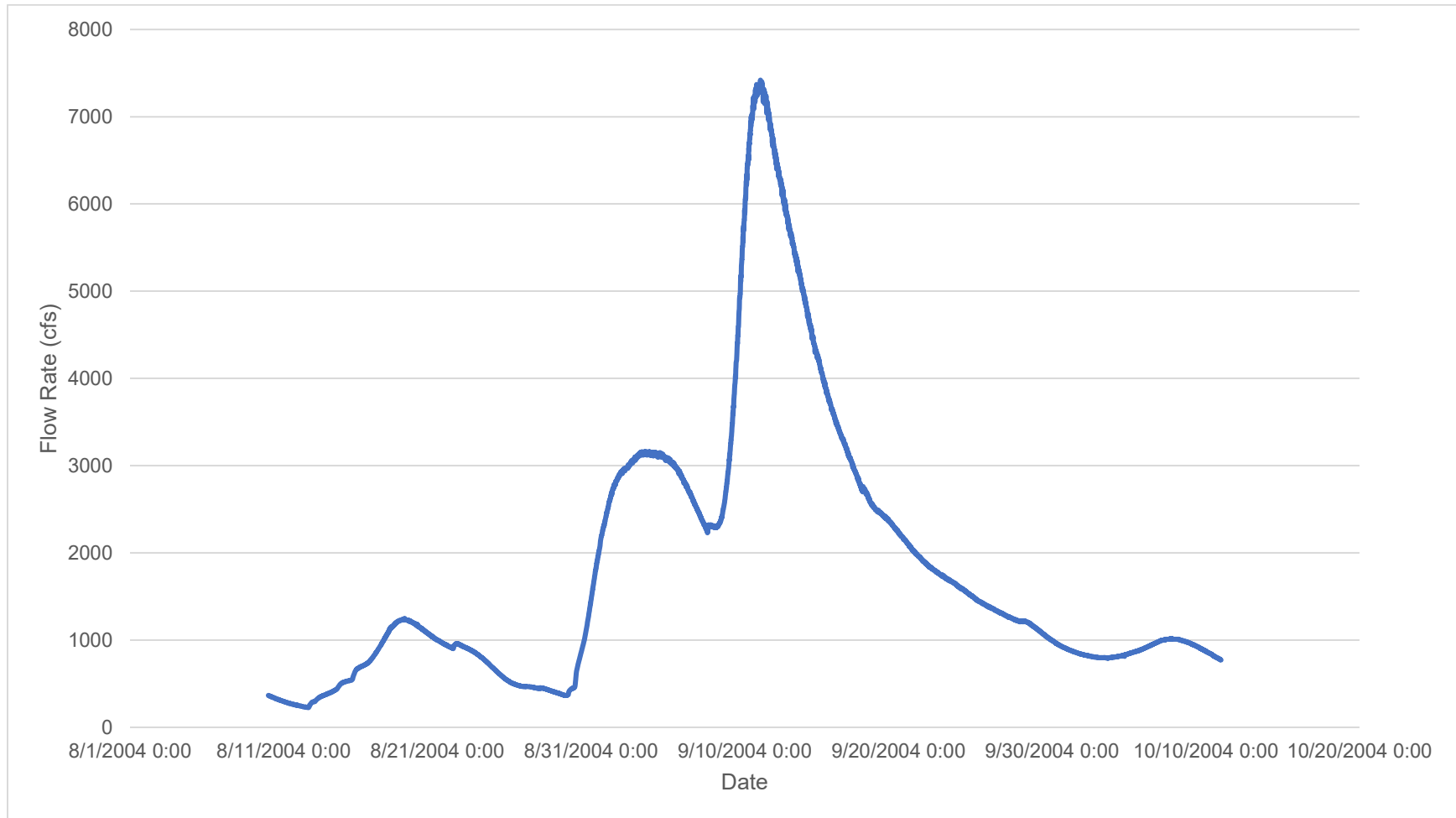


September 2018

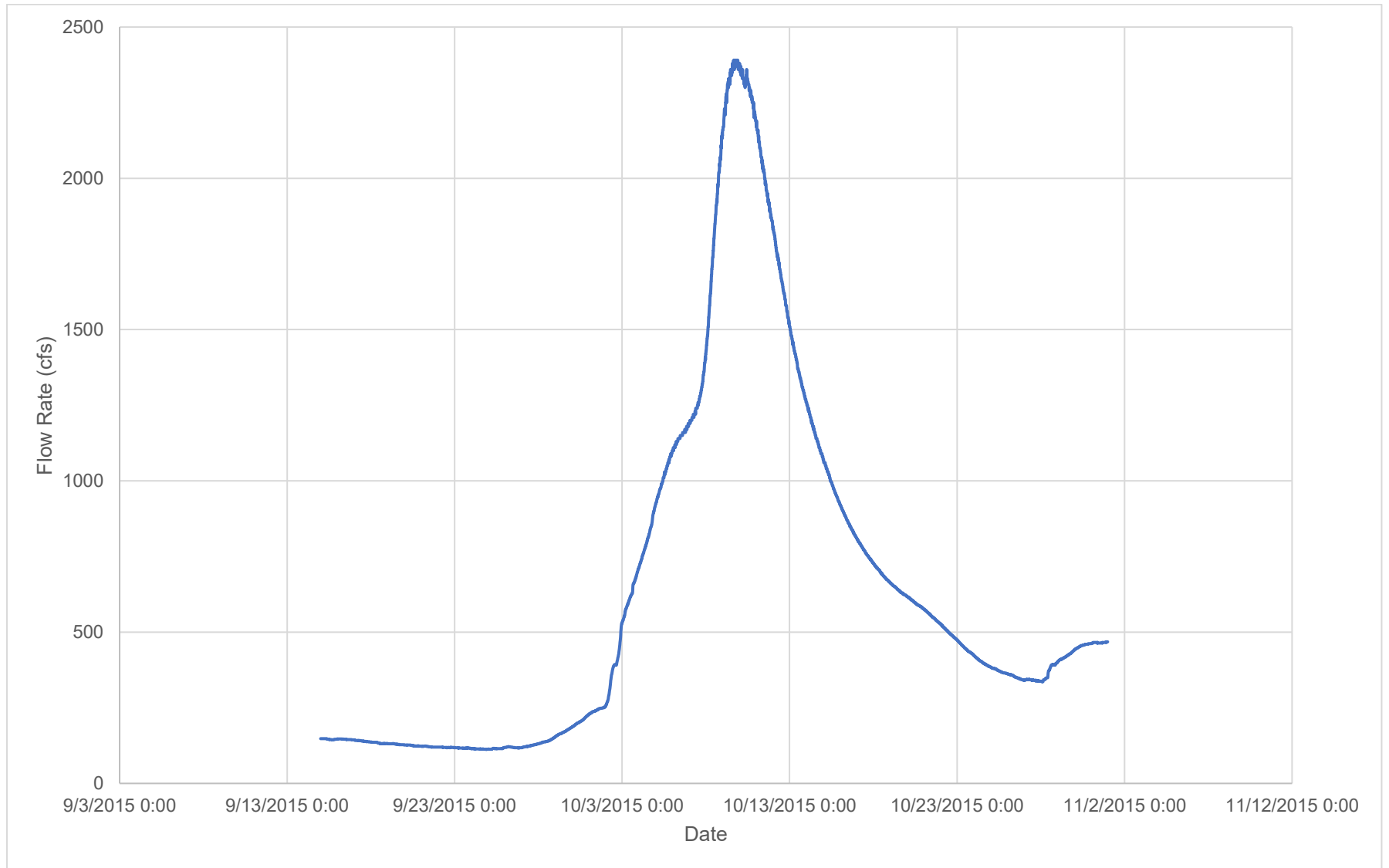


USGS 02134170 Lumber River at Lumberton, NC

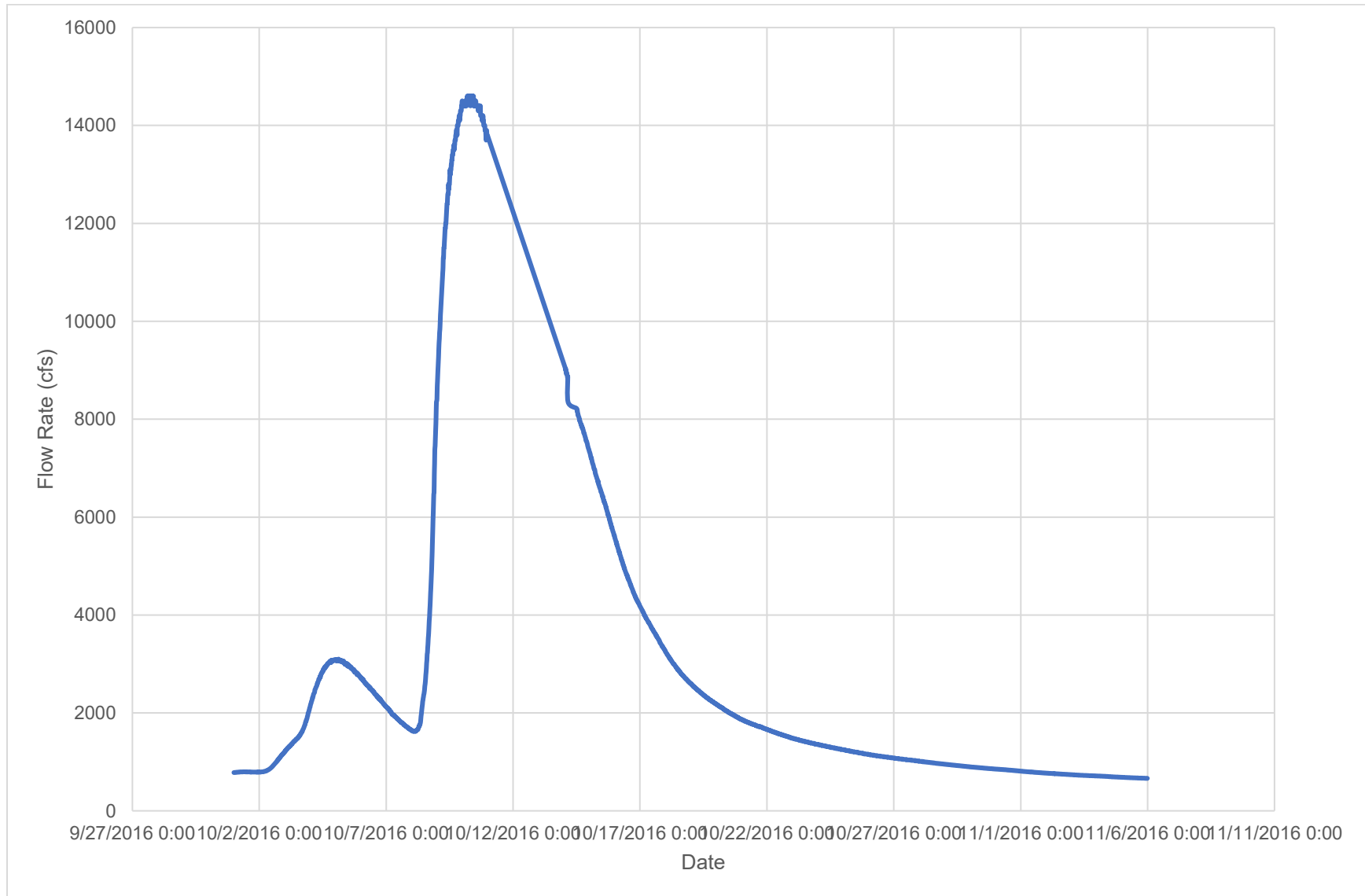
September 2004



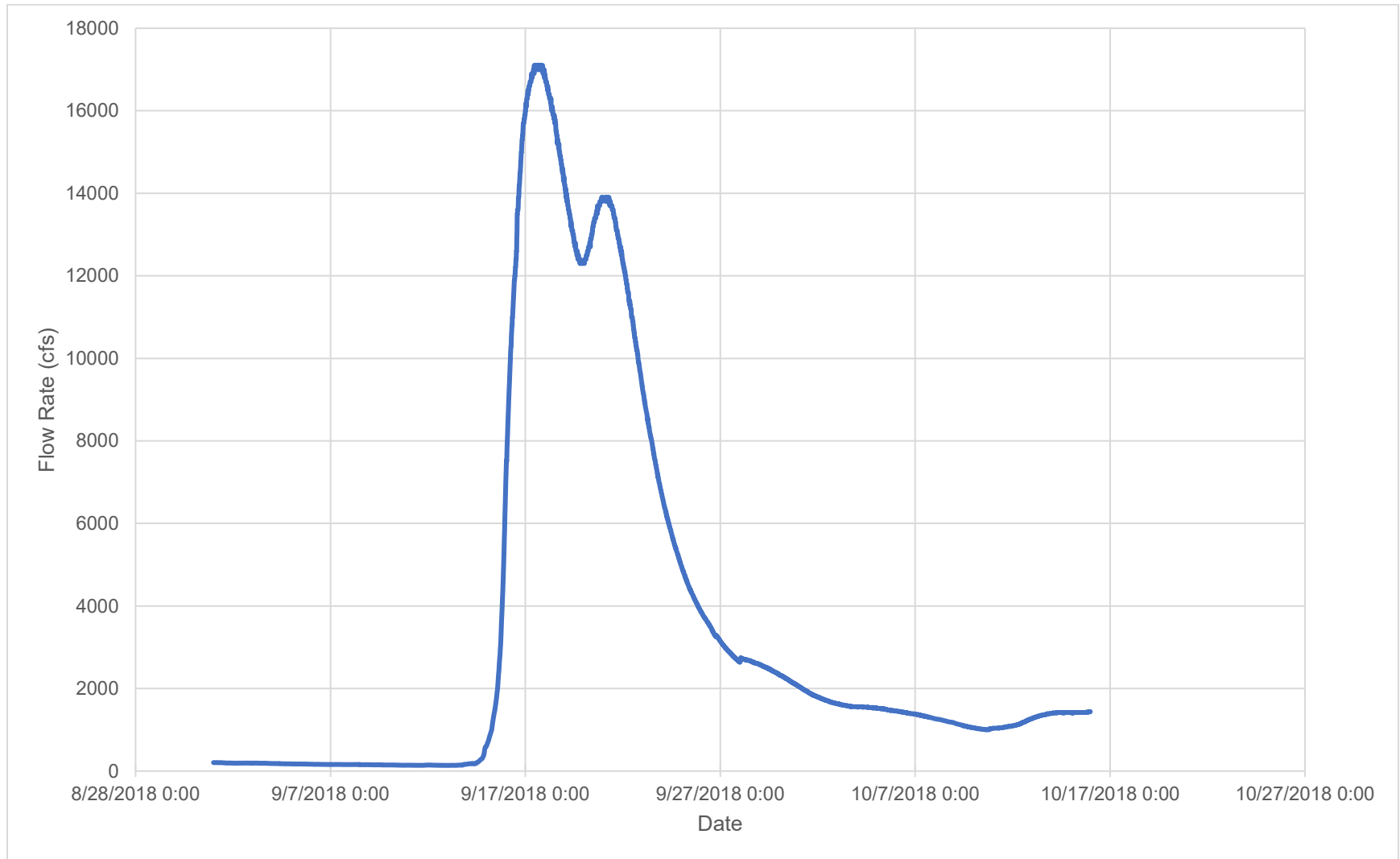
October 2015



October 2016



September 2018



B3 HEC-HMS Model Calibration and Verification Results

HEC-HMS Calibration

Junction 5

Storm	Approx. Return Period (Yrs)	Peak Flowrate (cfs)			Time Date and Time			Notes	Observed volume	Computed Volume	Volume Differential
		Observed	Simulated	% Difference	Observed	Simulated	Difference (hrs)				
Sep 2004		7420	7097.2	-4%	9/11/2004 2:00	9/11/2004 12:00	10		152897	149569	-2%
Oct 2015		2390	2421.1	1%	10/9/2015 15:45	10/9/2015 12:00	-3.75	10/9/2015 18:00	38912	27568	-29%
Sept 2018		17100	17257	1%	9/17/2018 11:00	9/17/2018 11:00	0	Hurricane Florence	230179	229185	-0.4%

Junction 11

Storm	Approx. Return Period (Yrs)	Peak Flowrate (cfs)			Time Date and Time			Notes
		Observed	Simulated	% Difference	Observed	Simulated	Difference (hrs)	
Sep 2004		2280	3438.8	51%	9/11/2004 8:00	9/11/2004 6:00	-2	
Oct 2015		2460	2329.6	-5%	10/6/2015 14:00	10/6/2015 11:00	-3	10/9/2015 18:00
Sept 2018		12300	8281	-33%	9/19/2018 4:00	9/19/2018 11:00	7	Hurricane Florence

Reach 9 Routing 0.0003 0.08 Reach 9 Routing 0.0003 0.08 Reach 9 Routing 0.001 0.03

	Sep-18				Oct-15				Sep-04				AVERAGE		
	Initial Loss	Constant Loss	Ct	Cp	Initial Loss	Constant Loss	Ct	Cp	Initial Loss	Constant Loss	Ct	Cp	Constant Loss	Ct	Cp
Back Swamp		0.15	7	0.4		0.15	7	0.4		0.12	7	0.4	0.14	7	0.40
Bear Swamp		0.15	7	0.4		0.15	7	0.4		0.12	7	0.4	0.14	7	0.40
Fivemile DS		0.05	6	0.4		0.05	7	0.4		0.05	7	0.4	0.05	7	0.40
Fivemile US		0.05	6	0.4		0.05	7	0.4		0.05	7	0.4	0.05	7	0.40
Internal Canals		0.05	6	0.4		0.05	7	0.4		0.05	7	0.4	0.05	7	0.40
Ivey Branch		0.05	6	0.4		0.05	7	0.4		0.05	7	0.4	0.05	7	0.40
Jacks Branch		0.05	6	0.4		0.05	7	0.4		0.05	7	0.4	0.05	7	0.40
Jacob Branch		0.05	6	0.4		0.05	7	0.4		0.05	7	0.4	0.05	7	0.40
Jacob Swamp		0.05	6	0.4		0.05	7	0.4		0.05	7	0.4	0.05	7	0.40
Lumber DS		0.05	6	0.4		0.05	7	0.4		0.05	7	0.4	0.05	7	0.40
Lumber Upper	5	0.14	6	0.8	3.3	0.14	8	0.8	4	0.14	8	0.6	0.14	7	0.73
Lumber Mid		0.15	8	0.4		0.15	8	0.4		0.12	8	0.4	0.14	8	0.40
Meadow Branch		0.05	6	0.4		0.05	7	0.4		0.05	7	0.4	0.05	7	0.40
Raft Swamp		0.18	8	0.4		0.18	8	0.4		0.2	8	0.4	0.19	8	0.40
White Oak		0.05	6	0.4		0.05	7	0.4		0.05	7	0.4	0.05	7	0.40

HEC-HMS Design Storm Comparison

	SCS-24HR	SCS-48HR	SCS-72HR			SCS 24HR		SCS-48HR		SCS-72HR	
Recurrence Interval (Yrs)	Simulated Peak Flow (cfs)			FEMA Peakflows(cfs)	Gage Statistics (cfs)	% Diff_FEMA	% Diff_Gage	% Diff_FEMA	% Diff_Gage	% Diff_FEMA	% Diff_Gage
10	5,334	5,506	5,520	8,150	7,255	-53%	-36%	-48%	-32%	-48%	-31%
25	6,991	7,191	7,204	10,700	9,852	-53%	-41%	-49%	-37%	-49%	-37%
50	8,451	9,683	10,569	12,800	12,080	-51%	-43%	-32%	-25%	-21%	-14%
100	10,103	13,141	13,993	14,900	14,560	-47%	-44%	-13%	-11%	-6%	-4%
500	18,720	22,105	23,025	20,200	21,520	-8%	-15%	9%	3%	12%	7%
1000	22,920	26,991	27,634								

NOAA Partial - 48HR

Recurrence Interval (Yrs)	Simulated Peak Flow (cfs)	FEMA Peakflows(cfs)	Gage Statistics (cfs)	% Diff_FEMA	% Diff_Gage
10	5,661	8,150	7,255	-44%	-28%
25	7,030	10,700	9,852	-52%	-40%
50	8,487	12,800	12,080	-51%	-42%
100	10,665	14,900	14,560	-40%	-37%
500	19,333	20,200	21,520	-4%	-11%
1000	23,977				

HEC-HMS Verification

Storm	Approx. Return Period (Yrs)	Peak Flowrate (cfs)			Time Date and Time			Notes	Observed volume	Computed Volume	Volume Differential
		Observed	Simulated	% Difference	Observed	Simulated	Difference (hrs)				
Oct 2016		14600	16551.3	13%	10/10/16 7:00	10/10/16 10:00	3	Hurricane Matthew	223956	197598	-12%

Sub-basin Snyder Characteristics

Subbasin	L (mi)	Lc (mi)
Back Swamp	17.61	8.39
Bear Swamp	17.94	8.66
Fivemile DS	2.48	0.98
Fivemile US	12.49	4.67
Internal Canals	5.31	1.85
Ivey Branch	4.17	1.69
Jacks Branch	8.21	4.85
Jacob Branch	10.5	4.59
Jacob Swamp	7.32	3.33
Lumber DS	18.84	9.34
Lumber US	101.36	68.64
Meadow Branch	5.21	2.57
Raft Swamp	35.77	18.55
White Oak	3.87	1.69

B4 Curve Number Calculations

Sub-basin Curve Number

Sub-basin	Basin Area (sq. mi)	Good Conditions Composite CN
Back Swamp	35.09	85.7
Bear Swamp	28.39	83.1
Fivemile DS	1.71	82.8
Fivemile US	22.14	81.7
Lumberton Canals	3.88	83.2
Ivey Branch	3.76	79.4
Jacks Branch	3	82.2
Jacob Branch	15.28	85.2
Jacob Swamp	9.61	79.9
Lumber DS	10.15	84.3
Lumber Mid	73.54	82.9
Lumber US	365.27	62.1
Meadow Branch	4.94	78
Raft Swamp	167.02	78.9
White Oak	3.73	79.6

Back Swamp

Existing Landuse Conditions													
LUCODE	Land Use Descriptions	CN for Soil Type A			CN for Soil Type B			CN for Soil Type C			CN for Soil Type D		
		Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN
11	Open Water	58.5	2.5	100	16.3	0.9	100	89.0	1.7	100	284.7	2.2	100
21	Developed, Open Space	269.1	11.4	49	167.6	9.4	69	441.5	8.2	79	742.4	5.7	84
22	Developed, Low Intensity	133.1	5.6	54	103.0	5.8	70	242.6	4.5	80	376.9	2.9	85
23	Developed, Medium Intensity	38.9	1.6	61	31.2	1.7	75	71.1	1.3	83	90.5	0.7	87
24	Developed, High Intensity	3.4	0.1	77	0.2	0.0	85	7.2	0.1	90	12.0	0.1	92
31	Barren Land	1.7	0.1	77	1.0	0.1	86	1.1	0.0	91	1.3	0.0	94
41	Deciduous Forest	60.3	2.5	36	11.5	0.6	60	205.3	3.8	73	334.7	2.6	79
42	Evergreen Forest	150.5	6.4	36	99.7	5.6	60	766.1	14.3	73	1589.9	12.3	79
43	Mixed Forest	13.4	0.6	36	3.9	0.2	60	39.3	0.7	73	98.7	0.8	79
52	Shrub/Scrub	54.9	2.3	35	19.4	1.1	56	194.5	3.6	70	331.9	2.6	77
71	Grassland/Herbaceous	5.5	0.2	30	7.0	0.4	58	19.3	0.4	71	40.4	0.3	78
81	Pasture/Hay	4.2	0.2	39	0.0	0.0	61	4.7	0.1	74	3.1	0.0	80
82	Cultivated Crops	1230.2	52.0	67	1193.8	66.7	78	2323.4	43.3	85	4176.3	32.3	89
90	Woody Wetlands	341.3	14.4	100	132.4	7.4	100	946.4	17.6	100	4789.2	37.0	100
95	Emergent Herbaceous Wetlands	1.1	0.0	100	2.6	0.1	100	16.0	0.3	100	63.9	0.5	100
Total		2365.9	100.0	65.9	1789.6	100.0	77.0	5367.6	100.0	84.3	12936.0	100.0	91.0
Weighted Average CN =		85.7											

Bear Swamp

Existing Landuse Conditions													
LUCODE	Land Use Descriptions	CN for Soil Type A			CN for Soil Type B			CN for Soil Type C			CN for Soil Type D		
		Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN
11	Open Water	7.9	0.2	100	0.0	0.0	100	0.0	0.0	100	55.1	0.5	100
21	Developed, Open Space	364.5	8.4	49	288.3	10.4	69	7.5	9.1	79	822.1	7.5	84
22	Developed, Low Intensity	130.1	3.0	54	135.8	4.9	70	2.6	3.2	80	348.8	3.2	85
23	Developed, Medium Intensity	34.1	0.8	61	31.5	1.1	75	0.2	0.3	83	145.5	1.3	87
24	Developed, High Intensity	8.0	0.2	77	18.9	0.7	85	0.0	0.0	90	33.8	0.3	92
31	Barren Land	0.0	0.0	77	0.0	0.0	86	0.0	0.0	91	0.0	0.0	94
41	Deciduous Forest	29.0	0.7	36	8.5	0.3	60	1.4	1.7	73	62.0	0.6	79
42	Evergreen Forest	151.9	3.5	36	183.8	6.6	60	5.1	6.2	73	881.4	8.1	79
43	Mixed Forest	6.1	0.1	36	8.3	0.3	60	1.0	1.2	73	28.9	0.3	79
52	Shrub/Scrub	36.1	0.8	35	45.4	1.6	56	2.4	2.9	70	146.3	1.3	77
71	Grassland/Herbaceous	5.2	0.1	30	6.8	0.2	58	0.0	0.0	71	23.8	0.2	78
81	Pasture/Hay	0.0	0.0	39	0.0	0.0	61	0.0	0.0	74	0.2	0.0	80
82	Cultivated Crops	3052.5	70.1	67	1846.5	66.5	78	53.7	65.5	85	4830.1	44.2	89
90	Woody Wetlands	525.6	12.1	100	200.7	7.2	100	7.2	8.7	100	3528.8	32.3	100
95	Emergent Herbaceous Wetlands	3.4	0.1	100	0.2	0.0	100	0.9	1.1	100	29.4	0.3	100
Total		4354.4	100.0	67.5	2774.8	100.0	76.6	82.0	100.0	84.2	10936.2	100.0	91.0
Weighted Average CN =		83.1											

Lumberton Canals

Existing Landuse Conditions													
LUCODE	Land Use Descriptions	CN for Soil Type A			CN for Soil Type B			CN for Soil Type C			CN for Soil Type D		
		Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN
11	Open Water	2.1	1.2	100	1.0	1.3	100	15.1	1.4	100	85.0	7.3	100
21	Developed, Open Space	27.1	16.1	49	13.3	17.0	69	220.3	20.6	79	233.6	20.0	84
22	Developed, Low Intensity	32.4	19.2	54	12.6	16.2	70	258.0	24.2	80	151.2	13.0	85
23	Developed, Medium Intensity	19.1	11.4	61	14.7	18.8	75	174.4	16.3	83	57.3	4.9	87
24	Developed, High Intensity	7.3	4.4	77	8.0	10.3	85	81.7	7.7	90	13.5	1.2	92
31	Barren Land	0.0	0.0	77	0.0	0.0	86	0.0	0.0	91	0.0	0.0	94
41	Deciduous Forest	1.1	0.7	36	0.0	0.0	60	1.7	0.2	73	8.4	0.7	79
42	Evergreen Forest	30.7	18.2	36	0.1	0.1	60	86.6	8.1	73	123.9	10.6	79
43	Mixed Forest	0.0	0.0	36	0.0	0.0	60	0.0	0.0	73	0.7	0.1	79
52	Shrub/Scrub	15.2	9.0	35	0.0	0.0	56	8.5	0.8	70	24.5	2.1	77
71	Grassland/Herbaceous	0.0	0.0	30	0.0	0.0	58	0.5	0.0	71	7.6	0.6	78
81	Pasture/Hay	4.4	2.6	39	0.0	0.0	61	0.0	0.0	74	0.5	0.0	80
82	Cultivated Crops	19.1	11.4	67	28.2	36.0	78	197.3	18.5	85	234.9	20.1	89
90	Woody Wetlands	9.9	5.9	100	0.3	0.3	100	23.4	2.2	100	224.8	19.3	100
95	Emergent Herbaceous Wetlands	0.0	0.0	100	0.0	0.0	100	0.1	0.0	100	1.0	0.1	100
Total		168.5	100.0	54.2	78.2	100.0	75.7	1067.6	100.0	82.0	1166.9	100.0	88.9
Weighted Average CN = 83.2													

Fivemile DS

Existing Landuse Conditions													
LUCODE	Land Use Descriptions	CN for Soil Type A			CN for Soil Type B			CN for Soil Type C			CN for Soil Type D		
		Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN
11	Open Water	0.7	0.2	100	0.0	0.0	100	0.0	0.0	100	18.1	3.0	100
21	Developed, Open Space	36.1	9.8	49	11.1	16.9	69	6.2	10.2	79	47.0	7.9	84
22	Developed, Low Intensity	23.0	6.2	54	5.0	7.6	70	4.9	8.0	80	23.7	4.0	85
23	Developed, Medium Intensity	11.6	3.1	61	9.7	14.8	75	24.6	40.3	83	23.2	3.9	87
24	Developed, High Intensity	3.5	0.9	77	3.4	5.1	85	8.0	13.1	90	6.7	1.1	92
31	Barren Land	0.0	0.0	77	0.0	0.0	86	0.0	0.0	91	0.0	0.0	94
41	Deciduous Forest	0.0	0.0	36	1.1	1.7	60	0.0	0.0	73	3.9	0.7	79
42	Evergreen Forest	19.9	5.4	36	9.7	14.8	60	6.8	11.2	73	33.2	5.6	79
43	Mixed Forest	0.1	0.0	36	0.0	0.0	60	0.3	0.5	73	5.9	1.0	79
52	Shrub/Scrub	3.8	1.0	35	0.1	0.1	56	0.7	1.1	70	9.8	1.6	77
71	Grassland/Herbaceous	0.0	0.0	30	0.0	0.0	58	0.0	0.0	71	0.0	0.0	78
81	Pasture/Hay	0.0	0.0	39	0.0	0.0	61	0.0	0.0	74	0.0	0.0	80
82	Cultivated Crops	227.8	61.8	67	12.7	19.3	78	5.6	9.2	85	109.0	18.2	89
90	Woody Wetlands	41.1	11.1	100	12.9	19.7	100	3.9	6.4	100	311.7	52.1	100
95	Emergent Herbaceous Wetlands	1.3	0.4	100	0.0	0.0	100	0.0	0.0	100	5.6	0.9	100
Total		368.9	100.0	66.2	65.7	100.0	77.1	61.0	100.0	83.2	597.8	100.0	93.7
Weighted Average CN = 82.8													

Fivemile US

Existing Landuse Conditions													
LUCODE	Land Use Descriptions	CN for Soil Type A			CN for Soil Type B			CN for Soil Type C			CN for Soil Type D		
		Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN
11	Open Water	8.4	0.2	100	0.0	0.0	100	0.0	0.0	100	32.4	0.4	100
21	Developed, Open Space	446.2	11.3	49	116.7	6.1	69	30.3	16.5	79	362.0	4.5	84
22	Developed, Low Intensity	215.3	5.4	54	46.0	2.4	70	20.0	10.9	80	147.3	1.8	85
23	Developed, Medium Intensity	64.0	1.6	61	16.6	0.9	75	18.7	10.2	83	52.4	0.6	87
24	Developed, High Intensity	21.7	0.5	77	6.2	0.3	85	1.0	0.5	90	6.2	0.1	92
31	Barren Land	0.4	0.0	77	0.0	0.0	86	0.0	0.0	91	0.0	0.0	94
41	Deciduous Forest	26.7	0.7	36	17.2	0.9	60	1.3	0.7	73	92.8	1.1	79
42	Evergreen Forest	279.7	7.1	36	300.8	15.8	60	12.3	6.7	73	1223.9	15.1	79
43	Mixed Forest	4.2	0.1	36	4.3	0.2	60	0.0	0.0	73	24.9	0.3	79
52	Shrub/Scrub	68.9	1.7	35	27.2	1.4	56	4.0	2.2	70	162.9	2.0	77
71	Grassland/Herbaceous	11.8	0.3	30	39.7	2.1	58	2.6	1.4	71	30.0	0.4	78
81	Pasture/Hay	8.4	0.2	39	0.0	0.0	61	0.0	0.0	74	6.7	0.1	80
82	Cultivated Crops	2393.1	60.5	67	1091.3	57.4	78	57.6	31.4	85	2662.2	32.9	89
90	Woody Wetlands	403.8	10.2	100	227.6	12.0	100	35.0	19.0	100	3230.7	39.9	100
95	Emergent Herbaceous Wetlands	3.7	0.1	100	7.2	0.4	100	1.0	0.6	100	64.5	0.8	100
Total		3956.3	100.0	64.5	1900.8	100.0	76.2	183.9	100.0	84.8	8098.9	100.0	91.3
Weighted Average CN =		81.7											

Ivey Branch

Existing Landuse Conditions													
LUCODE	Land Use Descriptions	CN for Soil Type A			CN for Soil Type B			CN for Soil Type C			CN for Soil Type D		
		Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN
11	Open Water	0.0	0.0	100	0.0	0.0	100	0.0	0.0	100	5.7	0.4	100
21	Developed, Open Space	52.2	11.8	49	56.4	11.8	69	27.7	26.5	79	176.6	12.7	84
22	Developed, Low Intensity	76.3	17.3	54	36.9	7.8	70	32.4	31.0	80	131.8	9.5	85
23	Developed, Medium Intensity	56.5	12.8	61	14.3	3.0	75	13.5	12.9	83	75.9	5.5	87
24	Developed, High Intensity	16.8	3.8	77	5.8	1.2	85	2.9	2.8	90	20.7	1.5	92
31	Barren Land	0.0	0.0	77	0.0	0.0	86	0.0	0.0	91	0.0	0.0	94
41	Deciduous Forest	2.6	0.6	36	2.8	0.6	60	0.0	0.0	73	22.7	1.6	79
42	Evergreen Forest	29.2	6.6	36	46.9	9.9	60	1.4	1.4	73	235.1	17.0	79
43	Mixed Forest	0.0	0.0	36	0.7	0.1	60	0.0	0.0	73	1.9	0.1	79
52	Shrub/Scrub	1.1	0.2	35	8.3	1.7	56	0.9	0.9	70	18.4	1.3	77
71	Grassland/Herbaceous	0.0	0.0	30	0.1	0.0	58	0.0	0.0	71	0.1	0.0	78
81	Pasture/Hay	0.0	0.0	39	0.0	0.0	61	0.0	0.0	74	0.0	0.0	80
82	Cultivated Crops	199.3	45.2	67	289.6	60.8	78	25.4	24.3	85	582.7	42.0	89
90	Woody Wetlands	7.4	1.7	100	14.0	2.9	100	0.3	0.3	100	114.6	8.3	100
95	Emergent Herbaceous Wetlands	0.0	0.0	100	0.0	0.0	100	0.0	0.0	100	0.0	0.0	100
Total		441.2	100.0	60.5	476.0	100.0	74.7	104.6	100.0	81.5	1386.2	100.0	86.8
Weighted Average CN = 79.4													

Jacks Branch

Existing Landuse Conditions													
LUCODE	Land Use Descriptions	CN for Soil Type A			CN for Soil Type B			CN for Soil Type C			CN for Soil Type D		
		Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN
11	Open Water	0.0	0.0	100	0.0	0.0	100	0.0	0.0	100	3.4	0.3	100
21	Developed, Open Space	52.7	18.5	49	40.0	6.8	69	1.2	3.5	79	46.3	4.6	84
22	Developed, Low Intensity	13.6	4.8	54	13.3	2.2	70	1.4	4.2	80	11.7	1.2	85
23	Developed, Medium Intensity	6.1	2.1	61	3.2	0.5	75	0.7	2.0	83	1.4	0.1	87
24	Developed, High Intensity	1.3	0.5	77	4.2	0.7	85	0.1	0.3	90	0.0	0.0	92
31	Barren Land	0.0	0.0	77	0.0	0.0	86	0.0	0.0	91	0.0	0.0	94
41	Deciduous Forest	0.0	0.0	36	0.3	0.0	60	0.0	0.0	73	4.9	0.5	79
42	Evergreen Forest	19.2	6.7	36	111.2	18.8	60	10.6	31.2	73	227.1	22.5	79
43	Mixed Forest	0.1	0.0	36	0.4	0.1	60	0.0	0.0	73	6.7	0.7	79
52	Shrub/Scrub	0.2	0.1	35	17.9	3.0	56	0.0	0.0	70	29.6	2.9	77
71	Grassland/Herbaceous	0.6	0.2	30	8.3	1.4	58	0.0	0.0	71	2.8	0.3	78
81	Pasture/Hay	0.0	0.0	39	0.0	0.0	61	0.0	0.0	74	0.0	0.0	80
82	Cultivated Crops	154.9	54.3	67	279.0	47.2	78	15.5	45.6	85	307.2	30.4	89
90	Woody Wetlands	35.0	12.3	100	111.2	18.8	100	4.4	12.8	100	369.0	36.5	100
95	Emergent Herbaceous Wetlands	1.3	0.5	100	2.1	0.3	100	0.1	0.4	100	0.9	0.1	100
Total		285.0	100.0	65.0	590.9	100.0	77.1	34.1	100.0	82.8	1011.1	100.0	90.0
Weighted Average CN = 82.2													

Jacob Branch

Existing Landuse Conditions													
LUCODE	Land Use Descriptions	CN for Soil Type A			CN for Soil Type B			CN for Soil Type C			CN for Soil Type D		
		Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN
11	Open Water	41.0	2.3	100	18.1	2.8	100	101.1	5.1	100	273.4	5.1	100
21	Developed, Open Space	167.3	9.3	49	45.0	7.0	69	188.9	9.5	79	381.1	7.1	84
22	Developed, Low Intensity	111.5	6.2	54	29.8	4.7	70	150.7	7.6	80	160.9	3.0	85
23	Developed, Medium Intensity	54.1	3.0	61	21.6	3.4	75	81.2	4.1	83	60.5	1.1	87
24	Developed, High Intensity	11.1	0.6	77	2.3	0.4	85	20.3	1.0	90	16.4	0.3	92
31	Barren Land	0.5	0.0	77	0.0	0.0	86	0.0	0.0	91	1.0	0.0	94
41	Deciduous Forest	3.2	0.2	36	6.2	1.0	60	41.5	2.1	73	46.3	0.9	79
42	Evergreen Forest	97.9	5.4	36	71.5	11.2	60	271.3	13.6	73	526.0	9.9	79
43	Mixed Forest	3.8	0.2	36	1.7	0.3	60	6.7	0.3	73	9.1	0.2	79
52	Shrub/Scrub	33.0	1.8	35	6.6	1.0	56	42.3	2.1	70	108.3	2.0	77
71	Grassland/Herbaceous	43.3	2.4	30	9.5	1.5	58	21.4	1.1	71	47.1	0.9	78
81	Pasture/Hay	0.4	0.0	39	0.1	0.0	61	2.9	0.1	74	3.1	0.1	80
82	Cultivated Crops	984.2	54.5	67	315.3	49.3	78	795.7	39.9	85	1308.4	24.5	89
90	Woody Wetlands	195.9	10.8	100	111.2	17.4	100	211.8	10.6	100	2177.3	40.8	100
95	Emergent Herbaceous Wetlands	58.1	3.2	100	0.4	0.1	100	60.6	3.0	100	220.3	4.1	100
Total		1805.2	100.0	66.5	639.4	100.0	78.6	1996.4	100.0	84.4	5339.2	100.0	92.6
Weighted Average CN =		85.2											

Jacob Swamp

Existing Landuse Conditions													
LUCODE	Land Use Descriptions	CN for Soil Type A			CN for Soil Type B			CN for Soil Type C			CN for Soil Type D		
		Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN
11	Open Water	0.8	0.0	100	3.5	0.4	100	0.0	0.1	100	65.0	2.1	100
21	Developed, Open Space	219.1	10.5	49	58.0	7.2	69	0.3	0.5	79	159.2	5.0	84
22	Developed, Low Intensity	99.3	4.7	54	35.9	4.5	70	0.2	0.3	80	61.2	1.9	85
23	Developed, Medium Intensity	11.1	0.5	61	6.1	0.8	75	0.0	0.0	83	12.5	0.4	87
24	Developed, High Intensity	2.5	0.1	77	0.7	0.1	85	0.0	0.0	90	4.1	0.1	92
31	Barren Land	0.0	0.0	77	0.0	0.0	86	0.0	0.0	91	0.2	0.01	94
41	Deciduous Forest	13.8	0.7	36	4.9	0.6	60	0.4	0.8	73	31.3	1.0	79
42	Evergreen Forest	158.7	7.6	36	113.5	14.1	60	22.6	44.6	73	506.9	16.0	79
43	Mixed Forest	5.0	0.2	36	1.2	0.1	60	0.6	1.2	73	14.3	0.5	79
52	Shrub/Scrub	33.0	1.6	35	15.2	1.9	56	0.3	0.6	70	58.0	1.8	77
71	Grassland/Herbaceous	1.8	0.1	30	0.4	0.0	58	0.03	0.1	71	2.4	0.1	78
81	Pasture/Hay	0.0	0.0	39	0.0	0.0	61	0.0	0.0	74	0.0	0.0	80
82	Cultivated Crops	1380.1	65.9	67	464.5	57.6	78	20.6	40.7	85	1014.0	32.0	89
90	Woody Wetlands	168.8	8.1	100	102.1	12.7	100	5.7	11.3	100	1224.9	38.7	100
95	Emergent Herbaceous Wetlands	0.8	0.0	100	0.2	0.03	100	0.0	0.0	100	13.7	0.4	100
Total		2094.6	100.0	64.0	806.1	100.0	76.8	50.7	100.0	81.0	3167.7	100.0	91.2
Weighted Average CN = 79.9													

Lumber DS

Existing Landuse Conditions													
LUCODE	Land Use Descriptions	CN for Soil Type A			CN for Soil Type B			CN for Soil Type C			CN for Soil Type D		
		Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN
11	Open Water	24.5	1.4	100	5.4	1.1	100	66.8	10.8	100	703.0	19.2	100
21	Developed, Open Space	329.7	18.5	49	118.4	24.3	69	73.3	11.8	79	309.5	8.5	84
22	Developed, Low Intensity	374.3	21.0	54	156.1	32.0	70	57.7	9.3	80	249.6	6.8	85
23	Developed, Medium Intensity	178.2	10.0	61	56.5	11.6	75	76.5	12.4	83	98.8	2.7	87
24	Developed, High Intensity	83.7	4.7	77	12.0	2.5	85	21.5	3.5	90	28.4	0.8	92
31	Barren Land	3.1	0.2	77	0.0	0.0	86	1.4	0.2	91	3.8	0.1	94
41	Deciduous Forest	9.4	0.5	36	0.7	0.1	60	11.7	1.9	73	16.1	0.4	79
42	Evergreen Forest	113.9	6.4	36	20.1	4.1	60	50.3	8.1	73	166.6	4.5	79
43	Mixed Forest	2.7	0.2	36	0.4	0.1	60	1.3	0.2	73	5.1	0.1	79
52	Shrub/Scrub	27.4	1.5	35	7.2	1.5	56	8.0	1.3	70	31.4	0.9	77
71	Grassland/Herbaceous	2.6	0.1	30	0.3	0.1	58	1.7	0.3	71	11.3	0.3	78
81	Pasture/Hay	0.2	0.0	39	0.0	0.0	61	0.0	0.0	74	0.2	0.01	80
82	Cultivated Crops	369.6	20.8	67	76.5	15.7	78	98.6	15.9	85	191.5	5.2	89
90	Woody Wetlands	249.1	14.0	100	33.2	6.8	100	121.4	19.6	100	1774.6	48.5	100
95	Emergent Herbaceous Wetlands	10.1	0.6	100	0.8	0.2	100	28.5	4.6	100	71.3	1.9	100
Total		1778.5	100.0	63.3	487.7	100.0	73.7	618.6	100.0	87.6	3661.3	100.0	95.3
Weighted Average CN =		84.3											

Lumber Mid

Existing Landuse Conditions													
LUCODE	Land Use Descriptions	CN for Soil Type A			CN for Soil Type B			CN for Soil Type C			CN for Soil Type D		
		Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN
11	Open Water	54.9	0.4	100	64.5	1.5	100	12.8	0.5	100	679.5	2.7	100
21	Developed, Open Space	1041.5	7.2	49	391.0	9.3	69	681.4	24.1	79	1195.1	4.7	84
22	Developed, Low Intensity	382.7	2.6	54	175.0	4.2	70	215.9	7.6	80	518.6	2.0	85
23	Developed, Medium Intensity	63.9	0.4	61	65.0	1.5	75	118.4	4.2	83	163.6	0.6	87
24	Developed, High Intensity	23.7	0.2	77	20.1	0.5	85	34.7	1.2	90	48.6	0.2	92
31	Barren Land	0.2	0.002	77	0.4	0.01	86	0.0	0.0	91	0.1	0.0003	94
41	Deciduous Forest	176.4	1.2	36	41.4	1.0	60	15.4	0.5	73	222.6	0.9	79
42	Evergreen Forest	867.0	6.0	36	225.6	5.4	60	136.9	4.8	73	1486.8	5.8	79
43	Mixed Forest	39.1	0.3	36	13.4	0.3	60	10.1	0.4	73	82.6	0.3	79
52	Shrub/Scrub	314.5	2.2	35	70.4	1.7	56	47.2	1.7	70	274.5	1.1	77
71	Grassland/Herbaceous	123.5	0.9	30	26.2	0.6	58	12.5	0.4	71	77.0	0.3	78
81	Pasture/Hay	23.8	0.2	39	7.6	0.2	61	5.0	0.2	74	11.4	0.04	80
82	Cultivated Crops	9680.8	66.6	67	2698.8	64.3	78	1306.5	46.2	85	8541.3	33.5	89
90	Woody Wetlands	1705.8	11.7	100	395.2	9.4	100	224.0	7.9	100	11896.2	46.6	100
95	Emergent Herbaceous Wetlands	27.3	0.2	100	5.5	0.1	100	6.3	0.2	100	314.3	1.2	100
Total		14525.1	100.0	66.1	4200.0	100.0	77.5	2826.9	100.0	83.4	25512.2	100.0	93.4
Weighted Average CN = 82.9													

Lumber US

Existing Landuse Conditions													
LUCODE	Land Use Descriptions	CN for Soil Type A			CN for Soil Type B			CN for Soil Type C			CN for Soil Type D		
		Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN
11	Open Water	96.2	0.1	100	3603.7	7.3	100	275.7	0.7	100	304.3	0.8	100
21	Developed, Open Space	12212.7	11.2	49	3287.0	6.7	69	3659.3	9.5	79	863.2	2.3	84
22	Developed, Low Intensity	3886.1	3.6	54	823.6	1.7	70	809.9	2.1	80	130.6	0.4	85
23	Developed, Medium Intensity	1077.9	1.0	61	285.2	0.6	75	256.0	0.7	83	31.7	0.1	87
24	Developed, High Intensity	243.3	0.2	77	36.3	0.1	85	49.8	0.1	90	3.5	0.01	92
31	Barren Land	692.7	0.6	77	379.2	0.8	86	76.4	0.2	91	13.3	0.04	94
41	Deciduous Forest	3299.2	3.0	36	2152.4	4.4	60	1789.9	4.7	73	374.7	1.0	79
42	Evergreen Forest	44799.7	41.2	36	20704.5	42.0	60	17445.5	45.3	73	4677.0	12.5	79
43	Mixed Forest	2070.3	1.9	36	5405.0	11.0	60	2229.7	5.8	73	894.8	2.4	79
52	Shrub/Scrub	6893.8	6.3	35	2137.8	4.3	56	1887.5	4.9	70	338.2	0.9	77
71	Grassland/Herbaceous	14772.7	13.6	30	4267.2	8.7	58	2355.9	6.1	71	457.6	1.2	78
81	Pasture/Hay	3576.2	3.3	39	1142.3	2.3	61	631.1	1.6	74	60.3	0.2	80
82	Cultivated Crops	12211.6	11.2	67	2687.9	5.5	78	1673.7	4.3	85	2381.4	6.4	89
90	Woody Wetlands	2763.4	2.5	100	2311.1	4.7	100	5214.6	13.5	100	26340.0	70.6	100
95	Emergent Herbaceous Wetlands	99.5	0.1	100	57.2	0.1	100	130.5	0.3	100	419.6	1.1	100
Total		108695.4	100.0	43.2	49280.3	100.0	66.6	38485.6	100.0	78.1	37290.2	100.0	95.0
Weighted Average CN = 62.1													

Meadow Branch

Existing Landuse Conditions													
LUCODE	Land Use Descriptions	CN for Soil Type A			CN for Soil Type B			CN for Soil Type C			CN for Soil Type D		
		Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN
11	Open Water	0.5	0.1	100	0.2	0.0	100	0.0	0.0	100	0.7	0.0	100
21	Developed, Open Space	115.2	15.1	49	108.0	18.3	69	20.1	15.0	79	275.7	16.6	84
22	Developed, Low Intensity	161.0	21.1	54	152.2	25.8	70	27.1	20.2	80	265.1	16.0	85
23	Developed, Medium Intensity	73.4	9.6	61	61.7	10.5	75	35.8	26.7	83	162.9	9.8	87
24	Developed, High Intensity	36.9	4.8	77	17.2	2.9	85	49.5	37.0	90	50.3	3.0	92
31	Barren Land	0.0	0.0	77	0.0	0.0	86	0.0	0.0	91	0.0	0.0	94
41	Deciduous Forest	3.0	0.4	36	3.0	0.5	60	0.0	0.0	73	10.7	0.6	79
42	Evergreen Forest	40.9	5.3	36	34.1	5.8	60	1.4	1.1	73	180.0	10.8	79
43	Mixed Forest	0.5	0.1	36	0.0	0.0	60	0.0	0.0	73	3.3	0.2	79
52	Shrub/Scrub	5.7	0.7	35	6.9	1.2	56	0.0	0.0	70	21.5	1.3	77
71	Grassland/Herbaceous	0.4	0.1	30	0.4	0.1	58	0.0	0.0	71	1.2	0.1	78
81	Pasture/Hay	0.0	0.0	39	0.0	0.0	61	0.0	0.0	74	0.0	0.0	80
82	Cultivated Crops	307.3	40.2	67	185.9	31.5	78	0.0	0.0	85	505.0	30.4	89
90	Woody Wetlands	19.9	2.6	100	20.1	3.4	100	0.0	0.0	100	184.0	11.1	100
95	Emergent Herbaceous Wetlands	0.0	0.0	100	0.0	0.0	100	0.0	0.0	100	0.0	0.0	100
Total		764.6	100.0	60.3	589.8	100.0	73.5	134.0	100.0	84.3	1660.3	100.0	87.3
Weighted Average CN =		78.0											

Raft Swamp

Existing Landuse Conditions													
LUCODE	Land Use Descriptions	CN for Soil Type A			CN for Soil Type B			CN for Soil Type C			CN for Soil Type D		
		Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN
11	Open Water	110.5	0.2	100	6.3	0.1	100	44.5	1.5	100	896.3	1.9	100
21	Developed, Open Space	3527.5	7.5	49	672.0	7.3	69	135.8	4.7	79	1501.3	3.1	84
22	Developed, Low Intensity	1386.9	2.9	54	351.2	3.8	70	57.4	2.0	80	723.6	1.5	85
23	Developed, Medium Intensity	213.0	0.5	61	112.8	1.2	75	19.9	0.7	83	131.8	0.3	87
24	Developed, High Intensity	68.3	0.1	77	45.3	0.5	85	12.8	0.4	90	41.9	0.1	92
31	Barren Land	10.4	0.02	77	0.2	0.002	86	0.6	0.02	91	0.6	0.001	94
41	Deciduous Forest	746.3	1.6	36	151.4	1.6	60	60.7	2.1	73	426.1	0.9	79
42	Evergreen Forest	4666.1	9.9	36	1335.4	14.5	60	482.7	16.8	73	4057.3	8.5	79
43	Mixed Forest	274.7	0.6	36	94.8	1.0	60	27.9	1.0	73	235.7	0.5	79
52	Shrub/Scrub	1594.4	3.4	35	357.5	3.9	56	89.2	3.1	70	723.4	1.5	77
71	Grassland/Herbaceous	788.1	1.7	30	114.9	1.2	58	60.1	2.1	71	225.9	0.5	78
81	Pasture/Hay	103.6	0.2	39	12.7	0.1	61	1.6	0.1	74	11.3	0.02	80
82	Cultivated Crops	27567.2	58.6	67	5091.3	55.3	78	954.5	33.2	85	12306.4	25.8	89
90	Woody Wetlands	5916.2	12.6	100	834.4	9.1	100	916.1	31.8	100	26044.2	54.5	100
95	Emergent Herbaceous Wetlands	66.6	0.1	100	20.8	0.2	100	15.5	0.5	100	448.5	0.9	100
Total		47039.8	100.0	64.0	9200.9	100.0	74.9	2879.4	100.0	86.6	47774.3	100.0	93.9
Weighted Average CN =		78.9											

White Oak

Existing Landuse Conditions													
LUCODE	Land Use Descriptions	CN for Soil Type A			CN for Soil Type B			CN for Soil Type C			CN for Soil Type D		
		Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN	Area (ac)	Area (%)	CN
11	Open Water	1.2	0.7	100	0.3	0.05	100	0.0	0.0	100	11.3	0.7	100
21	Developed, Open Space	32.5	18.6	49	81.9	14.7	69	3.3	20.3	79	253.8	15.5	84
22	Developed, Low Intensity	39.5	22.7	54	59.0	10.6	70	5.3	32.3	80	145.9	8.9	85
23	Developed, Medium Intensity	37.1	21.3	61	25.8	4.6	75	4.0	24.4	83	64.9	4.0	87
24	Developed, High Intensity	21.3	12.2	77	11.3	2.0	85	0.5	2.7	90	24.9	1.5	92
31	Barren Land	0.0	0.0	77	0.0	0.0	86	0.0	0.0	91	0.0	0.0	94
41	Deciduous Forest	2.3	1.3	36	4.6	0.8	60	0.0	0.0	73	13.8	0.8	79
42	Evergreen Forest	16.0	9.2	36	232.2	41.8	60	1.8	10.8	73	619.7	37.7	79
43	Mixed Forest	0.0	0.0	36	5.5	1.0	60	0.0	0.0	73	5.4	0.3	79
52	Shrub/Scrub	1.5	0.9	35	16.3	2.9	56	0.0	0.0	70	68.8	4.2	77
71	Grassland/Herbaceous	0.0	0.0	30	0.1	0.03	58	0.0	0.0	71	3.6	0.2	78
81	Pasture/Hay	0.0	0.0	39	0.0	0.0	61	0.0	0.0	74	0.0	0.0	80
82	Cultivated Crops	12.7	7.3	67	88.0	15.8	78	0.0	0.0	85	128.8	7.8	89
90	Woody Wetlands	10.2	5.8	100	31.0	5.6	100	1.6	9.5	100	297.8	18.1	100
95	Emergent Herbaceous Wetlands	0.0	0.0	100	0.1	0.02	100	0.0	0.0	100	3.7	0.2	100
Total		174.3	100.0	59.3	556.1	100.0	68.6	16.4	100.0	81.9	1642.4	100.0	85.5
Weighted Average CN = 79.6													

B5 Reach Routing Parameters

Muskingum-Cunge Routing Parameters

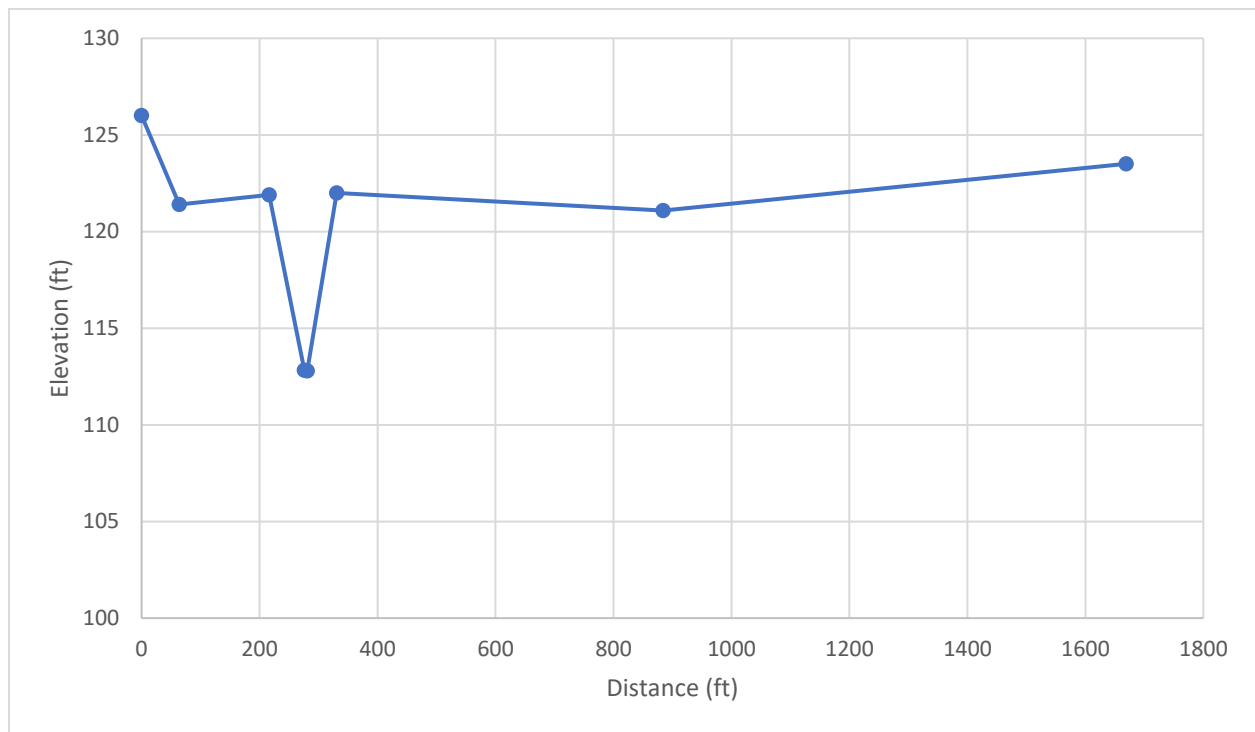
Notes:

- Cross-section data from terrain with bathymetry for all reaches

Reach	HMS Junctions	Length (ft)	Slope (ft/ft)	Channel N-Value	Left N-Value	Right N-Value	8pt XS #
1	0 to 1	11284	0.0002	0.045	0.1	0.1	XS1
2	1 to 2	10922	0.0006	0.045	0.13	0.1	XS2
3	2 to 3	14490	0.0002	0.045	0.15	0.09	XS3
4	3 to 4	7220	0.0003	0.045	0.13	0.11	XS4
5	4 to 5	39679	0.0002	0.045	0.125	0.125	XS5
6	5 to 6	7849	0.0003	0.045	0.125	0.125	XS6
7	7 to 6	24525	0.0008	0.065	0.035	0.16	XS7
8	8 to 4	6644	0.0002	0.045	0.12	0.12	XS8
9	11 to 1	183005	0.0003	0.08	0.16	0.16	XS9

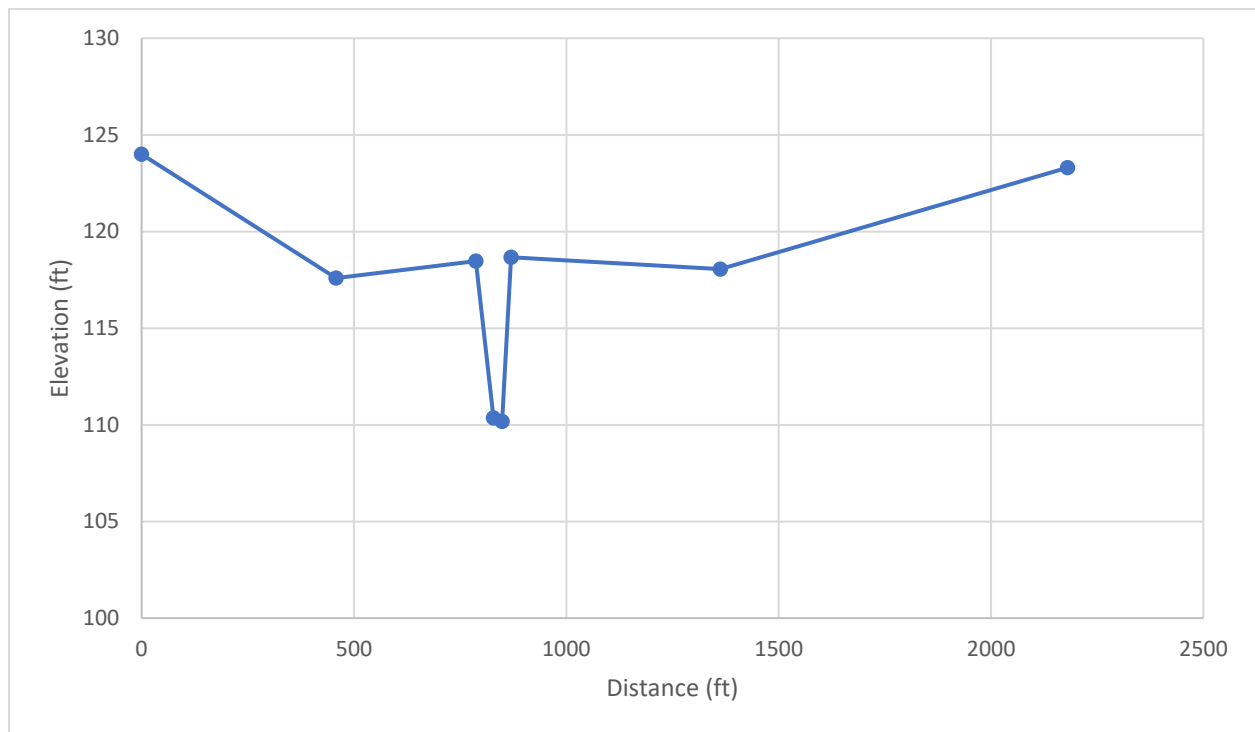
Cross-Section 1

Station (ft)	Elevation (ft)
0	126
64	121.4
216	121.9
275.78	112.82
281	112.79
330.5	122
884	121.09
1669	123.5



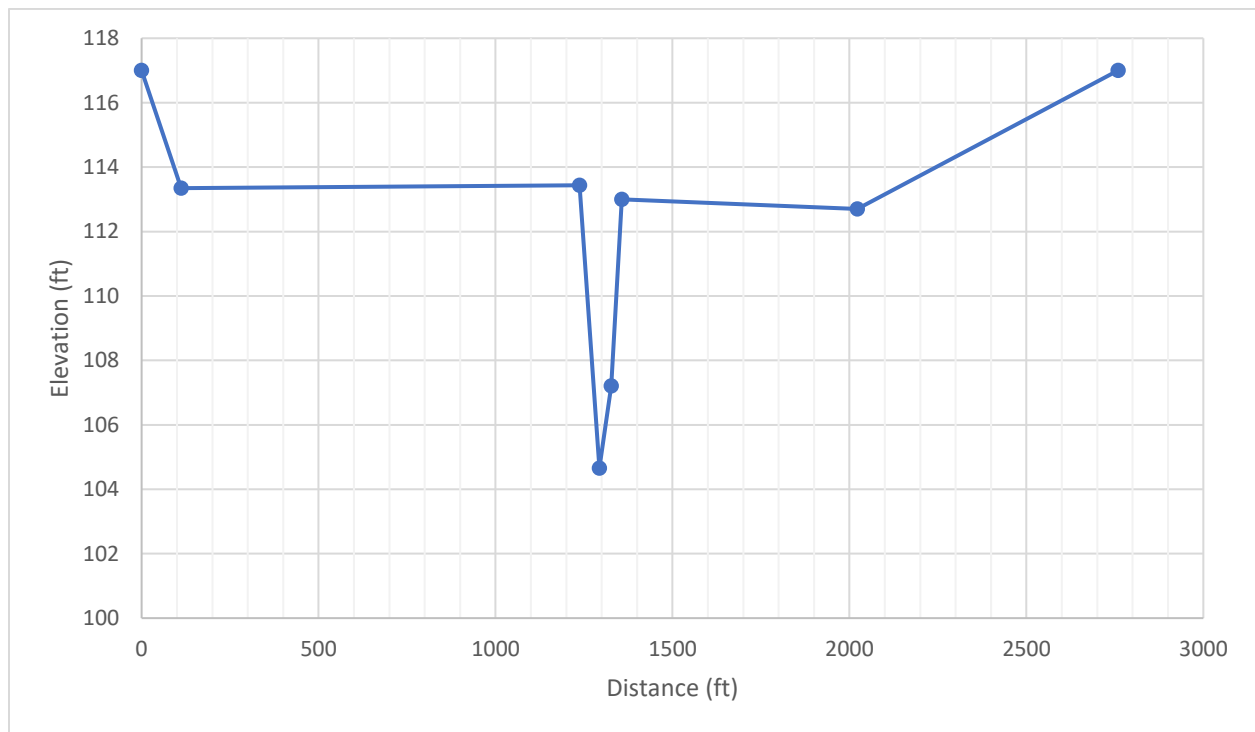
Cross-Section 2

Station (ft)	Elevation (ft)
0	124
458	117.6
787	118.47
828.42	110.36
849.05	110.17
870.1	118.67
1362.6	118.05
2180	123.3



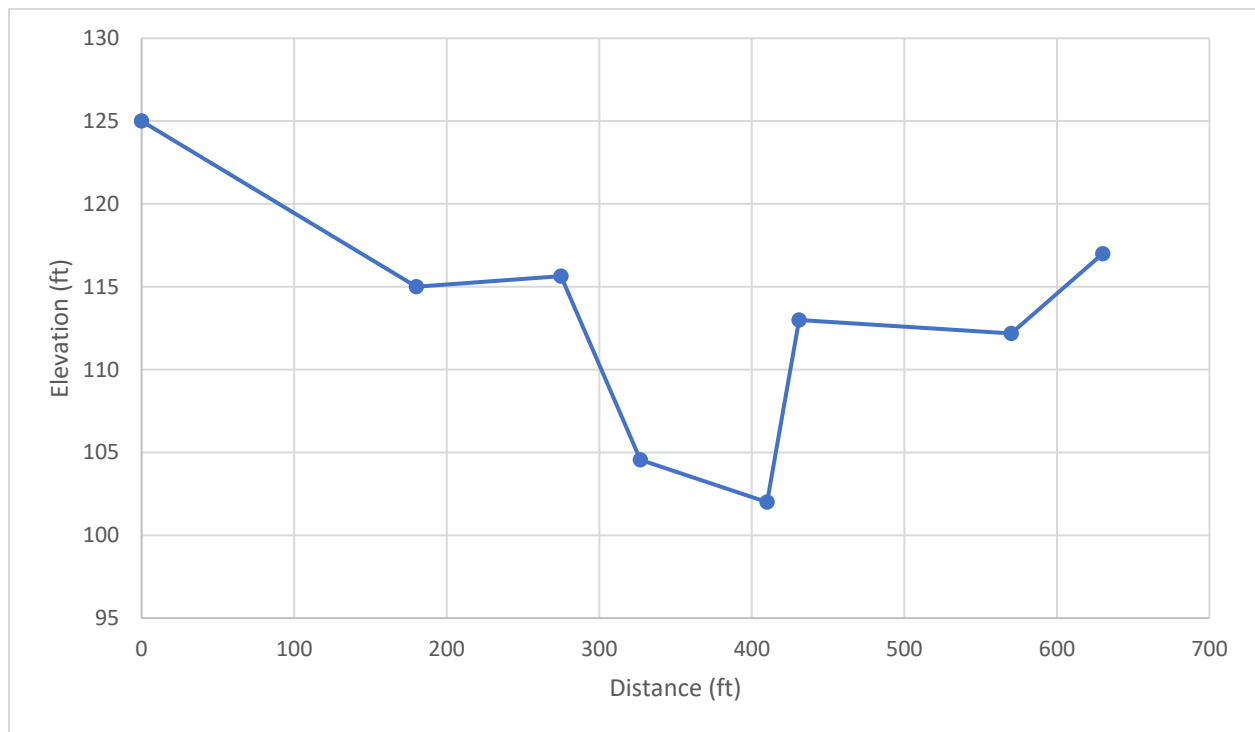
Cross-Section 3

Station (ft)	Elevation (ft)
0	117
112	113.35
1237	113.44
1293.34	104.66
1327	107.21
1356.5	113
2022.5	112.7
2759	117



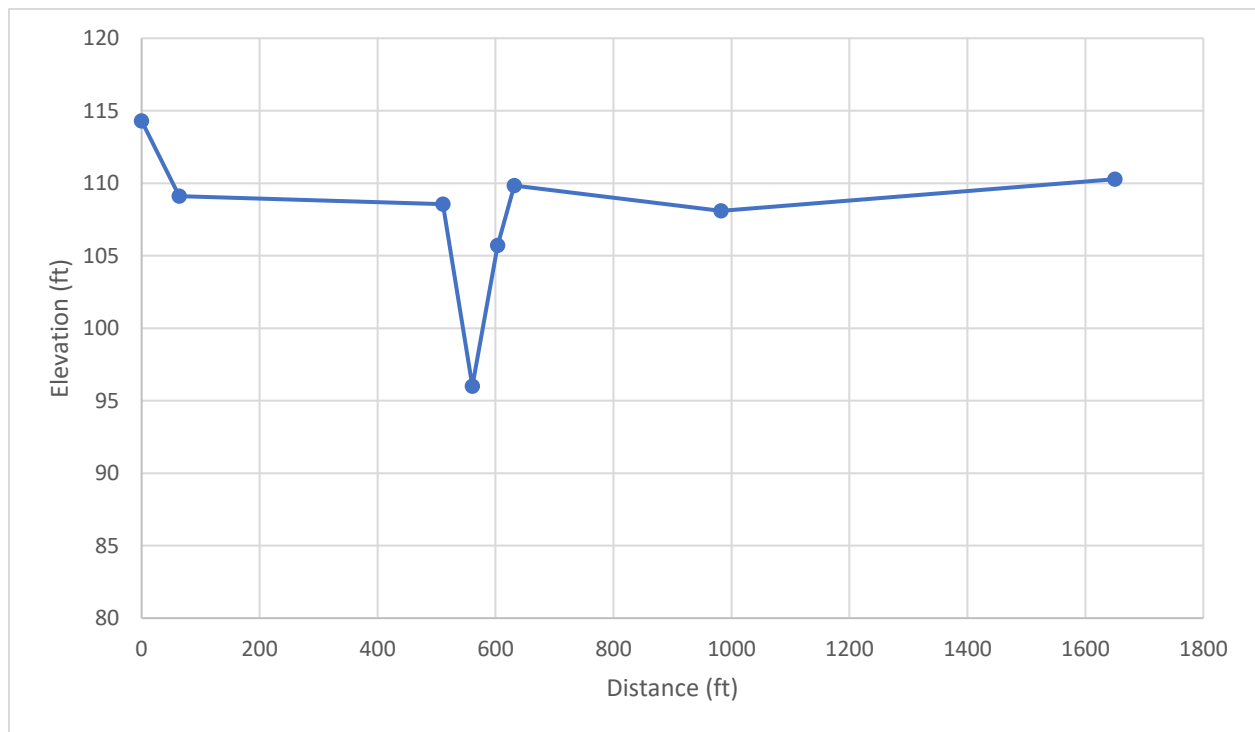
Cross-Section 4

Station (ft)	Elevation (ft)
0	125
180	115
275	115.65
327	104.56
410	102
431	113
570	112.19
630	117



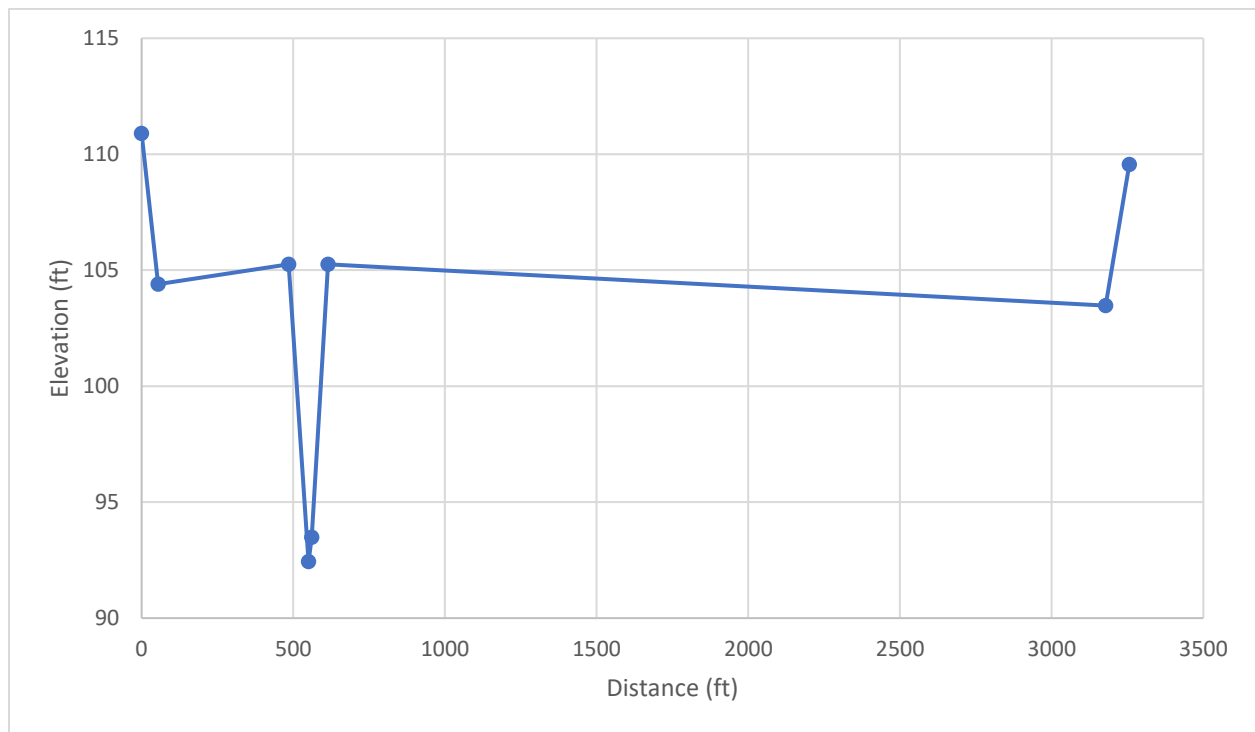
Cross-Section 5

Station (ft)	Elevation (ft)
0	114.3
64	109.1
510.9	108.55
560.6	96
603.4	105.71
632	109.83
982.5	108.1
1650	110.27



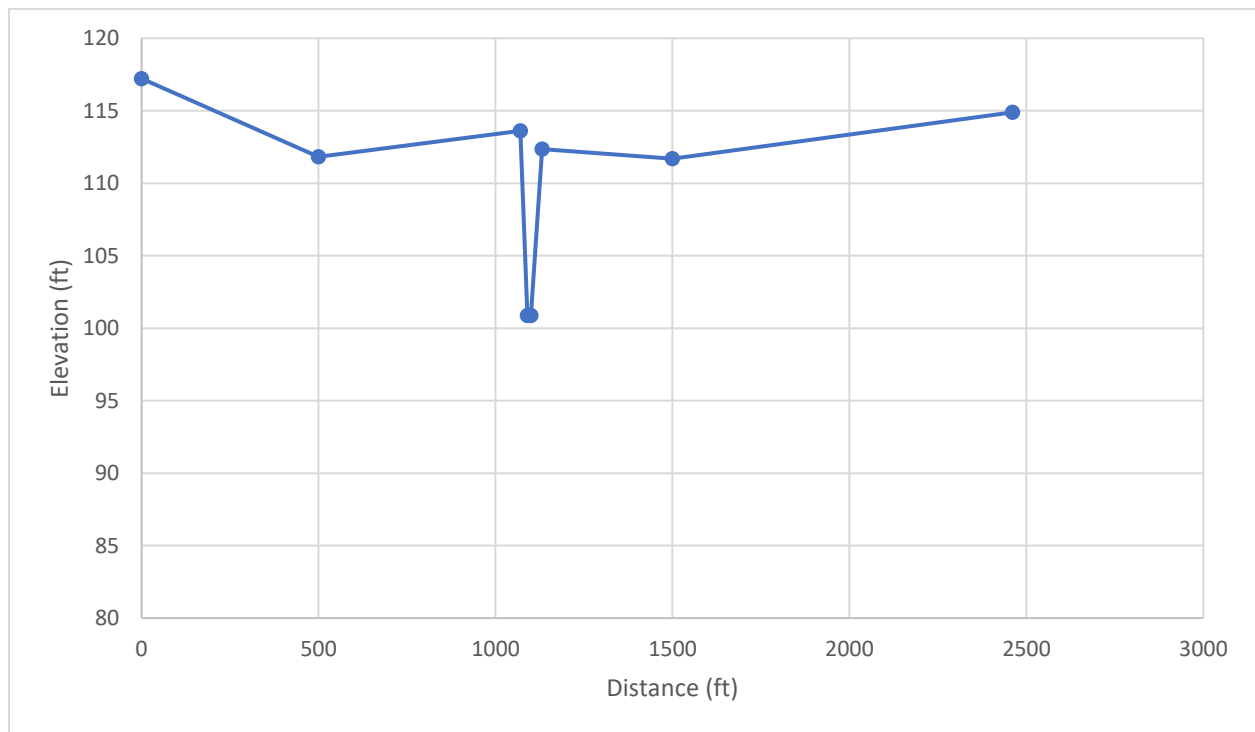
Cross-Section 6

Station (ft)	Elevation (ft)
0	110.9
54	104.4
485.1	105.25
550	92.43
560.5	93.48
614.4	105.26
3178.25	103.48
3256	109.56



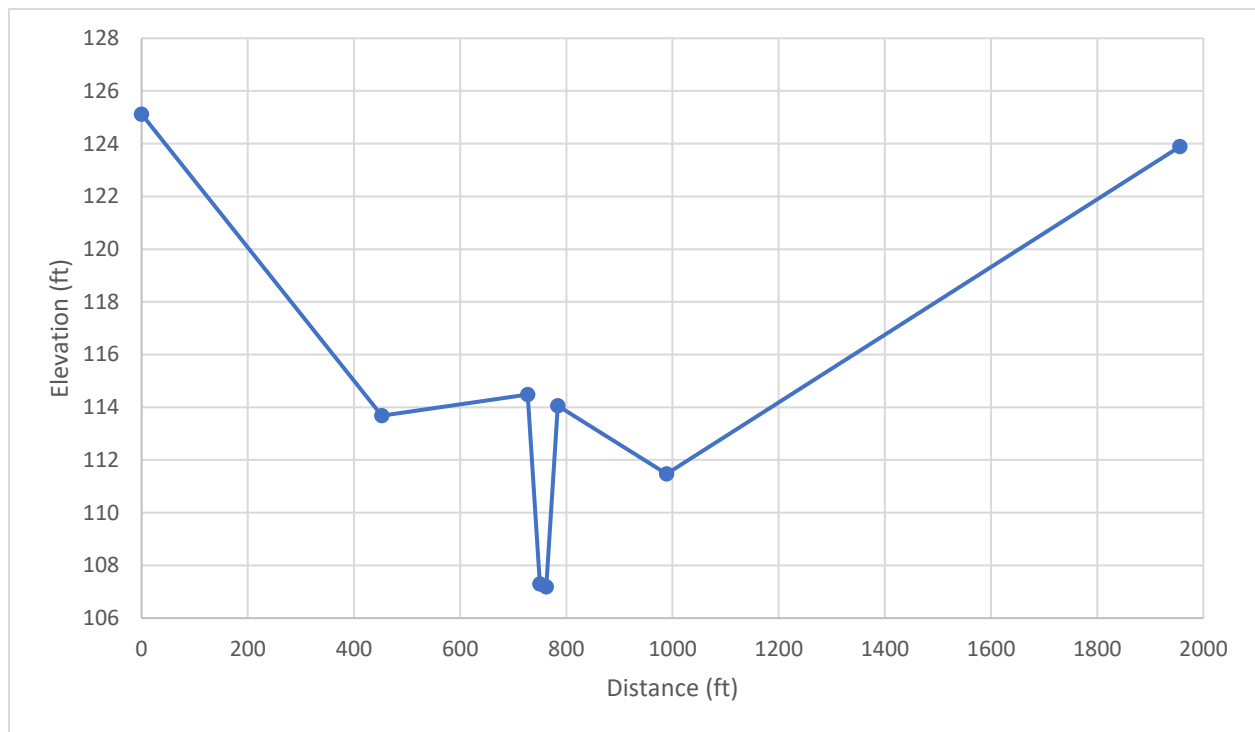
Cross-Section 7

Station (ft)	Elevation (ft)
0	117.22
500	111.83
1070	113.62
1090	100.88
1100	100.88
1131.25	112.36
1500	111.69
2461	114.9



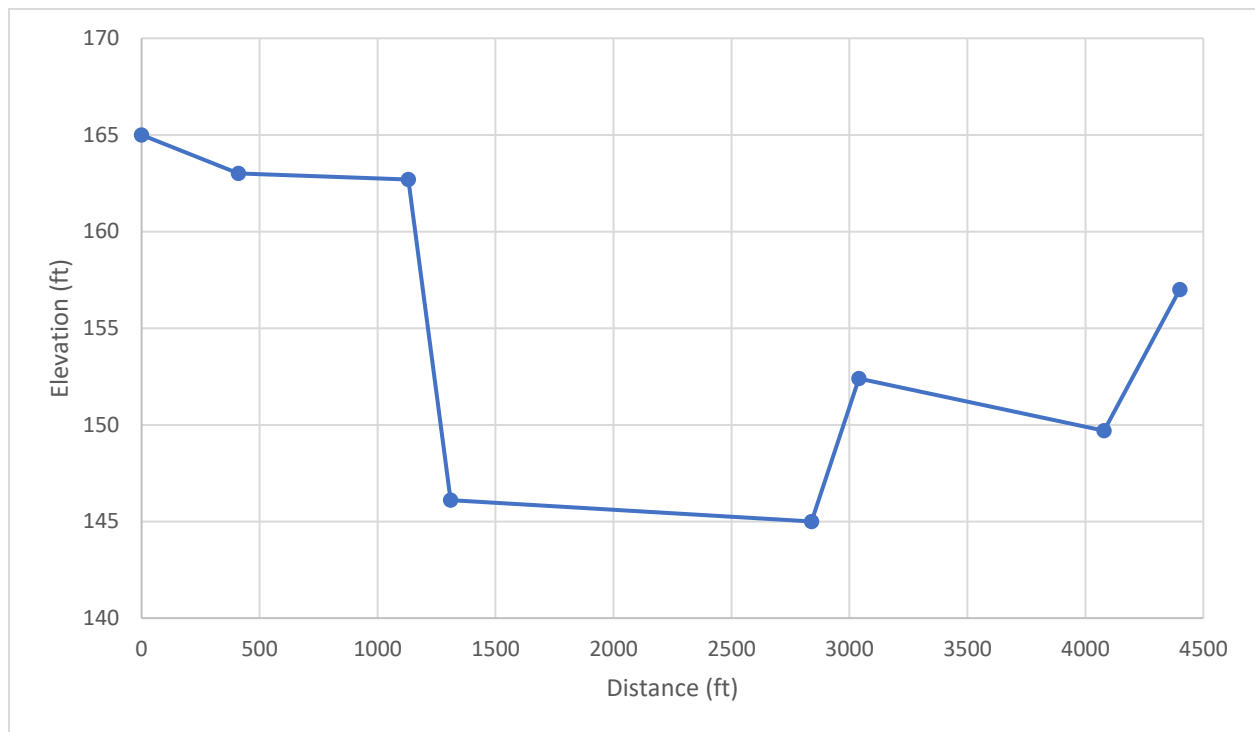
Cross-Section 8

Station (ft)	Elevation (ft)
0	125.12
452.65	113.68
727.02	114.48
750.33	107.29
762.12	107.19
784	114.06
989	111.47
1956	123.89



Cross-Section 9

Station (ft)	Elevation (ft)
0	165
410	163
1130	162.7
1310	146.1
2840	145
3039.7	152.4
4079.7	149.7
4400	157



B6 USGS Correspondence

From: McClenney, Bryce J <bjmcclen@usgs.gov>
Sent: Monday, February 3, 2020 12:38 PM
To: Sachan, Amit
Cc: Walters, Douglas A; Weaver, John C; Hunu, Kenneth; Beadenkopf, Edward G
Subject: Re: Lumber River flows discussion

Per your request after our conversation today, I looked into the Hurricane Matthew peak discharges. We did make a slight change to the rating based on the measurement made during Florence. The peak recorded gage height for the Matthew event was 21.87 ft. Rating 4.0 was in use at the time a gives a value of 14,600 cfs for this peak. Rating 5.0 was developed following the Florence measurement in 2018 and activated in September 2018. It computes a discharge of 15,700 cfs for the 21.87 peak gage height for Matthew. This is around 7% different. We would not have issues a revision based on this as the uncertainty of the measurements are higher than the percent difference of the computed discharges.

There were three measurements made during Matthew as follows:

142- GH=19.85 Q=9900

143- GH=19.05 Q=8000

144-GH=19.02 Q=7380

It was noted during all three measurements that large pumps were setup behind the levee that were pumping water back into the channel downstream of the gage from behind the levee. This flow was not able to be measured. There was no note of any secondary channel being measured such as with Florence, however, the gage height was roughly 2.5 ft lower than the Florence measurement at 22.20 ft so there likely would not have been as much flow through the breach at that time.

Hope this helps.

Bryce McClenney

Hydrologic Technician

USGS South Atlantic Water Science Center

Raleigh, NC (919)417-7021

From: Sachan, Amit <Amit.Sachan@atkinsglobal.com>
Sent: Friday, January 31, 2020 9:28 AM
To: McClenney, Bryce J <bjmcclen@usgs.gov>
Cc: Walters, Douglas A <dwalters@usgs.gov>; Weaver, John C <jcweaver@usgs.gov>; Hunu, Kenneth <Kenneth.Hunu@atkinsglobal.com>; Beadenkopf, Edward G <Edward.Beadenkopf@atkinsglobal.com>
Subject: [EXTERNAL] RE: Lumber River flows discussion

Thanks Bryce. We will call you on Monday (2/3) at 11 AM.

Amit Sachan, PE, CFM
Project Director, Public & Private Business Unit
Tel: +1 919 431 5253 Cell: +1 919 985 1095
Atkins, member of the SNC-Lavalin Group
1616 East Millbrook Road, Suite 160, Raleigh, NC 27519

From: McClenney, Bryce J <bjmcclen@usgs.gov>
Sent: Friday, January 31, 2020 7:44 AM
To: Sachan, Amit <Amit.Sachan@atkinsglobal.com>
Cc: Walters, Douglas A <dwalters@usgs.gov>; Weaver, John C <jcweaver@usgs.gov>; Hunu, Kenneth <Kenneth.Hunu@atkinsglobal.com>; Beadenkopf, Edward G <Edward.Beadenkopf@atkinsglobal.com>
Subject: Re: Lumber River flows discussion

That should work for me. I could do Monday or Tuesday mornings.

Bryce McClenney
Hydrologic Technician
USGS South Atlantic Water Science Center
Raleigh, NC (919)417-7021

From: Sachan, Amit <Amit.Sachan@atkinsglobal.com>
Sent: Thursday, January 30, 2020 1:57 PM
To: McClenney, Bryce J <bjmcclen@usgs.gov>
Cc: Walters, Douglas A <dwalters@usgs.gov>; Weaver, John C <jcweaver@usgs.gov>; Hunu, Kenneth

<Kenneth.Hunu@atkinsglobal.com>; Beadenkopf, Edward G <Edward.Beadenkopf@atkinsglobal.com>

Subject: [EXTERNAL] RE: Lumber River flows discussion

Hi Bryce, Hope that you are doing well. We would like to learn about your experience during hurricanes Florence and Matthew. Would you be available for a brief call sometime in next few days? Let me know and we will plan accordingly. Thanks

Amit Sachan, PE, CFM

Project Director, Public & Private Business Unit

Tel: +1 919 431 5253 Cell: +1 919 985 1095

Atkins, member of the SNC-Lavalin Group

1616 East Millbrook Road, Suite 160, Raleigh, NC 27519

From: Walters, Douglas A <dwalters@usgs.gov>

Sent: Friday, January 24, 2020 7:36 AM

To: Hunu, Kenneth <Kenneth.Hunu@atkinsglobal.com>; Sachan, Amit

<Amit.Sachan@atkinsglobal.com>; Beadenkopf, Edward G <Edward.Beadenkopf@atkinsglobal.com>

Cc: Weaver, John C <jcweaver@usgs.gov>; McClenney, Bryce J <bjmcclen@usgs.gov>

Subject: Re: Lumber River flows discussion

Amit, Ken and Ed,

I spoke with the technician, Bryce McClenney, who measured Lumberton flows during Florence. As you can see below, they did measure the main channel at the gage (15,100 cfs) as well as the the overflow (1,977 cfs) under I-95 (railroad opening). The overflow was significant, comprising almost 12% of the total flow. The overflow was measured by wading the flows (split into 2 sections) overtopping 5th street, downstream of the I-95 opening. I hope this information is helpful. If you have further questions about the measurement or the conditions at the time, you can contact Bryce directly (cc'd in this email or at 919-417-7021). Bryce also has pictures and video of the conditions which he can share with you, if you like.

Discharge Values		Discharge (ft ³ /s)
overflow 2		457
main		15100
overflow 1		1520
	Subtotal	17100
	Adjustment	0.00
	Adjusted Total Discharge	17100



U.S. DEPARTMENT OF THE INTERIOR
U.S. Geological Survey
SITE VISIT NOTES

Meas #: 157
Processed by _____
Checked by _____

01/14/2018 10:40:11 AM 23.1771 N 81.0000 W 16.1

Site Visit Summary
02131170 - LUMBER RIVER AT LUMBERTON, NC
 Date: 2018-09-17 Start Time: 14:35:00-05:00 EST End Time: 17:00:00-05:00
 Party: BJH/JES
Site Visit Tasks
 Discharge Measurement: ☒ Water Temp with Acoustic Meas: ☒
 Control Inspection: ☒

Discharge Measurement Summary
Meas No: 157
Gage Ht: 22.20 ft
 Meas Start Time: 14:50:05-05:00 Total Meas Flow: 17050.46 cfs (Measured)
 Meas Rate: Poor (9%+) Meas End Time: 17:00:24-05:00
 Base Flow? Non-base flow
Rating Information
 Meas. Info: _____ No. Different from rating no: _____ Indicated shift: _____
Comment:
 likely holding steady due to levy breach

Channel 1 (main) Summary - QMIDSECTION Measurement
Bridge downstream side Measurement
 Meas Flow: 15072.46 cfs Vel Method: ADCP
 Horiz Flow: Uneven Vel Desc: _____
 Vert Vel Desc: Unspecified Channel Conditions: Unspecified, Unspecified, Unspecified
 Sect Loc: At the gage - 0 ft. to gage
ADCP Measurement Details
 Stations: 31 Total Width: 226.00 ft
 Total Area: 2893.57 ft² Mean Vel: 5.21 ft/s
 Start Point: Right edge of water Mtr Type: ADCP
 Serial No: RFO_FT_1425 Mtr Susp: Tethered boat
 Mtr Insp B4: true Mtr Insp Alt: true

Channel 2 (overflow 1) Summary - QMIDSECTION Measurement
Wading Measurement
 Meas Flow: 1520 cfs Vel Method: ADV
 Horiz Flow: Uneven Vel Desc: _____
 Vert Vel Desc: Unspecified Channel Conditions: Unspecified, Unspecified, Unspecified
 Sect Loc: At the gage - 0 ft. to gage
ADV Measurement Details
 Stations: 19 Total Width: 181 ft
 Total Area: 1765 Mean Vel: .26
 Start Point: Left edge of water Mtr Type: _____
 Serial No: RFO_FT_P1245 Mtr Susp: Top-setting wading rod
 Mtr Insp B4: true Mtr Insp Alt: true

Channel 3 (overflow 2) Summary - QMIDSECTION Measurement
Wading Measurement
 Meas Flow: 457 cfs Vel Method: ADV
 Horiz Flow: Unspecified Vel Desc: _____
 Vert Vel Desc: Unspecified Channel Conditions: Unspecified, Unspecified, Unspecified
 Sect Loc: Unspecified - R. to gage
ADV Measurement Details
 Stations: 14 Total Width: 154 ft
 Total Area: 1420 Mean Vel: .32
 Start Point: Left edge of water Mtr Type: _____
 Serial No: RFO_FT_P1245 Mtr Susp: Top-setting wading rod
 Mtr Insp B4: true Mtr Insp Alt: true

Gage Readings

Time	Non-Subm Pres Tran HCO718AN (Unspecified)	Wire Weight Gage HCO718AN (Unspecified)
14:36:00	22.19 (Rising)	22.35 (+/- .1) (Reference - Primary)
15:24:00	22.20 (Rising)	22.35 (+/- .1) (Reference - Primary)

 Key: Blue=Primary Reference Green=Rising (Rise) Red=Unsp/Reference

Sensor Inspection
Non-Subm Pres Tran
 Name: _____ Serial Number: Unspecified
 Gas Type: _____ Orif Serviced: _____ Service Time: _____

Sensor Inspection
Wire Weight Gage
 Name: _____ Serial Number: Unspecified
 Chkbar Found: _____ Chkbar Chg Time: _____
 Chkbar Chg: _____ Chkbar Elev: _____

Streamflow Control Inspection

Type	Dist to Gage (ft)	Cleaned?	Time Cleaned	Condition
Channel		Unspecified		Unspecified

 Comment: Levy under 195 has breached and overflows were over 5th street

Doug,

Can you swing by for a few minutes before you leave for the day?

JCWeaver

J. Curtis Weaver, Hydrologist, PE
USGS South Atlantic Water Science Center
North Carolina - South Carolina - Georgia
3916 Sunset Ridge Road
Raleigh, NC 27607
Phone: (919) 571-4043 // Fax: (919) 571-4041

Email: jcweaver@usgs.gov
Online: <https://www.usgs.gov/centers/sa-water>

From: Sachan, Amit <Amit.Sachan@atkinsglobal.com>
Sent: Wednesday, January 22, 2020 2:33 PM
To: Weaver, John C <jcweaver@usgs.gov>
Cc: Hunu, Kenneth <Kenneth.Hunu@atkinsglobal.com>; Beadenkopf, Edward G <Edward.Beadenkopf@atkinsglobal.com>
Subject: [EXTERNAL] RE: Lumber River flows discussion

Hi Curtis, Here are few questions for our discussion. I'll send out a meeting invite for everyone's calendars. Thanks

- Does the USGS have any official estimate of the frequency of Matthew and Florence at Lumberton?
- Can the USGS comment to how Atkins has done the frequency analyses and offer any suggestions for what we have not done?
- Can we discuss the rating curve at Lumberton? Is the backup available? Is the USGS comfortable with the observed hydrographs and peaks for the two major Hurricanes?
- Significant flow left the Lumber River at I-95 during these events and we were told for Florence that was overtopped and/or out of service for a time. How was the rating curve developed and how reliable are the flow estimated and hydrographs for Florence and Matthew?

From: Sachan, Amit
Sent: Tuesday, January 21, 2020 11:43 AM
To: Weaver, John C <jcweaver@usgs.gov>
Cc: Hunu, Kenneth <Kenneth.Hunu@atkinsglobal.com>; Beadenkopf, Edward G <Edward.Beadenkopf@atkinsglobal.com>
Subject: RE: Lumber River flows discussion

Curtis, Thanks for your prompt response. Our discussion will be focused on a flood gate design project for the City of Lumberton on opening under I-95. Our questions will be based on flood frequency

analysis and rating curves on Lumber River stream gages. We will send few specific questions this afternoon. Let me know if we can meet on Thursday (1/23) afternoon (say 3 PM). Thanks

Amit Sachan, PE, CFM

Project Director, Public & Private Business Unit

Tel: +1 919 431 5253 Cell: +1 919 985 1095

Atkins, member of the SNC-Lavalin Group

1616 East Millbrook Road, Suite 160, Raleigh, NC 27519

From: Weaver, John C <jcweaver@usgs.gov>

Sent: Tuesday, January 21, 2020 11:14 AM

To: Sachan, Amit <Amit.Sachan@atkinsglobal.com>

Cc: Weaver, John C <jcweaver@usgs.gov>

Subject: Re: Lumber River flows discussion

Amit,

Aside from an appointment on Thursday morning, I am generally available the coming several days.

In the interest of transparency, I just completed a review for NCDOT a few weeks ago of several FF analyses for the streamgage on the Lumber River at Lumberton that were completed as part of their planning for future I-95 work near Lumberton. Please let me know if you're interest in the Lumber River issues is related to this NCDOT planning.

Also, it would be helpful to get a heads up on the specific questions you have on the Lumber River so I could plan accordingly in advance of a conversation.

Thank you.

JCWeaver

J. Curtis Weaver, Hydrologist, PE
USGS South Atlantic Water Science Center
North Carolina - South Carolina - Georgia
3916 Sunset Ridge Road
Raleigh, NC 27607

Phone: (919) 571-4043 // Fax: (919) 571-4041

Email: jcweaver@usgs.gov

Online: <https://www.usgs.gov/centers/sa-water>

From: Sachan, Amit <Amit.Sachan@atkinsglobal.com>

Sent: Monday, January 20, 2020 3:30 PM

To: Weaver, John C <jcweaver@usgs.gov>
Subject: [EXTERNAL] Lumber River flows discussion

Hi Curtis, Hope that you are doing well. We have talked briefly at the NCAFPM conferences. I would like to request a quick meeting to discuss a project that we are working on. It is flood control project for the City of Lumberton and we want to get your input on Lumber River gages and flows. Let me know a convenient time in next few days and we'll plan accordingly. Regards

Amit Sachan *PE, CFM*
Project Director, Mid-Atlantic
Private & Public Business Unit

[View my profile](#)

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1616 E. Millbrook Road, Suite 160, Raleigh, NC 27609



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Company



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Consider the environment. Please don't print this e-mail unless you really need to.

Appendix C. Hydraulic Analysis

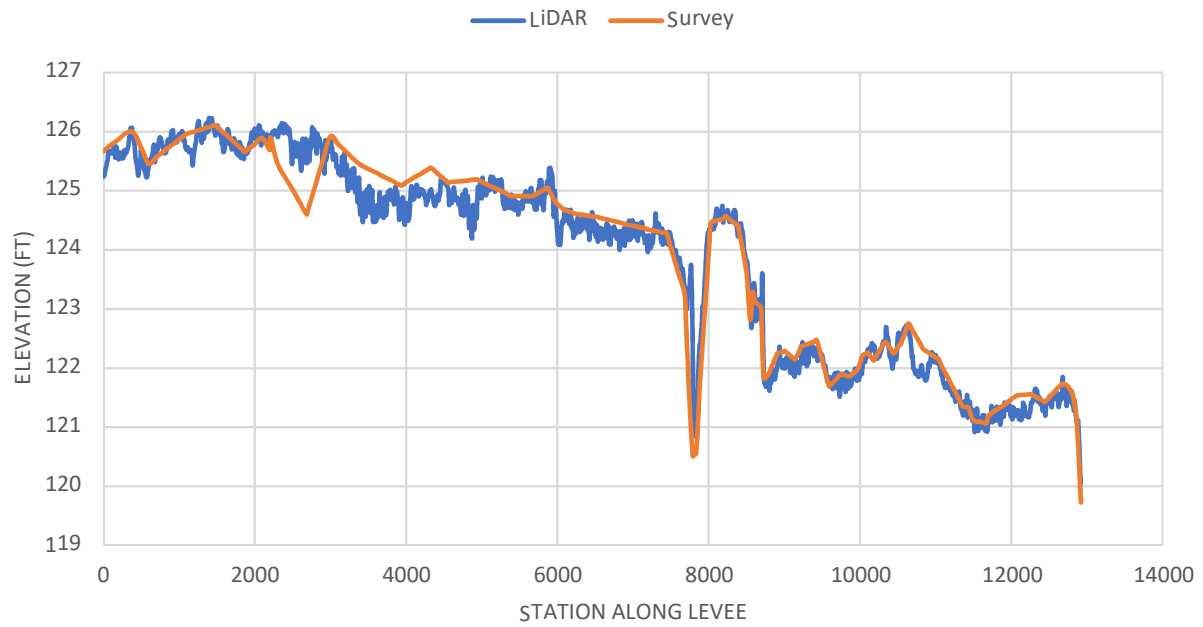
C1 Hydraulic Structures Data

Summary of Final Structures in External Hydraulic Model

Label Name	Channel	Street Name	Effective Model XS	Data Origin	Structure Type	Rise	Span or Diameter	# Piers
E1	Fivemile Branch	Dawn Dr (next to I-95)	NA	McGill Survey	2RCBC	7.67	10	
E2	Meadow Branch	Dawn Dr (next to I-95)	NA	McGill Survey	2RCBC	8	10	
E3	Fivemile Branch	N Roberts Ave (SR 211)	NA	McGill Survey	3RCBC	10	14	
E4	Fivemile Branch	W Carthage Rd (SR 1536)	NA	McGill Survey	3RCBC	11	13	
E5	Lumber River	Kenric Rd (SR 1539)	376455	Effective Model	Bridge		194.9	2
E6	Lumber River	S Caton Rd	375387	Effective Model	Bridge		354.9	4
E8	Lumber River	I-95	360856	Effective Model	Bridge		214.7	7
E9	Lumber River	5th Street	350697	Effective Model	Bridge		236.6	5
E10	Lumber River	W 2nd St	349864	Effective Model	Bridge		282.9	5
E12	Lumber River	S Chestnut St [Alamac Rd (SR 2289) in model]	345664	Effective Model	Bridge		330.5	6
E13	Lumber River	S Chippewa St/ Hestertown Rd	NA	McGill Survey	Bridge		197.7	2
E14	Lumber River	Structure 44 on NC HWY 72	323321.5	Effective Model	Bridge		360.9	7
E15	Lumber River	I-95 Proposed Bridge	360856	Preliminary Model	Bridge		428.8	4
E16	Lumber River	CSX Railroad	370045	Effective Model	Bridge		350	14
E17	Lumber River	Railroad	349691	Effective Model	Bridge		345	13
LJ4	Little Jacob Swamp	MLK Dr (NC 41)	NA	Field Data	Arch (2)	7.1	15	
JS5	Jacob Swamp	MLK Dr (NC 41)	25316.41	Effective Model	Box Culverts (2)	4.5	6	
CC9	Collection Canal	W 5th Street	NA	Field Data	RCP		6	
CC10	Collection Canal	MLK Dr (NC 41)	NA	Field Data	Pipe Culvert		7	

C2 Lumber Levee and I-95 Data

LIDAR VS. SURVEY ELEVATIONS



N:\Projects\Lumberton\CAD\Cover.dwg, Jul 20, 2017 - 10:35:59AM, philip.oliver

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CITY OF LUMBERTON
AECOM PROJECT NO. 60548447
STATE PROJECT NO. XXXX

LUMBERTON FLOOD MITIGATION

FUNDED IN PART BY XXXX

ROBESON COUNTY

XX % SUBMITTAL
XXXX, 2017

DRAWING INDEX

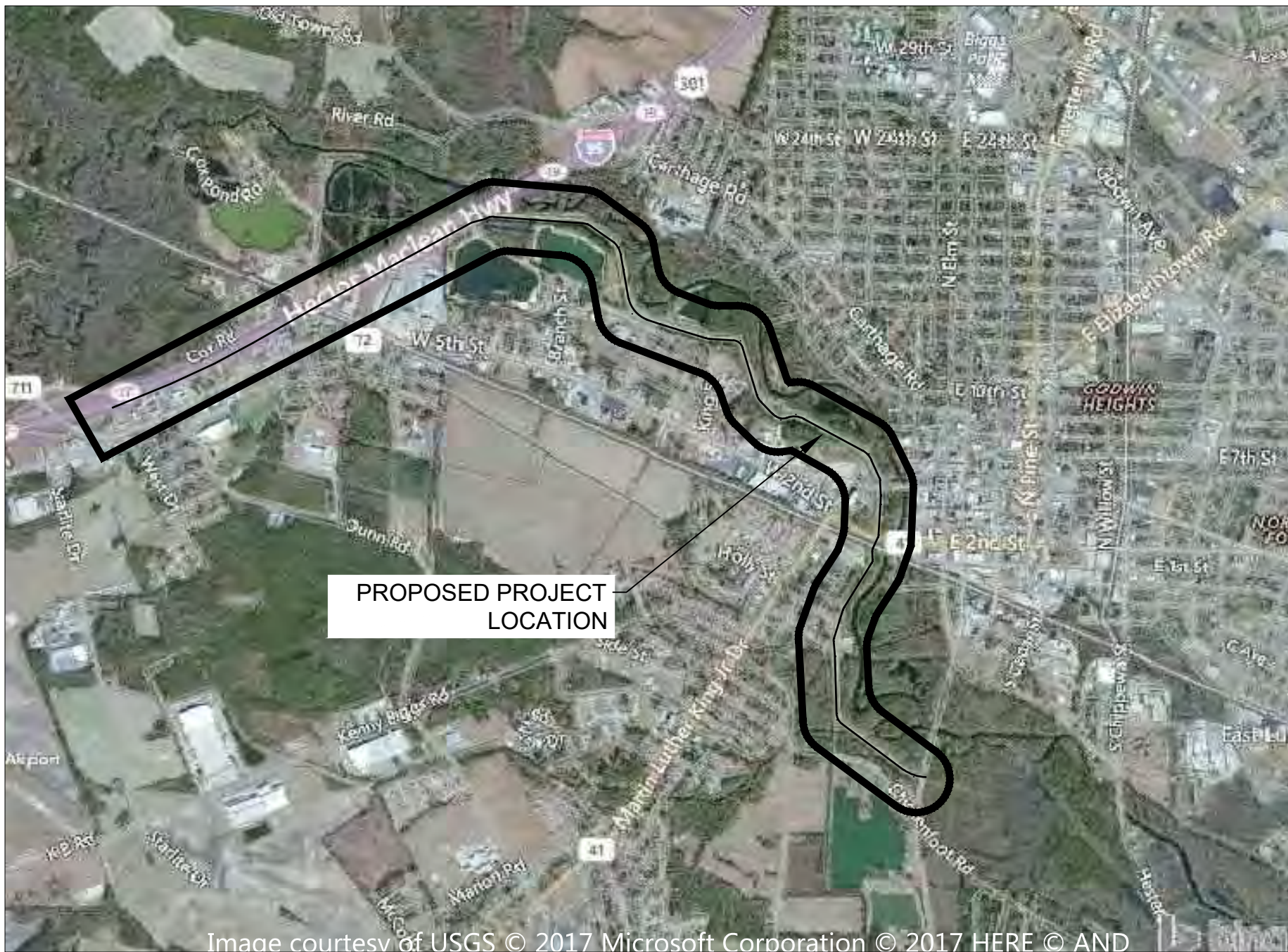
DWG. No.

GENERAL DRAWINGS

G-101 COVER SHEET
G-102 GENERAL NOTES

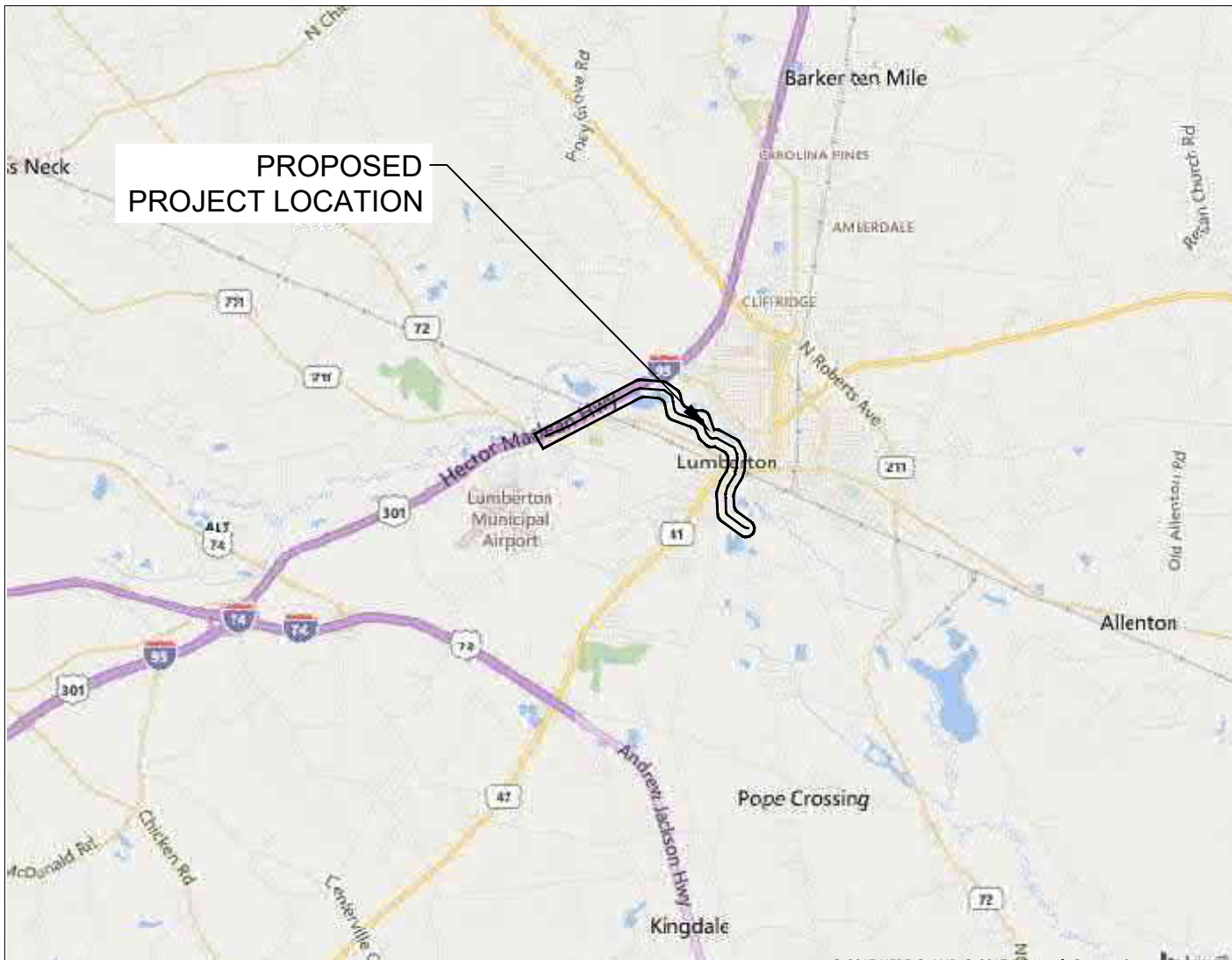
CIVIL DRAWINGS

C-100 GENERAL SITE PLAN



PROJECT LOCATION MAP

SCALE: 1" = 2000'



VICINITY MAP

SCALE: 1" = 10,000'

ADMINISTRATION
APPROVED BY:

EXECUTIVE DIRECTOR

DATE

PLANS PREPARED
AND APPROVED BY:

AECOM

DATE



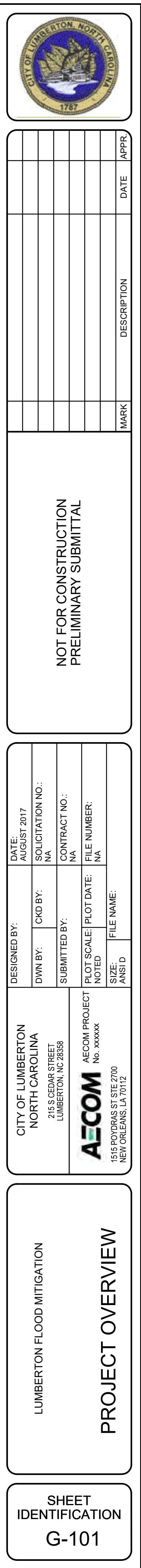
MARK	DESCRIPTION	DATE	APPR

NOT FOR CONSTRUCTION
PRELIMINARY SUBMITTAL

DESIGNED BY:	DATE:	DESIGNED BY:	DATE:
DWN BY:	AUGUST 2017	DWN BY:	AUGUST 2017
SUBMITTED BY:	NO. 60548447	SUBMITTED BY:	NO. 60548447
FILE NUMBER:	NA	FILE NUMBER:	NA
FILE NAME:	NA	FILE NAME:	NA
ANSI D	ANSI D	ANSI D	ANSI D
CITY OF LUMBERTON NORTH CAROLINA 215 S. CEDAR STREET LUMBERTON, NC 28558	AECOM PROJECT No. xxxxx 1515 PONDAS STREET 2700 NEW ORLEANS, LA 70112	AECOM PROJECT No. xxxxx 1515 PONDAS STREET 2700 NEW ORLEANS, LA 70112	AECOM PROJECT No. xxxxx 1515 PONDAS STREET 2700 NEW ORLEANS, LA 70112



LUMBERTON FLOOD MITIGATION
COVER SHEET

SHEET
IDENTIFICATION
G-101

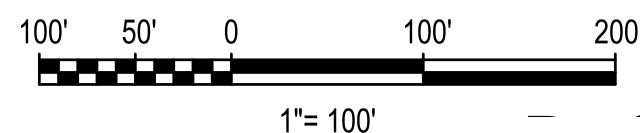




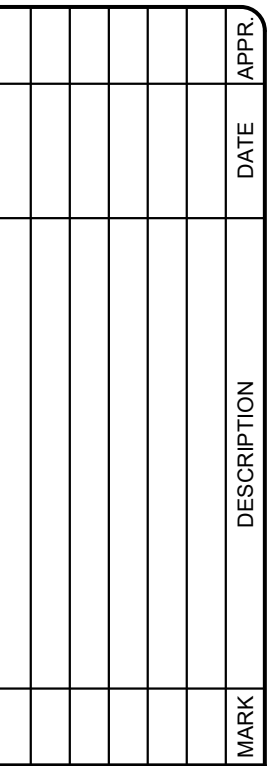
SCALE: 1" = 100'

 BASE FLOOD ELEVATION (BFE)
 BASE FLOOD ELEVATION +3' (BFE+3')
 LIDAR SURVEY
 GROUND SURVEY


1. GROUND SURVEY SHOTS WERE COLLECTED IN NOVEMBER 2009.
2. BASE FLOOD ELEVATION (BFE) TAKEN FROM THE NORTH CAROLINA FLOOD RISK INFORMATION SYSTEM (NC FRIS) WEBSITE.



SCALE: 1" = 100'



NOT FOR CONSTRUCTION
PRELIMINARY SUBMITTAL

	AECOM PROJECT NO. 6054847	
	1515 POTOMAC ST STE 2700 NEW GREENS LA 70112	SIZE: 15' X 10' ANSID: 15' X 10'
NORTH 2415 CEDAR STREET LUMBERTON, NC 28358	DWN BY: CKD BY: SUBMITTED BY:	SOLICITATION NO.: NA CONTRACT NO.: 6054847 FILE NUMBER: NA

PLAN AND PROFILE

SHEET
IDENTIFICATION
C-100

N:\Projects\Lumberton\CAO\Current Drawings\Plan and Profile.dwg, Aug 18, 2017 - 2:19:03PM, philip.olivier

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MATCHLINE STA 25+00
SHEET C-100



MATCHLINE STA 50+00
SHEET C-102

PLAN

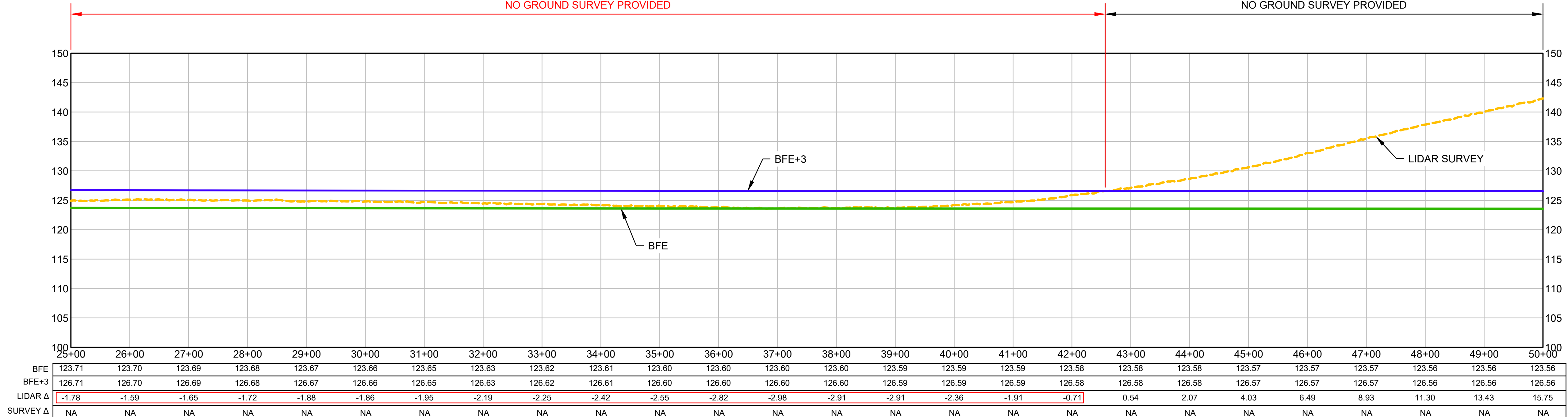
SCALE: 1" = 100'

LEGEND:

- BASE FLOOD ELEVATION (BFE)
- BASE FLOOD ELEVATION +3' (BFE+3)
- LIDAR SURVEY
- GROUND SURVEY

LIDAR SURVEY IS BELOW BFE+3
NO GROUND SURVEY PROVIDED

LIDAR SURVEY IS ABOVE BFE+3
NO GROUND SURVEY PROVIDED



PROFILE

SCALE: 1" = 100'



MARK	DESCRIPTION	DATE	APPR

NOT FOR CONSTRUCTION
PRELIMINARY SUBMITTAL

DESIGNED BY:	DATE:	AUGUST 2017
DWN BY:	CHK BY:	NA
SUBMITTED BY:	CONTRACT NO.:	60548477
PLOT SCALE:	FILE NUMBER:	NA
NOTED	FILE NAME:	NA
SIZE:	ANSI D	
CITY OF LUMBERTON NORTH CAROLINA 215 S. CEDAR STREET LUMBERTON, NC 27558 AECOM 1515 PONDRASS STREET NEW ORLEANS, LA 70112		

LUMBERTON FLOOD MITIGATION

PLAN AND PROFILE

SHEET
IDENTIFICATION
C-101

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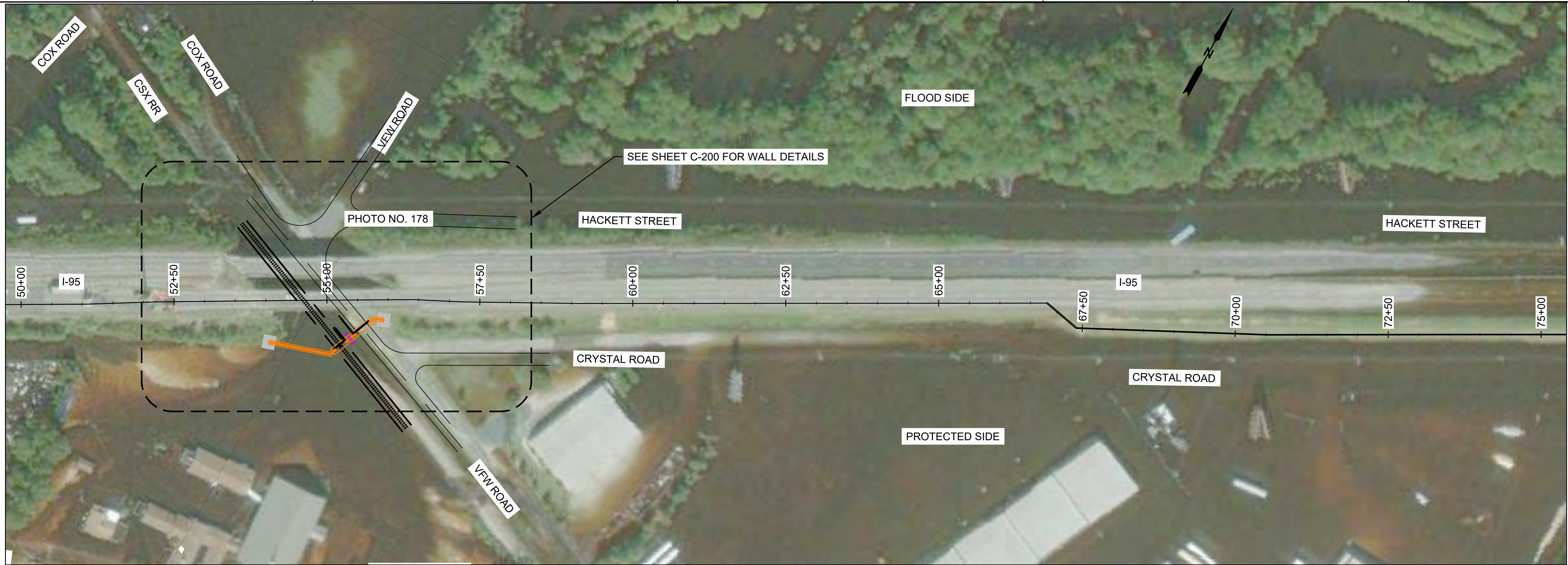
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MATCHLINE STA 50+00
SHEET C-101

MATCHLINE STA 75+00
SHEET C-103

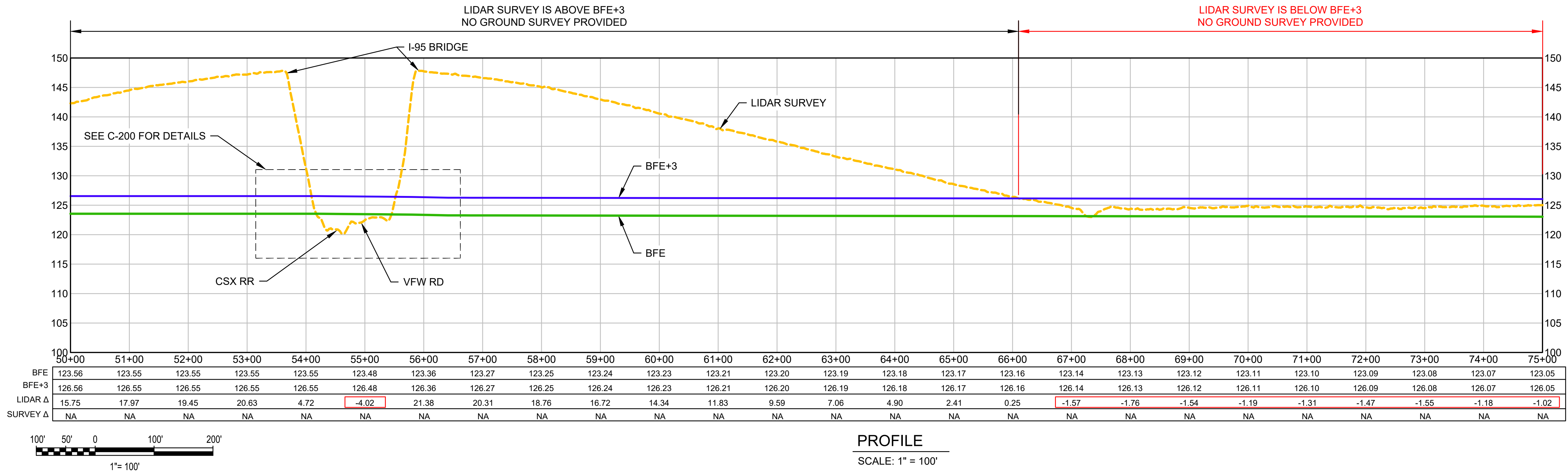


PLAN

SCALE: 1" = 100'

LEGEND:

- BASE FLOOD ELEVATION (BFE)
- BASE FLOOD ELEVATION +3' (BFE+3)
- LIDAR SURVEY
- GROUND SURVEY



PROFILE

SCALE: 1" = 100'



MARK	DESCRIPTION	DATE	APPR

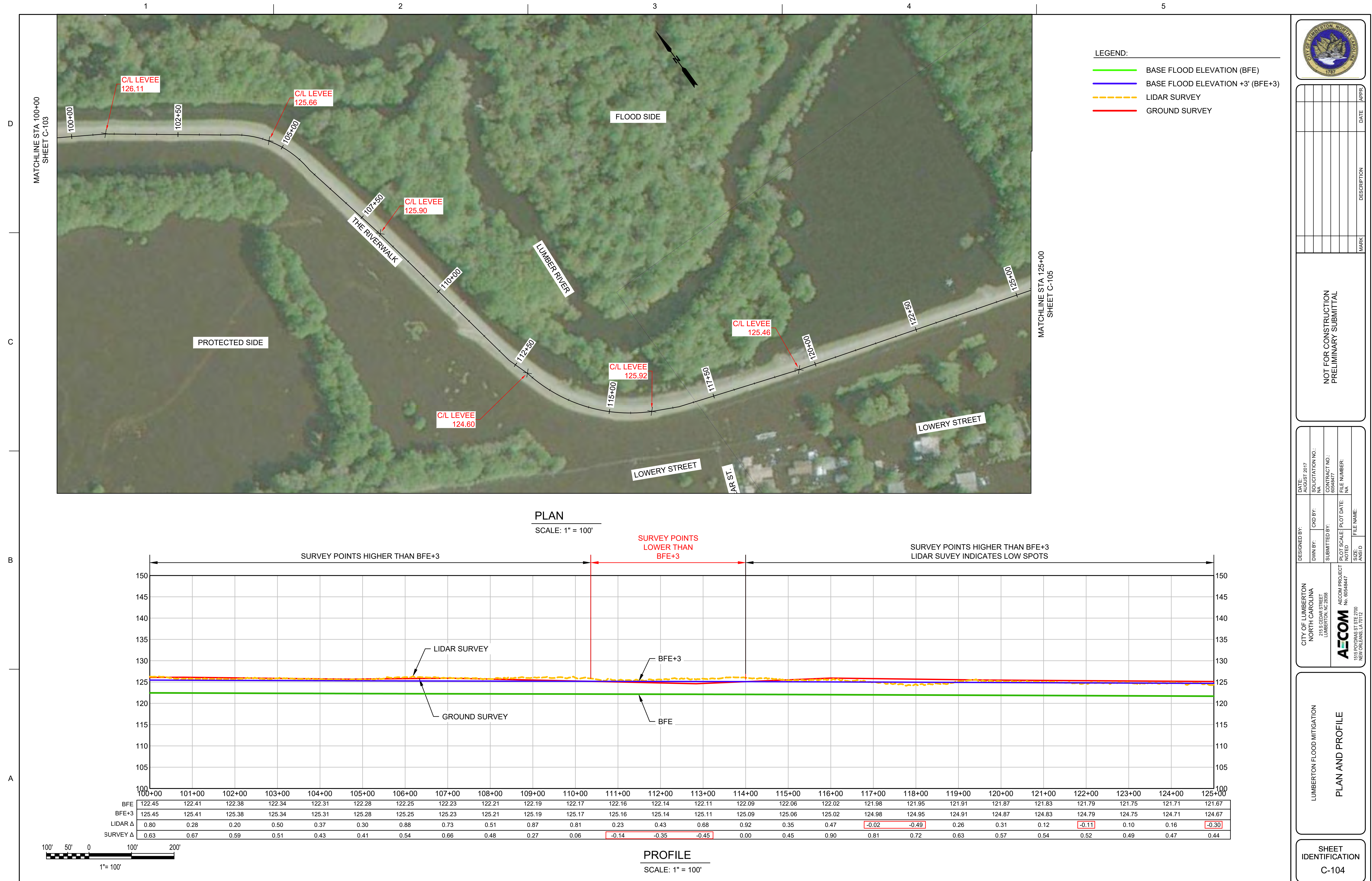
NOT FOR CONSTRUCTION
PRELIMINARY SUBMITTAL

DESIGNED BY:	DATE:	AUGUST 2017
DWN BY:	CHK BY:	NA
SUBMITTED BY:	CONTRACT NO.:	60548477
PLOT SCALE:	FILE NUMBER:	NA
NOTED	FILE NAME:	NA
SIZE:	ANSI D	
CITY OF LUMBERTON NORTH CAROLINA 215 S. CEDAR STREET LUMBERTON, NC 27558		
AECOM PROJECT No. 60548477 1515 PONDRASS STREET NEW ORLEANS, LA 70112		

LUMBERTON FLOOD MITIGATION

PLAN AND PROFILE

SHEET
IDENTIFICATION
C-102



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D
C
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MATCHLINE STA 125+00
SHEET C-104

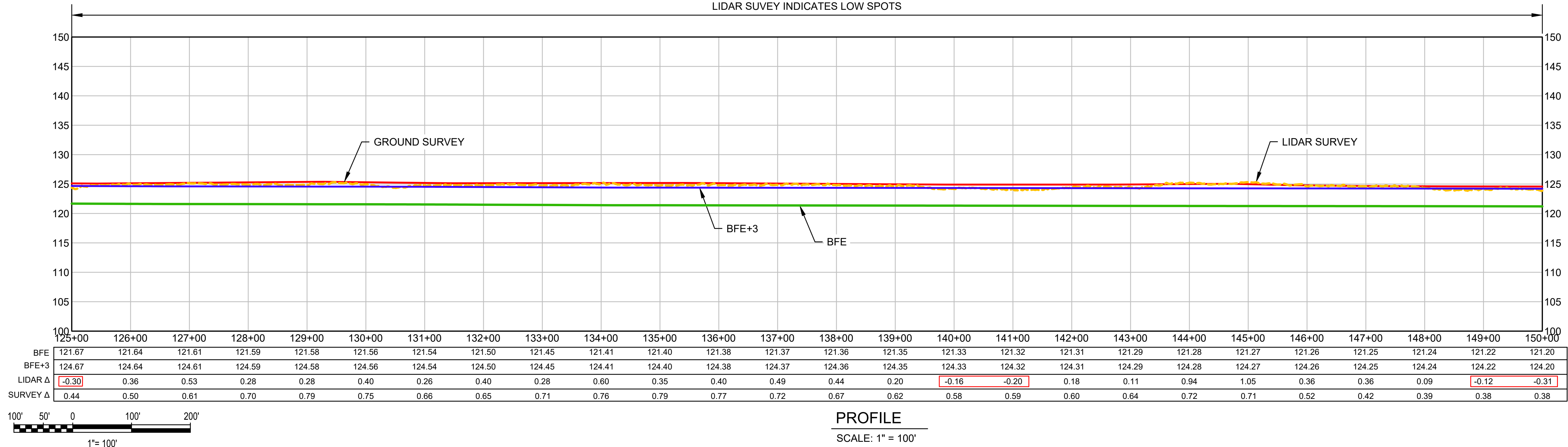


MATCHLINE STA 152+00
SHEET C-106

- LEGEND:
- BASE FLOOD ELEVATION (BFE)
 - BASE FLOOD ELEVATION +3' (BFE+3)
 - LIDAR SURVEY
 - GROUND SURVEY

PLAN
SCALE: 1" = 100'

SURVEY POINTS HIGHER THAN BFE+3
LIDAR SURVEY INDICATES LOW SPOTS



PROFILE
SCALE: 1" = 100'



DATE	APPR
DESCRIPTION	MARK

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PRELIMINARY SUBMITAL

DESIGNED BY:	DATE:	AUGUST 2017
DWN BY:	COLLIMATION NO.:	NA
SUBMITTED BY:	CONTRACT NO.:	60548477
PLOT SCALE:	FILE NUMBER:	NA
NOTED	FILE NAME:	
SIZE	ANSI D	

CITY OF LUMBERTON
NORTH CAROLINA
215 S CEDAR STREET
LUMBERTON, NC 27558

AECOM
AECOM PROJECT
No. 60548447
1515 PONDRASS STREET
NEW ORLEANS, LA 70112

LUMBERTON FLOOD MITIGATION
PLAN AND PROFILE

SHEET
IDENTIFICATION
C-105

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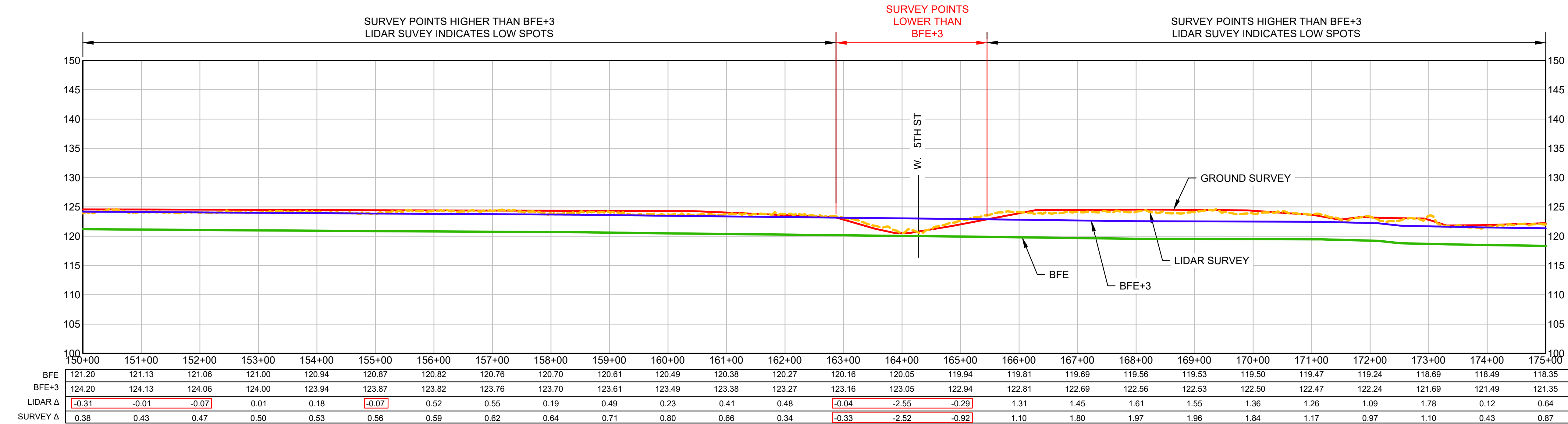


PLAN

SCALE: 1" = 100'

LEGEND:

- BASE FLOOD ELEVATION (BFE)
- BASE FLOOD ELEVATION +3' (BFE+3)
- LIDAR SURVEY
- GROUND SURVEY



PROFILE

SCALE: 1" = 100'



DATE	APPR
DESCRIPTION	MARK

NOT FOR CONSTRUCTION
PRELIMINARY SUBMITAL

DESIGNED BY:	DATE:	AUGUST 2017
DWN BY:	CHK BY:	
SUBMITTED BY:	CONTRACT NO.:	60548477
PLOT SCALE:	FILE NUMBER:	NA
NOTED	FILE NAME:	
ANSI D		
CITY OF LUMBERTON NORTH CAROLINA 215 S. CEDAR STREET LUMBERTON, NC 27558	AECOM PROJECT No. 60548447 1515 PONDRASS STREET NEW ORLEANS, LA 70112	AECOM

LUMBERTON FLOOD MITIGATION
PLAN AND PROFILE

SHEET
IDENTIFICATION
C-106

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MATCHLINE STA 175+00
SHEET C-106



MATCHLINE STA 200+00
SHEET C-108

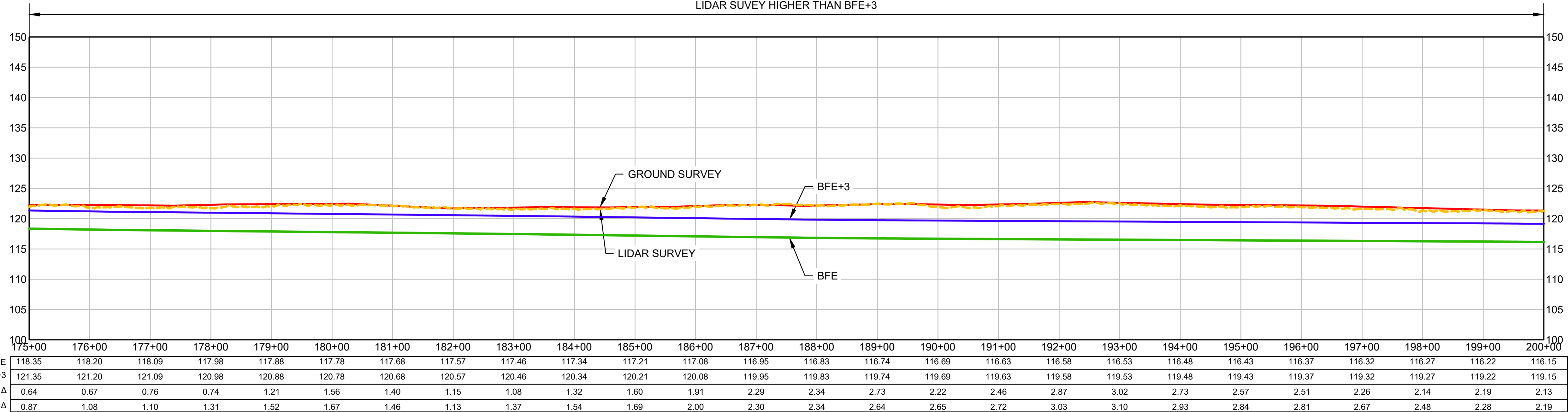
PLAN

SCALE: 1" = 100'

LEGEND:

- BASE FLOOD ELEVATION (BFE)
- BASE FLOOD ELEVATION +3' (BFE+3)
- - - LIDAR SURVEY
- GROUND SURVEY

SURVEY POINTS HIGHER THAN BFE+3
LIDAR SURVEY HIGHER THAN BFE+3



PROFILE

SCALE: 1" = 100'



MARK	DESCRIPTION	DATE	APPR

NOT FOR CONSTRUCTION
PRELIMINARY SUBMITTAL

DESIGNED BY:	DATE:	AUGUST 2017
DWN BY:	CHK BY:	NA
SUBMITTED BY:	CONTRACT NO.:	60548477
PLOT SCALE:	FILE NUMBER:	NA
SIZE:	FILE NAME:	NA
ANSI D		
CITY OF LUMBERTON NORTH CAROLINA 215 S. CEDAR STREET LUMBERTON, NC 27558		
AECOM PROJECT No. 60548447 1515 PONDRASS STREET NEW ORLEANS, LA 70112		

LUMBERTON FLOOD MITIGATION

PLAN AND PROFILE

SHEET
IDENTIFICATION
C-107

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D

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B

A

MATCHLINE STA 200+00
SHEET C-107

MATCHLINE STA 225+00
SHEET C-109



- LEGEND:
- BASE FLOOD ELEVATION (BFE)
 - BASE FLOOD ELEVATION +3' (BFE+3)
 - LIDAR SURVEY
 - GROUND SURVEY

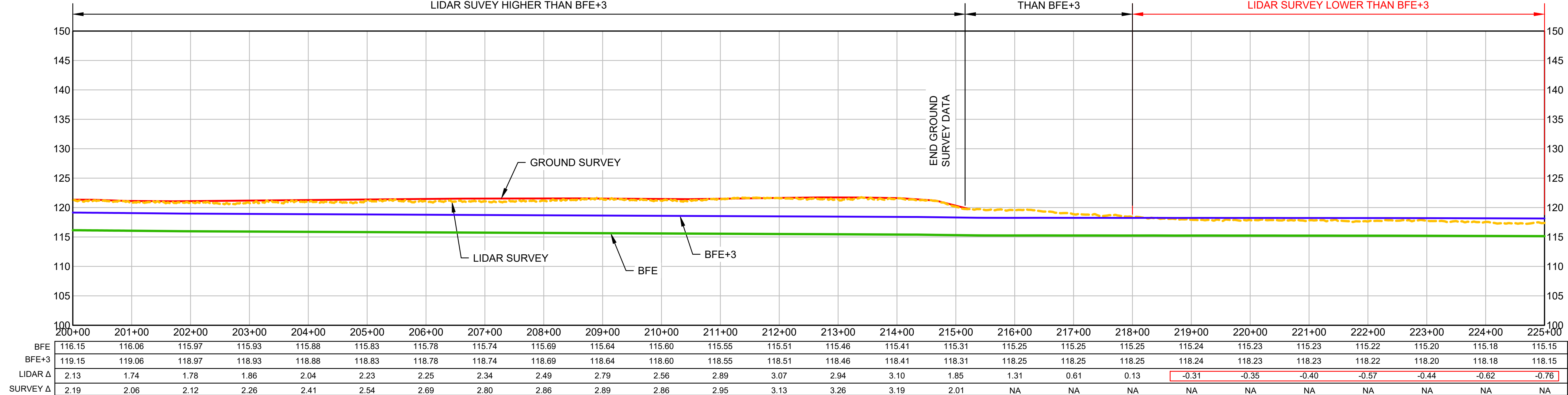
PLAN

SCALE: 1" = 100'

SURVEY POINTS HIGHER THAN BFE+3
LIDAR SURVEY HIGHER THAN BFE+3

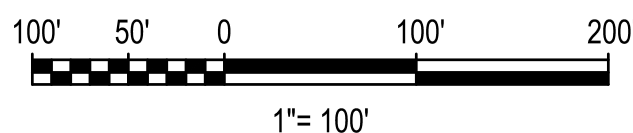
LIDAR SURVEY HIGHER
THAN BFE+3

LIDAR SURVEY LOWER THAN BFE+3



PROFILE

SCALE: 1" = 100'



MARK	DESCRIPTION	DATE	APPR

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PRELIMINARY SUBMITTAL

DESIGNED BY:	DATE:	AUGUST 2017
DWN BY:	COLLIMATION NO.:	NA
SUBMITTED BY:	CONTRACT NO.:	6054847
PLOT SCALE:	FILE NUMBER:	NA
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SIZE:	ANSI D	
CITY OF LUMBERTON NORTH CAROLINA 215 S CEDAR STREET LUMBERTON, NC 27558		
AECOM PROJECT No. 6054847 1515 PONDRASS STREET NEW ORLEANS, LA 70112		

LUMBERTON FLOOD MITIGATION
PLAN AND PROFILE

SHEET
IDENTIFICATION
C-108

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SHEET C-108



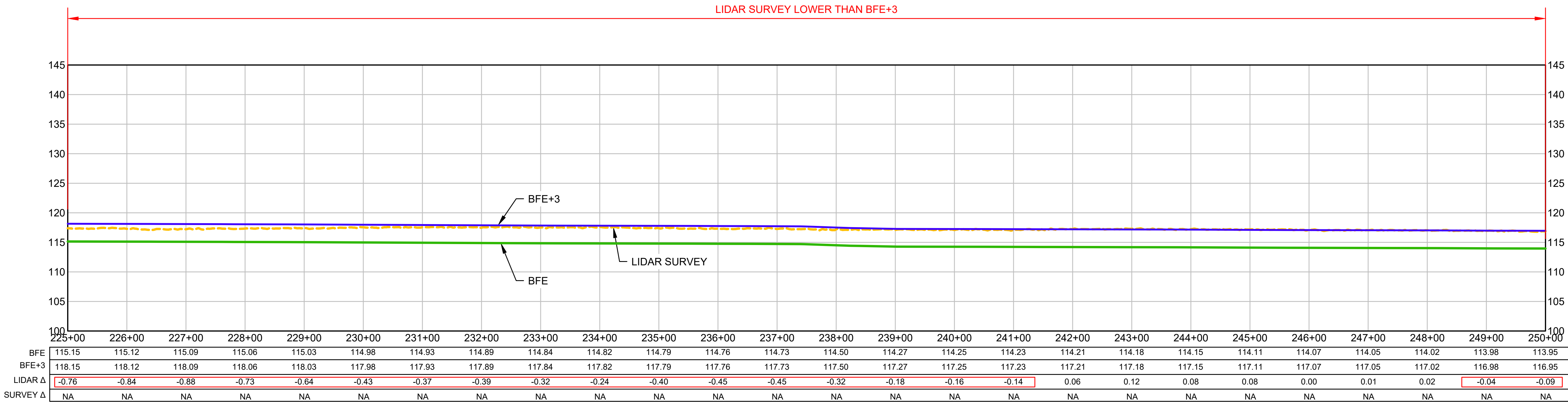
MATCHLINE STA 250+00
SHEET C-110

PLAN

SCALE: 1" = 100'

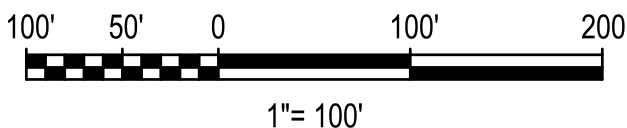
LEGEND:

- BASE FLOOD ELEVATION (BFE)
- BASE FLOOD ELEVATION +3' (BFE+3)
- LIDAR SURVEY
- GROUND SURVEY



PROFILE

SCALE: 1" = 100'



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PRELIMINARY SUBMITAL

DESIGNED BY:	DATE:	AUGUST 2017
DWN BY:	SOLICITATION NO.:	NA
SUBMITTED BY:	CONTRACT NO.:	60548477
PLOT SCALE:	FILE NUMBER:	NA
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CITY OF LUMBERTON NORTH CAROLINA 115 S. CEDAR STREET LUMBERTON, NC 27558	AECOM PROJECT No. 60548447	AECOM 1515 PONDRAIS STREET NEW ORLEANS, LA 70112

LUMBERTON FLOOD MITIGATION
PLAN AND PROFILE

SHEET
IDENTIFICATION
C-109

N:\Projects\Lumberton\CAO\Current Drawings\Plan and Profile.dwg, Aug 18, 2017 - 2:31:05PM, philip.olivier

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MATCHLINE STA 250+00
SHEET C-109

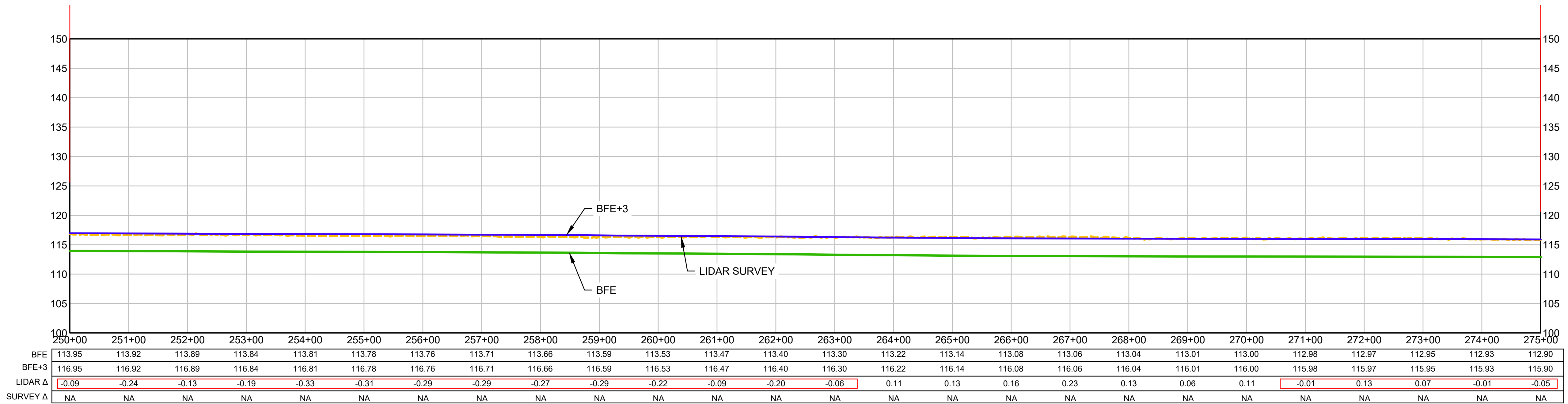


PLAN

SCALE: 1" = 100'

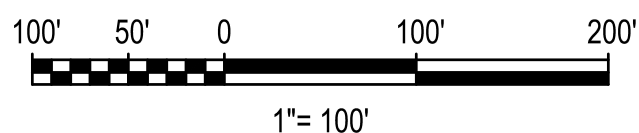
LEGEND:

- BASE FLOOD ELEVATION (BFE)
- BASE FLOOD ELEVATION +3' (BFE+3)
- LIDAR SURVEY
- GROUND SURVEY



PROFILE

SCALE: 1" = 100'



MARK	DESCRIPTION	DATE	APPR

NOT FOR CONSTRUCTION
PRELIMINARY SUBMITTAL

CITY OF LUMBERTON NORTH CAROLINA 115 S CEDAR STREET LUMBERTON, NC 28556	DESIGNED BY:	DATE:	AUGUST 2017	
	DWN BY:	CHK BY:	NA	
	SUBMITTED BY:	CONTRACT NO.:	60548477	
	PLOT SCALE:	FILE NUMBER:	NA	
AECOM 1515 PONDRASS STREET NEW ORLEANS, LA 70112	NOTED	FILE NAME:	NA	
	SIZE:	ANSI D	NA	

LUMBERTON FLOOD MITIGATION

PLAN AND PROFILE

SHEET
IDENTIFICATION
C-110

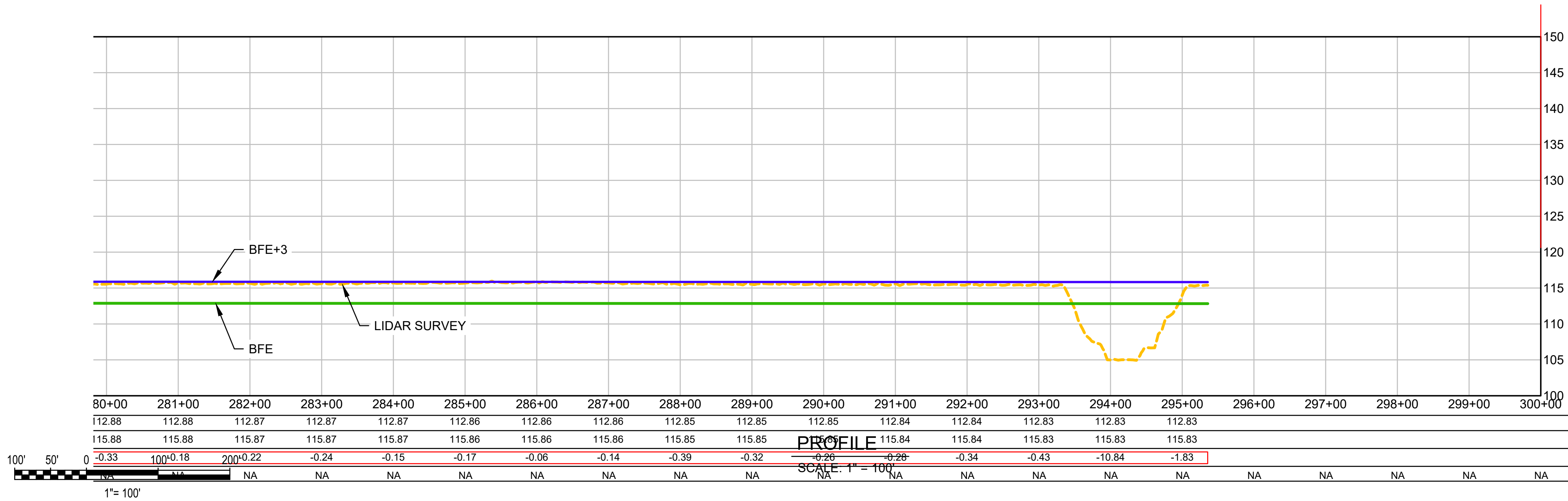
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A
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C
D

MATCHLINE STA 175+00
SHEET C-106



PLAN
SCALE: 1" = 100'



- LEGEND:
- BASE FLOOD ELEVATION (BFE)
 - BASE FLOOD ELEVATION +3' (BFE+3)
 - LIDAR SURVEY
 - GROUND SURVEY



MARK	DESCRIPTION	DATE	APPR

NOT FOR CONSTRUCTION
PRELIMINARY SUBMITTAL

DESIGNED BY:	DATE:	AUGUST 2017
DWN BY:	CHK BY:	
SUBMITTED BY:	CONTRACT NO.:	60548477
PLOT SCALE:	FILE NUMBER:	NA
NOTED	FILE NAME:	
SIZE:	ANSI D	
CITY OF LUMBERTON NORTH CAROLINA 215 S CEDAR STREET LUMBERTON, NC 28556		
AECOM PROJECT No. 60548447 1515 PONDRAIS STREET NEW ORLEANS, LA 70112		

LUMBERTON FLOOD MITIGATION
PLAN AND PROFILE

SHEET
IDENTIFICATION
C-111

C3 Calibration Results

Table 1. Roughness coefficients used for calibration trial runs

	NLCD Classification	Base N	Min. Value	Max. Value	Final Calibrated N
11	Open Water	0.03	0.025	0.033	0.033
21	Developed, Open Space	0.013	0.01	0.016	0.016
22	Developed, Low Intensity	0.05	0.038	0.063	0.063
23	Developed, Medium Intensity	0.075	0.056	0.094	0.094
24	Developed, High Intensity	0.1	0.075	0.125	0.125
31	Barren Land	0.03	0.025	0.035	
41	Deciduous Forest	0.12	0.1	0.16	
42	Evergreen Forest	0.12	0.1	0.16	
43	Mixed Forest	0.12	0.1	0.16	
52	Scrub/Shrub	0.05	0.035	0.07	
71	Grassland Herbaceous	0.03	0.025	0.035	
81	Pasture/Hay	0.04	0.03	0.05	
82	Cultivated Crops	0.035	0.025	0.045	0.045
90	Woody Wetlands	0.1	0.08	0.15	0.15
95	Emergent Herbaceous Wetland	0.1	0.075	0.15	
	Channel	0.045	0.035	0.05	Override Region 0.065
	Area Upstream of Gate	0.05			
	Black's Tire and Auto Service	0.1			
	I-95	0.013			
	Ponds	0.03			0.033
	Railroad Area	0.02			
	Wetland Upstream of I-95	0.1			
	Wooded Area	0.12			

Hurricane Florence Calibration Results at USGS Gage Location

Table 2. Hurricane Florence water surface elevations for calibration trial runs.

Water Surface Elevation (ft)		
Gage Peak	Base n	Final
119.69	120.02	120.63

Table 3. Hurricane Florence peak discharges for calibration trial runs.

Peak Flow Rate (cfs)		
Gage Peak	Base n	Final
17,100	16,092	15,877

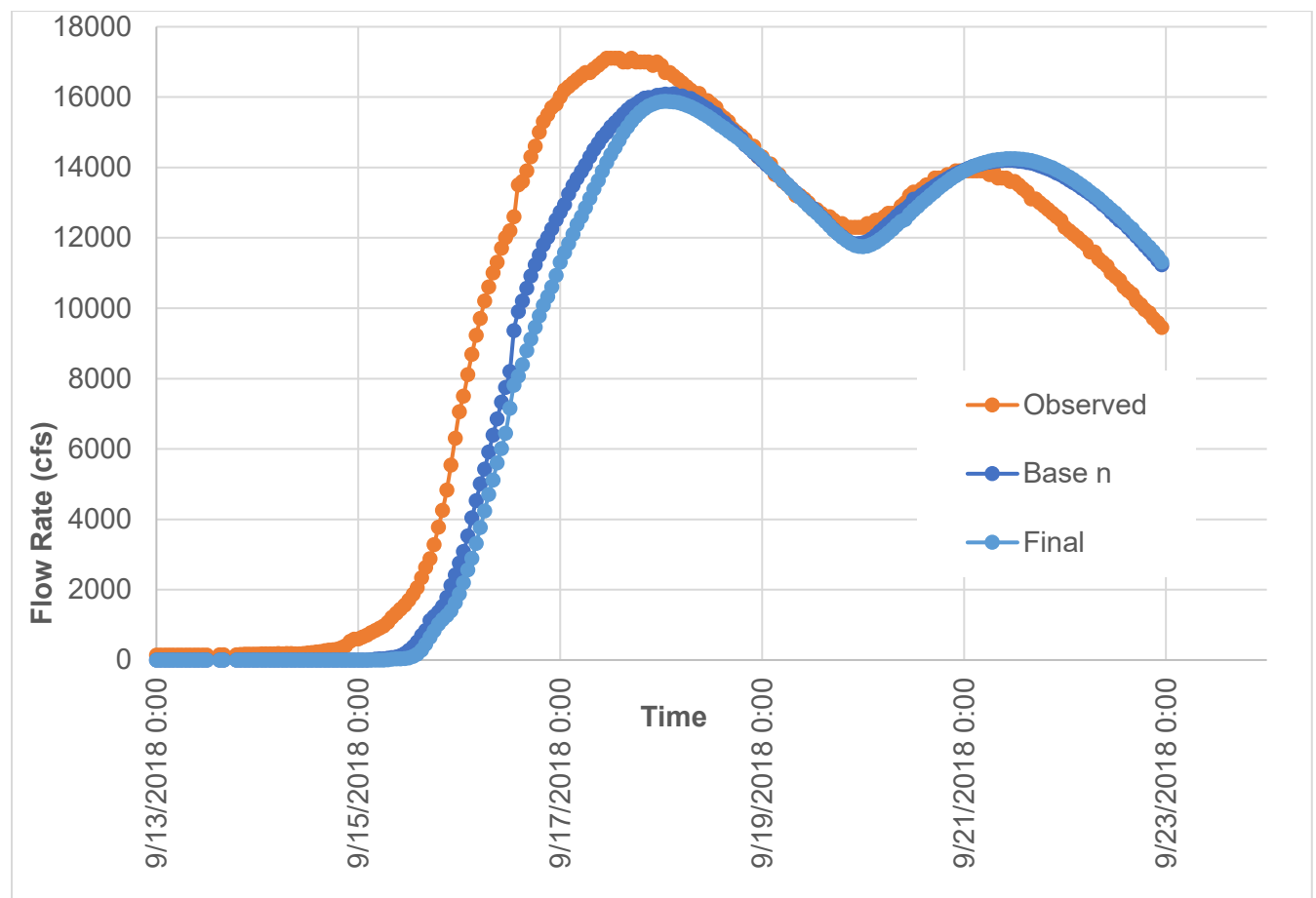


Figure 1- Hurricane Florence hydrographs for calibration trial runs.

Hurricane Matthew Verification Results at USGS Gage Location

Table 4. Hurricane Matthew water surface elevations for verification.

Water Surface Elevation (ft)	
Gage Peak	Verification
119.36	120.42

Table 5. Hurricane Matthew peak discharges for verification

Peak Flow Rate (cfs)	
Gage Peak	Verification
14,600	14,924

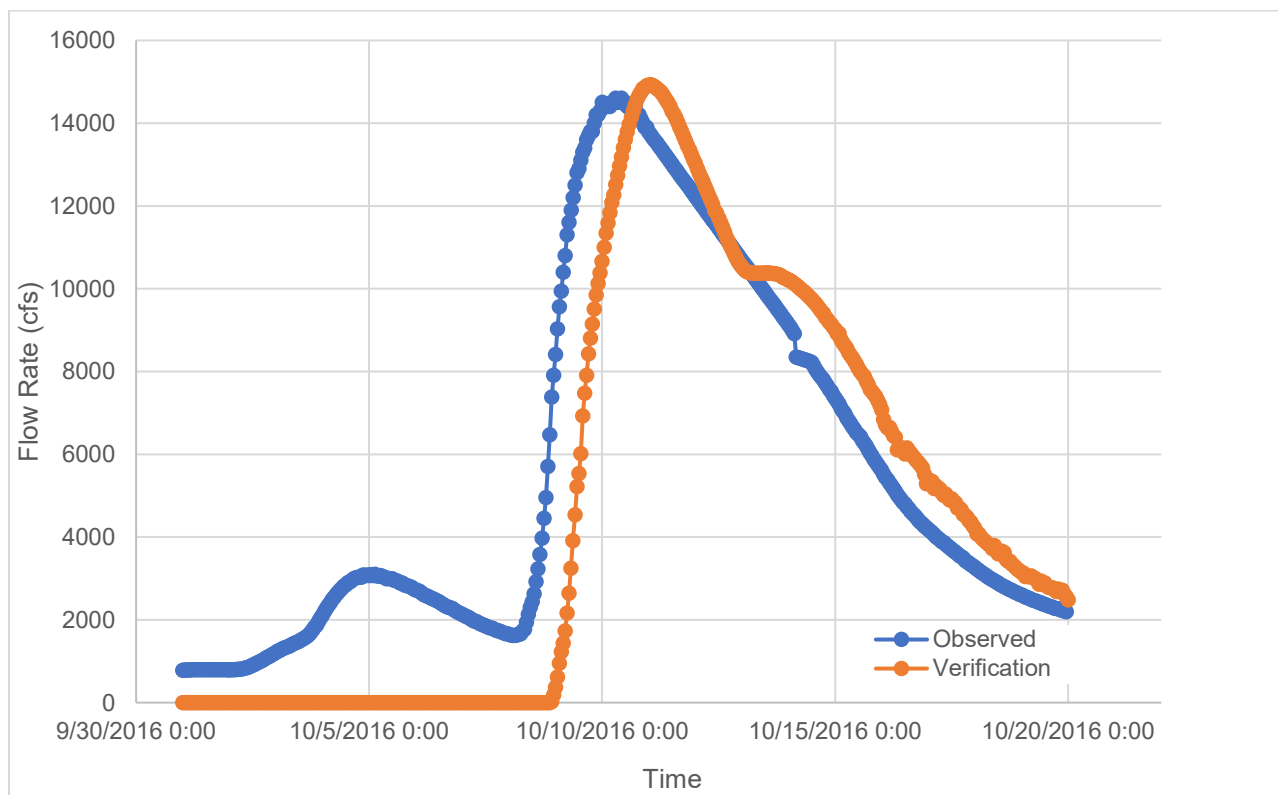


Figure 2. Hurricane Matthew hydrographs for verification run.

C4. Inundation Maps

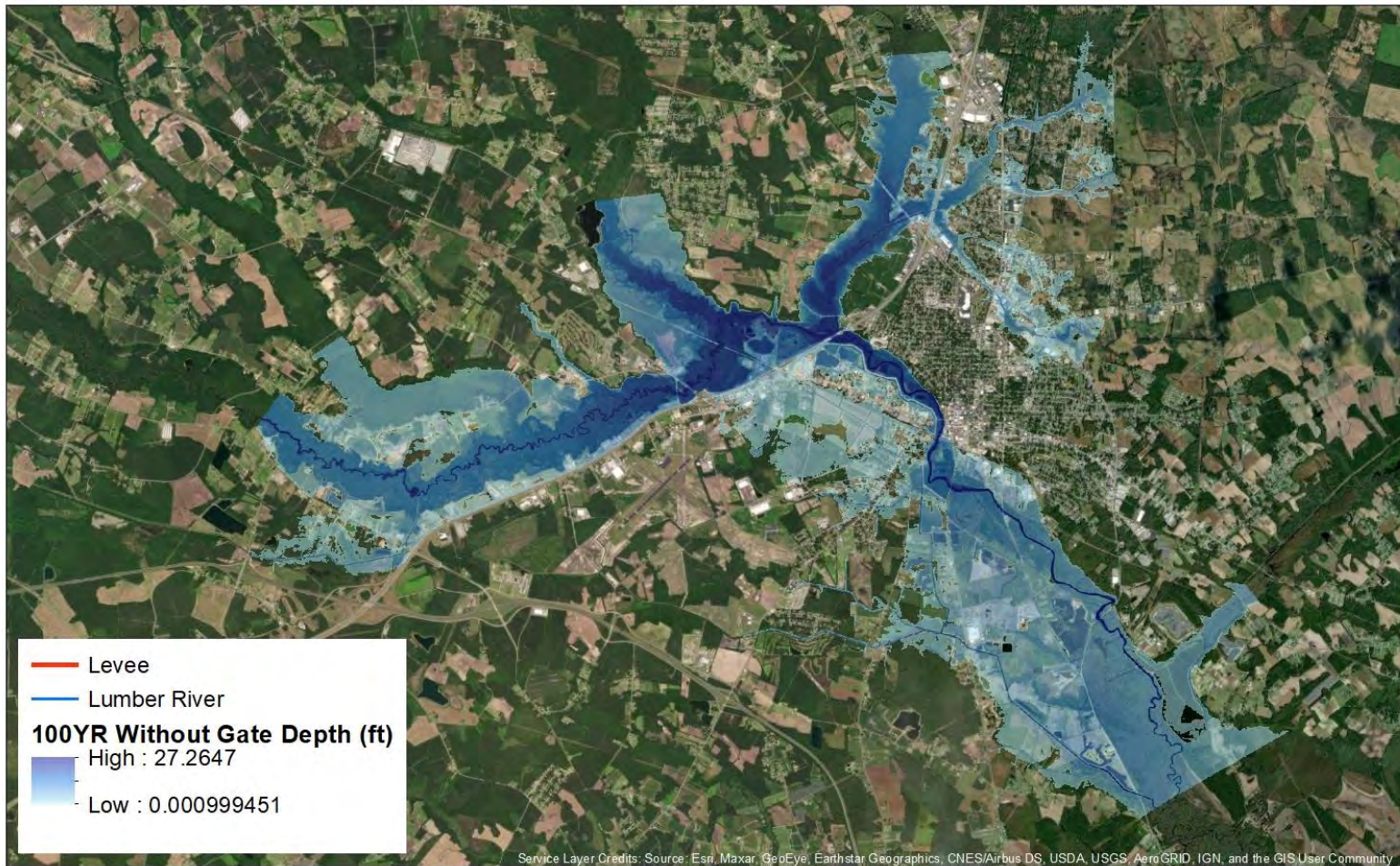


Figure C4-1 – Water depths (ft) for the 100YR flood event during the Scenario - Without Gate.

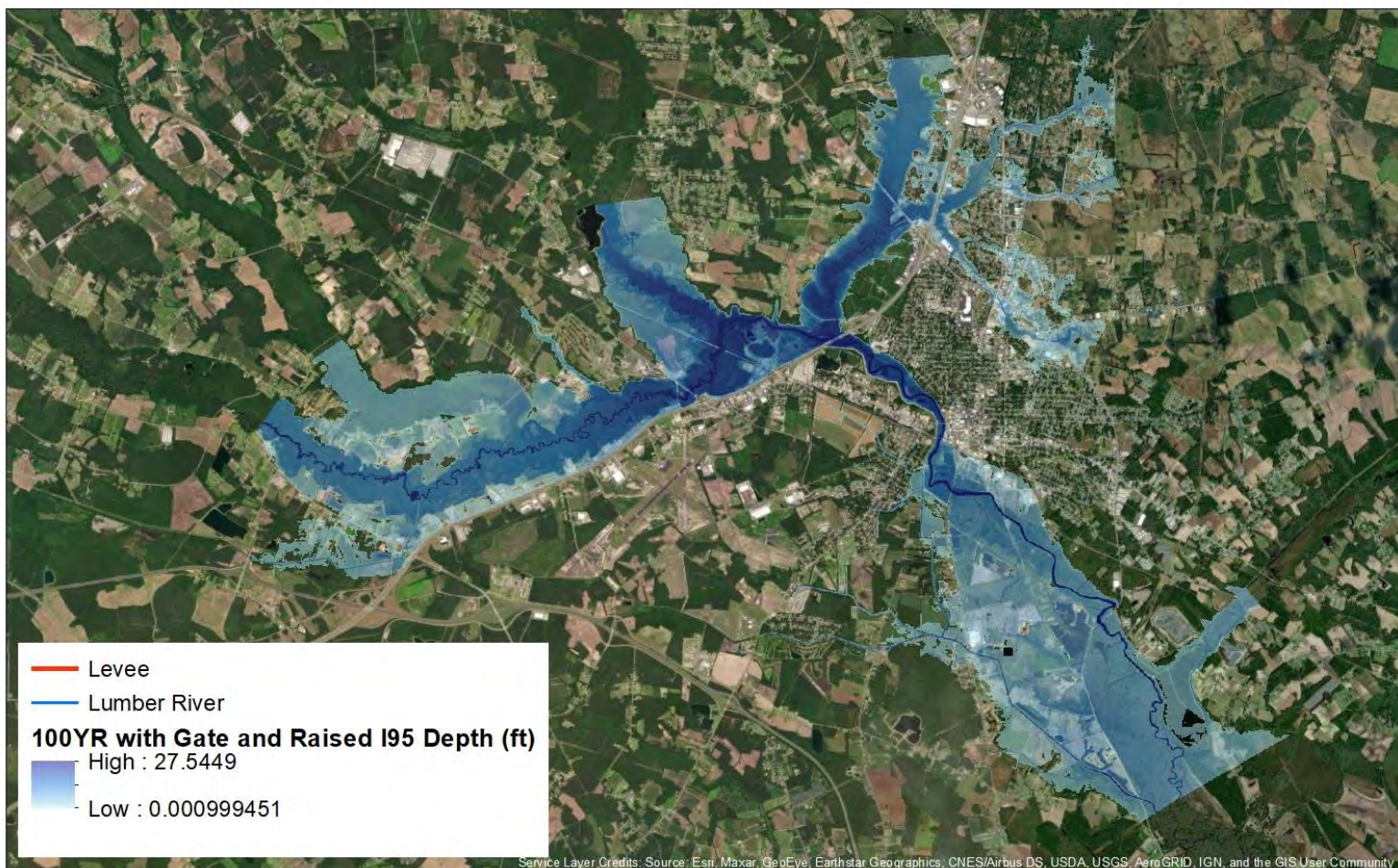


Figure C4-2 – Water depths (ft) for the 100YR flood event during the Scenario – With Gate and I-95 raised

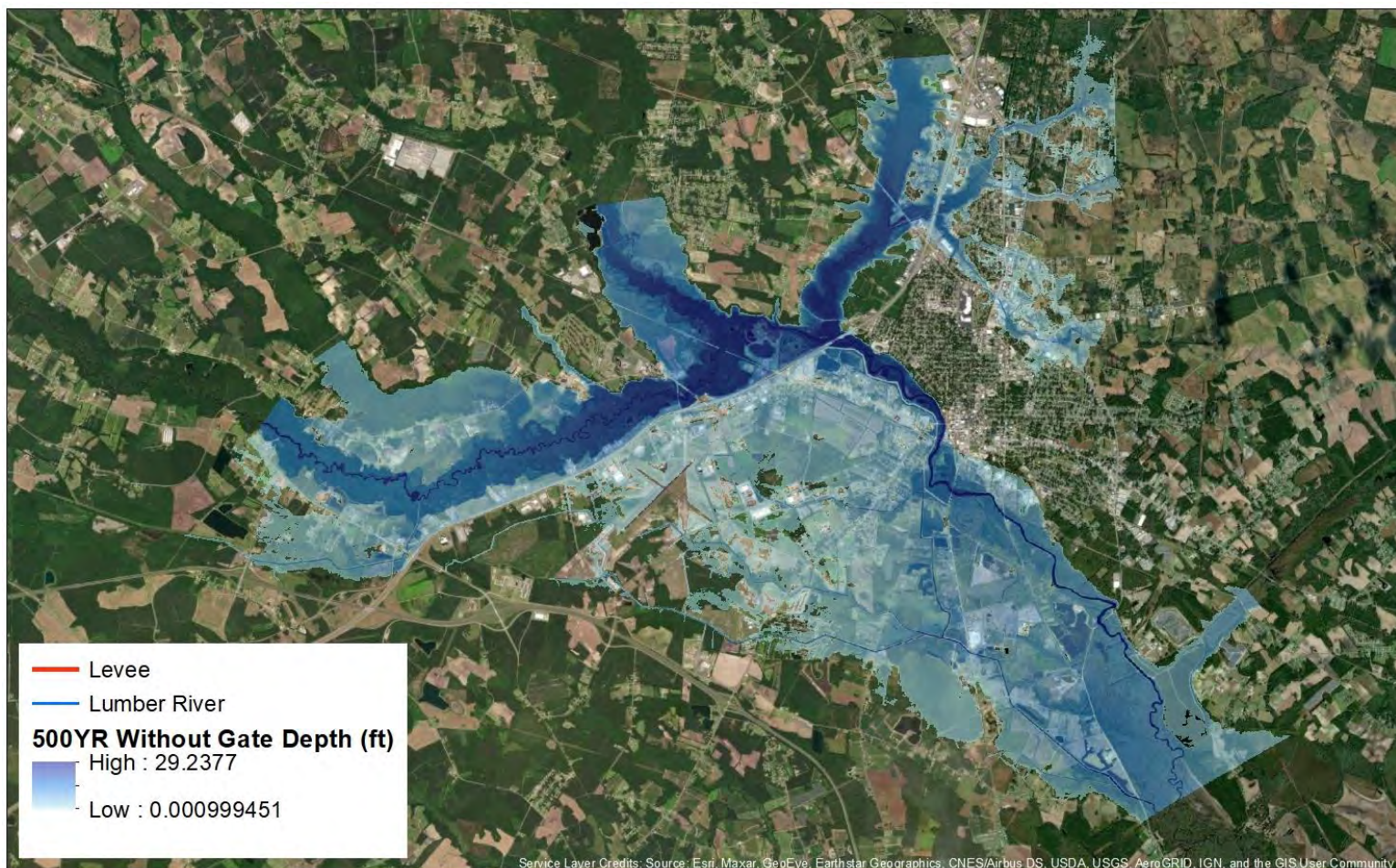


Figure C4-3 – Water depths (ft) for the 500YR flood event during the Scenario - Without Gate.

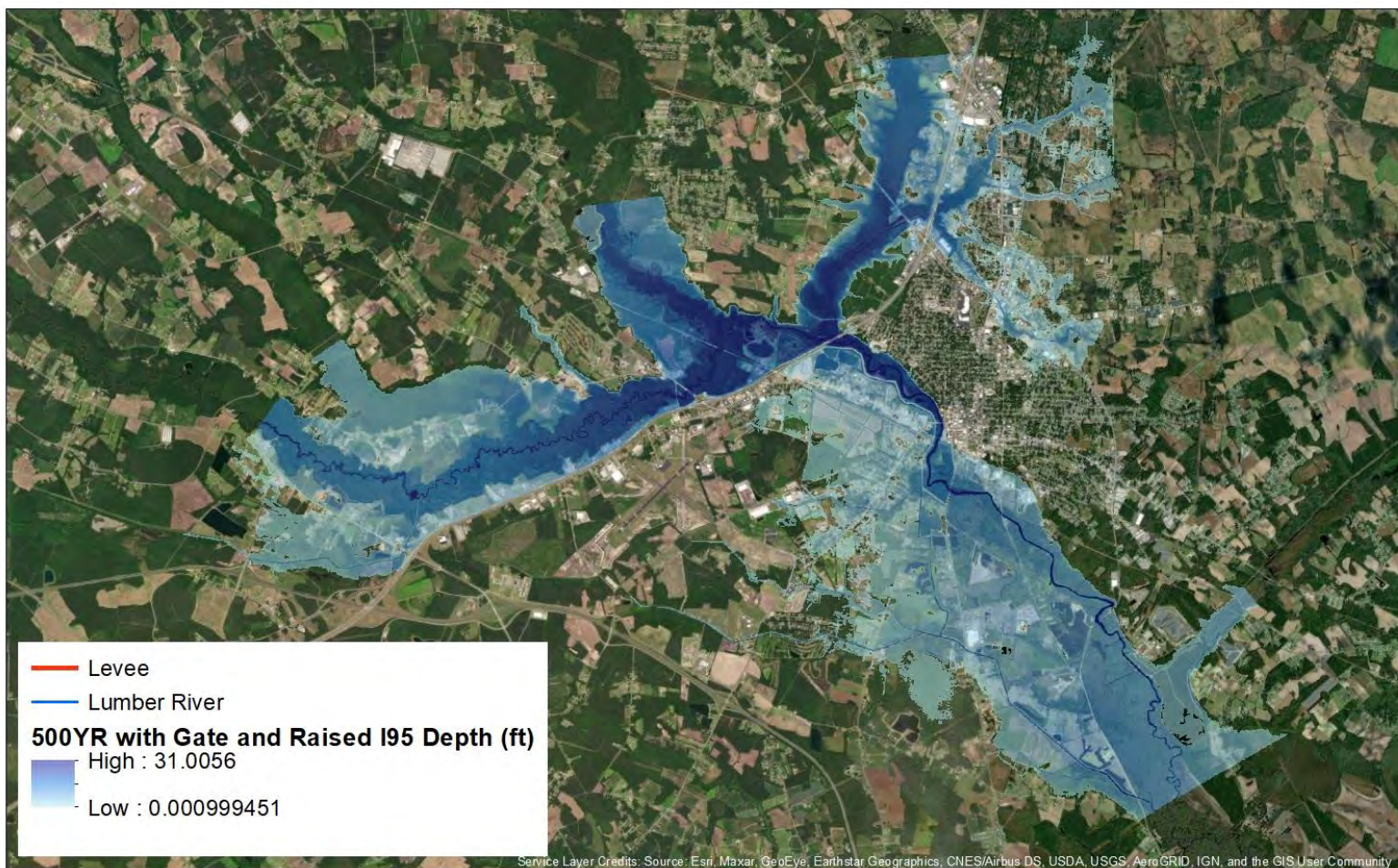


Figure C4-4 – Water depths (ft) for the 500YR flood event during the Scenario – With Gate and I-95 raised.

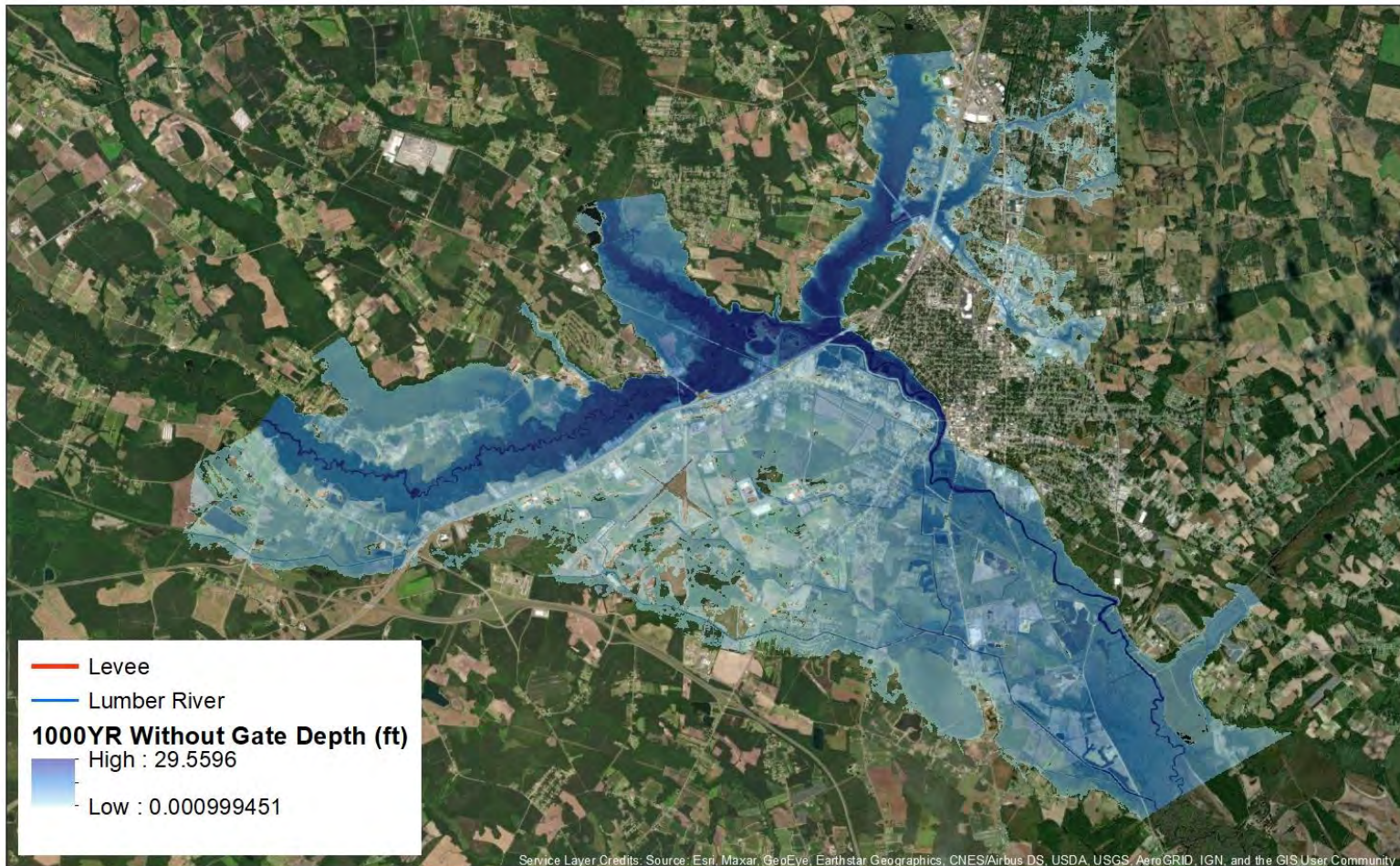


Figure C4-5 – Water depths (ft) for the 1000YR flood event during the Scenario - Without Gate.

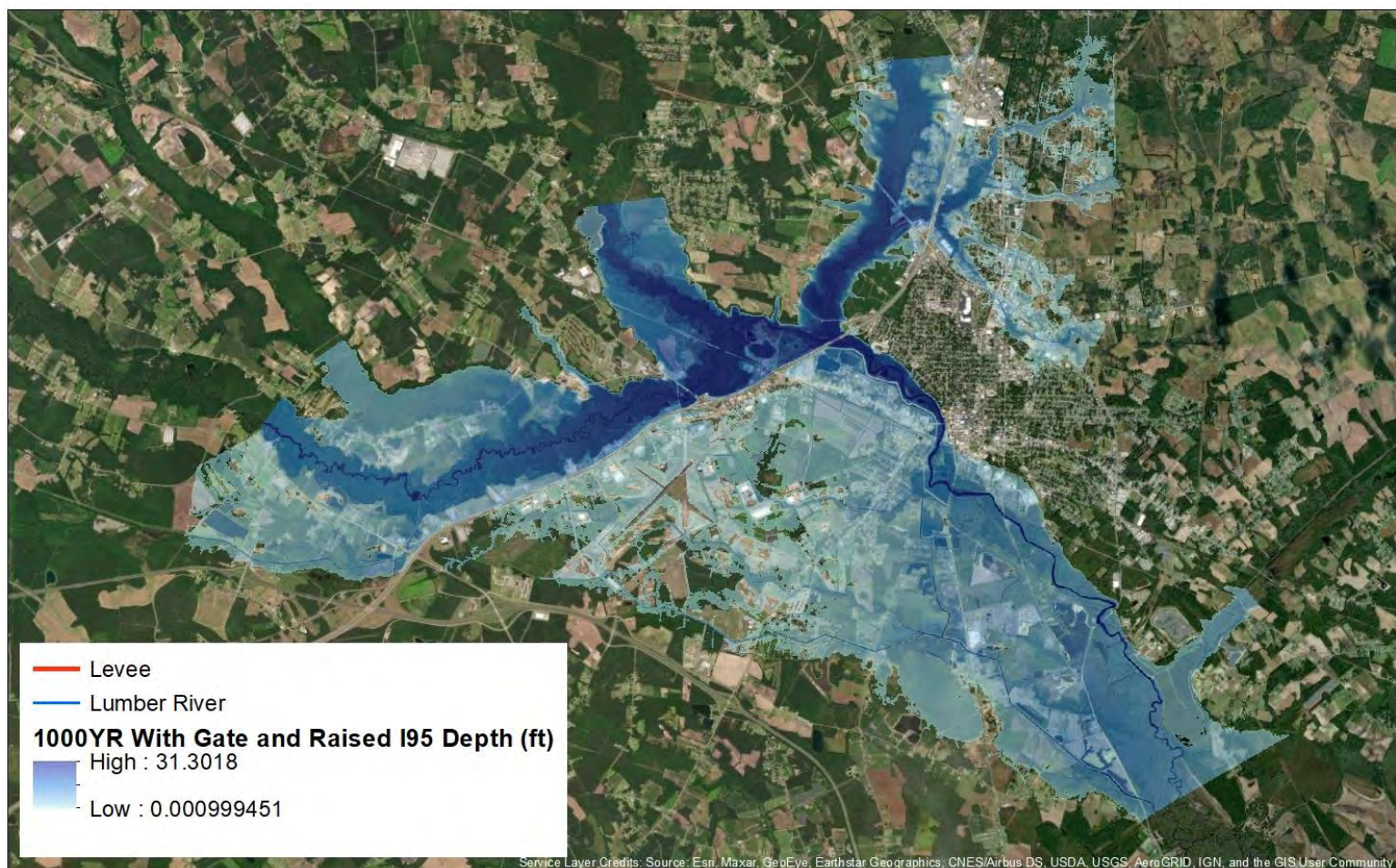


Figure C4-6 – Water depths (ft) for the 1000YR flood event during the Scenario – With Gate and I-95 raised.

Appendix D. Wind Wave Analysis

FIGURES FOR WIND SET-UP AND WAVE RUNUP CALCULATIONS

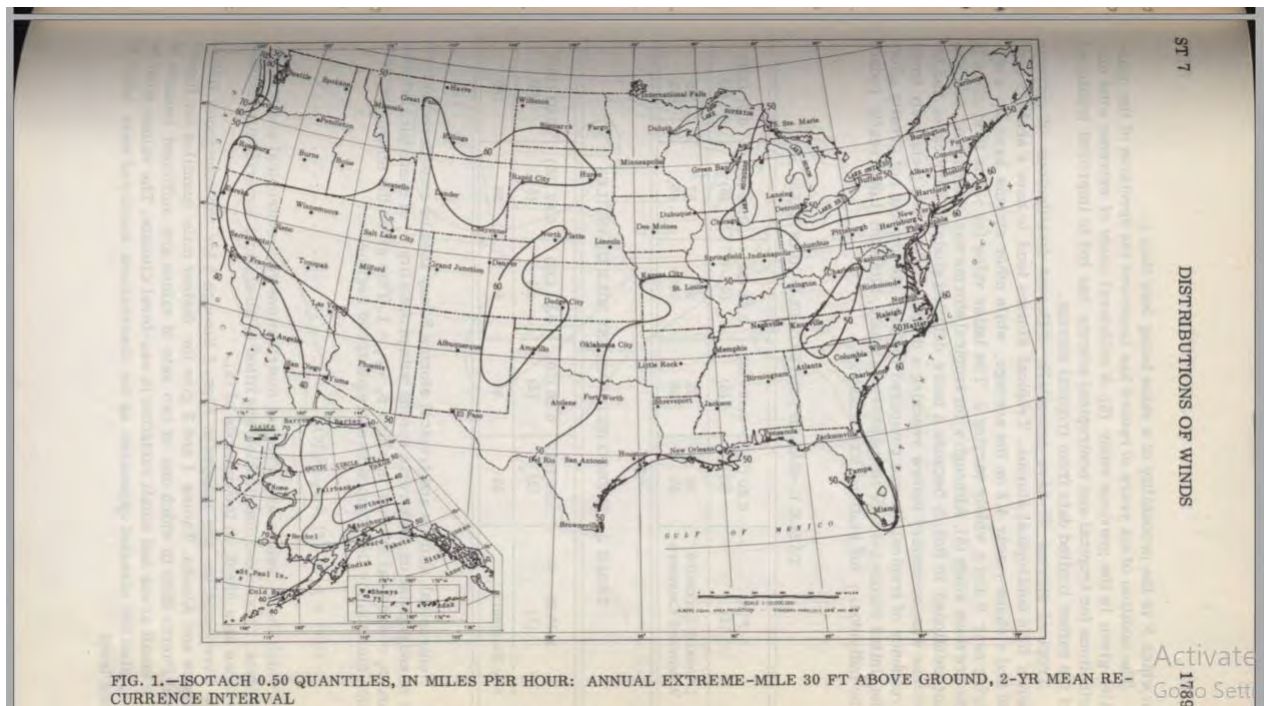


Figure D-1. Isotachs showing wind speeds with a recurrence interval of 2 years over the United States (Thorn, 1968)

Fetch (F_o) in Miles	Wind ratio <u>Over Water</u> Over Land
0.5	1.08
1	1.13
2	1.21
3	1.26
4	1.28
5 (or over)	1.30

Figure D-2 Table for overland to over water conversion of wind speeds from USACE, 1997

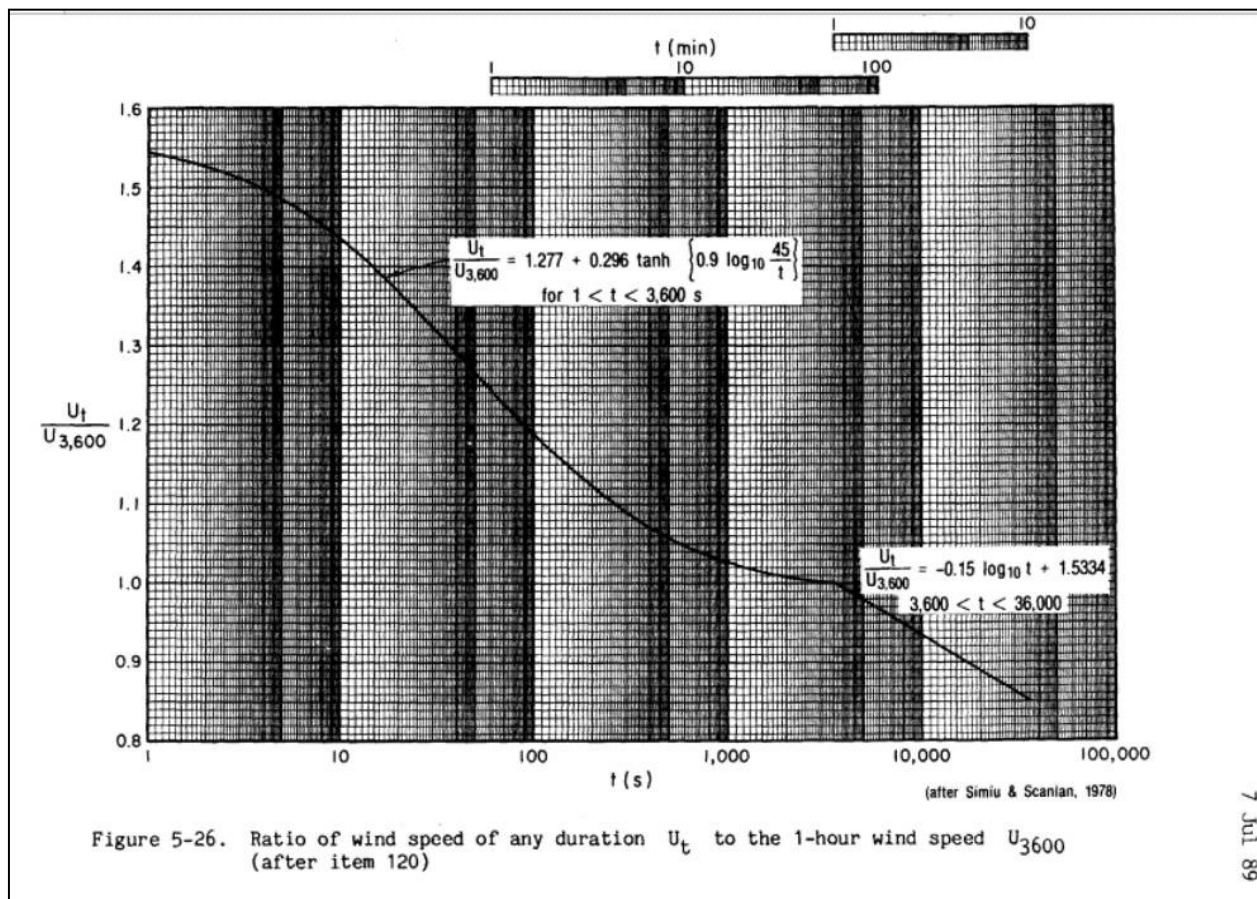


Figure D-3 Chart for converting wind speeds between various averaging intervals from USACE, 1989

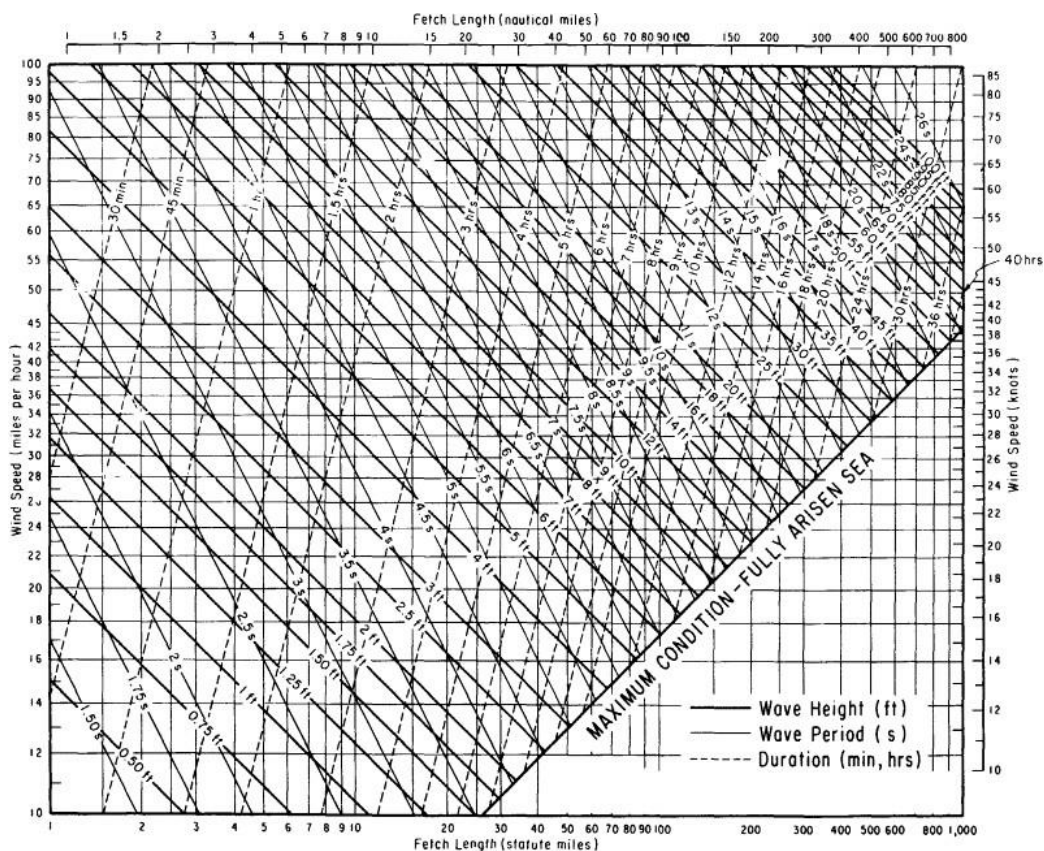


Figure 5-34. Nomograms of deepwater significant wave prediction curves as functions of wind speed, fetch length, and wind duration

Figure D-4 Hindcasting Charts for Deep water Wave Characteristics from USACE, 1989

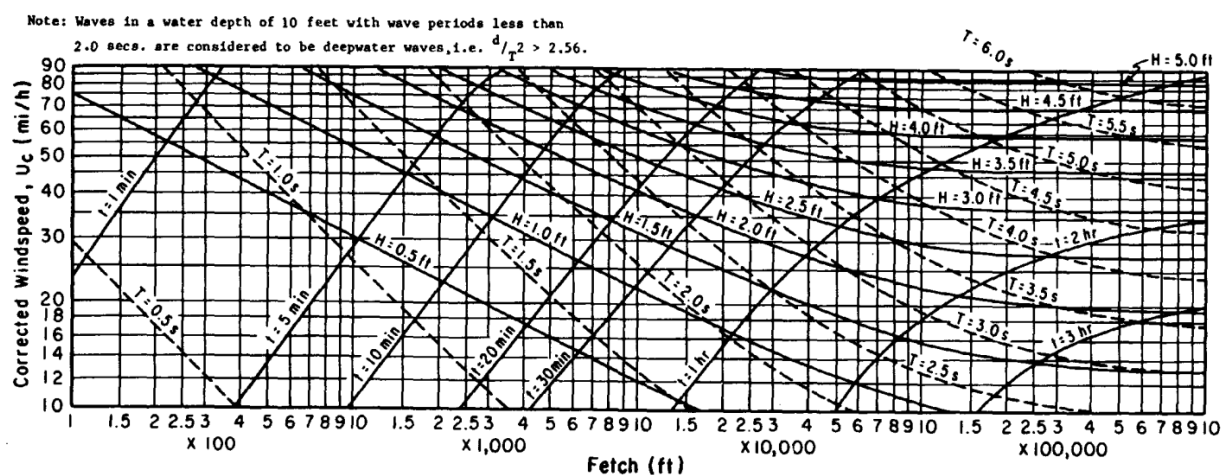


Figure 5-36. Forecasting curves for shallow-water waves (constant depth = 10 ft)

Figure D-5 Hindcasting Charts for Shallow water Wave Characteristics from USACE, 1989

Appendix E. Electronic Attachments

Items submitted electronically are:

1. E1 – Field Data
 - a. F1 – Photo Log
2. E2 – Hydrologic Analysis
 - a. E2.1 – HEC-HMS Model
 - b. E2.2 – Design Flood Hydrographs
 - c. E2.3 – Calibration and Verification Spreadsheets
 - d. E2.4 – Rainfall Hyetographs and Thiessen Polygon Weights
 - e. E2.5 – StreamStats Reports
 - f. E2.6 – USGS Gage Data
 - g. E2.7 – Hydrograph Sensitivity
3. E3 – Hydraulic Analysis
 - a. E3.1 – Final HEC-RAS Model
 - b. E3.2 – Calibration Runs
 - c. E3.3 – Hydraulic Structure Data
4. E4 – Flood Frequency Analysis
 - a. E4.1 – Gage Data Record Extension
 - b. E4.2 – PeakFQ Analysis
 - c. E4.3 – Regional Regression Weighted Peak Flowrates

Atkins North America

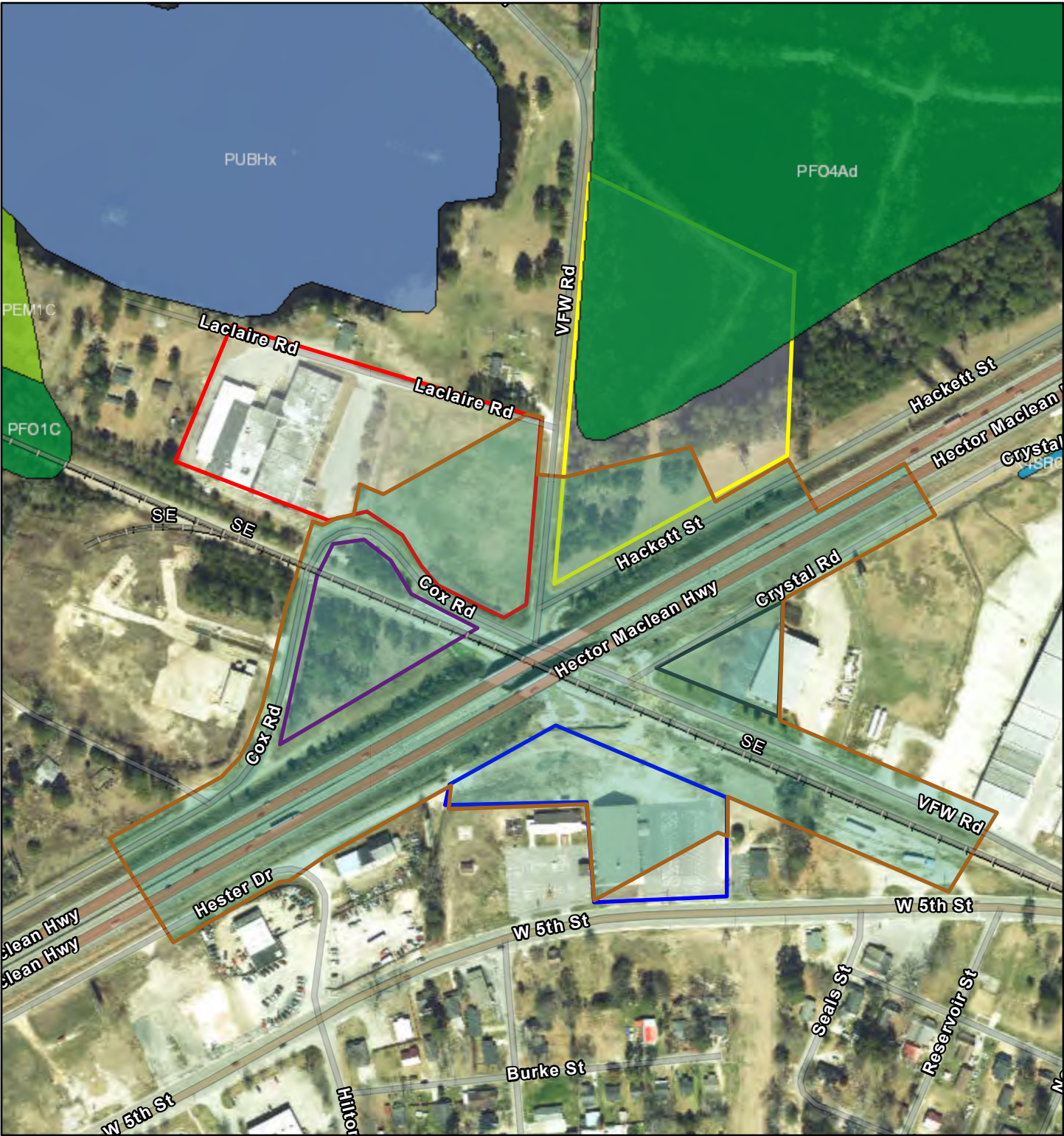
1616 East Millbrook Road
Raleigh, NC 27609

Ken Hunu, PE, DWRE, PMP, CFM
Kenneth.hunu@atkinsglobal.com
















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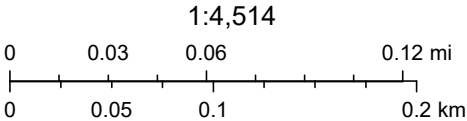
- **USFWS NWI Map**
- **Total Wetlands Area Map**
- **USACE Correspondence**

West Lumberton Flood Gate - NWI Map



December 1, 2023

- | | |
|--|---|
| Wetlands |  Riverine |
|  Estuarine and Marine Deepwater |  WLFG Project Action Area |
|  Estuarine and Marine Wetland |  550 VFW Rd #938189443052 |
|  Freshwater Emergent Wetland |  2306 W 5th St #938189201500 |
|  Freshwater Forested/Shrub Wetland |  2400 Cox Rd #938179684407 |
|  Freshwater Pond |  2460 Cox Rd #938179143700 |
|  Lake |  VFW & Hackett #938280300700 |
|  Other |  Railroads |



U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov, NC CGIA, Maxar, Esri Community Maps Contributors, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, EPA OEI

West Lumberton Flood Gate – Total Wetlands Area Map



Gievers, Andrea

From: Gievers, Andrea
Sent: Monday, December 20, 2021 12:06 PM
To: Beecher, Gary H CIV USARMY CESAW (USA)
Cc: Hair, Sarah E CIV USARMY CESAW (USA); matt.cusack@atkinsglobal.com; Sachan, Amit
Subject: FW: West Lumberton Flood Gate Project (Previous Correspondence)
Attachments: I-95 Flood Gate Lidar.pdf; WLFG CONCEPTUAL Plan 11.3.21.pdf

Hello:

Please see the email below from August 18, 2020 regarding the West Lumberton Flood Gate project. Matt Cusack is the contact along with Amit Sachan at Atkins, cc'd on this email. The original design was located on the eastern side and the current proposal is for the *western* side of I-95. I am attaching the conceptual plan as well. As you can see in the emails below, the proposed project is being conducted in concert with the I-95 widening team. Please let me know if you have any questions. Thank you.

Sincerely,

Andrea

Andrea Gievers, JD, MSEL, ERM
Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

From: Beecher, Gary H CIV USARMY CESAW (USA) <Gary.H.Beecher@usace.army.mil>
Sent: Tuesday, August 18, 2020 8:26 AM
To: Cusack, Matthew T <matt.cusack@atkinsglobal.com>
Cc: Hair, Sarah E CIV CESAW CESAD (US) <Sarah.E.Hair@usace.army.mil>; Mickey Sugg <Mickey.t.sugg@usace.army.mil>
Subject: RE: City of Lumberton floodgate project overlapped by I-6064 DRAFT waters of the US Delineations

Mr. Cusack,

Based on the Lidar Image and Soils Map for the site it does appear that the proposed project area will not be in wetlands or Waters of the US.

I can write a No Permit Required, however I must issue an Approved JD with it. I've attached a Jurisdictional Determination Request Form for you to fill out. If you already have one filled out, please send it to me.

Respectfully,

Gary

From: Hair, Sarah E CIV CESAW CESAD (US) <Sarah.E.Hair@usace.army.mil>
Sent: Monday, August 17, 2020 2:33 PM
To: Beecher, Gary H CIV USARMY CESAW (USA) <Gary.H.Beecher@usace.army.mil>; Sugg, Mickey T CIV USARMY CESAW

(USA) <Mickey.T.Sugg@usace.army.mil>

Subject: RE: City of Lumberton floodgate project overlapped by I-6064 DRAFT waters of the US Delineations

Gary/Mickey,

I issued a PJD for the NC DOT I-6064 project (I-95 widening). If the City of Lumberton is asking for a No permit required, then I believe you would need to do an AJD for the project area. I believe the site is all uplands based on the PJD and information provided by Matt Cusack.

Please let me know if you have any questions.

Liz

From: Cusack, Matthew T <matt.cusack@atkinsglobal.com>

Sent: Monday, August 17, 2020 2:22 PM

To: Beecher, Gary H CIV USARMY CESAW (USA) <Gary.H.Beecher@usace.army.mil>; Hair, Sarah E CIV CESAW CESAD (US) <Sarah.E.Hair@usace.army.mil>

Cc: Boot, Robert A <Robert.Boot@atkinsglobal.com>; Price, Gregory W <gwprice2@ncdot.gov>; Huff, Christy <chuff@ncdot.gov>; Sachan, Amit <Amit.Sachan@atkinsglobal.com>; ramstrong@ci.lumberton.nc.us

Subject: [Non-DoD Source] RE: City of Lumberton floodgate project overlapped by I-6064 DRAFT waters of the US Delineations

Greetings Mr. Beecher,

I am following up with regards to this email below. I also tried to reach your office voicemail, which instructed me to correspond with you via email.

There are more project details below, but the essential question is whether you will agree to use the NCDOT data from I-6064 to issue a "No Permit Required" form for the City of Lumberton's floodgate project, or whether independent project review is required. The NCDOT data is current, and has recently been reviewed by Ms. Hair.

Please let me know if you would like to setup a Webex to screenshare and discuss this request and the associated information we have that is pertinent.

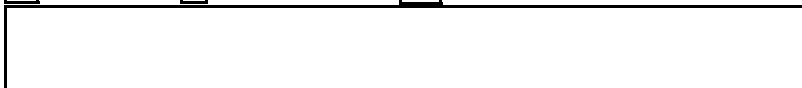
Thanks!

Best,
Matt

Matt Cusack *PWS*

Senior Project Manager/Scientist, Technical Professional Organization
North America
Engineering, Design, and Project Management

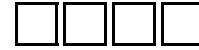
☐ 919-431-5255 ☐ 919-800-1234 ☐



1616 E. Millbrook Road, Suite 160, Raleigh, NC 27609



Company



From: Cusack, Matthew T

Sent: Friday, June 12, 2020 8:52 AM

To: gary.h.beecher@usace.army.mil; sarah.e.hair@usace.army.mil

Cc: Boot, Robert A <Robert.Boot@atkingglobal.com>; Price, Gregory W <gwprice2@ncdot.gov>; Huff, Christy <chuff@ncdot.gov>; Sachan, Amit <Amit.Sachan@atkingglobal.com>; ramstrong@ci.lumberton.nc.us

Subject: City of Lumberton floodgate project overlapped by I-6064 DRAFT waters of the US Delineations

Greetings,

For the benefit of this email, please see a screen capture below for an overlap area between a proposed natural resources Study Area related to the City of Lumberton's flood gate project and the I-6064 corridor that Liz Hair is currently reviewing for NCDOT. The flood gate project is possibly new to USACE regulatory, but Civil Works has been involved. The proposed floodgate is located where the CSX rail line and Cox Rd/VFW Road passes under I-95 centered at 34.6227789,-79.0329097.

We understand that Liz has been working with NCDOT to evaluate delineations performed by their consultants for I-6064. Through coordination with NCDOT, Atkins and the City of Lumberton have determined that the entire natural resources Study Area for flood gate project has already been evaluated for I-6064. Further, the entirety of the City's Study Area did not have any waters of the U.S. features. Please see the Study Area for the flood gate project (red outline below) appears to contain no waters of the US. Correspondence with NCDOT is also provided below.

To support everyone's goal of avoiding overlapping work between these projects, the City of Lumberton would like to rely upon NCDOT's findings for the flood gate project once Liz has completed her review. This would include the PJD and NRTR prepared by NCDOT (when available) as basis for the environmental documentation related to waters of the U.S. for the proposed floodgate. **All we need right now is agreement from Gary that he will consider those resources when they are available, and will be willing to issue a "No Permit Required" determination for the City's Study Area if the documents approved by Liz for NCDOT end up demonstrating what is explained in this email.**

Please let me know if that is an agreeable plan. If you have any questions, please let Amit Sachan and/or me know and we can set up a teleconference to better describe this situation. I am available to coordinate as necessary.

Best,
Matt

Yellow is I-6064 Study Limits with blue/white depicting waters of the US as identified by NV5. Red is the natural resources study area for the City of Lumberton floodgate project



Matt Cusack *PWS*
Senior Project Manager/Scientist, Technical Professional Organization
North America
Engineering, Design, and Project Management

919-431-5255 919-800-1234

1616 E. Millbrook Road, Suite 160, Raleigh, NC 27609

Company

From: Rerko, James J <jjrerko@ncdot.gov>
Sent: Tuesday, May 19, 2020 9:37 AM
To: Cusack, Matthew T <matt.cusack@atkinsglobal.com>; Huff, Christy <chuff@ncdot.gov>; Price, Gregory W <gwprice2@ncdot.gov>
Cc: Boot, Robert A <Robert.Boot@atkinsglobal.com>; Heather Wallace <Heather.Wallace@nv5.com>; Nick Mountcastle <Nick.Mountcastle@nv5.com>; Sachan, Amit <Amit.Sachan@atkinsglobal.com>; rarmstrong@ci.lumberton.nc.us
Subject: RE: [External] City of Lumberton floodgate project overlapped by I-6064 DRAFT Wetland Delineations

Matt

I am fine with the plan. We are getting together with the Corps and DWR virtually to start the review today.

James J. Rerko, PWS

Project Development and Environmental Analysis Engineer
North Carolina Department of Transportation

910 364-0834 office
910 486 1959 fax
jjrerko@ncdot.gov Email

1000 Transportation Drive
Fayetteville, NC 28302



*Email correspondence to and from this address is subject to the
North Carolina Public Records Law and may be disclosed to third parties.*

From: Cusack, Matthew T <matt.cusack@atkinsglobal.com>
Sent: Monday, May 18, 2020 7:43 PM
To: Huff, Christy <chuff@ncdot.gov>; Rerko, James J <jjrerko@ncdot.gov>; Price, Gregory W <gwprice2@ncdot.gov>
Cc: Boot, Robert A <robert.boot@atkinsglobal.com>; Heather Wallace <Heather.Wallace@nv5.com>; Nick Mountcastle <Nick.Mountcastle@nv5.com>; Sachan, Amit <amit.sachan@atkinsglobal.com>; rarmstrong@ci.lumberton.nc.us
Subject: [External] City of Lumberton floodgate project overlapped by I-6064 DRAFT Wetland Delineations

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Greetings,

For the benefit of this email, please see a screen capture of the overlap area between the I-6064 corridor and the natural resources Study Area for the City of Lumberton's flood gate project.

I understand that NCDOT and it's consultants are waiting on a field concurrence meeting with the USACE to approve the delineation for I-6064. I am also curious if the other environmental work, specifically the protected species surveys, identified anything that isn't resolved at this location in Lumberton where the rail line and Cox Rd/VFW Road passes under I-95 centered at 34.6227789,-79.0329097.

To support everyone's goal of avoiding overlapping work between these projects, we would like to rely upon NCDOT's findings for our project. This would include the PJD and NRTR prepared for NCDOT (when available) as our basis for our environmental documentation. Since my understanding is that the City's Study Area (red outline below) appears to

contain no waters of the US or protected species (assumption), this seems to be the logical choice. Obviously, we don't need NCDOT's documents at this time, but I wanted to confirm there isn't an issue of the City proceeding in this manner. If NCDOT is amenable to this approach, Atkins will reach out to the NCDOT and private Corps reps and confirm that our project will be relying upon NCDOT's findings and environmental documentation and that our project has no impacts.

Please let me know if that is an agreeable plan. If you have any questions, please let Amit Sachan and/or me know and we can coordinate as necessary.

Best,
Matt

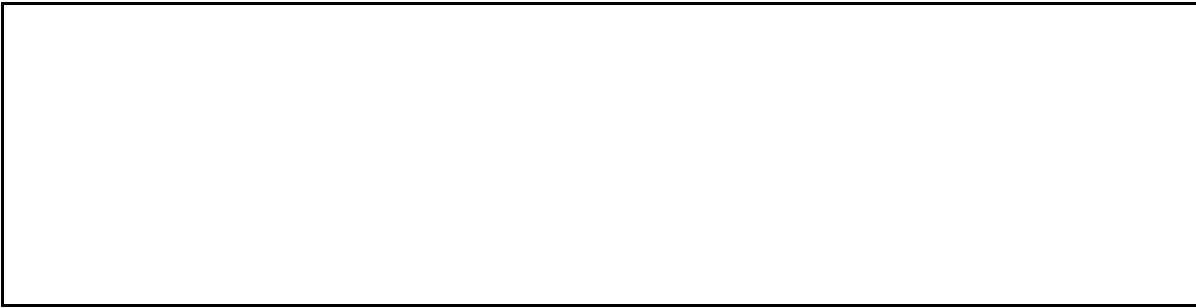
Yellow is I-6064 Study Limits with blue/white depicting waters of the US as identified by NV5. Red is the natural resources study area for the City of Lumberton project



Matt Cusack *PWS*
Senior Project Manager/Scientist, Technical Professional Organization
North America
Engineering, Design, and Project Management

☐ 919-431-5255 ☐ 919-800-1234 ☐

1616 E. Millbrook Road, Suite 160, Raleigh, NC 27609



Company



From: Brian Yamamoto <Brian.Yamamoto@nv5.com>

Sent: Monday, April 20, 2020 4:46 PM

To: Sachan, Amit <Amit.Sachan@atkinsglobal.com>

Cc: Huff, Christy <chuff@ncdot.gov>; Nick Mountcastle <Nick.Mountcastle@nv5.com>; Rerko, James J <jjrerko@ncdot.gov>; Price, Gregory W <gwprice2@ncdot.gov>; Heather Wallace <Heather.Wallace@nv5.com>; Boot, Robert A <Robert.Boot@atkinsglobal.com>; Cusack, Matthew T <matt.cusack@atkinsglobal.com>

Subject: RE: I-6064 DRAFT Wetland Delineations

OK Amit.

Sounds like there is no way right now to put a schedule on that, but we will stay tuned to what is happening with COVID-19 situation.

Brian Yamamoto, PE | Senior Project Development Engineer | **NV5**
6750 Tryon Road | Cary, NC 27518 | P: 919.858.1865 | C: 919.606.9716

[Electronic Communications Disclaimer](#)

From: Sachan, Amit <Amit.Sachan@atkinsglobal.com>

Sent: Monday, April 20, 2020 4:35 PM

To: Brian Yamamoto <Brian.Yamamoto@nv5.com>

Cc: Huff, Christy <chuff@ncdot.gov>; Nick Mountcastle <Nick.Mountcastle@nv5.com>; Rerko, James J <jjrerko@ncdot.gov>; Price, Gregory W <gwprice2@ncdot.gov>; Heather Wallace <Heather.Wallace@nv5.com>; Boot, Robert A <Robert.Boot@atkinsglobal.com>; Cusack, Matthew T <matt.cusack@atkinsglobal.com>

Subject: RE: I-6064 DRAFT Wetland Delineations

Thanks for sending these over, Brian. Please let us know when these have been verified by the USACE. Regards

Amit Sachan, PE, CFM

Project Director, Public & Private Business Unit
Tel: +1 919 431 5253 Cell: +1 919 985 1095

Atkins, member of the SNC-Lavalin Group
1616 East Millbrook Road, Suite 160, Raleigh, NC 27519

From: Brian Yamamoto <Brian.Yamamoto@nv5.com>

Sent: Monday, April 20, 2020 2:11 PM

To: Sachan, Amit <Amit.Sachan@atkinsglobal.com>; Boot, Robert A <Robert.Boot@atkinsglobal.com>
Cc: Huff, Christy <chuff@ncdot.gov>; Nick Mountcastle <Nick.Mountcastle@nv5.com>; Rerko, James J <jjrerko@ncdot.gov>; Price, Gregory W <gwprice2@ncdot.gov>; Heather Wallace <Heather.Wallace@nv5.com>
Subject: I-6064 DRAFT Wetland Delineations

Hey guys,

See attached DRAFT delineations for the I-6064 (I-95 widening from Exit 13 to Exit 22 in Robeson County near Lumberton). These probably cover your study area for the Lumberton Floodgate Project that you are currently working on. Because of the COVID-19 situation, the USACE is restricted from doing field work. As such, these delineations are unverified at this stage. I don't know if you all were planning to conduct delineations as part of your project, but this will help USACE to avoid dual delineations in overlapping areas. We plan to have these delineations (conducted by NV5 biologists) verified as soon as restrictions are lifted on the USACE.

Let me know if you have any questions.

Brian Yamamoto, PE | Senior Project Development Engineer | **NV5**
6750 Tryon Road | Cary, NC 27518 | P: 919.858.1865 | C: 919.606.9716

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APPENDIX 2

- **Early Notice and Public Review of a Proposed Activity in Wetlands and 100-Year Floodplain**
- **Affidavit for Publication of Early Notice**
- **Distribution List to Interested Agencies, Groups and Individuals**
- **Early Notice Comments**



North Carolina Department of Public Safety

Office of Recovery and Resiliency

Roy Cooper, Governor
Eddie M. Buffaloe, Jr., Secretary

Laura H. Hogshead, Director

EARLY NOTICE AND PUBLIC REVIEW OF A PROPOSED ACTIVITY IN A 100-YEAR FLOODPLAIN AND WETLAND

WEST LUMBERTON FLOOD GATE AT VFW ROAD AND RAILROAD UNDERPASS NEAR INTERSTATE 95 IN THE VICINITY OF VFW ROAD, COX ROAD, HACKETT STREET, AND THE CSX RAILROAD CROSSING, LUMBERTON, ROBESON COUNTY, NC

December 9, 2023

To: All interested Agencies, Groups and Individuals

This is to give notice that the North Carolina Office of Recovery and Resiliency (NCORR) has received an application from the City of Lumberton to use Community Development Block Grant – Mitigation (CDBG-MIT) funding from the Infrastructure Recovery Program to implement the West Lumberton Flood Gate at VFW Road and Railroad Underpass project (“Proposed Activity”) and is conducting an evaluation as required by Executive Order 11988 and Executive Order 11990 in accordance with U.S. Department of Housing and Urban Development (HUD) regulations (24 CFR Part 55). There are three primary purposes for this notice. First, to provide the public an opportunity to express their concerns and share information about the Proposed Activity, including alternative locations outside of the floodplain and wetland. Second, adequate public notice is an important public education tool. The dissemination of information about floodplains and wetlands facilitates and enhances governmental efforts to reduce the risks associated with the occupancy and modification of these special areas. Third, as a matter of fairness, when the government determines it will participate in actions taking place in floodplain and wetland, it must inform those who may be put at greater or continued risk. Funding for the Proposed Activity will be provided by the HUD CDBG-MIT program for storm recovery activities in North Carolina.

The Proposed Activity is needed to mitigate future storm flooding as experienced and exacerbated by the effects of the landfall of Hurricanes Matthew (October 8, 2016) and Florence (September 14, 2018). The purpose of this Proposed Activity is to enhance the City’s existing earthen levee and flood control system to mitigate against 100-year flood events flowing from the west side of the I-95 underpass via the CSX railroad crossing in the vicinity of VFW Road, Cox Road, and Hackett Street. The City has identified the Proposed Activity site to mitigate flooding experienced on the protected side of the existing levee system, which is critical to protect lives and property in southern and western Lumberton. In addition, the levee system helps maintain access to and operation of several critical facilities behind the levee, such as the

Mailing Address:
Post Office Box 110465
Durham, NC 27709



An Equal Opportunity Employer

Phone: (984) 833-5350
www.ncdps.gov
www.rebuild.nc.gov

City's water treatment plant, two power grid point of delivery transformer sub stations, the City's Electric Utility Department, and a City Fire Station. Failure to make the proposed improvements will result in the area continuing to experience flooding during future storm events, which in turn has impacts across the entire city.

The Proposed Activity entails construction of a permanent floodgate system and related drainage and flood improvements to prevent future flood occurrences from the Lumber River through a CSX railroad underpass beneath I-95 in an area of Lumberton that has suffered devastation, primarily associated with hurricanes. The Proposed Activity is located near Interstate 95 (I-95) in the vicinity of VFW Road, Cox Road, Hackett Street, and the CSX railroad crossing within the City of Lumberton (City), North Carolina. The proposed limits of disturbance consist of public rights-of-way, Hackett Street, Cox Road, VFW Road, the CSX railroad line, and portions of five parcels, including a 7.16-acre lot at VFW and Hackett Rd., Parcel Pin #938280300700; an 0.83-acre lot at 550 VFW Rd., Parcel Pin #938189443052; a 6.3-acre lot at 2400 Cox Rd., Parcel Pin #938179684407; a 6.34-acre lot at 2460 Cox Rd., Parcel Pin #938179143700; and a 2.8-acre lot at 2306 W. 5th St., Parcel Pin #938189201500. The Proposed Activity will disturb approximately 4.9 acres mostly within previously disturbed railroad and roadway easements and industrial businesses' lawns. The Proposed Activity has been designed with agency input particularly the NC Department of Transportation (DOT) which is undertaking the widening of I-95. The NC DOT project includes realignment of Cox Road, VFW Road and Hackett Street, I-95 embankment and bridge surfacing, a drainage channel, I-95 replacement bridge, retaining walls near Cox Road, and temporary and permanent NC DOT easements and ROWs, all to be completed by NC DOT before construction commences on this Proposed Activity.

All of the Proposed Activity site is located in 100-year floodplain with the five parcels totaling 23.43 acres and no areas in regulatory floodway. The Proposed Activity will result in temporary impacts to approximately 4.9 acres of 100-year floodplain (Zone AE) which includes four construction entrances, a staging area, two check dams, and a 26-linear-foot (lf), 15-inch HDPE. The permanent impacts to 4.7 acres of 100-year floodplain includes the construction of an approximately 30-foot flood gate to swing over the CSX railroad tracks with concrete wing flood walls extending outward from both sides of the gate and connecting concrete wing wall sections to a proposed earthen berm with supportive sheet piling that ties the system into the I-95 proposed embankment; slope revetment; riprap groin protection; two 15-foot-wide gravel access drives with turnout onto Cox Road and corresponding 34-lf and 36-lf, 15-inch reinforced concrete piping culverts; 2-foot x 2-foot and 3-foot x 3-foot sluice gates; water main offset; railroad ditch grading; removal and reinstallation of steel casing and 6-inch watermain south of the flood gate, as needed; and all surfaces to be restored to existing grade after construction. CSX will remove and reinstall 34-foot rail sections and two timber crossties from each track with contractor to install sections of shoring sheet piling cut off a minimum of 2-feet below the top-of-tie. CSX and contractor will schedule a 12-hour track window to install the jump span bridge with CSX removing a 50-foot track section and contractor excavating materials, cutting off piles, and installing wales, struts, pile caps, and jump span bridge.

Natural floodplains and wetlands provide flood risk reduction benefits by slowing runoff and storing flood water. In addition, floodplains and wetlands are beneficial by providing diverse wildlife habitat, flood and erosion control, surface water quality maintenance, groundwater recharge, and educational, scientific, cultural, and recreational opportunities. Floodwater storage and conveyance and erosion control will be affected by the Proposed Activity. The flood gate over the railroad tracks will be swing-hinged closed in line with the concrete wing walls during future storm events and flooding. This design will provide long-term flood prevention and minimize potential flood damage to the surrounding properties. Erosion and sediment control measures include filter fabric under 24-inch class 2 riprap east of the flood gate; geotextile fabric under 18-inch class B riprap and 6-inch stone groin protection riprap along southeastern portion of the earthen berm; two stone riprap check dams; temporary stabilizing vegetation; site grading;

and silt fencing. Under 100-year flood conditions, peak water surface elevation upstream of the gate is estimated to increase 0.3 feet from both installation of the flood gate system and raising of I-95 (see posted H&H Analysis for more details). The project components will be elevated well above the 100-year base flood elevation (BFE) in order to protect lives and property from potential flash floods. The 100-year floodplain in the proposed floodgate system area has a BFE from 123.56 feet to 123.71 feet (vertical datum, NAVD88). The proposed flood wall will have a 134-foot top-of-wall elevation compared to the top of the railroad bed elevation which is around 120 feet. Therefore, the wall extension will be approximately 14 feet high above the railroad bed. The Proposed Activity will comply with a Floodplain Development Permit, NC DEMLR Erosion and Sediment Control Permit, NPDES Construction Stormwater Permit (NCG010000), and all applicable federal, State and local laws, regulations, and permit requirements and conditions which shall be obtained before commencing work.

Wetlands are beneficial by providing diverse wildlife habitat, flood and erosion control, surface water quality maintenance, groundwater recharge, and educational, scientific, cultural, and recreational opportunities. Wetlands have unique natural characteristics that play an integral role in the ecology of the watershed. The Proposed Activity will result in no direct or indirect, temporary or permanent impacts to approximately 4.44 acres of NWI-mapped Freshwater Forested/ Shrub Wetland (PFO4Ad) located on the VFW Rd. and Hackett St. parcel #938280300700 that is part of a 69.51-acre wetland feature. There are no other wetlands located on the other parcels. No activities are proposed in wetlands and a US Army Corps of Engineers (USACE) Approved Jurisdictional Determination and No Permit Required Letter are being obtained. Therefore, no wetland impacts are expected, Clean Water Act Section 404 and 401 permits will not be required, and mitigation is not required. Best management practices for erosion and sedimentation control such as silt fencing will be utilized during construction and native plants used in landscaping and site restoration. Since the Proposed Activity will avoid the wetland and incorporate these measures, no indirect wetland impacts or negative impacts to wetland functions and values are anticipated.

Floodplain maps based on the FEMA Flood Insurance Rate Map (FIRM), Preliminary FIRMs, NWI wetlands map, Hydrologic and Hydraulic Analysis, USACE correspondence, site plans and supporting documentation are available for review at <https://www.rebuild.nc.gov/about/plans-policies-reports/environmental-reviews>. A full description of the Proposed Activity may also be viewed in person, by appointment only, at: NCORR, 200 Park Offices Drive, Durham, NC 27709. Call (984) 833-5350 to make an appointment.

Written comments must be received by NCORR at the following address on or before December 26, 2023: Laura Hogshead, Director, NCORR, ATTN: West Lumberton Flood Gate, P.O. Box 110465, Durham, NC 27709. Comments may also be submitted by email to publiccomments@rebuild.nc.gov with “ATTN: West Lumberton Flood Gate Comments” in the subject line.

AFFP
EARLY NOTICE AND PUBLIC REVIEW

Affidavit of Publication

STATE OF NORTH SS
CAROLINA }
COUNTY OF ROBESON }

Linda Currie, being duly sworn, says:

That she is Customer Service Clerk of the Robesonian, a daily newspaper of general circulation, printed and published in Lumberton, Robeson County, North Carolina; that the publication, a copy of which is attached hereto, was published in the said newspaper on the following

December 09, 2023

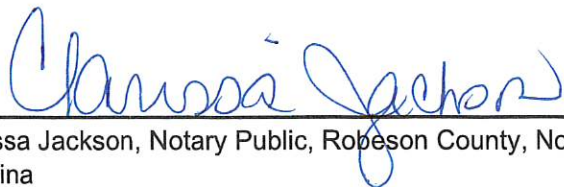
That said newspaper was regularly issued and circulated on those dates.

SIGNED:



Customer Service Clerk

Subscribed to and sworn to me this 9th day of December 2023.

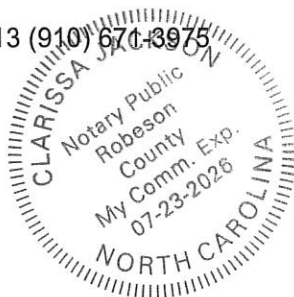


Clarissa Jackson, Notary Public, Robeson County, North Carolina

My commission expires: July 23, 2026

20005626 01143480 910-671-4413 (910) 671-3975

Laney S. Mitchell-McIntosh
190-CITY OF LUMBERTON
P.O. BOX 1388
LUMBERTON, NC 28359



EARLY NOTICE AND
PUBLIC REVIEW OF A
PROPOSED ACTIVITY IN A 100-YEAR FLOODPLAIN AND WETLAND

WEST LUMBERTON FLOOD GATE AT VFW ROAD AND RAILROAD
UNDERPASS
NEAR INTERSTATE 95 IN THE VICINITY OF VFW ROAD, COX ROAD, HACKETT
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12-9-23

EARLY NOTICE FLOODPLAIN AND WETLAND DISTRIBUTION LIST

**WEST LUMBERTON FLOOD GATE AT VFW ROAD AND RAILROAD UNDERPASS
NEAR INTERSTATE 95 IN THE VICINITY OF VFW ROAD, COX ROAD, HACKETT STREET,
AND THE CSX RAILROAD CROSSING, LUMBERTON, ROBESON COUNTY, NC**

Published in The Robesonian on 12/9/23, comments end 12/26/23

FEDERAL AGENCIES

Agency	Name & Address	Method
HUD NC	Mr. Lenwood E. Smith, II Environmental Protection Specialist Greensboro Field Office U.S. Dept. of Housing and Urban Development 1500 Pinecroft Road, Suite 401 Greensboro, NC 27407-3838	Lenwood.E.Smith@hud.gov
FEMA, Region IV	Ms. Gracia B. Szczech, Regional Administrator U.S. Dept. of Homeland Security FEMA, Region IV 3003 Chamblee Tucker Road Atlanta, GA 30341	FedEx
FEMA ATTN: 11988	<i>Hard copies may also be mailed to</i> Attn: 11988/11990 NEPA Reviewer (EHP) DHS/FEMA RIV 3003 Chamblee Tucker Road Atlanta, GA 30341	FEMA-R4EHP@fema.dhs.gov with the subject line REVIEW REQUEST: 11988/NEPA
US EPA, Region 4	Ms. Ntale Kajumba, NEPA Coordinator U.S. EPA, Region 4 Laboratory Services & Applied Science Div. 980 College Station Road Athens, GA 30605-2720	Kajumba.ntale@epa.gov
USFWS – Raleigh Field Office	USFWS – Raleigh Field Office ATTN: John Ellis P.O. Box 33726 Raleigh, NC 27636 ph.: 919-856-4520, ext. 26	john_ellis@fws.gov cc: leigh_mann@fws.gov
TRIBES, NATIONS AND COMMUNITIES (who asked to be notified)		
	Dr. Wenonah George Haire, THPO ATTN: THPO Archaeology Dept. Catawba Indian Nation 1536 Tom Steven Road	Does not want Notice

Catawba Indian Nation	Rock Hill, SC 29730	
Catawba Indian Nation	Chief Bill Harris Catawba Indian Nation 996 Avenue of the Nations Rock Hill, SC 29730	Does not want Notice
NC STATE AGENCIES		
STATE CLEARING- HOUSE	Ms. Crystal Best North Carolina Department of Administration State Environmental Review Clearinghouse 1301 Mail Service Center Raleigh, North Carolina 27699-1301	State.Clearinghouse@doa.nc.gov crystal.best@doa.nc.gov
LOCAL AGENCIES		
COUNTY	Kellie Blue County Manager Robeson County. NC 550 North Chestnut Street Lumberton, NC 28358 Phone: 910-671-3022	kellie.blue@co.robeson.nc.us
COUNTY	Tammy Freeman Clerk to the Board Robeson County. NC 550 North Chestnut Street Lumberton, NC 28358 Phone: 910-671-3022	tammy.freeman@co.robeson.nc.us
COUNTY	Myron Neville Director of Public Works Robeson County. NC Phone: 910-671-3488	myron.neville@co.robeson.nc.us
CITY	M. Brandon Love, AIA Deputy City Manager City of Lumberton P.O. Box 1388 Lumberton, NC 28359 (910) 671-3806	blove@ci.lumberton.nc.us cc: Karen.kiehna@mcgillassociates.com bill.blankenship@rebuild.nc.gov
CITY	Rob Armstrong Director of Public Works City of Lumberton P.O. Box 1388 Lumberton, NC 28359 (910) 671-3851	rarmstrong@ci.lumberton.nc.us

CITY	Laney Mitchell-McIntosh, City Clerk City of Lumberton P.O. Box 1388 Lumberton, NC 28359 910-671-3807	lmitchell- mcintosh@ci.lumberton.nc.us
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Gievers, Andrea

From: Gievers, Andrea
Sent: Saturday, December 9, 2023 8:15 AM
To: Smith, Lenwood E
Subject: Public Notice - Early Notice - West Lumberton Flood Gate at VFW Road and Railroad Underpass
Attachments: NCORR Early Notice West Lumberton Flood Gate 12.9.23.pdf

Hello:

Please find attached the Public Notice for HUD 24 CFR §55.20(b) - *Early Notice and Public Review of a Proposed Activity in a 100-Year Floodplain and Wetland* publishing December 9, 2023 for the NCORR Infrastructure Recovery Program's West Lumberton Flood Gate at VFW Road and Railroad Underpass proposed project located near Interstate 95 (I-95) in the vicinity of VFW Road, Cox Road, Hackett Street, and the CSX railroad crossing within the City of Lumberton, Robeson County, North Carolina. Please feel free to contact me if you have any questions. Thank you for your time and assistance.

Sincerely,

Andrea

Andrea Gievers, JD, MSEL, ERM
Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

Gievers, Andrea

From: Gievers, Andrea
Sent: Saturday, December 9, 2023 8:16 AM
To: FEMA-R4EHP
Subject: REVIEW REQUEST: 11988/NEPA - Early Notice - West Lumberton Flood Gate at VFW Road and Railroad Underpass
Attachments: NCORR Early Notice West Lumberton Flood Gate 12.9.23.pdf

Hello:

Please find attached the Public Notice for HUD 24 CFR §55.20(b) - *Early Notice and Public Review of a Proposed Activity in a 100-Year Floodplain and Wetland* publishing December 9, 2023 for the NCORR Infrastructure Recovery Program's West Lumberton Flood Gate at VFW Road and Railroad Underpass proposed project located near Interstate 95 (I-95) in the vicinity of VFW Road, Cox Road, Hackett Street, and the CSX railroad crossing within the City of Lumberton, Robeson County, North Carolina. Please feel free to contact me if you have any questions. Thank you for your time and assistance.

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Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

Gievers, Andrea

From: Gievers, Andrea
Sent: Saturday, December 9, 2023 8:17 AM
To: Kajumba, Ntale
Subject: Public Notice - Early Notice - West Lumberton Flood Gate at VFW Road and Railroad Underpass
Attachments: NCORR Early Notice West Lumberton Flood Gate 12.9.23.pdf

Hello:

Please find attached the Public Notice for HUD 24 CFR §55.20(b) - *Early Notice and Public Review of a Proposed Activity in a 100-Year Floodplain and Wetland* publishing December 9, 2023 for the NCORR Infrastructure Recovery Program's West Lumberton Flood Gate at VFW Road and Railroad Underpass proposed project located near Interstate 95 (I-95) in the vicinity of VFW Road, Cox Road, Hackett Street, and the CSX railroad crossing within the City of Lumberton, Robeson County, North Carolina. Please feel free to contact me if you have any questions. Thank you for your time and assistance.

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Community Development
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Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

Gievers, Andrea

From: Gievers, Andrea
Sent: Saturday, December 9, 2023 8:18 AM
To: john_ellis@fws.gov
Cc: Mann, Leigh
Subject: Public Notice - Early Notice - West Lumberton Flood Gate at VFW Road and Railroad Underpass
Attachments: NCORR Early Notice West Lumberton Flood Gate 12.9.23.pdf

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Please find attached the Public Notice for HUD 24 CFR §55.20(b) - *Early Notice and Public Review of a Proposed Activity in a 100-Year Floodplain and Wetland* publishing December 9, 2023 for the NCORR Infrastructure Recovery Program's West Lumberton Flood Gate at VFW Road and Railroad Underpass proposed project located near Interstate 95 (I-95) in the vicinity of VFW Road, Cox Road, Hackett Street, and the CSX railroad crossing within the City of Lumberton, Robeson County, North Carolina. Please feel free to contact me if you have any questions. Thank you for your time and assistance.

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Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

Gievers, Andrea

From: Gievers, Andrea
Sent: Saturday, December 9, 2023 8:19 AM
To: State Clearinghouse
Cc: Best, Crystal
Subject: Public Notice - Early Notice - West Lumberton Flood Gate at VFW Road and Railroad Underpass
Attachments: NCORR Early Notice West Lumberton Flood Gate 12.9.23.pdf

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Please find attached the Public Notice for HUD 24 CFR §55.20(b) - *Early Notice and Public Review of a Proposed Activity in a 100-Year Floodplain and Wetland* publishing December 9, 2023 for the NCORR Infrastructure Recovery Program's West Lumberton Flood Gate at VFW Road and Railroad Underpass proposed project located near Interstate 95 (I-95) in the vicinity of VFW Road, Cox Road, Hackett Street, and the CSX railroad crossing within the City of Lumberton, Robeson County, North Carolina. The last day for public comments is **December 26th**. Please feel free to contact me if you have any questions. Thank you for your time and assistance.

Sincerely,

Andrea

Andrea Gievers, JD, MSEL, ERM
Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

Gievers, Andrea

From: Gievers, Andrea
Sent: Saturday, December 9, 2023 8:20 AM
To: Blue; Kellie
Subject: Public Notice - Early Notice - West Lumberton Flood Gate at VFW Road and Railroad Underpass
Attachments: NCORR Early Notice West Lumberton Flood Gate 12.9.23.pdf

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Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

Gievers, Andrea

From: Gievers, Andrea
Sent: Saturday, December 9, 2023 8:21 AM
To: tammy.freeman@co.robeson.nc.us
Subject: Public Notice - Early Notice - West Lumberton Flood Gate at VFW Road and Railroad Underpass
Attachments: NCORR Early Notice West Lumberton Flood Gate 12.9.23.pdf

Hello:

Please find attached the Public Notice for HUD 24 CFR §55.20(b) - *Early Notice and Public Review of a Proposed Activity in a 100-Year Floodplain and Wetland* publishing December 9, 2023 for the NCORR Infrastructure Recovery Program's West Lumberton Flood Gate at VFW Road and Railroad Underpass proposed project located near Interstate 95 (I-95) in the vicinity of VFW Road, Cox Road, Hackett Street, and the CSX railroad crossing within the City of Lumberton, Robeson County, North Carolina. Please feel free to contact me if you have any questions. Thank you for your time and assistance.

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Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

Gievers, Andrea

From: Gievers, Andrea
Sent: Saturday, December 9, 2023 8:21 AM
To: myron.neville@co.robeson.nc.us
Subject: Public Notice - Early Notice - West Lumberton Flood Gate at VFW Road and Railroad Underpass
Attachments: NCORR Early Notice West Lumberton Flood Gate 12.9.23.pdf

Hello:

Please find attached the Public Notice for HUD 24 CFR §55.20(b) - *Early Notice and Public Review of a Proposed Activity in a 100-Year Floodplain and Wetland* publishing December 9, 2023 for the NCORR Infrastructure Recovery Program's West Lumberton Flood Gate at VFW Road and Railroad Underpass proposed project located near Interstate 95 (I-95) in the vicinity of VFW Road, Cox Road, Hackett Street, and the CSX railroad crossing within the City of Lumberton, Robeson County, North Carolina. Please feel free to contact me if you have any questions. Thank you for your time and assistance.

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Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

Gievers, Andrea

From: Gievers, Andrea
Sent: Saturday, December 9, 2023 8:26 AM
To: Love, Brandon
Cc: Karen Kiehna; Blankenship, Bill
Subject: Public Notice - Early Notice - West Lumberton Flood Gate at VFW Road and Railroad Underpass
Attachments: NCORR Early Notice West Lumberton Flood Gate 12.9.23.pdf

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NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

Gievers, Andrea

From: Gievers, Andrea
Sent: Saturday, December 9, 2023 8:27 AM
To: Armstrong, Robert
Subject: Public Notice - Early Notice - West Lumberton Flood Gate at VFW Road and Railroad Underpass
Attachments: NCORR Early Notice West Lumberton Flood Gate 12.9.23.pdf

Hello:

Please find attached the Public Notice for HUD 24 CFR §55.20(b) - *Early Notice and Public Review of a Proposed Activity in a 100-Year Floodplain and Wetland* publishing December 9, 2023 for the NCORR Infrastructure Recovery Program's West Lumberton Flood Gate at VFW Road and Railroad Underpass proposed project located near Interstate 95 (I-95) in the vicinity of VFW Road, Cox Road, Hackett Street, and the CSX railroad crossing within the City of Lumberton, Robeson County, North Carolina. Please feel free to contact me if you have any questions. Thank you for your time and assistance.

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Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

Gievers, Andrea

From: Gievers, Andrea
Sent: Saturday, December 9, 2023 8:28 AM
To: Mitchell-Mcintosh, Laney
Subject: Public Notice - Early Notice - West Lumberton Flood Gate at VFW Road and Railroad Underpass
Attachments: NCORR Early Notice West Lumberton Flood Gate 12.9.23.pdf

Hello:

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Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

1 From Please print and press hard.
 Date **12/9/23** Sender's FedEx Account Number **8950-9899-0**
 Sender's Name **Andrea Gievers** Phone **(845) 682-1700**
 Company **NCORR**
 Address **123 Kings Hill Road** Dept./Floor/Suite/Room
 City **Walden** State **NY** ZIP **12586**

2 Your Internal Billing Reference **VLFG EN** OPTIONAL
 First 24 characters will appear on invoice.

3 To
 Recipient's Name **Ms. Gracia Szczec** Phone ()
 Company **FEMA, Region 4**
 Address **3003 Chamblee Tucker Rd** Dept./Floor/Suite/Room
 We cannot deliver to P.O. boxes or P.O. ZIP codes.
 Address
 Use this line for the HOLD location address or for continuation of your shipping address.
 City **Atlanta** State **GA** ZIP **30341**

☐ Hold Weekday
 FedEx location address
 REQUIRED. NOT available for
 FedEx First Overnight.

☐ Hold Saturday
 FedEx location address
 REQUIRED. Available ONLY for
 FedEx Priority Overnight and
 FedEx 2Day to select locations.

4 Express Package Service * To most locations. Packages up to 150 lbs. For packages over 150 lbs., use the FedEx Express Freight US Airbill.

Next Business Day	2 or 3 Business Days
<input type="checkbox"/> FedEx First Overnight Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.	<input type="checkbox"/> FedEx 2Day A.M. Second business morning.* Saturday Delivery NOT available.
<input type="checkbox"/> FedEx Priority Overnight Next business morning.* Friday shipments will be delivered on Monday unless Saturday Delivery is selected.	<input checked="" type="checkbox"/> FedEx 2Day Second business afternoon.* Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.
<input type="checkbox"/> FedEx Standard Overnight Next business afternoon.* Saturday Delivery NOT available.	<input type="checkbox"/> FedEx Express Saver Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit \$500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☐ Other

6 Special Handling and Delivery Signature Options Fees may apply. See the FedEx Service Guide.

☐ Saturday Delivery
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☐ No Signature Required
Package may be left without obtaining a signature for delivery.

☐ Direct Signature
Someone at recipient's address may sign for delivery.

☐ Indirect Signature
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.

Does this shipment contain dangerous goods?
 One box must be checked.

☐ No ☐ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry ice, 9 UN 1845 x kg
 Restrictions apply for dangerous goods — see the current FedEx Service Guide. ☐ Cargo Aircraft Only

7 Payment Bill to: Enter FedEx Acct. No. below.

☐ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party

FedEx Acct. No.

Total Packages	Total Weight	Total Declared Value*
	lbs. \$.00	

*Our liability is limited to US\$100 unless you declare a higher value. See back for details. By using this airbill you agree to the service conditions on the back of this airbill and in the current FedEx Service Guide, including terms that limit our liability.

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APPENDIX 3

- **Combined FONSI/NOI-RROF/ Final Notice and Public Explanation of a Proposed Activity in a 100-year Floodplain and Wetland**
- **Affidavit for Publication of Final Notice *(to be added)***
- **Distribution List to Interested Agencies, Groups and Individuals**
- **Final Notice Comments *(to be added)***



North Carolina Department of Public Safety

Office of Recovery and Resiliency

Roy Cooper, Governor
Eddie M. Buffaloe, Jr., Secretary

Laura H. Hogshead, Director

PUBLIC NOTICE

COMBINED NOTICE OF FINDING OF NO SIGNIFICANT IMPACT (*FONSI*), NOTICE OF INTENT TO REQUEST RELEASE OF FUNDS (*NOI-RROF*), AND FINAL NOTICE AND PUBLIC EXPLANATION OF A PROPOSED ACTIVITY IN A 100-YEAR FLOODPLAIN AND WETLAND

WEST LUMBERTON FLOOD GATE AT VFW ROAD AND RAILROAD UNDERPASS NEAR INTERSTATE 95 IN THE VICINITY OF VFW ROAD, COX ROAD, HACKETT STREET, AND THE CSX RAILROAD CROSSING, LUMBERTON, ROBESON COUNTY, NC

January 6, 2024

To: All interested Agencies, Groups and Individuals

Name of Responsible Entity and Recipient: North Carolina Office of Recovery and Resiliency (NCORR), P.O. Box 110465, Durham, NC 27709. Contact: Director Laura Hogshead (984) 833-5350.

Pursuant to 24 CFR Section 58.43, this combined Notice of Finding of No Significant Impact (FONSI), Notice of Intent to Request Release of Funds (NOI-RROF), and Final Notice and Public Explanation of a Proposed Activity in a Floodplain and Wetland satisfies three separate procedural requirements for project activities proposed to be undertaken by NCORR.

Project Description: NCORR is responsible for the direct administration of the United States Department of Housing and Urban Development (HUD) Community Development Block Grant – Mitigation (CDBG-MIT) program in North Carolina. NCORR proposes to provide CDBG-MIT funding from the Infrastructure Recovery Program of \$1,498,088.00 for the West Lumberton Flood Gate at VFW Road and Railroad Underpass project (“Proposed Activity”) located near Interstate 95 (I-95) in the vicinity of VFW Road, Cox Road, Hackett Street, and the CSX railroad crossing within the City of Lumberton (City), Robeson County, North Carolina. The proposed limits of disturbance consist of public rights-of-way, Hackett Street, Cox Road, VFW Road, the CSX railroad line, and portions of five parcels, including a 7.16-acre lot at VFW and Hackett Rd., Parcel Pin #938280300700; an 0.83-acre lot at 550 VFW Rd., Parcel Pin #938189443052; a 6.3-

Mailing Address:
Post Office Box 110465
Durham, NC 27709



NORTH CAROLINA OFFICE OF RECOVERY AND RESILIENCY

An Equal Opportunity Employer

Phone: (984) 833-5350
www.ncdps.gov
www.rebuild.nc.gov

acre lot at 2400 Cox Rd., Parcel Pin #938179684407; a 6.34-acre lot at 2460 Cox Rd., Parcel Pin #938179143700; and a 2.8-acre lot at 2306 W. 5th St., Parcel Pin #938189201500. The Proposed Activity is anticipated to have a total cost of \$10,878,186.00 and entails construction of a permanent flood gate system and related drainage improvements to prevent future flood occurrences from the Lumber River through a CSX railroad underpass beneath I-95 in an area of Lumberton that has suffered devastation, primarily associated with hurricanes.

The Proposed Activity is needed to mitigate future storm flooding as experienced and exacerbated by the effects of the landfall of Hurricanes Matthew (October 8, 2016) and Florence (September 14, 2018). The purpose of this Proposed Activity is to enhance the City's existing earthen levee and flood control system to mitigate against 100-year flood events flowing from the west side of the I-95 underpass via the CSX railroad crossing in the vicinity of VFW Road, Cox Road, and Hackett Street. The City has identified the Proposed Activity site to mitigate flooding experienced on the protected side of the existing levee system, which is critical to protect lives and property in southern and western Lumberton. In addition, the levee system helps maintain access to and operation of several critical facilities behind the levee, such as the City's water treatment plant, two power grid point of delivery transformer sub stations, the City's Electric Utility Department, and a City Fire Station. Failure to make the proposed improvements will result in the area continuing to experience flooding during future storm events, which in turn has impacts across the entire City. The City has selected the Proposed Activity to assist its residents and community to be protected from future storm damage and flooding.

PUBLIC EXPLANATION OF A PROPOSED ACTIVITY IN A 100-YEAR FLOODPLAIN AND WETLAND

NCORR has conducted an evaluation as required by Executive Orders (EO) 11988 and 11990, in accordance with HUD regulations at 24 CFR 55 Subpart C Procedures for Making Determinations on Floodplain Management and Wetlands Protection. All of the Proposed Activity site is located in 100-year floodplain with the five parcels totaling 23.43 acres and no areas in regulatory floodway. The Proposed Activity will result in temporary impacts to approximately 4.9 acres of 100-year floodplain (Zone AE) which includes four construction entrances, a staging area, two check dams, and a 26-linear-foot (lf), 15-inch HDPE. The permanent impacts to 4.7 acres of 100-year floodplain includes the construction of an approximately 30-foot flood gate to swing over the CSX railroad tracks with concrete wing flood walls extending outward from both sides of the gate and connecting concrete wing wall sections to a proposed earthen berm with supportive sheet piling that ties the system into the I-95 proposed embankment; slope revetment; riprap groin protection; two 15-foot-wide gravel access drives with turnout onto Cox Road and corresponding 34-lf and 36-lf, 15-inch reinforced concrete piping culverts; 2-foot x 2-foot and 3-foot x 3-foot sluice gates; water main offset; railroad ditch grading; removal and reinstallation of steel casing and 6-inch watermain south of the flood gate, as needed; and all surfaces to be restored to existing grade after construction. CSX will remove and reinstall 34-foot rail sections and two timber crossties from each track with contractor to install sections of shoring sheet piling cut off a minimum of 2-feet below the top-of-tie. CSX and contractor will schedule a window to install the jump span bridge with CSX removing a 50-foot track section and contractor excavating materials, cutting off piles, and installing wales, struts, pile caps, and jump span bridge. There is one approximately 4.44-acre National Wetland Inventory (NWI)-mapped Freshwater Forested/ Shrub

Wetland (PFO4Ad) located on the VFW Rd. and Hackett St. parcel #938280300700 that is part of a 69.51-acre wetland feature. There are no other wetlands located on the other parcels and no activities proposed in wetland.

NCORR has considered the alternatives and mitigation measures to be taken to minimize adverse impacts and to restore and preserve natural and beneficial values. Alternative resiliency strategies were evaluated to address the flooding experienced in Lumberton during Hurricane Matthew. A series of meetings were held including public open houses and in-depth working sessions with county officials, subject matter experts, and county and municipal planners. North Carolina Emergency Management utilized data, resources, and technical expertise from State agencies, the private sector, and the UNC system to determine innovative best practice strategies. The Proposed Activity was identified as a high priority infrastructure strategy. This location at the CSX railroad I-95 underpass was identified as the most vulnerable weak point where flood events can penetrate to the protected side of the levee. Alternative locations and designs for the flood gate system were considered during the lengthy design phase using agency input, particularly the NC Department of Transportation (DOT) which is undertaking the widening of I-95. The Proposed Activity was designed in different locations, including east of I-95, before NC DOT and the City agreed upon this final design. The NC DOT project includes realignment of Cox Road, VFW Road and Hackett Street, I-95 embankment and bridge surfacing, a drainage channel, I-95 replacement bridge, retaining walls near Cox Road, and temporary and permanent NC DOT easements and ROWs in the area of this Proposed Activity. The “No Action” Alternative is not considered feasible since flooding in the area causes property damage to homes, churches, businesses and industries; interrupts City-wide services such as the potable water supply and electric utility grid for days; and roadway flooding blocks transportation accessibility during and after storm events. This Proposed Activity is critically necessary to protect the residents and community from future storm events. Whereas, the “No Action” Alternative would leave the community vulnerable to future flooding and mitigation action would be compromised due to lack of financial support. Due to the type of improvement and its connection to the City’s existing earthen levee and flood control system, floodplain impacts were unavoidable. However, the proposed action was designed not to encroach into the onsite wetland.

Natural floodplains and wetlands provide flood risk reduction benefits by slowing runoff and storing flood water. In addition, floodplains and wetlands are beneficial by providing diverse wildlife habitat, flood and erosion control, surface water quality maintenance, groundwater recharge, and educational, scientific, cultural, and recreational opportunities. Wetlands have unique natural characteristics that play an integral role in the ecology of the watershed. Floodwater storage and conveyance and erosion control will be affected by the Proposed Activity during storm events. During 100-year flood conditions, peak water surface elevation upstream of the gate is estimated to increase 0.3 feet from both installation of the flood gate system and raising of I-95 (see posted H&H Analysis for more details). The project components will be elevated well above the 100-year base flood elevation (BFE) in order to protect lives and property from potential flash floods. The 100-year floodplain in the proposed flood gate system area has a BFE from 123.56 feet to 123.71 feet (vertical datum, NAVD88). The proposed flood wall will have a 134-foot top-of-wall elevation compared to the top of the railroad bed elevation which is around 120 feet. Therefore, the wall extension will be approximately 14 feet high above the railroad bed. The flood gate over the railroad tracks will be swing-hinged closed in line with the concrete wing walls

during future storm events and flooding. This design will provide long-term flood prevention and minimize potential flood damage to the surrounding properties. The Proposed Activity will disturb approximately 4.9 acres mostly within previously disturbed railroad and roadway easements and industrial businesses' lawns. Since no activities are proposed in wetlands, a US Army Corps of Engineers (USACE) Approved Jurisdictional Determination and No Permit Required Letter are being obtained and Clean Water Act Section 404 and 401 permits will not be required. Applicable recommendations from the NC Dept of Environmental Quality Division of Water Resources will be followed. Thus, additional impacts to floodplain and wetland functions and values are not anticipated.

The Proposed Activity will comply with a Floodplain Development Permit, NC DEMLR Erosion and Sediment Control Permit, NPDES Construction Stormwater Permit (NCG010000), and all applicable federal, State and local laws, regulations, and permit requirements and conditions which shall be obtained before commencing work. Best Management Practices and erosion and sedimentation control measures include filter fabric under 24-inch class 2 riprap east of the flood gate; geotextile fabric under 18-inch class B riprap and 6-inch stone groin protection riprap along southeastern portion of the earthen berm; two stone riprap check dams; temporary stabilizing vegetation; silt fencing; and site grading. The Proposed Activity designs have been completed in accordance with agency input to minimize impacts to the floodplain, wetlands, environment and community. The Proposed Activity and location are the most suitable, feasible options selected by the City after a costly and lengthy design process to assist its residents and community to be protected from future storm events; the "No Action" alternative would not effectively address the area's flooding; and mitigation measures include erosion and sedimentation controls, permit conditions, a project design that minimizes impacts, and native plants used in site restoration.

Since the action will include modification of floodplain and new construction in wetland, EOs 11988 and 11990 require that the Proposed Activity not be supported if there are practicable alternatives to floodplain and wetland impacts. NCORR has reevaluated the alternatives to modification of floodplain and new construction in wetland, and has determined that it has no practicable alternative. The 8-step process has been further documented in the EO 11988 Floodplain Management and EO 11990 Wetlands Protection Determination which is available for viewing and copying as described below in Public Review.

There are three primary purposes for this notice. First, people who may be affected by activities in floodplains and wetlands and those who have an interest in the protection of the natural environment are given an opportunity to express their concerns and provide information about these areas. Second, adequate public notice is an important public education tool. The dissemination of information and request for public comment about floodplains and wetlands can facilitate and enhance federal efforts to reduce the risks and impacts associated with the occupancy and modification of these special areas. Third, as a matter of fairness, when the federal government determines it will participate in actions taking place in floodplains and wetlands, it must inform those who may be put at greater or continued risk.

FINDING OF NO SIGNIFICANT IMPACT

An Environmental Assessment (EA) for the Proposed Activity has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) and HUD environmental review regulations at 24 CFR Part 58. The EA is incorporated by reference into this FONSI. Subject to public comments, no further review of the Proposed Activity is anticipated. NCORR has determined that the EA for the project identified herein complies with the requirements of HUD environmental review regulations at 24 CFR Part 58. NCORR has determined that the Proposed Activity will have no significant impact on the human environment and, therefore, does not require the preparation of an environmental impact statement under NEPA.

Public Review: Public viewing of the EA, environmental review record, and EO 11988 Floodplain Management and EO 11990 Wetlands Protection Determination is available online at <https://www.rebuild.nc.gov/about/plans-policies-reports/environmental-reviews>. Documents may also be viewed in person by appointment only at: NCORR, 200 Park Offices Drive, Durham, NC 27709. Call (984) 833-5350 to make an appointment.

Further information may be requested by writing to the above address, emailing publiccomments@rebuild.nc.gov or calling (984) 833-5350. This combined notice is being sent to individuals and groups known to be interested in these activities, local news media, appropriate local, state and federal agencies, the regional office of the U.S. Environmental Protection Agency having jurisdiction, and the HUD Field Office, and is being published in a newspaper of general circulation in the affected community.

Public Comments on the Proposed Activity within Floodplain and Wetland, FONSI and/or NOIRROF: Any individual, group or agency may submit written comments on the Proposed Activity. The public is hereby advised to specify in their comments which “notice” their comments address. Comments should be submitted via email, in the proper format, on or before January 22, 2024 at publiccomments@rebuild.nc.gov. Written comments may also be submitted by mail, in the proper format, to be received on or before January 22, 2024, and addressed to: Laura Hogshead, Director, NCORR, ATTN: West Lumberton Flood Gate Project, P.O. Box 110465, Durham, NC 27709. All comments must be received on or before January 22, 2024 or they will not be considered. If modifications result from public comment, these will be made prior to proceeding with the submission of a request for release of funds.

REQUEST FOR RELEASE OF FUNDS AND CERTIFICATION

On or after January 23, 2024, the NCORR certifying officer will submit a request and certification to HUD for the release of CDBG-MIT funds as authorized by related laws and policies for the purpose of undertaking this project under the North Carolina CDBG-MIT Infrastructure Recovery Program.

NCORR certifies to HUD that Laura Hogshead, in her capacity as Certifying Officer, consents to accept the jurisdiction of the U.S. federal courts if an action is brought to enforce responsibilities in relation to the environmental review process and that these responsibilities have been satisfied.

HUD's approval of the certification satisfies its responsibilities under NEPA and related laws and authorities, and allows NCORR to use CDBG-MIT program funds.

Objection to Release of Funds: HUD will accept objections to its release of funds and NCORR's certification for a period of fifteen days following the anticipated submission date or its actual receipt of the request (whichever is later). Potential objectors should contact HUD or the NCORR Certifying Officer to verify the actual last day of the objection period.

The only permissible grounds for objections claiming a responsible entity's non-compliance with 24 CFR Part 58 are: (a) certification was not executed by NCORR's Certifying Officer; (b) the responsible entity has omitted a step or failed to make a decision or finding required by HUD regulations at 24 CFR Part 58; (c) the grant recipient or other participants in the development process have committed funds, incurred costs or undertaken activities not authorized by 24 CFR Part 58 before HUD's release of funds and approval of environmental certification; or (d) another federal agency acting pursuant to 40 CFR Part 1504 has submitted a written finding that the project is unsatisfactory from the standpoint of environmental quality.

Objections must be prepared and submitted in accordance with the required procedures (24 CFR 58.76) and shall be addressed to Tennille Smith Parker, Director, Office of Disaster Recovery, U.S. Department of Housing and Urban Development, 451 7th Street SW, Washington, DC 20410, Phone: (202) 402-4649, or emailed to disaster_recovery@hud.gov.

Laura Hogshead
Certifying Officer
January 6, 2024

***FONSI/NOI-RROF/FINAL NOTICE FLOODPLAIN AND WETLAND
DISTRIBUTION LIST***

**WEST LUMBERTON FLOOD GATE AT VFW ROAD AND RAILROAD UNDERPASS
NEAR INTERSTATE 95 IN THE VICINITY OF VFW ROAD, COX ROAD, HACKETT STREET,
AND THE CSX RAILROAD CROSSING, LUMBERTON, ROBESON COUNTY, NC**

Published in The Robesonian on 1/6/24, comments end 1/22/24

FEDERAL AGENCIES

Agency	Name & Address	Method
HUD NC	Mr. Lenwood E. Smith, II Environmental Protection Specialist Greensboro Field Office U.S. Dept. of Housing and Urban Development 1500 Pinecroft Road, Suite 401 Greensboro, NC 27407-3838	Lenwood.E.Smith@hud.gov
FEMA, Region IV	Ms. Gracia B. Szczech, Regional Administrator U.S. Dept. of Homeland Security FEMA, Region IV 3003 Chamblee Tucker Road Atlanta, GA 30341	FedEx
FEMA ATTN: 11988	<i>Hard copies may also be mailed to</i> Attn: 11988/11990 NEPA Reviewer (EHP) DHS/FEMA RIV 3003 Chamblee Tucker Road Atlanta, GA 30341	FEMA-R4EHP@fema.dhs.gov with the subject line REVIEW REQUEST: 11988/NEPA
US EPA, Region 4	Ms. Ntale Kajumba, NEPA Coordinator U.S. EPA, Region 4 Laboratory Services & Applied Science Div. 980 College Station Road Athens, GA 30605-2720	Kajumba.ntale@epa.gov
USFWS – Raleigh Field Office	USFWS – Raleigh Field Office ATTN: John Ellis P.O. Box 33726 Raleigh, NC 27636 ph.: 919-856-4520, ext. 26	john_ellis@fws.gov cc: leigh_mann@fws.gov
USACE – Wilmington District	Mr. Gary H. Beecher USACE – Wilmington District 69 Darlington Avenue Wilmington, NC 28403	Gary.H.Beecher@USACE.army.mil

NPS	Mr. Jeffrey R. Duncan, PhD. NPS Southeast Regional Aquatic Ecologist Wild and Scenic Rivers Coordinator Science and Natural Resources Management Ph: (423) 987-6127	Jeff_Duncan@nps.gov
TRIBES, NATIONS AND COMMUNITIES (who asked to be notified)		
Catawba Indian Nation	Dr. Wenonah George Haire, THPO ATTN: THPO Archaeology Dept. Catawba Indian Nation 1536 Tom Steven Road Rock Hill, SC 29730	Does not want Notice
Catawba Indian Nation	Chief Bill Harris Catawba Indian Nation 996 Avenue of the Nations Rock Hill, SC 29730	Does not want Notice
NC STATE AGENCIES		
STATE CLEARING- HOUSE	Ms. Crystal Best North Carolina Department of Administration State Environmental Review Clearinghouse 1301 Mail Service Center Raleigh, North Carolina 27699-1301	State.Clearinghouse@doa.nc.gov crystal.best@doa.nc.gov
LOCAL AGENCIES		
COUNTY	Kellie Blue County Manager Robeson County. NC 550 North Chestnut Street Lumberton, NC 28358 Phone: 910-671-3022	kellie.blue@co.robeson.nc.us
COUNTY	Tammy Freeman Clerk to the Board Robeson County. NC 550 North Chestnut Street Lumberton, NC 28358 Phone: 910-671-3022	tammy.freeman@co.robeson.nc.us
COUNTY	Myron Neville Director of Public Works Robeson County. NC Phone: 910-671-3488	myron.neville@co.robeson.nc.us
CITY	M. Brandon Love, AIA Deputy City Manager City of Lumberton P.O. Box 1388 Lumberton, NC 28359	blove@ci.lumberton.nc.us

	(910) 671-3806	cc: Karen.kiehna@mcgillassociates.com bill.blankenship@rebuild.nc.gov
CITY	Rob Armstrong Director of Public Works City of Lumberton P.O. Box 1388 Lumberton, NC 28359 (910) 671-3851	rarmstrong@ci.lumberton.nc.us
CITY	Laney Mitchell-McIntosh, City Clerk City of Lumberton P.O. Box 1388 Lumberton, NC 28359 910-671-3807	lmitchell- mcintosh@ci.lumberton.nc.us

Appendix K:

Historic Preservation

NC SHPO responses and NCORR submission packages,
TDAT results, Catawba Indian Nation responses and
NCORR submission packages, and Lumbee Tribe of NC
Proposed Project Notification Letter



**North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office**

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary D. Reid Wilson

Office of Archives and History
Deputy Secretary, Darin J. Waters, Ph.D.

December 8, 2023

MEMORANDUM

TO: Andrea Gievers andrea.l.gievers@rebuild.nc.gov
N.C. Office of Recovery & Resiliency
Department of Public Safety

FROM: Ramona M. Bartos, Deputy
State Historic Preservation Officer *RMB for Ramona M. Bartos*

SUBJECT: Construct West Lumberton floodgate, I-95 bridge and Crystal Road, Lumberton,
Robeson County, ER 20-0997

Thank you for your email of December 6, 2023, concerning the above project.

We have conducted a review of the project and are aware of no historic resources which would be affected by the project. Therefore, we have no comment on the project as proposed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@dncr.nc.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Gievers, Andrea

From: DCR - Environmental_Review
Sent: Friday, December 8, 2023 10:18 AM
To: Gievers, Andrea
Cc: Wilkerson, Matt T
Subject: Construct West Lumberton floodgate, I-95 bridge and Crystal Road, Lumberton, Robeson County, ER 20-0997
Attachments: ER-20-0997_NC.pdf

Our response is attached. Thank you.

Best,

Devon L. Borgardt (she/her)

Environmental Review Assistant
State Historic Preservation Office
919-814-6586

109 E. Jones Street MSC 4603 Raleigh, NC 27699



Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

Please Note: Requests for project review or responses to our review comments should be sent to the Environmental Review mailbox at environmental.review@dncr.nc.gov. Otherwise, your request will be returned and you will be asked to send it to the proper mailbox. This will cause delays in your project. Information on email project submittal is at: [NCHPO ER Project Review Checklist](#)

[Facebook](#) [Twitter](#) [Instagram](#) [YouTube](#)

Email correspondence to and from this address may be subject to the North Carolina Public Records Law and may be disclosed to third parties by an authorized state official.



**North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office**

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary D. Reid Wilson

Office of Archives and History
Deputy Secretary, Darin J. Waters, Ph.D.

December 7, 2023

MEMORANDUM

TO: Andrea Gievers andrea.l.gievers@rebuild.nc.gov
N.C. Office of Recovery & Resiliency
Department of Public Safety

FROM: Ramona M. Bartos, Deputy
State Historic Preservation Officer *RMB for Ramona M. Bartos*

SUBJECT: Construct West Lumberton floodgate, I-95 bridge and Crystal Road, Lumberton,
Robeson County, ER 20-0997

Thank you for your email of December 7, 2023, concerning the above project.

Based on the results of no NRHP eligible sites identified during the 2020 archaeological survey of the original APE as part of TIP I-6064, PA 19-04-0007, it is unlikely that any archaeological resources that may be eligible for inclusion in the National Register of Historic Places will be affected by the project within the revised flood gate APE. We, therefore, recommend that no archaeological investigation be conducted in connection with the revised APE.

We have determined that the project as proposed will not have an effect on any historic structures.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@dncr.nc.gov In all future communication concerning this project, please cite the above referenced tracking number.

Gievers, Andrea

From: DCR - Environmental_Review
Sent: Thursday, December 7, 2023 3:14 PM
To: Gievers, Andrea
Cc: Gledhill-earley, Renee
Subject: Re: NCORR West Lumberton Flood Gate - REVISED priority ER 20-0997
Attachments: ER-20-0997_Nofurtherwork.pdf

Our response is attached. Thank you.

Best,

Devon L. Borgardt (she/her)
Environmental Review Assistant
State Historic Preservation Office
919-814-6586

109 E. Jones Street MSC 4603 Raleigh, NC 27699



Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

Please Note: Requests for project review or responses to our review comments should be sent to the Environmental Review mailbox at environmental.review@dncr.nc.gov. Otherwise, your request will be returned and you will be asked to send it to the proper mailbox. This will cause delays in your project. Information on email project submittal is at: [NCHPO ER Project Review Checklist](#)

[Facebook](#) [Twitter](#) [Instagram](#) [YouTube](#)

From: Gledhill-earley, Renee <renee.gledhill-earley@dncr.nc.gov>
Sent: Thursday, December 7, 2023 10:05 AM
To: DCR - Environmental_Review <Environmental.Review@dncr.nc.gov>
Cc: Gievers, Andrea <andrea.l.gievers@rebuild.nc.gov>
Subject: FW: NCORR West Lumberton Flood Gate - REVISED priority ER 20-0997

Andrea:

In addition to asking Matt Wilkerson at NCDOT to let me know if he will be able to clear it as well, I am copying our ER portal so that your request can be logged into the existing project file.

In the future, please address all of your review requests to the portal at environmental.review@dncr.nc.gov this will ensure that we have a record of the submittal, set deadlines for staff, and track our progress.

If you have a question such as below, cc me in the email with the question so that I am aware of the deadlines.....

This will help us help NCORR.

Thanks,

Renee Gledhill-Earley
Environmental Review Coordinator
NC State Historic Preservation Office

Please note my new email address is renee.gledhill-earley@dncr.nc.gov

From: Gievers, Andrea <andrea.l.gievers@rebuild.nc.gov>
Sent: Wednesday, December 6, 2023 5:22 PM
To: Gledhill-earley, Renee <renee.gledhill-earley@dncr.nc.gov>
Subject: NCORR West Lumberton Flood Gate - REVISED priority

Hi Renee:

The West Lumberton Flood Gate Project located Near Interstate 95 in the vicinity of VFW Road, Cox Road, Hackett Street, and the CSX railroad crossing within the City of Lumberton, Robeson County, NC has been **revised** and I have attached the new plans. Your office responded on November 17, 2021 to the original design, see attached. Now, the revised proposed project will be completed after NC DOT completes its I-95 widening in the project area. NC DOT will be performing significant ground disturbance in our project area as it includes realignment of Cox Road, VFW Road and Hackett Street, I-95 embankment and bridge surfacing, a drainage channel, I-95 replacement bridge, retaining walls near Cox Road, and temporary and permanent NC DOT easements and ROWs, all to be completed by NC DOT before construction commences on this NCORR proposed project. The proposed project action area is larger than the design submitted to your office in 2021 but overlaps. The proposed project will disturb approximately 4.9 acres mostly within previously disturbed railroad and roadway easements and industrial businesses' lawns and areas that will be previously disturbed by NC DOT. NC DOT stopped this project and made us redesign it to accommodate their I-95 widening plans. Unfortunately, I just received the 95% site plans last Tuesday and the project will be lucky to meet its funding construction deadlines now after NC DOT held it up. So, please let me know if this revision's electronic consultation is sufficient for your updated review. Please let me know if you have any questions or need any additional information. Thank you so much for your help!

Sincerely,

Andrea

Andrea Gievers, JD, MSEL, ERM
Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700



North Carolina Department of Public Safety

Office of Recovery and Resiliency

Roy Cooper, Governor
Eddie M. Buffaloe, Jr., Secretary

Laura H. Hogshead, Director

December 6, 2023

Ms. Renee Gledhill-Earley
Environmental Review Coordinator
NC State Historic Preservation Office
4617 Mail Service Center
Raleigh, NC 27699-4617

Via email: renee.gledhill-earley@ncdcr.gov

RE: State Historic Preservation Office Request for Concurrence
Section 106 Review - HUD CDBG-MIT Program
West Lumberton Flood Gate at VFW Road and Railroad Underpass - REVISION
Near Interstate 95 in the vicinity of VFW Road, Cox Road, Hackett Street,
and the CSX railroad crossing within the City of Lumberton, Robeson County, NC

Dear Ms. Gledhill-Earley:

In accordance with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations, 36 CFR Part 800, we are providing information for your review and concurrence regarding the above-referenced project. The North Carolina Office of Recovery and Resiliency (NCORR), as a recipient of Community Development Block Grant – Mitigation (CDBG-MIT) funds from the United States Department of Housing and Urban Development (HUD), is serving as the responsible entity for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. NCORR is acting on behalf of HUD in providing the enclosed project information and request for consultation.

Area of Potential Effects (APE) under §800.16(d): We have defined the APE as the boundary of the proposed limits of disturbance (LOD) which includes public rights-of-way, Hackett Street, Cox Road, VFW Road, the CSX railroad line, and portions of five parcels. According to the Robeson County online parcel data, two parcels are owned by Freeman Investments Inc., a 7.16-acre lot at VFW and Hackett Rd., Parcel Pin #938280300700 and an 0.83-acre lot at 550 VFW Rd., Parcel Pin #938189443052; one 6.3-acre lot is owned by Spartan LLC (fka Titan Flow Control) at 2400 Cox Rd., Parcel Pin #938179684407; one 6.34-acre lot is owned by Lumberton Recycling Co. Inc./ Omnisource Southeast at 2460 Cox Rd., Parcel Pin #938179143700; and a

Mailing Address:
Post Office Box 110465
Durham, NC 27709



Phone: (984) 833-5350
www.ncdps.gov
www.rebuild.nc.gov

An Equal Opportunity Employer

2.8-acre lot owned by the West Lumberton Baptist Church at 2306 W. 5th St., Parcel Pin #938189201500 The proposed project location aerial map showing the LOD/ action area is included for your review.

The State of North Carolina was adversely impacted by the landfall of Hurricanes Matthew (October 8, 2016) and Florence (September 14, 2018). During Hurricane Matthew and again with Hurricane Florence, flood waters entered through the CSX railroad underpass to the protected side of the levee and disrupted City-wide services such as the potable water supply and electric utility grid for several days. During Hurricane Matthew, the loss of the water treatment plant as a result of flooding left residents City-wide completely without public water for 10 days, with only restricted use non-potable water available another 20 days. Without the necessary improvements, the City will continue to experience flooding with resultant service interruptions, property damage and threat to public safety and health. Therefore, funding for the proposed project will be provided in part by the HUD CDBG-MIT North Carolina Infrastructure Recovery Program for Hurricanes Matthew and Florence storm recovery activities in North Carolina.

Proposed Project Description: The City has requested HUD CDBG-MIT funding through the NCORR Infrastructure Recovery Program to construct a permanent, mechanically powered floodgate system and related drainage and flood improvements to prevent future flood occurrences through a CSX railroad underpass beneath I-95 in an area of Lumberton that has suffered devastation from extreme river flooding, primarily associated with hurricanes. The proposed project will enhance the City's existing earthen levee system built in 1977 by the U.S Department of Agriculture (USDA) Soil Conservation Service and flood control system which protects southern and western Lumberton from Lumber river flooding. The proposed project will disturb approximately 4.9 acres mostly within previously disturbed railroad and roadway easements and industrial businesses' lawns. There will be an estimated 0.25 acres of woody vegetation to be cleared. This is a conservative estimate since some project areas will be cleared during NC DOT's I-95 widening construction.

The proposed project entails construction of an approximately 30-foot flood gate to swing over the CSX railroad tracks with concrete wing flood walls extending outward from both sides of the gate and connecting concrete wing wall sections to a proposed earthen berm with supportive sheet piling that ties the system into the I-95 proposed embankment; slope revetment; riprap groin protection; two 15-foot-wide gravel access drives with turnout onto Cox Road and corresponding 34-lf and 36-lf, 15-inch reinforced concrete piping (RCP) culverts; 2-foot x 2-foot and 3-foot x 3-foot sluice gates; water main offset; railroad ditch grading; removal and reinstallation of steel casing and 6-inch watermain south of the flood gate, as needed; abandonment of AT&T line; and all surfaces to be restored to existing grade after construction. Temporary construction includes four construction entrances, a staging area, two check dams, and a 26-linear-foot (lf), 15-inch HDPE. The sluice gates shall be self-contained stainless steel slide gates with a wall thimble offset sufficient to accommodate handwheel operation. CSX will remove and reinstall 34-foot rail sections and two timber crossties from each track with contractor to install sections of shoring (TRS) sheet piling which will remain in-place and be cut off a minimum of 2-feet below the top-of-tie. The contractor shall coordinate with CSX to schedule the final construction sequence including track windows for all phases of work where track(s) will be blocked or out of service and execute with CSX a temporary construction crossing agreement. CSX and contractor will

schedule a 12-hour track window to install the jump span bridge with CSX removing a 50-foot track section and contractor excavating materials, cutting off piles, and installing wales, struts, pile caps, and jump span bridge. Erosion and sediment control measures include filter fabric under 24-inch class 2 riprap east of the flood gate; geotextile fabric under 18-inch class B riprap and 6-inch stone groin protection riprap along southeastern portion of the earthen berm; two stone riprap check dams; site grading; and silt fencing.

NC DOT is undertaking the widening of this section of I-95 and site conditions anticipated upon completion of this NC DOT project are shown on C-102, Existing Conditions, in the attached site plans overlay. The NC DOT project includes realignment of Cox Road, VFW Road and Hackett Street, I-95 embankment and bridge surfacing, a drainage channel, I-95 replacement bridge, retaining walls near Cox Road, and temporary and permanent NC DOT easements and ROWs, all to be completed by NC DOT before construction commences on this proposed project.

We have made a Finding of “*No Historic Properties Affected*” pursuant to 36 CFR 800.4(d)(1) based on the following:

We have completed an initial review of this project in compliance with Section 106 of the NHPA and its implementing regulations 36 CFR Part 800. Based on our research of the Subject Property in the National Register of Historic Places, North Carolina State Historic Preservation Office’s (NC SHPO) HPOWEB, and site review performed by Timmons Group, no publicly recorded historic properties which are locally designated or listed in or eligible for inclusion in the State or National Register of Historic Places are located on or adjacent to the Subject Property. A *Historic Structures Survey Report for I-6064, Widen I-95 from I-74/US 74 to US 301/ Fayetteville Road, Lumberton, Robeson County, ER 20-0481* identified two historic properties that are Survey Only near the APE. The Big Chief Service Station (RB0735) located at 2550 Cox Road, was found “not eligible” for NRHP under Criterion B. The Lumberton Trading Company Warehouse (RB0736) located at 400 Crystal Road, was found “not eligible” for NRHP under Criterion B.

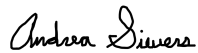
Attached for your review are copies of relevant documents supporting our finding, along with photographs and a map showing the location of the Subject Property. This documentation satisfies requirements set forth at §800.11(d).

NCORR processes environmental reviews for proposed projects funded with HUD CDBG-MIT on a case-by-case basis. A consultation request for the proposed project described herein has been sent to the Catawba Indian Nation. A notification of the proposed project has been sent to the Lumbee Tribe. In accordance with Section 101(d)(6)(B) of the NHPA of 1966, as amended (16 U.S.C. 470f), and its implementing regulations, 36 CFR Part 800, this letter serves as notification of the proposed action.

NCORR respectfully requests your review of the proposed project described herein. In accordance with §800.4(d)(1)(i), your office has thirty days to object to this finding. Please respond within this timeframe, otherwise we will assume that you concur with our finding. If you concur, please sign on the line below and return a copy of this letter by email to Andrea Gievers at Andrea.L.Gievers@Rebuild.NC.gov.

If you have any questions or require additional information regarding this request, please feel free to contact Andrea Gievers at (845) 682-1700 or via email at Andrea.L.Gievers@Rebuild.NC.gov. Thank you for your time and assistance.

Sincerely,



Andrea Gievers, JD, MSEL, ERM
NCORR Environmental Subject Matter Expert

Proposed Project Enclosures:

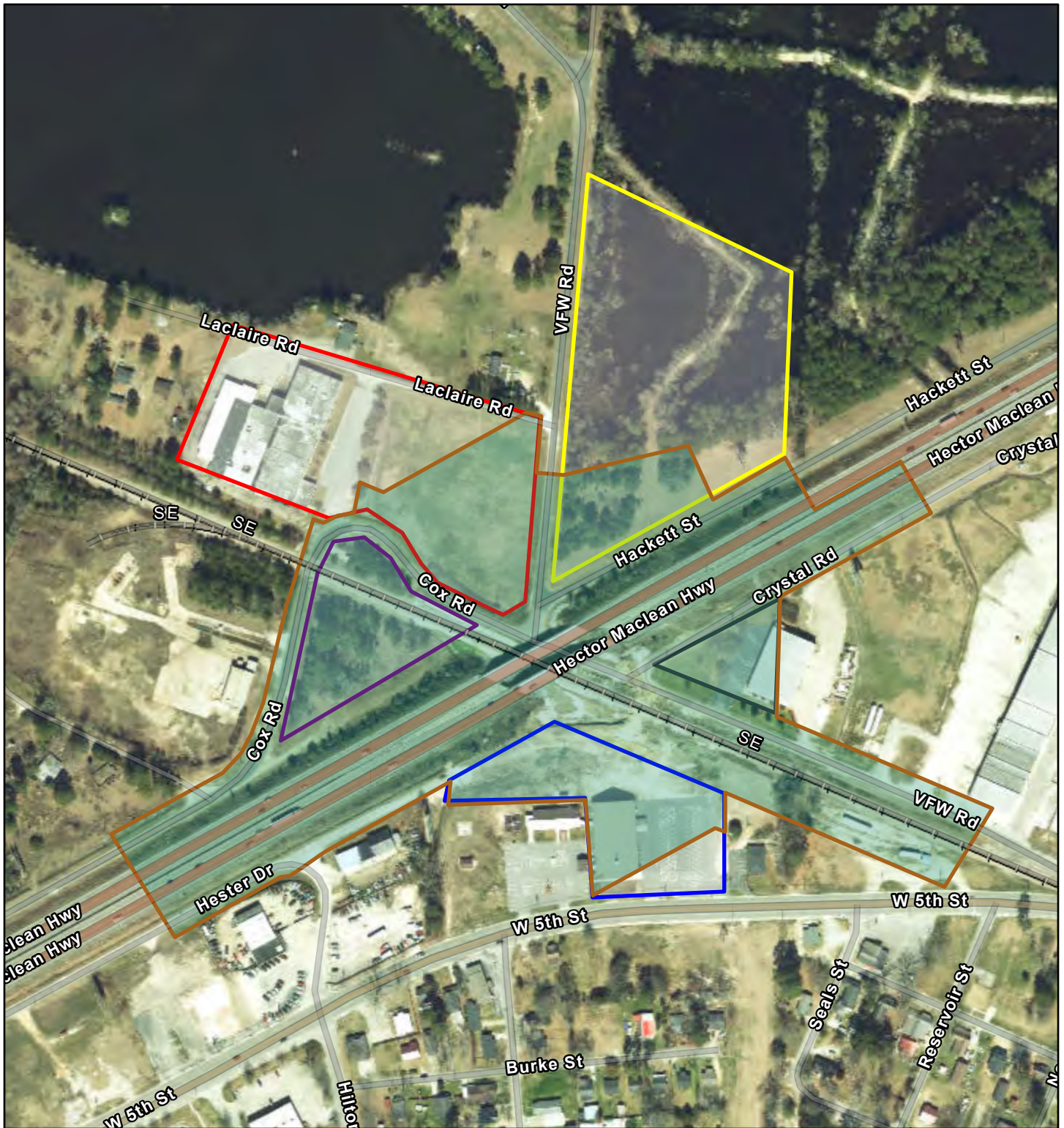
Aerial Map showing action area and affected parcels, NC HPOWEB and NRHP Maps, Existing Conditions Site Plans Overlay, Conditions After NC DOT I-95 Project Site Plans Overlay, NCORR Project Site Plans Overlay, NCORR Project Site Plans, Subject Property Photographs

Concurrence:








State Historic Preservation Officer

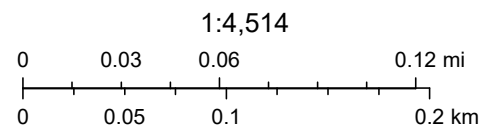
Date

West Lumberton Flood Gate - Aerial Map



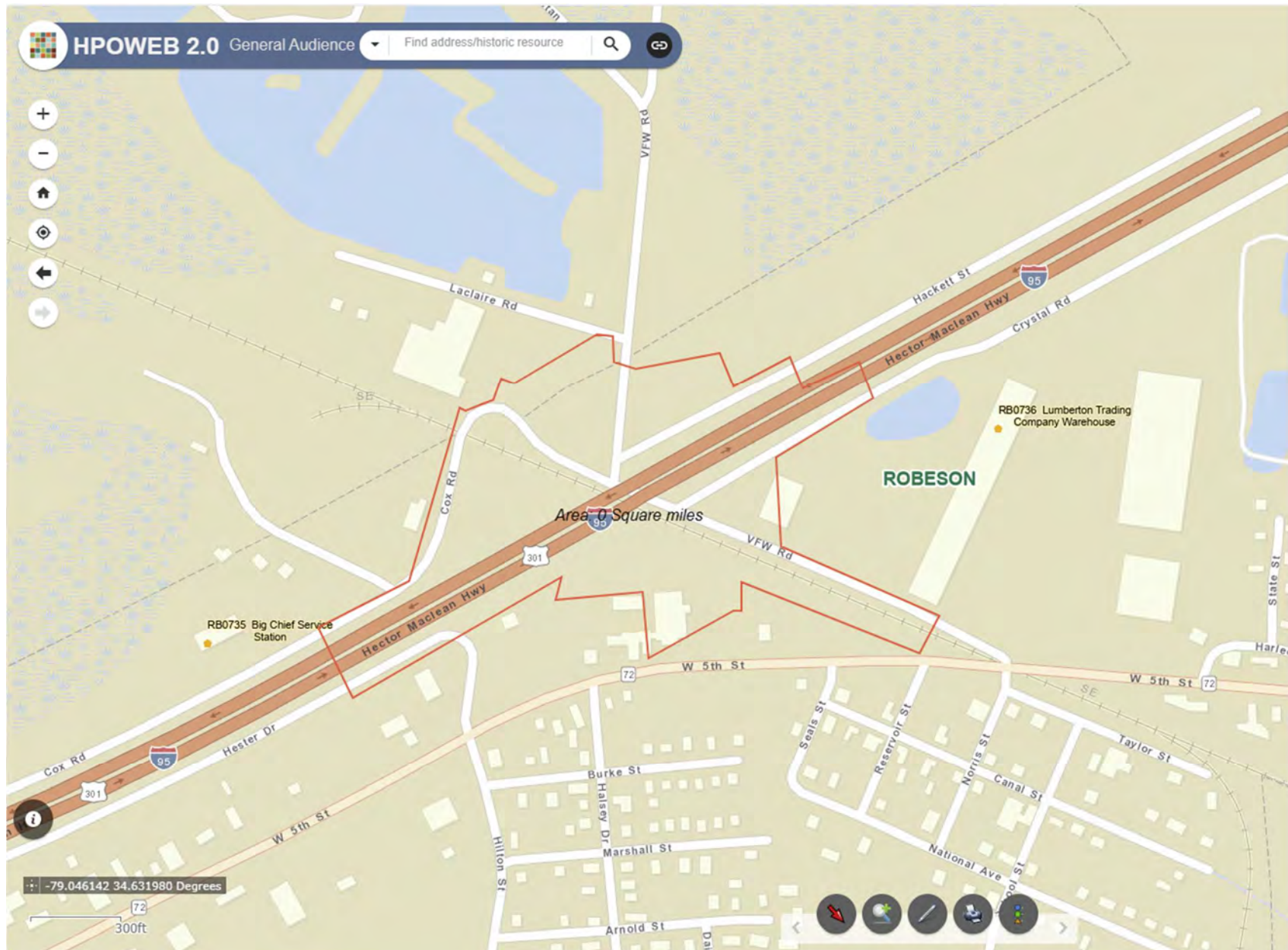
December 1, 2023

- | | | | |
|--|-----------------------------|---|-----------------------------|
|  | WLFG Project Action Area |  | 2460 Cox Rd #938179143700 |
|  | 550 VFW Rd #938189443052 |  | VFW & Hackett #938280300700 |
|  | 2306 W 5th St #938189201500 |  | Railroads |
|  | 2400 Cox Rd #938179684407 | | |



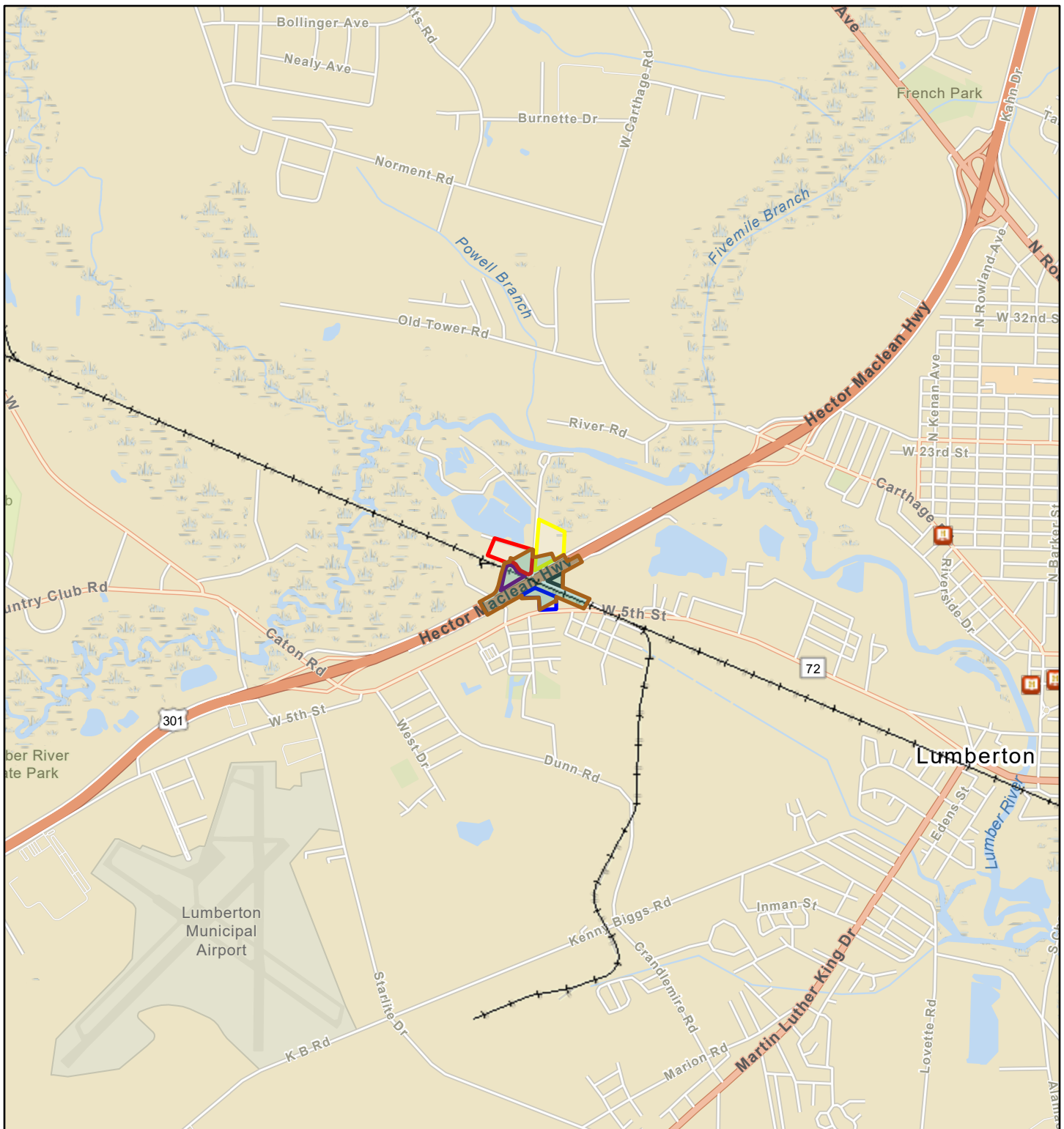
NC CGIA, Maxar, Esri Community Maps Contributors, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, EPA OEI

West Lumberton Flood Gate – HPOWEB Map





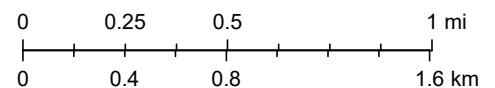
West Lumberton Flood Gate - NRHP Map



December 1, 2023

1:36,112

- WLFG Project Action Area
- 2460 Cox Rd #938179143700
- 550 VFW Rd #938189443052
- VFW & Hackett #938280300700
- 2306 W 5th St #938189201500
- National Register of Historic Places
- 2400 Cox Rd #938179684407
- Railroads



State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, EPA OEI, EPA OEI, OFA

W. Lumberton Flood Gate

Design Plans C-102 Post-NC DOT I-95 Project



W. Lumberton Flood Gate

Design Plans C-201 NCORR Project

- NOTES:
1. OFFSET WATERLINE AS NEEDED DURING CONSTRUCTION TO MINIMIZE INTERFERENCE OF SERVICE. MAXIMUM ALLOWABLE INTERFERENCE OF SERVICE IS 4 HOURS. REFER TO DETAIL 3 SHEET C-201.
 2. WATERLINE OFFSET CAN BE USED AS TEMPORARY OF FINAL LOCATION OF PIPE. FINAL PIPE PENETRATION THROUGH WALL SHALL BE PER DETAIL, PROVIDED IN STRUCTURAL SHEET.
 3. ALL SERVICES SHALL BE DUCTILE IRON.
 4. PROVIDE CITY OF LUMBERTON AT LEAST TWO WEEKS NOTICE AHEAD OF INTERFERENCE OF SERVICE AND COORDINATE WITH CITY ON LOCATION AND OPERATION OF CUTOFF VALVES.
 5. STEEL CASINGS, BRACKETS, AND CARRIER PIPE SHALL BE RESTORED AS EXISTING.
 6. HANG LOCATION, NO OFFSET IS ALLOWED.
 7. STEEL CASINGS SHALL BE BELIEVED AT CUT LOCATIONS. MECHANICAL JOINTS SHALL BE USED TO RESTRAIN CARRIER PIPE.
 8. MAXIMUM ALLOWABLE INTERFERENCE OF SERVICE FOR WATERLINE INSIDE STEEL CASING IS TWO WEEKS.

LUMBERTON FLOOD GATE					
LINE	DATE	BY	CHKD	APP'D	REV
L-1	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1
L-2	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1
L-3	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1
L-4	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1
L-5	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1
L-6	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1
L-7	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1
L-8	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1
L-9	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1
L-10	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1
L-11	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1
L-12	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1
L-13	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1
L-14	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1
L-15	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1
L-16	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1
L-17	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1
L-18	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1
L-19	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1
L-20	10/1/11	J. L. LUMBERTON	J. L. LUMBERTON	J. L. LUMBERTON	1



1. OFFSET WATERLINE AS NEEDED DURING CONSTRUCTION TO MINIMIZE INTERRUPTION OF SERVICE. MAXIMUM ALLOWABLE INTERRUPTION OF SERVICE IS 4 HOURS. REFER TO DETAIL 3 SHEET C-301.
2. WATERLINE OFFSET CAN BE USED AS TEMPORARY OF FINAL LOCATION OF PIPE. FINAL PIPE PENETRATION THROUGH WALL SHALL BE PER DETAIL PROVIDED IN STRUCTURAL SHEETS.
3. ALL PIPES SHALL BE DUCTILE IRON.
4. PROVIDE CITY OF LUMBERTON AT LEAST TWO WEEKS NOTICE AHEAD OF INTERRUPTION OF SERVICE AND COORDINATE WITH CITY ON LOCATION AND OPERATION OF CUTOFF VALVES.
5. STEEL CASINGS, SPACERS, AND CARRIER PIPE SHALL BE RESTORED AS EXISTING IN SAME LOCATION. NO OFFSET IS ALLOWED.
6. STEEL CASING SHALL BE WELDED AT CUT LOCATIONS. MECHANICAL JOINTS SHALL BE USED TO RESTRAIN CARRIER PIPE.
7. MAXIMUM ALLOWABLE INTERRUPTION OF SERVICE FOR WATERLINE INSIDE STEEL CASING IS TWO WEEKS.

Line #	Length	Direction	Start Point	End Point
L1	96.11	N24° 40' 09.23"W	(1987700.15,319372.56)	(1987660.03,319459.90)
L2	176.53	N23° 00' 27.04"E	(1987660.03,319459.90)	(1987729.03,319622.38)
L3	71.84	N70° 13' 43.98"E	(1987729.03,319622.38)	(1987796.64,319646.68)
L4	10.52	N81° 12' 28.78"E	(1987796.64,319646.68)	(1987807.03,319648.29)
L5	12.94	N89° 20' 58.14"E	(1987807.03,319648.29)	(1987819.97,319648.44)
L6	32.06	S72° 42' 19.97"E	(1987819.97,319648.44)	(1987850.58,319638.91)
L7	6.55	S72° 42' 19.97"E	(1987850.58,319638.91)	(1987856.84,319636.96)
L8	93.45	S71° 25' 10.57"E	(1987856.84,319636.96)	(1987945.42,319607.18)
L9	85.53	S71° 25' 20.35"E	(1987945.42,319607.18)	(1988026.49,319579.93)

GRAPHIC SCALE DIVISION VALUE = 40 FEET



Seat			Seat					
Rev.	Date	Description	By	Chk'd	App'd	Suitability		
Drawing Status							SO	

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3608 18th Street
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Fax: +1 (504) 833-5350
www.lhjunius.com



400 Trinity Road
Suite 107
Raleigh, NC 27607
Tel: +1 (919) 378-9111
NC Firm License # C-0459
cgillassociates.com



Project Title

WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES

SITE PLAN

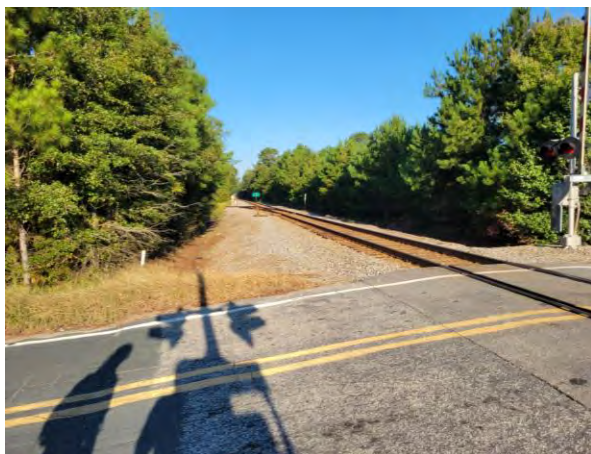
Scale 1"=40'	Designed CH	Drawn CH	Checked DS	Authorized MH
Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-C-201				Revision 000

95% SUBMITTAL
- FOR REVIEW PURPOSES ONLY -
DO NOT USE FOR
CONSTRUCTION



**Know what's below.
Call before you dig.**
Dial 811.
North Carolina 811, Inc.

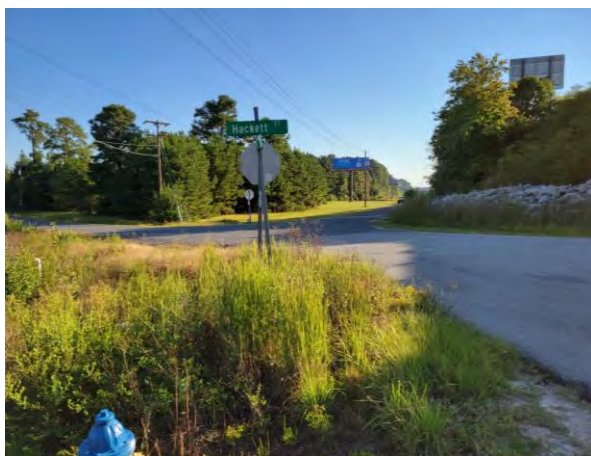
Site Visit, 9/28/2021 – West Lumberton Flood Gate



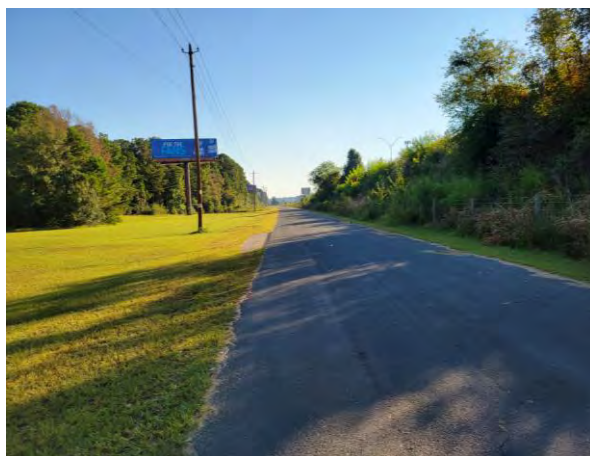
Northwest view of CSX Railroad from its crossing with Cox Road within the Site.



Southeast view of CSX Railroad from its crossing with Cox Road within the Site.



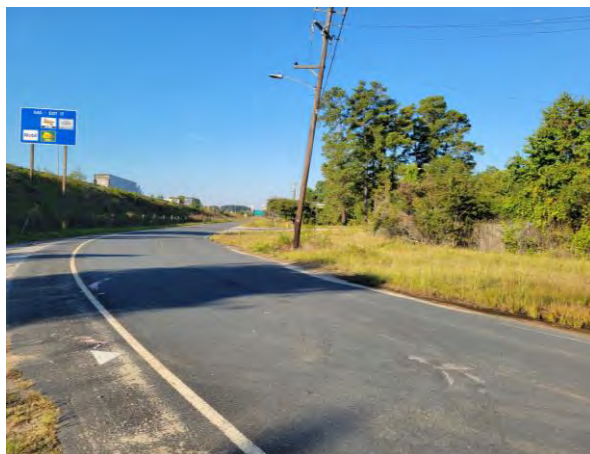
Northeastern view at the intersection of Hackett Street and VFW Road.



Northeastern view up Hackett Street, adjacent to I-95.

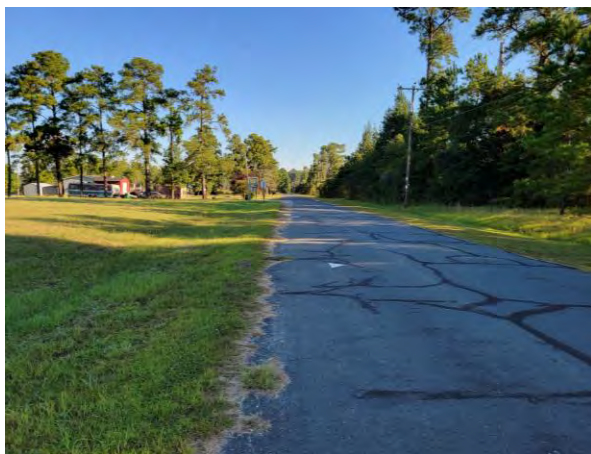


Southeastern view down Cox Road through the Site.



Southwestern view down Cox Road, adjacent to I-95.

Site Visit, 9/28/2021 – West Lumberton Flood Gate



Northern view up VFW Road, northeast of the I-95 overpass.



Southern view down VFW Road toward the I-95 overpass.



Southeastern view along VFW Road and the CSX railroad, underneath the I-95 overpass.



Southwestern view along the CSX railroad, underneath the I-95 Overpass



Representative view of wastewater lift station located within the Site, west of I-95.



Western view of the I-95 overpass along VFW Road and Cox Road.

Site Visit, 9/28/2021 – West Lumberton Flood Gate



Southwestern view along the I-95 overpass from the intersection of Cox Road and VFW Road.



Southeastern view of the I-95 overpass and CSX railroad tracks from the intersection of Cox Road and VFW Road.



Representative view of private residences adjoining the northwestern Site boundary.



Representative view of Titan Flow Control, Inc. adjacent to the western Site boundary.



Representative view of OmniSource metal recycling facility adjacent to the southwestern Site boundary.



Southern view down VFW Road and its intersection with Crystal Road, southeast of the I-95 overpass.



Tribal Directory Assessment Information



Contact Information for Tribes with Interests in Robeson County, North Carolina

Tribal Name					County Name		
- Catawba Indian Nation					Robeson		
Contact Name	Title	Mailing Address	Work Phone	Fax Number	Cell Phone	Email Address	URL
Dr. Wenonah G. Haire	THPO and Catawba Cultural Center Executive Director	1536 Tom Steven Road Rock Hill, SC 29730	(803) 328-2427 ext. 224	(803) 328-5791		wenonah.haire@catawba.com	http://www.catawba indian.net/
Bill Harris	Chief	996 Avenue of the Nations Rock Hill, SC 29730	(803) 366-4792	(803) 327-4853		bill.harris@catawbaindian.net	http://www.catawba indian.net/

1 - 1 of 1 results

« < 1 > » 10 ▼

Gievers, Andrea

From: Caitlin Rogers <Caitlin.Rogers@catawba.com>
Sent: Friday, December 8, 2023 9:56 AM
To: Gievers, Andrea
Subject: [External] Re: NCORR West Lumberton Flood Gate - REVISED

CAUTION: External email. Do not click links or open attachments unless verified. Report suspicious emails with the Report Message button located on your Outlook menu bar on the Home tab.

The Catawba THPO has no concerns with the revised West Lumberton Flood Gate Project. If you need anything else let me know.

Hawuh (Thank you),

Caitlin Rogers
Catawba Nation
Cultural Division Programs Manager
Tribal Historic Preservation Office
1536 Tom Steven Road
Rock Hill, SC 29730

803-328-2427 ext. 226

Please Note: We CANNOT accept Section 106 forms via e-mail, unless requested. Please send us hard copies. Thank you for your understanding

From: Gievers, Andrea <andrea.l.gievers@rebuild.nc.gov>
Sent: Wednesday, December 6, 2023 4:55 PM
To: Caitlin Rogers <Caitlin.Rogers@catawba.com>
Subject: NCORR West Lumberton Flood Gate - REVISED

Hi Caitlin:

The West Lumberton Flood Gate Project located Near Interstate 95 in the vicinity of VFW Road, Cox Road, Hackett Street, and the CSX railroad crossing within the City of Lumberton, Robeson County, NC has been **revised** and I have attached the new plans. Your office responded on December 3, 2021 to the original design, see attached. Now, the revised proposed project will be completed after NC DOT completes its I-95 widening in the project area. NC DOT will be performing significant ground disturbance in our project area as it includes realignment of Cox Road, VFW Road and Hackett Street, I-95 embankment and bridge surfacing, a drainage channel, I-95 replacement bridge, retaining walls near Cox Road, and temporary and permanent NC DOT easements and ROWs, all to be completed by NC DOT before construction commences on this NCORR proposed project. The proposed project action area is larger than the design submitted to your office in 2021 but overlaps. The proposed project will disturb approximately 4.9 acres mostly within previously disturbed railroad and roadway easements and industrial businesses' lawns and areas that will be previously disturbed by NC DOT. NC DOT stopped this project and made us redesign it to accommodate their I-95 widening plans. Unfortunately, I just received the 95% site plans last Tuesday and the project will be lucky to meet its funding construction deadlines now after NC DOT held it up. So, please let me know if this revision's electronic consultation is

sufficient for your updated review or if I need to mail it to the Chief and your office. Please let me know if you have any questions or need any additional information. Thank you so much for your help! Hawuh!

Sincerely,

Andrea

Andrea Gievers, JD, MSEL, ERM
Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

Email correspondence to and from this address may be subject to the North Carolina Public Records Law and may be disclosed to third parties by an authorized state official.

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North Carolina Department of Public Safety

Office of Recovery and Resiliency

Roy Cooper, Governor
Eddie M. Buffaloe, Jr., Secretary

Laura H. Hogshead, Director

December 6, 2023

Dr. Wenonah George Haire
ATTN: THPO
Catawba Indian Nation
1536 Tom Steven Road
Rock Hill, SC 29730

RE: Section 106 Review - HUD CDBG-MIT Program
West Lumberton Flood Gate at VFW Road and Railroad Underpass - REVISION
Near Interstate 95 in the vicinity of VFW Road, Cox Road, Hackett Street,
and the CSX railroad crossing within the City of Lumberton, Robeson County, NC

Dear Dr. Wenonah George Haire:

The North Carolina Office of Recovery and Resiliency (NCORR), as a recipient of Community Development Block Grant – Mitigation (CDBG-MIT) funds from the United States Department of Housing and Urban Development (HUD), is serving as the responsible entity for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. NCORR is acting on behalf of HUD in providing the enclosed project information and inviting this discussion with your Nation.

NCORR processes environmental reviews for proposed projects funded with HUD CDBG-MIT on a case-by-case basis. In accordance with Section 101(d)(6)(B) of the National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. 470f), and its implementing regulations, 36 CFR Part 800, this letter serves as notification of the proposed action. This letter also serves as an invitation to discussion as a consulting party in this review to help identify historic properties in the proposed project area that may have religious and cultural significance to your Nation, and if such properties exist, to help assess how the proposed project might affect them. If the proposed project might have an adverse effect, we would like to discuss possible ways to avoid, minimize or mitigate potential adverse effects.

Mailing Address:
Post Office Box 110465
Durham, NC 27709



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Phone: (984) 833-5350
www.ncdps.gov
www.rebuild.nc.gov

Area of Potential Effects (APE) under §800.16(d): We have defined the APE as the boundary of the proposed limits of disturbance (LOD) which includes public rights-of-way, Hackett Street, Cox Road, VFW Road, the CSX railroad line, and portions of five parcels. According to the Robeson County online parcel data, two parcels are owned by Freeman Investments Inc., a 7.16-acre lot at VFW and Hackett Rd., Parcel Pin #938280300700 and an 0.83-acre lot at 550 VFW Rd., Parcel Pin #938189443052; one 6.3-acre lot is owned by Spartan LLC (fka Titan Flow Control) at 2400 Cox Rd., Parcel Pin #938179684407; one 6.34-acre lot is owned by Lumberton Recycling Co. Inc./ Omnisource Southeast at 2460 Cox Rd., Parcel Pin #938179143700; and a 2.8-acre lot owned by the West Lumberton Baptist Church at 2306 W. 5th St., Parcel Pin #938189201500. The proposed project location aerial map showing the LOD/ action area is included for your review.

The State of North Carolina was adversely impacted by the landfall of Hurricanes Matthew (October 8, 2016) and Florence (September 14, 2018). During Hurricane Matthew and again with Hurricane Florence, flood waters entered through the CSX railroad underpass to the protected side of the levee and disrupted City-wide services such as the potable water supply and electric utility grid for several days. During Hurricane Matthew, the loss of the water treatment plant as a result of flooding left residents City-wide completely without public water for 10 days, with only restricted use non-potable water available another 20 days. Without the necessary improvements, the City will continue to experience flooding with resultant service interruptions, property damage and threat to public safety and health. Therefore, funding for the proposed project will be provided in part by the HUD CDBG-MIT North Carolina Infrastructure Recovery Program for Hurricanes Matthew and Florence storm recovery activities in North Carolina.

Proposed Project Description: The City has requested HUD CDBG-MIT funding through the NCORR Infrastructure Recovery Program to construct a permanent, mechanically powered floodgate system and related drainage and flood improvements to prevent future flood occurrences through a CSX railroad underpass beneath I-95 in an area of Lumberton that has suffered devastation from extreme river flooding, primarily associated with hurricanes. The proposed project will enhance the City's existing earthen levee system built in 1977 by the U.S Department of Agriculture (USDA) Soil Conservation Service and flood control system which protects southern and western Lumberton from Lumber river flooding. The proposed project will disturb approximately 4.9 acres mostly within previously disturbed railroad and roadway easements and industrial businesses' lawns. There will be an estimated 0.25 acres of woody vegetation to be cleared. This is a conservative estimate since some project areas will be cleared during NC DOT's I-95 widening construction.

The proposed project entails construction of an approximately 30-foot flood gate to swing over the CSX railroad tracks with concrete wing flood walls extending outward from both sides of the gate and connecting concrete wing wall sections to a proposed earthen berm with supportive sheet piling that ties the system into the I-95 proposed embankment; slope revetment; riprap groin protection; two 15-foot-wide gravel access drives with turnout onto Cox Road and corresponding 34-lf and 36-lf, 15-inch reinforced concrete piping (RCP) culverts; 2-foot x 2-foot and 3-foot x 3-foot sluice gates; water main offset; railroad ditch grading; removal and reinstallation of steel casing and 6-inch watermain south of the flood gate, as needed; abandonment of AT&T line; and all surfaces to be restored to existing grade after construction. Temporary construction includes

four construction entrances, a staging area, two check dams, and a 26-linear-foot (lf), 15-inch HDPE. The sluice gates shall be self-contained stainless steel slide gates with a wall thimble offset sufficient to accommodate handwheel operation. CSX will remove and reinstall 34-foot rail sections and two timber crossties from each track with contractor to install sections of shoring (TRS) sheet piling which will remain in-place and be cut off a minimum of 2-feet below the top-of-tie. The contractor shall coordinate with CSX to schedule the final construction sequence including track windows for all phases of work where track(s) will be blocked or out of service and execute with CSX a temporary construction crossing agreement. CSX and contractor will schedule a 12-hour track window to install the jump span bridge with CSX removing a 50-foot track section and contractor excavating materials, cutting off piles, and installing wales, struts, pile caps, and jump span bridge. Erosion and sediment control measures include filter fabric under 24-inch class 2 riprap east of the flood gate; geotextile fabric under 18-inch class B riprap and 6-inch stone groin protection riprap along southeastern portion of the earthen berm; two stone riprap check dams; site grading; and silt fencing.

NC DOT is undertaking the widening of this section of I-95 and site conditions anticipated upon completion of this NC DOT project are shown on C-102, Existing Conditions, in the attached site plans overlay. The NC DOT project includes realignment of Cox Road, VFW Road and Hackett Street, I-95 embankment and bridge surfacing, a drainage channel, I-95 replacement bridge, retaining walls near Cox Road, and temporary and permanent NC DOT easements and ROWs, all to be completed by NC DOT before construction commences on this proposed project.

We have completed an initial review of this project in compliance with Section 106 of the NHPA and its implementing regulations 36 CFR Part 800. Based on our research of the Subject Property in the National Register of Historic Places, North Carolina State Historic Preservation Office's (NC SHPO) HPOWEB, and site review performed by Timmons Group, no publicly recorded historic properties which are locally designated or listed in or eligible for inclusion in the State or National Register of Historic Places are located on or adjacent to the Subject Property. A *Historic Structures Survey Report for I-6064, Widen I-95 from I-74/US 74 to US 301/ Fayetteville Road, Lumberton, Robeson County, ER 20-0481* identified two historic properties that are Survey Only near the APE. The Big Chief Service Station (RB0735) located at 2550 Cox Road, was found "not eligible" for NRHP under Criterion B. The Lumberton Trading Company Warehouse (RB0736) located at 400 Crystal Road, was found "not eligible" for NRHP under Criterion B.

The revised proposed project information is being to the NC SHPO in accordance with Section 106 of the NHPA and its implementing regulations, 36 CFR Part 800. The Lumbee Tribe has been sent a notification of the proposed project. The proposed project will disturb approximately 4.9 acres mostly within previously disturbed railroad and roadway easements and industrial businesses' lawns. The *revised* proposed project will be completed after NC DOT completes its I-95 widening in the project area. NC DOT will be performing significant ground disturbance in our project area because the NC DOT project includes realignment of Cox Road, VFW Road and Hackett Street, I-95 embankment and bridge surfacing, a drainage channel, I-95 replacement bridge, retaining walls near Cox Road, and temporary and permanent NC DOT easements and ROWs, all to be completed by NC DOT before construction commences on this NCORR proposed project. The Subject Property photographs are attached.

With this letter, NCORR respectfully submits for your review the attached documentation for the proposed project described herein. If the APE encompasses historic properties of religious or cultural significance to your Nation, please respond within 30 days of receipt of this letter indicating a desire to consult. If you have any concerns with potential impacts of the proposed project on historic properties, please note them in your response along with your preferred principal representative's point of contact. Please respond within this timeframe, otherwise we will assume that the proposed project will have no effect to historic properties of religious or cultural significance. Please respond via email at Andrea.L.Gievers@Rebuild.NC.gov or in writing to the address listed below.

Ms. Andrea Gievers
NCORR - Environmental
ATTN: THPO Comments
P.O. Box 110465
Durham, NC 27709

If you have any questions or require additional information regarding this request, please feel free to contact Andrea Gievers at (845) 682-1700 or via email at Andrea.L.Gievers@Rebuild.NC.gov. Thank you for your time and assistance.

Sincerely,

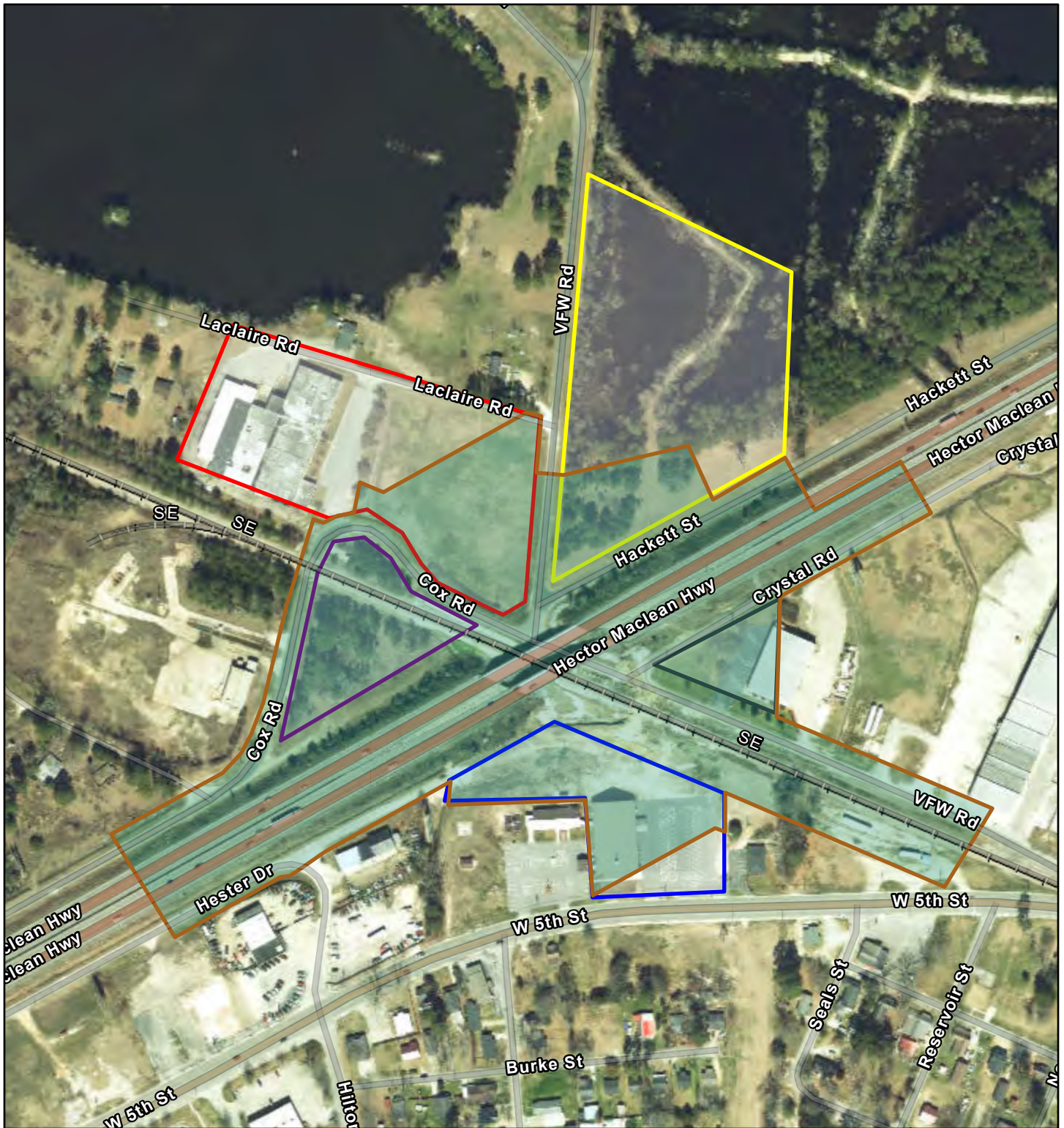


Andrea Gievers, JD, MSEL, ERM
NCORR Environmental Subject Matter Expert








Enclosures:

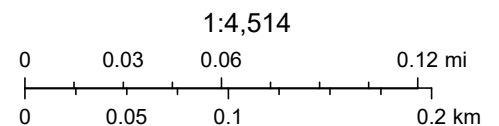
Aerial Map showing action area and affected parcels, NC HPOWEB and NRHP Maps,
Existing Conditions Site Plans Overlay, Conditions *After NC DOT I-95 Project* Site Plans
Overlay, NCORR Project Site Plans Overlay, NCORR Project Site Plans, Subject Property
Photographs

West Lumberton Flood Gate - Aerial Map



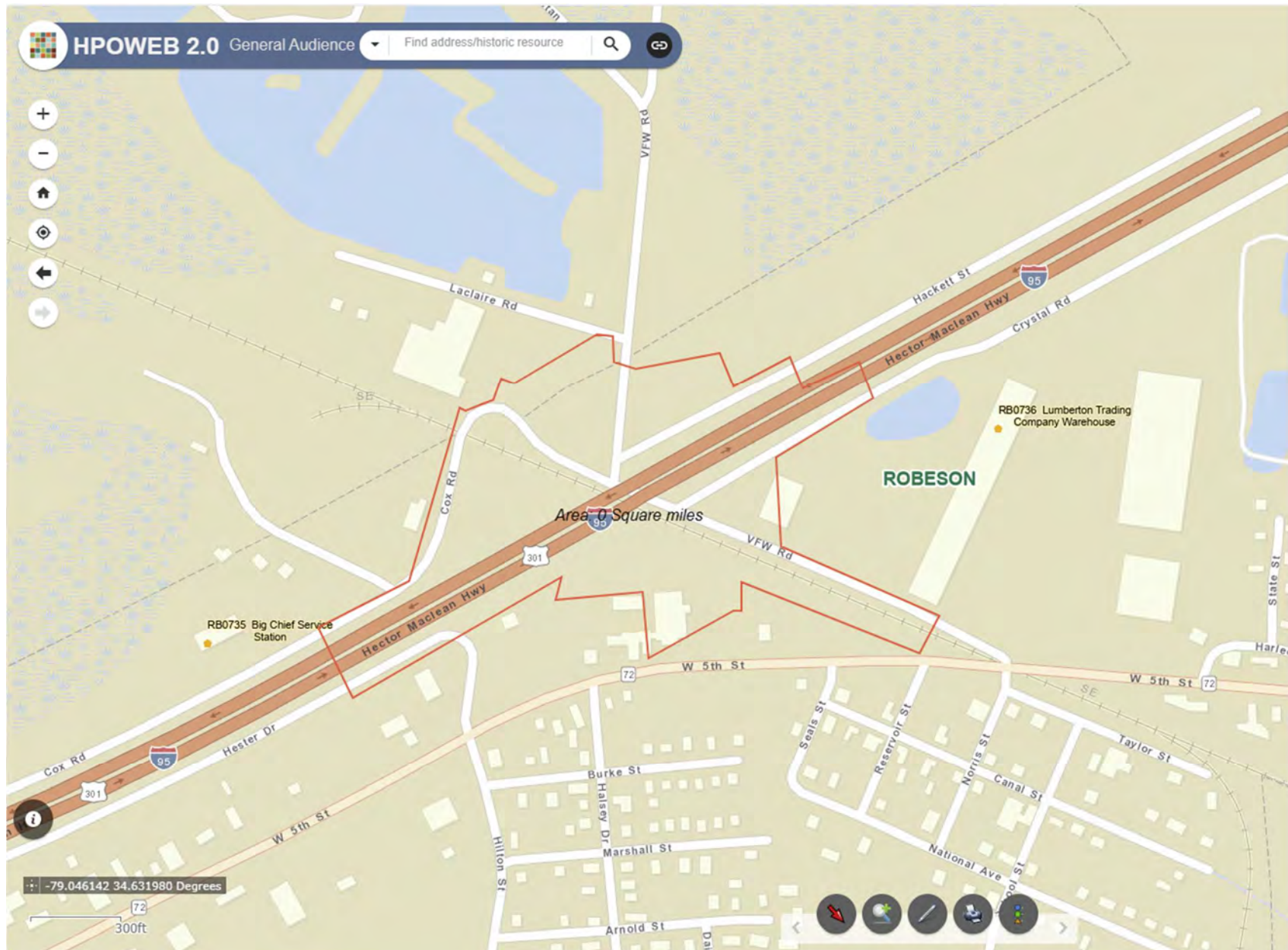
December 1, 2023

- | | |
|--|---|
|  WLFG Project Action Area |  2460 Cox Rd #938179143700 |
|  550 VFW Rd #938189443052 |  VFW & Hackett #938280300700 |
|  2306 W 5th St #938189201500 |  Railroads |
|  2400 Cox Rd #938179684407 | |



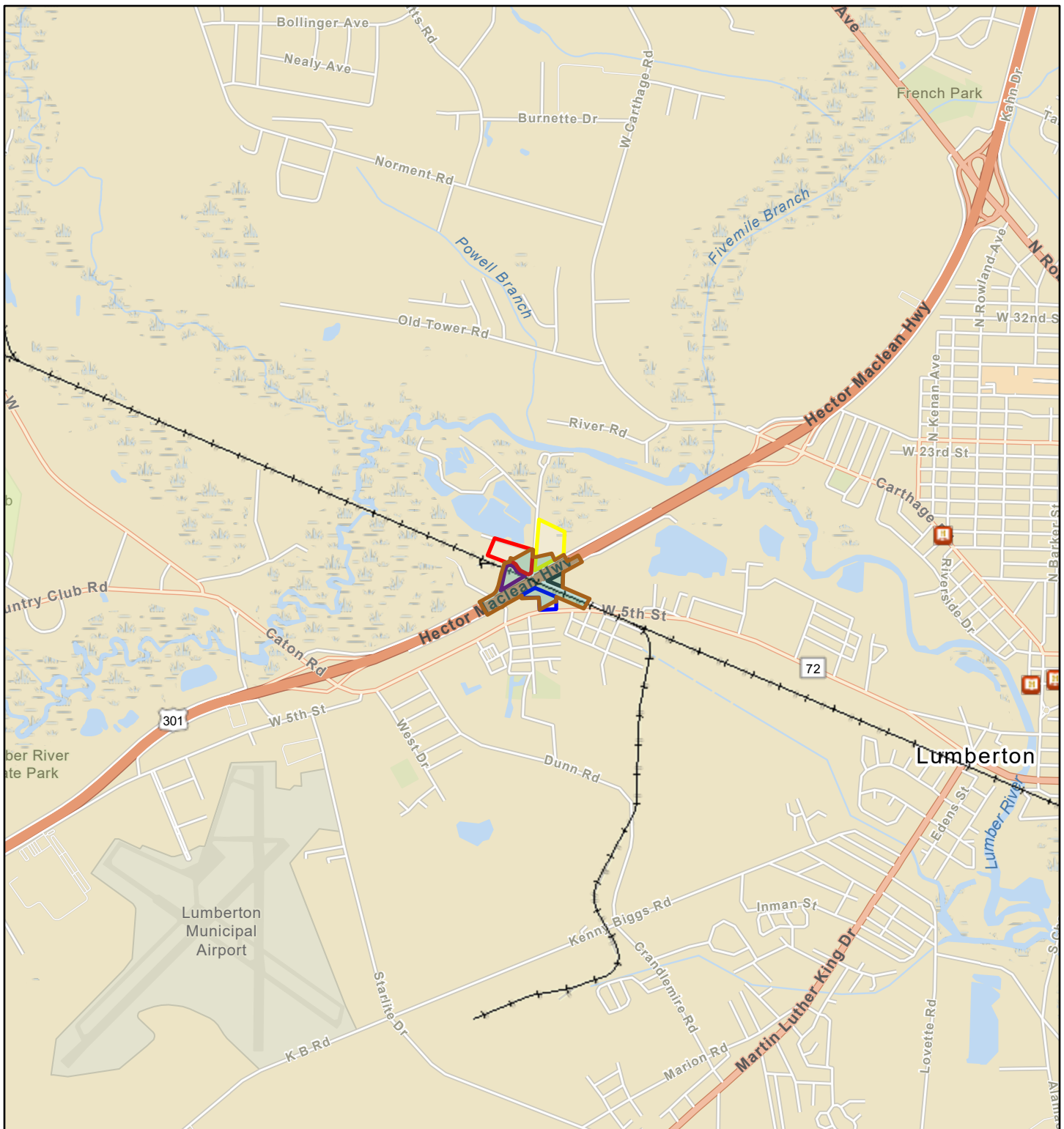
NC CGIA, Maxar, Esri Community Maps Contributors, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, EPA OEI

West Lumberton Flood Gate – HPOWEB Map





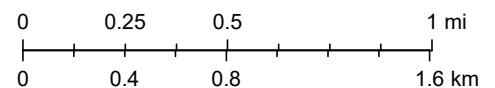
West Lumberton Flood Gate - NRHP Map



December 1, 2023

1:36,112

- WLFG Project Action Area
- 2460 Cox Rd #938179143700
- 550 VFW Rd #938189443052
- VFW & Hackett #938280300700
- 2306 W 5th St #938189201500
- National Register of Historic Places
- 2400 Cox Rd #938179684407
- Railroads



State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, EPA OEI, EPA OEI, OFA

[illegible]

W. Lumberton Flood Gate
Design Plans C-102 Post-NC DOT I-95 Project

DO NOT SCALE

Google Earth

400 ft

[illegible][illegible][illegible][illegible][illegible][illegible]

W. Lumberton Flood Gate
Design Plans C-102 Post-NC DOT I-95 Project

DO NOT SCALE

Google Earth

400 ft

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W. Lumberton Flood Gate
Design Plans C-102 Post-NC DOT I-95 Project

DO NOT SCALE

Google Earth

400 ft

W. Lumberton Flood Gate
Design Plans C-102 Post-NC DOT I-95 Project

DO NOT SCALE

Google Earth

400 ft

W. Lumberton Flood Gate
Design Plans C-102 Post-NC DOT I-95 Project

DO NOT SCALE

PROPOSED FLOOD GATE

PROPOSED ROAD

PROPOSED DRAINAGE

PROPOSED FLOOD WALL

400 ft

Google Earth

[illegible]

W. Lumberton Flood Gate
Design Plans C-102 Post-NC DOT I-95 Project

DO NOT SCALE

Google Earth

400 ft

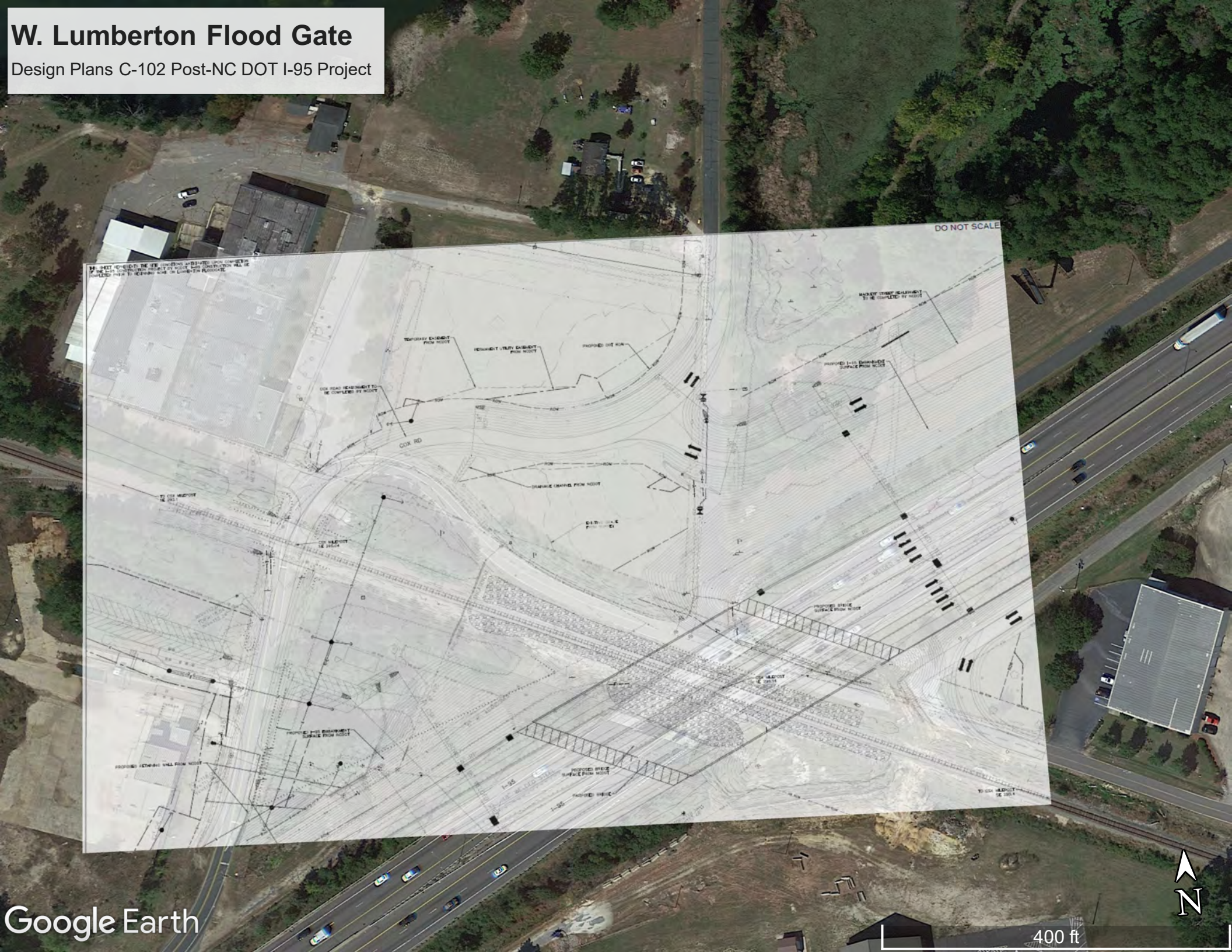
W. Lumberton Flood Gate
Design Plans C-102 Post-NC DOT I-95 Project

DO NOT SCALE

Google Earth

400 ft

N

[illegible][illegible][illegible][illegible]

W. Lumberton Flood Gate

Design Plans C-201 NCORR Project

- NOTES:
1. OFFSET WATERLINE AS NEEDED DURING CONSTRUCTION TO MINIMIZE INTERRUPTION OF SERVICE. MAXIMUM ALLOWABLE INTERRUPTION OF SERVICE IS 4 HOURS. REFER TO DETAIL SHEET C-201.
 2. WATERLINE OFFSET CAN BE USED AS TEMPORARY OF FINAL LOCATION OF PIPE. FINAL PIPE PENETRATION THROUGH WALL SHALL BE PER DETAIL PROVIDED IN STRUCTURAL SHEET.
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 4. PROVIDE CITY OF LUMBERTON AT LEAST TWO WEEKS NOTICE AHEAD OF INTERRUPTION OF SERVICE AND COORDINATE WITH CITY ON LOCATION AND OPERATION OF CUTOFF VALVES.
 5. STEEL CASINGS, BRACKETS, AND CARRIER PIPE SHALL BE RESTORED AS EXISTING.
 6. HANG LOCATION, NO OFFSET IS ALLOWED.
 7. STEEL CASINGS SHALL BE BELIEVED AT CUT LOCATIONS. MECHANICAL JOINTS SHALL BE USED TO RESTRAIN CARRIER PIPE.
 8. MAXIMUM ALLOWABLE INTERRUPTION OF SERVICE FOR WATERLINE UNDER STEEL CASINGS IS TWO WEEKS.

LINE TOTALS				
LINE	LENGTH	INVERT	OUTLET	DIAMETER
L-1	10.00	10.00	10.00	10.00
L-2	10.00	10.00	10.00	10.00
L-3	10.00	10.00	10.00	10.00
L-4	10.00	10.00	10.00	10.00
L-5	10.00	10.00	10.00	10.00
L-6	10.00	10.00	10.00	10.00
L-7	10.00	10.00	10.00	10.00
L-8	10.00	10.00	10.00	10.00
L-9	10.00	10.00	10.00	10.00
L-10	10.00	10.00	10.00	10.00



1. OFFSET WATERLINE AS NEEDED DURING CONSTRUCTION TO MINIMIZE INTERRUPTION OF SERVICE. MAXIMUM ALLOWABLE INTERRUPTION OF SERVICE IS 4 HOURS. REFER TO DETAIL 3 SHEET C-301.
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5. STEEL CASINGS, SPACERS, AND CARRIER PIPE SHALL BE RESTORED AS EXISTING IN SAME LOCATION. NO OFFSET IS ALLOWED.
6. STEEL CASING SHALL BE WELDED AT CUT LOCATIONS. MECHANICAL JOINTS SHALL BE USED TO RESTRAIN CARRIER PIPE.
7. MAXIMUM ALLOWABLE INTERRUPTION OF SERVICE FOR WATERLINE INSIDE STEEL CASING IS TWO WEEKS.

Line #	Length	Direction	Start Point	End Point
L1	96.11	N24° 40' 09.23"W	(1987700.15,319372.56)	(1987660.03,319459.90)
L2	176.53	N23° 00' 27.04"E	(1987660.03,319459.90)	(1987729.03,319622.38)
L3	71.84	N70° 13' 43.98"E	(1987729.03,319622.38)	(1987796.64,319646.68)
L4	10.52	N81° 12' 28.78"E	(1987796.64,319646.68)	(1987807.03,319648.29)
L5	12.94	N89° 20' 58.14"E	(1987807.03,319648.29)	(1987819.97,319648.44)
L6	32.06	S72° 42' 19.97"E	(1987819.97,319648.44)	(1987850.58,319638.91)
L7	6.55	S72° 42' 19.97"E	(1987850.58,319638.91)	(1987856.84,319636.96)
L8	93.45	S71° 25' 10.57"E	(1987856.84,319636.96)	(1987945.42,319607.18)
L9	85.53	S71° 25' 20.35"E	(1987945.42,319607.18)	(1988026.49,319579.93)

40 0 20 40 80

GRAPHIC SCALE DIVISION VALUE = 40 FEET



Seal			Seal		
Rev.	Date	Description	By	Chk'd	App'd
Drawing Status			Suitability		
FOR INFORMATION			SO		

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www.lhjunius.com

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Suite 107
Raleigh, NC 27607
Tel: +1 (919) 378-9111
NC Firm License # C-0459
mcqillassociates.com



Project Title

WEST LUMBERTON FLOOD G
AT VFW ROAD AND RAILROAD UNDERP
ENGINEERING SERVICES

SITE PLAN

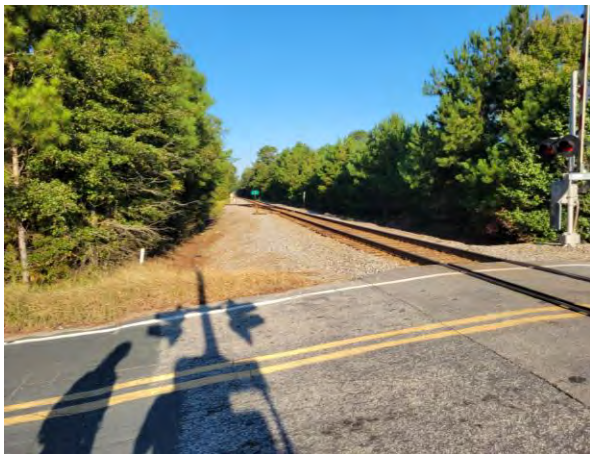
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Original Size 22x34	Date --/--/--	Date --/--/--	Date --/--/--	Date --/--/--
Drawing Number 100068207-C-201				Revision 000

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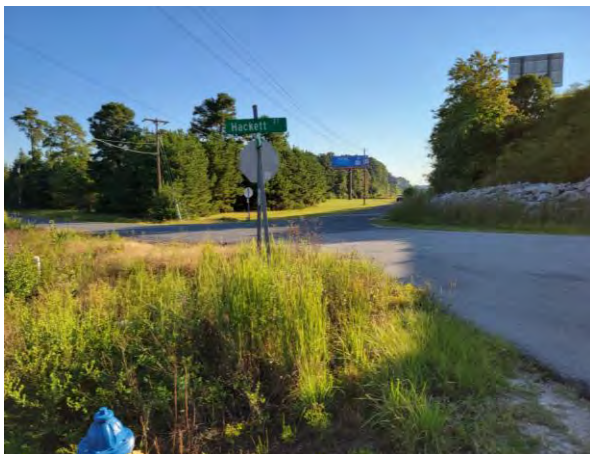
Site Visit, 9/28/2021 – West Lumberton Flood Gate



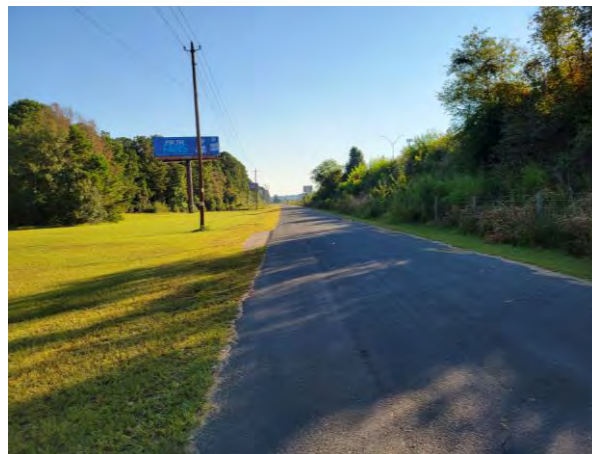
Northwest view of CSX Railroad from its crossing with Cox Road within the Site.



Southeast view of CSX Railroad from its crossing with Cox Road within the Site.



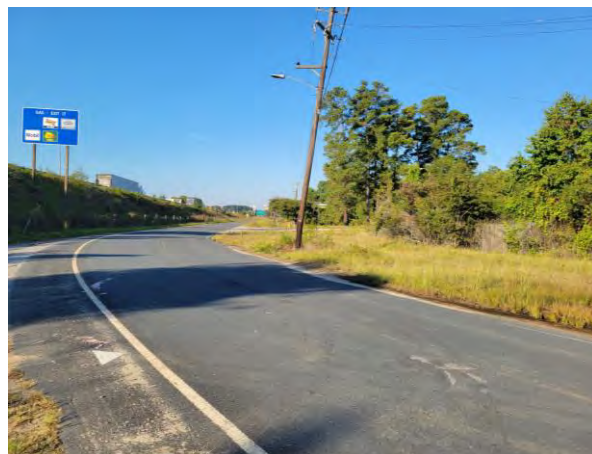
Northeastern view at the intersection of Hackett Street and VFW Road.



Northeastern view up Hackett Street, adjacent to I-95.

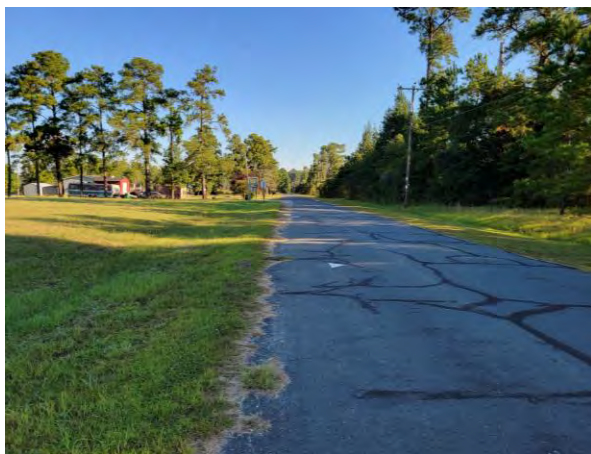


Southeastern view down Cox Road through the Site.



Southwestern view down Cox Road, adjacent to I-95.

Site Visit, 9/28/2021 – West Lumberton Flood Gate



Northern view up VFW Road, northeast of the I-95 overpass.



Southern view down VFW Road toward the I-95 overpass.



Southeastern view along VFW Road and the CSX railroad, underneath the I-95 overpass.



Southwestern view along the CSX railroad, underneath the I-95 Overpass



Representative view of wastewater lift station located within the Site, west of I-95.



Western view of the I-95 overpass along VFW Road and Cox Road.

Site Visit, 9/28/2021 – West Lumberton Flood Gate



Southwestern view along the I-95 overpass from the intersection of Cox Road and VFW Road.



Southeastern view of the I-95 overpass and CSX railroad tracks from the intersection of Cox Road and VFW Road.



Representative view of private residences adjoining the northwestern Site boundary.



Representative view of Titan Flow Control, Inc. adjacent to the western Site boundary.



Representative view of OmniSource metal recycling facility adjacent to the southwestern Site boundary.



Southern view down VFW Road and its intersection with Crystal Road, southeast of the I-95 overpass.



North Carolina Department of Public Safety

Office of Recovery and Resiliency

Roy Cooper, Governor
Casandra Skinner Hoekstra, Interim Secretary

Laura H. Hogshead, Director

October 29, 2021

Chairman Harvey Godwin, Jr.
Lumbee Tribe of North Carolina
P.O. Box 2709
Pembroke, NC 28372

RE: NCORR - HUD CDBG-DR Program
West Lumberton Flood Gate Proposed Project Notification
West of Interstate 95 (I-95) in the vicinity of Cox Road,
VFW Road, Hackett Street, and the CSX railroad crossing
City of Lumberton, Robeson County, NC 28360

Dear Chairman Godwin, Jr.:

The North Carolina Office of Recovery and Resiliency (NCORR) is notifying you as a representative of the Lumbee Tribe of North Carolina that an infrastructure improvement project is proposed within a potential area of interest to your Tribe. NCORR as a recipient of Community Development Block Grant – Disaster Recovery (CDBG-DR) funds from the United States Department of Housing and Urban Development (HUD) is considering funding this proposed project, the West Lumberton Flood Gate at VFW Road and Railroad Underpass located west of I-95 in the vicinity of Cox Road, VFW Road, Hackett Street, and the CSX railroad crossing within the City of Lumberton. The State of North Carolina was adversely impacted by the landfall of Hurricanes Matthew (October 8, 2016) and Florence (September 14, 2018). Therefore, funding for the proposed project will be provided in part by the HUD CDBG-DR program for Hurricane Matthew storm recovery activities in North Carolina.

The Proposed Activity is needed to prevent future flood occurrences through the CSX railroad penetration under I-95, an area of south and west Lumberton that has suffered devastation from extreme river flooding. During Hurricane Matthew in 2016 and Hurricane Florence in 2018, flood waters entered the protected side of the levee and disrupted City-wide services such as the potable water supply and electric utility grid for several days. The City of Lumberton proposes to install a mechanical flood gate system and related drainage/flood improvements that will mitigate against 100-year flood events flowing through the west side of the I-95 overpass at this location.

Mailing Address:
Post Office Box 110465
Durham, NC 27709



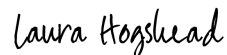
Telephone: 984.833.5350
www.ncdps.gov
www.rebuild.nc.gov

The Proposed Activity will impose minimal ground disturbance and include constructing an approximately 35-foot flood gate to swing over the CSX tracks. Concrete wing walls will extend out from either side of the gate and connect to an earthen berm that ties the system into the I-95 road bed. An approximately 800 linear foot earthen levee extension will be constructed from the existing I-95 bridge abutment to the flood gate. Sheet piling will be installed approximately 15 feet below existing grade for the earthen levee and concrete wing wall sections. Portions of VFW Road and Hackett Street will be realigned to accommodate the flood gate, and miscellaneous appurtenances and pavement repair will be performed. The proposed project area is approximately 3.5 acres in size.

The proposed project is under review by the NC State Historic Preservation Office (SHPO) Office of State Archaeology and the Catawba Indian Nation. An Early Notice and Public Review of Proposed Activity in a 100-year Floodplain comment period will begin on October 30, 2021; however, we wanted to update you directly on this proposed project.

We appreciate the support the Lumbee Tribe has provided to the efforts of ReBuild NC and look forward to a continued productive relationship as we assist North Carolinians.

Respectfully,

A handwritten signature in black ink that reads "Laura Hogshead". The script is cursive and fluid.

Laura Hogshead

**Original Plans Submissions from NCORR to
NC SHPO and Catawba Indian Nation on
October 29, 2021 and Responses**



**North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office**

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary D. Reid Wilson

Office of Archives and History
Deputy Secretary, Darin J. Waters, Ph.D.

November 17, 2021

MEMORANDUM

TO: Andrea Gievers andrea.l.gievers@rebuild.nc.gov
NC Office of Recovery and Resiliency

FROM: Ramona Bartos *RSB for Ramona M. Bartos*

SUBJECT: Construct West Lumberton floodgate, I-95 bridge and Crystal Road (22-E-0000-0079),
Lumberton, Robeson County, ER 20-0997

Thank you for your email of October 1, 2021, concerning the above project. We apologize for the delay in our response and any inconvenience it may have caused.

We have determined that there will be no historic properties affected. We have no objections to the project as proposed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, Environmental Review Coordinator, at 919-814-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Cc: Crystal Best, North Carolina State Clearinghouse crystal.best@doa.nc.gov
Susan Morrison, Timmons Group susan.morrison@timmons.com

Gievers, Andrea

From: Gievers, Andrea
Sent: Friday, October 29, 2021 3:42 PM
To: Gledhill-earley, Renee
Subject: Section 106 Review HUD CDBG-DR - West Lumberton Flood Gate Proposed Project
Attachments: NCORR SHPO WLFG No HP Affected Letter 10.29.21.pdf

Dear Ms. Gledhill-Earley:

I am the new NCORR Community Development - Environmental Subject Matter Expert performing HUD Part 58 reviews for Infrastructure, Affordable Housing and Public Housing projects that are applying for HUD CDBG-DR funding through NCORR. While there is a Programmatic Agreement (PA) between our offices, most of these projects involve new construction and ground disturbance outside of the PA Allowances. I welcome any suggestions that you have to ensure our coordination for reviews is the utmost accommodating to you and your Office. I have worked on numerous HUD CDBG-DR and HOME funded projects with various State Historic Preservation Offices and Tribes, Nations, and Communities. I look forward to working with you! Please feel free to contact me if you have any questions or comments. Thank you so much for your time and assistance. - Andrea

--

Please find attached the request for your review and concurrence regarding the *West Lumberton Flood Gate Proposed Project* in accordance with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations, 36 CFR Part 800. Based on our research of the property performed by Timmons Group, we have defined the Area of Potential Effect (APE) as approximately 3.5 acres in size and located west of I-95 in the vicinity of Cox Road, VFW Road, Hackett Street, and the CSX railroad crossing in the City of Lumberton. We have made a preliminary finding of "No Historic Properties Affected" pursuant to 36 CFR 800.4(d)(1). Your Office had reviewed the original design and responded no historic resources affected, see attached. NCORR respectfully requests your review of the proposed project described herein. In accordance with §800.4(d)(1)(i), your office has *thirty days* to object to this finding. If you have any questions or require additional information regarding this request, please feel free to contact Andrea Gievers at (845) 682-1700 or via email at Andrea.L.Gievers@Rebuild.NC.gov. Thank you for your time and assistance.

Sincerely,

Andrea

Andrea Gievers, JD, MSEL, ERM
Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700



North Carolina Department of Public Safety

Office of Recovery and Resiliency

Roy Cooper, Governor
Casandra Skinner Hoekstra, Interim Secretary

Laura H. Hogshead, Director

October 29, 2021

Ms. Renee Gledhill-Earley
Environmental Review Coordinator
NC State Historic Preservation Office
4617 Mail Service Center
Raleigh, NC 27699-4617

Via email: renee.gledhill-earley@ncdcr.gov

RE: State Historic Preservation Office Request for Concurrence
Section 106 Review - HUD CDBG-DR Program
West Lumberton Flood Gate Proposed Project
West of Interstate 95 (I-95) in the vicinity of Cox Road,
VFW Road, Hackett Street, and the CSX railroad crossing
City of Lumberton, Robeson County, NC 28360

Dear Ms. Gledhill-Earley:

In accordance with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations, 36 CFR Part 800, we are providing information for your review and concurrence regarding the above-referenced project. The North Carolina Office of Recovery and Resiliency (NCORR), as a recipient of Community Development Block Grant – Disaster Recovery (CDBG-DR) funds from the United States Department of Housing and Urban Development (HUD), is serving as the responsible entity for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. NCORR is acting on behalf of HUD in providing the enclosed project information and request for consultation.

The State of North Carolina was adversely impacted by the landfall of Hurricanes Matthew (October 8, 2016) and Florence (September 14, 2018). During Hurricanes Matthew and Florence, flood waters entered the protected side of the levee and disrupted City-wide services such as the potable water supply and electric utility grid for several days. The proposed project is needed to prevent future flood occurrences through the CSX railroad penetration under I-95, an area of south and west Lumberton that has suffered devastation from extreme river flooding. Funding for the proposed project will be provided in part by the HUD CDBG-DR program for Hurricane Matthew storm recovery activities in North Carolina.

Mailing Address:
Post Office Box 110465
Durham, NC 27709



Telephone: 984.833.5350
www.ncdps.gov
www.rebuild.nc.gov

Area of Potential Effects (APE) under §800.16(d): We have defined the APE as the proposed project area (Subject Property) which is approximately 3.5 acres in size and located west of I-95 in the vicinity of Cox Road, VFW Road, Hackett Street, and the CSX railroad crossing in the City of Lumberton. The proposed project location maps are included in **Attachment 1** for your review.

Proposed Project Description: The City of Lumberton proposes to install a mechanical flood gate system and related drainage/flood improvements that will mitigate against 100-year flood events flowing through the west side of the I-95 overpass at this location. The proposed project will impose minimal ground disturbance and include constructing an approximately 35-foot flood gate to swing over the CSX tracks. Concrete wing walls will extend out from either side of the gate and connect to an earthen berm that ties the system into the I-95 road bed. An approximately 800 linear foot earthen levee extension will be constructed from the existing I-95 bridge abutment to the flood gate. Sheet piling will be installed approximately 15 feet below existing grade for the earthen levee and concrete wing wall sections. Portions of VFW Road and Hackett Street will be realigned to accommodate the flood gate, and miscellaneous appurtenances and pavement repair will be performed. Fill material will be provided from permitted borrow sites. Final height and locations of the new floodgate system will be determined upon further surveying investigation(s) and engineering design(s). Proposed activities will be generally contained within previously disturbed railroad and roadway easements, with a minimal increase in the current footprint. The proposed project conceptual site plan is included in **Attachment 2**.

We have made a Finding of “*No Historic Properties Affected*” pursuant to 36 CFR 800.4(d)(1) based on the following:

Based on our research of the Subject Property in the North Carolina State Historic Preservation Office’s (NC SHPO) HPOWEB and site review performed by Timmons Group, no publicly recorded historic properties which are locally designated or listed in or eligible for inclusion in the State or National Register of Historic Places are located on or immediately adjacent to the proposed project area. Two sites within the direct impacts APE are listed as ineligible for listing on the National Register of Historic Places. The results are included in **Attachment 1**. Further, the proposed infrastructure improvement undertaking should not affect these two properties. The Subject Property is bounded to the north by forested areas, VFW Road, and Hackett Street; to the west by Cox Road, CSX railroad tracks, industrial development and forested areas; to the south Cox Road, residential and industrial development, and forested areas; and to the east by I-95 and light industrial and commercial development. The surrounding area is characterized by a mix of uses including light industrial, commercial, and single family residential.

The NC State Historic Preservation Office (SHPO) and the Catawba Indian Nation were previously contacted for review of the original design when the City of Lumberton provided an Environmental Assessment scoping package for U.S. Department of Commerce Economic Development Administration (EDA) funding. Engineering designs have since changed with flood gates now proposed on the western side of I-95 rather than on the eastern side. Thus, VFW Road and Hackett Street will be re-aligned as described above, and the re-alignment of Crystal Road will no longer be required as part of project

construction in the area. The previous NC SHPO and Catawba Indian Nation response letters are included for reference in **Attachment 3**.

Attached for your review are copies of relevant documents supporting our finding, along with photographs and a map showing the location of the Subject Property. This documentation satisfies requirements set forth at §800.11(d).

NCORR processes environmental reviews for proposed projects funded with HUD CDBG-DR on a case-by-case basis. A consultation request for the proposed project described herein is being sent to the Catawba Indian Nation. A proposed project notification letter is also being sent to the Lumbee Tribe. In accordance with Section 101(d)(6)(B) of the NHPA of 1966, as amended (16 U.S.C. 470f), and its implementing regulations, 36 CFR Part 800, this letter serves as notification of the proposed action.

NCORR respectfully requests your review of the proposed project described herein. In accordance with §800.4(d)(1)(i), your office has *thirty days* to object to this finding. Please respond within this timeframe, otherwise we will assume that you concur with our finding. If you concur, please sign on the line below and return a copy of this letter by email to Andrea Gievers at Andrea.L.Gievers@Rebuild.NC.gov.

If you have any questions or require additional information regarding this request, please feel free to contact Andrea Gievers at (845) 682-1700 or via email at Andrea.L.Gievers@Rebuild.NC.gov. Thank you for your time and assistance.

Sincerely,



Andrea Gievers, JD, MSEL, ERM
NCORR Environmental Subject Matter Expert

Enclosures:

Attachment 1: Proposed Project Location and NC HPOWEB Maps

Attachment 2: Proposed Project Conceptual Site Plan

Attachment 3: Previous NC SHPO and Catawba Indian Nation Response Letters (Original Design)

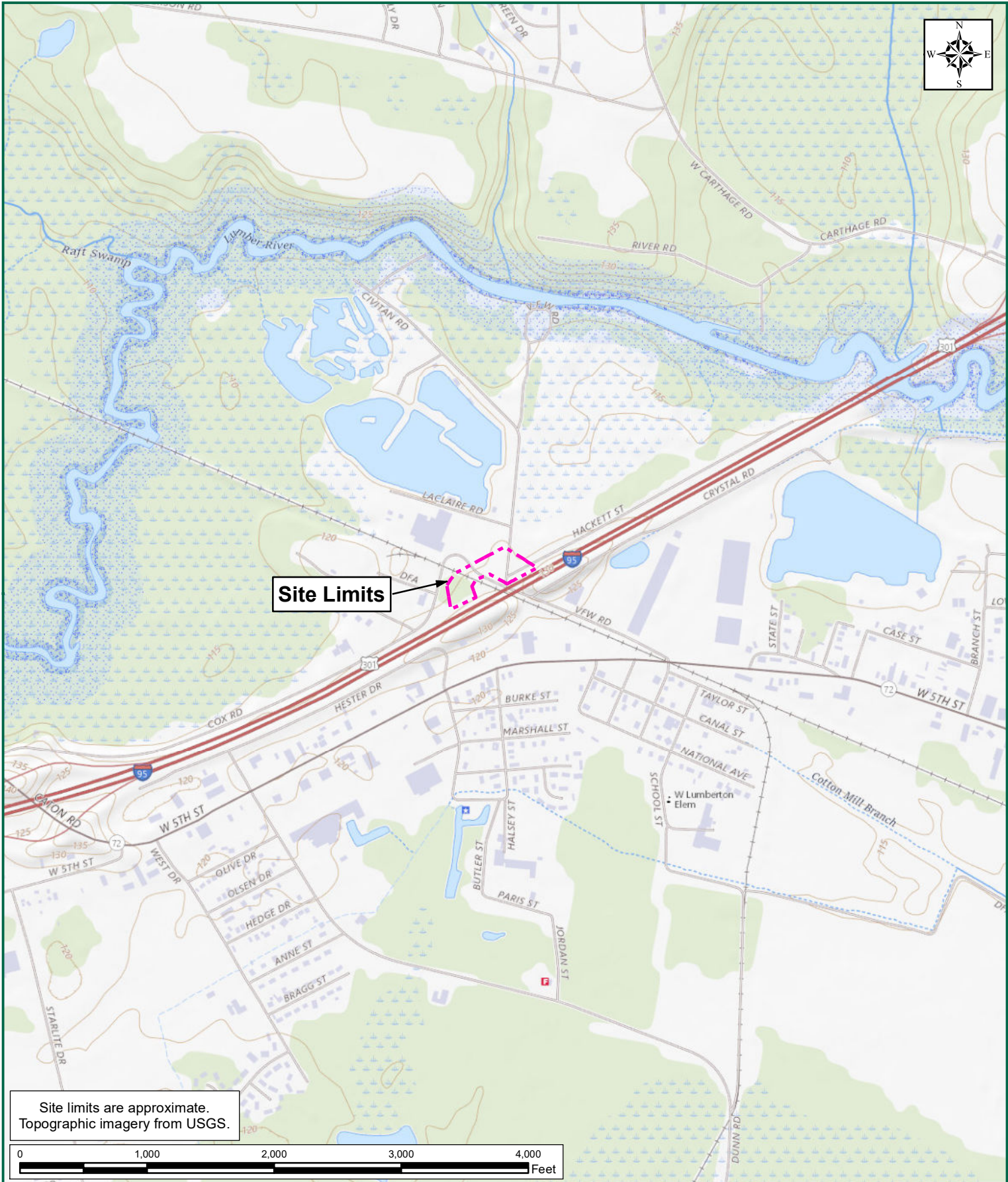
Concurrence:

State Historic Preservation Officer

Date

ATTACHMENT 1:

Proposed Project Location and NC HPOWEB Maps



WEST LUMBERTON FLOOD GATE
ROBESON COUNTY, NORTH CAROLINA
FIGURE 1: VICINITY MAP

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP JOB NUMBER: 49420
PROJECT STUDY LIMITS: 3.08 ACRES
LATITUDE: 34.627785
LONGITUDE: -79.041103

U.S.G.S. QUADRANGLE(S): NORTHWEST LUMBERTON
DATE(S): 2019
WATERSHED(S): LUMBER (LOWER PEE DEE RIVER BASIN)
HYDROLOGIC UNIT CODE(S): 03040203

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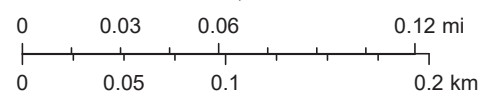
Site Location - West Lumberton Flood Gate



September 29, 2021

 Project Site

1:4,514



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

NCHPO HPOWEB - West Lumberton Flood Gate



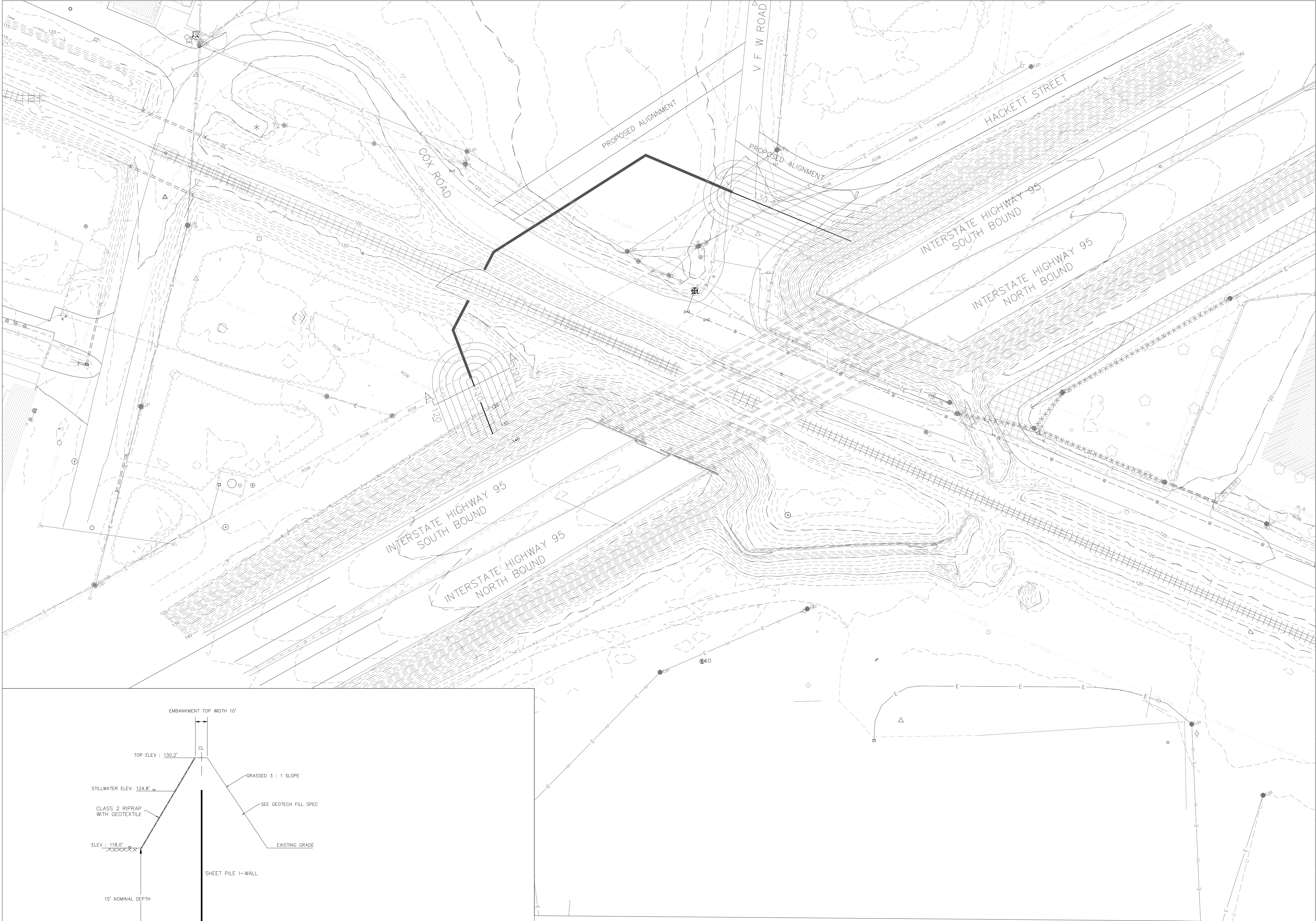
9/29/2021, 6:32:11 PM

- Local districts & boundaries
- Local individual resources & centerpoints
- Local Landmark
- Local Landmark, Gone
- Local HD Center Point
- Surveyed Only individual resources & centerpoints
- Surveyed Only
- Surveyed in NRHD
- Surveyed Only, Gone
- Surveyed in NRHD, Gone
- Blockface- Multiple properties
- Blockface in NRHD

OBJECTID	Id	Site ID	Status	Local Statu	HD status	Site Name	Descriptor/Notes	Internal	Year NR	Year SL	Year DOE	Year Landin	Year Surve	NR nomina	DOE Repor	County	Quad Nam	Towship	Density	Location	Photo Link	Spatial Acc	Latitude	Longitude	Year Surve	Y
245090	173004	R80735	SO	None	None	Big Chief Service Station	1956 1 1/2 Ineligible 2020; ER 20-0481; RB Co Rpt #1112; I 6064	1940 1-stol Ineligible 2020; ER 20-0481; RB Co Rpt #1112; I 6064					2020		2020	https://file Robeson	Northwest Lumberton H	Northwest Lumberton H		2550 N Cox Rd, Lumbie [Consult]		34.62629	-79.0443	-87993175	4113212	
245091	173005	R80736	SO	None	None	Lumberton Trading Company Warehouse										https://file Robeson	Northwest Lumberton H			400 S Crystal Rd, Lumbie [Consult]		34.62821	-79.0358	-87988220	4113471	

ATTACHMENT 2:

Proposed Project Conceptual Site Plan



Seal			Seal		
Rev.	Date	Description	By	Chk'd	App'd

FOR INFORMATION

S0

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Fax: +1 (919) 876-6848
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3608 18th Street
Suite 200
Metairie, LA 70002
Tel: +1 (504) 833-5300
Fax: +1 (504) 833-5350
www.LHJunius.com



Client

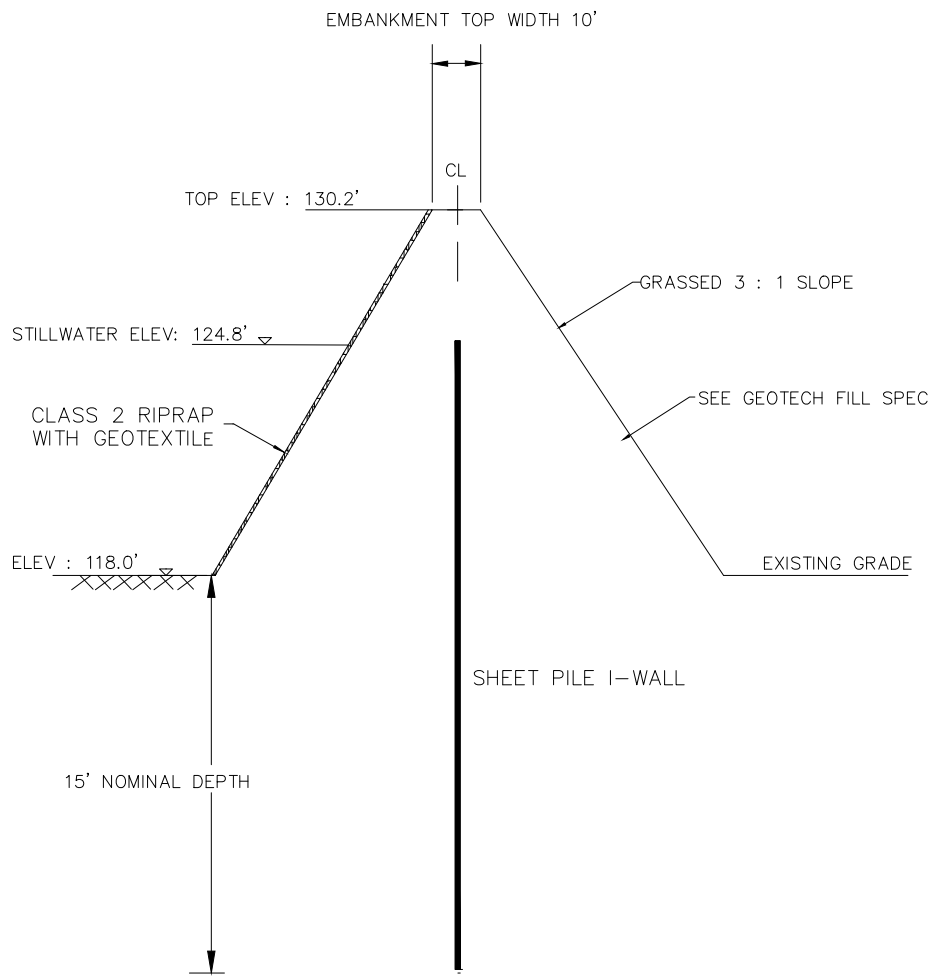
5400 Trinity Road
Suite 107
Raleigh, NC 27607
Tel: +1 (919) 378-9111
NC Firm License # C-0459
mcgillassociates.com



Project Title
**WEST LUMBERTON FLOODGATE
AT VFW ROAD AND RAILROAD UNDERPASS
ENGINEERING SERVICES**

Drawing Title
**CONCEPTUAL PLAN
FLOODGATE CONNECTION**

Scale	Designed	Drawn	Checked	Authorized
Original Size	Date	Date	Date	Date
22x34	--/--	--/--	--/--	--/--
Drawing Number	Revision			
100068207-XX-101				000



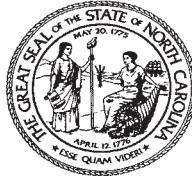
TYPICAL SECTION AA
(NOT TO SCALE)



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ATTACHMENT 3:

**Previous NC SHPO and Catawba Indian Nation
Response Letters (Original Design)**



**North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office**

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary Susi H. Hamilton

Office of Archives and History
Deputy Secretary Kevin Cherry

June 22, 2020

Rob Armstrong
City of Lumberton
PO Box 1388
Lumberton, NC 28359

rarmstrong@ci.lumberton.nc.us

Re: Construct permanent floodgate, I-95 bridge and Crystal Road, Lumberton, Robeson County, ER 20-0997

Dear Mr. Armstrong:

Thank you for your email of April 15, 2020, concerning the above project.

We have conducted a review of the project and are aware of no historic resources which would be affected by the project. Therefore, we have no comment on the project as proposed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

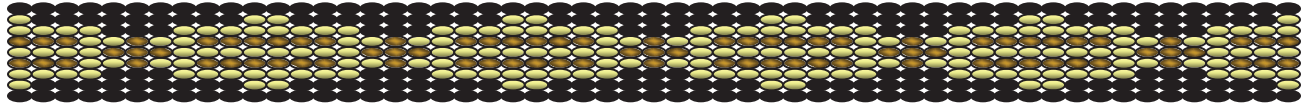
Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

for Ramona Bartos, Deputy
State Historic Preservation Officer

Catawba Indian Nation
Tribal Historic Preservation Office
1536 Tom Steven Road
Rock Hill, South Carolina 29730

Office 803-328-2427
Fax 803-328-5791



May 26, 2020

Attention: Robert P. Armstrong, Jr.
City of Lumberton
215 S. Cedar Street
Lumberton, NC 28359

Re. THPO #	TCNS #	Project Description
2020-712-2		City of Lumberton Permanent Floodgate Project

Dear Mr. Armstrong,

The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. **However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.**

If you have questions please contact Caitlin Rogers at 803-328-2427 ext. 226, or e-mail Caitlin.Rogers@catawba.com.

Sincerely,

Wenonah G. Haire
Tribal Historic Preservation Officer



Tribal Directory Assessment Information



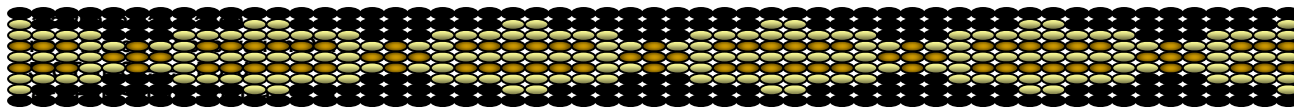
Contact Information for Tribes with Interests in Robeson County, North Carolina

Tribal Name					County Name		
<div> <div></div> Catawba Indian Nation </div>					Robeson		
Contact Name	Title	Mailing Address	Work Phone	Fax Number	Cell Phone	Email Address	URL
Dr. Wenonah G. Haire	THPO and Catawba Cultural Center Executive Director	1536 Tom Steven Road Rock Hill, SC 29730	(803) 328-2427 ext. 224	(803) 328-5791		wenonah.haire@catawba.com	http://www.catawba-indian.net/
Bill Harris	Chief	996 Avenue of the Nations Rock Hill, SC 29730	(803) 366-4792	(803) 327-4853		bill.harris@catawbaindian.net	http://www.catawba-indian.net/

1 - 1 of 1 results

« < 1 > »

10 ▼



Office 803-328-2427
Fax 803-328-5791

December 3, 2021

Attention: Andrea Gievers
NCORR Community Development
P.O. Box 110465
Durham, NC 27709

Re. THPO #	TCNS #	Project Description
2022-1119-1		West Lumberton Flood Gate Proposed Project – City of Lumberton, Robeson Co., NC

Dear Ms. Gievers,

The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. **However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.**

If you have questions please contact Caitlin Rogers at 803-328-2427 ext. 226, or e-mail Caitlin.Rogers@catawba.com.

Sincerely,

Wenonah G. Haire
Tribal Historic Preservation Officer



North Carolina Department of Public Safety

Office of Recovery and Resiliency

Roy Cooper, Governor
Casandra Skinner Hoekstra, Interim Secretary

Laura H. Hogshead, Director

October 29, 2021

Chief Bill Harris
Catawba Indian Nation
996 Avenue of the Nations
Rock Hill, SC 29730

RE: Section 106 Review - HUD CDBG-DR Program
West Lumberton Flood Gate Proposed Project
West of Interstate 95 (I-95) in the vicinity of Cox Road,
VFW Road, Hackett Street, and the CSX railroad crossing
City of Lumberton, Robeson County, NC 28360

Dear Chief Bill Harris:

The North Carolina Office of Recovery and Resiliency (NCORR), as a recipient of Community Development Block Grant – Disaster Recovery (CDBG-DR) funds from the United States Department of Housing and Urban Development (HUD), is serving as the responsible entity for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. NCORR is acting on behalf of HUD in providing the enclosed project information and inviting this discussion with your Nation.

NCORR processes environmental reviews for proposed projects funded with HUD CDBG-DR on a case-by-case basis. In accordance with Section 101(d)(6)(B) of the National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. 470f), and its implementing regulations, 36 CFR Part 800, this letter serves as notification of the proposed action. This letter also serves as an invitation to discussion as a consulting party in this review to help identify historic properties in the proposed project area that may have religious and cultural significance to your Nation, and if such properties exist, to help assess how the proposed project might affect them. If the proposed project might have an adverse effect, we would like to discuss possible ways to avoid, minimize or mitigate potential adverse effects.

Mailing Address:
Post Office Box 110465
Durham, NC 27709



Telephone: 984.833.5350
www.ncdps.gov
www.rebuild.nc.gov

Area of Potential Effects (APE) under §800.16(d): We have defined the APE as the proposed project area which is approximately 3.5 acres in size and located west of I-95 in the vicinity of Cox Road, VFW Road, Hackett Street, and the CSX railroad crossing in the City of Lumberton. The proposed project location maps are included in **Attachment 1** for your review.

The State of North Carolina was adversely impacted by the landfall of Hurricanes Matthew (October 8, 2016) and Florence (September 14, 2018). During Hurricanes Matthew and Florence, flood waters entered the protected side of the levee and disrupted City-wide services such as the potable water supply and electric utility grid for several days. The proposed project is needed to prevent future flood occurrences through the CSX railroad penetration under I-95, an area of south and west Lumberton that has suffered devastation from extreme river flooding. Funding for the proposed project will be provided in part by the HUD CDBG-DR program for Hurricane Matthew storm recovery activities in North Carolina.

Proposed Project Description: The City of Lumberton proposes to install a mechanical flood gate system and related drainage/flood improvements that will mitigate against 100-year flood events flowing through the west side of the I-95 overpass at this location. The proposed project will impose minimal ground disturbance and include constructing an approximately 35-foot flood gate to swing over the CSX tracks. Concrete wing walls will extend out from either side of the gate and connect to an earthen berm that ties the system into the I-95 road bed. An approximately 800 linear foot earthen levee extension will be constructed from the existing I-95 bridge abutment to the flood gate. Sheet piling will be installed approximately 15 feet below existing grade for the earthen levee and concrete wing wall sections. Portions of VFW Road and Hackett Street will be realigned to accommodate the flood gate, and miscellaneous appurtenances and pavement repair will be performed. Fill material will be provided from permitted borrow sites. Final height and locations of the new floodgate system will be determined upon further surveying investigation(s) and engineering design(s). Proposed activities will be generally contained within previously disturbed railroad and roadway easements, with a minimal increase in the current footprint. The proposed project conceptual site plan is included in **Attachment 2**.

We have completed an initial review of this project in compliance with Section 106 of the NHPA and its implementing regulations 36 CFR Part 800. Based on our research of the proposed project area in the North Carolina State Historic Preservation Office's (NC SHPO) HPOWEB and site review performed by Timmons Group, no publicly recorded historic properties which are locally designated or listed in or eligible for inclusion in the State or National Register of Historic Places are located on or immediately adjacent to the proposed project area. Two sites within the direct impacts APE are listed as ineligible for listing on the National Register of Historic Places. The results are included in **Attachment 1**.

The proposed project information has been sent to the NC SHPO in accordance with Section 106 of the NHPA and its implementing regulations, 36 CFR Part 800. The Lumbee Tribe was sent a notification of the proposed project. The Subject Property is bounded to the north by forested areas, VFW Road, and Hackett Street; to the west by Cox Road, CSX railroad tracks, industrial development and forested areas; to the south Cox Road, residential and industrial development, and forested areas; and to the east by I-95 and light industrial and commercial development. The surrounding area is characterized by a mix of uses including light industrial, commercial, and

single family residential. The Catawba Indian Nation was previously contacted for review of the original design when the City of Lumberton provided an Environmental Assessment scoping package for U.S. Department of Commerce Economic Development Administration (EDA) funding. Engineering designs have since changed with flood gates now proposed on the western side of I-95 rather than on the eastern side. Thus, VFW Road and Hackett Street will be re-aligned as described above, and the re-alignment of Crystal Road will no longer be required as part of project construction in the area. The previous Catawba Indian Nation response letter is included for reference in **Attachment 3**.

With this letter, NCORR respectfully submits for your review the attached documentation for the proposed project described herein. If the APE encompasses historic properties of religious or cultural significance to your Nation, please respond within 30 days of receipt of this letter indicating a desire to consult. If you have any concerns with potential impacts of the proposed project on historic properties, please note them in your response along with your preferred principal representative's point of contact. Please respond within this timeframe, otherwise we will assume that the proposed project will have no effect to historic properties of religious or cultural significance. Please respond via email at Andrea.L.Gievers@Rebuild.NC.gov or in writing to the address listed below.

Ms. Andrea Gievers
NCORR Community Development
ATTN: THPO Comments
P.O. Box 110465
Durham, NC 27709

If you have any questions or require additional information regarding this request, please feel free to contact Andrea Gievers at (845) 682-1700 or via email at Andrea.L.Gievers@Rebuild.NC.gov. Thank you for your time and assistance.

Sincerely,



Andrea Gievers, JD, MSEL, ERM
NCORR Environmental Subject Matter Expert

Enclosures:

Attachment 1: Proposed Project Location and NC HPOWEB Maps
Attachment 2: Proposed Project Conceptual Site Plan
Attachment 3: Previous Catawba Indian Nation Response Letter (Original Design)

cc: Dr. Wenonah George Haire, THPO, Catawba Indian Nation, 1536 Tom Steven Road, Rock Hill, SC 29730

ATTACHMENT 1:

Proposed Project Location and NC HPOWEB Maps

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

U.S.G.S. QUADRANGLE(S):NORTHWEST LUMBERTON
DATE(S):2019
WATERSHED(S):LUMBER (LOWER PEE DEE RIVER BASIN)
HYDROLOGIC UNIT CODE(S):03040203

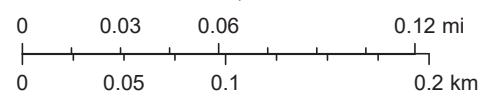
Site Location - West Lumberton Flood Gate



September 29, 2021

 Project Site

1:4,514



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

NCHPO HPOWEB - West Lumberton Flood Gate



9/29/2021, 6:32:11 PM

- Local districts & boundaries
- Local individual resources & centerpoints
- Local Landmark
- Local Landmark, Gone
- Local HD Center Point
- Surveyed Only individual resources & centerpoints
- Surveyed Only
- Surveyed in NRHD
- Surveyed Only, Gone
- Surveyed in NRHD, Gone
- Blockface- Multiple properties
- Blockface in NRHD

OBJECTID	Id	Site ID	Status	Local Statu	HD status	Site Name	Descriptor/Notes	Internal	Year NR	Year SL	Year DOE	Year Landin	Year Surve	NR nomina	DOE Repor	County	Quad Nam	Towship	Density	Location	Photo Link	Spatial Acc	Latitude	Longitude	Year Surve	Y
245090	173004	R80735	SO	None	None	Big Chief Service Station	1956 1 1/2 Ineligible	2020; ER 20-0481; RB Co Rpt #1112; I 6064	2020	2020	2020	2020	2020	2020	2020	2020	Northwest	Lumberton H	Northwest Lumberton H	2550 N Cox Rd, Lumbie [Consult]		34.62629	-79.0443	-87993175	4113212	
245091	173005	R80736	SO	None	None	Lumberton Trading Company Warehouse	1940 1-stol Ineligible	2020; ER 20-0481; RB Co Rpt #1112; I 6064	2020	2020	2020	2020	2020	2020	2020	2020	Northwest	Lumberton H	Northwest Lumberton H	400 S Crystal Rd, Lumbie [Consult]		34.62821	-79.0358	-87988220	4113471	

ATTACHMENT 2:

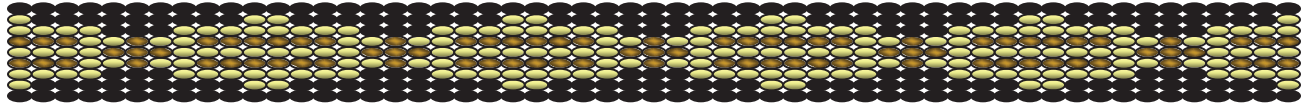
Proposed Project Conceptual Site Plan

ATTACHMENT 3:

**Previous Catawba Indian Nation Response Letter
(Original Design)**

Catawba Indian Nation
Tribal Historic Preservation Office
1536 Tom Steven Road
Rock Hill, South Carolina 29730

Office 803-328-2427
Fax 803-328-5791



May 26, 2020

Attention: Robert P. Armstrong, Jr.
City of Lumberton
215 S. Cedar Street
Lumberton, NC 28359

Re. THPO #	TCNS #	Project Description
2020-712-2		City of Lumberton Permanent Floodgate Project

Dear Mr. Armstrong,

The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. **However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.**

If you have questions please contact Caitlin Rogers at 803-328-2427 ext. 226, or e-mail Caitlin.Rogers@catawba.com.

Sincerely,

Wenonah G. Haire
Tribal Historic Preservation Officer



North Carolina Department of Public Safety

Office of Recovery and Resiliency

Roy Cooper, Governor
Casandra Skinner Hoekstra, Interim Secretary

Laura H. Hogshead, Director

October 29, 2021

Dr. Wenonah George Haire
Tribal Historic Preservation Officer
Catawba Indian Nation
1536 Tom Steven Road
Rock Hill, SC 29730

RE: Section 106 Review - HUD CDBG-DR Program
West Lumberton Flood Gate Proposed Project
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City of Lumberton, Robeson County, NC 28360

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Mailing Address:
Post Office Box 110465
Durham, NC 27709



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Ms. Andrea Gievers
NCORR Community Development
ATTN: THPO Comments
P.O. Box 110465
Durham, NC 27709

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Sincerely,



Andrea Gievers, JD, MSEL, ERM
NCORR Environmental Subject Matter Expert

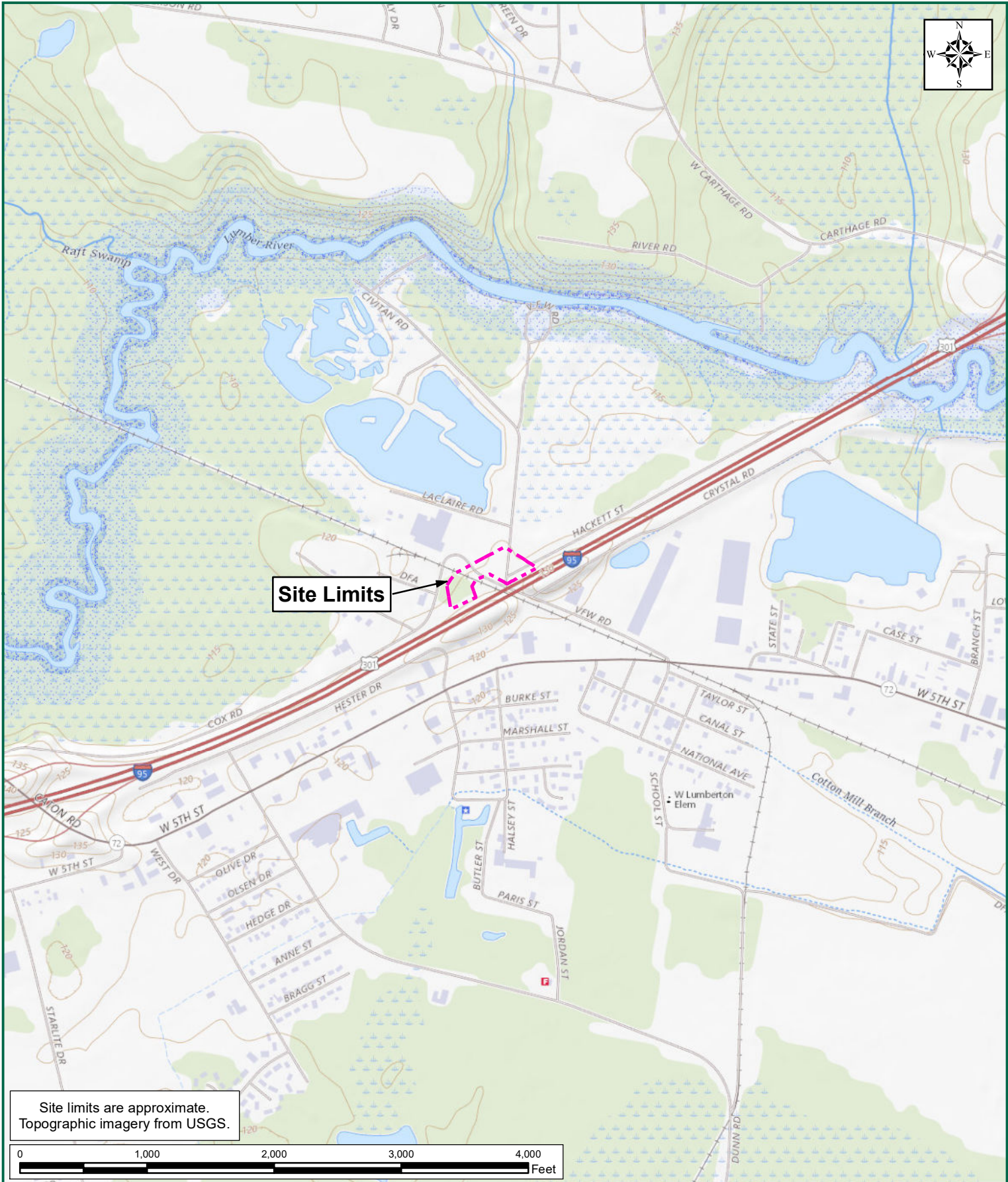
Enclosures:

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Attachment 2: Proposed Project Conceptual Site Plan
Attachment 3: Previous Catawba Indian Nation Response Letter (Original Design)

cc: Chief Bill Harris, Catawba Indian Nation, 996 Avenue of the Nations, Rock Hill, SC 29730

ATTACHMENT 1:

Proposed Project Location and NC HPOWEB Maps



WEST LUMBERTON FLOOD GATE
ROBESON COUNTY, NORTH CAROLINA
FIGURE 1: VICINITY MAP

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP JOB NUMBER: 49420
PROJECT STUDY LIMITS: 3.08 ACRES
LATITUDE: 34.627785
LONGITUDE: -79.041103

U.S.G.S. QUADRANGLE(S): NORTHWEST LUMBERTON
DATE(S): 2019
WATERSHED(S): LUMBER (LOWER PEE DEE RIVER BASIN)
HYDROLOGIC UNIT CODE(S): 03040203

These plans and associated documents are the exclusive property of TIMMONS GROUP and may not be reproduced in whole or in part and shall not be used for any purpose whatsoever, inclusive, but not limited to construction, bidding, and/or construction staking without the express written consent of TIMMONS GROUP.

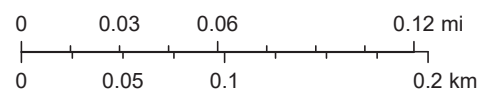
Site Location - West Lumberton Flood Gate



September 29, 2021

 Project Site

1:4,514



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

NCHPO HPOWEB - West Lumberton Flood Gate



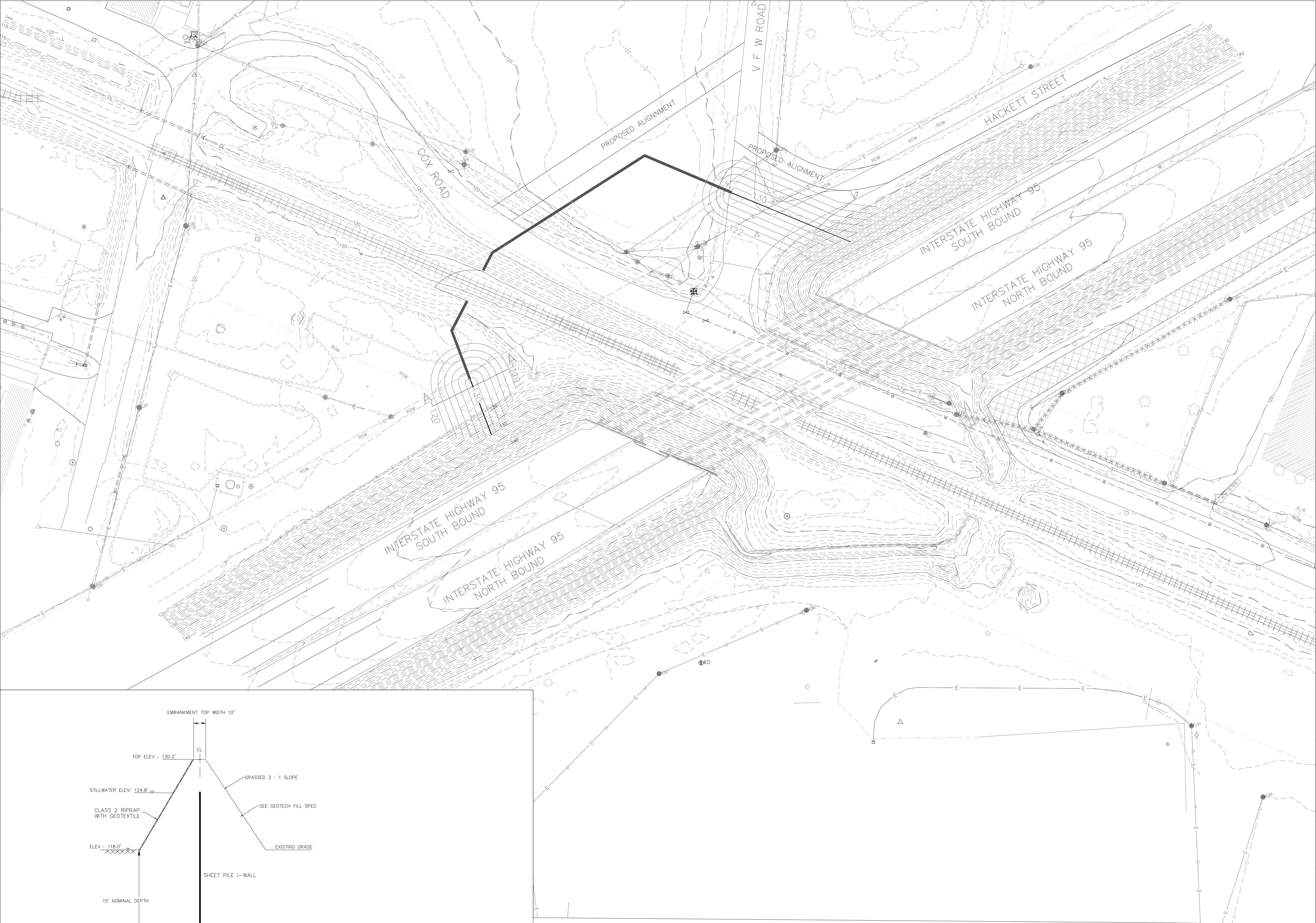
9/29/2021, 6:32:11 PM

- Local districts & boundaries
- Local individual resources & centerpoints
- Local Landmark
- Local Landmark, Gone
- Local HD Center Point
- Surveyed Only individual resources & centerpoints
- Surveyed Only
- Surveyed in NRHD
- Surveyed Only, Gone
- Surveyed in NRHD, Gone
- Blockface- Multiple properties
- Blockface in NRHD

OBJECTID	Id	Site ID	Status	Local Statu	HD status	Site Name	Descriptor/Notes	Internal	Year NR	Year SL	Year DOE	Year Landin	Year Surve	NR nomina	DOE Repor	County	Quad Nam	Towship	Density	Location	Photo Link	Spatial Acc	Latitude	Longitude	Year Surve	Y
245090	173004	R80735	SO	None	None	Big Chief Service Station	1956 1 1/2 Ineligible	2020; ER 20-0481; RB Co Rpt #1112; I 6064	2020	2020	2020	2020	2020	2020	2020	2020	Northwest Lumberton H	Northwest Lumberton H	Northwest Lumberton H	2550 N Cox Rd, Lumbie [Consult]		34.62629	-79.0443	-87993175	4113212	
245091	173005	R80736	SO	None	None	Lumberton Trading Company Warehouse	1940 1-sto Ineligible	2020; ER 20-0481; RB Co Rpt #1112; I 6064	2020	2020	2020	2020	2020	2020	2020	2020	Northwest Lumberton H	Northwest Lumberton H	Northwest Lumberton H	400 S Crystal Rd, Lumbie [Consult]		34.62821	-79.0358	-87988220	4113471	

ATTACHMENT 2:

Proposed Project Conceptual Site Plan



Seal			Seal		
Rev.	Date	Description	By	Chk'd	App'd

FOR INFORMATION

S0

ATKINS

Member of the SNC-Lavalin Group

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1616 East Millbrook Road
Suite 160
Raleigh, NC 27519
Tel: +1 (919) 876-6888
Fax: +1 (919) 876-6848
www.atkinsglobal.com



LINFIELD, HUNTER & JUNIUS, INC.

3608 18th Street
Suite 200
Metairie, LA 70002
Tel: +1 (504) 833-5300
Fax: +1 (504) 833-5350
www.LHJunius.com



Client

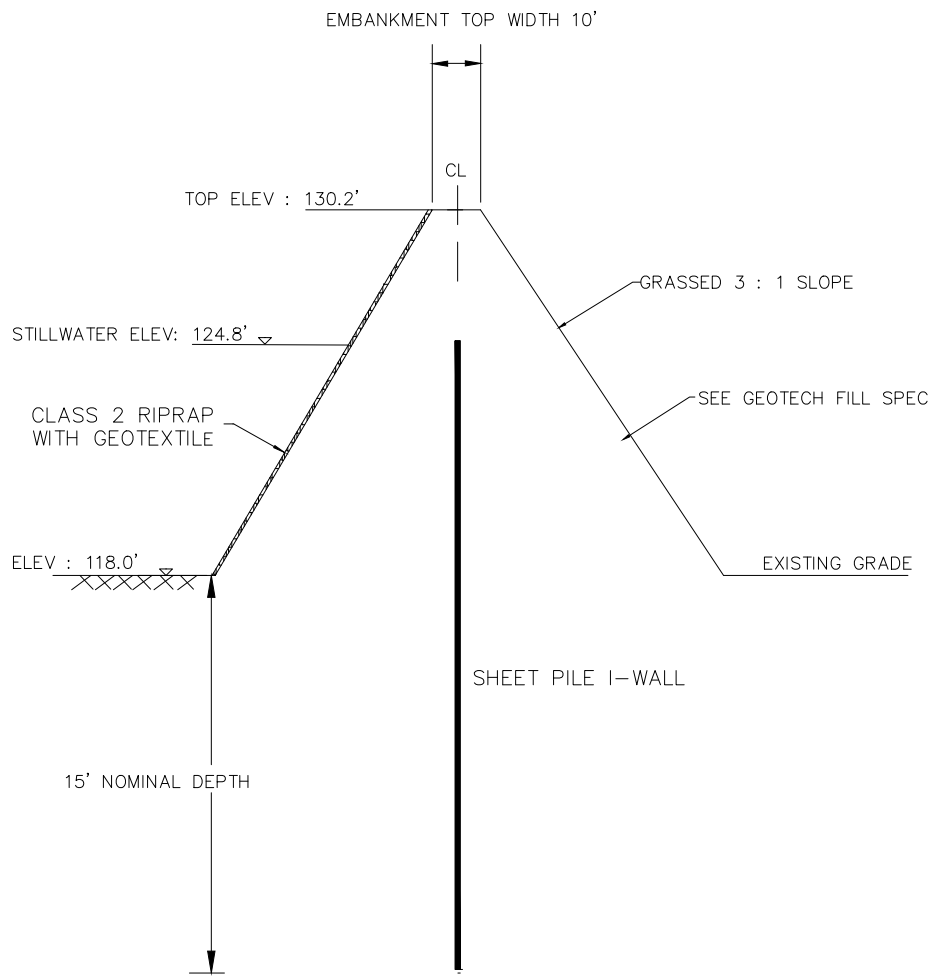
5400 Trinity Road
Suite 107
Raleigh, NC 27607
Tel: +1 (919) 378-9111
NC Firm License # C-0459
mcgillassociates.com



Project Title
**WEST LUMBERTON FLOODGATE
AT VFW ROAD AND RAILROAD UNDERPASS
ENGINEERING SERVICES**

Drawing Title
**CONCEPTUAL PLAN
FLOODGATE CONNECTION**

Scale	Designed	Drawn	Checked	Authorized
Original Size	Date	Date	Date	Date
22x34	--/--	--/--	--/--	--/--
Drawing Number	Revision			
100068207-XX-101	000			



TYPICAL SECTION AA
(NOT TO SCALE)



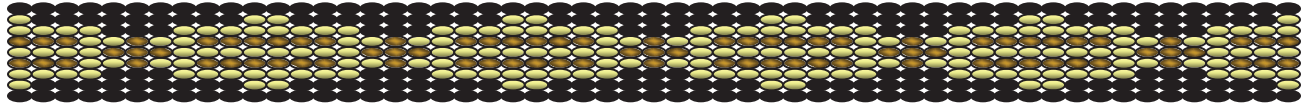
Know what's below.
Call before you dig.
Dial 811.
North Carolina 811, Inc.

ATTACHMENT 3:

**Previous Catawba Indian Nation Response Letter
(Original Design)**

Catawba Indian Nation
Tribal Historic Preservation Office
1536 Tom Steven Road
Rock Hill, South Carolina 29730

Office 803-328-2427
Fax 803-328-5791



May 26, 2020

Attention: Robert P. Armstrong, Jr.
City of Lumberton
215 S. Cedar Street
Lumberton, NC 28359

Re. THPO #	TCNS #	Project Description
2020-712-2		City of Lumberton Permanent Floodgate Project

Dear Mr. Armstrong,

The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. **However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.**

If you have questions please contact Caitlin Rogers at 803-328-2427 ext. 226, or e-mail Caitlin.Rogers@catawba.com.

Sincerely,

Wenonah G. Haire
Tribal Historic Preservation Officer

Appendix L:

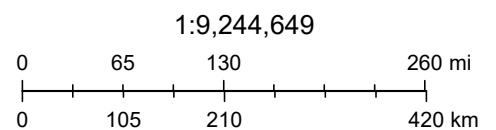
Sole Source Aquifers

U.S. EPA Sole Source Aquifer Map



4/17/2023, 4:12:52 PM

 Sole_Source_Aquifers



Esri, HERE, Garmin, NGA, USGS, NPS

Appendix M:

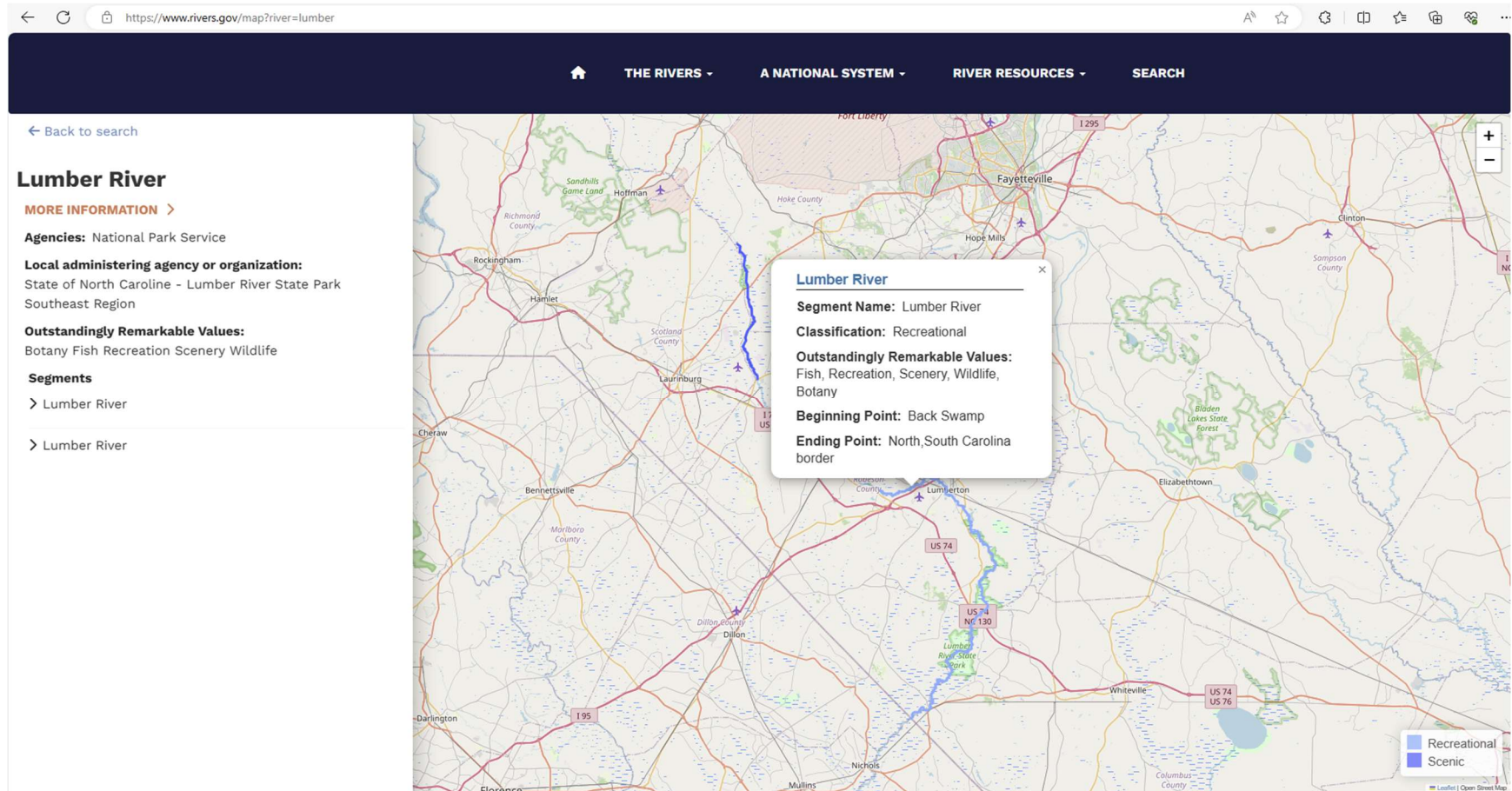
Wild and Scenic Rivers

NEP Assist NRI and WSR Map with 0.25-mile Buffer and
Distance Shown, Lumber River WSR and NRI
Classification Maps, and NPS and NCORR
Correspondence

West Lumberton Flood Gate Project – NRI and WSR Map with 0.25-mile Buffer



West Lumberton Flood Gate – Lumber River WSR Classification Map



Nationwide Rivers Inventory

National Park Service
U.S. Department of the Interior

This is a listing of more than 3,200 free-flowing river segments in the U.S. that are believed to possess one or more ...



Gievers, Andrea

From: Duncan, Jeffrey R <Jeff_Duncan@nps.gov>
Sent: Tuesday, November 16, 2021 2:50 PM
To: Gievers, Andrea
Subject: Re: [EXTERNAL] RE: Early Notice - West Lumberton Flood Gate Project

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to [Report Spam.](#)

Hi Andrea-

The NPS doesn't have any comments, questions or objections at this point. That said, I wouldn't mind being kept in the loop as the project moves forward. We are in consultation currently with NCDOT and others regarding a major I-95 project that crosses the Lumber very near your location. Are you in communication with NCDOT at all?

Jeffrey R. Duncan, PhD.
National Hydropower Assistance Lead (acting)

Permanent Position:
Regional Aquatic Ecologist
[Science and Natural Resources Management](#)
Wild and Scenic Rivers
[Fisheries and Aquatic Resources](#)
National Park Service, Interior Region 2 - South Atlantic Gulf
100 West Martin Luther King, Jr. Blvd. Suite 215
Chattanooga, TN 37402
Ph: (423) 987-6127

I'm a proud graduate of the NPS GOAL Leadership Academy. Ask me about the program!

Confidentiality Notice:

This e-mail is intended for the use of the individual(s) or entity to which it is addressed. It may contain information that is privileged, confidential, or otherwise protected by applicable law. If you are not the intended recipient for delivery of this e-mail, you are hereby notified that any dissemination, distribution, copying, or use of this e-mail or its contents is strictly prohibited. If you received this e-mail in error, please notify the sender immediately and destroy all copies.

From: Gievers, Andrea <andrea.l.gievers@rebuild.nc.gov>
Sent: Tuesday, November 16, 2021 1:34 PM
To: Duncan, Jeffrey R <Jeff_Duncan@nps.gov>
Subject: RE: [EXTERNAL] RE: Early Notice - West Lumberton Flood Gate Project

Hi Jeff:

Just following up to see if you had a chance to review and if you had any questions for me. Thank you.

Sincerely,

Andrea Gievers

From: Gievers, Andrea

Sent: Wednesday, November 10, 2021 2:04 PM

To: Duncan, Jeffrey R <Jeff_Duncan@nps.gov>

Subject: RE: [EXTERNAL] RE: Early Notice - West Lumberton Flood Gate Project

Hi Jeff:

Thanks for responding. I wanted to ensure that if you were out of office that I was able to contact someone there. The work will be done approximately 1,900 feet from the Lumber River at its closest point. It will not intersect or affect the river proper. The floodgates will mitigate against 100-year flood events from flowing through the west side of the I-95 overpass at this location. I am told the proposed project would be no more visible from the river than the interstate and existing levee. I have attached a description of the proposed project and the conceptual plan. Let me know if you have any additional questions. Thank you.

Sincerely,

Andrea Gievers

From: Duncan, Jeffrey R <Jeff_Duncan@nps.gov>

Sent: Wednesday, November 10, 2021 11:47 AM

To: Gievers, Andrea <andrea.l.gievers@rebuild.nc.gov>

Subject: Re: [EXTERNAL] RE: Early Notice - West Lumberton Flood Gate Project

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to [Report Spam](#).

Andrea-

My apologies for the slow response. I've been serving on a detail for the last several months and am about to rotate back into my duties as Wild and Scenic Rivers Coordinator for Interior Region 2 of the National Park Service effective next week. At a glance, it does not appear that the NPS has any specific jurisdiction over the proposed project given that it is located 0.25 miles from the Lumber River. Will any part of the project intersect with or affect the river proper? Do you know if the project will be visible from the river?

Thanks, Jeff

Jeffrey R. Duncan, PhD.
National Hydropower Assistance Lead (Acting)

Permanent Position:
Regional Aquatic Ecologist
[Science and Natural Resources Management](#)
Wild and Scenic Rivers
[Fisheries and Aquatic Resources](#)
National Park Service, Interior Region 2 - South Atlantic Gulf
100 West Martin Luther King, Jr. Blvd. Suite 215
Chattanooga, TN 37402
Ph: (423) 987-6127

I'm a proud graduate of the NPS GOAL Leadership Academy. Ask me about the program!

Confidentiality Notice:

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From: Gievers, Andrea <andrea.l.gievers@rebuild.nc.gov>
Sent: Wednesday, November 10, 2021 11:35 AM
To: Duncan, Jeffrey R <Jeff_Duncan@nps.gov>
Subject: [EXTERNAL] RE: Early Notice - West Lumberton Flood Gate Project

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hello Mr. Duncan:

I am just following up to ensure you received my message below regarding the West Lumberton Flood Gate Project. Please let me know if you have any questions. Thank you!

Sincerely,

Andrea

Andrea Gievers, JD, MSEL, ERM
Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

From: Gievers, Andrea
Sent: Tuesday, November 2, 2021 3:41 PM
To: Jeff_Duncan@nps.gov
Subject: Early Notice - West Lumberton Flood Gate Project

Hello Mr. Duncan:

I am sorry to send this after Saturday's publication, but you were just identified as an interested agency per the HUD 24 CFR Part 58 environmental review being performed by Timmons Group. The proposed project is located just outside of 0.25 miles from the NC designated portion of the Lumber River. Please feel free to contact me to discuss any concerns you might have at your convenience. Thank you so much!

Please find attached the *Early Notice and Public Review for a Proposed Activity in a 100-year Floodplain* publishing October 30, 2021 for the NCORR Infrastructure Recovery Program's West Lumberton Flood Gate proposed project in the

City of Lumberton, Robeson County, NC. Please feel free to contact me if you have any questions or prefer a different method of contact. Thank you for your time.

Sincerely,

Andrea

Andrea Gievers, JD, MSEL, ERM
Environmental SME
Community Development
NC Office of Recovery and Resiliency
Andrea.L.Gievers@Rebuild.NC.Gov
(845) 682-1700

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Appendix N:

Environmental Justice



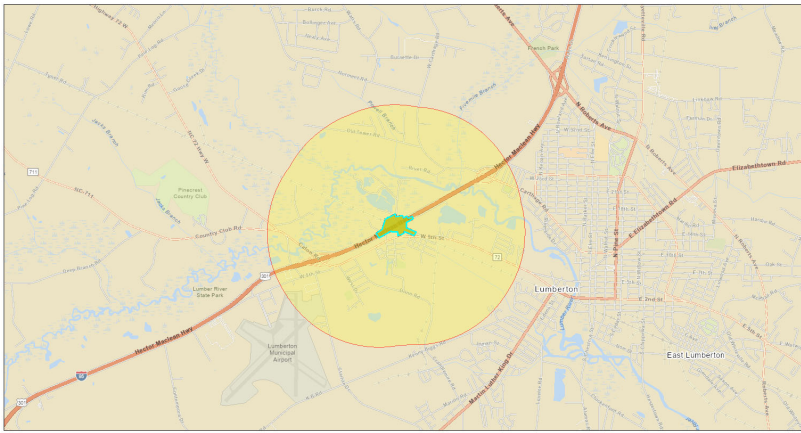
EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Lumberton, NC

1 mile Ring around the Area
Population: 677
Area in square miles: 4.17

A3 Landscape



December 27, 2023

West Lumberton Flood Gate Action Area
Wfgy project action area

0 0.38 0.75 1.5 mi
0 0.5 1 2 km

State of North Carolina: DOT, East HESB, Gannett, Salsburgh, GeoChoroplex, Inc., METTLER, 1995, EPA, NPS, US Census Bureau, USDA

COMMUNITY INFORMATION



Low income:
48 percent



People of color:
81 percent



Less than high school education:
21 percent



Limited English households:
11 percent



Unemployment:
2 percent



Persons with disabilities:
15 percent



Male:
48 percent



Female:
52 percent

74 years

Average life expectancy

\$15,603

Per capita income



Number of households:
262



Owner occupied:
45 percent

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	92%
Spanish	8%
Total Non-English	8%

BREAKDOWN BY RACE



White: 19%



Black: 20%



American Indian:
32%



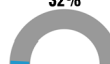
Asian: 1%



Hawaiian/Pacific Islander: 0%



Other race: 0%



Two or more races: 2%



Hispanic: 25%

BREAKDOWN BY AGE



From Ages 1 to 4

12%



From Ages 1 to 18

31%



From Ages 18 and up

69%



From Ages 65 and up

9%

LIMITED ENGLISH SPEAKING BREAKDOWN



Speak Spanish

100%



Speak Other Indo-European Languages

0%



Speak Asian-Pacific Island Languages

0%



Speak Other Languages

0%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2017-2021. Life expectancy data comes from the Centers for Disease Control.

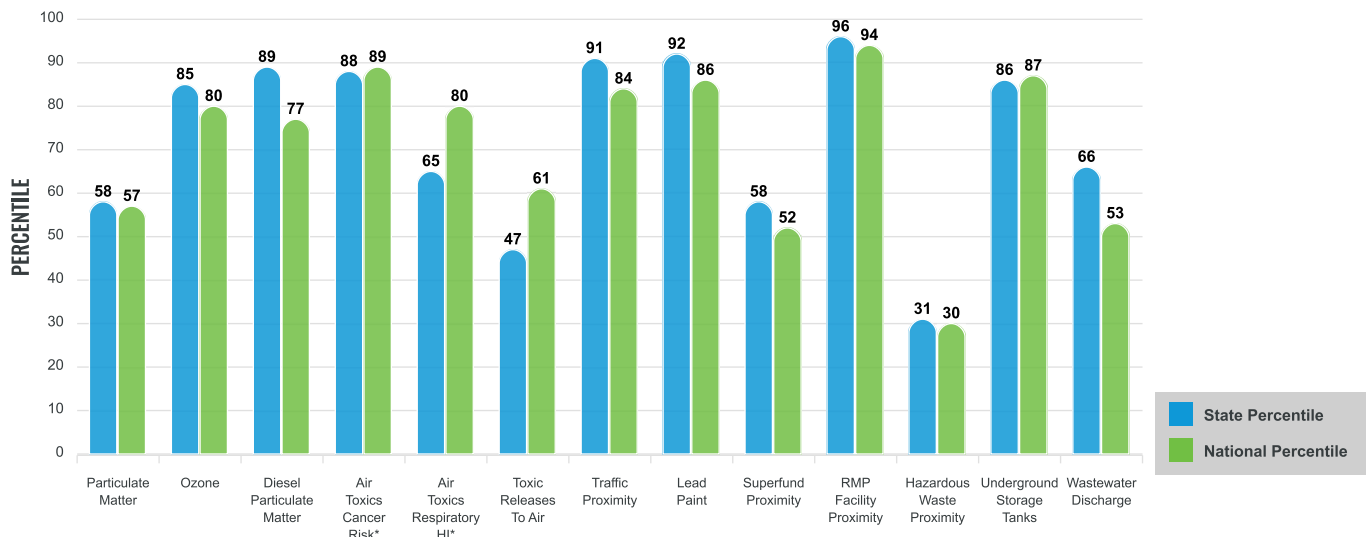
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

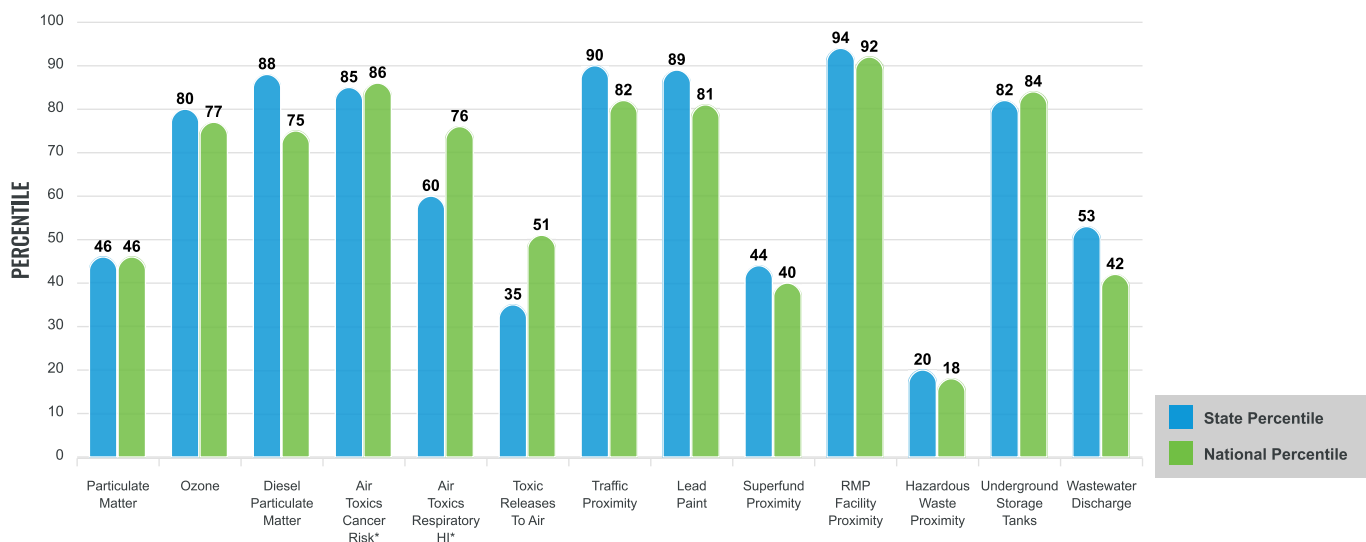
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for 1 mile Ring around the Area

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter ($\mu\text{g}/\text{m}^3$)	7.16	7.8	26	8.08	23
Ozone (ppb)	61	61.7	53	61.6	49
Diesel Particulate Matter ($\mu\text{g}/\text{m}^3$)	0.216	0.168	72	0.261	50
Air Toxics Cancer Risk* (lifetime risk per million)	30	27	28	25	52
Air Toxics Respiratory HI*	0.32	0.34	54	0.31	31
Toxic Releases to Air	130	3,100	19	4,600	26
Traffic Proximity (daily traffic count/distance to road)	140	79	82	210	65
Lead Paint (% Pre-1960 Housing)	0.34	0.17	83	0.3	62
Superfund Proximity (site count/km distance)	0.021	0.081	23	0.13	19
RMP Facility Proximity (facility count/km distance)	1.5	0.26	97	0.43	93
Hazardous Waste Proximity (facility count/km distance)	0.045	0.52	10	1.9	8
Underground Storage Tanks (count/km ²)	4.2	3.9	73	3.9	73
Wastewater Discharge (toxicity-weighted concentration/m distance)	2.3E-05	0.25	31	22	22
SOCIOECONOMIC INDICATORS					
Demographic Index	65%	36%	88	35%	86
Supplemental Demographic Index	21%	15%	83	14%	81
People of Color	81%	37%	90	39%	84
Low Income	48%	34%	75	31%	79
Unemployment Rate	2%	6%	33	6%	31
Limited English Speaking Households	11%	2%	95	5%	86
Less Than High School Education	21%	12%	82	12%	82
Under Age 5	12%	5%	91	6%	90
Over Age 64	9%	18%	20	17%	23
Low Life Expectancy	24%	21%	87	20%	88

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	0
Water Dischargers	3
Air Pollution	2
Brownfields	0
Toxic Release Inventory	1

Other community features within defined area:

Schools	0
Hospitals	0
Places of Worship	0

Other environmental data:

Air Non-attainment	No
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

Report for 1 mile Ring around the Area

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	24%	21%	87	20%	88
Heart Disease	8.4	6.5	82	6.1	87
Asthma	11.9	9.4	96	10	90
Cancer	5.1	6.2	22	6.1	27
Persons with Disabilities	15.5%	14%	60	13.4%	68

CLIMATE INDICATORS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	27%	10%	95	12%	90
Wildfire Risk	68%	9%	92	14%	87

CRITICAL SERVICE GAPS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	27%	16%	81	14%	86
Lack of Health Insurance	14%	11%	74	9%	82
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	Yes	N/A	N/A	N/A	N/A

Footnotes

Report for 1 mile Ring around the Area

Location: User-specified polygonal location
 Ring (buffer): 1-miles radius
 Description: WLFG Project Action Area

Summary of ACS Estimates		2017 - 2021	
Population		677	
Population Density (per sq. mile)		207	
People of Color Population		550	
% People of Color Population		81%	
Households		262	
Housing Units		456	
Housing Units Built Before 1950		41	
Per Capita Income		15,603	
Land Area (sq. miles) (Source: SF1)		3.27	
% Land Area		99%	
Water Area (sq. miles) (Source: SF1)		0.03	
% Water Area		1%	

	2017 - 2021 ACS Estimates	Percent	MOE (±)
Population by Race			
Total	677	100%	399
Population Reporting One Race	659	97%	1,052
White	186	28%	204
Black	139	20%	200
American Indian	233	34%	347
Asian	9	1%	23
Pacific Islander	0	0%	13
Some Other Race	91	13%	265
Population Reporting Two or More Races	18	3%	97
Total Hispanic Population	167	25%	301
Total Non-Hispanic Population	510		
White Alone	127	19%	131
Black Alone	139	20%	200
American Indian Alone	218	32%	347
Non-Hispanic Asian Alone	9	1%	23
Pacific Islander Alone	0	0%	13
Other Race Alone	0	0%	13
Two or More Races Alone	17	2%	67
Population by Sex			
Male	324	48%	245
Female	353	52%	265
Population by Age			
Age 0-4	79	12%	141
Age 0-17	210	31%	192
Age 18+	466	69%	252
Age 65+	62	9%	107

Data Note: Detail may not sum to totals due to rounding. Hispanic population can be of any race.
 N/A means not available. **Source:** U.S. Census Bureau, American Community Survey (ACS) 2017 - 2021

Location: User-specified polygonal location

Ring (buffer): 1-miles radius

Description: WLFG Project Action Area

	2017 - 2021 ACS Estimates	Percent	MOE (±)
Population 25+ by Educational Attainment			
Total	419	100%	219
Less than 9th Grade	23	6%	59
9th - 12th Grade, No Diploma	63	15%	127
High School Graduate	185	44%	153
Some College, No Degree	55	13%	123
Associate Degree	32	8%	67
Bachelor's Degree or more	61	15%	84
Population Age 5+ Years by Ability to Speak English			
Total	598	100%	344
Speak only English	432	72%	293
Non-English at Home ¹⁺²⁺³⁺⁴	167	28%	155
¹ Speak English "very well"	108	18%	131
² Speak English "well"	7	1%	59
³ Speak English "not well"	46	8%	82
⁴ Speak English "not at all"	6	1%	56
³⁺⁴ Speak English "less than well"	52	9%	94
²⁺³⁺⁴ Speak English "less than very well"	59	10%	104
Linguistically Isolated Households*			
Total	30	100%	49
Speak Spanish	30	100%	44
Speak Other Indo-European Languages	0	0%	13
Speak Asian-Pacific Island Languages	0	0%	15
Speak Other Languages	0	0%	13
Households by Household Income			
Household Income Base	262	100%	122
< \$15,000	69	26%	76
\$15,000 - \$25,000	38	14%	76
\$25,000 - \$50,000	68	26%	84
\$50,000 - \$75,000	51	19%	73
\$75,000 +	37	14%	65
Occupied Housing Units by Tenure			
Total	262	100%	122
Owner Occupied	117	45%	117
Renter Occupied	145	55%	95
Employed Population Age 16+ Years			
Total	477	100%	268
In Labor Force	306	64%	184
Civilian Unemployed in Labor Force	5	2%	69
Not In Labor Force	171	36%	190

Data Note: Detail may not sum to totals due to rounding. Hispanic population can be of anyrace.

N/A means not available. **Source:** U.S. Census Bureau, American Community Survey (ACS)

*Households in which no one 14 and over speaks English "very well" or speaks English only.

Location: User-specified polygonal location

Ring (buffer): 1-miles radius

Description: WLFG Project Action Area

	2017 - 2021 ACS Estimates	Percent	MOE (±)
Population by Language Spoken at Home*			
Total (persons age 5 and above)	750	100%	325
English	686	92%	329
Spanish	59	8%	123
French, Haitian, or Cajun	0	0%	13
German or other West Germanic	1	0%	4
Russian, Polish, or Other Slavic	0	0%	13
Other Indo-European	0	0%	13
Korean	0	0%	13
Chinese (including Mandarin, Cantonese)	0	0%	13
Vietnamese	3	0%	14
Tagalog (including Filipino)	0	0%	13
Other Asian and Pacific Island	0	0%	13
Arabic	1	0%	10
Other and Unspecified	0	0%	13
Total Non-English	64	8%	462

Data Note: Detail may not sum to totals due to rounding. Hispanic population can be of any race.

N/A means not available. **Source:** U.S. Census Bureau, American Community Survey (ACS) 2017 - 2021.

*Population by Language Spoken at Home is available at the census tract summary level and up.

Location: User-specified polygonal location
 Ring (buffer): 1-miles radius
 Description: WLFG Project Action Area

Summary		Census 2010
Population		1,187
Population Density (per sq. mile)		366
People of Color Population		910
% People of Color Population		0.7667810344191611%
Households		459
Housing Units		520
Land Area (sq. miles)		3.24
% Land Area		0.9893157913903855%
Water Area (sq. miles)		0.04
% Water Area		0.010684208609614613%

Population by Race	Number	Percent
Total	1,187	-----
Population Reporting One Race	1,154	.9723330261715226%
White	287	24139361527368777%
Black	394	33180109165127114%
American Indian	445	.3747321066864864%
Asian	17	14002624703340762%
Pacific Islander	1	17070047890283504%
Some Other Race	12	10969658306770814%
Population Reporting Two or More Races	33	27666973828477423%
Total Hispanic Population	37	3130116595917313%
Total Non-Hispanic Population	1,150	1.9686988340408267%
White Alone	277	23321896558083888%
Black Alone	385	3246205205706182%
American Indian Alone	439	.3701245696178214%
Non-Hispanic Asian Alone	17	14002624703340762%
Pacific Islander Alone	1	17070047890283504%
Other Race Alone	1	18434249984649925%
Two or More Races Alone	30	25181723780714135%

Population by Sex	Number	Percent
Male	541	45552696070848764%
Female	646	1.5444730392915123%

Population by Age	Number	Percent
Age 0-4	128	0743388703766349%
Age 0-17	373	3143930381065553%
Age 18+	814	6856069618934447%
Age 65+	143	1200962900354432%

Households by Tenure	Number	Percent
Total	459	
Owner Occupied	214	6500247385168886%
Renter Occupied	246	5349975261483111%

West Lumberton Flood Gate Project – NC DEQ Community Mapping System

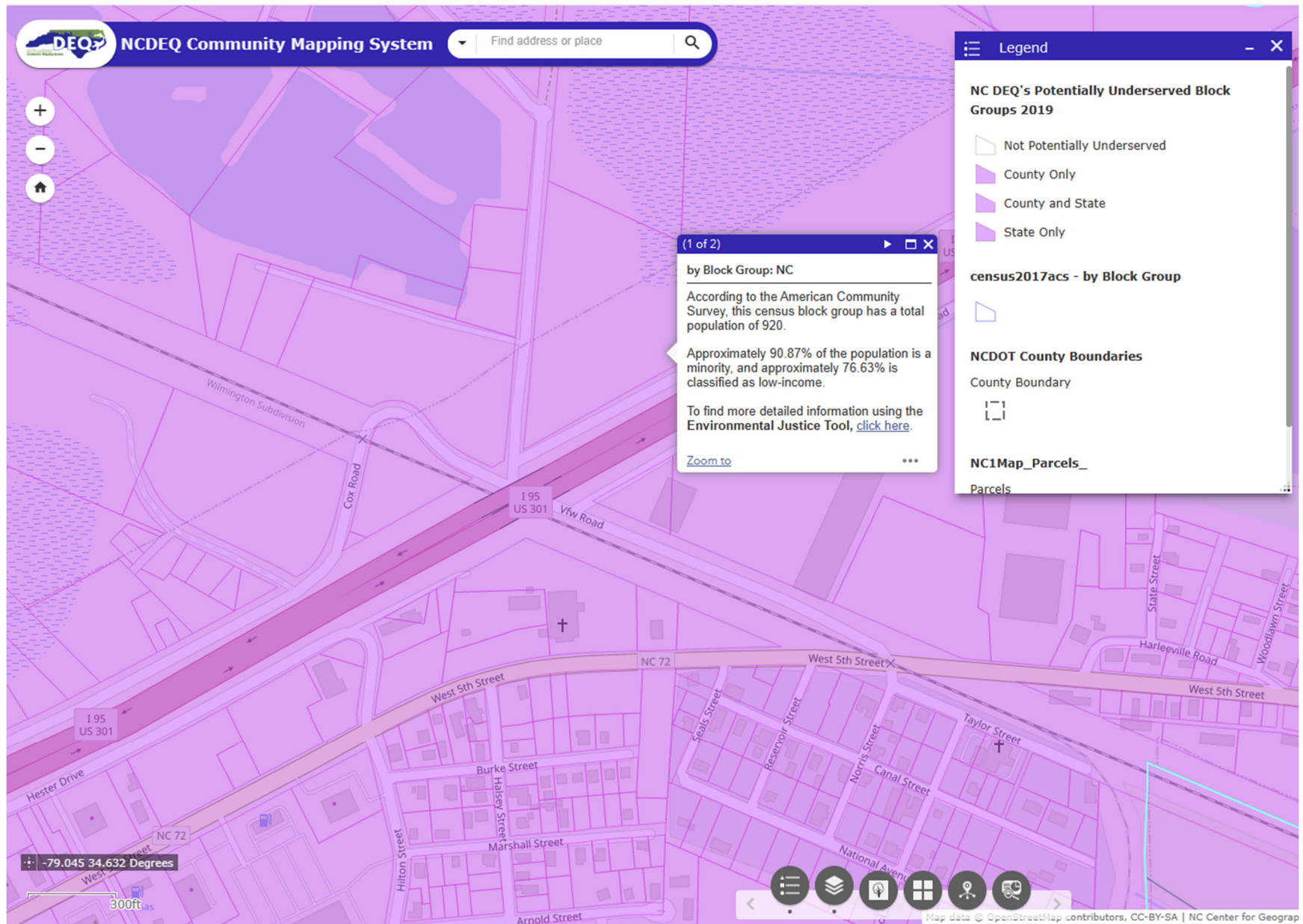


Exhibit 2

North Carolina Office of Recovery and Resiliency CDBG-DR Community Recovery/Infrastructure (CRI) Program

PROJECT INFORMATION FORM - Revised

General Information (for CDBG-DR staff only after review):

- FEMA Disaster Number: **DR 4285, Hurricane Matthew**
- Public Law(s) Allocating DR Funds: **PL 114-223, 9-26-16; PL 114-254, 1-18-17;** _____
- Federal Register Notice(s): **81 FR 83254, 11-21-16; 82 FR 5591, 1-18-17;** _____
- National Objective: _____
- North Carolina County/City: _____
- Activity from NC Action Plan & Amendments: _____
- HUD Form 2880 Completed: _____
- Reserved: _____

Please Note: This completed form and all supporting documentation must be submitted to the CDBG-DR program via the Salesforce system (license required). Acceptable formats are Word, PDF, or Salesforce filled-in fields if this option is available. After receipt of this form Emergency Management, CDBG-DR staff will convene a review panel to determine whether the proposed project remains eligible for CDBG-DR funding. The recipient will be notified in writing of that determination. The pertinent portions of this form should be completed with as much detail as necessary to adequately describe the proposed project and its potential CDBG-DR eligibility.

RECIPIENT SUBMISSION AUTHORIZATION AND DISCLOSURE

AUTHORIZED BY:

PRINTED NAME: **Brandon Love**

TITLE: **Deputy City Manager**

DATE: **December 22, 2020**

CDBG-DR PROJECT NUMBER (from Grant Agreement): **CRI-155-0012**

ATTACH/INCLUDE COMPLETED HUD DISCLOSURE FORM at [HUD Form 2880](#) (See Attached)

Check One: Original Application _____ Amended Application **X**

1. RECIPIENT (County): Insert all contact information for recipient and contact persons.

Name of Recipient: **City of Lumberton**

Physical Address: **500 N. Cedar St., Lumberton, NC 28358**

Federal ID Number: **56-6001274**

DUNS Number: **080882574**

SAMS CAGE Code: **1T7C5**

Name of Recipient Contact Person(s): **Brandon Love**

Telephone Number: **(910)671-3805**

Mailing Address of Recipient: **PO Box 1388, Lumberton, NC 28359**

Email Address of Recipient: **blove@ci.lumberton.nc.us**

Name, address, phone number, and contact person of Architectural/Engineering firm (if available):
Amit Sachan, PE, Atkins Global, 1616 E. Millbrook Rd., Suite 160, Raleigh, NC 27519 (919)431-5253

Name, Address, Phone Number and Email Address of Administrative Consultant (if applicable):
Michael Hanson, PE, McGill Associates, PA, 5400 Trinity Rd., Raleigh, NC 27607 (919)378-9111

2. PROJECT NAME AND ADDRESS:

Insert the physical address of the proposed project, or of the entity if the project is a program/planning activity. If a project does not have a physical address, then provide latitude/longitude of the project site below.

- a. Project Name: **West Lumberton Flood Gate at VFW Road & Railroad Underpass**
- b. County Name: **Robeson County (City of Lumberton)**
- c. Project Address: **2400 Cox Road, Lumberton, NC 28360**
- d. Target Area Census Tract(s) and the geographical area of the low-moderate income persons to benefit from the project:

Census Tract and Block Group	Total # Low/Moderate	Total Population	Percent % Low/Mod
CT 960801 – BG 2	815	1,105	73.16
CT 960801 – BG 3	745	880	84.66%
CT 960801 – BG 4	495	560	88.39%
CT 960801 – BG 1	485	820	59.15%

CT 960802 – BG 1	1065	1930	55.18%
Total	3,605	5,295	72.11% Average

e. Latitude/Longitude of project site, if required: **34°37'40.36" – 79°02'26.75"**

f. Will the project be located in the 100-year floodplain or floodway? **Yes, 100-yr floodplain**

3. CDBG-DR ELIGIBLE ACTIVITY:

- State the eligible activity (ies), including the regulatory/statutory citations(s), and how this project fits that/those eligible activity(ies).
The floodgate project meets the HUD -Eligible Activity - Public Facilities Improvements - by installing floodgates near the Lumber River. The floodgates will prevent up to the 100-year flood from flowing through the I-95 overpass opening at VFW Road and CSX RR crossing. This project will not only bring conditions back to pre-hurricane conditions but, will also provide long-term flood preventative measures thus improving the quality of life for over 5,295 persons of which 72.11% are Low-to-Moderate Income criteria in Census tracts 960801, Block Groups 1, 2, 3, 4, and Census Tract 960802 Block Group 1.

4. NATIONAL OBJECTIVE:

National Objective to be addressed.

- ☒ Activities Benefiting Low/Moderate Income Persons
- ☐ Prevention/Elimination of Slums or Blight
- ☒ Urgent Need
- ☐ Not Applicable—Planning

Briefly discuss how the project meets that National Objective.

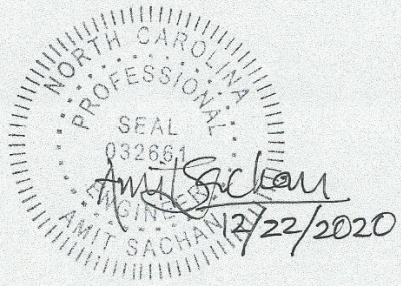
This project will include construction of flood gates at the I-95 overpass, VFW Road and CSX RR crossing. The installation of the flood gates meets both Urgent Needs and Benefiting Low/Moderate Income Persons National Objectives by providing urgent/critical long-term flood prevention improvements that directly benefit 5,295 person that reside in the four census tract block groups, of which 72.11% are Low-to Moderate Income and were directly impacted by flooding during Hurricane Matthew.

5. ANTICIPATED PROJECT FUNDING AND COST ESTIMATE:

PROJECT FUNDS	AMOUNT	SOURCE AND STATUS	REMARKS (IF ANY)
CDBG-DR	\$1,400,000		
LOCAL FUNDS			
PRIVATE FUNDS			
OTHER STATE FUNDS	\$1,250,000	Golden LEAF Foundation	On-Hold
FEDERAL FUNDS	\$3,138,874	Economic Development Administ.	Pending
OTHER FUNDS			
TOTAL	\$5,788,874		

PRELIMINARY PROJECT COST ESTIMATE

Complete the project budget by addressing the categories provided in the table below (Insert rows as needed). Total the cost amount for each line, and provide the total cost amount.

	CDBG-DR Funding Requested	Other Secured Funding Source(s) – Golden Leaf	Total Cost Amount
Indicate construction costs by line item			
Construction Costs			
Site work (Drainage, Roadway, Utility relocation)	\$597,070.00		\$597,070.00
Land, structures, rights-of-way, appraisals etc.	\$90,000.00		\$90,000.00
Construction (Floodgates, embankment, traffic)	\$2,474,253.00		\$2,474,253.00
Miscellaneous	\$240,656.00		\$240,656.00
Contingency (25% of construction costs):	\$790,331.00		\$790,331.00
Construction Subtotal:	\$4,192,310.00		\$4,192,310.00
Engineering Costs			
Engineering Design, permitting, surveying	\$400,000.00	\$1,148,883.00	\$1,548,883.00
Engineering Subtotal:	\$400,000.00	\$1,148,883.00	\$1,548,883.00
Administration Costs			
Planning			
Easement Preparation (if applicable)			
Grant Administration (if applicable)			
Environmental Documentation Preparation			
Legal Costs			
Other			
Administration Subtotal:	\$4,592,310.00	\$1,148,883.00	\$5,741,193.00
TOTAL PROJECT COST:	\$5,741,192.00		
Please provide a PE Seal for the estimate in the space to the right.			

Please also provide the following information:

Environmental Review Record Complete: _____ Acquisition/Closing (if applicable): _____

Design Complete: _____ Construction Start Date: _____

Construction End Date: _____

03I

HUD Matrix Code (Can be found at <https://www.hudexchange.info/resources/documents/Matrix-Code-Definitions.pdf>) _____

6. PROJECT DESCRIPTION AND SUPPORTING INFORMATION:

Please include project details, to the extent available, for the following items (items b and c should also be included for Public Housing Authority projects):

- a. What type of project is proposed?
Construction of a flood gate system for Lumberton's existing levee.
- b. **(For Public Housing Authority projects only)** What is the estimated number of units that will be rehabilitated/reconstructed under the proposed project?
N/A
- c. **(For Public Housing Authority projects only)** What is the estimated average cost per unit for the proposed rehabilitation/construction?
N/A
- d. Is the proposed project new construction, rehabilitation, upgrading of existing facilities, other?
New construction
- e. What is the anticipated duration of the construction (in days)?
730 days
- f. What are the objectives of the project?

The City of Lumberton maintains a levee system that protects south and west Lumberton from river flooding. The earthen levee was constructed in 1977 by the United States Department of Agriculture Soil Conservation Service in coordination with Robeson County Drainage District #1 and the City of Lumberton. At the time of construction, the City of Lumberton was obligated by a written agreement to maintain and operate the levee system. One of the City's responsibilities is to provide a temporary flood barrier where the CSX railroad crosses under I-95. Because of the railroad elevation, this location was identified during the levee design as a weak point where 100-year flood events and greater, may penetrate to the protected side of the levee. In order to protect this opening during a storm, a detailed sandbag closure protocol was established during the levee design. The protocol and agreement state the City of Lumberton will coordinate placing sandbags over the railroad, stretching from the south and north I-95 bridge abutments.

As Hurricane Mathew approached the area in October 2016, the original forecast had predicted with confidence the storm would turn east, out to sea and not impact Lumberton. The sandbag protocol was not implemented since the action threshold was not met under the forecast prediction. The storm forecast track

and intensity changed at the last minute however, leaving no time construct the sandbag barrier. Flood waters entered the protected side of the levee thru this opening, flooding south and west Lumberton.

In September 2018, Hurricane Florence was predicted to impact the region. The City of Lumberton, along with the North Carolina Department of Transportation and North Carolina National Guard, constructed a temporary sandbag and earthen barrier that provided protection for approximately 48 hours yet failed during the extreme river flooding brought on by Hurricane Florence. Again, flood waters entered the protected side of the levee flooding the same general areas of south and west Lumberton.

g. What are the expected results?

To prevent future potential flood occurrences thru the CSX railroad penetration under I-95, the City proposes that a mechanical flood gate system be constructed. The flood gate construction and operation would require close coordination between the City of Lumberton, CSX railroad and the North Carolina Department of Transportation including routine test closures and maintenance performed by the City of Lumberton. The devastation suffered by the industries, residents, businesses and churches in the affected areas could have been avoided had a floodgate system been in place.

h. Are there any known historic districts or properties that will be impacted by the proposed project?
None known.

i. Please check the anticipated level of environmental review necessary for the proposed project (from 24 CFR Part 58):

- Exempt _____
- Categorically Excluded Not Subject to Section 58.5 _____
- Categorically Excluded Subject to Section 58.5 _____
- Environmental Assessment (EA) X
- Environmental Impact Statement (EIS) _____
- Adoption of FEMA's Environmental Review (limited to co-funded FEMA PA projects) _____

Unknown at this time.

j. Are land acquisition or easement rights involved?
Yes

k. What are the previous and proposed uses of the impacted property or site?
Local roadway, railroad right-of-way and industrial business front lawn.

l. Is the project in conformance with any approved community plans?
N/A

m. Will Davis –Bacon Wages be required on this project?
Yes

n. Will Section 3 apply to the proposed project?
Yes

o. Do you anticipate any program income as a result of the proposed project?
Unknown at this time



The places where you live, work, and play may affect your health.

You can use this **Info by Location** tool to get a snapshot of some of the environmental health issues for your area.

Enter a county name.

Robeson, NC

Don't know the county name? Type in a zip code instead.

SUBMIT

Select Topics (optional) »

Robeson County, North Carolina[†]



POPULATION: 134,956

INCOME

Average Household Income

Robeson County: \$36,366

North Carolina: \$57,388

Residents who live below the poverty line



26.6%

Robeson County

12.9%

North Carolina

QUICK FACTS:

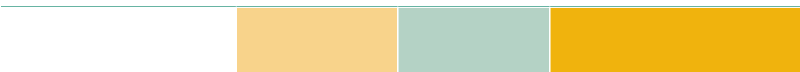
Out of 10 people living in this county

SEX



5 are male & 5 are female

AGE



About 3 are between the ages of 0 and 19 years

About 2 are between the ages of 20 and 34 years

About 2 are between the ages of 35 and 49 years

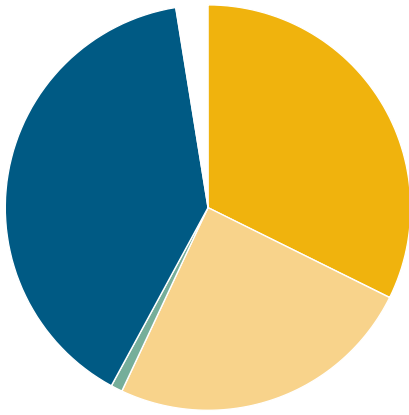
About 3 are 50 years and older

ETHNICITY



1 are Hispanic and 9 are non-Hispanic

RACE



<https://twitter.com/share?>

<https://twitter.com/share?%3A%2F%2Fephrtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking>

[out%20the%20people%20in%20my%20county.%20Visit%20https://ephrtracking.cdc.gov/InfoByLocation%2F%20to%20find%20out%20facts%20for%20your%20county.](https://twitter.com/share?out%20the%20people%20in%20my%20county.%20Visit%20https://ephrtracking.cdc.gov/InfoByLocation%2F%20to%20find%20out%20facts%20for%20your%20county.)

Discover the data ([../DataExplorer?query=C7380B65-728D-4621-A122-47283CF8B444&G5=9999](#)) | Learn more about this topic ([/showPcMain.action](#))

† 2020 data from the National Environmental Public Health Tracking Network ([/showHome.action](#))



Asthma[†]

Percent of **adults** who currently have asthma

7.8%

7.0%

North Carolina

National

Asthma is a chronic disease that affects the airways that carry oxygen in and out of the lungs. Asthma can cause

- shortness of breath,
- wheezing,
- coughing, and
- tightness in the chest.

Asthma attacks have been linked to many factors, including exposure to environmental hazards like

- allergens,
- tobacco smoke, and
- indoor and outdoor air pollution.

Asthma can be controlled by taking medication and avoiding triggers that can cause an attack.

[https://twitter.com/share?](https://twitter.com/share?%3A%2F%2Fephrtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking)

<https://twitter.com/share?%3A%2F%2Fephrtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking>

<https://twitter.com/share?%3A%2F%2Fephrtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking>

Discover the data ([/.. /DataExplorer/?query=1F12A3B5-E744-4857-9110-401524CC8D8E&fips=37&G5=9999](https://ephrtracking.cdc.gov/InfoByLocation%2F%20to%20find%20out%20facts%20for%20your%20county)) | Learn more about this topic ([/showAsthma.action](#))

† 2020 data from the National Environmental Public Health Tracking Network ([/showHome.action](#))



Air Quality: Ground-Level Ozone[†]



Robeson County residents were exposed to unhealthy levels of ozone for **0 Days** in 2019.

Ozone occurs naturally in the sky and helps protect us from the sun's harmful rays. But ground-level ozone can be bad for your health and the environment. Ground-level ozone is one of the biggest parts of smog.

When ozone levels are above the national standard, everyone should try to limit their contact with it by reducing the amount of time spent outside.

Robeson County residents were exposed to unhealthy levels of ozone for **0 Days** in 2019.

Check the EPA's Air Quality Index (AQI) at AirNow.gov (<http://www.AirNow.gov>) to see the current air quality conditions for your location. You can use the AQI to plan your daily activities to reduce exposure to ozone.

[https://twitter.com/share?](https://twitter.com/share?%3A%2F%2Fephtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking)

<https://twitter.com/share?%3A%2F%2Fephtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking>

<https://twitter.com/share?%3A%2F%2Fephtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking>

Discover the data ([/..../DataExplorer/?query=1C537D70-420B-4B25-ABBE-F1B6FAD2C30B&fips=37155&G5=9999](https://ephrtracking.cdc.gov/InfoByLocation%2F%20to%20find%20out%20facts%20for%20your%20county)) | Learn more about this topic ([/showAirHealth.action](https://showAirHealth.action))

† 2019 data from the National Environmental Public Health Tracking Network ([/showHome.action](https://showHome.action))



Air Quality: Particulate Matter[†]

ANNUAL AMBIENT CONCENTRATION OF PM_{2.5}

7.8_{µg/m³*}

Robeson County, North Carolina

12.0_{µg/m³*}

Annual National Standard

*Micrograms Per Cubic Meter (µg/m³)

Air pollution is a leading environmental threat to

human health. Particles in the air like dust, dirt, soot, and smoke are one kind of air pollution called particulate matter. Fine particulate matter, or PM_{2.5}, is so small that it cannot be seen in the air. Breathing in PM_{2.5} may

- lead to breathing problems,
- make asthma symptoms or some heart conditions worse, and

- lead to low birth weight.

The national standard for annual PM_{2.5} levels is 12.0µg/m³. When PM_{2.5} levels are above 12, this means that air quality is more likely to affect your health.

In 2019, the annual level of PM_{2.5} in **Robeson County** was 7.8µg/m³. *

* Micrograms per cubic meter (./images/content/PM2-5.jpg) (µg/m³)

<https://twitter.com/share?>

<https://ephrtracking.cdc.gov/InfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking>

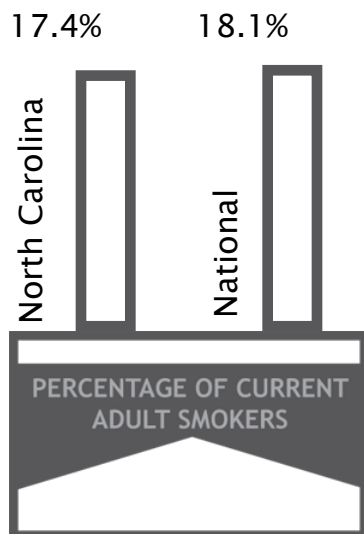
<https://ephrtracking.cdc.gov/InfoByLocation%2F%20to%20find%20out%20facts%20for%20your%20county>

Discover the data (./DataExplorer/?query=4E04F504-A4A2-405C-85AB-9BC6B3F7325D&fips=37155&G5=9999) | Learn more about this topic (/showAirLanding.action)

† 2019 data from the National Environmental Public Health Tracking Network (/showHome.action)



Smoking[†]



Tobacco use is the single most preventable cause of death and disease in the United States. Smoking harms nearly every organ of the body. It causes many diseases and reduces the health of smokers in general. The negative health effects from cigarette smoking account for an estimated 500,000 deaths, or nearly 1 of every 5 deaths, each year in the United States.



<https://twitter.com/share?>

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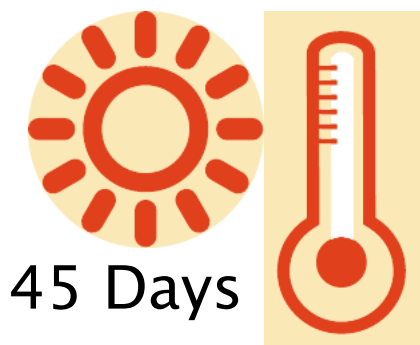
out%20the%20people%20in%20my%20county.%20Visit%20https://ephrtracking.cdc.gov/InfoByLocation%2F%20to%20find%20out%20facts%20for%20your%20county.)

Discover the data (/../DataExplorer/?query=2B83BA8E-9849-47BF-92C2-2CA0D51CC90C&fips=37&G5=9999) | Learn more about this topic (/showHBSmokingPrevalence.action)

† 2018 data from the National Environmental Public Health Tracking Network (/showHome.action)



Extreme Heat[†]



45 Days

with temperatures above 90°F

Extreme summer heat is increasing in the United States, and climate projections indicate that extreme heat events will be more frequent and intense in coming decades. Extremely hot weather can cause illness or even death. Knowing how hot it gets in your area can help you prepare for extremely hot temperatures and prevent heat related illness (<http://emergency.cdc.gov/disasters/extremeheat/heattips.asp>).

Robeson County had **45 Days** with maximum temperatures above 90°F during May–September 2021.

Heat-related death or illnesses are preventable if you follow a few simple steps.

- Stay cool.
- Stay hydrated.
- Stay informed.

<https://twitter.com/share?>

%3A%2F%2Fephrtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking)

out%20the%20people%20in%20my%20county.%20Visit%20https://ephrtracking.cdc.gov/InfoByLocation%2F%20to%20find%20out%20facts%20for%20your%20county.)

Discover the data (</../DataExplorer/?query=51ED8370-BE00-4813-A4F8-AE641EF61672&fips=37155&G5=9999>) | Learn more about this topic (</showClimateChangeExtremeHeat.action>)

† 2021 data from the National Environmental Public Health Tracking Network (</showHome.action>)



Heart Attacks[†]



The environment is one of several factors (</showHeartExpRisk.action>) that can lead to an increased risk for heart disease. High levels of air pollution and extreme hot and cold temperatures have been linked to increases in heart disease and deaths from heart attacks. A heart attack happens when a part of the heart muscle dies or gets damaged because of reduced blood supply.

In 2020, there were

- **89 deaths** from heart attacks in Robeson County.
- **3,231 deaths** from heart attacks in North Carolina.

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<https://twitter.com/share?%3A%2F%2Fephrtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking>

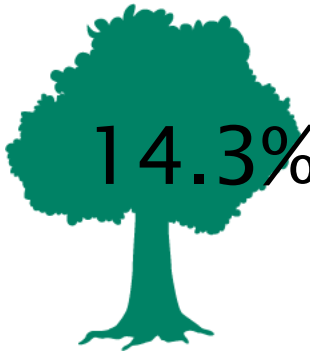
<https://twitter.com/share?out%20the%20people%20in%20my%20county.%20Visit%20https://ephrtracking.cdc.gov/InfoByLocation%2F%20to%20find%20out%20facts%20for%20your%20county.>

Discover the data (</../DataExplorer/?query=19D1C8B6-45AB-4216-A2CC-2DCC250FD1FE&fips=37155&G5=9999>) | Learn more about this topic (</showHeartAttack.action>)

† 2020 data from the National Environmental Public Health Tracking Network (</showHome.action>)



Access To Parks[†]



Live within half a mile
of a park in Robeson
County



Having access to places for physical activity, like parks, encourages people to get active and do so more often. The closer you live to a park, the more likely you are to walk or bike there. Walking and biking to parks can decrease air pollution and car crashes, which in turn, can reduce chronic disease rates and traffic-related injuries.

In 2020,

14.3% of people living in **Robeson County** lived within half a mile of a park.

58.7% of people living in **North Carolina** lived within half a mile of a park.

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<https://ephrtracking.cdc.gov/InfoByLocation%2F&text=Check%20out%20#environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking>

<https://ephrtracking.cdc.gov/InfoByLocation%2F%20to%20find%20out%20facts%20for%20your%20county>

Discover the data ([/../DataExplorer/?query=16F809E7-BD81-4A24-8588-F6A3A62B866E&fips=37155&G5=9999](https://ephrtracking.cdc.gov/DataExplorer/?query=16F809E7-BD81-4A24-8588-F6A3A62B866E&fips=37155&G5=9999)) | Learn more about this topic ([/showProximityToHighways.action](#))

[†] 2020 data from the National Environmental Public Health Tracking Network ([/showHome.action](#))



Proximity To Highways[†]



2.6%



of Robeson County population that live within 150m of a highway

Traffic-related air pollution is a major cause of unhealthy air quality, especially in urban areas. Many health problems have been linked to exposure to traffic-related air pollution. The closer your home or school is to a major highway, the more likely you and your family are to be exposed to traffic-related air pollution.

In 2020, **2.6%** of the population of Robeson County lived within 150 meters* of a major highway.

In 2020, **4.9%** of Robeson County public schools were sited within 150 meters* of a major highway.

* 150 meters is about 2 blocks.

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<https://twitter.com/share?%3A%2F%2Fephtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking>

<https://twitter.com/share?%3A%2F%2Fephtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking>

Discover the data ([../DataExplorer/?query=75C3D4C4-D2CC-4E1B-A26C-FA01EE02076C&fips=37155&G5=9999](https://ephtracking.cdc.gov/InfoByLocation%2F%20to%20find%20out%20facts%20for%20your%20county)) | Learn more about this topic ([/showProximityToHighways.action](https://ephtracking.cdc.gov/showProximityToHighways.action))

† 2020 data from the National Environmental Public Health Tracking Network ([/showHome.action](https://ephtracking.cdc.gov/showHome.action))



Share this page with this link ([../InfoByLocation/?FIPS=37155&topics=1,10,2,3,4,5,6,7,8](https://ephtracking.cdc.gov/InfoByLocation/?FIPS=37155&topics=1,10,2,3,4,5,6,7,8)).

Vulnerability Disclosure Policy (<https://www.hhs.gov/vulnerability-disclosure-policy/index.html>)

Visit the Tracking Network for more information about your health and the environment.

www.cdc.gov/ephtracking (<http://www.cdc.gov/ephtracking/>)

Connect With Us

Follow us on Twitter

(http://twitter.com/CDC_EPHTracking)

Exhibit 2

North Carolina Office of Recovery and Resiliency CDBG-DR Infrastructure Recovery Program

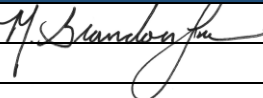
PROJECT INFORMATION FORM

General Information (for CDBG-DR staff only after review):

- FEMA Disaster Number: **DR 4285, Hurricane Matthew**
- Public Law(s) Allocating DR Funds: **PL 114-223, 9-26-16; PL 114-254, 1-18-17;** _____
- Federal Register Notice(s): **81 FR 83254, 11-21-16; 82 FR 5591, 1-18-17;** _____
- National Objective: _____
- North Carolina County/City: _____
- Activity from NC Action Plan & Amendments: _____
- HUD Form 2880 Completed: _____
- Reserved: _____

Please Note: This completed form and all supporting documentation must be submitted to the CDBG-DR program via the Salesforce system, if available (license required). Acceptable formats are Word, PDF, or Salesforce filled-in fields if this option is available. After receipt of this form NCORR, CDBG-DR staff will convene a review panel to determine whether the proposed project remains eligible for CDBG-DR funding. The recipient will be notified in writing of that determination. The pertinent portions of this form should be completed with as much detail as necessary to adequately describe the proposed project and its potential CDBG-DR eligibility.

RECIPIENT SUBMISSION AUTHORIZATION AND DISCLOSURE

AUTHORIZED BY (Signature Required): 

PRINTED NAME: **Brandon Love**

TITLE: **Deputy City Manager**

DATE: **02-26-2021**

CDBG-DR PROJECT NUMBER (if known): **CRI-155-0012**

ATTACH/INCLUDE COMPLETED HUD DISCLOSURE FORM at [HUD Form 2880](#) (See Attached)

Check One: Original Application _____ Amended Application **X**

1. RECIPIENT (County): Insert all contact information for recipient and contact persons.

Name of Recipient: **City of Lumberton**

Physical Address: **500 N. Cedar St., Lumberton, NC 28358**

Federal ID Number: **56-6001274**

DUNS Number: **080882574**

SAMS CAGE Code: **1T7C5**

Name of Recipient Contact Person(s): **Brandon Love**

Telephone Number: **(910)671-3805**

Mailing Address of Recipient: **PO Box 1388, Lumberton, NC 28359**

Email Address of Recipient: **blove@ci.lumberton.nc.us**

Name, address, phone number, and contact person of Architectural/Engineering firm (if available):
Amit Sachan, PE, Atkins Global, 1616 E. Millbrook Rd., Suite 160, Raleigh, NC 27519 (919)431-5253

Name, Address, Phone Number and Email Address of Administrative Consultant (if applicable):
Michael Hanson, PE, McGill Associates, PA, 5400 Trinity Rd., Raleigh, NC 27607 (919)378-9111

2. PROJECT NAME AND ADDRESS:

Insert the physical address of the proposed project, or of the entity if the project is a program/planning activity. If a project does not have a physical address, then provide latitude/longitude of the project site below.

- a. Project Name: **West Lumberton Flood Gate at VFW Road & Railroad Underpass**
- b. County Name: **Robeson County (City of Lumberton)**
- c. Project Address: **2400 Cox Road, Lumberton, NC 28360**
- d. Target Area Census Tract(s) and the geographical area of the low-moderate income persons to benefit from the project:

Census Tract and Block Group	Total # Low/Moderate	Total Population	Percent % Low/Mod
CT 960801 – BG 2	815	1,105	73.16
CT 960801 – BG 3	745	880	84.66%
CT 960801 – BG 4	495	560	88.39%
CT 960801 – BG 1	485	820	59.15%

CT 960802 – BG 1	1065	1930	55.18%
Total	3,605	5,295	72.11% Average

e. Latitude/Longitude of project site, if required: **34°37'40.36" – 79°02'26.75"**

f. Will the project be located in the 100-year floodplain or floodway? **Yes, 100-yr floodplain**

3. CDBG-DR ELIGIBLE ACTIVITY:

- State the eligible activity (ies), including the regulatory/statutory citations(s), and how this project fits that/those eligible activity(ies).

The floodgate project meets the HUD -Eligible Activity - Public Facilities Improvements - by installing floodgates near the Lumber River. The floodgates will prevent up to the 100-year flood from flowing through the I-95 overpass opening at VFW Road and CSX RR crossing. This project will not only bring conditions back to pre-hurricane conditions but, will also provide long-term flood preventative measures thus improving the quality of life for over 5,295 persons of which 72.11% are Low-to-Moderate Income criteria in Census tracts 960801, Block Groups 1, 2, 3, 4, and Census Tract 960802 Block Group 1.

4. NATIONAL OBJECTIVE:

National Objective to be addressed.

- ☒ Activities Benefiting Low/Moderate Income Persons
- ☐ Prevention/Elimination of Slums or Blight
- ☒ Urgent Need
- ☐ Not Applicable—Planning

Briefly discuss how the project meets that National Objective.

This project will include construction of flood gates at the I-95 overpass, VFW Road and CSX RR crossing. The installation of the flood gates meets both Urgent Needs and Benefiting Low/Moderate Income Persons National Objectives by providing urgent/critical long-term flood prevention improvements that directly benefit 5,295 person that reside in the four census tract block groups, of which 72.11% are Low-to Moderate Income and were directly impacted by flooding during Hurricane Matthew.

5. ANTICIPATED PROJECT FUNDING AND COST ESTIMATE:

PROJECT FUNDS	AMOUNT	SOURCE AND STATUS	REMARKS (IF ANY)
CDBG-DR	\$1,426,750		Pending
LOCAL FUNDS			
PRIVATE FUNDS			
OTHER STATE FUNDS	\$1,250,000	Golden LEAF Foundation	On-Hold
FEDERAL FUNDS	\$3,130,098	Economic Development Administ.	Approved
OTHER FUNDS			
TOTAL	\$5,806,848		

PRELIMINARY PROJECT COST ESTIMATE

Complete the preliminary project budget by addressing the categories provided in the table below. Insert rows, columns, and identifiers as needed for the specific project. Use or reference additional sheets if necessary. Total the cost amount for each line, and provide the total project cost.

Column A is for NCORR reimbursable grant costs only. Total should not exceed grant amount.

	CDBG-DR and EDA Funding Requested (<u>only</u>)	Other Secured Funding Golden leaf	Other Secured Funding Reallocation From Fuller	Total Cost Amount
	A	B	C	A+B+C, etc.
Construction Costs				
Site work (Drainage, Roadway, Utility relocation)	\$170,320		\$426,750 (Fuller Reallocation)	\$597,070
Land, structures, rights-of-way, appraisals etc.	\$90,000			\$90,000
Construction (Floodgates, embankment, traffic)	\$2,594,865			\$2,594,865
Sheet pile seepage cut-off	\$320,000			\$320,000
Miscellaneous	\$244,425			\$244,425
(Contingency 11.4% of construction costs)	\$411,605			\$411,605
Construction Subtotal	\$3,831,215		\$426,750	\$4,257,965
Engineering Costs				
Engineering Design (includes permitting, land surveying, geotechnical)	\$298,883	\$1,250,000		\$1,548,883
Engineering Subtotal	\$298,883	\$1,250,000		\$1,548,883
Administration Costs				
Planning				
Easement Preparation (if applicable)				
Grant Administration (if applicable)				
Environmental Documentation Preparation				
Legal Costs				
Other				
Administration Subtotal				
Total each funding source: A, B, C	\$4,130,098	\$1,250,000	\$426,750	
	TOTAL PROJECT COST			\$5,806,848
Provide a Professional Engineer or Architect seal for the preliminary cost estimate in the space to the right.				

Please also provide the following information:

Environmental Review Record Complete: _____ Acquisition/Closing (if applicable): _____

Design Complete: _____ Construction Start Date: _____

Construction End Date: _____

HUD Matrix Code (Can be found at <https://www.hudexchange.info/resources/documents/Matrix-Code-Definitions.pdf>) **03I**

6. PROJECT DESCRIPTION AND SUPPORTING INFORMATION:

Please include project details, to the extent available, for the following items (items b and c should also be included for Public Housing Authority projects):

- a. What type of project is proposed?
Construction of a flood gate system for Lumberton's existing levee.
- b. **(For Public Housing Authority projects only)** What is the estimated number of units that will be rehabilitated/reconstructed under the proposed project?
N/A
- c. **(For Public Housing Authority projects only)** What is the estimated average cost per unit for the proposed rehabilitation/construction?
N/A
- d. Is the proposed project new construction, rehabilitation, upgrading of existing facilities, other?
New construction
- e. What is the anticipated duration of the construction (in days)?
730 days
- f. What are the objectives of the project?

The City of Lumberton maintains a levee system that protects south and west Lumberton from river flooding. The earthen levee was constructed in 1977 by the United States Department of Agriculture Soil Conservation Service in coordination with Robeson County Drainage District #1 and the City of Lumberton. At the time of construction, the City of Lumberton was obligated by a written agreement to maintain and operate the levee system. One of the City's responsibilities is to provide a temporary flood barrier where the CSX railroad crosses under I-95. Because of the railroad elevation, this location was identified during the levee design as a weak point where 100-year flood events and greater, may penetrate to the protected side of the levee. In order to protect this opening during a storm, a detailed sandbag closure protocol was established during the levee design. The protocol and agreement state the City of Lumberton will coordinate placing sandbags over the railroad, stretching from the south and north I-95 bridge abutments.

As Hurricane Mathew approached the area in October 2016, the original forecast had predicted with confidence the storm would turn east, out to sea and not impact Lumberton. The sandbag protocol was not implemented since the action threshold was not met under the forecast prediction. The storm forecast track

and intensity changed at the last minute however, leaving no time construct the sandbag barrier. Flood waters entered the protected side of the levee thru this opening, flooding south and west Lumberton.

In September 2018, Hurricane Florence was predicted to impact the region. The City of Lumberton, along with the North Carolina Department of Transportation and North Carolina National Guard, constructed a temporary sandbag and earthen barrier that provided protection for approximately 48 hours yet failed during the extreme river flooding brought on by Hurricane Florence. Again, flood waters entered the protected side of the levee flooding the same general areas of south and west Lumberton.

g. What are the expected results?

To prevent future potential flood occurrences thru the CSX railroad penetration under I-95, the City proposes that a mechanical flood gate system be constructed. The flood gate construction and operation would require close coordination between the City of Lumberton, CSX railroad and the North Carolina Department of Transportation including routine test closures and maintenance performed by the City of Lumberton. The devastation suffered by the industries, residents, businesses and churches in the affected areas could have been avoided had a floodgate system been in place.

h. Are there any known historic districts or properties that will be impacted by the proposed project?
None known.

i. Please check the anticipated level of environmental review necessary for the proposed project (from 24 CFR Part 58):

- Exempt _____
- Categorically Excluded Not Subject to Section 58.5 _____
- Categorically Excluded Subject to Section 58.5 _____
- Environmental Assessment (EA) X
- Environmental Impact Statement (EIS) _____
- Adoption of FEMA's Environmental Review (limited to co-funded FEMA PA projects) _____

Unknown at this time.

j. Are land acquisition or easement rights involved?
Yes

k. What are the previous and proposed uses of the impacted property or site?
Local roadway, railroad right-of-way and industrial business front lawn.

l. Is the project in conformance with any approved community plans?
N/A

m. Will Davis –Bacon Wages be required on this project?
Yes

n. Will Section 3 apply to the proposed project?
Yes

o. Do you anticipate any program income as a result of the proposed project?
Unknown at this time

6.1 PROJECT STATUS:

Has any component of the project begun, such as procurement of A/E, environmental review, Preliminary Engineering Report, design, construction, etc.?

Yes X

No

If yes, please provide a description of those project activities that have been completed and/or are currently underway, the percent complete of each activity, and whether any action items will be undertaken in the near future.

During our initial series of stakeholder meetings - which included representatives from the City of Lumberton, Atkins Global (Consulting Engineers), CSX Transportation, Federal Highway Administration, NCDOT, NC Dam Safety Permitting, USACE, NCEM Floodplain Mapping, NC Golden Leaf Foundation and other entities - it was decided that the proposed floodgate would be positioned on the east side of I-95 at the CSX undercrossing. The City proceeded with the design of the floodgate which included extensive hydrologic and hydraulic modeling, geotechnical investigation, earthen levee profiles and existing road realignments. Once we were approximately 60% complete with the floodgate design, we received word that NCDOT and Federal Highway Administration were working on a design-build project to widen and raise I-95. During the DOT RFQ development phase of their project, the DOT, in coordination with NC Dam Safety, required the City to locate the floodgate on the west side of I-95. The City had already expended over \$600,000 in the design of the east side floodgate, most of which could not be re-used for the west side location. The floodgate design effort has been temporarily halted while we look for additional funds to start over on the west side design.

Please also provide a description regarding whether the intent is to use CDBG-DR funds to pay for activities completed or currently underway.

The original CDBG-DR funds will be used for construction activities which will not begin until design and bidding have been completed, however the reallocated \$400,000 Fuller's sewer funding will be used to offset the increased engineering costs due to NCDOT's repositioning of the floodgate location.

6.2 PROJECT CONTEXT:

Please provide the following information regarding the proposed project:

Is the proposed project part of a larger plan or project? Yes No X

If Yes, is it sufficiently separate from that plan or project and does not rely on it to provide a complete project and does not trigger CDBG-DR requirements on other parts of the plan/project?

BENEFICIARIES/PUBLIC BENEFIT/TARGET AREA:

Please provide a narrative addressing the following questions:

- Who are the beneficiaries of the proposed project?
5,295 residents of which 3,605 (72.11%) meet Low/Moderate eligibility criteria.
- What are the expected benefits to these beneficiaries, and where do they live?

The direct benefit will be long-term flood control and prevention for persons living in the impacted Census tracts 960801, Block Groups 1, 2, 3, 4, and Census Tract 960802 Block Group 1.

Indicate by means of an "x" as to whether the proposed project will involve a community-wide benefit or a target area(s) benefit and enter the zip code of the project. If a target area is involved, enter the name(s) and zip code of the target area(s).

Community-wide _____ Target Area(s) **X**

Name and Zip Code of Community-wide or Target Area: **South Lumberton Community 28358**

Name and Zip Code of Community-wide or Target Area: **West Lumberton Community 28358**

Name and Zip Code of Community-wide or Target Area: _____

Community-wide projects should use the zip code of the location of city hall. Target-area projects should use the zip code of the target area where the majority of the construction funds will be spent (for each target area). If the target area(s) does not have a name, please provide a brief geographical description of the area such as "western portion of the city."

How many other projects funded with CDBG-DR funds relate to the project? **None**

Does the project relate to any other project that NCEM should be aware of? **No**

If flood insurance is required, has the entity that will be required to carry it in perpetuity been informed of this requirement? **X** Yes _____ No

Is this project receiving FEMA Public Assistance funding? _____ Yes **X** No

Is this project receiving FEMA Public Assistance 406 Hazard Mitigation Funds? _____ Yes **X** No

If Yes, please provide the FEMA Project Worksheet number(s) for this project application: _____

(The FEMA project work sheet number should include the FEMA disaster declaration number in the first four (4) digits and the project worksheet number in the last five (5) digits. A Hurricane Matthew related project with the project worksheet "567" would be entered as "4285-00567")

Is this project receiving FEMA Section 404 Hazard Mitigation funds? _____ Yes **X** No

Is this project receiving any Army Corps of Engineers funding? _____ Yes **X** No

If yes, please provide the type of funds applied for and application number: _____

Is this project receiving any Environmental Protection Agency funds? _____ Yes **X** No

If yes, please provide the type of funds applied for and application number? _____

Is this project receiving any Department of Energy funds? _____ Yes **X** No

If yes, please provide the type of funds applied for and application number: _____

Is this project receiving any Department of Transportation funds? ☐ Yes ☒ No

If yes, please provide the type of funds applied for and application number: _____

Is this project receiving any Department of the Interior funds? ☐ Yes ☒ No

If yes, please provide the type of funds applied for and application number: _____

Is this project receiving any State funds (e.g. Disaster Recovery Act funds)? ☒ Yes ☐ No

If yes, please provide the type of funds applied for and application number: **NC Golden LEAF - FY2017-156 / VFW Railroad Floodgate Project**

In the event that any of the above questions result in a “yes”, it is possible that a duplication of benefit (DOB) may occur. It is important that added information is provided to a yes response, since in the event that a recipient either does not disclose a DOB or adequately answer the question, it may result in the recipient having to return CDBG-DR funds and or reallocate funding to remain in compliance with HUD and State requirements.

TIE TO THE STORM/RECOVERY RATIONALE:

Please provide a narrative addressing the following questions:

- How does this project address the direct impact(s) of Hurricane Matthew?
This project will mitigate future catastrophic impacts to West and South Lumberton as were seen during both Hurricanes Matthew (2016) and Florence (2018), by eliminating the ability for flood waters from the Lumber River from entering through the opening under I-95 at the CSX railroad.
- How does it address a recovery objective of the community from Hurricane Matthew?
By prohibiting the type of catastrophic flooding that was seen during Hurricane Matthew, the City of Lumberton will be able to confidently restore much needed housing and businesses to these historically low to moderate income and predominately minority neighborhoods, without the threat of future flooding.

DESCRIPTION OF CONSTRUCTION INVOLVED

Provide a narrative addressing the following questions:

- How extensive is the proposed construction?
This project involves close coordination with multiple stakeholders and the construction of a complex structure.
- Will digging, earthwork, boring, tunneling, etc. be involved in the project?
The construction will involve an earthen berm tied directly into the embankment of I-95 on each side of the CSX rail line and Cox Road. At the termination of each end of the earthen berm, a vertical concrete stem wall will be constructed to seal the berm ends and provide a connection point for the actual floodgates. The CSX track will then be converted to an “at grade” crossing and Cox Road will then be realigned in order to avoid conflict with the new floodgates. Finally, a set of manually functioning, steel floodgates will be installed directly to the vertical concrete stem walls and across the CSX rail line.

DESCRIPTION OF ACQUISITION INVOLVED: Please briefly describe the nature of any necessary land or property or easement acquisition and a rationale for its selection.

A majority of the construction will take place within the right-of-way of Interstate 95 and directly on CSX property. A small portion of property may be acquired from one adjacent landowner as needed (Spartan LLC).

MITIGATION/RESILIENCY PLAN:

Provide a description discussing how the project design will address mitigation/resiliency to minimize damage in the event of future flooding or extreme weather.

An operational protocol will be established between the City of Lumberton and CSX for activation of the floodgates. City staff will work directly with the CSX Roadmaster in determining the timing for clearance of the railroad and closure of the gates. This activity shall only take place during times of imminent flooding danger. A routine maintenance schedule shall also be established for insuring the safe and continued operation of the gates into the foreseeable future. Activation of the floodgate system will insure that West and South Lumberton will no longer be inundated by the extreme floodwaters that were seen during both Hurricanes Matthew and Florence in 2016 and 2018 respectively.

7. PROJECT FEASIBILITY:

Please provide brief answers and/or a narrative addressing ALL of the following questions regarding the likelihood of the project being implemented and completed:

Was the proposed project included as part of the County's previously submitted application for CDBG-DR funding?
Yes

Was the proposed project included in the County's Resilient Redevelopment Plan? If so, please provide page number(s) for reference.

Yes. Hurricane Matthew Resilient Redevelopment Plan Robeson County, May 2017 Version 1.2, pgs 4-34 & 4-35

Briefly describe the community support for the project and any outreach efforts the recipient has taken.

We have seen broad community support for this project from not only the residents of South and West Lumberton but also from the city's industrial base which will also be protected by these efforts. The city's engineering consultant is planning a series of community meeting once the hydraulic and hydrologic modeling is complete and we have a preliminary design established.

Are there any significant regulatory, permitting, or environmental issues that may impede the project's progress?
None known.

If the project requires additional financial support beyond the NC Community Recovery Infrastructure program funding, are those funds available and/or committed?

\$1,250,000 – NC Golden LEAF Foundation – committed

\$3,130,098 – Economic Development Administration – pending

8. PROJECT MAPS:

Please provide the following maps/diagrams:

- Location of the project within the County
- Preliminary site plan

(See Attached)

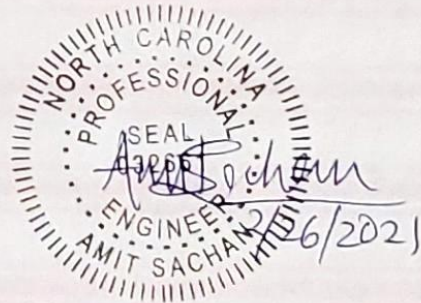
PRELIMINARY PROJECT COST ESTIMATE

Complete the preliminary project budget by addressing the categories provided in the table below. Insert rows, columns, and identifiers as needed for the specific project. Use or reference additional sheets if necessary. Total the cost amount for each line, and provide the total project cost.

Column A is for NCORR reimbursable grant costs only. Total should not exceed grant amount.

	CDBG-DR and EDA Funding Requested (<u>only</u>)	Other Secured Funding Golden leaf	Other Secured Funding Reallocation From Fuller	Total Cost Amount
Construction Costs	A	B	C	A+B+C, etc.
Site work (Drainage, Roadway, Utility relocation)	\$170,320		\$426,750 (Fuller Reallocation)	\$597,070
Land, structures, rights-of-way, appraisals etc.	\$90,000			\$90,000
Construction (Floodgates, embankment, traffic)	\$2,594,865			\$2,594,865
Sheet pile seepage cut-off	\$320,000			\$320,000
Miscellaneous	\$244,425			\$244,425
(Contingency 11.4% of construction costs)	\$411,605			\$411,605
Construction Subtotal	\$3,831,215		\$426,750	\$4,257,965
Engineering Costs				
Engineering Design (includes permitting, land surveying, geotechnical)	\$298,883	\$1,250,000		\$1,548,883
Engineering Subtotal	\$298,883	\$1,250,000		\$1,548,883
Administration Costs				
Planning				
Easement Preparation (if applicable)				
Grant Administration (if applicable)				
Environmental Documentation Preparation				
Legal Costs				
Other				
Administration Subtotal				
Total each funding source: A, B, C	\$4,130,098	\$1,250,000	\$426,750	
			TOTAL PROJECT COST	\$5,806,848

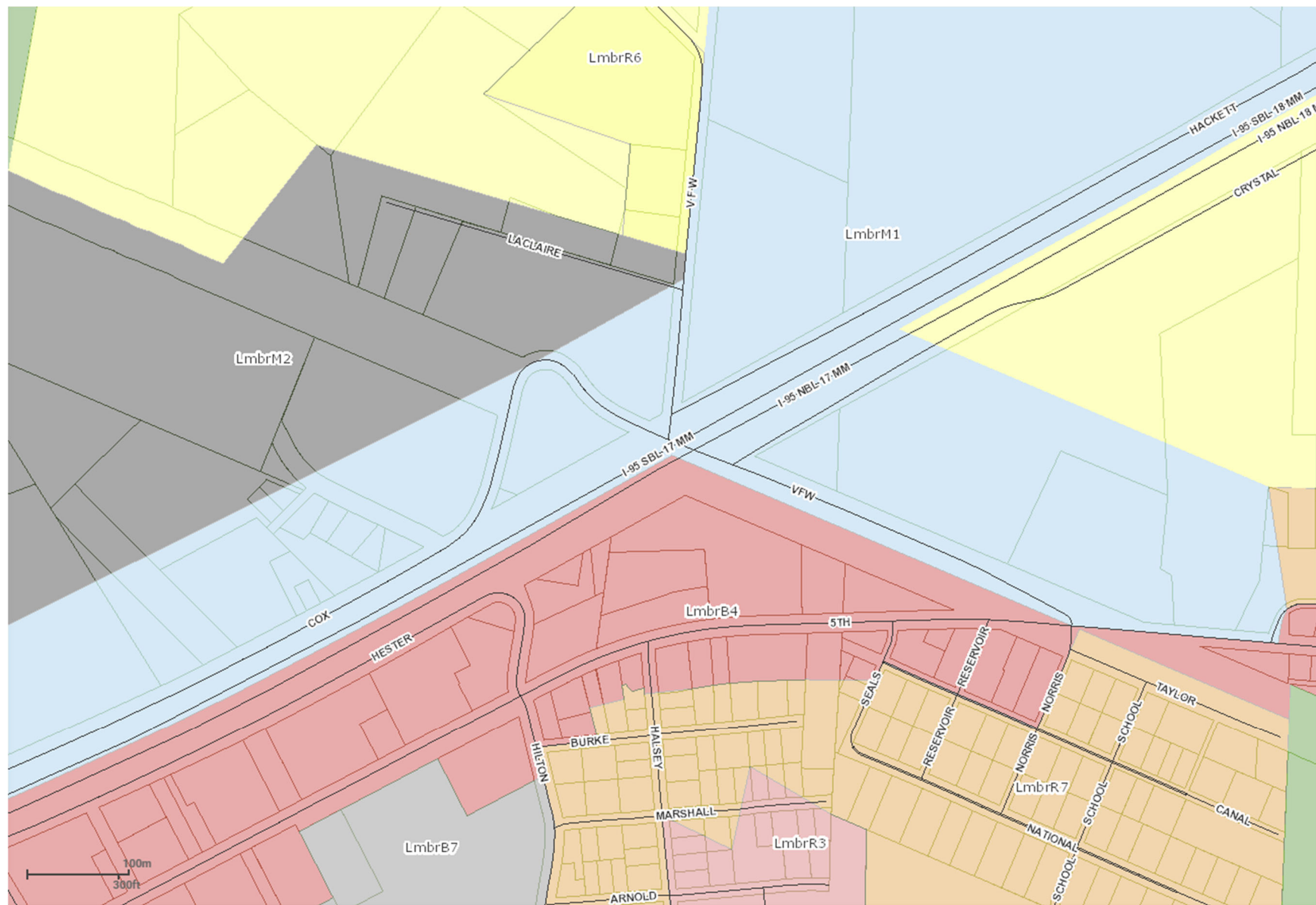
Provide a Professional Engineer or Architect seal for the preliminary cost estimate in the space to the right.



Appendix O:

Land Use and Zoning

West Lumberton Flood Gate Project – Zoning Map



Therefore, all other references in this chapter to the B-2 district shall be deemed to include the B-2H district.

- (d) The B-3 (office/residential) district is designed to accommodate a mixture of residential uses and uses that fall primarily within the 3.000 classification in the table of permissible uses (office, clerical, research, services, etc.). It is intended that this zoning classification be applied primarily in areas that no longer are viable as single-family residential areas because of high traffic volumes on adjacent streets or because of other market factors but remain viable as locations for multifamily residential developments or offices. Such areas will also generally constitute transition or buffer zones between major arterials or more intensively developed commercial areas and residential districts.
- (e) The B-4 (general commercial) district is designed to accommodate the widest range of commercial activities.
- (f) The B-5 (highway service) is designed to accommodate commercial activities that draw business primarily from and provide services primarily to I-95 traffic.
- (g) The B-6 (medical arts) district is designed to accommodate the offices and clinics of physicians and other medical personnel as well as uses within the 2.000, 3.000 and 4.000 classifications from the table of permissible uses that are customarily associated with a hospital or provide services or goods that are a convenience to hospital patients or visitors.
- (h) The B-7, business (general/commercial/manufactured home sales) district is designed to accommodate a wide range of commercial activities including manufactured home sales.

(Ord. No. 813, § 1, 6-3-85; Ord. No. 1762, 12-13-99)

Sec. 35-137. - Manufacturing districts established.

The following districts are hereby established primarily to accommodate enterprises engaged in the manufacturing, processing, creating, repairing, renovating, painting, cleaning, or assembling of goods, merchandise, or equipment: M-1, M-2 and M-3. The M-3 (planned industrial) district is intended to encourage the development of a well-planned industrial park.

(Ord. No. 813, § 1, 6-3-85; Ord. No. 1379, 2-22-93)

Sec. 35-138. - Planned unit development districts established.

- (a) There are hereby established 24 different planned unit development (PUD) districts as described in this section. Each PUD district is designed to combine the characteristics of at least three and possibly four districts.
 - (1) One element of each PUD district shall be the lower density residential element. Here there are two possibilities, each one corresponding either to the R-15 or R-11 residential districts identified in subsection 35-135(a). Within that portion of the PUD zone that is developed for lower density residential purposes, all development must be in accordance with the regulations applicable to the lower density residential district to which the particular PUD zoning district corresponds.
 - (2) A second element of each PUD district shall be the higher density residential element. Here there are two possibilities, each one corresponding either to the R-7 or R-3 zoning districts established by subsection 35-135(a). Within that portion of the PUD district that is developed for higher density residential purposes, all development must be in accordance with the regulations applicable to the higher density residential district to which the PUD district corresponds.
 - (3) A third element of each PUD district shall be the commercial element. Here there are three possibilities, each one corresponding to one of the following commercial districts identified in section 35-136: B-1, B-2, or B-3. Within that portion of a PUD district that is developed for

Appendix P:

**Soil Suitability/ Slope/ Erosion/
Drainage/ Storm Water Runoff**



United States
Department of
Agriculture

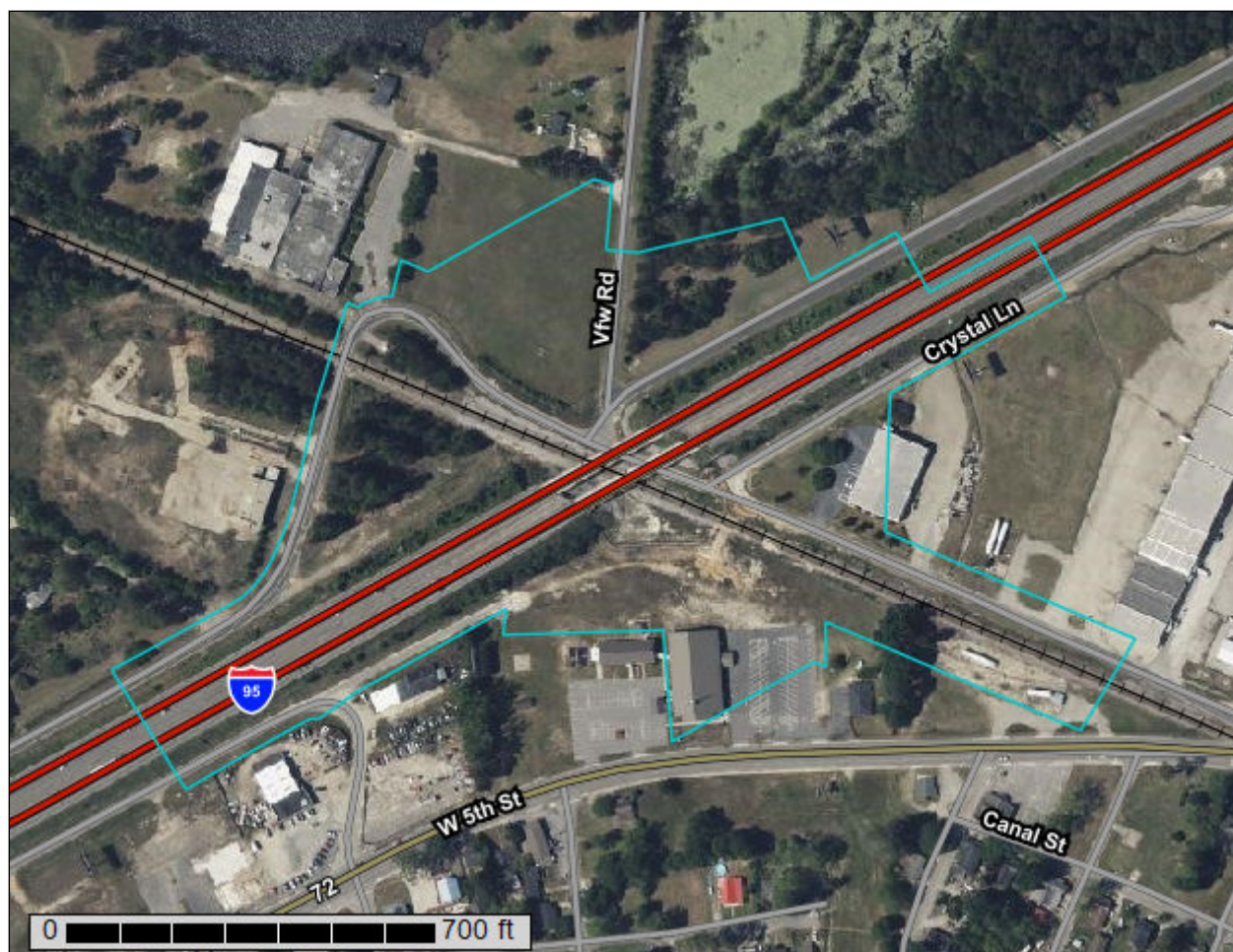
NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Robeson County, North Carolina**

West Lumberton Flood Gate



December 1, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

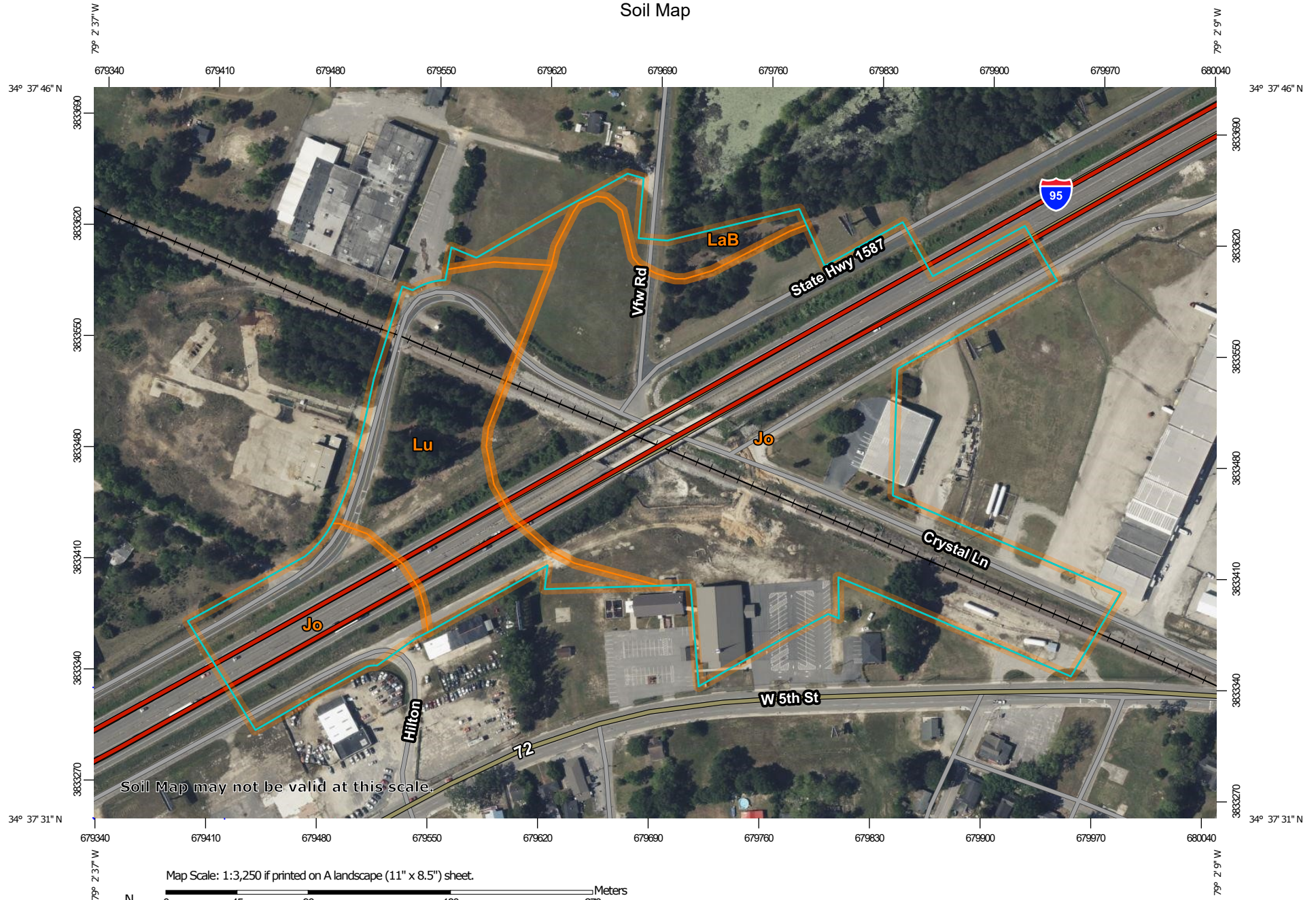
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

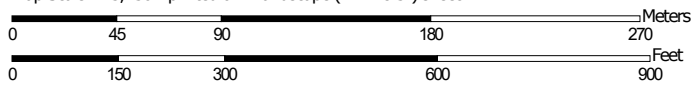
The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.

Map Scale: 1:3,250 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

Custom Soil Resource Report


MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout


 Borrow Pit

 Clay Spot


 Closed Depression

 Gravel Pit


 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole


 Slide or Slip

 Sodic Spot


 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Robeson County, North Carolina
Survey Area Data: Version 22, Sep 13, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 17, 2022—May 20, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Jo	Johns sandy loam	19.3	76.9%
LaB	Lakeland sand, 0 to 6 percent slopes	1.0	4.0%
Lu	Lumbee sandy loam	4.8	19.1%
Totals for Area of Interest		25.1	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the

Custom Soil Resource Report

development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Robeson County, North Carolina

Jo—Johns sandy loam

Map Unit Setting

National map unit symbol: 3vf7
Elevation: 80 to 330 feet
Mean annual precipitation: 38 to 55 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 210 to 265 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Johns and similar soils: 85 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Johns

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy alluvium over sandy alluvium

Typical profile

Ap - 0 to 8 inches: fine sandy loam
E - 8 to 15 inches: fine sandy loam
Bt - 15 to 32 inches: sandy clay loam
2Cg - 32 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C
Ecological site: F153AY040NC - Moist Loamy Rises and Flats
Hydric soil rating: No

Minor Components

Lumbee, undrained

Percent of map unit: 5 percent

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Landform: Backswamps on stream terraces
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: F153AY060NC - Wet Loamy Flats and Depressions
Hydric soil rating: Yes

LaB—Lakeland sand, 0 to 6 percent slopes

Map Unit Setting

National map unit symbol: 3vfb
Elevation: 80 to 330 feet
Mean annual precipitation: 38 to 55 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 210 to 265 days
Farmland classification: Not prime farmland

Map Unit Composition

Lakeland and similar soils: 80 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lakeland

Setting

Landform: Ridges on marine terraces
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy marine deposits and/or eolian sands

Typical profile

A - 0 to 6 inches: sand
C1 - 6 to 48 inches: sand
C2 - 48 to 80 inches: sand

Properties and qualities

Slope: 0 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s

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Hydrologic Soil Group: A
Ecological site: F153AY010NC - Dry Sands
Hydric soil rating: No

Minor Components

Leon

Percent of map unit: 5 percent
Landform: Flats on marine terraces
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: F153AY070NC - Wet Spodosol Flats and Depressions
Hydric soil rating: Yes

Lu—Lumbee sandy loam

Map Unit Setting

National map unit symbol: 3vfc
Elevation: 80 to 330 feet
Mean annual precipitation: 38 to 55 inches
Mean annual air temperature: 59 to 70 degrees F
Frost-free period: 210 to 265 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Lumbee, drained, and similar soils: 85 percent
Lumbee, undrained, and similar soils: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lumbee, Drained

Setting

Landform: Backswamps on stream terraces
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy alluvium over sandy alluvium

Typical profile

Ap - 0 to 6 inches: sandy loam
E - 6 to 14 inches: sandy loam
Btg - 14 to 36 inches: sandy clay loam
2Cg - 36 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)

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Depth to water table: About 0 to 12 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Ecological site: F153AY060NC - Wet Loamy Flats and Depressions
Hydric soil rating: Yes

Description of Lumbee, Undrained

Setting

Landform: Backswamps on stream terraces
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy alluvium over sandy alluvium

Typical profile

Ap - 0 to 6 inches: sandy loam
E - 6 to 14 inches: sandy loam
Btg - 14 to 36 inches: sandy clay loam
2Cg - 36 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Rare
Frequency of ponding: Occasional
Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: B/D
Ecological site: F153AY060NC - Wet Loamy Flats and Depressions
Hydric soil rating: Yes

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Building Site Development

Building site development interpretations are designed to be used as tools for evaluating soil suitability and identifying soil limitations for various construction purposes. As part of the interpretation process, the rating applies to each soil in its described condition and does not consider present land use. Example interpretations can include corrosion of concrete and steel, shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping.

Shallow Excavations (West Lumberton Flood Gate)

ENG - Engineering

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately

Custom Soil Resource Report

favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

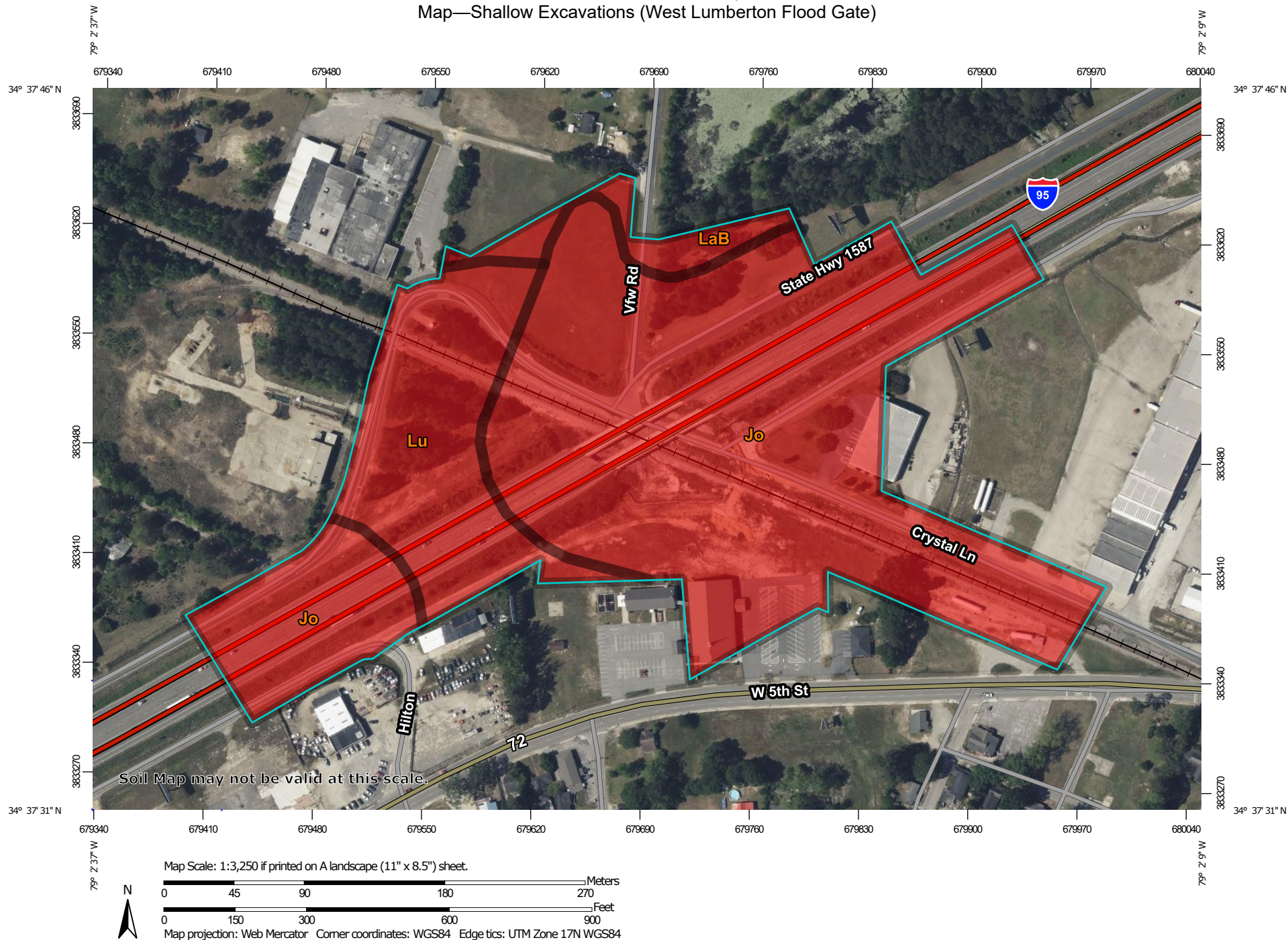
Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Custom Soil Resource Report


Map—Shallow Excavations (West Lumberton Flood Gate)




Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)





 Area of Interest (AOI)

Background





 Aerial Photography

Soils





Soil Rating Polygons

-  Very limited
-  Somewhat limited
-  Not limited
-  Not rated or not available


Soil Rating Lines

-  Very limited
-  Somewhat limited
-  Not limited
-  Not rated or not available




Soil Rating Points

-  Very limited
-  Somewhat limited
-  Not limited
-  Not rated or not available

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Robeson County, North Carolina
Survey Area Data: Version 22, Sep 13, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 17, 2022—May 20, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Custom Soil Resource Report

Tables—Shallow Excavations (West Lumberton Flood Gate)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI		
Jo	Johns sandy loam	Very limited	Johns (85%)	Depth to saturated zone (1.00)	19.3	76.9%		
				Dusty (0.01)				
				Unstable excavation walls (0.01)				
			Lumbee, undrained (5%)	Ponding (1.00)				
				Depth to saturated zone (1.00)				
				Dusty (0.02)				
				Unstable excavation walls (0.01)				
LaB	Lakeland sand, 0 to 6 percent slopes	Very limited	Lakeland (80%)	Unstable excavation walls (1.00)	1.0	4.0%		
			Leon (5%)	Depth to saturated zone (1.00)			Unstable excavation walls (1.00)	
Lu	Lumbee sandy loam	Very limited	Lumbee, drained (85%)	Depth to saturated zone (1.00)	4.8	19.1%		
				Dusty (0.02)				
				Unstable excavation walls (0.01)				
			Lumbee, undrained (15%)	Ponding (1.00)				
				Depth to saturated zone (1.00)				
				Dusty (0.02)				
				Unstable excavation walls (0.01)				
Totals for Area of Interest					25.1	100.0%		

Rating	Acres in AOI	Percent of AOI
Very limited	25.1	100.0%
Totals for Area of Interest	25.1	100.0%

Rating Options—Shallow Excavations (West Lumberton Flood Gate)

Aggregation Method: Dominant Condition

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Condition" first groups like attribute values for the components in a map unit. For each group, percent composition is set to the sum of the percent composition of all components participating in that group. These groups now represent "conditions" rather than components. The attribute value associated with the group with the highest cumulative percent composition is returned. If more than one group shares the highest cumulative percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break" rule indicates whether the lower or higher group value should be returned in the case of a percent composition tie. The result returned by this aggregation method represents the dominant condition throughout the map unit only when no tie has occurred.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule: Higher

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

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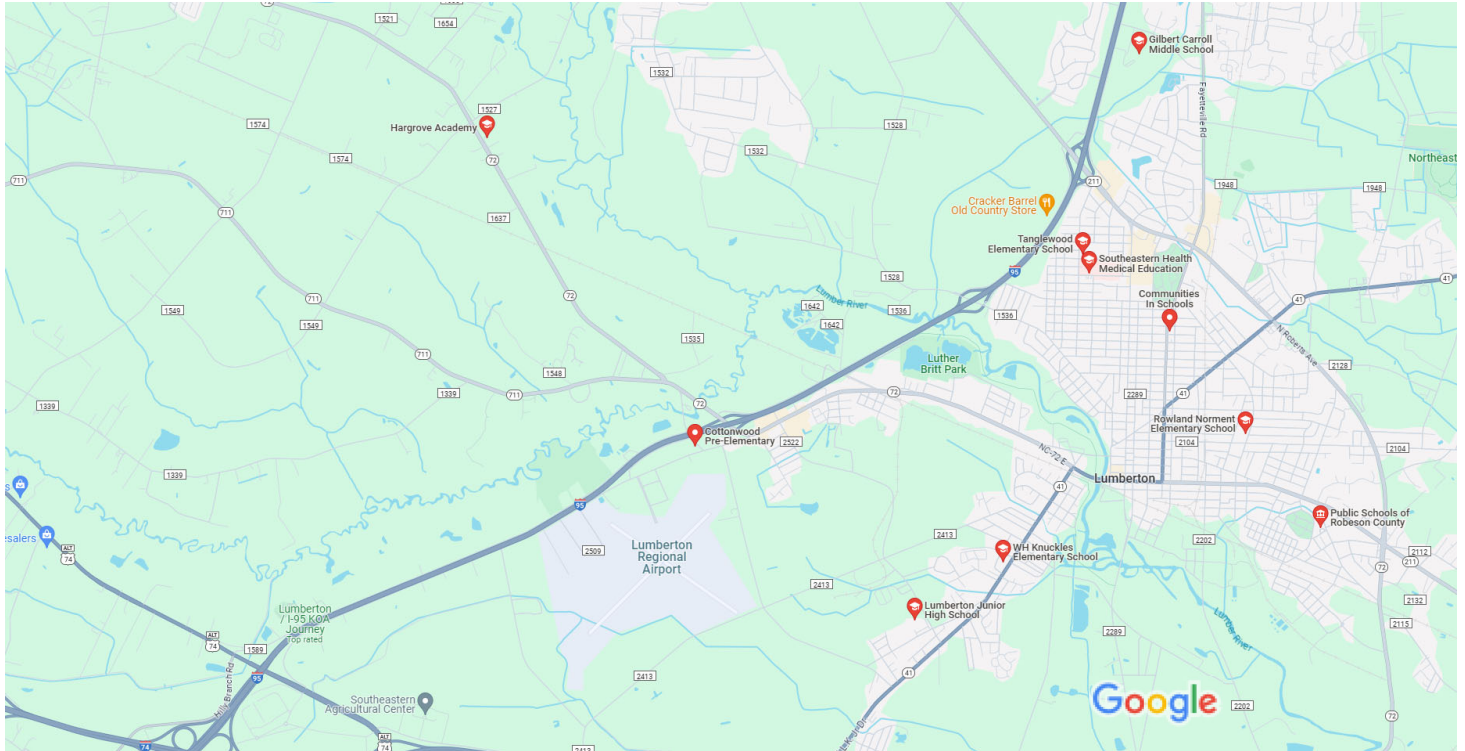
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Appendix Q:

Educational and Cultural Facilities



Map data ©2023 2000 ft

Rating ▼

✓ Open now ▼

⌵ All filters

Results ⓘ

W.H. Knuckles Elementary School

5.0 ★★★★★ (3)

Elementary school · 1520 M.L.K. Jr Dr

Open · Closes 5 PM · (910) 671-6020



Website



Directions

Tanglewood Elementary School

5.0 ★★★★★ (3)

Elementary school · 400 W 29th St

Open · Closes 4 PM · (910) 671-6035



Website



Directions

Lumberton Junior High School

3.8 ★★★★★ (6)

Middle school · 82 Marion Rd

Open · Closes 4 PM · (910) 735-2108



Website



Directions

Hargrove Academy

No reviews

Educational institution · 532 Edward Cir

Open · Closes 4 PM · (910) 352-4529



Website



Directions

Rowland Norment Elementary School

3.7 ★★★★★ (3)

Elementary school · 701 Godwin Ave

Open · Closes 4 PM · (910) 671-6030



Website



Directions

Gilbert Carroll Middle School

4.0 ★★★★★ (7)

Middle school · 300 Bailey Rd

Open · Closes 3 PM · (910) 671-6098



Website



Directions

PSRC Early College High School at RCC

5.0 ★★★★★ (1)

High school · 5170 Fayetteville Rd

Open · Closes 4 PM · (910) 737-5232



Website



Directions

Deep Branch Elementary School

5.0 ★★★★★ (1)

Elementary school · 4045 Deep Branch Rd

Open · Closes 3 PM · (910) 738-2514



Website



Directions

Cottonwood Pre-Elementary

2.3 ★★★★★ (3)

Day care center · 505 Cottonwood St

Open · Closes 5:30 PM · (910) 618-1300



Website



Directions

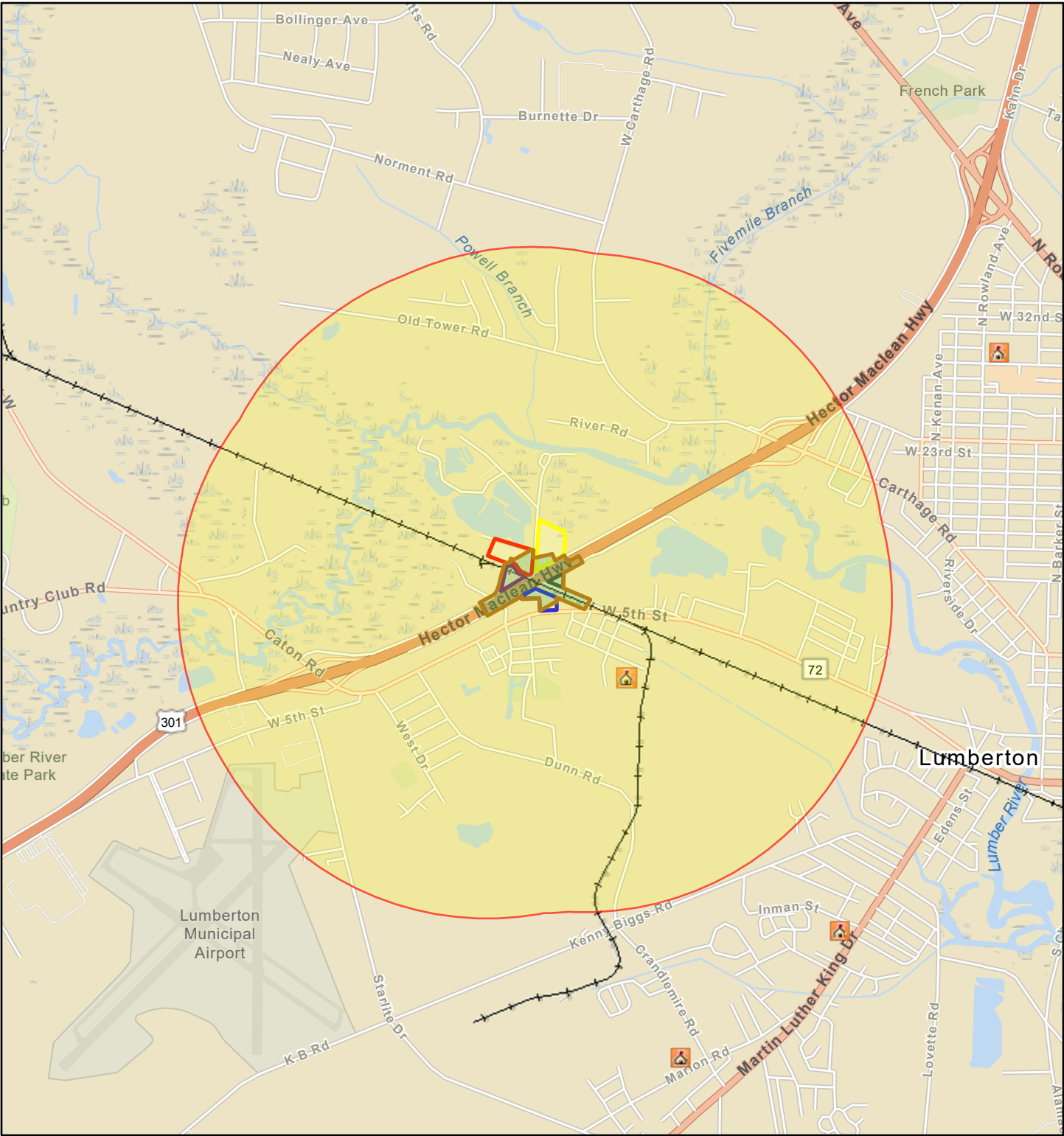
Communities In Schools

No reviews



Social services organization 0006

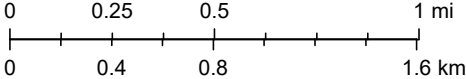
West Lumberton Flood Gate - Schools within 1-mile Buffer



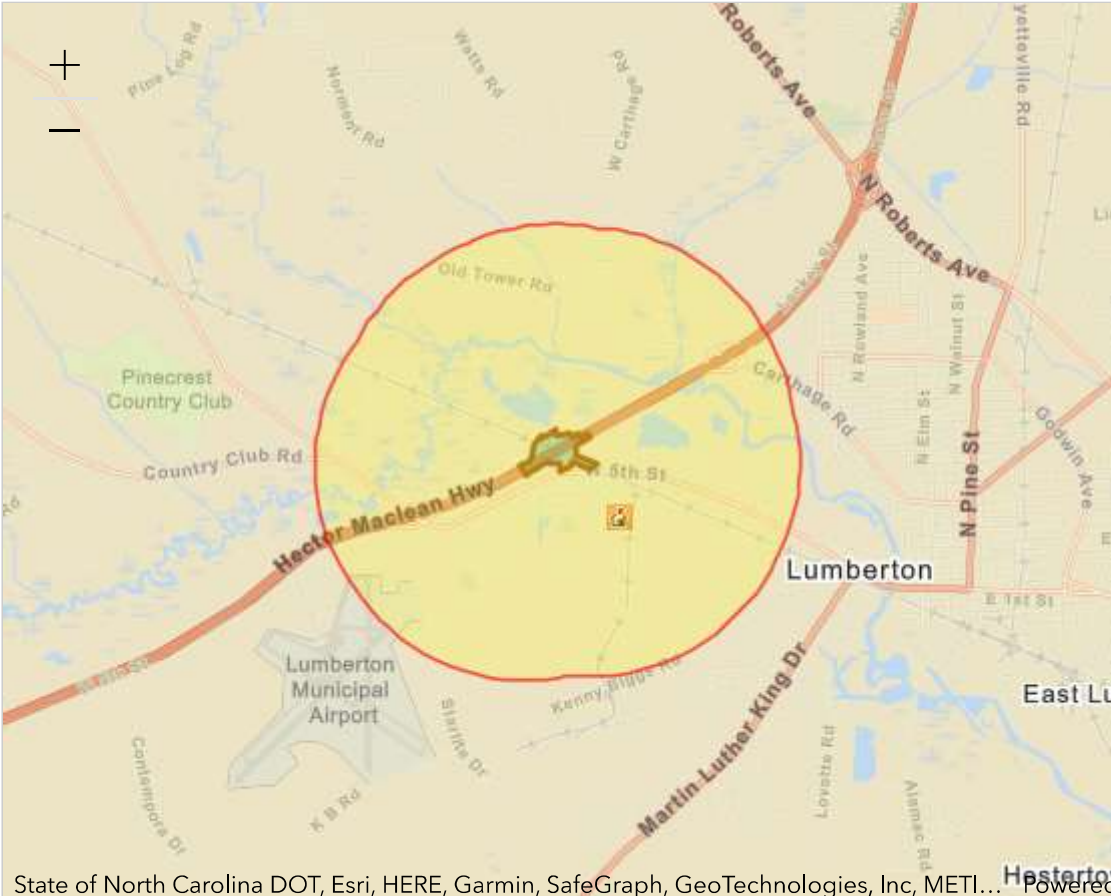
December 1, 2023

1:36,112

- Project Buffer
- WLFG Project Action Area
- 550 VFW Rd #938189443052
- 2306 W 5th St #938189201500
- 2400 Cox Rd #938179684407
- 2460 Cox Rd #938179143700
- VFW & Hackett #938280300700
- Schools
- Railroads



State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, EPA OEI, EPA OEI, OFA



State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI... Powered by Esri (<http://www.esri.com/>)

Report question: *Within 1 mile of a school?* **yes**

Modify question by entering a new buffer distance and unit for the selected study area:

1

miles

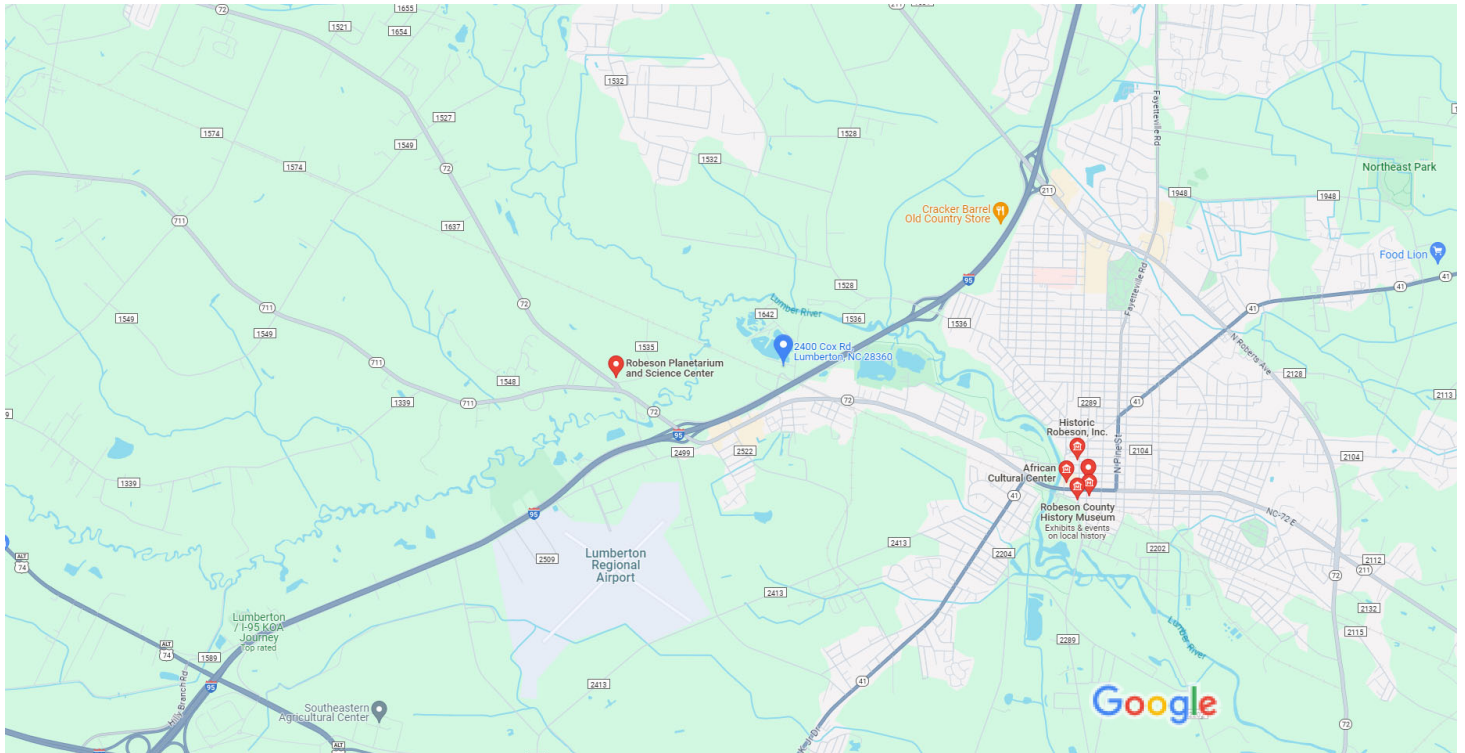
▼

Submit

Features within Study Area

Features found: 1

Name	Distance
<input type="checkbox"/> West Lumberton Elementary School	0.27 mile
FEATURE_ID: 1006787	
FEATURE_NAME: West Lumberton Elementary School	
FEATURE_CLASS: School	
STATE_ALPHA: NC	
STATE_NUMERIC: 37	
COUNTY_NAME: Robeson	
COUNTY_NUMERIC: 155	
PRIMARY_LAT_DMS: 343723N	
PRIM_LONG_DMS: 0790204W	
PRIM_LAT_DEC: 34.6229419	
PRIM_LONG_DEC: -79.0344767	
SOURCE_LAT_DMS:	
SOURCE_LONG_DMS:	
SOURCE_LAT_DEC:	
SOURCE_LONG_DEC:	
ELEV_IN_M: 36	
ELEV_IN_FT: 118	
MAP_NAME: Southwest Lumberton	
DATE_CREATED: 08/01/1989	
DATE_EDITED:	



Map data ©2023 2000 ft

Rating ▼

Hours ▼

⌵ All filters

Results ⓘ

Robeson County History Museum

4.7 ★★★★★ (18)

Museum · 101 S Elm St

Exhibits & events on local history

Closes soon · 12 PM · Opens 2 PM Sun

👤 "Combine all museums in one building;"



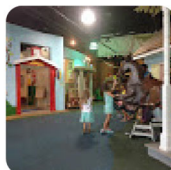
Exploration Station

4.7 ★★★★★ (110)

Children's museum · 104 N Chestnut St

Children's museum with hands-on exhibits

Open · Closes 5 PM



African Cultural Center

4.2 ★★★★★ (16)

Museum · 123 W 3rd St



Historic Robeson, Inc.

No reviews

Museum · 515 N Elm St



Robeson Planetarium and Science Center

3.0 ★★★★★ (2)

Planetarium · 210 E 2nd St

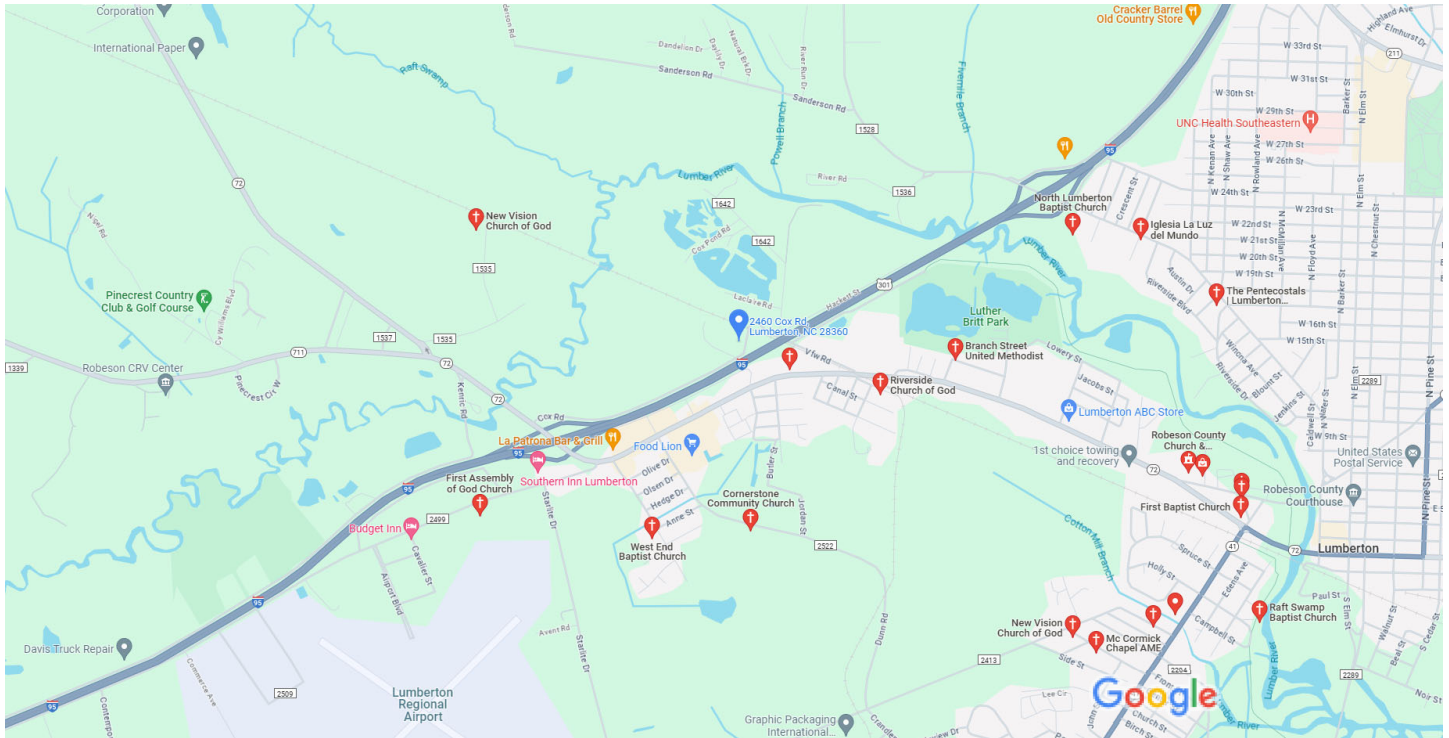



Inner Peace Center for the Arts

No reviews

· 302 N Chestnut St





Map data ©2023 1000 ft 

Rating ▼

Hours ▼

☰ All filters

Results

The Pentecostals | Lumberton, North Carolina

4.8 ★★★★★ (24)

Pentecostal church · 1011 Carthage Rd

Open · Closes 4 PM



Riverside Church of God

5.0 ★★★★★ (2)

Church · 8 Taylor St



First Baptist Church

4.6 ★★★★★ (10)

Baptist church · 504 W 2nd St



Smith Chapel Bible Church-God

5.0 ★★★★★ (3)

Church · 380 W 5th St



North Lumberton Baptist Church

3.0 ★★★★★ (3)

Baptist church · 1901 Carthage Rd



West End Baptist Church

5.0 ★★★★★ (1)

Baptist church · 504 West Dr



First Baptist Church

No reviews

Baptist church · 301 Lincoln St



New Vision Church of God

No reviews

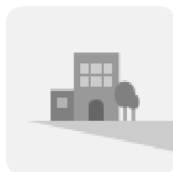
Church · 75 Biggs Rd



Raft Swamp Baptist Church

5.0 ★★★★★ (2)

Baptist church · Old Red Springs Rd



First Assembly of God Church

5.0 ★★★★★ (1)

Church · 3201 W 5th St



New Vision Church of God

No reviews

Church · 519 Planetarium Rd



Cornerstone Community Church

4.9 ★★★★★ (12)

Church · 702 Dunn Rd

Closed · Opens 10 AM Sun



West Lumberton Baptist Church

4.3 ★★★★★ (12)

Baptist church · 2320 W 5th St

Closed · Opens 9:30 AM Sun



The Rhema Nation Church

5.0 ★★★★★ (1)

Religious institution · 900 M.L.K. Jr Dr



Mt Sinai Holiness Church

5.0 ★★★★★ (3)

Church · 117 Page St



Branch Street United Methodist

5.0 ★★★★★ (1)

Methodist church · Case St



Mc Cormick Chapel AME

4.8 ★★★★★ (12)

Methodist church · 215 Main St



Iglesia La Luz del Mundo

5.0 ★★★★★ (5)

Christian church · 1405 Carthage Rd



Robeson County Church & Community Center

4.6 ★★★★★ (125)

Community center · 600 W 5th St

Open · Closes 4 PM



Robeson County Church & Community Home Store

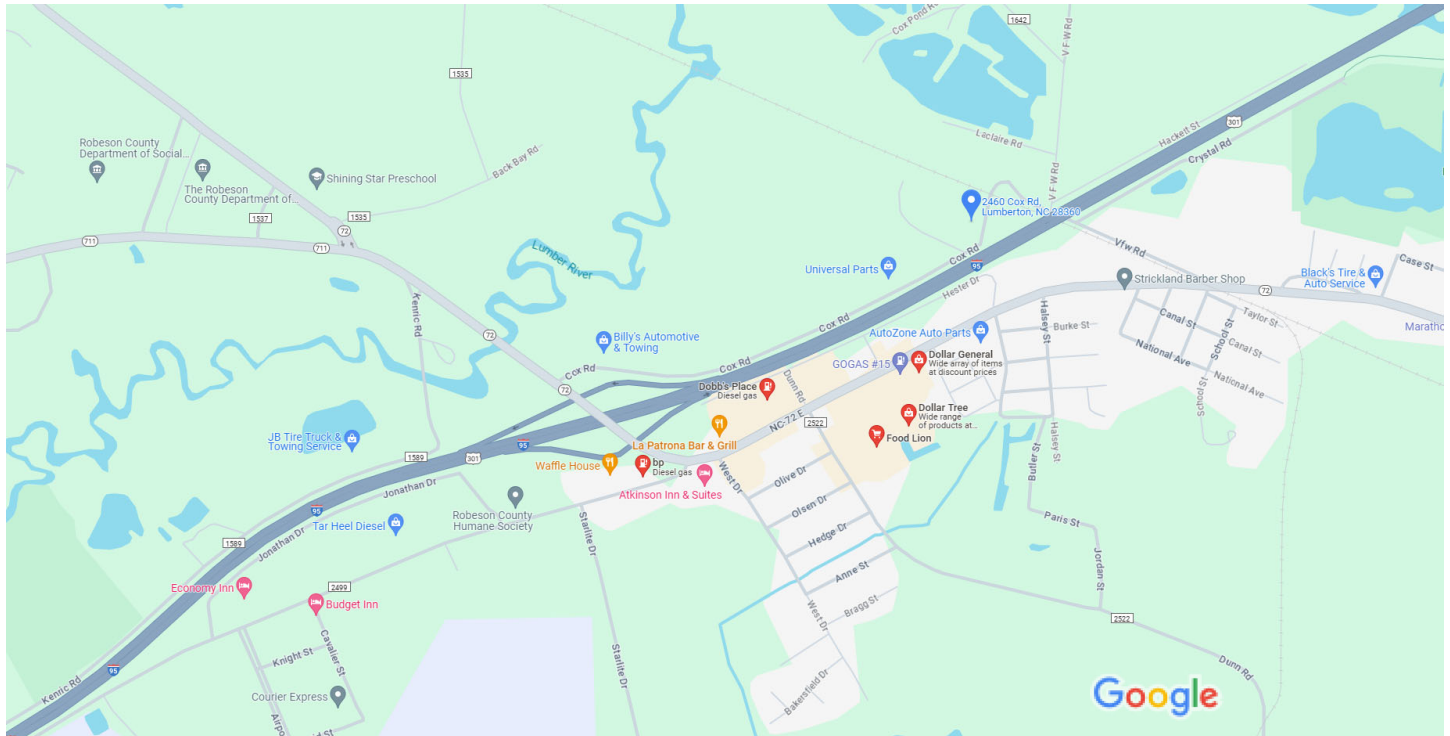
4.4 ★★★★★ (37)

Thrift store · 500 W 5th St



Appendix R:

Commercial Facilities



Map data ©2023 500 ft

Rating ▼

Hours ▼

☰ All filters

Results ⓘ

Food Lion

4.4 ★★★★★ (495) · \$\$

Grocery store · 2779 W 5th St

Open · Closes 10 PM · (910) 739-8130

In-store shopping · Curbside pickup



Dollar Tree

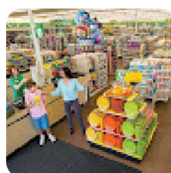
3.9 ★★★★★ (26) · \$

Grocery store · 2741 W 5th St

Wide range of products at bargain prices

Open · Closes 9 PM · (910) 887-6404

In-store shopping · In-store pickup



Dollar General

4.2 ★★★★★ (146) · \$

Dollar store · 2601 W 5th St

Wide array of items at discount prices

Open · Closes 9 PM · (910) 785-6210



👤 "Great value and convenience"

bp

2.8 ★★★★★ (16)

Gas station · 3080 W 5th St

Open · Closes 9 PM · (910) 739-2220



Dobb's Place

3.5 ★★★★★ (49)

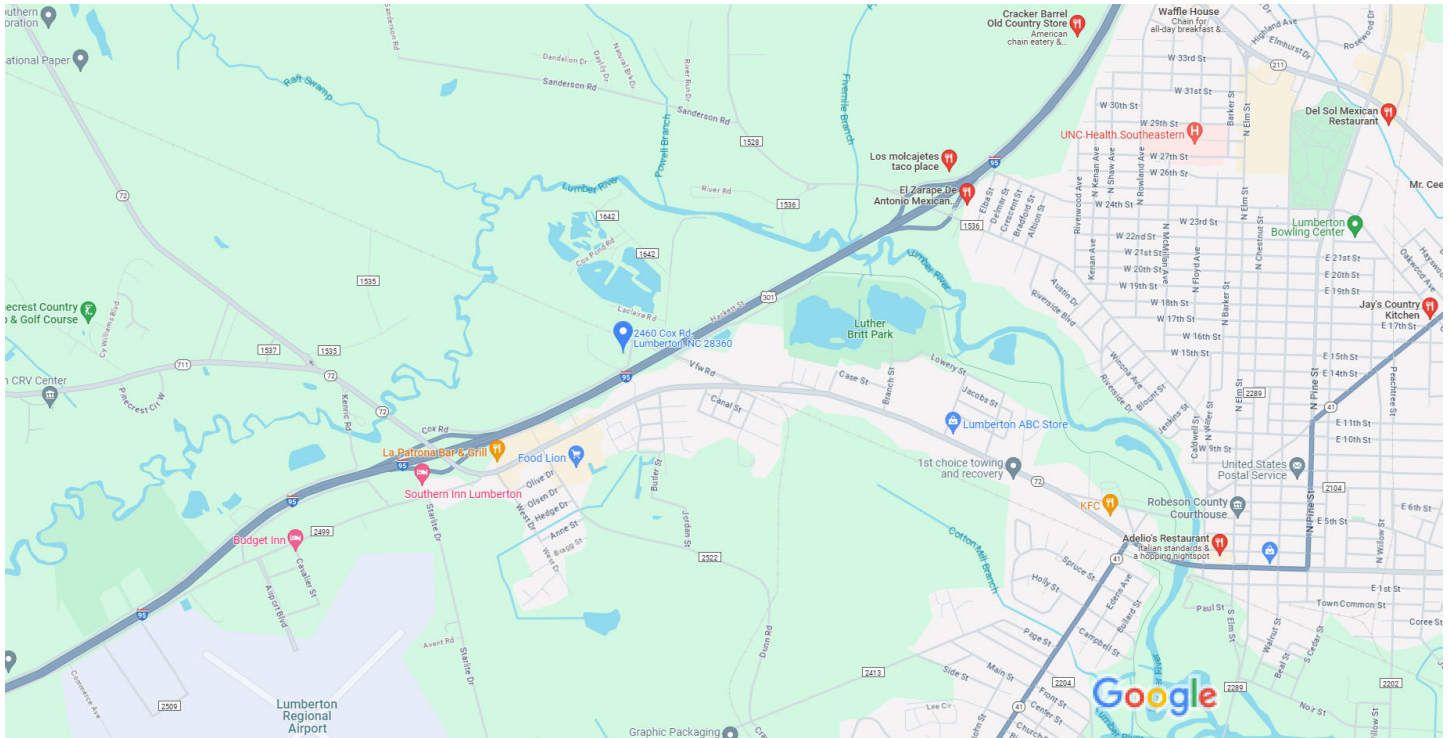
Gas station · 2806 W 5th St

Open 24 hours · (910) 738-8882



👤 "Staff really nice inside store only 1 problem locals come ..."

You've reached the end of the list.



Map data ©2023 1000 ft 

Price ▼

Rating ▼

Cuisine ▼

Hours ▼



Results

San Jose Mexican Restaurant

4.3 ★★★★★ (1,158) · \$

Mexican · 3027 N Roberts Ave

Familiar dishes & fresh guacamole

Open · Closes 9 PM

Dine-in · Takeout · No delivery



CHECK WAIT TIME

Zeno's Italian Restaurant

4.2 ★★★★★ (474) · \$\$

Italian · 1925 N Roberts Ave

Open · Closes 9 PM

Dine-in · Curbside pickup · Delivery



Adelio's Restaurant

4.2 ★★★★★ (597) · \$\$

Italian · 111 W 3rd St

Italian standards & a hopping nightspot

Open · Closes 2 PM · Reopens 5 PM

Dine-in · Takeout



RESERVE A TABLE

ORDER ONLINE

Cracker Barrel Old Country Store

4.2 ★★★★★ (3,313) · \$\$

American · 3375 Lackey St

American chain eatery & general store

Open · Closes 9 PM

Dine-in · Drive-through · No-contact delivery



ORDER ONLINE

Arnold's Restaurant

4.4 ★★★★★ (1,064) · \$\$

American · 2725 N Roberts Ave

Open · Closes 10 PM

Dine-in · Takeout · Delivery



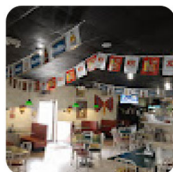
El Zarape De Antonio Mexican Restaurant

4.5 ★★★★★ (741) · \$

Mexican · 2310 Capuano St

Open · Closes 10 PM

Dine-in · Takeout · No delivery



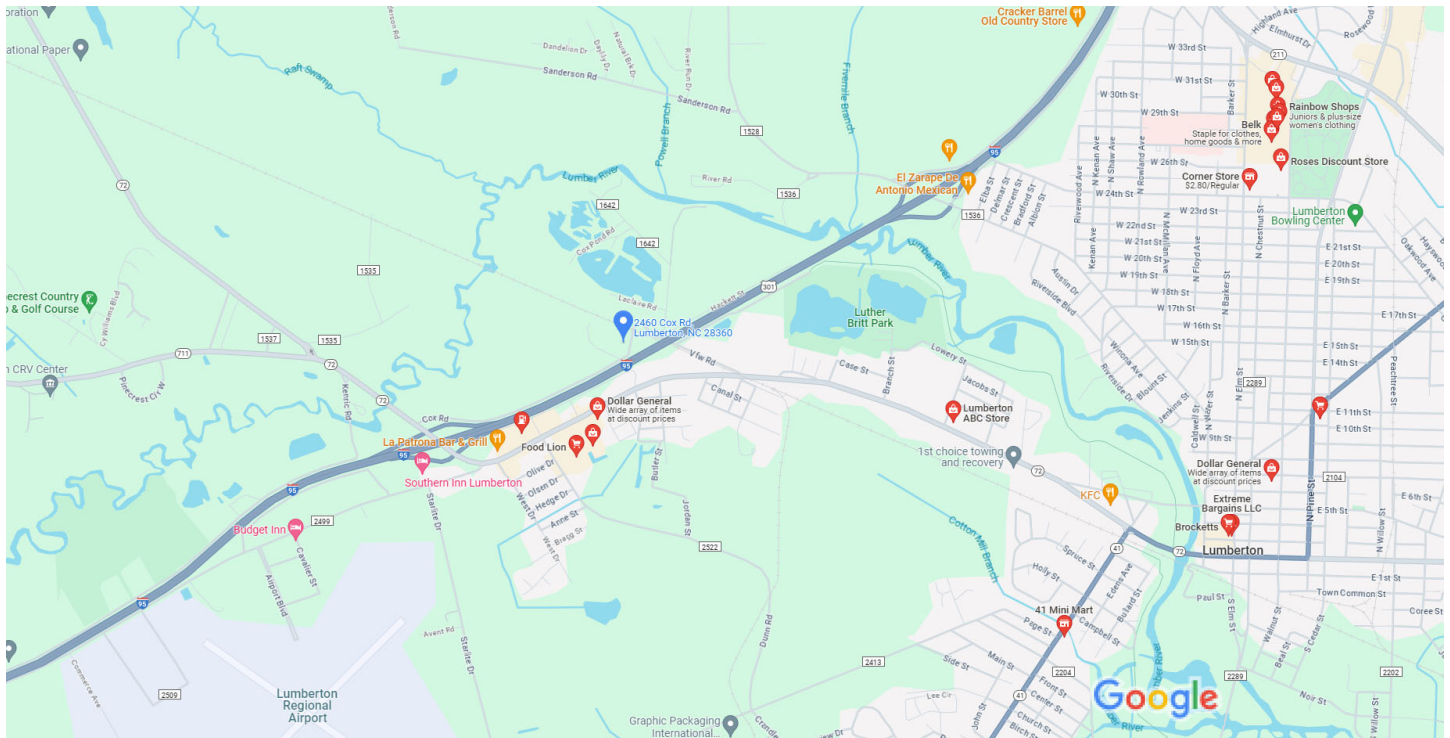
CHECK WAIT TIME

Del Sol Mexican Restaurant

4.1 ★★★★★ (466) · \$

Mexican · 2177 N Roberts Ave





Map data ©2023 1000 ft

Hours ▼

🔍 All filters

Results ⓘ

Corner Store

4.8 ★★★★★ (12)

Convenience store · 2402 N Elm St

Open · Closes 11 PM · (910) 738-9496

🛒 \$2.80/Regular



Directions

Dollar General

4.2 ★★★★★ (122) · \$

Dollar store · 206 7th St

Wide array of items at discount prices

Open · Closes 10 PM ·

(910) 370-1928



Website



Directions

In-store shopping · In-store pickup · Delivery

Dollar General

4.2 ★★★★★ (146) · \$

Dollar store · 2601 W 5th St

Wide array of items at discount prices

Open · Closes 9 PM · (910) 785-6210

In-store shopping · In-store pickup · Delivery



Website



Directions

Food Lion

4.4 ★★★★★ (495) · \$\$

Grocery store · 2779 W 5th St

Open · Closes 10 PM ·

(910) 739-8130

In-store shopping · Curbside pickup



Website



Directions

Brocketts

5.0 ★★★★★ (24)

Grocery store · 301 N Elm St

Open · Closes 6 PM · (910) 739-9515

In-store shopping



Directions

Extreme Bargains LLC

4.6 ★★★★★ (34)

Discount store · 301 N Elm St

Open · Closes 5 PM · (910) 739-9515

In-store shopping



Website



Directions

Roses Discount Store

4.2 ★★★★★ (1,018)

Discount store · 203 E 24th St

Open · Closes 8 PM · (910) 739-8341

In-store shopping



Website



Directions

Bo's Supermarket

4.1 ★★★★★ (7)

Grocery store · 301 N Pine St

Open now · (910) 739-5137

In-store shopping



Website



Directions

Tomlinson's Lumberton

4.3 ★★★★★ (84)

Department store · 2800 N Elm St # 14

Open · Closes 6 PM · (910) 618-9143

In-store shopping



Website



Directions

Dollar Tree

3.9 ★★★★★ (26) · \$

Dollar store · 2741 W 5th St

Wide range of products at bargain prices

Open · Closes 9 PM · (910) 887-6404

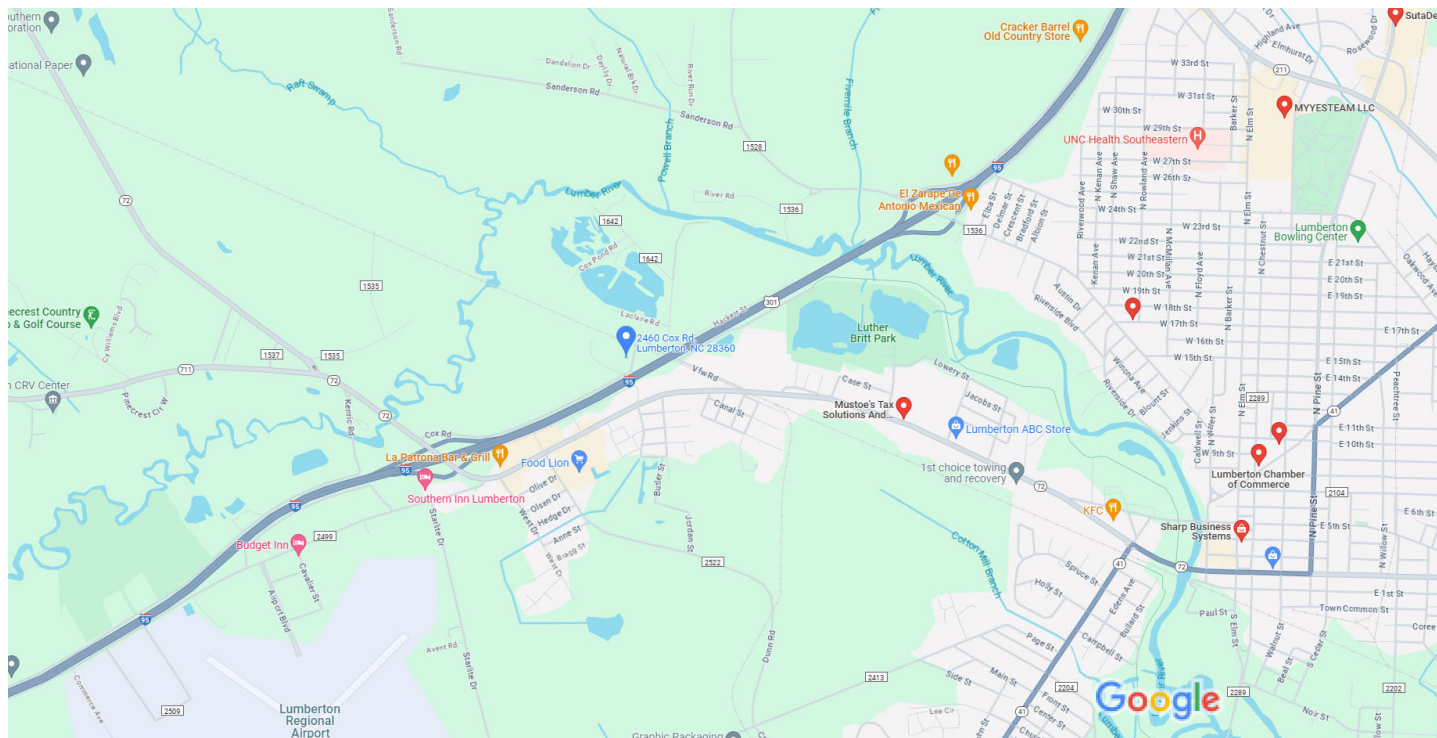
In-store shopping · In-store pickup



Website



Directions



Map data ©2023 1000 ft

Hours ▼

🔍 All filters

Results ⓘ

EGA Business & Planning Solutions

No reviews

Marketing consultant

(910) 501-1188



Website



Directions

Art pa's business

No reviews

Design engineer · 1104 Saxon Ave

Open · Closes 5 AM Fri ·

(910) 542-1940



Website



Directions

Magnolia Services LLC

No reviews

Business management consultant · 11276 US-301
(910) 272-9129



[Directions](#)

Lumberton Chamber of Commerce

3.4 ★★★★★ (5)

Chamber of Commerce · 800 N Chestnut St
(910) 739-4750



[Website](#)



[Directions](#)

Verizon Business Services

1.0 ★★★★★ (1)

Business to business service · 5040 Fayetteville Rd

Open · Closes 7 PM · (866) 644-4532

Onsite services · Online appointments



[Website](#)



[Directions](#)

MYEESTEAM LLC

No reviews

Business development service · 2914 N Elm St suite 1067

Open · Closes 5 PM · (910) 501-4789



[Directions](#)

CIDVER Corp

No reviews

Consultant · 4311 Ludgate St Suite B

Open · Closes 5:30 PM ·

(910) 536-1721



[Website](#)



[Directions](#)

SutaDesign

No reviews

Computer consultant · 3547 Fayetteville Rd

Open · Closes 8 PM · (910) 674-4707



[Directions](#)

Sharp Business Systems

No reviews

Office equipment supplier · 325 N Elm St

Open now · (704) 523-3333



[Website](#)



[Directions](#)

Michael Baker International

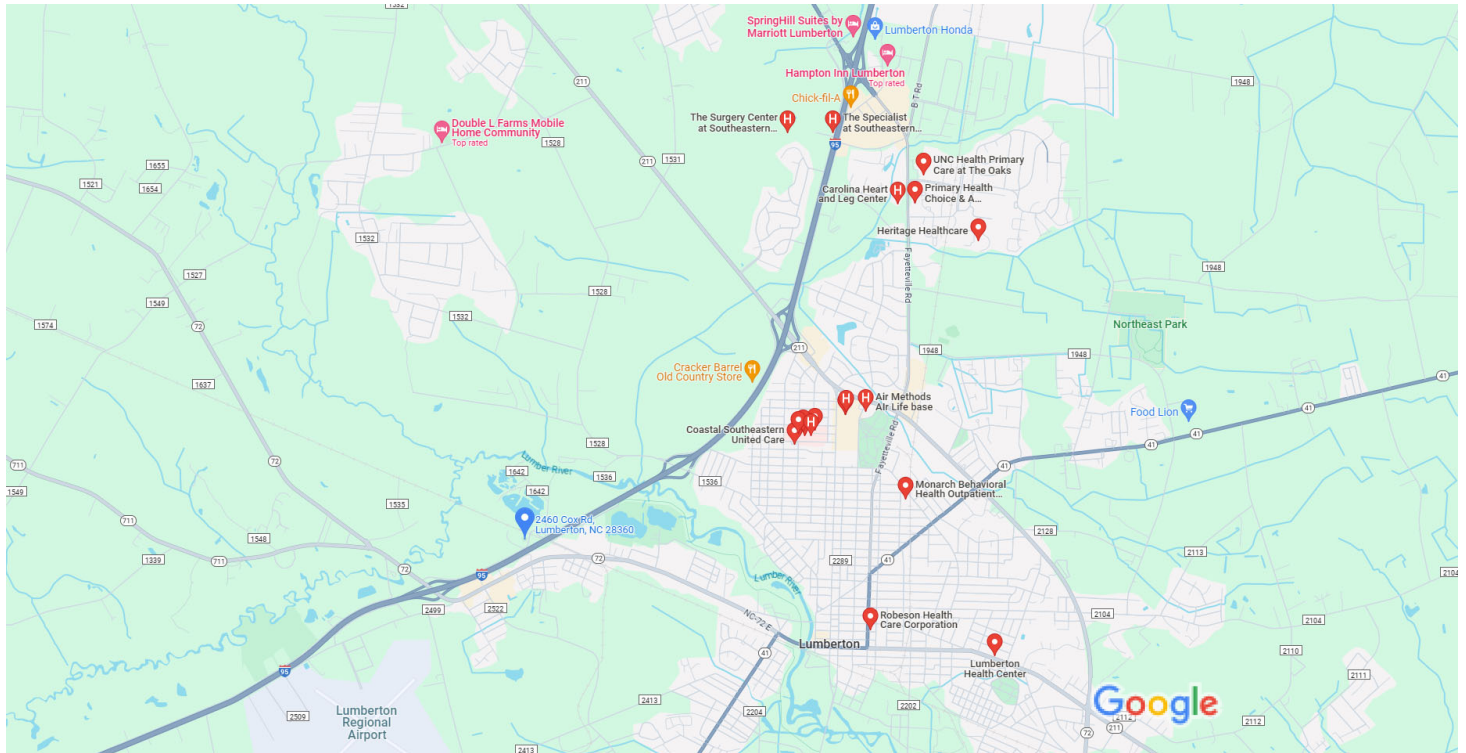
No reviews

Engineering consultant · 4321 Fayetteville Rd



Appendix S:

Health Care and Social Services



Map data ©2023 2000 ft

Rating ▼

Hours ▼

☰ All filters

Results ⓘ

UNC Health Southeastern

2.5 ★★☆☆ (228)

Hospital · 300 W 27th St

Open 24 hours · (910) 671-5000



Website



Directions

👤 "Cape Fear Hosp Hoke and Southern Hosp are good hospitals."

The Specialist at Southeastern Health Park

2.0 ★★☆☆ (1)

Hospital · 4901 Dawn Dr Ste 1200

(910) 343-0119



Directions

The Surgery Center at Southeastern Health Park

5.0 ★★★★★ (4)

Hospital · 4901 Dawn Dr

Open · Closes 5 PM · (910) 887-2361



Directions

"STAFF At Lumberton Hospital Surgical Department!"

Fresenius Medical Care at Southeastern Hospital

No reviews

Medical clinic · 300 W 27th St

(910) 671-5000



Website



Directions

UNC Health Southeastern: Emergency Room

2.1 ★★☆☆☆ (14)

Emergency room · 300 W 27th St

Open 24 hours · (910) 671-5000



Website



Directions

"This hospital and it's staff are top tier."

Southeastern Regional Medical Center: Cardiac Catheterization Services

No reviews

Medical clinic · 300 W 27th St

(910) 671-5255



Website



Directions

Carolina Heart and Leg Center

5.0 ★★★★★ (3)

Heart hospital · 4824 Fayetteville Rd

Closed · Opens 8 AM Mon ·

(910) 491-1760



Website



Directions

Everhart Cardiology

No reviews

Heart hospital · 2936 N Elm St

(910) 671-6619



Directions

UNC Health Southeastern Emergency Department

No reviews

Emergency room · 300 W 27th St

Open 24 hours



Website



Directions

Lumberton Health Center

4.2 ★★★★★ (19)

Medical clinic · 1309 E 5th St

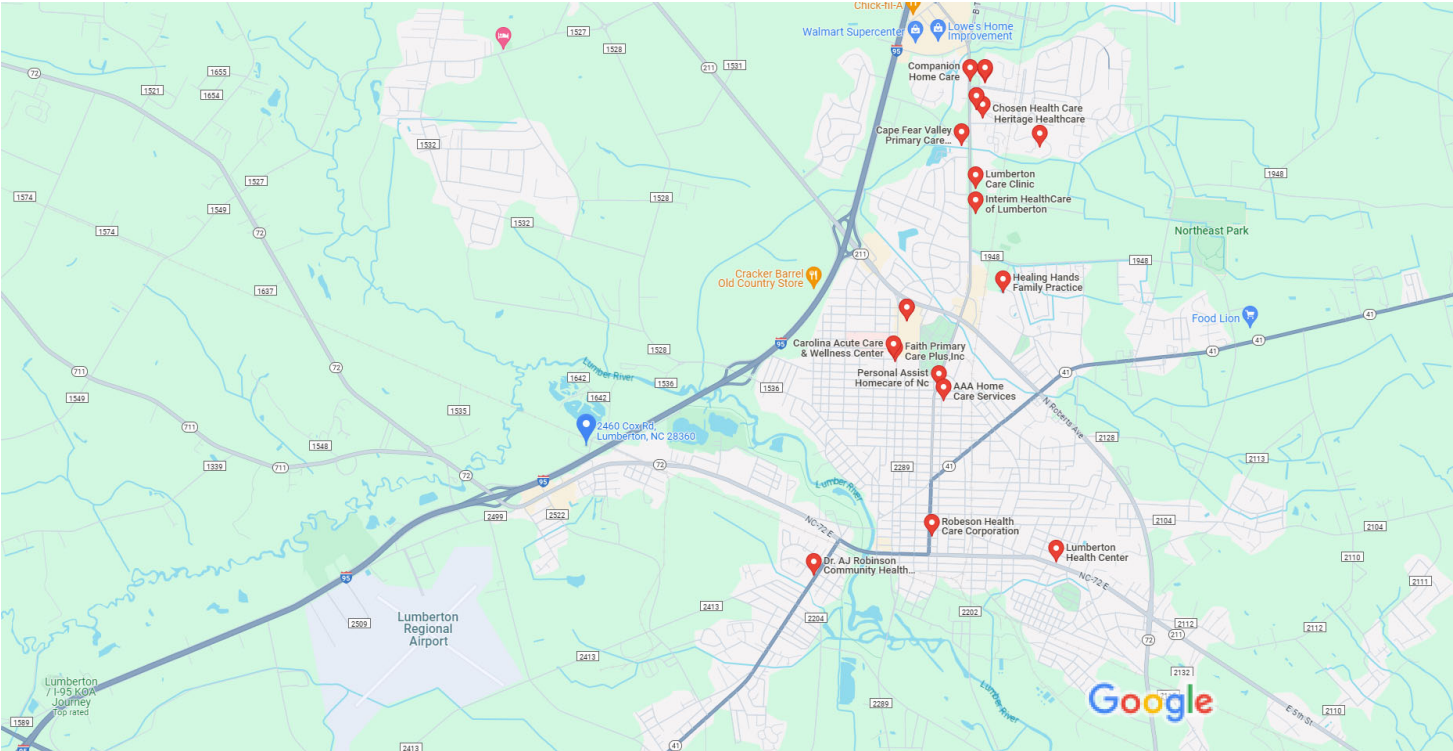
Open · Closes 5 PM · (910) 739-1666



Website



Directions



Map data ©2023 2000 ft

Rating ▼

Hours ▼

⌵ All filters

Results ⓘ

Robeson Health Care Corporation

3.5 ★★★★★ (10)

Medical clinic · 402 N Pine St

Open · Closes 5 PM · (910) 739-1666

Website

Directions

Lumberton Health Center

4.2 ★★★★★ (19)

Medical clinic · 1309 E 5th St

Open · Closes 5 PM · (910) 739-1666

Website

Directions

"There are a few doctors I don't care for but other then that this place ..."

Carolina Acute Care & Wellness Center

4.7 ★★★★★ (15)

Medical clinic · 2601 N Elm St A

Open · Closes 5 PM · (910) 236-2200



"The best overall care in town!"



Website



Directions

Rapha Healthcare Services

5.0 ★★★★★ (2)

Home health care service · 4701 N Fayetteville Rd

Open · Closes 5 PM



Directions

Faith Primary Care Plus, Inc

No reviews

Medical group · 2505 N Elm St

Open · Closes 5:30 PM · (910) 887-2053



Directions

Interim HealthCare of Lumberton

3.1 ★★★★★ (9)

Home health care service · 4145 Fayetteville Rd Suite C

Open 24 hours · (910) 738-1628



Website



Directions

Primary Health Choice & A Primary Choice, Inc.

3.7 ★★★★★ (3)

Mental health service · 4701 Fayetteville Rd

Open · Closes 5 PM · (910) 738-3939



Website



Directions

Southeastern Community Health Services

No reviews

Community health centre · 2934 N Elm St suite g

Open · Closes 5 PM · (910) 671-5595



Website



Directions

Cape Fear Valley Primary Care - Lumberton

4.5 ★★★★★ (13)

Medical clinic · 588 Bailey Rd



Website



Directions

Open · Closes 5 PM · (910) 739-8899

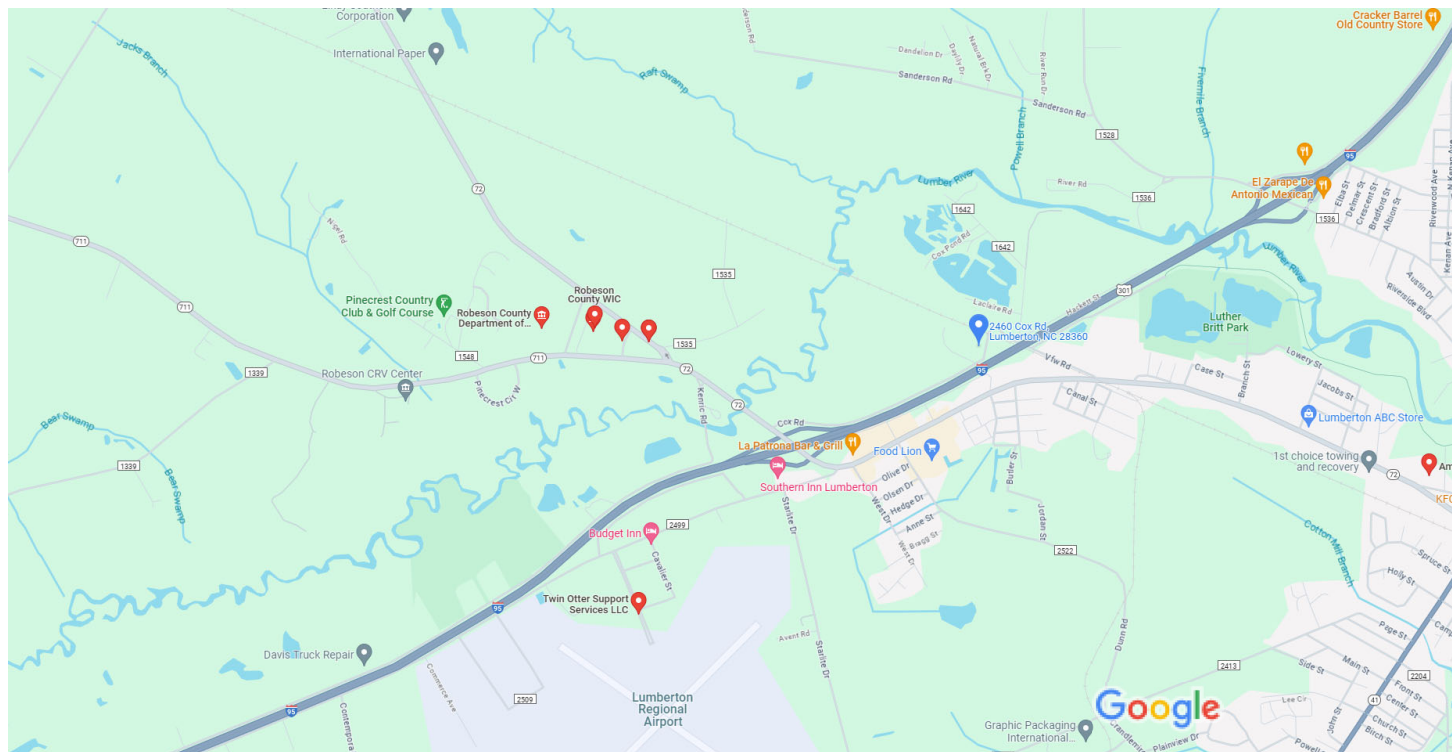
Heritage Healthcare

No reviews

Physical therapy clinic · 1000 Wesley Pines Rd
(910) 738-2674



Directions



Map data ©2023 1000 ft

Rating ▼

Hours ▼

☰ All filters

Results ⓘ

Robeson County Department of Social Services

1.6 ★★☆☆☆ (61)

Social services organization · 120

Glen Cowan Rd

Open · Closes 5 PM · (910) 671-3500



Website



Directions

Social Services-Child Support

No reviews

Social services organization · 435 Caton Rd

(910) 671-3510



Directions

Social Services-Food Stamps

3.2 ★★☆☆☆ (10)

Social services organization · 435 Caton Rd

[Open now](#) · (910) 671-3700



[Directions](#)

Social Services Dept-TANF

No reviews

County government office · 435 Caton Rd

(910) 671-3560



[Directions](#)

Twin Otter Support Services LLC

No reviews

Social services organization · 210 Airport Blvd

(910) 735-2605



[Directions](#)

Robeson County WIC

3.2 ★★☆☆☆ (33)

Social services organization · 460

Country Club Rd

[Open](#) · Closes 5:15 PM ·

(910) 671-3262



[Website](#)



[Directions](#)

American Red Cross

4.1 ★★★★★ (7)

Social services organization · 600 W

5th St

[Open](#) · Closes 5 PM · (910) 738-5057



[Website](#)



[Directions](#)

Nurse-Family Partnership

No reviews

Public health department · 460

Country Club Rd

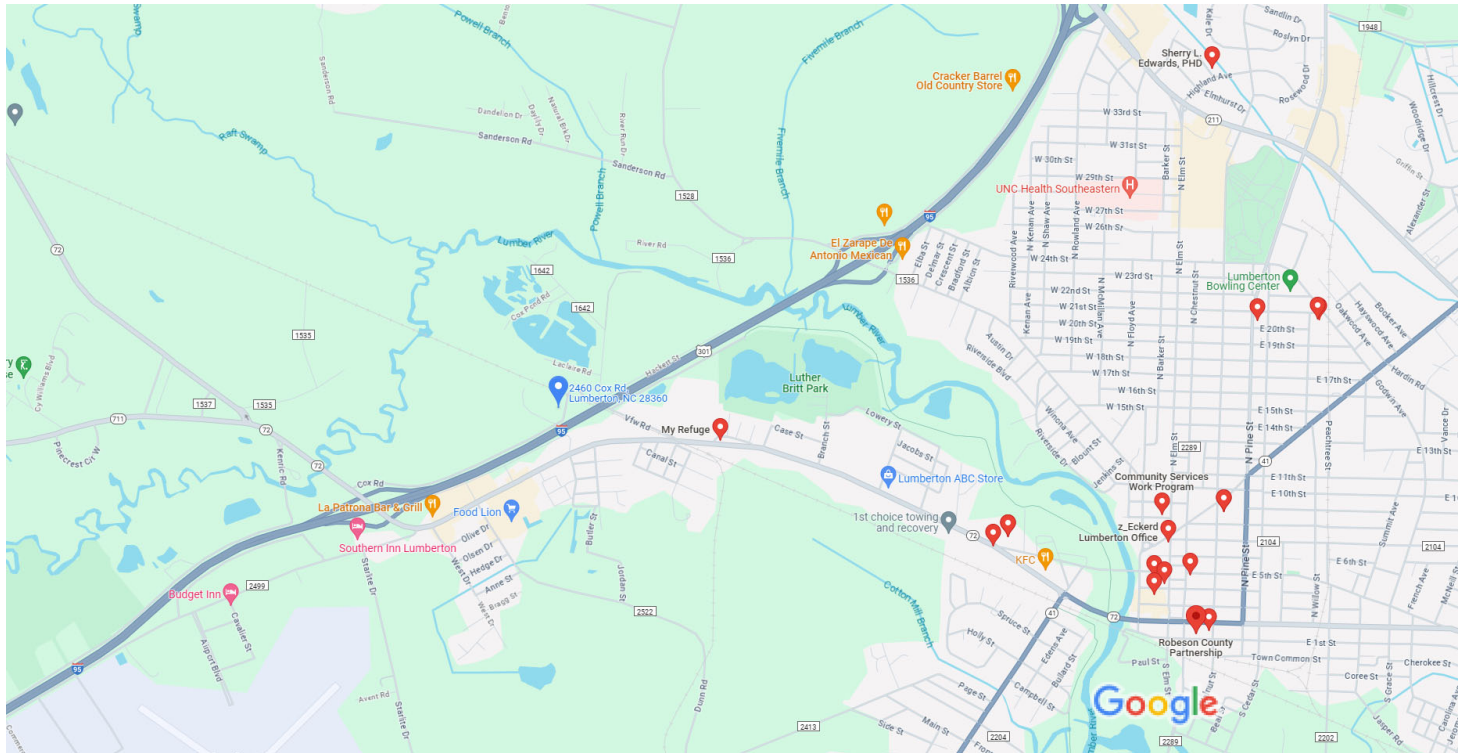
[Open](#) · Closes 5:15 PM ·



[Website](#)



[Directions](#)



Map data ©2023 1000 ft

Rating ▼

Hours ▼

☰ All filters

Results ⓘ

Community Services Work Program

5.0 ★★★★★ (1)

Social services organization · 108 W 8th St
(910) 618-5519



Directions

Robeson County Partnership

3.9 ★★★★★ (15)

Social services organization · 210 E
2nd St

Open · Closes 5 PM · (910) 738-6767



Website



Directions

Center For Community Action

2.7 ★★☆☆☆ (3)

Social services organization · 123 W 4th St
(910) 739-7851



[Directions](#)

z_Eckerd Lumberton Office

No reviews

Social services organization · 615 N
Elm St

Open · Closes 5 PM · (910) 738-4877



[Website](#)



[Directions](#)

NC Youth Violence Prevention Center

No reviews

Youth social services organization · 800 N
Walnut St

Open · Closes 5 PM · (910) 739-3064



[Directions](#)

Southeastern Community & Family Services, Inc

4.3 ★★★★★ (10)

Non-profit organization · 405 N Elm
St

Open · Closes 5 PM · (910) 277-3500



[Website](#)



[Directions](#)

Community Corrections

No reviews

Social services organization · 117 W 5th St
(910) 618-5523



[Directions](#)

American Red Cross

4.1 ★★★★★ (7)

Social services organization · 600 W
5th St

Open · Closes 5 PM · (910) 738-5057



[Website](#)



[Directions](#)

Amanda Holland

No reviews

Social worker · 800 N Walnut St
(833) 846-3463



[Directions](#)

Communities In Schools

No reviews



[Website](#)



[Directions](#)



Appendix T:

Parks, Open Space and Recreation

https://www.lumbertonnc.gov/Facilities?clear=True

AllReservable

Find A Facility

All selected


0 selected

Number of People

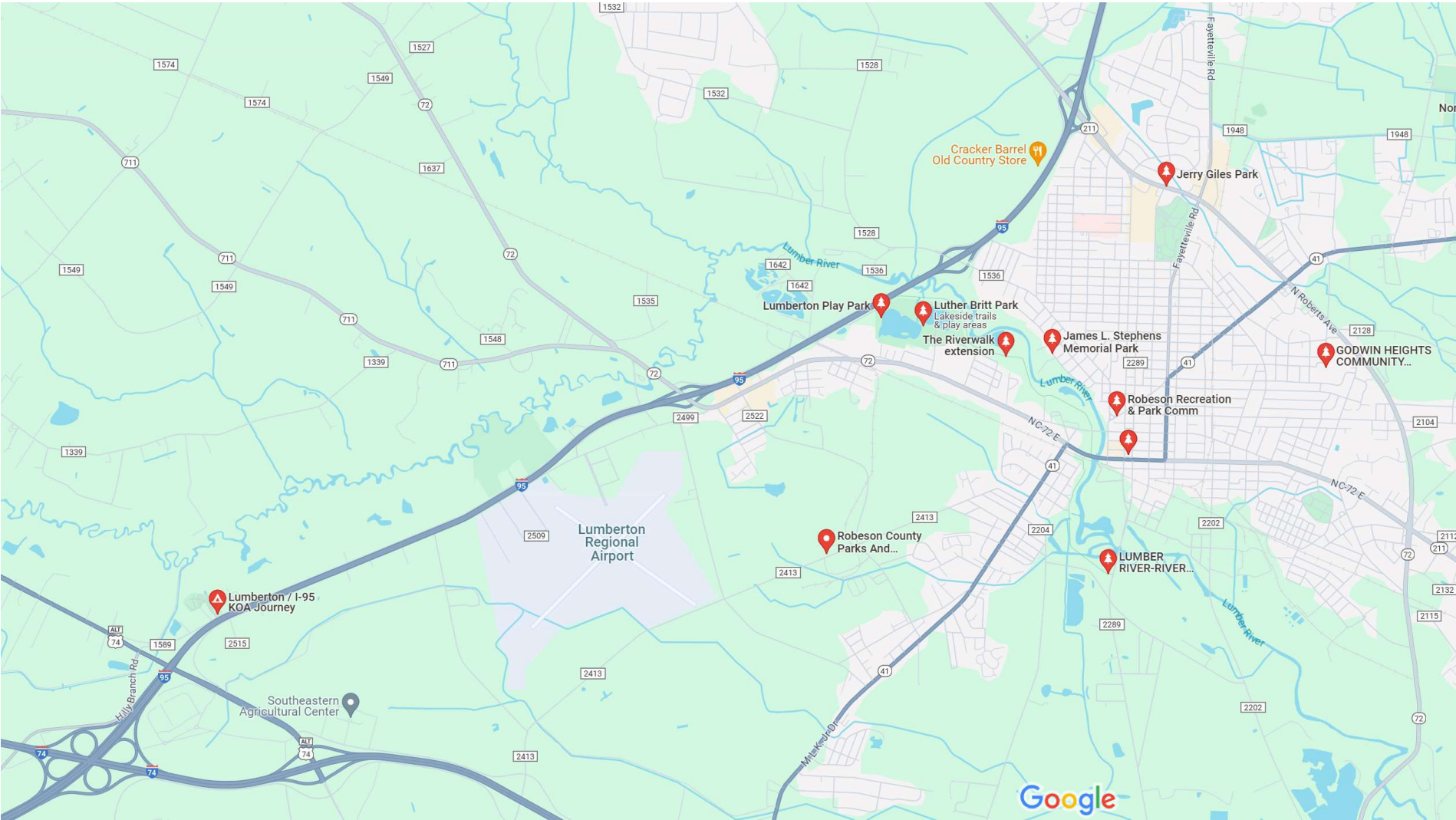
Keywords

Facilities

ListingMap



State of North Carolina DOT, Esri, HERE, Garmin, INCREMENT P, NGA, USGS



Rating ▼

Hours ▼

🔍 All filters

Results ⓘ

Northeast Park

4.5 ★★★★★ (402)

Park · 500 Hornets Rd



👤 "Nice park, multiple ball fields"

Luther Britt Park

4.4 ★★★★★ (715)

Park · 671 Branch St

Lakeside trails & play areas

Closed · Opens 8 AM Fri



👤 "Beautiful, relaxing park."

GODWIN HEIGHTS COMMUNITY PARK

4.3 ★★★★★ (83)

Park · 1110 Mimosa St



👤 "Great park to take the kids to."


Jerry Giles Park

4.0 ★★★★★ (157)

Park · 2300 N Walnut St

Closed · Opens 8 AM Fri



 "My kids like this park but it needs to be cleaner."

Lumberton Play Park

4.4 ★★★★★ (13)

Park · 671 Branch St

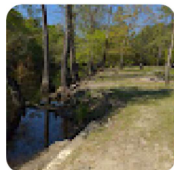



James L. Stephens Memorial Park

4.2 ★★★★★ (63)

Park · 716 Riverside Dr

Closed · Opens 8 AM Fri



 "Hackney would never have let this park run down like this."

Robeson Recreation & Park Comm

5.0 ★★★★★ (3)

Park · 108 W Elizabethtown Rd



Lumber River Paddling Guide



Put-in/Take-out



Camping



Park Office

0 4 8
MILES



Milage Chart

Start	Miles	End
15-501	9.4	SR 1414
SR 1414	7.8	US 401
US 401	2.4	SR 1404
SR 1404	7.4	SR 1310/1433
SR 1310	5.5	NC 71
NC 71	3.2	SR 1303
SR 1303	3	SR 1153-1339
SR 1153-1339	6.4	SR 1354
SR 1354	3	NC 710-711
NC 710-711	5.1	SR 1554
SR 1554	3	SR 1003
SR 1003	5.5	SR 1550
SR 1550	8.9	NC 72
NC 72	2.6	McMillian's Beach
McMillian's Beach	1.4	Stephens Park
Stephens Park	1.9	Noir St. Playground
Noir St. Playground	2.3	NC 72
NC 72	9.5	NC 2123
NC 2123	3.9	SR 2121
SR 2121	8.1	Boardman/US 74
Boardman/US 74	7.2	Red Bard/SR 1504
Red Bard/SR 1504	2.2	Princess Ann
Princess Ann	11.7	NC 904
NC 904	3.9	NC/SC Border



Appendix U:

Climate Change Impacts

CMRAT Data for Robeson County, EJSCREEN
website's Climate Change Data, and FEMA
National Risk Index for Robeson County

Robeson County Hazard Report

37155
Robeson County

Prepared by Esri

Hazard Report

Extreme Heat

Robeson County, North Carolina



Total Population
132,596



Non-Hispanic White Population (%)
75%



Income Below Poverty in Last 12 Mo (%)
28%



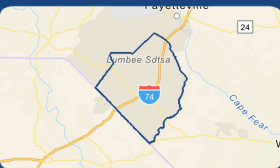
Building Codes Hazard Resistance
Lower Resistance



% Population Disadvantaged
100.00%



[Explore additional data](#)



U.S. Climate Resilience Toolkit

Source: Census Bureau, CEQ, Esri, FEMA, MRLC, NOAA, UCSD

National Risk Index Rating
Relatively High



according to the [FEMA National Risk Index](#)

Extreme Heat Annualized Frequency
1.07

Expected Annual Loss Rating
Relatively Moderate

Expected Annual Loss Total (\$)
\$428,886.55

Future Climate Indicators

Indicator	Modeled History (1976 - 2005)	Early Century (2015 - 2044)		Mid Century (2035 - 2064)		Late Century (2070 - 2099)	
		Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions
	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max
Temperature thresholds:							
Annual days with maximum temperature > 90°F	50 days	83 days	86 days	96 days	105 days	107 days	137 days
	50 - 58	58 - 103	65 - 104	64 - 117	79 - 123	77 - 130	99 - 159
Annual days with maximum temperature > 95°F	12 days	30 days	32 days	41 days	51 days	53 days	91 days
	10 - 15	13 - 47	18 - 54	17 - 63	25 - 74	25 - 85	40 - 119
Annual days with maximum temperature > 100°F	1 days	6 days	6 days	10 days	14 days	15 days	41 days
	1 - 2	1 - 13	2 - 16	2 - 25	2 - 39	4 - 25	10 - 82
Annual days with maximum temperature > 105°F	0 days	1 days	1 days	1 days	2 days	3 days	12 days
	0 - 0	0 - 2	0 - 3	0 - 4	0 - 16	0 - 11	0 - 45
Annual temperature:							
Annual single highest maximum temperature °F	99 °F	103 °F	103 °F	104 °F	105 °F	105 °F	109 °F
	99 - 100	99 - 104	100 - 105	100 - 107	101 - 110	101 - 109	103 - 115
Annual highest maximum temperature averaged over a 5-day period °F	96 °F	99 °F	99 °F	100 °F	101 °F	101 °F	105 °F
	95 - 97	96 - 101	97 - 102	96 - 103	97 - 106	98 - 105	100 - 111
Cooling degree days (CDD)	1838 degree-days	2,290 degree-days	2,332 degree-days	2,521 degree-days	2,711 degree-days	2,755 degree-days	3,510 degree-days
	1765 - 1931	1,973 - 2,641	2,054 - 2,578	2,068 - 2,953	2,274 - 3,186	2,277 - 3,302	2,746 - 4,352

N/A = Data Not Available for the selected area

Robeson County Hazard Report

37155
Robeson County

Prepared by Esri

Hazard Report

Drought

Robeson County, North Carolina



Total Population
132,596



Non-Hispanic White Population (%)
75%



Income Below Poverty in Last 12 Mo (%)
28%



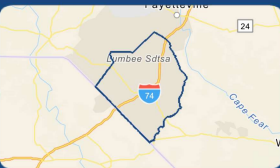
Building Codes Hazard Resistance
Lower Resistance



% Population Disadvantaged
100.00%



[Explore additional data](#)



National Risk Index Rating
Relatively High



according to the [FEMA National Risk Index](#)

Drought Annualized Frequency
16.93

Expected Annual Loss Rating
Relatively High

Expected Annual Loss Total (\$)
\$3,982,393.05

Future Climate Indicators

Indicator	Modeled History (1976 - 2005)	Early Century (2015 - 2044)		Mid Century (2035 - 2064)		Late Century (2070 - 2099)	
		Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions
	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max
Precipitation:							
Average annual total precipitation	47"	48"	49"	49"	49"	50"	51"
	45 - 49	45 - 52	44 - 52	44 - 53	45 - 54	43 - 56	42 - 58
Days per year with precipitation (wet days)	186 days	185 days	184 days	185 days	183 days	185 days	180 days
	180 - 191	168 - 195	162 - 197	164 - 200	153 - 203	163 - 202	147 - 203
Days per year with no precipitation (dry days)	179 days	180 days	181 days	180 days	183 days	180 days	185 days
	174 - 185	171 - 197	168 - 203	165 - 201	162 - 212	164 - 202	162 - 218
Maximum number of consecutive dry days	13 days	14 days	13 days	14 days	14 days	14 days	14 days
	12 - 16	12 - 17	12 - 15	12 - 16	12 - 18	12 - 18	12 - 17
Temperature thresholds:							
Annual days with maximum temperature > 90 °F	50 days	83 days	86 days	96 days	105 days	107 days	137 days
	50 - 58	58 - 103	65 - 104	64 - 117	79 - 123	77 - 130	99 - 159
Annual days with maximum temperature > 100 °F	1 days	6 days	6 days	10 days	14 days	15 days	41 days
	1 - 2	1 - 13	2 - 16	2 - 25	2 - 39	4 - 25	10 - 82

Robeson County Hazard Report

37155
Robeson County

Prepared by Esri

Hazard Report

Wildfire

Robeson County, North Carolina



Total Population
132,596



Non-Hispanic White Population (%)
75%



Income Below Poverty in Last 12 Mo (%)
28%



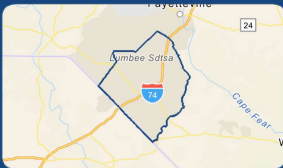
Building Codes Hazard Resistance
Lower Resistance



% Population Disadvantaged
100.00%



[Explore additional data](#)



U.S. Climate Resilience Toolkit

Source: Census Bureau, CEQ, Esri, FEMA, MRLC, NOAA, UCSD

National Risk Index Rating
Relatively Moderate



according to the [FEMA National Risk Index](#)

Wildfire Annualized Frequency
0.00

Wildfire Hazard Potential (Mean)
376.36

Expected Annual Loss Rating
Relatively Low

Expected Annual Loss Total (\$)
\$176,053.16

Future Climate Indicators

Indicator	Modeled History (1976 - 2005)	Early Century (2015 - 2044)		Mid Century (2035 - 2064)		Late Century (2070 - 2099)	
	Min - Max	Lower Emissions Min - Max	Higher Emissions Min - Max	Lower Emissions Min - Max	Higher Emissions Min - Max	Lower Emissions Min - Max	Higher Emissions Min - Max
Precipitation:							
Days per year with no precipitation (dry days)	179 days 174 - 185	180 days 171 - 197	181 days 168 - 203	180 days 165 - 201	183 days 162 - 212	180 days 164 - 202	185 days 162 - 218
Maximum number of consecutive dry days	13 days 12 - 16	14 days 12 - 17	13 days 12 - 15	14 days 12 - 16	14 days 12 - 18	14 days 12 - 18	14 days 12 - 17
Days per year with precipitation (wet days)	186 days 180 - 191	185 days 168 - 195	184 days 162 - 197	185 days 164 - 200	183 days 153 - 203	185 days 163 - 202	180 days 147 - 203
Temperature thresholds:							
Annual days with maximum temperature > 90°F	50 days 50 - 58	83 days 58 - 103	86 days 65 - 104	96 days 64 - 117	105 days 79 - 123	107 days 77 - 130	137 days 99 - 159
Annual days with maximum temperature > 100°F	1 days 1 - 2	6 days 1 - 13	6 days 2 - 16	10 days 2 - 25	14 days 2 - 39	15 days 4 - 25	41 days 10 - 82

N/A = Data Not Available for the selected area

Robeson County Hazard Report

37155
Robeson County

Prepared by Esri

Hazard Report

Flooding

Robeson County, North Carolina



Total Population
132,596



Non-Hispanic White Population (%)
75%



Income Below Poverty in Last 12 Mo (%)
28%



Building Codes Hazard Resistance
Lower Resistance

National Risk Index Rating
Relatively Moderate



according to the [FEMA National Risk Index](#)

Flooding Annualized Frequency
0.67

Expected Annual Loss Rating
Relatively Moderate

Expected Annual Loss Total (\$)
\$935,139.57

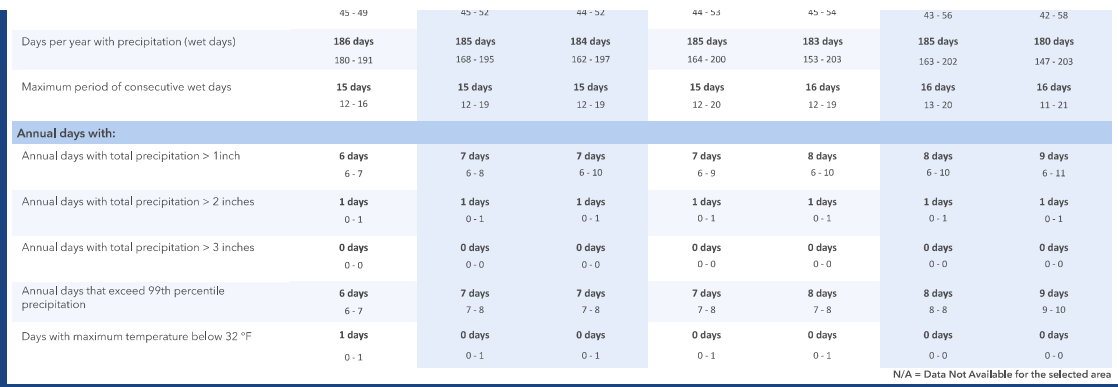
Area in a 100-year / 500-year flood zone (%)
18.06% / 1.50%

Area outside 100-year or 500-year flood zone (%)
80.42%

Area unmapped/undetermined for flooding (%)
0.02%

Future Climate Indicators

Indicator	Modeled History (1976 - 2005)	Early Century (2015 - 2044)		Mid Century (2035 - 2064)		Late Century (2070 - 2099)	
	Min - Max	Lower Emissions Min - Max	Higher Emissions Min - Max	Lower Emissions Min - Max	Higher Emissions Min - Max	Lower Emissions Min - Max	Higher Emissions Min - Max
Precipitation:							
Annual average total precipitation	47" 44 - 50	48" 45 - 51	49" 46 - 52	49" 46 - 52	49" 46 - 52	50" 47 - 53	51" 48 - 54

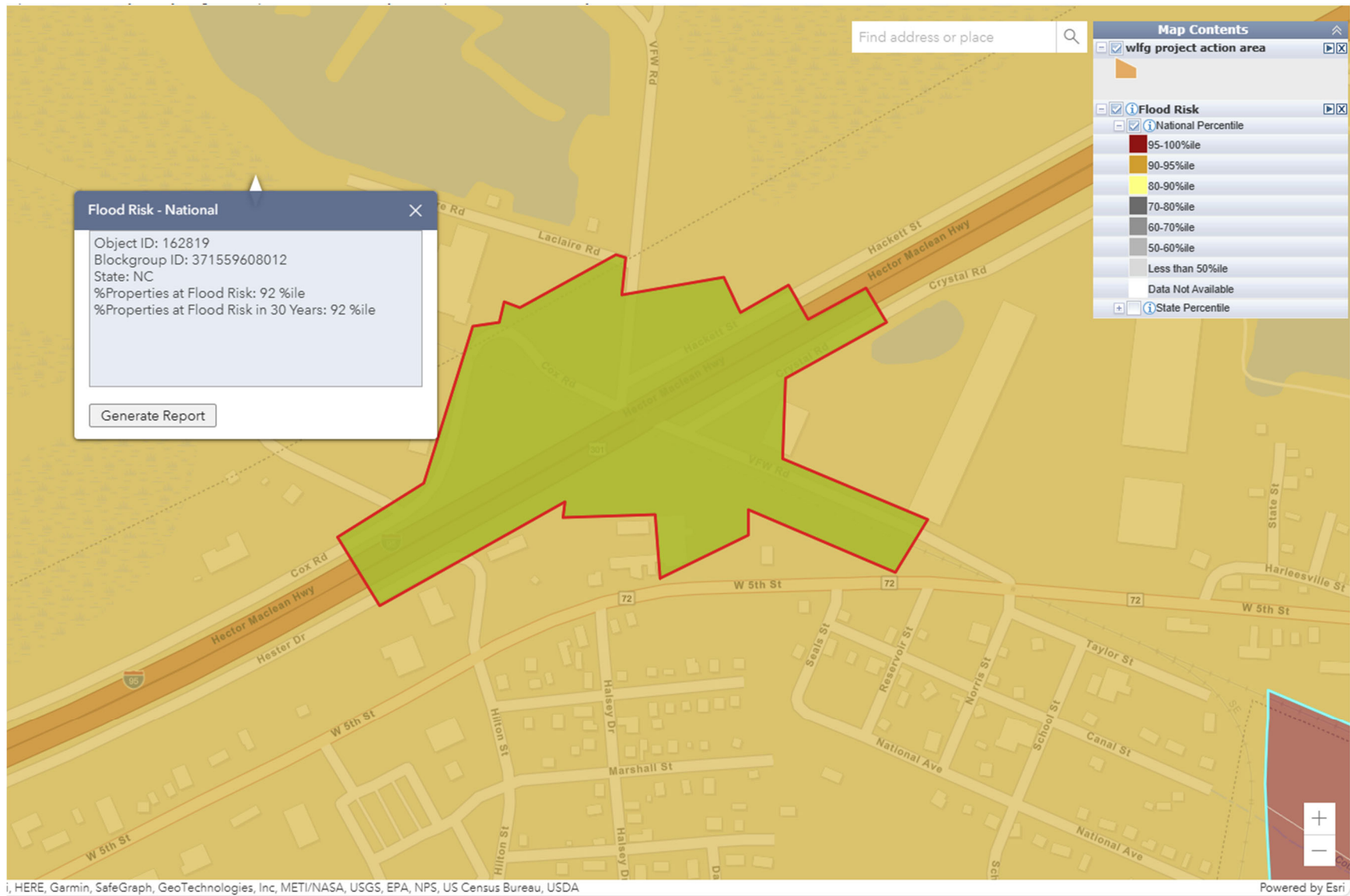


Source: Census Bureau, CEO, Esri, FEMA, MRLC, NOAA, UCSD

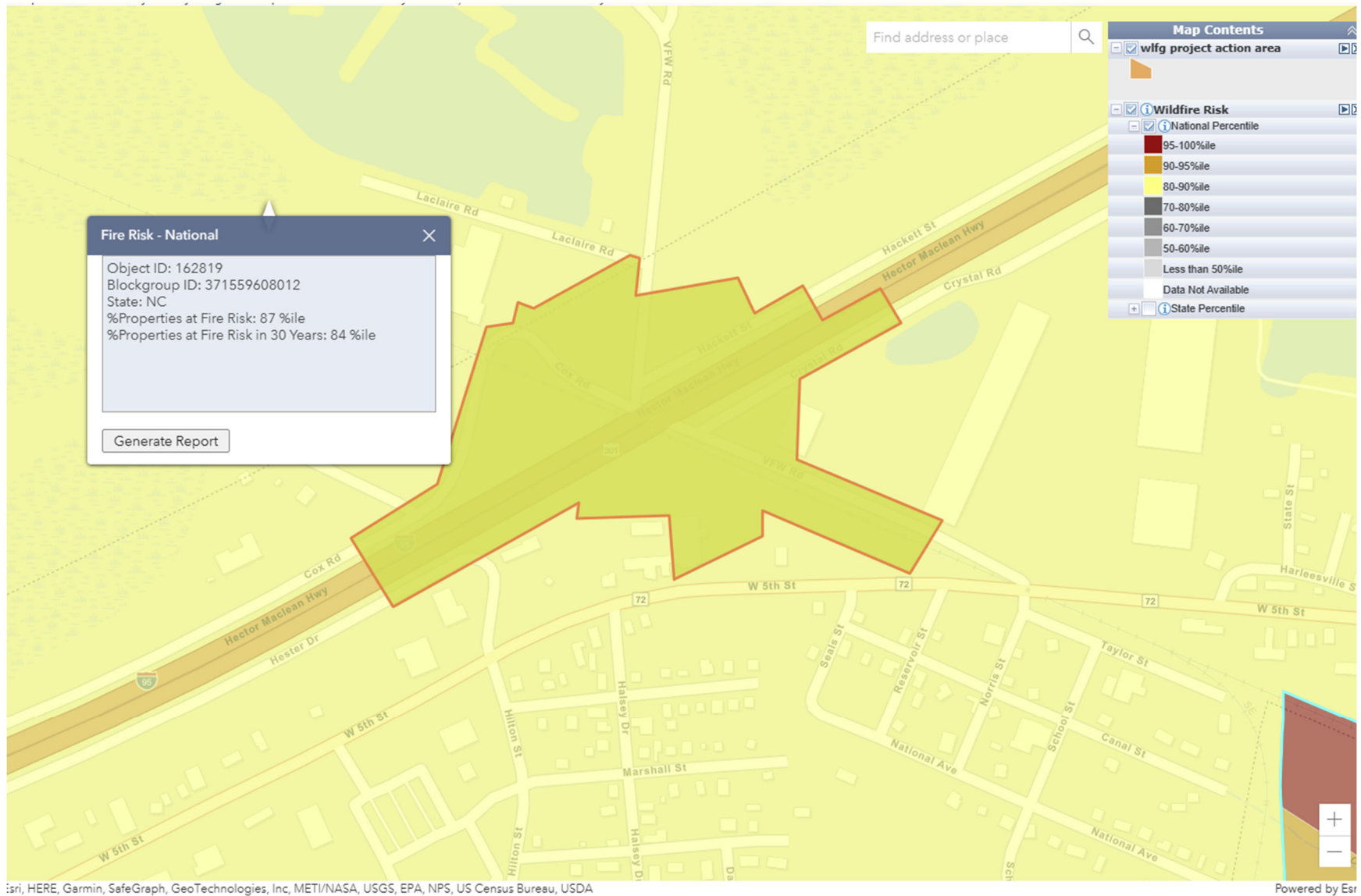
Indicator	Modeled History (1976 - 2005)	Early Century (2015 - 2044)		Mid Century (2035 - 2064)		Late Century (2070 - 2099)	
		Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions
	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max
Sea level rise:							
Percent of selected county impacted by global sea level rise	N/A	N/A	N/A	N/A	N/A	N/A	N/A

N/A = Data Not Available for the selected area

West Lumberton Flood Gate Project – Flood Risk



West Lumberton Flood Gate Project – Wildfire Risk



West Lumberton Flood Gate Project – 100-year Floodplain



National Risk Index

September 13, 2023

Robeson County, North Carolina

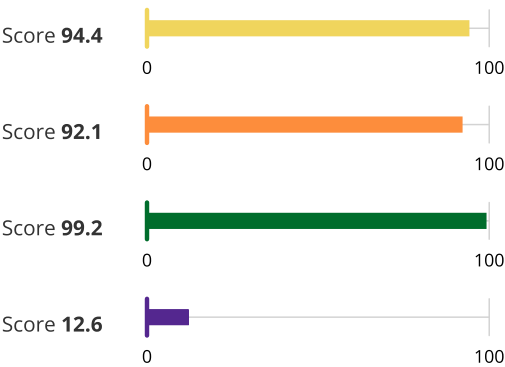
Summary

Risk Index is **Relatively Moderate**

Expected Annual Loss is **Relatively Moderate**

Social Vulnerability is **Very High**

Community Resilience is **Very Low**

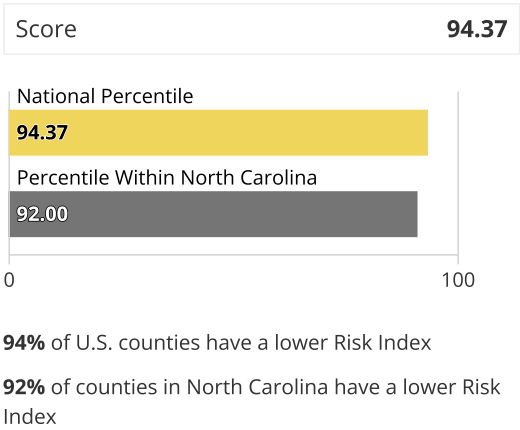
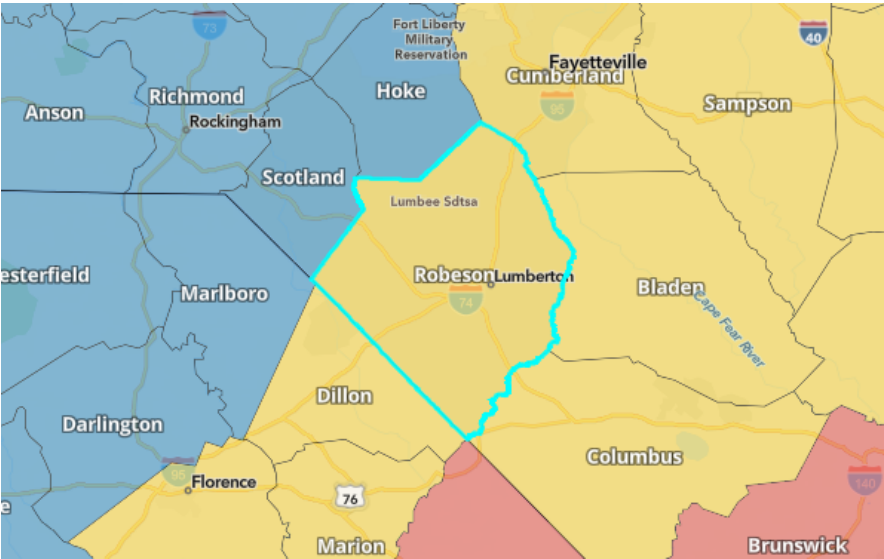


While reviewing this report, keep in mind that low risk is driven by lower loss due to natural hazards, lower social vulnerability, and higher community resilience.

For more information about the National Risk Index, its data, and how to interpret the information it provides, please review the **About the National Risk Index** and **How to Take Action** sections at the end of this report. Or, visit the National Risk Index website at hazards.fema.gov/nri/learn-more to access supporting documentation and links.

Risk Index

The Risk Index rating is **Relatively Moderate** for **Robeson County, NC** when compared to the rest of the U.S.



Risk Index Legend

Very High

Relatively High

Relatively Moderate

Relatively Low

Very Low

No Rating

Not Applicable

Insufficient Data

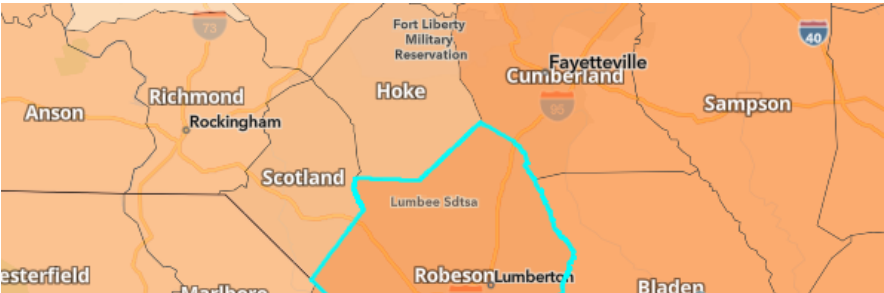
Hazard Type Risk Index

Hazard type Risk Index scores are calculated using data for only a single hazard type, and reflect a community's Expected Annual Loss value, community risk factors, and the adjustment factor used to calculate the risk value.

Hazard Type	EAL Value	Social Vulnerability	Community Resilience	CRF	Risk Value	Score
Hurricane	\$35,344,755	Very High	Very Low	1.63	\$57,575,514	96.1
Tornado	\$9,169,385	Very High	Very Low	1.63	\$14,887,105	96.1
Strong Wind	\$2,571,216	Very High	Very Low	1.63	\$4,187,400	97.6
Earthquake	\$1,165,565	Very High	Very Low	1.63	\$1,926,611	86.3
Riverine Flooding	\$1,108,539	Very High	Very Low	1.63	\$1,867,593	79.7
Drought	\$752,819	Very High	Very Low	1.63	\$1,192,666	95.1
Ice Storm	\$546,927	Very High	Very Low	1.63	\$896,005	93
Heat Wave	\$475,425	Very High	Very Low	1.63	\$769,789	85.4
Winter Weather	\$325,136	Very High	Very Low	1.63	\$526,487	92.5
Lightning	\$150,661	Very High	Very Low	1.63	\$245,643	74.1
Wildfire	\$123,068	Very High	Very Low	1.63	\$195,478	70.6
Hail	\$66,245	Very High	Very Low	1.63	\$107,363	50
Landslide	\$21,900	Very High	Very Low	1.63	\$35,396	71.5
Cold Wave	\$0	Very High	Very Low	1.63	\$0	0
Avalanche	--	Very High	Very Low	1.63	--	--
Coastal Flooding	--	Very High	Very Low	1.63	--	--
Tsunami	--	Very High	Very Low	1.63	--	--
Volcanic Activity	--	Very High	Very Low	1.63	--	--

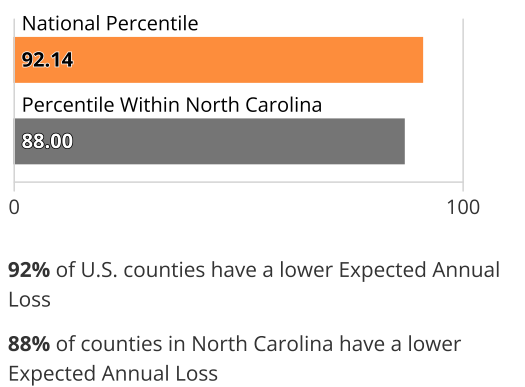
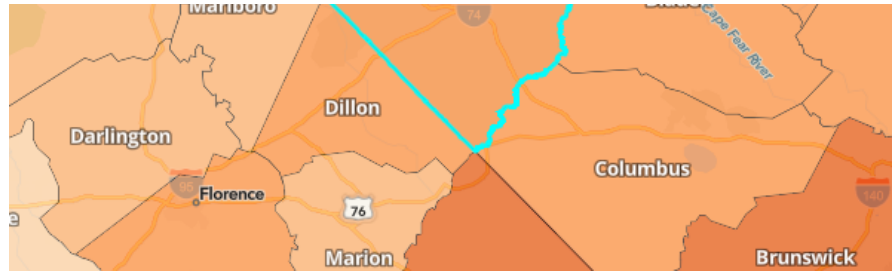
Expected Annual Loss

In **Robeson County, NC**, expected loss each year due to natural hazards is **Relatively Moderate** when compared to the rest of the U.S.



Score

92.14



Expected Annual Loss Legend

Very High

Relatively High

Relatively Moderate

Relatively Low

Very Low

No Expected Annual Losses

Not Applicable

Insufficient Data

Composite Expected Annual Loss	\$51,821,642.03
--------------------------------	-----------------

Composite Expected Annual Loss Rate National Percentile	85.5
---	------

Building EAL	\$34,222,232.93	Population EAL	0.86 fatalities
Building EAL Rate	\$1 per \$538.22 of building value	Population EAL Rate	1 per 135.47K people
Agriculture EAL	\$7,631,132.23	Population Equivalence EAL	\$9,968,276.87
Agriculture EAL Rate	\$1 per \$57.98 of agriculture value		

Expected Annual Loss for Hazard Types

Expected Annual Loss scores for hazard types are calculated using data for only a single hazard type, and reflect a community's relative expected annual loss for only that hazard type. **14 of 18** hazard types contribute to the expected annual loss for **Robeson County, NC**.

Hazard Type	Expected Annual Loss Rating	EAL Value	Score
Hurricane	Relatively Moderate	\$35,344,755	95.0
Tornado	Relatively High	\$9,169,385	93.9
Strong Wind	Relatively High	\$2,571,216	95.5
Earthquake	Relatively Low	\$1,165,565	80.5
Riverine Flooding	Relatively Low	\$1,108,539	72.8
Drought	Relatively Moderate	\$752,819	92.4
Ice Storm	Relatively High	\$546,927	89.9
Heat Wave	Relatively Moderate	\$475,425	81.1
Winter Weather	Relatively High	\$325,136	89.1
Lightning	Relatively Moderate	\$150,661	66.6
Wildfire	Relatively Low	\$123,068	66.9
Hail	Relatively Low	\$66,245	44.2
Landslide	Relatively Low	\$21,900	30.7
Cold Wave	No Expected Annual Losses	\$0	0.0
Avalanche	Not Applicable	--	--
Coastal Flooding	Not Applicable	--	--
Tsunami	Not Applicable	--	--
Volcanic Activity	Not Applicable	--	--

Expected Annual Loss Values

Hazard Type	Total	Building Value	Population Equivalence	Population	Agriculture Value
Avalanche	--	--	--	--	--
Coastal Flooding	--	--	--	--	--
Cold Wave	\$0	\$0	\$0	0.00	\$0
Drought	\$752,819	n/a	n/a	n/a	\$752,819
Earthquake	\$1,165,565	\$940,457	\$225,108	0.02	n/a
Hail	\$66,245	\$17,904	\$43,295	0.00	\$5,046
Heat Wave	\$475,425	\$8,684	\$464,436	0.04	\$2,305
Hurricane	\$35,344,755	\$28,593,526	\$575,147	0.05	\$6,176,082
Ice Storm	\$546,927	\$476,681	\$70,246	0.01	n/a
Landslide	\$21,900	\$4,500	\$17,400	0.00	n/a
Lightning	\$150,661	\$62,311	\$88,350	0.01	n/a
Riverine Flooding	\$1,108,539	\$379,077	\$535,883	0.05	\$193,579
Strong Wind	\$2,571,216	\$1,662,399	\$422,339	0.04	\$486,478
Tornado	\$9,169,385	\$1,965,213	\$7,190,690	0.62	\$13,482
Tsunami	--	--	--	--	--
Volcanic Activity	--	--	--	--	--
Wildfire	\$123,068	\$104,640	\$18,187	0.00	\$241
Winter Weather	\$325,136	\$6,839	\$317,197	0.03	\$1,101

Exposure Values

Hazard Type	Total	Building Value	Population Equivalence	Population	Agriculture Value
Avalanche	--	--	--	--	--
Coastal Flooding	--	--	--	--	--
Cold Wave	\$0	\$0	\$0	0.00	\$0
Drought	\$107,885,079	n/a	n/a	n/a	\$107,885,079
Earthquake	\$1,370,166,583,000	\$18,418,583,000	\$1,351,748,000,000	116,530.00	n/a
Hail	\$1,369,263,808,792	\$18,418,983,651	\$1,350,402,400,000	116,414.00	\$442,425,141
Heat Wave	\$1,369,263,530,537	\$18,418,982,332	\$1,350,402,123,064	116,413.98	\$442,425,141
Hurricane	\$1,369,257,961,731	\$18,418,763,502	\$1,350,396,776,830	116,413.52	\$442,421,399
Ice Storm	\$1,368,710,869,812	\$18,417,954,085	\$1,350,292,915,727	116,404.56	n/a
Landslide	\$47,399,943,617	\$452,534,166	\$46,947,409,452	4,047.19	n/a
Lightning	\$1,368,821,383,651	\$18,418,983,651	\$1,350,402,400,000	116,414.00	n/a
Riverine Flooding	\$77,990,495,276	\$1,526,800,978	\$76,425,797,503	6,588.43	\$37,896,795
Strong Wind	\$1,369,263,808,792	\$18,418,983,651	\$1,350,402,400,000	116,414.00	\$442,425,141
Tornado	\$1,369,263,808,792	\$18,418,983,651	\$1,350,402,400,000	116,414.00	\$442,425,141
Tsunami	--	--	--	--	--
Volcanic Activity	--	--	--	--	--
Wildfire	\$85,870,820,985	\$780,661,530	\$85,063,967,646	7,333.10	\$26,191,810
Winter Weather	\$1,369,263,530,537	\$18,418,982,332	\$1,350,402,123,064	116,413.98	\$442,425,141

Annualized Frequency Values

Hazard Type	Annualized Frequency	Events on Record	Period of Record
Avalanche	--	--	--
Coastal Flooding	--	--	--
Cold Wave	0 events per year	0	2005-2021 (16 years)
Drought	13.8 events per year	350	2000-2021 (22 years)
Earthquake	0.090% chance per year	n/a	2021 dataset
Hail	3.9 events per year	134	1986-2021 (34 years)
Heat Wave	0.9 events per year	14	2005-2021 (16 years)
Hurricane	0.3 events per year	44	East 1851-2021 (171 years) / West 1949-2021 (73 years)
Ice Storm	0.8 events per year	57	1946-2014 (67 years)
Landslide	0 events per year	0	2010-2021 (12 years)
Lightning	78.9 events per year	1,737	1991-2012 (22 years)
Riverine Flooding	0.7 events per year	16	1996-2019 (24 years)
Strong Wind	3.1 events per year	106	1986-2021 (34 years)
Tornado	0.6 events per year	35	1950-2021 (72 years)
Tsunami	--	--	--
Volcanic Activity	--	--	--
Wildfire	0.035% chance per year	n/a	2021 dataset
Winter Weather	1 event per year	16	2005-2021 (16 years)

Historic Loss Ratios

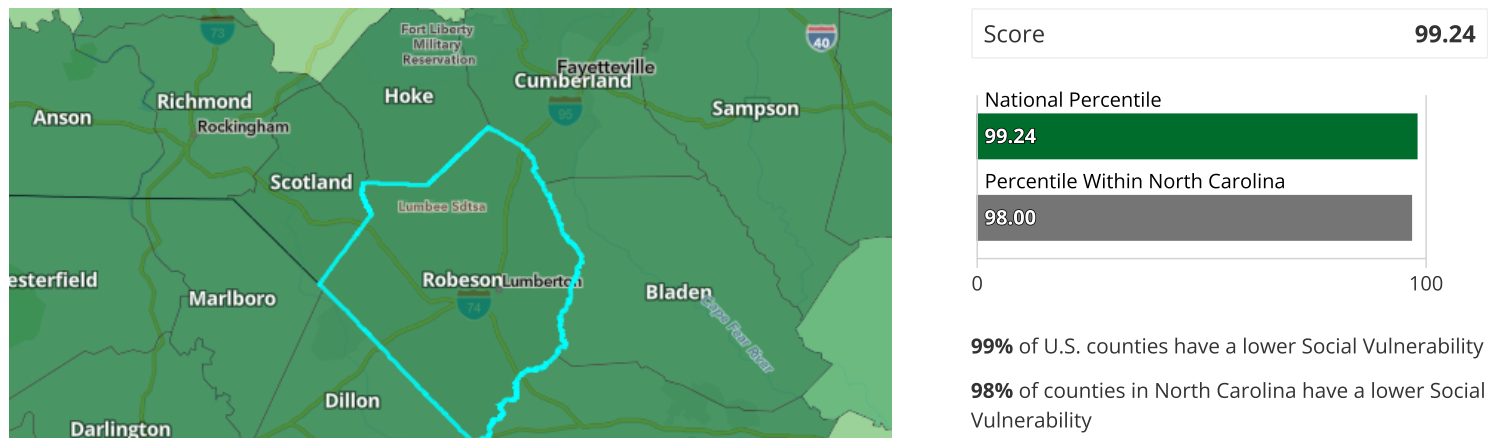
Hazard Type	Overall Rating
Avalanche	--
Coastal Flooding	--
Cold Wave	No Rating
Drought	Relatively Moderate
Earthquake	Relatively Moderate
Hail	Very Low
Heat Wave	Very Low
Hurricane	Relatively High
Ice Storm	Relatively Low
Landslide	Relatively Low
Lightning	Very Low
Riverine Flooding	Very Low
Strong Wind	Relatively Moderate
Tornado	Relatively Moderate
Tsunami	--
Volcanic Activity	--
Wildfire	Very Low
Winter Weather	Relatively Moderate

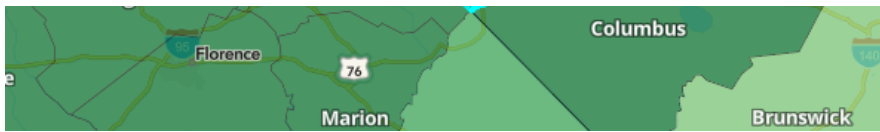
Expected Annual Loss Rate

Hazard Type	Building EAL Rate (per building value)	Population EAL Rate (per population)	Agriculture EAL Rate (per agriculture value)
Avalanche	--	--	--
Coastal Flooding	--	--	--
Cold Wave	--	--	--
Drought	--	--	\$1 per \$587.69
Earthquake	\$1 per \$19.59K	1 per 6.00M	--
Hail	\$1 per \$1.03M	1 per 31.19M	\$1 per \$87.69K
Heat Wave	\$1 per \$2.12M	1 per 2.91M	\$1 per \$191.96K
Hurricane	\$1 per \$644.17	1 per 2.35M	\$1 per \$71.64
Ice Storm	\$1 per \$38.64K	1 per 19.22M	--
Landslide	\$1 per \$4.09M	1 per 77.61M	--
Lightning	\$1 per \$295.60K	1 per 15.28M	--
Riverine Flooding	\$1 per \$48.59K	1 per 2.52M	\$1 per \$2.29K
Strong Wind	\$1 per \$11.08K	1 per 3.20M	\$1 per \$909.44
Tornado	\$1 per \$9.37K	1 per 187.80K	\$1 per \$32.82K
Tsunami	--	--	--
Volcanic Activity	--	--	--
Wildfire	\$1 per \$176.02K	1 per 74.25M	\$1 per \$1.84M
Winter Weather	\$1 per \$2.69M	1 per 4.26M	\$1 per \$401.87K

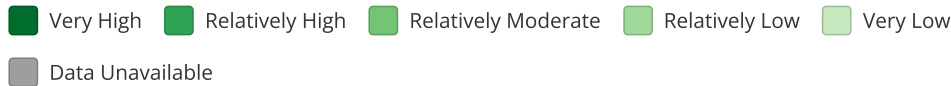
Social Vulnerability

Social groups in **Robeson County, NC** have a **Very High** susceptibility to the adverse impacts of natural hazards when compared to the rest of the U.S.



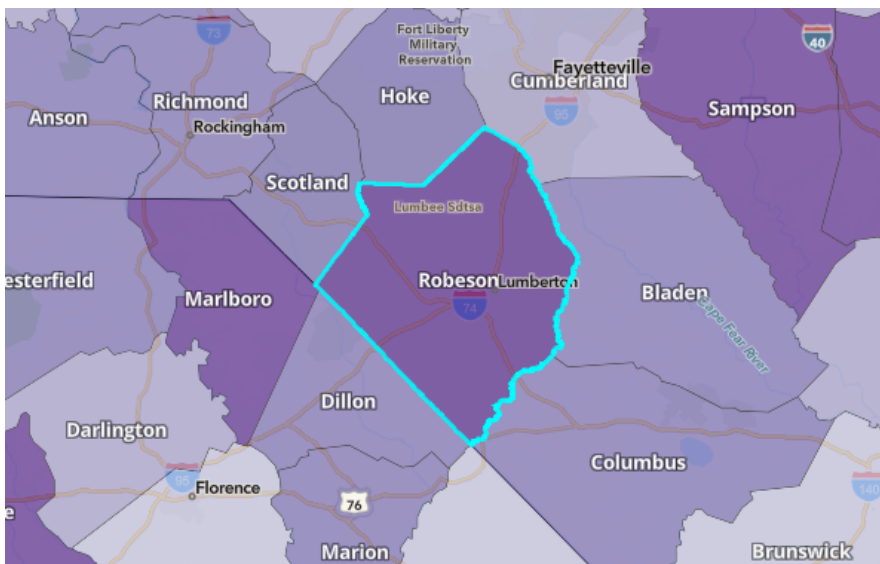


Social Vulnerability Legend



Community Resilience

Communities in **Robeson County, NC** have a **Very Low** ability to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions when compared to the rest of the U.S.



Score

12.64

National Percentile

12.64

Percentile Within North Carolina

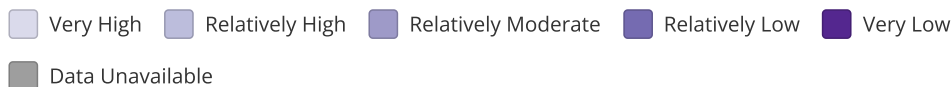
9.00

0 100

87% of U.S. counties have a higher Community Resilience

91% of counties in North Carolina have a higher Community Resilience

Community Resilience Legend



About the National Risk Index

The National Risk Index is a dataset and online tool to help illustrate the United States communities most at risk for 18 natural hazards: Avalanche, Coastal Flooding, Cold Wave, Drought, Earthquake, Hail, Heat Wave, Hurricane, Ice Storm, Landslide, Lightning, Riverine Flooding, Strong Wind, Tornado, Tsunami, Volcanic Activity, Wildfire, and Winter Weather.

The National Risk Index leverages available source data for Expected Annual Loss due to these 18 hazard types, Social Vulnerability, and Community Resilience to develop a baseline relative risk measurement for each United States county and Census tract. These measurements are calculated using average past conditions, but they cannot be used to predict future outcomes for a community. The National Risk Index is intended to fill gaps in available data and analyses to better inform federal, state, local, tribal, and territorial decision makers as they develop risk reduction strategies.

Explore the National Risk Index Map at hazards.fema.gov/nri/map.

Visit the National Risk Index website at hazards.fema.gov/nri/learn-more to access supporting documentation and links.

Calculating the Risk Index

Risk Index scores are calculated using an equation that combines scores for Expected Annual Loss due to natural hazards, Social Vulnerability and Community Resilience:

$$\text{Risk Index} = \text{Expected Annual Loss} \times \text{Social Vulnerability} \div \text{Community Resilience}$$

Risk Index scores are presented as a composite score for all 18 hazard types, as well as individual scores for each hazard type.

For more information, visit hazards.fema.gov/nri/determining-risk.

Calculating Expected Annual Loss

Expected Annual Loss scores are calculated using an equation that combines values for exposure, annualized frequency, and historic loss ratios for 18 hazard types:

$$\text{Expected Annual Loss} = \text{Exposure} \times \text{Annualized Frequency} \times \text{Historic Loss Ratio}$$

Expected Annual Loss scores are presented as a composite score for all 18 hazard types, as well as individual scores for each hazard type.

For more information, visit hazards.fema.gov/nri/expected-annual-loss.

Calculating Social Vulnerability

Social Vulnerability is measured using the Social Vulnerability Index (SVI) published by the Centers for Disease Control and Prevention (CDC).

For more information, visit hazards.fema.gov/nri/social-vulnerability.

Calculating Community Resilience

Community Resilience is measured using the Baseline Resilience Indicators for Communities (HVRI BRIC) published by the University of South Carolina's Hazards and Vulnerability Research Institute (HVRI).

For more information, visit hazards.fema.gov/nri/community-resilience.

How to Take Action

There are many ways to reduce natural hazard risk through mitigation. Communities with high National Risk Index scores can take action to reduce risk by decreasing Expected Annual Loss due to natural hazards, decreasing Social Vulnerability, and increasing Community Resilience.

For information about how to take action and reduce your risk, visit hazards.fema.gov/nri/take-action.

Disclaimer

The National Risk Index (the Risk Index or the Index) and its associated data are meant for planning purposes only. This tool was created for broad nationwide comparisons and is not a substitute for localized risk assessment analysis. Nationwide datasets used as inputs for the National Risk Index are, in many cases, not as accurate as available local data. Users with access to local data for each National Risk Index risk factor should consider substituting the Risk Index data with local data to recalculate a more accurate risk index. If you decide to download the National Risk Index data and substitute it with local data, you assume responsibility for the accuracy of the data and any resulting data index. Please visit the [Contact Us](#) page if you would like to discuss this process further.

The methodology used by the National Risk Index has been reviewed by subject matter experts in the fields of natural hazard risk research, risk analysis, mitigation planning, and emergency management. The processing methods used to create the National Risk Index have produced results similar to those from other natural hazard risk analyses conducted on a smaller scale. The breadth and combination of geographic information systems (GIS) and data processing techniques leveraged by the National Risk Index enable it to incorporate multiple hazard types and risk factors, manage its nationwide scope, and capture what might have been missed using other methods.

The National Risk Index does not consider the intricate economic and physical interdependencies that exist across geographic regions. Keep in mind that hazard impacts in surrounding counties or Census tracts can cause indirect losses in your community regardless of your community's risk profile.

Nationwide data available for some risk factors are rudimentary at this time. The National Risk Index will be continuously updated as new data become available and improved methodologies are identified.

The National Risk Index Contact Us page is available at hazards.fema.gov/nri/contact-us.

Appendix V:

State Environmental Clearinghouse (SCH) Review

SCH Comments on Draft EA (2021)



STATE OF NORTH CAROLINA
DEPARTMENT OF ADMINISTRATION

Roy Cooper
GOVERNOR

Pamela B. Cashwell
Secretary

November 2, 2021

Susan Morrison
City of Lumberton
c/o Timmons Group
5410 Trinity Road, Suite 102
Raleigh, NC 27607-

Re: SCH File # 22-E-0000-0079 Proposed project is for the construction of the West Lumberton Flood Gate located west of Interstate 95 in the vicinity of Cox Road, VFW Road, Hackett Street and the CSX railroad crossing within the City of Lumberton.

Dear Susan Morrison:

The above referenced environmental impact information has been submitted to the State Clearinghouse under the provisions of the National Environmental Policy Act. According to G.S. 113A-10, when a state agency is required to prepare an environmental document under the provisions of federal law, the environmental document meets the provisions of the State Environmental Policy Act. Attached to this letter for your consideration are comments made by the agencies in the review of this document.

If any further environmental review documents are prepared for this project, they should be forwarded to this office for intergovernmental review.

Should you have any questions, please do not hesitate to call.

Sincerely,

CRYSTAL BEST
State Environmental Review Clearinghouse

Attachments

Mailing Address:
NC DEPARTMENT OF ADMINISTRATION
1301 MAIL SERVICE CENTER
RALEIGH, NC 27699-1301

Telephone: (919)807-2425
Fax: (919)733-9571
COURIER: #51-01-00
Email: state.clearinghouse@doa.nc.gov
Website: www.ncadmin.nc.gov

Location:
116 WEST JONES STREET
RALEIGH, NORTH CAROLINA

Control No.: 22-E-0000-0079

Date Received: 10/1/2021

County.: ROBESON

Agency Response: 11/1/2021

Review Closed: 11/1/2021

LYN HARDISON
CLEARINGHOUSE COORDINATOR
DEPT OF ENVIRONMENTAL QUALITY

Project Information

Type: National Environmental Policy Act ping

Applicant: City of Lumberton

Project Desc.: Proposed project is for the construction of the West Lumberton Flood Gate located west of Interstate 95 in the vicinity of Cox Road, VFW Road, Hackett Street and the CSX railroad crossing within the City of Lumberton.

As a result of this review the following is submitted:

☐ No Comment

☐ Comments Below

☒ Documents Attached

Reviewed By: LYN HARDISON

Date: 11/1/2021



NORTH CAROLINA
Environmental Quality

ROY COOPER
Governor

ELIZABETH S. BISER
Secretary

To: Crystal Best
State Clearinghouse
NC Department of Administration

From: Lyn Hardison
Division of Environmental Assistance and Customer Service
Washington Regional Office

RE: 22-0079
Scoping - Proposed project is for the construction of the
West Lumberton Flood Gate located west of interstate 955
in the vicinity of Cox Road, VFW Road, Hackett Street and
the CSX railroad crossing within the City of Lumberton.
Robeson County

Date: November 1, 2021

The Department of Environment Quality has reviewed the proposal for the referenced project. Based on the information provided, several of our agencies have identified permits that may be required and offered some valuable guidance. The comments are attached for the applicant's review.

The Department will continue to be available to assist the applicant with any question or concerns.

Thank you for the opportunity to respond.

Attachments



North Carolina Department of Environmental Quality

217 West Jones Street | 1601 Mail Service Center | Raleigh, North Carolina 27699-1601

919.707.8600

State of North Carolina Department of Environmental Quality
INTERGOVERNMENTAL REVIEW PROJECT COMMENTS

Reviewing Regional Office: FRO
Project Number: 22-0079 Due Date: 10/28/2021
County: Robeson

After review of this project it has been determined that the DEQ permit(s) and/or approvals indicated may need to be obtained in order for this project to comply with North Carolina Law. Questions regarding these permits should be addressed to the Regional Office indicated on the reverse of the form. All applications, information and guidelines relative to these plans and permits are available from the same Regional Office.

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
<input checked="" type="checkbox"/>	Permit to construct & operate wastewater treatment facilities, non-standard sewer system extensions & sewer systems that do not discharge into state surface waters.	Application 90 days before begins construction or award of construction contracts. On-site inspection may be required. Post-application technical conference usual.	30 days (90 days)
<input checked="" type="checkbox"/>	Permit to construct & operate, sewer extensions involving gravity sewers, pump stations and force mains discharging into a sewer collection system	Fast-Track Permitting program consists of the submittal of an application and an engineer's certification that the project meets all applicable State rules and Division Minimum Design Criteria.	30 days (N/A)
<input checked="" type="checkbox"/>	NPDES - permit to discharge into surface water and/or permit to operate and construct wastewater facilities discharging into state surface waters.	Application 180 days before begins activity. On-site inspection. Pre-application conference usual. Additionally, obtain permit to construct wastewater treatment facility-granted after NPDES. Reply time, 30 days after receipt of plans or issue of NPDES permit-whichever is later.	90-120 days (N/A)
<input type="checkbox"/>	Water Use Permit	Pre-application technical conference usually necessary.	30 days (N/A)
<input type="checkbox"/>	Well Construction Permit	Complete application must be received and permit issued prior to the installation of a groundwater monitoring well located on property not owned by the applicant, and for a large capacity (>100,000 gallons per day) water supply well.	7 days (15 days)
<input type="checkbox"/>	Dredge and Fill Permit	Application copy must be served on each adjacent riparian property owner. On-site inspection. Pre-application conference usual. Filling may require Easement to Fill from N.C. Department of Administration and Federal Dredge and Fill Permit.	55 days (90 days)
<input type="checkbox"/>	Permit to construct & operate Air Pollution Abatement facilities and/or Emission Sources as per 15 A NCAC (2Q.0100 thru 2Q.0300)	Application must be submitted and permit received prior to construction and operation of the source. If a permit is required in an area without local zoning, then there are additional requirements and timelines (2Q.0113).	90 days
<input checked="" type="checkbox"/>	Any open burning associated with subject proposal must be in compliance with 15 A NCAC 2D.1900	N/A	60 days (90 days)
<input checked="" type="checkbox"/>	Demolition or renovations of structures containing asbestos material must be in compliance with 15 A NCAC 20.1110 (a) (1) which requires notification and removal prior to demolition. Contact Asbestos Control Group 919-707-5950	Please Note - The Health Hazards Control Unit (HHCU) of the N.C. Department of Health and Human Services, must be notified of plans to demolish a building, including residences for commercial or industrial expansion, even if no asbestos is present in the building.	60 days (90 days)
<input checked="" type="checkbox"/>	The Sedimentation Pollution Control Act of 1973 must be properly addressed for any land disturbing activity. An erosion & sedimentation control plan will be required if one or more acres are to be disturbed. Plan must be filed with and approved by applicable Regional Office (Land Quality Section) at least 30 days before beginning activity. A NPDES Construction Stormwater permit (NCG010000) is also usually issued should design features meet minimum requirements. A fee of \$65 for the first acre or any part of an acre. An express review option is available with additional fees.		20 days (30 days)
<input type="checkbox"/>	Sedimentation and erosion control must be addressed in accordance with NCDOT's approved program. Particular attention should be given to design and installation of appropriate perimeter sediment trapping devices as well as stable Stormwater conveyances and outlets.		(30 days)
<input type="checkbox"/>	Sedimentation and erosion control must be addressed in accordance with _____ Local Government's approved program. Particular attention should be given to design and installation of appropriate perimeter sediment trapping devices as well as stable Stormwater conveyances and outlets.		Based on Local Program
<input type="checkbox"/>	Compliance with 15A NCAC 2H .0126 - NPDES Stormwater Program which regulates three types of activities: Industrial, Municipal Separate Storm Sewer System & Construction activities that disturb ≥1 acre.		30-60 days (90 days)
<input type="checkbox"/>	Compliance with 15A NCAC 2H 1000 -State Stormwater Permitting Programs regulate site development and post-construction stormwater runoff control. Areas subject to these permit programs include all 20 coastal counties, and various other counties and watersheds throughout the state.		45 days (90 days)

State of North Carolina Department of Environmental Quality
INTERGOVERNMENTAL REVIEW PROJECT COMMENTS

Reviewing Regional Office: FRO
Project Number: 22-0079 Due Date: 10/28/2021
County: Robeson

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
<input type="checkbox"/>	Mining Permit	On-site inspection usual. Surety bond filed with DEQ Bond amount varies with type mine and number of acres of affected land. Affected area greater than one acre must be permitted. The appropriate bond must be received before the permit can be issued.	30 days (60 days)
<input type="checkbox"/>	Dam Safety Permit	If permit required, application 60 days before begin construction. Applicant must hire N.C. qualified engineer to: prepare plans, inspect construction, and certify construction is according to DEQ approved plans. May also require a permit under mosquito control program. And a 404 permit from Corps of Engineers. An inspection of site is necessary to verify Hazard Classification. A minimum fee of \$200.00 must accompany the application. An additional processing fee based on a percentage or the total project cost will be required upon completion.	30 days (60 days)
<input type="checkbox"/>	Oil Refining Facilities	N/A	90-120 days (N/A)
<input type="checkbox"/>	Permit to drill exploratory oil or gas well	File surety bond of \$5,000 with DEQ running to State of NC conditional that any well opened by drill operator shall, upon abandonment, be plugged according to DEQ rules and regulations.	10 days N/A
<input type="checkbox"/>	Geophysical Exploration Permit	Application filed with DEQ at least 10 days prior to issue of permit. Application by letter. No standard application form.	10 days N/A
<input type="checkbox"/>	State Lakes Construction Permit	Application fee based on structure size is charged. Must include descriptions & drawings of structure & proof of ownership of riparian property	15-20 days N/A
<input checked="" type="checkbox"/>	401 Water Quality Certification	Compliance with the T15A 02H .0500 Certifications are required whenever construction or operation of facilities will result in a discharge into navigable water as described in 33 CFR part 323.	60 days (130 days)
<input type="checkbox"/>	Compliance with Catawba, Goose Creek, Jordan Lake, Randleman, Tar Pamlico or Neuse Riparian Buffer Rules is required. Buffer requirements: http://deq.nc.gov/about/divisions/water-resources/water-resources-permits/wastewater-branch/401-wetlands-buffer-permits/401-riparian-buffer-protection-program		
<input type="checkbox"/>	Nutrient Offset: Loading requirements for nitrogen and phosphorus in the Neuse and Tar-Pamlico River basins, and in the Jordan and Falls Lake watersheds, as part of the nutrient-management strategies in these areas. DWR nutrient offset information: http://deq.nc.gov/about/divisions/water-resources/planning/nonpoint-source-management/nutrient-offset-information		
<input type="checkbox"/>	CAMA Permit for MAJOR development	\$250.00 - \$475.00 fee must accompany application	75 days (150 days)
<input type="checkbox"/>	CAMA Permit for MINOR development	\$100.00 fee must accompany application	22 days (25 days)
<input checked="" type="checkbox"/>	Abandonment of any wells, if required must be in accordance with Title 15A. Subchapter 2C.0100.		
<input checked="" type="checkbox"/>	Notification of the proper regional office is requested if "orphan" underground storage tanks (USTS) are discovered during any excavation operation.		
<input type="checkbox"/>	Plans and specifications for the construction, expansion, or alteration of a public water system must be approved by the Division of Water Resources/Public Water Supply Section prior to the award of a contract or the initiation of construction as per 15A NCAC 18C .0300 et. seq., Plans and specifications should be submitted to 1634 Mail Service Center, Raleigh, North Carolina 27699-1634. All public water supply systems must comply with state and federal drinking water monitoring requirements. For more information, contact the Public Water Supply Section, (919) 707-9100.		30 days
<input checked="" type="checkbox"/>	If existing water lines will be relocated during the construction, plans for the water line relocation must be submitted to the Division of Water Resources/Public Water Supply Section at 1634 Mail Service Center, Raleigh, North Carolina 27699-1634. For more information, contact the Public Water Supply Section, (919) 707-9100.		30 days
<input type="checkbox"/>	Plans and specifications for the construction, expansion, or alteration of the _____ water system must be approved through the _____ delegated plan approval authority. Please contact them at _____ for further information.		

State of North Carolina Department of Environmental Quality
INTERGOVERNMENTAL REVIEW PROJECT COMMENTS

Reviewing Regional Office: FRO
Project Number: 22-0079 Due Date: 10/28/2021
County: Robeson

Other Comments (attach additional pages as necessary, being certain to comment authority)

Division	Initials	No comment	Comments	Date Review
DAQ	GWR	<input checked="" type="checkbox"/>		10/4/2021
DWR-WQROS	KMB	<input checked="" type="checkbox"/>		10/18/2021
DWR-PWS	HLC	<input type="checkbox"/>	See above comments	10/26/2021
DEMLR (LQ & SW)	LHB	<input checked="" type="checkbox"/>		10/20/2021
DWM – UST	KEC	<input type="checkbox"/>	The UST Section, Fayetteville Regional Office, does not have record of a petroleum release in the general area of concern for this project number, nor are there any records of registered USTs.	10/4/2021
Other Comments		<input type="checkbox"/>		/ /

REGIONAL OFFICES

Questions regarding these permits should be addressed to the Regional Office marked below.

- | | | |
|---|--|--|
| <input type="checkbox"/> Asheville Regional Office
2090 U.S. 70 Highway
Swannanoa, NC 28778-8211
Phone: 828-296-4500
Fax: 828-299-7043 | <input checked="" type="checkbox"/> Fayetteville Regional Office
225 Green Street, Suite 714,
Fayetteville, NC 28301-5043
Phone: 910-433-3300
Fax: 910-486-0707 | <input type="checkbox"/> Mooresville Regional Office
610 East Center Avenue, Suite 301,
Mooresville, NC 28115
Phone: 704-663-1699
Fax: 704-663-6040 |
| <input type="checkbox"/> Raleigh Regional Office
3800 Barrett Drive,
Raleigh, NC 27609
Phone: 919-791-4200
Fax: 919-571-4718 | <input type="checkbox"/> Washington Regional Office
943 Washington Square Mall,
Washington, NC 27889
Phone: 252-946-6481
Fax: 252-975-3716 | <input type="checkbox"/> Wilmington Regional Office
127 Cardinal Drive Ext.,
Wilmington, NC 28405
Phone: 910-796-7215
Fax: 910-350-2004 |
| | <input type="checkbox"/> Winston-Salem Regional Office
450 Hanes Mill Road, Suite 300,
Winston-Salem, NC 27105
Phone: 336-776-9800
Fax: 336-776-9797 | |

ROY COOPER
Governor
ELIZABETH S. BISER
Secretary
MICHAEL SCOTT
Director



Date: October 27, 2021

To: Michael Scott, Director
Division of Waste Management

Through: Janet Macdonald
Inactive Hazardous Sites Branch – Special Projects Unit

From: Bonnie S. Ware
Inactive Hazardous Sites Branch

Subject: NEPA Project # 22-0079, City of Lumberton/HUD-CDBG, Robeson County, North Carolina

The Superfund Section has reviewed the proximity of sites under its jurisdiction to the City of Lumberton/HUD-CDBG project. Proposed project is for the construction of the West Lumberton Flood Gate located west of Interstate 95 in the vicinity of Cox Road, VFW Road, Hackett Street and the CSX railroad crossing within the City of Lumberton.

No Superfund Section sites were identified within one mile of the project as shown on the attached report.

Please contact Janet Macdonald at 919.707.8349 if you have any questions concerning the Superfund Section review portion of this SEPA/NEPA inquiry.



North Carolina Department of Environmental Quality | Division of Waste Management
217 West Jones Street | 1646 Mail Service Center | Raleigh, North Carolina 27699-1646
919.707.8200

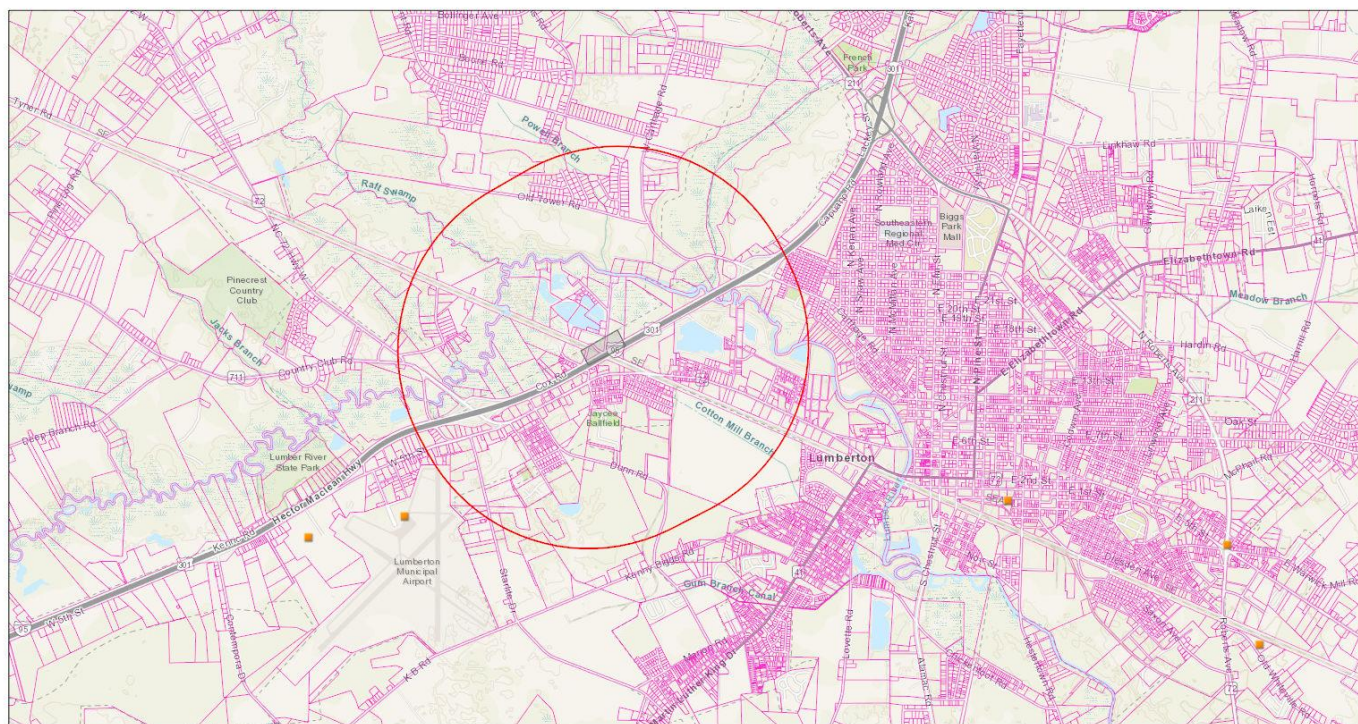


SUPERFUND SECTION SITES ONLY : SEPA/NEPA

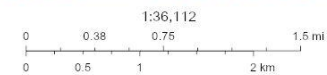
Area of Interest (AOI) Information

Area : 2,434.76 acres

Oct 27 2021 13:28:09 Eastern Daylight Time



- Inactive Hazardous Sites
- Parcels (Polygons) - Parcels



State of North Carolina DOT, Esri, HERE, Garmin, INCREMENT P, USGS, METINASA, EPA, USDA

Superfund Section Sites Only : 22-0079, Robeson County

Summary

Name	Count	Area(acres)	Length(mi)
Certified DSCA Sites	0	N/A	N/A
Federal Remediation Branch Sites	0	N/A	N/A
Inactive Hazardous Sites	0	N/A	N/A
Pre-Regulatory Landfill Sites	0	N/A	N/A
Brownfields Program Sites	0	N/A	N/A

Department of Environmental Quality

Project Review Form

Project Number: 22-0079

County: Robeson

Date Received: 10-1-2021

Due Date: 10-28-2021

Project Description: *Scoping - Proposed project is for the construction of the West Lumberton Flood Gate located west of Interstate 95 in the vicinity of Cox Road, VFW Road, Hackett Street and the CSX railroad crossing within the City of Lumberton.*

This Project is being reviewed as indicated below:

Regional Office	Regional Office Area	In-House Review
<input type="checkbox"/> Asheville	<input checked="" type="checkbox"/> Air	<input type="checkbox"/> Air Quality
<input checked="" type="checkbox"/> Fayetteville	<input checked="" type="checkbox"/> DWR	<input type="checkbox"/> Parks & Recreation
<input type="checkbox"/> Mooresville	<input checked="" type="checkbox"/> DWR - Public Water	<input checked="" type="checkbox"/> Waste Mgmt
<input type="checkbox"/> Raleigh	<input checked="" type="checkbox"/> DEMLR (LQ & SW)	<input type="checkbox"/> Water Resources Mgmt
<input type="checkbox"/> Washington	<input checked="" type="checkbox"/> DWM	<input type="checkbox"/> (Public Water, Planning & Water Quality Program)
<input type="checkbox"/> Wilmington		<input type="checkbox"/> DWR-Transportation Unit
<input type="checkbox"/> Winston-Salem		
		<input type="checkbox"/> Coastal Management
		<input type="checkbox"/> Marine Fisheries
		<input type="checkbox"/> Military Affairs
		<input type="checkbox"/> DMF-Shellfish Sanitation
		<input checked="" type="checkbox"/> Wildlife <u>Gabriela</u>
		<input type="checkbox"/> Wildlife/DOT

Manager Sign-Off/Region:	Date: 10/28/21	In-House Reviewer/Agency: Melodi Deaver, Hazardous Waste Section
--------------------------	-------------------	---

Response (check all applicable)

☐ No objection to project as proposed.

☒ No Comment

☐ Insufficient information to complete review

☐ Other (specify or attach comments)

If you have any questions, please contact:

Lyn Hardison at lyn.hardison@ncdenr.gov or (252) 948-3842
943 Washington Square Mall Washington NC 27889
Courier No. 16-04-01

Department of Environmental Quality

Project Review Form

Project Number: 22-0079

County: Robeson

Date Received: 10-1-2021

Due Date: 10-28-2021

Project Description: *Scoping - Proposed project is for the construction of the West Lumberton Flood Gate located west of Interstate 95 in the vicinity of Cox Road, VFW Road, Hackett Street and the CSX railroad crossing within the City of Lumberton.*

This Project is being reviewed as indicated below:

Regional Office	Regional Office Area	In-House Review
<input type="checkbox"/> Asheville	<input checked="" type="checkbox"/> Air	<input type="checkbox"/> Air Quality
<input checked="" type="checkbox"/> Fayetteville	<input checked="" type="checkbox"/> DWR	<input type="checkbox"/> Parks & Recreation
<input type="checkbox"/> Mooresville	<input checked="" type="checkbox"/> DWR - Public Water	<input checked="" type="checkbox"/> Waste Mgmt
<input type="checkbox"/> Raleigh	<input checked="" type="checkbox"/> DEMLR (LQ & SW)	<input type="checkbox"/> Water Resources Mgmt
<input type="checkbox"/> Washington	<input checked="" type="checkbox"/> DWM	<input type="checkbox"/> (Public Water, Planning & Water Quality Program)
<input type="checkbox"/> Wilmington		<input type="checkbox"/> DWR-Transportation Unit
<input type="checkbox"/> Winston-Salem		
		<input type="checkbox"/> Coastal Management
		<input type="checkbox"/> Marine Fisheries
		<input type="checkbox"/> Military Affairs
		<input type="checkbox"/> DMF-Shellfish Sanitation
		<input checked="" type="checkbox"/> Wildlife <u>Gabriela</u>
		<input type="checkbox"/> Wildlife/DOT

Manager Sign-Off/Region:	Date:	In-House Reviewer/Agency: Gabriela Garrison/NCWRC
--------------------------	-------	--

Response (check all applicable)

☐ No objection to project as proposed. ☒ No Comment
☐ Insufficient information to complete review ☐ Other (specify or attach comments)

If you have any questions, please contact:

Lyn Hardison at lyn.hardison@ncdenr.gov or (252) 948-3842
943 Washington Square Mall Washington NC 27889
Courier No. 16-04-01

Control No.: 22-E-0000-0079

Date Received: 10/1/2021

County.: ROBESON

Agency Response: 11/1/2021

Review Closed: 11/1/2021

JINTAO WEN
CLEARINGHOUSE COORDINATOR
DPS - DIV OF EMERGENCY MANAGEMENT

Project Information

Type: National Environmental Policy Act ping

Applicant: City of Lumberton

Project Desc.: Proposed project is for the construction of the West Lumberton Flood Gate located west of Interstate 95 in the vicinity of Cox Road, VFW Road, Hackett Street and the CSX railroad crossing within the City of Lumberton.

As a result of this review the following is submitted:

☐ No Comment

☒ Comments Below

☐ Documents Attached

The proposed project site is located within the Special Flood Hazard Area (SFHA). Any construction, grading, fill or placement of equipment or materials in the SFHA will require a floodplain development permit issued by City of Lumberton. Please coordinate with the City's Floodplain Administrator for permitting.

Reviewed By: JINTAO WEN

Date: 10/28/2021

Control No.: 22-E-0000-0079

Date Received: 10/1/2021

County.: ROBESON

Agency Response: 11/1/2021

Review Closed: 11/1/2021

JEANNE STONE
CLEARINGHOUSE COORDINATOR
DEPT OF TRANSPORTATION

Project Information

Type: National Environmental Policy Act ping

Applicant: City of Lumberton

Project Desc.: Proposed project is for the construction of the West Lumberton Flood Gate located west of Interstate 95 in the vicinity of Cox Road, VFW Road, Hackett Street and the CSX railroad crossing within the City of Lumberton.

As a result of this review the following is submitted:

☐ No Comment

☐ Comments Below

☒ Documents Attached

Reviewed By: JEANNE STONE

Date: 10/5/2021

Stone, Jeanne B

From: Jones, Kelly K
Sent: Tuesday, October 5, 2021 9:26 AM
To: Stone, Jeanne B
Cc: Norowzi, Behshad M
Subject: Clearinghouse 22-E-0000-0079 Review
Attachments: 22E00000079_West Lumberton Flood Gate.pdf

Hi Ms. Jeanne,

I have reviewed the Clearinghouse **22-E-0000-0079**: Proposal for the construction of the West Lumberton Flood Gate located west of Interstate 95 in the vicinity of Cox Road, VFW Road, Hackett Street and the CSX railroad crossing within the City of Lumberton (see attached). I had one comment, and this is provided below.

The following STIP projects may have an impact to the proposed project:

- I-6064A: I-74 (Exit 13) To Carthage Road (Exit 19). Widen Roadway.
- I-5986C: Install Broadband Fiber along I-95 from South Carolina Line to Virginia State Line.

The NCDOT 2020-2029 STIP Map can be viewed at:

<http://ncdot.maps.arcgis.com/home/webmap/viewer.html?webmap=cb02f4f828974670ad01bb83be91b18c>

Best Regards,

Kelly Jones
Transportation Engineer
Transportation Planning Division
North Carolina Department of Transportation

919 707 0979 Office
kkjones1@ncdot.gov

1554 Mail Service Center
Raleigh, NC 27699-1554



Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties

SCH Comments on Early Notice



Roy Cooper
Governor

Pamela B. Cashwell
Secretary

January 2, 2024

Andrea Gievers
City of Lumberton
c/o NC Department of Public Safety
Office of Recovery and Resiliency
Durham, NC 27709-

Re: SCH File # 24-E-4600-0162 The Proposed Activity is needed to mitigate future storm flooding as experienced and exacerbated by the effects of the landfall of Hurricanes Matthew (October 8, 2016) and Florence (September 14, 2018). The purpose of this Proposed Activity is to enhance the City's existing earthen levee and flood c

Dear Andrea Gievers:

The above referenced environmental impact information has been submitted to the State Clearinghouse under the provisions of the National Environmental Policy Act. According to G.S. 113A-10, when a state agency is required to prepare an environmental document under the provisions of federal law, the environmental document meets the provisions of the State Environmental Policy Act.

Attached to this letter are comments made by the agencies in the review of this document. If any further environmental review documents are prepared for this project, they should be forwarded to this office for intergovernmental review.

If you have any questions, please do not hesitate to contact me at (984) 236-0000.

Sincerely,

KADISHA MOLYNEAUX
State Environmental Review Clearinghouse

Attachments

Mailing
1301 Mail Service Center | Raleigh, NC 27699-1301



ncadmin.nc.gov

Location
116 West Jones St. | Raleigh NC 27603
984-236-0000 T

Control No.: 24-E-4600-0162

Date Received: 12/11/2023

County.: ROBESON

Agency Response: 12/26/2023

Review Closed: 12/26/2023

JESSICA MOSLEY
CLEARINGHOUSE COORDINATOR
DEPT OF TRANSPORTATION

Project Information

Type: National Environmental Policy Act ping

Applicant: City of Lumberton

Project Desc.: The Proposed Activity is needed to mitigate future storm flooding as experienced and exacerbated by the effects of the landfall of Hurricanes Matthew (October 8, 2016) and Florence (September 14, 2018). The purpose of this Proposed Activity is to enhance the City's existing earthen levee and flood control system to mitigate against 100-year flood events flowing from the west side of the I-95 underpass via the CSX railroad crossing in the vicinity of VFW Road, Cox Road, and Hackett Street. The City has identified the Proposed Activity site to mitigate flooding experienced on the protected side of the existing levee system, which is critical to protect lives and property in southern and western Lumberton. In addition, the levee system helps maintain access to and operation of several critical facilities behind the levee, such as the City's water treatment plant, two power grid point of delivery transformer sub stations, the City's Electric Utility Department, and a City Fire Station.

As a result of this review the following is submitted:

☐ No Comment

☐ Comments Below

☒ Documents Attached

Reviewed By: JESSICA MOSLEY

Date: 12/18/2023




STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

December 14, 2023

MEMORANDUM TO: Crystal Best
NC State Clearinghouse
Administrative Building, 5th Floor, Room #5026

FROM: Sangwoo "Marty" Sung 
Transportation Engineer
Coastal Group, Transportation Planning Division

SUBJECT: 24-E-4600-0162
These are comments from the NCDOT – Transportation Planning Division regarding North Carolina State Clearinghouse of Administration Intergovernmental Review 24-E-4600-0162.

The NCDOT – Transportation Planning Division would like to make the applicant aware of the following 2024-2033 State Transportation Improvement Program (STIP) projects, I-6064C, I-6064A, I-6064D, and I-5986C are in proximity of the proposed project and may impact the study area:

- I-6064C: Pavement Rehabilitation (Mile Marker 13 to 22)
- I-6064A: Widen to Eight Lanes (Exit 13 to Exit 19)
- I-6064D: Gauge Installation, Modeling/Hydraulic studies and stress testing
- I-5986C: Install broadband fiber along I-95.

2024-2033 State Transportation Improvement Program (STIP) project details can be found at:

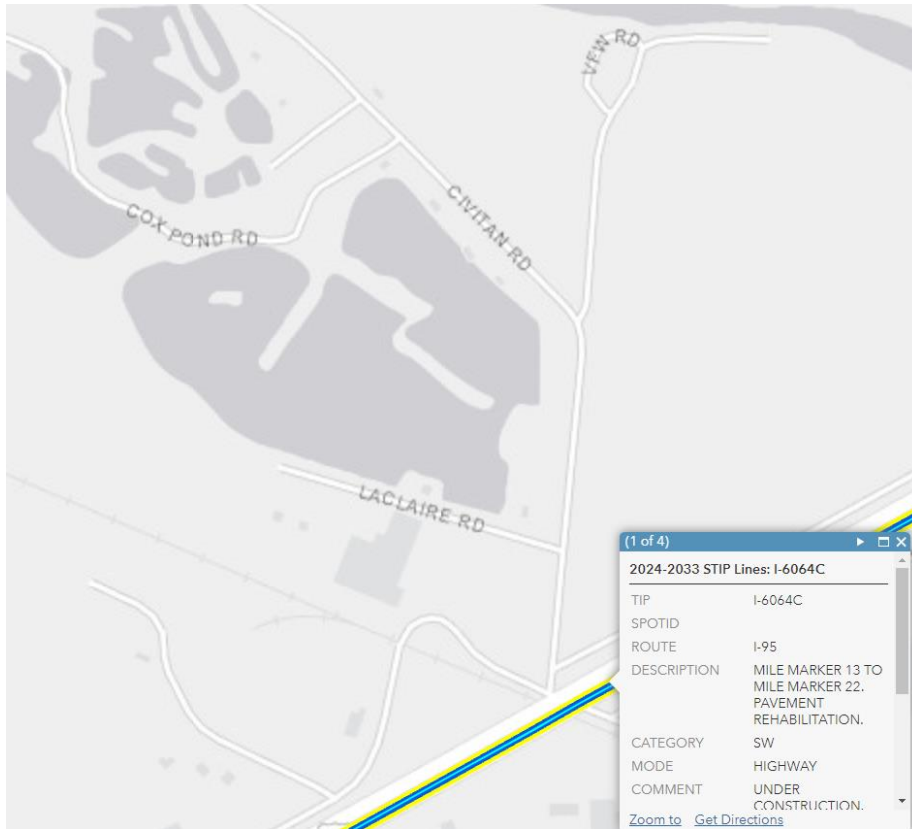
<https://ncdot.maps.arcgis.com/home/webmap/viewer.html?webmap=cb02f4f828974670ad01bb83be91b18c>

Please see the attached graphics for a better view of the proposal. If you have any further questions, please do not hesitate to contact me at 919-707-0917 or email at ssung@ncdot.gov.

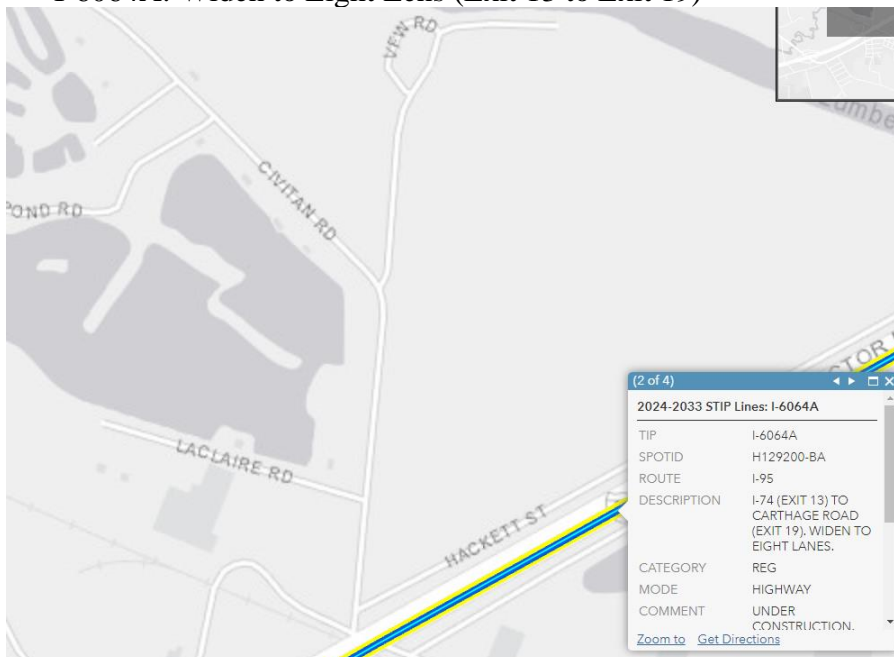
Attachments:
2024-2033 State Transportation Improvement Program (STIP) projects maps

2024-2033 State Transportation Improvement Program (STIP) projects maps

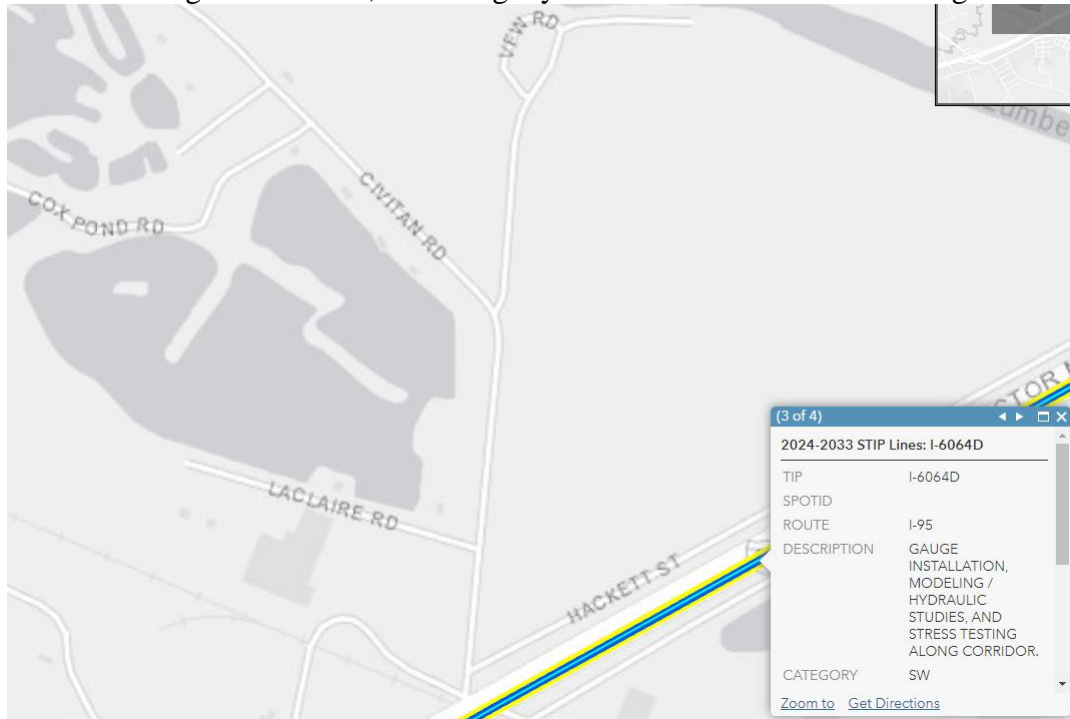
- I-6064C: Pavement Rehabilitation (Mile Marker 13 to 22)



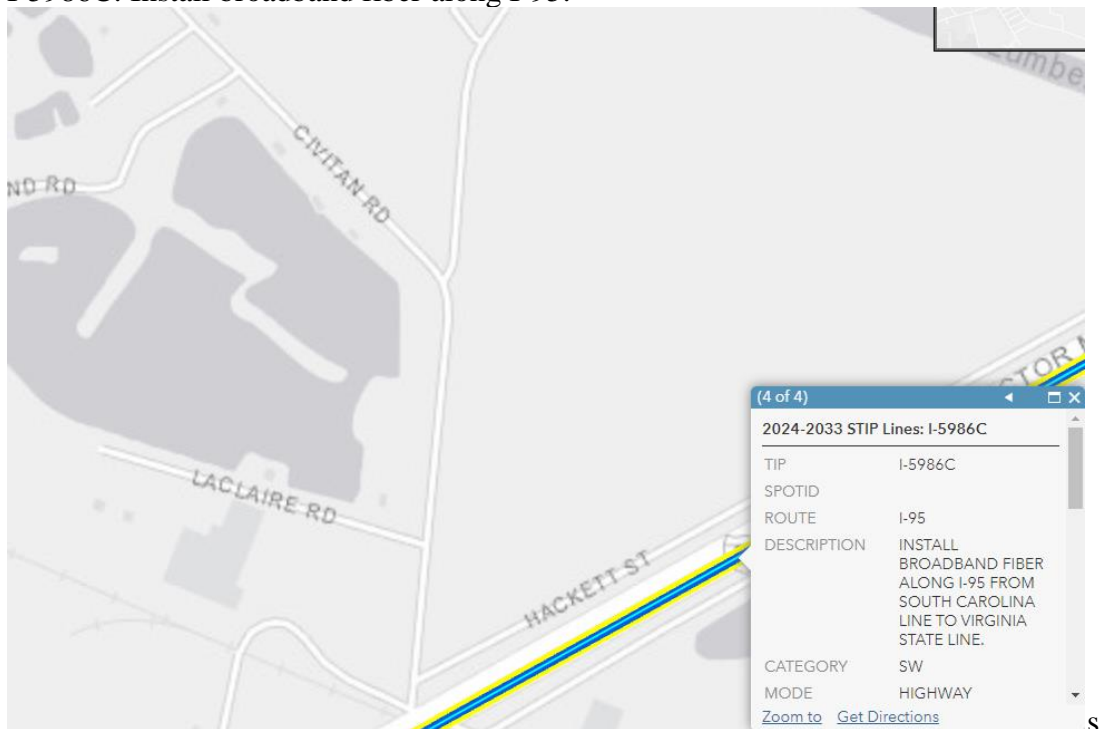
- I-6064A: Widen to Eight Lanes (Exit 13 to Exit 19)



- I-6064D: Gauge Installation, Modeling/Hydraulic studies and stress testing



- I-5986C: Install broadband fiber along I-95.



Control No.: 24-E-4600-0162

Date Received: 12/11/2023

County.: ROBESON

Agency Response: 12/26/2023

Review Closed: 12/26/2023

LYN BILES

CLEARINGHOUSE COORDINATOR

DEPT OF ENVIRONMENTAL QUALITY

Project Information

Type: National Environmental Policy Act ping

Applicant: City of Lumberton

Project Desc.: The Proposed Activity is needed to mitigate future storm flooding as experienced and exacerbated by the effects of the landfall of Hurricanes Matthew (October 8, 2016) and Florence (September 14, 2018). The purpose of this Proposed Activity is to enhance the City's existing earthen levee and flood control system to mitigate against 100-year flood events flowing from the west side of the I-95 underpass via the CSX railroad crossing in the vicinity of VFW Road, Cox Road, and Hackett Street. The City has identified the Proposed Activity site to mitigate flooding experienced on the protected side of the existing levee system, which is critical to protect lives and property in southern and western Lumberton. In addition, the levee system helps maintain access to and operation of several critical facilities behind the levee, such as the City's water treatment plant, two power grid point of delivery transformer sub stations, the City's Electric Utility Department, and a City Fire Station.

As a result of this review the following is submitted:

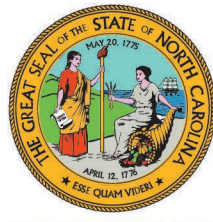
☐ No Comment

☐ Comments Below

☒ Documents Attached

Reviewed By: LYN BILES

Date: 1/2/2024



NORTH CAROLINA
Environmental Quality

ROY COOPER
Governor

ELIZABETH S. BISER
Secretary

To: Kadisha Molyneaux
State Clearinghouse
NC Department of Administration

From: Lyn Biles
Division of Environmental Assistance and Customer Service
Washington Regional Office

Re: 24-0162
Scoping - Proposed project is needed to mitigate future storm flooding as experienced and exacerbated by the effects of the landfall of Hurricanes Matthew and Florence. The proposed activity includes enhancement of an earthen levee and flood control system.
Robeson County

Date: December 31, 2023

The Department of Environment Quality has reviewed the proposal for the referenced project. Based on the information provided, several of our agencies have identified permits that may be required and offered some valuable guidance. The comments are attached for the applicants review.

The Department will continue to be available to assist the applicant with any questions or concerns.

Thank you for the opportunity to respond.

Attachments



North Carolina Department of Environmental Quality
217 West Jones Street | 1601 Mail Service Center | Raleigh, North Carolina 27699-1601
919.707.8600

ROY COOPER
Governor

ELIZABETH S. BISER
Secretary

RICHARD E. ROGERS, JR.
Director



December 14, 2023

MEMORANDUM

To: Lyn Biles, NC DEACS SEPA Coordinator

From: Hannah Sprinkle, NC Division of Water Resources, Wilmington Regional Office

Subject: Scoping comments on the proposed West Lumberton Flood Gate at VFW Road and Railroad Underpass Project in Robeson County, Project No. 24-0162,

DS
HS

Reference the letter dated December 9, 2023 in which you requested comments for the referenced project.

Preliminary analysis of the project reveals the potential for multiple impacts to streams and jurisdictional wetlands in the project area. More specifically, impacts to:

Stream Name	River Basin	Stream Classification(s)	Stream Index Number	303(d) Listing
Cotton Mill Branch	Lumber	C;Sw	14-14	
Lumber River	Lumber	WS-IV,B,Sw, HQW	14-(7)	
Lumber River	Lumber	C;Sw	14-(13)	
Gum Branch Canal	Lumber	C;Sw	14-14-1	
Jacob Swamp (Branch)	Lumber	C;Sw	14-17	
Little Jacob Branch	Lumber	C;Sw	14-17-1	
Five Mile Branch	Lumber	C;Sw	14-12-6	
Raft Swamp	Lumber	WS-IV;Sw	14-10-(5.5)	

surface water present in the general vicinity of project area

Further investigations at a higher resolution should be undertaken to verify the presence of other streams and/or jurisdictional wetlands in the area. In the event that any jurisdictional areas are identified, the Division of Water Resources requests that the applicant consider the following environmental issues for the proposed project:

Project Specific Comments:

1. Review of the project reveals the presence of surface waters classified as Water Supply Critical Area in the project study area. Given the potential for impacts to these resources during the project implementation, the NCDWR requests the applicant strictly adhere to North Carolina regulations entitled *Design Standards in Sensitive Watersheds* (15A NCAC 04B .0124) throughout design and construction of the project. This would apply for any area that drains to streams having WS CA (Water Supply Critical Area) classifications. Should the project be located within the Critical Area of a Water Supply, the applicant may be required to design, construct, and maintain hazardous spill catch basins in the project area. The number of catch basins installed should be determined by the design of the bridge, so that runoff would enter said basin(s) rather than flowing directly into the stream, and in consultation with the NCDWR.



2. Review of the project reveals the presence of surface waters classified as WS-IV,B,Sw, HQW; High Quality Waters of the State in the project study area. This is one of the highest classifications for water quality. The NCDWR is extremely concerned with any impacts that may occur to streams with this classification. It is preferred that these resources be avoided if at all possible. If it is not possible to avoid these resources, the impacts should be minimized to the greatest extent possible. Given the potential for impacts to these resources during the project implementation, the NCDWR requests that the applicant strictly adhere to North Carolina regulations entitled "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0124) throughout design and construction of the project.
3. The environmental document should provide a detailed and itemized presentation of the proposed impacts to wetlands and streams with corresponding mapping. If mitigation is necessary as required by 15A NCAC 2H.0506(c), it is preferable to present a conceptual (if not finalized) mitigation plan with the environmental documentation. Appropriate mitigation plans will be required prior to issuance of a 401 Water Quality Certification.
4. Environmental impact statement alternatives shall consider design criteria that reduce the impacts to streams and wetlands from storm water runoff. These alternatives shall include road designs that allow for treatment of the storm water runoff through BMPs as detailed in the most recent version of the *North Carolina Department of Transportation Stormwater Best Management Practices Tool box manual*, such as grassed swales, buffer areas, preformed scour holes, retention basins, etc.
5. After the selection of the preferred alternative and prior to an issuance of the 401 Water Quality Certification, the applicant is respectfully reminded that they will need to demonstrate the avoidance and minimization of impacts to wetlands (and streams) to the maximum extent practical. In accordance with the Environmental Management Commission's Rules (15A NCAC 2H.0506[c]), mitigation will be required for impacts of greater than 1/10th acre to wetlands. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. North Carolina Division of Mitigation Services may be available for assistance with wetland mitigation.
6. In accordance with the Environmental Management Commission's Rules (15A NCAC 2H.0506[c]), mitigation will be required for impacts of greater than 300 linear feet to any perennial stream. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The North Carolina Division of Mitigation Services may be available for assistance with stream mitigation.
7. Future documentation, including the 401 Water Quality Certification Application, shall continue to include an itemized listing of the proposed wetland and stream impacts with corresponding mapping.
8. The NCDWR is very concerned with sediment and erosion impacts that could result from this project. The applicant shall address these concerns by describing the potential impacts that may occur to the aquatic environments and any mitigating factors that would reduce the impacts.
9. An analysis of cumulative and secondary impacts anticipated as a result of this project is required. The type and detail of analysis shall conform to the NC Division of Water Resource Policy on the assessment of secondary and cumulative impacts dated April 10, 2004.
10. The applicant is respectfully reminded that all impacts, including but not limited to, bridging, fill, excavation and clearing, and rip rap to jurisdictional wetlands, streams, and riparian buffers need to be included in the final impact calculations. These impacts, in addition to any construction impacts, temporary or otherwise, also need to be included as part of the 401 Water Quality Certification Application.
11. Where streams must be crossed, the NCDWR prefers bridges be used in lieu of culverts. However, we realize that economic considerations often require the use of culverts. Please be advised that culverts should be countersunk to allow unimpeded passage by fish and other aquatic organisms. Moreover, in areas where high quality wetlands or streams are impacted, a bridge may prove preferable. When applicable, the applicant should not install the bridge bents in the creek, to the maximum extent practicable.



12. Whenever possible, the NCDWR prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the streambanks and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges shall allow for human and wildlife passage beneath the structure. Fish passage and navigation by canoeists and boaters shall not be blocked. Bridge supports (bents) should not be placed in the stream when possible.
13. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream.
14. Sediment and erosion control measures should not be placed in wetlands or streams.
15. Borrow/waste areas should avoid wetlands to the maximum extent practical. Impacts to wetlands in borrow/waste areas will need to be presented in the 401 Water Quality Certification and could precipitate compensatory mitigation.
16. The 401 Water Quality Certification application will need to specifically address the proposed methods for stormwater management. More specifically, stormwater shall not be permitted to discharge directly into streams or surface waters.
17. Based on the information presented in the document, the magnitude of impacts to wetlands and streams may require an Individual Permit (IP) or a Nationwide (NW) application to the Corps of Engineers and corresponding 401 Water Quality Certification. Please be advised that a 401 Water Quality Certification requires satisfactory protection of water quality to ensure that water quality standards are met and no wetland or stream uses are lost. Final permit authorization will require the submittal of a formal application by the applicant and written concurrence from the NCDWR. Please be aware that any approval will be contingent on appropriate avoidance and minimization of wetland and stream impacts to the maximum extent practical, the development of an acceptable stormwater management plan, and the inclusion of appropriate mitigation plans where appropriate.
18. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills. Concrete shall be handled in accordance with the NPDES Construction General Permit NCG010000.
19. If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas shall be seeded or mulched to stabilize the soil and appropriate native woody species shall be planted. When using temporary structures the area shall be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact allows the area to re-vegetate naturally and minimizes soil disturbance.
20. Unless otherwise authorized, placement of culverts and other structures in waters and streams shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and downstream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by the NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required.
21. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation, floodplain benches, and/or sills may be required where appropriate. Widening the stream channel should be avoided. Stream channel widening at



the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.

22. If foundation test borings are necessary; it shall be noted in the document. Geotechnical work is approved under General 401 Certification Number 4085/Nationwide Permit No. 6 for Survey Activities.
23. Sediment and erosion control measures sufficient to protect water resources must be implemented and maintained in accordance with the most recent version of North Carolina Sediment and Erosion Control Planning and Design Manual and the most recent version of NCS000250.
24. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of the NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.
25. While the use of National Wetland Inventory (NWI) maps, NC Coastal Region Evaluation of Wetland Significance (NC-CREWS) maps and soil survey maps are useful tools, their inherent inaccuracies require that qualified personnel perform onsite wetland delineations prior to permit approval.
26. Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams. This equipment shall be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.
27. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.
28. Riparian vegetation (native trees and shrubs) shall be preserved to the maximum extent possible. Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.

Thank you for requesting our input at this time. The applicant is reminded that issuance of a 401 Water Quality Certification requires that appropriate measures be instituted to ensure that water quality standards are met and designated uses are not degraded or lost. If you have any questions or require additional information, please contact Hannah Sprinkle at hannah.sprinkle@deq.nc.gov.

Electronic copy only distribution:

Hannah Sprinkle, NC Division of Water Resources Wilmington Regional Office
File Copy



North Carolina Department of Environmental Quality | Division of Water Resources
512 North Salisbury Street | 1617 Mail Service Center | Raleigh, North Carolina 27699-1617
919.707.9000

ROY COOPER

Governor

ELIZABETH S. BISER

Secretary

MICHAEL SCOTT

Director



NORTH CAROLINA
Environmental Quality

MEMORANDUM

TO: Michael Scott, Division Director through Sharon Brinkley

FROM: Amanda Thompson, Environmental Senior Specialist – Solid Waste Section

DATE: December 22, 2023

SUBJECT: Review: SW 24-0162 – Robeson County (Scoping – City of Lumberton – Proposed project is needed to mitigate future storm flooding as experienced and exacerbated by the effects of the landfall of Hurricanes Matthew and Florence. The proposed activity includes enhancement of an earthen levee and flood control system.)

The Division of Waste Management, Solid Waste Section (Section) has reviewed the documents submitted for the subject project in Robeson County, NC. Based on the information provided in this document, the Section at this time does not see an adverse impact on the surrounding communities and likewise knows of no situations in the communities which would affect this project.

For any planned or proposed projects, it is recommended that during any land clearing, demolition, and construction, the City of Lumberton and/or its contractors would make every feasible effort to minimize the generation of waste, to recycle materials for which viable markets exist, and to use recycled products and materials in the development of this project where suitable. **Any waste generated by and of the project that cannot be beneficially reused or recycled as described, may require disposal at a solid waste management facility permitted by the Division. The Section strongly recommends that the City of Lumberton require all contractors to provide proof of proper disposal for all generated waste to permitted facilities.**

Permitted solid waste management facilities are listed on the Division of Waste Management, Solid Waste Section portal site at: <https://deq.nc.gov/about/divisions/waste-management/waste-management-rules-data/solid-waste-management-annual-reports/solid-waste-permitted-facility-list>

And the site locator tool at:

<https://ncdenr.maps.arcgis.com/apps/webappviewer/index.html?id=7dd59be2750b40bebebf49fc383f688>

Questions regarding solid waste management for this project should be directed to Mr. David Powell, Environmental Senior Specialist, Solid Waste Section, at (910) 280-5135.

cc: David Powell, Environmental Senior Specialist



North Carolina Department of Environmental Quality | Division of Waste Management
Fayetteville Regional Office | 225 Green Street, Suite 714 | Fayetteville, North Carolina 28301
910.433.3300

State of North Carolina Department of Environmental Quality
INTERGOVERNMENTAL REVIEW PROJECT COMMENTS

Reviewing Regional Office: FRO
Project Number: 24-0162 Due Date: 01/05/2024
County: Robeson

After review of this project, it has been determined that the DEQ permit(s) and/or approvals indicated may need to be obtained for this project to comply with North Carolina Law. Questions regarding these permits should be addressed to the Regional Office indicated on the reverse of the form. All applications, information and guidelines relative to these plans and permits are available from the same Regional Office.

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (Statutory time limit)
<input type="checkbox"/>	Permit to construct & operate wastewater treatment facilities, non-standard sewer system extensions & sewer systems that do not discharge into state surface waters.	Application 90 days before begins construction or award of construction contracts. On-site inspection may be required. Post-application technical conference usual.	30 days (90 days)
<input type="checkbox"/>	Permit to construct & operate, sewer extensions involving gravity sewers, pump stations and force mains discharging into a sewer collection system	Fast-Track Permitting program consists of the submittal of an application and an engineer's certification that the project meets all applicable State rules and Division Minimum Design Criteria.	30 days (N/A)
<input type="checkbox"/>	NPDES - permit to discharge into surface water and/or permit to operate and construct wastewater facilities discharging into state surface waters.	Application 180 days before begins activity. On-site inspection. Pre-application conference usual. Additionally, obtain permit to construct wastewater treatment facility granted after NPDES. Reply time, 30 days after receipt of plans or issue of NPDES permit-whichever is later.	90-120 days (N/A)
<input type="checkbox"/>	Water Use Permit	Pre-application technical conference usually necessary.	30 days (N/A)
<input type="checkbox"/>	Well Construction Permit	Complete application must be received, and permit issued prior to the installation of a groundwater monitoring well located on property not owned by the applicant, and for a large capacity (>100,000 gallons per day) water supply well.	7 days (15 days)
<input type="checkbox"/>	Dredge and Fill Permit	Application copy must be served on each adjacent riparian property owner. On-site inspection. Pre-application conference usual. Filling may require Easement to Fill from N.C. Department of Administration and Federal Dredge and Fill Permit.	55 days (90 days)
<input type="checkbox"/>	Permit to construct & operate Air Pollution Abatement facilities and/or Emission Sources as per 15 A NCAC (2Q.0100 thru 2Q.0300)	Application must be submitted, and permit received prior to construction and operation of the source. If a permit is required in an area without local zoning, then there are additional requirements and timelines (2Q.0113).	90 days
<input checked="" type="checkbox"/>	Any open burning associated with subject proposal must be in compliance with 15 A NCAC 2D.1900	N/A	60 days (90 days)
<input type="checkbox"/>	Demolition or renovations of structures containing asbestos material must be in compliance with 15 A NCAC 20.1110 (a) (1) which requires notification and removal prior to demolition. Contact Asbestos Control Group 919-707-5950	Please Note - The Health Hazards Control Unit (HHCU) of the N.C. Department of Health and Human Services, must be notified of plans to demolish a building, including residences for commercial or industrial expansion, even if no asbestos is present in the building.	60 days (90 days)
<input type="checkbox"/>	The Sedimentation Pollution Control Act of 1973 must be properly addressed for any land disturbing activity. An erosion & sedimentation control plan will be required if one or more acres are to be disturbed. Plan must be filed with and approved by applicable Regional Office (Land Quality Section) at least 30 days before beginning activity. A NPDES Construction Stormwater permit (NCG010000) is also usually issued should design features meet minimum requirements. A fee of \$100 for the first acre or any part of an acre. An express review option is available with additional fees.		20 days (30 days)
<input type="checkbox"/>	Sedimentation and erosion control must be addressed in accordance with NCDOT's approved program. Particular attention should be given to design and installation of appropriate perimeter sediment trapping devices as well as stable Stormwater conveyances and outlets.		(30 days)
<input type="checkbox"/>	Sedimentation and erosion control must be addressed in accordance with _____ Local Government's approved program. Particular attention should be given to design and installation of appropriate perimeter sediment trapping devices as well as stable Stormwater conveyances and outlets.		Based on Local Program
<input type="checkbox"/>	Compliance with 15A NCAC 04B .0125 – Buffers Zones for Trout Waters shall have an undisturbed buffer zone 25 feet wide or of sufficient width to confine visible siltation within the twenty-five percent (25%) of the buffer zone nearest the land-disturbing activity, whichever is greater.		
<input type="checkbox"/>	Compliance with 15A NCAC 2H .0126 - NPDES Stormwater Program which regulates three types of activities: Industrial, Municipal Separate Storm Sewer System & Construction activities that disturb ≥1 acre.		30-60 days (90 days)
<input type="checkbox"/>	Compliance with 15A NCAC 2H 1000 -State Stormwater Permitting Programs regulate site development and post-construction stormwater runoff control. Areas subject to these permit programs include all 20 coastal counties, and various other counties and watersheds throughout the state.		45 days (90 days)

State of North Carolina Department of Environmental Quality
INTERGOVERNMENTAL REVIEW PROJECT COMMENTS

Reviewing Regional Office: FRO
Project Number: 24-0162 Due Date: 01/05/2024
County: Robeson

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (Statutory time limit)
<input type="checkbox"/>	Mining Permit	On-site inspection usual. Surety bond filed with DEQ Bond amount varies with type mine and number of acres of affected land. Affected area greater than one acre must be permitted. The appropriate bond must be received before the permit can be issued.	30 days (60 days)
<input type="checkbox"/>	Dam Safety Permit	If permit required, application 60 days before begin construction. Applicant must hire N.C. qualified engineer to prepare plans, inspect construction, and certify construction is according to DEQ approved plans. May also require a permit under mosquito control program. And a 404 permit from Corps of Engineers. An inspection of site is necessary to verify Hazard Classification. A minimum fee of \$200.00 must accompany the application. An additional processing fee based on a percentage, or the total project cost will be required upon completion.	30 days (60 days)
<input type="checkbox"/>	Oil Refining Facilities	N/A	90-120 days (N/A)
<input type="checkbox"/>	Permit to drill exploratory oil or gas well	File surety bond of \$5,000 with DEQ running to State of NC conditional that any well opened by drill operator shall, upon abandonment, be plugged according to DEQ rules and regulations.	10 days N/A
<input type="checkbox"/>	Geophysical Exploration Permit	Application filed with DEQ at least 10 days prior to issue of permit. Application by letter. No standard application forms.	10 days N/A
<input type="checkbox"/>	State Lakes Construction Permit	Application fee based on structure size is charged. Must include descriptions & drawings of structure & proof of ownership of riparian property	15-20 days N/A
<input type="checkbox"/>	401 Water Quality Certification	Compliance with the T15A 02H .0500 Certifications are required whenever construction or operation of facilities will result in a discharge into navigable water as described in 33 CFR part 323.	60 days (130 days)
<input type="checkbox"/>	Compliance with Catawba, Goose Creek, Jordan Lake, Randleman, Tar Pamlico or Neuse Riparian Buffer Rules is required. Buffer requirements: http://deq.nc.gov/about/divisions/water-resources/water-resources-permits/wastewater-branch/401-wetlands-buffer-permits/401-riparian-buffer-protection-program		
<input type="checkbox"/>	Nutrient Offset: Loading requirements for nitrogen and phosphorus in the Neuse and Tar-Pamlico River basins, and in the Jordan and Falls Lake watersheds, as part of the nutrient-management strategies in these areas. DWR nutrient offset information: http://deq.nc.gov/about/divisions/water-resources/planning/nonpoint-source-management/nutrient-offset-information		
<input type="checkbox"/>	CAMA Permit for MAJOR development	\$250.00 - \$475.00 fee must accompany application	75 days (150 days)
<input type="checkbox"/>	CAMA Permit for MINOR development	\$100.00 fee must accompany application	22 days (25 days)
<input type="checkbox"/>	Abandonment of any wells, if required must be in accordance with Title 15A. Subchapter 2C.0100.		
<input checked="" type="checkbox"/>	Notification of the proper regional office is requested if "orphan" underground storage tanks (USTS) are discovered during any excavation operation.		
<input type="checkbox"/>	Plans and specifications for the construction, expansion, or alteration of a public water system must be approved by the Division of Water Resources/Public Water Supply Section prior to the award of a contract or the initiation of construction as per 15A NCAC 18C .0300 et. seq., Plans and specifications should be submitted to 1634 Mail Service Center, Raleigh, North Carolina 27699-1634. All public water supply systems must comply with state and federal drinking water monitoring requirements. For more information, contact the Public Water Supply Section, (919) 707-9100.		30 days
<input type="checkbox"/>	If existing water lines will be relocated during the construction, plans for the water line relocation must be submitted to the Division of Water Resources/Public Water Supply Section at 1634 Mail Service Center, Raleigh, North Carolina 27699-1634. For more information, contact the Public Water Supply Section, (919) 707-9100.		30 days
<input type="checkbox"/>	Plans and specifications for the construction, expansion, or alteration of the _____ water system must be approved through the _____ delegated plan approval authority. Please contact them at _____ for further information.		

State of North Carolina Department of Environmental Quality
INTERGOVERNMENTAL REVIEW PROJECT COMMENTS

Reviewing Regional Office: FRO
Project Number: 24-0162 Due Date: 01/05/2024
County: Robeson

Other Comments (attach additional pages as necessary, being certain to comment authority)

Division	Initials	No comment	Comments	Date Review
DAQ	JDL	<input checked="" type="checkbox"/>		12/19/2023
DWR-WQROS (Aquifer & Surface)	&	<input type="checkbox"/>	&	/ /
DWR-PWS	HHS	<input type="checkbox"/>	Comments attached	12/14/2023
DEMLR (LQ & SW)	MAJ	<input type="checkbox"/>	Submit an erosion and sediment control plan (ESCP) at least 30 days prior to initiating land-disturbing activity that satisfy the one (1) acre regulatory threshold. Additional information pertaining to our ESCP application process may be found at Erosion and Sediment Control NC DEQ Obtain NPDES Construction Stormwater General Permit NCG010000 Certificate of Coverage prior to initiating land-disturbing activity following approval of the ESCP.	12/28/2023
DWM – UST	KEC	<input type="checkbox"/>	The UST Section, Fayetteville Regional Office, does not have records of a petroleum release in the general area of concern for this project number, nor are there any records of registered USTs. DWM Site Locator Tool https://ncdenr.maps.arcgis.com/apps/webappviewer/index.html?id=7dd59be2750b40bebebf49fc383f688 Registered UST Records Search https://xapps.ncdenr.org/wm/docs/WMDocs_Search.jsp	12/14/23
Other Comments		<input type="checkbox"/>		/ /

REGIONAL OFFICES

Questions regarding these permits should be addressed to the Regional Office marked below.

- | | | |
|---|--|--|
| <input type="checkbox"/> Asheville Regional Office
2090 U.S. 70 Highway
Swannanoa, NC 28778-8211
Phone: 828-296-4500
Fax: 828-299-7043 | <input checked="" type="checkbox"/> Fayetteville Regional Office
225 Green Street, Suite 714,
Fayetteville, NC 28301-5043
Phone: 910-433-3300
Fax: 910-486-0707 | <input type="checkbox"/> Mooreville Regional Office
610 East Center Avenue, Suite 301,
Mooreville, NC 28115
Phone: 704-663-1699
Fax: 704-663-6040 |
| <input type="checkbox"/> Raleigh Regional Office
3800 Barrett Drive,
Raleigh, NC 27609
Phone: 919-791-4200
Fax: 919-571-4718 | <input type="checkbox"/> Washington Regional Office
943 Washington Square Mall,
Washington, NC 27889
Phone: 252-946-6481
Fax: 252-975-3716 | <input type="checkbox"/> Wilmington Regional Office
127 Cardinal Drive Ext.,
Wilmington, NC 28405
Phone: 910-796-7215
Fax: 910-350-2004 |
| | <input type="checkbox"/> Winston-Salem Regional Office
450 Hanes Mill Road, Suite 300,
Winston-Salem, NC 27105
Phone: 336-776-9800
Fax: 336-776-9797 | |

Department of Environmental Quality

Project Review

Project Number: 24-0162

County: Robeson

Date Received: 12-11-2023

Due Date: 01-03-2024

Project Description:

Scoping - The Proposed Activity - Purpose is to enhance the City's existing earthen levee and flood control system to mitigate against 100-year flood events flowing from the west side of the I-95 underpass via the CSX railroad crossing in the vicinity of VFW Road, Cox Road, and Hackett Street. The City has identified the Proposed Activity site to mitigate flooding experienced on the protected side of the existing levee system, which is critical to protect lives and property in southern and western Lumberton. In addition, the levee system helps maintain access to and operation of several critical facilities behind the levee, such as the City's water treatment plant, two power grid point of delivery transformer sub stations, the City's Electric Utility Department, and a City Fire Station.

This Project is being reviewed as indicated below:

Regional Office	Regional Office Area	In-House Review	
Asheville	Air	Air Quality	Coastal Management
Fayetteville	DWR	Waste Mgmt	Marine Fisheries
Mooreville	DWR - Public Water	Water Resources Mgmt (Public	CC & PS Div. of
Raleigh	DEMLR (LQ & SW)	Water, Planning & Water	Emergency Mgmt
Washington	DWM	Quality Program)	DMF-Shellfish Sanitation
Wilmington		DWR-Transportation Unit	Wildlife <u>Gabriela</u>
Winston Salem		<u>Hannah</u>	Wildlife/DOT <u>Travis</u>

Manager Sign-Off/Region:	Date:	In-House Reviewer/Agency:
	12/15/23	Melodi Deaver, DWM Hazardous Waste

Response (check all applicable)

- ☐ No objection to project as proposed. ☒ No Comment
- ☐ Insufficient information to complete review ☐ Other (specify or attach comments)

Control No.: 24-E-4600-0162

Date Received: 12/11/2023

County.: ROBESON

Agency Response: 12/26/2023

Review Closed: 12/26/2023

DEVON BORGARDT
CLEARINGHOUSE COORDINATOR
DEPT OF NATURAL & CULTURAL
RESOURCE

Project Information

Type: National Environmental Policy Act ping

Applicant: City of Lumberton

Project Desc.: The Proposed Activity is needed to mitigate future storm flooding as experienced and exacerbated by the effects of the landfall of Hurricanes Matthew (October 8, 2016) and Florence (September 14, 2018). The purpose of this Proposed Activity is to enhance the City's existing earthen levee and flood control system to mitigate against 100-year flood events flowing from the west side of the I-95 underpass via the CSX railroad crossing in the vicinity of VFW Road, Cox Road, and Hackett Street. The City has identified the Proposed Activity site to mitigate flooding experienced on the protected side of the existing levee system, which is critical to protect lives and property in southern and western Lumberton. In addition, the levee system helps maintain access to and operation of several critical facilities behind the levee, such as the City's water treatment plant, two power grid point of delivery transformer sub stations, the City's Electric Utility Department, and a City Fire Station.

As a result of this review the following is submitted:

☐ No Comment

☐ Comments Below

☒ Documents Attached

Reviewed By: DEVON BORGARDT

Date: 12/12/2023



**North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office**

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary D. Reid Wilson

Office of Archives and History
Deputy Secretary, Darin J. Waters, Ph.D.

December 7, 2023

MEMORANDUM

TO: Andrea Gievers andrea.l.gievers@rebuild.nc.gov
N.C. Office of Recovery & Resiliency
Department of Public Safety

FROM: Ramona M. Bartos, Deputy
State Historic Preservation Officer *RMB for Ramona M. Bartos*

SUBJECT: Construct West Lumberton floodgate, I-95 bridge and Crystal Road, Lumberton,
Robeson County, ER 20-0997

Thank you for your email of December 7, 2023, concerning the above project.

Based on the results of no NRHP eligible sites identified during the 2020 archaeological survey of the original APE as part of TIP I-6064, PA 19-04-0007, it is unlikely that any archaeological resources that may be eligible for inclusion in the National Register of Historic Places will be affected by the project within the revised flood gate APE. We, therefore, recommend that no archaeological investigation be conducted in connection with the revised APE.

We have determined that the project as proposed will not have an effect on any historic structures.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@dncr.nc.gov. In all future communication concerning this project, please cite the above referenced tracking number.



**North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office**

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary D. Reid Wilson

Office of Archives and History
Deputy Secretary, Darin J. Waters, Ph.D.

December 7, 2023

MEMORANDUM

TO: Andrea Gievers andrea.l.gievers@rebuild.nc.gov
N.C. Office of Recovery & Resiliency
Department of Public Safety

FROM: Ramona M. Bartos, Deputy
State Historic Preservation Officer *RMB for Ramona M. Bartos*

SUBJECT: Construct West Lumberton floodgate, I-95 bridge and Crystal Road, Lumberton,
Robeson County, ER 20-0997

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We have determined that the project as proposed will not have an effect on any historic structures.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@dncr.nc.gov In all future communication concerning this project, please cite the above referenced tracking number.

Control No.: 24-E-4600-0162

Date Received: 12/11/2023

County.: ROBESON

Agency Response: 12/26/2023

Review Closed: 12/26/2023

DAVID RICHARDSON
CLEARINGHOUSE COOR REGION N
LUMBER RIVER COG

Project Information

Type: National Environmental Policy Act ping

Applicant: City of Lumberton

Project Desc.: The Proposed Activity is needed to mitigate future storm flooding as experienced and exacerbated by the effects of the landfall of Hurricanes Matthew (October 8, 2016) and Florence (September 14, 2018). The purpose of this Proposed Activity is to enhance the City's existing earthen levee and flood control system to mitigate against 100-year flood events flowing from the west side of the I-95 underpass via the CSX railroad crossing in the vicinity of VFW Road, Cox Road, and Hackett Street. The City has identified the Proposed Activity site to mitigate flooding experienced on the protected side of the existing levee system, which is critical to protect lives and property in southern and western Lumberton. In addition, the levee system helps maintain access to and operation of several critical facilities behind the levee, such as the City's water treatment plant, two power grid point of delivery transformer sub stations, the City's Electric Utility Department, and a City Fire Station.

As a result of this review the following is submitted:

☒ No Comment

☐ Comments Below

☐ Documents Attached

Reviewed By: DAVID RICHARDSON

Date: 12/12/2023

Control No.: 24-E-4600-0162

Date Received: 12/11/2023

County.: ROBESON

Agency Response: 12/26/2023

Review Closed: 12/26/2023

JINTAO WEN
CLEARINGHOUSE COORDINATOR
DPS - DIV OF EMERGENCY MANAGEMENT

Project Information

Type: National Environmental Policy Act ping

Applicant: City of Lumberton

Project Desc.: The Proposed Activity is needed to mitigate future storm flooding as experienced and exacerbated by the effects of the landfall of Hurricanes Matthew (October 8, 2016) and Florence (September 14, 2018). The purpose of this Proposed Activity is to enhance the City's existing earthen levee and flood control system to mitigate against 100-year flood events flowing from the west side of the I-95 underpass via the CSX railroad crossing in the vicinity of VFW Road, Cox Road, and Hackett Street. The City has identified the Proposed Activity site to mitigate flooding experienced on the protected side of the existing levee system, which is critical to protect lives and property in southern and western Lumberton. In addition, the levee system helps maintain access to and operation of several critical facilities behind the levee, such as the City's water treatment plant, two power grid point of delivery transformer sub stations, the City's Electric Utility Department, and a City Fire Station.

As a result of this review the following is submitted:

☒ No Comment

☐ Comments Below

☐ Documents Attached

Reviewed By: JINTAO WEN

Date: 12/12/2023

SCH Comments on FONSI/NOI-RROF/Final Notice

Appendix W:
Public Outreach Package



CITY OF LUMBERTON

CITY COUNCIL

AGENDA • MAY 13, 2019

Regular Meeting

Council Chambers

6:00 PM

500 N Cedar St, Third Floor, Lumberton, NC 28358

Mayor Bruce W. Davis

Councilmember Eric Chavis, Precinct 7
Councilmember John Carroll, Precinct 3
Councilmember Leroy Rising, Precinct 1
Councilmember Karen Higley, Precinct 4

Councilmember John Cantey, Mayor Pro Tem
Councilmember Chris Howard, Precinct 6
Councilmember Owen Thomas, Precinct 8

STAFF:

Wayne Horne, City Manager
Laney Mitchell-McIntosh, City Clerk
Holt Moore, City Attorney

I. CALL TO ORDER

B. Invocation

C. Pledge of Allegiance

D. Retiree Recognition

1. Jerry E., Kinlaw - 24 years as Police Sergeant - LPD

II. PUBLIC COMMENT PERIOD

III. CONSENT AGENDA

- A. Award the Contract for Banking Service to BB&T - Option 2 for the Next Three Years - Council Policy Committee
- B. Approve the Engineering Services Agreement with Atkins for the Design and Construction Administration of the West Lumberton Flood Gate Project - Council Policy Committee
- C. Approve the Grant Administration Contract for West Lumberton Flood Gate Project with McGill for Grant Administration of the CDBG-DR funding of the West Lumberton Flood Gate Project - Council Policy Committee
- D. Acceptance of Property Adjacent to East Rescue Station - Council Policy Committee
- E. Acceptance of Property on the Lumber River by Campbell Family - Council Policy Committee

- F. Authorize Year-end Budget Amendments Closing of FY2019 - Council Policy Committee
- G. Approval of Write-off of Delinquent Receivables - Council Policy Committee
- H. Approve the designation of \$250.00 for Cruising 2nd Street Again in Precinct 4 - Council Policy Committee
- I. Approve the designation of \$600.00 of CRF for Community Watches and Forums - Council Policy Committee
- J. Ratify the Designation of \$1,000.00 of CRF to the Fallen Officers Memorial - City Council
- K. Approve the designation of \$300.00 of CRF (\$150.00 P8 & \$150.00 P7) to the Carolina Civic Center for the Broadway Musical "Annie" - Council Policy Committee
- L. Advise the Election Board of Council's Request to Hold Precinct 2 Special Election in July 2019 - Council Policy Committee
- M. 2749 : Approval of Language Access Plan - Council Policy Committee
- N. Approve Boards and Commissions / Non-Profits Budget Requests for FY2019-2020 - Council Policy Committee
- O. Adopt a Resolution of Intent to Close a Portion of Edens Street - City Attorney

IV. PUBLIC HEARING

- A. Closeout Public Hearing for CDBG Demolition Project – Brian Nolley, CDBG Administration
- B. Adopt a Resolution Authorizing Closeout Resolution – Brian Nolley, CDBG Administration

V. AGENDA ITEMS

- A. Approval of Addition to Budget – Troy Gammon, Airport Manager
- B. Approval of Bid/Contract for Home Reconstruction - Hazard Mitigation Grant Program – Brian Nolley, CDBG Administration
- C. Approval of Bid/Contract for Demolition for Hazard Mitigation Grant Program – Brian Nolley, CDBG Administration
- D. Acceptance of bid to replace concrete drive for Fire Station One – Paul Ivey, Fire Chief
- E. Acceptance of bid proposal for replacement of Fire Station One flooring – Paul Ivey, Fire Chief
- F. 6" Water Main River Crossing Change Order #1 – Rob Armstrong, Public Works Director

- G. Water Plant Berm Construction Bid Award – Rob Armstrong, Public Works Director
- H. Authorize the Execution of Design Contract with the Becker Morgan Group – Brandon Love, Deputy City Manager
- I. Renewal Of Retails Strategies Contract – Holt Moore, City Attorney

VI. NEW BUSINESS

- A. Approve the designation of \$200.00 of CRF to Robeson County Church & Community Center – Council Policy Committee -- Bruce Davis, Mayor
- B. Approve the designation of \$200.00 of Community Revitalization Funds to Knuckles School for the Positive Behavioral Intervention Support Program from Precinct 7 – Council Policy Committee -- Eric Chavis, Precinct 7

VII. ADJOURNMENT

Lumberton City Council

Lumberton, North Carolina



REQUEST FOR CC ACTION

Meeting Date: May 8, 2019

Originated By: City Manager

Submission Date: May 2, 2019

Subject: Flood Gate Engineering

Summary/Background of Subject Matter -

Proposals were received on April 18, 2019 for engineering of the West Lumberton Flood Gate project. Staff reviewed two proposals from Atkins and Schnabel, both highly qualified firms with experience in floodplain management and hydraulic design. Staff's evaluation of these proposals, based on the four scoring criteria defined in the RFQ, has resulted in a recommendation to utilize Atkins for engineering of the flood gates (evaluation matrices are attached for Council's review).

Recommendation for CC Consideration:

Recommendation is that Council authorize the Public Works Director to negotiate an engineering services contract with Atkins for the design and construction administration of the West Lumberton Flood Gate Project.

Signature: *Brandon Love*

Department: City Manager

City Manager's Comments:

<< FOR CITY MANAGER ONLY >>

Signature: *Wayne Horne*

Department: City Management


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Lumberton City North Carolina

Agenda Item 2757

Approved
May 13, 2019 6:00 PM

Approve the Engineering Services Agreement with Atkins for the Design and Construction Administration of the West Lumberton Flood Gate Project

Information

Department:
Category:

City Manager
Contract

Sponsors:

Attachments

[Printout](#)
[EngineeringFinalRFQ](#)
[Flood_Gate_Engineering_Evaluation](#)

Summary/Background

Proposals were received on April 18, 2019 for engineering of the West Lumberton Flood Gate project. Staff reviewed two proposals from Atkins and Schnabel, both highly qualified firms with experience in floodplain management and hydraulic design. Staff's evaluation of these proposals, based on the four scoring criteria defined in the RFQ, has resulted in a recommendation to utilize Atkins for engineering of the flood gates (evaluation matrices are attached for Council's review).

Recommendation for Consideration

Recommendation is that Council authorize the Public Works Director to negotiate an engineering services contract with Atkins for the design and construction administration of the West Lumberton Flood Gate Project.

City Manager Comments

<< FOR CITY MANAGER ONLY >>

Meeting History

May 8, 2019 11:00 AM **Council Policy Committee** **Regular Meeting**

RESULT: REFERRED [6 TO 0]
MOVER: Eric Chavis, Precinct 7
SECONDER: Chris Howard, Precinct 6
AYES: Leroy Rising, John R. Carroll, Karen Higley, John Cantey, Chris Howard, Eric Chavis
ABSTAIN: Bruce W. Davis
ABSENT: Owen Thomas

May 13, 2019 6:00 PM **City Council** **Regular Meeting**

RESULT: APPROVED [7 TO 0]
MOVER: John Cantey, Mayor Pro Tem
SECONDER: Chris Howard, Precinct 6
AYES: Eric Chavis, John R. Carroll, Leroy Rising, Karen Higley, John Cantey, Chris Howard, Owen Thomas
ABSTAIN: Bruce W. Davis

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Lumberton City Council

Lumberton, North Carolina



REQUEST FOR CC ACTION

Meeting Date: May 8, 2019

Originated By: City Manager

Submission Date: May 2, 2019

Subject: Flood Gate Grant Administration

Summary/Background of Subject Matter -

Proposals were received on April 18, 2019 for grant administration of the West Lumberton Flood Gate project. Staff reviewed two proposals from Hartigan Management and McGill, both highly qualified firms with experience in CDBG grant administration. Staff's evaluation of these proposals, based on the seven scoring criteria defined in the RFQ, has resulted in a recommendation to utilize McGill for CDBG grant administration of the flood gate project (evaluation matrices are attached for Council's review).

Recommendation for CC Consideration:

Recommendation is that Council authorize the Deputy City Manager to negotiate a consulting services contract with McGill for grant administration of the CDBG-DR funding of the West Lumberton Flood Gate Project.

Signature: *Brandon Love*

Department: City Manager

City Manager's Comments:

<< FOR CITY MANAGER ONLY >>

Signature: *Wayne Horne*

Department: City Management


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Lumberton City North Carolina

Agenda Item 2758

Approved
May 13, 2019 6:00 PM

Approve the Grant Administration Contract for West Lumberton Flood Gate Project with McGill for Grant Administration of the CDBG-DR funding of the West Lumberton Flood Gate Project

Information

Department:
Category:

City Manager
Contract

Sponsors:

Attachments

[Printout](#)
[AdministrationRFQFinal](#)
[Flood_Gate_Grant_Administration_Evaluation](#)

Summary/Background

Proposals were received on April 18, 2019 for grant administration of the West Lumberton Flood Gate project. Staff reviewed two proposals from Hartigan Management and McGill, both highly qualified firms with experience in CDBG grant administration. Staff's evaluation of these proposals, based on the seven scoring criteria defined in the RFQ, has resulted in a recommendation to utilize McGill for CDBG grant administration of the flood gate project (evaluation matrices are attached for Council's review).

Recommendation for Consideration

Recommendation is that Council authorize the Deputy City Manager to negotiate a consulting services contract with McGill for grant administration of the CDBG-DR funding of the West Lumberton Flood Gate Project.

City Manager Comments

<< FOR CITY MANAGER ONLY >>

Meeting History

May 8, 2019 11:00 AM **Council Policy Committee** **Regular Meeting**

RESULT: REFERRED [6 TO 0]
MOVER: Eric Chavis, Precinct 7
SECONDER: John Cantey, Mayor Pro Tem
AYES: Leroy Rising, John R. Carroll, Karen Higley, John Cantey, Chris Howard, Eric Chavis
ABSTAIN: Bruce W. Davis
ABSENT: Owen Thomas

May 13, 2019 6:00 PM **City Council** **Regular Meeting**

RESULT: APPROVED [7 TO 0]
MOVER: John Cantey, Mayor Pro Tem
SECONDER: Chris Howard, Precinct 6
AYES: Eric Chavis, John R. Carroll, Leroy Rising, Karen Higley, John Cantey, Chris Howard, Owen Thomas
ABSTAIN: Bruce W. Davis



CITY OF LUMBERTON

CITY COUNCIL

MINUTES • MAY 13, 2019

Regular Meeting

Council Chambers

6:00 PM

500 N Cedar St, Third Floor, Lumberton, NC 28358

I. CALL TO ORDER

Attendee Name	Title	Status	Arrived
Eric Chavis	Precinct 7	Present	
John R. Carroll	Precinct 3	Present	
Bruce W. Davis	Mayor	Present	
Leroy Rising	Precinct 1	Present	
Karen Higley	Precinct 4	Present	
John Cantey	Mayor Pro Tem	Present	
Chris Howard	Precinct 6	Present	
Owen Thomas	Precinct 8	Present	
Wayne Horne	City Manager	Present	
Laney Mitchell-McIntosh	City Clerk	Present	
Holt Moore	City Attorney	Present	

B. Invocation: City Attorney Holt Moore

C. Pledge of Allegiance: Led by Councilman Eric Chavis

D. Retiree Recognition

1. Jerry E., Kinlaw - 24 years as Police Sergeant - LPD - No Show

II. PUBLIC COMMENT PERIOD

Leon Burden, President of Colors of Life, appeared before Council to discuss funding for his organization.

Terry Wayne Locklear, 307 E. 15th Street, appeared before Council and discussed a situation pertaining to garbage and the dwelling located near him. He stated that the City should enforce the ordinances that they have. He wanted something done about the living situation at the house next to him.

III. CONSENT AGENDA

A. Award the Contract for Banking Service to BB&T - Option 2 for the Next Three Years - Council Policy Committee

Our current contract with CresCom will expire on June 30, 2019. A list of required services and general information was given to local banks to receive a competitive proposal. The options are summarized in the attached chart.

Recommend that CPC review the attached options and award the contract to CresCom - option 2 for the next three fiscal years.

City Council chose to award the contract for banking services to BB&T - option 2 for the next three fiscal years.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

- B. Approve the Engineering Services Agreement with Atkins for the Design and Construction Administration of the West Lumberton Flood Gate Project - Council Policy Committee
- Proposals were received on April 18, 2019 for engineering of the West Lumberton Flood Gate project. Staff reviewed two proposals from Atkins and Schnabel, both highly qualified firms with experience in floodplain management and hydraulic design. Staff's evaluation of these proposals, based on the four scoring criteria defined in the RFQ, has resulted in a recommendation to utilize Atkins for engineering of the flood gates (evaluation matrices are attached for Council's review).

Recommendation is that Council authorize the Public Works Director to negotiate an engineering services contract with Atkins for the design and construction administration of the West Lumberton Flood Gate Project.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

- C. Approve the Grant Administration Contract for West Lumberton Flood Gate Project with McGill for Grant Administration of the CDBG-DR funding of the West Lumberton Flood Gate Project - Council Policy Committee

Proposals were received on April 18, 2019 for grant administration of the West Lumberton Flood Gate project. Staff reviewed two proposals from Hartigan Management and McGill, both highly qualified firms with experience in CDBG grant administration. Staff's evaluation of these proposals, based on the seven scoring criteria defined in the RFQ, has resulted in a recommendation to utilize McGill for CDBG grant administration of the flood gate project (evaluation matrices are attached for Council's review).

Recommendation is that Council authorize the Deputy City Manager to negotiate a consulting services contract with McGill for grant administration of the CDBG-DR funding of the West Lumberton Flood Gate Project.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

- D. Acceptance of Property Adjacent to East Rescue Station - Council Policy Committee
- Mr. John Campbell and his family have kindly offered to donate to the city some land adjacent to the East Rescue Station on S. Roberts Ave / Hwy 72. Maps of the property are

attached, and staff believes that to own the property, even if it is only used to maintain a buffer, would be beneficial. The property is currently part of a larger tract that runs back to Saxon Avenue, so a subdivision would need to occur, but this should pose no problem. Attached is an aerial of the property, a map and a map showing the size and area; the property is 2.29 acres.

Staff recommends that the CPC refer the item to Council to accept the property donation.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

E. Acceptance of Property on the Lumber River by Campbell Family - Council Policy Committee

John Campbell and his family own a piece of property on the Lumber River just north of the Scottish Packing facility. The tax information for the property, an aerial map, and a map showing the surrounding ownership is attached. The property is on or abuts the levy, and as we look forward towards potentially having the levy certified, the more control the city has over such properties the better. As you can see the property to the west is owned by the city, the property to the north is owned by the City Housing Authority, and the property immediately to the south is heir property.

Staff recommends accepting the property from the Campbell family.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

F. Authorize Year-end Budget Amendments Closing of FY2019 - Council Policy Committee

Budget amendments will be needed for the year end closing of fiscal year 2019.

Recommend that CPC authorize the City Manager and Finance Director to perform budget amendments for the year end closing of fiscal year 2019.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

G. Approval of Write-off of Delinquent Receivables - Council Policy Committee

A list of delinquent receivables is attached for review and consideration for write-off. This is a standard accounting practice to write-off accounts receivable that are three years old and taxes receivable that are ten years old and continue our efforts to collect them.

Recommend that CPC approve the write-off of the attached delinquent receivables.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

- H. Approve the designation of \$250.00 for Cruising 2nd Street Again in Precinct 4 - Council Policy Committee

Councilwoman Higley requests \$250.00 of CRF for “Cruising 2nd Street Again” an event that will be held on April 28, 2019.

Designate \$250.00 for Cruising on 2nd Street Again.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

- I. Approve the designation of \$600.00 of CRF for Community Watches and Forums - Council Policy Committee

Councilman Cantey is requesting \$600.00 of CRF to hold several community watches and forums in Precinct 5.

Designate \$600.00 of CRF for community watches and forums in Precinct 5.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

- J. Ratify the Designation of \$1,000.00 of CRF to the Fallen Officers Memorial - City Council City Clerk Mitchell-McIntosh conducted a telephonic poll on April 22nd and 23rd to honor fallen law enforcement officers in Robeson County. Councilman Chavis requested that \$300.00 of CRF be given in support of the memorial and ask that we conduct a poll based on the timeframe of the event. As a result of the telephonic poll; the following CRF designations occurred: P1 - \$200.00 P3 - \$100.00 P4 - \$200.00 P5 - \$50.00 P6 - \$50.00 P7 - \$300.00 and P8 - \$100.00 totaling \$1,000.

Ratify the designation of \$1,000.00 of CRF to the Robeson Community College Fallen Memorial Fund.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

- K. Approve the designation of \$300.00 of CRF (\$150.00 P8 & \$150.00 P7) to the Carolina Civic Center for the Broadway Musical "Annie" - Council Policy Committee
Councilmen Thomas & Chavis are requesting \$150 each to be given to the Carolina Civic Center as monetary support for advertisement of the upcoming SMASH Broadway Musical "Annie."

Designate \$300.00 of CRF (\$150.00 from both P8 & P7) to the Carolina Civic Center for advertisement of the Broadway Musical "Annie."

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Owen Thomas, Precinct 8
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

- L. Advise the Election Board of Council's Request to Hold Precinct 2 Special Election in July 2019 - Council Policy Committee

Staff relayed Council's request that the Precinct 2 special election take place as a stand-alone election in June or July without absentee / early voting. The state and local boards of elections have responded with a request that Council consider holding this election on September 10, 2019. A memo discussing this item in more detail is attached.
Consider the requests from the election boards and advise staff accordingly.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

- M. 2749 : Approval of Language Access Plan - Council Policy Committee

As a recipient of CDBG and other grant funds under the Housing and Community Development Act of 1974, the City is required to maintain a number of plans and planning documents up-to-date. We have two CDBG projects REMPAC and Robeson Foods that we are working on and in order to complete them, we must have the attached resolution and planning documents in place.

That Council adopt the attached Resolution for Planning Documents Update for Community Development Block Grant Program.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

N. Approve Boards and Commissions / Non-Profits Budget Requests for FY2019-2020 - Council Policy Committee

The City Staff has started preparation of the FY 2019-2020 Budget. In 2002, City Council approved a policy on contracting with non-profit agencies creating procedures for evaluating proposals and creating clear responsibilities for accountability. Attached are the Boards and Commissions / Non-profits FY 2019-2020 Budget requests along with the City Manager's recommendations.

That CPC refer the funding for boards and commissions / Non-profits budget requests to City Council for approval.

Item is being sent for discussion to the May 29, 2019, Budget Workshop.

RESULT:	REFERRED [7 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	John R. Carroll, Precinct 3
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

O. Adopt a Resolution of Intent to Close a Portion of Edens Street - City Attorney

At its meeting of May 8, 2019, CPC heard a request from Adrian Lowery, Executive Director of Lumberton Housing Authority asking the City to Close a Portion of Edens Street for future development. As discussed, the plan with the Housing Authority will be for the City to retain an easement for access once the street is closed.

The procedure for permanently closing a street requires the adoption of the attached Resolution by the City Council. Also attached, is a map depicting the area in which the City intends to permanently close.

That City Council adopt the attached Resolution of Intent.

Councilman Cantey voiced his concerns about the Church parking situation. Councilman Howard stated that the Church has discussed selling the property with the potential buyers.

Councilman Cantey just wants to make sure that due diligence is given to this item.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

IV. PUBLIC HEARING

A. Closeout Public Hearing for CDBG Demolition Project – Brian Nolley, CDBG Administration

This public hearing is for the purpose of reviewing and assessing the performance of the City's FY 14 Building Demolition program. This program consisted of the demolition of two dilapidated industrial buildings located at 110 First St and 608 Town Common St. and was financed with \$4222,725.06 of Community Development Block Grant Funds (100% of the total program costs) received by the City from the NC Dept. of Commerce Rural Economic Development Division. With these funds, the City demolished and cleared two dilapidated buildings which eliminated slum and blight conditions and prepared the properties for future industrial development and private investment. This public hearing is the final public hearing for this grant program before submission of closeout information to the NC Dept. of Commerce.

Recommend that City Council hold tonight's public hearing.

Mayor Davis opened the public hearing for the purpose of reviewing and assessing the performance of the City's FY14 Building Demolition Program. City Clerk Mitchell-McIntosh presented the Affidavit of Publication showing that it was advertised in the Robesonian.

No one appeared to speak and the hearing was closed.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

B. Adopt a Resolution Authorizing Closeout Resolution – Brian Nolley, CDBG Administration

This resolution is required to closeout the city's FY14 Community Development Block Grant for the demolition of two industrial structures located and 1st and Town Common Streets. The resolution confirms all grant activities and closeout procedures have been completed. A copy of the performance report is included.

The planning department recommends adopting the resolution for closeout.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

V. AGENDA ITEMS

A. Approval of Addition to Budget – Troy Gammon, Airport Manager

The Airport Commission requests an additional \$15,000 in capital funds as part of the local match for a Non-Primary Entitlement (NPE) grant in the amount of \$300,000 (\$270k state, \$15k County, \$15k City). These monies must be expended prior to the end of this fiscal year.

The state of North Carolina has expiring NPE funds available for the Terminal Project. The total amount is \$300,000 which would require a \$30,000 local match (\$15,000/county,

\$15,000 city). This money was not requested in this year's budget as it has just become available in the past week. This would allow us to request reimbursement immediately as opposed to waiting for future fiscal years to request reimbursement for certain funding monies for the airport terminal building project.

CPC recommends the addition of \$15,000 to the airport capital budget as the city's portion for the grant local match.

RESULT:	APPROVED [7 TO 0]
MOVER:	Leroy Rising, Precinct 1
SECONDER:	Karen Higley, Precinct 4
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

B. Approval of Bid/Contract for Home Reconstruction - Hazard Mitigation Grant Program – Brian Nolley, CDBG Administration

The planning department is seeking approval to award a construction contract to Cook Contractors, LLC based in Whiteville, NC. This bid was for the first home reconstruction at 123 Spearman St. under the city's Hazard Mitigation Grant Program. The bid opening was held on April 5, 2019 at 2:00 pm and we received 5 bids with the lowest bid coming from Cook Contractors at \$163,900.00. Allocated funds from the HMGP program will be used to pay for reconstruction.

The planning dept. recommends awarding the construction contract to the low bidder, Cook Contractors, LLC.

RESULT:	APPROVED [7 TO 0]
MOVER:	John R. Carroll, Precinct 3
SECONDER:	John Cantey, Mayor Pro Tem
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

C. Approval of Bid/Contract for Demolition for Hazard Mitigation Grant Program – Brian Nolley, CDBG Administration

The Planning Dept. is seeking approval to award a contract to Barfield Backhoe of Lumberton for the demolition of 6 houses that have been acquired through the city's Hazard Mitigation Grant Program. Bid opening was held on April 23rd at 2:00. We received 7 bids with Barfield Backhoe being the low bid at \$71,197. Grant funds will be used to pay for the demolition. These properties are located at:

106 Best Dr.

207 Elmhurst Dr.

209 Elmhurst Dr.

2306 Marshall St.

305 S. Walnut St.

62 National Ave.

CPC recommends awarding the contract for demolition to the low bidder, Barfield Backhoe in the amount of \$71,197.

RESULT:	APPROVED [7 TO 1]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
NAYS:	Davis

- D. Acceptance of bid to replace concrete drive for Fire Station One – Paul Ivey, Fire Chief
Requesting to replace damaged concrete drive located in the front and rear of Fire Station One. The concrete has several areas where stress fractures and cracks have formed. Replacing concrete will also reduce the issues of water drainage in the rear lot areas with the modification to the existing drainage system. Bids were solicited from the following vendors:

Jerry Bell Concrete-	\$88,800
Specialized Concrete-	\$83,220
Sutton Concrete-	\$60,500
Greenstate-	Declined Bid

CPC recommends the bid be awarded to Sutton Concrete in the amount of \$60,500.

RESULT:	APPROVED [7 TO 0]
MOVER:	Leroy Rising, Precinct 1
SECONDER:	Karen Higley, Precinct 4
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

- E. Acceptance of bid proposal for replacement of Fire Station One flooring – Paul Ivey, Fire Chief

Request to upgrade aged VCT tile at Station One that requires continued maintenance, special products, and man hours to ensure floor covering is in a presentable condition. The request is to replace covering with a maintenance free finish that will be durable and requires no special chemical or cleaner for durability. Bids were solicited from the following vendors:

All Star Coatings Lincoln Floor Systems-	\$61,750
Superior Industrial Flooring-	\$51,225
Cox Flooring-	Unable to Bid
West Carpet-	Unable to Bid

CPC recommends that the bid be awarded to Superior Industrial Flooring in the amount of \$51,225.

RESULT:	APPROVED [7 TO 0]
MOVER:	John R. Carroll, Precinct 3
SECONDER:	John Cantey, Mayor Pro Tem
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

- F. 6" Water Main River Crossing Change Order #1 – Rob Armstrong, Public Works Director
During Hurricane Matthew a 6" Water main under the Lumber River was washed out. The

City awarded Axel McPherson Construction Inc. a contract to install a new water main under the river as part of a FEMA funded storm repair project. The original contract was for \$69,899. As construction progressed, the City found it necessary to change the tie-in locations as well as take the bore deeper than originally anticipated. Attached is Change Order #1 from Axel McPherson Construction Inc. for \$31,910 for these adjustments. This is a FEMA reimbursable expense.

CPC recommends approving the 6" Water Main River Crossing Change Order #1 from Axel McPherson Construction Inc. for \$31,910. The total final project cost to be reimbursed by FEMA is \$101,809

RESULT:	APPROVED [7 TO 0]
MOVER:	Karen Higley, Precinct 4
SECONDER:	John R. Carroll, Precinct 3
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

- G. Water Plant Berm Construction Bid Award – Rob Armstrong, Public Works Director
Bids for the FEMA funded flood protection berm at the Water Plant were received on Thursday, March 28, at 2:00pm. At the time of the agenda due date, bids had not been certified. A certified bid tab and recommendation of award will be presented at the CPC meeting.

CPC recommends awarding the construction project to T2 Contracting, Inc. to construct flood protection berm.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

- H. Authorize the Execution of Design Contract with the Becker Morgan Group – Brandon Love, Deputy City Manager

At its March CPC meeting, Council authorized staff to negotiate an architectural services contract with the Becker-Morgan Group to provide design and project administration services for the construction of the new West Lumberton Resource Center. Staff has secured a contract with the Becker-Morgan Group based on an anticipated construction cost of \$850,000 and at a fee of 8%. This equals approximate compensation in the amount of \$68,000 and a portion of the contract is attached for your review. Funding for this project is being provided by a Golden LEAF grant.

It is recommended that City Council authorize the City Manager to execute the *Standard Form of Agreement Between Owner and Architect* with the Becker-Morgan Group at a fee of 8%.

RESULT:	APPROVED [7 TO 0]
MOVER:	Chris Howard, Precinct 6
SECONDER:	John Cantey, Mayor Pro Tem
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

I. Renewal Of Retails Strategies Contract – Holt Moore, City Attorney

For a number of years, the city has worked with the Retail Strategies company. Retail Strategies has considerable expertise, and strong connections, in the realm of retail companies who are opening new locations or relocating. They have been very helpful in bringing several new businesses to Lumberton. A list of accomplishments and some references are attached. Also attached is the proposed new contract which is up for renewal. Staff recommends renewing the contract with Retails Strategies.
Renew contract with Retail Strategies.

RESULT:	APPROVED [7 TO 0]
MOVER:	Eric Chavis, Precinct 7
SECONDER:	Owen Thomas, Precinct 8
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

VI. NEW BUSINESS

A. Approve the designation of \$200.00 of CRF to Robeson County Church & Community Center – Council Policy Committee -- Bruce Davis, Mayor

Mayor Davis is requesting that \$200.00 of Community Revitalization funds be designated to the Robeson County Church and Community Center.

Designate \$200.00 of CRF to Robeson County Church & Community Center from the Mayor's Discretionary Fund.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

B. Approve the designation of \$200.00 of Community Revitalization Funds to Knuckles School for the Positive Behavioral Intervention Support Program from Precinct 7 – Council Policy Committee -- Eric Chavis, Precinct 7

Councilman Chavis requests \$200.00 of CRF to be given to WH Knuckles School for the Positive Behavioral Intervention Support Program.

Designate \$200.00 to WH Knuckles School.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Chavis, Carroll, Rising, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis

VII. ADJOURNMENT


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**City Council
Regular Meeting
12/4/2019 11:00 AM
Council Chambers**

500 N Cedar St Third Floor Lumberton, NC 28358

Downloads:

[Summary](#) [Minutes Packet](#)

I. Call to Order

- A. Roll Call
- B. Invocation: City Attorney Moore
- C. Pledge of Allegiance: Led by Councilman Carroll

D. Retirees Recognition

- 1. Paul Godaire - Electric Utilities Powerline Crew Supervisor - 21 yrs of Service: Will attend in January
- 2. John Simmons - Lumberton Police Department - Police Corporal - 12 yrs of Service

II. Public Comment Period

III. Communications

A. General

- 1. Brenda Hunt-Emanuel, BART Program Director Financial Support for the Installation of a Heating and Air System

IV. Minutes Approval

- A. [Minutes of Oct 14, 2019 6:00 PM](#)
- B. [Minutes of Nov 6, 2019 11:00 AM](#)

V. Agenda Items

- A. [Unsafe structure located at 2311 Carver Street](#)
 - a. [2311 Carver St](#)
 - b. [Ordinance Directing Building Inspector 2311 Carver Street](#)
- B. [Unsafe structure located at 1906 Edgewood Street](#)
 - a. [1906 Edgewood St](#)
 - b. [Ordinance Directing Building Inspector 1906 Edgewood Street](#)
- C. [Authorize the Lumberton Police Department to submit revision to 2019 Edward Byrne Memorial JAG Grant](#)
- D. [Generator for New Terminal Building](#)
 - a. [PCO #09 CBE New Generator Quote 11-7-19](#)
 - b. [PCO #09 New Generator Cost 11 07 19](#)
- E. [Traffic Signal Upgrade](#)
 - a. [Traffic Signals Upgrade](#)
- F. [Lift Station 21 \(Cancer Institute\) Flood Mitigation Improvement Design Contract](#)
 - a. [191122_Lumberton_REVISED ESA for Cancer Institute Lift Station 21](#)
- G. [Acceptance of the roads in the Pinecrest Subdivision](#)
 - a. [Pinecrest Village map or record Map Book 46 Page 53 \(3\)](#)
 - b. [8.5 x 11 Landscape \(1\)](#)
- H. [Thomas G. Hunt has submitted a Conditional Use Permit petition for property located on Elizabethtown Road](#)
 - a. [application et al](#)

I. Approval of Financing Vehicles & Equipment

a. Scann__20191125_135949

J. Final Approval of Donation of Property From French Family Properties

a. HPSCANNER0195

b. 19-504-DS nov 25 2019

K. Approval of Floodgate CDBG-DR Grant Administration Contract with McGill Associates PA

a. Grant Administration Contract 2019-11-4 signed

L. Approve the Christmas Holiday Schedule as December 24th , 25th & 26th as Paid Christmas Holidays and December 23rd and 27th as Required Vacation or Leave Without Pay Days Off**M. Approve the designation of \$250.00 of CRF to Avondale Pictures**

a. avondale pictures

N. Approve the Designation of \$250.00 of CRF to Lumberton High Visual Art Program

a. P8 - Lumberton High School

O. Adopt an Ordinance Erecting "No Parking Zone" Signs on Hardin Road at the Intersections of Willis and Elizabethtown Roads

P. Approve the designation of \$2,500 of CRF as follows: Baptist Men Association: \$1,000, Mohr Plaza Activities: \$500.00, Church & Community Center \$500.00, and Lumberton Christian Care: \$500.00

Q. Approve the designation of \$400.00 of Community Revitalization Funds to Borderbelt Aids Resources Training (BART) Fundraising Event for Electrical, Heating and Air**VI. CLOSED SESSION****VII. Adjournment**

Powered by Granicus

**McGill Associates PA
Technical Service Contract**

THIS AGREEMENT, made this the _____ of _____, 2019 by and between McGill Associates (hereinafter called the "Consultant") and the City of Lumberton, (hereinafter called the "City").

WITNESSETH

WHEREAS, the Consultant operates to provide planning and technical assistance to McGill Associates Clients in North Carolina; and

WHEREAS, the City is the recipient of a 2019 NC Department of Commerce Community Development Block Grant – Disaster Recovery Program (CDBG-DR) and has procured the assistance of the Consultant in administration of these grants.

NOW, THEREFORE, the Consultant and the City mutually agree to the following:

1. Employment and Scope of Work

The City hereby agrees to engage the Consultant and the Consultant agrees to perform in a satisfactory and proper manner the work as described in the detailed "Scope of Services" set forth in Exhibit A, attached hereto, and by this reference made a part hereof.

2. Length of Contract

The work of the Consultant shall commence on _____, 2019 and shall be undertaken and completed in such sequence as to assure expeditious completion in light of the purposes of this Contract; but, in any event, the work required herein shall not extend beyond the length of the CDBG-DR grant.

3. Assignability

The parties hereby agree that they may not assign their obligations under this Agreement without written permission of the other party. The Consultant shall not assign any interest in this Contract and shall not transfer any interest in the same whether by assignment or substitution, without the prior written consent of the City, or unless specifically contained in the Scope of Work attached hereto.

4. Compensation and Method of Payment

- a. City will pay the Consultant for the services provided hereunder at cost not to exceed as follows: **\$80,000 for Grant Administration**. The Consultant will assign personnel to the project based on technical experience defined in the proposal and to ensure project quality of service.
- b. The Consultant will issue an invoice to the City each month detailing the Consultant's cost of work performed and associated travel costs for the prior month. The City will issue a check to the Consultant within a reasonable time upon receipt of the monthly invoice.

5. Termination of Contract for Cause

If, for any cause, the Consultant shall fail to fulfill in a timely and proper manner its obligations under this Contract, or, if the Consultant shall violate any of the covenants, agreements, or

stipulations of this Contract, the City shall, thereupon, have the right to terminate this Contract by giving written notice to the Consultant of such termination fifteen days before such effective date. During the fifteen-day notification period, the Consultant shall have the opportunity to remedy any failures or violations to avoid termination of the Contract. If termination occurs, the Consultant shall be entitled to receive just and equitable compensation for all satisfactory work completed.

6. Changes

The City may from time to time request changes in the scope of work or services to be performed by the Consultant hereunder. Such changes, including any increases or decreases in the Consultant's compensation, which are mutually agreed upon by and between the City and Consultant, shall be incorporated as written amendments to the Contract.

7. Records

The Consultant shall maintain financial records pertaining to this Contract for five years after final settlement of the Contract or until cleared by audit.

8. Access to Records

The Consultant shall have access to appropriate records on file at the City that are necessary to fulfill the terms of this Contract.

9. Interest of Contractor

The Consultant covenants that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this contract. The Consultant further covenants that in the performance of this contract no person having any such interest shall knowingly be employed.

10. Findings Confidential

Any reports, information, data, etc., given to or prepared or assembled by the Consultant under this contract which the City requests to be kept confidential shall not be made available to any individual or organization other than the City, unless the Consultant is required by law to make said item or items available.

11. Complete Agreement

This Contract contains the complete agreement of the Parties and may not be modified in any respect except by written amendment approved by both parties hereto.

12. Applicable Laws

The Parties agree that this document is to be governed, construed, and enforced in accordance with all of the laws of the State of North Carolina, and with federal laws and regulations required by the North Carolina Department of Commerce (CDBG-DR) cited herein.

13. Disclaimers and Waivers

This Agreement is to be regarded as an agreement for the purposes described in the Preamble section of this Agreement and the related clauses and provisions herein. It is the responsibility of each party to seek independent professional advice, to review, and to negotiate any changes prior to execution of this Agreement. City hereby disclaims the use of any contract interpretation principles against it as the drafter of this Agreement, and Consultant hereby waives any and all use of said principles in any dispute or action based on the terms of this Agreement.

14. Merger

The parties agree that this Agreement constitutes the entire agreement of the parties.

15. Conflict of Interest

Interest of Members, Officers, or Employees of the Recipient, Members of Local Governing

Body, or Other Public Officials. No member, officer, or employee of the recipient, or its agents, no member of the governing body of the locality in which the program is situated, and no other public official of such locality or localities who exercise any functions or responsibilities with respect to the program during his tenure or for one year thereafter, shall have any financial interest, direct or indirect, in any contract or subcontract, or the proceeds thereof, for work to be performed in connection with the program assisted under this agreement. Immediate family members of said members, officers, employees, and officials are similarly barred from having any financial interest in the program. The recipient shall incorporate, or cause to be incorporated, in all such contracts or subcontracts, a provision prohibiting such interest pursuant to the purpose of this section.

16. Access to Records and Record Retainage

- a. In general, all official project records and documents must be maintained during the operation of this project and for a period of five years following close out in compliance with 4 NCAC 19L Rule .0911, Record keeping.
- b. The North Carolina Department of Commerce and the North Carolina Department of the Treasurer or any of their duly authorized representatives, shall have access to any books, documents, papers and records of the Administering Agency which are pertinent to the execution of this Agreement, for the purpose of making audits, examinations, excerpts and transcriptions in compliance with the above Rule.

17. Indemnification

- a. To the extent allowed by law, the Consultant agrees to indemnify, hold harmless and defend the City as well as its directors, officers, employees and agents against all claims for personal injury or property damage or both, including reasonable attorney's fees and the cost of defense resulting or alleged to result from any act or omission of the Consultant or its employees or agents in performing or failing to perform any of its obligations under this Agreement.
- b. To the extent allowed by law, the City agrees to indemnify, hold harmless and defend the Consultant as well as its directors, officers, employees and agents against all claims for personal injury or property damage or both, including reasonable attorney's fees and the cost of defense resulting or alleged to result from any act or omission of the City or its employees or agents in performing or failing to perform any of its obligations under this Agreement.

18. Binding Agreement

The parties agree that this Agreement is binding on their heirs, assigns, transferees, or successors in obligation or interest, except that, to the extent that performance requires the qualifications set forth above, and if the heirs, assigns, transferees, or successors do not possess such qualifications, then specific performance shall not be required, however all other remedies shall remain in full force and effect.

19. Choice of Law

The laws of the State of North Carolina shall apply to this Agreement.

20. Modification of Agreement

This Agreement may only be modified in writing and signed by all parties.

21. Separable Provision

Should any provision of this Agreement be held to be judicially unenforceable for any reason, the remaining provisions shall have full force and effect.

22. Default

If a party substantially fails to perform under this Agreement, then that party is deemed to be in default and breach.

23. Remedies

The non-breaching, non-defaulting party is entitled to receive any and all remedies available at law and equity. In addition, the parties explicitly agree and waive any rights to argue against the same, that the non-breaching, non-defaulting party shall receive all costs, expenses, and attorneys' fees associated in enforceable its/his/her rights under this Agreement.

24. Notices

- a. All notices to the City shall be sent to:
- b. All notices to Consultant shall be sent to:

25. Designated Agents

- a. The designated agent for contact and all matters related to this Agreement for the City
- b. The designated agent for contact and all matters related to this Agreement for McGill Associates:

26. Safety

The parties hereby acknowledge that safety issues are of key importance to the City and therefore Consultant agrees to comply with all applicable safety policies and procedures of Consultant, as well as those that are standard in the industry or service that is the subject of this Agreement, and Consultant hereby agrees to fully indemnify City and hold it harmless for any claims, liabilities, debts, or causes of action arising from Consultant's actions or inactions that are outside of the scope of this limited authority.

27. Time is of the Essence

The parties hereby acknowledge and agree that time is of the essence with respect to the duties and obligations of Consultant in this Agreement and Consultant hereby explicitly waives any claim or legal or equitable argument that time is not of the essence with respect to such duties and obligations.

28. Headings

Section headings are not to be considered a part of this Agreement and are not intended to be a full and accurate description of the contents hereof.

29. Information

Any and all work product from services, information, and reporting materials by Consultant during this engagement relative to the duties under this Agreement shall be the exclusive property of the City; and Consultant hereby assigns all right, title, and interest in the same to the City. Upon the expiration or earlier termination of this Agreement, or whenever requested by the City, Consultant shall immediately deliver to the City all such files, records, documents, specifications, information, and other items in its/her/his possession or control.

30. Additional Confidentiality

In addition to the herein concerning confidentiality, the parties acknowledge and agree that the very nature of an independent contracting relationship exposes the City to an even greater risk of improper disclosure of confidential information. Therefore, Consultant agrees not only not to

disclose any of this information, but to take all measures necessary to ensure that an inadvertent disclosure of such information is not possible.

31. Conflict of Interest/Non-hire Provision

Consultant represents that it is free to enter into this Agreement, and that this engagement does not violate the terms of any agreement between Consultant and any third party.

32. Grantee Assurances

In the performance of this Agreement, the Engineering Firm shall comply with all applicable Federal rules and procedures outlined on the attached pages as E.O. 11246 Clause and the Section 3 Clause (Attachment A)

33. Entire Agreement

This is the entire agreement between the parties and there are no terms, conditions, representations or warranties relating to the work to be performed hereunder which are not specifically set forth herein in the language of the Agreement or in the attachments.

34. Reimbursement to City for Improper Expenditures

The Consultant shall and does agree to reimburse the City for any amount of grant administration funds improperly expended, either deliberately or non-deliberately.

35. E-Verify Provision

Pursuant to G.S. 143-48.5 and G.S. 147-33.95(g), the undersigned hereby certifies that the Consultant named below, and the Consultant's sub-Consultants, complies with the requirements of Article 2 of Chapter 64 of the NC General Statutes, including the requirement for each employer with more than 25 employees in North Carolina to verify the work authorization of its employees through the federal E-Verify system. E-Verify System Link: www.uscis.gov

36. Conflict of Interest (2 CFR Part §200.318 General procurement standards)

Interest of Members, Officers, or Employees of the Recipient, Members of Local Governing Body, or Other Public Officials. No member, officer, or employee of the recipient, or its agents, no member of the governing body of the locality in which the program is situated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the program during his tenure or for one year thereafter, shall have any financial interest, direct or indirect, in any contract or subcontract, or the proceeds thereof, for work to be performed in connection with the program assisted under this agreement. Immediate family members of said members, officers, employees, and officials are similarly barred from having any financial interest in the program. The recipient shall incorporate, or cause to be incorporated, in all such contracts or subcontracts, a provision prohibiting such interest pursuant to the purpose of this section.

37. Nondiscrimination Clause - Section 109, Housing and Community Development Act of 1974

No person in the United States shall on the ground of race, color, national origin, or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds available under this title.

38. Age Discrimination Act of 1975, as amended - Nondiscrimination on the Basis of Age

No qualified person shall on the basis of age, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activity which receives or benefits from Federal financial assistance.

39. Section 504 of the Rehabilitation Act of 1973, as amended - Nondiscrimination on the Basis of Disability

No qualified disabled person shall on the basis of disability, be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any program or activity which receives or benefits from federal financial assistance.

40. Access to Records and Record Retainage Clause

- a. In general, all official project records and documents must be maintained during the operation of this project and for a period of three years following closeout in compliance with 24 CFR §570.490.
- b. The North Carolina Department of the Treasurer, U.S. Department of Housing and Urban Development, the Comptroller General of the United States, and the NC Department of Commerce, or any of their duly authorized representatives, shall have access to any books, documents, papers and records of the Administering Agency which are pertinent to the execution of this agreement, for the purpose of making audits, examinations, excerpts and transcriptions in compliance with the above Rule.

41. Lobbying Clauses

Required by Section 1352, Title 31, U.S. Code

- a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative, agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- b. This is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each failure.

This is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each failure.

42. Legal Remedies Provision and Termination Provision [don't just copy and paste the below items, read and do what they say]

- a. Appendix II to Part 200—Contract Provisions for Non-Federal Entity Contracts under Federal Awards Contracts. other than small purchases shall contain provisions or conditions which will allow for administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as may be appropriate.
- b. Appendix II to Part 200—Contract Provisions for Non-Federal Entity Contracts under Federal Awards. All contracts in excess of \$10,000 shall contain suitable provisions for termination by the grantee including the manner by which it will be effected and the basis for settlement. In addition, such contracts shall describe conditions under which the contract may be terminated for default as well as conditions where the contract may be terminated because of circumstances beyond the control of the contractor.

43. Section 3 Clause

All section 3 covered contracts shall include the following clause (referred to as the section 3 clause):

- a. The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.
- b. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.
- c. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.
- d. The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 135.
- c. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 135.
- d. Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.
- e. With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b) agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

44. **Appendix II to Part 200—Contract Provisions for Non-Federal Entity Contracts Under Federal Awards**

In addition to other provisions required by the Federal agency or non-Federal entity, all contracts made by the non-Federal entity under the Federal award must contain provisions covering the following, as applicable.

- a. Contracts for more than the simplified acquisition threshold currently set at \$150,000, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.
- b. All contracts in excess of \$10,000 must address termination for cause and for convenience by the non-Federal entity including the manner by which it will be affected and the basis for settlement.
- c. Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of “federally assisted construction contract” in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, “Equal Employment Opportunity” (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” and implementing regulations at 41 CFR part 60, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.”
- d. Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of \$2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, “Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction”). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland “Anti-Kickback” Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, “Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States”). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.
- e. Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded by the non-Federal entity in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be

required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

- f. Rights to Inventions Made Under a Contract or Agreement. If the Federal award meets the definition of “funding agreement” under 37 CFR §401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding agreement,” the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” and any implementing regulations issued by the awarding agency.
- g. Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended—Contracts and subgrants of amounts in excess of \$150,000 must contain a provision that requires the non-Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).
- h. Debarment and Suspension (Executive Orders 12549 and 12689)—A contract award (see 2 CFR 180.220) must not be made to parties listed on the governmentwide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), “Debarment and Suspension.” SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.
- i. Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)—Contractors that apply or bid for an award exceeding \$100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

See §200.322 Procurement of recovered materials.

[78 FR 78608, Dec. 26, 2013, as amended at 79 FR 75888, Dec. 19, 2014]

- 45. The RFP, as set out by the City, and McGill’s written response/proposal to it, shall be incorporated herein as if set out explicitly, and should any terms of that RFP and response/proposal conflict with this contract, so long as the RFP terms do not violate any local, state or federal law, the terms in the RFP and response/proposal shall control. However, the pricing and related items in this contract shall control regardless.

IN WITNESS WHEREOF, each party has caused this Agreement to be
duly executed on the day and year first above written.

APPROVED AS TO FORM:

Office of City Attorney

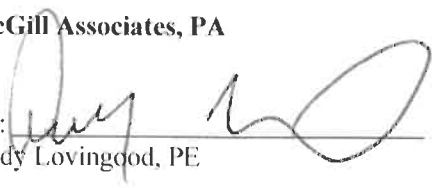
City of Lumberton

By: _____

Title: _____

Attest: _____

McGill Associates, PA

By:  _____
Andy Lovingood, PE

Title: President Elect

Attest:  _____

EXHIBIT A
SCOPE OF SERVICES
Technical Services and Grant Administration

The Consultant will assist the City of Lumberton in complying with the terms and conditions of the NC Department of Commerce, Community Development Block Grant – Disaster Recovery Program. The Scope of Services is further detailed below.

McGill Associates will be responsible for:

ITEM

SCHEDULE

Scope of Services

1. Attend all program workshops and training.
2. Assisting in the completion of the Environmental Review Compliance including Scoping, Agency Comments, Publications, and Request for Release of Funds;
3. Assisting City in developing and revising all compliance documents and plans including but not limited to:
 - a. Citizen Participation Plan
 - b. Financial Management Plan
 - c. Equal Employment Opportunity and Procurement Plan
 - d. Section 3 Plan
 - e. Relocation - Anti-Displacement Plan
 - f. ADA Grievance Procedure
 - g. Section 504 Plan and Survey
 - h. Fair Housing Plan and Activities Implementation
 - i. Language Access Plan
 - j. Procurement Standards
 - k. Flood Plain Documentation
 - l. Conflict of Interest and Ethics Statement
 - m. Complaint and Grievance Procedure for Compliance Plans
 - n. Labor Standards Compliance
 - o. Completion of all required reports and documentation
 - p. Assistance with Financial Reimbursement forms; and
 - q. Setting up and managing official records.
4. Complete Request for Release of Funds;
5. Coordinate with Engineering firm solicitation of General Construction Contractor;

6. Document and Report minority, female and local contractors solicitation and participation;
7. Document and Report Section 3 solicitations and participation;
8. Completing the pre-construction conferences and meeting minutes with engineering firm;
9. Complete the project site monitoring, reviewing and approving change orders in coordination with project engineering firm, and City;
10. Complete all employee interviews in compliance with Davis Bacon labor regulations;
11. Reviewing all payroll document, employee interview forms as required by Davis Bacon regulations;
12. Assisting in resolving and responding to citizens' complaints, concerns and questions;
13. Assisting City Staff in meeting CDBG-DR requirements related to citizen inquires such as:
 - a. Project updates, timelines, procedures, etc.
 - b. Interpretation of regulations and bulletins;
14. Preparation for monitoring visits as well as:
 - a. responding to CDBG-DR staff requests
 - b. Preparation of required reports, financial reports in conjunction with City's financial staff, including annual report;
15. Prepare all periodic and annual performance reports for the City's review and submission;
16. Prepare grant closeout documents and closeout procedure for City's review and submission.

City's responsibilities:

1. Funds Disbursement
2. Legal Issues
3. Arranging for annual audit and final audit;
4. Manage financial requisition, and audit requirements;
5. Submit Request for Release of Funds reports from the CDBG-DR;

6. Assisting Project Administrator, as needed;

7. Resolve and responding to citizens' complaints, concerns, and questions.

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act.

_____, Finance Director Date: _____


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Lumberton City North Carolina

Agenda Item 2935

Approved
Dec 4, 2019 11:00 AM

Approval of Floodgate CDBG-DR Grant Administration Contract with McGill Associates PA

Information

Department:

City Manager

Sponsors:
Category:

Contract

Attachments

[Grant Administration Contract 2019-11-4 signed](#)

Summary/Background

At its May 13, 2019 regular council meeting, City Council authorized staff to negotiate a contract for CDBG-DR grant administration services for the city's floodgate project with McGill Associates PA. This recommendation followed a Request for Proposals (RFP) process, from which McGill was selected as the most qualified firm to handle the grant administration of one million dollars in CDBG-DR funding from Hurricane Matthew, for the construction of floodgates at the CSX – Interstate 95 overpass.

Recommendation for Consideration

Recommend that City Council approve the attached CDBG-DR grant administration services contract with McGill Associates PA for \$80,000. This is 8% of the total grant amount and will be paid entirely from the awarded grant funds.

City Manager Comments

<< FOR CITY MANAGER ONLY >>

Meeting History

Dec 4, 2019 11:00 AM
**City
Council**
Regular Meeting
RESULT: APPROVED [7 TO 0]

MOVER: John Cantey, Mayor Pro Tem

SECONDER: Chris Howard, Precinct 6

AYES: Leroy Rising, Melissa Robinson, John R. Carroll, Karen Higley, John Cantey, Chris Howard, Owen Thomas

ABSTAIN: Bruce W. Davis

EXCUSED: Eric Chavis

 Powered by [Granicus](#)



CITY OF LUMBERTON
CITY COUNCIL
MINUTES • DECEMBER 4, 2019

Regular Meeting

Council Chambers

11:00 AM

500 N Cedar St, Third Floor, Lumberton, NC 28358

I. CALL TO ORDER

Attendee Name	Title	Status	Arrived
Bruce W. Davis	Mayor	Present	
Leroy Rising	Precinct 1	Present	
Melissa Robinson	Precinct 2	Present	
John R. Carroll	Precinct 3	Present	
Karen Higley	Precinct 4	Present	
John Cantey	Mayor Pro Tem	Present	
Chris Howard	Precinct 6	Present	
Eric Chavis	Precinct 7	Excused	
Owen Thomas	Precinct 8	Present	
Wayne Horne	City Manager	Present	
Holt Moore	City Attorney	Present	
Laney Mitchell-McIntosh	City Clerk	Present	

B. Invocation: City Attorney Moore –

C. Pledge of Allegiance: Led by Councilman Carroll –

D. Retirees Recognition

1. Paul Godaire - Electric Utilities Powerline Crew Supervisor - 21 yrs of Service: Will attend in January –
2. John Simmons - Lumberton Police Department - Police Corporal - 12 yrs of Service –
John Simmons received a plaque from the City of Lumberton for 12 years of dedicated service to the City.

II. PUBLIC COMMENT PERIOD

III. COMMUNICATIONS

A. General

1. Brenda Hunt-Emanuel, BART Program Director Financial Support for the Installation of a Heating and Air System –

Ms. Brenda Hunt-Emmanuel, Borderbelt Aids Resources Training (BART) CEO/Programs Director, appeared before Council stating that they have a 24 x 24 new building that has been setup and the electric has been done; however, BART is responsible for the electrical, heating and air. We had fund raising events and the monies paid for the electric. Now we have to get our heat/air installed plus the installation. She stated that the last time that they handed out food it was very cold because they had no heat.

What I am asking for is that Council take into consideration this effort and give a donation. She stated that the County and other organizations have been asked to give. Councilman Rising asked what did the County donate and she replied \$1,000.

The City Manager, in the absence of Councilman Chavis, stated that Councilman Chavis would like to donate \$400.00 to BART.

RESULT:	ANNOUNCED
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IV. MINUTES APPROVAL

A. City Council - Regular Meeting - Oct 14, 2019 6:00 PM –

RESULT:	ACCEPTED [UNANIMOUS]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Owen Thomas, Precinct 8
AYES:	Davis, Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
EXCUSED:	Chavis

B. City Council - Regular Meeting - Nov 6, 2019 11:00 AM –

RESULT:	ACCEPTED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

V. AGENDA ITEMS

- A. Unsafe structure located at 2311 Carver Street – Ben Andrews, Inspections Director
The structure located at 2311 Carver Street was inspected by our department and was determined to be unsafe. A notice of Condemnation and Hearing was sent. A hearing was held on September 23, 2019 in which the owner was not present for the hearing. An order to demolish the structure was issued. The time in which the owner had to comply expired on November 18, 2019.
Staff recommends that City Council direct the building inspector to demolish and remove the unsafe structure located at 2311 Carver Street.

RESULT:	APPROVED [7 TO 0]
MOVER:	Melissa Robinson, Precinct 2
SECONDER:	John R. Carroll, Precinct 3
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- B. Unsafe structure located at 1906 Edgewood Street – Ben Andrews, Inspections Director

The structure located at 1906 Edgewood Street was inspected by our department and was determined to be unsafe. A notice of Condemnation and Hearing was sent. A hearing was held on September 23, 2019 in which the property owner was present for the hearing. An order to demolish the structure was issued. The time in which the owner had to comply expired on November 18, 2019.

Staff recommends that City Council direct the building inspector to demolish and remove the unsafe structure located at 1906 Edgewood Street.

RESULT:	APPROVED [7 TO 0]
MOVER:	Melissa Robinson, Precinct 2
SECONDER:	John R. Carroll, Precinct 3
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- C. Authorize the Lumberton Police Department to submit revision to 2019 Edward Byrne Memorial JAG Grant – Michael McNeill, Police Chief

The Lumberton Police Department and Robeson County Sheriff's Office have received notification for the 2019 Edward Byrne Memorial Justice Assistance Grant (JAG) for which our departments were allocated \$32,425.00. This is a three-year grant, and if awarded, monies will be used to fund training (\$6806.48), equipment (\$14,000), overtime (\$7,000), and equipment for the county (\$4618.52). Training and travel for all police personnel will be funded to enhance, develop, and increase skill of staff to include, records management, patrol officers, special operations, SWAT, administration, and other essential command staff. Overtime operations will include patrol officers, drug enforcement team, interdiction team, detectives, gang officers, hot spot officers and housing officers who will conduct special operations within the city. Monies for equipment (LPD) will be used to purchase 10 printers and printer mounts to complete the outfitting of patrol vehicles in addition to computers and computer mounts for those vehicles as well. Monies for equipment (RCSO) will be used to purchase thermal printers that will be used to assist patrol officers everyday activities of their law enforcement duties such as printer Amber Alerts, Criminal Summons, warrants, and orders for arrest.

It is requested that the Lumberton Police Department be granted permission to re-submit the 2019 Edward Byrne Memorial Justice Assistance Grant.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- D. Generator for New Terminal Building – Bob Snuck, Airport Manager

The new terminal building was bid it had an alternate bid for a generator at \$103,000. It was originally decided to not install the generator. Last week NCDOT has approved the use of future Non Primary Entitlement monies for the generator as a change to the Terminal

contract at 90% funding. The updated cost for the complete Generator installation with transfer switch is \$106,971.48. The City and County would have to initially front the monies for this portion of the project to be later reimbursed by NCDOT Aviation. There are some costs saving credits on the total project that will bring the total generator cost just below \$100,000. The City and County would be responsible for approximately \$50,000 each. Approve the funding for the new generator. Funding will be reimbursed through future Non Primary Entitlement monies.

RESULT:	APPROVED [7 TO 0]
MOVER:	Leroy Rising, Precinct 1
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

E. Traffic Signal Upgrade – Lamar Brayboy, Electric Utilities Director

In this year's capital budget the Electric Utilities Department is requesting to replace the traffic signals at the intersections of 24th St and 29th St. on Elm St. The new traffic signal upgrade will consist of installing new traffic signal heads, trip loops and base mount traffic controllers. Two quotes were received for furnishing the necessary labor and equipment from Fulcher Electric for \$62,411.94 and ALS for \$56,210.58.

The Electric Utilities Department is requesting Council approval to award the traffic signal upgrade to ALS of Fayetteville in the amount of \$56,210.58.

RESULT:	APPROVED [7 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

F. Lift Station 21 (Cancer Institute) Flood Mitigation Improvement Design Contract – Rob Armstrong, Public Works Director

During Hurricane Matthew and Hurricane Florence, Lift Station 21, was damaged by flood waters. In each case it took about 10 days to get the lift station operable again. During the 10 period, several industries were without sewer service and could not operate. This 10 day shut-down was a significant impact for the industries. The City is pursuing at least two sources of grant funds to improve the lift station so it is not impacted by future floods. Public Works would like to proceed with the design of the improvements while we are waiting for grant approval. Attached is an agreement with the Wooten Company for \$32,670.00 for the design.

Public Works is requesting Council approval of the agreement with the Wooten Company for \$10,670 for the design of the flood mitigation improvements for Lift Station 21 to be paid for from the Water and Sewer Capital Reserve Fund.

Director Armstrong stated that Elkay was one of the industries that had to shutdown after Hurricane Florence. He stated that where the Lift Station is located water will not recede within a few days.

City Manager Horne stated that this is a critical project with job creation. He stated that there is no guarantee that grant money will be approved, but it's something that has to be done.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

G. Acceptance of the roads in the Pinecrest Subdivision – ArTriel Kirchner, Interim Planning Director

The Planning Department received a request from Greg Caulder asking the City to accept the roads in the Pinecrest Subdivision. The request has been sent to the Public Works Department to ensure the infrastructure and roads have been installed in accordance with policy. Public Works has reviewed and is ok with final paving and the Planning Department has approved the planting of the street trees.

Recommend CPC review the request and accept the roads within the Pinecrest Subdivision.

RESULT:	APPROVED [7 TO 0]
MOVER:	Leroy Rising, Precinct 1
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

H. Thomas G. Hunt has submitted a Conditional Use Permit petition for property located on Elizabethtown Road – ArTriel Kirchner, Interim Planning Director

Thomas G. Hunt has submitted a Conditional Use Permit petition for property located at the corner of on Elizabethtown Road and Snake Road (parcel # 290101001 /Deed Book 845 Page 291 and Deed Book 846 Page 858). This request is to allow for the subdivision of property in accordance with ARTICLE IV. PERMITS AND FINAL PLAT APPROVAL Division 2: Major and Minor Subdivisions.

No more than a total of eight (8) lots may be created out of one tract using the minor subdivision plat approval process, regardless of whether the lots are created at one time or over an extended period of time.

This property is located within Area 4 and its recommended future use is low intensity, as identified in our Land Use Plan.

CPC to review the request, refer the petition to Planning Board for their review, and authorize the Planning Director to set the date of the public hearing.

RESULT:	APPROVED [7 TO 0]
MOVER:	John R. Carroll, Precinct 3
SECONDER:	Leroy Rising, Precinct 1
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- I. Approval of Financing Vehicles & Equipment – Alisha Thompson, Finance Director
The Finance Department obtained quotes for financing vehicles and a fire truck.

Vehicles \$563,660 for 5 years

BB&T 2.05%

First Bank 2.55%

Lumbee Guaranty Bank 3.19%

Fire Truck \$600,000 for 10 years

BB&T 2.26%

First Bank 2.55%

Lumbee Guaranty Bank 3.52%

Recommend that Council award the financing of the vehicles and fire truck to BB&T and approve the attached resolutions.

RESULT:	APPROVED [7 TO 0]
MOVER:	Leroy Rising, Precinct 1
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- J. Final Approval of Donation of Property From French Family Properties – Brandon Love, Deputy City Manager

At its October 9th Council Policy Committee meeting, City Council authorized staff to proceed with survey work and preparation of a subdivision plat pertaining to a potential donation of land along Dawn Drive, just outside of the Mayfair subdivision, and also one area inside the subdivision. Mr. B G French, Principal with French Family Properties, had approached the City about the company's donating the property shown in pink on the attached map. This donation is contingent upon the property being maintained as a vegetative buffer with no new construction, and small parcels being carved out and retained for the billboards located on the property. This conveyance would benefit the City, as it will protect the residents of Mayfair from commercial development immediately adjacent to their property, would eliminate the creation of additional impervious area in the floodplain and would ensure an attractive vegetative buffer from I-95.

Accept the proposed charitable donation of land from French Family Properties and approve the attached subdivision plat.

RESULT:	APPROVED [7 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	John Cantey, Mayor Pro Tem
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

K. Approval of Floodgate CDBG-DR Grant Administration Contract with McGill Associates PA – Brandon Love, Deputy City Manager

At its May 13, 2019 regular council meeting, City Council authorized staff to negotiate a contract for CDBG-DR grant administration services for the city's floodgate project with McGill Associates PA. This recommendation followed a Request for Proposals (RFP) process, from which McGill was selected as the most qualified firm to handle the grant administration of one million dollars in CDBG-DR funding from Hurricane Matthew, for the construction of floodgates at the CSX – Interstate 95 overpass.

Recommend that City Council approve the attached CDBG-DR grant administration services contract with McGill Associates PA for \$80,000. This is 8% of the total grant amount and will be paid entirely from the awarded grant funds.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

L. Approve the Christmas Holiday Schedule as December 24th , 25th & 26th as Paid Christmas Holidays and December 23rd and 27th as Required Vacation or Leave Without Pay Days Off – Wayne Horne, City Manager

The City of Lumberton Personnel Ordinance Sec. 16-165 designates the following holidays with pay for the City employees; Christmas Eve and Christmas Day, and

- Sec. 10 – Any other day designated as a Christmas Holiday by both the State and the County.
- Sec. 11 – Any other day designated by the City Council

Recommend that City Council review the following dates and approve a vacation schedule for City Employees:

Current Policy

- 1) Tuesday, Dec. 24th, Christmas Eve and Wednesday, Dec. 25th, Christmas Day
& Thursday, December 26th as scheduled days off.

Additional Days:

- 2) Monday, Dec. 23rd, and Friday, Dec. 27th, approved by the County as

holidays. Employees are required to take vacations days or leave without pay)

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- M. Approve the designation of \$250.00 of CRF to Avondale Pictures – Owen Thomas, Precinct 8
Councilman Thomas would like to give \$250.00 of CRF to support a free movie showing "The Righteous Twelve" sponsored by Avondale Pictures.
Designate \$250.00 of CRF from Precinct 8 as indicated above.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- N. Approve the Designation of \$250.00 of CRF to Lumberton High Visual Art Program – Owen Thomas, Precinct 8
Councilman Thomas would like to contribute \$250 of CRF in support of Lumberton High Visual Art program.
Design \$250.00 to Lumberton Senior High School in support of its Visual Art program.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- O. Adopt an Ordinance Erecting "No Parking Zone" Signs on Hardin Road at the Intersections of Willis and Elizabethtown Roads – John Carroll, Precinct 3
Councilman Carroll requested that the Police Department take a look at correcting an issue with parking on Hardin Road. After consulting with Chief McNeill; we believe that it is advantageous to erect "No Parking Zone" signs at the intersection of Hardin and Willis and Hardin and Elizabethtown Road on both sides approximately 200 ft. traveling east and west. Adopt an Ordinance erecting the "No Parking Zone" signs of Hardin Road and the intersection of Willis and Elizabethtown Roads.

RESULT:	APPROVED [7 TO 0]
MOVER:	John R. Carroll, Precinct 3
SECONDER:	John Cantey, Mayor Pro Tem
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- P. Approve the designation of \$2,500 of CRF as follows: Baptist Men Association: \$1,000, Mohr Plaza Activities: \$500.00, Church & Community Center \$500.00, and Lumberton Christian Care: \$500.00 – Bruce Davis, Mayor
Mayor Davis would like to make CRF appropriations as listed above .
Designate the CRF appropriations as listed above.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- Q. Approve the designation of \$400.00 of Community Revitalization Funds to Borderbelt Aids Resources Training (BART) Fundraising Event for Electrical, Heating and Air – Eric Chavis, Precinct 7
Councilman Chavis would like to donate \$400.00 to BART Fundraising event for electrical, heating and air for Food Bank building.
Designate \$400.00 of CRF to BART for the Food Bank building.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

VI. CLOSED SESSION

VII. ADJOURNMENT



CITY OF LUMBERTON

CITY COUNCIL

AGENDA • JUNE 3, 2020

Regular Meeting

Third Floor Conference Room

11:00 AM

500 N Cedar St, Third Floor, Lumberton, NC 28358

Mayor Bruce W. Davis

Councilmember Leroy Rising, Mayor Pro Tem
Councilmember Melissa Robinson, Precinct 2
Councilmember John Carroll, Precinct 3
Councilmember Karen Higley, Precinct 4

Councilmember John Cantey, Precinct 5
Councilmember Chris Howard, Precinct 6
Councilmember Eric Chavis, Precinct 7
Councilmember Owen Thomas, Precinct 8

STAFF:

Wayne Horne, City Manager
Brandon Love, Deputy City Manager
Holt Moore, City Attorney
Laney Mitchell-McIntosh, City Clerk

I. CALL TO ORDER

B. Invocation

II. PUBLIC COMMENT PERIOD

III. PUBLIC HEARING

A. Marylyn Linkhaw Britt Rezoning petition for property located on Linkhaw and Gavintown Roads (being a portion of the following parcel # 1009-01-00509 and 1009-01-00508C). – ArTriel Kirchner, Interim Planning Director

B. Proposed 2020-2021 Fiscal Year Budget – Wayne Horne, City Manager

IV. AGENDA ITEMS

A. Approval of CDBG Administrative Contract-Rempac – Brian Nolley, CDBG Administration

B. Geotechnical Services for the Rempac Berm – Rob Armstrong, Public Works Director

C. Floodgate Engineering Contract Amendment #1 - Atkins Global – Rob Armstrong, Public Works Director

D. Water Plant Berm Engineering Contract Amendment 2 – Rob Armstrong, Public Works Director

- E. Purchase of 36" Walk Behind Concrete Saw – Rob Armstrong, Public Works Director
- F. Approval of major subdivision final plat for Wyndam Townhomes – Phase IV bond release.
– ArTriel Kirchner, Interim Planning Director
- G. Rhonda LeAnn Willoughby rezoning petition for property located on NC HWY 211. (parcel # 290302012/Deed Book 02168 Page 0577). – ArTriel Kirchner, Interim Planning Director
- H. AMENDMENT - Rezoning and CUP petition for five properties off of Hornets and Elizabethtown Roads and application refunds – ArTriel Kirchner, Interim Planning Director
- I. Authorize Budget Amendments – Alisha Thompson, Finance Director
- J. Approval of Write-off of Delinquent Receivables – Alisha Thompson, Finance Director
- K. Meadow Branch Floodplain Restoration EEG Grant Administration – Wayne Horne, City Manager
- L. Agreement for Gibson Cancer Center Building Reuse Grant – Wayne Horne, City Manager
- M. Approve the designation of \$250.00 of CRF to McCormick Chapel for Community Safety Program – John Cantey, Precinct 5
- N. Final Closeout Change Order for the Water Plant Berm – Rob Armstrong, Public Works Director

V. ADJOURNMENT

Lumberton City Council

Lumberton, North Carolina



REQUEST FOR CC ACTION

Meeting Date: June 3, 2020

Originated By: Public Works

Submission Date: May 28, 2020

Subject: Floodgate Engineering Contract Amendment #1

Summary/Background of Subject Matter -

During the kick off stakeholder meeting for the floodgate project we were informed that the floodgate design would need to be permitted by NC Dam Safety and that the City would not have to conduct the Environmental Assessment – this will be handled by NC Office of Recovery and Resiliency / CDBG-DR. Attached is amendment #1 to the Atkins Global engineering contract reducing the total contract amount by \$17,077.16 to \$1,300,844.97. This includes a \$46,942.80 addition to cover the NC Dam Safety permitting requirement and a \$64,019.99 deduct removing the Environmental Assessment requirement. The \$17,077.16 reduction will be held in contingency in case other engineering scope additions are required later in the project.

Recommendation for CC Consideration:

Public Works is requesting Council approval of Atkins Global Engineering Contract Amendment #1 reducing the total contract by \$17,077.19 to 1,300,844.97.

Signature: *Rob Armstrong*

Department: Public Works

City Manager's Comments:

<< FOR CITY MANAGER ONLY >>

Signature: *Wayne Horne*

Department: City Management

Atkins North America, Inc.

1616 East Millbrook Road
Suite 160
Raleigh
NC 27609-4968

Tel: 1 919 876 6888

Direct: 919.431.5253

info atkinsglobal.com

www.atkinsglobal.com/northamerica

Mr. Rob Armstrong
Director of Public Works
City of Lumberton
215 South Cedar Street
Lumberton, NC 28358

May 27, 2020

Subject: Amendment #1 - De-scoping of the EA/FONSI (Task 4.3) and proposal to add Dam Safety permitting (Task 2.9) for W. Lumberton Flood gate project

Dear Rob,

Through this amendment, Atkins is requesting following changes to the original contract for W. Lumberton Flood gate project:

- i. De-scoping of EA/FONSI Determination (Task 4.3)
- ii. Addition of scope for Dam Safety permitting (Task 2.9)

Effective March 03, 2020, Atkins has stopped work on 'EA/FONSI Determination' task based on the City's guidance. Atkins was asked by the City to provide engineering consulting services for Dam Safety permitting which was not part of the original scope. Here is a list of services that Atkins team will perform associated with Dam Safety permitting (Task 2.9):

Task 2.9 – Dam Safety Permitting

Per North Carolina dam safety regulations, a jurisdictional determination and dam safety permit will be required as part of the West Lumberton Floodgate design project. The floodgate project involves the design and construction of a floodgate closure structure at the opening within the I-95 highway embankment that allows a CSX rail corridor and VFW Road to traverse the highway.

Task 2.9.1 - Jurisdictional Determination/Hazard Classification

The North Carolina Department of Environmental Quality's Division of Dam Safety (NCDEQ - Dam Safety) required jurisdictional determination for embankment to establish hazard classification. Atkins team will prepare a jurisdictional determination application to the NCDEQ – Dam Safety.

i. Data Collection and Review

Atkins team will perform data collection and review. Data to be collected and reviewed include:

- Engineering documents that provide dam/embankment data such as height, crest elevation, toe elevation, normal depth of water, impoundment surface area, storage capacity, etc.
- Existing and future/planning data on the downstream portion of the dam/embankment

ii. Application and Supporting Maps/Documents

Atkins will complete and submit a jurisdictional determination/hazard classification application on behalf of the City of Lumberton. Atkins will provide the draft application to the City for review and comments prior to submitting the application to the NCDE – Dam Safety.

Task 2.9.2 - Dam Safety Permit

A dam safety application requires the completion and submission of a design report, geotechnical analysis, hydrologic and hydraulic analysis, structural analysis, operations and maintenance plan, technical specifications, erosion and sediment control plan, emergency action plan and construction cost estimate. Preparation of an operations and maintenance plan, technical specifications, erosion and sediment control plan, emergency action plan and construction cost estimate are being performed under a separate contract and are not included in this scope. This scope includes the preparation of a design report, hydrologic and hydraulic analysis and compilation of existing geotechnical and structural data and reports needed to complete the dam safety permit application.

i. Compilation of Existing Geotechnical Analysis Report(s)

Atkins will compile existing geotechnical analysis, data, and reports on the I-95 highway embankment. The embankment information will be obtained from the North Carolina Department of Transportation (NCDOT) using I-95 as-built plans.

ii. Compilation of Existing Structural Analysis Report(s)

Atkins will compile existing structural analysis, data, and reports on the I-95 highway embankment. This information will be obtained from the North Carolina Department of Transportation (NCDOT) using I-95 as-built plans.

iii. Hydrologic and Hydraulic Analysis

Atkins will leverage the hydrologic and hydraulic models developed for the design of the floodgate. Additional analysis to be completed include probable maximum precipitation (PMP) and probable maximum flood (PMF) analysis, and breach modelling and inundation mapping. Atkins will perform these analyses per the guidelines included in FEMA P-94. PMP analysis will be based on the NOAA series of Hydrometeorological Reports (HMRs). Completing a site-specific PMP analysis is not included in this scope. The PMP will be used in generating the PMF hydrograph using the HEC-HMS model developed for the design of the floodgate.

Selection of breach parameters will be based on dam breach parameter references including the 2008 Froehlich equations.

iv. Design Report

Atkins will prepare a design report based on the format prescribed by the NCDE – Dam Safety.

Task 2.9.3 – Coordination

Atkins team will coordinate with NCDE – Dam Safety during dam safety permitting process. Atkins anticipate up to one (1) in-person meeting and two (2) phone calls.

Deliverables

Atkins will provide following deliverables:

- jurisdictional Determination/ Hazard Classification Request Application
- Dam Safety Permit Application

Standards

The completion of tasks described above will comply with NCDE – Dam Safety standards as described below:

- NC Dam Safety Regulations
- NCDE – Dam Safety's Incremental Damage Assessment Guidance (FEMA P-94: Selecting and Accommodating Inflow Design Floods for Dams)

Schedule

Atkins proposes following schedule barring any unexpected delays from the regulatory agencies during permitting.

- Task 2.9.1 will be completed 2 weeks from Notice to Proceed (NTP) date.
- Task 2.9.2 will be complete 8 weeks from notification of jurisdictional determination.

Assumptions

This scope and fee estimate were prepared with following assumptions. If any of these statements are invalid, the scope and fee may be sub ect to change.

- Existing geotechnical data for the I-95 highway embankment will be compiled from available sources. No new geotechnical analysis will be performed as part of this task.
- Existing structural data for the I-95 highway embankment will be compiled from available sources. No new structural analysis will be performed as part of this task.
- A dam safety permit requires an operations and maintenance plan, technical specifications of the proposed structure, erosion and sediment control plan, emergency action plan, and construction cost estimates. These analyses are part of the scope of services under Atkins contract with the City of Lumberton dated October 18,2019. The deliverables from that contract will be used as part of the dam safety permit application.
- The proposed probable maximum precipitation analysis does not include a site-specific analysis.

Exclusions

Following exclusions apply to the Atkins' scope of services.

- Any permit and notification fees
- Participation in meetings, hearings, or presentations (including public, community or City Council) unless specifically included in this scope of work

Fee

The scope for Dam Safety Permitting (Task 2.9) will be completed for a lump sum cost of **46,942.80**. Fee changes to the respective tasks are summarized in the table below.

Task	Changed From	Amount Change by	Changed to
1.1 Data Collection (Survey, SUE, Geotech)	232,452.20	-	232,452.20
1.2 Existing Conditions Hydrologic and Hydraulic Analysis	196,383.00	-	196,383.00
1.3 Hydraulic Modeling of Alternatives	49,280.80	-	49,280.80
1.4 Environmental Investigation and Permitting	25,252.50	-	25,252.50
1.5 Preliminary Design	142,832.38	-	142,832.38
2.1 Geotechnical Design	25,475.00	-	25,475.00

2.2 Site/Civil and Roadway Design	49,708.00	-	49,708.00
2.3 Structural Final Design	166,742.41	-	166,742.41
2.4 Traffic Engineering Design	16,371.45	-	16,371.45
2.5 R/W Plans	28,977.20	-	28,977.20
2.6 Flood Response Plan	23,951.60	-	23,951.60
2.7 Quality Management	27,320.40	-	27,320.40
2.8 Bid Documents Preparation and Support	76,181.20	-	76,181.20
2.9. Dam Safety Permitting	-	() 46,942.80	46,942.80
4.1 Project Management	127,402.40	-	127,402.40
4.2 Stakeholder Coordination	55,315.56	-	55,315.56
4.3. EA/FONSI Determination	74,276.06	(-) 64,019.99	10,256.07
Total	1,317,922.16	(-) 17,077.19	1,300,844.97

The remaining amount (17,077.19) will be preserved as contingency for potential scope changes. Please let me know if you have any questions or need any clarifications. I may be reached at 919.431.5253 or amit.sachan@atkinsglobal.com. We look forward to the opportunity to serve you.

Sincerely,



Amit Sachan, PE, CFM
Project Director, Atkins


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Lumberton City North Carolina

Agenda Item 3048

Approved
Jun 3, 2020 11:00 AM

Floodgate Engineering Contract Amendment #1 - Atkins Global

Information

Department:
Category:

Public Works
Amendment

Sponsors:

Attachments

[Printout](#)

[Amendment#1 - Dam Safety Permit for W Lumberton Floodgate](#)

Summary/Background

During the kick off stakeholder meeting for the floodgate project we were informed that the floodgate design would need to be permitted by NC Dam Safety and that the City would not have to conduct the Environmental Assessment – this will be handled by NC Office of Recovery and Resiliency / CDBG-DR. Attached is amendment #1 to the Atkins Global engineering contract reducing the total contract amount by \$17,077.16 to \$1,300,844.97. This includes a \$46,942.80 addition to cover the NC Dam Safety permitting requirement and a \$64,019.99 deduct removing the Environmental Assessment requirement. The \$17,077.16 reduction will be held in contingency in case other engineering scope additions are required later in the project.

Recommendation for Consideration

Public Works is requesting Council approval of Atkins Global Engineering Contract Amendment #1 reducing the total contract by \$17,077.19 to 1,300,844.97.

City Manager Comments

<< FOR CITY MANAGER ONLY >>

Meeting History

	Jun 3, 2020 11:00 AM	City Council	Regular Meeting
RESULT:	APPROVED [7 TO 0]		
MOVER:	John Cantey, Precinct 5		
SECONDER:	Chris Howard, Precinct 6		
AYES:	Leroy Rising, Melissa Robinson, John R. Carroll, Karen Higley, John Cantey, Chris Howard, Owen Thomas		
ABSTAIN:	Bruce W. Davis		
EXCUSED:	Eric Chavis		

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CITY OF LUMBERTON

CITY COUNCIL

MINUTES • JUNE 3, 2020

Regular Meeting

Third Floor Conference Room

11:00 AM

500 N Cedar St, Third Floor, Lumberton, NC 28358

I. CALL TO ORDER

Attendee Name	Title	Status	Arrived
Bruce W. Davis	Mayor	Present	
Leroy Rising	Mayor Pro Tem	Present	
Melissa Robinson	Precinct 2	Present	
John R. Carroll	Precinct 3	Present	
Karen Higley	Precinct 4	Present	
John Cantey	Precinct 5	Present	
Chris Howard	Precinct 6	Present	
Eric Chavis	Precinct 7	Excused	
Owen Thomas	Precinct 8	Present	
Wayne Horne	City Manager	Present	
Brandon Love	Deputy City Manager	Present	
Holt Moore	City Attorney	Present	
Laney Mitchell-McIntosh	City Clerk	Present	

B. Invocation: City Attorney Holt Moore

II. PUBLIC COMMENT PERIOD

A. Ltr. Kewanda Meritt

I am Kewanda Merritt, currently living in Precinct 8— raised in Precinct 6.

I come before you today to speak to the initial “No” Vote to fund Black Girls ‘TRAINING Camp for the 2020-2021 nonprofit contract year.

As the Founder and Coordinator of Black Girls’ TRAINING Camp which the city donated to in 2016 and 2017 and to which a nonprofit funding contract was approved for fiscal years 2018-19 and 2019-20; I was flabbergasted when the program was not funded at the May 6th, 2020 council meeting with a 5-4 vote.

I know the purpose of a vote in any capacity is for the governing body to say “Yes’ or ‘No’; however, with both the federal and state governments providing grants and other monies to educational agencies and non-profit organizations for the purpose of decreasing disparities among marginalized populations —this ‘No’ felt personal! I’d like to bring your attention to just a few national stats pertaining to Black girls in comparison to their White counterparts— they have higher rates of in and out of school suspension, higher incidence of emotional and mental health issues (67% compared to 31% of their counterparts), and black teenage girls are twice as likely to become pregnant. These stats are even greater in rural places like Lumberton where families experience generational poverty at a higher rate.

So when stated, “the city is trying to promote diversity and we are trying to break the racial divide”; funding programs such as Black Girls’ TRAINING Camp is breaking the racial divide. It provides

resources, exposure, and opportunity to allow a more leveled playing field to a very specific group who is historically denied access and suffers institutional discrimination.

As a 10+ year public school educator, I can tell you equality [which is what I understood the concerned council members to articulate] and equity are not the same. If Student A struggles with analogy while Student B struggles with irony, being equitable is ensuring Student A has more instruction geared towards understanding analogy and Student B has more instruction geared towards understanding irony with the goal of both Student A and Student B excelling on the same end-of-grade test.

We all have the same test— LIFE, but we are not all being prepared with instruction that best suits us to excel on the test. I hope that something I have said has resonated with you and you think differently about diversity and inclusivity moving forward.

B. Ltr, Erica Barnhill

June 2, 2020

Erica C. Barnhill
Raleigh, NC

City of Lumberton Mayor
City of Lumberton Councilmen
500 N Cedar Street
Lumberton, NC 28359

Dear Madame Clerk,

This letter is to the City Council and Mayor Bruce Davis of his unprofessionalism during the last City Council meeting held virtually on May 6, 2020. During this meeting, Mayor Davis was continually disrespectful, short and rude in his conversation and remarks to fellow councilman, John Cantey and Christopher Howard. This is totally unacceptable for someone in leadership and especially when you are a leader of a community of where you have been ELECTED to serve all people. I am very disappointed, appalled and most of all surprised of your actions as you presented a different view of yourself when you came to the African American community soliciting votes. I also remember you when you were a City Councilman growing up in Lumberton and you served with my Pastor, the late Dr. E. B. Turner. You never exhibited these qualities of unprofessionalism. However, from the heart of a man, the mouth speaks.

As you know, we all have differences of opinion as well as likes and dislikes as I do not expect for you to agree on everything that each councilman or department head says or submits but I do have an expectation for you to be professional, respectful and courteous at all times to everyone and not whom you so desire to be. You are the leader and as the leader, you need to exhibit cohesiveness even when you have personal issues with someone. This should not be only my expectation but it should be to the others that serve along with you. My concern with your behavior is that if you are at odds with the Councilmen, then will your decisions and/or actions be made concerning the precincts they represent be based on your feelings toward them and not the needs of the people in the community? Also, your influence to the rest of the Council could possibly make them feel that this behavior is acceptable and it is not. As during this meeting, none of them present commented on or said anything to you for being unprofessional, rude and sarcastic. I commend Councilman Howard as I have known him all of my life that he sat quietly and allowed you to talk to him like you did. Even when you denied his request to speak on his submission before it was voted on, you were out of order and could have let him speak but personal got in the way. Then you intentionally made the deciding vote for the request to not go through and yes, Mr. Mayor, it was intentional. I know that it was because you had approved funding for this group before. This speaks totally to your character.

Therefore, going forward I would hope to see a more cohesive, professional, diverse and inclusive Council which starts with you Mayor Davis. This will be for the betterment of the entire City and its constituents. All of you are ELECTED and you SERVE at the pleasure of the people, nor the pleasure of you!

Mayor Davis, if you in the future are frustrated, not having a good day or just cannot be respectful to all of the Councilman and yes they should respect you too, then just give up the chair at that meeting and let someone else lead. You were on Facebook Live last month and that was not a good look for you nor the Council.

Thank you for this opportunity to comment and I do not need a response back. Just everyone SERVE the people of Lumberton and each other without bias and personal agendas!

I will be watching and listening to all of you!!

Signed,
Erica C. Barnhill
A Concerned African American woman

C. Ltr. Carol T. Richardson

My name is Carol T. Richardson a resident of Lumberton. I attended the May 6th virtual City Council meeting and I was very disturbed by what I heard. There were several issues I had about the meeting that I would like to comment on. The first issue was the discussion of the Nonprofits & Boards and Commission Budget Requests. The two black initiatives #17 Sandy Grove Summer Camp and #18 Black Girls' Training Camp were the only ones that had open discussion out of the 23 programs. Why was that? The question or concern that the councilman had about the Pandemic would have been fine if that concern or question would have been fairly asked for the other programs. The second issue was the name of the organization Black Girls' Training Camp the Councilman felt it would not be inclusive to all even though Councilman Howard explained that there were girls from other races that were a part of it. Let me be clear if the Training Camp would have said it is only for Black Girls I would have had an issue with that myself being they are requesting money from the city but that was not the case. I hear that the Black Girls' Training Camp has changed their name and they will receive the money. I am glad the kids will receive the money but disappointed that they had to change their name because there was nothing inappropriate about the name Black Girls' Training Camp. I would like to add that the Black Girl's Training Camp was giving money before with the same name. So what is the problem now?

Mr. Mayor I find your words that was quoted by you in the local newspaper that Black girls' Training Camp was Inappropriate very insulting and hurtful. Nothing about that name was Inappropriate, and if your argument is you are trying to promote inclusion the name could have been We are the World and still had restrictions to only blacks girls. I feel Mr. Mayor you had an issue with Councilman Howard and it clearly showed in your tone and disrespect you showed him which brings me to my last issue and that was the way you spoke with Councilman Howard. I felt it was very unprofessional. I have known Councilmen Howard since I was a little girl and I am very proud of him and his professionalism he showed you even though you were rude to him. I participated in the college program at Walt Disney World and the first thing they taught us is no matter what you are dealing with leave it backstage. You are welcome for that tip Mr. Mayor please leave the unprofessionalism in the boardroom. Thank you!

Signed
Carol T. Richardson

a

Beautiful

Black

Girl

III. PUBLIC HEARING

- A. Marylyn Linkhaw Britt Rezoning petition for property located on Linkhaw and Gavintown Roads (being a portion of the following parcel # 1009-01-00509 and 1009-01-00508C). – ArTriel Kirchner, Interim Planning Director

Marylyn Linkhaw Britt has submitted a Rezoning petition for property located on Linkhaw and Gavintown Roads (being a portion of the following parcel # 1009-01-00509 and 1009-01-00508C). This request is to rezone the parcels from Agriculture to B-4, Business General Commercial to allow for the operation of a kidney dialysis center.

This property is located within Area 3 of our Land Use Plan and its recommended future use is medium intensity. Furthermore, this property is located within Council Precinct #2.

If this rezoning is granted the applicant must obtain a Land Use Permit from the City of Lumberton's Planning Department.

On March 17, 2020 the Planning Board held the public meeting and recommends that City Council approve the rezoning request.

On May 20, 2020 the Planning Department sent out letters to the adjacent property owners within 150 feet of the petitioned property, notifying them of the rezoning request.

On May 20, 2020 a request was sent to Public Works Department to have a sign placed on the property, notifying the adjacent property owners of the rezoning request, on or before May 22, 2020.

On May 20, 2020 a request was sent to the Robesonian to have the legal ad for this request ran on May 22, 2020 and May 29, 2020.

Recommend City Council hold public hearing and approve the rezoning request.

Mayor Davis opened the public hearing to consider rezoning property located on Linkhaw and Gavintown Roads from Agriculture to B-4, Business General Commercial to allow for the operation of a kidney dialysis center. City Clerk Mitchell-McIntosh submitted the Affidavit of Publication showing that it was advertised in the Robesonian.

No comments were submitted for this hearing. Mayor Davis closed the public hearing.

RESULT:	APPROVED [7 TO 0]
MOVER:	Melissa Robinson, Precinct 2
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- B. Proposed 2020-2021 Fiscal Year Budget – Wayne Horne, City Manager

The proposed 2020-2021 Fiscal Year Budget was presented to City Council on Wednesday, May 20, 2020 Budget Workshop.

* NCGS 159-12 requires no earlier than 10 days after the budget is presented that City Council hold a public hearing to allow for public comments on the proposed budget before it is adopted.

* The proposed budget has been placed in; the City Clerk's Office, the Public Services Department and online @ www.ci.lumberton.nc.us the City's website.

Notice of the public hearing was advertised in the Robesonian.

Recommend that City Council hold a public hearing and consider the adoption of the proposed FY 2020-2021 Budget Ordinance.

Mayor Davis opened the public hearing to consider the adoption of FY2020-2021, Municipal and Capital Operating Budget. City Clerk Mitchell-McIntosh submitted the Affidavit of Publication showing that it was advertised in the Robesonian.

No comments were submitted for this hearing. Mayor Davis closed the public hearing.

RESULT:	APPROVED [7 TO 0]
MOVER:	Leroy Rising, Mayor Pro Tem
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

IV. AGENDA ITEMS

- A. Approval of CDBG Administrative Contract-Rempac – Brian Nolley, CDBG Administration
The Planning Dept. is seeking approval to award a contract for administrative services to administer the Community Development Block Grant for the Rempac Foam project. The Planning Dept. advertised request for proposals and received 3 bids. After evaluating proposals, we are recommending awarding the contract to Hartigan Management. Services will be paid for with grant funds.

The Planning Dept. recommends awarding the contract to Hartigan Management based on evaluation of proposals.

RESULT:	APPROVED [7 TO 0]
MOVER:	Chris Howard, Precinct 6
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- B. Geotechnical Services for the Rempac Berm – Rob Armstrong, Public Works Director
Construction of the CDBG Commerce funded Rempac Berm is about to begin. One of the City's responsibilities is to provide geotechnical testing for the project to make sure contractor is achieving the correct density and compaction while building the earthen berm.

We received two proposals for this service. ECS and S&ME are both well qualified firms. S&ME, who provided a similar service on the water plant berm, had the lowest fee of \$7,920. ECS estimated fee was \$10,469 but included 3 more site visits. This project is exempt from the North Carolina Mini Brooks Act so we can consider both fee and professional qualifications in our selection. In this case the firms are similarly qualified with similar fees. Public Works is recommending we award this service to S&ME based on their project scope, approach, fee and familiarity with similar berm construction and area soils. Since all of the contingencies were used to cover the construction of the berm, this service will be paid from savings and deductions in the pump system of the project by switching to the same pump type we have at the water plant berm, eliminating the need for different spare pump and parts.

Public Works is requesting Council to award S&ME the geotechnical service contract for the Rempac Berm construction for a fee of \$7,920.

Councilman Howard asked Mr. Armstrong who will monitor this project given past experiences. Mr. Armstrong stated that the firm will be onsite and this is somewhat of a new approach that we are using.

RESULT:	APPROVED [7 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

C. Floodgate Engineering Contract Amendment #1 - Atkins Global – Rob Armstrong, Public Works Director

During the kick off stakeholder meeting for the floodgate project we were informed that the floodgate design would need to be permitted by NC Dam Safety and that the City would not have to conduct the Environmental Assessment – this will be handled by NC Office of Recovery and Resiliency / CDBG-DR. Attached is amendment #1 to the Atkins Global engineering contract reducing the total contract amount by \$17,077.16 to \$1,300,844.97. This includes a \$46,942.80 addition to cover the NC Dam Safety permitting requirement and a \$64,019.99 deduct removing the Environmental Assessment requirement. The \$17,077.16 reduction will be held in contingency in case other engineering scope additions are required later in the project.

Public Works is requesting Council approval of Atkins Global Engineering Contract Amendment #1 reducing the total contract by \$17,077.19 to 1,300,844.97.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

D. Water Plant Berm Engineering Contract Amendment 2 – Rob Armstrong, Public Works Director

The City was required to provide soil testing services for the construction of the Water Treatment Plant Berm in order to verify the proper soil compaction and density was achieved. These services were provided by S&ME thru the Wooten Company with no mark up. Attached is an engineering contract amendment with Wooten Company for \$14,376 to pay for the soil testing services.

Public Works is requesting approval of engineering contract amendment 2 with Wooten Company for \$14,376 to pay for the Water Treatment Berm soil testing services to be paid for by FEMA funds allocated for the project.

RESULT:	APPROVED [7 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	John R. Carroll, Precinct 3
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- E. Purchase of 36" Walk Behind Concrete Saw – Rob Armstrong, Public Works Director
Public Works would like to purchase a new Husqvarna 36" walk behind concrete saw for \$30,687.60 from Sunbelt Rentals. Sunbelt was the low bid. We have \$25,000 budgeted in the water and sewer capital reserve fund for this purchase. We are requesting Council allocate an additional \$5,687.60 from the capital reserve fund balance to cover the expense. United Rentals was the only other bid submitted at \$32,112.84.
Public Works is requesting Council authorization to purchase a new Husqvarna 36" walk behind concrete saw for \$30,687.60 from Sunbelt Rentals from the Water and Sewer Capital Code 60-00-8221-5560 and requested Council allocate an additional \$5,687.60 from the Water and Sewer capital reserve fund toward the purchase.

RESULT:	APPROVED [7 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- F. Approval of major subdivision final plat for Wyndam Townhomes – Phase IV bond release.
– ArTriel Kirchner, Interim Planning Director
The Planning Department received a request from Greg Caulder for the final major subdivision plat approval for Wyndam Townhomes - Phase IV and for the acceptance of a bond for the completion of the required infrastructure and landscaping.

As of May 7, 2020 all of the requirements have been met and Mr. Greg M. Caulder formally requests that City Council release the bond of \$11,725 for Wyndam Estates Townhomes - Phase IV (final phase).

Recommends that City Council release the bond for Wyndam Estates Townhomes -Phase IV.

RESULT:	APPROVED [7 TO 0]
MOVER:	Leroy Rising, Mayor Pro Tem
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- G. Rhonda LeAnn Willoughby rezoning petition for property located on NC HWY 211. (parcel # 290302012/Deed Book 02168 Page 0577). – ArTriel Kirchner, Interim Planning Director
Rhonda Willoughby has submitted a rezoning petition for property located on NC HWY 211. This request is to rezone the property from B-4 (business general commercial) to 'A' Agriculture to allow for a single family residence at this location.

This property is located within Area 5 and its recommended future use is low intensity, as identified in our Land Use Plan. Furthermore, this property is located within the ETJ.

If this rezoning is granted the applicant must obtain a Land Use Permit from the City of Lumberton's Planning Department.

CPC to review the request, refer the petition to the Planning Board for their review, and authorize the Interim Planning Director to set the date of the public hearing.

RESULT:	APPROVED AND SENT [7 TO 0]
MOVER:	Karen Higley, Precinct 4
SECONDER:	Leroy Rising, Mayor Pro Tem
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- H. AMENDMENT - Rezoning and CUP petition for five properties off of Hornets and Elizabethtown Roads and application refunds – ArTriel Kirchner, Interim Planning Director
The planning department received a withdrawal request and application refunds for the following items:

1 CUP only) Moss Neck Trust (owned by John C & Anne B. Culbreth) - 1010-02-012 & portion of 1012-01-011 -CUP only (residential subdivision)

2) George Regan (owned by Gerald & Brenda Phillips) - 1012-02-00102 - rezoning from Agriculture and B7 to CUP R-6 (residential subdivision)

3) George Regan (owned by Margaret Baxley) - 1012-02-00103 - rezoning from Agriculture and B7 to CUP R-6 (residential subdivision)

4) George Regan - 1012-02-001 & 1012-02-00101 (owned by Hazel & Ferris Brisson)- rezoning from Agriculture and B7 to CUP R-6 (residential subdivision)

5) George Regan - (Owned by JW Hammonds & wf.) - 2901-01-001 - rezoning from Agriculture to CUP R-6 (residential subdivision)

They are requesting to continue the application for:

1) Moss Neck Trust (owned by John C & Anne B. Culbreth) - 1010-02-012 & portion of 1012-01-011 - rezoning from Agriculture to R-6 (please see attachments).

CPC to review the request, refer the petitions to the next scheduled Planning Board meeting for their review, and authorize the Interim Planning Director to set the date of the public hearing.

City Attorney Moore stated that Staff has a concern about the R-6 zoning designation for this property being that it is adjacent to the Pennington Park complex. Staff would like to prepare a memo to send to the Planning Board.

City Manager Horne stated that R-6 is zoned with smaller lots for single-wide trailers and we would like to see a higher level of classification such as R-11. We would like to send the Planning Board a memo with that recommendation.

A motion was made to include the permission to send the memo requesting a higher level of classification such as R-11.

RESULT:	APPROVED AND SENT [7 TO 0]
MOVER:	Chris Howard, Precinct 6
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- I. Authorize Budget Amendments – Alisha Thompson, Finance Director
Budget amendments will be needed for the year end closing of fiscal year 2020.
Recommend that Council authorize the City Manager and Finance Director to perform budget amendments to close fiscal year 2020.

RESULT:	APPROVED [7 TO 0]
MOVER:	John R. Carroll, Precinct 3
SECONDER:	John Cantey, Precinct 5
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- J. Approval of Write-off of Delinquent Receivables – Alisha Thompson, Finance Director
A list of delinquent receivables is attached for review and consideration for write-off. This is a standard accounting practice to write-off accounts receivable that are three years old and taxes receivable that are ten years old and continue our efforts to collect them.
Recommend that Council approve the write-off of the attached delinquent receivables.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- K. Meadow Branch Floodplain Restoration EEG Grant Administration – Wayne Horne, City Manager

City staff is seeking approval to award a contract for administrative services to administer the Meadow Branch Floodplain Restoration, Environmental Enhancement Grant (EEG) to Hartigan Management Enterprises in the amount of \$10,000. The EEG grant award for this project was \$150,000.

City staff recommends awarding the contract to Hartigan Management in the amount of \$10,000.

RESULT:	APPROVED [7 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- L. Agreement for Gibson Cancer Center Building Reuse Grant – Wayne Horne, City Manager
The city staff is seeking approval to award a contract for administrative services to administer the NC Department of Commerce Building Reuse Grant for the SRMC Gibson Cancer Center. The grant award for this project was \$350,000.
Staff recommends awarding the contract to Hartigan Management in amount of \$17,500.

RESULT:	APPROVED [7 TO 0]
MOVER:	Leroy Rising, Mayor Pro Tem
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- M. Approve the designation of \$250.00 of CRF to McCormick Chapel for Community Safety Program – John Cantey, Precinct 5
Councilman Cantey requests \$250.00 of CRF to be given to McCormick Chapel for Community Safety Program.
Designate \$250.00 of Community Revitalization Funds to McCormick Chapel for Community Safety Program.

RESULT:	APPROVED [7 TO 0]
MOVER:	Karen Higley, Precinct 4
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- N. Final Closeout Change Order for the Water Plant Berm – Rob Armstrong, Public Works Director
The Water Plant Flood Protection Berm is complete. Attached is a final closeout change order to T2 contracting for \$2,927.05, adjusting the final construction quantities.
Public Works is requesting Council approval of the final closeout change order for \$2,927.05

to T2 Contracting for the Water Plant Berm to be paid for from the FEMA hazard mitigation funds appropriated to the project.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

V. ADJOURNMENT

Councilman Cantey gave an update on the march that is to take place Sunday, June 7, 2020. The Robeson County Peace Rally for Social Injustice will hold the rally from 2:00 p.m. until 4:00 p.m. The march will start at the Flea Market and proceed downtown with a few activities planned while in the downtown area. Once activities are finished they will march back to the Flea Market.

Councilman Cantey stated that after watching some of the other towns and cities; I would rather see us be proactive instead of reactive. Do we want to consider a curfew?

City Manager Horne thanked Councilman Cantey for his work on the issue over the weekend and stated that he had spoken with the Chief of Police and it is something that we would want to consider. Mayor Davis stated that they would talk about it and make some type of decision Wednesday or Thursday.

There being no further business to come before Council the meeting was adjourned.

From: [Gievers, Andrea](#)
To: [Susan Morrison](#)
Cc: [Love, Brandon D](#)
Subject: FW: Lumberton Local Levee Partnership Meeting 1 Follow-up
Date: Tuesday, November 16, 2021 1:41:10 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

FYI – Meeting record from March 24, 2021 if not listed in EA

Sincerely,

Andrea Gievers

From: Glasscock, Mary
Sent: Tuesday, November 16, 2021 1:37 PM
To: Blaisdell, Daniel <daniel.blaisdell@ncdps.gov>; Blankenship, Bill <bill.blankenship@rebuild.nc.gov>
Cc: Gievers, Andrea <andrea.l.gievers@rebuild.nc.gov>
Subject: FW: Lumberton Local Levee Partnership Meeting 1 Follow-up

Just FYI, regarding Lumberton floodgates.

[Mary Glasscock](#) | NCORR/NCM Infrastructure Programs | 909-306-8188

From: Garrett, Steve (NCEM)
Sent: Tuesday, November 16, 2021 1:28 PM
Subject: Lumberton Local Levee Partnership Meeting 1 Follow-up

We appreciate your participation in first meeting of the Lumberton Local Levee Partnership Team (LLPT) on March 24, 2021, and we apologize for the delay in following up with you. A copy of the presentation slides, meeting minutes, and a recording (MP4) of the meeting have been posted to ftp://fmpftp:rbznt*@ftp1.ncem.org/LLPT/Lumberton/. We have also included a copy of the September 10, 2008 Federal Highway Administration Memorandum regarding Highway Embankments versus Levees and other Flood Control Structures.

The easiest way to access the ftp site is to copy the link and paste it into Windows Explorer (window you use to access files on your computer). If prompted, the username is fmpftp and the password is rbznt*. Please feel free to share these materials with stakeholders in your organization that were unable to attend. Also, please let me know if you recommend any revisions to the meeting minutes or if we need to include any other stakeholders in future meetings of the LLPT.

The North Carolina Floodplain Mapping Program (NCFMP) is currently developing hydraulic models

and conducting quality control reviews of those models for this project. We anticipate completing the analyses early next year, and will coordinate scheduling the second LLPT meeting to share the results of the study.

If you have any questions or have any trouble accessing the files on the ftp site, please do not hesitate to contact me.

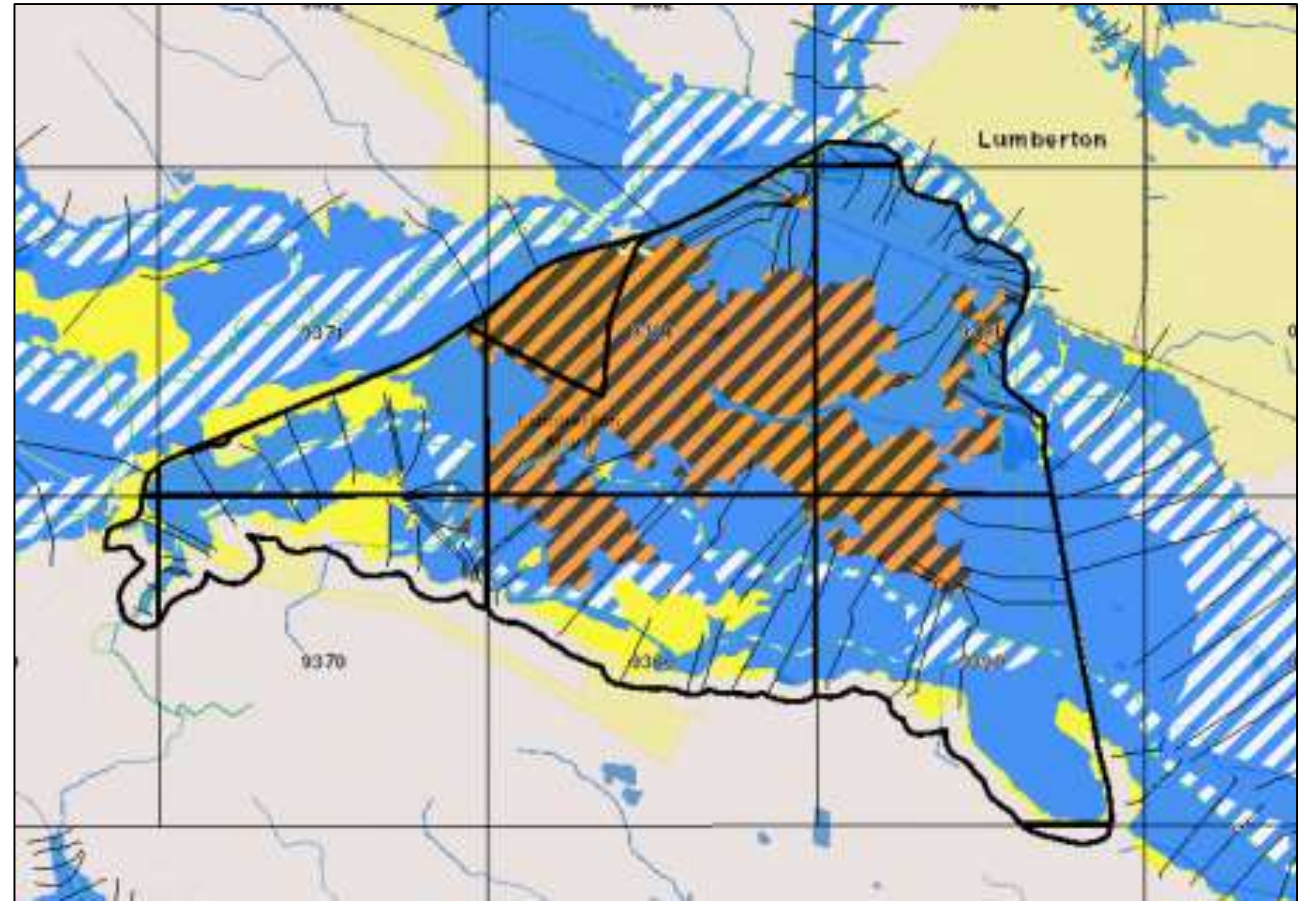
Thanks,
Steve

Steve Garrett, CFM
State NFIP Coordinator
NC Department of Public Safety
Emergency Management
Risk Management Section
4105 Reedy Creek Road, Raleigh, NC 27607
4218 Mail Service Center, Raleigh, NC 27699-4218
Phone: (919) 825-2316
Fax: (919) 715-0408
Steve.Garrett@ncdps.gov
flood.nc.gov/ncflood/
www.ncdps.gov

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Local Levee Partnership Team (LLPT) Meeting 1

Lumber River Levee
Robeson County, NC
March 24, 2021



Our Local Levee Partnership Team

Thanks for participating

- Introduction
- LLPT Meeting 1 – March 24, 2021
 - Discuss approach, data availability
 - Seek stakeholder input
- LLPT Meeting 2 – Mid-Summer
 - Present initial modeling and mapping results
 - Seek stakeholder input and feedback
- LLPT Meeting 3 – Late Fall
 - Review comments and revisions and final draft products



Agenda

1. Why We're Here
2. Today's Purpose
3. Your Levee System & Its History
4. NCFMP's Role
5. Why This is Important
6. Determining Your Path Forward
7. Next Steps

Please ask questions throughout!

The Lumber River and Riverwalk, photo by USACE

An aerial photograph showing a large-scale flood control or water management project. In the lower-left, a turbulent flow of dark water is being managed by a series of large, black, flexible pipes laid out in a zig-zag pattern across a grassy area. Several orange pump units are positioned along these pipes. To the right, a yellow excavator and a yellow backhoe are working on a paved road. In the upper-right, there are several green storage containers. A white pickup truck is driving on the road. The text "Why We're Here" is overlaid in white, italicized font on the left side of the image.

Why We're Here

Photo by City of Lumberton

An aerial photograph showing a large-scale flood control project. Several orange pumps are connected by long black hoses to a body of water on the left. A yellow excavator and a blue tractor are on a road to the right. Green storage containers are in the upper right. A white pickup truck is on the road. The text 'Why We're Here' is overlaid in a white box on the left side of the image.

Why We're Here

Introductions

*The Main Focus: Understanding
Flood Risk*

Photo by City of Lumberton

The Main Focus: Understanding Flood Risk

- In order to better understand this flood risk, we are updating the Robeson County Flood Insurance Rate Map (FIRM).
- There are special considerations to take into account when mapping the flood hazard associated with levees.
- Ultimately, this will help you understand your flood risk so that you are able to take actions to become more resilient against future risk.
- Depending on which mapping plan is selected and the circumstances surrounding the levee system and floodplain, this could have implications on flood insurance.

Remember when...

- You already know the impacts flooding can have on your community. The Lumberton Levee construction was completed in 1977 but does not offer sufficient protection...



USACOE Wilmington District



City of Lumberton

Our Local Levee Partnership Team

Thanks for participating

Partnership:

- Provide input and/or additional data on how the NCFMP should approach the levee analysis
- Include the right community members – is everyone who should be here, present
- Help keep the community informed about what is happening and what will happen next

Purpose:

- Allow for better-informed decision making
- Better understand the levee's flood risk and if additional steps should be considered to keep your community safe



Today's Purpose

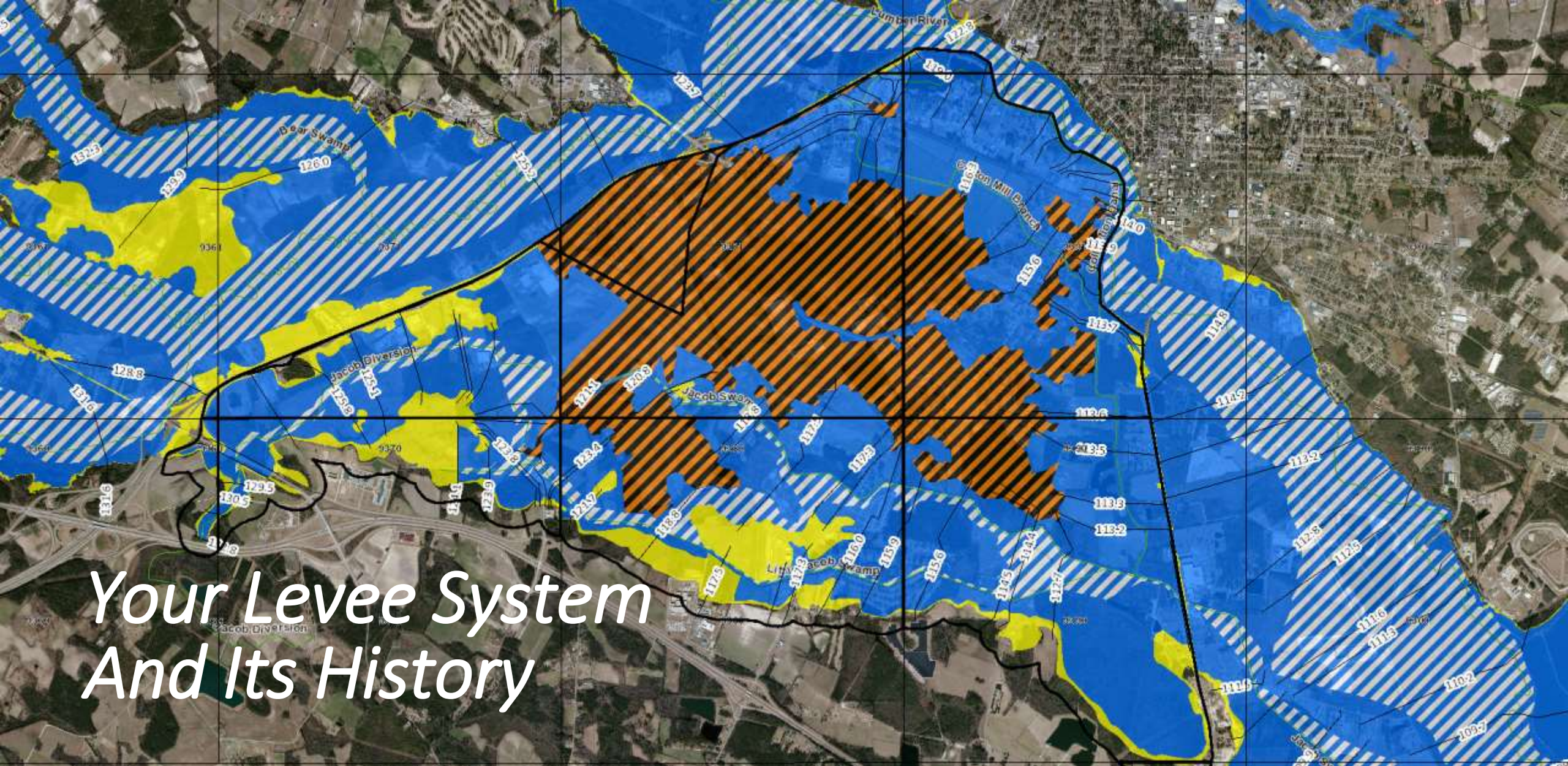
Lumberton Levee and I-95, USACE

Today's Purpose

- *Review the Project*
- *Analyze Risk*
- *The Path Forward*

Our Purpose Today

- Review the project to update the Robeson County mapping, which will include an updated analysis of the flood risk related to the Lumber River at Lumberton.
- Work with you to make sure we understand your levee system and how best to analyze its flood risk.
- Make sure you understand this process and the path forward.



Your Levee System And Its History

Where We've Been

SCS Certification
10/09/1987

Date Secluded
2015

PAL Designation
1993 FIRMs

LLPT Meeting
03/24/2021

← National Levee Database

[HOME](#)
[ADVANCED SEARCH](#)
[DASHBOARD](#)
[MAP](#)
[MORE](#)
[SIGN IN](#)

Lumberton Levee

[Info](#)
[Map](#)
[DOWNLOAD DATA](#)

[Location](#)
[Lumberton, Robeson County, North Carolina](#)
[USACE Districts](#)
[Wilmington](#)
[FEMA Regions](#)
[4](#)

[SUMMARY](#)
[SYSTEM](#)
[SEGMENTS](#)
[RISK](#)
[FEMA - NFIP/FIRM](#)
[FEATURES](#)
[PROFILE](#)
[ATTACHMENTS](#)

✓ Embankments (1)

✓ Closure Structures (1)

■ Cross Sections (0)

■ Crossing Points (0)

■ Floodwalls (0)

■ Gravity Drains (0)

■ Piezometers (0)

■ Pump Stations (0)

■ Relief Wells (0)

■ Station Points (0)

■ Toe Drains (0)

Structure Information

HIDE FEATURE TYPE SELECTIONS

Include Non-Current Features

Embankments (1)

Columns

Filter

Copy

Paste

ID

Segment Name

390001000001

Lumberton Levee

Results per page: 5

1-1 of 1

Include Non-Current Features

Closure

Basemap: Aerial

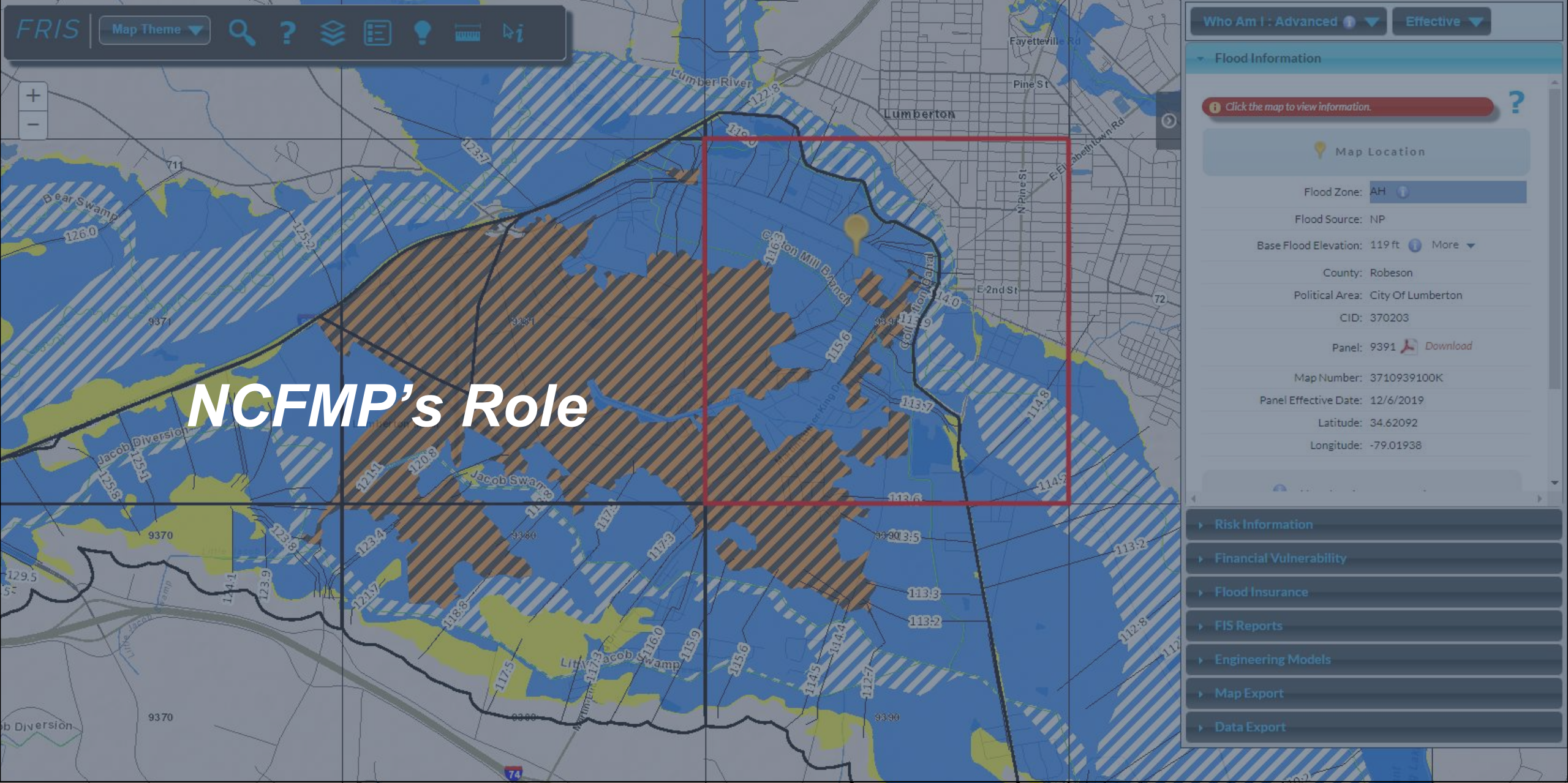
LEGEND

North Carolina Emergency Management

Status Check

Your levee

- Tell us about the history of your levee.
- Jacob Swamp Watershed Improvement Plan by SCS (NRCS) in response to 1964 flood event
- Levee construction and drainage improvements completed in 1977 and responsibility passes to City of Lumberton and Robeson County Drainage District
- Levee was certified by NRCS in 1987 and accredited by FEMA in 1993. Accreditation was rescinded in 2003 due to the levee not being in compliance with 44 CFR 65.10(b)(2) which requires openings be provided with closure devices that are structural parts of the system.
- Sandbagging plan was established for VFW Road opening in lieu of permanent improvements.



NCFMP's and FEMA's Role

- There are a lot of misconceptions around what FEMA and NCFMP do and don't do when it comes to levee systems.
- Unlike USACE or levee sponsors, neither NCFMP nor FEMA does work directly to the levee system. For example, they do not:
 - Design a levee system
 - Own or operate a levee system
 - Maintain or inspect a levee system

NCFMP's Role

- NCFMP's work is to:
 - Identify, analyze, and map flood hazards associated with levee systems to ensure people are aware of their flood risk
 - Establish risk premium rate zones in the community for flood insurance purposes (Rates will be impacted with roll-out of Risk Rating 2.0)
 - Provide base flood elevations for floodplain management purposes.
 - Accredit levee systems (through FEMA Region 4) if the required “certified” data and documentation is submitted. (*We'll talk more about this later on!*)



Why This is Important

LUMBER RIVER AT LUMBERTON, NC

An aerial photograph of a river winding through a landscape with fields, forests, and some buildings. A white rectangular box with a thin black border is positioned on the left side of the image, containing the text 'Why This is Important'. Two white lines extend from the right side of this box towards the right, each ending in a small white circle. To the right of these circles is the text 'NCFMP Analyzes Flood Risk' and 'Create a Plan'. In the bottom right corner of the image, there is a small green rectangular label with the text 'LUMBER RIVER AT LUMBERTON, NC'.

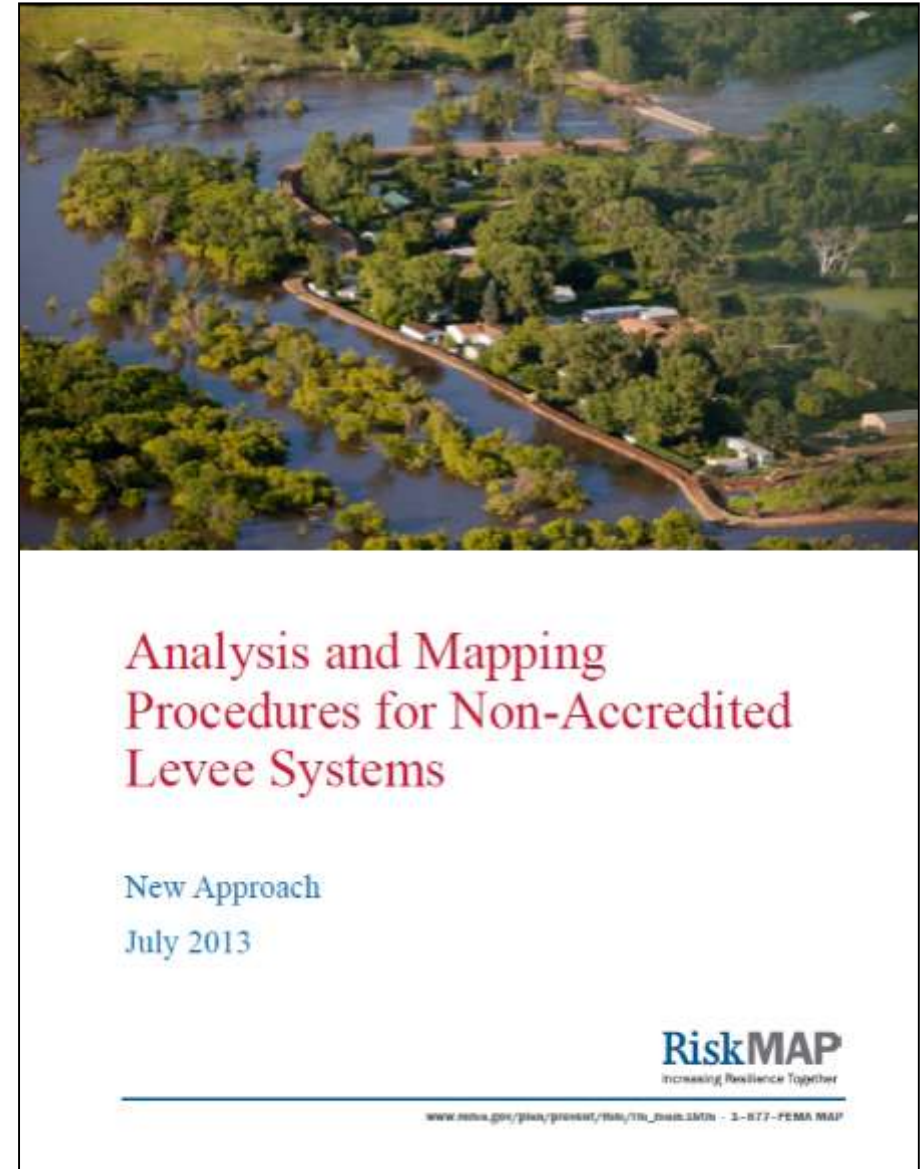
Why This is Important

*NCFMP Analyzes Flood Risk
Create a Plan*

LUMBER RIVER AT LUMBERTON, NC

How Do We Do It?

- Determine if the levee is accredited
- For non-accredited levees, use FEMA's levee analysis and mapping procedures.
- Use outcomes to map the flood hazards behind the levee system.



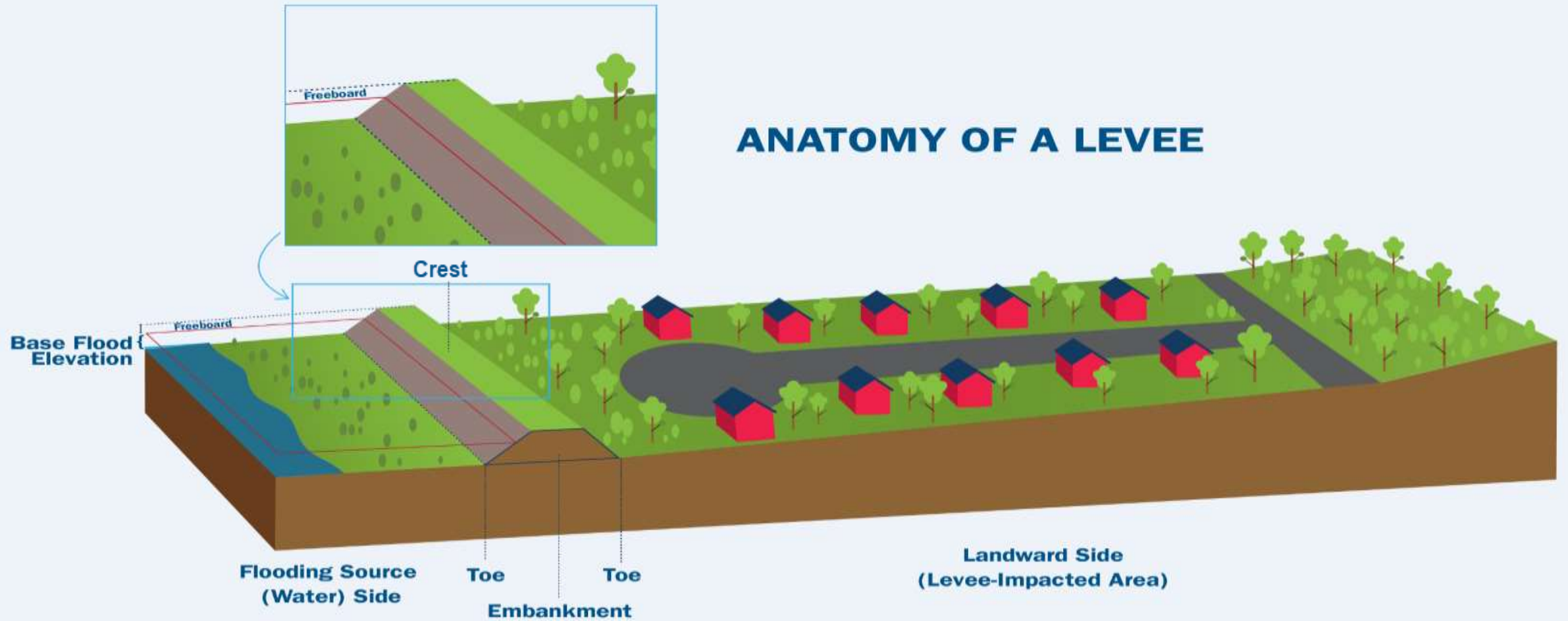
Key Project Considerations

- The Lumber River levee is not currently accredited
- Analyses have been conducted in recent years to determine what would be needed to achieve accreditation
- The NCFMP analysis will be performed according to FEMA's guidance for non-accredited levee systems

A photograph of two men outdoors in a wooded area. The man on the left is wearing a red polo shirt with a 'TAMU TEXAS' logo and 'M&E Army Corps of Engineers' text, a baseball cap, and sunglasses. He is holding a tablet. The man on the right is wearing a blue polo shirt and sunglasses, and is pointing at a large map spread out on the hood of a white car. The map shows a network of lines and circular nodes. In the background, there are trees and a picnic table.

Determining Your Path Forward

Anatomy of a Levee

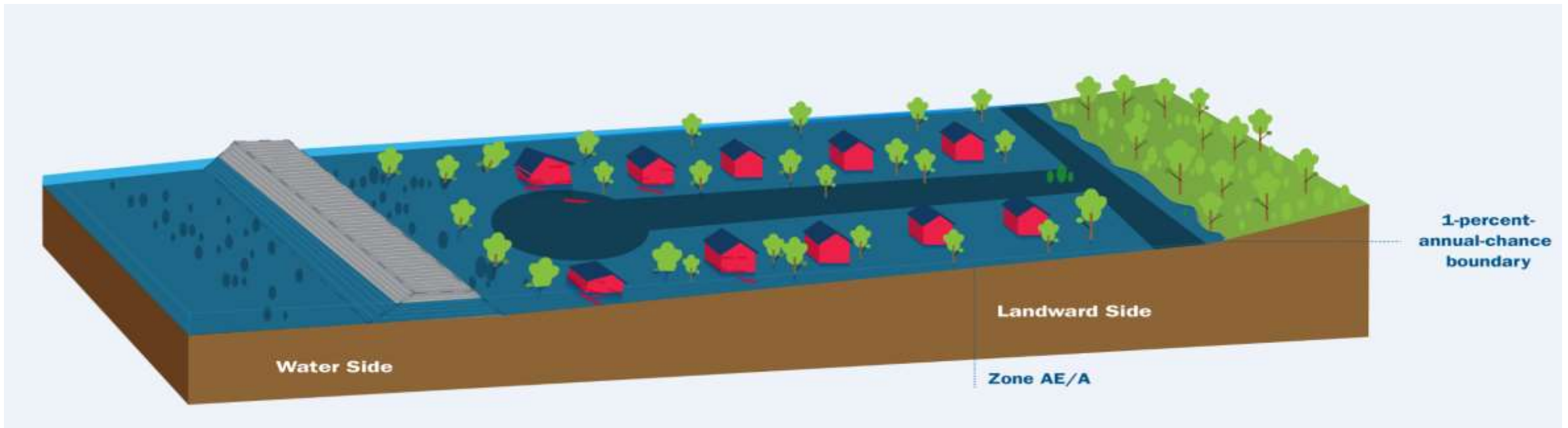


Flood Zone Definitions

- Zone D (2013)
 - Areas of Undetermined Flood Hazards (risk remains, probability is undetermined)
 - Designation of flood risk landward of non-accredited levee systems
 - No mandatory flood insurance requirements
- Zone AE
 - Base Flood Elevation
 - Flood risk recurrence determined
 - Mandatory flood insurance requirements

First Step: Determine Where the Water Will Go

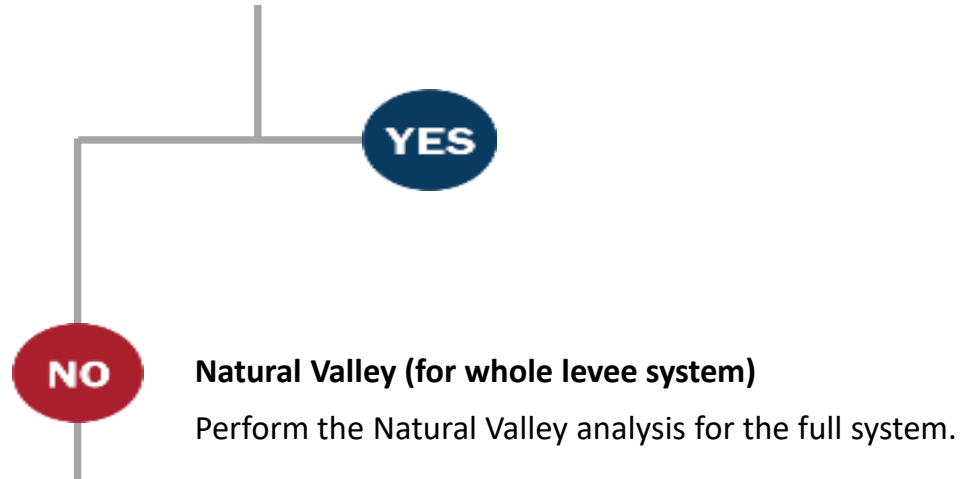
- First purpose of analysis: establishes the “levee-impacted area”
 - This is the area that would be flooded in the case of a “**base flood**” if the levee did not exist (also referred to as the “natural valley” procedure)
 - The “**base flood**” is the regulatory measurement FEMA uses – it is also referred to as the “1-percent-annual-chance flood,” meaning there is a one in a hundred chance this flood will happen in any given year.



**Do you have plans to
accredit your levee system?**

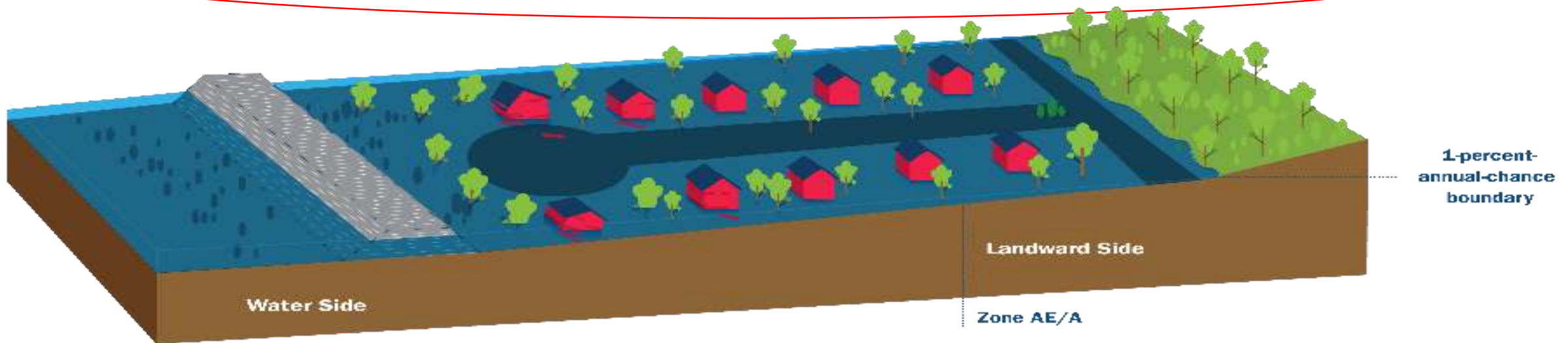
Determining Your Path Forward

Do you intend to accredit your levee system



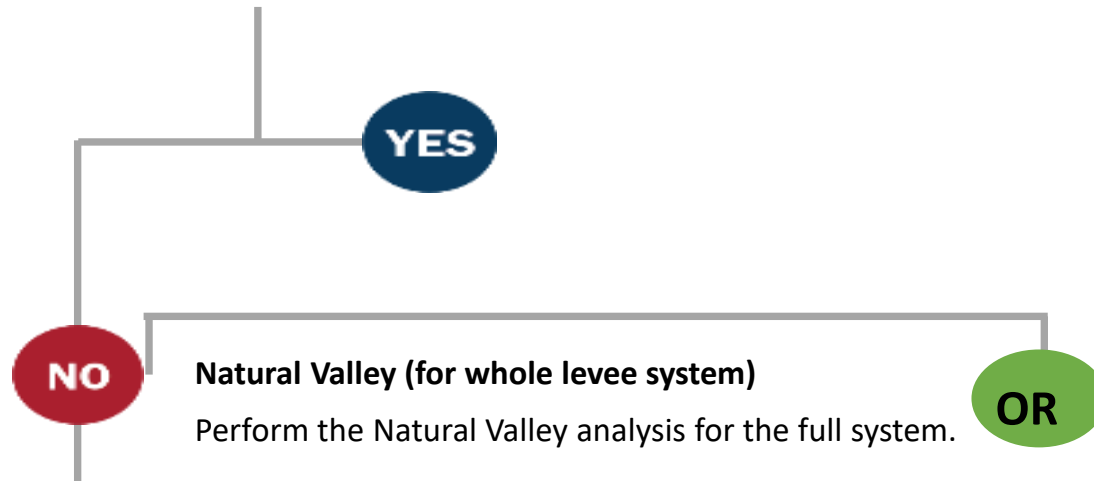
System-Wide Analysis: Dual Purposes

- Used for two purposes:
 - Establishes the levee-impacted area (where the water would go if the levee is not considered)
 - Establishes one AE/A for a levee system analyzed



Determining Your Path Forward

Do you intend to accredit your levee system



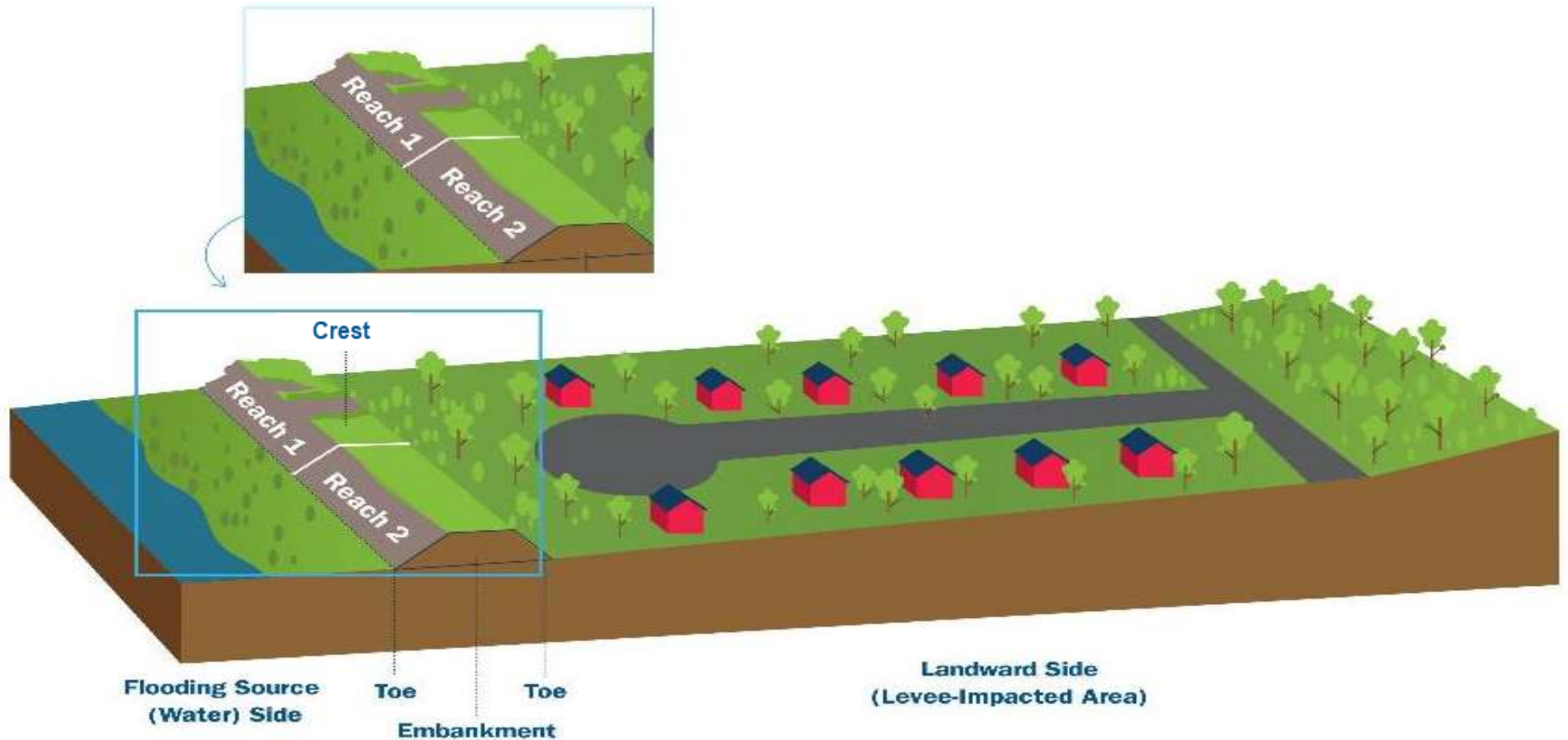
The levee analysis and mapping procedures for individual reaches include:

- ▶ Sound Reach
- ▶ Freeboard Deficient
- ▶ Overtopping
- ▶ Structural-Based Inundation
- ▶ Natural Valley – Will be Selected

*These procedures acknowledge
different levels of risk.*

Let's discuss!

FEMA's Nuanced Approach



Levee Analysis and Mapping Procedures

Given that different “reaches” may have different characteristics, we can choose which procedures to use. This helps us more accurately capture the flood risk.

Usually, only one or two of these procedures would be used:

- Sound Reach
- Freeboard Deficient
- Overtopping
- **Structural-Based Inundation Analysis**
- **Natural Valley**

Sound Reach Procedure

This is applied to levee reaches that meet all requirements for 65.10 (but the entire levee system does not).



Resulting Sound Reach: *Zone D*

Zone D

- Undetermined risk
- No Federal flood insurance requirements
- Depending on how the other reaches are analyzed, one D could be superseded as SFHA

PAUSE: Sound Reach Questions Considerations

Required Data:

- All data necessary to comply with 65.10, including:
 - Elevation Information for the Levee Crest
 - BFE Freeboard Less than Levee Crest
 - Operations and Maintenance Plan
 - Structural Design Requirements
 - Inspection Reports

○ M plans set guidelines on how to operate and maintain the levee system.

Risk Considerations

- one D:
 - Hazard is undetermined, but this does not mean it doesn't exist!
 - Data gathered to date can be used to inform floodplain management.
 - Other procedures could have an impact on one D, and even turn it into a SFHA.
 - No mandatory flood insurance purchase requirements, but highly recommended (low cost options available).
- Larger events are possible
 - Levees can and do fail to perform

Reach Analysis: Freeboard Deficient

Applies when a reach meets the regulatory requirements of 65.10 except freeboard, meaning that the levee is not tall enough.



****Base Flood Elevation (BFE):** the level to which the water will flow in the case of a 1-percent-annual-chance flood*

Freeboard Deficient: one D

one D

- Undetermined hazard
- No mandatory Federal flood insurance requirements
- Depending on how the other reaches are analyzed, one D could be superseded as SFHA

PAUSE: Freeboard Deficient Questions Considerations

Required Data:

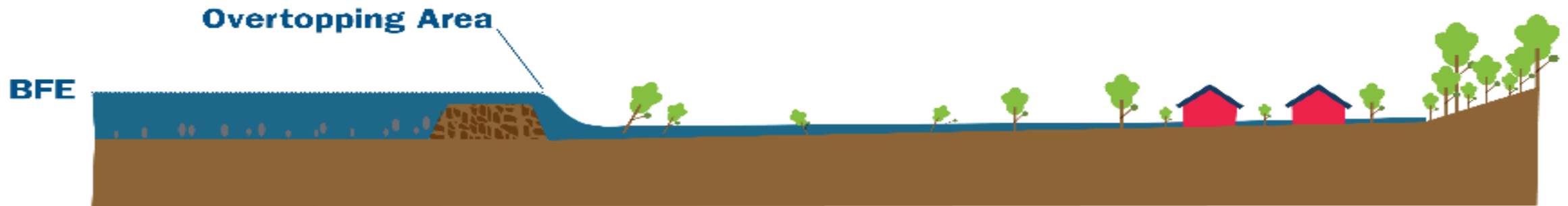
- Elevation Information for the Levee Crest
- BFE Less than Levee Crest
- Operations and Maintenance Plan
- Structural Design Requirements
- Inspection Reports

Risk Considerations

- Zone D:
 - Hazard is undetermined, but this does not mean it doesn't exist!
 - Data gathered to date can be used to inform floodplain management.
 - Other procedures could have an impact on Zone D, and even turn it into a SFHA.
 - No mandatory flood insurance purchase requirements, but highly recommended (low cost options available).
- Larger events are possible
 - Levees can and do fail to perform

Overtopping Procedure

Applies when the top of the levee is below the Base Flood Elevation (BFE), but the levee would not fail or break apart if it were flooded – the water would simply flood over the levee



Overtopping: one A/AE

one A/AE

- High-hazard
- SFHA
- Federal flood insurance requirements

PAUSE: Overtopping Questions and Considerations

Required Data:

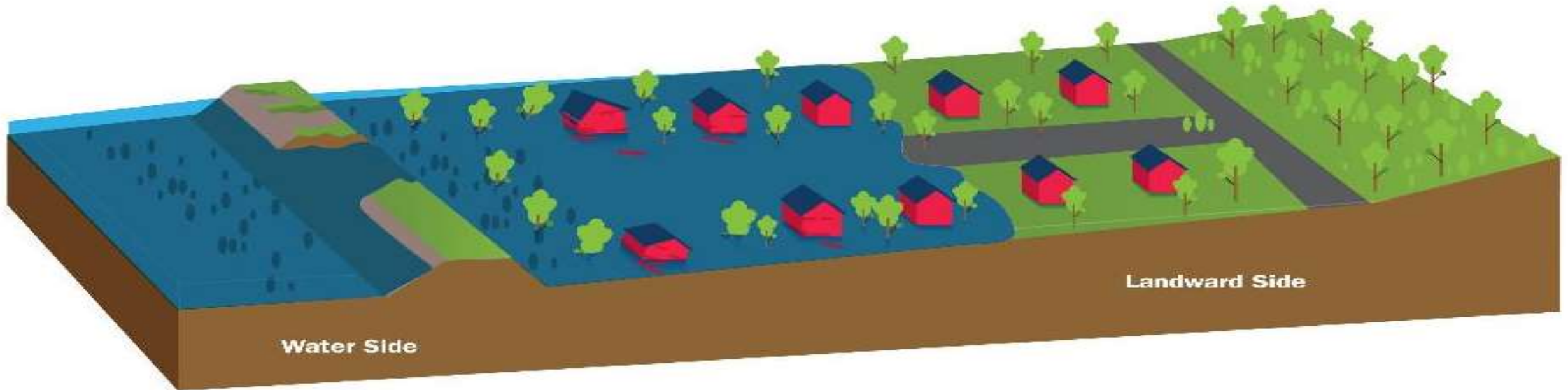
- Elevation Information for the Levee Crest
- Operations and Maintenance Plan
- Structural Design Requirements (i.e. designed for overtopping)
- Inspection Reports
- Evaluation of Overtopping Erosion Potential

Risk Considerations

- There is a significant flooding impact when levees overtop.
- You can reduce your financial risk with insurance
- Even if the levee is designed to withstand overtopping, there is still a chance it can fail, and/or there can be a larger event.

Structural-Based Inundation Procedure

Applies to a reach that may have structural issues and could be breached, overtopped or destroyed at different locations.



Structural Based Inundation: one A/AE

one A/AE

- High-hazard
- SFHA
- Federal flood insurance requirements

PAUSE: Structural-Based Inundation Questions Considerations

Required Data:

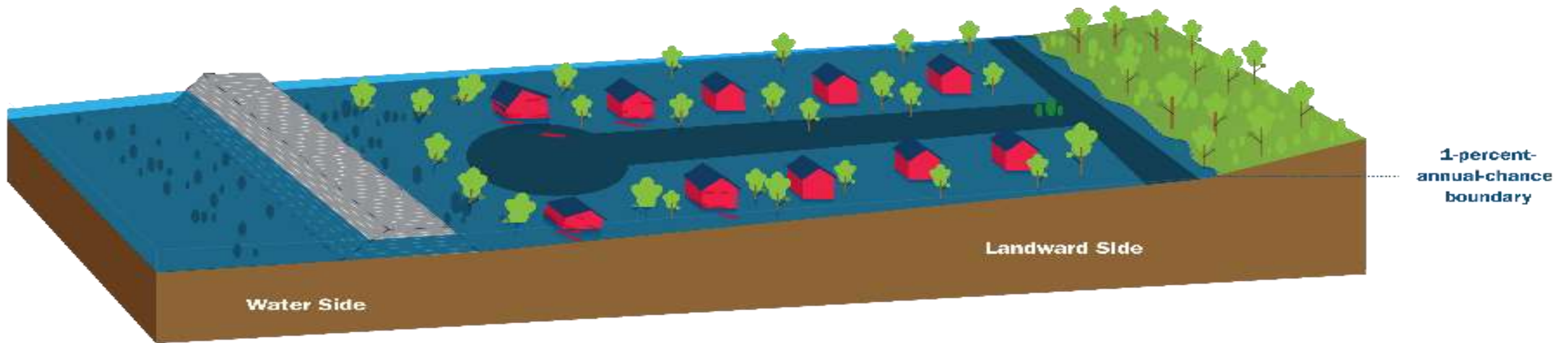
- Elevation Information for the Levee Crest
- Operations and Maintenance Plan
- Structural Design Requirements
- Inspection Reports

Risk Considerations

- There is a significant flooding impact when a levee is breached, and significant damage to the levee.
- You can reduce your financial risk with insurance
- Even if the levee holds up during a flooding event, a larger event is always possible.

Natural Valley Analysis – Reach Procedure

Treats the reach as if it does not exist



Natural Valley: one A/AE

one A/AE

- High-hazard
- Federal insurance is mandatory for structures within the SFHA

PAUSE: Natural Valley Questions Considerations

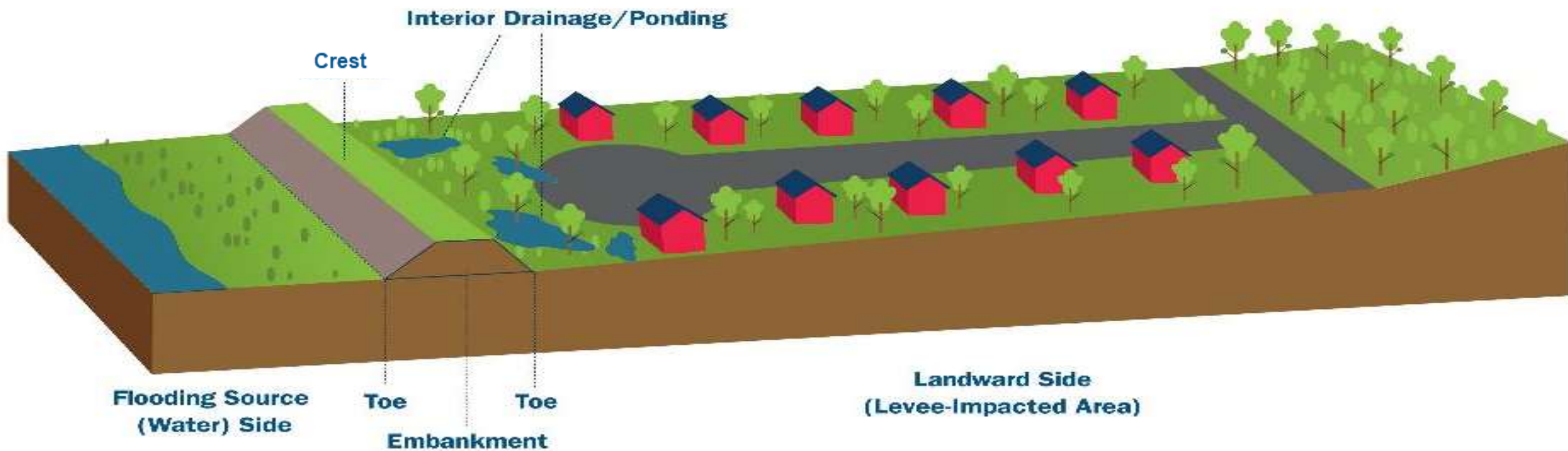
Required Data

- No additional data is required from community/levee owners
- Limited data needed for analysis
- Lowest financial impact for analysis
- Areas designated as SFHAs will require flood insurance

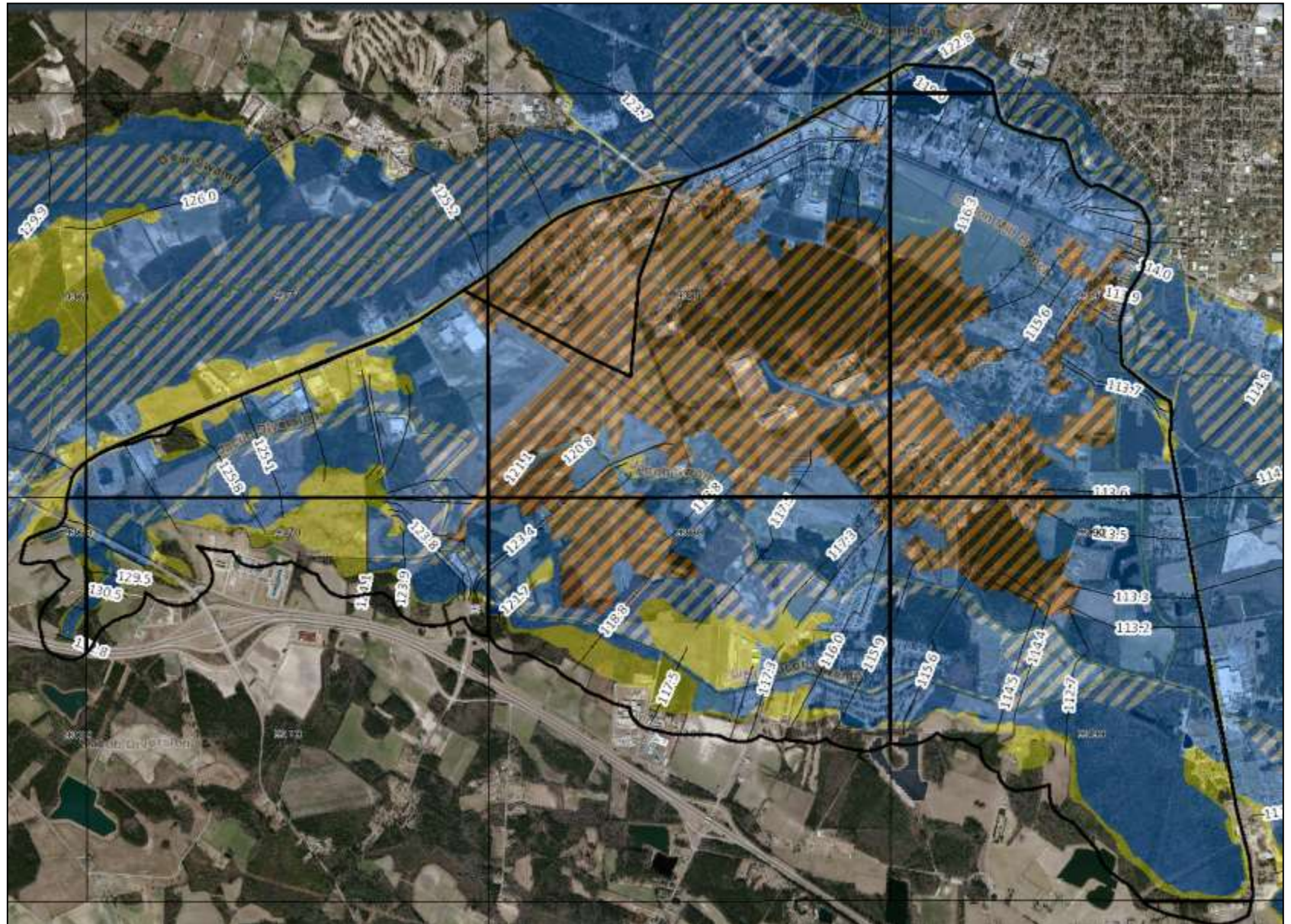
Risk Considerations

- Provides an accurate view of where flooding can happen if the levee does not perform as expected
- This shows the flood impact from a 1-percent event, a larger event is always possible.
- Levees can and do fail to perform
- Insurance does not “protect” lives or property
- True hazard may be greater than mapped

Interior Drainage



Interior Drainage



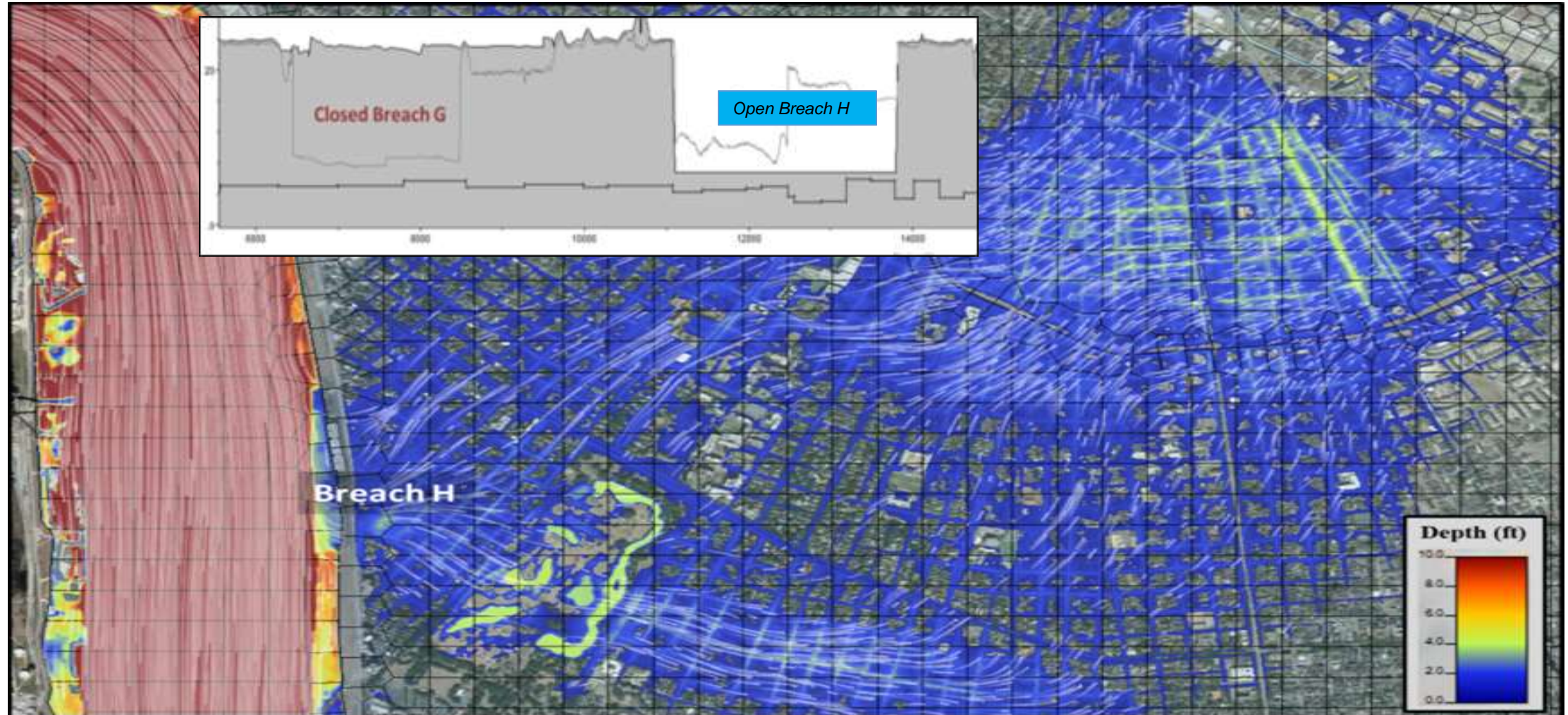
Interior Drainage

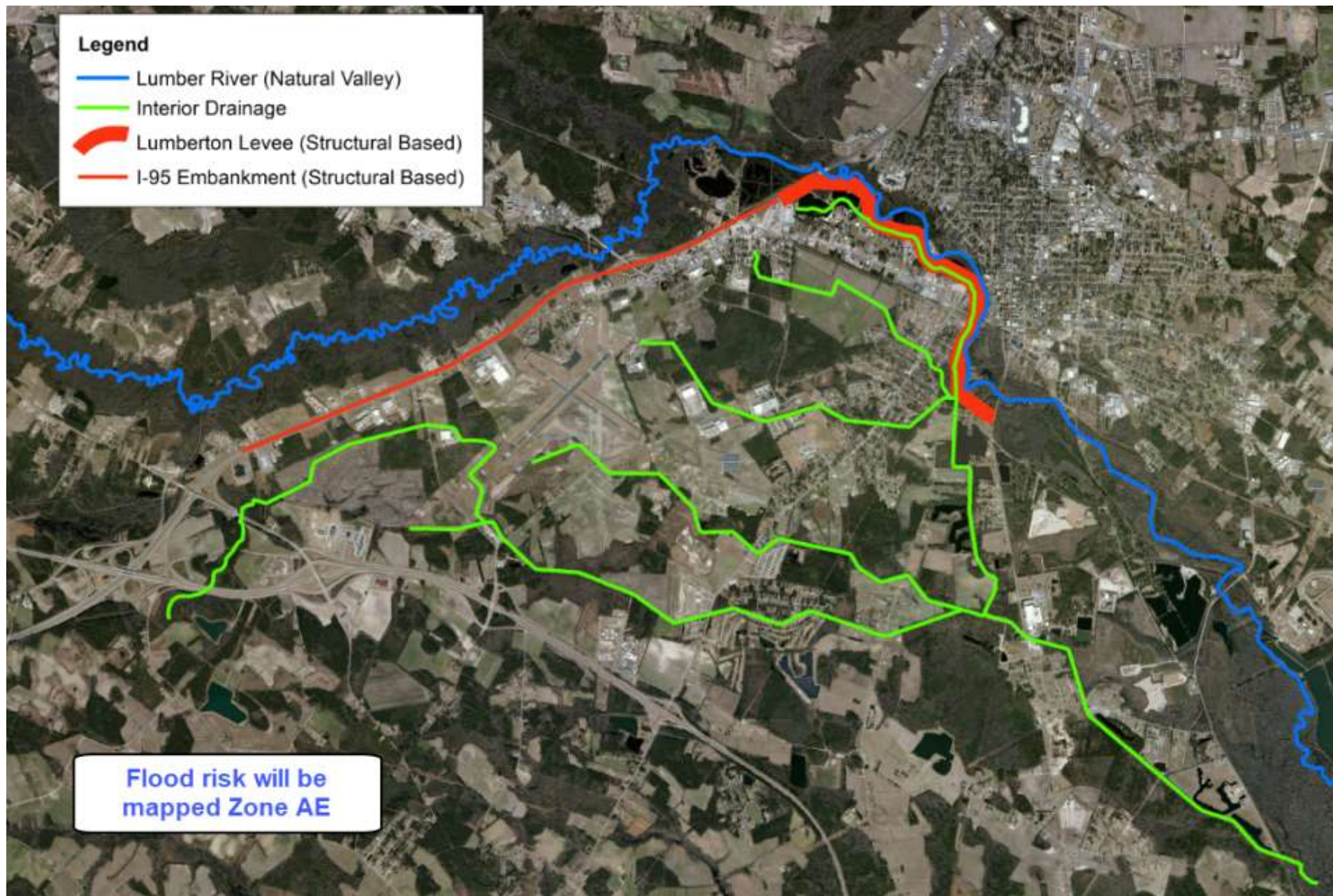


Interior Drainage Analysis



Structural Based Inundation





First Engineering and Mapping Data

Approach

1. Hydrology

- Leverage City of Lumberton floodgate study

2. Hydraulics

- Leverage NCDOT I-95 widening survey and modeling
- Natural Valley Analysis (whole system)
- Interior Drainage Analysis
- Structural Based Inundation Analysis (levee breach)

3. Mapping

- Mosaicking of natural valley analysis, breach scenarios, and interior drainage analysis
- one AE (with BFE)

Next Steps

1. Assess data

- What data do you currently have
- What resources are available to move forward

2. Determine mapping plan

- Depending on the reach characteristics and data available, determine which procedure(s) makes the most sense for your levee reaches/levee system.
- Mosaicking of the different breach scenarios and natural valley.

3. Conduct analysis

- NCFMP to conduct analysis and determine or prepare mapping

4. Review maps

- In our final meeting, we'll review the maps and establish the timeline for comments and review to get them finalized

Recap and Questions

**Now that we understand our
engineering plan, what's next?**

Determining Your Path Forward

Now that we understand our engineering plan, what's next?

1

What is the LLPT responsible for?

- ▶ Providing any community data that may be useful for perspective and analysis
- ▶ Attending future meetings to review data and work with NCFMP for the best solution for the community

2

What is NCFMP responsible for?

- ▶ Incorporating existing data and any data provided from the community
- ▶ Completing Draft Engineering Analysis and Mapping
- ▶ Scheduling meeting to discuss draft results and request feedback
- ▶ Finalizing Engineering Analysis and Mapping and presenting findings to the LLPT

3

What is the timeline?

4

Remind me, where can I find resources?

**Is there anything else I
should be thinking of?**

Determining Your Path Forward

Other important considerations and how NCFMP can help:

1

Do you have planning in place should your levee fail or get overtopped?

- ▶ Emergency Preparedness Plans
- ▶ Hazard Mitigation

2

Do you have a way to communicate with people throughout your community?

- ▶ Push mail
- ▶ Email
- ▶ Townhalls
- ▶ Newspaper ads

3

Do you have a plan on how you're going to reach out to your community?

- ▶ LLPT contact list
- ▶ Reach out to NCFMP

Action Items

- Here's what we're going to do:
 - Move forward with draft engineering and mapping analysis
 - Schedule next meeting where we will review and discuss draft results
- Here's what we need you to do:
 - Gather any additional data that you feel should be considered in the analysis and provide to the NCFMP by 04/26/2021 (first LLPT meeting plus 1 month)

Contact Information

North Carolina Floodplain Mapping Program

Primary – Steve Garrett, CFM, State NFIP Coordinator

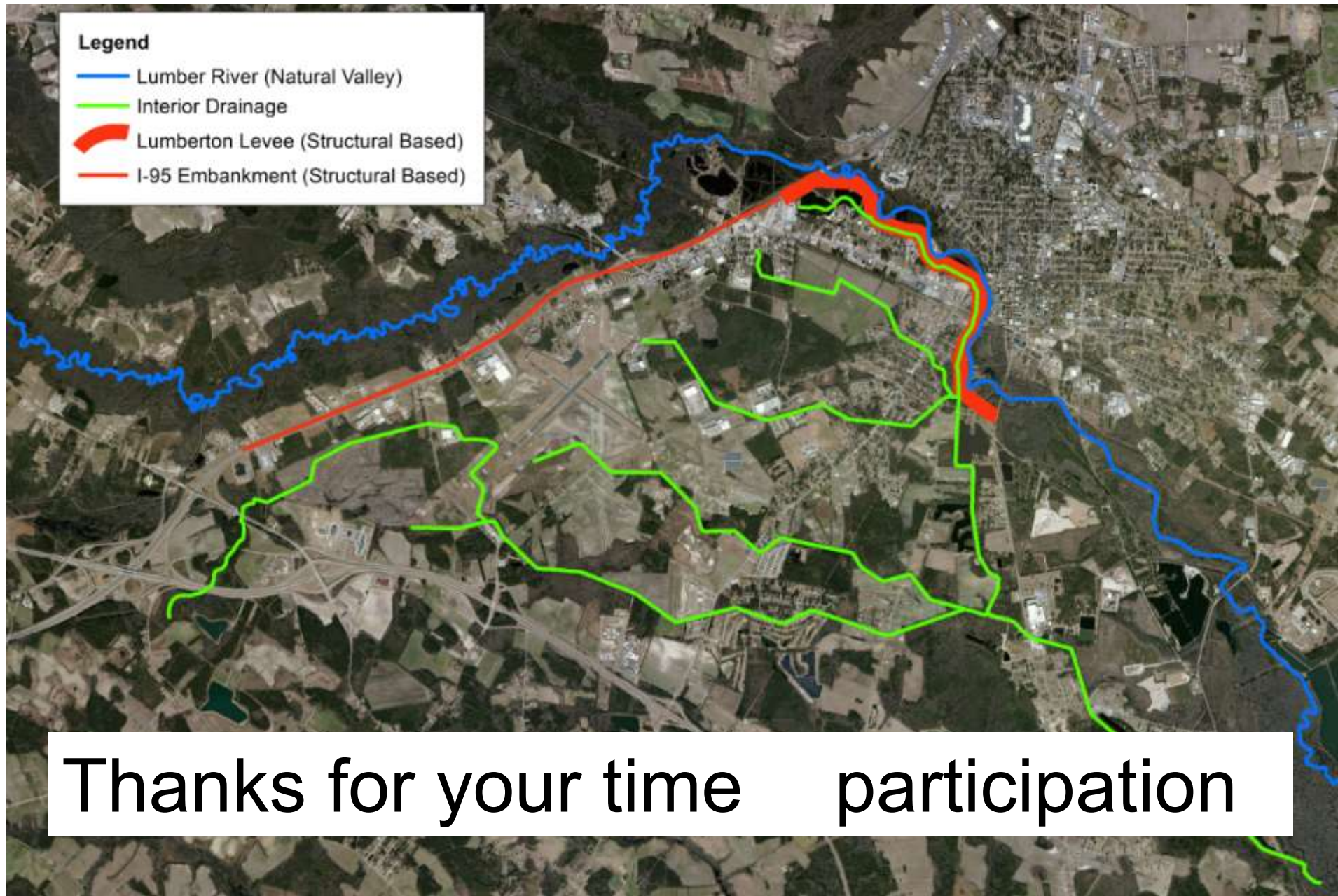
Steve.Garrett@ncdps.gov

Tom Langan, PE, CFM, Engineering Supervisor

Tom.Langan@ncdps.gov

Tonda Shelton, CFM, Program Manager

Tonda.Shelton@ncdps.gov



Memorandum

Subject: **ACTION:** Highway Embankments versus Levees
and other Flood Control Structures

Date: September 10, 2008

From: */s/ Original Signed by*
King W. Gee
Associate Administrator for Infrastructure

In Reply Refer To: HIBT-20

To: Associate Administrator for Federal Lands
Highway Programs
Directors of Field Services
Acting Resource Center Director
Division Administrators

This memorandum provides guidance to our field offices on the distinctions between highway embankments, levees, and other flood control structures. The memorandum also provides background of why these distinctions are important and recommendations in the event that the FHWA encounters questions or issues in this area.

Background:

The Federal Emergency Management Agency (FEMA), primarily through the National Flood Insurance Program (NFIP), works with communities to determine floodplain areas threatened by flood damages and sets appropriate insurance rates for property owners within those areas. The primary means to determine the locations of these flood prone areas are through flood insurance studies (FIS) and associated flood insurance rate maps. By the time the FEMA and the communities began conducting these FIS, much of our Nation's highway system had already been constructed, including embankments within some floodplains.

Recent FEMA map modernization and levee certification initiatives have revealed that for many years some highway embankments may have been either inadvertently or incorrectly designated as levees or other flood control structures. Also, some NFIP communities incorrectly assumed that these embankments provided some level of protection. Until recently, the FHWA was unaware of such assumptions.

Furthermore, there have been recent instances where the FEMA, other floodplain regulators, and communities (hereafter referred to as 'entities') have approached State departments of transportation (DOTs) to request DOT certification of these highway embankments as levees or flood control structures. Some entities have suggested that DOTs need to retrofit these embankments into levees and do so using Federal-aid highway funds, thus allowing for certification. Many times these entities cite significant economic hardship for the community should the DOT not take such actions.



The FHWA, Floodplains, and Flood Control

For over 50 years, the FHWA has been involved in the planning, design, and construction of the Interstate and other portions of the National Highway System. At times, this required placing highway embankments adjacent to or within floodplains. While the FHWA long recognized that the highway system would cross and interact with floodplains, the system was not designed or intended to serve in a flood control role.

As a consequence, the FHWA does not have flood control standards for highway embankments. However, the FHWA does have regulations and design standards that relate to the interaction of highways and bridges with floodplains. These regulations are found in 23 CFR 650 Subpart A: “Location and Hydraulic Design of Encroachments on Flood Plains.”

Design of Highway Embankments

Both new and existing highway embankments reflect the following typical design philosophy and approach:

- Highway embankments do not include design features, such as an internal impervious core and freeboard, required for a levee or other flood control structures;
- The fill material used in the construction of a typical highway embankment is not a sufficient barrier against water; therefore, a highway embankment is subject to piping, seepage, and infiltration; and
- Typical highway embankment construction does not require the same level of geotechnical engineering analysis as required for flood control structures.

Role of FHWA Floodplain Regulations

The FHWA floodplain policies and regulations (23 CFR 650 Subpart A) attempt to keep encroachments (embankments) entirely out of floodplains. Where this was not feasible, regulations and practice required most Interstate embankments to be sufficiently elevated to avoid overtopping by a flood with a 2 percent chance of being exceeded in any given year. This requirement does not imply an embankment provides an additional flood control role. Instead, the intent is to prevent loss of the embankment as a result of overtopping flows associated with smaller floods.

Further differentiating how the FHWA’s floodplain interaction function is distinct from a flood control role, the FHWA floodplain regulations require highway project design flows to consider potential effects on any existing flood control channels, levees, and reservoirs. In doing so, the FHWA recognizes the importance of flood control missions performed by other entities, but clearly avoids undertaking and involvement in such a mission. Typically, the Federal Agencies with such a flood control and mitigation mission and authority are the FEMA and the U.S. Army Corps of Engineers.

Risk of Failure

In developing the floodplain regulations, the FHWA did not intend that highway embankments act as a flood control structure. To the contrary, the FHWA believes that assuming such a role poses a significant risk of embankment failure.

An additional concern is that highway engineers cannot quantify the risk of failure of these embankments during a flood event. There are no cost effective means to ascertain the potential of failure associated with any given highway embankment or even relative to similarly designed highway embankments in different areas. Nor does a history of some individual embankment acting in a “flood protection” mode imply that the design is adequate for a flood control role.

Embankments and Permanent Dams

The FHWA floodplain regulations do recognize that there are times when embankments may interact with or function as permanent dams. In these cases, the FHWA has no design standards. Instead the FHWA regulations require the design have the approval of the State or Federal Agency responsible for the safety of dams or like structures within the State. Even in this case, the FHWA floodplain regulations distinguish between permanent structures and those affected during floods.

Guidance on Highway Embankments

Staff from the FHWA’s Office of Bridge Technology have carefully studied the points discussed in this memorandum and believe that certifying or otherwise designating highway embankments as levees is not an acceptable practice and should be opposed for the following reasons:

- Most existing highway embankments were not designed and constructed for (and thus are ill-suited to) performing as a levee or other flood control facility;
- In such a role, highway embankments could pose a significant and unacceptable risk to the public; and subject a DOT and FHWA to an untenable position with respect to costs, liability and damages;
- Certification requires conducting a thorough engineering evaluation by groups with experience in analysis and design of flood control structures and applying standards and obtaining approval of agencies responsible for flood control structures; and
- This situation indirectly places the FHWA into a flood control role for its Federal-aid highway program. For nearly all projects, the FHWA does not have the authority to engage in flood control activities.

Therefore, the FHWA discourages DOTs in certifying highway embankments as levees or allowing any such certification by any entity. Additionally, the FHWA discourages any type of retrofit efforts as DOTs and the FHWA are not in a position to assume such a role for statutory, financial, liability, and engineering reasons.

We recommend that you and your corresponding DOT decline any certification request from any entity that may contact you on this subject. Additionally, we recommend informing the FHWA's Office of Bridge Technology, Hydraulics and Geotechnical Team (HIBT-20) of the request. The HIBT-20 staff will be available to serve as the FHWA's lead in providing assistance and guidance to your office in resolving such requests. The HIBT-20 staff has also met with FEMA headquarters staff on this issue and can provide liaison services as needed.

Please share this memorandum with your appropriate staff and with all appropriate DOT and local transportation management officials within your State.

If you have any questions or need additional information, please contact Mr. Joe Krolak at (202) 366-4611 (joe.krolak@dot.gov) or Mr. Jorge Pagán-Ortiz at (202) 366-4604 (jorge.pagan@dot.gov).

Robeson County Local Levee Partnership Team Meeting 1

Date: March 24, 2021

Time: 10:30 am – 11:40 am

Meeting held virtually via Webex

Attendees:

NCEM: Steve Garrett, Chris Koltyk, Gary Thompson, Scott Gentry, Ao Yi, Tonda Shelton, Stacey Fuller, Tom Langan, Mike Sprayberry, Keith Acree, Eryn Futral, Steve McGugan, Brian Haines, Chris Crew, Daniel Blaisdell

AECOM: Greg Rucker, David Markwood, Laura Arnold, Rachit Bhayani

FEMA: Mark Vieira, Miriam Yousuf

USACE: Mitch Hall, Greg Williams, Wes Brown, Kevin Conner

NCDOT: Chuck Miller, Jerry Snead, Steve Kendall, Jim Rerko, Stephen Morgan, Drew Cox

City of Lumberton: Rob Armstrong, Wayne Horne, Holt Moore, Ar'Triel Kirchner, Brandon Love,

HGA, LLC: W. Blankenship

Robeson County: Stephanie Chavis, Amber Britt Davis, Mattie Caulder, Terry Buchanan

NCORR: Mary Glasscock, Marlena Byrne

NC General Assembly: Jim Warren, Lane Hickman, Jeff Hauser

Compass: John Newcomb-Thompson

Location: Virtual - Webex

The summary of the Local Levee Partnership Team meeting is presented below.

Welcome and Introductions

- Steve Garrett introduced Chris Koltyk. Chris welcomed the participants and summarized purpose of meeting.
- Steve Garrett listed invited stakeholder groups and received a response from those that were in attendance. Steve noted that presentation is being recorded and would be made available. Questions are to be posed using the chat feature and would be addressed following the slide deck presentation.
- Steve introduced David Markwood.

Slide Deck Presentation

- David Markwood moved through the slide deck. Emphasis was placed on importance of feedback from the community officials/stakeholders.
- David Markwood discussed the different approaches available and explained that Natural Valley and Structural-Based Inundation procedures would be pursued as they are the most appropriate for unaccredited levees such as the Lumber River levee.

Question-Answer and Discussion

- Mark Vieira gave background on how levees were mapped in the past:
 - In 1970s and 1980s, it was just assumed that anywhere there was a levee it provided protection.

Robeson Co. LLPT Meeting 1
Meeting Minutes
March 24, 2021

- This evolved into saying if there was a levee, it would either provide protection or it would not. This was used until Senator Cochran from Mississippi said that if there is a levee that is not fully accredited then it may still provide some protection, so this is how the other methods came into place.
 - Noted existing study for the Lumberton levee was done years ago with data that was not as good as what we have now and modeling methods that were not as good. FEMA believes a much better product can be produced at this time.
- Brandon Love asked a question on the history of the levee slide. Noted he does not think it was ever accredited. Noted sandbagging mentioned in presentation was put in place when levee was first constructed and now there is a plan to get a flood gate installed. Asked for comment on having I-95 as part of the levee system. Jerry Snead from NCDOT noted it is correct that NCDOT does not want I-95 serving as part of the levee system. Noted there are reasons for this and that alternatives may need to be pursued on this front. Mike Sprayberry said he would like a good explanation so it can be clearly explained to local partners why the NCDOT feels the highway system should not be part of the levee system.
- Mike Sprayberry asked what ultimate goal of the project is. Is it to get information on the levee so that the levee can eventually be certified? Steve Garrett noted the project, funded by FEMA through the CTP grant, is really to address mapping the levee system based on existing conditions. Under RiskMAP and FEMA, NCFMP needs to move forward and have the area mapped to current FEMA standards. Accreditation process is being moved forward by the City and mapping can be revised through LOMR or PMR if/when existing conditions change due to flood gate or any levee improvements.
- Brandon Love noted that USACE is performing a levee assessment. He is not sure if accreditation is a possibility (comment possibly based on DOT concerns). City is aggressively pursuing floodgate as there are residential and business interests where planning efforts will be impacted by the future of the levee as far as protecting the community and potential accreditation.
- Mike Sprayberry said he wants to know if more than just analysis and mapping will occur, will there be work to the levee that will provide additional protection. Wants to know what the people in the community need from EM and/or from state and federal agencies to support their efforts.
- Wayne Horne noted the City inherited the levee. It is an expensive process to continue down this path and their revenue stream may have difficulty supporting this effort, particularly if there are structural and freeboard issues to be resolved. Accreditation will be important for flood insurance purposes and businesses.
- Mike Sprayberry asked who is responsible for funding improvements. Steve Garrett noted it is typically the levee owner but support can come by way of the federal government through USACE. There are also potential for grants and support from

Robeson Co. LLPT Meeting 1
Meeting Minutes
March 24, 2021

organizations like NCORR. Sprayberry noted it sounds like the City wants the levee accredited and needs help with that process.

- Wayne Horne noted that the floodgate will stop the water in his estimation, but accreditation will still not be achieved until other issues are figured out (likely referring to I-95 and potential freeboard deficiencies, levee intrusions as noted previously) and this accreditation is important to the city. Noted levee performed well other than the opening which will soon be closed by the flood gate.
- Steve Garrett noted pathway to accreditation will be a separate project as this project is just to study and map existing conditions. As Mark Vieira noted, 44 CFR 65.10 is what drives accreditation. Will need to look at all the requirements under that statute.
- Mike Sprayberry noted this study will move forward, but it is all interconnected with the Lumberton concerns. Would like NCEM to solicit questions that the City has to try to get a path forward to their desired outcomes. He wants NCEM to be able to answer their questions and be able to look at what opportunities are available to move toward their desired outcome. Noted with all the agencies on this stakeholder group we should leverage their connections and talents. Mike asked that Steve Garrett lead the effort on gathering these questions.
- Mark Vieira commented that one of the ultimate goals is to get the flood maps correct. Over the years we have seen that flood risk in this area is not as accurate as it could be. Noted he is looking forward to seeing gates installed. He agreed that the existing levee is in good shape. Noted ultimate question is whether I-95 can be considered part of the levee. Noted he thinks USACE has been looking into this and hopefully DOT as well.
- Chris Koltyk noted he will make sure the answer from DOT is provided to everyone participating in the meeting.
- Mark Vieira noted new FEMA BRIC program may be able to help with funding.
- Mitch Hall noted that Jacksonville district is currently performing assessment of levee and this report should be available soon. Charleston district is continuing to pursue a basin-wide mitigation study for flooding risk. Noted there is a possibility there are mitigation actions recommended in that report but he is not sure about that. Steve Garrett requested contact information for the appropriate contact in the Charleston district to discuss this study and report.
- Steve Garrett moved conversation back to David Markwood to close out the presentation. David continued with Path Forward slide and request for any pertinent information from stakeholders.
- Mike Sprayberry closed the meeting by thanking the stakeholders for attending the meeting and noted that NCEM is here to support their local partners.



CITY OF LUMBERTON

CITY COUNCIL

AGENDA • APRIL 21, 2021

Special Meeting

Third Floor Conference Room

11:00 AM

500 N Cedar St, Third Floor, Lumberton, NC 28358

Mayor Bruce W. Davis

Councilmember Leroy Rising, Mayor Pro Tem
Councilmember Melissa Robinson, Precinct 2
Councilmember John Carroll, Precinct 3
Councilmember Karen Higley, Precinct 4

Councilmember John Cantey, Precinct 5
Councilmember Chris Howard, Precinct 6
Councilmember Eric Chavis, Precinct 7
Councilmember Owen Thomas, Precinct 8

STAFF:

Wayne Horne, City Manager
Brandon Love, Deputy City Manager
Holt Moore, City Attorney
Laney Mitchell-McIntosh, City Clerk

I. CALL TO ORDER

B. Invocation

II. AGENDA ITEMS

- A. Approval of Bid for CDBG-NR Reconstruction Contracts – Brian Nolley, CDBG Administration
- B. Engineer Selection for the I-74 Industrial Park – Rob Armstrong, Public Works Director
- C. Approval of Municipal Agreement Between the City of Lumberton and NCDOT for the I-95 Widening and Elevation Project – Brandon Love, Deputy City Manager
- D. Adopt a Resolution Requesting the North Carolina Department Board of Transportation Place Signage at the Entrances to Lumberton – Wayne Horne, City Manager
- E. Approve the designation of \$500.00 of CRF for Dedication of STEM Building in Honor of Deceased Reverend T. Shedrick Byrd – John Cantey, Precinct 5

III. CLOSED SESSION

IV. ADJOURNMENT

Lumberton City Council
Lumberton, North Carolina



REQUEST FOR CC ACTION

Meeting Date: April 21, 2021

Originated By: Planning / Inspections

Submission Date: April 16, 2021

Subject: NCDOT - City of Lumberton I-95 Municipal Agreement

Summary/Background of Subject Matter -

As most of you are aware, the NC Department of Transportation will soon be undertaking a project to widen Interstate 95 to eight lanes through Lumberton and elevate certain portions of the roadway which flooded during hurricanes Matthew and Florence. As part of this transportation project the City has requested certain “betterments” be included which will benefit our citizens and travelers through Lumberton such as, coordination with the city’s floodgate project at the CSX crossing, additional corridor lighting from Exit 17 to Exit 13, a multi-use path along and other aesthetic improvements to the new Carthage Road bridge, and embossed, painted concrete medallions on each of the interstate bridges in Lumberton. The attached municipal agreement and associated cost matrix has been presented by NCDOT for consideration and approval by City Council. The reimbursements for these “betterments” shall be paid by the City, to NCDOT over a three year period beginning one year after the start of construction of the improvements.

Recommendation for CC Consideration:

The recommendation for City Council is to approve the proposed “draft” municipal agreement with NCDOT, including the attached cost matrix and authorize staff to execute the appropriate documents.

Signature: *Brandon Love*

Department: Planning / Inspections

City Manager’s Comments:

<< FOR CITY MANAGER ONLY >>

Signature: *Wayne Horne*

Department: City Management

NORTH CAROLINA

**TRANSPORTATION IMPROVEMENT PROJECT –
MUNICIPAL AGREEMENT WITH BETTERMENTS**

ROBESON COUNTY

DATE: 3/8/2021

NORTH CAROLINA DEPARTMENT OF
TRANSPORTATION

TIP #: I-6064

AND

WBS Elements: 49067.3.1

CITY OF LUMBERTON

THIS MUNICIPAL AGREEMENT is made and entered into on the last date executed below, by and between the North Carolina Department of Transportation, an agency of the State of North Carolina, hereinafter referred to as the “Department” and the City of Lumberton, a local government entity, hereinafter referred to as the “Municipality”.

WITNESSETH:

WHEREAS, the Department has plans to make certain street and highway constructions and improvements within the Municipality under Project 49067.3.1, in Robeson County; and,

WHEREAS, the Department and the Municipality have agreed that the municipal limits, as of the date of the awarding of the contract for the construction of the above-mentioned project, are to be used in determining the duties, responsibilities, rights and legal obligations of the parties hereto for the purposes of this Agreement; and,

WHEREAS, this Agreement is made under the authority granted to the Department by the North Carolina General Assembly, including but not limited to, the following legislation: General Statutes of North Carolina (NCGS), Section 136-66.1, Section 160A-296 and 297, Section 136-18, and Section 20-169, to participate in the planning and construction of a Project approved by the Board of Transportation for the safe and efficient utilization of transportation systems for the public good; and,

WHEREAS, the parties to this Agreement have approved the construction of said Project with cost participation and responsibilities for the Project as hereinafter set out.

NOW, THEREFORE, the parties hereto, each in consideration of the promises and undertakings of the other as herein provided, do hereby covenant and agree, each with the other, as follows:

SCOPE OF THE PROJECT

1. The Project consists of widening and pavement rehabilitation of I-95 from mile marker 13 to mile marker 22.

2. At the request of the Municipality, and in accordance with the Department's *Complete Streets Policy*, the Department shall include provisions in its construction contract for the construction of pedestrian facilities on or along Caton Rd/NC 72, Carthage Road (SR 1528), N. Roberts Avenue/NC 211, and Dawn Drive. The Department shall also include betterments as requested by the Municipality. All improvements and betterments are listed in the Table, attached as Exhibit 1. Said work shall be performed in accordance with the Department's policies, procedures, standards, and specifications, and the following provisions.

PLANNING AND DESIGN

3. The Department shall prepare the environmental and/or planning document, and obtain any environmental permits needed to construct the Project, and prepare the Project plans and specifications needed to construct the Project. All work shall be done in accordance with departmental standards, specifications, policies and procedures.

RIGHT OF WAY

4. The Department shall be responsible for acquiring any needed right of way required for the Project. Acquisition of right of way shall be accomplished in accordance with the policies and procedures set forth in the North Carolina Right of Way Manual.
5. It is understood by both parties that all work for the betterments shall be performed within the existing right of way. However, should it become necessary, the Municipality, at no expense or liability whatsoever to the Department, shall provide any needed right of way and or construction easements for the construction of the betterments, and remove from said rights of way all obstructions and encroachments of any kind or character. Acquisition of any needed right of way shall be performed in accordance with the following state and federal policies and procedures, "Right of Way Acquisition Policy and Land Acquisition Policy, contained in the Federal-Aid Policy Guide, Part 712, Subpart B", and the North Carolina Right of Way Manual (Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970). The Department shall be indemnified and held harmless from any and all damages and claims for damages associated with the acquisition of any construction easements and/or right of way.

UTILITIES

RESPONSIBILITIES

6. The Municipality shall be responsible for the relocation and adjustment of all municipally-owned utilities in conflict with the Project and shall exercise any rights that it may have under any

franchise to effect all necessary changes, adjustments, and relocations of communications and electric power lines; underground cables, gas lines, and, and other pipelines or conduits; or any privately- or publicly-owned utilities.

- A. Said work shall be performed in a manner satisfactory to the Department prior to the Department beginning construction of the Project. The Municipality shall make every effort to promptly relocate said utilities in order that the Department will not be delayed in the construction of the Project.
- B. The Municipality shall make all necessary adjustments to house or lot connections or services lying within the right of way or construction limits, whichever is greater, of the Project.
- C. The Department, where necessitated by construction, will make vertical adjustments of two (2) feet or less to the existing manholes, meter boxes, and valve boxes at no expense to the Municipality.
- D. The Department shall not be liable for any work that the Municipality undertakes with respect to said utility relocation.

COSTS AND FUNDING

- 7. If applicable, the Department will reimburse the Municipality in accordance with NCGS 136-27.1. A separate utility agreement may be prepared to address these costs and payment terms.

UTILITY RELOCATION BY DEPARTMENT

- 8. If the Municipality requests the Department to include the relocation and/or adjustment of municipally owned utilities in its construction contract provisions, and the Department agrees, then a separate utility agreement will be prepared to state the cost estimate and the reimbursement terms. The Municipality shall reimburse the Department all or a portion of the costs associated with said relocation, in accordance with NCGS 136-27.1. Reimbursement will be based on final project plans and actual costs of relocation.

CONSTRUCTION

- 9. The Department shall construct, or cause to be constructed, the Project in accordance with the plans and specifications of said Project as filed with, and approved by, the Department. The Department shall administer the construction contract for said Project.

MAINTENANCE

10. Upon completion of the Project:

- A. The Department shall be responsible for all traffic operating controls and devices which shall be established, enforced, and installed and maintained in accordance with the North Carolina General Statutes, the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, the latest edition of the "Policy on Street and Driveway Access to North Carolina Highways", and departmental criteria.
- B. The improvement(s) shall be a part of the State Highway System and owned and maintained by the Department.

11. The Municipality, at no expense to the Department, shall assume all maintenance responsibilities for the pedestrian improvements and betterments, as more fully described in Exhibit 1, and release the Department from all liability relating to such maintenance.

BETTERMENT COSTS AND FUNDING

12. In accordance with the *Complete Streets Guidelines*, the Department is responsible for all costs of pedestrian improvements that are included in an adopted comprehensive plan. The Municipality is responsible for all other requested work and any betterments. The Project construction contract will be executed as a lump sum contract with no breakdown of construction quantities and associated costs. The Municipality shall pay \$1,120,835 for the betterments. Both parties understand that there will be no adjustment to this fixed amount. The Municipality shall participate in the betterment cost as follows:

- A. The Department will invoice the Municipality for their share of the actual costs of the betterments three years after Project construction has started. Reimbursement to the Department shall be made in one final payment within sixty days of invoicing by the Department. A late payment penalty and interest shall be charged on any unpaid balance due in accordance with NCGS § 147-86.23.
- B. In the event the Municipality fails for any reason to pay the Department in accordance with the provisions for payment herein above provided, NCGS § 136-41.3 authorizes the Department to withhold so much of the Municipality's share of funds allocated to said

Municipality by NCGS § 136-41.1 until such time as the Department has received payment in full under the reimbursement terms set forth in this Agreement.

- C. At any time prior to final billing by the Department, the Municipality may prepay any portion of the cost by sending a check with the WBS element noted to the below address. The Department will provide a final billing based on the fixed cost, less any previous payments that have been made.

REMITTANCE ADDRESS

NC Department of Transportation
ATTN: Accounts Receivable
1514 Mail Service Center
Raleigh, NC 27699-1514

ADDITIONAL PROVISIONS

13. It is the policy of the Department not to enter into any agreement with another party that has been debarred by any government agency (Federal or State). The Municipality certifies, by signature of this agreement, that neither it nor its agents or contractors are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in this transaction by any Federal or State Department or Agency.
14. To the extent authorized by state and federal claims statutes, each party shall be responsible for its respective actions under the terms of this agreement and save harmless the other party from any claims arising as a result of such actions.
15. The other party to this Agreement shall comply with Title VI of the Civil Rights Act of 1964 (Title 49 CFR, Subtitle A, Part 21) and related nondiscrimination authorities. Title VI and related authorities prohibit discrimination on the basis of race, color, national origin, disability, gender, and age in all programs or activities of any recipient of Federal assistance.
16. All terms of this Agreement are subject to available departmental funding and fiscal constraints.
17. This Agreement contains the entire agreement between the parties and there are no understandings or agreements, verbal or otherwise, regarding this Agreement except as expressly set forth herein.
18. The parties hereby acknowledge that the individual executing the Agreement on their behalf is authorized to execute this Agreement on their behalf and to bind the respective entities to the

terms contained herein and that he has read this Agreement, conferred with his attorney, and fully understands its contents.

19. A copy or facsimile copy of the signature of any party shall be deemed an original with each fully executed copy of the Agreement as binding as an original, and the parties agree that this Agreement can be executed in counterparts, as duplicate originals, with facsimile signatures sufficient to evidence an agreement to be bound by the terms of the Agreement.
20. By Executive Order 24, issued by Governor Perdue, and N.C. G.S. § 133-32, it is unlawful for any vendor or contractor (i.e. architect, bidder, contractor, construction manager, design professional, engineer, landlord, offeror, seller, subcontractor, supplier, or vendor), to make gifts or to give favors to any State employee of the Governor's Cabinet Agencies (i.e., Administration, Commerce, Environmental Quality, Health and Human Services, Information Technology, Military and Veterans Affairs, Natural and Cultural Resources, Public Safety, Revenue, Transportation, and the Office of the Governor).

IT IS UNDERSTOOD AND AGREED upon that the approval of the Project by the Department is subject to the conditions of this Agreement.

IN WITNESS WHEREOF, this Agreement has been executed, in duplicate, the day and year heretofore set out, on the part of the Department and the Municipality by authority duly given.

L.S. ATTEST: CITY OF LUMBERTON

BY: _____ BY: _____

TITLE: _____ TITLE: _____

DATE: _____ DATE: _____

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

This Agreement has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act.

(SEAL)

BY: _____
(FINANCE OFFICER)

Federal Tax Identification Number

Remittance Address:

City of Lumberton

DEPARTMENT OF TRANSPORTATION

BY: _____
(CHIEF ENGINEER)

DATE: _____

APPROVED BY BOARD OF TRANSPORTATION ITEM O: _____ (Date)

I-6064 Municipal Agreement Items					
Item No.	Description	Location	Party Responsible for Cost	Notes	Estimated Cost to the City
1	Cooridor Lighting (Ex. 13 - Ex. 17)	Exit 13 - just south of Exit 17	City of Lumberton Betterment	NCDOT will handle all construction items for inclusion into the Design-Build contract. The City will be responsible for costs of lighting, all maintenance, operation, and cost of power consumption to operate the lighting.	\$ 800,000.00
2	Cooridor Lighting (Ex. 17 - Ex. 22)	Exit 17 - Exit 22	NCDOT	NCDOT will handle all construction items for inclusion into the Design-Build contract. The City will be responsible for all maintenance, operation, and cost of power consumption to operate the lighting.	N/A
3	Flap Gates/Duckbills	Locations will be determined by designers	NCDOT	NCDOT's Design-Build Team shall determine the new locations of the relocated flap gates along the I-95 corridor. The flap gates will be replaced with a duckbill design and will be maintained by the City of Lumberton. The City currently has an encroachment agreement for the existing flap gates with NCDOT's District Office. In addition to a Municipal Agreement, the encroachment agreement will be updated in the District Office.	N/A
4	Floodgate Project	West of I-95 at VFW Rd	City of Lumberton	The City of Lumberton shall coordinate their Floodgate project with NCDOT's I-6064, I-95 Widening project. NCDOT will realign Cox Rd/ VFW Rd/ Hackett St on the west side of I-95 allowing adequate footprint for the floodgate. The Department will also acquire additional ROW as reasonable to accommodate the realignment. If the City's schedule is ahead of NCDOT's schedule, the City will be responsible for acquiring adequate right-of-way to accommodate floodgate construction and temporary realignments of impacted roads to maintain traffic. There will be a Joint Use Agreement and Encroachment Agreements required for the City's Floodgate project.	N/A; however, the City will bear the cost of any additional ROW needed for the Floodgate Project.
5	Concrete Medallions on the five I-95 City of Lumberton exits	I-95 Exits 13 (I-74), 17 (Caton Rd/ NC 72), 19 (Carthage Rd/ SR 1536), 20 (Roberts Ave/ NC 211), and 22 (Fayetteville Rd/ US 301)	City of Lumberton	Concrete medallions will be placed facing northbound and southbound I-95 lanes for each bridge on all five City of Lumberton I-95 exits (Exits 13, 17, 19, 20, and 22). Proposed medallion placement will be on bridge end bents and ends of interior bent caps on all City of Lumberton I-95 exits with the exception of Exit 13. This exit, Exit 13 will have four medallions total to be located on the ends of interior bent caps of the collector distributor lanes. The City shall coordinate with NCDOT's Roadside Environmental Unit Aesthetic Engineering Section in the development of an acceptable medallion design. The Design-Build Team shall form and cast the 28 medallions. The Design-Build Team shall install the medallions on the structures being replaced under this contract at Exits 17, 19, and 20. At a later time, the City shall install medallions on existing I-95 bridges at Exits 13 and 22 as set by guidelines in an encroachment agreement. The City will be responsible for maintenance and replacement of medallions.	\$47,600 (\$1,700/medallion)
Exit 17, Caton Rd/ NC 72					
6	Exit 17, Caton Rd/ NC 72 sidewalks	Caton Rd. from the intersection of W. 5th St to the end of the construction limits on Caton Rd/NC 72.	NCDOT	NCDOT's Design-Build Team shall construct 5-ft sidewalks on both sides of Caton Rd./NC 72 within the project limits in accordance with the Comprehensive Transportation Plans (CTP) and will be maintained by the City of Lumberton.	N/A
Exit 19, Carthage Road Aesthetics		Exit 19, Carthage Road (SR 1528)	City of Lumberton	The City of Lumberton envisions Exit 19 to be the "Gateway" to the City by incorporating various aesthetic enhancements to this interchange. Some of the enhancements will be addressed in this contract while some will follow I-6064 by guidelines set forth in an encroachment agreement.	
7	Exit 19, Carthage Road Bridge Rail	Exit 19, Carthage Road (SR 1528)	City of Lumberton	The City of Lumberton has requested a church rail type of bridge rail. The outside bridge barrier rails shall be flat-faced concrete barriers stamped with a church rail pattern which also meet TL-3 requirements . The City will be responsible for the cost difference between standard bridge rail and stamped church rail bridge railing.	\$ 35,000.00

Attachment: Agreement_9666_revised 4-16-21 [Revision 1] (3239 : NCDOT - City of Lumberton I-95 Municipal Agreement)

I-6064 Municipal Agreement Items					
Item No.	Description	Location	Party Responsible for Cost	Notes	Estimated Cost to the City
8	Exit 19, Carthage Road Lighting of Bridge and Ramps	Exit 19, Carthage Road (SR 1528)	City of Lumberton	The City of Lumberton has requested to incorporate light poles on the bridge and ramps to further highlight Exit 19 as the City's gateway exit. These light poles match the typical style used in other locations around the city. NCDOT's Lighting Section has evaluated and determined that the interchange lighting provided under this contract is adequate to light the bridge and ramps; however, the City prefers to place lights on the bridge and ramps of Exit 19. There will be five light poles mounted on each bridge rail at the following locations: one at each end, one at the midpoint over the interior bent, and one at the midpoint of each span. NCDOT's Lighting Section will coordinate with the City on the placement of lighting at Exit 19. NCDOT's Design-Build Contractor shall install the lighting foundations, conduit, pull boxes, and circuitry. The City is responsible to pull all wiring and installation of the poles. NCDOT will coordinate with the City on the development of Lighting Plans and placement of pull boxes. The Design-Build shall coordinate with the City on timing of installation. The City is responsible for cost of lighting, all maintenance, operation, and cost of power consumption to operate the lighting.	\$ 143,178
9	Exit 19, Carthage Road Interchange Lighting	Exit 19, Carthage Road (SR 1528)	NCDOT	NCDOT is responsible for the interchange lighting including all light poles at the roundabouts, roadway approaching the bridge (not to include the bridge), and interchange (not to include the ramps). NCDOT's Design-Build Contractor shall install the lighting foundations, conduit, pull boxes, and circuitry. The City is responsible to pull all wiring and installation of the poles. The Design-Build shall coordinate with the City on timing of installation. The City is responsible for all maintenance, operation, and cost of power consumption to operate the lighting.	N/A
10	Exit 19, Carthage Road Uplighting Lighting	Exit 19, Carthage Road (SR 1528)	NCDOT	NCDOT is responsible for providing a conduit to accommodate the City of Lumberton's future uplighting on the Carthage Road bridge. The Design-Build Team shall provide a "punch out" through the back wall of the bridge end bent with conduit connecting to a pull box in the shoulder. The exact location shall be discussed with the City. The uplight installation will occur after the I-6064 project through an encroachment agreement with NCDOT. The City is responsible for the construction and cost of uplighting, maintenance, operation, and cost of power consumption to operate the uplighting.	N/A
11	Exit 19, Carthage Road Multiuse Path	Exit 19, Carthage Road (SR 1528)	NCDOT	In accordance with the CTP, NCDOT's Design-Build Team shall install a 10-ft wide multiuse path on the south side of the proposed bridge carrying Carthage Road across I-95. A barrier will be placed between the multiuse path and the travel lanes as a measure of positive protection for recreational users on the structure. The multiuse path will continue on the south side of Carthage Road west of I-95 to the relocated intersection with Lackey Street. NCDOT will be responsible for this cost. The City is responsible for the maintenance of the multiuse path.	N/A
12	Exit 19, Carthage Road Sidewalk	Exit 19, Carthage Road (SR 1528)	NCDOT	In accordance with the CTP, NCDOT's Design-Build Team shall install a 5-ft wide sidewalk on the north side of the Carthage Road west of I-95 to provide connectivity from the proposed multiuse path to the businesses located adjacent to the northwest quadrant of the interchange on Lackey Street. East of I-95, sidewalks are proposed on both sides of Carthage Road to the eastern project limits near Velcord Drive and Delmar Street. The multiuse path will transition to a sidewalk east of the northbound I-95 exit ramp onto Carthage Road. NCDOT will be responsible for this cost. The City is responsible for the maintenance of the sidewalks.	N/A

Attachment: Agreement_9666_revised 4-16-21 [Revision 1] (3239 : NCDOT - City of Lumberton I-95 Municipal Agreement)

I-6064 Municipal Agreement Items					
Item No.	Description	Location	Party Responsible for Cost	Notes	Estimated Cost to the City
Exit 20, N. Roberts Avenue/ NC 211					
13	Exit 20, N. Roberts Avenue/ NC 211 Multiuse Path	Exit 20, N. Roberts Avenue/ NC 211	NCDOT	In accordance with the CTP, NCDOT's Design-Build Team shall install a 10-ft wide multiuse path across one of the proposed interchange bridges to connect proposed sidewalks on both sides of N. Roberts Avenue east of I-95 with a proposed multiuse path on the south side of N. Roberts Avenue west of I-95 and a sidewalk on the north side of N. Roberts Avenue west of I-95 to the western project limits. A barrier will be placed between the multiuse path and the travel lanes as a measure of positive protection for recreational users on the structure. NCDOT will be responsible for this cost. The City is responsible for the maintenance of the multiuse path.	N/A
14	Exit 20, N. Roberts Avenue/ NC 211 sidewalk	Exit 20, N. Roberts Avenue/ NC 211	NCDOT	In accordance with the CTP, NCDOT's Design-Build Team shall install 5-ft wide sidewalks along both sides of N. Roberts Avenue on the east side of I-95 and on the north side of N. Roberts Avenue west of I-95 to the western project limits. Pedestrians will be able to traverse this area completely by using the network of sidewalks and multiuse path along N. Roberts Avenue. NCDOT will be responsible for this cost. The City is responsible for the maintenance of the sidewalks.	N/A
15	Dawn Drive Multiuse Path	Dawn Drive (-SR4-) from Wellington Drive, Station 37+00 to End Grade Station 86+00	NCDOT	In accordance with the CTP, NCDOT's Design-Build Team shall install a 10-ft wide multiuse path on the west side of Dawn Drive from Wellington Drive, Station 37+00 to Station 86+00 -SR4-. NCDOT will be responsible for this cost while the City is responsible for the maintenance of the multiuse path.	N/A
16	Dawn Drive Multiuse Path	Dawn Drive (-SR4-) from Station 27+00 to Station 37+00	City of Lumberton Betterment	The City of Lumberton has requested that the multiuse path on Dawn Drive be extended south from Wellington Drive, Station 37+00 to Station 27+00 - SR4- to allow connection from the Mayfair Subdivision to French Park and N. Roberts Avenue. The City of Lumberton will be responsible for this cost and maintenance of the multiuse path.	\$ 50,957.00
				Total Estimated Amount for betterments	\$ 1,076,735.00

Attachment: Agreement_9666_revised 4-16-21 [Revision 1] (3239 : NCDOT - City of Lumberton I-95 Municipal Agreement)


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Lumberton City North Carolina

Agenda Item 3239

Approved
Apr 21, 2021 11:00 AM

Approval of Municipal Agreement Between the City of Lumberton and NCDOT for the I-95 Widening and Elevation Project

Information

Department:
Category:

Planning / Inspections
Agreement

Sponsors:

Attachments

[Printout
Agreement_9666_revised 4-16-21](#)

Summary/Background

As most of you are aware, the NC Department of Transportation will soon be undertaking a project to widen Interstate 95 to eight lanes through Lumberton and elevate certain portions of the roadway which flooded during hurricanes Matthew and Florence. As part of this transportation project the City has requested certain “betterments” be included which will benefit our citizens and travelers through Lumberton such as, coordination with the city’s floodgate project at the CSX crossing, additional corridor lighting from Exit 17 to Exit 13, a multi-use path along and other aesthetic improvements to the new Carthage Road bridge, and embossed, painted concrete medallions on each of the interstate bridges in Lumberton. The attached municipal agreement and associated cost matrix has been presented by NCDOT for consideration and approval by City Council. The reimbursements for these “betterments” shall be paid by the City, to NCDOT over a three year period beginning one year after the start of construction of the improvements.

Recommendation for Consideration

The recommendation for City Council is to approve the proposed “draft” municipal agreement with NCDOT, including the attached cost matrix and authorize staff to execute the appropriate documents.

City Manager Comments

<< FOR CITY MANAGER ONLY >>

Meeting History

Apr 21, 2021 11:00 AM

**City
Council**

Special Meeting

Draft

RESULT: **APPROVED [8 TO 0]**

MOVER: Leroy Rising, Mayor Pro Tem

SECONDER: Owen Thomas, Precinct 8

AYES: Leroy Rising, Melissa Robinson, John R. Carroll, Karen Higley, John Cantey, Chris Howard, Eric Chavis, Owen Thomas

ABSTAIN: Bruce W. Davis

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CITY OF LUMBERTON

CITY COUNCIL

MINUTES • APRIL 21, 2021

Special Meeting

Third Floor Conference Room

11:00 AM

500 N Cedar St, Third Floor, Lumberton, NC 28358

I. CALL TO ORDER

Attendee Name	Title	Status	Arrived
Bruce W. Davis	Mayor	Present	
Leroy Rising	Mayor Pro Tem	Present	
Melissa Robinson	Precinct 2	Present	
John R. Carroll	Precinct 3	Present	
Karen Higley	Precinct 4	Present	
John Cantey	Precinct 5	Present	
Chris Howard	Precinct 6	Present	
Eric Chavis	Precinct 7	Present	
Owen Thomas	Precinct 8	Present	
Wayne Horne	City Manager	Present	
Brandon Love	Deputy City Manager	Present	
Holt Moore	City Attorney	Present	
Laney Mitchell-McIntosh	City Clerk	Present	

B. Invocation

C. Invocation: City Attorney Holt Moore

II. AGENDA ITEMS

A. Approval of Bid for CDBG-NR Reconstruction Contracts – Brian Nolley, CDBG Administration

The Planning Department received bids on April 15, 2021, for the rehabilitation of three houses under the City's Community Development Block Grant – Neighborhood Revitalization program. The lowest bidder Holland Construction (Owner Thomas J. Holland) for 2 homes located at 218 Center Street at \$121,000.00 and 1004 Coree St. at \$140,700.00. The lowest bid for 514 Godwin Ave. was Nash Locklear Construction Company at \$148,550.00.

The Planning Department recommends awarding contracts to the lowest bidder Holland Construction Company for 218 Center St. (\$121,000.00 and 1004 Coree Street (\$140,000.00). We recommend awarding the lowest bid for 514 Godwin Avenue to Nash Locklear Construction Company in the amount of \$148,550.00.

RESULT:	APPROVED [8 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- B. Engineer Selection for the I-74 Industrial Park – Rob Armstrong, Public Works Director
On Tuesday April 13 the City received proposals for engineering services for utility extensions and Infrastructure Improvements for the I-74/I-95 Industrial Park. We received three proposals: Catlin Engineers, Thomas and Hutton and The Wooten Company. Attached is the scoring for each proposal. Public Works is requesting Council to select Thomas and Hutton for these services based on their qualifications. An agreement and fee amount for the services will be brought back to Council next Wednesday, April 28th. The project is being paid for by a \$3.2 million NC Rural Infrastructure Grant. Public Works is requesting Council to select Thomas and Hutton for engineering services for the I-74/I-95 Industrial Park based on their qualifications.

Upon motion of Councilman Cantey and second of Councilman Chavis, a Special Meeting will be held on April 28, 2021, at 11:00 a.m. to approve an agreement and fee amount for the services for Thomas and Hutton engineering services for the I-74 Industrial Park.

RESULT:	APPROVED [8 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- C. Approval of Municipal Agreement Between the City of Lumberton and NCDOT for the I-95 Widening and Elevation Project – Brandon Love, Deputy City Manager
As most of you are aware, the NC Department of Transportation will soon be undertaking a project to widen Interstate 95 to eight lanes through Lumberton and elevate certain portions of the roadway which flooded during hurricanes Matthew and Florence. As part of this transportation project the City has requested certain “betterments” be included which will benefit our citizens and travelers through Lumberton such as, coordination with the city’s floodgate project at the CSX crossing, additional corridor lighting from Exit 17 to Exit 13, a multi-use path along and other aesthetic improvements to the new Carthage Road bridge, and embossed, painted concrete medallions on each of the interstate bridges in Lumberton. The attached municipal agreement and associated cost matrix has been presented by NCDOT for consideration and approval by City Council. The reimbursements for these “betterments” shall be paid by the City, to NCDOT over a three year period beginning one year after the start of construction of the improvements.
The recommendation for City Council is to approve the proposed “draft” municipal agreement with NCDOT, including the attached cost matrix and authorize staff to execute the appropriate documents.

RESULT:	APPROVED [8 TO 0]
MOVER:	Leroy Rising, Mayor Pro Tem
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- D. Adopt a Resolution Requesting the North Carolina Department Board of Transportation Place Signage at the Entrances to Lumberton – Wayne Horne, City Manager
Mack Register, Athletic Director at Lumberton High School reached out to Senator Danny Britt's office requesting assistance for having a State Championship sign for the LHS basketball team who are the "2020 State 4A Basketball Co-Champions. Staff is requesting that Council adopt a resolution requesting the NC Department Board of Transportation place signage at the entrances to Lumberton that reads:

**VARSITY BOYS BASKETBALL
STATE 4A CO-CHAMPIONS - 2020**

Adopt the Resolution Requesting the NC Department Board of Transportation place signage at the entrances to the City of Lumberton.

RESULT:	APPROVED [8 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	John R. Carroll, Precinct 3
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- E. 3243 : CRF to Sandy Grove Baptist Church - P5 - \$500.00 P2 - \$200 P6 - \$200 & P7 - 100 – John Cantey, Precinct 5
Sandy Grove Baptist Church is dedicating the STEM building on-site in honor of the late Reverend T. Shedrick Byrd on Sunday, April 25, at 12 noon. Councilman Cantey is requesting \$500 of CRF to be given to Sandy Grove Baptist Church for several programs that the Church will be hosting.
Approve \$500 of CRF to Sandy Grove Baptist Church for programming.

RESULT:	APPROVED [8 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

III. CLOSED SESSION

IV. ADJOURNMENT

With there being no further business to come before the Board the meeting was adjourned.



CITY OF LUMBERTON

CITY COUNCIL

AGENDA • MAY 12, 2021

Regular Meeting

Council Chambers

11:00 AM

500 N Cedar St, Third Floor, Lumberton, NC 28358

Mayor Bruce W. Davis

Councilmember Leroy Rising, Mayor Pro Tem
Councilmember Melissa Robinson, Precinct 2
Councilmember John Carroll, Precinct 3
Councilmember Karen Higley, Precinct 4

Councilmember John Cantey, Precinct 5
Councilmember Chris Howard, Precinct 6
Councilmember Eric Chavis, Precinct 7
Councilmember Owen Thomas, Precinct 8

STAFF:

Wayne Horne, City Manager
Brandon Love, Deputy City Manager
Holt Moore, City Attorney
Laney Mitchell-McIntosh, City Clerk

I. CALL TO ORDER

II. INVOCATION

III. PUBLIC COMMENT PERIOD

A. Public Speakers

1. Rhonda Williamson - Main Street Committee –

IV. PUBLIC HEARING

- A. Lumberton Housing Authority Annexation request for property located on Caton Rd. – ArTriel Kirchner, Planning Director

V. AGENDA ITEMS

- A. EDA Administrative Services for the Floodgate Project – Rob Armstrong, Public Works Director
- B. Tanglewood Drainage Project Construction Bid Award – Rob Armstrong, Public Works Director
- C. Barbara Lynn Cagle Benton annexation request for property located at 101 Arbor Lane. – ArTriel Kirchner, Planning Director

- D. Steven Branch request rezoning for a parcel located on Country Club Drive (Parcel #16100200304/Deed Book: 2128 Page: 287). – ArTriel Kirchner, Planning Director
- E. Write-off of Delinquent Receivables – Alisha Armstrong, Finance Director
- F. Approval of Budget Amendments – Alisha Armstrong, Finance Director
- G. Approve Boards and Commissions / Non-Profits Budget Requests for FY2021-2022 – Wayne Horne, City Manager
- H. Additional Non-Profit Budget Request for FY2021-2022 for \$2,500 – Wayne Horne, City Manager
- I. Approve May 19th as the FY 2021-2022 Municipal Budget Workshop – Wayne Horne, City Manager
- J. Council Audio/Video System Replacement – Travis Branch, MIS Director
- K. Approve the Contribution of \$100 from Community Revitalization Funds to Lumberton Chamber of Commerce from P8 – Owen Thomas, Precinct 8
- L. Appointment to ABC Commission – Holt Moore, City Attorney
- M. Approval of Bid for HMGP Home Elevations – Brian Nolley, CDBG Administration
- N. Approve the designation of \$300.00 of Community Revitalization Funds for Sponsorship of the Lumberton Boys Basketball Team – Karen Higley, Precinct 4
- O. Approve the designation of \$500.00 of CRF to Lumberton Junior High School to Repair Baseball/Football Fields – Chris Howard, Precinct 6

VI. ADJOURNMENT

Lumberton City Council

Lumberton, North Carolina



REQUEST FOR CC ACTION

Meeting Date: May 12, 2021

Originated By: Public Works

Submission Date: April 30, 2021

Subject: EDA Administrative Services for the Floodgate Project

Summary/Background of Subject Matter -

We have received proposals for administrative services for the Floodgate EDA grant. The proposals are being scored by City Staff. The scoring results will be distributed to City Council prior to the Wednesday May 5th Council Meeting.

Recommendation for CC Consideration:

Public Works is requesting Council to award the EDA Administrative Services Contract to the firm selected by City Staff.

Signature: *Rob Armstrong*

Department: Public Works

City Manager's Comments:

<< FOR CITY MANAGER ONLY >>

Signature: *Wayne Horne*

Department: City Management


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Lumberton City North Carolina

Agenda Item 3254

Approved
May 12, 2021 11:00 AM

EDA Administrative Services for the Floodgate Project

Information

Department:
Category:

Public Works
Report

Sponsors:

Attachments

[Printout](#)
[EDA Admin Scoring PW](#)
[EDA_Admin_Scoring_Matrix_CM](#)
[RFQ Evaluation - Scoring Matrix - EDA Grant Administration - L](#)

Summary/Background

We have received proposals for administrative services for the Floodgate EDA grant. The proposals are being scored by City Staff. The scoring results will be distributed to City Council prior to the Wednesday May 5th Council Meeting.

Recommendation for Consideration

Public Works is requesting Council to award the EDA Administrative Services Contract to the firm selected by City Staff.

City Manager Comments

<< FOR CITY MANAGER ONLY >>

Meeting History

May 12, 2021 11:00 AM **City Council** **Regular Meeting**

Director Armstrong stated that four responses were received and scored and that Public Works is recommending the award of bid to McGill for EDA Administrative Services. Funds will be paid of the EDA Grant Fund. Councilman Cantey asked about the timeline to see some dirt moved. Director Armstrong stated that his projection would be late 2021. There have been a lot of delays most out of our control. Many are trying to coordinate with the railroad; DOT with the I-95 widening and the funding agencies. Right now, the design is on pause while we wait for the CDBG-DR money before we can move forward. If we move forward by June; we predict that by June we will go into the bid phase for construction around September or October of next year. That means that we will probably break ground next year assuming that we keep this schedule.

City Manager Horne stated that part of the delays; if you recall, the official design for the floodgate project was located on the East side of 95, but DOT came back and stated that it had to be relocated to the West side. We had already engaged engineering services and obligated \$700k for the project. He stated that we are waiting for reimbursement now from Golden Leaf for the \$700k so we can initiate the design for the West side. In the meantime, Encore who has about 1.4 million in this project has come back said that they want an environmental review. Their funding is somewhat complex and comprehensive. Their cost will be somewhere around \$100k. They have indicated that they will assist with the cost of the environmental review but not necessarily with the soil borings but we don't know what that will be.

RESULT: **APPROVED [UNANIMOUS]**

MOVER: Owen Thomas, Precinct 8

SECONDER: John R. Carroll, Precinct 3

AYES: Bruce W. Davis, Leroy Rising, Melissa Robinson, John R. Carroll, Karen Higley, John Cantey, Chris Howard, Owen Thomas

EXCUSED: Eric Chavis



CITY OF LUMBERTON

CITY COUNCIL

MINUTES • MAY 12, 2021

Regular Meeting

Council Chambers

11:00 AM

500 N Cedar St, Third Floor, Lumberton, NC 28358

I. CALL TO ORDER

Attendee Name	Title	Status	Arrived
Bruce W. Davis	Mayor	Present	
Leroy Rising	Mayor Pro Tem	Present	
Melissa Robinson	Precinct 2	Present	
John R. Carroll	Precinct 3	Present	
Karen Higley	Precinct 4	Present	
John Cantey	Precinct 5	Present	
Chris Howard	Precinct 6	Present	
Eric Chavis	Precinct 7	Excused	
Owen Thomas	Precinct 8	Present	
Wayne Horne	City Manager	Present	
Brandon Love	Deputy City Manager	Present	
Holt Moore	City Attorney	Present	
Laney Mitchell-McIntosh	City Clerk	Present	

II. INVOCATION: CITY ATTORNEY MOORE

III. PUBLIC COMMENT PERIOD: NO COMMENTS SUBMITTED.

A. Public Speakers

1. Rhonda Williamson - Main Street Committee –

Ms. Rhonda Williamson appeared before Council to give an update on the activities of the Main Street Advisory Board:

Good morning Mayor and Council, it is my privilege as a member of the Main Street Advisory Committee to bring you greetings from City leaders who are serving as volunteers for Main Street committees. I'd like to provide an update from our Chair, Dencie Lambdin, on where we are with our work in downtown Lumberton, and to answer questions you may have.

The Implementation Plan for 2021 to date:

- 1) Working with consultant Jason Epley, Main Street is awaiting a draft of downtown design guidelines. When our Advisory Committee receives the draft, we will review it and move forward to seek City Council approval. In addition to the design guidelines, Mr. Epley will also provide historic preservation guidelines which ensure that in future development of the downtown, the City will not lose any historic buildings to demolition without review of the standards that will be put in place.

- 2) And after approval of these guidelines, Main Street intends to hold a Design Education Workshop for property owners and renters so that our future development downtown will provide a consistent image for community members and visitors to enjoy.
- 3) Continue efforts through the Promotions Committee to highlight Main Street activities in the Robesonian and social media, Trending in Robeson.
The Committee is also planning a series of news story highlighting the current renovations to buildings in the downtown area including Senator Britt's law office and the County Administration building now housed in the former Southern National Bank/BB&T building.
- 4) Main Street Design Committee has been able to secure grants from the Robeson County Arts Council, the Lumberton Visitor's Bureau, and The City of Lumberton's Façade Improvement Grant to begin work on a mural which will be located on the plaza side of Washington's Men's Store. The mural will be an interactive/social media piece of public art. Currently we hope to have the installation in place by late June.
- 5) Since our Main Street Lumberton initial Clean Sweep in November, additional Saturday cleanup has been held in February and most recently in April. Thirty plus volunteers have come downtown to pick up litter.
- 6) Later this month North Carolina Main Street will hold a workshop for our Main Street Lumberton Advisory Committee and Rediscover Downtown Lumberton. The focus of this workshop will center around building collaboration between RDL, as a non-profit, and Main Street Lumberton to enhance and expand the economic development strategies each organization has as a goal.
- 7) Brandon, are there additional remarks you would like to make? Deputy City Manager stated not at the time.
- 8) Council Members, Do you have any questions? No questions were asked.
- 9) Thank you for allowing our group to have an active hand in economic development in downtown Lumberton.

IV. PUBLIC HEARING

- A. Lumberton Housing Authority Annexation request for property located on Caton Rd. – ArTriel Kirchner, Planning Director
The Planning & Neighborhood Services Department received an application for annexation from Lumberton Housing Authority, requesting a contiguous annexation of property located on Caton Road (Parcel # 161001005/Deed Book 2099 Page 128).

The property is currently zoned City of Lumberton R-3 (residential multifamily) therefore a rezoning is not required.

The Planning Department recommends that City Council hold tonight's public hearing and approve the annexation request.

Mayor Davis opened the public hearing to consider extending the corporate limits by annexing property located at Caton Road into the City limits. City Clerk Mitchell-McIntosh submitted the Affidavit of Publication showing that it was published in the Robesonian.

Mr. Adrian Lowry, appeared before Council and stated that this is an ongoing process since the devastation we had from Hurricane Matthew. We have done a lot of work and there is much more to be done. This property was rezoned by the City and this is the final process to get it annexed into the City. I am available to answer any questions Council may have. No questions were asked and the hearing was closed.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	John Cantey, Precinct 5
SECONDER:	John R. Carroll, Precinct 3
AYES:	Davis, Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
EXCUSED:	Chavis

V. AGENDA ITEMS

A. EDA Administrative Services for the Floodgate Project – Rob Armstrong, Public Works Director

We have received proposals for administrative services for the Floodgate EDA grant. The proposals are being scored by City Staff. The scoring results will be distributed to City Council prior to the Wednesday May 5th Council Meeting.

Public Works is requesting Council to award the EDA Administrative Services Contract to the firm selected by City Staff.

Director Armstrong stated that four responses were received and scored and that Public Works is recommending the award of bid to McGill for EDA Administrative Services. Funds will be paid of the EDA Grant Fund. Councilman Cantey asked about the timeline to see some dirt moved. Director Armstrong stated that his projection would be late 2021. There have been a lot of delays most out of our control. Many are trying to coordinate with the railroad; DOT with the I-95 widening and the funding agencies. Right now, the design is on pause while we wait for the CDBG-DR money before we can move forward. If we move forward by June; we predict that by June we will go into the bid phase for construction around September or October of next year. That means that we will probably break ground next year assuming that we keep this schedule.

City Manager Horne stated that part of the delays; if you recall, the official design for the floodgate project was located on the East side of 95, but DOT came back and stated that it had to be relocated to the West side. We had already engaged engineering services and obligated \$700k for the project. He stated that we are waiting for reimbursement now from Golden Leaf for the \$700k so we can initiate the design for the West side. In the meantime, Encore who has about 1.4 million in this project has come back said that they want an environmental review. Their funding is somewhat complex and comprehensive. Their cost will be somewhere around \$100k. They have indicated that they will assist with the cost of the environmental review but not necessarily with the soil borings but we don't know what that will be.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	John R. Carroll, Precinct 3
AYES:	Davis, Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
EXCUSED:	Chavis

B. Tanglewood Drainage Project Construction Bid Award – Rob Armstrong, Public Works Director

Bids were opened on April 29th for the construction of the Tanglewood Drainage Project.

Three contractors submitted bids: TA Loving Company, Terrahawk LLC and Thalle Construction Company. A final bid tabulation and certification will be submitted by the Wooten Company before the Wednesday, May 5th Council meeting. At the time of the bid opening, the apparent low bidder was Terrahawk LLC at \$8,449,999.

Public Works is requesting Council to award the construction of the Tanglewood Drainage Project to the lowest responsible bidder presented in the bid discussion provided by the

Wooten Company

Award of construction contract of the Tanglewood Drainage Project is to Terrahawk LLC at \$8,502,294.18.

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	Karen Higley, Precinct 4
AYES:	Davis, Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
EXCUSED:	Chavis

- C. Barbara Lynn Cagle Benton annexation request for property located at 101 Arbor Lane. – ArTriel Kirchner, Planning Director

The Planning & Neighborhood Services Department received an application for annexation from Barbara Lynn Cagle Benton, requesting a contiguous annexation of property located at 101 Arbor Lane (Parcel #1002-05-043/Deed Book: 1818 Page: 676).

The property is currently zoned R-20 (Residential single family) therefore a rezoning is not required.

The City Clerk has certified the sufficiency of the petition and the Planning Department recommends City Council set the date of the public hearing for their June 2021 meeting.

RESULT:	REFERRED [7 TO 0]	Next: 6/9/2021 11:00 AM
MOVER:	Leroy Rising, Mayor Pro Tem	
SECONDER:	Owen Thomas, Precinct 8	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas	
ABSTAIN:	Davis	
EXCUSED:	Chavis	

- D. Steven Branch request rezoning for a parcel located on Country Club Drive (Parcel #16100200304/Deed Book: 2128 Page: 287). – ArTriel Kirchner, Planning Director

Analysis: The Planning & Neighborhood Services Department received a rezoning petition for a parcel located on Country Club Drive (Parcel #16100200304/Deed Book: 2128 Page: 287). This request is to rezone the property from R-20, residential single family to PCU B-4, Parallel Conditional Use Business General Commercial, restricting the uses to self-storage, parking rental spaces for automobiles, boats, R.V., etc., retail sales of moving staples and storage buildings, U-Haul rentals.

Land Use Plan: This property is currently zoned R-20. The Land Use Plan, area 9, designates the future use of this parcel as rural, furthermore, this property is located within Council Precinct 7.

The planning staff recommends that CPC review the request, refer the petition to the May 2021 Planning Board meeting for their review, and authorize the Planning Director to set the date of the public hearing

RESULT:	REFERRED [7 TO 0]	Next: 6/9/2021 11:00 AM
MOVER:	Owen Thomas, Precinct 8	
SECONDER:	John Cantey, Precinct 5	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas	
ABSTAIN:	Davis	
EXCUSED:	Chavis	

E. Write-off of Delinquent Receivables – Alisha Armstrong, Finance Director

A list of delinquent receivables is attached for review and consideration for write-off. This is a standard accounting practice to write-off accounts receivable that are three years old and taxes receivable that are ten years old and continue our effort to collect them.

Recommend that Council approve the write-off of the attached delinquent receivables.

RESULT:	APPROVED [7 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	Melissa Robinson, Precinct 2
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

F. Approval of Budget Amendments – Alisha Armstrong, Finance Director

Budget amendments will be needed for the year end closing of fiscal year 2021.

Recommend that Council authorize the City Manager and Finance Director to perform budget amendments to close fiscal year 2021.

RESULT:	APPROVED [7 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	Melissa Robinson, Precinct 2
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

G. Approve Boards and Commissions / Non-Profits Budget Requests for FY2021-2022 – Wayne Horne, City Manager

The City Staff has started preparation of the FY 2021-2022 Budget. In 2002, City Council approved a policy on contracting with non-profit agencies creating procedures for evaluating proposals and creating clear responsibilities for accountability. Attached are the Boards and Commissions / Non-profits FY 2021-2022 Budget requests along with the City Manager's recommendations.

Council review the funding for boards and commissions / Non-profits budget requests and provide recommendation.

RESULT:	APPROVED [7 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- H. Additional Non-Profit Budget Request for FY2021-2022 for \$2,500 – Wayne Horne, City Manager

The City Staff has received an additional request from Crossed: The Youth Law Center a non-profit organization requesting funding. This is a 501(c) 3 organization and its request is attached. They previously received funding in the amount of \$1,400 of CRF in April of this year.

Council review the funding request and provide recommendation.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- I. Approve May 19th as the FY 2021-2022 Municipal Budget Workshop – Wayne Horne, City Manager

As part of the annual budget process; the following date is being presented for Council's consideration for the Budget Workshop. The Budget hearing is tentatively set for June 14., 2021.

It is recommended that City Council set the date for the Annual Budget Workshop as May 19th or any other date that maybe considered by Council . The Workshop would start at 10:30 am as a zoom meeting if this time is convenient for Council.

* Wednesday -May 19th

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- J. Council Audio/Video System Replacement – Travis Branch, MIS Director

The Audio/Video System in Council Chambers was installed when City Hall was built in 2005 making the system 16 years old. We have experienced issues with the system over the

last couple of years and have performed repairs on several occasions. Several components of the system are now obsolete. I have worked with Troxell Communications, a NCPA member, to replace and simplify the system at a cost of \$42,482.74. This is part of the 2020-2021 MIS Capital Budget.

The recommendation is to approve the replacement of the system by Troxell Communications at a cost of \$42,482.74.

RESULT:	APPROVED [7 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	John R. Carroll, Precinct 3
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- K. Approve the Contribution of \$100 from Community Revitalization Funds to Lumberton Chamber of Commerce from P8 – Owen Thomas, Precinct 8
Councilman Thomas would like to contribute \$100 of CRF to the Lumberton Chamber of Commerce to assist them with their fundraising golf tournament.

Approve \$100 donation to the Lumberton Chamber of Commerce.

RESULT:	APPROVED [7 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	Leroy Rising, Mayor Pro Tem
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- L. Appointment to ABC Commission – Holt Moore, City Attorney
The Mayor would like Council to consider the appointment of John McArthur to the ABC Commission. This would be to fill the vacancy created by Abe Marshall's leaving the board. Consider appointment of John McArthur to ABC Commission.

RESULT:	APPROVED [7 TO 0]
MOVER:	Leroy Rising, Mayor Pro Tem
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- M. Approval of Bid for HMGP Home Elevations – Brian Nolley, CDBG Administration
The Planning Dept. is asking for approval to award contracts for the elevation of 8 homes under the city's Matthew – Hazard Mitigation Grant. A bid opening was held on April 30, 2021 and we received 3 bids for each property. The low bidder for all properties was Cook Contractors, LLC located in Whiteville, NC. These properties are located at.

116 Page St.	\$74,392
1704 Case St.	\$87,925
1709 Maryland St.	\$68,850
211 Center St.	\$98,238
2416 MLK Jr. Dr.	\$168,371
3660 Kale Dr.	\$138,515
507 Swann Dr.	\$78,758
4114 Vann Dr.	\$168,190

These will be awarded as 8 individual contracts and paid for with grant funds.
We recommend awarding the contract to the lowest bidder, Cook Contractors, LLC.

RESULT:	APPROVED [7 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- N. 3264 : Precinct 4 - CRF to Lumberton Boys' Basketball Program - Approve \$2,0000 – Karen Higley, Precinct 4

Lumberton boys' basketball program...looking for sponsorship to help with their summer program. The summer program will consist of camps and many more activities. A donation of \$300 will sponsor 1 player for the summer and will help with gas and food for each player. Partial donations are welcomed.

Councilwoman Higley would like to sponsor 1 player and asking if anyone would like to participate and sponsor a player as well.

Approve the designation of \$300 for sponsorship to the Lumberton boys' basketball program from Precinct 4.

Approve \$2,000 of CRF to the Lumberton Boys' Basketball Program as follows: P1 - \$300 P2 - 3000 P3 - \$300 P4 - \$300 P5 - \$200 P6 - \$300 P8 - \$300

RESULT:	APPROVED [7 TO 0]
MOVER:	Karen Higley, Precinct 4
SECONDER:	John Cantey, Precinct 5
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

- O. Approve the designation of \$500.00 of CRF to Lumberton Junior High School to Repair Baseball/Football Fields – Chris Howard, Precinct 6

Councilman Howard is requesting \$500.00 of CRF be given to Lumberton Junior High School to help repair the baseball/football fields.

Approve the designation of \$500.00 to Lumberton Jr. High School.

Approve \$1,915 of CRF to Lumberton Junior High School to repair ball fields: P1 - \$250 P2 - \$250 P3 - \$250 P4 - \$250 P5 - \$300 P6 - \$500 P8 - \$115.

RESULT:	APPROVED [7 TO 0]
MOVER:	Chris Howard, Precinct 6
SECONDER:	John Cantey, Precinct 5
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Thomas
ABSTAIN:	Davis
EXCUSED:	Chavis

VI. ADJOURNMENT



CITY OF LUMBERTON

CITY COUNCIL

AGENDA • AUGUST 11, 2021

Regular Meeting

Council Chambers

11:00 AM

500 N Cedar St, Third Floor, Lumberton, NC 28358

Mayor Bruce W. Davis

Councilmember Leroy Rising, Mayor Pro Tem
Councilmember Melissa Robinson, Precinct 2
Councilmember John Carroll, Precinct 3
Councilmember Karen Higley, Precinct 4

Councilmember John Cantey, Precinct 5
Councilmember Chris Howard, Precinct 6
Councilmember Eric Chavis, Precinct 7
Councilmember Owen Thomas, Precinct 8

STAFF:

Wayne Horne, City Manager
Brandon Love, Deputy City Manager
Holt Moore, City Attorney
Laney Mitchell-McIntosh, City Clerk

I. CALL TO ORDER

B. Invocation

II. PUBLIC COMMENT PERIOD

III. MINUTES APPROVAL

A. City Council - Regular Meeting - Jun 9, 2021 11:00 AM –

IV. PUBLIC HEARINGS

FYI - June 22, 2021 Planning Board Minutes – ArTriel Kirchner, Planning Director

- A. Housekeeping Procedural Change to Land Use Items Procedure – Holt Moore, City Attorney
- B. Sharon Smith is requesting a special use permit to open and operate a natural hair care school located at 215 E. 3rd St. – ArTriel Kirchner, Planning Director
- C. Shanese Spaulding special use permit to open and operate a beauty academy at 312 N. Elm St. – ArTriel Kirchner, Planning Director

V. AGENDA ITEMS FOR COUNCIL'S CONSIDERATION

- A. Team for Kids in Honor of Joseph Frederick - Marathon Runner – Wayne Horne, City Manager

- B. Ratify the Telephonic Poll Seeking Permission to apply for and accept Bulletproof Vest Grant – Michael McNeill, Police Chief
- C. Authorize the Lumberton Police Department to apply for and accept the 2021 Edward Byrne JAG Grant – Michael McNeill, Police Chief
- D. Unsafe structure located at 2611 Alexander Street – Ben Andrews, Inspections Director
- E. Unsafe structure located at 1120 E 1st Street – Ben Andrews, Inspections Director
- F. Unsafe structure located at 213 Bullard Street – Ben Andrews, Inspections Director
- G. Unsafe structure located at 305 Bullard Street – Ben Andrews, Inspections Director
- H. Unsafe structure located at 307 Bullard Street – Ben Andrews, Inspections Director
- I. Unsafe structure located at 209 Hay Street – Ben Andrews, Inspections Director
- J. Unsafe structure located at 2310 Marshall Street – Ben Andrews, Inspections Director
- K. Approval of Audit Contract for Lumberton Airport – Alisha Armstrong, Finance Director
- L. LCID Landfill Leaf and Limb Grinding – Rob Armstrong, Public Works Director
- M. Floodgate Environmental Assessment Consultant Selection – Rob Armstrong, Public Works Director
- N. Floodgate Engineering Amendment – Rob Armstrong, Public Works Director
- O. Change Order #1 - Sanitary Sewer Rehab Project – Rob Armstrong, Public Works Director
- P. AIA Grant Water System Mapping Engineering Agreement – Rob Armstrong, Public Works Director
- Q. Tanglewood Drainage Project Engineering Contract Amendment 3: Construction Materials Testing – Rob Armstrong, Public Works Director
- R. Approval of Bid for HMGP Home Reconstruction – Brian Nolley, CDBG Administration
- S. Robeson County Community Art Guild, Inc. Special Use Permit Request – Brian Nolley, CDBG Administration
- T. Bruce Davis is requesting a rezoning and Special Use Permit of property located on Griffin Street – ArTriel Kirchner, Planning Director
- U. Bruce Davis is requesting a Special Use Permit for three parcels located on Griffin Street – ArTriel Kirchner, Planning Director

- V. Guillermo Baily Bail rezoning property located off Baxter Rd. parcel #101201021 – ArTriel Kirchner, Planning Director
- W. Jordan Bowley annexation request for property located at 102 Arbor Lane – ArTriel Kirchner, Planning Director
- X. Proposed Rezoning of Portion of Industrial Park to M2 – Holt Moore, City Attorney
- Y. Approval of I74 / I95 Industrial Park Overlay District Ordinance – Holt Moore, City Attorney
- Z. Application of Industrial Park Overlay Ordinance to Portion of Park – Holt Moore, City Attorney
- AA. Approval of Special Use Permit - Major Subdivision - Industrial Park – Holt Moore, City Attorney
- AB. Amendment to E. Lumberton Mill Village Housing Agreement – Holt Moore, City Attorney
- AC. Petition for Annexation of Several Parcels Within I95 / I74 Industrial Park – Holt Moore, City Attorney
- AD. Community -Based Crime Reduction Grant from the U.S .Department of Justice's Bureau of Justice Assistance. – Wayne Horne, City Manager
- AE. Ratification of \$ 1,000 of CRF to the Pentecostals for a Back to School Block Party – Wayne Horne, City Manager
- AF. Ratification of \$1,350 of CRF to the Lumberton Youth Baseball Association (LYBA) – Wayne Horne, City Manager
- AG. Ratification of \$1,700 to the Lumberton Softball Association – Wayne Horne, City Manager
- AH. Ratification of \$1,650 Robeson United Program for Youth – Wayne Horne, City Manager
- AI. Approve the Deobligation of \$435 in Precinct 1 – Leroy Rising, Mayor Pro Tem
- AJ. Approve the Deobligation of \$1340 in Precinct 5 – John Cantey, Precinct 5
- AK. Renaming South Lumberton Resource Center after the Late Councilman Dr. Robert Len Jones – Chris Howard, Precinct 6
- AL. Re-naming Parkview Activity Center after the Late Reverend T. Shedrick Byrd – Chris Howard, Precinct 6
- AM. Re-naming Inman Street to Shedrick Drive after the Late Reverend T. Shedrick Byrd – Chris Howard, Precinct 6

- AN. Approve the designation of \$600.00 of CRF to be paid to the Builders Discount Center for a handicap ramp at 2961 Bragg Street – Eric Chavis, Precinct 7
- AO. Approve the designation of \$1400 of CRF for a Back to School Event in West Lumberton - August 14, 2021 – Eric Chavis, Precinct 7
- AP. Approve the designation of \$125.00 of CRF to Kiwanis of Robeson-Lumberton Sponsorship funds in Support of Children Programs in the Community – Owen Thomas, Precinct 8
- AQ. Approve the designation of \$100 of CRF to the Robeson County Community Art Guild - Precinct 8 – Owen Thomas, Precinct 8
- AR. Approve the Designation of \$500.00 of CRF to Mayfair Home Owners' Association (HOA) for Beautification – Owen Thomas, Precinct 8
- AS. Approve the designation of \$500.00 of Community Revitalization Funds to the Mayfair North Association for Beautification in Precinct 8 – Owen Thomas, Precinct 8
- AT. Approve the designation of \$150 from the Mayor's Discretionary Fund to the Robeson County Community Art Guild for a Handicap Ramp – Bruce Davis, Mayor
- AU. Approve the designation \$300.00 of Community Revitalization Funds to Carolina Pines for Beautification – Leroy Rising, Mayor Pro Tem
- AV. Approve the designation of \$200.00 of Community Revitalization Funds to Southern Sapphires Dance Company in Precinct 1 – Leroy Rising, Mayor Pro Tem
- AW. Special Use Permit Application - Industrial Park subdivision, infrastructure – Holt Moore, City Attorney
- AX. Interlocal Agreement / Inspections & Review / new Elkay site – Holt Moore, City Attorney
- AY. Discussion of Options with Regards to Sweepstakes – Holt Moore, City Attorney

VI. CLOSED SESSION**VII. OPEN SESSION:**

cOUNCILMAN

- A. Authorize Staff to Opt Out of State HMGP Program – Wayne Horne, City Manager

VIII. ADJOURNMENT

Lumberton City Council

Lumberton, North Carolina



REQUEST FOR CC ACTION

Meeting Date: August 11, 2021

Originated By: Public Works

Submission Date: August 2, 2021

Subject: Floodgate Environmental Assessment Consultant Selection

Summary/Background of Subject Matter -

Approximately \$5.8 Million in grant funds have been allocated to the floodgate project. \$1,426,750 of this amount is in the form of a CDBG-DR grant from NCORR. In order to get the final award of this money, an environmental assessment must be conducted. The cost of the environmental assessment is reimbursed to the City by NCORR. The first step in this process is to select the most qualified firm to conduct the assessment. Once Council selects a firm, a contract will be negotiated with the firm and brought back to Council for approval. On July 16th, the City received two responses to our Request for Qualifications. McGill and Timmons Group both submitted a qualification statement. These statements have been reviewed and scored by City Staff. We are recommending Council award the project to the Timmons Group.

Recommendation for CC Consideration:

City Staff is recommending Council award the Floodgate Environmental Assessment project to the Timmons Group

Signature: *Rob Armstrong*

Department: Public Works

City Manager's Comments:

<< FOR CITY MANAGER ONLY >>

Signature: *Wayne Horne*

Department: City Management


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Lumberton City North Carolina

Agenda Item 3304

Approved
Aug 11, 2021 11:00 AM

Floodgate Environmental Assessment Consultant Selection

Information

Department:

Public Works

Sponsors:
Category:

Report

Attachments

[Printout](#)
[ER_RFQ_Scoring_Matrix Rob](#)
[ER_RFQ_Scoring_Matrix Brandon](#)

Summary/Background

Approximately \$5.8 Million in grant funds have been allocated to the floodgate project. \$1,426,750 of this amount is in the form of a CDBG-DR grant from NCORR. In order to get the final award of this money, an environmental assessment must be conducted. The cost of the environmental assessment is reimbursed to the City by NCORR. The first step in this process is to select the most qualified firm to conduct the assessment. Once Council selects a firm, a contract will be negotiated with the firm and brought back to Council for approval. On July 16th, the City received two responses to our Request for Qualifications. McGill and Timmons Group both submitted a qualification statement. These statements have been reviewed and scored by City Staff. We are recommending Council award the project to the Timmons Group.

Recommendation for Consideration

City Staff is recommending Council award the Floodgate Environmental Assessment project to the Timmons Group

City Manager Comments

<< FOR CITY MANAGER ONLY >>

Meeting History

Aug 11, 2021 11:00 AM
**City
Council**
Regular Meeting
RESULT:
APPROVED [8 TO 0]
MOVER:

John Cantey, Precinct 5

SECONDER:

Chris Howard, Precinct 6

AYES:

Leroy Rising, Melissa Robinson, John R. Carroll, Karen Higley, John Cantey, Chris Howard, Eric Chavis, Owen Thomas

ABSTAIN:

Bruce W. Davis

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Lumberton City Council

Lumberton, North Carolina



REQUEST FOR CC ACTION

Meeting Date: August 11, 2021

Originated By: Public Works

Submission Date: July 29, 2021

Subject: Floodgate Engineering Amendment

Summary/Background of Subject Matter -

The original design located the floodgate on the east side of I-95 at the CSX railroad overpass. When NCDOT funded the I-95 widening and elevation project, the Federal Highway Administration required the floodgate to be relocated to the west side of I-95. The City is now in the process of redesigning the floodgate for the new location. Attached is an Engineering Contract Amendment from Atkins Global for \$248,853.68 for the additional engineering services required to design the project on the west side of I-95. The additional engineering costs will be paid for by CDBG-DR funds through NCORR.

Recommendation for CC Consideration:

Public Works is requesting Council approval of the Engineering Contract Amendment #2 from Atkins Global for \$248,853.68 for the additional engineering services required to design the floodgate project on the west side of I-95. The additional engineering costs will be paid for by CDBG-DR funds through NCORR.

Signature: *Rob Armstrong*

Department: Public Works

City Manager's Comments:

<< FOR CITY MANAGER ONLY >>

Signature: *Wayne Horne*

Department: City Management


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Lumberton City North Carolina

Agenda Item 3310

Approved
Aug 11, 2021 11:00 AM

Floodgate Engineering Amendment

Information

Department:
Category:

Public Works
Amendment

Sponsors:

Attachments

[Printout](#)

[Amendment#2 - Floodgate Relocation for W Lumberton Floodgate](#)

Summary/Background

The original design located the floodgate on the east side of I-95 at the CSX railroad overpass. When NCDOT funded the I-95 widening and elevation project, the Federal Highway Administration required the floodgate to be relocated to the west side of I-95. The City is now in the process of redesigning the floodgate for the new location. Attached is an Engineering Contract Amendment from Atkins Global for \$248,853.68 for the additional engineering services required to design the project on the west side of I-95. The additional engineering costs will be paid for by CDBG-DR funds through NCORR.

Recommendation for Consideration

Public Works is requesting Council approval of the Engineering Contract Amendment #2 from Atkins Global for \$248,853.68 for the additional engineering services required to design the floodgate project on the west side of I-95. The additional engineering costs will be paid for by CDBG-DR funds through NCORR.

City Manager Comments

<< FOR CITY MANAGER ONLY >>

Meeting History

Aug 11, 2021 11:00 AM **City Council** **Regular Meeting**

RESULT: **APPROVED [8 TO 0]**

MOVER: Eric Chavis, Precinct 7

SECONDER: John Cantey, Precinct 5

AYES: Leroy Rising, Melissa Robinson, John R. Carroll, Karen Higley, John Cantey, Chris Howard, Eric Chavis, Owen Thomas

ABSTAIN: Bruce W. Davis

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Atkins North America, Inc.

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Suite 160
Raleigh
NC 27609-4968

Tel: 1 919 876 6888

Direct: 919.431.5253

info atkinsglobal.com

www.atkinsglobal.com/northamerica

Mr. Rob Armstrong
Director of Public Works
City of Lumberton
215 South Cedar Street
Lumberton, NC 28358

July 28, 2021

Subject: Amendment #2 - Engineering services for relocation of Floodgate to the west of the I-95 opening

Dear Rob,

Through this amendment, Atkins is requesting changes to the original contract for W. Lumberton Flood gate project for data collection and design services for floodgate at the west side of the I-95 opening.

Atkins had stopped work on floodgate project on City's request on August 28, 2020 due to relocation of the proposed floodgate on west side of I-95 opening. Atkins was issued an authorization to restart floodgate design work on July 12, 2021. Atkins was asked by the City to provide engineering consulting services for data collection and engineering services which were not part of the original scope. Here is a list of services that Atkins team will perform associated with design of floodgate:

Task 1.1 – Data Collection (Geotech)

Atkins team will provide geotechnical subsurface investigation, laboratory testing, geotechnical engineering analysis, and coordination through the final design. Atkins team will provide information regarding the coordination of this design with the existing and proposed design and re-alignment of I-95 through this area, as well as CSX standards and expectations. Atkins team will also provide guidance to ensure that the design will meet US Army Corps of Engineers' (USACE) requirements for the new structure to be accepted as part the requirements of the Lumberton levee system. For the Final Design Phase of the work, geotechnical team from Building and Earth (B&E) will engage with the Atkins' design team to provide a subsurface exploration and geotechnical evaluation to identify conditions at the site that will affect the support of the new floodgate structure.

Task 1.3 – Hydraulic Modeling of Alternatives

Atkins will leverage the hydrologic and hydraulic models developed for the design of the floodgate. Atkins team will modify the location of floodgate in the H H models and recompute modeling results. Atkins team will update H H reports for use in the final design of the floodgate.

Task 2.2 – Site/Civil and Survey

Atkins will obtain topographic survey for the new floodgate location. Atkins team will develop and provide sketches to the City for road relocation easement negotiations. Atkins team will provide design for the three (3) NCDOT roads relocations. Based on preliminary coordination with NCDOT, it is our understanding that these roads are also impacted by the I-95 design-build project which will be let independently by NCDOT. This project will include the design for temporarily relocating the roads meeting City standards and keeping them in service until the design-build project is complete

Task 2.3 – Structural Final Design

Atkins' structural design team will provide guidance related to layout and analysis for the new alignment. Atkins' structural team will attend coordination meeting with the stakeholders (e.g., NCDOT, USACE, NCDE Dam safety).

Task 4.1 and 4.2 – Project Management and Stakeholder Coordination

Atkins will coordinate with stakeholders (e.g., NCDOT, USACE, NCDE Dam Safety, NC Emergency Management, CSX Railroad) related to the new alignment. Atkins anticipates up to four (4) additional meetings.

Deliverables

Atkins will provide following deliverables:

- Geotechnical engineering report
- Updated H H model
- Site/Civil and Structural design of the floodgate

Schedule

Atkins expects the design work to be completed by December 2022 barring any unexpected delays during design, coordination, R/W acquisition, permitting.

Assumptions and Exclusions

This scope and fee estimate were prepared with following assumptions. If any of these statements are invalid, the scope and fee may be subject to change.

- Existing survey data and H H models will be utilized at basis for update.
- Any permit and notification fees are not included in this scope

Fee

The scope will be completed for a lump sum cost of **248,853.68**. Fee changes to the respective tasks are summarized in the table below.

Task	Changed From	Amendment #1	Amendment #2	Changed to
1.1 Data Collection (Survey, SUE, Geotech)	232,452.20	-	116,575.00	349,027.20
1.2 Existing Conditions Hydrologic and Hydraulic Analysis	196,383.00	-	-	196,383.00
1.3 Hydraulic Modeling of Alternatives	49,280.80	-	43,482.36	92,763.16
1.4 Environmental Investigation and Permitting	25,252.50	-	-	25,252.50
1.5 Preliminary Design	142,832.38	-	-	142,832.38

2.1 Geotechnical Design	25,475.00	-	-	25,475.00
2.2 Site/Civil and Roadway Design	49,708.00	-	52,000.00	101,708.00
2.3 Structural Final Design	166,742.41	-	8,205.00	174,947.41
2.4 Traffic Engineering Design	16,371.45	-	-	16,371.45
2.5 R/W Plans	28,977.20	-	-	28,977.20
2.6 Flood Response Plan	23,951.60	-	-	23,951.60
2.7 Quality Management	27,320.40	-	-	27,320.40
2.8 Bid Documents Preparation and Support	76,181.20	-	-	76,181.20
2.9. Dam Safety Permitting	-	() 46,942.80		46,942.80
4.1 Project Management	127,402.40	-	12,394.56	139,796.96
4.2 Stakeholder Coordination	55,315.56	-	16,196.76	71,512.32
4.3. EA/FONSI Determination	74,276.06	(-) 64,019.99		10,256.07
Total	1,317,922.16	(-) 17,077.19	248,853.68	1,549,698.65

Please let me know if you have any questions or need any clarifications. I may be reached at 919.431.5253 or amit.sachan@atkinsglobal.com. We look forward to the opportunity to serve you.

Sincerely,



Amit Sachan, PE, CFM
Project Director, Atkins



CITY OF LUMBERTON

CITY COUNCIL

MINUTES • AUGUST 11, 2021

Regular Meeting

Council Chambers

11:00 AM

500 N Cedar St, Third Floor, Lumberton, NC 28358

I. CALL TO ORDER

Attendee Name	Title	Status	Arrived
Bruce W. Davis	Mayor	Present	
Leroy Rising	Mayor Pro Tem	Present	
Melissa Robinson	Precinct 2	Present	
John R. Carroll	Precinct 3	Present	
Karen Higley	Precinct 4	Present	
John Cantey	Precinct 5	Present	
Chris Howard	Precinct 6	Present	
Eric Chavis	Precinct 7	Present	
Owen Thomas	Precinct 8	Present	
Wayne Horne	City Manager	Present	
Brandon Love	Deputy City Manager	Present	
Holt Moore	City Attorney	Present	
Laney Mitchell-McIntosh	City Clerk	Present	

B. Invocation

C. Invocation: City Attorney Moore

II. PUBLIC COMMENT PERIOD

III. PUBLIC COMMENT PERIOD: NO COMMENTS WERE SUBMITTED.

IV. MINUTES APPROVAL

A. City Council - Regular Meeting - Jun 9, 2021 11:00 AM –

RESULT:	ACCEPTED [8 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

V. PUBLIC HEARINGS

FYI - June 22, 2021 Planning Board Minutes – ArTriel Kirchner, Planning Director
The Planning Board met on June 22, 2021 and held a public meeting for the following:

- Sharon Smith: Request a Special Use Permit to operate a natural hair care school located at 215 E. 3rd Street.

- Shanese Spaulding: Request a Special Use Permit to operate a beauty academy that will train estheticians located at 312 N. Elm Street.

The draft minutes are being provided for Council's information and will be voted on by the Planning Board at a future Planning Board meeting.

RESULT:	NOT APPLICABLE
----------------	-----------------------

- A. Housekeeping Procedural Change to Land Use Items Procedure – Holt Moore, City Attorney
Please see a memorandum attached with a draft ordinance regarding a housekeeping change designed to correct the ordinance as to how Council processes land use items. Because this relates solely to a Council procedural matter, staff does not believe, per Code section 35-322(b), that is not necessary to send this matter to the Planning Board, and recommends Council hold its public hearing and pass the amendment at its August meeting.
That Council hold the public hearing and approve the amendment change.

Mayor Davis opened the public hearing to consider an amendment designed to correct the City's Ordinance on how Council process land use items. City Clerk Mitchell-McIntosh presented the Affidavit of Publication which show that it was published in the Robesonian.

No one appeared to speak and the hearing was closed.

RESULT:	APPROVED [8 TO 0]
MOVER:	Karen Higley, Precinct 4
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- B. Sharon Smith is requesting a special use permit to open and operate a natural hair care school located at 215 E. 3rd St. – ArTriel Kirchner, Planning Director
Sharon Smith is requesting a special use permit to open and operate a natural hair care school located at 215 E. 3rd St. Deed Book 862 pg. 778 parcel number 3233023901. This request is to allow for the operation of natural hair care school to train hair care specialists. (use #5.120). This property is currently zoned B1 (central business) and to operate a trade or vocational school a special use permit is required.
The Planning Board asks City Council to hold tonight's public hearing and approve the Special Use Permit request with the following conditions:

- 1) The parking area located on the property must remain as primary parking for the trade school. In the event the parking lot becomes unavailable, the applicant, property owner or representative must come back before council to amend the Special Use Permit to address parking.
- 2) The hours of operation are from 8:00 am - 11:00 pm Monday thru Friday.

Mayor Davis opened the public hearing requesting a Special Use Permit to open and operate a natural hair care school located at 215 E. 3rd Street. City Clerk Mitchell-McIntosh presented the Affidavit of Publication which show that it was published in the Robesonian.

Councilman Cantey asked if parking was addressed. He asked about the number of cars and if that would present a problem.

Ms. Smith appeared before Council and stated that they would have 10 students in a day and 10 students at night and that parking is not an issue.

No one else appeared to speak and the hearing was closed.

RESULT:	APPROVED [8 TO 0]
MOVER:	Chris Howard, Precinct 6
SECONDER:	John Cantey, Precinct 5
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

C. Shanese Spaulding special use permit to open and operate a beauty academy at 312 N. Elm St. – ArTriel Kirchner, Planning Director

Shanese Spaulding is requesting a special use permit to open and operate beauty academy at 312 N. Elm St. Deed Book 01839 pg. 734 parcel number 323302029. This request is to allow for the operation of beauty school that will train students to become licensed estheticians (use #5.120). This property is currently zoned B1 (central business) and to operate a trade or vocational school a special use permit is required.

The Planning Board asks City Council to hold tonight's public hearing and approve the Special Use Permit request with the following conditions:

- 1) The parking lot on parcel #323302018 remain as parking spaces for the trade school. In the event they become unavailable, the applicant, property owner or representative must come back before council to amend the Special Use Permit to address additional parking.
- 2) The hours of operation are from 8:00 am - 11:00 pm Monday thru Friday.

Mayor Davis opened the public hearing to consider an amendment designed to correct the City's Ordinance on how Council process land use items. City Clerk Mitchell-McIntosh presented the Affidavit of Publication which show that it was published in the Robesonian.

Ms. Spaulding appeared before Council to answer any questions that Council may have.

No one appeared else to speak and the hearing was closed.

RESULT:	APPROVED [8 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

VI. AGENDA ITEMS FOR COUNCIL'S CONSIDERATION

A. Team for Kids in Honor of Joseph Frederick - Marathon Runner – Wayne Horne, City Manager

Police Officer Joseph Frederick is requesting support in his efforts to raise funds for youth health and wellness as part of the 2021 New York City Marathon in which he is a participant. Council has given to this event over the years.

Consider the request.

Council approved the following designation of funds to Team for Kids in Honor of Joseph Frederick as follows:

P1 - \$50 P2 - \$50 P3 - \$50 P4 - \$50 P5 - \$150 P6 - \$150 P7 - \$100 and P8 - \$50 for a total of \$650.00.

RESULT:	APPROVED [8 TO 0]
MOVER:	Leroy Rising, Mayor Pro Tem
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- B. Ratify the Telephonic Poll Seeking Permission to apply for and accept Bulletproof Vest Grant – Michael McNeill, Police Chief

The Lumberton Police Department is requesting permission to apply for the Bulletproof Vest Partnership Grant due to bulletproof vests replacement needs. The cost for the vests will be approximately \$20,063.00 with a 50% match.

It is recommended that the Lumberton Police Department is granted permission to apply for and accept the 2021 Bulletproof Vest Partnership Grant in the amount of \$20,063.

RESULT:	APPROVED [8 TO 0]
MOVER:	Chris Howard, Precinct 6
SECONDER:	John Cantey, Precinct 5
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- C. Authorize the Lumberton Police Department to apply for and accept the 2021 Edward Byrne JAG Grant – Michael McNeill, Police Chief

Due to time constraints, on July 27th, via a telephonic poll, City Council considered granting the Lumberton Police Department permission to apply for and accept the 2021 Edward Byrne JAG Grant in the amount of \$14,441.00. These grant funds will be used for overtime and to purchase MDT's which will replace the old ones currently being used by the department.

With a unanimous vote, Lumberton Police Department was granted permission to apply for and accept the 2021 Edward Byrne Jag Grant in the amount of \$14,441.00 fund overtime and purchase MDT's.

RESULT:	APPROVED [8 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- D. Unsafe structure located at 2611 Alexander Street – Ben Andrews, Inspections Director

The structure located at 2611 Alexander Street was inspected by our department and was determined to be unsafe. A notice of Condemnation and Hearing was sent. A hearing was held on June 2, 2021, in which the owners was present. An order to demolish the structure was issued. The time in which the owners had to comply expired on July 12, 2021

Staff recommends the City Council direct the building inspector to demolish and remove the unsafe structure located at 2611 Alexander Street.

RESULT:	APPROVED [8 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- E. Unsafe structure located at 1120 E 1st Street – Ben Andrews, Inspections Director
The structure located at 1120 E 1st Street was inspected by our department and was determined to be unsafe. A notice of Condemnation and Hearing was sent. A hearing was held on June 3, 2021, in which the owners was present. An order to demolish the structure was issued. The time in which the owners had to comply expired on July 12, 2021. Staff recommends the City Council direct the building inspector to demolish and remove the unsafe structure located at 1120 E 1st Street.

RESULT:	APPROVED [8 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- F. Unsafe structure located at 213 Bullard Street – Ben Andrews, Inspections Director
The structure located at 213 Bullard Street was inspected by our department and was determined to be unsafe. A notice of Condemnation and Hearing was sent. A hearing was held on June 1, 2021, in which the owners were not present. An order to demolish the structure was issued. The time in which the owners had to comply expired on July 5, 2021. Staff recommends the City Council direct the building inspector to demolish and remove the unsafe structure located at 213 Bullard Street.

RESULT:	APPROVED [8 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- G. Unsafe structure located at 305 Bullard Street – Ben Andrews, Inspections Director
The structure located at 305 Bullard Street was inspected by our department and was determined to be unsafe. A notice of Condemnation and Hearing was sent. A hearing was held on June 1, 2021, in which the owners were not present. An order to demolish the structure was issued. The time in which the owners had to comply expired on July 5, 2021. Staff recommends the City Council direct the building inspector to demolish and remove the unsafe structure located at 305 Bullard Street.

RESULT:	APPROVED [8 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- H. Unsafe structure located at 307 Bullard Street – Ben Andrews, Inspections Director
The structure located at 307 Bullard Street was inspected by our department and was determined to be unsafe. A notice of Condemnation and Hearing was sent. A hearing was held on June 8, 2021, in which the owners were not present. An order to demolish the structure was issued. The time in which the owners had to comply expired on July 19, 2021. Staff recommends the City Council direct the building inspector to demolish and remove the unsafe structure located at 307 Bullard Street.

RESULT:	APPROVED [8 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- I. Unsafe structure located at 209 Hay Street – Ben Andrews, Inspections Director
The structure located at 209 Hay Street was inspected by our department and was determined to be unsafe. A notice of Condemnation and Hearing was sent. A hearing was held on June 8, 2021, in which the owners were not present. An order to demolish the structure was issued. The time in which the owners had to comply expired on July 19, 2021. Staff recommends the City Council direct the building inspector to demolish and remove the unsafe structure located at 209 Hay Street.

RESULT:	APPROVED [8 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- J. Unsafe structure located at 2310 Marshall Street – Ben Andrews, Inspections Director
The structure located at 2310 Marshall Street was inspected by our department and was determined to be unsafe. A notice of Condemnation and Hearing was sent. A hearing was held on June 2, 2021, in which the owners were not present. An order to demolish the structure was issued. The time in which the owners had to comply expired on July 12, 2021. Staff recommends the City Council direct the building inspector to demolish and remove the unsafe structure located at 2310 Marshall Street.

RESULT:	APPROVED [8 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- K. Approval of Audit Contract for Lumberton Airport – Alisha Armstrong, Finance Director
Council awarded the professional auditing services for the City of Lumberton and the Lumberton Airport for FY20, FY21 and FY22 to Thompson, Price, Scott, Adams & Company. The Lumberton Airport receives federal and state grants that require additional work by our auditors. Thompson, Price, Scott, Adams & Company has requested to increase the audit fee from \$1,500 to \$2,500 for FY21 and FY22.
Recommend that Council approve the fee increase for FY21 and FY22 and approve the attached contract for the Lumberton Airport.

RESULT:	APPROVED [8 TO 0]
MOVER:	Leroy Rising, Mayor Pro Tem
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- L. LCID Landfill Leaf and Limb Grinding – Rob Armstrong, Public Works Director
The City is allowed to temporarily store leaf and limb debris at our permitted LCID landfill on Saddletree Road. At least twice per year, the City is responsible for grinding and hauling off the leaf and limb debris created by our own operations, such as right of way clearing, powerline easement maintenance and park landscape maintenance. In the past, this debris was ground up at the same time the Waste Management collected yard debris was ground. Now, our permitting requires this to be kept separate. The City was only able to solicit two quotes for the grinding operation, Simmons and Simmons Management Inc and American Property Experts. The quote from American Property Experts was just an hourly fee with no estimated time for the work. Simmons and Simmons, who has ground at our site in the past, provided a quote of \$61,792.50 to grind the debris and leave it on site and quoted an additional \$92,688.75 to haul the grindings off. Public Works would like to grind the debris and leave it on site and use it as cover for the inert debris pile at the landfill.
Public Works is requesting Council approval to hire Simmons and Simmons to grind our LCID landfill leaf and limb debris and leave it on site for 61,792.50 to be paid for from the following funds: 1/3 from solid waste fund, 1/3 from the light and power fund, 1/3 from the parks and recreation fund.

RESULT:	APPROVED [8 TO 0]
MOVER:	Karen Higley, Precinct 4
SECONDER:	John R. Carroll, Precinct 3
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

M. Floodgate Environmental Assessment Consultant Selection – Rob Armstrong, Public Works Director

Approximately \$5.8 Million in grant funds have been allocated to the floodgate project. \$1,426,750 of this amount is in the form of a CDBG-DR grant from NCORR. In order to get the final award of this money, an environmental assessment must be conducted. The cost of the environmental assessment is reimbursed to the City by NCORR. The first step in this process is to select the most qualified firm to conduct the assessment. Once Council selects a firm, a contract will be negotiated with the firm and brought back to Council for approval. On July 16th, the City received two responses to our Request for Qualifications. McGill and Timmons Group both submitted a qualification statement. These statements have been reviewed and scored by City Staff. We are recommending Council award the project to the Timmons Group.

City Staff is recommending Council award the Floodgate Environmental Assessment project to the Timmons Group

RESULT:	APPROVED [8 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Chris Howard, Precinct 6
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

N. Floodgate Engineering Amendment – Rob Armstrong, Public Works Director

The original design located the floodgate on the east side of I-95 at the CSX railroad overpass. When NCDOT funded the I-95 widening and elevation project, the Federal Highway Administration required the floodgate to be relocated to the west side of I-95. The City is now in the process of redesigning the floodgate for the new location. Attached is an Engineering Contract Amendment from Atkins Global for \$248,853.68 for the additional engineering services required to design the project on the west side of I-95. The additional engineering costs will be paid for by CDBG-DR funds through NCORR.

Public Works is requesting Council approval of the Engineering Contract Amendment #2 from Atkins Global for \$248,853.68 for the additional engineering services required to design the floodgate project on the west side of I-95. The additional engineering costs will be paid for by CDBG-DR funds through NCORR.

RESULT:	APPROVED [8 TO 0]
MOVER:	Eric Chavis, Precinct 7
SECONDER:	John Cantey, Precinct 5
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- O. Change Order #1 - Sanitary Sewer Rehab Project – Rob Armstrong, Public Works Director
Attached is Change Order #1 for the Sanitary Sewer Collection System Rehabilitation 2018 Priority Repairs project from Tri State Utilities for \$15,000. This change order is for descaling a steel carrier pipe under the railroad on 7th Street so it could be slip lined. The Change Order will be paid for by the North Carolina Clean Water State Revolving Fund Grant and Loan the City received for the project.

Public Works is requesting Council approval of Change Order #1 for the Sanitary Sewer Collection System Rehabilitation 2018 Priority Repairs project from Tri State Utilities for \$15,000 to be paid for by the North Carolina Clean Water State Revolving Fund Grant and Loan.

RESULT:	APPROVED [8 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- P. AIA Grant Water System Mapping Engineering Agreement – Rob Armstrong, Public Works Director

In May, Council selected The Wooten Company to provide mapping services for the first phase of the AIA Grant water mapping project. Attached is the actual engineering contract from the Wooten Company for \$155,250 which will be paid for by the AIA grant.

Public Works is requesting Council approval of the engineering contract with the Wooten Company for \$155,250 for phase 1 of the water system mapping project which will be paid for by a North Carolina Asset Inventory Assessment Grant.

RESULT:	APPROVED [8 TO 0]
MOVER:	John R. Carroll, Precinct 3
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- Q. Tanglewood Drainage Project Engineering Contract Amendment 3: Construction Materials Testing – Rob Armstrong, Public Works Director

Attached is Amendment #3 from the Wooten Company for \$44,000 to provide construction materials testing thru their sub consultant. The materials testing will evaluate the pipe bedding and backfill material as well as confirm the compaction of the trench excavation along the pipe route. This service will be paid for by the North Carolina Golden Leaf Grant Funds as part of the engineering services.

Public Works is requesting Council approval of Amendment #3 for \$44,000 with the

Wooten Company to provide construction materials testing on the Tanglewood Drainage Project, to be paid for by the North Carolina Golden Leaf Grant Funds used for Engineering Services.

RESULT:	APPROVED [8 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	John R. Carroll, Precinct 3
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- R. Approval of Bid for HMGP Home Reconstruction – Brian Nolley, CDBG Administration
The Planning Dept. is seeking approval to award a home reconstruction contract under the City’s Hazard Mitigation Grant Program. A bid opening was held on July 22, 2021 with 7 bids received. The low bidder was Holland Construction Company with a bid price of \$140,900. The property is located at 2020 Nevada St. This will be a complete demo and rebuild and paid for with grant funds.
We are recommending awarding the contract to the lowest bidder Holland Construction Co. (Owner Thomas Holland).

RESULT:	APPROVED [8 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- S. Robeson County Community Art Guild, Inc. Special Use Permit Request – Brian Nolley, CDBG Administration
The Robeson County Community Art Guild is requesting a special use permit to open and operate an art guild. The property is located at 109 W. 9th St. Deed book 2295, pg. 25-26. Parcel number 323202020. This request is to allow for the operation of an art guild that will hold meetings and classes, lunch and learn sessions, art exhibitions, special events for the community and house a gift shop. This property is currently zoned B3 (office/residential) and to operate an art gallery and related uses, a special use permit is required.
CPC review the request, refer the petition to the August 24, 2021 Planning Board meeting for their review, and authorize the Planning Director to set the date of the public hearing.

RESULT:	REFERRED [8 TO 0]	Next: 9/8/2021 11:00 AM
MOVER:	John Cantey, Precinct 5	
SECONDER:	Owen Thomas, Precinct 8	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

- T. Bruce Davis is requesting a rezoning and Special Use Permit of property located on Griffin Street – ArTriel Kirchner, Planning Director
Bruce Davis has submitted a rezoning and Special Use Permit petition for property located on Griffin Street (parcel # 1009-02-018/Deed Book 1952, Page 421). This request is to

allow for the development of a cemetery (use #21.000). This property is currently zoned B-2 (Business Community) and to develop a cemetery at this location require a rezoning as well as a Special Use Permit. The applicant is requesting the property be rezoned to SUP B-3, Office/Residential.

CPC review the request, refer the petition to the August 24, 2021 Planning Board meeting for their review, and authorize the Planning Director to set the date of the public hearing.

RESULT:	REFERRED [8 TO 0]	Next: 10/6/2021 11:00 AM
MOVER:	Owen Thomas, Precinct 8	
SECONDER:	Karen Higley, Precinct 4	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

- U. Bruce Davis is requesting a Special Use Permit for three parcels located on Griffin Street – ArTriel Kirchner, Planning Director

Bruce Davis has submitted a Special Use Permit petition for three parcels located on Griffin Street (parcel # 1009-02-018; 1009-02-01801; 1009-02-01802/Deed Book 1952, Page 421). This request is to obtain a special use permit to develop a cemetery (use #21.000).

CPC review the request, refer the petition to the August 24, 2021 Planning Board meeting for their review, and authorize the Planning Director to set the date of the public hearing.

RESULT:	REFERRED [8 TO 0]	Next: 10/6/2021 11:00 AM
MOVER:	Karen Higley, Precinct 4	
SECONDER:	Melissa Robinson, Precinct 2	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

- V. Guillermo Baily Bail rezoning property located off Baxter Rd. parcel #101201021 – ArTriel Kirchner, Planning Director

Analysis: Guillermo Baily Bail is requesting a rezoning to purchase property and place a mobile home on the property. The property is located off Baxter Rd. parcel #101201021, deed book 10L, pg. 143. This request is to allow the applicant to place a mobile home on the land as a residence. This property is currently zoned R-20 (residential single family) and to place a mobile home on the parcel requires a rezoning to R-6 and a land use permit. The applicant is requesting a rezoning to R-6.

CPC review the request, refer the petition to the August 24, 2021 Planning Board meeting for their review, and authorize the Planning Director to set the date of the public hearing.

RESULT:	REFERRED [8 TO 0]	Next: 9/8/2021 11:00 AM
MOVER:	John Cantey, Precinct 5	
SECONDER:	Owen Thomas, Precinct 8	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

- W. Jordan Bowley annexation request for property located at 102 Arbor Lane – ArTriel Kirchner, Planning Director

Analysis: The Planning & Neighborhood Services Department received an application for annexation from Jordan Bowley, requesting a contiguous annexation of property located at 102 Arbor Lane (Parcel #100205052/ Deed Book: 2280 Page: 613). The property is currently zoned City of Lumberton R-20 (Residential single family) therefore a rezoning is not required.

The City Clerk has certified the sufficiency of the petition and the Planning Department recommends City Council set the date of the public hearing for their October 2021 meeting.

RESULT:	REFERRED [8 TO 0]	Next: 9/8/2021 11:00 AM
MOVER:	Leroy Rising, Mayor Pro Tem	
SECONDER:	John R. Carroll, Precinct 3	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

- X. Proposed Rezoning of Portion of Industrial Park to M2 – Holt Moore, City Attorney
Please find herewith an application by staff to rezone a portion of the I95 / I74 Industrial Park to M2, along with a memorandum and a map of the proposed area to be rezoned, and other supplementary materials.
Send petition for rezoning to Planning Board for review and recommendation, and set date of Public Hearing.

RESULT:	REFERRED [8 TO 0]	Next: 9/8/2021 11:00 AM
MOVER:	Eric Chavis, Precinct 7	
SECONDER:	Leroy Rising, Mayor Pro Tem	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

- Y. Approval of I74 / I95 Industrial Park Overlay District Ordinance – Holt Moore, City Attorney
Please find attached the proposed I74 / I95 Industrial Park Overlay District Ordinance, and a memorandum describing said ordinance.
Approve and enact Overlay District Ordinance.

RESULT:	APPROVED [8 TO 0]
MOVER:	Eric Chavis, Precinct 7
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- Z. Application of Industrial Park Overlay Ordinance to Portion of Park – Holt Moore, City Attorney
Assuming the Council approves and enacts the I95 / I74 Industrial Park Overlay District Ordinance, the second step, which can be taken later in the same meeting, is to *apply* that ordinance to the desired section of the park (that which has been annexed into the City). The map showing the portions of the park to which the Overlay is to be applied is attached to this item.

For the August 11th meeting, the action needed is to send this application step to the Planning Board for their review and recommendation. The item will then come back to Council on September 8, 2021, at which time Council will apply the ordinance to that section of the Park, if all appears appropriate.

RESULT:	REFERRED [8 TO 0]	Next: 9/8/2021 11:00 AM
MOVER:	Eric Chavis, Precinct 7	
SECONDER:	John R. Carroll, Precinct 3	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

AA. Approval of Special Use Permit - Major Subdivision - Industrial Park – Holt Moore, City Attorney

Lumberton City Code Section 35-46, as recently revised, requires that a special use permit be obtained from the City Council for a major subdivision. The development of the I95 / I74 Industrial Park has reached a stage where a special use permit is required. This is due to the fact that new infrastructure and new public streets are involved with the subdivision of land. The land which Elkey will occupy will also involve the division of existing parcels within the park.

This item is designed for Council to send the special use permit application to the Planning Board for review and recommendation, which shall come back to Council for approval on September 8, 2021.

Refer the special use permit application to the Planning Board for review and recommendation, and set the date for the public hearing.

RESULT:	REFERRED [8 TO 0]	Next: 9/8/2021 11:00 AM
MOVER:	Eric Chavis, Precinct 7	
SECONDER:	Owen Thomas, Precinct 8	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

AB. Amendment to E. Lumberton Mill Village Housing Agreement – Holt Moore, City Attorney

In a recent review of the East Lumberton Mill Village Housing Program, the NC Office of State Budget Management essentially concluded that, with the awesome contribution of free labor from NC Baptists on Mission, our program was self-supporting. Therefore, they are providing funding only for the purchase of lots or homes for renovation going forward, not for construction costs. The attached amendment to the agreement memorializes this. We believe that proceeds from sales of existing homes, which very roughly should equate to around \$120,000 after expenses, will support the program for the near term. Staff would also like to set up a fund not to exceed \$180,000 in line item code: 6300-9920-9940, which would be a revolving fund repaying itself by the sale of homes, to cover expenses as the program moves along.

Approve amendment to agreement as proposed by NC Office of State Budget Management.

RESULT:	APPROVED [8 TO 0]
MOVER:	Karen Higley, Precinct 4
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

AC. Petition for Annexation of Several Parcels Within I95 / I74 Industrial Park – Holt Moore, City Attorney

The entire I95 / I74 Industrial Park is currently outside the City limits, with the exception of the parcel with our electrical substation on it, and a section of Emery Road which connects the eastern entrance of the Park to that parcel. Staff is bringing a number of other parcels to you which are ready to be annexed into the City. Three of these are City-owned, and two are privately owned (though we have those two under option). The petition has a map of each tract for which there is a petition to be annexed, and the legal description. At the very back of the packet is a map of all of the property to be annexed. Verified surveys will be tendered before the annexation is sent to the State.

The Petition has been received, and by the date of your August 11, 2021 meeting, the Clerk will have verified the sufficiency of the petition. Assuming the petition is sufficient, staff requests that Council set the date of the public hearing to approve the annexations.

RESULT:	REFERRED [8 TO 0]	Next: 9/8/2021 11:00 AM
MOVER:	Leroy Rising, Mayor Pro Tem	
SECONDER:	John R. Carroll, Precinct 3	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

AD. Community -Based Crime Reduction Grant from the U.S .Department of Justice's Bureau of Justice Assistance. – Wayne Horne, City Manager

The NC Violence Prevention Center has been awarded a Community-Based Crime Reduction Grant from the U.S. Department of Justice's, Bureau of Justice Assistance. The goal of the grant is to reduce crime, especially violent crime, in Robeson County. The Robeson County Sheriff's Department and Lumberton Police Department are key collaborators in this initiative . The grant will provide Lumberton Police Department \$25,000 per/year for 3 years for overtime pay as part of the grant initiative.

It is recommended that City Council accept the grant and authorize Finance to provide a local match of \$2,250.

RESULT:	APPROVED [8 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

AE. Ratification of \$ 1,000 of CRF to the Pentecostals for a Back to School Block Party – Wayne Horne, City Manager

Council made the following designations of CRF to The Pentecostals Back to School Block Party on July 31th. The funds were used in support of the event.

The designations were done by telephone poll due to time constraints, and need to be ratified at today's meeting. The designations were: Precinct 1- \$100, Precinct 2 - \$100, Precinct 3- \$200, Precinct 4 -\$200, Precinct 7 - \$100, Precinct 8 - \$200, and \$100 from the Mayor's Discretionary Fund for a total of \$1,000.

Ratify designations of CRF made during telephone poll.

RESULT:	APPROVED [8 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	John R. Carroll, Precinct 3
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

AF. Ratification of \$1,350 of CRF to the Lumberton Youth Baseball Association (LYBA) – Wayne Horne, City Manager

Council made the following designations of CRF to the Lumberton Youth Baseball Association (LYBA). The funds were used to defray the costs of team equipment needs, travel and hotel expenses for the Lumberton AAA Allstars Team to travel to the Dixie Youth World Series in Laurel, Mississippi.

The designations were done by telephone poll due to time constraints, and need to be ratified at today's meeting. The designations were: Precinct 1 \$250, Precinct 3 \$250, Precinct 4 \$250, Precinct 7 \$250, Precinct 8 \$250, and \$100 from the Mayor's Discretionary Fund for a total of \$1,350.

Ratify designations of CRF made during telephone poll.

RESULT:	APPROVED [8 TO 0]
MOVER:	Karen Higley, Precinct 4
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

AG. Ratification of \$1,700 to the Lumberton Softball Association – Wayne Horne, City Manager

Council made the following designations of CRF Lumberton Softball Association. The funds were used to defray the cost of two Dixie Youth Softball teams (8U Darlings and 12U Ponytail league) that represented the City of Lumberton during the North Carolina Dixie Youth Softball State Tournament. The tournament was hosted in Cherryville, NC, from July 9th through July 13th.

The designations were done by telephone poll due to time constraints, and need to be ratified at today's meeting. The designations were: Precinct 1 \$250, Precinct 2 \$150, Precinct 3

\$250, Precinct 4 \$250, Precinct 5 \$150, P6 - \$50, Precinct 7 \$250, Precinct 8 \$250, and \$100 from the Mayor's Discretionary Fund for a total of \$1,700.
Ratify designations of CRF made during telephone poll.

RESULT:	APPROVED [8 TO 0]
MOVER:	John R. Carroll, Precinct 3
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- AH. Ratification of \$1,650 Robeson United Program for Youth – Wayne Horne, City Manager Council made the following designations of CRF to Robeson United. The funds were used to support 42 to 44 kids going to the National Travel Basketball Association (NTBA) sponsored by Robeson United program. The tournament was scheduled for July 12th-17th. The designations were done by telephone poll due to time constraints, and need to be ratified at today's meeting. The designations were: Precinct 1 \$200, Precinct 2 \$200, Precinct 3 \$200, Precinct 4 \$200, Precinct 5 \$150, P6 - \$200, Precinct 7 \$200, Precinct 8 \$200, and \$100 from the Mayor's Discretionary Fund for a total of \$1,650.
Ratify designations of CRF made during telephone poll.

RESULT:	APPROVED [8 TO 0]
MOVER:	Eric Chavis, Precinct 7
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- AI. Approve the Deobligation of \$435 in Precinct 1 – Leroy Rising, Mayor Pro Tem Councilman Rising is requesting that \$435 of CRF designated for Community Watch be deobligated and returned to unobligated funds in Precinct 1.
Deobligate \$435 of CRF and return to unobligated funds in Precinct 1.

RESULT:	APPROVED [8 TO 0]
MOVER:	Eric Chavis, Precinct 7
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- AJ. Approve the Deobligation of \$1340 in Precinct 5 – John Cantey, Precinct 5 Councilman Cantey is requesting that \$800 of CRF designated for Easter Community Programming and that the remaining balance of \$540 for a total of \$1340 be deobligated in Precinct 5.
Deobligate \$1340 of CRF in Precinct 5.

RESULT:	APPROVED [8 TO 0]
MOVER:	Karen Higley, John Cantey
SECONDER:	Chris Howard, Owen Thomas
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- AK. Renaming South Lumberton Resource Center after the Late Councilman Dr. Robert Len Jones – Chris Howard, Precinct 6
Councilmen Howard & Cantey are asking that Council consider re-naming the South Lumberton Resource Center in South Lumberton after the Late City Councilman Dr. Robert Len Jones. As we all know, Dr. Jones served on Council from December 2, 1991 – December 14, 2015, 24 years of dedicated service. It would be fitting that we should do so. Perhaps it could read as so:

Councilman Dr. Robert Len Jones
South Lumberton Resource Center

Adopt a Resolution re-naming the South Lumberton Resource Center in honor of Councilman Dr. Robert Len Jones.

RESULT:	TABLED [8 TO 0]	Next: 9/8/2021 11:00 AM
MOVER:	Chris Howard, Precinct 6	
SECONDER:	John Cantey, Precinct 5	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

- AL. Re-naming Parkview Activity Center after the Late Reverend T. Shedrick Byrd – Chris Howard, Precinct 6
Councilmen Howard & Cantey are asking that Council consider re-naming the Parkview Activity Center in South Lumberton after the Late Reverend T. Shedrick Byrd who was the Pastor of Sandy Grove Baptist Church for many years. As we all know, Rev. Byrd made a great impact in the South Lumberton Community as he served Sandy Grove and the citizens of this community for 18 years. Perhaps it could read as so:

T. Shedrick Byrd Center
Pastor, Sandy Grove Baptist Church

Adopt a Resolution re-naming the Parkview Activity Center in honor of the Late Reverend T. Shedrick Byrd.

Councilman Rising expressed that the Recreation Department feels they were left out of the decision. He stated that he was approached by his representative and felt they should have some type of authority in the decision. Councilman Rising asked if they would consider tabling the item until the Recreation Commission is consulted.

Councilmen Cantey & Howard asked Councilman Rising why didn't he contact them ahead of time with this concern. He stated that this could have been avoided if he would have let them know or if he would have had the one with the concern to contact them.

Councilmen Howard stated that the item should be tabled based on the concern of the Recreation Commission.

City Attorney Moore stated that the item will come back to Council at the September meeting.

RESULT:	TABLED [8 TO 0]	Next: 9/8/2021 11:00 AM
MOVER:	Chris Howard, Precinct 6	
SECONDER:	John Cantey, Precinct 5	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

AM. Re-naming Inman Street to Shedrick Drive after the Late Reverend T. Shedrick Byrd – Chris Howard, Precinct 6

Councilmen Howard & Cantey are asking that Council consider re-naming Inman Street located directly off of Martin Luther King Jr. Drive down to Lee Circle in honor of the Late Reverend T. Shedrick Byrd to Shedrick Drive. If Council approve the re-naming of Parkview Activity Center in South Lumberton after the Late Reverend T. Shedrick Byrd, it would be fitting to rename the street Shedrick Drive.

Adopt a Ordinance re-naming Inman Street down to Lee Circle in honor of the Late Reverend T. Shedrick Byrd to Shedrick Drive.

There were concerns raised as to how renaming this street could affect the Inman residence. Councilman Cantey stated that they are only requesting from MLK down to Lee Circle and then the dirt road begins. Only changing MLK to Parkview. It will not affect residents on Inman Street.

Mayor Davis wanted to know who was Inman Street named after. Councilman Cantey stated that after speaking with Dixon Ivey, I am the only relative of the Inman Family in South Lumberton.

After a brief discussion, Councilman Howard made a motion to table this item.

RESULT:	TABLED [8 TO 0]	Next: 9/8/2021 11:00 AM
MOVER:	Chris Howard, Precinct 6	
SECONDER:	John Cantey, Precinct 5	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

AN. Approve the designation of \$600.00 of CRF to be paid to the Builders Discount Center for a handicap ramp at 2961 Bragg Street – Eric Chavis, Precinct 7

Councilman Chavis requests \$600.00 of Community Revitalization Funds to be paid to Builders Discount Center for a handicap ramp located at 2961 Bragg Street.

Designate \$600.00 of CRF to Builders Discount Center for handicap ramp in Precinct 7.

RESULT:	APPROVED [8 TO 0]
MOVER:	Eric Chavis, Precinct 7
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

AO. Approve the designation of \$1400 of CRF for a Back to School Event in West Lumberton - August 14, 2021 – Eric Chavis, Precinct 7

Councilman Chavis is requesting \$1400 of CRF for a Kids back to school day event along with West Lumberton Baptist Church On August 14, 2021, \$900 for water slides and the rest for food and some school supplies.

Designate \$1400 of CRF for a Back to School Event in West Lumberton on August 14, 2021.

RESULT:	APPROVED [8 TO 0]
MOVER:	Eric Chavis, Precinct 7
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

AP. Approve the designation of \$125.00 of CRF to Kiwanis of Robeson-Lumberton Sponsorship funds in Support of Children Programs in the Community – Owen Thomas, Precinct 8

Councilman Thomas requests \$125.00 of Community Revitalization Funds to be given to the Kiwanis of Robeson-Lumberton for their Community work. The Kiwanis of Robeson-Lumberton serve many of the children in our communities and are highly recognized for the work that they do.

Designate \$125.00 of CRF to the Kiwanis of Robeson-Lumberton Sponsorship funds in support of children programs in the community.

The following designations were made P1 - \$100 P3 - \$100 P4 - \$125 P7 - \$100 P8 - \$125 and Mayor \$100 for a total of \$650.

RESULT:	APPROVED [8 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	Melissa Robinson, Precinct 2
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

AQ. Approve the designation of \$100 of CRF to the Robeson County Community Art Guild - Precinct 8 – Owen Thomas, Precinct 8

Councilman Thomas is requesting \$100 of CRF to be given to Arts County Community Art Guild as sponsorship funds to support the arts efforts.

Designate \$100 of CRF from P8 to Robeson County Community Art Guild as sponsorship funds to support the arts efforts.

Designations to the Art Guild were made as follows: P1 - \$100 P3 - \$1000 P4 - \$100 P7 - \$100 P8 - 100 and Mayor - \$100 for a total of \$600.00.

RESULT:	APPROVED [8 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	Melissa Robinson, Precinct 2
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

AR. Approve the Designation of \$500.00 of CRF to Mayfair Home Owners' Association (HOA) for Beautification – Owen Thomas, Precinct 8

Councilman Thomas would like to designate \$500.00 of CRF to the Mayfair HOA for beautification.

Designate \$500.00 of CRF to Mayfair HOA.

RESULT:	APPROVED [8 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- AS. Approve the designation of \$500.00 of Community Revitalization Funds to the Mayfair North Association for Beautification in Precinct 8 – Owen Thomas, Precinct 8
The Mayfair North entrance is maintained by the Mayfair North Association which was established by deed restrictions when Mayfair North was developed. I am requesting \$500.00 of CRF to be given to the Mayfair North Association for entrance beautification.
Designate \$500.00 of CRF to the Mayfair North Association for entrance beautification.

RESULT:	APPROVED [8 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- AT. Approve the designation of \$150 from the Mayor's Discretionary Fund to the Robeson County Community Art Guild for a Handicap Ramp – Bruce Davis, Mayor
Mayor Davis is requesting \$150 from the his discretionary fund to be given to the Robeson County Community Art Guild for a handicap ramp. It will be greatly appreciated if Council would join the Art Guild in building this much needed ramp.
Designate \$150 of CRF from the Mayor's Discretionary Fund to the Robeson County Community Art Guild to assist with building a handicap ramp.

Designations were made as follows: P1 - \$100 P2 - \$100 P3 - \$100 P4 - \$150 P5 - \$50 P6 - \$50 P7 - \$100 P8 - \$100 and Mayor's discretionary fund \$150 for a total of \$900

RESULT:	APPROVED [8 TO 0]
MOVER:	Leroy Rising, Mayor Pro Tem
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- AU. Approve the designation \$300.00 of Community Revitalization Funds to Carolina Pines for Beautification – Leroy Rising, Mayor Pro Tem
Councilman Rising and Councilwoman Robinson request \$150.00 each of Community Revitalization Funds for beautification at the entrance of Carolina Pines.
Recommend that Council designate \$300.00 of Community Revitalization Funds to Carolina Pines for beautification as follows: P1 - \$150 and P2 - \$150.00 payable to Greenstate Landscape & Nursery of Lumberton, NC.

RESULT:	APPROVED [8 TO 0]
MOVER:	Leroy Rising, Mayor Pro Tem
SECONDER:	Melissa Robinson, Precinct 2
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- AV. Approve the designation of \$200.00 of Community Revitalization Funds to Southern Sapphires Dance Company in Precinct 1 – Leroy Rising, Mayor Pro Tem
Councilman Rising requests \$200.00 of Community Revitalization Funds to be given to Southern Sapphires Dance Company for support as they compete across NC against other dance companies.

Designate \$200.00 of CRF to the Southern Sapphires Dance Company.

Designations were made as follows: P1 - \$200 P2 - \$100 P3 - \$100 P4 - \$200 P5 - \$50 P6 - \$50 P7 - \$100 P8 - \$100 and from the Mayor's discretionary fund - \$100 for a total of \$1,100.00

RESULT:	APPROVED [8 TO 0]
MOVER:	Leroy Rising, Mayor Pro Tem
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- AW. Special Use Permit Application - Industrial Park subdivision, infrastructure – Holt Moore, City Attorney

The City Code requires a special use permit application for any major subdivision. The creation of a new road system within the I95 / I74 Industrial Park, and the combining of parcels and dividing of others on the Elkay site triggers this requirement for the Park. The permit is also required for the planned installation of infrastructure to and within the Park. Staff is therefore making this application in order that the Park can move forward. The application and related materials is attached.

Refer Special Use Permit application to the Planning Board and ask the Planning Director to set the date of the public hearing.

RESULT:	APPROVED [8 TO 0]
MOVER:	Eric Chavis, Precinct 7
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- AX. Interlocal Agreement / Inspections & Review / new Elkay site – Holt Moore, City Attorney

The Elkay site being developed in the new industrial park is currently in the unincorporated County. It is planned to be annexed very soon, and in order to make this as smooth a transition as possible, staff is recommending, the relevant County staff agree, that the City will handle inspections and plan review during this period before the annexation (and of course after the annexation). A draft agreement to this effect is enclosed, and staff seeks Council's approval. Staff would also request that they be allowed to conduct any

negotiations with the County as to any minor tweaking of the agreement that may be required.

Approve agreement with County as to inspections and plan review, including any slight amendments that may be necessary.

RESULT:	APPROVED [8 TO 0]
MOVER:	Eric Chavis, Precinct 7
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- AY. Discussion of Options with Regards to Sweepstakes – Holt Moore, City Attorney
The City Attorney will discuss briefly the options with regard to electronic gaming as to enforcement and so forth.
Staff will discuss options with Council and seek guidance.

Will be discussed at Council's workshop on 8/25/21.

RESULT:	WITHDRAWN
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VII. CLOSED SESSION

VIII. OPEN SESSION:

- A. Authorize Staff to Opt Out of State HMGP Program – Wayne Horne, City Manager
The State has started a centralist approach to administer the HMGP program statewide. They have also given each municipality the option to stay in the program or opt-out as it concerns Hurricane Florence. We are very much familiar with Floyd & Adams Company who is doing a great job administering this program and our hope is that we can opt-out of the State Program and continue with Floyd & Adams as our own consultant for the HMGP-Florence program.
That Council allow Staff to continue working with Floyd & Adams as the consultant for the HMGP Program for Hurricane Florence.

RESULT:	APPROVED [8 TO 0]
MOVER:	Leroy Rising, Mayor Pro Tem
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

IX. ADJOURNMENT



CITY OF LUMBERTON

CITY COUNCIL

AGENDA • SEPTEMBER 8, 2021

Regular Meeting

Third Floor Conference Room

11:00 AM

500 N Cedar St, Third Floor, Lumberton, NC 28358

Mayor Bruce W. Davis

Councilmember Leroy Rising, Mayor Pro Tem
Councilmember Melissa Robinson, Precinct 2
Councilmember John Carroll, Precinct 3
Councilmember Karen Higley, Precinct 4

Councilmember John Cantey, Precinct 5
Councilmember Chris Howard, Precinct 6
Councilmember Eric Chavis, Precinct 7
Councilmember Owen Thomas, Precinct 8

STAFF:

Wayne Horne, City Manager
Brandon Love, Deputy City Manager
Holt Moore, City Attorney
Laney Mitchell-McIntosh, City Clerk

I. CALL TO ORDER

II. MINUTES APPROVAL

- A. City Council - Regular Meeting - Aug 11, 2021 11:00 AM –
- B. City Council - Regular Meeting - Feb 10, 2021 11:00 AM –
- C. City Council - Regular Meeting - Apr 7, 2021 11:00 AM –

III. PUBLIC COMMENT PERIOD:

A. Annette Wallwork

IV. PUBLIC HEARINGS:

- August 2021 Planning Board Minutes - For Council Information – Brian Nolley, Deputy Planning Director
- A. Public Hearing CDBG Neighborhood Revitalization Program – Brian Nolley, Deputy Planning Director
- B. Guillermo Baily Bail rezoning property located off Baxter Rd. parcel #101201021 – ArTriel Kirchner, Planning Director

- C. The Robeson County Community Art Guild Special Use Permit - 109 W. 9th St. – Brian Nolley, Deputy Planning Director
- D. Petition for Annexation of Several Parcels Within I95 / I74 Industrial Park – Holt Moore, City Attorney
- E. Proposed Rezoning of Portion of Industrial Park to M2 – ArTriel Kirchner, Planning Director
- F. Approval of I74 / I95 Industrial Park Overlay District Ordinance – ArTriel Kirchner, Planning Director
- G. Application of Industrial Park Overlay Ordinance to Portion of Park – ArTriel Kirchner, Planning Director
- H. Special Use Permit Application - Industrial Park subdivision, infrastructure – ArTriel Kirchner, Planning Director
- I. Incentives for Project Mt. St. Helen. – Wayne Horne, City Manager
- J. PH - Development Agreement & Restrictive Covenants – Holt Moore, City Attorney

V. AGENDA ITEMS

- A. Jordan Bowley annexation request for property located at 102 Arbor Lane – ArTriel Kirchner, Planning Director
- B. Final plat Approval for Amberdale Subdivision lots 47-52 & 59-61 – ArTriel Kirchner, Planning Director
- C. Approval of Airport Grant Local Match Funding - Runway 23 – Gary Lewis, Airport Manager
- D. Water Plant High Service Pump Valve #5 – Rob Armstrong, Public Works Director
- E. Water Plant East Filter Media Replacement – Rob Armstrong, Public Works Director
- F. Floodgate Environmental Agreement with Timmons Group – Rob Armstrong, Public Works Director
- G. Approve the designation of \$450.00 of Community Revitalization Funds to Oakridge Homeowners' Association for the Fall Festival – Leroy Rising, Mayor Pro Tem
- H. Approve the designation of \$850.00 of CRF for a Community Event (Octoberfest) in Precinct 2 – Melissa Robinson, Precinct 2
- I. Easement Relating to Bridge Near Southeastern Fitness Center – Holt Moore, City Attorney
- J. Re-naming Parkview Activity Center after the Late Reverend T. Shedrick Byrd – Chris Howard, Precinct 6

- K. Re-naming Inman Street to Shedrick Drive after the Late Reverend T. Shedrick Byrd – Chris Howard, Precinct 6
- L. Approve the designation of \$250 of CRF to Robeson County Extension Master Gardener Volunteers – Holt Moore, City Attorney
- M. Renaming of Parkview Activity Center & Renaming of Inman Street – Wayne Horne, City Manager
- N. PER for Water Treatment Plant Lagoon Improvements – Rob Armstrong, Public Works Director
- O. Award Contract for ADA Transition Plan – Holt Moore, City Attorney
- P. Authorize Staff to Procure for Engineering Services for the Industrial Park Elevated Water Tank – Brandon Love, Deputy City Manager
- Q. Approval of Incentives for Vaccinations – Wayne Horne, City Manager

VI. ADJOURNMENT

Lumberton City Council

Lumberton, North Carolina



REQUEST FOR CC ACTION

Meeting Date: September 8, 2021

Originated By: Public Works

Submission Date: August 25, 2021

Subject: Floodgate Environmental Agreement with Timmons Group

Summary/Background of Subject Matter -

In August, City Council selected the Timmons Group based on their qualifications to conduct the required Environmental Assessment for the Floodgate Project. The Timmons Group has submitted the attached Cost Proposal and Letter of Agreement. Their fee for the Assessment will be \$19,900.

Recommendation for CC Consideration:

Public Works is requesting Council approval of the Agreement with the Timmons Group for \$19,900 to conduct the Floodgate Environmental Assessment which will be reimbursed by funds from NCORR.

Finance is requesting Council approval of increasing budget account numbers 60-00-3830-3660 and 60-00-8331-5861 by \$19,900.

Signature: *Rob Armstrong*

Department: Public Works

City Manager's Comments:

<< FOR CITY MANAGER ONLY >>

Signature: *Wayne Horne*

Department: City Management


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Lumberton City North Carolina

Agenda Item 3364

Approved
Sep 8, 2021 11:00 AM

Floodgate Environmental Agreement with Timmons Group

Information

Department:
Category:

Public Works
Agreement

Sponsors:

Attachments

[Printout](#)
[2021.08.18 West Lumberton Flood Gate LOA](#)

Summary/Background

In August, City Council selected the Timmons Group based on their qualifications to conduct the required Environmental Assessment for the Floodgate Project. The Timmons Group has submitted the attached Cost Proposal and Letter of Agreement. Their fee for the Assessment will be \$19,900.

Recommendation for Consideration

Public Works is requesting Council approval of the Agreement with the Timmons Group for \$19,900 to conduct the Floodgate Environmental Assessment which will be reimbursed by funds from NCORR.

Finance is requesting Council approval of increasing budget account numbers 60-00-3830-3660 and 60-00-8331-5861 by \$19,900.

City Manager Comments

<< FOR CITY MANAGER ONLY >>

Meeting History

Sep 8, 2021 11:00 AM

**City
Council**

Regular Meeting

RESULT: APPROVED [8 TO 0]

MOVER: Eric Chavis, Precinct 7

SECONDER: Owen Thomas, Precinct 8

AYES: Leroy Rising, Melissa Robinson, John R. Carroll, Karen Higley, John Cantey, Chris Howard, Eric Chavis, Owen Thomas

ABSTAIN: Bruce W. Davis

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CITY OF LUMBERTON
CITY COUNCIL
MINUTES • SEPTEMBER 8, 2021

Regular Meeting

Third Floor Conference Room

11:00 AM

500 N Cedar St, Third Floor, Lumberton, NC 28358

I. CALL TO ORDER

Attendee Name	Title	Status	Arrived
Bruce W. Davis	Mayor	Present	
Leroy Rising	Mayor Pro Tem	Present	
Melissa Robinson	Precinct 2	Present	
John R. Carroll	Precinct 3	Present	
Karen Higley	Precinct 4	Present	
John Cantey	Precinct 5	Present	
Chris Howard	Precinct 6	Present	
Eric Chavis	Precinct 7	Present	
Owen Thomas	Precinct 8	Present	
Wayne Horne	City Manager	Present	
Brandon Love	Deputy City Manager	Present	
Holt Moore	City Attorney	Present	
Laney Mitchell-McIntosh	City Clerk	Present	

II. MINUTES APPROVAL

A. City Council - Regular Meeting - Aug 11, 2021 11:00 AM –

RESULT: ACCEPTED [8 TO 0]
MOVER: John Cantey, Precinct 5
SECONDER: Leroy Rising, Mayor Pro Tem
AYES: Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN: Davis

B. City Council - Regular Meeting - Feb 10, 2021 11:00 AM –

RESULT: ACCEPTED [8 TO 0]
MOVER: John Cantey, Precinct 5
SECONDER: Leroy Rising, Mayor Pro Tem
AYES: Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN: Davis

C. City Council - Regular Meeting - Apr 7, 2021 11:00 AM –

RESULT:	ACCEPTED [8 TO 0]
MOVER:	John Cantey, Precinct 5
SECONDER:	Leroy Rising, Mayor Pro Tem
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

III. PUBLIC COMMENT PERIOD:

A. *Annette Wallwork*

IV. PUBLIC HEARINGS:

August 2021 Planning Board Minutes - For Council Information – Brian Nolley, Deputy Planning Director

The Planning Board met on August 24, 2021 and held a public meeting for the following:

- Guillermo Baily Bail: Request a rezoning of parcel #101201021 from R-20 to R-6.
- Downtown Design Overlay District (DDO).
- Approval of I74/I95 Industrial Park Overlay District Ordinance.
- Application of Industrial Park Overlay District Ordinance.
- Proposed Rezoning of Portion of Industrial Park to M2.
- Special Use Permit Application – Industrial Park subdivision.
- Special Use Permit Request – Robeson County Community Art Guild, Inc.

RESULT:	NOT APPLICABLE
----------------	-----------------------

A. Public Hearing CDBG Neighborhood Revitalization Program – Brian Nolley, Deputy Planning Director

The City has been notified by the NC Department of Commerce Rural Development Division of the availability of up to \$750,000 in CDBG funds for the Neighborhood Revitalization Program. The Neighborhood Revitalization category is designed to provide grants to local governments for housing, housing related activities, and public facilities that support activities for low and moderate income persons.

This public hearing is the first of two required public hearings which is conducted during the planning stage of the CDBG application for Neighborhood Revitalization funds. This public hearing serves to gather input from citizens on Lumberton's use of CDBG funds. The 2nd required public hearing will be held in October and the application for the program will be due to NC Dept. of Commerce RDD on October 14th, 2021

We recommend holding today's public hearing as part of the application process.

Mayor Davis opened a public hearing for the purpose of gathering input from citizens on the Neighborhood Revitalization Program and Lumberton's use of Community Development Block Grant funds. City Clerk Mitchell-McIntosh showed that the Affidavit of Publication was advertised in the Robesonian.

No one appeared to speak and the hearing was closed.

The next public hearing date is set for October 6, 2021.

RESULT:	APPROVED [8 TO 0]
MOVER:	Bruce W. Davis, Leroy Rising
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

B. Guillermo Baily Bail rezoning property located off Baxter Rd. parcel #101201021 – ArTriel Kirchner, Planning Director

Guillermo Baily Bail is requesting a rezoning for property located off Baxter Rd being parcel #101201021. This request is to allow the applicant to place a manufactured home on the land as a residence. This property is currently zoned R-20 (residential single-family) and the applicant is requesting to rezone the property to R-6 (residential class A manufactured home).

The Planning Board held the public meeting on August 24, 2021 and unanimously, recommends City Council approve the Rezoning request.

The Planning Board asks City Council to hold today's public hearing and approve the rezoning request.

Mayor Davis opened a public hearing to consider rezoning property located off Baxter Road. City Clerk Mitchell-McIntosh showed that the Affidavit of Publication was advertised in the Robesonian.

No one appeared to speak and the hearing was closed.

RESULT:	APPROVED [8 TO 0]
MOVER:	Melissa Robinson, Precinct 2
SECONDER:	Leroy Rising, Mayor Pro Tem
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

C. The Robeson County Community Art Guild Special Use Permit - 109 W. 9th St. – Brian Nolley, Deputy Planning Director

The Robeson County Community Art Guild is requesting a special use permit to open and operate an art guild. The property is located at 109 W. 9th St. Deed book 2295, pg. 25-26. Parcel number 323202020. This request is to allow for the operation of an art guild that will hold meetings and classes, lunch and learn sessions, art exhibitions, special events for the community and house a gift shop. This property is currently zoned B3 (office/residential) and to operate an art gallery and related uses, a special use permit is required.

The Planning Board asks City Council to hold today's public hearing and approve the Special Use Permit request with the following conditions:

- 1) The hours of operation are from 8:00 am – 11:00 pm Monday thru Sunday.
- 2) The Art Guild will utilize its agreement with the county to use the adjacent farmer's market parking lot for parking.

Mayor Davis opened the hearing seeking the issuance of a Special Use Permit to open and operate an art guild. City Clerk Mitchell-McIntosh presented the Affidavit of Publication showing that it was advertised in the Robesonian.

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Ms. Nila Chamberlain, Mr. Jim Tripp and Mr. Richard Monroe appeared on behalf of the Art Guild.

No one else appeared to speak and the hearing was closed.

RESULT:	APPROVED [8 TO 0]
MOVER:	Karen Higley, Precinct 4
SECONDER:	Leroy Rising, Mayor Pro Tem
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

D. Petition for Annexation of Several Parcels Within I95 / I74 Industrial Park – Holt Moore, City Attorney

The entire I95 / I74 Industrial Park is currently outside the City limits, with the exception of the parcel with our electrical substation on it, and a section of Emery Road which connects the eastern entrance of the Park to that parcel. Staff is bringing a number of other parcels to you which are ready to be annexed into the City. Three of these are City-owned, and two are privately owned (though we have those two under option). The petition has a map of each tract for which there is a petition to be annexed, and the legal description. At the very back of the packet is a map of all of the property to be annexed. Verified surveys will be tendered before the annexation is sent to the State.

That the City Clerk has certified the sufficiency of the Petition and that Council hold the public hearing to consider annexing of said parcels.

City Attorney Moore stated that all public hearings specifically items IV. C thru Item IV. H., we would like to have continued until the next City Council meeting. He stated that items IV. I. Project Mt. St. Helen and IV> J. Development Agreement that we would go ahead and hold the public hearings. City Council continued the public hearing until October 6, 2021.

RESULT:	REFERRED [8 TO 0]	Next: 10/6/2021 11:00 AM
MOVER:	Karen Higley, Precinct 4	
SECONDER:	Leroy Rising, Mayor Pro Tem	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

E. Proposed Rezoning of Portion of Industrial Park to M2 – ArTriel Kirchner, Planning Director
Please find herewith an application by staff to rezone a portion of the I95 / I74 Industrial Park to M2, along with a memorandum and a map of the proposed area to be rezoned, and other supplementary materials.

The Planning Board held the public meeting on August 24, 2021 and unanimously, recommends City Council approve the request.

The Planning Board asks City Council to hold today's public hearing and approve the request.

RESULT:	REFERRED [8 TO 0]	Next: 10/6/2021 11:00 AM
MOVER:	Karen Higley, Precinct 4	
SECONDER:	Leroy Rising, Mayor Pro Tem	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

- F. Approval of I74 / I95 Industrial Park Overlay District Ordinance – ArTriel Kirchner, Planning Director

Please find attached the proposed I74 / I95 Industrial Park Overlay District Ordinance, and a memorandum describing said ordinance.

The Planning Board held the public meeting on August 24, 2021 and unanimously, recommends City Council approve the request.

The Planning Board asks City Council to hold today's public hearing and approve the request.

RESULT:	REFERRED [8 TO 0]	Next: 10/6/2021 11:00 AM
MOVER:	Karen Higley, Precinct 4	
SECONDER:	Leroy Rising, Mayor Pro Tem	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

- G. Application of Industrial Park Overlay Ordinance to Portion of Park – ArTriel Kirchner, Planning Director

Assuming the Council approves and enacts the I95 / I74 Industrial Park Overlay District Ordinance, the second step, which can be taken later in the same meeting, is to apply that ordinance to the desired section of the park (that which has been annexed into the City). The map showing the portions of the park to which the Overlay is to be applied is attached to this item.

The Planning Board held the public meeting on August 24, 2021 and unanimously recommends City Council approve the request.

The Planning Board asks City Council to hold today's public hearing and approve the request.

RESULT:	REFERRED [8 TO 0]	Next: 10/6/2021 11:00 AM
MOVER:	Karen Higley, Precinct 4	
SECONDER:	Leroy Rising, Mayor Pro Tem	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

- H. Special Use Permit Application - Industrial Park subdivision, infrastructure – ArTriel Kirchner, Planning Director

The City Code requires a special use permit application for any major subdivision. The creation of a new road system within the I95 / I74 Industrial Park, and the combining of parcels and dividing of others on the Elkay site triggers this requirement for the Park. The

permit is also required for the planned installation of infrastructure to and within the Park. Staff is therefore making this application in order that the Park can move forward. The application and related materials is attached.

The Planning Board held the public meeting on August 24, 2021 and unanimously, recommends City Council approve the request.
The Planning Board asks City Council to hold today's public hearing and approve the request.

RESULT:	REFERRED [8 TO 0]	Next: 10/6/2021 11:00 AM
MOVER:	Leroy Rising, Mayor Pro Tem	
SECONDER:	Karen Higley, Precinct 4	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

- I. Incentives for Project Mt. St. Helen. – Wayne Horne, City Manager
City Staff is working with Robeson County Economic Development office to help locate Project Mt. St. Helen Distribution Center to the Lumberton/Robeson County I-95/I-74 Distribution Park.

This project with Council approval qualifies for incentives under Lumberton Economic Development Policy.

The project parameters include; 1) Investment in real property of \$28,250,000 by the investor 2) Investment of \$5,500,000 in personal property (machinery and equipment) 3) This project will create 20 new jobs and retain 26 existing jobs.

That City Council hold the public hearing and consider approving the schedule of incentives for the Mt. St. Helen Project.

RESULT:	APPROVED [8 TO 0]
MOVER:	Karen Higley, Precinct 4
SECONDER:	Leroy Rising, Mayor Pro Tem
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- J. PH - Development Agreement & Restrictive Covenants – Holt Moore, City Attorney
City Staff is working with Robeson County Economic Development office to help locate Project Mt. St. Helen Distribution Center to the Lumberton/Robeson County I-95/I-74 Distribution Park.

Attached is the proposed Development Agreement between SFG Lumberton NC LLC (SFG) to and the City of Lumberton. The development agreement would (1) subject properties with the following Robeson County Parcel I.D.'s and street addresses to the development agreement; 02070201701, 020702017, 020702018 and 020702016 and (2) the development uses proposed by the development agreement on these properties are the uses permitted by the City's Manufacturing 2 Zoning District, the City's I-95/I-74 Industrial Park Overlay

District, Covenants, Conditions and Restrictions imposed by the City within the I-95/I-74 Industrial Park and more specifically a distribution center.

The proposed development agreement and Covenant, Conditions and Restrictions are attached for your review.

That City Council hold the public hearing and consider approving the Development Agreement with SFG.

Mayor Davis opened the hearing to consider the adoption of a Development Agreement between SFG Lumberton NC LLC and the City of Lumberton. City Clerk Mitchell-McIntosh presented the Affidavit of Publication showing that it was advertised in the Robesonian.

No one appeared to speak and the hearing was closed.

RESULT:	APPROVED [8 TO 0]
MOVER:	Eric Chavis, Precinct 7
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

V. AGENDA ITEMS

- A. Jordan Bowley annexation request for property located at 102 Arbor Lane – ArTriel Kirchner, Planning Director

Analysis: The Planning & Neighborhood Services Department received an application for annexation from Jordan Bowley, requesting a contiguous annexation of property located at 102 Arbor Lane (Parcel #100205052/ Deed Book: 2280 Page: 613). The property is currently zoned City of Lumberton R-20 (Residential single family) therefore a rezoning is not required.

On September 8, 2021, the City Clerk certified the sufficiency of the petition and City Council set the date of the public hearing.

Recommend that City Council hold today's public hearing and approve the annexation request.

RESULT:	REFERRED [8 TO 0]	Next: 10/6/2021 11:00 AM
MOVER:	Leroy Rising, Mayor Pro Tem	
SECONDER:	Karen Higley, Precinct 4	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

- B. Final plat Approval for Amberdale Subdivision lots 47-52 & 59-61 – ArTriel Kirchner, Planning Director

B.G. French requests approval of the final major subdivision plat for Amberdale Subdivision lots 47-52 & 59-61. All of the infrastructure improvements have been completed, so no security bond is required.

Staff recommends that Council approve the attached subdivision plat and authorize the City

Manager to sign and record the attached plat.

RESULT:	APPROVED [8 TO 0]
MOVER:	Leroy Rising, Mayor Pro Tem
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

C. Approval of Airport Grant Local Match Funding - Runway 23 – Gary Lewis, Airport Manager

This is a request from the Airport for approval of the Grant funding for the Partial Parallel Taxiway and Turnaround Runway 23 Construction Project. The State will provide \$4,501,745 (90%) of the total costs of \$5,002,045. The City and County will contribute \$250,150 each (5% each) totaling \$500,300 (10% total). These funds need to be budgeted for to cover local match of the Grant. See attachment for cost breakdown and layout.

Approve airport agreement and attached budget amendment.

RESULT:	APPROVED [8 TO 0]
MOVER:	Leroy Rising, Mayor Pro Tem
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

D. Water Plant High Service Pump Valve #5 – Rob Armstrong, Public Works Director

Over the past 4 years Public Works has been working towards updating and upgrading the High Service pumps and valves that supply system pressure to the water distribution system for the City. One of the remaining items on this list is to replace the flow control valve on Pump #5 from a Willamette valve to a Cla-val. The older Willamette valves are no longer being manufactured and parts are no longer available for them.

Public Works budgeted \$60,000.00 for this project in the capital improvements for the current budget year.

Public Works has been working Charles R. Underwood, Inc. (CRU) in this replacement project thus far and they are the sole source supplier for the Cla-Val valves. This project has been quoted by CRU for \$64,306.75

Public Works recommends council approve the quote from CRU in the amount of \$64,306.75 with the funds coming from the capital codes of 60-00-8220-5960 (\$60,000.00) and 60-00-8220-5960 (\$4,306.75) from the Pulsator Blowers Project.

RESULT:	APPROVED [8 TO 0]
MOVER:	Karen Higley, Precinct 4
SECONDER:	John R. Carroll, Precinct 3
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

E. Water Plant East Filter Media Replacement – Rob Armstrong, Public Works Director

The City of Lumberton Water Treatment Plant has 2 sets of filter quads, East and West. The plant has been operating on the West side only since late 2016. The East filters have been down since then due to issues with operation quality from worn out filter media. Earlier this year Public Works had the existing filter media removed from this set of filters in order to evaluate the condition of the filters and make repairs as needed. We are now prepared to move forward with the filter media replacement, a job that requires specialized equipment and procedures to be followed using AWWA standards.

Public Works has reached out to Kemp Inc. of Sherrills Ford, NC for this task. This has been quoted as a turn key installation with filter media provided by the contractor for a total price of \$223,950.00. Kemp Inc. specializes in this line of work and has recently provided the same services to Robeson County for its filters.

Public Works recommends council approve Kemp Inc, of Sherrills Ford, NC for the job of re-installing the East filter media at the WTP in the amount of \$223,950.00. With funds coming from the capital codes of 60-00-8220-5960 (\$200,000.00 East Filter Media), 60-00-8220-5960 (\$19,000.00 Pulsator Blowers), and 60-00-8329-5560 (\$4,950.00 Incubator).

RESULT:	APPROVED [8 TO 0]
MOVER:	Eric Chavis, Precinct 7
SECONDER:	John R. Carroll, Precinct 3
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

F. Floodgate Environmental Agreement with Timmons Group – Rob Armstrong, Public Works Director

In August, City Council selected the Timmons Group based on their qualifications to conduct the required Environmental Assessment for the Floodgate Project. The Timmons Group has submitted the attached Cost Proposal and Letter of Agreement. Their fee for the Assessment will be \$19,900.

Public Works is requesting Council approval of the Agreement with the Timmons Group for \$19,900 to conduct the Floodgate Environmental Assessment which will be reimbursed by funds from NCORR.

Finance is requesting Council approval of increasing budget account numbers 60-00-3830-3660 and 60-00-8331-5861 by \$19,900.

RESULT:	APPROVED [8 TO 0]
MOVER:	Eric Chavis, Precinct 7
SECONDER:	Owen Thomas, Precinct 8
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

G. Approve the designation of \$450.00 of Community Revitalization Funds to Oakridge Homeowners' Association for the Fall Festival – Leroy Rising, Mayor Pro Tem
Councilman Rising is requesting \$450.00 of Community Revitalization Funds to be given to the Oakridge Homeowners' Association for its Fall Festival.

Designate \$450.00 to Oakridge Homeowners' Association for its Fall Festival.

RESULT:	APPROVED [8 TO 0]
MOVER:	Leroy Rising, Mayor Pro Tem
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- H. Approve the designation of \$850.00 of CRF for a Community Event (Octoberfest) in Precinct 2 – Melissa Robinson, Precinct 2
Councilwoman Robinson requests \$850 of CRF for a community event (Octoberfest) in Precinct 2.
Approve \$850 of CRF in Precinct 2.

RESULT:	APPROVED [8 TO 0]
MOVER:	Leroy Rising, Mayor Pro Tem
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- I. Easement Relating to Bridge Near Southeastern Fitness Center – Holt Moore, City Attorney
Mr. N. A. Martin is the co-owner of a piece of property that abuts the UNC Health Southeastern Fitness Center property. There is a bridge at the southeastern corner of the property, and Mr. Martin would like to provide an easement for pedestrian and golf cart use over a portion of his property to the bridge, and also to have a light installed for security. The City has been involved in the construction and/or maintenance of this bridge due to its use by citizens.
Allow staff to work out the details of an easement over the above-described property to the bridge in question, and to provide a security light at the bridge.

RESULT:	APPROVED [8 TO 0]
MOVER:	Leroy Rising, Mayor Pro Tem
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

- J. Re-naming Parkview Activity Center after the Late Reverend T. Shedrick Byrd – Chris Howard, Precinct 6
Councilmen Howard & Cantey are asking that Council consider re-naming the Parkview Activity Center in South Lumberton after the Late Reverend T. Shedrick Byrd who was the Pastor of Sandy Grove Baptist Church for many years. As we all know, Rev. Byrd made a great impact in the South Lumberton Community as he served Sandy Grove and the citizens of this community for 18 years. Perhaps it could read as so:

T. Shedrick Byrd Center
Pastor, Sandy Grove Baptist Church

Adopt a Resolution re-naming the Parkview Activity Center in honor of the Late Reverend T. Shedrick Byrd.

RESULT:	REFERRED [8 TO 0]	Next: 10/6/2021 11:00 AM
MOVER:	Melissa Robinson, Precinct 2	
SECONDER:	John Cantey, Precinct 5	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

- K. Re-naming Inman Street to Shedrick Drive after the Late Reverend T. Shedrick Byrd – Chris Howard, Precinct 6

Councilmen Howard & Cantey are asking that Council consider re-naming Inman Street located directly off of Martin Luther King Jr. Drive down to Lee Circle in honor of the Late Reverend T. Shedrick Byrd to Shedrick Drive. If Council approve the re-naming of Parkview Activity Center in South Lumberton after the Late Reverend T. Shedrick Byrd, it would be fitting to rename the street Shedrick Drive.

Adopt a Ordinance re-naming Inman Street down to Lee Circle in honor of the Late Reverend T. Shedrick Byrd to Shedrick Drive.

Bring back to Council for cost.

RESULT:	TABLED [8 TO 0]	Next: 10/6/2021 11:00 AM
MOVER:	Leroy Rising, Mayor Pro Tem	
SECONDER:	Karen Higley, Precinct 4	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

- L. Approve the designation of \$250 of CRF to Robeson County Extension Master Gardener Volunteers – Holt Moore, City Attorney

Councilman Thomas requests to designate \$250 of CRF to the Robeson County Extension Master Gardener Volunteers for a Medicine Wheel Garden on the Lumberton Agricultural Fair Grounds. The garden will be modeled after Native American Medicine Wheel Gardens to include 4 quadrants each with specific herb plantings that have been used for medicinal purposes for centuries. They will have a sign that includes a QR code allowing visitors to discover what is planted and how these herbs can be used. They would like to have a concrete intersecting path through the center of the garden which will cost \$2500.

Mr. Lutz, President of the RC Extension is asking each of the City Council members as well as the County Commissioners to please donate to the Robeson County Extension Master Gardener Volunteers from their discretionary fund to help us defray the cost of the concrete work. They will have a banner listing all of our sponsors in the vicinity of this project and would very much like to add your name

Approve the designation of \$250 to the Robeson County Extension Master Gardener Volunteers as stated above.

P1 - \$150 P2 - \$150 P3 - \$150 P4 - \$150 P7 - \$150 P8 - 250 & Mayor's Discretionary Fund - \$250 for a total of \$1,250.00.

RESULT:	APPROVED [8 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

M. Renaming of Parkview Activity Center & Renaming of Inman Street – Wayne Horne, City Manager

The City Council received a request for renaming of Inman Street, Parkview Activity Center for the Late Reverend T. Shedrick Byrd and the South Lumberton Resource Center for the Late Councilman Dr. Robert Len Jones from Councilman Chris Howard, Precinct 6. City Council referred the request to Staff to allow time for property owners to be notified and for input from the Recreation Commission.

The following information is provided for Council's consideration:

1. Map of Inman Street with residents and property owners.
2. Notification letter to property owners.
3. Recreation Commission letter
4. Parkview Lease Agreement
5. Letters from French Family
6. Information letter renaming street from Emergency Services.

Recommend that Council review the information that is provided and instruct Staff on how to proceed.

RESULT:	REFERRED [8 TO 0]	Next: 10/6/2021 11:00 AM
MOVER:	Eric Chavis, Precinct 7	
SECONDER:	John Cantey, Precinct 5	
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas	
ABSTAIN:	Davis	

N. PER for Water Treatment Plant Lagoon Improvements – Rob Armstrong, Public Works Director

The City has received a 519,750 low interest loan from the North Carolina Drinking Water State Revolving Loan Program to remove the sludge for the water plant backwash lagoon and to make improvements to the lagoon. The improvements will allow us to more efficiently manage the sludge in the future. Our first design milestone, a Preliminary Engineering Report (PER) must be submitted SRF by November 2021. Because of the quick deadline, we are proposing to use The Wooten Company to put together the PER because they gathered much of the required information for the SRF loan application. In lieu of issuing an RFQ for this service, we are proposing to contract directly with the Wooten Company for \$15,000 to produce the required PER.

Public Works is requesting Council approval of the attached professional services agreement with the Wooten Company for \$15,000 to be paid for using North Carolina Drinking Water State Revolving Loan funds to develop a Preliminary Engineering Report for the 2021 Water Treatment Plant Sludge Removal and Lagoon Modification Project.

RESULT:	APPROVED [8 TO 0]
MOVER:	Karen Higley, Precinct 4
SECONDER:	John R. Carroll, Precinct 3
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

O. Award Contract for ADA Transition Plan – Holt Moore, City Attorney

The Rehabilitation Act of 1973, and American with Disabilities Act of 1990 require a self-evaluation by all local governments of all of their rights-of-way and public facilities to ensure compliance with the ADA. The task of ensuring compliance by local governments has been delegated to NCDOT, and they have been working with the City towards our development of an ADA Transition Plan. We have advertised for bids from contractors in this field, and have received two bids. We will have an evaluation matrix and a recommended selection ready for your meeting on September 8, 2021. The funds for the development of the Plan are in the current budget.

Review recommendation of staff and award contract for ADA Transition Plan development.

City Attorney Moore stated that the lowest bid received is in the amount of \$75,650 and we are asking Council to accept the bid amount.

RESULT:	APPROVED [8 TO 0]
MOVER:	Owen Thomas, Precinct 8
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

P. Authorize Staff to Procure for Engineering Services for the Industrial Park Elevated Water Tank – Brandon Love, Deputy City Manager

In an effort to move forward expeditiously with the industrial park infrastructure improvements, staff is requesting City Council authorization to procure for engineering services related to the design of the 500,000 gallon elevated water storage tank. The anticipated delivery of this unit is expected to take from 8-10 months, therefore moving forward with the design is pertinent at this time. The estimated cost of the water tank is in the neighborhood of \$2.5 million, with a majority of the funding being supplied by the RIA grant.

City Council to authorize the procurement of engineering services for the elevated water tank for the industrial park. The anticipated contract amount should be in the range of 8-10% of the final construction cost and will be paid for by American Rescue Plan funds.

RESULT:	APPROVED [8 TO 0]
MOVER:	Leroy Rising, Mayor Pro Tem
SECONDER:	Karen Higley, Precinct 4
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

Q. Approval of Incentives for Vaccinations – Wayne Horne, City Manager

Staff previously discussed with Council at the August meeting, the concerns of employees not taking the vaccine for COVID-19; Staff prepared for Council consideration the following options as incentives for getting the vaccine. The options being presented at this time are:

- 1) \$200 Bonus
- 2) \$100 Bonus
- 3) \$100 Bonus and a day off; or
- 4) A day off

That Council consider the options and direct Staff on how to proceed.

City Manager Horne stated that there is roughly 40% of the employees vaccinated. We have several different incentives presented and we are asking Council to consider the options and

RESULT:	APPROVED [8 TO 0]
MOVER:	Chris Howard, Precinct 6
SECONDER:	John Cantey, Precinct 5
AYES:	Rising, Robinson, Carroll, Higley, Cantey, Howard, Chavis, Thomas
ABSTAIN:	Davis

VI. ADJOURNMENT

City Manager Horne stated that we have the matter of redistricting and we used the Lumber River Council of Governments to handle this the last time. With the relationship that we presently have with LRCOG and the City would receive a substantial discount if we use COG to handle. Staff would recommend that we take the advantage and hire LRCOG to perform the City's like to know the consensus of Council as to who you would like to handle this matter. The agreement would be at a cost of approximately \$6,000.

The consensus of Council is to remain with LRCOG.

There being no further business to come before the board the meeting was adjourned.