The following table lists mycotoxins that are produced by certain types of fungi:

Fungi	Mycotoxin
Acremonium crotocinigenum	Crotocin
Aspergillus favus	Alfatoxin B, cyclopiazonic acid
Aspergillus fumigatus	Fumagilin, gliotoxin
Aspergillus carneus	Critrinin
Aspergillus clavatus	Cytochalasin, patulin
Aspergillus Parasiticus	Alfatoxin B
Aspergillus nomius	Alfatoxin B
Aspergillus niger	Ochratoxin A, malformin, oxalicacid
Acremonium crotocinigenum	Crotocin
Aspergillus nidulans	Sterigmatocystin
Aspergillus ochraceus	Ochratoxin A, penicillic acid
Aspergillus versicolor	Sterigmatocystin, 5 ethoxysterigmatocystin
Aspergillus ustus	Ausdiol, austamide, austocystin,brevianamide
Aspergillus terreus	Citreoviridin
Alternaria	Alternariol, altertoxin, altenuene, altenusin, tenuazonic acid
Arthrinium	Nitropropionic acid
Bioploaris	Cytochalasin, sporidesmin, sterigmatocystin
Chaetomium	Chaetoglobosin A,B,C. Sterigmatocystin
Cladosporium	Cladosporic acid
Clavipes purpurea	Ergotism
Cylindrocorpon	Trichothecene
Diplodia	Diplodiatoxin
Fusarium	Trichothecene, zearalenone
Fusarium moniliforme	Fumonisins
Emericella nidulans	Sterigmatocystin
Gliocladium	Gliotoxin
Memnoniella	Griseofulvin , dechlorogriseofulvin, epi-decholorgriseofulvin, trichodermin, trichodermol
Myrothecium	Trichothecene
Paecilomyces	Patulin, viriditoxin
Penicillium aurantiocandidum	Penicillic acid
Penicillium aurantiogriseum	Penicillic acid
Penicillium brasilanum	Penicillic acid
Penicillium brevicompactum	Mycophenolic acid
Penicillium camemberti	Cyclopiazonic acid
Penicillium carneum	Mycophenolic acid, Roquefortine C
Penicillium crateriforme	Rubratoxin

Fungi	Mycotoxin
Penicillium citrinum	Citrinin
Penicillium commune	Cyclopiazonic acid
Penicillium crustosum	Roquefortine C
Penicillium chrysogenum	Roquefortine C
Penicillium discolor	Chaetoglobosin C
Penicillium expansum	Citrinin, Roquefortine C
Penicillium griseofulvum	Roquefortine C, cyclopiazonic acid, griseofulvin
Penicillium hirsutum	Roquefortine C
Penicillium hordei	Roquefortine C
Penicillium nordicum	Ochratoxin A
Penicillium paneum	Roquefortine C
Penicillium palitans	Cyclopiazonic acid
Penicillium polonicum	Penicillic acid
Penicillum roqueforti	Roquefortine C, Mycophenolic acid
Penicillium veridicatum	Penicillic acid
Penicillium verrucosum	Citrinin, ochratoxin A
Penicillium/ Aspergillus	Patulin
Penicillium/ Aspergillus/Alternaria	Glitoxin
Phomopsis	Macrocyclic trichothecenes
Phoma	Brefeldin, cytochalasin, secalonic acid, tenuazonic acid
Pithomyces	Sporidesmin
Rhizoctonia	Slaframine
Rhizopus	Rhizonin
Sclerotinia	Furanocoumarins
Stachybotrys chartarum	Iso-satratoxin F, roridin E, L-2, satratoxin G & H, trichodermin, trichodermol, trichothecene
Torula	Cytotoxins
Trichoderma	Trichodermin, trichodermol, gliotoxin
Trichothecium	Trichothecene
Wallemia	Walleminol
Zygosporium	Cytochalasin

General terms

Allergen

An allergen is a substance that elicits an IgE antibody response and is responsible for producing allergic reactions. Chemicals are released when IgE on certain cells contact an allergen. These chemicals can cause injury to surrounding tissue - the visible signs of an allergy. Only a few fungal allergens have been characterized but all fungi are thought to be potentially allergenic. Fungal allergens are proteins found in either the mycelium or spores

"Black mold"

A poorly defined term. Black mold or toxic black mold has usually been associated with the mold *Stachybotrys chartarum*. While there are only a few molds that are truly black, there are many that can appear black. Not all molds that appear to be black are *Stachybotrys*.

Fungi

Fungi are neither animals nor plants and are classified in a kingdom of their own. The Kingdom of Fungi. Fungi include a very large group of organisms, including molds, yeasts, mushrooms and puffballs. There are >100,000 accepted fungal species but current estimates range to 1.5 million species. Mycologists (people who study fungi) have grouped fungi into four large groups according to their method of reproduction.

Hidden mold

This refers to visible mold growth on building structures that is not easily seen, including the areas above drop ceilings, within a wall cavity (the space between the inner and outer structure of a wall), inside air handlers, or within the ducting of a heating/ventilation system.

Microbial Volatile Organic Compounds (MVOCs)

Fungi produce chemicals as a result of their metabolism. Some of these chemicals, MVOCs, are responsible for the characteristic moldy, musty, or earthy smell of fungi, whether mushrooms or molds. Some MVOCs are considered offensive or annoying. Specific MVOCs are thought to be characteristic of wood rot and mold growth on building materials. The human nose is very sensitive to mold odors and sometimes more so than current analytical instruments.

Mold

Molds are a group of organisms that belong to the Kingdom of Fungi (see Fungi). Even though the terms mold and fungi had been commonly referred to interchangeably, all molds are fungi, but not all fungi are molds.

Mycotoxin

Mycotoxins are compounds produced by some fungi that are toxic to humans or animals. By convention, the term? Mycotoxin. Excludes mushroom toxins. Fungi that produce mycotoxins are called "toxigenic fungi."

Spore

General term for a reproductive structure in fungi, bacteria and some plants. In fungi, the spore is the structure which may be used for dissemination and may be resistant to adverse environmental conditions.

Toxic mold

The term "toxic mold" has no scientific meaning since the mold itself is not toxic. The metabolic byproducts of some molds may be toxic (see mycotoxin).

Hypha (plural, hyphae)

An individual fungal thread or filament of connected cells; the thread that represents the individual parts of the fungal body.

Phoenix EnviroCorp

December 21, 2021

Monique Washington
Wilmington Housing Authority
1524 S. 16th Street
Wilmington, NC 28401

RE: PEC Job # 21-21-459-IAQ-M; 1008 N. 30th Street, Wilmington, NC – Mold Investigation/Background air sampling

Enclosed are the results of the mold investigation conducted at the above referenced residence on December 10, 2021. Phoenix EnviroCorp (PEC) was retained to conduct background air sampling and to collect surface samples of suspect visible mold growth.

Background Information: The unit was occupied and fully furnished with contents throughout.

The window in the 2nd floor rear right bedroom was open upon arrival but closed prior to sampling.

The 2nd floor HVAC system was operating in the heat mode set at 74º F, and the 1st floor HVAC system was off upon PEC's arrival and during sampling.

Note: For directional purposes, "front" is determined by facing N. 30th Street from inside the residence, unless otherwise stated.

Visual Inspection: PEC's visual inspection noted the following (see enclosed photographic documentation):

- Suspect visible mold growth in the kitchen cabinet underneath the sink
- Suspect visible mold growth around the HVAC supply vent in the 2nd floor hallway
- Suspect visible mold growth around the HVAC supply vents in the 2nd floor rear right bedroom
- Suspect visible mold growth on the blinds in the 2nd floor rear right bedroom

Mold Testing – Surface: Non-viable surface samples were collected from areas of suspect visible mold growth. The quantifications of fungal growth are reported as scattered spores, 21-100 fungal spores = very light (VL), 101-1,000 fungal spores = light (L), 1,001-10,000 fungal spores = moderate (M), > 10,000 fungal spores = heavy (H). The 'General Impressions' of fungal growth are reported as no fungal growth (NFG), fungal growth (FG), minimal fungal growth or growth in vicinity (MFG), and no fungal spores detected (ND). *Clear tape was utilized for the collection of surface samples. Each sample was assigned a unique ID number and shipped to a third-party laboratory for analysis.* Sampling locations and results are as follows:

Location	Result
Ceiling around the HVAC supply vent within the 2nd floor rear right bedroom	**M – FG** *Cladosporium*
Kitchen cabinet underneath the sink	**Scattered Spores** *Ascospores* **Scattered Spores** *Basidiospores* **VL – MFG** *Cladosporium* **Scattered Spores** *Penicillium/Aspergillus*

Mold Testing – Air: Non-viable spore trap air samples were collected to determine airborne mold spore levels. Samples were collected within the kitchen/living room, the 1st floor bathroom, the 1st floor bedroom, the 2nd floor bathroom, the 2nd floor front right bedroom, the 2nd floor rear right bedroom, and the 2nd floor rear left bedroom. *Micro 5 sampling media was utilized for the collection of spore trap air samples. Each sample ran for five (5) minutes at a flow rate of five (5) liters per minute for a total volume of twenty-five (25) liters per sample. Each sample was assigned a unique ID number and shipped to a third-party laboratory for analysis. All air samples were collected from centralized locations (within their respective areas) and within the breathing zone, unless otherwise noted.* Two samples were also collected outdoors for comparative purposes.

Results indicated acceptable levels of airborne mold spores in all sampled locations.

The interpretation of air sample results is based on indoor/outdoor comparisons, in combination with a study by Daniel M. Baxter, entitled "A Regional Comparison of Mold Spore Concentrations Outdoors and Inside "Clean" and "Mold Contaminated" Southern California Buildings", and other industry guidelines, as well as over 20 years of experience in industrial hygiene and mold testing.

In layman terms, acceptable levels indicate that the levels are below the outdoor level and/or the baseline levels (whichever is higher) stated below. Elevated levels indicate that the levels are above the outdoor level and/or the baseline level.

Baseline levels for indoor spore trap air samples are as follows: < 900 spores/m³ for Penicillium/Aspergillus; 0 spores/m³ for Stachybotrys and Chaetomium; and < 350 spores/m³ for other individual mold groups.

Relative Humidity (RH): *Temperature and relative humidity readings were collected in the same locations as the spore trap air samples.* RH levels within the residence ranged from 51.8% - 57.3% with an outdoor RH level of 79.1% (see the enclosed Chain of Custody for details). Per the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) Standard 62-1999, relative humidity should range between 30% and 60%.

Conclusions: Based on interpretations herein, air sampling did not determine a problem with the indoor air quality regarding mold. However, potential problematic levels of *Penicillium/Aspergillus* were identified within the unit, based on outdoor levels and the amount/percentage of *Penicillium/Aspergillus* identified indoors. In addition, surface mold growth was identified within the unit. Upon request, and for an additional fee, PEC can conduct additional investigative activities and provide a mold remediation protocol if needed.

Enclosed in this report are the laboratory analysis and the Chain of Custody.

Should you have any questions, please do not hesitate to call.

Thank you,

Philip Green
IH Technician

Tommie Green, CIEC
Professional Industrial Hygienist

Enclosures

Photo 1



Suspect visible mold growth in the kitchen cabinet underneath the sink

Photo 2



Suspect visible mold growth around the HVAC supply vent in the 2nd floor hallway

Photos 3 & 4





Suspect visible mold growth around the HVAC supply vents in the 2nd floor rear right bedroom

Photo 5



Suspect visible mold growth on blinds in the 2nd floor rear right bedroom

Phoenix EnviroCorp
4020 SHIPYARD BLVD.
WILMINGTON, NC 28403

CHAIN OF CUSTODY

LABORATORY TEST REQUEST

Ref #: 211214035 Lab ID: 115-125

CONTACT: Philip Green	TELEPHONE (910) 397-0370 FAX (910) 313-6094	12/10/2021
PEC Job #: 21-21-459-IAQ-M	SITE ADDRESS: 1008 N. 30th Street, Wilmington, NC 28405	

PLEASE EMAIL RESULTS TO: KMGREEN@PHOENIXENVIROCORP.COM

SAMPLE TYPE:	NUMBER OF SAMPLES:	TURN AROUND TIME SPECIFIED:
Spore Trap - Micro-5	9	____ Immediate ____ 24 hr ____ 48 hr __X__ Standard
Surface Samples	2	

Sample #	Sample Area	Sample Volume	Lab Analysis Requested	% Relative Humidity	Temperature °F
121021-PG-501	Kitchen/Living Room	25L	S001	57.3	73.9
121021-PG-502	1st Floor - Bathroom	25L	S001	55.6	73.5
121021-PG-503	1st Floor - Bedroom	25L	S001	56.2	73.0
121021-PG-504	2nd Floor - Bathroom	25L	S001	51.8	75.5
121021-PG-505	2nd Floor - Front Right Bedroom	25L	S001	54.9	73.6
121021-PG-506	2nd Floor - Rear Right Bedroom	25L	S001	53.4	74.4
121021-PG-507	2nd Floor - Rear Left Bedroom	25L	S001	52.5	75.4
121021-PG-508	Outside - Left	25L	S001	79.1	67.9
121021-PG-509	Outside - Right	25L	S001		
121021-PG-601	Ceiling around HVAC supply vent within the 2nd floor rear right bedroom	1 cm sq	S001T	N/A	N/A
121021-PG-602	Kitchen cabinet underneath the sink	1 cm sq	S001T	N/A	N/A

Samples Collected By (Printed Name and Signature): [signature] Date Signed: 12/10/2021

CHAIN OF CUSTODY RECORD

DATE:	Time:	Condition of Samples:	RELINQUISHED BY: (Printed Name and Signature)	ACCEPTED BY: (Printed Name and Signature)
12/10/2021	16:00	Intact	[signature] AFFILIATION:	AFFILIATION: [signature] 12.14.21

SEEML Reference Number: 211214035

Southeast Environmental Microbiology Laboratories
102 Edinburgh Court
Greenville, SC 29607
Phone: (864) 233-3770
FAX: (864) 233-6589

The information and data for **Phoenix Enviro Corp.** has been checked for thoroughness and accuracy. The following reports are contained within this document:

- ☒ Surface/Bulk Report
- ☒ Spore Trap Report
- ☐ Andersen Fungal Report
- ☐ Quantitative Fungal Report

Lab Manager Review: *Angel Gosnell* Date: 12/14/21

Thank you for using SEEML laboratories. We strive to provide superior quality and service.
SEEML laboratories are accredited through AIHA-LAP, LLC (EMLAP # 173667) for the analysis of Spore Traps and Surface/Bulk Samples.

The data within this report is reliable to three significant figures. The third significant figure is technically unjustified. In this instance, the third figure is reported as an estimate to facilitate the interpretation by the customer.

Confidentiality Notice:
The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of the document(s) is strictly prohibited. If you have received this document in error, please immediately notify us by telephone to arrange for its return. Thank you.

Guidelines for Interpretation:
No accepted quantitative regulatory standards currently exist by which to assess the health risks related to mold and bacterial exposure. Molds and bacteria have been associated with a variety of health effects and sensitivity varies from person to person.
Several organizations, including: the American Conference of Government Industrial Hygienists (ACGIH); the American Industrial Hygiene Association (AIHA); the Indoor Air Quality Association (IAQA); the United States Environmental Protection Agency (USEPA); the Centers for Disease Control (CDC), as well as the California Department of Health Services (CADHS), have all published guidelines for assessment and interpretation of mold resulting from water intrusion in buildings.

Interpretation of the data and information within this document is left to the company, consultant, and/or persons who conducted the fieldwork.

Spore Trap Report

	Date Sampled: 12/10/21
Attn: ***Phoenix Enviro Corp.***	Date Received: 12/14/21
4020 Shipyard Blvd.	Date Analyzed: 12/14/21
Wilmington, NC 28403	Date Reported: 12/14/21
	Date Revised:
	Project Name: 21-21-459-IAQ-M
	Project Address: 1008 N. 30th Street
	Project City, State, ZIP: Wilmington, NC 28405
	SEEML Reference # : 211214035

TEST METHOD: DIRECT MICROSCOPY EXAMINATION SEEML SOP 7

Client Sample ID	121021-PG-501			121021-PG-502			121021-PG-503		
Location	Kitchen / Living Room			1st Floor - Bathroom			1st Floor - Bedroom		
Lab Sample ID	211214035-115			211214035-116			211214035-117		
Comments									
Hyphal Fragments									
Pollen									
Spore Trap Used	M5			M5			M5		
	raw ct.	spores/m^3	%	raw ct.	spores/m^3	%	raw ct.	spores/m^3	%
Alternaria									
Ascospores	42	1680	55	7	280	30	1	40	4
Basidiospores	19	760	25	1	40	4	2	80	8
Bipolaris/Drechslera									
Chaetomium									
Cladosporium	7	280	9	3	120	13	3	120	12
Curvularia	1	40	1						
Epicoccum									
Cercospora									
Fusarium									
Memnoniella									
Nigrospora									
Penicillium/Aspergillus	7	280	9	12	480	52	19	760	76
Polythrincium									
Rusts									
Smuts/Periconia/Myxomy									
Spegazzinia									
Stachybotrys									
Stemphylium									
Tetraploa									
Torula									
Ulocladium									
Colorless/Other Brown*									
Oidium									
Zygomycetes									
Pithomyces									
Background debris (1-5)**	3			3			3		
Sample Volume(liters)	25			25			25		
TOTAL SPORES/M^3	76	**3040**		23	**920**		25	**1000**	

Revisions:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3. The limit of detection is the analytical sensitivity (in spores/m^3) multiplied by the sample volume (in liters) divided by 1000 liters.

*Colorless,other Brown are spores without a distinctive morphology on spore traps and non-viable surface samples.

**Background debris is the amount of particulate matter present on the slide and is graded from 1-5 with 1 = very light, 2= Light, 3 = Medium, 4 = Heavy, 5 = Very Heavy. The higher the rating the more likelihood spores may be underestimated. A rating of 5 should be interpreted as minimal counts and may actually be higher than reported.

Disclaimer: The sample results are determined by the sample volume, which is provided by the customer.
This report relates only to the samples tested as they were received.

102 Edinburgh Court
Greenville, SC. 29607
Phone: (864) 233-3770

Angel Gosnell

Angel Gosnell, Approved Laboratory Signatory

Spore Trap Report

	Date Sampled: 12/10/21
Attn: ***Phoenix Enviro Corp.***	Date Received: 12/14/21
4020 Shipyard Blvd.	Date Analyzed: 12/14/21
Wilmington, NC 28403	Date Reported: 12/14/21
	Date Revised:
	Project Name: 21-21-459-IAQ-M
	Project Address: 1008 N. 30th Street
	Project City, State, ZIP: Wilmington, NC 28405
	SEEML Reference # : 211214035

TEST METHOD: DIRECT MICROSCOPY EXAMINATION SEEML SOP 7

Client Sample ID	121021-PG-504			121021-PG-505			121021-PG-506		
Location	2nd Floor - Bathroom			2nd Floor - Front Right Bedroom			2nd Floor - Rear Right Bedroom		
Lab Sample ID	211214035-118			211214035-119			211214035-120		
Comments									
Hyphal Fragments									
Pollen	1	40							
Spore Trap Used	M5			M5			M5		
	raw ct.	spores/m^3	%	raw ct.	spores/m^3	%	raw ct.	spores/m^3	%
Alternaria									
Ascospores	6	240	27						
Basidiospores	3	120	14	5	200	36	3	120	16
Bipolaris/Drechslera									
Chaetomium									
Cladosporium	3	120	14	2	80	14	1	40	5
Curvularia									
Epicoccum									
Cercospora									
Fusarium									
Memnoniella									
Nigrospora									
Penicillium/Aspergillus	8	320	36	6	240	43	15	600	79
Polythrincium									
Rusts									
Smuts/Periconia/Myxomy	2	80	9	1	40	7			
Spegazzinia									
Stachybotrys									
Stemphylium									
Tetraploa									
Torula									
Ulocladium									
Colorless/Other Brown*									
Oidium									
Zygomycetes									
Pithomyces									
Background debris (1-5)**	3			3			3		
Sample Volume(liters)	25			25			25		
TOTAL SPORES/M^3	22	**880**		14	**560**		19	**760**	

Revisions:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3. The limit of detection is the analytical sensitivity (in spores/m^3) multiplied by the sample volume (in liters) divided by 1000 liters.

*Colorless,other Brown are spores without a distinctive morphology on spore traps and non-viable surface samples.

**Background debris is the amount of particulate matter present on the slide and is graded from 1-5 with 1 = very light, 2= Light, 3 = Medium, 4 = Heavy, 5 = Very Heavy. The higher the rating the more likelihood spores may be underestimated. A rating of 5 should be interpreted as minimal counts and may actually be higher than reported.

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102 Edinburgh Court
Greenville, SC. 29607
Phone: (864) 233-3770

Angel Gosnell

Angel Gosnell, Approved Laboratory Signatory

Spore Trap Report

	Date Sampled: 12/10/21
Attn: ***Phoenix Enviro Corp.***	Date Received: 12/14/21
4020 Shipyard Blvd.	Date Analyzed: 12/14/21
Wilmington, NC 28403	Date Reported: 12/14/21
	Date Revised:
	Project Name: 21-21-459-IAQ-M
	Project Address: 1008 N. 30th Street
	Project City, State, ZIP: Wilmington, NC 28405
	SEEML Reference # : 211214035

TEST METHOD: DIRECT MICROSCOPY EXAMINATION SEEML SOP 7

Client Sample ID	121021-PG-507			121021-PG-508			121021-PG-509		
Location	2nd Floor - Rear Left Bedroom			Outside - Left			Outside - Right		
Lab Sample ID	211214035-121			211214035-122			211214035-123		
Comments									
Hyphal Fragments									
Pollen									
Spore Trap Used	M5			M5			M5		
	raw ct.	spores/m^3	%	raw ct.	spores/m^3	%	raw ct.	spores/m^3	%
Alternaria									
Ascospores	1	40	6	342	13700	87	397	15900	85
Basidiospores	9	360	56	39	1560	10	49	1960	10
Bipolaris/Drechslera									
Chaetomium									
Cladosporium	1	40	6	12	480	3	21	840	4
Curvularia	1	40	6						
Epicoccum									
Cercospora									
Fusarium									
Memnoniella									
Nigrospora									
Penicillium/Aspergillus	2	80	13						
Polythrincium									
Rusts									
Smuts/Periconia/Myxomy	2	80	13						
Spegazzinia									
Stachybotrys									
Stemphylium									
Tetraploa									
Torula									
Ulocladium									
Colorless/Other Brown*									
Oidium									
Zygomycetes									
Pithomyces									
Background debris (1-5)**	3			3			3		
Sample Volume(liters)	25			25			25		
TOTAL SPORES/M^3	16	**640**		393	**15700**		467	**18700**	

Revisions:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3. The limit of detection is the analytical sensitivity (in spores/m^3) multiplied by the sample volume (in liters) divided by 1000 liters.

*Colorless,other Brown are spores without a distinctive morphology on spore traps and non-viable surface samples.

**Background debris is the amount of particulate matter present on the slide and is graded from 1-5 with 1 = very light, 2= Light, 3 = Medium, 4 = Heavy, 5 = Very Heavy. The higher the rating the more likelihood spores may be underestimated. A rating of 5 should be interpreted as minimal counts and may actually be higher than reported.

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102 Edinburgh Court
Greenville, SC. 29607
Phone: (864) 233-3770

Angel Gosnell

Angel Gosnell, Approved Laboratory Signatory

Surface and Bulk Sample Report

	Date Sampled: 12/10/21
Attn: ***Phoenix Enviro Corp.***	Date Received: 12/14/21
4020 Shipyard Blvd.	Date Analyzed: 12/14/21
Wilmington, NC 28403	Date Reported: 12/14/21
	Date Revised:
	Project Name: 21-21-459-IAQ-M
	Project Address: 1008 N. 30th Street
	Project City, State ZIP: Wilmington, NC 28405
	SEEML Reference #: 211214035

TEST METHOD: Direct Microscopic Examination (SEEML SOP 18)

Client Sample ID	121021-PG-601	121021-PG-602		
Location	Ceiling Around HVAC Supply Vent Within The 2nd Floor Rear Right Bedroom	Kitchen Cabinet Underneath The Sink		
SEEML Sample ID	211214035-124	211214035-125		
Sample Type	Tape	Tape		
	Quantification*	Quantification*		
Hyphal Fragments	**L**	**VL**		
Pollen				
General Impressions **	**FG**	**MFG**		
Fungal Spore:				
Alternaria				
Acremonium				
Ascospores		**Scattered Spores**		
Basidiospores		**Scattered Spores**		
Bipolaris/Drechslera				
Cercospora				
Chaetomium				
Cladosporium	**M**	**VL**		
Curvularia				
Epicoccum				
Fusarium				
Geotrichum sp.				
Memnoniella				
Myxomycetes				
Nigrospora				
Penicillium/Aspergillus		**Scattered Spores**		
Pithomyces				
Rusts/Smuts				
Stemphylium				
Tetraploa				
Ulocladium				

**** General Impressions: NFG = No Fungal Growth, FG = Fungal Growth, MFG = Minimal Fungal Growth Or Growth in vicinity**

Quantification of fungal growth is done by semi-quantitative grading using the following ranges:

Scattered Spores, 1-20 fungal spores

VL = 21-100 fungal spores **L = 101-1,000 fungal spores** **M = 1,001-10,000 fungal spores** **H = >10,000 fungal spores**

ND = No Fungal Spores Detected

Disclaimer: This report relates only to the samples tested

Respectfully submitted, SEEML

Angel Gosnell, **Approved Laboratory Signatory**

102 Edinburgh Court
Greenville, SC 29607
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Fax: (864) 233- 6589

AIHA-LAP, LLC EMLAP # 173667

Texas License: LAB1016

Fungal Descriptions

Alternaria sp.

Aw - 0.89. Conidia dimensions: 18-83 x 7-18 microns. A very common allergen with an IgE mediated response. It is often found in carpets, textiles and on horizontal surfaces in building interiors. Often found on window frames. Outdoors it may be isolated from samples of soil, seeds and plants. It is commonly found in outdoor samples. The large spore size, 20 - 200 microns in length and 7 - 18 microns in sizes, suggests that the spores from these fungi will be deposited in the nose, mouth and upper respiratory tract. It may be related to bakers' asthma. It has been associated with hypersensitivity pneumonitis. The species *Alternaria alternata* can produce tenuazonic acid and other toxic metabolites that may be associated with disease in humans or animals. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms; chronic cases may develop pulmonary emphysema.

Ascospore

A spore borne in a special cell called an ascus. Spores of this type are reported to be allergenic. All ascomycetes, members of a group of fungi called Ascomycotina, have this type of spore. The minute black dots on rotting wood and leaves or the little cups on lichens are examples of ascomycetes; another is the "truffle" mushroom.

Aspergillus/Penicillium

These are two of the most commonly found allergenic fungi in problem buildings. *Aspergillus* comes in many varieties (species). Many of the varieties produce toxic substances. It may be associated with symptoms such as sinusitis, allergic bronchopulmonary aspergillosis, and other allergic symptoms. *Penicillium* is a variety of mold that is very common indoors and is found in increased numbers in problem buildings. It also has many varieties, some of which produce toxic substances. The symptoms are allergic reactions, mucous membrane irritation, headaches, vomiting, and diarrhea. Due to the morphological similarity of *Aspergillus* and *Penicillium*, they are not differentiated by microscopic analysis and are reported together.

Aspergillus sp.

Aw 0.75 - 0.82. Reported to be allergenic. Members of this genus are reported to cause ear infections. Many species produce mycotoxins that may be associated with disease in humans and other animals. Toxin production is dependent on the species or a strain within a species and on the food source for the fungus. Some of these toxins have been found to be carcinogenic in animal species. Several toxins are considered potential human carcinogens. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms; chronic cases may develop pulmonary emphysema; may also be associated with sinusitis, allergic bronchopulmonary aspergillosis, and other allergic symptoms.

Basidiospore

Spore from basidiomycetes. Many varieties are reported to be allergenic.

Bipolaris sp.

A fungus with large spores that could be expected to be deposited in the upper respiratory tract. This fungus can produce the mycotoxin - sterigmatocystin, which has been shown to produce liver and kidney damage when ingested by laboratory animals.

Botrytis sp.

Aw 0.93. Conidia dimensions: 7-14 x 5-9 microns. It is parasitic on plants and soft fruits. Found in soil and on house plants and vegetables, it is also known as "gray mold". It causes leaf rot on grapes, strawberries, lettuce, etc. It is a well-known allergen, producing asthma type symptoms in greenhouse workers and "wine grower's lung".

Cercaspora

Common outdoors in agricultural areas, especially during harvest. Parasite of higher plants, causing leaf spot. Commonly found as parasites on higher plants.

Chaetomium sp.

large ascomycetous fungus producing perithecia. It is found on a variety of substrates containing cellulose, including paper and plant compost. It has been found on paper in sheetrock. It can produce an *Acremonium*-like state on fungal media. Varieties are considered allergenic and have been associated with peritonitis, cutaneous lesions, and system mycosis.

Cladosporium sp.

Aw 0.88; Aw 0.84. Most commonly identified outdoor fungus. The outdoor numbers are reduced in the winter. The numbers are often high in the summer. Often found indoors in numbers less than outdoor numbers. It is a common allergen. Indoor *Cladosporium* sp. may be different than the species identified outdoors. It is commonly found on the surface of fiberglass duct liners in the interior of supply ducts. A wide variety of plants are food sources for this fungus. It is found on dead plants, woody plants, food, straw, soil, paint, and textiles. Produces greater than 10 antigens. Antigens in commercial extracts are of variable quality and may degrade within weeks of preparation. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include skin lesions, eye ulceration, mycosis (including onychomycosis, an infection of the nails of the feet or hands) edema and bronchospasms; chronic cases may develop pulmonary emphysema.

Curvularia sp.

Reported to be allergenic and has been associated with allergic fungal sinusitis. It may cause corneal infections, mycetoma, and infections in immune compromised hosts.

Dreschlera sp.

Conidia dimensions: 40-120 x 17-28 microns. Found on grasses, grains and decaying food. It can occasionally cause a corneal infection of the eye.

Epicoccum sp.

Conidia dimensions: 15-25 microns. A common allergen. It is found in plants, soil, grains, textiles and paper products.

Fusarium sp.

Aw 0.90. A common soil fungus. It is found on a wide range of plants. It is often found in humidifiers. Several species in this genus can produce potent trichothecene toxins. The trichothecene (scirpene) toxin targets the following systems: circulatory, alimentary, skin, and nervous. Produces vomitoxin on grains during unusually damp growing conditions. Symptoms may occur either through ingestion of contaminated grains or possibly inhalation of spores. The genera can produce hemorrhagic syndrome in humans (alimentary toxic aleukia). This is characterized by nausea, vomiting, diarrhea, dermatitis, and extensive internal bleeding. Reported to be allergenic. Frequently involved in eye, skin, and nail infections.

Myxomycetes

Members of a group of fungi that is included in the category of "slime molds". They're occasionally found indoors, but mainly reside in forested regions on decaying logs, stumps, and dead leaves. Myxomycetes display characteristics of fungi *and* protozoans. In favorable (wet) conditions they exhibit motile, amoeba-like cells, usually bounded only by a plasma membrane, that are variable in size and form. During dry spells, they form a resting body (sclerotium) with dry, airborne spores. These fungi are not known to produce toxins but can cause hay fever and asthma.

Memnoniella

Contaminant found most often with *Stachybotrys* on wet cellulose. Forms in chains, but it are very similar to *Stachybotrys* and sometimes is considered to be in the *Stachybotrys* family. Certain species do produce toxins very similar to the ones produced by *Stachybotrys chartarum* and many consider the IAQ importance of *Memnoniella* to be on par with *Stachybotrys*. Allergenic and infectious properties are not well studied.

Nigrospora sp.

Commonly found in warm climates, this mold may be responsible for allergic reactions such as hay fever and asthma. It is found on decaying plant material and in the soil. It is not often found indoors.

Oidium sp.

The asexual phase of *Erysiphe* sp. It is a plant pathogen causing powdery mildews. It is very common on the leaf's stems, and flowers of plants. The health effects and allergenicity have not been studied. It does not grow on non-living surfaces such as wood or drywall.

Penicillium sp.

Aw 0.78 - 0.88. A wide number of organisms have been placed in this genus. Identification to species is difficult. Often found in aerosol samples. Commonly found in soil, food, cellulose and grains. It is also found in paint and compost piles. It may cause hypersensitivity pneumonitis, allergic alveolitis in susceptible individuals. It is reported to be allergenic (skin). It is commonly found in carpet, wallpaper, and in interior fiberglass duct insulation. Some species can produce mycotoxins. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms; chronic cases may develop pulmonary emphysema. It may also cause headaches, vomiting, and diarrhea.

Periconia sp.

Periconia sp. are found in soil, blackened and dead herbaceous stems leaf spots, grasses, rushes, and sedges. Almost always associated with other fungi. Rarely found growing indoors. Reportedly associated with a rare case of mycotic keratitis.

Pithomyces sp.

A common mold found on dead leaves, plants, soil and especially grasses. Causes facial eczema in ruminants. It exhibits distinctive multi-celled brown conidia. It is not known to be a human allergen or pathogen. It is rarely found indoors, although it can grow on paper.

Rusts/Smuts

These fungi are associated with plant diseases. In the classification scheme of the fungi, the smuts have much in common with the rusts, and they are frequently discussed together. Both groups produce wind-borne, resistant teliospores that serve as the basis for their classification and their means of spread. Rusts usually attack vegetative regions (i.e., leaves and stems) of plants; smuts usually are associated with the reproductive structures (seeds). They can cause hay fever and asthma.

Spegazzinia

Spegazzinia species comprise a very small proportion of the fungal biota. This genus is somewhat related to other lobed or ornamented genera such as *Candelabrum*. No information is available regarding health effects or toxicity. Allergenicity has not been studied. Usually identified on spore trap samples where it is seen every few weeks. (Spores have very distinctive morphology.) May also be found in air by culturable (Andersen) samples if a long enough incubation period is provided so that sporulation occurs. Our laboratory has never found this organism growing on indoor environmental surfaces. Natural habitat includes soil and many kinds of trees and plants.

Stachybotrys sp.

Aw - 0.94, optimum Aw ->0.98. Several strains of this fungus (*S. atra, S. chartarum* and *S. alternans* are synonymous) may produce a trichothecene mycotoxin- Satratoxin H - which is poisonous by inhalation. The toxins are present on the fungal spores. This is a slow growing fungus on media. It does not compete well with other rapidly growing fungi. The dark colored fungus grows on building material with high cellulose content and low nitrogen content. Areas with a relative humidity above 55%, and are subject to temperature fluctuations, are ideal for toxin production. Individuals with chronic exposure to the toxin produced by this fungus reported cold and flu symptoms, sore throats, diarrhea, headaches, fatigue, dermatitis, intermittent local hair loss and generalized malaise. Other symptoms include coughs, rhinitis, nosebleed, a burning sensation in the nasal passages, throat, and lungs, and fever. The toxins produced by this fungus will suppress the immune system affecting the lymphoid tissue and the bone marrow. Animals injected with the toxin from this fungus exhibited the following symptoms: necrosis and hemorrhage within the brain, thymus, spleen, intestine, lung, heart, lymph node, liver, and kidney. Affects by absorption of the toxin in the human lung are known as pneumomycosis.

This organism is rarely found in outdoor samples. It is usually difficult to find in indoor air samples unless it is physically disturbed (or possibly -this is speculation- a drop in the relative humidity). The spores are in a gelatinous mass. Appropriate media for the growth of this organism will have high cellulose content and low nitrogen content. The spores will die readily after release. The dead spores are still allergenic and toxigenic. Percutaneous absorption has caused mild symptoms.

Stemphylium sp.

Reported to be allergenic. Isolated from dead plants and cellulose materials.

Torula sp.

Found outdoors in air, soil, on dead vegetation, wood, and grasses. Also found indoors on cellulose materials. Reported to be allergenic and may cause hay fever and asthma.

Tetraploa

Tetraploa species comprise a very small proportion of the fungal biota. This genus is somewhat related to *Triposporium* and Diplocladiella. The only reported human infections are two cases of keratitis (1970, 1980) and one case of subcutaneous infection of the knee (1990). No information is available regarding other health effects or toxicity. Allergenicity has not been studied. Usually identified on spore trap samples where it is seen every few weeks. (Spores have very distinctive morphology.) Our laboratory has never found this organism growing on indoor environmental surfaces. Natural habitat includes leaf bases and stems just above the soil on many kinds of plants and trees.

Ulocladium sp.

Aw 0.89. Isolated from dead plants and cellulose materials. Found on textiles.

Zygomycetes

Zygomycetes are one of the four major groups of fungi, the others being the Oomycetes, the Ascomycetes, and the Basidiomycetes. Zygomycetes are common, fast growing, and often overgrow and/or inhibit other fungi nearby. Rhizopus and Mucor are two of the most common Zygomycetes seen in the indoor environment. However, others are seen as well, including *Syncephalastrum*, *Circinella*, *Mortierella*, *Mycotypha*, *Cunninghamella*, and *Choanephora*. For further information, please see descriptions of these individual genera.

The following table lists mycotoxins that are produced by certain types of fungi:

Fungi	Mycotoxin
Acremonium crotocinigenum	Crotocin
Aspergillus favus	Alfatoxin B, cyclopiazonic acid
Aspergillus fumigatus	Fumagilin, gliotoxin
Aspergillus carneus	Critrinin
Aspergillus clavatus	Cytochalasin, patulin
Aspergillus Parasiticus	Alfatoxin B
Aspergillus nomius	Alfatoxin B
Aspergillus niger	Ochratoxin A, malformin, oxalicacid
Acremonium crotocinigenum	Crotocin
Aspergillus nidulans	Sterigmatocystin
Aspergillus ochraceus	Ochratoxin A, penicillic acid
Aspergillus versicolor	Sterigmatocystin, 5 ethoxysterigmatocystin
Aspergillus ustus	Ausdiol, austamide, austocystin,brevianamide
Aspergillus terreus	Citreoviridin
Alternaria	Alternariol, altertoxin, altenuene, altenusin, tenuazonic acid
Arthrinium	Nitropropionic acid
Bioploaris	Cytochalasin, sporidesmin, sterigmatocystin
Chaetomium	Chaetoglobosin A,B,C. Sterigmatocystin
Cladosporium	Cladosporic acid
Clavipes purpurea	Ergotism
Cylindrocorpon	Trichothecene
Diplodia	Diplodiatoxin
Fusarium	Trichothecene, zearalenone
Fusarium moniliforme	Fumonisins
Emericella nidulans	Sterigmatocystin
Gliocladium	Gliotoxin
Memnoniella	Griseofulvin , dechlorogriseofulvin, epi-decholorgriseofulvin, trichodermin, trichodermol
Myrothecium	Trichothecene
Paecilomyces	Patulin, viriditoxin
Penicillium aurantiocandidum	Penicillic acid
Penicillium aurantiogriseum	Penicillic acid
Penicillium brasilanum	Penicillic acid
Penicillium brevicompactum	Mycophenolic acid
Penicillium camemberti	Cyclopiazonic acid
Penicillium carneum	Mycophenolic acid, Roquefortine C
Penicillium crateriforme	Rubratoxin

Fungi	Mycotoxin
Penicillium citrinum	Citrinin
Penicillium commune	Cyclopiazonic acid
Penicillium crustosum	Roquefortine C
Penicillium chrysogenum	Roquefortine C
Penicillium discolor	Chaetoglobosin C
Penicillium expansum	Citrinin, Roquefortine C
Penicillium griseofulvum	Roquefortine C, cyclopiazonic acid, griseofulvin
Penicillium hirsutum	Roquefortine C
Penicillium hordei	Roquefortine C
Penicillium nordicum	Ochratoxin A
Penicillium paneum	Roquefortine C
Penicillium palitans	Cyclopiazonic acid
Penicillium polonicum	Penicillic acid
Penicillum roqueforti	Roquefortine C, Mycophenolic acid
Penicillium veridicatum	Penicillic acid
Penicillium verrucosum	Citrinin, ochratoxin A
Penicillium/ Aspergillus	Patulin
Penicillium/ Aspergillus/Alternaria	Glitoxin
Phomopsis	Macrocyclic trichothecenes
Phoma	Brefeldin, cytochalasin, secalonic acid, tenuazonic acid
Pithomyces	Sporidesmin
Rhizoctonia	Slaframine
Rhizopus	Rhizonin
Sclerotinia	Furanocoumarins
Stachybotrys chartarum	Iso-satratoxin F, roridin E, L-2, satratoxin G & H, trichodermin, trichodermol, trichothecene
Torula	Cytotoxins
Trichoderma	Trichodermin, trichodermol, gliotoxin
Trichothecium	Trichothecene
Wallemia	Walleminol
Zygosporium	Cytochalasin

General terms

Allergen

An allergen is a substance that elicits an IgE antibody response and is responsible for producing allergic reactions. Chemicals are released when IgE on certain cells contact an allergen. These chemicals can cause injury to surrounding tissue - the visible signs of an allergy. Only a few fungal allergens have been characterized but all fungi are thought to be potentially allergenic. Fungal allergens are proteins found in either the mycelium or spores

"Black mold"

A poorly defined term. Black mold or toxic black mold has usually been associated with the mold *Stachybotrys chartarum*. While there are only a few molds that are truly black, there are many that can appear black. Not all molds that appear to be black are *Stachybotrys*.

Fungi

Fungi are neither animals nor plants and are classified in a kingdom of their own. The Kingdom of Fungi. Fungi include a very large group of organisms, including molds, yeasts, mushrooms and puffballs. There are >100,000 accepted fungal species but current estimates range to 1.5 million species. Mycologists (people who study fungi) have grouped fungi into four large groups according to their method of reproduction.

Hidden mold

This refers to visible mold growth on building structures that is not easily seen, including the areas above drop ceilings, within a wall cavity (the space between the inner and outer structure of a wall), inside air handlers, or within the ducting of a heating/ventilation system.

Microbial Volatile Organic Compounds (MVOCs)

Fungi produce chemicals as a result of their metabolism. Some of these chemicals, MVOCs, are responsible for the characteristic moldy, musty, or earthy smell of fungi, whether mushrooms or molds. Some MVOCs are considered offensive or annoying. Specific MVOCs are thought to be characteristic of wood rot and mold growth on building materials. The human nose is very sensitive to mold odors and sometimes more so than current analytical instruments.

Mold

Molds are a group of organisms that belong to the Kingdom of Fungi (see Fungi). Even though the terms mold and fungi had been commonly referred to interchangeably, all molds are fungi, but not all fungi are molds.

Mycotoxin

Mycotoxins are compounds produced by some fungi that are toxic to humans or animals. By convention, the term? Mycotoxin. Excludes mushroom toxins. Fungi that produce mycotoxins are called "toxigenic fungi."

Spore

General term for a reproductive structure in fungi, bacteria and some plants. In fungi, the spore is the structure which may be used for dissemination and may be resistant to adverse environmental conditions.

Toxic mold

The term "toxic mold" has no scientific meaning since the mold itself is not toxic. The metabolic byproducts of some molds may be toxic (see mycotoxin).

Hypha (plural, hyphae)

An individual fungal thread or filament of connected cells; the thread that represents the individual parts of the fungal body.

Phoenix EnviroCorp

October 26, 2018

Crystal Gagum
Wilmington Housing Authority
1524 S. 16th Street
Wilmington, NC 28401

RE: PEC Job # 21-18-227-IAQ-M; 617 Emery Street, Wilmington, NC – Mold Investigation/Background air sampling

Enclosed are the results of the mold investigation conducted at the above referenced residence on October 18, 2018. Phoenix EnviroCorp (PEC) was retained to conduct background air sampling to determine airborne mold spore levels.

Background Information: The client reported that the tenants have complained of mold.

Note: For directional purposes, "front" is determined by facing Emory Street from inside the residence, unless otherwise stated.

Mold Testing – Air: Non-viable spore trap air samples were collected to determine airborne mold spore levels. Samples were collected within the downstairs living room, and the upstairs right bedroom. *Micro 5 sampling media was utilized for the collection of spore trap air samples. Each sample ran for five (5) minutes at a flow rate of five (5) liters per minute for a total volume of twenty-five (25) liters per sample. Each sample was assigned a unique ID number, and shipped to a third party laboratory for analysis. All air samples were collected from centralized locations (within their respective areas) and within the breathing zone, unless otherwise noted.* Two samples were also collected outdoors for comparative purposes.

Results indicated acceptable levels of airborne mold spores in all sampled locations.

The interpretation of air sample results is based on indoor/outdoor comparisons, in combination with a study by Daniel M. Baxter, entitled "A Regional Comparison of Mold Spore Concentrations Outdoors and Inside "Clean" and "Mold Contaminated" Southern California Buildings", and other industry guidelines, as well as over 20 years of experience in industrial hygiene and mold testing.

In layman terms, acceptable levels indicate that the levels are below the outdoor level and/or the baseline levels (whichever is higher) stated below. Elevated levels indicate that the levels are above the outdoor level and/or the baseline level.

Baseline levels for indoor spore trap air samples are as follows: < 900 spores/m³ for Penicillium/ Aspergillus; 0 spores/m³ for Stachybotrys and Chaetomium; and < 350 spores/m³ for other individual mold groups.

Relative Humidity (RH): *Temperature and relative humidity readings were collected in the same locations as the spore trap air samples.* RH levels within the residence ranged from 62.8% - 63.9% with an outdoor RH level of 45.1% (see the enclosed Chain of Custody for details). Per the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) Standard 62-1999,

relative humidity should range between 30% and 60%. Consistent RH levels above 60% can be conducive to mold growth.

Conclusions: Air sampling within the tested areas did not indicate a problem with the indoor air quality in regard to mold.

Enclosed in this report are the laboratory analysis and the Chain of Custody.

Should you have any questions, please do not hesitate to call.

Thank you,

Philip Green
IH Technician

Tommie Green, CIEC, CIE
Industrial Hygienist

Enclosures

Phoenix EnviroCorp
4020 SHIPYARD BLVD.
WILMINGTON, NC 28403

CHAIN OF CUSTODY

LABORATORY TEST REQUEST

SCAIL Ref #: 18101909 Lab ID: 070-073

CONTACT: Tommie Green	TELEPHONE (910) 397-0370 FAX (910) 313-6094	10/18/2018
PEC Job #: 21-18-227-IAQ-M	SITE ADDRESS: 617 Emery Street Wilmington, NC, 28405	

PLEASE EMAIL RESULTS TO: KMGREEN@PHOENIXENVIROCORP.COM

SAMPLE TYPE:	NUMBER OF SAMPLES:	TURN AROUND TIME SPECIFIED:
Spore Trap - Micro-5	4	____ Immediate ____ 24 hr ____ 48 hr __X__ Standard
Surface Samples	0	

Sample #	Sample Area	Sample Volume	Lab Analysis Requested	% Relative Humidity	Temperature °F
101818-PG-401	Downstairs Living Room	25L	S001	62.8	72.6
101818-PG-402	Upstirs Right Bedroom	25L	S001	63.9	71.8
101818-PG-403	Outside - Front	25L	S001	45.1	69.4
101818-PG-404	Outside - Rear	25L	S001		
		Samples accepted			

Samples Collected By (Printed Name and Signature): _____ Date Signed: 10/18/2018

CHAIN OF CUSTODY RECORD

DATE:	Time:	Condition of Samples:	RELINQUISHED BY: (Printed Name and Signature)	ACCEPTED BY: (Printed Name and Signature)
10/18/2018	14:00	Intact	AFFILIATION:	AFFILIATION: 10-19-18

SEEML Reference Number:
181019019

Southeast Environmental Microbiology Laboratories
102 Edinburgh Court
Greenville, SC 29607
Phone: (864) 233-3770
FAX: (864) 233-6589

The information and data for **Phoenix Enviro Corp.** has been checked for thoroughness and accuracy. The following reports are contained within this document:

- ☐ Surface/Bulk Report
- ☒ Spore Trap Report
- ☐ Andersen Fungal Report
- ☐ Quantitative Fungal Report

Lab Manager Review: Rafael Berrios Date: 10/19/18

Thank you for using SEEML laboratories. We strive to provide superior quality and service.
SEEML laboratories are accredited through AIHA-LAP, LLC (EMLAP # 173667) for the analysis of Spore Traps and Surface/Bulk Samples.

The data within this report is reliable to three significant figures. The third significant figure is technically unjustified. In this instance, the third figure is reported as an estimate to facilitate the interpretation by the customer.

Confidentiality Notice:
The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of the document(s) is strictly prohibited. If you have received this document in error, please immediately notify us by telephone to arrange for its return. Thank you.

Guidelines for Interpretation:
No accepted quantitative regulatory standards currently exist by which to assess the health risks related to mold and bacterial exposure. Molds and bacteria have been associated with a variety of health effects and sensitivity varies from person to person.
Several organizations, including: the American Conference of Government Industrial Hygienists (ACGIH); the American Industrial Hygiene Association (AIHA); the Indoor Air Quality Association (IAQA); the United States Environmental Protection Agency (USEPA); the Centers for Disease Control (CDC), as well as the California Department of Health Services (CADHS), have all published guidelines for assessment and interpretation of mold resulting from water intrusion in buildings.

Interpretation of the data and information within this document is left to the company, consultant, and/or persons who conducted the fieldwork.

Spore Trap Report

Attn: Phoenix Enviro Corp	Date Sampled: 10/18/18
4020 Shipyard Blvd.	Date Received: 10/19/18
Wilmington, NC 28403	Date Analyzed: 10/19/18
	Date Reported: 10/19/18
	Date Revised:
	Project Name: 21-18-227-IAQ-M
	Project Address: 617 Emery Street
	Project City, State, ZIP: Wilmington, NC 28405
	SEEML Reference # : 181019019

TEST METHOD: DIRECT MICROSCOPY EXAMINATION AT 400X (100% OF TRACE ANALYZED) SEEML SOP 7

Client Sample ID	101818-PG-401			101818-PG-402			101818-PG-403		
Location	Downstairs Living Room			Upstairs Right Bedroom			Outside Front		
Lab Sample ID	181019019-070			181019019-071			181019019-072		
Detection Limit (spores/m^3)	40			40			40		
Hyphal Fragments	1	40							
Pollen									
Spore Trap Used	M5			M5			M5		
	raw ct.	spores/m^3	%	raw ct.	spores/m^3	%	raw ct.	spores/m^3	%
Alternaria							1	40	<1
Ascospores	2	80	11	4	160	17	18	720	16
Basidiospores	4	160	22	8	320	35	41	1640	37
Bipolaris/Drechslera									
Chaetomium									
Cladosporium	4	160	22	3	120	13	28	1120	25
Curvularia				1	40	4			
Epicoccum									
Cercospora									
Fusarium									
Memnoniella									
Nigrospora									
Penicillium/Aspergillus	8	320	44	7	280	30	17	680	15
Polythrincium									
Rusts									
Smuts/Periconia/Myxomy							6	240	5
Spegazzinia									
Stachybotrys									
Stemphylium									
Tetraploa									
Torula									
Ulocladium									
Colorless/Other Brown 2									
Oidium									
Zygomycetes									
Pithomyces									
Background debris (1-5)3	3			3			3		
Sample Volume(liters)	25			25			25		
TOTAL SPORES/M^3	18	**720**		23	**920**		111	**4440**	

Comments: Condition of the sample(s) upon receipt: Acceptable.

1=Total % may not equal 100 due to rounding.

2 = Colorless,other Brown are spores without a distinctive morphology on spore traps and non-viable surface samples.

3 = Background debris is the amount of particulate matter present on the slide and is graded from 1-5 with 1 = very light, 2= Light, 3 = Medium, 4 = Heavy, 5 = Very Heavy. The higher the rating the more likelihood spores may be underestimated. A rating of 5 should be interpreted as minimal counts and may actually be higher than reported.

The reporting limit is 1 Spore/sample.

Disclaimer: This report relates only to the samples tested

Respectfully submitted, SEEML

Rafael Berrios

Rafael Berrios, Approved Laboratory Signatory

102 Edinburgh Court
Greenville, SC 29607
Phone: (864) 233- 3770
Fax: (864) 233-6589
AIHA-LAP, LLC EMLAP # 173667

Spore Trap Report

Attn: Phoenix Enviro Corp	Date Sampled: 10/18/18
4020 Shipyard Blvd.	Date Received: 10/19/18
Wilmington, NC 28403	Date Analyzed: 10/19/18
	Date Reported: 10/19/18
	Date Revised:
	Project Name: 21-18-227-IAQ-M
	Project Address: 617 Emery Street
	Project City, State, ZIP: Wilmington, NC 28405
	SEEML Reference # : 181019019

TEST METHOD: DIRECT MICROSCOPY EXAMINATION AT 400X (100% OF TRACE ANALYZED) SEEML SOP 7

Client Sample ID	101818-PG-404								
Location	Outside-Rear								
Lab Sample ID	181019019-073								
Detection Limit (spores/m^3)	40								
Hyphal Fragments	3	120							
Pollen									
Spore Trap Used	M5								
	raw ct.	spores/m^3	%						
Alternaria									
Ascospores	33	1320	18						
Basidiospores	39	1560	21						
Bipolaris/Drechslera									
Chaetomium									
Cladosporium	61	2440	33						
Curvularia	4	160	2						
Epicoccum									
Cercospora	3	120	2						
Fusarium									
Memnoniella									
Nigrospora									
Penicillium/Aspergillus	33	1320	18						
Polythrincium									
Rusts									
Smuts/Periconia/Myxomy	11	440	6						
Spegazzinia									
Stachybotrys									
Stemphylium									
Tetraploa									
Torula	1	40	<1						
Ulocladium									
Colorless/Other Brown 2									
Oidium									
Zygomycetes									
Pithomyces									
Background debris (1-5)3	3								
Sample Volume(liters)	25								
TOTAL SPORES/M^3	185	**7400**							

Comments: Condition of the sample(s) upon receipt: Acceptable.

1=Total % may not equal 100 due to rounding.

2 = Colorless,other Brown are spores without a distinctive morphology on spore traps and non-viable surface samples.

3 = Background debris is the amount of particulate matter present on the slide and is graded from 1-5 with 1 = very light, 2= Light, 3 = Medium, 4 = Heavy, 5 = Very Heavy. The higher the rating the more likelihood spores may be underestimated. A rating of 5 should be interpreted as minimal counts and may actually be higher than reported.

The reporting limit is 1 Spore/sample.

Disclaimer: This report relates only to the samples tested

Respectfully submitted, SEEML

Rafael Berrios

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Fungal Descriptions

Alternaria sp.

Aw - 0.89. Conidia dimensions: 18-83 x 7-18 microns. A very common allergen with an IgE mediated response. It is often found in carpets, textiles and on horizontal surfaces in building interiors. Often found on window frames. Outdoors it may be isolated from samples of soil, seeds and plants. It is commonly found in outdoor samples. The large spore size, 20 - 200 microns in length and 7 - 18 microns in sizes, suggests that the spores from these fungi will be deposited in the nose, mouth and upper respiratory tract. It may be related to bakers' asthma. It has been associated with hypersensitivity pneumonitis. The species *Alternaria alternata* is capable of producing tenuazonic acid and other toxic metabolites that may be associated with disease in humans or animals. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchiospasms; chronic cases may develop pulmonary emphysema.

Ascospore

A spore borne in a special cell called an ascus. Spores of this type are reported to be allergenic.
All ascomycetes, members of a group of fungi called Ascomycotina, have this type of spore. The minute black dots on rotting wood and leaves or the little cups on lichens are examples of ascomycetes; another is the "truffle" mushroom.

Aspergillus/Penicillium

These are two of the most commonly found allergenic fungi in problem buildings. *Aspergillus* comes in many varieties (species). Many of the varieties produce toxic substances. It may be associated with symptoms such as sinusitis, allergic bronchiopulmonary aspergillosis, and other allergic symptoms.
Penicillium is a variety of mold that is very common indoors and is found in increased numbers in problem buildings. It also has many varieties, some of which produce toxic substances. The symptoms are allergic reactions, mucous membrane irritation, headaches, vomiting, and diarrhea.
Because the spores of *Aspergillus* and *Penicillium* are very similar, they are not differentiated by microscopic analysis and are reported together.

Aspergillus sp.

Aw 0.75 - 0.82. Reported to be allergenic. Members of this genus are reported to cause ear infections. Many species produce mycotoxins that may be associated with disease in humans and other animals. Toxin production is dependent on the species or a strain within a species and on the food source for the fungus. Some of these toxins have been found to be carcinogenic in animal species. Several toxins are considered potential human carcinogens. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchiospasms; chronic cases may develop pulmonary emphysema; may also be associated with sinusitis, allergic bronchiopulmonary aspergillosis, and other allergic symptoms.

Basidiospore

Spore from basidiomycetes. Many varieties are reported to be allergenic.

Bipolaris sp.

A fungus with large spores that could be expected to be deposited in the upper respiratory tract. This fungus can produce the mycotoxin - sterigmatocystin, which has been shown to produce liver and kidney damage when ingested by laboratory animals.

Botrytis sp.

Aw 0.93. Conidia dimensions: 7-14 x 5-9 microns. It is parasitic on plants and soft fruits. Found in soil and on house plants and vegetables, it is also known as "gray mold". It causes leaf rot on grapes, strawberries, lettuce, etc. It is a well-known allergen, producing asthma type symptoms in greenhouse workers and "wine grower's lung".

Cercaspora

Common outdoors in agricultural areas, especially during harvest. Parasite of higher plants, causing leaf spot. Commonly found as parasites on higher plants.

Chaetomium sp.

large ascomycetous fungus producing perithecia. It is found on a variety of substrates containing cellulose, including paper and plant compost. It has been found on paper in sheetrock. It can produce an *Acremonium*-like state on fungal media. Varieties are considered allergenic and have been associated with peritonitis, cutaneous lesions, and system mycosis.

Cladosporium sp.

Aw 0.88; Aw 0.84. Most commonly identified outdoor fungus. The outdoor numbers are reduced in the winter. The numbers are often high in the summer. Often found indoors in numbers less than outdoor numbers. It is a common allergen. Indoor *Cladosporium* sp. may be different than the species identified outdoors. It is commonly found on the surface of fiberglass duct liners in the interior of supply ducts. A wide variety of plants are food sources for this fungus. It is found on dead plants, woody plants, food, straw, soil, paint, and textiles. Produces greater than 10 antigens. Antigens in commercial extracts are of variable quality and may degrade within weeks of preparation. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include skin lesions, eye ulceration, mycosis (including onychomycosis, an infection of the nails of the feet or hands) edema and bronchiospasms; chronic cases may develop pulmonary emphysema.

Curvularia sp.

Reported to be allergenic and has been associated with allergic fungal sinusitis. It may cause corneal infections, mycetoma, and infections in immune compromised hosts.

Dreschlera sp.

Conidia dimensions: 40-120 x 17-28 microns. Found on grasses, grains and decaying food. It can occasionally cause a corneal infection of the eye.

Epicoccum sp.

Conidia dimensions: 15-25 microns. A common allergen. It is found in plants, soil, grains, textiles and paper products.

Fusarium sp.

Aw 0.90. A common soil fungus. It is found on a wide range of plants. It is often found in humidifiers. Several species in this genus can produce potent trichothecene toxins. The trichothecene (scirpene) toxin targets the following systems: circulatory, alimentary, skin, and nervous. Produces vomitoxin on grains during unusually damp growing conditions. Symptoms may occur either through ingestion of contaminated grains or possibly inhalation of spores. The genera can produce hemorrhagic syndrome in humans (alimentary toxic aleukia). This is characterized by nausea, vomiting, diarrhea, dermatitis, and extensive internal bleeding. Reported to be allergenic. Frequently involved in eye, skin, and nail infections.

Myxomycetes

Members of a group of fungi that is included in the category of "slime molds". They're occasionally found indoors, but mainly reside in forested regions on decaying logs, stumps, and dead leaves. Myxomycetes display characteristics of fungi *and* protozoans. In favorable (wet) conditions they exhibit motile, amoeba-like cells, usually bounded only by a plasma membrane, that are variable in size and form. During dry spells, they form a resting body (sclerotium) with dry, airborne spores. These fungi are not known to produce toxins, but can cause hay fever and asthma.

Memnoniella

Contaminant, found most often with Stachybotrys on wet cellulose. Forms in chains, but it are very similar to Stachybotrys and sometimes is considered to be in the Stachybotrys family. Certain species do produce toxins very similar to the ones produced by Stachybotrys chartarum and many consider the IAQ importance of Memnoniella to be on par with Stachybotrys. Allergenic and infectious properties are not well studied.

Nigrospora sp.

Commonly found in warm climates, this mold may be responsible for allergic reactions such as hay fever and asthma. It is found on decaying plant material and in the soil. It is not often found indoors.

Oidium sp.

The asexual phase of *Erysiphe* sp. It is a plant pathogen causing powdery mildews. It is very common on the leaves stems, and flowers of plants. The health effects and allergenicity have not been studied. It does not grow on non-living surfaces such as wood or drywall.

Penicillium sp.

Aw 0.78 - 0.88. A wide number of organisms have been placed in this genus. Identification to species is difficult. Often found in aerosol samples. Commonly found in soil, food, cellulose and grains. It is also found in paint and compost piles. It may cause hypersensitivity pneumonitis, allergic alveolitis in susceptible individuals. It is reported to be allergenic (skin). It is commonly found in carpet, wallpaper, and in interior fiberglass duct insulation. Some species can produce mycotoxins. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchiospasms; chronic cases may develop pulmonary emphysema. It may also cause headaches, vomiting, and diarrhea.

Periconia sp.

found in soil, blackened and dead herbaceous stems leaf spots, grasses, rushes, and sedges. Almost always associated with other fungi. Rarely found growing indoors. Reportedly associated with a rare case of mycotic keratitis.

Pithomyces sp.

A common mold found on dead leaves, plants, soil and especially grasses. Causes facial eczema in ruminants. It exhibits distinctive multi-celled brown conidia. It is not know to be a human allergen or pathogen. It is rarely found indoors, although it can grow on paper.

Polythrincium sp.

Polythrincium species comprise a very small proportion of the fungal biota. This genus is somewhat related to Ramularia. No information is available regarding health effects, or toxicity. Allergenicity has not been studied. Our laboratory has never seen this organism growing on environmental surfaces. May be identified in air on spore trap samples (spores have distinctive morphology). Also, spores may be seen in dust as part of the normal influx of outdoor microbial particles. Natural habitat is on leaves.

Rusts/Smuts

These fungi are associated with plant diseases. In the classification scheme of the fungi, the smuts have much in common with the rusts, and they are frequently discussed together. Both groups produce wind-borne, resistant teliospores that serve as the basis for their classification and their means of spread. Rusts usually attack vegetative regions (i.e., leaves and stems) of plants; smuts usually are associated with the reproductive structures (seeds). They can cause hay fever and asthma.

Spegazzinia

Spegazzinia species comprise a very small proportion of the fungal biota. This genus is somewhat related to other lobed or ornamented genera such as Candelabrum. No information is available regarding health effects or toxicity. Allergenicity has not been studied. Usually identified on spore trap samples where it is seen every few weeks. (Spores have very distinctive morphology.) May also be found in air by culturable (Andersen) samples if a long enough incubation period is provided so that sporulation occurs. Our laboratory has never found this organism growing on indoor environmental surfaces. Natural habitat includes soil and many kinds of trees and plants.

Stachybotrys sp.

Aw - 0.94 , optimum Aw ->0.98. Several strains of this fungus (*S. atra, S. chartarum* and *S. alternans* are synonymous) may produce a trichothecene mycotoxin- Satratoxin H - which is poisonous by inhalation. The toxins are present on the fungal spores. This is a slow growing fungus on media. It does not compete well with other rapidly growing fungi. The dark colored fungus grows on building material with high cellulose content and low nitrogen content. Areas with a relative humidity above 55%, and are subject to temperature fluctuations, are ideal for toxin production.
Individuals with chronic exposure to the toxin produced by this fungus reported cold and flu symptoms, sore throats, diarrhea, headaches, fatigue, dermatitis, intermittent local hair loss and generalized malaise. Other symptoms include coughs, rhinitis, nosebleed, a burning sensation in the nasal passages, throat, and lungs, and fever. The toxins produced by this fungus will suppress the immune system affecting the lymphoid tissue and the bone marrow. Animals injected with the toxin from this fungus exhibited the following symptoms: necrosis and hemorrhage within the brain, thymus, spleen, intestine, lung, heart, lymph node, liver, and kidney. Affects by absorption of the toxin in the human lung are known as pneumomycosis.
This organism is rarely found in outdoor samples. It is usually difficult to find in indoor air samples unless it is physically disturbed (or possibly -this is speculation- a drop in the relative humidity). The spores are in a gelatinous mass. Appropriate media for the growth of this organism will have high cellulose content and low nitrogen content. The spores will die readily after release. The dead spores are still allergenic and toxigenic. Percutaneous absorption has caused mild symptoms.

Stemphylium sp.

Reported to be allergenic. Isolated from dead plants and cellulose materials.

Taeniolella sp.

contaminant primarily grows on wood. It was isolated from human cutaneous and subcutaneous lesions.

Torula sp.

Found outdoors in air, soil, on dead vegetation, wood, and grasses. Also found indoors on cellulose materials. Reported to be allergenic and may cause hay fever and asthma.

Tetraploa

Tetraploa species comprise a very small proportion of the fungal biota. This genus is somewhat related to Triposporium and Diplocladiella. The only reported human infections are two cases of keratitis (1970, 1980) and one case of subcutaneous infection of the knee (1990). No information is available regarding other health effects or toxicity. Allergenicity has not been studied. Usually identified on spore trap samples where it is seen every few weeks. (Spores have very distinctive morphology.) Our laboratory has never found this organism growing on indoor environmental surfaces. Natural habitat includes leaf bases and stems just above the soil on many kinds of plants and trees.

Ulocladium sp.

Aw 0.89. Isolated from dead plants and cellulose materials. Found on textiles.

Zygomycetes

Zygomycetes are one of the four major groups of fungi, the others being the Oomycetes, the Ascomycetes, and the Basidiomycetes. Zygomycetes are common, fast growing, and often overgrow and/or inhibit other fungi nearby. Rhizopus and Mucor are two of the most common Zygomycetes seen in the indoor environment. However, others are seen as well, including Syncephalastrum, Circinella, Mortierella, Mycotypha, Cunninghamella, and Choanephora. For further information, please see descriptions of these individual genera.

The following table lists mycotoxins that are produced by certain types of fungi:

Fungi	Mycotoxin
Acremonium crotocinigenum	Crotocin
Aspergillus favus	Alfatoxin B, cyclopiazonic acid
Aspergillus fumigatus	Fumagilin, gliotoxin
Aspergillus carneus	Critrinin
Aspergillus clavatus	Cytochalasin, patulin
Aspergillus Parasiticus	Alfatoxin B
Aspergillus nomius	Alfatoxin B
Aspergillus niger	Ochratoxin A, malformin, oxalicacid
Acremonium crotocinigenum	Crotocin
Aspergillus nidulans	Sterigmatocystin
Aspergillus ochraceus	Ochratoxin A, penicillic acid
Aspergillus versicolor	Sterigmatocystin, 5 ethoxysterigmatocystin
Aspergillus ustus	Ausdiol, austamide, austocystin,brevianamide
Aspergillus terreus	Citreoviridin
Alternaria	Alternariol, altertoxin, altenuene, altenusin, tenuazonic acid
Arthrinium	Nitropropionic acid
Bioploaris	Cytochalasin, sporidesmin, sterigmatocystin
Chaetomium	Chaetoglobosin A,B,C. Sterigmatocystin
Cladosporium	Cladosporic acid
Clavipes purpurea	Ergotism
Cylindrocorpon	Trichothecene
Diplodia	Diplodiatoxin
Fusarium	Trichothecene, zearalenone
Fusarium moniliforme	Fumonisins
Emericella nidulans	Sterigmatocystin
Gliocladium	Gliotoxin
Memnoniella	Griseofulvin , dechlorogriseofulvin, epi-decholorgriseofulvin, trichodermin, trichodermol
Myrothecium	Trichothecene
Paecilomyces	Patulin, viriditoxin
Penicillium aurantiocandidum	Penicillic acid
Penicillium aurantiogriseum	Penicillic acid
Penicillium brasilanum	Penicillic acid
Penicillium brevicompactum	Mycophenolic acid
Penicillium camemberti	Cyclopiazonic acid
Penicillium carneum	Mycophenolic acid, Roquefortine C
Penicillium crateriforme	Rubratoxin

Penicillium citrinum	Citrinin
Penicillium commune	Cyclopiazonic acid
Penicillium crustosum	Roquefortine C
Penicillium chrysogenum	Roquefortine C
Penicillium discolor	Chaetoglobosin C
Penicillium expansum	Citrinin, Roquefortine C
Penicillium griseofulvum	Roquefortine C, cyclopiazonic acid, griseofulvin
Penicillium hirsutum	Roquefortine C
Penicillium hordei	Roquefortine C
Penicillium nordicum	Ochratoxin A
Penicillium paneum	Roquefortine C
Penicillium palitans	Cyclopiazonic acid
Penicillium polonicum	Penicillic acid
Penicillum roqueforti	Roquefortine C, Mycophenolic acid
Penicillium veridicatum	Penicillic acid
Penicillium verrucosum	Citrinin, ochratoxin A
Penicillium/ Aspergillus	Patulin
Penicillium/ Aspergillus/Alternaria	Glitoxin
Phomopsis	Macrocyclic trichothecenes
Phoma	Brefeldin, cytochalasin, secalonic acid, tenuazonic acid
Pithomyces	Sporidesmin
Rhizoctonia	Slaframine
Rhizopus	Rhizonin
Sclerotinia	Furanocoumarins
Stachybotrys chartarum	Iso-satratoxin F, roridin E, L-2, satratoxin G & H, trichodermin, trichodermol, trichothecene
Torula	Cytotoxins
Trichoderma	Trichodermin, trichodermol, gliotoxin
Trichothecium	Trichothecene
Wallemia	Walleminol
Zygosporium	Cytochalasin

General terms

Allergen

An allergen is a substance that elicits an IgE antibody response and is responsible for producing allergic reactions. Chemicals are released when IgE on certain cells come into contact with an allergen. These chemicals can cause injury to surrounding tissue - the visible signs of an allergy. Only a few fungal allergens have been characterized but all fungi are thought to be potentially allergenic. Fungal allergens are proteins found in either the mycelium or spores

"Black mold"

The poorly defined term? Black mold? Or? Toxic black mold? Has usually been associated with the mold *Stachybotrys chartarum*. While there are only a few molds that are truly black, there are many that can appear black. Not all molds that appear to be black are *Stachybotrys*.

Fungi

Fungi are neither animals nor plants and are classified in a kingdom of their own? The Kingdom of Fungi. Fungi include a very large group of organisms, including molds, yeasts, mushrooms and puffballs. There are >100,000 accepted fungal species but current estimates range to 1.5 million species. Mycologists (people who study fungi) have grouped fungi into four large groups according to their method of reproduction.

Hidden mold

This refers to visible mold growth on building structures that is not easily seen, including the areas above drop ceilings, within a wall cavity (the space between the inner and outer structure of a wall), inside air handlers, or within the ducting of a heating/ventilation system.

Microbial Volatile Organic Compounds (MVOCs)

Fungi produce chemicals as a result of their metabolism. Some of these chemicals, MVOCs, are responsible for the characteristic moldy, musty, or earthy smell of fungi, whether mushrooms or molds. Some MVOCs are considered offensive or annoying. Specific MVOCs are thought to be characteristic of wood rot and mold growth on building materials. The human nose is very sensitive to mold odors and sometimes more so than current analytical instruments.

Mold

Molds are a group of organisms that belong to the Kingdom of Fungi (see Fungi). Even though the terms mold and fungi had been commonly referred to interchangeably, all molds are fungi, but not all fungi are molds.

Mycotoxin

Mycotoxins are compounds produced by some fungi that are toxic to humans or animals. By convention, the term? Mycotoxin? Excludes mushroom toxins. Fungi that produce mycotoxins are called "toxigenic fungi.

Spore

General Term for a reproductive structure in fungi, bacteria and some plants. In fungi, the spore is the structure which may be used for dissemination and may be resistant to adverse environmental conditions.

Toxic mold

The term? Toxic mold" has no scientific meaning since the mold itself is not toxic. The metabolic byproducts of some molds may be toxic (see mycotoxin).

Hypha (plural, hyphae)

An individual fungal thread or filament of connected cells; the thread that represents the individual parts of the fungal body.

PRECISION ENVIRONMENTAL INC.

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March 6, 2023

Wilmington Housing Authority
Attn: Walter Hodder
1524 S. 16th St.
Wilmington, NC 28401

Re: Mold Contamination Assessment at:
708 Emory St.
Wilmington, NC 28405
Precision Project No.: 5241-23-0001-1IAQ

At the request of the Wilmington Housing Authority, Precision Environmental, Inc. (Precision) performed a limited mold contamination assessment within the above referenced residence.

This mold contamination assessment included a visual assessment of accessible areas, the collection of non-viable mold spore trap air samples, moisture mapping and the collection of temperature/relative humidity readings.

Directional reference: Front is determined from within the residence facing Emory St.
Spore trap air samples were collected in the following areas:

- 2nd floor hallway
- 1st floor. Living room

In addition, a single exterior sample was collected for comparative purposes.

During Precision's site visit on February 23, 2023, the following were found/observed:

Kitchen
- Suspect visible mold was noted on the base of the sink cabinet.
- Suspect visible mold was noted on the HVAC supply diffuser and adjacent wall at the front wall over the pantry.
- Excessive dust was noted on the ceiling, left wall and cabinet over the microwave. (Likely originating at the HVAC supply diffuser over the pantry.)
- Excessive dust/lint was noted behind the washer/dryer.
- Suspect staining was noted on floor tiles by the kitchen cabinets, range and refrigerator.
- Water damage and delaminating paint was noted on the ceiling over the sink.
- Moisture readings of the ceiling revealed moisture readings of less than 15.0 via GE Protimeter Surveymaster in WME (measure mode) indicating that the material is dry.



Suspect visible mold on base of sink cabinet.



Suspect visible mold on HVAC supply diffuser over pantry.



Excessive dust/debris on ceiling, wall and cabinet.



Suspect staining on flooring under range.

Suspect staining on flooring under refrigerator.



Living room

- The spore trap air sample collected within the area indicated no significantly elevated levels of mold growth as compared to the sample collected at the exterior of the residence.
- Suspect visible mold was noted on the rear left HVAC supply diffuser, adjacent wall and ceiling within the living room.
- Light suspect visible mold was noted on the rear center HVAC supply diffuser in the living room.
- Moisture readings of the ceiling and wall revealed moisture readings of less than 150 via GE Protimeter Surveymaster in REL (search mode) indicating that the material is dry.
- The relative humidity within the area was 62.0% which is above the ASHRAE guidelines for occupant's comfort of 30% to 60% and is conducive to microbial growth.



HVAC/Water heater Closet

- Heavy debris was noted on the HVAC return grate.
- Suspect visible mold, dust and debris was noted within the HVAC return plenum
- Suspect visible mold/debris was noted on the HVAC coils.





2nd floor hallway

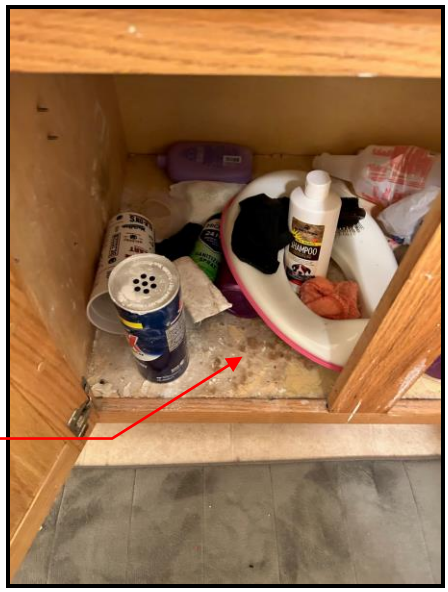
- The spore trap air sample collected within the area indicated no significantly elevated levels of mold growth as compared to the sample collected at the exterior of the residence.
- Excessive dust was noted within the ceiling mounted HVAC return as well as on the HVAC return filter.
- The relative humidity within the area was 57.0% which is within the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) guidelines for occupant's comfort of 30% to 60% and is conducive to microbial growth.

2nd floor. Bathroom

- Suspect visible mold was noted throughout the bathroom ceiling.
- Moisture readings of the ceiling revealed moisture readings of less 15.9 via GE Protimeter Surveymaster in WME (measure mode) indicating that the material is dry (given the meter's margin of error).
- Suspect visible mold was noted on the bathtub caulking.
- Water damage was noted on the base of the sink cabinet.
- The ceiling mounted HVAC supply diffuser/boot is missing and the duct appears to be improperly vented to the room.



Suspect visible mold on ceiling.



Water damage at base of sink cabinet.



Missing HVAC supply diffuser/boot.

2nd floor. Rear bedroom
- This area was cluttered and not all surfaces could be visualized.
- Light suspect visible mold was noted on the HVAC supply diffuser.

2nd floor. Front right bedroom
- Light suspect visible mold was noted on the HVAC supply diffuser.

Moisture measurements were collected using a GE Protimeter *Surveymaster*. Collected moisture measurements were evaluated based upon the following manufacturer's instructions:

%WME (measure mode) measurement of approximately:
Green zone readings (Between 0% and 15 %) indicates that the material examined is "Dry";
Yellow zone readings (Above 15% but less than 20%) indicates that the material examined is "borderline condition";
Red zone readings (Above 20%) indicates that the material examined is "wet" or in "damp condition"

REL (search mode) measurement of approximately:
Green zone readings (Between 0 and 150) indicates that the material examined is "Dry";
Yellow zone readings (Above 150 but less than 200) indicates that the material examined is "borderline condition";
Red zone readings (Above 200) indicates that the material examined is "wet" or in "damp condition"

%WME (measure mode) = WME is the moisture level that would be attained by a piece of wood in equilibrium with the material being tested. As the critical moisture levels for wood are known, WME measurements enable the moisture meter user to establish if materials are in a safe air dry, borderline or damp condition.

REL (search mode) = Search mode readings give the moisture condition beneath the surface of materials. This mode of operation is ideal for surveys of solid walls and floors and to pinpoint areas of concern that may justify a more extensive investigation

Air samples for non-culturable fungal spores were collected using Zefon Air-O-Cell cassettes and High-Volume Sampling Pump for 10 minutes at a flow rate of 15 liters per minute as recommended by the manufacturer.

Temperature/Relative humidity readings were collected utilizing a Fluke 971 Temperature Humidity Meter

Based on the investigation conducted within the residence, Precision has found evidence of suspect visible surface mold at multiple areas within the residence.

Relative humidity levels within the 1st floor were above acceptable ranges at the time of the assessment.

The relative humidity level at the exterior of the structure at the time of the investigation was 63.0%.

Recommendations
Precision recommends the following based on the limited mold investigation conducted on February 23, 2023.

At all work area containments, all clutter shall be removed prior to the start of remediation activities.

HVAC filters should be replaced on a standard schedule.

The HVAC system should be assessed by an HVAC engineer or qualified contractor to determine the cause of elevated levels of humidity on the 2nd floor and offer corrective solutions.

The HVAC supply in the 2nd floor bathroom should be fixed to include a HVAC boot and diffuser.

Good housekeeping practices should be maintained in order to avoid the buildup of dust/debris.

All remediation activities should be conducted by mold remediation contractors with experience conducting mold remediation projects and all work should be conducted in accordance with standard industry practices.

*Note: Prior to the disturbance of the building materials (wall and ceiling materials, textured ceiling, etc.), the material should be inspected for potentially hazardous materials.

General recommendations

A. The HVAC system(s) serving work areas within residence shall be shut down prior to the start of all work.
B. Air scrubbers or negative air machines equipped with HEPA filters shall be installed within the work areas and shall remain operational/in place during remediation activities and for a minimum of twenty-four (24) hours following completion of remediation activities.
C. All insulation exposed by the removal of walls/ceilings shall be removed and disposed.
D. All structural components exposed by the removal of walls/ceilings shall be dried and decontaminated.
E. Plumbing fixtures within the work areas shall be cleaned and all drains shall be sealed.
F. Toilets within work areas shall be wrapped in poly sheeting.
G. Decontamination shall consist of wet wiping the material with a microbial agent as well as HEPA vacuuming affected components. Spraying areas with visible mold or suspect visible mold without physically removing the mold is unacceptable.
H. If, following removal of walls/ceilings or other components described below, additional moisture or mold issues are noted, removal shall continue until an area one foot beyond noted issues are reached.
I. Dehumidifiers shall be installed within the entire residence and shall remain in place until the project is complete.
J. Following completion of remediation activities, the air scrubbers shall run for a minimum of 24 hours. Following the 24-hour air scrubbing period the machines shall be shut down and immediately sealed (both intake and exhaust).
K. Following shut down of the air scrubbers, a clearance inspection may be conducted at the owner's discretion. The inspection should be conducted prior to the replacement of removed materials. If the owner chooses not to conduct the clearance inspection, the work area may be dismantled following the 24-hour air scrubbing period.

Area specific – Kitchen

A. The kitchen shall be incorporated into a single work area and shall be enclosed within a single containment. The containment shall be constructed of poly sheeting and shall seal all penetrations leading out of the work area. Access to the work area shall be through a zippered entry.
B. Remove the loose and peeling paint from the ceiling and decontaminate the area prior to repainting.
C. Decontaminate all surfaces to include within and the exterior of all cabinets, closets, behind the washer/dryer area and within the pantry.
D. Decontaminate the flooring. (This will require the re-location of the washer/dryer, range and refrigerator.)

Area specific – Living room

A. The rear left corner of the living room shall be incorporated into a single work area and shall be enclosed within a single tent containment. The containment shall be constructed of poly sheeting and shall seal all penetrations leading out of the work area. Access to the work area shall be through a zippered entry.
B. Decontaminate the wall and ceiling adjacent to the rear left HVAC supply diffuser.

Area specific – 2nd floor bathroom

A. The entire bathroom shall be incorporated into a single work area and shall be enclosed within a single containment. The containment shall be constructed of poly sheeting and shall seal all penetrations leading out of the work area. Access to the work area shall be through a zippered entry.
B. Remove the entire ceiling.
C. Remove and replace bathtub caulk.
D. Remove the base of the sink cabinet and assess exposed area. Decontaminate exposed surfaces. If upon removal of the sink cabinet base, additional issues are noted, remove the entire sink cabinet and remediate as required.
E. Decontaminate the ceiling vent fan cover and ceiling vent fan.

Area specific HVAC system

A. Decontaminate the interior of the air handling unit (evaporator coils, blower/fan, etc.)
B. Decontaminate the HVAC return grate under the HVAC/Water heater closet.
C. Decontaminate the HVAC return within the 2nd floor hallway.
D. Decontaminate all HVAC supply and return ducts.
E. Remove the remaining HVAC supply diffusers throughout the entire residence, decontaminate diffusers and save for re-installation. (No containment required)

Limitations

This report has been prepared to assist the Wilmington Housing Authority in evaluating the microbiological impact within the above referenced residence. Precision provided these services consistent with the level and skill customarily exercised by members of the profession currently practicing under similar conditions. This report is intended for the sole use of the Wilmington Housing Authority.

Additionally, the passage of time may result in a change in the environmental characteristics at this site. This report does not warrant against future operations or conditions that could affect the recommendations made. The results, findings, conclusions, and recommendations expressed in this report are based only on conditions that were observed during Precision's inspection.

If you need further information, please contact me at 910-763-3445.

Sincerely,

Precision Environmental, Inc.

Jonathan Guetta
S.E. Regional Director

Attachments:
Laboratory Analysis/Chain of Custody
Laboratory accreditation

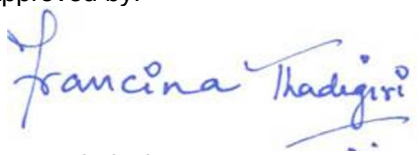
eurofins | Built Environment Testing

Report for:

Mr. Jonathan Guetta
Precision Environmental, Inc.
3802 Cherry Ave.
Wilmington, NC 28403

Regarding: Eurofins EPK Built Environment Testing, LLC
Project: 5241-23-0001-1IAQ; 708 Emory St. Wilmington, NC
EML ID: 3179597

Approved by:



Technical Manager
Francina Thadigiri

Dates of Analysis:
Spore trap analysis: 02-28-2023

Service SOPs: Spore trap analysis (EM-MY-S-1038)
AIHA-LAP, LLC accredited service, Lab ID #179623

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the samples as received and tested. Information supplied by the client which can affect the validity of results: sample air volume.

Eurofins EPK Built Environment Testing, LLC ("the Company"), a member of the Eurofins Built Environment Testing group of companies, shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.
Eurofins EPK Built Environment Testing, LLC's LabServe® reporting system includes automated fail-safes to ensure that all AIHA-LAP, LLC quality requirements are met and notifications are added to reports when any quality steps remain pending.

Eurofins EPK Built Environment Testing, LLC
4460 Brookfield Corporate Drive, Suite A, Chantilly, VA 20151
(866) 871-1984 www.eurofinsus.com/Built

Client: Precision Environmental, Inc.
C/O: Mr. Jonathan Guetta
Re: 5241-23-0001-1IAQ; 708 Emory St. Wilmington, NC

Date of Sampling: 02-23-2023
Date of Receipt: 02-28-2023
Date of Report: 03-02-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	022323-708-01: 2nd floor hallway			022323-708-02: 1st floor. Living room		
Comments (see below)	None			A		
Lab ID-Version‡:	15384466-1			15384467-1		
Analysis Date:	02/28/2023			02/28/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores	1	25	27	5	25	130
Bipolaris/Drechslera group	1	100	7			
Chaetomium						
Cladosporium				7/12	25/100	270
Curvularia						
Epicoccum	3	100	20			
Nigrospora						
Oidium						
Other brown	1	100	7			
Other colorless						
Penicillium/Aspergillus types†	1	25	27	1	25	27
Pithomyces						
Pyricularia						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+			2+		
Hyphal fragments/m3	13			7		
Pollen/m3	20			80		
Skin cells (1-4+)	< 1+			1+		
Sample volume (liters)	150			150		
§ TOTAL SPORES/m3			87			430

Comments: A) 12 of the raw count *Cladosporium* spores were present as a single clump.

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3, per spore and per sample.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

Eurofins EPK Built Environment Testing, LLC
4460 Brookfield Corporate Drive, Suite A, Chantilly, VA 20151
(866) 871-1984 www.eurofinsus.com/Built

Client: Precision Environmental, Inc.
C/O: Mr. Jonathan Guetta
Re: 5241-23-0001-1IAQ; 708 Emory St. Wilmington, NC

Date of Sampling: 02-23-2023
Date of Receipt: 02-28-2023
Date of Report: 03-02-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	022323-708-03: Outside		
Comments (see below)	None		
Lab ID-Version‡:	15384468-1		
Analysis Date:	02/28/2023		
	raw ct.	% read	spores/m3
Ascospores	5	25	130
Basidiospores	54	25	1,400
Bipolaris/Drechslera group	5	100	33
Chaetomium			
Cladosporium	26	25	690
Curvularia	3	100	20
Epicoccum	1	100	7
Nigrospora			
Oidium	44	100	290
Other brown			
Other colorless			
Penicillium/Aspergillus types†			
Pithomyces			
Pyricularia	3	100	20
Rusts			
Smuts, Periconia, Myxomycetes	4	100	27
Stachybotrys			
Stemphylium			
Torula			
Ulocladium			
Zygomycetes			
Background debris (1-4+)††	2+		
Hyphal fragments/m3	47		
Pollen/m3	1,400		
Skin cells (1-4+)	< 1+		
Sample volume (liters)	150		
§ TOTAL SPORES/m3			2,700

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3, per spore and per sample.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

CHAIN OF CUSTODY

eurofins | EMLab P&K

www.EMLabPK.com

New Jersey: 3000 Lincoln Drive East, Suite A, Marlton, NJ 08053 * **(866) 871-1984**
Phoenix, AZ: 1501 West Knudsen Drive, Phoenix, AZ 85027 * **(800) 651-4802**
SSF, CA: 6000 Shoreline Court, Suite 205, South San Francisco, CA 94080 * **(866) 888-6653**

Weather		Fog	Rain	Snow	Wind	Clear
Level	None	☐	☐	☐	☐	☒
	Light	☐	☐	☐	☐	
	Moderate	☐	☐	☐	☐	
	Heavy	☐	☐	☐	☐	

CONTACT INFORMATION

Company:	Precision Environmental, Inc	Address:	3802 Cherry Ave. Wilmington, NC 28403
Contact:	Jonathan Guetta	Special Instructions:	Email results to: Jguetta@precision-enviro.com
Phone:	910-763-3445		

PROJECT INFORMATION

Project ID:	5241-23-0001-1IAQ		
Project Description:	708 Emory St. Wilmington, NC		
Project Zip Code:	28405	Sampling Date & Time:	02/23/23 1400
PO Number:		Sampled By:	J. Guetta

TURN AROUND TIME CODES (TAT)

STD – Standard (DEFAULT)
ND – Next Business Day
SD – Same Business Day Rush
WH – Weekend / Holiday

Rushes received after 2pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

Sample ID	Description	Sample Type (Below)	TAT (Above)	Total Volume / Area (as applicable)	Notes (Time of day, Temp, RH, etc.)
022323-708-01	2nd floor hallway	ST	STD	150 Liters	73.0/57.0%
022323-708-02	1st floor. Living room	ST	STD	150 Liters	70.5/62.0%
022323-708-03	Outside	ST	STD	150 Liters	81.3/63.0%

FUNGAL ANALYSIS

REQUESTED SERVICES

(Check boxes below)

Non-Culturable																					
Spore Trap		Tape Swab Bulk																			
Spore Trap Analysis	Spore Trap Analysis – Other particles	Direct Microscopic Exam (Qualitative)	Quantitative Spore Count Direct Exam	Dust Characterization	Air Fungi (Genus ID + Asp. speciation)	Air Fungi - Full speciation Pen. & Clad. genus only	Air Fungi - Full speciation	1-Media Surface Fungi (Genus ID + Asp. speciati	1-Media Surface Fungi - Full spec. Pen/Clad gen	1-Media Surface Fungi - Full speciation	2-Media Surface Fungi (Genus ID + Asp. special	2-Media Surface Fungi - Full spec. Pen/Clad ger	2-Media Surface Fungi - Full speciation	3-Media Surface Fungi (Genus ID + Asp. specia	3-Media Surface Fungi - Full spec. Pen/Clad ge	3-Media Surface Fungi - Full speciation	
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003179597

SAMPLE TYPE CODES			
BC – BioCassette ™	CP – Contact Plate	T – Tape	D – Dust
A1S – Anderson	ST – Spore Trap: Zefon, Allergenco, Burkard ...	SW – Swab	W – Water
SAS – Surface Air Sampler		B – Bulk	SO – Soil
O – Other:			

RELINQUISHED BY	DATE & TIME	RECEIVED BY	DATE & TIME
Jonathan Guetta	02/27/23	AS 2128123 10am	

By submitting this Chain of Custody, you agree to be bound by the terms and conditions set forth at http://www.emlab.com/terms-of-service

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AIHA Laboratory Accreditation Programs, LLC

acknowledges that

Eurofins EMLab P&K

4460 Brookfield Corporate Drive, Suite A Chantilly, VA 20151

Laboratory ID: LAP-179623

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, General Requirements for the Competence of Testing and Calibration Laboratories in the following:

LABORATORY ACCREDITATION PROGRAMS

☐	**INDUSTRIAL HYGIENE**	Accreditation Expires:
☐	**ENVIRONMENTAL LEAD**	Accreditation Expires:
☑	**ENVIRONMENTAL MICROBIOLOGY**	Accreditation Expires: January 01, 2025
☐	**FOOD**	Accreditation Expires:
☐	**UNIQUE SCOPES**	Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Cheryl O. Morton

Cheryl O Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision20: 06/07/2022

Date Issued: 10/01/2022

AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

Eurofins EMLab P&K
4460 Brookfield Corporate Drive, Suite A Chantilly, VA 20151

Laboratory ID: LAP-179623
Issue Date: 10/01/2022

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Environmental Microbiology Laboratory Accreditation Program (EMLAP)

Initial Accreditation Date: 12/01/2005

EMLAP Scope Category	Field of Testing (FOT)	Component, parameter or characteristic tested	Method	Method Description *(for internal methods only)*
Fungal	Air - Culturable	Viable Impaction Samples	EM-MY-S-1043	Preparation and Analysis of Air Samples for Culturable Fungi
Fungal	Air - Direct Examination	Spore Trap Air Samples	EM-MY-S-1038	Preparation and Analysis of Spore Trap (Air) Samples for Fungal Spores, Other Biological and Non-Biological Particles
Fungal	Bulk - Culturable	Dust, Swab, Bulk, Water/Liquids, Wipes	EM-MY-S-1040	Preparation of Bulk, Dust/ Soil, Swab/Wipe and Water/Liquid Samples for Quantitative Fungal and /or Bacterial Analysis
Fungal	Bulk - Culturable	Dust, Swab, Bulk, Water/Liquids, Wipes, Contact Plates	EM-MY-S-2584	Analysis of Dust, Swab, Water, and Bulk Samples for Culturable Fungi
Fungal	Bulk - Direct Examination	Tape, Swab, Wipe, Bulk, Dust, Soil	EM-MY-S-1039	Preparation and Analysis of Tape, Swab, Wipe, Bulk and Dust - Soil Samples for Qualitative Direct Microscopic Examination
Fungal	Bulk - Direct Examination	Tape, Swab, Wipe, Bulk, Dust, Soil	EM-MY-S-1041	Preparation and Analysis of Tape, Swab, Wipe, Bulk and Dust - Soil Samples for Quantitative Direct Microscopic Examination
Fungal	Surface - Culturable	Dust, Swab, Bulk, Water/Liquids, Wipes	EM-MY-S-1040	Preparation of Bulk, Dust/ Soil, Swab/Wipe and Water/Liquid Samples for Quantitative Fungal and /or Bacterial Analysis

EMLAP Scope Category	Field of Testing (FOT)	Component, parameter or characteristic tested	Method	Method Description *(for internal methods only)*
Fungal	Surface - Culturable	Dust, Swab, Bulk, Water/Liquids, Wipes, Contact Plates	EM-MY-S-2584	Analysis of Dust, Swab, Water, and Bulk Samples for Culturable Fungi
Fungal	Surface - Direct Examination	Tape, Swab, Wipe, Bulk, Dust, Soil	EM-MY-S-1039	Preparation and Analysis of Tape, Swab, Wipe, Bulk and Dust - Soil Samples for Qualitative Direct Microscopic Examination
Fungal	Surface - Direct Examination	Tape, Swab, Wipe, Bulk, Dust, Soil	EM-MY-S-1041	Preparation and Analysis of Tape, Swab, Wipe, Bulk and Dust - Soil Samples for Quantitative Direct Microscopic Examination

A complete listing of currently accredited EMLAP laboratories is available on the AIHA LAP, LLC website at: *http://www.aihaaccreditedlabs.org*

Phoenix EnviroCorp

July 5, 2022

Pamela Baldwin
Wilmington Housing Authority
1524 S. 16th Street
Wilmington, NC 28401

RE: PEC Job # 21-22-128A-IAQ-M – 902 Emory Street, Wilmington, NC - Mold Investigation

Enclosed are the results of the mold investigation conducted at the above referenced unit on June 17, 2022. Phoenix EnviroCorp (PEC) was retained to conduct additional investigative activities and provide a mold remediation protocol if needed.

Background Information: This is a one-story apartment building built on a slab. The subject unit is fully furnished with contents throughout. There is no carpet installed within.

PEC conducted an investigation on May 11, 2022, identifying elevated airborne mold spore levels and surface mold growth to include *Stachybotrys*.

The HVAC system was operating in the cool mode, set at 77º F upon PEC's arrival and during the investigation.

Related Documents:
- PEC mold investigation report dated May 30, 2022

Note: For directional purposes "front" is determined by facing Emory Street from inside the unit, unless otherwise stated.

Visual Inspection: PEC's visual inspection noted the following (see enclosed photographic documentation):
- Suspect visible mold growth/rust/dust and condensation on the HVAC supply vents in various locations throughout the unit
- Apparent water damage/suspect visible mold growth in the bathroom cabinet with sink

<u>Kitchen</u>
- Apparent water damage on the baseboards on the rear wall and on the front wall shared with the living room closet

<u>Rear left bedroom</u>
- Apparent water damage/suspect visible mold growth on the ceiling
- Apparent water damage on the baseboards and closet door
- Excessive contents in the closet obstructing the visual inspection

<u>Front right bedroom</u>
- Excessive contents in the closet obstructing the visual inspection
- Suspect visible mold growth/dust on the HVAC supply vent

Living room
- Suspect visible mold growth/rust and condensation on the HVAC supply vent near the front exterior door
- Excessive contents in the closet obstructing the visual inspection

Hallway
- Apparent water damage on the front baseboard adjacent to the bedroom associated with air handler/washer heater closet
- Apparent water damage on the baseboard in the closet

Mold Testing – Surface: Non-viable surface samples were collected from areas of suspect visible mold growth. The quantifications of fungal growth are reported as scattered spores, 21-100 fungal spores = very light (VL), 101-1,000 fungal spores = light (L), 1,001-10,000 fungal spores = moderate (M), > 10,000 fungal spores = heavy (H). The 'General Impressions' of fungal growth are reported as no fungal growth (NFG), fungal growth (FG), minimal fungal growth or growth in vicinity (MFG), and no fungal spores detected (ND). *Clear tape was utilized for the collection of surface samples. Each sample was assigned a unique ID number and shipped to a third-party laboratory for analysis.* Sampling locations and results are as follows:

Location	Result
Bathroom cabinet	**H – FG** *Penicillium/Aspergillus*
Ceiling in the rear left bedroom	**H – FG** *Penicillium/Aspergillus*
HVAC supply vent in the front right bedroom	**M – FG** *Aureobasidium*

Moisture Readings: Moisture readings were collected with a Tramex Survey Encounter. Multiple readings were taken to represent areas and materials reported.
Readings are marked with either a D or T to denote which meter was used. For drywall products, readings should be below fifty percent (50%). For wood products, normal moisture content should be less than fifteen percent (<15%).

Moisture content measurements were as follows:
Hallway
- Wooden baseboards = 8% to 12%

Kitchen
- Wooden baseboards throughout = 15% to 30%
- Drywall walls throughout = 0% to 40%

Living room
- Wooden baseboards throughout = ≤ 8%, except for on left wall associated with the closet and rear wall within 3 feet from the exterior door = 8% to 30%

Bathroom
- Drywall walls and ceiling = ≤ 30%
- Wooden cabinet with sink = 15% to 19%, lowest reading near the front of cabinet
- Wooden baseboards throughout = 17% to 19%

Rear left bedroom
- Drywall walls throughout = 0% to 30%
- Wooden baseboards throughout = 8% to 10%, except for on rear wall = 10% to 17%
- Wooden closet door = < 8%
- Drywall ceiling = ≤ 20%, except for near the rear wall/rear left corner = 20% to 70%

Hallway

- Baseboards in hall closet and on the wall associated with the air handler/water heater closet = 8% to 12%
- Drywall in hall closet = 20% to 40%

Conclusions: Sample results identified elevated airborne mold spore levels and surface mold growth to include *Stachybotrys* within the unit. A mold remediation protocol that outlines remediation activities is attached.

Prior to commencement of mold remediation, the source of any water intrusions, leaks, and/or moisture/humidity issues shall be remedied. If water intrusions/moisture issues exist and are not remedied, mold can be expected to return.

After remediation activities are completed, but before put-back of removed components, post remediation verification shall be conducted. Upon notice, and for an additional fee, PEC can conduct post remediation verification testing.

Enclosed in this report are the laboratory analysis and the Chain of Custody.

Should you have any questions, please do not hesitate to call.

Thank you,

Philip Green
Industrial Hygienist

Tommie Green, CIEC
Professional Industrial Hygienist

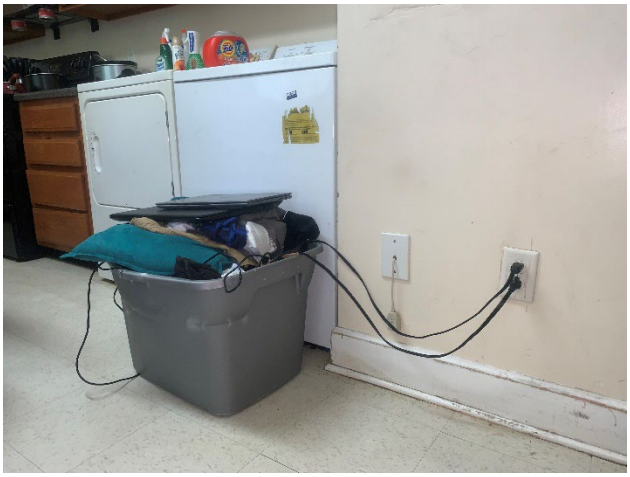
Enclosures

Photo 1



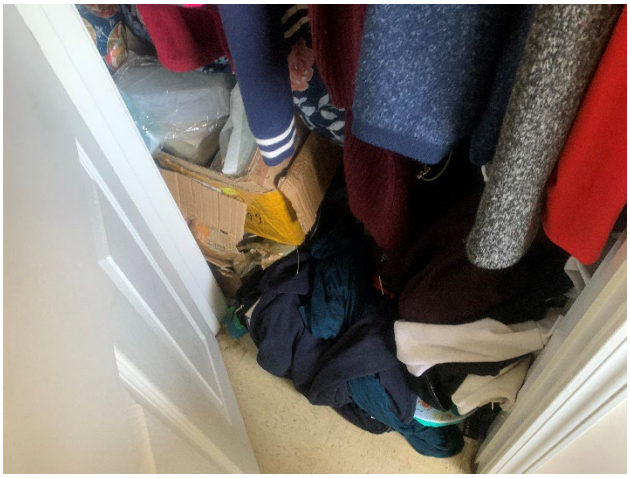
Apparent water damage on baseboards on the rear wall in the kitchen.

Photo 2



Apparent water damage on baseboards in the kitchen on the front wall shared with the living room closet.

Photo 3



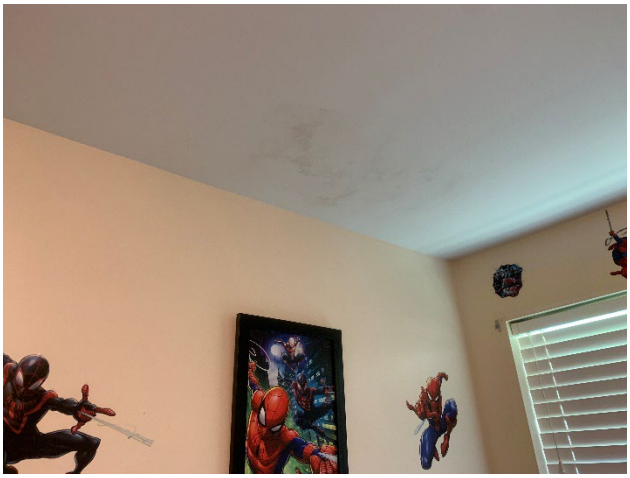
Excessive contents in the living room closet obstructing the visual inspection.

Photo 4



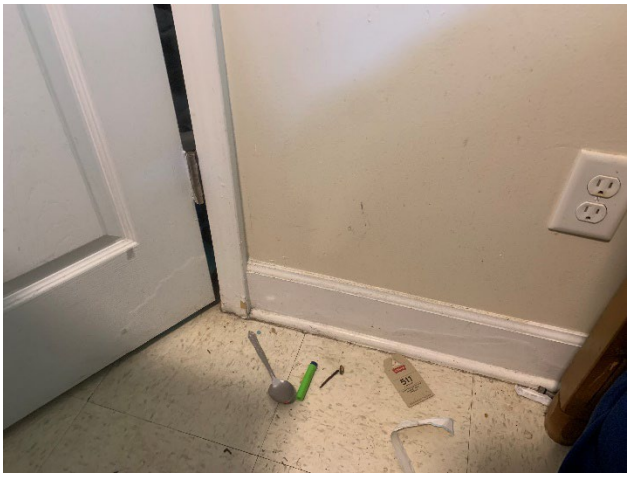
Apparent water damage/suspect visible mold growth in the bathroom cabinet with sink.

Photo 5



Apparent water damage/suspect visible mold growth on the rear left bedroom ceiling.

Photo 6



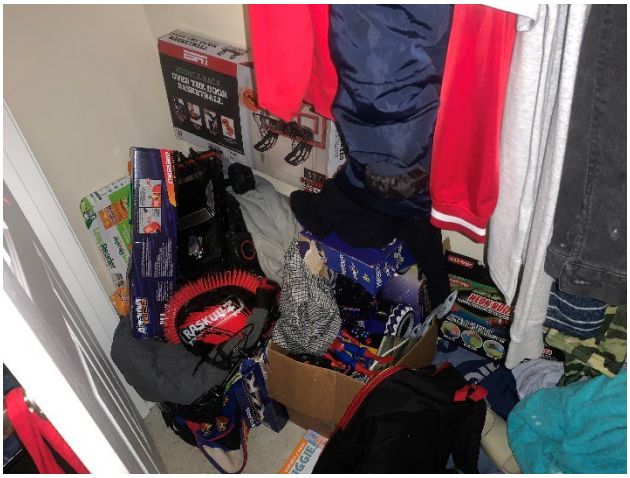
Apparent water damage on the rear left bedroom rear baseboards and closet door.



Photo 7

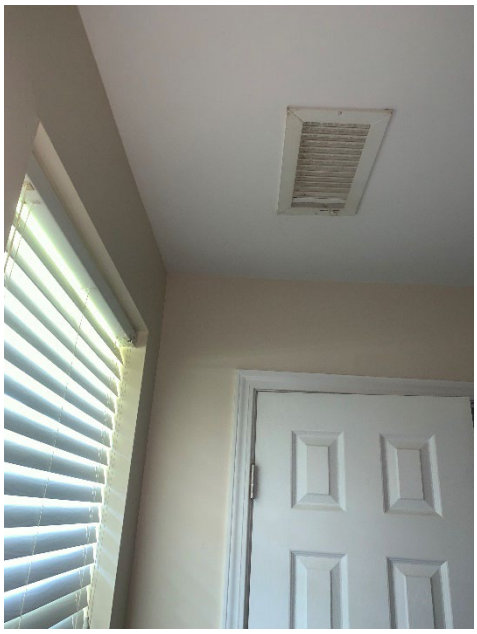
Excessive contents in the rear left bedroom closet obstructing the visual inspection.

Photo 8



Excessive contents in the front right bedroom closet obstructing the visual inspection.

Photo 9



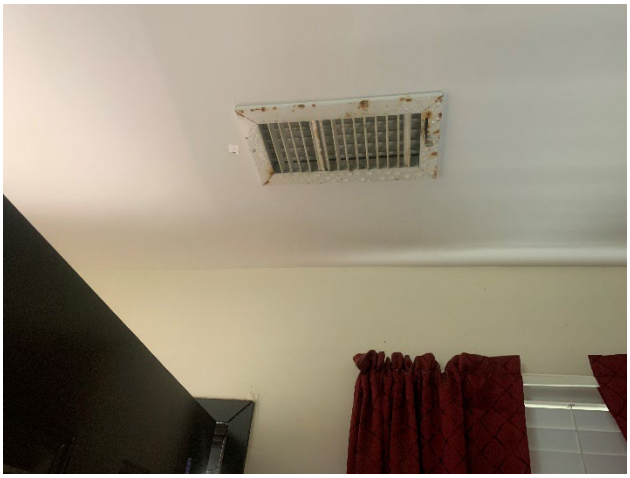
Suspect visible mold growth/dust on the HVAC supply vent in the front right bedroom.

Photo 10



Apparent water damage on the hallway front baseboard adjacent to the bedroom associated with air handler/washer heater closet.

Photo 11



Suspect visible mold growth/rust and condensation on the HVAC supply vent in the living room near the front exterior door.

Photo 12



Apparent water damage on the baseboards in the hallway closet.

Phoenix EnviroCorp
4020 SHIPYARD BLVD.
WILMINGTON, NC 28403

CHAIN OF CUSTODY

LABORATORY TEST REQUEST

Ref #: 220622082 Lab ID: 330 - 332

CONTACT: Philip Green	TELEPHONE (910) 397-0370 FAX (910) 313-6094	6/17/2022
PEC Job #: 21-22-128A-IAQ-M	SITE ADDRESS: 902 Emory Street, Wilmington, NC 28405	

PLEASE EMAIL RESULTS TO: KMGREEN@PHOENIXENVIROCORP.COM

SAMPLE TYPE: Spore Trap - Micro-5 Surface Samples	NUMBER OF SAMPLES: 3	TURN AROUND TIME SPECIFIED: ____ Immediate ____ 24 hr ____ 48 hr __X__ Standard

Sample #	Sample Area	Sample Volume	Lab Analysis Requested	% Relative Humidity	Temperature °F
061722-PG-01	Bathroom cabinet	1 cm sq	S001T	N/A	N/A
061722-PG-02	Ceiling in the rear left bedroom	1 cm sq	S001T	N/A	N/A
061722-PG-03	HVAC supply vent in the front right bedroom	1 cm sq	S001T	N/A	N/A

Samples Collected By (Printed Name and Signature): [signature] Date Signed: 6/17/2022

CHAIN OF CUSTODY RECORD

DATE:	Time:	Condition of Samples:	RELINQUISHED BY: (Printed Name and Signature)	ACCEPTED BY: (Printed Name and Signature)
6/17/2022	17:15	Intact	[signature] AFFILIATION:	AFFILIATION: [signature] 6-22-22

SEEML Reference Number: 220622082

Southeast Environmental Microbiology Laboratories

102 Edinburgh Court
Greenville, SC 29607
Phone: (864) 233-3770

The information and data for **Phoenix Enviro Corp.** has been checked for thoroughness and accuracy. The following reports are contained within this document:

- [x] Surface/Bulk Report
- [ ] Spore Trap Report
- [ ] Andersen Fungal Report
- [ ] Quantitative Fungal Report

Lab Manager Review: *Blake Robinson* Date: 06/22/22

Thank you for using SEEML laboratories. We strive to provide superior quality and service.
SEEML laboratories are accredited through AIHA LAP, LLC (EMLAP # 173667) for the analysis of Spore Traps and Surface/Bulk Samples.

The data within this report is reliable to three significant figures. The third significant figure is technically unjustified. In this instance, the third figure is reported as an estimate to facilitate the interpretation by the customer.

Confidentiality Notice:
The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of the document(s) is strictly prohibited. If you have received this document in error, please immediately notify us by telephone to arrange for its return. Thank you.

Guidelines for Interpretation:
No accepted quantitative regulatory standards currently exist by which to assess the health risks related to mold and bacterial exposure. Molds and bacteria have been associated with a variety of health effects and sensitivity varies from person to person.
Several organizations, including: the American Conference of Government Industrial Hygienists (ACGIH); the American Industrial Hygiene Association (AIHA); the Indoor Air Quality Association (IAQA); the United States Environmental Protection Agency (USEPA); the Centers for Disease Control (CDC), as well as the California Department of Health Services (CADHS), have all published guidelines for assessment and interpretation of mold resulting from water intrusion in buildings.

Interpretation of the data and information within this document is left to the company, consultant, and/or persons who conducted the fieldwork.

Surface and Bulk Sample Report

	Date Sampled: 06/17/22
Attn: ***Phoenix Enviro Corp.***	Date Received: 06/22/22
4020 Shipyard Blvd.	Date Analyzed: 06/22/22
Wilmington, NC 28403	Date Reported: 06/22/22
	Date Revised:
	Project Name: 21-22-128A-IAQ-M
	Project Address: 902 Emory Street
	Project City, State ZIP: Wilmington, NC 28405
	SEEML Reference #: 220622082

TEST METHOD: Direct Microscopic Examination (SEEML SOP 18)

Client Sample ID	061722-PG-01	061722-PG-02	061722-PG-03	
Location	Bathroom Cabinet	Ceiling In The Rear Left Bedroom	HVAC Supply Vent In The Front Right Bedroom	
SEEML Sample ID	220622082-330	220622082-331	220622082-332	
Sample Type	Tape	Tape	Tape	
	Quantification*	Quantification*	Quantification*	
Hyphal Fragments	**M**	**M**	**M**	
Pollen				
General Impressions **	**FG**	**FG**	**FG**	
Fungal Spore:				
Alternaria				
Acremonium				
Aureobasidium			**M**	
Basidiospores				
Bipolaris/Drechslera				
Cercospora				
Chaetomium				
Cladosporium				
Curvularia				
Epicoccum				
Fusarium				
Geotrichum sp.				
Memnoniella				
Myxomycetes				
Nigrospora				
Penicillium/Aspergillus	**H**	**H**		
Pithomyces				
Rusts/Smuts				
Stemphylium				
Tetraploa				
Ulocladium				

**** General Impressions: NFG = No Fungal Growth, FG = Fungal Growth, MFG = Minimal Fungal Growth Or Growth in vicinity**

Quantification of fungal growth is done by semi-quantitative grading using the following ranges:

Scattered Spores, 1-20 fungal spores

VL = 21-100 fungal spores **L = 101-1,000 fungal spores** **M = 1,001-10,000 fungal spores** **H = >10,000 fungal spores**

ND = No Fungal Spores Detected

Disclaimer: This report relates only to the samples tested

Respectfully submitted, SEEML

Blake Robinson, **Approved Laboratory Signatory**

102 Edinburgh Court
Greenville, SC 29607
Phone: (864) 233- 3770

AIHA LAP, LLC EMLAP # 173667

Texas License: LAB1016

Fungal Descriptions

Alternaria sp.

Aw - 0.89. Conidia dimensions: 18-83 x 7-18 microns. A very common allergen with an IgE mediated response. It is often found in carpets, textiles and on horizontal surfaces in building interiors. Often found on window frames. Outdoors it may be isolated from samples of soil, seeds and plants. It is commonly found in outdoor samples. The large spore size, 20 - 200 microns in length and 7 - 18 microns in sizes, suggests that the spores from these fungi will be deposited in the nose, mouth and upper respiratory tract. It may be related to bakers' asthma. It has been associated with hypersensitivity pneumonitis. The species *Alternaria alternata* can produce tenuazonic acid and other toxic metabolites that may be associated with disease in humans or animals. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms; chronic cases may develop pulmonary emphysema.

Ascospore

A spore borne in a special cell called an ascus. Spores of this type are reported to be allergenic. All ascomycetes, members of a group of fungi called Ascomycotina, have this type of spore. The minute black dots on rotting wood and leaves or the little cups on lichens are examples of ascomycetes; another is the "truffle" mushroom.

Aspergillus/Penicillium

These are two of the most commonly found allergenic fungi in problem buildings. *Aspergillus* comes in many varieties (species). Many of the varieties produce toxic substances. It may be associated with symptoms such as sinusitis, allergic bronchopulmonary aspergillosis, and other allergic symptoms. *Penicillium* is a variety of mold that is very common indoors and is found in increased numbers in problem buildings. It also has many varieties, some of which produce toxic substances. The symptoms are allergic reactions, mucous membrane irritation, headaches, vomiting, and diarrhea. Due to the morphological similarity of *Aspergillus* and *Penicillium*, they are not differentiated by microscopic analysis and are reported together.

Aspergillus sp.

Aw 0.75 - 0.82. Reported to be allergenic. Members of this genus are reported to cause ear infections. Many species produce mycotoxins that may be associated with disease in humans and other animals. Toxin production is dependent on the species or a strain within a species and on the food source for the fungus. Some of these toxins have been found to be carcinogenic in animal species. Several toxins are considered potential human carcinogens. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms; chronic cases may develop pulmonary emphysema; may also be associated with sinusitis, allergic bronchopulmonary aspergillosis, and other allergic symptoms.

Basidiospore

Spore from basidiomycetes. Many varieties are reported to be allergenic.

Bipolaris sp.

A fungus with large spores that could be expected to be deposited in the upper respiratory tract. This fungus can produce the mycotoxin - sterigmatocystin, which has been shown to produce liver and kidney damage when ingested by laboratory animals.

Botrytis sp.

Aw 0.93. Conidia dimensions: 7-14 x 5-9 microns. It is parasitic on plants and soft fruits. Found in soil and on house plants and vegetables, it is also known as "gray mold". It causes leaf rot on grapes, strawberries, lettuce, etc. It is a well-known allergen, producing asthma type symptoms in greenhouse workers and "wine grower's lung".

Cercaspora

Common outdoors in agricultural areas, especially during harvest. Parasite of higher plants, causing leaf spot. Commonly found as parasites on higher plants.

Chaetomium sp.

large ascomycetous fungus producing perithecia. It is found on a variety of substrates containing cellulose, including paper and plant compost. It has been found on paper in sheetrock. It can produce an *Acremonium*-like state on fungal media. Varieties are considered allergenic and have been associated with peritonitis, cutaneous lesions, and system mycosis.

Cladosporium sp.

Aw 0.88; Aw 0.84. Most commonly identified outdoor fungus. The outdoor numbers are reduced in the winter. The numbers are often high in the summer. Often found indoors in numbers less than outdoor numbers. It is a common allergen. Indoor *Cladosporium* sp. may be different than the species identified outdoors. It is commonly found on the surface of fiberglass duct liners in the interior of supply ducts. A wide variety of plants are food sources for this fungus. It is found on dead plants, woody plants, food, straw, soil, paint, and textiles. Produces greater than 10 antigens. Antigens in commercial extracts are of variable quality and may degrade within weeks of preparation. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include skin lesions, eye ulceration, mycosis (including onychomycosis, an infection of the nails of the feet or hands) edema and bronchospasms; chronic cases may develop pulmonary emphysema.

Curvularia sp.

Reported to be allergenic and has been associated with allergic fungal sinusitis. It may cause corneal infections, mycetoma, and infections in immune compromised hosts.

Dreschlera sp.

Conidia dimensions: 40-120 x 17-28 microns. Found on grasses, grains and decaying food. It can occasionally cause a corneal infection of the eye.

Epicoccum sp.

Conidia dimensions: 15-25 microns. A common allergen. It is found in plants, soil, grains, textiles and paper products.

Fusarium sp.

Aw 0.90. A common soil fungus. It is found on a wide range of plants. It is often found in humidifiers. Several species in this genus can produce potent trichothecene toxins. The trichothecene (scirpene) toxin targets the following systems: circulatory, alimentary, skin, and nervous. Produces vomitoxin on grains during unusually damp growing conditions. Symptoms may occur either through ingestion of contaminated grains or possibly inhalation of spores. The genera can produce hemorrhagic syndrome in humans (alimentary toxic aleukia). This is characterized by nausea, vomiting, diarrhea, dermatitis, and extensive internal bleeding. Reported to be allergenic. Frequently involved in eye, skin, and nail infections.

Myxomycetes

Members of a group of fungi that is included in the category of "slime molds". They're occasionally found indoors, but mainly reside in forested regions on decaying logs, stumps, and dead leaves. Myxomycetes display characteristics of fungi *and* protozoans. In favorable (wet) conditions they exhibit motile, amoeba-like cells, usually bounded only by a plasma membrane, that are variable in size and form. During dry spells, they form a resting body (sclerotium) with dry, airborne spores. These fungi are not known to produce toxins but can cause hay fever and asthma.

Memnoniella

Contaminant found most often with *Stachybotrys* on wet cellulose. Forms in chains, but it are very similar to *Stachybotrys* and sometimes is considered to be in the *Stachybotrys* family. Certain species do produce toxins very similar to the ones produced by *Stachybotrys chartarum* and many consider the IAQ importance of *Memnoniella* to be on par with *Stachybotrys*. Allergenic and infectious properties are not well studied.

Nigrospora sp.

Commonly found in warm climates, this mold may be responsible for allergic reactions such as hay fever and asthma. It is found on decaying plant material and in the soil. It is not often found indoors.

Oidium sp.

The asexual phase of *Erysiphe* sp. It is a plant pathogen causing powdery mildews. It is very common on the leaf's stems, and flowers of plants. The health effects and allergenicity have not been studied. It does not grow on non-living surfaces such as wood or drywall.

Penicillium sp.

Aw 0.78 - 0.88. A wide number of organisms have been placed in this genus. Identification to species is difficult. Often found in aerosol samples. Commonly found in soil, food, cellulose and grains. It is also found in paint and compost piles. It may cause hypersensitivity pneumonitis, allergic alveolitis in susceptible individuals. It is reported to be allergenic (skin). It is commonly found in carpet, wallpaper, and in interior fiberglass duct insulation. Some species can produce mycotoxins. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms; chronic cases may develop pulmonary emphysema. It may also cause headaches, vomiting, and diarrhea.

Periconia sp.

Periconia sp. are found in soil, blackened and dead herbaceous stems leaf spots, grasses, rushes, and sedges. Almost always associated with other fungi. Rarely found growing indoors. Reportedly associated with a rare case of mycotic keratitis.

Pithomyces sp.

A common mold found on dead leaves, plants, soil and especially grasses. Causes facial eczema in ruminants. It exhibits distinctive multi-celled brown conidia. It is not known to be a human allergen or pathogen. It is rarely found indoors, although it can grow on paper.

Rusts/Smuts

These fungi are associated with plant diseases. In the classification scheme of the fungi, the smuts have much in common with the rusts, and they are frequently discussed together. Both groups produce wind-borne, resistant teliospores that serve as the basis for their classification and their means of spread. Rusts usually attack vegetative regions (i.e., leaves and stems) of plants; smuts usually are associated with the reproductive structures (seeds). They can cause hay fever and asthma.

Spegazzinia

Spegazzinia species comprise a very small proportion of the fungal biota. This genus is somewhat related to other lobed or ornamented genera such as *Candelabrum*. No information is available regarding health effects or toxicity. Allergenicity has not been studied. Usually identified on spore trap samples where it is seen every few weeks. (Spores have very distinctive morphology.) May also be found in air by culturable (Andersen) samples if a long enough incubation period is provided so that sporulation occurs. Our laboratory has never found this organism growing on indoor environmental surfaces. Natural habitat includes soil and many kinds of trees and plants.

Stachybotrys sp.

Aw - 0.94, optimum Aw ->0.98. Several strains of this fungus (*S. atra, S. chartarum* and *S. alternans* are synonymous) may produce a trichothecene mycotoxin- Satratoxin H - which is poisonous by inhalation. The toxins are present on the fungal spores. This is a slow growing fungus on media. It does not compete well with other rapidly growing fungi. The dark colored fungus grows on building material with high cellulose content and low nitrogen content. Areas with a relative humidity above 55%, and are subject to temperature fluctuations, are ideal for toxin production. Individuals with chronic exposure to the toxin produced by this fungus reported cold and flu symptoms, sore throats, diarrhea, headaches, fatigue, dermatitis, intermittent local hair loss and generalized malaise. Other symptoms include coughs, rhinitis, nosebleed, a burning sensation in the nasal passages, throat, and lungs, and fever. The toxins produced by this fungus will suppress the immune system affecting the lymphoid tissue and the bone marrow. Animals injected with the toxin from this fungus exhibited the following symptoms: necrosis and hemorrhage within the brain, thymus, spleen, intestine, lung, heart, lymph node, liver, and kidney. Affects by absorption of the toxin in the human lung are known as pneumomycosis.

This organism is rarely found in outdoor samples. It is usually difficult to find in indoor air samples unless it is physically disturbed (or possibly -this is speculation- a drop in the relative humidity). The spores are in a gelatinous mass. Appropriate media for the growth of this organism will have high cellulose content and low nitrogen content. The spores will die readily after release. The dead spores are still allergenic and toxigenic. Percutaneous absorption has caused mild symptoms.

Stemphylium sp.

Reported to be allergenic. Isolated from dead plants and cellulose materials.

Torula sp.

Found outdoors in air, soil, on dead vegetation, wood, and grasses. Also found indoors on cellulose materials. Reported to be allergenic and may cause hay fever and asthma.

Tetraploa

Tetraploa species comprise a very small proportion of the fungal biota. This genus is somewhat related to *Triposporium* and Diplocladiella. The only reported human infections are two cases of keratitis (1970, 1980) and one case of subcutaneous infection of the knee (1990). No information is available regarding other health effects or toxicity. Allergenicity has not been studied. Usually identified on spore trap samples where it is seen every few weeks. (Spores have very distinctive morphology.) Our laboratory has never found this organism growing on indoor environmental surfaces. Natural habitat includes leaf bases and stems just above the soil on many kinds of plants and trees.

Ulocladium sp.

Aw 0.89. Isolated from dead plants and cellulose materials. Found on textiles.

Zygomycetes

Zygomycetes are one of the four major groups of fungi, the others being the Oomycetes, the Ascomycetes, and the Basidiomycetes. Zygomycetes are common, fast growing, and often overgrow and/or inhibit other fungi nearby. Rhizopus and Mucor are two of the most common Zygomycetes seen in the indoor environment. However, others are seen as well, including *Syncephalastrum*, *Circinella*, *Mortierella*, *Mycotypha*, *Cunninghamella*, and *Choanephora*. For further information, please see descriptions of these individual genera.

The following table lists mycotoxins that are produced by certain types of fungi:

Fungi	Mycotoxin
Acremonium crotocinigenum	Crotocin
Aspergillus favus	Alfatoxin B, cyclopiazonic acid
Aspergillus fumigatus	Fumagilin, gliotoxin
Aspergillus carneus	Critrinin
Aspergillus clavatus	Cytochalasin, patulin
Aspergillus Parasiticus	Alfatoxin B
Aspergillus nomius	Alfatoxin B
Aspergillus niger	Ochratoxin A, malformin, oxalicacid
Acremonium crotocinigenum	Crotocin
Aspergillus nidulans	Sterigmatocystin
Aspergillus ochraceus	Ochratoxin A, penicillic acid
Aspergillus versicolor	Sterigmatocystin, 5 ethoxysterigmatocystin
Aspergillus ustus	Ausdiol, austamide, austocystin,brevianamide
Aspergillus terreus	Citreoviridin
Alternaria	Alternariol, altertoxin, altenuene, altenusin, tenuazonic acid
Arthrinium	Nitropropionic acid
Bioploaris	Cytochalasin, sporidesmin, sterigmatocystin
Chaetomium	Chaetoglobosin A,B,C. Sterigmatocystin
Cladosporium	Cladosporic acid
Clavipes purpurea	Ergotism
Cylindrocorpon	Trichothecene
Diplodia	Diplodiatoxin
Fusarium	Trichothecene, zearalenone
Fusarium moniliforme	Fumonisins
Emericella nidulans	Sterigmatocystin
Gliocladium	Gliotoxin
Memnoniella	Griseofulvin , dechlorogriseofulvin, epi-decholorgriseofulvin, trichodermin, trichodermol
Myrothecium	Trichothecene
Paecilomyces	Patulin, viriditoxin
Penicillium aurantiocandidum	Penicillic acid
Penicillium aurantiogriseum	Penicillic acid
Penicillium brasilanum	Penicillic acid
Penicillium brevicompactum	Mycophenolic acid
Penicillium camemberti	Cyclopiazonic acid
Penicillium carneum	Mycophenolic acid, Roquefortine C
Penicillium crateriforme	Rubratoxin

Fungi	Mycotoxin
Penicillium citrinum	Citrinin
Penicillium commune	Cyclopiazonic acid
Penicillium crustosum	Roquefortine C
Penicillium chrysogenum	Roquefortine C
Penicillium discolor	Chaetoglobosin C
Penicillium expansum	Citrinin, Roquefortine C
Penicillium griseofulvum	Roquefortine C, cyclopiazonic acid, griseofulvin
Penicillium hirsutum	Roquefortine C
Penicillium hordei	Roquefortine C
Penicillium nordicum	Ochratoxin A
Penicillium paneum	Roquefortine C
Penicillium palitans	Cyclopiazonic acid
Penicillium polonicum	Penicillic acid
Penicillum roqueforti	Roquefortine C, Mycophenolic acid
Penicillium veridicatum	Penicillic acid
Penicillium verrucosum	Citrinin, ochratoxin A
Penicillium/ Aspergillus	Patulin
Penicillium/ Aspergillus/Alternaria	Glitoxin
Phomopsis	Macrocyclic trichothecenes
Phoma	Brefeldin, cytochalasin, secalonic acid, tenuazonic acid
Pithomyces	Sporidesmin
Rhizoctonia	Slaframine
Rhizopus	Rhizonin
Sclerotinia	Furanocoumarins
Stachybotrys chartarum	Iso-satratoxin F, roridin E, L-2, satratoxin G & H, trichodermin, trichodermol, trichothecene
Torula	Cytotoxins
Trichoderma	Trichodermin, trichodermol, gliotoxin
Trichothecium	Trichothecene
Wallemia	Walleminol
Zygosporium	Cytochalasin

General terms

Allergen

An allergen is a substance that elicits an IgE antibody response and is responsible for producing allergic reactions. Chemicals are released when IgE on certain cells contact an allergen. These chemicals can cause injury to surrounding tissue - the visible signs of an allergy. Only a few fungal allergens have been characterized but all fungi are thought to be potentially allergenic. Fungal allergens are proteins found in either the mycelium or spores

"Black mold"

A poorly defined term. Black mold or toxic black mold has usually been associated with the mold *Stachybotrys chartarum*. While there are only a few molds that are truly black, there are many that can appear black. Not all molds that appear to be black are *Stachybotrys*.

Fungi

Fungi are neither animals nor plants and are classified in a kingdom of their own. The Kingdom of Fungi. Fungi include a very large group of organisms, including molds, yeasts, mushrooms and puffballs. There are >100,000 accepted fungal species but current estimates range to 1.5 million species. Mycologists (people who study fungi) have grouped fungi into four large groups according to their method of reproduction.

Hidden mold

This refers to visible mold growth on building structures that is not easily seen, including the areas above drop ceilings, within a wall cavity (the space between the inner and outer structure of a wall), inside air handlers, or within the ducting of a heating/ventilation system.

Microbial Volatile Organic Compounds (MVOCs)

Fungi produce chemicals as a result of their metabolism. Some of these chemicals, MVOCs, are responsible for the characteristic moldy, musty, or earthy smell of fungi, whether mushrooms or molds. Some MVOCs are considered offensive or annoying. Specific MVOCs are thought to be characteristic of wood rot and mold growth on building materials. The human nose is very sensitive to mold odors and sometimes more so than current analytical instruments.

Mold

Molds are a group of organisms that belong to the Kingdom of Fungi (see Fungi). Even though the terms mold and fungi had been commonly referred to interchangeably, all molds are fungi, but not all fungi are molds.

Mycotoxin

Mycotoxins are compounds produced by some fungi that are toxic to humans or animals. By convention, the term? Mycotoxin. Excludes mushroom toxins. Fungi that produce mycotoxins are called "toxigenic fungi."

Spore

General term for a reproductive structure in fungi, bacteria and some plants. In fungi, the spore is the structure which may be used for dissemination and may be resistant to adverse environmental conditions.

Toxic mold

The term "toxic mold" has no scientific meaning since the mold itself is not toxic. The metabolic byproducts of some molds may be toxic (see mycotoxin).

Hypha (plural, hyphae)

An individual fungal thread or filament of connected cells; the thread that represents the individual parts of the fungal body.

Phoenix EnviroCorp

MOLD/BIOLOGICAL CONTAMINANT REMEDIATION PROTOCOL

Date: July 5, 2022

For:
Pamela Baldwin
Wilmington Housing Authority
1524 S. 16th Street
Wilmington, NC 28401

Remediation Contractor: Not determined

On-Site Consultant:
Phoenix EnviroCorp (PEC)
4020 Shipyard Boulevard
Wilmington, NC 28403
(910) 397-0370

Approved Signatory:

Philip Green
Industrial Hygienist

Tommie Green, CIEC
Professional Industrial Hygienist

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SECTION 1.0 REMEDIATION PROCEDURES

1.1 Project Set Up

- The owner or powers that be shall supply temporary power for remediation equipment. The existing electrical system may be utilized, with permission of the owner or powers that be. Determining specific electrical load/safety requirements, including, but not limited to, the use of a temporary GFCI electrical panel box shall be the responsibility of the abatement contractor.
- HVAC system shall be isolated.
- 6-mil polyethylene sheathing shall be erected to separate primary control areas (PCA) from remaining areas. Control areas shall be selected so that specified building materials (specified herein, in section 1.3, under primary control areas) may be removed or cleaned and dried.
- HEPA Air Filtration Devices shall be utilized for each separate control area. Critical barriers shall consist of 6-mil polyethylene so that primary control areas are isolated from remaining areas. HEPA filtration units shall be exhausted from the PCA to the outside of the building through windows/doors. Dehumidification units must be installed in the PCA to sufficiently dry components.
- A remote wash off station shall be set up to allow for employees to wash hands and faces after egress from the work area.
- Ingress/Egress to the control area(s) shall be, at minimum, sealed with a 2-way polyethylene air lock.
- Entrances to the building shall be marked as indicated in Section 7.4 of this document.

1.2 Local Exhaust System

- Once sealed, the primary control area shall be ventilated with a local HEPA air filtration device that shall ensure a minimum of four (4) air changes per hour. The air filtration device shall be placed within the containment work area.
- Local HEPA exhaust shall be utilized where cleaning of contents is required and/or in the immediate vicinity of remediation activities of building materials.
- In interior sections requiring surface area cleaning, local HEPA filtration may be exhausted within the area to scrub microbials from ambient air. This process shall only be conducted after fine cleaning has been completed.
- Negative pressure within the contained work area shall be maintained throughout the project until clearance is obtained.
- Negative air machines shall be exhausted to exterior portions of the building to adequately ensure that negative pressure is achieved.
- Dehumidification devices with HEPA filtration may be incorporated as filtration devices in conjunction with true HEPA filtration devices; they may not replace the true HEPA filtration devices.

Note: Formula for determination of adequate HEPA filtration:

Total feet per minute =Volume of work area (ft^3)/15 minutes
#AFD Units needed = (Total feet per minute)/Capacity of Unit (ft^3)

- At initiation of final cleaning stages, relative humidity shall be at 40% (+/-3%) and moisture content of wooden components shall be at or below 15% as determined by Delmhorst moisture meter or equivalent meter. Moisture mapping and direct read T/RH shall be recorded by the remediation contractor until the specified levels have been achieved. Control areas shall be dehumidified during cleaning and mold remediation activities to ensure removal of surface moisture created during application of water. Drying of structural components that have been treated with encapsulating anti-microbial agents will be necessary.

- Moisture levels shall be recorded and documented by the remediation contractor upon successful completion of dehumidification.

1.3 Remediation Specifications

- Prior to commencement of mold remediation activities by the remediation contractor, the source of any water intrusions, leaks, and/or moisture/humidity problems shall be remedied by the owner. If water intrusions, leaks, and/or moisture/humidity problems exist and are not corrected, mold growth can be expected to return.
- All remediation procedures listed that involve the removal of building materials shall employ polyethylene critical barriers, negative air pressure, and HEPA filtration (i.e., primary control areas).
- The remediation contractor shall ensure that the filters are properly capped prior to switching off the air scrubbers. If the filters are not properly capped, the backflow can cause mold spores to re-release back into the control area, essentially re-contaminating an area that has already been cleaned.
- All remediation activities shall be conducted in a manner that does not allow dissemination of mold spores. Remediation procedures shall begin from the side of the control area furthest away from air filtration devices.
- Cleaning procedures shall be repeated until the area is visibly free of dust and debris.
- Engineering controls set up during the remediation process shall remain in place until remediation has been completed and acceptable post remediation sampling results have been achieved.
- **Federal and/or state regulations require that suspect asbestos containing materials in public and commercial buildings shall be inspected for asbestos prior to renovations or demolition. Based on these regulations, PEC recommends that building materials that may be disturbed during mold remediation be tested for asbestos content prior to their disturbance to prevent asbestos contamination.**
- If cleaning procedures outlined in this remediation plan outweigh the cost of replacement for selected items, the remediation contractor shall give the owner the option to clean or dispose of those items.
- Reinstallation of building materials and/or components shall only be conducted once acceptable post remediation results are obtained.
- Any chemicals used on this project shall be EPA approved and used only as directed by the manufacturer. MSDS shall be available for review upon request.

HVAC System

- The HVAC system(s) that services or run through the primary control area/affected area shall be shut down prior to remediation activities.
- The spaces that are normally climate-controlled by the HVAC system that have been shut down shall be maintained under proper humidity levels (between 30 and 60% utilizing dehumidifiers, etc.) while the system is not in operation.
- All HVAC supply/return vents within the primary control area/affected area shall be isolated with a critical barrier (i.e., plastic, etc.) to prevent air flow. Prior to isolating the vents, the register covers (diffusers) shall be removed, and the supply shall be isolated at the metal boot. Once isolated, the registers and surrounding building materials shall be cleaned.
- The interior of the air handler, rigid duct system, intake box, etc. shall be thoroughly cleaned by an HVAC professional experienced in mold remediation. The interior shall be cleaned with mechanical methods that aggressively disturb all interior surfaces and filter the disturbed airborne particulates to avoid cross contamination, or other equivalent methods.
- Cleaning of components shall consist of a method that thoroughly removes visible mold growth, settled concentrations of mold spores, and/or dust and debris.

- PEC recommends the removal and disposal of the flex ducts when feasible, as well as any interior duct board where cleaning will damage the duct board. Once removed, the remediation contractor shall isolate the connection point where the flex duct and/or duct board was detached with a critical barrier (such as plastic, etc.) to prevent air flow.
- The remediation contractor shall be responsible for coordinating the cleaning of the HVAC system and other specified remediation to avoid cross contamination.
- Once the HVAC system components are cleaned or replaced anew, the system shall remain off and isolated until acceptable post remediation results are obtained.
- A written document shall be obtained from the remediation contractor verifying that the HVAC system has been cleaned by an HVAC cleaning company with mold experience. This document shall include the property address and date of services and shall be filed with other mold remediation documents.

Note: For directional purposes "front" is determined by facing Emory Street from inside the unit, unless otherwise noted.

Primary Control Areas/Affected Areas

Critical barriers, negative air pressure, and HEPA filtration shall be established to isolate the following areas as Primary Control Areas to perform the specified mold remediation.

Within the kitchen:
- Detach the floor-mounted cabinet and remove all water damaged components and areas with suspect visible mold growth that cannot be removed through cleaning.
- Remove an approximately 8-foot-by-3.5-foot section of drywall from the left wall beginning at the front wall and extending approximately 8 feet towards the rear wall and beginning at the floor and extending approximately 3.5 feet up.
- Remove all baseboards, assess the uncovered drywall, and remove all water damaged components and areas with suspect visible mold growth.

Within the living room:
- Remove all baseboards in the closet.
- Remove baseboard from the rear wall beginning at the right side of the rear exterior door extending approximately 5 feet towards the right wall and baseboards from the left wall associated with the closet. Assess the uncovered drywall and remove all water damaged components and areas with suspect visible mold growth.

Within the bathroom:
- Detach the floor-mounted cabinet and remove all water damaged components and areas with suspect visible mold growth that cannot be removed through cleaning.
- Remove an approximately 4-foot-by-5-foot section of drywall from ceiling beginning at the front wall extending approximately 4 feet towards the rear wall and beginning at the left wall extending approximately 5 feet to the right wall. Continue the removal of the drywall until no suspect visible mold growth/apparent water damage is observed.
- Remove an approximately 2-foot-by-5-foot section of drywall from the front wall beginning at the ceiling extending approximately 2 feet to the floor and beginning at the left wall extending approximately 5 feet to the right wall. Continue the removal of the drywall until no suspect visible mold growth/apparent water damage is observed.
- Remove all baseboards, assess the uncovered drywall, and remove all water damaged components and areas with suspect visible mold growth.

Within the rear left bedroom:

- Remove an approximately 4-foot-by-5-foot section of drywall from the ceiling beginning at the front wall extending approximately 4 feet to the rear and beginning at the left wall extending approximately 5 feet to the right wall. Continue the removal of the drywall until no suspect visible mold growth/apparent water damage is observed.
- Remove baseboards from the rear wall and assess the drywall and remove all water damaged components and areas with suspect visible mold growth.

Within the hallway:

- Remove all baseboards in the hallway closet, and all baseboards associated with HVAC/water heater closet, assess the uncovered drywall, and remove all water damaged components and areas with suspect visible mold growth.
- Remove drywall from the left wall in the closet (an approximately 2-foot-by-3-foot section) beginning at the floor and extending approximately 3 feet up and beginning at the rear wall extending approximately 2 feet to the front wall.

Throughout the unit (Negative air pressure is not required in areas where building components are not specified for removal, but HEPA filtration is required):

- Remove all excessive contents, assess the baseboards and drywall uncovered, and remove any areas with suspect visible mold growth or apparent water damage.
- Clean all remining surfaces as specified below under general specifications for primary control areas after the removal of all non-stabled furnishings and contents from all areas except the kitchen/living room. All surfaces, furnishings, and contents within the kitchen/living room shall be cleaned as specified below under general specifications for primary control areas.
- **Areas of specified ceiling removal shall be sealed with poly (i.e., critical barrier) after cleaning, but before HEPA air scrubbing after cleaning, to prevent air flow from areas outside the containment area. An access door (i.e., poly flap taped in place, zipper, etc.) shall be installed in the critical barrier for easy access to conduct a visual inspection of the building materials behind the critical barrier.**

General Specifications for Primary Control Areas

- Open plumbing lines and drains within the control areas shall be isolated with a critical barrier consisting of 6-mil poly.
- The water line to toilets within the control areas shall be shut off and the toilets shall be isolated with a critical barrier consisting of 6-mil poly.
- Cleaning of components/materials shall consist of a method that thoroughly removes visible mold growth, settled concentrations of mold spores, and/or dust and debris (i.e., HEPA vacuuming, wet wiping, or other approved methods), followed by dehumidification/drying.
- Non-porous, semi-porous, and porous furnishings and contents shall be cleaned. If items cannot be cleaned efficiently, the abatement contractor shall consult with the owner/powers that be to determine if they shall be disposed.
- All machine washable porous cloth items shall be cleaned and dried in a household washer and dryer. Other specialty items shall be cleaned by a dry cleaner that specializes in cleaning materials affected with mold. These items shall be removed from affected area(s) and shall not be reintroduced back into the area(s) until acceptable post remediation testing is established. If porous articles cannot be cleaned efficiently, the abatement contractor shall consult with the owner/powers that be.
- Mattresses shall be cleaned utilizing HEPA vacuuming, NOT by pressure extraction or wet methods. If suspect visible mold growth is on the mattress or if the mattress cannot be cleaned efficiently, the abatement contractor shall consult with the owner/powers that be prior to disposal.

- Exterior surfaces of electrical appliances, electrical equipment, and light fixtures shall be cleaned, utilizing wet method and HEPA vacuuming. These items shall be disconnected from all electrical sources prior to cleaning. If these items cannot be cleaned efficiently, the abatement contractor shall consult with the owner/powers that be.
- All wall/ceiling cavity insulation shall be disposed in areas that specify the removal of drywall/wallboard. The abatement contractor shall visually inspect the back side of surrounding drywall/wallboard for water damage and/or suspect mold growth and document any findings. If additional suspect mold growth or water damage is observed beyond the specified removal area, additional drywall/wallboard shall be removed until no suspect mold growth or water damage is observed.
- All penetrations within the controlled area that adjoin unaffected or non-accessible areas, including outdoor areas, crawlspaces, etc., shall be cleaned (as far as one can reach) and then sealed with 6-mil poly, extending six (6) inches on all sides.
- In areas of specified wallboard removal, all components within the wall/ceiling cavities shall be cleaned. Any wooden structural components with mold stains or mold growth in pitted surfaces shall be HEPA sanded (or other approved methods) to eliminate embedded mold growth.
- All joints or sills (where the structural system meets, where the sill plate meets the floor, etc.) shall be aggressively disturbed to remove embedded mold growth and spores.
- Furnishings and contents that are specified for cleaning shall be protected with polyethylene in areas where building components are specified for removal, prior to the removal of building components to avoid cross contamination. The protective covering shall be removed, and the furnishings and contents shall be cleaned prior to post visual inspection and testing.
- The remediation contractor shall document any drywall/wallboard that requires removal, in addition to the specified amount, prior to removal (i.e., drywall that is specified to be assessed by the remediation contractor, etc.). Documentation shall include photos and specific location at a minimum.

1.4 Removal Procedures

The contractor shall maintain surfaces of the control area free of accumulation of dust and debris. Additionally, they shall restrict the spread of dust and debris, keeping waste from being distributed over the work area. Materials shall be removed in a fashion to ensure that previously cleaned areas are not re-contaminated (i.e., working from one end of the control area to the other). The contractor may be required to re-clean areas based on a visual inspection by the CIEC/CIE/IH, if the areas are not visibly clean.

Contaminated building materials that have been removed, and additional materials and debris generated during remediation, shall be placed in an enclosed container prior to transporting the material through the building and to the waste container, and prior to visual inspection by the CIEC/CIE/IH.

Areas shall be allowed to dry for a period until RH and moisture levels specified below have been achieved. Any remaining building products that are directly impacted by remediation shall be tested for moisture content. Wooden and cellulosic building components (e.g., wall studs, drywall, etc.) shall be tested for moisture content. If the moisture content is > 15% in wood products or > 12% in cellulosic products (utilizing a Delmhorst moisture meter or equivalent), dehumidification shall be required until moisture levels are at or below said levels, and the RH level is at or below 40% +/-3% (for all interior areas). The remediation contractor shall verify moisture content of all wooden and cellulosic building components within the impacted areas, as well as RH levels prior to scheduling post remediation verification.

1.5 Cleanup Overview

The contractor shall personally review the cleaning process prior to contacting the CIEC/CIE/IH for the post remediation testing. If accumulations of debris and dust are significant, the CIEC/CIE/IH will require re-

cleaning prior to post remediation verification sampling.

The CIEC/CIE/IH shall make a visual inspection and conduct post remediation sampling after the final cleaning is complete.

1.6 Post Remediation Verification Testing

Prior to conducting post remediation sampling, HEPA filtration devices shall be allowed to operate for a minimum of 48 hours (the equivalent of 192 air changes), following fine cleaning, in all areas where remediation has been conducted. The HEPA filtration devices shall be sealed at the intake and turned off approximately two hours prior to post testing and reconvene within one hour after post testing, until acceptable post remediation results are established.

Post remediation sampling shall be conducted utilizing viable and/or non-viable sample methods. Air samples shall be collected in representative areas of the control areas. Surface sampling may be conducted at the discretion of the CIEC/CIE/IH.

Sampling shall be conducted in areas directly impacted by remediation procedures, where cleaning was conducted. The CIEC/CIE/IH shall determine acceptable post remediation status through interpretation of air sampling results, which will be based on indoor/outdoor comparisons, in combination with any surface samples collected, moisture readings, RH readings, visual observations, and any other pertinent information.

The owner/client will be responsible for post remediation testing. If air sample results indicate unacceptable airborne concentrations, the contractor shall be required to conduct a re-cleaning at the contractor's expense and absorb the cost for re-testing, until acceptable results are achieved.

Criteria for post remediation air sampling can be viewed in PEC's investigative report(s) listed in Section 2.1 below. This information can be found within the air sampling section of said report(s).

SECTION 2.0 SCOPE OF WORK (Note: Section 2.1 and Section 1.3 are essential to the full Scope of the Contractor's Work)

2.1 Investigative Reports and Other Related Documents

Phoenix EnviroCorp investigative reports dated May 30, 2022, and July 5, 2022.

Phoenix EnviroCorp Chain of Custodies dated May 11, 2022, and June 17, 2022.

Analytical reports dated May 16, 2022, and June 22, 2022.

2.2 Project Description

The procedures covered by this program/protocol include the enclosure and drying of the said structure, the removal, handling, and disposal of building components compromised by mold/fungal growth, and the cleaning and disinfecting of existing building materials. Procedures for reconstruction are not considered in these specifications. Reconstruction of interior portions may not be conducted until procedures for remediation have been completed, the control areas have been inspected, and testing has returned acceptable post remediation results. Reconstruction of exterior portions may be conducted during the restoration to ensure that water intrusion is abated.

The objectives covered by this program/protocol include the remediation of materials shown to have surface contamination, water damage, and/or exposure to elevated airborne mold spore levels, without subjecting the workers, installation employees, and occupants to microbial contaminants. In addition, contract employees, occupants, and materials shall be appropriately protected during the removal process to avoid exposure.

This program/protocol is provided as a guideline. Any deviation requests from this protocol shall be addressed to the CIEC/CIE/IH for consideration. At present there are no Federal or State requirements regarding microbial remediation projects; however, OSHA General Construction Code of Federal Regulations (29 CFR 1926) shall be followed.

Remediation shall be completed as close as possible to the date that this protocol was drafted, as the specifications outlined within represent conditions at the time the investigative services were conducted. Due to the volatility of mold, the current protocol may not reflect all necessary remediation if conditions are allowed to continue. Further, if time lapses allowing conditions to change, it may become increasingly difficult to obtain successful clearance testing results.

SECTION 3.0 AIR MONITORING

3.1 Responsibilities of the CIEC/CIE/IH

Monitoring of airborne concentrations will be performed in accordance with the requirements of this program. Prior to conducting air sampling and/or surface sampling for clearances, the CIEC/CIE/IH shall conduct a visual inspection of the area. Temperature and RH shall be recorded during the air sampling phase of clearance. All air sampling shall be conducted in such a manner as to provide a valid representation of airborne mold levels both inside and outside the work areas. If analysis of air samples indicates that airborne concentrations exceed acceptable limits, the contractor shall conduct re-cleaning at the contractor's expense.

3.2 Personal Monitoring

No personal monitoring will be conducted by the CIEC/CIE/IH unless the remediation contractor requests monitoring for OSHA compliance. Presently there are no PELs or TLVs for microbial contaminants. It is the remediation contractor's responsibility to determine if OSHA personal sampling may be required during application of anti-microbial agents.

3.3 Sample Integrity and Reporting

Samples shall be sealed, labeled, and a chain of custody initiated according to laboratory procedures.

Post remediation sample results shall be available within seven (7) business days of the completion of collection and will include the following information:

- Site Address
- Sample Number
- Location Sampled
- Collection Date(s)
- Person Taking Sample(s)
- Additional Comments (if any)
- Analyst Signature

SECTION 4.0 MATERIAL REPLACEMENT

4.1 Material Replacement

The general contractor/replacement contractor may begin material replacement after the CIEC/CIE/IH informs all parties of acceptable post remediation sample results.

With ongoing construction activities ambient air levels are expected to be elevated over what might be normally expected. Additional testing should not be necessary after remediation procedures have been completed and successful results have been obtained. In the event of another water intrusion (i.e., broken-pipeline, improper HVAC function, or building envelope compromise), an investigation shall be conducted within 24 to 48 hours of the event. Proper drying, if initiated within this time frame, should minimize the potential for microbial growth.

SECTION 5.0 SPILL CLEANUP REQUIREMENTS

5.1 Spills

MSDS shall be kept on site for all chemical products brought to the site by the remediation contractor. In the event of a chemical spill, the contractor shall initiate cleanup immediately. The contractor shall mop up any liquid with rags or other conventional absorbent. The spent absorbent shall be properly contained and disposed of as waste.

SECTION 6.0 WASTE CONTROL

6.1 Waste Disposal

Waste shall be disposed of at a locally selected landfill. Waste shall be transported to the landfill in such a way to ensure that it does not pose a potential hazard to the environment.

SECTION 7.0 SUPPLEMENTAL INFORMATION

7.1 Applicable Publications

The publications listed below form part of this program. This protocol shall be reviewed by the remediation contractor prior to initiation of set-up for the project. Any questions regarding this protocol shall be addressed with the generator or appropriate Phoenix EnviroCorp personnel.

Code of Federal Regulation (CFR Publications)

29 CFR 1910.134	Respiratory Protection
29 CFR 1910.145	Specifications for Accident Prevention, Signs and Tags
29 CFR 1926.28	Personal Protective Equipment
29 CFR 1926.59	Hazard Communication
29 CFR 1926.96	Occupational Foot Protection
29 CFR 1926.100	Head Protection
29 CFR 1926.101	Hearing Protection
29 CFR 1926.102	Eye and Face Protection
29 CFR 1926.403	Electrical General Requirements
29 CFR 1926.416	Safety General Requirements

29 CFR 1926.852	Demolition, Chutes
29 CFR 1926.1091	Record Keeping Requirements

Supplemental Guidelines

IICRC S520 2nd ed.	Standard and Reference Guide for Professional Water Damage Restoration
NYCDOH	Guidelines on Assessment and Remediation of Fungi in Indoor Environments
ACGIH	Bioaerosols: Assessment and Control
IAQA 01-2000	Recommended Guidelines for Indoor Environments
ASHRAE 62.2-2007	Ventilation for Acceptable Indoor Air Quality in Low-Rise Residential Buildings

7.2 Definitions

Air Lock: A system that permits ingress and egress between a control area and non-control area, or other work areas, without allowing air movement between areas (e.g., three stage decon, three-way polyethylene flaps).

Air Sample: Refers to samples collected with spore trap air sample media (e.g., Micro-5, Cyclex D, or equivalent); also referred to as a non-viable air sample. May also refer to a sample collected on a disposable petri dish with Agar media by means of an Andersen Impactor (or equivalent) and sampling pump; also referred to as air culture (viable) sample. Sample media to be used in project is described under Section 1.6 (Post Remediation Verification Testing).

Area Monitoring: The sampling of airborne microbial concentrations outside the exclusion boundary, which may reach the breathing zone of the contractor or installation employees.

Asbestos Containing Materials (ACM): Refers to asbestos containing building materials that contain more than 1% asbestos by Polarized Light Microscopy (PLM) or Transmission Electron Microscopy (TEM).

Biocide: Refers to chemical agents that are specifically designed to eliminate viable microbial contamination, with a phenol equivalent efficiency (e.g., Sodium Hypochlorite, Quaternary Ammonia Compounds).

Blower Door Test: Refers to the testing of static pressure and draw of air through the HVAC in cubic feet per minute (CFM) to rate the efficiency of the system.

Clearance Monitoring: Refers to air, bulk, or swab sampling conducted as a means to demonstrate that the area specified for remediation has been completed by the contractor, left with present acceptable mold spore levels, and ready for re-construction.

Control Area: The area where microbial contaminants removal is performed, which is isolated by physical boundaries to prevent unauthorized entry of personnel, thereby preventing exposure to or the spread of microbial contaminants. Physical boundaries will be established and located such that the airborne contaminants are not allowed to escape the boundaries.

HEPA: High Efficiency Particulate Air. Refers to ventilation devices that are specifically designed to filter ambient air to an efficiency of 99.97%.

HVAC: Refers to the Heating, Ventilation, and Air Conditioning system.

Industrial Hygienist: Refers to a person who practices industrial hygiene and may act as a competent person

regarding visual inspection of contaminated surfaces and clearance air and/or swab/bulk sampling. May also refer to a Certified Industrial Hygienist (CIH) as defined by the American Board of Industrial Hygiene (ABIH), a Certified Indoor Environmental Consultant as defined by the American Council for Accredited Certification (ACAC), or a Certified Indoor Environmentalist (CIE) as defined by the American Council for Accredited Certification (ACAC).

Microbial Contaminant: Refers to viable mold, fungi, pollen, bacteria, and or particulate, or their metabolites, which may be causative of epidemiological, immunotoxic, dermotoxic, neurotoxic, or enterotoxic disorders in the human population, or may be considered a pathogen or an opportunistic pathogen.

Non-Porous Materials: Refers to building materials with solid surfaces that may be successfully treated and cleaned by means of HEPA vacuuming or other approved method. Materials include flooring, hard goods, plastic, vinyl, and some wallboard systems.

Porous Materials: Refers to building materials and household goods that may allow microscopic particles (3-20 micron) to become trapped within the material that will not allow adequate cleaning. Materials include carpet, mattresses, and clothing.

Primary Control Area (PCA): Refers to a section of a facility that has been isolated by 6-mil polyethylene barriers where specific engineering controls (e.g., HEPA filtration, negative air pressurization, dehumidification, etc.) are required. In general, it is the area where remediation of water and mold damaged building materials is to be conducted.

Refrigerant Dehumidifier: Device used to remove water content from air and materials.

Relative Humidity (RH): Refers to the ratio of water vapor in the atmosphere to the amount required to saturate it at a given temperature.

Semi-Porous Materials: Refers to materials that may be somewhat porous, yet they may still allow for adequate cleaning. Materials include wooden beams and some wallboard systems.

Swab Sample: Refers to collection of a sample onto a sterile swab for analysis of mold, fungi, and bacteria by viable and/or non-viable analysis.

Tape-Lift Sample: Refers to collection of a sample onto clear scotch tape for analysis by direct microscopic examination (non-viable).

7.3 Quality Assurance

Medical Examinations

Before potential exposure to microbial contaminants, the remediation contractor shall provide workers with a comprehensive medical examination as required by 29 CFR 1910.134 as outlined by the Medical Monitoring Program.

Medical Records

The remediation contractor shall maintain complete and accurate medical records on employees as required by OSHA and the contractor's Medical Monitoring Program. The contractor may be asked to provide a copy of all medical records for approval by the consultant's representative.

Training

Each employee working on this contract shall be trained prior to the time of initial job assignment in accordance with mold specific and chemical specific training as indicated by the OSHA General Duty Clause and the Hazard Communication Standard. Each employee shall also receive training required by Federal guidelines listed in Section 7.1 of this document and project specifications.

Hazard Communication Program

The remediation contractor has established and implemented a Hazard Communication Program as required by 29 CFR 1910.1200 and may be asked to provide a copy of this written program. Hazard Communication training must include occupational hazards as directly related to working with fungi/mold and contamination of building components by fungal contamination, specific training for chemical hazards associated with biocide usage, and site specific MSDS sheets for commercial detergents and biocides utilized on the job site.

Respiratory Protection Program

The remediation contractor has established a Respiratory Protection Program, which complies with 29 CFR 1910.134. Physical examinations and fit testing are required for use of respiratory protection greater than an N-95 dust mask. Workers removing building materials contaminated by mold growth, applying anti-microbial agents, or workers subjected to exposures to anti-microbial agents shall be required to wear, at minimum, a tight-fitting negative pressure ½ mask respirator with P-100 filters. Therefore, -he OSHA Respiratory Protection Standard applies.

Analytical Testing Laboratory

Analysis of culturable biological samples collected on this project shall be conducted by a laboratory that participates in the Environmental Microbiological Proficiency Analytical Testing Program (EMPAT) of the American Industrial Hygiene Association (AIHA) and has shown to be proficient by proficiency analytical testing (PAT) samples. Analysis of non-viable air and surface samples shall be conducted by a competent person.

7.4 Materials and Equipment

Equipment

The contractor shall make available to employees a complete set of personal protective equipment (PPE) as required by this program for entry into the controlled area. All personnel while in the control area or handling microbial contaminated waste shall wear protective clothing, respirators, and other PPE.

Respirators

The contractor shall furnish the appropriate respirator in accordance with 29 CFR 1910.134. At a minimum, an N-95 dust mask shall be utilized.

Special Clothing

Employees shall be provided with and required to wear: whole body disposable protective clothing, full body

tyvek suits with head coverings, and latex gloves *(see table)* during all activities in the controlled area.

Chemical	Recommended Rubber Glove
Sodium Hypochlorite	Neoprene or Nitrile
Phenolic Compounds	Neoprene
Quaternary Ammonia Compounds	Polyvinyl Chloride (PVC)
Detergents	Latex

Eye Protection

The contractor shall provide chemical-resistant goggles to personnel engaged in cleaning and treatment activities and require them to be worn during application of anti-microbial agents and biocides.

Warning Signs and Labels

Standard approved warning signs shall be erected at all approaches to the control area as specified in 29 CFR 1910.145.

Anti-Microbial Agents

Anti-microbial agents utilized in interior quarters shall consist of quaternary ammonia compounds. No phenolic compounds shall be used in interior quarters with exception of Micro Ban Plus. Approval must be granted by the owner/powers that be prior to application. Anti-microbial agents shall be EPA approved. Commercial grade detergents shall be used to remove fungal contamination during cleaning phases prior to anti-microbial application, to include encapsulation.

Phoenix EnviroCorp

November 23, 2021

Monique Washington
Wilmington Housing Authority
1524 S. 16th Street
Wilmington, NC 28401

RE: PEC Job # 21-21-368A-IAQ-M – 915 Emory Street, Wilmington, NC - Mold Investigation

Enclosed are the results of the mold investigation conducted at the above referenced residence on November 19, 2021. Phoenix EnviroCorp (PEC) was retained to conduct additional investigative activities to include a mold remediation protocol if needed.

Background Information: This is a two-story apartment building built on a slab. The subject unit is on both floors, is occupied, and is fully furnished.

PEC conducted a mold investigation on October 29, 2021, identifying elevated airborne mold spore levels within the 1st floor bathroom and the 1st floor bedroom and surface mold growth on the 2nd floor hallway ceiling.

Excessive contents were present in the 1st floor bedroom, the 1st floor bedroom closet, the 1st floor bathroom closet, and the 1st floor hallway closet.

The HVAC system was operating in the heat mode, set at 75º F upon PEC's arrival and during sampling.

Related Documents:
- PEC initial investigation report dated November 2, 2021

Note: For directional purposes "front" is determined by facing Emory Street from inside the residence, unless otherwise stated.

Visual Inspection: PEC's visual inspection noted the following (see photographic documentation from the November 2, 2021's report):
- Suspect visible mold growth in the 2nd floor hallway on the ceiling drywall around the attic door entrance

Mold Testing – Air: Non-viable spore trap air samples were collected to determine airborne mold spore levels. Samples were collected within the 1st floor bathroom and the 1st floor bedroom. *Micro 5 sampling media was utilized for the collection of spore trap air samples. Each sample ran for five (5) minutes at a flow rate of five (5) liters per minute for a total volume of twenty-five (25) liters per sample. Each sample was assigned a unique ID number and shipped to a third-party laboratory for analysis. All air samples were collected from centralized locations (within their respective areas) and within the breathing zone, unless otherwise noted.* Two samples were also collected outdoors for comparative purposes.

Results indicated acceptable levels of airborne mold spores in all sampled locations.

The interpretation of air sample results is based on indoor/outdoor comparisons, in combination with a study by Daniel M. Baxter, entitled "A Regional Comparison of Mold Spore Concentrations Outdoors and Inside "Clean" and "Mold Contaminated" Southern California Buildings", and other industry guidelines, as well as over 20 years of experience in industrial hygiene and mold testing.

In layman terms, acceptable levels indicate that the levels are below the outdoor level and/or the baseline levels (whichever is higher) stated below. Elevated levels indicate that the levels are above the outdoor level and/or the baseline level.

Baseline levels for indoor spore trap air samples are as follows: < 900 spores/m³ for Penicillium/Aspergillus; 0 spores/m³ for Stachybotrys and Chaetomium; and < 350 spores/m³ for other individual mold groups.

Moisture Readings: Moisture readings were collected with a Tramex Survey Encounter. One reading was taken to represent the area and material reported.
For drywall products, readings should be below fifty percent (50%). For wood products, normal moisture content should be less than fifteen percent (<15%).

Moisture content measurements were as follows:
2nd floor hallway
- Ceiling drywall = < 10%

Relative Humidity (RH): *Temperature and relative humidity readings were collected in the same locations as the spore trap air samples.* RH levels within the residence ranged from 49.7% – 50.2% with an outdoor reading of 28.7% (see the enclosed Chain of Custody for details). Per the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) Standard 62-1999, relative humidity should range between 30% and 60%.

Conclusions: Air sampling within the tested areas did not indicate a problem with the indoor air quality regarding mold. However, moderate surface mold growth of *Cladosporium* was identified on the 2nd floor hallway ceiling around the attic entrance.

PEC recommends cleaning the identified mold growth on the 2nd floor hallway ceiling and any like areas with an over-the-counter product designed specifically for cleaning mold growth. Such a product can be purchased at most hardware stores, and the manufacturer's instructions shall be followed.

In addition, PEC recommends weather proofing around the attic entrance to prevent non-conditioned air from the attic from infiltrating into the conditioned space. When two bodies of air at substantially different temperatures meet on a surface, condensation can form, which is conducive to mold growth.

Enclosed in this report are the laboratory analysis and the Chain of Custody.

Should you have any questions, please do not hesitate to call.

Thank you,

Shaenaz Mirmohamed
IH Technician

Tommie Green, CIEC
Professional Industrial Hygienist

Enclosures

Phoenix EnviroCorp
4020 SHIPYARD BLVD.
WILMINGTON, NC 28403

CHAIN OF CUSTODY

LABORATORY TEST REQUEST

Ref # 211123028 Lab ID: 090 - 093

CONTACT: Shaenaz Mirmohamed	TELEPHONE (910) 397-0370 FAX (910) 313-6094	Sample date: 11/19/2021
PEC Job #: 21-21-368A-IAQ-M	SITE ADDRESS: 915 Emory Street, Wilmington, NC 28405	

PLEASE EMAIL RESULTS TO: KMGREEN@PHOENIXENVIROCORP.COM

SAMPLE TYPE: Spore Trap - Micro-5 Surface Samples	NUMBER OF SAMPLES: 4	TURN AROUND TIME SPECIFIED: ____ Immediate ____ 24 hr ____ 48 hr __X__ Standard

Sample #	Sample Area	Sample Volume	Lab Analysis Requested	% Relative Humidity	Temperature °F
111921-SM-101	1st floor bathroom	25L	S001	50.2	71.6
111921-SM-102	1st floor bedroom	25L	S001	49.7	74.4
111921-SM-103	Outside - Front	25L	S001	28.7	66.7
111921-SM-104	Outside - Rear	25L	S001		
	samples accepted				

Samples Collected By (Printed Name and Signature): Shaenaz Mirmohamed Date Signed: 11/19/2021

CHAIN OF CUSTODY RECORD

DATE:	Time:	Condition of Samples:	RELINQUISHED BY: (Printed Name and Signature)	ACCEPTED BY: (Printed Name and Signature)
11/19/2021	17:15	Intact	Shaenaz Mirmohamed AFFILIATION:	melayna 11.23.21 AFFILIATION:

SEEML Reference Number:
211123028

Southeast Environmental Microbiology Laboratories
102 Edinburgh Court
Greenville, SC 29607
Phone: (864) 233-3770
FAX: (864) 233-6589

The information and data for **Phoenix Enviro Corp.** has been checked for thoroughness and accuracy. The following reports are contained within this document:

☐	Surface/Bulk Report	☐	Andersen Fungal Report
☒	Spore Trap Report	☐	Quantitative Fungal Report

Lab Manager Review: *Angel Gosnell* Date: 11/23/21

Thank you for using SEEML laboratories. We strive to provide superior quality and service.
SEEML laboratories are accredited through AIHA-LAP, LLC (EMLAP # 173667) for the analysis of Spore Traps and Surface/Bulk Samples.

The data within this report is reliable to three significant figures. The third significant figure is technically unjustified. In this instance, the third figure is reported as an estimate to facilitate the interpretation by the customer.

Confidentiality Notice:
The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of the document(s) is strictly prohibited. If you have received this document in error, please immediately notify us by telephone to arrange for its return. Thank you.

Guidelines for Interpretation:
No accepted quantitative regulatory standards currently exist by which to assess the health risks related to mold and bacterial exposure. Molds and bacteria have been associated with a variety of health effects and sensitivity varies from person to person.
Several organizations, including: the American Conference of Government Industrial Hygienists (ACGIH); the American Industrial Hygiene Association (AIHA); the Indoor Air Quality Association (IAQA); the United States Environmental Protection Agency (USEPA); the Centers for Disease Control (CDC), as well as the California Department of Health Services (CADHS), have all published guidelines for assessment and interpretation of mold resulting from water intrusion in buildings.

Interpretation of the data and information within this document is left to the company, consultant, and/or persons who conducted the fieldwork.

Spore Trap Report

	Date Sampled: 11/19/21
Attn: ***Phoenix Enviro Corp.***	Date Received: 11/23/21
4020 Shipyard Blvd.	Date Analyzed: 11/23/21
Wilmington, NC 28403	Date Reported: 11/23/21
	Date Revised:
	Project Name: 21-21-368A-IAQ-M
	Project Address: 915 Emory Street
	Project City, State, ZIP: Wilmington, NC 28405
	SEEML Reference # : 211123028

TEST METHOD: DIRECT MICROSCOPY EXAMINATION SEEML SOP 7

Client Sample ID	111921-SM-101			111921-SM-102			111921-SM-103		
Location	1st Floor Bathroom			1st Floor Bedroom			Outside - Front		
Lab Sample ID	211123028-090			211123028-091			211123028-092		
Comments									
Hyphal Fragments	3	120					3	120	
Pollen									
Spore Trap Used	M5			M5			M5		
	raw ct.	spores/m^3	%	raw ct.	spores/m^3	%	raw ct.	spores/m^3	%
Alternaria									
Ascospores	4	160	12				8	320	12
Basidiospores	4	160	12	1	40	17	22	880	32
Bipolaris/Drechslera									
Chaetomium									
Cladosporium	13	520	38	1	40	17	31	1240	45
Curvularia	4	160	12				3	120	4
Epicoccum									
Cercospora									
Fusarium									
Memnoniella									
Nigrospora									
Penicillium/Aspergillus	8	320	24	4	160	67	1	40	1
Polythrincium									
Rusts									
Smuts/Periconia/Myxomy	1	40	3				4	160	6
Spegazzinia									
Stachybotrys									
Stemphylium									
Tetraploa									
Torula									
Ulocladium									
Colorless/Other Brown*									
Oidium									
Zygomycetes									
Pithomyces									
Background debris (1-5)**	3			3			3		
Sample Volume(liters)	25			25			25		
TOTAL SPORES/M^3	34	**1360**		6	**240**		69	**2760**	

Revisions:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3. The limit of detection is the analytical sensitivity (in spores/m^3) multiplied by the sample volume (in liters) divided by 1000 liters.

*Colorless,other Brown are spores without a distinctive morphology on spore traps and non-viable surface samples.

**Background debris is the amount of particulate matter present on the slide and is graded from 1-5 with 1 = very light, 2= Light, 3 = Medium, 4 = Heavy, 5 = Very Heavy. The higher the rating the more likelihood spores may be underestimated. A rating of 5 should be interpreted as minimal counts and may actually be higher than reported.

Disclaimer: The sample results are determined by the sample volume, which is provided by the customer.

This report relates only to the samples tested as they were received.

102 Edinburgh Court
Greenville, SC. 29607
Phone: (864) 233-3770

Angel Gosnell

Angel Gosnell, Approved Laboratory Signatory

AIHA-LAP, LLC EMLAP #173667 Texas Lic: LAB1016

Spore Trap Report

	Date Sampled: 11/19/21
Attn: ***Phoenix Enviro Corp.***	Date Received: 11/23/21
4020 Shipyard Blvd.	Date Analyzed: 11/23/21
Wilmington, NC 28403	Date Reported: 11/23/21
	Date Revised:
	Project Name: 21-21-368A-IAQ-M
	Project Address: 915 Emory Street
	Project City, State, ZIP: Wilmington, NC 28405
	SEEML Reference # : 211123028

TEST METHOD: DIRECT MICROSCOPY EXAMINATION SEEML SOP 7

Client Sample ID	111921-SM-104								
Location	Outside - Rear								
Lab Sample ID	211123028-093								
Comments									
Hyphal Fragments									
Pollen									
Spore Trap Used	M5								
	raw ct.	spores/m^3	%						
Alternaria									
Ascospores	5	200	3						
Basidiospores	20	800	13						
Bipolaris/Drechslera									
Chaetomium									
Cladosporium	131	5240	83						
Curvularia									
Epicoccum									
Cercospora									
Fusarium									
Memnoniella									
Nigrospora									
Penicillium/Aspergillus	2	80	1						
Polythrincium									
Rusts									
Smuts/Periconia/Myxomy									
Spegazzinia									
Stachybotrys									
Stemphylium									
Tetraploa									
Torula									
Ulocladium									
Colorless/Other Brown*									
Oidium									
Zygomycetes									
Pithomyces									
Background debris (1-5)**	3								
Sample Volume(liters)	25								
TOTAL SPORES/M^3	158	**6320**							

Revisions:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3. The limit of detection is the analytical sensitivity (in spores/m^3) multiplied by the sample volume (in liters) divided by 1000 liters.

*Colorless,other Brown are spores without a distinctive morphology on spore traps and non-viable surface samples.

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Fungal Descriptions

Alternaria sp.

Aw - 0.89. Conidia dimensions: 18-83 x 7-18 microns. A very common allergen with an IgE mediated response. It is often found in carpets, textiles and on horizontal surfaces in building interiors. Often found on window frames. Outdoors it may be isolated from samples of soil, seeds and plants. It is commonly found in outdoor samples. The large spore size, 20 - 200 microns in length and 7 - 18 microns in sizes, suggests that the spores from these fungi will be deposited in the nose, mouth and upper respiratory tract. It may be related to bakers' asthma. It has been associated with hypersensitivity pneumonitis. The species *Alternaria alternata* can produce tenuazonic acid and other toxic metabolites that may be associated with disease in humans or animals. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms; chronic cases may develop pulmonary emphysema.

Ascospore

A spore borne in a special cell called an ascus. Spores of this type are reported to be allergenic. All ascomycetes, members of a group of fungi called Ascomycotina, have this type of spore. The minute black dots on rotting wood and leaves or the little cups on lichens are examples of ascomycetes; another is the "truffle" mushroom.

Aspergillus/Penicillium

These are two of the most commonly found allergenic fungi in problem buildings. *Aspergillus* comes in many varieties (species). Many of the varieties produce toxic substances. It may be associated with symptoms such as sinusitis, allergic bronchopulmonary aspergillosis, and other allergic symptoms. *Penicillium* is a variety of mold that is very common indoors and is found in increased numbers in problem buildings. It also has many varieties, some of which produce toxic substances. The symptoms are allergic reactions, mucous membrane irritation, headaches, vomiting, and diarrhea. Due to the morphological similarity of *Aspergillus* and *Penicillium*, they are not differentiated by microscopic analysis and are reported together.

Aspergillus sp.

Aw 0.75 - 0.82. Reported to be allergenic. Members of this genus are reported to cause ear infections. Many species produce mycotoxins that may be associated with disease in humans and other animals. Toxin production is dependent on the species or a strain within a species and on the food source for the fungus. Some of these toxins have been found to be carcinogenic in animal species. Several toxins are considered potential human carcinogens. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms; chronic cases may develop pulmonary emphysema; may also be associated with sinusitis, allergic bronchopulmonary aspergillosis, and other allergic symptoms.

Basidiospore

Spore from basidiomycetes. Many varieties are reported to be allergenic.

Bipolaris sp.

A fungus with large spores that could be expected to be deposited in the upper respiratory tract. This fungus can produce the mycotoxin - sterigmatocystin, which has been shown to produce liver and kidney damage when ingested by laboratory animals.

Botrytis sp.

Aw 0.93. Conidia dimensions: 7-14 x 5-9 microns. It is parasitic on plants and soft fruits. Found in soil and on house plants and vegetables, it is also known as "gray mold". It causes leaf rot on grapes, strawberries, lettuce, etc. It is a well-known allergen, producing asthma type symptoms in greenhouse workers and "wine grower's lung".

Cercaspora

Common outdoors in agricultural areas, especially during harvest. Parasite of higher plants, causing leaf spot. Commonly found as parasites on higher plants.

Chaetomium sp.

large ascomycetous fungus producing perithecia. It is found on a variety of substrates containing cellulose, including paper and plant compost. It has been found on paper in sheetrock. It can produce an *Acremonium*-like state on fungal media. Varieties are considered allergenic and have been associated with peritonitis, cutaneous lesions, and system mycosis.

Cladosporium sp.

Aw 0.88; Aw 0.84. Most commonly identified outdoor fungus. The outdoor numbers are reduced in the winter. The numbers are often high in the summer. Often found indoors in numbers less than outdoor numbers. It is a common allergen. Indoor *Cladosporium* sp. may be different than the species identified outdoors. It is commonly found on the surface of fiberglass duct liners in the interior of supply ducts. A wide variety of plants are food sources for this fungus. It is found on dead plants, woody plants, food, straw, soil, paint, and textiles. Produces greater than 10 antigens. Antigens in commercial extracts are of variable quality and may degrade within weeks of preparation. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include skin lesions, eye ulceration, mycosis (including onychomycosis, an infection of the nails of the feet or hands) edema and bronchospasms; chronic cases may develop pulmonary emphysema.

Curvularia sp.

Reported to be allergenic and has been associated with allergic fungal sinusitis. It may cause corneal infections, mycetoma, and infections in immune compromised hosts.

Dreschlera sp.

Conidia dimensions: 40-120 x 17-28 microns. Found on grasses, grains and decaying food. It can occasionally cause a corneal infection of the eye.

Epicoccum sp.

Conidia dimensions: 15-25 microns. A common allergen. It is found in plants, soil, grains, textiles and paper products.

Fusarium sp.

Aw 0.90. A common soil fungus. It is found on a wide range of plants. It is often found in humidifiers. Several species in this genus can produce potent trichothecene toxins. The trichothecene (scirpene) toxin targets the following systems: circulatory, alimentary, skin, and nervous. Produces vomitoxin on grains during unusually damp growing conditions. Symptoms may occur either through ingestion of contaminated grains or possibly inhalation of spores. The genera can produce hemorrhagic syndrome in humans (alimentary toxic aleukia). This is characterized by nausea, vomiting, diarrhea, dermatitis, and extensive internal bleeding. Reported to be allergenic. Frequently involved in eye, skin, and nail infections.

Myxomycetes

Members of a group of fungi that is included in the category of "slime molds". They're occasionally found indoors, but mainly reside in forested regions on decaying logs, stumps, and dead leaves. Myxomycetes display characteristics of fungi *and* protozoans. In favorable (wet) conditions they exhibit motile, amoeba-like cells, usually bounded only by a plasma membrane, that are variable in size and form. During dry spells, they form a resting body (sclerotium) with dry, airborne spores. These fungi are not known to produce toxins but can cause hay fever and asthma.

Memnoniella

Contaminant found most often with *Stachybotrys* on wet cellulose. Forms in chains, but it are very similar to *Stachybotrys* and sometimes is considered to be in the *Stachybotrys* family. Certain species do produce toxins very similar to the ones produced by *Stachybotrys chartarum* and many consider the IAQ importance of *Memnoniella* to be on par with *Stachybotrys*. Allergenic and infectious properties are not well studied.

Nigrospora sp.

Commonly found in warm climates, this mold may be responsible for allergic reactions such as hay fever and asthma. It is found on decaying plant material and in the soil. It is not often found indoors.

Oidium sp.

The asexual phase of *Erysiphe* sp. It is a plant pathogen causing powdery mildews. It is very common on the leaf's stems, and flowers of plants. The health effects and allergenicity have not been studied. It does not grow on non-living surfaces such as wood or drywall.

Penicillium sp.

Aw 0.78 - 0.88. A wide number of organisms have been placed in this genus. Identification to species is difficult. Often found in aerosol samples. Commonly found in soil, food, cellulose and grains. It is also found in paint and compost piles. It may cause hypersensitivity pneumonitis, allergic alveolitis in susceptible individuals. It is reported to be allergenic (skin). It is commonly found in carpet, wallpaper, and in interior fiberglass duct insulation. Some species can produce mycotoxins. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms; chronic cases may develop pulmonary emphysema. It may also cause headaches, vomiting, and diarrhea.

Periconia sp.

Periconia sp. are found in soil, blackened and dead herbaceous stems leaf spots, grasses, rushes, and sedges. Almost always associated with other fungi. Rarely found growing indoors. Reportedly associated with a rare case of mycotic keratitis.

Pithomyces sp.

A common mold found on dead leaves, plants, soil and especially grasses. Causes facial eczema in ruminants. It exhibits distinctive multi-celled brown conidia. It is not known to be a human allergen or pathogen. It is rarely found indoors, although it can grow on paper.

Rusts/Smuts

These fungi are associated with plant diseases. In the classification scheme of the fungi, the smuts have much in common with the rusts, and they are frequently discussed together. Both groups produce wind-borne, resistant teliospores that serve as the basis for their classification and their means of spread. Rusts usually attack vegetative regions (i.e., leaves and stems) of plants; smuts usually are associated with the reproductive structures (seeds). They can cause hay fever and asthma.

Spegazzinia

Spegazzinia species comprise a very small proportion of the fungal biota. This genus is somewhat related to other lobed or ornamented genera such as *Candelabrum*. No information is available regarding health effects or toxicity. Allergenicity has not been studied. Usually identified on spore trap samples where it is seen every few weeks. (Spores have very distinctive morphology.) May also be found in air by culturable (Andersen) samples if a long enough incubation period is provided so that sporulation occurs. Our laboratory has never found this organism growing on indoor environmental surfaces. Natural habitat includes soil and many kinds of trees and plants.

Stachybotrys sp.

Aw - 0.94, optimum Aw ->0.98. Several strains of this fungus (*S. atra, S. chartarum* and *S. alternans* are synonymous) may produce a trichothecene mycotoxin- Satratoxin H - which is poisonous by inhalation. The toxins are present on the fungal spores. This is a slow growing fungus on media. It does not compete well with other rapidly growing fungi. The dark colored fungus grows on building material with high cellulose content and low nitrogen content. Areas with a relative humidity above 55%, and are subject to temperature fluctuations, are ideal for toxin production. Individuals with chronic exposure to the toxin produced by this fungus reported cold and flu symptoms, sore throats, diarrhea, headaches, fatigue, dermatitis, intermittent local hair loss and generalized malaise. Other symptoms include coughs, rhinitis, nosebleed, a burning sensation in the nasal passages, throat, and lungs, and fever. The toxins produced by this fungus will suppress the immune system affecting the lymphoid tissue and the bone marrow. Animals injected with the toxin from this fungus exhibited the following symptoms: necrosis and hemorrhage within the brain, thymus, spleen, intestine, lung, heart, lymph node, liver, and kidney. Affects by absorption of the toxin in the human lung are known as pneumomycosis.

This organism is rarely found in outdoor samples. It is usually difficult to find in indoor air samples unless it is physically disturbed (or possibly -this is speculation- a drop in the relative humidity). The spores are in a gelatinous mass. Appropriate media for the growth of this organism will have high cellulose content and low nitrogen content. The spores will die readily after release. The dead spores are still allergenic and toxigenic. Percutaneous absorption has caused mild symptoms.

Stemphylium sp.

Reported to be allergenic. Isolated from dead plants and cellulose materials.

Torula sp.

Found outdoors in air, soil, on dead vegetation, wood, and grasses. Also found indoors on cellulose materials. Reported to be allergenic and may cause hay fever and asthma.

Tetraploa

Tetraploa species comprise a very small proportion of the fungal biota. This genus is somewhat related to *Triposporium* and Diplocladiella. The only reported human infections are two cases of keratitis (1970, 1980) and one case of subcutaneous infection of the knee (1990). No information is available regarding other health effects or toxicity. Allergenicity has not been studied. Usually identified on spore trap samples where it is seen every few weeks. (Spores have very distinctive morphology.) Our laboratory has never found this organism growing on indoor environmental surfaces. Natural habitat includes leaf bases and stems just above the soil on many kinds of plants and trees.

Ulocladium sp.

Aw 0.89. Isolated from dead plants and cellulose materials. Found on textiles.

Zygomycetes

Zygomycetes are one of the four major groups of fungi, the others being the Oomycetes, the Ascomycetes, and the Basidiomycetes. Zygomycetes are common, fast growing, and often overgrow and/or inhibit other fungi nearby. Rhizopus and Mucor are two of the most common Zygomycetes seen in the indoor environment. However, others are seen as well, including *Syncephalastrum*, *Circinella*, *Mortierella*, *Mycotypha*, *Cunninghamella*, and *Choanephora*. For further information, please see descriptions of these individual genera.

The following table lists mycotoxins that are produced by certain types of fungi:

Fungi	Mycotoxin
Acremonium crotocinigenum	Crotocin
Aspergillus favus	Alfatoxin B, cyclopiazonic acid
Aspergillus fumigatus	Fumagilin, gliotoxin
Aspergillus carneus	Critrinin
Aspergillus clavatus	Cytochalasin, patulin
Aspergillus Parasiticus	Alfatoxin B
Aspergillus nomius	Alfatoxin B
Aspergillus niger	Ochratoxin A, malformin, oxalicacid
Acremonium crotocinigenum	Crotocin
Aspergillus nidulans	Sterigmatocystin
Aspergillus ochraceus	Ochratoxin A, penicillic acid
Aspergillus versicolor	Sterigmatocystin, 5 ethoxysterigmatocystin
Aspergillus ustus	Ausdiol, austamide, austocystin,brevianamide
Aspergillus terreus	Citreoviridin
Alternaria	Alternariol, altertoxin, altenuene, altenusin, tenuazonic acid
Arthrinium	Nitropropionic acid
Bioploaris	Cytochalasin, sporidesmin, sterigmatocystin
Chaetomium	Chaetoglobosin A,B,C. Sterigmatocystin
Cladosporium	Cladosporic acid
Clavipes purpurea	Ergotism
Cylindrocorpon	Trichothecene
Diplodia	Diplodiatoxin
Fusarium	Trichothecene, zearalenone
Fusarium moniliforme	Fumonisins
Emericella nidulans	Sterigmatocystin
Gliocladium	Gliotoxin
Memnoniella	Griseofulvin , dechlorogriseofulvin, epi-decholorgriseofulvin, trichodermin, trichodermol
Myrothecium	Trichothecene
Paecilomyces	Patulin, viriditoxin
Penicillium aurantiocandidum	Penicillic acid
Penicillium aurantiogriseum	Penicillic acid
Penicillium brasilanum	Penicillic acid
Penicillium brevicompactum	Mycophenolic acid
Penicillium camemberti	Cyclopiazonic acid
Penicillium carneum	Mycophenolic acid, Roquefortine C
Penicillium crateriforme	Rubratoxin

Fungi	Mycotoxin
Penicillium citrinum	Citrinin
Penicillium commune	Cyclopiazonic acid
Penicillium crustosum	Roquefortine C
Penicillium chrysogenum	Roquefortine C
Penicillium discolor	Chaetoglobosin C
Penicillium expansum	Citrinin, Roquefortine C
Penicillium griseofulvum	Roquefortine C, cyclopiazonic acid, griseofulvin
Penicillium hirsutum	Roquefortine C
Penicillium hordei	Roquefortine C
Penicillium nordicum	Ochratoxin A
Penicillium paneum	Roquefortine C
Penicillium palitans	Cyclopiazonic acid
Penicillium polonicum	Penicillic acid
Penicillum roqueforti	Roquefortine C, Mycophenolic acid
Penicillium veridicatum	Penicillic acid
Penicillium verrucosum	Citrinin, ochratoxin A
Penicillium/ Aspergillus	Patulin
Penicillium/ Aspergillus/Alternaria	Glitoxin
Phomopsis	Macrocyclic trichothecenes
Phoma	Brefeldin, cytochalasin, secalonic acid, tenuazonic acid
Pithomyces	Sporidesmin
Rhizoctonia	Slaframine
Rhizopus	Rhizonin
Sclerotinia	Furanocoumarins
Stachybotrys chartarum	Iso-satratoxin F, roridin E, L-2, satratoxin G & H, trichodermin, trichodermol, trichothecene
Torula	Cytotoxins
Trichoderma	Trichodermin, trichodermol, gliotoxin
Trichothecium	Trichothecene
Wallemia	Walleminol
Zygosporium	Cytochalasin

General terms

Allergen

An allergen is a substance that elicits an IgE antibody response and is responsible for producing allergic reactions. Chemicals are released when IgE on certain cells contact an allergen. These chemicals can cause injury to surrounding tissue - the visible signs of an allergy. Only a few fungal allergens have been characterized but all fungi are thought to be potentially allergenic. Fungal allergens are proteins found in either the mycelium or spores

"Black mold"

A poorly defined term. Black mold or toxic black mold has usually been associated with the mold *Stachybotrys chartarum*. While there are only a few molds that are truly black, there are many that can appear black. Not all molds that appear to be black are *Stachybotrys*.

Fungi

Fungi are neither animals nor plants and are classified in a kingdom of their own. The Kingdom of Fungi. Fungi include a very large group of organisms, including molds, yeasts, mushrooms and puffballs. There are >100,000 accepted fungal species but current estimates range to 1.5 million species. Mycologists (people who study fungi) have grouped fungi into four large groups according to their method of reproduction.

Hidden mold

This refers to visible mold growth on building structures that is not easily seen, including the areas above drop ceilings, within a wall cavity (the space between the inner and outer structure of a wall), inside air handlers, or within the ducting of a heating/ventilation system.

Microbial Volatile Organic Compounds (MVOCs)

Fungi produce chemicals as a result of their metabolism. Some of these chemicals, MVOCs, are responsible for the characteristic moldy, musty, or earthy smell of fungi, whether mushrooms or molds. Some MVOCs are considered offensive or annoying. Specific MVOCs are thought to be characteristic of wood rot and mold growth on building materials. The human nose is very sensitive to mold odors and sometimes more so than current analytical instruments.

Mold

Molds are a group of organisms that belong to the Kingdom of Fungi (see Fungi). Even though the terms mold and fungi had been commonly referred to interchangeably, all molds are fungi, but not all fungi are molds.

Mycotoxin

Mycotoxins are compounds produced by some fungi that are toxic to humans or animals. By convention, the term? Mycotoxin. Excludes mushroom toxins. Fungi that produce mycotoxins are called "toxigenic fungi."

Spore

General term for a reproductive structure in fungi, bacteria and some plants. In fungi, the spore is the structure which may be used for dissemination and may be resistant to adverse environmental conditions.

Toxic mold

The term "toxic mold" has no scientific meaning since the mold itself is not toxic. The metabolic byproducts of some molds may be toxic (see mycotoxin).

Hypha (plural, hyphae)

An individual fungal thread or filament of connected cells; the thread that represents the individual parts of the fungal body.

Creekwood South (6 Units) at
502, 522, 609, 611, 613 & 710 N. 30th St.,
Wilmington, NC 28405

Coastal Environmental and Inspections, LLC

February 19, 2023 CE&I Project #: 066-IAQ-C-23

Wilmington Housing Authority
Attn: Walter Hodder
1524 South 16th Street
Wilmington, NC 28401

Re: 502 North 30th Street, Wilmington, NC 28405 – Post Remediation Mold Assessment Report

On February 13, 2023, Coastal Environmental and Inspections, LLC (CE&I) was contracted to complete a mold assessment at the above referenced location. The purpose of this assessment was to collect ambient mold air samples for laboratory analysis and fungal identification.

Sample Collection and Analytical Analysis:

Non-Viable Mold Air Samples

Prior to collecting the ambient mold air samples, the Micro5 sample cassettes were assigned unique sample identification numbers and the GilAir 5 air sampling devices were pre-calibrated to five liters per minute (5 LPM). Following the calibrations, the air sampling devices were assembled in predetermined sample locations. Each sample was collected for a duration of five (5) minutes for a total air volume of twenty-five liters (25 L). Upon completing the sample collection, each sample cassette was sealed to maintain sample integrity. At the termination of the field work the air sampling devices were post calibrated at five liters per minute (5 LPM).

During the assessment, CE&I collected air samples within the kitchen and living room area, living room, and second floor bathroom. Additionally, two (2) air samples were collected outside of the residence (front and rear) for the indoor/outdoor mold spore comparisons.

The sample identification numbers, sample locations, and the sample volumes were documented on a Eurofins CEI (ECEI) chain of custody form and shipped via FedEx to the laboratory for mold analysis. Analysis of the air samples was performed utilizing Non-Viable Direct Microscopy.

ECEI Mold Air Sample Analytical Results:

The mold air sample results documented in the ECEI lab report are reported as spores per cubic meter (S/m³) and the total counts are reported to two (2) significant figures. If the percent analyzed (% Analyzed) is less than one hundred percent (<100%) the S/m³ is based on extrapolation and not the actual count. The following lists the sample numbers, sample locations, sample results, outdoor averages, and the indoor/outdoor comparisons:

CE&I SUMMARY TABLE - MICRO5 MOLD AIR SAMPLE RESULTS					
SAMPLE #	**SAMPLE LOCATION**	**SAMPLE RESULT - S/m³**		**OUTDOOR AVERAGE - S/m³**	**INDOOR/OUTDOOR COMPARISON**
021323-NF-01	Kitchen & Dining Room Area	*Ascospores*	80	280	Acceptable
		Basidiospores	1000	5000	Acceptable
		Cladosporium	120	180	Acceptable
		Total Spores	1200	5800	Acceptable
021323-NF-02	Living Room	*Basidiospores*	1080	5000	Acceptable
		Periconia/Smuts	40	20	Acceptable
		Aspergillus/Penicillium	40	20	Acceptable
		Total Spores	1200	5800	Acceptable
021323-NF-03	Second Floor Bathroom	*Basidiospores*	1520	5000	Acceptable
		Total Spores	1500	5800	Acceptable

The mold air samples are collected to determine if the airborne mold spores (ambient levels and total spore counts) are acceptable based on the outdoor levels, as mold spores are ubiquitous in the indoor and outdoor environments. In addition, ambient airborne mold spores in the indoor environment will not always be equal to or less than the outdoor comparison. Spore counts slightly higher than the outdoor comparison is common and considered acceptable.

Conclusions:

Mold Air Sample Analytical Results

Based on the ECEI analytical results, acceptable levels of ambient airborne mold spores were identified in the following locations:

- Kitchen and Living Room Area
- Living Room
- Second Floor Bathroom

Based on the visual inspection and ECEI analytical results, the kitchen and living room area, living room, and second floor bathroom have passed the post remediation assessment.

Should you have any questions regarding this mold assessment report, please do not hesitate to contact me.

Thank you,



Warren Plautz, CIEC, Industrial Hygienist

Enclosures: ECEI Analytical Reports

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MOLD SPORE TRAP REPORT

Nonviable Direct Microscopy

Prepared for

Coastal Environmental and Inspections

CLIENT PROJECT: 502 North 30th Street, Wilmington, 066-IAQ-C-23

LAB CODE: M230642

TEST METHOD: CEI Method 110

RECEIVED DATE: 02/16/23

REPORT DATE: 02/16/23

Tianbao Bai, Ph.D., CIH
Laboratory Director

All samples received in acceptable condition. Information provided by customer includes customer sample ID, location and volume. Analytical results are not corrected for field and laboratory blanks.

Test results relate only to the items tested and cannot be extrapolated to anything larger than their original intent. This report may not be reproduced, except in full, without written approval by Eurofins CEI (CEI). CEI bears no responsibility for client sampling methods and makes no warranty representation regarding the accuracy of client-supplied information in preparing and presenting analytical results. CEI maintains liability limited to the cost of analysis, except for CEI's own willful misconduct or gross negligence. Interpretation of the analytical results is the sole responsibility of the customer.

The overall intralaboratory relative standard deviation (Sr) for the lab = 0.24.

The intralaboratory Sr for each spore range are as follows:
10-100 spores: 0.30; 101-350 spores: 0.21; >350 spores: 0.14

MICROBIOLOGY LABS ISO/IEC 17025:2017 Accredited Laboratory AIHA LAP, LLC AIHAACCREDITEDLABS.ORG Lab ID # 103025

730 SE Maynard Road • Cary, NC 27511 • 919.481.1413

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MOLD SPORE TRAP REPORT: NONVIABLE DIRECT MICROSCOPY

CLIENT Coastal Environmental and Inspections
202 Nantucket Ct.
Wilmington, NC 28412

Lab Code: M230642
Date Received: 02-14-23
Date Analyzed: 02-16-23
Date Reported: 02-16-23

PROJECT: 502 North 30th Street, Wilmington, 066-IAQ-C -23

Client ID		**021323-NF-01**				**021323-NF-02**				**021323-NF-03**			
Lab ID		M002082				M002083				M002084			
Location		Kitchen / Dining Room				Living Room				Second Floor Bathroom			
Volume (L)		25				25				25			
	IDENTIFICATION	**Raw Counts**	**% Analyzed**	**Spores per m³**	**% of Total**	**Raw Counts**	**% Analyzed**	**Spores per m³**	**% of Total**	**Raw Counts**	**% Analyzed**	**Spores per m³**	**% of Total**
Predominantly Outdoor	*Alternaria*												
	Arthrinium												
	Ascospores	2	100	80	7								
	Basidiospores	25	100	1000	83	27	100	1080	93	38	100	1520	100
	Bipolaris/Drechslera												
	Cercospora												
	Curvularia												
	Epicoccum												
	*Helicomyces**												
	Nigrospora												
	Oidium/Peronospora												
	Periconia/Smuts**					1	100	40	3				
	Pithomyces												
	Rusts												
	Spegazzinia												
	Stemphylium												
	Tetraploa												
	Torula												
	Unspecified spores												
Indoor / Outdoor	*Aspergillus/Penicillium*					1	100	40	3				
	Cladosporium	3	100	120	10								
	Fusarium												
Water Indicator	*Chaetomium*												
	Stachybotrys												
	Trichoderma												
	Ulocladium												
	Total	**30**		**1200**	**100%**	**29**		**1200**	**100%**	**38**		**1500**	**100%**
	Background Debris	3				3				3			
	Pollen Count									0			
	Hyphal Fragments	1								2			
	Analytical Sensitivity (Spores/m³)	40				40				40			

** Heliocomyces includes Helicosporium; ** Periconia/Smuts includes Myxomycetes*
Spores per m³ (final counts) reported to 2 significant figures
Spores of Aspergillus, Penicillium, and others are small with few distinguishing features and therefore can not be differentiated.
If % analyzed is <100%, spores per m³ is based on extrapolation and not actual count.
Information provided by customer includes customer sample ID, location, volume and area as well as date and time of sampling.

ANALYST: Mackenna Moore
Mackenna Moore

APPROVED BY: Tianbao Bai
Tianbao Bai, Ph.D., Laboratory Director

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MOLD SPORE TRAP REPORT: NONVIABLE DIRECT MICROSCOPY

CLIENT Coastal Environmental and Inspections
202 Nantucket Ct.
Wilmington, NC 28412

Lab Code: M230642
Date Received: 02-14-23
Date Analyzed: 02-16-23
Date Reported: 02-16-23

PROJECT: 502 North 30th Street, Wilmington, 066-IAQ-C -23

Client ID		**021323-NF-04**				**021323-NF-05**									
Lab ID		M002085				M002086									
Location		Outside - Rear				Outside - Front									
Volume (L)		25				25									
	IDENTIFICATION	**Raw Counts**	**% Analyzed**	**Spores per m³**	**% of Total**	**Raw Counts**	**% Analyzed**	**Spores per m³**	**% of Total**	**Raw Counts**	**% Analyzed**	**Spores per m³**	**% of Total**
Predominantly Outdoor	*Alternaria*												
	Arthrinium												
	Ascospores	10	100	400	6	4	100	160	3				
	Basidiospores	143	100	5720	89	107	100	4280	93				
	Bipolaris/Drechslera												
	Cercospora												
	Curvularia	1	100	40	1								
	Epicoccum												
	*Helicomyces**												
	Nigrospora												
	Oidium/Peronospora												
	Periconia/Smuts**					1	100	40	1				
	Pithomyces												
	Rusts												
	Spegazzinia												
	Stemphylium												
	Tetraploa												
	Torula												
	Unspecified spores												
Indoor / Outdoor	*Aspergillus/Penicillium*					1	100	40	1				
	Cladosporium	7	100	280	4	2	100	80	2				
	Fusarium												
Water Indicator	*Chaetomium*												
	Stachybotrys												
	Trichoderma												
	Ulocladium												
Total		**160**		**6400**	**100%**	**120**		**4600**	**100%**				
Background Debris		2				3							
Pollen Count						3							
Hyphal Fragments		1											
Analytical Sensitivity (Spores/m³)		40				40							

** Heliocomyces includes Helicosporium; ** Periconia/Smuts includes Myxomycetes*
Spores per m³ (final counts) reported to 2 significant figures
Spores of Aspergillus, Penicillium, and others are small with few distinguishing features and therefore can not be differentiated.
If % analyzed is <100%, spores per m³ is based on extrapolation and not actual count.
Information provided by customer includes customer sample ID, location, volume and area as well as date and time of sampling.

ANALYST: Mackenna Moore
Mackenna Moore

APPROVED BY:
Tianbao Bai, Ph.D., Laboratory Director

SPORE CLASSIFICATION:

For purposes of this report, identified mold spores are classified into three general categories depending on environmental conditions the spore is most commonly associated with:

1) **PREDOMINANTLY OUTDOOR:** Most commonly found growing outdoors and are not usually associated with indoor mold sources.
2) **INDOOR / OUTDOOR:** Commonly grow in both indoor and outdoor environments.
3) **WATER INDICATOR**: Most commonly associated with indoor mold growth in buildings with long-term water intrusion issues.

PREDOMINANTLY OUTDOOR	INDOOR / OUTDOOR	WATER INDICATOR

BACKGROUND DEBRIS:

Background debris is the amount of non-fungal particulates present in the trace including dust, fibers, skin scales, dust mites, and insect parts. A debris rating is assigned each trace from 0 (lowest) to 5 (highest). A higher debris rating means samples are more difficult to analyze, and spores, especially smaller spores like *Aspergillus / Penicilium*, may be obscured. Counts with debris ratings of 4 or 5 should be regarded as minimal counts with actual counts assumed to be significantly higher. A further explanation of the debris rating is listed below:

0 - None Detected. No debris observed.
1 - Trace. Field of view obscured < 5%. Counts unaffected.
2 - Light. Field of view obscured 5% to 25%. Counts slightly affected.
3 - Moderate. Field of view obscured 25% to 75% . Actual counts may be higher than reported counts.
4- Heavy. Field of view obscured 75% to 90% . Actual counts may be significantly higher than reported counts.
5 - Very Heavy. Field of view obscured > 90% . Actual counts may be significantly higher than reported counts. Resampling may be necessary.

DEFINITION OF TERMS:

Analytical Sensitivity: Spore per cubic meter (concentration) divided by raw count.
Limit of Detection: One Spore
Hyphal Fragments: Hyphal fragments are broken pieces of fungal hyphae and constitute the vegetative structure of the fungus.
Pollen Count: Pollen grains (Pollen) are the male reproductive structures of Angiosperm plants. These are counted only as pollen and not classified to Genus level.
Raw Counts: The number of spores counted by the analyst.
% Analyzed: The amount of the trace that was analyzed for each individual spore type. If large amounts of any spore type(s) exist, counts may be extrapolated.
% of Total: Percentage of the sample that is made up of each spore type.

INDOOR AND OUTDOOR COMPARISONS:

There are no current Federal standards regarding permissible levels of airborne fungi that may be present in buildings. Mold spores are ubiquitous to our planet and it is expected that some spores will be present in normal indoor environments. A general guideline that is widely accepted in the industrial hygiene industry is that the types and numbers of mold spores present in the indoor environment should be similar to those present in the outdoor environment. If inside spore counts are significantly higher than outside counts this may indicate a potential mold problem. The comparison of outdoor and indoor spore types and concentrations is a useful tool in assessing abnormal mold contamination; however, it should not be the sole determining factor in evaluating health risks and remediation strategies.

SPORE INFORMATION

	SPORE NAME	COMMON HABITAT	ALLERGENIC POTENTIAL	MYCOTOXIN POTENTIAL
Predominantly Outdoor	*Alternaria*	Soil, seeds, plants, carpet, textiles, window frames, air	X	X
	Arthrinium	Soil, plant materials, decaying wood	X	
	Ascospores	Plants, soil, cellulose-containing materials, air		
	Basidiospores	Soil, plants, wood, cellulose-containing materials, air		
	Bipolaris/Drechslera	Grasses, plant material, decaying food, soil		
	Cercospora	Plants		
	Curvularia	Soil, plant materials, cellulose-containing materials	X	
	Epicoccum	Plants, soil, seeds, carpet, air	X	
	*Helicomyces**	Plants		
	Nigrospora	Plants, soil		
	Oidium/Peronospora	Plants		
	Periconia/Smuts**	Plants, air	X	
	Pithomyces	Soil, plant material, air		
	Rusts	Grasses, trees, other plants	X	
	Spegazzinia	Soil, plants		
	Stemphylium	Dead plants, cellulose-containing materials		
	Tetraploa	Plants		
	Torula	Soil, plants		
	Unspecified spores	Various		
	** Heliocomyces includes Helicosporium; * Periconia/Smuts includes Myxomycetes*			
Indoor / Outdoor	*Aspergillus/Penicillium*	Soil, food, carpet, HVAC, air	X	X
	Cladosporium	Plants, woody plants, food, soil, paint, textiles, carpet, HVAC, air	X	
	Fusarium	Soil, plants, seed, fruits, grains		X
Water Indicator	*Chaetomium*	Cellulose-containing materials, soil, seeds, dung	X	X
	Stachybotrys	Paper, wallpaper, gypsum board	X	X
	Trichoderma	Soil, decaying wood, plant material, cellulose-containing materials	X	X
	Ulocladium	Soil, grasses, wood, paper		

MOLD / MATERIALS IDENTIFICATION CHAIN OF CUSTODY

5

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730 SE Maynard Road, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

LAB USE ONLY:	
ECEI Lab Code:	M230642
ECEI Lab I.D. Range:	M002082

COMPANY INFORMATION		PROJECT INFORMATION
ECEI CLIENT #: 29277		Job Contact: Warren Plautz
Company: Coastal Environmental and Inspections		Email / Tel: coastal.eai@gmail.com / (910) 233-7208
Address: 202 Nantucket Court		Project Name: 502 North 30th Street, Wilmington
Wilmington, NC 28412		Project ID#: 066-IAQ-C-23
Email: coastal.eai@gmail.com		PO #:
Tel: (910) 233-7208	Fax: N/A	STATE SAMPLES COLLECTED IN: NC

IF TAT IS NOT MARKED STANDARD 3 DAY TAT APPLIES.

MICROBIOLOGY	METHOD	TURN AROUND TIME						
		4 HR*	8 HR*	24 HR	2 DAY	3 DAY	5 DAY	7-10 DAY
MOLD NON-VIABLE *	TAPE LIFT, BULK, SWAB	☐	☐	☐	☐	☐	☐	[redacted]
MOLD NON-VIABLE *	SPORETRAP	☐	☐	☐	X	☐	☐	[redacted]
MOLD VIABLE	IMPACTOR	[redacted]						☐
MOLD VIABLE	BULK, SWAB, DUST							☐
DUST CHARACTERIZATION	PLM	☐	☐	☐	☐	☐	☐	☐
PARTICLE IDENTIFICATION	PLM	☐	☐	☐	☐	☐	☐	☐
COMBUSTION-BY-PRODUCTS	ASTM D6602-13	☐	☐	☐	☐	☐	☐	☐
COMBUSTION-BY-PRODUCTS WITH TEM CONFIRMATION OF SOOT	ASTM D6602-13	[redacted]	☐	☐	☐	☐	☐	☐
OTHER:		☐	☐	☐	☐	☐	☐	☐

**Blanks should be taken from the same sample lot as field samples.*

FIELD ID #	SAMPLE LOCATION	AREA (in^2)	VOLUME(L)
021323-NF-01	Kitchen/Dining Room	NA	25
021323-NF-02	Living Room	NA	25
021323-NF-03	Second Floor Bathroom	NA	25
021323-NF-04	Outside - Rear	NA	25
021323-NF-05	Outside - Front	NA	25

REMARKS: 8174 6144 1251

☑ Accept Samples
☐ Reject Samples

Relinquished By:	Date/Time	Received By:	Date/Time
Nick W Ford	2/13/2023	[signature]	2/14 10:40

By submitting samples, you are agreeing to ECEI's Terms and Conditions.
Samples will be disposed of 30 days after analysis.

PRECISION ENVIRONMENTAL INC.

3802 Cherry Avenue
Wilmington, NC 28403
Tel: 910-763-3445 Fax: 910-763-3415
www.precision-enviro.com

July 1, 2022

Wilmington Housing Authority
Attn: Chauntrell Burns
1524 S. 16th St.
Wilmington, NC 28401

Re: Mold Contamination Assessment at:
609 N. 30th St.
Wilmington, NC 28405
Precision Project No.: 5241-22-0002-1IAQ

At the request of the Wilmington Housing Authority, Precision Environmental, Inc. (Precision) performed a mold contamination assessment within the above referenced residence.

This mold contamination assessment included a visual assessment of accessible areas, the collection of non-viable mold spore trap air samples, the collection of a single mold spore surface sample, moisture mapping and the collection of temperature/relative humidity readings.

Directional reference: Front is determined from within the residence facing N 30th St.

Spore trap air samples were collected in the following areas:

- 2nd floor. Hallway
- 1st floor. Hallway by kitchen

In addition, a single exterior sample was collected for comparative purposes.

A non-viable surface sample was collected in the following area:

- Kitchen. HVAC supply rigid duct

During Precision's site visit on June 13, 2022, the following were found/observed:

2nd floor hallway
- The spore trap air sample collected within this area revealed highly elevated levels of *Stachybotrys* as compared to the sample collected at the exterior of the residence. (*Stachybotrys*: 1,700 spores/m³ inside vs 0 spores/m³ outside).
- Other molds revealed in the sample indicated no significantly elevated levels of mold growth as compared to the sample collected at the exterior of the residence.
- The relative humidity within the area was 50.6% which is within the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) guidelines for occupant's comfort of 30% to 60%.

2nd floor bathroom
- Suspect visible mold was noted along the bathtub edges.
- Dust was noted on the exhaust fan cover and the HVAC supply diffuser.
- Swelling wallboard was noted by the shower head.
- Suspect visible mold and water damage were noted on the lower wall and base adjacent to the bathtub.
- Delaminated floor tile was noted adjacent to the water damaged base and lower wall by the bathtub.

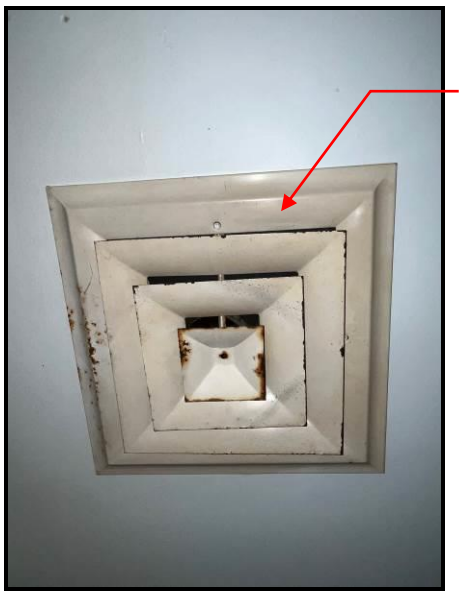
- Moisture readings collected within the space via GE Protimeter Surveymaster in WME (measure mode) indicated the following:
  - Swelling wallboard by the shower head:
    - Wall: 13.6 (Dry)
  - Walls:
    - Lower wall adjacent to bathtub (left wall): 9.3 (Dry)
  - Flooring:
    - Exposed wood subfloor: 13.4 (Dry)



Suspect visible mold noted on the bathtub edges.



Dust noted on the exhaust fan cover.



Dust noted on the HVAC supply diffuser.



Suspect visible mold and water damage noted on the lower wall and base adjacent to the bathtub.



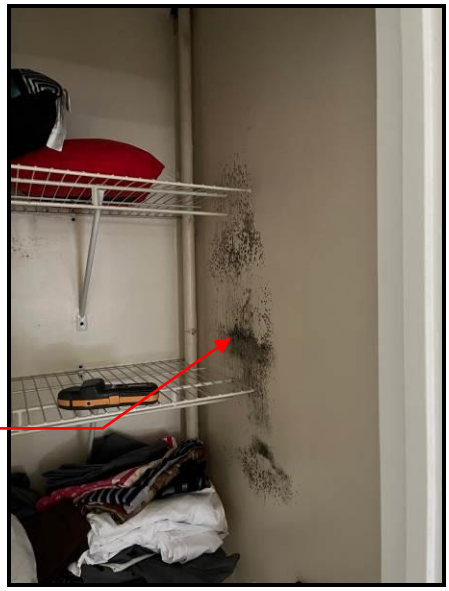
Exposed wood subfloor noted by the water damaged wall and base.

2nd floor hallway closet

- Suspect visible mold was noted on all four (4) walls and the ceiling.
- Condensation was noted on all four (4) walls and the ceiling, indicating a potential leak of conditioned air from HVAC duct work within the wall cavities.
- The relative humidity level by the ceiling in the closet during the assessment was 88.3%.
- Moisture readings collected within the space via GE Protimeter Surveymaster in REL (search mode) indicated the following:
    - Walls:
        - Rear wall: 167 (Borderline)
        - Right upper wall: 131 (Dry)
        - Left wall: 128 (Dry)
        - Front wall: 164 (Borderline)
        - Ceiling: 162 (Borderline)



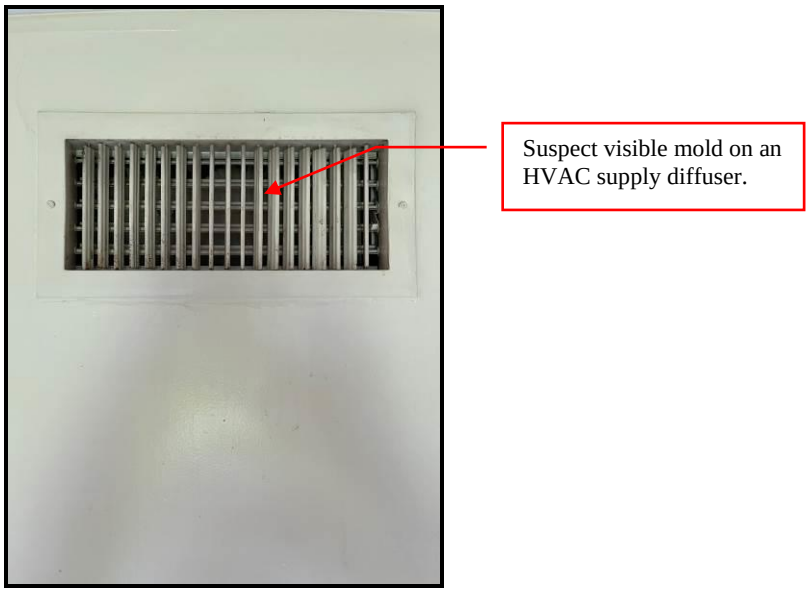
Suspect visible mold noted on the rear closet wall and adjacent ceiling.



Suspect visible mold noted on the front closet wall.

2nd floor bedrooms

- Suspect visible mold was noted on the HVAC supply diffusers at the following locations:
  - Front right room
  - Rear right room
  - Rear left room
- Water staining (caused by condensation) was noted on the wallboard walls under the HVAC supply diffusers at the following locations:
  - Front right room
  - Rear right room
  - Rear left room



1st floor hallway

- The spore trap air sample collected within this area revealed elevated levels of *Penicillium/Aspergillus* types as compared to the sample collected at the exterior of the residence. (*Penicillium/Aspergillus* types: 1,200 spores/m³ inside vs 290 spores/m³ outside).
- Other molds revealed in the sample indicated no significantly elevated levels of mold growth as compared to the sample collected at the exterior of the residence.
- Water staining was noted on the hallway ceiling.
- The relative humidity within the area was 44.7% which is within the ASHRAE guidelines for occupant's comfort of 30% to 60%.



Water staining noted on the hallway ceiling.

1st floor bathroom

- Water damage was noted on the base and lower walls adjacent to the toilet.
- Dust was noted on the exhaust vent cover within the space.
- Suspect visible mold was noted on the bathroom closet front and right walls.
- Suspect visible mold was noted on the lower area of the closet door.
- Moisture readings collected within the space via GE Protimeter Surveymaster in WME (measure mode) indicated the following:
    - Walls:
        - Rear wall by water damage: 18.8 (Borderline)



Water damage noted on the base and lower walls adjacent to the toilet.

Suspect visible mold noted on the front wall and right wall within the bathroom closet.





1st floor rear left bedroom

- Water damage was noted on the front left corner of the closet ceiling and the adjacent left wall.
- Moisture readings collected within the space via GE Protimeter Surveymaster in REL (search mode) indicated the following:
  - Walls:
    - Left wall: <150 (Dry)
  - Ceiling:
    - Ceiling: <150 (Dry)



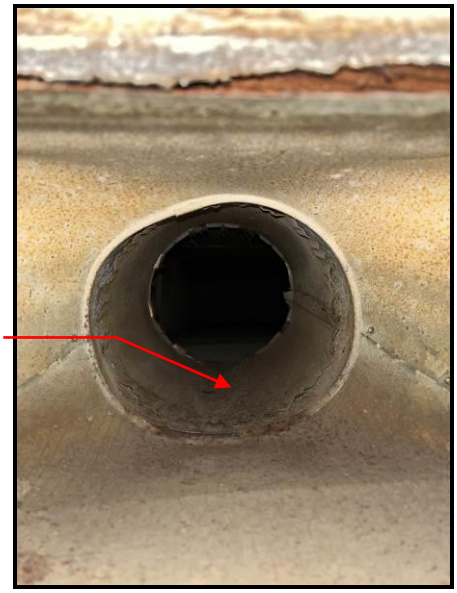
Kitchen

- The surface sample collected within the HVAC supply rigid duct revealed 3+ *Cladosporium* species and <1+ *Chaetomium* species indicating mold growth within the duct. (The lab noted a few insect parts detected).
- Staining was noted on the ceiling and upper right wall above the stove top.
- Surface mold and debris were noted within the kitchen HVAC supply duct.



Staining noted on the ceiling and upper wall above the stovetop.

Surface mold and debris noted within the kitchen HVAC supply duct.



Living room

- It was noted that there is possible water damage along the ceiling/wall junction within the space.
- Moisture readings collected within the space via GE Protimeter Surveymaster in REL (search mode) indicated the following:
    - Ceiling:
        - Ceiling/walls: <150 (Dry)

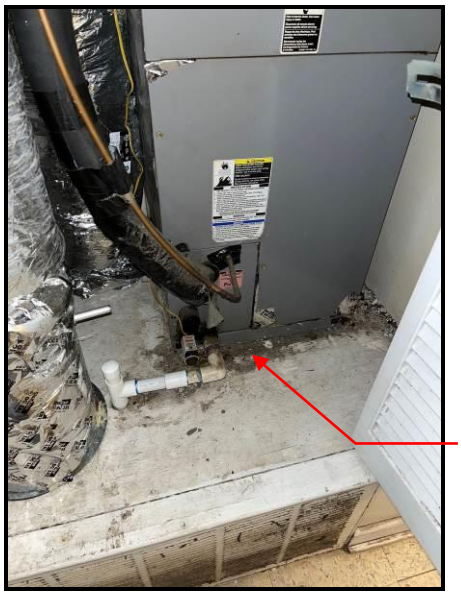


Possible water damage along the ceiling/wall junction within the space.

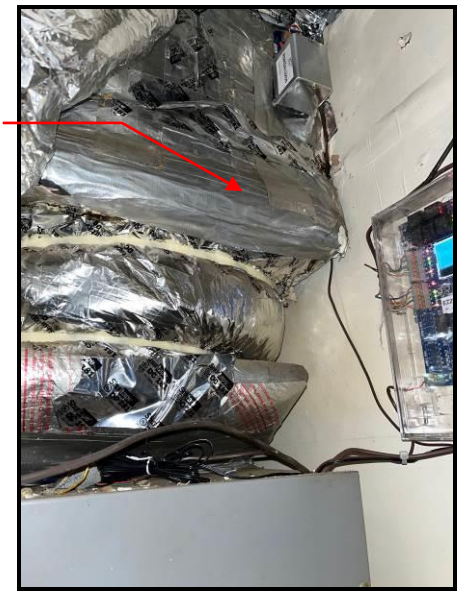
HVAC closet

- Dust and debris were noted on the closet shelving.
- A conditioned air leak was noted at the supply duct adjacent to the air handling unit indicating a faulty seal.
- It was noted that a drain pan is not installed under the hot water heater.
- Dust and debris were noted on the HVAC return vent, return plenum and HVAC evaporator coils.
- Damaged/deformed floor tile was noted by the HVAC closet indicating potential water damage.

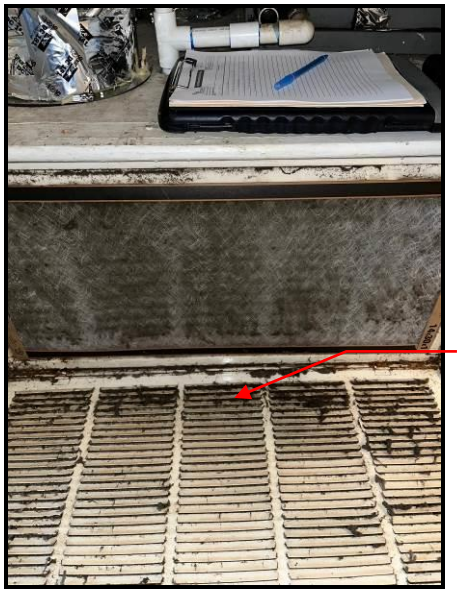
- Water staining (caused by condensation) and suspect visible mold were noted on HVAC supply diffusers throughout the 1st floor.



A conditioned air leak noted by the air handling unit.



Dust and debris noted on the HVAC closet shelving.



Dust and debris noted on the HVAC evaporator coils.



Dust and debris noted on the HVAC return vent.



Damaged/deformed floor tile noted by the HVAC closet.

Water staining noted under an HVAC supply diffuser.



Moisture measurements were collected using a GE Protimeter *Surveymaster*. Collected moisture measurements were evaluated based upon the following manufacturer's instructions:

%WME (measure mode) measurement of approximately:
Green zone readings (Between 0% and 15 %) indicates that the material examined is "Dry";
Yellow zone readings (Above 15% but less than 20%) indicates that the material examined is "borderline condition";
Red zone readings (Above 20%) indicates that the material examined is "wet" or in "damp condition"

REL (search mode) measurement of approximately:
Green zone readings (Between 0 and 150) indicates that the material examined is "Dry";
Yellow zone readings (Above 150 but less than 200) indicates that the material examined is "borderline condition";
Red zone readings (Above 200) indicates that the material examined is "wet" or in "damp condition"

%WME (measure mode) = WME is the moisture level that would be attained by a piece of wood in equilibrium with the material being tested. As the critical moisture levels for wood are known, WME measurements enable the moisture meter user to establish if materials are in a safe air dry, borderline or damp condition.

REL (search mode) = Search mode readings give the moisture condition beneath the surface of materials. This mode of operation is ideal for surveys of solid walls and floors and to pinpoint areas of concern that may justify a more extensive investigation

Air samples for non-culturable fungal spores were collected using Zefon Air-O-Cell cassettes and High-Volume Sampling Pump for 10 minutes at a flow rate of 15 liters per minute as recommended by the manufacturer.

Surface samples were collected via clear tape collection adhered to laboratory supplied bio tape.

Quantities of mold found on surface samples are graded 1+ to 4+ with 4+ denoting the highest quantities.

Temperature/Relative humidity readings were collected utilizing a Fluke 971 Temperature Humidity Meter

Based on the investigation conducted within the residence, Precision has found evidence of elevated levels of airborne mold and surface mold within the HVAC ducts and on walls throughout the residence. It is likely that the dust contamination discovered within the HVAC return plenum and on the evaporator coils is a contributing element in regard to the surface mold growth within the HVAC ducts. Additionally, the suspect visible mold within the closets, as well as the water damage discovered within the bathrooms are likely contributing to the elevated levels of airborne mold within the unit.

Relative humidity levels were within acceptable ranges at areas sampled at the time of the assessment.

The relative humidity level at the exterior of the structure at the time of the investigation was 59.2%.

Recommendations

Precision recommends the following based on the limited mold investigation conducted on June 14, 2022:

All remediation activities should be conducted by mold remediation contractors with experience conducting mold remediation projects and all work should be conducted in accordance with standard industry practices.

If not already addressed, plumbing issues potentially causing water damage documented within the 2nd floor and 1st floor bathrooms, should be repaired to prevent further water damage to building components.

The exterior wall to roof flashing above the living room ceiling where possible water damage was documented should be assessed to ensure that water is being properly deflected.

An HVAC engineer or contractor shall assess the HVAC system servicing the residence in order to determine the cause of the condensation formation on the HVAC supply diffusers. The HVAC duct connections within the HVAC closet should be assessed and the conditioned air leak repaired. In addition, the HVAC duct(s) connections possibly installed behind the walls within the 2nd floor hallway closet shall be assessed and any air leaks repaired.

General recommendations

A. The HVAC system(s) serving work areas within residence shall be shut down prior to the start of all work. HVAC supply and return vents within work areas shall be sealed with critical barriers.
B. Air scrubbers or negative air machines equipped with HEPA filters shall be installed within the work areas and shall remain operational/in place during remediation activities and for a minimum of twenty-four (24) hours following completion of remediation activities.
C. All insulation exposed by the removal of walls/ceilings shall be removed and disposed.
D. All structural components exposed by the removal of walls/ceilings shall be dried and decontaminated.
E. Decontamination shall consist of wet wiping the material with a microbial agent as well as HEPA vacuuming affected components. Spraying areas with visible mold or suspect visible mold without physically removing the mold is unacceptable.
F. If, following removal of walls/ceilings described below, additional moisture or mold issues are noted, removal shall continue until an area one foot beyond noted issues are reached.
G. Dehumidifiers shall be installed within the work areas and shall remain in place until components are dry.
H. Following completion of remediation activities, the air scrubbers shall run for a minimum of 24 hours. Following the 24-hour air scrubbing period the machines shall be shut down and immediately sealed (both intake and exhaust).
I. Following shut down of the air scrubbers, a clearance inspection may be conducted at the owner's discretion. The inspection should be conducted prior to the replacement of removed materials. Engineering controls (poly barriers, poly sheeting containment, air scrubbers, etc.) shall remain in place until receipt of acceptable final clearance visual/air monitoring results. If the owner chooses not to conduct the clearance inspection, the work area may be dismantled following the 24-hour air scrubbing period.
J. If final visual/clearance sample analysis indicates elevated levels of non-viable mold spores (surface and/or air) within any of the work areas, the failed space and all of its surfaces shall be recleaned at no additional expense to the owner.

Area specific – Interior of the residence

A. The entire interior space of the residence shall be incorporated into a single work area and shall be enclosed within a single containment. The containment shall be constructed of poly sheeting and shall seal all penetrations leading out of the work area. Access to the work area shall be through a zippered entry.
B. Air scrubbers or negative air machines equipped with HEPA filters shall be installed throughout the residence.
C. Due to the elevated levels of airborne mold within the residence, if it is not cost effective to decontaminate furniture, clothing, linens, etc., then the items shall be disposed.
D. All walls and ceilings not planned for removal shall be decontaminated.
E. All horizontal surfaces within the residence (i.e.: countertops, interior of cabinet drawers, window sills, tops of doors, etc.) shall be decontaminated.

F. 2nd floor bathroom
   i. The exhaust vent cover shall be removed, decontaminated and stored for reinstallation at the conclusion of remediation activities.
   ii. The exhaust vent fan shall be decontaminated.
   iii. The toilet and cabinet sink shall be removed, decontaminated and stored for reinstallation at the conclusion of remediation activities.
   iv. All of the base shall be removed and disposed.
   v. The shower liner and tub shall be removed, decontaminated and stored for reinstallation at the conclusion of remediation activities.
   vi. All of the floor tiles shall be removed and disposed.
   vii. The entire left wall shall be removed and disposed.
   viii. The exposed wood subfloor and wall structural components shall be assessed for moisture and deterioration and corrected/replaced as needed.

G. 2nd floor hallway closet
   i. The metal shelving shall be removed, decontaminated and stored for reinstallation at the conclusion of remediation activities.
   ii. The entire ceiling shall be removed and disposed.
   iii. All of the walls shall be removed and disposed.
   iv. The exposed wood components shall be assessed for moisture and deterioration and corrected/replaced as needed.

H. 1st floor bathroom and bathroom closet
   i. The toilet and cabinet sink shall be removed, decontaminated and stored for reinstallation at the conclusion of remediation activities.
   ii. All of the base along the left wall and the rear wall within the bathroom shall be removed and disposed.
   iii. The entire left wall and rear wall within the bathroom shall be removed and disposed.
   iv. The exposed wood components shall be assessed for moisture and deterioration and corrected/replaced as needed.
   v. The metal shelving within the bathroom closet shall be removed, decontaminated and stored for reinstallation at the conclusion of remediation activities.
   vi. All of the base along the front wall and right wall within the closet shall be removed and disposed.
   vii. The entire front wall and right wall within the closet shall be removed and disposed.
   viii. The exposed wood components within the closet shall be assessed for moisture and deterioration and corrected/replaced as needed.
   ix. The closet door shall be decontaminated.

I. 1st floor rear left bedroom closet
   i. The entire ceiling and left wall within the closet shall be removed and disposed.
   ii. The exposed wood components within the closet shall be assessed for moisture and deterioration and corrected/replaced as needed.

J. 1st floor hallway
   i. The damaged/deformed floor tiles by the HVAC closet shall be removed and disposed.

Area specific – HVAC system/ HVAC closet

A. Due to the condition noted of the return plenum and evaporator coils, it is presumed that the interior of the air handling unit is contaminated. Therefore, the interior of the air handling unit (evaporator coils, blower/fan, etc.) shall be decontaminated.

B. All of the shelving within the HVAC closet shall be decontaminated.
All surfaces within the return plenum shall be decontaminated.

C. All HVAC supply diffusers shall be removed, decontaminated and stored for reinstallation at the conclusion of remediation activities.

D. The HVAC ducts shall be decontaminated by a contractor with experience decontaminating mold from within duct work without contaminating the residence.

Limitations

This report has been prepared to assist the Wilmington Housing Authority in evaluating the microbiological impact within the above referenced residence. Precision provided these services consistent with the level and skill customarily exercised by members of the profession currently practicing under similar conditions. This report is intended for the sole use of the Wilmington Housing Authority.

Additionally, the passage of time may result in a change in the environmental characteristics at this site. This report does not warrant against future operations or conditions that could affect the recommendations made. The results, findings, conclusions, and recommendations expressed in this report are based only on conditions that were observed during Precision's inspection.

If you need further information, please contact me at 910-763-3445.

Sincerely,

Precision Environmental, Inc.

Reggie Romero

Attachments:
Laboratory Analysis/Chain of Custody
Laboratory accreditation

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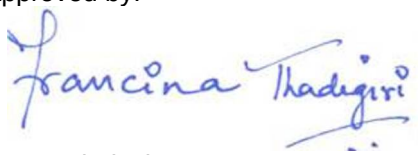
Report for:

Mr. Jonathan Guetta
Precision Environmental, Inc.
3802 Cherry Ave.
Wilmington, NC 28403

Regarding: Project: PEI Job # 5241-22-0002-1IAQ; 609 N 30th St. Wilmington, NC
EML ID: 2953573

Approved by:



Technical Manager
Francina Thadigiri

Dates of Analysis:
Spore trap analysis: 06-17-2022

Service SOPs: Spore trap analysis (EM-MY-S-1038)
AIHA-LAP, LLC accredited service, Lab ID #179623

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the samples as received and tested. Information supplied by the client which can affect the validity of results: sample air volume.

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(866) 871-1984 Fax (856) 334-1040 www.emlab.com

Client: Precision Environmental, Inc.
C/O: Mr. Jonathan Guetta
Re: PEI Job # 5241-22-0002-1IAQ; 609 N 30th St. Wilmington, NC

Date of Sampling: 06-14-2022
Date of Receipt: 06-16-2022
Date of Report: 06-20-2022

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	061422-609-01: 2nd floor. Hallway			061422-609-02: 1st floor. Hallway by kitchen		
Comments (see below)	None			None		
Lab ID-Version‡:	14197776-1			14197777-1		
Analysis Date:	06/17/2022			06/17/2022		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Alternaria	8	100	53	4	100	27
Ascospores	1	25	27			
Basidiospores	12	25	320	5	25	130
Bipolaris/Drechslera group				4	100	27
Cercospora						
Chaetomium	5	100	33			
Cladosporium	10	25	270	52	25	1,400
Curvularia	4	100	27	1	100	7
Epicoccum						
Oidium						
Other brown	2	100	13			
Penicillium/Aspergillus types†	6	25	160	45	25	1,200
Pestalotiopsis	2	100	13			
Polythrincium						
Rusts						
Smuts, Periconia, Myxomycetes	18	100	120	2	100	13
Stachybotrys	250	100	1,700			
Tetraploa				1	100	7
Torula						
Ulocladium	1	100	7			
Background debris (1-4+)††	2+			2+		
Hyphal fragments/m3	130			27		
Pollen/m3	27			< 7		
Skin cells (1-4+)	1+			2+		
Sample volume (liters)	150			150		
§ TOTAL SPORES/m3			2,700			2,800

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium, Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3. The limit of detection is the analytical sensitivity (in spores/m^3) multiplied by the sample volume (in liters) divided by 1000 liters.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

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3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030
(866) 871-1984 Fax (856) 334-1040 www.emlab.com

Client: Precision Environmental, Inc.
C/O: Mr. Jonathan Guetta
Re: PEI Job # 5241-22-0002-1IAQ; 609 N 30th St. Wilmington, NC

Date of Sampling: 06-14-2022
Date of Receipt: 06-16-2022
Date of Report: 06-20-2022

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	061422-609-03: Outside		
Comments (see below)	None		
Lab ID-Version‡:	14197778-1		
Analysis Date:	06/17/2022		
	raw ct.	% read	spores/m3
Alternaria	5	100	33
Ascospores	64	25	1,700
Basidiospores	386	25	10,000
Bipolaris/Drechslera group	1	100	7
Cercospora	3	100	20
Chaetomium			
Cladosporium	71	25	1,900
Curvularia	6	100	40
Epicoccum	2	100	13
Oidium	1	100	7
Other brown	2	100	13
Penicillium/Aspergillus types†	11	25	290
Pestalotiopsis			
Polythrincium	1	100	7
Rusts	1	100	7
Smuts, Periconia, Myxomycetes	35	100	230
Stachybotrys			
Tetraploa	1	100	7
Torula	4	100	27
Ulocladium			
Background debris (1-4+)††	2+		
Hyphal fragments/m3	73		
Pollen/m3	40		
Skin cells (1-4+)	< 1+		
Sample volume (liters)	150		
§ TOTAL SPORES/m3			15,000

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium, Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3. The limit of detection is the analytical sensitivity (in spores/m^3) multiplied by the sample volume (in liters) divided by 1000 liters.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

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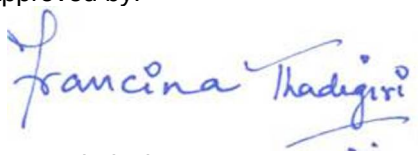
Report for:

Mr. Jonathan Guetta
Precision Environmental, Inc.
3802 Cherry Ave.
Wilmington, NC 28403

Regarding: Project: PEI Job # 5241-22-0002-1IAQ; 609 N 30th St. Wilmington, NC
EML ID: 2953573

Approved by:



Technical Manager
Francina Thadigiri

Dates of Analysis:
Direct microscopic exam (Qualitative): 06-17-2022

Service SOPs: Direct microscopic exam (Qualitative) (EM-MY-S-1039)
AIHA-LAP, LLC accredited service, Lab ID #179623

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the samples as received and tested.

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Client: Precision Environmental, Inc.
C/O: Mr. Jonathan Guetta
Re: PEI Job # 5241-22-0002-1IAQ; 609 N 30th St. Wilmington, NC

Date of Sampling: 06-14-2022
Date of Receipt: 06-16-2022
Date of Report: 06-20-2022

DIRECT MICROSCOPIC EXAMINATION REPORT

Background Debris and/or Description	Miscellaneous Spores Present*	MOLD GROWTH: Molds seen with underlying mycelial and/or sporulating structures†	Other Comments††	General Impression
Lab ID-Version‡: 14197775-1, Analysis Date: 06/17/2022: Tape sample 061422-609-04: Kitchen. HVAC supply rigid duct				
Heavy	Few	3+ *Cladosporium* species (spores, hyphae, conidiophores) < 1+ *Chaetomium* species (ascospores, hyphae)	A few insect parts detected.	Mold growth

* Indicative of normal conditions, i.e. seen on surfaces everywhere. Includes basidiospores (mushroom spores), myxomycetes, plant pathogens such as ascospores, rusts and smuts, and a mix of saprophytic genera with no particular spore type predominating. Distribution of spore types seen mirrors that usually seen outdoors.

† Quantities of molds seen growing are listed in the MOLD GROWTH column and are graded <1+ to 4+, with 4+ denoting the highest numbers.

†† Some comments may refer to the following: Most surfaces collect a mix of spores which are normally present in the outdoor environment. At times it is possible to note a skewing of the distribution of spore types, and also to note "marker" genera which may indicate indoor mold growth. Marker genera are those spore types which are present normally in very small numbers, but which multiply indoors when conditions are favorable for growth.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
The limit of detection is < 1+ when mold growth is detected.

For additional information necessary for the interpretation of the results, all readers are advised to refer to the document "Direct Exam Details Page" which is available on our website at:
www.emlab.com/services/mold-testing/direct-microscopic-exam-qualitative/

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San Diego, CA: 5473 Kearny Villa Road, #130, San Diego, CA 92123 * **(866) 465-6653**

WEATHER		Fog	Rain	Snow	Wind	Clear
LEVEL	None	x	x	x	x	
	Light					
	Moderate					
	Heavy					

CONTACT INFORMATION

Company: Precision Environmental Inc
Contact: Jonathan Guetta
Phone: 910-763-3445
Address: 3802 Cherry Ave., Wilmington, NC 28403
Special Instructions: Email results to: jguetta@precision-enviro.com

PROJECT INFORMATION

Project ID: PEI Job # 5241-22-0002-1IAQ
Project Desc.: 609 N 30th St. Wilmington, NC
Project Zip Code: 28405
Sampling Date & Time: 06/14/22 13:00
PO Number:

TURN AROUND TIME CODES - (TAT)

STD - Standard (DEFAULT)
ND - Next Business Day
SD - Same Business Day Rush
WH - Weekend/Holiday

Rushes received after 2pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

REQUESTED SERVICES (✓ Boxes)

SAMPLE ID	DESCRIPTION	Sample Type (Below)	TAT (Above)	Total Volume/Area (as applicable)	NOTES (Time of day, Temp, RH, etc.)	Fungi - Spore Trap Analysis	Spore Trap Analysis - Other particles	Direct Microscopic Exam (Qualitative)	Quantitative Spore Count Direct Exam	1-Media Surface Fungi (Genus ID + Agp. spp.)	2-Media Surface Fungi (Genus ID + Agp. spp.)	3-Media Surface Fungi (Genus ID + Agp. spp.)	Culturable Air Fungi (Genus ID + Agp. spp.)	Gram Stain and Counts (Culturable Air an	Legionella culture	Total Coliform, E.coli (Presence/Absence)	Membrane Filtration (Please specify orgai	MPN Bacteria (Please specify organism)	QuantiTray - Sewage Screen	Asbestos Analysis - PCM Airborne Fiber C	Asbestos Analysis - PLM (EPA method 60	PCR (please specify test)
061422-609-01	2nd floor. Hallway	ST	STD	150 Liters	76.3/50.6% RH	✓																
061422-609-02	1st floor. Hallway by kitchen	ST	STD	150 Liters	78.9/44.7% RH	✓																
061422-609-03	Outside	ST	STD	150 Liters	94.4/59.2% RH	✓																
061422-609-04	Kitchen. HVAC supply rigid duct	T	STD	N/A	N/A			✓														

2953573

SAMPLE TYPE CODES

BC - BioCassette™	**CP** - Contact Plate	**T** - Tape	**D** - Dust
A1S - Andersen	**ST** - Spore Trap: Zefon, Allergenco, Burkard...	**SW** - Swab	**W** - Water
SAS - Surface Air Sampler		**B** - Bulk	**SO** - Soil
O - Other:			

RELINQUISHED BY	DATE & TIME
Reggie Romero	06/15/22

RECEIVED BY	DATE & TIME
	6/15/22 9:50

By submitting this Chain of Custody, you agree to be bound by the terms and conditions set forth at www.emlabpk.com/terms.html
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AIHA Laboratory Accreditation Programs, LLC

acknowledges that

Eurofins EMLab P&K

3929 Old Lee Highway, Unit 91 C, Fairfax, VA 22030

Laboratory ID: LAP-179623

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, General Requirements for the Competence of Testing and Calibration Laboratories in the following:

LABORATORY ACCREDITATION PROGRAMS

☐	**INDUSTRIAL HYGIENE**	Accreditation Expires:
☐	**ENVIRONMENTAL LEAD**	Accreditation Expires:
☑	**ENVIRONMENTAL MICROBIOLOGY**	Accreditation Expires: January 01, 2023
☐	**FOOD**	Accreditation Expires:
☐	**UNIQUE SCOPES**	Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Cheryl O Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision19: 09/01/2020

Date Issued: 12/31/2020

AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

Eurofins EMLab P&K
3929 Old Lee Highway, Unit 91 C, Fairfax, VA 22030

Laboratory ID: LAP-179623
Issue Date: 12/31/2020

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Environmental Microbiology Laboratory Accreditation Program (EMLAP)

Initial Accreditation Date: 12/01/2005

EMLAP Scope Category	Field of Testing (FOT)	Component, parameter or characteristic tested	Method	Method Description *(for internal methods only)*
Fungal	Air - Culturable	Viable Impaction Samples	EM-MY-S-1043	Preparation and Analysis of Air Samples for Culturable Fungi
Fungal	Air - Direct Examination	Spore Trap Air Samples	EM-MY-S-1038	Preparation and Analysis of Spore Trap (Air) Samples for Fungal Spores, Other Biological and Non-Biological Particles
Fungal	Bulk - Culturable	Dust, Swab, Bulk, Water/Liquids, Wipes	EM-MY-S-1040	Preparation of Bulk, Dust/ Soil, Swab/Wipe and Water/Liquid Samples for Quantitative Fungal and /or Bacterial Analysis
Fungal	Bulk - Culturable	Dust, Swab, Bulk, Water/Liquids, Wipes, Contact Plates	EM-MY-S-2584	Analysis of Dust, Swab, Water, and Bulk Samples for Culturable Fungi
Fungal	Bulk - Direct Examination	Tape, Swab, Wipe, Bulk, Dust, Soil	EM-MY-S-1039	Preparation and Analysis of Tape, Swab, Wipe, Bulk and Dust - Soil Samples for Qualitative Direct Microscopic Examination
Fungal	Bulk - Direct Examination	Tape, Swab, Wipe, Bulk, Dust, Soil	EM-MY-S-1041	Preparation and Analysis of Tape, Swab, Wipe, Bulk and Dust - Soil Samples for Quantitative Direct Microscopic Examination
Fungal	Surface - Culturable	Dust, Swab, Bulk, Water/Liquids, Wipes	EM-MY-S-1040	Preparation of Bulk, Dust/ Soil, Swab/Wipe and Water/Liquid Samples for Quantitative Fungal and /or Bacterial Analysis
Fungal	Surface - Culturable	Dust, Swab, Bulk, Water/Liquids, Wipes, Contact Plates	EM-MY-S-2584	Analysis of Dust, Swab, Water, and Bulk Samples for Culturable Fungi

EMLAP Scope Category	Field of Testing (FOT)	Component, parameter or characteristic tested	Method	Method Description *(for internal methods only)*
Fungal	Surface - Direct Examination	Tape, Swab, Wipe, Bulk, Dust, Soil	EM-MY-S-1039	Preparation and Analysis of Tape, Swab, Wipe, Bulk and Dust - Soil Samples for Qualitative Direct Microscopic Examination
Fungal	Surface - Direct Examination	Tape, Swab, Wipe, Bulk, Dust, Soil	EM-MY-S-1041	Preparation and Analysis of Tape, Swab, Wipe, Bulk and Dust - Soil Samples for Quantitative Direct Microscopic Examination

A complete listing of currently accredited EMLAP laboratories is available on the AIHA-LAP, LLC website at: *http://www.aihaaccreditedlabs.org*

MOLD/BIOLOGICAL CONTAMINANT REMEDIATION PROTOCOL

Date: December 30, 2021

For: Monique Washington
Wilmington Housing Authority
1524 S. 16th Street
Wilmington, NC 28401

Remediation Contractor: Not determined

On-Site Consultant: Phoenix EnviroCorp (PEC)
4020 Shipyard Boulevard
Wilmington, NC 28403
(910) 397-0370

Approved Signatory:

Shaenaz Mirmohamed
IH Technician

Tommie Green, CIEC
Professional Industrial Hygienist

TABLE OF CONTENTS

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SECTION 1.0 REMEDIATION PROCEDURES

1.1 Project Set Up

- The owner or powers that be shall supply temporary power for remediation equipment. The existing electrical system may be utilized, with permission of the owner or powers that be. Determining specific electrical load/safety requirements, including, but not limited to, the use of a temporary GFCI electrical panel box shall be the responsibility of the abatement contractor.
- HVAC system shall be isolated.
- 6-mil polyethylene sheathing shall be erected to separate primary control areas (PCA) from remaining areas. Control areas shall be selected so that specified building materials (specified herein, in section 1.3, under primary control areas) may be removed or cleaned and dried.
- HEPA Air Filtration Devices shall be utilized for each separate control area. Critical barriers shall consist of 6-mil polyethylene so that primary control areas are isolated from remaining areas. HEPA filtration units shall be exhausted from the PCA to the outside of the building through windows/doors. Dehumidification units must be installed in the PCA to sufficiently dry components.
- A remote wash off station shall be set up to allow for employees to wash hands and faces after egress from the work area.
- Ingress/Egress to the control area(s) shall be, at minimum, sealed with a 2-way polyethylene air lock.
- Entrances to the building shall be marked as indicated in Section 7.4 of this document.

1.2 Local Exhaust System

- Once sealed, the primary control area shall be ventilated with a local HEPA air filtration device that shall ensure a minimum of four (4) air changes per hour. The air filtration device shall be placed within the containment work area.
- Local HEPA exhaust shall be utilized where cleaning of contents is required and/or in the immediate vicinity of remediation activities of building materials.
- In interior sections requiring surface area cleaning, local HEPA filtration may be exhausted within the area to scrub microbials from ambient air. This process shall only be conducted after fine cleaning has been completed.
- Negative pressure within the contained work area shall be maintained throughout the project until clearance is obtained.
- Negative air machines shall be exhausted to exterior portions of the building to adequately ensure that negative pressure is achieved.
- Dehumidification devices with HEPA filtration may be incorporated as filtration devices in conjunction with true HEPA filtration devices; they may not replace the true HEPA filtration devices.

Note: Formula for determination of adequate HEPA filtration:

Total feet per minute =Volume of work area (ft^3)/15 minutes
#AFD Units needed = (Total feet per minute)/Capacity of Unit (ft^3)

- At initiation of final cleaning stages, relative humidity shall be at 40% (+/-3%) and moisture content of wooden components shall be at or below 15% as determined by Delmhorst moisture meter or equivalent meter. Moisture mapping and direct read T/RH shall be recorded by the remediation contractor until the specified levels have been achieved. Control areas shall be dehumidified during cleaning and mold remediation activities to ensure removal of surface moisture created during application of water. Drying of structural components that have been treated with encapsulating anti-microbial agents will be necessary.

- Moisture levels shall be recorded and documented by the remediation contractor upon successful completion of dehumidification.

1.3 Remediation Specifications

- Prior to commencement of mold remediation activities by the remediation contractor, the source of any water intrusions, leaks, and/or moisture/humidity problems shall be remedied by the owner. If water intrusions, leaks, and/or moisture/humidity problems exist and are not corrected, mold growth can be expected to return.
- All remediation procedures listed that involve the removal of building materials shall employ polyethylene critical barriers, negative air pressure, and HEPA filtration (i.e., primary control areas).
- The remediation contractor shall ensure that the filters are properly capped prior to switching off the air scrubbers. If the filters are not properly capped, the backflow can cause mold spores to re-release back into the control area, essentially re-contaminating an area that has already been cleaned.
- All remediation activities shall be conducted in a manner that does not allow dissemination of mold spores. Remediation procedures shall begin from the side of the control area furthest away from air filtration devices.
- Cleaning procedures shall be repeated until the area is visibly free of dust and debris.
- Engineering controls set up during the remediation process shall remain in place until remediation has been completed and acceptable post remediation sampling results have been achieved.
- **Federal and/or state regulations require that suspect asbestos containing materials in public and commercial buildings shall be inspected for asbestos prior to renovations or demolition. Based on these regulations, PEC recommends that building materials that may be disturbed during mold remediation be tested for asbestos content prior to their disturbance to prevent asbestos contamination.**
- If cleaning procedures outlined in this remediation plan outweigh the cost of replacement for selected items, the remediation contractor shall give the owner the option to clean or dispose of those items.
- Reinstallation of building materials and/or components shall only be conducted once acceptable post remediation results are obtained.
- Any chemicals used on this project shall be EPA approved and used only as directed by the manufacturer. MSDS shall be available for review upon request.

HVAC System

- The HVAC system(s) that services or run through the primary control area/affected area shall be shut down prior to remediation activities.
- The spaces that are normally climate-controlled by the HVAC system that have been shut down shall be maintained under proper humidity levels (between 30 and 60% utilizing dehumidifiers, etc.) while the system is not in operation.
- All HVAC supply/return vents within the primary control area/affected area shall be isolated with a critical barrier (i.e., plastic, etc.) to prevent air flow. Prior to isolating the vents, the register covers (diffusers) shall be removed, and the supply shall be isolated at the metal boot. Once isolated, the registers and surrounding building materials shall be cleaned.
- The interior of the air handler, rigid duct system, intake box, etc. shall be thoroughly cleaned by an HVAC professional experienced in mold remediation. The interior shall be cleaned with mechanical methods that aggressively disturb all interior surfaces and filter the disturbed airborne particulates to avoid cross contamination, or other equivalent methods.
- Cleaning of components shall consist of a method that thoroughly removes visible mold growth, settled concentrations of mold spores, and/or dust and debris.

- PEC recommends the removal and disposal of the flex ducts when feasible, as well as any interior duct board where cleaning will damage the duct board. Once removed, the remediation contractor shall isolate the connection point where the flex duct and/or duct board was detached with a critical barrier (such as plastic, etc.) to prevent air flow.
- The remediation contractor shall be responsible for coordinating the cleaning of the HVAC system and other specified remediation to avoid cross contamination.
- Once the HVAC system components are cleaned or replaced anew, the system shall remain off and isolated until acceptable post remediation results are obtained.
- A written document shall be obtained from the remediation contractor verifying that the HVAC system has been cleaned by an HVAC cleaning company with mold experience. This document shall include the property address and date of services and shall be filed with other mold remediation documents.

Note: For directional purposes "front" is determined by facing N. 30th Street from inside the residence, unless otherwise noted.

Primary Control Areas/Affected Areas

Critical barriers, negative air pressure, and HEPA filtration shall be established to isolate the following areas as Primary Control Areas to perform the specified mold remediation. **All non-stable furnishings and contents shall be removed from the containment area/primary control area prior to specified remediation to avoid cross contamination of furnishings and contents. If elected, said furnishings and contents can be precleaned (i.e., HEPA vacuum, etc.) and stored in the primary control area, but shall be protected (i.e., covered with poly, etc.) to avoid cross contamination.**

Within the 1st floor bedroom:

- Remove the affected drywall around the HVAC supply vent on the front wall (i.e., drywall with apparent water damage/suspect visible mold growth) and extend the drywall removal within a 2- foot radius of the affected area when possible.

Within the 1st floor bedroom closet:

- Remove the drywall from the front wall beginning at the left wall and extending 5 feet toward the right wall. The height of this removal shall be 3 feet beginning at the floor and extending toward the ceiling.
- Remove the drywall from the left and right walls. The width of this removal shall be 2 feet beginning at the front wall and extending toward the rear wall. The height of this removal shall be 3 feet from the floor extending towards ceiling.

Within the 1st floor bathroom:

- Remove the drywall from the rear wall beginning at the ceiling and extending approximately 8 feet toward the floor. The width of this removal shall be 5 feet beginning at the left wall and extending toward the right wall.
- Remove the affected ceiling drywall beginning at the right wall and extending 2 feet toward the left wall. The width of this removal shall be 2 feet beginning at the rear wall and extending toward the front wall.
- Remove drywall from the right wall beginning at the ceiling extending 8 feet toward the floor. The width of this removal shall be 2 feet beginning at the rear wall and extending toward the front wall.
- Remove the affected door trim from the right wall and remove any affected drywall (i.e., drywall with apparent water damage/suspect visible mold growth) and extend the drywall removal within a 2- foot radius of the affected area when possible.

Within the kitchen:

- Detach the cabinet from the right wall and remove any affected drywall (i.e., drywall with apparent water damage/suspect visible mold growth) and extend the drywall removal within a 2- foot radius of the affected area when possible.

Within the 2nd floor bathroom:

- Detached the cabinet from the right wall and remove the drywall from the right wall beginning at the front wall and extending 5 feet toward the rear wall. The height of this removal shall be 4 feet beginning at the floor and extending toward the ceiling.
- Detach the shower surround and assess the walls behind the shower surround for apparent water damage/suspect visible mold growth and remove any affected wallboard.
- Remove the floor tiles and assess the floorboard for apparent water damage/suspect visible mold growth and remove any affected floorboard with apparent water damage.

Within the 2nd floor hallway closet:

- Remove the affected drywall from the rear wall beginning at the ceiling and extending 4 feet toward the floor. The width of this removal shall be approximately 3 feet beginning at the right wall and extending toward the left wall.

Within the 1st floor bedroom, the 1st floor bedroom closet, the 1st floor bathroom, the kitchen, the 2nd floor bathroom, and the 2nd floor hallway closet (Negative air pressure is not required in areas where building components are not specified for removal, but HEPA filtration is required):

- Clean all remaining surfaces as specified herein under general specifications for primary control areas.
- **Areas of specified subflooring or ceiling removal shall be sealed with poly (i.e., critical barrier) after cleaning, but before HEPA air scrubbing after cleaning, to prevent air flow from areas outside the containment area. An access door (i.e., poly flap taped in place, zipper, etc.) shall be installed in the critical barrier for easy access to conduct a visual inspection of the building materials behind the critical barrier.**

General Specifications for Primary Control Areas

- Open plumbing lines and drains within the control areas shall be isolated with a critical barrier consisting of 6-mil poly.
- The water line to toilets within the control areas shall be shut off and the toilets shall be isolated with a critical barrier consisting of 6-mil poly.
- Cleaning of components/materials shall consist of a method that thoroughly removes visible mold growth, settled concentrations of mold spores, and/or dust and debris (i.e., HEPA vacuuming, wet wiping, or other approved methods), followed by dehumidification/drying.
- Exterior surfaces of electrical appliances, electrical equipment, and light fixtures shall be cleaned, utilizing wet method and HEPA vacuuming. These items shall be disconnected from all electrical sources prior to cleaning. If these items cannot be cleaned efficiently, the abatement contractor shall consult with the owner/powers that be.
- In areas where drywall removal is specified around windows and doors, remove trim boards. The door casing(s) shall also be assessed to determine if they have sustained mold/water damage. If so, they shall be cleaned, or removed.
- All wall/ceiling cavity insulation shall be disposed in areas that specify the removal of drywall/wallboard. The abatement contractor shall visually inspect the back side of surrounding drywall/wallboard for water damage and/or suspect mold growth and document any findings. If additional suspect mold growth or water damage is observed beyond the specified removal area, additional drywall/wallboard shall be removed until no suspect mold growth or water damage is observed.

- All penetrations within the controlled area that adjoin unaffected or non-accessible areas, including outdoor areas, crawlspaces, etc., shall be cleaned (as far as one can reach) and then sealed with 6-mil poly, extending six (6) inches on all sides.
- In areas of specified wallboard removal, all components within the wall/ceiling cavities shall be cleaned. Any wooden structural components with mold stains or mold growth in pitted surfaces shall be HEPA sanded (or other approved methods) to eliminate embedded mold growth.
- All joints or sills (where the structural system meets, where the sill plate meets the floor, etc.) shall be aggressively disturbed to remove embedded mold growth and spores.
- The remediation contractor shall document any drywall/wallboard that requires removal, in addition to the specified amount, prior to removal (i.e., drywall that is specified to be assessed by the remediation contractor, etc.). Documentation shall include photos and specific location at a minimum.

1.4 Removal Procedures

The contractor shall maintain surfaces of the control area free of accumulation of dust and debris. Additionally, they shall restrict the spread of dust and debris, keeping waste from being distributed over the work area. Materials shall be removed in a fashion to ensure that previously cleaned areas are not re-contaminated (i.e., working from one end of the control area to the other). The contractor may be required to re-clean areas based on a visual inspection by the CIEC/CIE/IH, if the areas are not visibly clean.

Contaminated building materials that have been removed, and additional materials and debris generated during remediation, shall be placed in an enclosed container prior to transporting the material through the building and to the waste container, and prior to visual inspection by the CIEC/CIE/IH.

Areas shall be allowed to dry for a period until RH and moisture levels specified below have been achieved. Any remaining building products that are directly impacted by remediation shall be tested for moisture content. Wooden and cellulosic building components (e.g., wall studs, drywall, etc.) shall be tested for moisture content. If the moisture content is > 15% in wood products or > 12% in cellulosic products (utilizing a Delmhorst moisture meter or equivalent), dehumidification shall be required until moisture levels are at or below said levels, and the RH level is at or below 40% +/-3% (for all interior areas). The remediation contractor shall verify moisture content of all wooden and cellulosic building components within the impacted areas, as well as RH levels prior to scheduling post remediation verification.

1.5 Cleanup Overview

The contractor shall personally review the cleaning process prior to contacting the CIEC/CIE/IH for the post remediation testing. If accumulations of debris and dust are significant, the CIEC/CIE/IH will require re-cleaning prior to post remediation verification sampling.

The CIEC/CIE/IH shall make a visual inspection and conduct post remediation sampling after the final cleaning is complete.

1.6 Post Remediation Verification Testing

Prior to conducting post remediation sampling, HEPA filtration devices shall be allowed to operate for a minimum of 48 hours (the equivalent of 192 air changes), following fine cleaning, in all areas where remediation has been conducted. The HEPA filtration devices shall be sealed at the intake and turned off approximately two hours prior to post testing and reconvene within one hour after post testing, until acceptable post remediation results are established.

Post remediation sampling shall be conducted utilizing viable and/or non-viable sample methods. Air samples shall be collected in representative areas of the control areas. Surface sampling may be conducted at the discretion of the CIEC/CIE/IH.

Sampling shall be conducted in areas directly impacted by remediation procedures, where cleaning was conducted. The CIEC/CIE/IH shall determine acceptable post remediation status through interpretation of air sampling results, which will be based on indoor/outdoor comparisons, in combination with any surface samples collected, moisture readings, RH readings, visual observations, and any other pertinent information.

The owner/client will be responsible for post remediation testing. If air sample results indicate unacceptable airborne concentrations, the contractor shall be required to conduct a re-cleaning at the contractor's expense and absorb the cost for re-testing, until acceptable results are achieved.

Criteria for post remediation air sampling can be viewed in PEC's investigative report(s) listed in Section 2.1 below. This information can be found within the air sampling section of said report(s).

SECTION 2.0 SCOPE OF WORK (Note: Section 2.1 and Section 1.3 are essential to the full Scope of the Contractor's Work)

2.1 Investigative Reports and Other Related Documents

Phoenix EnviroCorp initial investigative report dated November 22, 2021.

Phoenix EnviroCorp investigative report dated December 30, 2021.

Phoenix EnviroCorp Chain of Custody dated November 18, 2021, and December 20, 2021.

Analytical reports dated November 19, 2021, and December 23, 2021

2.2 Project Description

The procedures covered by this program/protocol include the enclosure and drying of the said structure, the removal, handling, and disposal of building components compromised by mold/fungal growth, and the cleaning and disinfecting of existing building materials. Procedures for reconstruction are not considered in these specifications. Reconstruction of interior portions may not be conducted until procedures for remediation have been completed, the control areas have been inspected, and testing has returned acceptable post remediation results. Reconstruction of exterior portions may be conducted during the restoration to ensure that water intrusion is abated.

The objectives covered by this program/protocol include the remediation of materials shown to have surface contamination, water damage, and/or exposure to elevated airborne mold spore levels, without subjecting the workers, installation employees, and occupants to microbial contaminants. In addition, contract employees, occupants, and materials shall be appropriately protected during the removal process to avoid exposure.

This program/protocol is provided as a guideline. Any deviation requests from this protocol shall be addressed to the CIEC/CIE/IH for consideration. At present there are no Federal or State requirements regarding microbial remediation projects; however, OSHA General Construction Code of Federal Regulations (29 CFR 1926) shall be followed.

Remediation shall be completed as close as possible to the date that this protocol was drafted, as the

specifications outlined within represent conditions at the time the investigative services were conducted. Due to the volatility of mold, the current protocol may not reflect all necessary remediation if conditions are allowed to continue. Further, if time lapses allowing conditions to change, it may become increasingly difficult to obtain successful clearance testing results.

SECTION 3.0 AIR MONITORING

3.1 Responsibilities of the CIEC/CIE/IH

Monitoring of airborne concentrations will be performed in accordance with the requirements of this program. Prior to conducting air sampling and/or surface sampling for clearances, the CIEC/CIE/IH shall conduct a visual inspection of the area. Temperature and RH shall be recorded during the air sampling phase of clearance. All air sampling shall be conducted in such a manner as to provide a valid representation of airborne mold levels both inside and outside the work areas. If analysis of air samples indicates that airborne concentrations exceed acceptable limits, the contractor shall conduct re-cleaning at the contractor's expense.

3.2 Personal Monitoring

No personal monitoring will be conducted by the CIEC/CIE/IH unless the remediation contractor requests monitoring for OSHA compliance. Presently there are no PELs or TLVs for microbial contaminants. It is the remediation contractor's responsibility to determine if OSHA personal sampling may be required during application of anti-microbial agents.

3.3 Sample Integrity and Reporting

Samples shall be sealed, labeled, and a chain of custody initiated according to laboratory procedures.

Post remediation sample results shall be available within seven (7) business days of the completion of collection and will include the following information:

- Site Address
- Sample Number
- Location Sampled
- Collection Date(s)
- Person Taking Sample(s)
- Additional Comments (if any)
- Analyst Signature

SECTION 4.0 MATERIAL REPLACEMENT

4.1 Material Replacement

The general contractor/replacement contractor may begin material replacement after the CIEC/CIE/IH informs all parties of acceptable post remediation sample results.

With ongoing construction activities ambient air levels are expected to be elevated over what might be normally expected. Additional testing should not be necessary after remediation procedures have been completed and successful results have been obtained. In the event of another water intrusion (i.e., broken-pipeline, improper HVAC function, or building envelope compromise), an investigation shall be conducted within 24 to 48 hours of the event. Proper drying, if initiated within this time frame, should minimize the

potential for microbial growth.

SECTION 5.0 SPILL CLEANUP REQUIREMENTS

5.1 Spills

MSDS shall be kept on site for all chemical products brought to the site by the remediation contractor. In the event of a chemical spill, the contractor shall initiate cleanup immediately. The contractor shall mop up any liquid with rags or other conventional absorbent. The spent absorbent shall be properly contained and disposed of as waste.

SECTION 6.0 WASTE CONTROL

6.1 Waste Disposal

Waste shall be disposed of at a locally selected landfill. Waste shall be transported to the landfill in such a way to ensure that it does not pose a potential hazard to the environment.

SECTION 7.0 SUPPLEMENTAL INFORMATION

7.1 Applicable Publications

The publications listed below form part of this program. This protocol shall be reviewed by the remediation contractor prior to initiation of set-up for the project. Any questions regarding this protocol shall be addressed with the generator or appropriate Phoenix EnviroCorp personnel.

Code of Federal Regulation (CFR Publications)

29 CFR 1910.134	Respiratory Protection
29 CFR 1910.145	Specifications for Accident Prevention, Signs and Tags
29 CFR 1926.28	Personal Protective Equipment
29 CFR 1926.59	Hazard Communication
29 CFR 1926.96	Occupational Foot Protection
29 CFR 1926.100	Head Protection
29 CFR 1926.101	Hearing Protection
29 CFR 1926.102	Eye and Face Protection
29 CFR 1926.403	Electrical General Requirements
29 CFR 1926.416	Safety General Requirements
29 CFR 1926.852	Demolition, Chutes
29 CFR 1926.1091	Record Keeping Requirements

Supplemental Guidelines

IICRC S520 2nd ed.	Standard and Reference Guide for Professional Water Damage Restoration
NYCDOH	Guidelines on Assessment and Remediation of Fungi in Indoor Environments
ACGIH	Bioaerosols: Assessment and Control
IAQA 01-2000	Recommended Guidelines for Indoor Environments
ASHRAE 62.2-2007	Ventilation for Acceptable Indoor Air Quality in Low-Rise Residential Buildings

7.2 Definitions

Air Lock: A system that permits ingress and egress between a control area and non-control area, or other work areas, without allowing air movement between areas (e.g., three stage decon, three-way polyethylene flaps).

Air Sample: Refers to samples collected with spore trap air sample media (e.g., Micro-5, Cyclex D, or equivalent); also referred to as a non-viable air sample. May also refer to a sample collected on a disposable petri dish with Agar media by means of an Andersen Impactor (or equivalent) and sampling pump; also referred to as air culture (viable) sample. Sample media to be used in project is described under Section 1.6 (Post Remediation Verification Testing).

Area Monitoring: The sampling of airborne microbial concentrations outside the exclusion boundary, which may reach the breathing zone of the contractor or installation employees.

Asbestos Containing Materials (ACM): Refers to asbestos containing building materials that contain more than 1% asbestos by Polarized Light Microscopy (PLM) or Transmission Electron Microscopy (TEM).

Biocide: Refers to chemical agents that are specifically designed to eliminate viable microbial contamination, with a phenol equivalent efficiency (e.g., Sodium Hypochlorite, Quaternary Ammonia Compounds).

Blower Door Test: Refers to the testing of static pressure and draw of air through the HVAC in cubic feet per minute (CFM) to rate the efficiency of the system.

Clearance Monitoring: Refers to air, bulk, or swab sampling conducted as a means to demonstrate that the area specified for remediation has been completed by the contractor, left with present acceptable mold spore levels, and ready for re-construction.

Control Area: The area where microbial contaminants removal is performed, which is isolated by physical boundaries to prevent unauthorized entry of personnel, thereby preventing exposure to or the spread of microbial contaminants. Physical boundaries will be established and located such that the airborne contaminants are not allowed to escape the boundaries.

HEPA: High Efficiency Particulate Air. Refers to ventilation devices that are specifically designed to filter ambient air to an efficiency of 99.97%.

HVAC: Refers to the Heating, Ventilation, and Air Conditioning system.

Industrial Hygienist: Refers to a person who practices industrial hygiene and may act as a competent person regarding visual inspection of contaminated surfaces and clearance air and/or swab/bulk sampling. May also refer to a Certified Industrial Hygienist (CIH) as defined by the American Board of Industrial Hygiene (ABIH), a Certified Indoor Environmental Consultant as defined by the American Council for Accredited Certification (ACAC), or a Certified Indoor Environmentalist (CIE) as defined by the American Council for Accredited Certification (ACAC).

Microbial Contaminant: Refers to viable mold, fungi, pollen, bacteria, and or particulate, or their metabolites, which may be causative of epidemiological, immunotoxic, dermotoxic, neurotoxic, or enterotoxic disorders in the human population, or may be considered a pathogen or an opportunistic pathogen.

Non-Porous Materials: Refers to building materials with solid surfaces that may be successfully treated and cleaned by means of HEPA vacuuming or other approved method. Materials include flooring, hard goods,

plastic, vinyl, and some wallboard systems.

Porous Materials: Refers to building materials and household goods that may allow microscopic particles (3-20 micron) to become trapped within the material that will not allow adequate cleaning. Materials include carpet, mattresses, and clothing.

Primary Control Area (PCA): Refers to a section of a facility that has been isolated by 6-mil polyethylene barriers where specific engineering controls (e.g., HEPA filtration, negative air pressurization, dehumidification, etc.) are required. In general, it is the area where remediation of water and mold damaged building materials is to be conducted.

Refrigerant Dehumidifier: Device used to remove water content from air and materials.

Relative Humidity (RH): Refers to the ratio of water vapor in the atmosphere to the amount required to saturate it at a given temperature.

Semi-Porous Materials: Refers to materials that may be somewhat porous, yet they may still allow for adequate cleaning. Materials include wooden beams and some wallboard systems.

Swab Sample: Refers to collection of a sample onto a sterile swab for analysis of mold, fungi, and bacteria by viable and/or non-viable analysis.

Tape-Lift Sample: Refers to collection of a sample onto clear scotch tape for analysis by direct microscopic examination (non-viable).

7.3 Quality Assurance

Medical Examinations

Before potential exposure to microbial contaminants, the remediation contractor shall provide workers with a comprehensive medical examination as required by 29 CFR 1910.134 as outlined by the Medical Monitoring Program.

Medical Records

The remediation contractor shall maintain complete and accurate medical records on employees as required by OSHA and the contractor's Medical Monitoring Program. The contractor may be asked to provide a copy of all medical records for approval by the consultant's representative.

Training

Each employee working on this contract shall be trained prior to the time of initial job assignment in accordance with mold specific and chemical specific training as indicated by the OSHA General Duty Clause and the Hazard Communication Standard. Each employee shall also receive training required by Federal guidelines listed in Section 7.1 of this document and project specifications.

Hazard Communication Program

The remediation contractor has established and implemented a Hazard Communication Program as required by 29 CFR 1910.1200 and may be asked to provide a copy of this written program. Hazard Communication

training must include occupational hazards as directly related to working with fungi/mold and contamination of building components by fungal contamination, specific training for chemical hazards associated with biocide usage, and site specific MSDS sheets for commercial detergents and biocides utilized on the job site.

Respiratory Protection Program

The remediation contractor has established a Respiratory Protection Program, which complies with 29 CFR 1910.134. Physical examinations and fit testing are required for use of respiratory protection greater than an N-95 dust mask. Workers removing building materials contaminated by mold growth, applying anti-microbial agents, or workers subjected to exposures to anti-microbial agents shall be required to wear, at minimum, a tight-fitting negative pressure ½ mask respirator with P-100 filters. Therefore, -he OSHA Respiratory Protection Standard applies.

Analytical Testing Laboratory

Analysis of culturable biological samples collected on this project shall be conducted by a laboratory that participates in the Environmental Microbiological Proficiency Analytical Testing Program (EMPAT) of the American Industrial Hygiene Association (AIHA) and has shown to be proficient by proficiency analytical testing (PAT) samples. Analysis of non-viable air and surface samples shall be conducted by a competent person.

7.4 Materials and Equipment

Equipment

The contractor shall make available to employees a complete set of personal protective equipment (PPE) as required by this program for entry into the controlled area. All personnel while in the control area or handling microbial contaminated waste shall wear protective clothing, respirators, and other PPE.

Respirators

The contractor shall furnish the appropriate respirator in accordance with 29 CFR 1910.134. At a minimum, an N-95 dust mask shall be utilized.

Special Clothing

Employees shall be provided with and required to wear: whole body disposable protective clothing, full body tyvek suits with head coverings, and latex gloves *(see table)* during all activities in the controlled area.

Chemical	Recommended Rubber Glove
Sodium Hypochlorite	Neoprene or Nitrile
Phenolic Compounds	Neoprene
Quaternary Ammonia Compounds	Polyvinyl Chloride (PVC)
Detergents	Latex

Eye Protection

The contractor shall provide chemical-resistant goggles to personnel engaged in cleaning and treatment activities and require them to be worn during application of anti-microbial agents and biocides.

Warning Signs and Labels

Standard approved warning signs shall be erected at all approaches to the control area as specified in 29 CFR 1910.145.

Anti-Microbial Agents

Anti-microbial agents utilized in interior quarters shall consist of quaternary ammonia compounds. No phenolic compounds shall be used in interior quarters with exception of Micro Ban Plus. Approval must be granted by the owner/powers that be prior to application. Anti-microbial agents shall be EPA approved. Commercial grade detergents shall be used to remove fungal contamination during cleaning phases prior to anti-microbial application, to include encapsulation.

MOLD/BIOLOGICAL CONTAMINANT REMEDIATION PROTOCOL

Date: November 11, 2021

For: Monique Washington
Wilmington Housing Authority
1524 S. 16th Street
Wilmington, NC 28401

Remediation Contractor: Not determined

On-Site Consultant: Phoenix EnviroCorp (PEC)
4020 Shipyard Boulevard
Wilmington, NC 28403
(910) 397-0370

Approved Signatory:

Tommie Green, CIEC
Professional Industrial Hygienist

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- HVAC system shall be isolated.
- 6-mil polyethylene sheathing shall be erected to separate primary control areas (PCA) from remaining areas. Control areas shall be selected so that specified building materials (specified herein, in section 1.3, under primary control areas) may be removed or cleaned and dried.
- HEPA Air Filtration Devices shall be utilized for each separate control area. Critical barriers shall consist of 6-mil polyethylene so that primary control areas are isolated from remaining areas. HEPA filtration units shall be exhausted from the PCA to the outside of the building through windows/doors. Dehumidification units must be installed in the PCA to sufficiently dry components.
- A remote wash off station shall be set up to allow for employees to wash hands and faces after egress from the work area.
- Ingress/Egress to the control area(s) shall be, at minimum, sealed with a 2-way polyethylene air lock.
- Entrances to the building shall be marked as indicated in Section 7.4 of this document.

1.2 Local Exhaust System

- Once sealed, the primary control area shall be ventilated with a local HEPA air filtration device that shall ensure a minimum of four (4) air changes per hour. The air filtration device shall be placed within the containment work area.
- Local HEPA exhaust shall be utilized where cleaning of contents is required and/or in the immediate vicinity of remediation activities of building materials.
- In interior sections requiring surface area cleaning, local HEPA filtration may be exhausted within the area to scrub microbials from ambient air. This process shall only be conducted after fine cleaning has been completed.
- Negative pressure within the contained work area shall be maintained throughout the project until clearance is obtained.
- Negative air machines shall be exhausted to exterior portions of the building to adequately ensure that negative pressure is achieved.
- Dehumidification devices with HEPA filtration may be incorporated as filtration devices in conjunction with true HEPA filtration devices; they may not replace the true HEPA filtration devices.

Note: Formula for determination of adequate HEPA filtration:

Total feet per minute =Volume of work area (ft^3)/15 minutes
#AFD Units needed = (Total feet per minute)/Capacity of Unit (ft^3)

- At initiation of final cleaning stages, relative humidity shall be at 40% (+/-3%) and moisture content of wooden components shall be at or below 15% as determined by Delmhorst moisture meter or equivalent meter. Moisture mapping and direct read T/RH shall be recorded by the remediation contractor until the specified levels have been achieved. Control areas shall be dehumidified during cleaning and mold remediation activities to ensure removal of surface moisture created during application of water. Drying of structural components that have been treated with encapsulating anti-microbial agents will be necessary.

- Moisture levels shall be recorded and documented by the remediation contractor upon successful completion of dehumidification.

1.3 Remediation Specifications

- Prior to commencement of mold remediation activities by the remediation contractor, the source of any water intrusions, leaks, and/or moisture/humidity problems shall be remedied by the owner. If water intrusions, leaks, and/or moisture/humidity problems exist and are not corrected, mold growth can be expected to return.
- All remediation procedures listed that involve the removal of building materials shall employ polyethylene critical barriers, negative air pressure, and HEPA filtration (i.e., primary control areas).
- The remediation contractor shall ensure that the filters are properly capped prior to switching off the air scrubbers. If the filters are not properly capped, the backflow can cause mold spores to re-release back into the control area, essentially re-contaminating an area that has already been cleaned.
- All remediation activities shall be conducted in a manner that does not allow dissemination of mold spores. Remediation procedures shall begin from the side of the control area furthest away from air filtration devices.
- Cleaning procedures shall be repeated until the area is visibly free of dust and debris.
- Engineering controls set up during the remediation process shall remain in place until remediation has been completed and acceptable post remediation sampling results have been achieved.
- **Federal and/or state regulations require that suspect asbestos containing materials in public and commercial buildings shall be inspected for asbestos prior to renovations or demolition. Based on these regulations, PEC recommends that building materials that may be disturbed during mold remediation be tested for asbestos content prior to their disturbance to prevent asbestos contamination.**
- If cleaning procedures outlined in this remediation plan outweigh the cost of replacement for selected items, the remediation contractor shall give the owner the option to clean or dispose of those items.
- Reinstallation of building materials and/or components shall only be conducted once acceptable post remediation results are obtained.
- Any chemicals used on this project shall be EPA approved and used only as directed by the manufacturer. MSDS shall be available for review upon request.

HVAC System

- The HVAC system(s) that services or run through the primary control area/affected area shall be shut down prior to remediation activities.
- The spaces that are normally climate-controlled by the HVAC system that have been shut down shall be maintained under proper humidity levels (between 30 and 60% utilizing dehumidifiers, etc.) while the system is not in operation.
- All HVAC supply/return vents within the primary control area/affected area shall be isolated with a critical barrier (i.e., plastic, etc.) to prevent air flow. Prior to isolating the vents, the register covers (diffusers) shall be removed, and the supply shall be isolated at the metal boot. Once isolated, the registers and surrounding building materials shall be cleaned.
- The interior of the air handler, rigid duct system, intake box, etc. shall be thoroughly cleaned by an HVAC professional experienced in mold remediation. The interior shall be cleaned with mechanical methods that aggressively disturb all interior surfaces and filter the disturbed airborne particulates to avoid cross contamination, or other equivalent methods.
- Cleaning of components shall consist of a method that thoroughly removes visible mold growth, settled concentrations of mold spores, and/or dust and debris.

- PEC recommends the removal and disposal of the flex ducts when feasible, as well as any interior duct board where cleaning will damage the duct board. Once removed, the remediation contractor shall isolate the connection point where the flex duct and/or duct board was detached with a critical barrier (such as plastic, etc.) to prevent air flow.
- The remediation contractor shall be responsible for coordinating the cleaning of the HVAC system and other specified remediation to avoid cross contamination.
- Once the HVAC system components are cleaned or replaced anew, the system shall remain off and isolated until acceptable post remediation results are obtained.
- A written document shall be obtained from the remediation contractor verifying that the HVAC system has been cleaned by an HVAC cleaning company with mold experience. This document shall include the property address and date of services and shall be filed with other mold remediation documents.

Note: For directional purposes "front" is determined by facing N. 30th Street from inside the unit, unless otherwise noted.

Primary Control Areas/Affected Areas

Critical barriers, negative air pressure, and HEPA filtration shall be established to isolate the following areas as Primary Control Areas to perform the specified mold remediation. **All non-stable furnishings and contents shall be removed from the containment area/primary control area prior to specified remediation to avoid cross contamination of furnishings and contents; however, furnishings and contents in the 1st floor bathroom shall be cleaned as specified below under general specifications for primary control areas prior to removal. If elected, furnishings and contents in areas other than the 1st floor bathroom can be precleaned (i.e., HEPA vacuum, etc.) and stored in the primary control area, but shall be protected (i.e., covered with poly, etc.) to avoid cross contamination.**

Within the 2nd floor bathroom:
- Detach the floor-mounted cabinet (with sink) along the left wall.
- Remove all baseboards and a 3-foot flood cut of drywall from the full length of all walls, beginning at floor level and extending 3 feet up. Remove all trim boards in the same areas.
- Remove all loose floor tiles.

Within the 1st floor bedroom:
- Remove the wood chase along the right wall to gain access to all areas within the chase.
- Remove all baseboards and a 3-foot flood cut of drywall from the full length of all walls, beginning at floor level and extending 3 feet up. Remove all trim boards in the same areas.

Within the 1st floor hallway:
- Remove all baseboards and a 3-foot flood cut of drywall from the full length of all walls, beginning at floor level and extending 3 feet up. Remove all trim boards in the same areas. This includes the coat closet.

Within the 1st floor bathroom:
- Detach the floor-mounted cabinet with sink.
- Remove all baseboards and a 3-foot flood cut of drywall from the full length of all walls, beginning at floor level and extending 3 feet up. Remove all trim boards in the same areas. This includes the bathroom closet.
- Remove all loose floor tiles.
- Remove the entire drywall ceiling.

Within the kitchen:

- Detach the floor-mounted cabinet with sink along the left wall.
- Remove an approximately 10-foot-by-3-foot section of drywall from the front wall, beginning at the right wall and extending 10 feet toward the left; and beginning at the floor and extending up 3 feet. Remove all baseboards and trim boards in the same area.
- Remove an approximately 11-foot-by-3-foot section of drywall from the left wall, beginning at the rear closet wall and extending 11 feet towards the front of the room; and beginning at the floor and extending up 3 feet. Remove all baseboards and trim boards in the same area.
- Remove an approximately 6-foot-by-3-foot section of drywall from the left wall, beginning at the rear wall and extending 6 feet towards the front; and beginning at the floor and extending 3 feet up. Remove all baseboards in the same area.
- Remove any loose floor tiles.

Within the 2nd floor bathroom, the 1st floor bedroom, the 1st floor hallway, the 1st floor bathroom, and the kitchen:

- Clean all remaining surfaces as specified below under general specifications for primary control areas.
- **Areas of specified ceiling removal shall be sealed with poly (i.e., critical barrier) after cleaning, but before HEPA air scrubbing after cleaning, to prevent air flow from areas outside the containment area. An access door (i.e., poly flap taped in place, zipper, etc.) shall be installed in the critical barrier for easy access to conduct a visual inspection of the building materials behind the critical barrier.**

General Specifications for Primary Control Areas

- Open plumbing lines and drains within the control areas shall be isolated with a critical barrier consisting of 6-mil poly.
- The water line to toilets within the control areas shall be shut off and the toilets shall be isolated with a critical barrier consisting of 6-mil poly.
- Cleaning of components/materials shall consist of a method that thoroughly removes visible mold growth, settled concentrations of mold spores, and/or dust and debris (i.e., HEPA vacuuming, wet wiping, or other approved methods), followed by dehumidification/drying.
- Non-porous, semi-porous, and porous furnishings and contents shall be cleaned. If items cannot be cleaned efficiently, the abatement contractor shall consult with the owner/powers that be to determine if they shall be disposed.
- All machine washable porous cloth items shall be cleaned and dried in a household washer and dryer. Other specialty items shall be cleaned by a dry cleaner that specializes in cleaning materials affected with mold. These items shall be removed from affected area(s) and shall not be reintroduced back into the area(s) until acceptable post remediation testing is established. If porous articles cannot be cleaned efficiently, the abatement contractor shall consult with the owner/powers that be.
- Exterior surfaces of electrical appliances, electrical equipment, and light fixtures shall be cleaned, utilizing wet method and HEPA vacuuming. These items shall be disconnected from all electrical sources prior to cleaning. If these items cannot be cleaned efficiently, the abatement contractor shall consult with the owner/powers that be.
- All wall/ceiling cavity insulation shall be disposed in areas that specify the removal of drywall/wallboard. The abatement contractor shall visually inspect the back side of surrounding drywall/wallboard for water damage and/or suspect mold growth and document any findings. If additional suspect mold growth or water damage is observed beyond the specified removal area, additional drywall/wallboard shall be removed until no suspect mold growth or water damage is observed.

- All penetrations within the controlled area that adjoin unaffected or non-accessible areas, including outdoor areas, crawlspaces, etc., shall be cleaned (as far as one can reach) and then sealed with 6-mil poly, extending six (6) inches on all sides.
- In areas of specified wallboard removal, all components within the wall/ceiling cavities shall be cleaned. Any wooden structural components with mold stains or mold growth in pitted surfaces shall be HEPA sanded (or other approved methods) to eliminate embedded mold growth.
- All joints or sills (where the structural system meets, where the sill plate meets the floor, etc.) shall be aggressively disturbed to remove embedded mold growth and spores.
- The remediation contractor shall document any drywall/wallboard that requires removal, in addition to the specified amount, prior to removal (i.e., drywall that is specified to be assessed by the remediation contractor, etc.). Documentation shall include photos and specific location at a minimum.

1.4 Removal Procedures

The contractor shall maintain surfaces of the control area free of accumulation of dust and debris. Additionally, they shall restrict the spread of dust and debris, keeping waste from being distributed over the work area. Materials shall be removed in a fashion to ensure that previously cleaned areas are not re-contaminated (i.e., working from one end of the control area to the other). The contractor may be required to re-clean areas based on a visual inspection by the CIEC/CIE/IH, if the areas are not visibly clean.

Contaminated building materials that have been removed, and additional materials and debris generated during remediation, shall be placed in an enclosed container prior to transporting the material through the building and to the waste container, and prior to visual inspection by the CIEC/CIE/IH.

Areas shall be allowed to dry for a period until RH and moisture levels specified below have been achieved. Any remaining building products that are directly impacted by remediation shall be tested for moisture content. Wooden and cellulosic building components (e.g., wall studs, drywall, etc.) shall be tested for moisture content. If the moisture content is > 15% in wood products or > 12% in cellulosic products (utilizing a Delmhorst moisture meter or equivalent), dehumidification shall be required until moisture levels are at or below said levels, and the RH level is at or below 40% +/-3% (for all interior areas). The remediation contractor shall verify moisture content of all wooden and cellulosic building components within the impacted areas, as well as RH levels prior to scheduling post remediation verification.

1.5 Cleanup Overview

The contractor shall personally review the cleaning process prior to contacting the CIEC/CIE/IH for the post remediation testing. If accumulations of debris and dust are significant, the CIEC/CIE/IH will require re-cleaning prior to post remediation verification sampling.

The CIEC/CIE/IH shall make a visual inspection and conduct post remediation sampling after the final cleaning is complete.

1.6 Post Remediation Verification Testing

Prior to conducting post remediation sampling, HEPA filtration devices shall be allowed to operate for a minimum of 48 hours (the equivalent of 192 air changes), following fine cleaning, in all areas where remediation has been conducted. The HEPA filtration devices shall be sealed at the intake and turned off approximately two hours prior to post testing and reconvene within one hour after post testing, until acceptable post remediation results are established.

Post remediation sampling shall be conducted utilizing viable and/or non-viable sample methods. Air samples shall be collected in representative areas of the control areas. Surface sampling may be conducted at the discretion of the CIEC/CIE/IH.

Sampling shall be conducted in areas directly impacted by remediation procedures, where cleaning was conducted. The CIEC/CIE/IH shall determine acceptable post remediation status through interpretation of air sampling results, which will be based on indoor/outdoor comparisons, in combination with any surface samples collected, moisture readings, RH readings, visual observations, and any other pertinent information.

The owner/client will be responsible for post remediation testing. If air sample results indicate unacceptable airborne concentrations, the contractor shall be required to conduct a re-cleaning at the contractor's expense and absorb the cost for re-testing, until acceptable results are achieved.

Criteria for post remediation air sampling can be viewed in PEC's investigative report(s) listed in Section 2.1 below. This information can be found within the air sampling section of said report(s).

SECTION 2.0 SCOPE OF WORK (Note: Section 2.1 and Section 1.3 are essential to the full Scope of the Contractor's Work)

2.1 Investigative Reports and Other Related Documents

Phoenix EnviroCorp investigative report dated October 29, 2021, and November 11, 2021.

Phoenix EnviroCorp Chain of Custody dated October 15, 2021.

Analytical reports dated October 19, 2021.

2.2 Project Description

The procedures covered by this program/protocol include the enclosure and drying of the said structure, the removal, handling, and disposal of building components compromised by mold/fungal growth, and the cleaning and disinfecting of existing building materials. Procedures for reconstruction are not considered in these specifications. Reconstruction of interior portions may not be conducted until procedures for remediation have been completed, the control areas have been inspected, and testing has returned acceptable post remediation results. Reconstruction of exterior portions may be conducted during the restoration to ensure that water intrusion is abated.

The objectives covered by this program/protocol include the remediation of materials shown to have surface contamination, water damage, and/or exposure to elevated airborne mold spore levels, without subjecting the workers, installation employees, and occupants to microbial contaminants. In addition, contract employees, occupants, and materials shall be appropriately protected during the removal process to avoid exposure.

This program/protocol is provided as a guideline. Any deviation requests from this protocol shall be addressed to the CIEC/CIE/IH for consideration. At present there are no Federal or State requirements regarding microbial remediation projects; however, OSHA General Construction Code of Federal Regulations (29 CFR 1926) shall be followed.

Remediation shall be completed as close as possible to the date that this protocol was drafted, as the specifications outlined within represent conditions at the time the investigative services were conducted. Due to the volatility of mold, the current protocol may not reflect all necessary remediation if conditions are

allowed to continue. Further, if time lapses allowing conditions to change, it may become increasingly difficult to obtain successful clearance testing results.

SECTION 3.0 AIR MONITORING

3.1 Responsibilities of the CIEC/CIE/IH

Monitoring of airborne concentrations will be performed in accordance with the requirements of this program. Prior to conducting air sampling and/or surface sampling for clearances, the CIEC/CIE/IH shall conduct a visual inspection of the area. Temperature and RH shall be recorded during the air sampling phase of clearance. All air sampling shall be conducted in such a manner as to provide a valid representation of airborne mold levels both inside and outside the work areas. If analysis of air samples indicates that airborne concentrations exceed acceptable limits, the contractor shall conduct re-cleaning at the contractor's expense.

3.2 Personal Monitoring

No personal monitoring will be conducted by the CIEC/CIE/IH unless the remediation contractor requests monitoring for OSHA compliance. Presently there are no PELs or TLVs for microbial contaminants. It is the remediation contractor's responsibility to determine if OSHA personal sampling may be required during application of anti-microbial agents.

3.3 Sample Integrity and Reporting

Samples shall be sealed, labeled, and a chain of custody initiated according to laboratory procedures.

Post remediation sample results shall be available within seven (7) business days of the completion of collection and will include the following information:

- Site Address
- Sample Number
- Location Sampled
- Collection Date(s)
- Person Taking Sample(s)
- Additional Comments (if any)
- Analyst Signature

SECTION 4.0 MATERIAL REPLACEMENT

4.1 Material Replacement

The general contractor/replacement contractor may begin material replacement after the CIEC/CIE/IH informs all parties of acceptable post remediation sample results.

With ongoing construction activities ambient air levels are expected to be elevated over what might be normally expected. Additional testing should not be necessary after remediation procedures have been completed and successful results have been obtained. In the event of another water intrusion (i.e., broken-pipeline, improper HVAC function, or building envelope compromise), an investigation shall be conducted within 24 to 48 hours of the event. Proper drying, if initiated within this time frame, should minimize the potential for microbial growth.

SECTION 5.0 SPILL CLEANUP REQUIREMENTS

5.1 Spills

MSDS shall be kept on site for all chemical products brought to the site by the remediation contractor. In the event of a chemical spill, the contractor shall initiate cleanup immediately. The contractor shall mop up any liquid with rags or other conventional absorbent. The spent absorbent shall be properly contained and disposed of as waste.

SECTION 6.0 WASTE CONTROL

6.1 Waste Disposal

Waste shall be disposed of at a locally selected landfill. Waste shall be transported to the landfill in such a way to ensure that it does not pose a potential hazard to the environment.

SECTION 7.0 SUPPLEMENTAL INFORMATION

7.1 Applicable Publications

The publications listed below form part of this program. This protocol shall be reviewed by the remediation contractor prior to initiation of set-up for the project. Any questions regarding this protocol shall be addressed with the generator or appropriate Phoenix EnviroCorp personnel.

Code of Federal Regulation (CFR Publications)

29 CFR 1910.134	Respiratory Protection
29 CFR 1910.145	Specifications for Accident Prevention, Signs and Tags
29 CFR 1926.28	Personal Protective Equipment
29 CFR 1926.59	Hazard Communication
29 CFR 1926.96	Occupational Foot Protection
29 CFR 1926.100	Head Protection
29 CFR 1926.101	Hearing Protection
29 CFR 1926.102	Eye and Face Protection
29 CFR 1926.403	Electrical General Requirements
29 CFR 1926.416	Safety General Requirements
29 CFR 1926.852	Demolition, Chutes
29 CFR 1926.1091	Record Keeping Requirements

Supplemental Guidelines

IICRC S520 2nd ed.	Standard and Reference Guide for Professional Water Damage Restoration
NYCDOH	Guidelines on Assessment and Remediation of Fungi in Indoor Environments
ACGIH	Bioaerosols: Assessment and Control
IAQA 01-2000	Recommended Guidelines for Indoor Environments
ASHRAE 62.2-2007	Ventilation for Acceptable Indoor Air Quality in Low-Rise Residential Buildings

7.2 Definitions

Air Lock: A system that permits ingress and egress between a control area and non-control area, or other work areas, without allowing air movement between areas (e.g., three stage decon, three-way polyethylene flaps).

Air Sample: Refers to samples collected with spore trap air sample media (e.g., Micro-5, Cyclex D, or equivalent); also referred to as a non-viable air sample. May also refer to a sample collected on a disposable petri dish with Agar media by means of an Andersen Impactor (or equivalent) and sampling pump; also referred to as air culture (viable) sample. Sample media to be used in project is described under Section 1.6 (Post Remediation Verification Testing).

Area Monitoring: The sampling of airborne microbial concentrations outside the exclusion boundary, which may reach the breathing zone of the contractor or installation employees.

Asbestos Containing Materials (ACM): Refers to asbestos containing building materials that contain more than 1% asbestos by Polarized Light Microscopy (PLM) or Transmission Electron Microscopy (TEM).

Biocide: Refers to chemical agents that are specifically designed to eliminate viable microbial contamination, with a phenol equivalent efficiency (e.g., Sodium Hypochlorite, Quaternary Ammonia Compounds).

Blower Door Test: Refers to the testing of static pressure and draw of air through the HVAC in cubic feet per minute (CFM) to rate the efficiency of the system.

Clearance Monitoring: Refers to air, bulk, or swab sampling conducted as a means to demonstrate that the area specified for remediation has been completed by the contractor, left with present acceptable mold spore levels, and ready for re-construction.

Control Area: The area where microbial contaminants removal is performed, which is isolated by physical boundaries to prevent unauthorized entry of personnel, thereby preventing exposure to or the spread of microbial contaminants. Physical boundaries will be established and located such that the airborne contaminants are not allowed to escape the boundaries.

HEPA: High Efficiency Particulate Air. Refers to ventilation devices that are specifically designed to filter ambient air to an efficiency of 99.97%.

HVAC: Refers to the Heating, Ventilation, and Air Conditioning system.

Industrial Hygienist: Refers to a person who practices industrial hygiene and may act as a competent person regarding visual inspection of contaminated surfaces and clearance air and/or swab/bulk sampling. May also refer to a Certified Industrial Hygienist (CIH) as defined by the American Board of Industrial Hygiene (ABIH), a Certified Indoor Environmental Consultant as defined by the American Council for Accredited Certification (ACAC), or a Certified Indoor Environmentalist (CIE) as defined by the American Council for Accredited Certification (ACAC).

Microbial Contaminant: Refers to viable mold, fungi, pollen, bacteria, and or particulate, or their metabolites, which may be causative of epidemiological, immunotoxic, dermotoxic, neurotoxic, or enterotoxic disorders in the human population, or may be considered a pathogen or an opportunistic pathogen.

Non-Porous Materials: Refers to building materials with solid surfaces that may be successfully treated and cleaned by means of HEPA vacuuming or other approved method. Materials include flooring, hard goods,

plastic, vinyl, and some wallboard systems.

Porous Materials: Refers to building materials and household goods that may allow microscopic particles (3-20 micron) to become trapped within the material that will not allow adequate cleaning. Materials include carpet, mattresses, and clothing.

Primary Control Area (PCA): Refers to a section of a facility that has been isolated by 6-mil polyethylene barriers where specific engineering controls (e.g., HEPA filtration, negative air pressurization, dehumidification, etc.) are required. In general, it is the area where remediation of water and mold damaged building materials is to be conducted.

Refrigerant Dehumidifier: Device used to remove water content from air and materials.

Relative Humidity (RH): Refers to the ratio of water vapor in the atmosphere to the amount required to saturate it at a given temperature.

Semi-Porous Materials: Refers to materials that may be somewhat porous, yet they may still allow for adequate cleaning. Materials include wooden beams and some wallboard systems.

Swab Sample: Refers to collection of a sample onto a sterile swab for analysis of mold, fungi, and bacteria by viable and/or non-viable analysis.

Tape-Lift Sample: Refers to collection of a sample onto clear scotch tape for analysis by direct microscopic examination (non-viable).

7.3 Quality Assurance

Medical Examinations

Before potential exposure to microbial contaminants, the remediation contractor shall provide workers with a comprehensive medical examination as required by 29 CFR 1910.134 as outlined by the Medical Monitoring Program.

Medical Records

The remediation contractor shall maintain complete and accurate medical records on employees as required by OSHA and the contractor's Medical Monitoring Program. The contractor may be asked to provide a copy of all medical records for approval by the consultant's representative.

Training

Each employee working on this contract shall be trained prior to the time of initial job assignment in accordance with mold specific and chemical specific training as indicated by the OSHA General Duty Clause and the Hazard Communication Standard. Each employee shall also receive training required by Federal guidelines listed in Section 7.1 of this document and project specifications.

Hazard Communication Program

The remediation contractor has established and implemented a Hazard Communication Program as required by 29 CFR 1910.1200 and may be asked to provide a copy of this written program. Hazard Communication

training must include occupational hazards as directly related to working with fungi/mold and contamination of building components by fungal contamination, specific training for chemical hazards associated with biocide usage, and site specific MSDS sheets for commercial detergents and biocides utilized on the job site.

Respiratory Protection Program

The remediation contractor has established a Respiratory Protection Program, which complies with 29 CFR 1910.134. Physical examinations and fit testing are required for use of respiratory protection greater than an N-95 dust mask. Workers removing building materials contaminated by mold growth, applying anti-microbial agents, or workers subjected to exposures to anti-microbial agents shall be required to wear, at minimum, a tight-fitting negative pressure ½ mask respirator with P-100 filters. Therefore, -he OSHA Respiratory Protection Standard applies.

Analytical Testing Laboratory

Analysis of culturable biological samples collected on this project shall be conducted by a laboratory that participates in the Environmental Microbiological Proficiency Analytical Testing Program (EMPAT) of the American Industrial Hygiene Association (AIHA) and has shown to be proficient by proficiency analytical testing (PAT) samples. Analysis of non-viable air and surface samples shall be conducted by a competent person.

7.4 Materials and Equipment

Equipment

The contractor shall make available to employees a complete set of personal protective equipment (PPE) as required by this program for entry into the controlled area. All personnel while in the control area or handling microbial contaminated waste shall wear protective clothing, respirators, and other PPE.

Respirators

The contractor shall furnish the appropriate respirator in accordance with 29 CFR 1910.134. At a minimum, an N-95 dust mask shall be utilized.

Special Clothing

Employees shall be provided with and required to wear: whole body disposable protective clothing, full body tyvek suits with head coverings, and latex gloves *(see table)* during all activities in the controlled area.

Chemical	Recommended Rubber Glove
Sodium Hypochlorite	Neoprene or Nitrile
Phenolic Compounds	Neoprene
Quaternary Ammonia Compounds	Polyvinyl Chloride (PVC)
Detergents	Latex

Eye Protection

The contractor shall provide chemical-resistant goggles to personnel engaged in cleaning and treatment activities and require them to be worn during application of anti-microbial agents and biocides.

Warning Signs and Labels

Standard approved warning signs shall be erected at all approaches to the control area as specified in 29 CFR 1910.145.

Anti-Microbial Agents

Anti-microbial agents utilized in interior quarters shall consist of quaternary ammonia compounds. No phenolic compounds shall be used in interior quarters with exception of Micro Ban Plus. Approval must be granted by the owner/powers that be prior to application. Anti-microbial agents shall be EPA approved. Commercial grade detergents shall be used to remove fungal contamination during cleaning phases prior to anti-microbial application, to include encapsulation.

Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405

Phoenix EnviroCorp

December 27, 2021

Helen Sidberry
Wilmington Housing Authority
1524 S. 16th Street
Wilmington, NC 28401

RE: PEC Job # 21-21-463-IAQ-M – 1420 Greenfield Street, Wilmington, NC - Mold Investigation/Background air sampling

Enclosed are the results of the mold investigation conducted at the above referenced unit on December 13, 2021. Phoenix EnviroCorp (PEC) was retained to conduct background air sampling to determine airborne mold spore levels and to collect surface samples of suspect visible mold growth.

Background Information: The HVAC system was operating in the heat mode, set at 74º F upon PEC's arrival and during sampling.

Note: For directional purposes "front" is determined by facing Greenfield Street from inside the unit, unless otherwise stated.

Visual Inspection: PEC's visual inspection noted the following (see enclosed photographic documentation):

- Suspect visible mold growth on the HVAC supply vents throughout the unit

Front left bedroom

- Suspect visible mold growth on the wall over the bed
- Apparent water damage on the plaster ceiling
- Suspect visible mold growth above the door frame

Mold Testing – Surface: Non-viable surface samples were collected from areas of suspect visible mold growth. The quantifications of fungal growth are reported as scattered spores, 21-100 fungal spores = very light (VL), 101-1,000 fungal spores = light (L), 1,001-10,000 fungal spores = moderate (M), > 10,000 fungal spores = heavy (H). The 'General Impressions' of fungal growth are reported as no fungal growth (NFG), fungal growth (FG), minimal fungal growth or growth in vicinity (MFG), and no fungal spores detected (ND). *Clear tape was utilized for the collection of surface samples. Each sample was assigned a unique ID number and shipped to a third-party laboratory for analysis.* Sampling locations and results are as follows:

Location	Result
HVAC supply vent in the front left bedroom	**H – FG** *Cladosporium*
Wall above the bed in the front left bedroom	**L – FG** *Cladosporium* **VL – FG** *Penicillium/Aspergillus*
Wall above the bedroom door in the front left bedroom	**H – FG** *Cladosporium*

Mold Testing – Air: Non-viable spore trap air samples were collected to determine airborne mold spore levels. Samples were collected within the kitchen/living room, the bathroom, the rear left bedroom, the front left bedroom, and the front right bedroom. *Micro 5 sampling media was utilized for*

the collection of spore trap air samples. Each sample ran for five (5) minutes at a flow rate of five (5) liters per minute for a total volume of twenty-five (25) liters per sample. Each sample was assigned a unique ID number and shipped to a third-party laboratory for analysis. All air samples were collected from centralized locations (within their respective areas) and within the breathing zone, unless otherwise noted. Two samples were also collected outdoors for comparative purposes.

Results identified elevated airborne levels of *Cladosporium* within the kitchen/living room.

The interpretation of air sample results is based on indoor/outdoor comparisons, in combination with a study by Daniel M. Baxter, entitled "A Regional Comparison of Mold Spore Concentrations Outdoors and Inside "Clean" and "Mold Contaminated" Southern California Buildings", and other industry guidelines, as well as over 20 years of experience in industrial hygiene and mold testing.

In layman terms, acceptable levels indicate that the levels are below the outdoor level and/or the baseline levels (whichever is higher) stated below. Elevated levels indicate that the levels are above the outdoor level and/or the baseline level.

Baseline levels for indoor spore trap air samples are as follows: < 900 spores/m³ for Penicillium/Aspergillus; 0 spores/m³ for Stachybotrys and Chaetomium; and < 350 spores/m³ for other individual mold groups.

Moisture Readings: Moisture readings were collected with a Tramex Survey Encounter. One reading was taken to represent areas and materials reported. For drywall products, readings should be below fifty percent (50%). For wood products, normal moisture content should be less than fifteen percent (<15%).

Moisture content measurements were as follows:
Front left bedroom

- Plaster = ≤ 10%

Relative Humidity (RH): *Temperature and relative humidity readings were collected in the same locations as the spore trap air samples.* RH levels within the unit ranged from 40.7% – 42.0% with an outdoor reading of 41.5% (see the enclosed Chain of Custody for details). Per the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) Standard 62-1999, relative humidity should range between 30% and 60%.

Conclusions: Sample results identified elevated airborne mold spore levels and surface mold growth within the unit, in addition to apparent water damage. Upon request, and for an additional fee, PEC can provide additional investigative activities and provide a mold remediation protocol if needed.

Enclosed in this report are the laboratory analysis and the Chain of Custody.

Should you have any questions, please do not hesitate to call.

Thank you,

Aidan Tobias
IH Technician

Tommie Green, CIEC
Professional Industrial Hygienist

Enclosures

Photo 1



Suspect visible mold growth on the front left bedroom wall over the bed.

Photo 2



Suspect visible mold growth on the HVAC supply vents throughout the unit.

Photo 3



Apparent water damage on the front left bedroom plaster ceiling.

Photo 4



Suspect visible mold growth above the front left bedroom door frame.

Phoenix EnviroCorp
4020 SHIPYARD BLVD.
WILMINGTON, NC 28403

CHAIN OF CUSTODY

LABORATORY TEST REQUEST

Ref #: 211215037 Lab ID: 134-143

CONTACT: Aidan Tobias	TELEPHONE (910) 397-0370 FAX (910) 313-6094	12/13/2021
PEC Job #: 21-21-463-IAQ-M	SITE ADDRESS: 1420 Greenfield Street, Wilmington, NC 28401	

PLEASE EMAIL RESULTS TO: KMGREEN@PHOENIXENVIROCORP.COM

SAMPLE TYPE:	NUMBER OF SAMPLES:	TURN AROUND TIME SPECIFIED:
Spore Trap - Micro-5	7	____ Immediate ____ 24 hr ____ 48 hr __X__ Standard
Surface Samples	3	

Sample #	Sample Area	Sample Volume	Lab Analysis Requested	% Relative Humidity	Temperature °F
121321-AT-301	Kitchen/living room	25L	S001	40.7	77.8
121321-AT-302	Bathroom	25L	S001	41.2	77.6
121321-AT-303	Rear left bedroom	25L	S001	40.9	78.1
121321-AT-304	Front left bedroom	25L	S001	41.3	77.7
121321-AT-305	Front right bedroom	25L	S001	42.0	76.8
121321-AT-306	Outdoor - Front	25L	S001	41.5	64.2
121321-AT-307	Outdoor - Rear	25L	S001		
121321-AT-401	HVAC supply in the front left bedroom	1 cm sq	S001T	N/A	N/A
121321-AT-402	Wall above the bed in the front left bedroom	1 cm sq	S001T	N/A	N/A
121321-AT-403	Wall above the bedroom door in the front left bedroom	1 cm sq	S001T	N/A	N/A

Samples Collected By (Printed Name and Signature): Date Signed: 12/13/2021

CHAIN OF CUSTODY RECORD

DATE:	Time:	Condition of Samples:	RELINQUISHED BY: (Printed Name and Signature)	ACCEPTED BY: (Printed Name and Signature)
12/13/2021	2:00 PM	Intact	Aidan Tobias AFFILIATION: [signature]	AFFILIATION: [signature]

127527

SEEML Reference Number: 211215037

Southeast Environmental Microbiology Laboratories
102 Edinburgh Court
Greenville, SC 29607
Phone: (864) 233-3770
FAX: (864) 233-6589

The information and data for **Phoenix Enviro Corp.** has been checked for thoroughness and accuracy. The following reports are contained within this document:

- ☒ Surface/Bulk Report
- ☒ Spore Trap Report
- ☐ Andersen Fungal Report
- ☐ Quantitative Fungal Report

Lab Manager Review: *Angel Gosnell* Date: 12/15/21

Thank you for using SEEML laboratories. We strive to provide superior quality and service.
SEEML laboratories are accredited through AIHA-LAP, LLC (EMLAP # 173667) for the analysis of Spore Traps and Surface/Bulk Samples.

The data within this report is reliable to three significant figures. The third significant figure is technically unjustified. In this instance, the third figure is reported as an estimate to facilitate the interpretation by the customer.

Confidentiality Notice:
The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of the document(s) is strictly prohibited. If you have received this document in error, please immediately notify us by telephone to arrange for its return. Thank you.

Guidelines for Interpretation:
No accepted quantitative regulatory standards currently exist by which to assess the health risks related to mold and bacterial exposure. Molds and bacteria have been associated with a variety of health effects and sensitivity varies from person to person.
Several organizations, including: the American Conference of Government Industrial Hygienists (ACGIH); the American Industrial Hygiene Association (AIHA); the Indoor Air Quality Association (IAQA); the United States Environmental Protection Agency (USEPA); the Centers for Disease Control (CDC), as well as the California Department of Health Services (CADHS), have all published guidelines for assessment and interpretation of mold resulting from water intrusion in buildings.

Interpretation of the data and information within this document is left to the company, consultant, and/or persons who conducted the fieldwork.

Spore Trap Report

	Date Sampled: 12/13/21
Attn: ***Phoenix Enviro Corp.***	Date Received: 12/15/21
4020 Shipyard Blvd.	Date Analyzed: 12/15/21
Wilmington, NC 28403	Date Reported: 12/15/21
	Date Revised:
	Project Name: 21-21-463-IAQ-M
	Project Address: 1420 Greenfield Street
	Project City, State, ZIP: Wilmington, NC 28401
	SEEML Reference # : 211215037

TEST METHOD: DIRECT MICROSCOPY EXAMINATION SEEML SOP 7

Client Sample ID	121321-AT-301			121321-AT-302			121321-AT-303		
Location	Kitchen / Living Room			Bathroom			Rear Left Bedroom		
Lab Sample ID	211215037-134			211215037-135			211215037-136		
Comments									
Hyphal Fragments	1	40		1	40		6	240	
Pollen									
Spore Trap Used	M5			M5			M5		
	raw ct.	spores/m^3	%	raw ct.	spores/m^3	%	raw ct.	spores/m^3	%
Alternaria									
Ascospores	5	200	12						
Basidiospores	5	200	12				2	80	29
Bipolaris/Drechslera									
Chaetomium									
Cladosporium	28	1120	65	8	320	67	1	40	14
Curvularia	1	40	2				1	40	14
Epicoccum	1	40	2						
Cercospora									
Fusarium									
Memnoniella									
Nigrospora									
Penicillium/Aspergillus	3	120	7	4	160	33	1	40	14
Polythrincium									
Rusts									
Smuts/Periconia/Myxomy							1	40	14
Spegazzinia									
Stachybotrys									
Stemphylium									
Tetraploa									
Torula									
Ulocladium									
Colorless/Other Brown*									
Oidium									
Zygomycetes									
Pithomyces							1	40	14
Background debris (1-5)**	3			3			3		
Sample Volume(liters)	25			25			25		
TOTAL SPORES/M^3	43	**1720**		12	**480**		7	**280**	

Revisions:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3. The limit of detection is the analytical sensitivity (in spores/m^3) multiplied by the sample volume (in liters) divided by 1000 liters.

*Colorless,other Brown are spores without a distinctive morphology on spore traps and non-viable surface samples.

**Background debris is the amount of particulate matter present on the slide and is graded from 1-5 with 1 = very light, 2= Light, 3 = Medium, 4 = Heavy, 5 = Very Heavy. The higher the rating the more likelihood spores may be underestimated. A rating of 5 should be interpreted as minimal counts and may actually be higher than reported.

Disclaimer: The sample results are determined by the sample volume, which is provided by the customer.
This report relates only to the samples tested as they were received.

102 Edinburgh Court
Greenville, SC. 29607
Phone: (864) 233-3770

Angel Gosnell

Angel Gosnell, Approved Laboratory Signatory

Spore Trap Report

	Date Sampled: 12/13/21
Attn: ***Phoenix Enviro Corp.***	Date Received: 12/15/21
4020 Shipyard Blvd.	Date Analyzed: 12/15/21
Wilmington, NC 28403	Date Reported: 12/15/21
	Date Revised:
	Project Name: 21-21-463-IAQ-M
	Project Address: 1420 Greenfield Street
	Project City, State, ZIP: Wilmington, NC 28401
	SEEML Reference # : 211215037

TEST METHOD: DIRECT MICROSCOPY EXAMINATION SEEML SOP 7

Client Sample ID	121321-AT-304			121321-AT-305			121321-AT-306		
Location	Front Left Bedroom			Front Right Bedroom			Outdoor - Front		
Lab Sample ID	211215037-137			211215037-138			211215037-139		
Comments									
Hyphal Fragments				3	120				
Pollen									
Spore Trap Used	M5			M5			M5		
	raw ct.	spores/m^3	%	raw ct.	spores/m^3	%	raw ct.	spores/m^3	%
Alternaria	1	40	20						
Ascospores							24	960	53
Basidiospores	1	40	20				9	360	20
Bipolaris/Drechslera									
Chaetomium									
Cladosporium	1	40	20	7	280	30	3	120	7
Curvularia									
Epicoccum	1	40	20						
Cercospora									
Fusarium									
Memnoniella									
Nigrospora									
Penicillium/Aspergillus				16	640	70	9	360	20
Polythrincium									
Rusts									
Smuts/Periconia/Myxomy									
Spegazzinia									
Stachybotrys									
Stemphylium									
Tetraploa									
Torula									
Ulocladium									
Colorless/Other Brown*									
Oidium									
Zygomycetes									
Pithomyces	1	40	20						
Background debris (1-5)**	3			3			3		
Sample Volume(liters)	25			25			25		
TOTAL SPORES/M^3	5	**200**		23	**920**		45	**1800**	

Revisions:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3. The limit of detection is the analytical sensitivity (in spores/m^3) multiplied by the sample volume (in liters) divided by 1000 liters.

*Colorless,other Brown are spores without a distinctive morphology on spore traps and non-viable surface samples.

**Background debris is the amount of particulate matter present on the slide and is graded from 1-5 with 1 = very light, 2= Light, 3 = Medium, 4 = Heavy, 5 = Very Heavy. The higher the rating the more likelihood spores may be underestimated. A rating of 5 should be interpreted as minimal counts and may actually be higher than reported.

Disclaimer: The sample results are determined by the sample volume, which is provided by the customer.
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102 Edinburgh Court
Greenville, SC. 29607
Phone: (864) 233-3770

Angel Gosnell

Angel Gosnell, Approved Laboratory Signatory

Spore Trap Report

	Date Sampled: 12/13/21
Attn: ***Phoenix Enviro Corp.***	Date Received: 12/15/21
4020 Shipyard Blvd.	Date Analyzed: 12/15/21
Wilmington, NC 28403	Date Reported: 12/15/21
	Date Revised:
	Project Name: 21-21-463-IAQ-M
	Project Address: 1420 Greenfield Street
	Project City, State, ZIP: Wilmington, NC 28401
	SEEML Reference # : 211215037

TEST METHOD: DIRECT MICROSCOPY EXAMINATION SEEML SOP 7

Client Sample ID	121321-AT-307								
Location	Outdoor - Rear								
Lab Sample ID	211215037-140								
Comments									
Hyphal Fragments	1	40							
Pollen									
Spore Trap Used	M5								
	raw ct.	spores/m^3	%						
Alternaria									
Ascospores	15	600	42						
Basidiospores	7	280	19						
Bipolaris/Drechslera									
Chaetomium									
Cladosporium	9	360	25						
Curvularia									
Epicoccum									
Cercospora									
Fusarium									
Memnoniella									
Nigrospora									
Penicillium/Aspergillus	5	200	14						
Polythrincium									
Rusts									
Smuts/Periconia/Myxomy									
Spegazzinia									
Stachybotrys									
Stemphylium									
Tetraploa									
Torula									
Ulocladium									
Colorless/Other Brown*									
Oidium									
Zygomycetes									
Pithomyces									
Background debris (1-5)**	3								
Sample Volume(liters)	25								
TOTAL SPORES/M^3	36	**1440**							

Revisions:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3. The limit of detection is the analytical sensitivity (in spores/m^3) multiplied by the sample volume (in liters) divided by 1000 liters.

*Colorless,other Brown are spores without a distinctive morphology on spore traps and non-viable surface samples.

**Background debris is the amount of particulate matter present on the slide and is graded from 1-5 with 1 = very light, 2= Light, 3 = Medium, 4 = Heavy, 5 = Very Heavy. The higher the rating the more likelihood spores may be underestimated. A rating of 5 should be interpreted as minimal counts and may actually be higher than reported.

Disclaimer: The sample results are determined by the sample volume, which is provided by the customer.
This report relates only to the samples tested as they were received.

102 Edinburgh Court
Greenville, SC. 29607
Phone: (864) 233-3770

Angel Gosnell

Angel Gosnell, Approved Laboratory Signatory

Surface and Bulk Sample Report

	Date Sampled: 12/13/21
Attn: ***Phoenix Enviro Corp.***	Date Received: 12/15/21
4020 Shipyard Blvd.	Date Analyzed: 12/15/21
Wilmington, NC 28403	Date Reported: 12/15/21
	Date Revised:
	Project Name: 21-21-463-IAQ-M
	Project Address: 1420 Greenfield Street
	Project City, State ZIP: Wilmington, NC 28401
	SEEML Reference #: 211215037

TEST METHOD: Direct Microscopic Examination (SEEML SOP 18)

Client Sample ID	211321-AT-401	211321-AT-402	211321-AT-403	
Location	HVAC Supply In The Front Left Bedroom	Wall Above The Bed In The Front Left Bedroom	Wall Above The Bedroom Door In The Front Left Bedroom	
SEEML Sample ID	211215037-141	211215037-142	211215037-143	
Sample Type	Tape	Tape	Tape	
	Quantification*	Quantification*	Quantification*	
Hyphal Fragments	**L**		**VL**	
Pollen				
General Impressions **	**FG**	**FG**	**FG**	
Fungal Spore:				
Alternaria				
Acremonium				
Ascospores				
Basidiospores				
Bipolaris/Drechslera				
Cercospora				
Chaetomium				
Cladosporium	**H**	**L**	**H**	
Curvularia				
Epicoccum				
Fusarium				
Geotrichum sp.				
Memnoniella				
Myxomycetes				
Nigrospora				
Penicillium/Aspergillus		**VL**		
Pithomyces				
Rusts/Smuts				
Stemphylium				
Tetraploa				
Ulocladium				

**** General Impressions: NFG = No Fungal Growth, FG = Fungal Growth, MFG = Minimal Fungal Growth Or Growth in vicinity**

Quantification of fungal growth is done by semi-quantitative grading using the following ranges:

Scattered Spores, 1-20 fungal spores

VL = 21-100 fungal spores **L = 101-1,000 fungal spores** **M = 1,001-10,000 fungal spores** **H = >10,000 fungal spores**

ND = No Fungal Spores Detected

Disclaimer: This report relates only to the samples tested

Respectfully submitted, SEEML

Angel Gosnell, **Approved Laboratory Signatory**

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Greenville, SC 29607
Phone: (864) 233- 3770
Fax: (864) 233- 6589

AIHA-LAP, LLC EMLAP # 173667

Texas License: LAB1016

Fungal Descriptions

Alternaria sp.

Aw - 0.89. Conidia dimensions: 18-83 x 7-18 microns. A very common allergen with an IgE mediated response. It is often found in carpets, textiles and on horizontal surfaces in building interiors. Often found on window frames. Outdoors it may be isolated from samples of soil, seeds and plants. It is commonly found in outdoor samples. The large spore size, 20 - 200 microns in length and 7 - 18 microns in sizes, suggests that the spores from these fungi will be deposited in the nose, mouth and upper respiratory tract. It may be related to bakers' asthma. It has been associated with hypersensitivity pneumonitis. The species *Alternaria alternata* can produce tenuazonic acid and other toxic metabolites that may be associated with disease in humans or animals. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms; chronic cases may develop pulmonary emphysema.

Ascospore

A spore borne in a special cell called an ascus. Spores of this type are reported to be allergenic. All ascomycetes, members of a group of fungi called Ascomycotina, have this type of spore. The minute black dots on rotting wood and leaves or the little cups on lichens are examples of ascomycetes; another is the "truffle" mushroom.

Aspergillus/Penicillium

These are two of the most commonly found allergenic fungi in problem buildings. *Aspergillus* comes in many varieties (species). Many of the varieties produce toxic substances. It may be associated with symptoms such as sinusitis, allergic bronchopulmonary aspergillosis, and other allergic symptoms. *Penicillium* is a variety of mold that is very common indoors and is found in increased numbers in problem buildings. It also has many varieties, some of which produce toxic substances. The symptoms are allergic reactions, mucous membrane irritation, headaches, vomiting, and diarrhea. Due to the morphological similarity of *Aspergillus* and *Penicillium*, they are not differentiated by microscopic analysis and are reported together.

Aspergillus sp.

Aw 0.75 - 0.82. Reported to be allergenic. Members of this genus are reported to cause ear infections. Many species produce mycotoxins that may be associated with disease in humans and other animals. Toxin production is dependent on the species or a strain within a species and on the food source for the fungus. Some of these toxins have been found to be carcinogenic in animal species. Several toxins are considered potential human carcinogens. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms; chronic cases may develop pulmonary emphysema; may also be associated with sinusitis, allergic bronchopulmonary aspergillosis, and other allergic symptoms.

Basidiospore

Spore from basidiomycetes. Many varieties are reported to be allergenic.

Bipolaris sp.

A fungus with large spores that could be expected to be deposited in the upper respiratory tract. This fungus can produce the mycotoxin - sterigmatocystin, which has been shown to produce liver and kidney damage when ingested by laboratory animals.

Botrytis sp.

Aw 0.93. Conidia dimensions: 7-14 x 5-9 microns. It is parasitic on plants and soft fruits. Found in soil and on house plants and vegetables, it is also known as "gray mold". It causes leaf rot on grapes, strawberries, lettuce, etc. It is a well-known allergen, producing asthma type symptoms in greenhouse workers and "wine grower's lung".

Cercaspora

Common outdoors in agricultural areas, especially during harvest. Parasite of higher plants, causing leaf spot. Commonly found as parasites on higher plants.

Chaetomium sp.

large ascomycetous fungus producing perithecia. It is found on a variety of substrates containing cellulose, including paper and plant compost. It has been found on paper in sheetrock. It can produce an *Acremonium*-like state on fungal media. Varieties are considered allergenic and have been associated with peritonitis, cutaneous lesions, and system mycosis.

Cladosporium sp.

Aw 0.88; Aw 0.84. Most commonly identified outdoor fungus. The outdoor numbers are reduced in the winter. The numbers are often high in the summer. Often found indoors in numbers less than outdoor numbers. It is a common allergen. Indoor *Cladosporium* sp. may be different than the species identified outdoors. It is commonly found on the surface of fiberglass duct liners in the interior of supply ducts. A wide variety of plants are food sources for this fungus. It is found on dead plants, woody plants, food, straw, soil, paint, and textiles. Produces greater than 10 antigens. Antigens in commercial extracts are of variable quality and may degrade within weeks of preparation. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include skin lesions, eye ulceration, mycosis (including onychomycosis, an infection of the nails of the feet or hands) edema and bronchospasms; chronic cases may develop pulmonary emphysema.

Curvularia sp.

Reported to be allergenic and has been associated with allergic fungal sinusitis. It may cause corneal infections, mycetoma, and infections in immune compromised hosts.

Dreschlera sp.

Conidia dimensions: 40-120 x 17-28 microns. Found on grasses, grains and decaying food. It can occasionally cause a corneal infection of the eye.

Epicoccum sp.

Conidia dimensions: 15-25 microns. A common allergen. It is found in plants, soil, grains, textiles and paper products.

Fusarium sp.

Aw 0.90. A common soil fungus. It is found on a wide range of plants. It is often found in humidifiers. Several species in this genus can produce potent trichothecene toxins. The trichothecene (scirpene) toxin targets the following systems: circulatory, alimentary, skin, and nervous. Produces vomitoxin on grains during unusually damp growing conditions. Symptoms may occur either through ingestion of contaminated grains or possibly inhalation of spores. The genera can produce hemorrhagic syndrome in humans (alimentary toxic aleukia). This is characterized by nausea, vomiting, diarrhea, dermatitis, and extensive internal bleeding. Reported to be allergenic. Frequently involved in eye, skin, and nail infections.

Myxomycetes

Members of a group of fungi that is included in the category of "slime molds". They're occasionally found indoors, but mainly reside in forested regions on decaying logs, stumps, and dead leaves. Myxomycetes display characteristics of fungi *and* protozoans. In favorable (wet) conditions they exhibit motile, amoeba-like cells, usually bounded only by a plasma membrane, that are variable in size and form. During dry spells, they form a resting body (sclerotium) with dry, airborne spores. These fungi are not known to produce toxins but can cause hay fever and asthma.

Memnoniella

Contaminant found most often with *Stachybotrys* on wet cellulose. Forms in chains, but it are very similar to *Stachybotrys* and sometimes is considered to be in the *Stachybotrys* family. Certain species do produce toxins very similar to the ones produced by *Stachybotrys chartarum* and many consider the IAQ importance of *Memnoniella* to be on par with *Stachybotrys*. Allergenic and infectious properties are not well studied.

Nigrospora sp.

Commonly found in warm climates, this mold may be responsible for allergic reactions such as hay fever and asthma. It is found on decaying plant material and in the soil. It is not often found indoors.

Oidium sp.

The asexual phase of *Erysiphe* sp. It is a plant pathogen causing powdery mildews. It is very common on the leaf's stems, and flowers of plants. The health effects and allergenicity have not been studied. It does not grow on non-living surfaces such as wood or drywall.

Penicillium sp.

Aw 0.78 - 0.88. A wide number of organisms have been placed in this genus. Identification to species is difficult. Often found in aerosol samples. Commonly found in soil, food, cellulose and grains. It is also found in paint and compost piles. It may cause hypersensitivity pneumonitis, allergic alveolitis in susceptible individuals. It is reported to be allergenic (skin). It is commonly found in carpet, wallpaper, and in interior fiberglass duct insulation. Some species can produce mycotoxins. Common cause of extrinsic asthma (immediate-type hypersensitivity: type I). Acute symptoms include edema and bronchospasms; chronic cases may develop pulmonary emphysema. It may also cause headaches, vomiting, and diarrhea.

Periconia sp.

Periconia sp. are found in soil, blackened and dead herbaceous stems leaf spots, grasses, rushes, and sedges. Almost always associated with other fungi. Rarely found growing indoors. Reportedly associated with a rare case of mycotic keratitis.

Pithomyces sp.

A common mold found on dead leaves, plants, soil and especially grasses. Causes facial eczema in ruminants. It exhibits distinctive multi-celled brown conidia. It is not known to be a human allergen or pathogen. It is rarely found indoors, although it can grow on paper.

Rusts/Smuts

These fungi are associated with plant diseases. In the classification scheme of the fungi, the smuts have much in common with the rusts, and they are frequently discussed together. Both groups produce wind-borne, resistant teliospores that serve as the basis for their classification and their means of spread. Rusts usually attack vegetative regions (i.e., leaves and stems) of plants; smuts usually are associated with the reproductive structures (seeds). They can cause hay fever and asthma.

Spegazzinia

Spegazzinia species comprise a very small proportion of the fungal biota. This genus is somewhat related to other lobed or ornamented genera such as *Candelabrum*. No information is available regarding health effects or toxicity. Allergenicity has not been studied. Usually identified on spore trap samples where it is seen every few weeks. (Spores have very distinctive morphology.) May also be found in air by culturable (Andersen) samples if a long enough incubation period is provided so that sporulation occurs. Our laboratory has never found this organism growing on indoor environmental surfaces. Natural habitat includes soil and many kinds of trees and plants.

Stachybotrys sp.

Aw - 0.94, optimum Aw ->0.98. Several strains of this fungus (*S. atra, S. chartarum* and *S. alternans* are synonymous) may produce a trichothecene mycotoxin- Satratoxin H - which is poisonous by inhalation. The toxins are present on the fungal spores. This is a slow growing fungus on media. It does not compete well with other rapidly growing fungi. The dark colored fungus grows on building material with high cellulose content and low nitrogen content. Areas with a relative humidity above 55%, and are subject to temperature fluctuations, are ideal for toxin production. Individuals with chronic exposure to the toxin produced by this fungus reported cold and flu symptoms, sore throats, diarrhea, headaches, fatigue, dermatitis, intermittent local hair loss and generalized malaise. Other symptoms include coughs, rhinitis, nosebleed, a burning sensation in the nasal passages, throat, and lungs, and fever. The toxins produced by this fungus will suppress the immune system affecting the lymphoid tissue and the bone marrow. Animals injected with the toxin from this fungus exhibited the following symptoms: necrosis and hemorrhage within the brain, thymus, spleen, intestine, lung, heart, lymph node, liver, and kidney. Affects by absorption of the toxin in the human lung are known as pneumomycosis.

This organism is rarely found in outdoor samples. It is usually difficult to find in indoor air samples unless it is physically disturbed (or possibly -this is speculation- a drop in the relative humidity). The spores are in a gelatinous mass. Appropriate media for the growth of this organism will have high cellulose content and low nitrogen content. The spores will die readily after release. The dead spores are still allergenic and toxigenic. Percutaneous absorption has caused mild symptoms.

Stemphylium sp.

Reported to be allergenic. Isolated from dead plants and cellulose materials.

Torula sp.

Found outdoors in air, soil, on dead vegetation, wood, and grasses. Also found indoors on cellulose materials. Reported to be allergenic and may cause hay fever and asthma.

Tetraploa

Tetraploa species comprise a very small proportion of the fungal biota. This genus is somewhat related to *Triposporium* and Diplocladiella. The only reported human infections are two cases of keratitis (1970, 1980) and one case of subcutaneous infection of the knee (1990). No information is available regarding other health effects or toxicity. Allergenicity has not been studied. Usually identified on spore trap samples where it is seen every few weeks. (Spores have very distinctive morphology.) Our laboratory has never found this organism growing on indoor environmental surfaces. Natural habitat includes leaf bases and stems just above the soil on many kinds of plants and trees.

Ulocladium sp.

Aw 0.89. Isolated from dead plants and cellulose materials. Found on textiles.

Zygomycetes

Zygomycetes are one of the four major groups of fungi, the others being the Oomycetes, the Ascomycetes, and the Basidiomycetes. Zygomycetes are common, fast growing, and often overgrow and/or inhibit other fungi nearby. Rhizopus and Mucor are two of the most common Zygomycetes seen in the indoor environment. However, others are seen as well, including *Syncephalastrum*, *Circinella*, *Mortierella*, *Mycotypha*, *Cunninghamella*, and *Choanephora*. For further information, please see descriptions of these individual genera.

The following table lists mycotoxins that are produced by certain types of fungi:

Fungi	Mycotoxin
Acremonium crotocinigenum	Crotocin
Aspergillus favus	Alfatoxin B, cyclopiazonic acid
Aspergillus fumigatus	Fumagilin, gliotoxin
Aspergillus carneus	Critrinin
Aspergillus clavatus	Cytochalasin, patulin
Aspergillus Parasiticus	Alfatoxin B
Aspergillus nomius	Alfatoxin B
Aspergillus niger	Ochratoxin A, malformin, oxalicacid
Acremonium crotocinigenum	Crotocin
Aspergillus nidulans	Sterigmatocystin
Aspergillus ochraceus	Ochratoxin A, penicillic acid
Aspergillus versicolor	Sterigmatocystin, 5 ethoxysterigmatocystin
Aspergillus ustus	Ausdiol, austamide, austocystin,brevianamide
Aspergillus terreus	Citreoviridin
Alternaria	Alternariol, altertoxin, altenuene, altenusin, tenuazonic acid
Arthrinium	Nitropropionic acid
Bioploaris	Cytochalasin, sporidesmin, sterigmatocystin
Chaetomium	Chaetoglobosin A,B,C. Sterigmatocystin
Cladosporium	Cladosporic acid
Clavipes purpurea	Ergotism
Cylindrocorpon	Trichothecene
Diplodia	Diplodiatoxin
Fusarium	Trichothecene, zearalenone
Fusarium moniliforme	Fumonisins
Emericella nidulans	Sterigmatocystin
Gliocladium	Gliotoxin
Memnoniella	Griseofulvin , dechlorogriseofulvin, epi-decholorgriseofulvin, trichodermin, trichodermol
Myrothecium	Trichothecene
Paecilomyces	Patulin, viriditoxin
Penicillium aurantiocandidum	Penicillic acid
Penicillium aurantiogriseum	Penicillic acid
Penicillium brasilanum	Penicillic acid
Penicillium brevicompactum	Mycophenolic acid
Penicillium camemberti	Cyclopiazonic acid
Penicillium carneum	Mycophenolic acid, Roquefortine C
Penicillium crateriforme	Rubratoxin

Fungi	Mycotoxin
Penicillium citrinum	Citrinin
Penicillium commune	Cyclopiazonic acid
Penicillium crustosum	Roquefortine C
Penicillium chrysogenum	Roquefortine C
Penicillium discolor	Chaetoglobosin C
Penicillium expansum	Citrinin, Roquefortine C
Penicillium griseofulvum	Roquefortine C, cyclopiazonic acid, griseofulvin
Penicillium hirsutum	Roquefortine C
Penicillium hordei	Roquefortine C
Penicillium nordicum	Ochratoxin A
Penicillium paneum	Roquefortine C
Penicillium palitans	Cyclopiazonic acid
Penicillium polonicum	Penicillic acid
Penicillum roqueforti	Roquefortine C, Mycophenolic acid
Penicillium veridicatum	Penicillic acid
Penicillium verrucosum	Citrinin, ochratoxin A
Penicillium/ Aspergillus	Patulin
Penicillium/ Aspergillus/Alternaria	Glitoxin
Phomopsis	Macrocyclic trichothecenes
Phoma	Brefeldin, cytochalasin, secalonic acid, tenuazonic acid
Pithomyces	Sporidesmin
Rhizoctonia	Slaframine
Rhizopus	Rhizonin
Sclerotinia	Furanocoumarins
Stachybotrys chartarum	Iso-satratoxin F, roridin E, L-2, satratoxin G & H, trichodermin, trichodermol, trichothecene
Torula	Cytotoxins
Trichoderma	Trichodermin, trichodermol, gliotoxin
Trichothecium	Trichothecene
Wallemia	Walleminol
Zygosporium	Cytochalasin

General terms

Allergen

An allergen is a substance that elicits an IgE antibody response and is responsible for producing allergic reactions. Chemicals are released when IgE on certain cells contact an allergen. These chemicals can cause injury to surrounding tissue - the visible signs of an allergy. Only a few fungal allergens have been characterized but all fungi are thought to be potentially allergenic. Fungal allergens are proteins found in either the mycelium or spores

"Black mold"

A poorly defined term. Black mold or toxic black mold has usually been associated with the mold *Stachybotrys chartarum*. While there are only a few molds that are truly black, there are many that can appear black. Not all molds that appear to be black are *Stachybotrys*.

Fungi

Fungi are neither animals nor plants and are classified in a kingdom of their own. The Kingdom of Fungi. Fungi include a very large group of organisms, including molds, yeasts, mushrooms and puffballs. There are >100,000 accepted fungal species but current estimates range to 1.5 million species. Mycologists (people who study fungi) have grouped fungi into four large groups according to their method of reproduction.

Hidden mold

This refers to visible mold growth on building structures that is not easily seen, including the areas above drop ceilings, within a wall cavity (the space between the inner and outer structure of a wall), inside air handlers, or within the ducting of a heating/ventilation system.

Microbial Volatile Organic Compounds (MVOCs)

Fungi produce chemicals as a result of their metabolism. Some of these chemicals, MVOCs, are responsible for the characteristic moldy, musty, or earthy smell of fungi, whether mushrooms or molds. Some MVOCs are considered offensive or annoying. Specific MVOCs are thought to be characteristic of wood rot and mold growth on building materials. The human nose is very sensitive to mold odors and sometimes more so than current analytical instruments.

Mold

Molds are a group of organisms that belong to the Kingdom of Fungi (see Fungi). Even though the terms mold and fungi had been commonly referred to interchangeably, all molds are fungi, but not all fungi are molds.

Mycotoxin

Mycotoxins are compounds produced by some fungi that are toxic to humans or animals. By convention, the term? Mycotoxin. Excludes mushroom toxins. Fungi that produce mycotoxins are called "toxigenic fungi."

Spore

General term for a reproductive structure in fungi, bacteria and some plants. In fungi, the spore is the structure which may be used for dissemination and may be resistant to adverse environmental conditions.

Toxic mold

The term "toxic mold" has no scientific meaning since the mold itself is not toxic. The metabolic byproducts of some molds may be toxic (see mycotoxin).

Hypha (plural, hyphae)

An individual fungal thread or filament of connected cells; the thread that represents the individual parts of the fungal body.

ATTACHMENT 8:

Endangered Species

USFWS Raleigh FO 10-step Project Review Package and USFWS and NCORR Correspondence

Gievers, Andrea

From: Gievers, Andrea
Sent: Thursday, May 4, 2023 10:40 AM
To: Raleigh, FW4
Cc: Mann, Leigh
Subject: Wilmington Housing Authority Scattered Sites Rehabilitation Project - Self Cert Pkg
Attachments: NCORR USFWS WHA Sacttered Sites Rehab 5.4.23.pdf

Hello:

Please accept the Self-Certification Letter and supporting documentation for your records for the **Wilmington Housing Authority Scattered Sites Rehabilitation Project** located at Woodbridge Apartments (20 Units), Creekwood (14 Units), Creekwood South (6 Units), and Houston Moore (1 Unit) in Wilmington, New Hanover County, NC. 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 funding this proposed Public Housing Restoration Fund project. The Wilmington Housing Authority (WHA) will use the HUD CDBG-DR funding to complete repairs, replacements and mold remediation at 41 public housing units severely damaged by Hurricane Florence. The proposed project activities include repairing and/or replacing drywall, plumbing, appliances, water heaters, broken windows, and duct work; painting; patching; and mold remediation of cleaning ducts and identified affected interior areas. There are 164 low-income (30%-50% area median income [AMI]) residents, comprised of 41 adults and 123 children, who have been displaced from these 41 currently vacant units. Woodbridge Apartments contain the only units that have been torn out down to the studs. ***The proposed project does not involve exterior work or ground disturbance.***

We have reviewed the proposed project using the USFWS Raleigh Ecological Services' online 10-step project review process and made "No Effect" determinations for proposed/listed species and/or proposed/designated critical habitat and a "no Eagle Act permit required" determination for eagles. 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

North Carolina Department of Public Safety
Office of Recovery and Resiliency

Roy Cooper, Governor
Eddie M. Buffaloe, Jr., Secretary

Laura H. Hogshead, Director

May 4, 2023

Mr. John Ellis
U.S. Fish and Wildlife Service
Raleigh ES Field Office
P.O. Box 33726
Raleigh, NC 27636-3726

Sent Via Email: Raleigh@fws.gov
Leigh_Mann@fws.gov

RE: Section 7 Project Review - No Effect Determination
NCORR - HUD CDBG-DR Program
Wilmington Housing Authority Scattered Sites Rehabilitation Project
Woodbridge Apartments (20 Units), **Creekwood** (14 Units), **Creekwood South** (6 Units), and **Houston Moore** (1 Unit) in Wilmington, New Hanover County, NC

Dear Mr. Ellis:

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 considering funding this proposed public housing restoration project, **Wilmington Housing Authority Scattered Sites Rehabilitation Project** located at **Woodbridge Apartments** (20 Units); **Creekwood** (14 Units); **Creekwood South** (6 Units); and **Houston Moore** (1 Unit) in Wilmington, New Hanover County, NC. The State of North Carolina was adversely impacted by the landfall of Hurricanes Matthew (October 8, 2016) and Florence (September 14, 2018). The City of Wilmington was hit hard by Hurricane Florence which stalled over the City for three days and dropped 20 inches of rain on the area. These vacant 41 storm-damaged units also have mold necessitating renovation and mold remediation. Over the past year, WHA has paid for the alternative housing of 150 families in hotels and market-rate apartments as well as provided per-diem payments for food and transportation. Therefore, funding for the proposed project will be provided in part by the HUD CDBG-DR North Carolina Public Housing Restoration Fund Program for Hurricane Florence storm recovery activities in North Carolina.

The purpose of this letter is to provide the U.S. Fish and Wildlife Service – Raleigh ES Field Office (USFWS) notice of the proposed project and to document compliance with Section 7 of the Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as well as the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703–712) and the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668c, 54 Stat. 250), as amended.

We have reviewed the proposed project using the USFWS Raleigh Ecological Services' online 10-step project review process and made "**no effect**" determinations for the proposed/listed species and/or proposed/designated critical habitat and a "**no Eagle Act permit required**" determination for eagles. Please find attached the Self-certification Letter and 10-step Project Review Package for the proposed project in accordance with all instructions provided, using the best available information to reach our conclusions.

Proposed Project Location:

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212); **Creekwood** (14 Units) at 602, 712, 804, 805, 809 & 1008 N. 30th St., 617, 701, 707, 708, 902, 915 & 922 Emory St., and 2905 Clayton Place, Wilmington, NC 28405; **Creekwood South** (6 Units) at 502, 522, 609, 611, 613 & 710 N. 30th St., Wilmington, NC 28405; and **Houston Moore** (1 Unit) at 1420 Greenfield St., Wilmington, New Hanover County, NC 28401. (Herein "Subject Property" refers to the Woodbridge Apartments, Creekwood, Creekwood South and Houston Moore affected parcels.)

Proposed Project Activities:

The WHA is requesting $2,036,241 in NCORR CDBG-DR funds to rehabilitate a total of 41 units of severely damaged public housing located at 4 separate sites. The proposed project location maps are included in the attachments for your review. The Wilmington Housing Authority (WHA) will use the HUD CDBG-DR funding to complete repairs, replacements and mold remediation at 41 public housing units severely damaged by Hurricane Florence. The proposed project activities include repairing and/or replacing drywall, plumbing, appliances, water heaters, broken windows, and duct work; painting; patching; and mold remediation of cleaning ducts and identified affected interior areas. There are 164 low-income (30%-50% area median income [AMI]) residents, comprised of 41 adults and 123 children, who have been displaced from these 41 currently vacant units. Woodbridge Apartments contain the only units that have been torn out down to the studs. The proposed project does not involve exterior work or ground disturbance. There is no change in zoning or land use required for the proposed project.

According to the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) Official Species List, there are a total of 16 threatened, endangered, or candidate species identified for the proposed project area. The species identified are the same for all proposed project sites except for the omission of Golden Sedge at Houston Moore. In addition, the NC Natural Heritage Program (NC NHP) Database Query Report documented element occurrences within a one-mile radius of the Subject Property. The NC NHP Database Query Report identified four federally-listed and proposed species (NLEB, American Alligator, Atlantic Sturgeon, and Magnificent Ramshorn) present within one mile of the Subject Property. According to the NC NHP database, there are no records for rare species, important natural communities, natural areas, and/ or conservation areas within the proposed project boundary. *The proposed*

project is a renovation and mold remediation project inside existing public housing with no proposed ground disturbance. In addition, the Subject Property does not contain suitable habitat for these species since the land is public housing with paved parking areas.

NCORR is submitting the above information as notification of its determination and requests *acknowledgement* that they have received this determination for species under USFWS jurisdiction.

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

Andrea Gievers, JD, MSEL, ERM
NCORR Environmental Subject Matter Expert

Attachment:

- 10-step Project Review Package

United States Department of the Interior

FISH AND WILDLIFE SERVICE

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

Date: 5/4/2023

Self-Certification Letter

Project Name WHA Scattered Sites Rehabilitation Project

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:

- [x] "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
- [ ] "may affect, likely to adversely affect" determination for the Northern long-eared bat (Myotis septentrionalis) and relying on the findings of the January 5, 2016, Programmatic Biological Opinion for the Final 4(d) Rule on the Northern long-eared bat;
- [x] "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

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212)

Woodbridge Apartments (20 Units) - Aerial Map



April 26, 2023

1:4,514

Woodbridge Apartments (20 Units), 302 Grass Lane, Wilmington, NC 28405

Parcel Boundaries

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

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

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: May 01, 2023
Project Code: 2023-0076210
Project Name: WHA Scattered Sites Rehabilitation Project - Woodbridge Apartments

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 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.

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:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.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/birds/policies-and-regulations.php.

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/birds/bird-enthusiasts/threats-to-birds.php.

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/birds/policies-and-regulations/executive-orders/e0-13186.php.

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
- 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: 2023-0076210

Project Name: WHA Scattered Sites Rehabilitation Project - Woodbridge Apartments

Project Type: Residential Construction

Project Description: Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212). Woodbridge Apartments is located on a 2.10-acre parcel with Parcel ID # R04910-006-022-000 and Map ID # 313818.32.8238.000 according to the New Hanover County Parcel Map. Woodbridge Apartments have 24 total apartment units and were built in 1993.

The Wilmington Housing Authority (WHA) will use the HUD CDBG-DR funding to complete repairs, replacements and mold remediation at 41 public housing units severely damaged by Hurricane Florence. The proposed project activities include repairing and replacing drywall, plumbing, appliances, water heaters, broken windows, and duct work; painting; patching; and mold remediation involving cleaning ducts and identified affected interior areas. There are 164 low-income (30%-50% area median income [AMI]) residents, comprised of 41 adults and 123 children, who have been displaced from these 41 currently vacant units. Woodbridge Apartments contain the only units that have been torn out down to the studs. The proposed projects does not involve exterior work or ground disturbance. There is no change in zoning or land use required for the proposed project.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@34.24592505,-77.89536577728175,14z



Counties: New Hanover County, North Carolina

ENDANGERED SPECIES ACT SPECIES

There is a total of 16 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 Fisheries[1], 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.

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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
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Eastern Black Rail *Laterallus jamaicensis ssp. jamaicensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Red-cockaded Woodpecker *Picoides borealis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7614	Endangered

REPTILES

NAME	STATUS
American Alligator *Alligator mississippiensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/776	Similarity of Appearance (Threatened)
Green Sea Turtle *Chelonia mydas* Population: North Atlantic DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
Kemp's Ridley Sea Turtle *Lepidochelys kempii* There is **proposed** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/5523	Endangered
Leatherback Sea Turtle *Dermochelys coriacea* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1493	Endangered
Loggerhead Sea Turtle *Caretta caretta* Population: Northwest Atlantic Ocean DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1110	Threatened

SNAILS

NAME	STATUS
Magnificent Ramshorn *Planorbella magnifica* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6216	Proposed Endangered

INSECTS

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

FLOWERING PLANTS

NAME	STATUS
Cooley's Meadowrue *Thalictrum cooleyi* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3281	Endangered
Golden Sedge *Carex lutea* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6025	Endangered
Rough-leaved Loosestrife *Lysimachia asperulaefolia* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2747	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.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

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

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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)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

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
American Kestrel *Falco sparverius paulus* 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/9587	Breeds Apr 1 to Aug 31
American Oystercatcher *Haematopus palliatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31

NAME	BREEDING SEASON
Bachman's Sparrow *Aimophila aestivalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6177	Breeds May 1 to Sep 30
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Jul 31
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Brown-headed Nuthatch *Sitta pusilla* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Jul 15
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Eastern Whip-poor-will *Antrostomus vociferus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Painted Bunting *Passerina ciris* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 25 to Aug 15
Prairie Warbler *Dendroica discolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Ruddy Turnstone *Arenaria interpres morinella* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere

NAME	BREEDING SEASON
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

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 and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

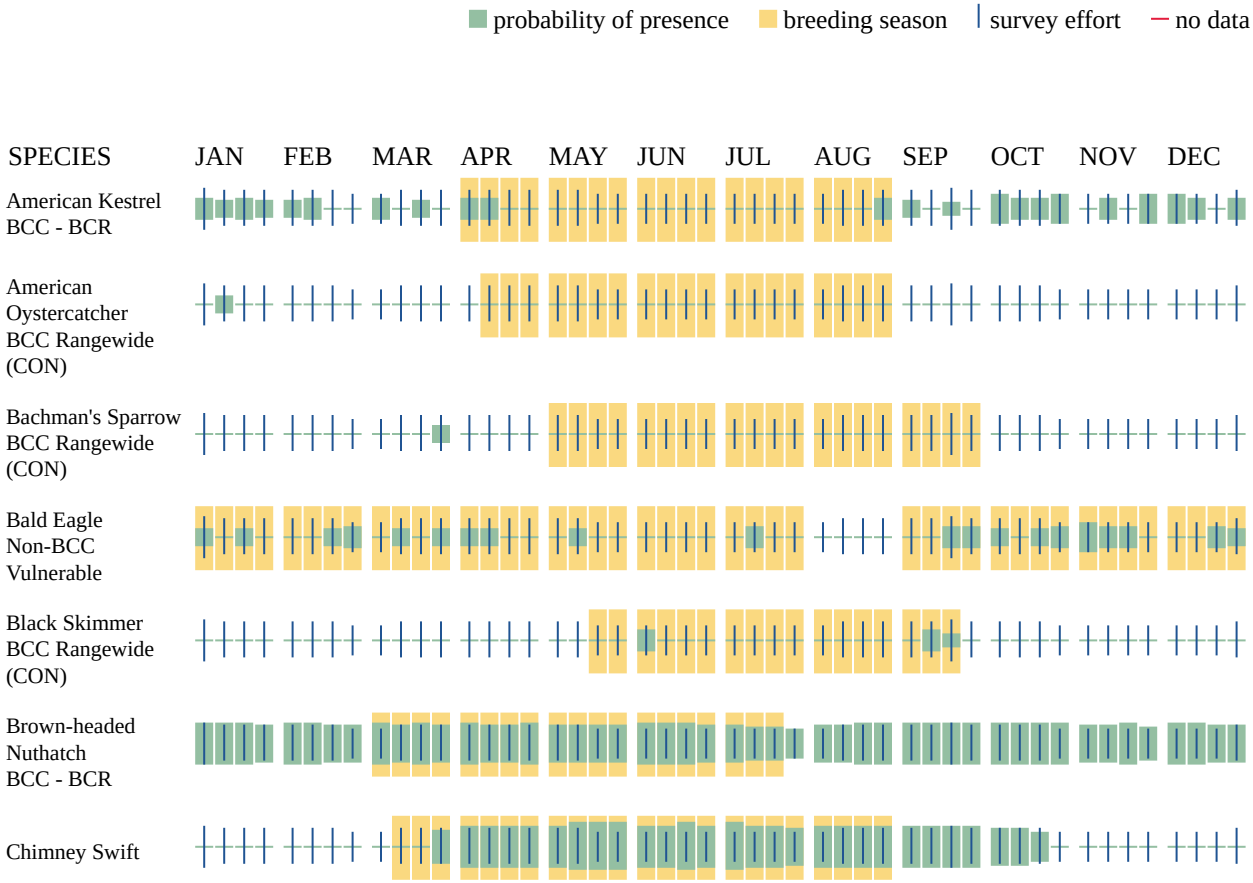
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- 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

MIGRATORY BIRDS FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point

within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no

data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

IPAC USER CONTACT INFORMATION

Agency:	State of North Carolina
Name:	Andrea Gievers
Address:	P.O. Box 110465
Address Line 2:	200 Park Offices Drive
City:	Durham
State:	NC
Zip:	27709
Email	andrea.l.gievers@rebuild.nc.gov
Phone:	8456821700

NC DEPARTMENT OF
NATURAL AND CULTURAL RESOURCES

Roy Cooper, **Governor**

D. Reid Wilson, **Secretary**

Misty Buchanan
Deputy Director, Natural Heritage Program

NCNHDE-21765

May 1, 2023

Andrea Gievers
NCORR
P.O. Box 110465
Durham, NC 27709
RE: WHA Scattered Sites Rehabilitation Project - Woodbridge Apartments

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 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
WHA Scattered Sites Rehabilitation Project - Woodbridge Apartments
May 1, 2023
NCNHDE-21765

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
Bird	40201	Ammospiza caudacuta	Saltmarsh Sparrow	2019-04-23	E	3-Medium	---	Significantly Rare	G2	SUB,S2N
Crustacean	35973	Lynceus gracilicornis	Graceful Clam Shrimp	1981-09-04	H	3-Medium	---	Special Concern	G5	S2
Freshwater Fish	40901	Enneacanthus obesus	Banded Sunfish	1924-05-24	H	3-Medium	---	Significantly Rare	G5	S3
Freshwater Fish	33047	Heterandria formosa	Least Killifish	2002-06-15	E	2-High	---	Special Concern	G5	S2
Mammal	24390	Corynorhinus rafinesquii macrotis	Eastern Big-eared Bat	2006-Pre	E	5-Very Low	---	Special Concern	G3G4T3	S3
Mammal	32126	Myotis septentrionalis	Northern Long-eared Bat	1994-Post	H?	5-Very Low	Endangered	Threatened	G2G3	S2
Vascular Plant	22550	Aristida condensata	Big Three-awn Grass	1931-08-30	H	5-Very Low	---	Threatened	G4	S2
Vascular Plant	33832	Asclepias pedicellata	Savanna Milkweed	1923-07	H	4-Low	---	Special Concern Vulnerable	G4	S3
Vascular Plant	30852	Baccharis glomeruliflora	Silverling	1904-Pre	H	5-Very Low	---	Endangered	G4	S1
Vascular Plant	22454	Dichanthelium cryptanthum	Hidden-flowered Witchgrass	1906-05-04	H	5-Very Low	---	Significantly Rare Throughout	GUQ	S2
Vascular Plant	6961	Ludwigia suffruticosa	Shrubby Seedbox	1978-07-28	H	4-Low	---	Threatened	G5	S2
Vascular Plant	19327	Ptilimnium ahlesii	Carolina Bishopweed	1949-06-02	H	3-Medium	---	Significantly Rare Throughout	G1	S1
Vascular Plant	28309	Quercus elliottii	Running Oak	1958-10-19	H	3-Medium	---	Endangered	G3G5	S2

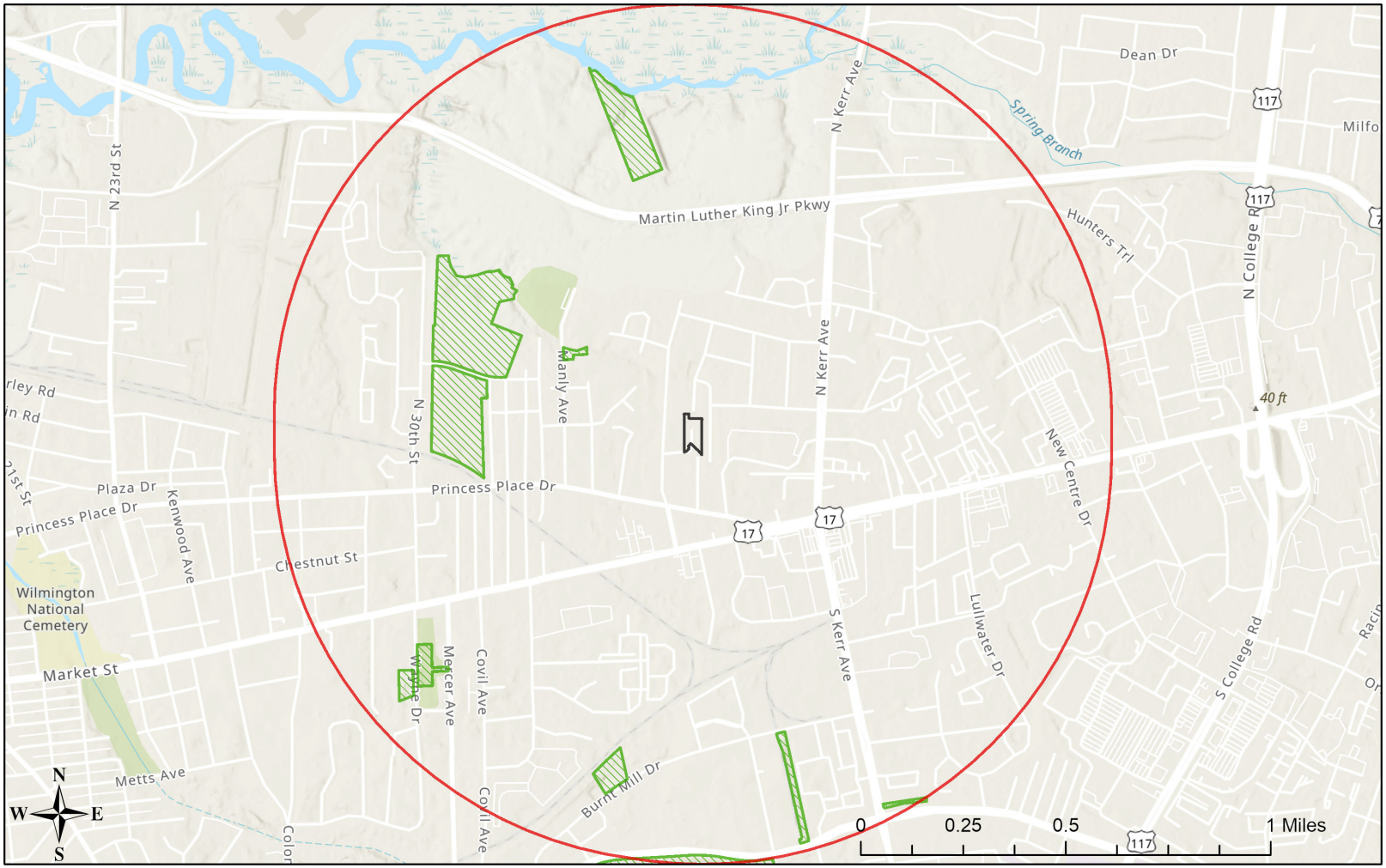
No Natural Areas are Documented Within a One-mile Radius of the Project Area

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

Managed Area Name	Owner	Owner Type
City of Wilmington Open Space	City of Wilmington	Local Government
City of Wilmington Open Space	City of Wilmington	Local Government
City of Wilmington Open Space	City of Wilmington	Local Government
City of Wilmington Open Space	City of Wilmington	Local Government
City of Wilmington Open Space	City of Wilmington	Local Government
City of Wilmington Open Space	City of Wilmington	Local Government
City of Wilmington Open Space	City of Wilmington	Local Government
New Hanover County Open Space	New Hanover County	Local Government

Definitions and an explanation of status designations and codes can be found at https://ncnhde.natureserve.org/help. Data query generated on May 1, 2023; source: NCNHP, Q4, Winter (January) 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-21765: WHA Scattered Sites Rehabilitation Project - Woodbridge Apartments



May 1, 2023

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

Creekwood (14 Units) at
602, 712, 804, 805, 809 & 1008 N. 30th St.,
617, 701, 707, 708, 902, 915 & 922 Emory St.,
and 2905 Clayton Place, Wilmington, NC
28405

Creekwood (14 Units) - Aerial Map



April 28, 2023

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

804 N. 30th St.
902 Emory St.
712 N. 30th St.
707 Emory St.
708 Emory St.
1008 N. 30th St.
602 N. 30th St.
2905 Clayton Pl.
922 Emory St.
915 Emory St.
701 Emory St.
617 Emory St.
805 & 809 N. 30th St.
Parcel Boundaries

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

Creekwood South (6 Units) at
502, 522, 609, 611, 613 & 710 N. 30th St.,
Wilmington, NC 28405

Creekwood South (6 Units) - Aerial Map



April 28, 2023

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

710 N. 30th St.

609, 611 & 613 N. 30th St.

502 N. 30th St.

522 N. 30th St.

Parcel Boundaries

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

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: May 01, 2023
Project Code: 2023-0076231
Project Name: WHA Scattered Sites Rehabilitation Project - Creekwood and Creekwood South

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 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.

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:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.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/birds/policies-and-regulations.php.

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/birds/bird-enthusiasts/threats-to-birds.php.

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/birds/policies-and-regulations/executive-orders/e0-13186.php.

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
- 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: 2023-0076231

Project Name: WHA Scattered Sites Rehabilitation Project - Creekwood and Creekwood South

Project Type: Residential Construction

Project Description: Creekwood (14 Units) at 602, 712, 804, 805, 809 & 1008 North 30th Street; 617, 701, 707, 708, 902, 915 & 922 Emory St.; and 2905 Clayton Place, Wilmington, NC 28405 located on 13 parcels. Creekwood South (6 Units) at 502, 522, 609, 611, 613 & 710 N. 30th St., Wilmington, NC 28405 located on four parcels.

The Wilmington Housing Authority (WHA) will use the HUD CDBG-DR funding to complete repairs, replacements and mold remediation at 41 public housing units severely damaged by Hurricane Florence. The proposed project activities include repairing and replacing drywall, plumbing, appliances, water heaters, broken windows, and duct work; painting; patching; and mold remediation involving cleaning ducts and identified affected interior areas. There are 164 low-income (30%-50% area median income [AMI]) residents, comprised of 41 adults and 123 children, who have been displaced from these 41 currently vacant units. Woodbridge Apartments contain the only units that have been torn out down to the studs. The proposed project does not involve exterior work or ground disturbance. There is no change in zoning or land use required for the proposed project.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@34.24801135,-77.90747533275976,14z



Counties: New Hanover County, North Carolina

ENDANGERED SPECIES ACT SPECIES

There is a total of 16 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 Fisheries[1], 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.

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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
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Eastern Black Rail *Laterallus jamaicensis ssp. jamaicensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Red-cockaded Woodpecker *Picoides borealis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7614	Endangered

REPTILES

NAME	STATUS
American Alligator *Alligator mississippiensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/776	Similarity of Appearance (Threatened)
Green Sea Turtle *Chelonia mydas* Population: North Atlantic DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
Kemp's Ridley Sea Turtle *Lepidochelys kempii* There is **proposed** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/5523	Endangered
Leatherback Sea Turtle *Dermochelys coriacea* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1493	Endangered
Loggerhead Sea Turtle *Caretta caretta* Population: Northwest Atlantic Ocean DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1110	Threatened

SNAILS

NAME	STATUS
Magnificent Ramshorn *Planorbella magnifica* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6216	Proposed Endangered

INSECTS

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

FLOWERING PLANTS

NAME	STATUS
Cooley's Meadowrue *Thalictrum cooleyi* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3281	Endangered
Golden Sedge *Carex lutea* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6025	Endangered
Rough-leaved Loosestrife *Lysimachia asperulaefolia* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2747	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.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

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

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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)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

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
American Kestrel *Falco sparverius paulus* 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/9587	Breeds Apr 1 to Aug 31
American Oystercatcher *Haematopus palliatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31

NAME	BREEDING SEASON
Bachman's Sparrow *Aimophila aestivalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6177	Breeds May 1 to Sep 30
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Jul 31
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Brown-headed Nuthatch *Sitta pusilla* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Jul 15
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Eastern Whip-poor-will *Antrostomus vociferus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Painted Bunting *Passerina ciris* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 25 to Aug 15
Prairie Warbler *Dendroica discolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Ruddy Turnstone *Arenaria interpres morinella* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere

NAME	BREEDING SEASON
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

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 and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

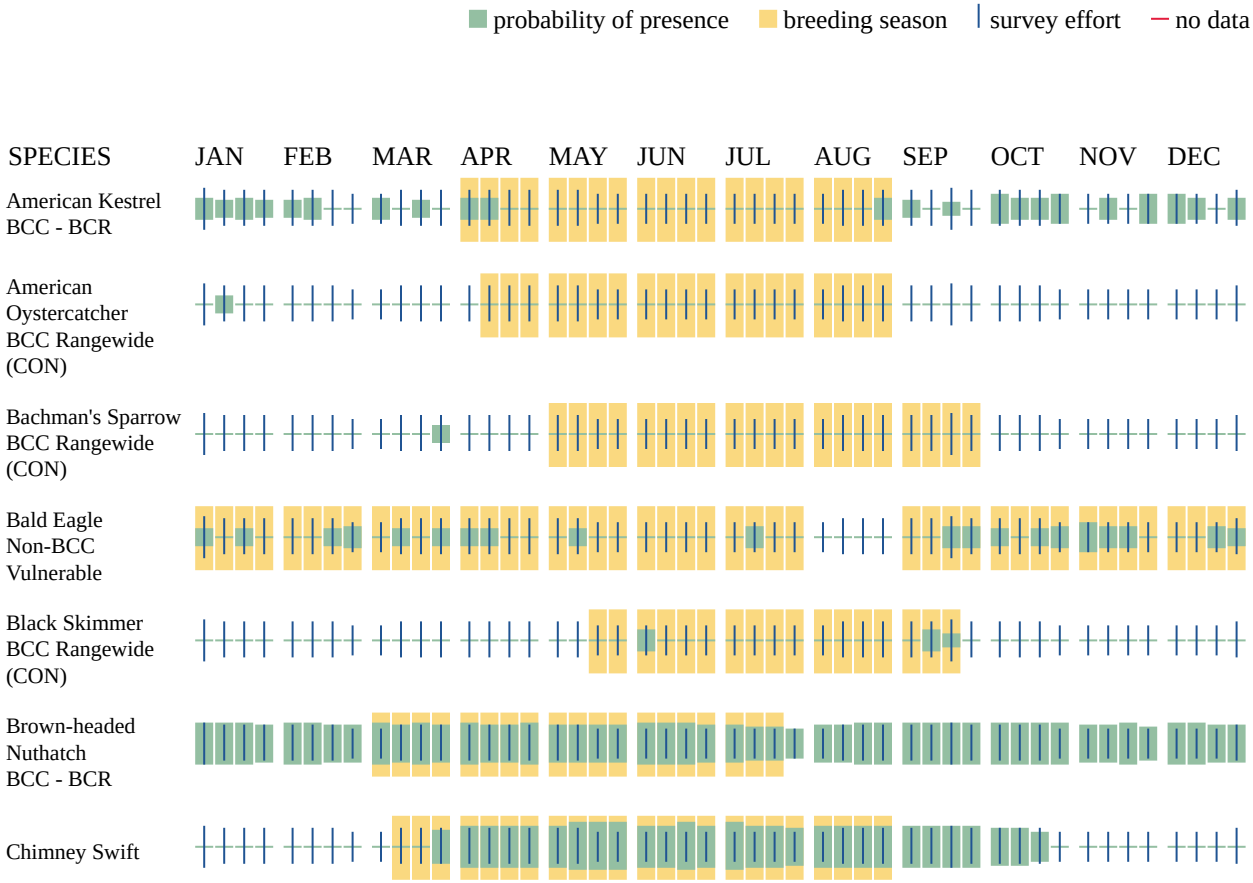
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- 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

MIGRATORY BIRDS FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point

within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no

data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

IPAC USER CONTACT INFORMATION

Agency:	State of North Carolina
Name:	Andrea Gievers
Address:	P.O. Box 110465
Address Line 2:	200 Park Offices Drive
City:	Durham
State:	NC
Zip:	27709
Email	andrea.l.gievers@rebuild.nc.gov
Phone:	8456821700

NC DEPARTMENT OF
NATURAL AND CULTURAL RESOURCES

Roy Cooper, **Governor**

D. Reid Wilson, **Secretary**

Misty Buchanan
Deputy Director, Natural Heritage Program

NCNHDE-21763

May 1, 2023

Andrea Gievers
NCORR
P.O. Box 110465
Durham, NC 27709
RE: WHA Scattered Sites Rehabilitation Project - Creekwood and Creekwood South

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.

A query of the NCNHP database indicates that there are records for rare species, important natural communities, natural areas, and/or conservation/managed areas within the proposed project boundary. These results are presented in the attached 'Documented Occurrences' tables and map.

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 documented within the project area or 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.

Also please note that 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 an occurrence of a Federally-listed species is 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 Intersecting the Project Area
WHA Scattered Sites Rehabilitation Project - Creekwood and Creekwood South
May 1, 2023
NCNHDE-21763

No Element Occurrences are Documented within the Project Area

There are no documented element occurrences (of medium to very high accuracy) that intersect with the project area. Please note, however, that although the NCNHP database does not show records for rare species within the project area, it does not necessarily mean that they are not present; it may simply mean that the area has not been surveyed. The use of Natural Heritage Program data should not be substituted for actual field surveys if needed, particularly if the project area contains suitable habitat for rare species. If rare species are found, the NCNHP would appreciate receiving this information so that we may update our database.

No Natural Areas are Documented within the Project Area

Managed Areas Documented Within Project Area*

Managed Area Name	Owner	Owner Type
City of Wilmington Open Space	City of Wilmington	Local Government

*NOTE: If the proposed project intersects with a conservation/managed area, please contact the landowner directly for additional information. If the project intersects with a Dedicated Nature Preserve (DNP), Registered Natural Heritage Area (RHA), or Federally-listed species, NCNHP staff may provide additional correspondence regarding the project.

Definitions and an explanation of status designations and codes can be found at https://ncnhde.natureserve.org/help. Data query generated on May 1, 2023; source: NCNHP, Q4, Winter (January) 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.

Natural Heritage Element Occurrences, Natural Areas, and Managed Areas Within a One-mile Radius of the Project Area
WHA Scattered Sites Rehabilitation Project - Creekwood and Creekwood South
May 1, 2023
NCNHDE-21763

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
Bird	40201	Ammospiza caudacuta	Saltmarsh Sparrow	2019-04-23	E	3-Medium	---	Significantly Rare	G2	SUB,S2N
Freshwater Fish	38937	Acipenser oxyrinchus oxyrinchus	Atlantic Sturgeon	2018-09	E	4-Low	Endangered	Endangered	G3T3	S2
Freshwater Fish	40901	Enneacanthus obesus	Banded Sunfish	1924-05-24	H	3-Medium	---	Significantly Rare	G5	S3
Mammal	24390	Corynorhinus rafinesquii macrotis	Eastern Big-eared Bat	2006-Pre	E	5-Very Low	---	Special Concern	G3G4T3	S3
Mammal	32126	Myotis septentrionalis	Northern Long-eared Bat	1994-Post	H?	5-Very Low	Endangered	Threatened	G2G3	S2
Vascular Plant	22550	Aristida condensata	Big Three-awn Grass	1931-08-30	H	5-Very Low	---	Threatened	G4	S2
Vascular Plant	33832	Asclepias pedicellata	Savanna Milkweed	1923-07	H	4-Low	---	Special Concern Vulnerable	G4	S3
Vascular Plant	30852	Baccharis glomeruliflora	Silverling	1904-Pre	H	5-Very Low	---	Endangered	G4	S1
Vascular Plant	22454	Dichanthelium cryptanthum	Hidden-flowered Witchgrass	1906-05-04	H	5-Very Low	---	Significantly Rare Throughout	GUQ	S2
Vascular Plant	19327	Ptilimnium ahlesii	Carolina Bishopweed	1949-06-02	H	3-Medium	---	Significantly Rare Throughout	G1	S1
Vascular Plant	28309	Quercus elliottii	Running Oak	1958-10-19	H	3-Medium	---	Endangered	G3G5	S2

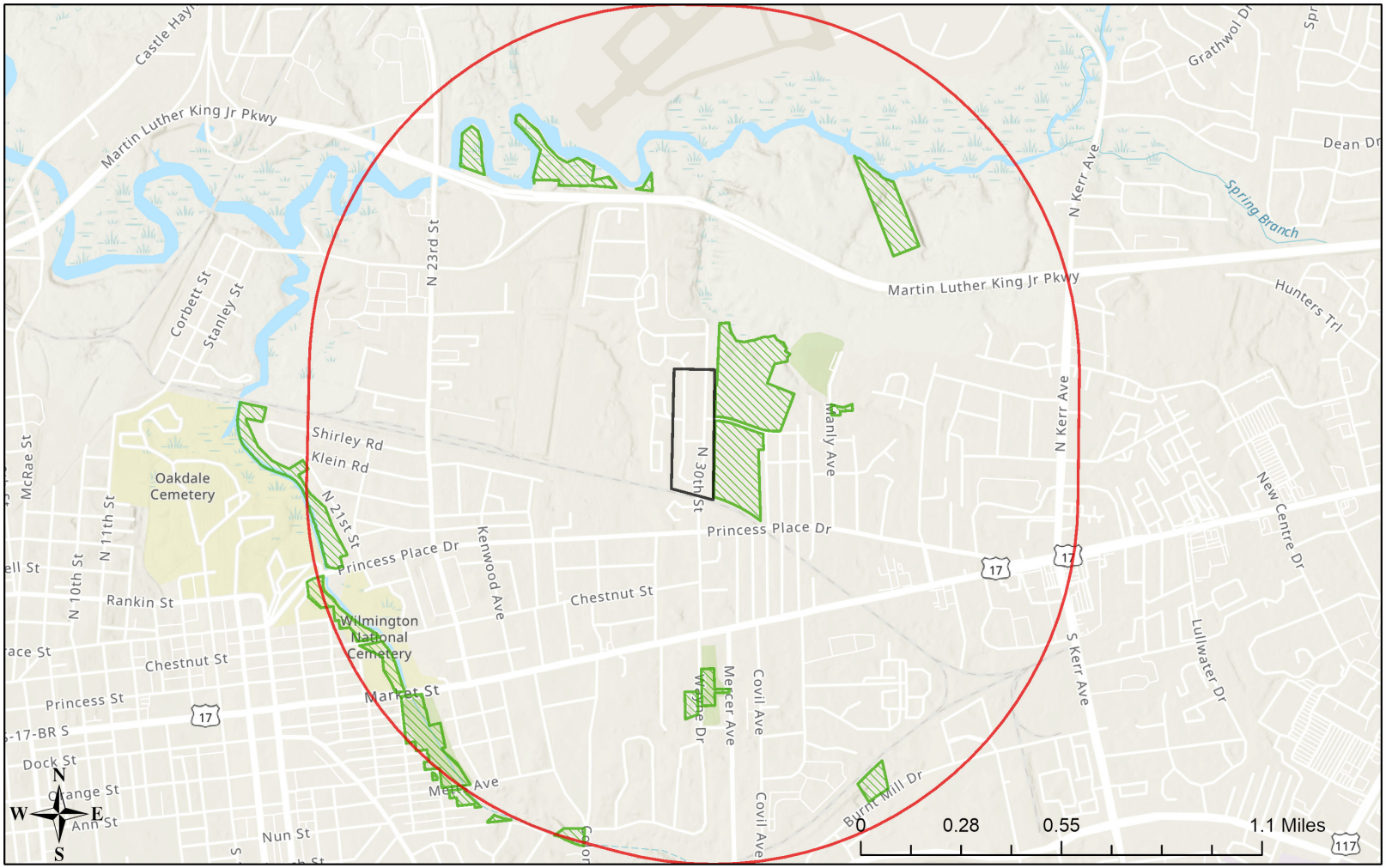
No Natural Areas are Documented Within a One-mile Radius of the Project Area

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

Managed Area Name	Owner	Owner Type
City of Wilmington Open Space	City of Wilmington	Local Government
City of Wilmington Open Space	City of Wilmington	Local Government
City of Wilmington Open Space	City of Wilmington	Local Government
City of Wilmington Open Space	City of Wilmington	Local Government
City of Wilmington Open Space	City of Wilmington	Local Government
New Hanover County Open Space	New Hanover County	Local Government
New Hanover County Open Space	New Hanover County	Local Government

Definitions and an explanation of status designations and codes can be found at https://ncnhde.natureserve.org/help. Data query generated on May 1, 2023; source: NCNHP, Q4, Winter (January) 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-21763: WHA Scattered Sites Rehabilitation Project - Creekwood and Creekwood South



May 1, 2023

- 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

Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405

Houston Moore (1 Unit) - Aerial Map



April 26, 2023

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

1420 Greenfield St.

Houston Moore

Parcel Boundaries

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

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: May 01, 2023
Project Code: 2023-0076218
Project Name: WHA Scattered Sites Rehabilitation Project - Houston Moore

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 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.

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:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.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/birds/policies-and-regulations.php.

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/birds/bird-enthusiasts/threats-to-birds.php.

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/birds/policies-and-regulations/executive-orders/e0-13186.php.

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
- 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: 2023-0076218
Project Name: WHA Scattered Sites Rehabilitation Project - Houston Moore
Project Type: Residential Construction
Project Description: Houston Moore (1 Unit) at 1420 Greenfield St., Wilmington, NC 28405, is Parcel ID # R05418-005-001-000 and Map ID # 312718.31.7705.000 on one 8.39-acre parcel and was built circa 1952 to 1953 (multiple buildings are also located on the lot).

The Wilmington Housing Authority (WHA) will use the HUD CDBG-DR funding to complete repairs, replacements and mold remediation at 41 public housing units severely damaged by Hurricane Florence. The proposed project activities include repairing and replacing drywall, plumbing, appliances, water heaters, broken windows, and duct work; painting; patching; and mold remediation involving cleaning ducts and identified affected interior areas. There are 164 low-income (30%-50% area median income [AMI]) residents, comprised of 41 adults and 123 children, who have been displaced from these 41 currently vacant units. Woodbridge Apartments contain the only units that have been torn out down to the studs. The proposed projects does not involve exterior work or ground disturbance. There is no change in zoning or land use required for the proposed project.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@34.2170744,-77.92922366343154,14z



Counties: New Hanover County, North Carolina

ENDANGERED SPECIES ACT SPECIES

There is a total of 15 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 Fisheries[1], 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.

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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
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Eastern Black Rail *Laterallus jamaicensis ssp. jamaicensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Red-cockaded Woodpecker *Picoides borealis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7614	Endangered

REPTILES

NAME	STATUS
American Alligator *Alligator mississippiensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/776	Similarity of Appearance (Threatened)
Green Sea Turtle *Chelonia mydas* Population: North Atlantic DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
Kemp's Ridley Sea Turtle *Lepidochelys kempii* There is **proposed** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/5523	Endangered
Leatherback Sea Turtle *Dermochelys coriacea* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1493	Endangered
Loggerhead Sea Turtle *Caretta caretta* Population: Northwest Atlantic Ocean DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1110	Threatened

SNAILS

NAME	STATUS
Magnificent Ramshorn *Planorbella magnifica* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6216	Proposed Endangered

INSECTS

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

FLOWERING PLANTS

NAME	STATUS
Cooley's Meadowrue *Thalictrum cooleyi* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3281	Endangered
Rough-leaved Loosestrife *Lysimachia asperulaefolia* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2747	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.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

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

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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)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

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
American Kestrel *Falco sparverius paulus* 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/9587	Breeds Apr 1 to Aug 31
American Oystercatcher *Haematopus palliatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31

NAME	BREEDING SEASON
Bachman's Sparrow *Aimophila aestivalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6177	Breeds May 1 to Sep 30
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Jul 31
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Brown-headed Nuthatch *Sitta pusilla* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Jul 15
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Eastern Whip-poor-will *Antrostomus vociferus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Gull-billed Tern *Gelochelidon nilotica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9501	Breeds May 1 to Jul 31
King Rail *Rallus elegans* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936	Breeds May 1 to Sep 5
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Marbled Godwit *Limosa fedoa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Painted Bunting *Passerina ciris* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 25 to Aug 15

NAME	BREEDING SEASON
Prairie Warbler *Dendroica discolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Purple Sandpiper *Calidris maritima* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Ruddy Turnstone *Arenaria interpres morinella* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Swallow-tailed Kite *Elanoides forficatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8938	Breeds Mar 10 to Jun 30
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Wilson's Plover *Charadrius wilsonia* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Aug 20
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

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 and understand the

FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

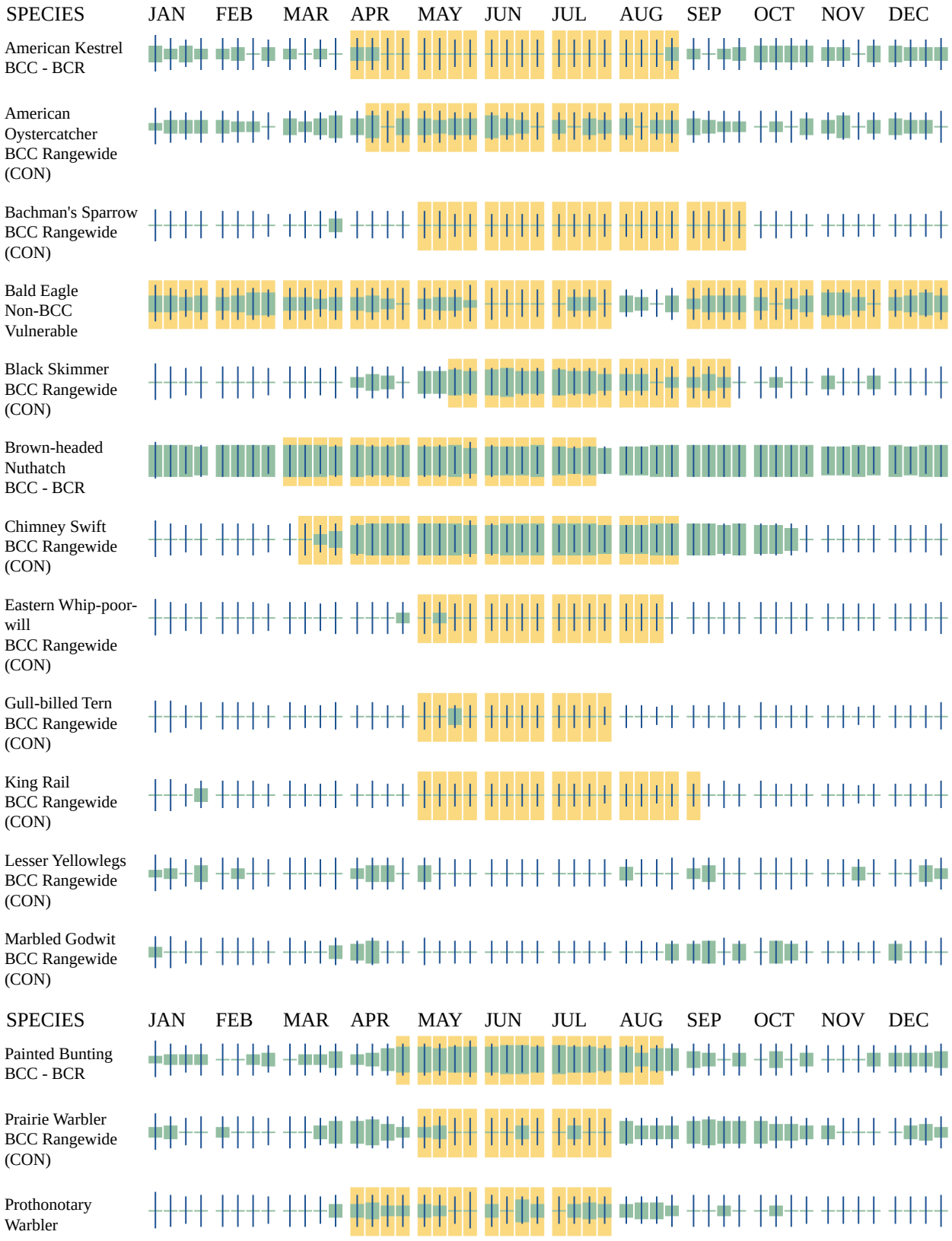
1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.


SPECIES
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
American Kestrel BCC - BCR
American Oystercatcher BCC Rangewide (CON)
Bachman's Sparrow BCC Rangewide (CON)
Bald Eagle Non-BCC Vulnerable
Black Skimmer BCC Rangewide (CON)
Brown-headed Nuthatch BCC - BCR
Chimney Swift BCC Rangewide (CON)
Eastern Whip-poor-will BCC Rangewide (CON)
Gull-billed Tern BCC Rangewide (CON)
King Rail BCC Rangewide (CON)
Lesser Yellowlegs BCC Rangewide (CON)
Marbled Godwit BCC Rangewide (CON)
SPECIES
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Painted Bunting BCC - BCR
Prairie Warbler BCC Rangewide (CON)
Prothonotary Warbler



Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- 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

MIGRATORY BIRDS FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding

in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?
The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);

2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities,

should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

IPAC USER CONTACT INFORMATION

Agency:	State of North Carolina
Name:	Andrea Gievers
Address:	P.O. Box 110465
Address Line 2:	200 Park Offices Drive
City:	Durham
State:	NC
Zip:	27709
Email	andrea.l.gievers@rebuild.nc.gov
Phone:	8456821700

NC DEPARTMENT OF
NATURAL AND CULTURAL RESOURCES

Roy Cooper, **Governor**

D. Reid Wilson, **Secretary**

Misty Buchanan
Deputy Director, Natural Heritage Program

NCNHDE-21764

May 1, 2023

Andrea Gievers
NCORR
P.O. Box 110465
Durham, NC 27709
RE: WHA Scattered Sites Rehabilitation Project - Houston Moore

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.

A query of the NCNHP database indicates that there are records for rare species, important natural communities, natural areas, and/or conservation/managed areas within the proposed project boundary. These results are presented in the attached 'Documented Occurrences' tables and map.

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 documented within the project area or 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.

Also please note that 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 an occurrence of a Federally-listed species is 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 Intersecting the Project Area
WHA Scattered Sites Rehabilitation Project - Houston Moore
May 1, 2023
NCNHDE-21764

No Element Occurrences are Documented within the Project Area

There are no documented element occurrences (of medium to very high accuracy) that intersect with the project area. Please note, however, that although the NCNHP database does not show records for rare species within the project area, it does not necessarily mean that they are not present; it may simply mean that the area has not been surveyed. The use of Natural Heritage Program data should not be substituted for actual field surveys if needed, particularly if the project area contains suitable habitat for rare species. If rare species are found, the NCNHP would appreciate receiving this information so that we may update our database.

No Natural Areas are Documented within the Project Area

Managed Areas Documented Within Project Area*

Managed Area Name	Owner	Owner Type
City of Wilmington Open Space	City of Wilmington	Local Government
New Hanover County Open Space	New Hanover County	Local Government

*NOTE: If the proposed project intersects with a conservation/managed area, please contact the landowner directly for additional information. If the project intersects with a Dedicated Nature Preserve (DNP), Registered Natural Heritage Area (RHA), or Federally-listed species, NCNHP staff may provide additional correspondence regarding the project.

Definitions and an explanation of status designations and codes can be found at https://ncnhde.natureserve.org/help. Data query generated on May 1, 2023; source: NCNHP, Q4, Winter (January) 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.

Natural Heritage Element Occurrences, Natural Areas, and Managed Areas Within a One-mile Radius of the Project Area
WHA Scattered Sites Rehabilitation Project - Houston Moore
May 1, 2023
NCNHDE-21764

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	24979	Phanogomphus australis	Clearlake Clubtail	1960-04-24	H	3-Medium	---	Significantly Rare	G4	S2
Freshwater Bivalve	328	Anodonta couperiana	Barrel Floater	1990s	X?	3-Medium	---	Endangered	G4	S1
Freshwater Fish	11031	Heterandria formosa	Least Killifish	1975-04-04	H	3-Medium	---	Special Concern	G5	S2
Freshwater or Terrestrial Gastropod	13292	Helisoma eucosmium	Greenfield Rams-horn	1908	X	3-Medium	---	Endangered	G1Q	S1
Freshwater or Terrestrial Gastropod	10316	Planorbella magnifica	Magnificent Rams-horn	1908	X	3-Medium	Proposed Endangered	Endangered	G1	S1
Mammal	24390	Corynorhinus rafinesquii macrotis	Eastern Big-eared Bat	2006-Pre	E	5-Very Low	---	Special Concern	G3G4T3	S3
Mammal	20385	Lasiurus intermedius floridanus	Florida Yellow Bat	2004-08-14	E	3-Medium	---	Special Concern	G5T4	S1
Mammal	32126	Myotis septentrionalis	Northern Long-eared Bat	1994-Post	H?	5-Very Low	Endangered	Threatened	G2G3	S2
Reptile	3970	Alligator mississippiensis	American Alligator	2018-02-26	E	4-Low	Threatened Similar Appearance	Threatened	G5	S3
Reptile	37460	Deirochelys reticularia reticularia	Eastern Chicken Turtle	1957-04	H	4-Low	---	Special Concern	G5T5	S2S3
Reptile	37611	Heterodon simus	Southern Hognose Snake	1977-06	H	4-Low	---	Threatened	G2	S1S2
Reptile	36989	Micrurus fulvius fulvius	Eastern Coralsnake	1979-05-17	H	4-Low	---	Endangered	G5	S1
Reptile	37561	Sistrurus miliarius miliarius	Carolina Pigmy Rattlesnake	1968-09	H	4-Low	---	Special Concern	G5T4T5	S2
Sawfly, Wasp, Bee, or Ant	40040	Megachile brimleyi	a leafcutter bee	1928-07-21	H	4-Low	---	Significantly Rare	G1G3	SH
Sawfly, Wasp, Bee, or Ant	40042	Megachile deflexa	a leafcutter bee	1932-08-10	H	4-Low	---	Significantly Rare	G2	SH

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
Sawfly, Wasp, Bee, or Ant	40235	Megachile integra	a leafcutter bee	1948-08-19	H	4-Low	---	Significantly Rare	G2G3	SH
Sawfly, Wasp, Bee, or Ant	40049	Megachile integrella	a leafcutter bee	1952-06-20	H	4-Low	---	Significantly Rare	G1G2	S1S2
Vascular Plant	30852	Baccharis glomeruliflora	Silverling	1904-Pre	H	5-Very Low	---	Endangered	G4	S1
Vascular Plant	5040	Carex decomposita	Cypress Knee Sedge	1938-06-29	H	4-Low	---	Significantly Rare Other	G3G4	S2
Vascular Plant	42246	Carex godfreyi	Godfrey's Sedge	Pre-1900	H	5-Very Low	---	Significantly Rare Peripheral	G3G4	S1
Vascular Plant	1462	Crocanthemum carolinianum	Carolina Sunrose	1958-04-20	H	4-Low	---	Endangered	G4	S1
Vascular Plant	22454	Dichanthelium cryptanthum	Hidden-flowered Witchgrass	1906-05-04	H	5-Very Low	---	Significantly Rare Throughout	GUQ	S2
Vascular Plant	14082	Lilaeopsis carolinensis	Carolina Grasswort	2002-04-17	C	3-Medium	---	Significantly Rare Other	G3G5	S2

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

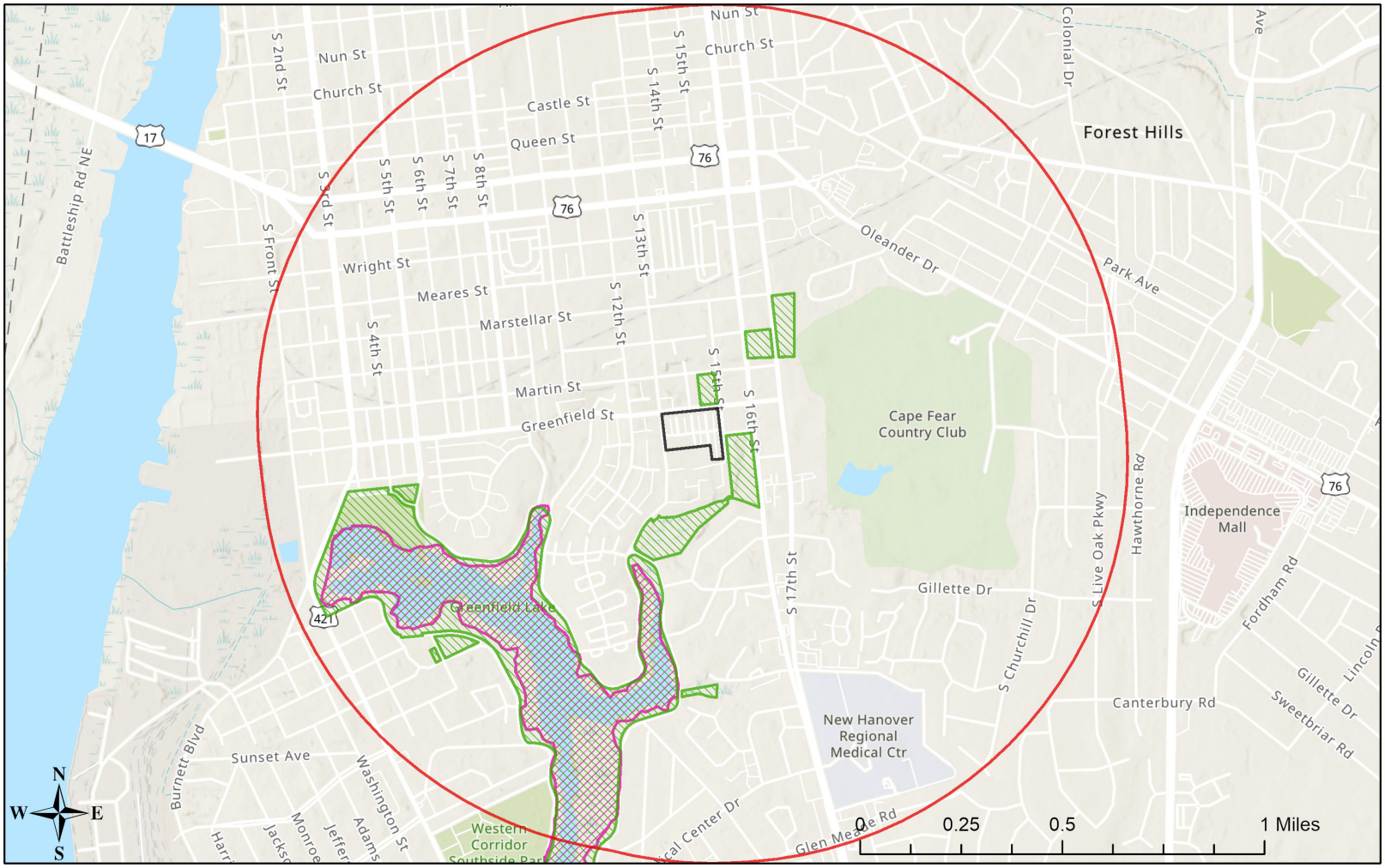
Site Name	Representational Rating	Collective Rating
Greenfield Lake	R3 (High)	C5 (General)

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

Managed Area Name	Owner	Owner Type
City of Wilmington Open Space	City of Wilmington	Local Government
New Hanover County Open Space	New Hanover County	Local Government
New Hanover County Open Space	New Hanover County	Local Government
New Hanover County Open Space	New Hanover County	Local Government

Definitions and an explanation of status designations and codes can be found at https://ncnhde.natureserve.org/help. Data query generated on May 1, 2023; source: NCNHP, Q4, Winter (January) 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-21764: WHA Scattered Sites Rehabilitation Project - Houston Moore



May 1, 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

Species Conclusions Table

Project Name: WHA Scattered Sites Rehabilitation Project

Date: 5/4/23

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Northern Long-eared Bat	No suitable habitat present	No Effect	Interior renovations at existing public housing with mowed yards and paved parking
Tricolored Bat	No suitable habitat present	No Effect	Interior renovations at existing public housing with mowed yards and paved parking
Eastern Black Rail	No suitable habitat present	No Effect	Interior renovations at existing public housing with mowed yards and paved parking
Piping Plover	No suitable habitat present	No Effect	Interior renovations at existing public housing with mowed yards and paved parking
Red Knot	No suitable habitat present	No Effect	Interior renovations at existing public housing with mowed yards and paved parking
Red-cockaded Woodpecker	No suitable habitat present	No Effect	Interior renovations at existing public housing with mowed yards and paved parking
American Alligator	No suitable habitat present	No Effect	No water habitat, interior project activities
Green Sea Turtle	No suitable habitat present	No Effect	No marine habitat, interior project activities
Kemp's Ridley Sea Turtle	No suitable habitat present	No Effect	No marine habitat, interior project activities

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.

Andrea Sievers

Signature /Title

5/4/23

Date

Species Conclusions Table

Project Name: WHA Scattered Sites Rehabilitation Project

Date: 5/4/23

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Leatherback Sea Turtle	No suitable habitat present	No Effect	No marine habitat, interior project activities
Loggerhead Sea Turtle	No suitable habitat present	No Effect	No marine habitat, interior project activities
Magnificent Ramshorn	No suitable habitat present	No Effect	Interior renovations at existing public housing with mowed yards and paved parking
Monarch Butterfly	No suitable habitat present	No Effect	Interior renovations at existing public housing with mowed yards and paved parking
Cooley's Meadowrue	No suitable habitat present	No Effect	Interior renovations at existing public housing with mowed yards and paved parking
Golden Sedge	No suitable habitat present	No Effect	Interior renovations at existing public housing with mowed yards and paved parking
Rough-leaved Loosestrife	No suitable habitat present	No Effect	Interior renovations at existing public housing with mowed yards and paved parking
Atlantic Sturgeon	No suitable habitat present	No Effect	No rivers or coastal habitat, interior project activities
Bald Eagle	No suitable habitat present, Unlikely to disturb nesting bald eagles	No Eagle Act Permit Required	Interior renovations at existing public housing with mowed yards and paved parking

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.

Andrea Sievers

Signature /Title

5/4/23

Date

ATTACHMENT 9:

Explosive and Flammable Hazards

HUD Thermal and Explosive Hazards Worksheet, City Correspondence on Planned and Existing ASTs, Aerial Maps with 1-mile Buffer, AST Distance Maps, ASD Calculations, NC DEQ DWM Records, and Other Supporting Documentation

Thermal and Explosive Hazards

Project Name	Investigator(s)	Site Visit Date
WHA Scattered Sites Rehab	Andrea Gievers & Brycen Braswell	April 11, 2023

Part I –Above Ground Storage Tanks – Site Review

Are any above ground storage tanks visible from the site?

☐ Yes ☒ No

If yes, are these tanks 100-gallons or larger?

☐ Yes ☐ No

List visible tanks						
Tank Identifier	Tank Distance (ft)	Tank Size/Contents	Flammable? (Yes or No)	Pressurized? (Yes or No)	ASD[1] (ft) Thermal Radiation	ASD (ft) Blast Pressure
NA						

[1]ASD = Acceptable Separation Distance as defined in "Siting of HUD-Assisted Projects Near Hazardous Facilities"

Is the project site within the ASD of any above ground storage tank visible from the site?

☐ Yes ☐ No **NA**

If yes, list the proposed mitigation strategies or reject the site?

Mitigation (attach additional documentation
NA

Part II –Above Ground Storage Tanks – Agency Consultation

Has consultation with the Local Planning, Building, Public Safety or Fire Department indicated the presence of existing or planned thermal/explosive hazards that may affect the site (Attach record of consultation)?

☐ Yes ☒ No

If yes, list the proposed mitigation strategies or reject the site?

Mitigation (attach additional documentation

Part III – Above Ground Storage Tanks – Record Review

Are above ground storage tanks, which are visible on aerial photographs and USGS topographic maps, located within 1-mile of the site (Attach copies of documents reviewed)?

[X] Yes [ ] No

If yes, are these tanks 100-gallons or larger?

[X] Yes [ ] No

List visible tanks						
Tank Identifier	Tank Distance (ft)	Tank Size/Contents	Flammable? (Yes or No)	Pressurized? (Yes or No)	ASD[1] (ft) Thermal Radiation	ASD (ft) Blast Pressure
213 N. 23rd	4,420	275g Heating Oil	Yes	No	161.52	27.68
319 25th St	2,979	275g Heating Oil	Yes	No	161.52	27.68
Alcami	5,098	3,000g cryogenic	Yes	Yes	437.09	83.56
Long Bus.	4,508	1,000g Propane	Yes	Yes	276.57	50.28

[1]ASD = Acceptable Separation Distance as defined in "Siting of HUD-Assisted Projects Near Hazardous Facilities"

Is the project site within the ASD of any above ground storage tank?

[ ] Yes [X] No

If yes are there acceptable barriers (natural or manmade) between the site and the tank?

[ ] Yes [ ] No

Identify Acceptable Barriers[2]
More than enough distance between tanks and site including mixed use development

[2]Acceptable barriers must meet the conditions of 24 CFR § 51.205

If no, list the proposed mitigation strategies or reject the site?

Mitigation (attach additional documentation	
Additional Comments or Recommendations	

Andrea Sievers
Lead Investigator's Signature

8/3/23
Date

Wilmington Housing Authority Scattered Sites Rehabilitation Project

Thermal and Explosive Hazards Review

Subject Property Address:
710 and 712 North 30th Street, Wilmington, NC 28405
Parcel ID # R04909-001-014-000 and Map ID # 313813.02.4723.000 on a 0.24-acre lot

Introduction

The purpose of this review is to ensure that the proposed project complies with U.S. Department of Housing and Urban Development (HUD) environmental standards in relation to 24 CFR Part 51 Subpart C and the Guidebook "Siting of HUD – Assisted Projects Near Hazardous Facilities.

Summary of Findings

Subject Property Review

Site Inspection: A site inspection was performed on the Subject Property on April 11, 2023 by ECS Environmental Scientist, Mr. Brycen Braswell and no thermal or explosive hazards were identified at or visible from the Subject Property. Site Visit Photographs and the Phase I Environmental Site Assessment are included in **Attachment 7**.

Surrounding Properties One-mile Review

Agency Consultation: Ms. Andrea Gievers, NCORR, contacted the Wilmington City Clerk's Office on July 3, 2023 and July 11, 2023 and requested information on "All known future planned or existing thermal/explosive hazards such as Aboveground Storage Tanks (ASTs) within one mile of building 710 & 712 North 30th Street, Wilmington, NC 28405. The City responded on August 1, 2023, "Wilmington Fire Department Staff advised that there are no planned or existing thermal/explosive hazards such as aboveground storage tanks within one mile of 710 & 712 North 30th Street."

NEPAssist and NC DEQ DWM Records: The area within a one-mile radius of 710 and 712 N. 30th Street was reviewed using NEPAssist, NC DEQ DWM Site Locator Tool, and Google Earth to search for potential ASTs. NEPAssist and the NC DEQ DWM Site Locator Tool were used to review within one-mile of the Subject Property for facilities with potential ASTs, especially hazardous waste (RCRA) sites and Non-UST Incident sites. Google Earth and Google and Bing Maps were used to identify these sites and review by aerial and ground level photographs for potential ASTs. There were seven Non-UST Incident sites identified in the NC DEQ DWM Report for one-mile around the Subject Property. According to a December 2013 NC DENR DWM UST Section Inspection Report, *East Coast Transport Company, Inc.* 1917 Blue Clay Road, AST Incident #5731, UST #WI-5731, had removed their AST. *213 N. 23rd St. Residence*, AST Incident #16269, UST #WI-16269, had a spill from a 225-gallon heating oil AST discovered on March 5, 1996. The AST was removed, the site was remediated and no new petroleum storage tanks were installed. This site is located approximately 4,420 feet from the Subject Property and no tanks were visible via Google Earth but there was tree cover. Since the average residential heating oil tank is 275 gallons, this was used to determine the Acceptable Separation Distance (ASD) if this site were to have a replacement heating oil AST. The ASD for Thermal Radiation for People (ASDPPU) is 161.52

feet and the ASD for Thermal Radiation for Buildings (ASDBPU) is 27.68 feet. The Subject Property is located much farther away than the calculated ASD for this site. *Elouise Andrews Residence*, 24 Mercer Avenue, AST Incident #85744, UST #WI-85744, had no visible AST present on the site. The *Wilbert Mitchell Residence*, 319 25th Street St., AST Incident #86020, UST #WI-86020, had no DWM records for the incident but is located approximately 2,979 feet from the Subject Property. Since the average residential heating oil tank is 275 gallons, this was used to determine the Acceptable Separation Distance (ASD) if this site were to have a residential heating oil AST. The ASD for Thermal Radiation for People (ASDPPU) is 161.52 feet and the ASD for Thermal Radiation for Buildings (ASDBPU) is 27.68 feet. The Subject Property is located much farther away than the calculated ASD for this site. According to a November 2008 Soil Assessment Report for *Wilmington Hyundai*, 3302 Market Street, AST Incident #94044, UST #WI-88159, the non-UST incident was from underground hydraulic lifts and not AST-related. At *304 N. Kerr Avenue*, AST Incident #94375, UST #WI-88524, a 270-gallon residential heating oil AST had been properly removed and disposed of with no discussion of replacement (lines removed and new fill brought in). No tanks were visible via Google Earth and part of the site is located one mile away from the Subject Property. The *112 Keaton Avenue Residence*, UST #WI-88546, had no DWM records for the incident but it is located approximately 4,869 feet from the Subject Property and an AST incident number was not associated with this site.

An aerial and ground level review was completed for a one-mile radius of the Subject Property. Two ASTs which may or may not be in use were identified. At *Alcami*, 1744 N. 23rd St., an approximate 3,000-gallon cryogenic vertical tank was identified about 5,098 feet from the Subject Property. The calculated ASD for Thermal Radiation for People (ASDPPU) is 437.09 feet and the ASD for Thermal Radiation for Buildings (ASDBPU) is 83.56 feet. The Subject Property is located much farther away than the calculated ASD for this site. At *Long Business Center*, 1215 N. 23rd St., an approximate 1,000-gallon propane AST was identified about 4,508 feet from the Subject Property. The calculated ASD for Thermal Radiation for People (ASDPPU) is 276.57 feet and the ASD for Thermal Radiation for Buildings (ASDBPU) is 50.28 feet. The Subject Property is located much farther away than the calculated ASD for this site.

Summary: Based on the site visit and review of available environmental records and aerial and ground level photographs and maps for the Subject Property and surrounding area, the Subject Property is located much farther away than the calculated ASD for identified ASTs and potential AST locations. As such, no further action is required at this time. See also, Site Inspection Documentation, NEPAssist EPA Facilities Reports with 1-mile Buffer, NC DEQ DWM Site Locator Reports with 1-mile Buffer, and the Phase I ESA provided in **Attachment 7a**.

Data Sources: NCORR has reviewed the following sources to make the above determinations: Google Earth, Google and Bing Maps, NEPAssist, Hazardous Waste (RCRAInfo), Air Pollution (ICIS-AIR), Water Dischargers National Pollutant Discharge Elimination System (NPDES) permit program, EPA's Permit Compliance System (PCS) and Integrated Compliance Information System (ICIS) databases, EPA's Toxic Release Inventory Database (TRI), Superfund Enterprise Management System (SEMS) and National Priorities List (NPL), Brownfields Assessment, Cleanup and Redevelopment Exchange System (ACRES), and the EPA Toxic Substances Control Act (TSCA). NCORR has also consulted with the local Fire Department.

NCORR reviewed the NC DEQ Division of Waste Management (DWM) Site Locator Tool to assess whether the Subject Property is registered as a State Superfund site. The NC DEQ DWM Database includes records of sites that are part of the Land Clearing and Inert Debris (LICD) Notifications, Permitted Solid Waste Landfills, Other Permitted Solid Waste Facilities, Yard Waste Notification (YWN) Facilities, Coal Ash Structural Fills (Closed), Permitted Solid Waste Septage Facilities (SLAS or SDTF), Hazardous Waste

Sites, Brownfields Program Sites, Federal Remediation Branch, Pre-Regulatory Landfill Sites, Inactive Hazardous Sites, Dry Cleaning Compliance, Dry Cleaning Remediation Program, Dry Cleaning Historical Boiler Inspections, Dry Cleaning City Directories, UST Incidents, Non-UST Incidents, UST Active Facilities, Petroleum Contaminated Soil Remediation Permits, and Land Use Restriction and/or Notices. NCORR requested and, if available, reviewed NC DWM records, retained by the UST Section Regional Office through the NC State Environmental Clearinghouse, to determine if the Subject Property has an underground storage tank (UST) (besides a residential fuel tank) or any other storage tank.

City of Wilmington Correspondence on Planned and Existing ASTs within 1-mile of 710 & 712 North 30th Street

Gievers, Andrea

From: Heather Padgett <Heather.Padgett@wilmingtonnc.gov>
Sent: Tuesday, August 1, 2023 8:41 AM
To: Gievers, Andrea
Cc: Penny Spicer-Sidbury
Subject: [External] Public Records Request, Response

Follow Up Flag: Follow up
Flag Status: Flagged

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.

Good morning:

Wilmington Fire Department Staff advised that there are no planned or existing thermal/explosive hazards such as aboveground storage tanks within one mile of 710 & 712 North 30th Street, Wilmington, NC.

****

Heather Padgett
Deputy City Clerk
City of Wilmington
P.O. Box 1810
Wilmington, NC 28402
Phone: (910) 341-7938
Fax: (910) 341-5823

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

Gievers, Andrea

From: Gievers, Andrea
Sent: Tuesday, July 11, 2023 2:36 PM
To: penny.spicer-sidbury@wilmingtonnc.gov
Subject: FW: ASTs within 1 mile - HUD NEPA Wilmington HA
Attachments: 710 & 712 North 30th Street - Aerial Map.pdf; 710 & 712 North 30th Street - 1-mile Radius Map.pdf; E-Form Public Info Request - WHA NCORR NEPA.pdf

Hi:

Thank you so much for your help! Please let me know if you need anything else. Have a wonderful day.

Sincerely,

Andrea Gievers

From: Gievers, Andrea
Sent: Monday, July 3, 2023 2:36 PM
To: penny.spicer-sidbury@wilmingtonnc.gov
Subject: ASTs within 1 mile - HUD NEPA Wilmington HA

Hello:

I am working on the Wilmington Housing Authority Scattered Sites Rehabilitation project for NCORR as a recipient of HUD disaster recovery/ mitigation funds. Part of the HUD environmental review requires a request for information on **any known future planned or existing thermal/explosive hazards such as Aboveground Storage Tanks (ASTs) within one mile of building 710 & 712 North 30th Street, Wilmington, NC 28405**. Please feel free to contact me if you have any questions. Thank you so much for your assistance!

> *The following ASTs are excluded from compliance with 24 CFR Part 51 Subpart C: stationary aboveground containers that store natural gas and have floating tops; mobile conveyances (tank trucks, barges, railroad tank cars); and ASTs of 1,000 gallons or less in volume that contain liquified petroleum gas ("LPG" or propane) and comply with the National Fire Protection Association Code 58 (2017 or later).*

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

710 & 712 N. 30th St., Wilmington - Aerial Map



July 3, 2023

1:4,514

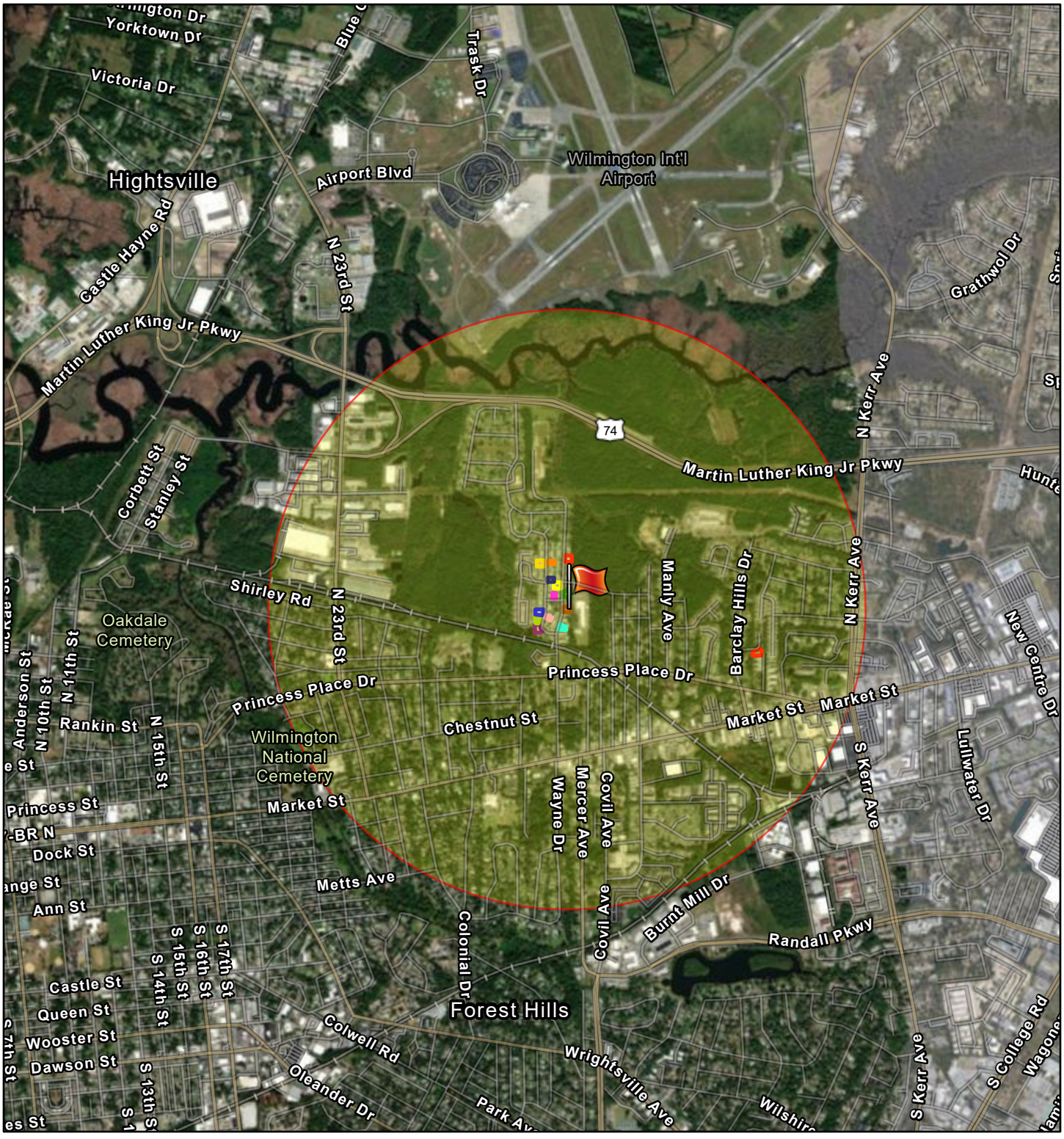
0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

- 710 & 712 North 30th Street
- 804 N. 30th St.
- 902 Emory St.
- 710 & 712 N. 30th St., Wilmington
- 707 Emory St.
- 708 Emory St.
- 1008 N. 30th St.
- 602 N. 30th St.
- 2905 Clayton Pl.
- 922 Emory St.
- 915 Emory St.
- 701 Emory St.
- 617 Emory St.
- 805 & 809 N. 30th St.

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

710 & 712 North 30th Street, Wilmington - 1-mile Radius Map



July 3, 2023

1:36,112

0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

- 710 & 712 North 30th Street
- Project Buffer
- 804 N. 30th St.
- 902 Emory St.
- 710 & 712 N. 30th St., Wilmington
- 707 Emory St.
- 708 Emory St.
- 1008 N. 30th St.
- 602 N. 30th St.
- 2905 Clayton Pl.
- 922 Emory St.
- 915 Emory St.
- 701 Emory St.
- 617 Emory St.
- 805 & 809 N. 30th St.
- Woodbridge Apartments (20 Units), 302 Grass Lane, Wilmington, NC 28405

NC CGIA, Maxar, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

City of Wilmington, NC
City Clerk's Office
Phone: (910) 341-7816
Fax: (910) 341-5823
Email: penny.spicer-sidbury@wilmingtonnc.gov

PUBLIC RECORDS REQUEST FORM

Pursuant to N.C.G.S. Chapter 132, the City of Wilmington makes available to the public all records in its custody and control that are defined as "public records" under N.C.G.S. §132-1. Persons making the request must personally provide the following information and the City Clerk will assist in gathering, providing for inspection, or copying the information requested. Please provide the City with sufficient information to describe those public records being requested.

☐ Inspection ☒ Electronic Copy ☐ Copying

Records will be available for inspection or pick-up in a reasonable amount of time.
The City requires payment in accordance with the adopted Fee Schedule and the signature of the requester prior to releasing any documents. Requests requiring legal review may require additional time.

NAME OF PERSON MAKING REQUEST: Andrea Gievers, NCORR Environmental

ADDRESS: NCORR, 200 Park Offices Drive, Durham, NC 27709
Click here to enter text.
PHONE NUMBER: 845-293-7021
FAX NUMBER: Click here to enter text.
EMAIL: Andrea.L.Gievers@Rebuild.NC.Gov
DATE OF REQUEST: 7/3/23

PUBLIC RECORDS BEING REQUESTED:

All known future planned or existing thermal/explosive hazards such as Aboveground Storage Tanks (ASTs) within one mile of building 710 & 712 North 30th Street, Wilmington, NC 28405
Click here to enter text.
Click here to enter text.
Click here to enter text.
Click here to enter text.
Click here to enter text.
Click here to enter text.

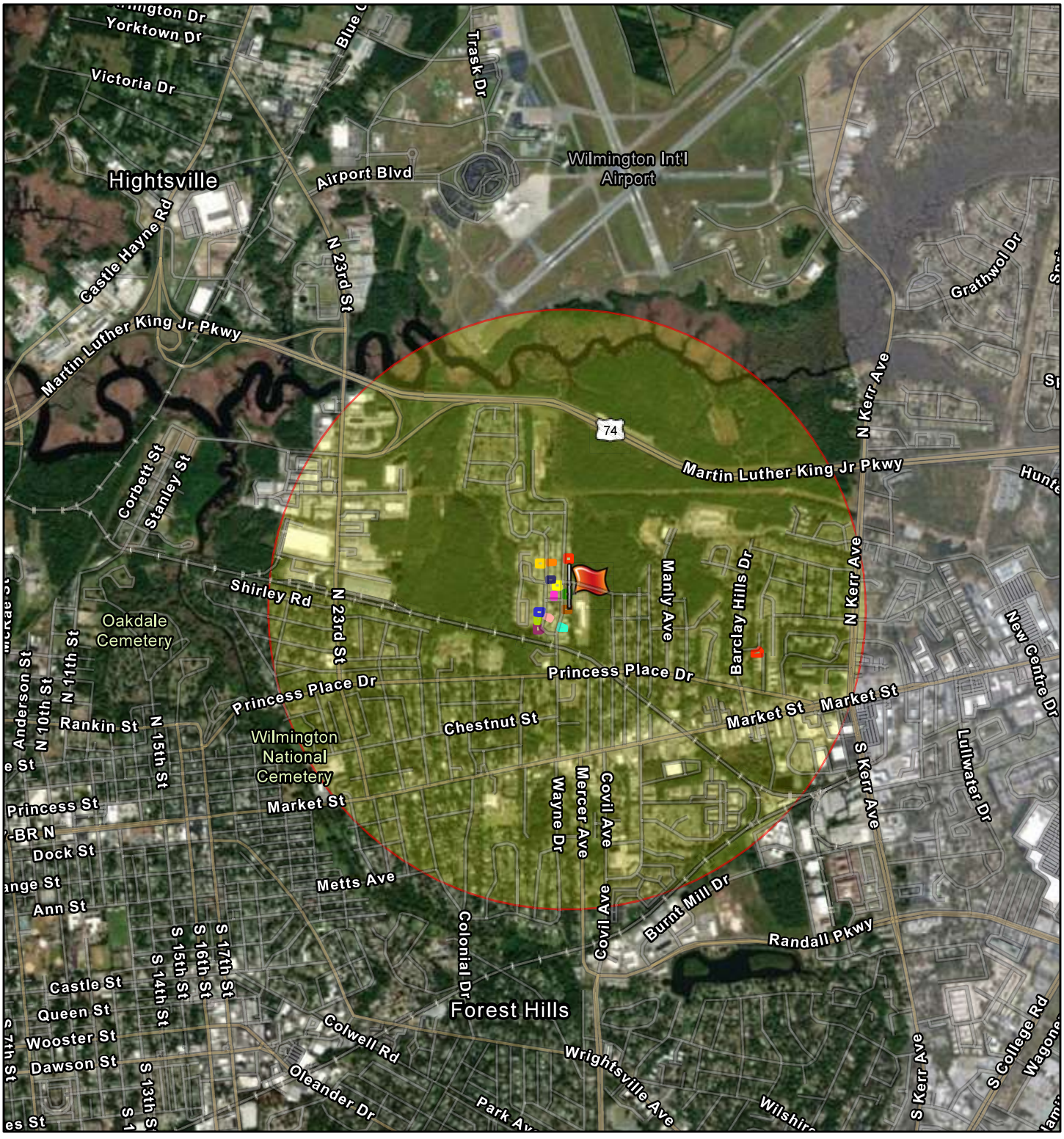
Signature of Person making request: Andrea Gievers

CITY CLERK OFFICE USE ONLY			
TOTAL COPIES PROVIDED:	Click here to enter text.	Amount Due: $	Click here to enter text.
Payment Received (method):	Check ☐	Cash ☐	Money Order ☐

City Staff Handling Request:	Click here to enter text.	Date Completed:	Click here to enter text.

710 & 712 North 30th Street 1-mile Radius Review

710 & 712 North 30th Street, Wilmington - 1-mile Radius Map



July 3, 2023

1:36,112

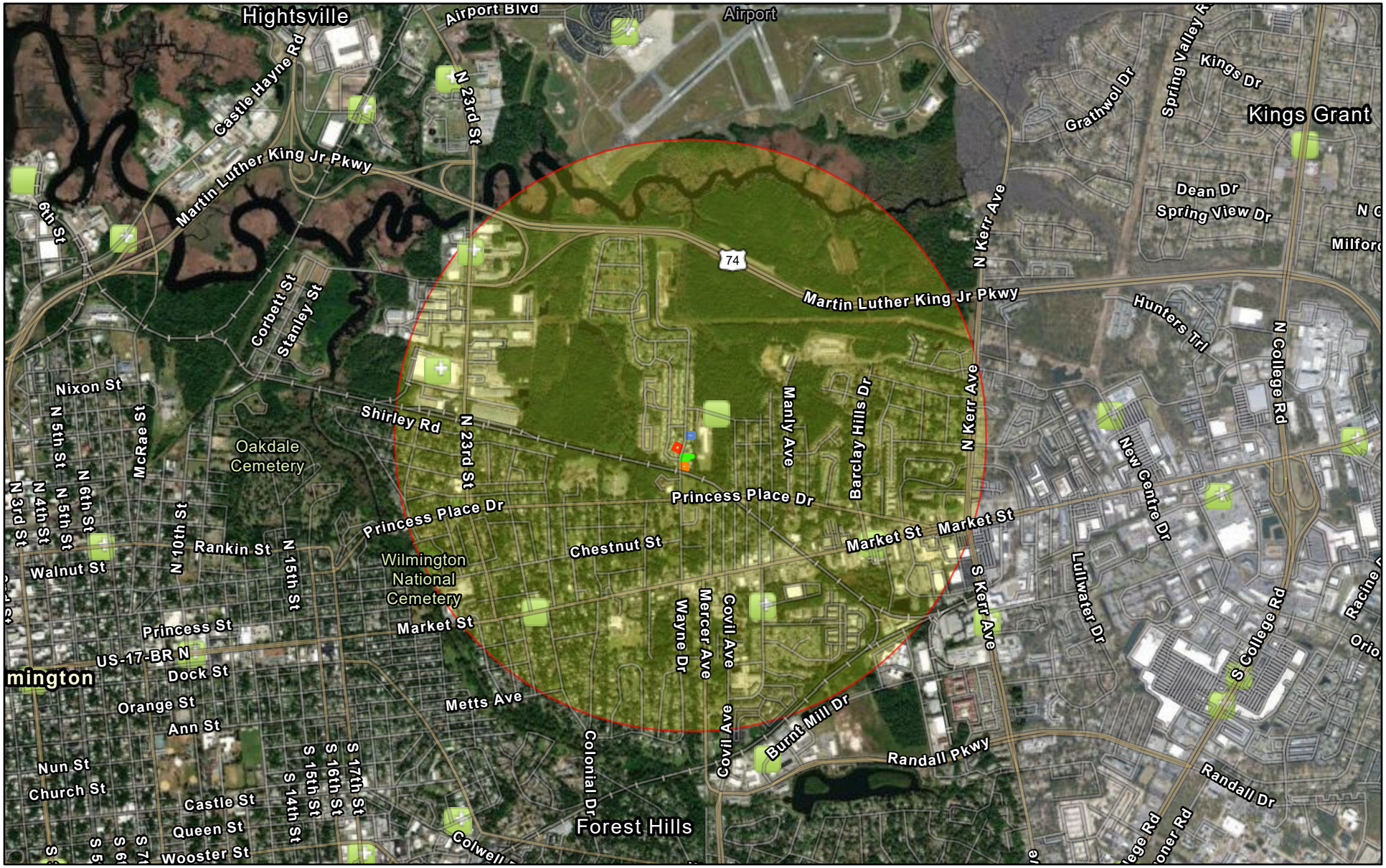
0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

- 710 & 712 North 30th Street
- Project Buffer
- 804 N. 30th St.
- 902 Emory St.
- 710 & 712 N. 30th St., Wilmington
- 707 Emory St.
- 708 Emory St.
- 1008 N. 30th St.
- 602 N. 30th St.
- 2905 Clayton Pl.
- 922 Emory St.
- 915 Emory St.
- 701 Emory St.
- 617 Emory St.
- 805 & 809 N. 30th St.
- Woodbridge Apartments (20 Units), 302 Grass Lane, Wilmington, NC 28405

NC CGIA, Maxar, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

710 & 712 N. 30th St. - ASTs 1-mile Radius



July 26, 2023

- Hazardous Waste (RCRAInfo)
- Hazardous Waste (RCRAInfo)
- Project Buffer
- 710 & 712 N. 30th St.
- 609, 611 & 613 N. 30th St.
- 502 N. 30th St.
- 522 N. 30th St.

1:36,112

0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

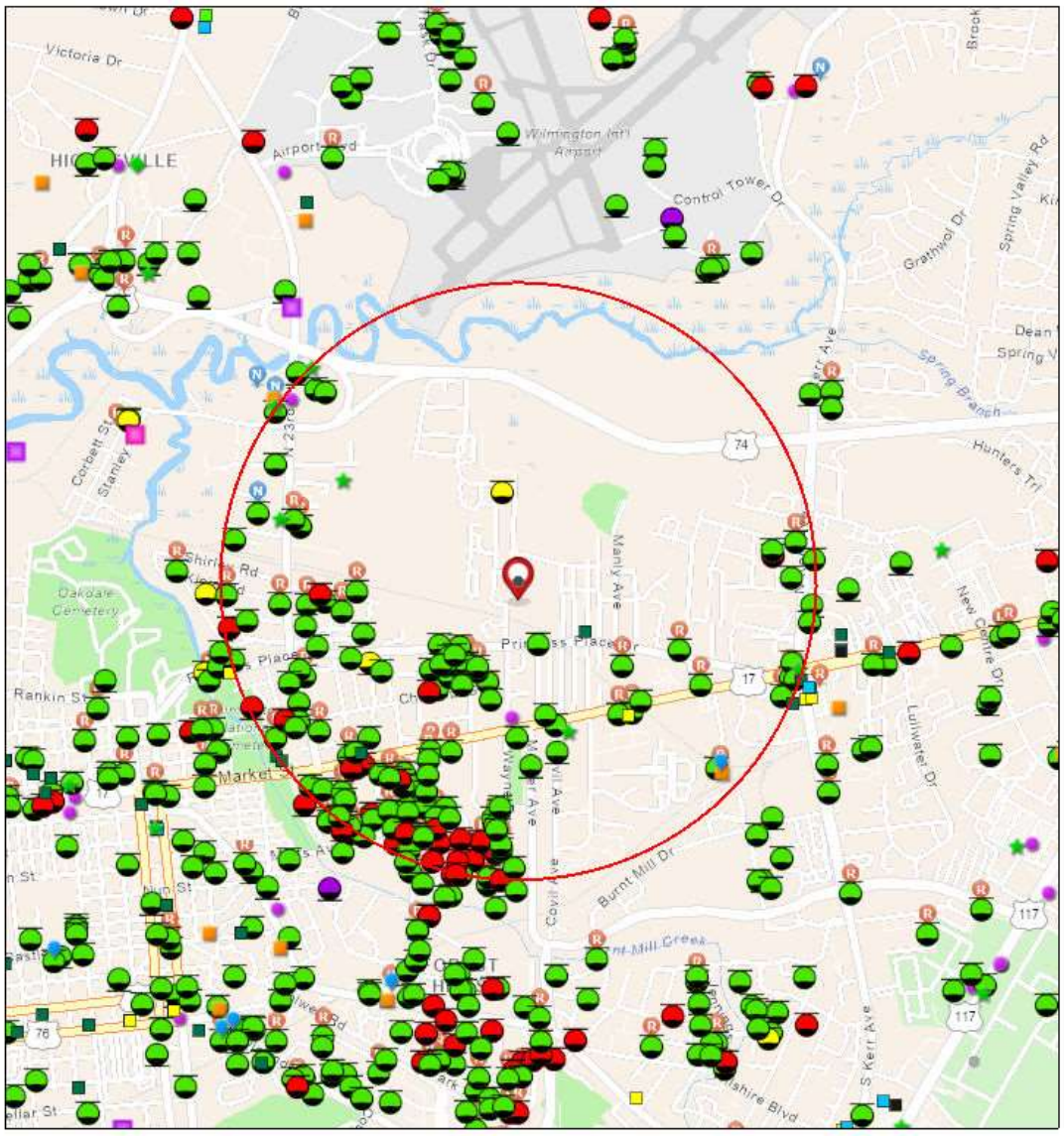
NC CGIA, Maxar, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US

710 & 712 N. 30th St. - 1-mile Radius Screening Report

Area of Interest (AOI) Information

Area : 87,513,003.33 ft²

Jul 26 2023 8:05:33 Eastern Daylight Time



Permitted Solid Waste Septage Facilities (SLAS or SDTF)

Hazardous Waste Sites

Brownfields Program Sites

Pre-Regulatory Landfill Sites

Activity Pending

Investigation

1:36,112

0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

NCDOT GIS Unit, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

Hazardous Waste Sites

#	HANDLER_ID	SITE_NAME	Count
1	NCD072022726	INTERNATIONAL PAPER	1
2	NCR000006817	AAIPHARMA SERVICES CORP	1
3	NCR000012195	AAIPHARMA SERVICES CORP	1
4	NCR000145664	NCDSCA 065-0009 (COASTAL CLEANERS)	1
5	NCR000152538	CVS PHARMACY #4846	1

Brownfields Program Sites

#	BF_ID	BF_Name	Count
1	1801614065	Wetsig Yachts	1

Inactive Hazardous Sites

#	EPAID	SITENAME	Count
1	NONCD0001105	WETSIG YACHTS	1

DryCleaning Historical Boiler Inspections

#	Drycleaner	InspDate	Count
1	HANOVER CLEANERS	9/16/1977	1

DryCleaning City Directories

#	Drycleaner	Address	Count
1	Hometown Laundromat	2107 Market Street, Wilmington,NC	1
2	Odorless Cleaners	2405 Market, Wilmington,NC	1
3	Seven Day Laundromat	405 Henry Street, Wilmington,NC	1

UST Incidents

#	IncidentNumber	IncidentName	Count
1	3634	SCOTCHMAN # 107	1
2	5795	25TH STREET RESIDENCE	1
3	6018	UNITED PARCEL SERVICE-1	1
4	6859	KENWOOD AVENUE INCIDENT	1
5	6964	CITY OF WILMINGTON-FIRE STATION #3	1
6	9080	THE FURNITURE OUTLET	1
7	11708	MARKET ST. E-Z SERVE	1
8	13893	SATURN OF WILMINGTON	1
9	14624	UNITED PARCEL SERVICE	1
10	15319	GAS CENTER # 3	1
11	15463	JACKSON BEVERAGE COMPANY	1
12	16528	LITTLE, FRED RESIDENCE	1
13	17907	GAS WORLD #1	1
14	17976	WILLIS ESTATE	1
15	18092	TRIANGLE RENT-A-CAR	1
16	18694	CREEKWOOD MINI MART	1
17	20163	CARO-KNIT (FORMER)	1
18	20678	HUGHES PROPERTY	1
19	21122	NEWELL RESIDENCE	1
20	22002	VIRGINIA EDGERTON PROPERTY	1
21	22022	WALLACE, H.C. PROPERTY	1
22	22155	SCOTCHMAN # 107 RELEASE 2	1
23	22913	SCOTCHMAN # 107 RELEASE 3	1
24	23745	SCOTCHMAN # 107 RELEASE 4	1
25	23995	DAVIS, DEAN RESIDENCE	1
26	32010	JACKSON RESIDENCE, JEAN	1
27	32020	DOWING RESIDENCE, LON	1
28	32022	GORHAM RESIDENCE, DUMAY	1
29	32039	WETSIG YACHT FACILITY	1
30	32083	KAYO STATION, FORMER	1
31	32109	SNIPES, (ANNIE H.) ELEMENTARY SCHOOL	1
32	32118	FULK RESIDENCE	1
33	32130	BRILLHART PROPERTY	1
34	32140	JACOB PROPERTY	1
35	32162	POE RESIDENCE	1
36	32163	POLGAR (SYLVIA) RESIDENCE	1
37	32172	HOYT RESIDENCE (MARK)	1
38	32188	WISHON PROPERTY (BILL) - A	1
39	32191	RAPHAEL RESIDENCE (JUSTIN)	1
40	32192	CRANE RESIDENCE (CYNTHIA)	1
41	32194	ALLEN PROPERTY (GREG)	1

42	32202	LUTHER PROPERTY (PAT)	1
43	32207	BLOUNT ELEMENTARY SCHOOL	1
44	32231	GAUSE PROPERTY (ROGER)	1
45	32236	SCHMIDT PROPERTY (JAYCE)	1
46	32240	LASAR PROPERTY (ISAAC)	1
47	32243	BARNES PROPERTY (WATSON)	1
48	32248	PADGETT'S EXXON	1
49	32250	HEMMINGWAY PROPERTY (THELMA)	1
50	32259	THOMPSON PROPERTY (LOUISE)	1
51	32261	SCHWENINGER PROPERTY (LEE)	1
52	32279	SPIVEY PROPERTY (CRAIG)	1
53	32289	ARMSTRONG PROPERTY (COURTNEY)	1
54	32310	SAYRE PROPERTY (JIM)	1
55	32326	PITTS PROPERTY (NED)	1
56	32354	SANACORE PROPERTY (JOHN)	1
57	32358	BLAKE PROPERTY (DONALD)	1
58	32359	HARDY PROPERTY (REID)	1
59	32365	BURPEAU PROPERTY (MARIE)	1
60	32375	SAFRIT PROPERTY (MICHAEL)	1
61	32376	MATHIS PROPERTY (CARL)	1
62	32386	ENGLISH PROPERTY (ANDREW)	1
63	32389	SMITH PROPERTY (WINFIELD)	1
64	32392	BARNHILL PROPERTY (EUGENE)	1
65	32398	WELLS PROPERTY (CHRISTY)	1
66	32399	UNDERWOOD ESTATE (HARRIET)	1
67	32403	GALLOWAY PROPERTY (HEATHER)	1
68	32412	LAWS PROPERTY (REBECCA)	1
69	32413	FALES ESTATE (LOUISE)	1
70	32416	STANLEY PROPERTY (SARAB)	1
71	32431	NORTH 17 SHOPPING CENTER	1
72	32440	FINCH PROPERTY, ROBERT	1
73	32441	CASHMAN PROPERTY,(DIANE)	1
74	32443	DENNIS PROPERTY, PATSY	1
75	32446	MCEACHERN PROPERTY, TABITHA	1
76	32461	FREEMAN, PATRICIA PROPERTY	1
77	32462	FRONEBERGER RESIDENCE, TED	1
78	32470	MATTHEWS RESIDENCE, BETH	1
79	32487	LOUTIT PROPERTY, CHRISTOPHER	1
80	32502	BOWEN RESIDENCE, FRANK	1
81	32507	FOREST HILLS FOOD MART	1
82	32555	CHESTNUT ST-2914	1
83	32576	THOMAS AVE-515	1
84	32678	COLONIAL DRIVE-225	1

85	32683	PARKER RESIDENCE	1
86	32702	MARKET ST, 2802	1
87	32717	RENOVAH CIRCLE-336	1
88	32727	GUILFORD AVE-2519	1
89	32732	GLASS RESIDENCE	1
90	32789	2324 SHIRLEY RD	1
91	32799	COLONIAL DR-111	1
92	32823	2212 BRANDON RD	1
93	32831	RENOVAH CIRCLE-320	1
94	32875	WILLOW STREET- 2802	1
95	32876	SCOTCHMAN # 3321	1
96	32877	SCOTCHMAN #3261	1
97	32886	RENOVAH CIRCLE - 326	1
98	32917	COLONIAL DRIVE-226	1
99	32920	N. 23RD STREET - 122	1
100	32929	W. RENOVAH CIRCLE-309	1
101	32937	COLONIAL DRIVE-301	1
102	32950	N. 21ST STREET-406	1
103	32962	WAYNE DRIVE-328	1
104	32965	WAYNE DR-324	1
105	32970	STRADLEIGH ROAD-317	1
106	32982	N. 23RD STREET-527	1
107	32984	KEATON AVE-223	1
108	32985	GUILFORD AVE-2511	1
109	32997	503 CLOVER RD	1
110	43002	WILLOW ST-2809	1
111	43014	29TH ST (N) -302	1
112	43025	CAMPBELL, DORIS	1
113	43060	Chestnut Street - 2701	1
114	43068	Chestnut Street - 2210	1
115	43084	keaton avenue - 112	1
116	43111	Woodruff Property	1
117	43167	Horizon Home Buyers, Inc. Property	1
118	43176	N. Kerr Ave - 504	1
119	43183	North 26th Street - 305	1
120	43187	North 27th Street - 302	1
121	43201	Chestnut Street -2819	1
122	43218	Keaton Ave - 212	1
123	47047	Kerr Ave - 204 N.	1
124	47277	Colonial Dr - 19	1
125	47296	Belvedere Drive - 2426	1
126	47429	Willow Street - 2713	1
127	47441	Willow Street - 2711	1

128	47891	Belvedere Dr - 2311	1
129	47994	Brookwood Ave - 201	1
130	48772	Princess Place Dr - 2808	1
131	48903	Lafam Estates LLC Property	1
132	48983	BOBU properties	1
133	*No Data*	International Paper	1
134	*No Data*	23rd Street - 1223 North	1
135	*No Data*	9 BORDEN AVE	1

Non-UST Incidents

#	IncidentNumber	IncidentName	Count
1	5731	EAST COAST TRANSPORT COMPANY, INC.	1
2	16269	213 N. 23RD ST. RESIDENCE	1
3	85744	ELOUSIE ANDREWS RESIDENCE	1
4	86020	WILBERT MITCHELL RESIDENCE	1
5	94044	wilmington hyundai	1
6	94375	Kerr Ave - 304 N	1
7	*No Data*	keaton avenue - 112	1

UST Active Facilities

#	FACILID	FACILNAME	Count
1	00-0-0000001436	GAS CENTER 3	1
2	00-0-0000020181	SCOTCHMAN 3107	1
3	00-0-0000020211	UPS WILMINGTON CENTER	1
4	00-0-0000022514	BOSWELL DENTAL LAB	1
5	00-0-0000023297	FOREST HILLS FOOD MART	1

Land Use Restriction and/or Notices

#	Prj_Number	Prj_Name	Count
1	18016-14-065	Wetsig Yachts	1
2	NCD072022726	INTERNATIONAL PAPER	1
3	WI-1008	THE FURNITURE OUTLET	1
4	WI-1315	GAS CENTER # 3	1
5	WI-1511	GAS WORLD #1	1
6	WI-1517	WILLIS ESTATE	1
7	WI-1783	NEWELL RESIDENCE	1
8	WI-1870	SCOTCHMAN # 107 RELEASE 2	1
9	WI-1984	SCOTCHMAN # 107 RELEASE 3	1
10	WI-2123	SCOTCHMAN # 107 RELEASE 4	1
11	WI-2269	GORHAM RESIDENCE, DUMAY	1
12	WI-2343	KAYO STATION, FORMER	1
13	WI-2366	SNIPES, (ANNIE H.) ELEMENTARY SCHOOL	1
14	WI-2378	FULK RESIDENCE	1
15	WI-2393	BRILLHART PROPERTY	1
16	WI-2439	HOYT RESIDENCE (MARK)	1
17	WI-305	NORTH 17 SHOPPING CENTER	1
18	WI-7034	RAPHAEL RESIDENCE (JUSTIN)	1
19	WI-7037	WISHON PROPERTY (BILL) - A	1
20	WI-7044	BLOUNT ELEMENTARY SCHOOL	1
21	WI-7091	BARNES PROPERTY (WATSON)	1
22	WI-7092	LASAR PROPERTY (ISAAC)	1
23	WI-7104	PADGETT'S EXXON	1
24	WI-7129	THOMPSON PROPERTY (LOUISE)	1
25	WI-7159	ARMSTRONG PROPERTY (COURTNEY)	1
26	WI-7196	PITTS PROPERTY (NED)	1
27	WI-7227	SANACORE PROPERTY (JOHN)	1
28	WI-7246	MATHIS PROPERTY (CARL)	1
29	WI-7272	UNDERWOOD ESTATE (HARRIET)	1
30	WI-7322	MCEACHERN PROPERTY, TABITHA	1
31	WI-7326	MATTHEWS RESIDENCE, BETH	1
32	WI-7340	FREEMAN, PATRICIA PROPERTY	1
33	WI-7341	FRONEBERGER RESIDENCE, TED	1
34	WI-7379	BOWEN RESIDENCE, FRANK	1
35	WI-7443	CHESTNUT ST-2914	1
36	WI-7469	THOMAS AVE-515	1
37	WI-7582	PARKER RESIDENCE	1
38	WI-7606	MARKET ST, 2802	1
39	WI-7638	GLASS RESIDENCE	1
40	WI-7709	COLONIAL DR-111	1
41	WI-776	SCOTCHMAN # 107	1

42	WI-7797	WILLOW STREET- 2802	1
43	WI-7802	SCOTCHMAN#3261	1
44	WI-7818	RENOVAH CIRCLE - 326	1
45	WI-7852	N. 23RD STREET - 122	1
46	WI-7873	COLONIAL DRIVE-301	1
47	WI-7909	WAYNE DRIVE-328	1
48	WI-7911	WAYNE DR-324	1
49	WI-7932	N. 23RD STREET-527	1
50	WI-7939	GUILFORD AVE-2511	1
51	WI-7954	WILLOW ST-2809	1
52	WI-7966	29TH ST (N) -302	1
53	WI-8028	Chestnut Street - 2701	1
54	WI-8034	Chestnut Street - 2210	1
55	WI-8053	keaton avenue - 112	1
56	WI-932	CITY OF WILMINGTON-FIRE STATION #3	1

North Carolina Department of Environment and Natural Resources
Division of Waste Management
UST Section, Corrective Action Branch (CAB)

INSPECTION REPORT

Date: 12/18/13 **RISK:** H **Inspector:** Reed Randolph

Site Name: East Coast Transport Co / Dumas Oil Co. **Incident Number:** 5731
County: N. Hanover **UST Number:**
Region: WiRO **GPS Coordinates:** N W

Site Information Checklist

Facility Information:

Operating facility? Yes (No)
Valid UST permit? Yes (No)
Number of tanks: Yes No
Site map/well map verified (if no, explain discrepancies in comments section)? Yes (No)
Any visible spills/leaks (if yes, explain in comments section)? Yes (No)
Any visible water supply wells? (Yes) No If yes, distance to closest (ft.)? 50'

Remediation System(s) Information:

	System 1	System 2	System 3
System type?	none observed		
Fully installed?	Yes No	Yes No	Yes No
Operating?	Yes No	Yes No	Yes No
Free product present (verified)?	Yes No	Yes No	Yes No

Was RP/consultant/other on site? Yes (No)

Name of RP: _____ Company: _____
Name of consultant: _____ Company: _____
Name of Other: Property Owner Company: _____

Pictures Taken? Yes No
Location of photos: _____

Time spent on site (hrs): 0.25

Comments: Met w/ property owner. Advised of past incidents & bankruptcy of Dumas Oil Co. AST gone. Stormwater upgrades. No tanker vehicles or leak-slops-spills observed. Soil pile in rear was gone. Owner to connect to public water & sewer very soon. The waterline along Castle Hayne Rd. will be installed first. Pipe on site as staging area for the project. (over)

This inspection sheet is to be placed in corresponding incident file upon completion

SOUTHEAST
RESPONSE &
REMEDIATION, INC.

RECEIVED
JUL 18 1996

March 12, 1996

LOOKS CLEAN

NC DEHNR
Att: Debbie Mayo
127 Cardinal Drive Extension
Wilmington, NC 28405

re: Tucker residence spill remediation, 213 North 23rd Street, Wilmington

Dear Ms. Mayo,

We spoke briefly last week concerning the above referenced project for which you are the assigned case manager. Southeast Response & Remediation, Inc. (SR&R) was on site March 5th and 6th, 1996 to remediate the spill. As the spill was from an above ground tank (AST), a closure report is not required. There was no evidence of ground water impact, so the following summary should be sufficient for your office to close this case.

Southeast Response arrived on March 5, 1996 to remove the empty AST and contaminated soil. The AST was located adjacent to the northwest corner of the house and was mounted on four concrete blocks rather than a solid pad, and had apparently leaked from near the bottom. The property owner, Dave Tucker, estimated the spill quantity at 200 gallons based on the 225 gallon (approximate) capacity tank being filled several days prior to the spill incident. A visible soil stain was evident at the northwest corner of the house in the rear yard. The soil stain extended to the house foundation and spread over bare ground, with a moderate smell of heating oil present.

Rick Miles was the designated project manager and was present during all on-site activities. SR&R removed the empty storage tank and disposed of at a licensed recycling facility. A backhoe and hand tools were used to remove approximately 18.26 yds^3 of soil from the northwest corner of the house where the tank had been and where the petroleum stain was evident. The top 10" were topsoil, with sandy soil below having little silt or clay content. As such, the excavation was taken to approximately 3 feet below grade until filed screening showed clean soil levels. A single soil sample was taken from the excavation bottom and analyzed under EPA method 3550, total petroleum hydrocarbons. Results are attached, and show levels below the limit of detection (10 mg/kg). Sampling procedure and preservation was in accordance with state and federal procedures. A Photovac photo ionization detector equipped with a 10.7 eV bulb was used to screen the excavation sidewalls at every 5' transect. All aromatic contaminants have an ionization potential

P.O. Box 221 ☐ 4920 Hwy. 421 N. ☐ Wilmington, N.C. 28402 ☐ TEL: 910/763-6274 ☐ FAX 910/763-6132

less than 10.7 eV. The PID was field calibrated with iso-butylene at 100 ppm_v prior to sampling. The excavation was widened until all sidewalls showed levels of organic contaminants no higher than 50 ppm_v. Excavation behind the house foundation was not necessary. Contaminated soil was transported to Soil Recovery, Inc. for thermal treatment (permit #SRO800049). Clean fill was also supplied by Soil Recovery, but was virgin material rather than treated soil.

Clean fill was used to bring the excavation back to grade. While excavation was completed on March 5th, backfill and site restoration was completed March 6th. No new petroleum storage tanks were installed.

Documentation as to laboratory analysis and soil disposal are attached for your review.

Sincerely,

Jerry Stanton
Sales/Project Manager

5 atch

cc: D. Tucker
file

LAW & COMPANY
Consulting and Analytical Chemists
ESTABLISHED 1903

Main Office
1711 Castle Street
P.O. Box 629
Wilmington, N.C. 28402

910-762-7082 910-762-8956
FAX 910-762-8785

FINAL REPORT OF ANALYSES

SOUTHEAST RESPONSE&REMEDIATION
4920 HWY. 421 N.
PO BOX 221
WILMINGTON, NC 28402-
Attn: CATHY G. MURRELL

PROJECT NAME: DAVE TUCKER EXCAVATION
REPORT DATE: 03/11/96

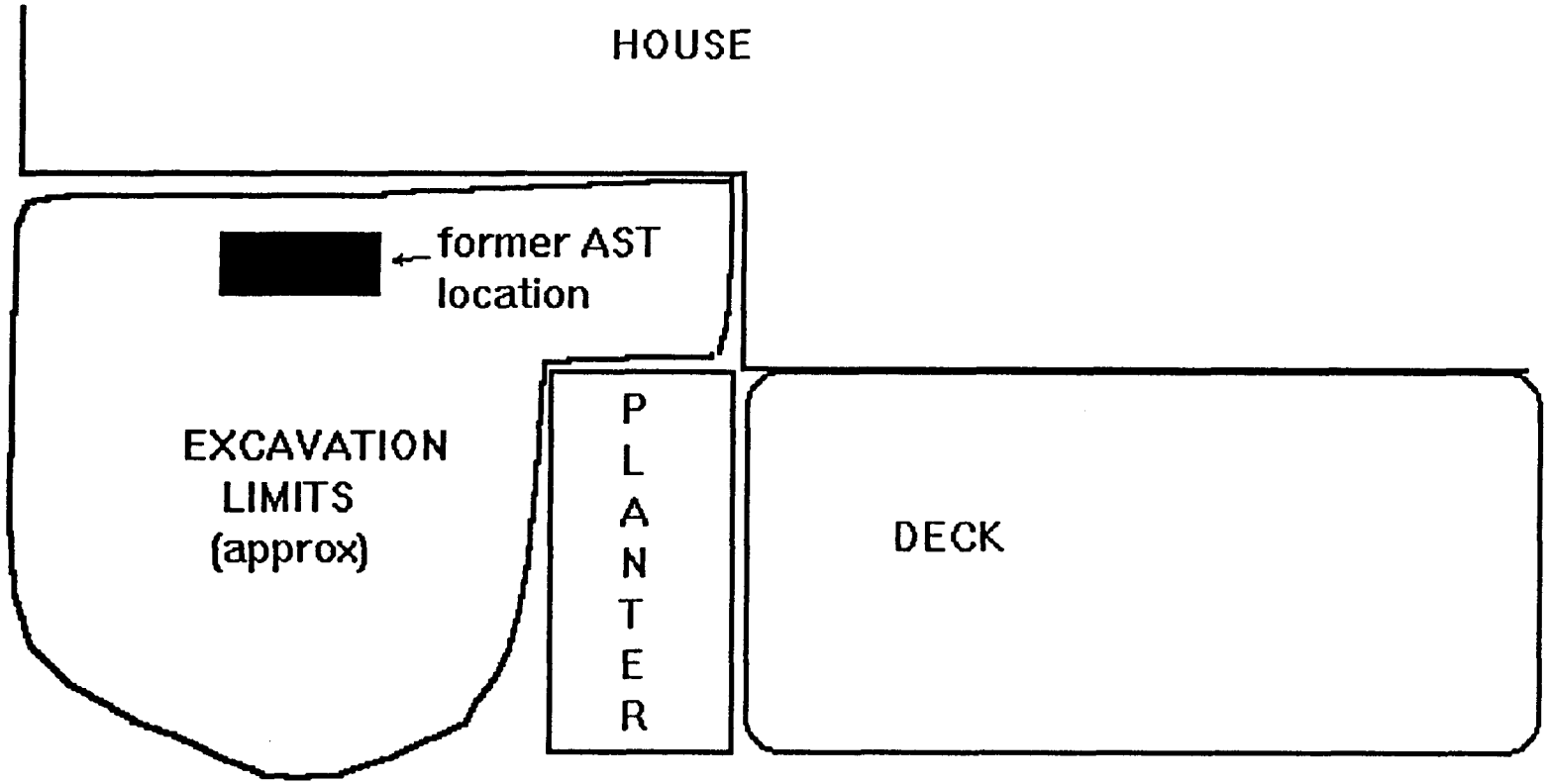
SAMPLE NUMBER- 27654 SAMPLE ID- #1 BOTTOM EXCAVATION SITE SAMPLE MATRIX- SO
DATE SAMPLED- 03/05/96 TIME SAMPLED- 1800
DATE RECEIVED- 03/07/96 SAMPLER- RICHARD MILES RECEIVED BY- AJW
TIME RECEIVED- 0850 DELIVERED BY- JERRY STANTON

Page 1 of 1

ANALYSIS	METHOD	ANALYSIS DATE	BY	RESULT	UNITS	DET. LIMIT
TOTAL PETROLEUM HYDROCARBONS	EPA 3550	03/07/96	TAM	< 10	mg/kg	10

For LABORATORY DIRECTOR Amy D Williams

Post-it® Fax Note 7671 | Date 3/11 | # of pages 2
To Jerry Stanton | From Amy Williams
Co./Dept. SE Response | Co. Law & Co.
Phone # | Phone #
Fax # 763-6132 | Fax #



213 North 23rd Street, Wilmington, NC

not to scale

Weight Ticket # 1068984

135

SPECIAL TRANSPORTATION MANIFEST

Southeast Response & Remediation, Inc.
Post Office Box 221
Wilmington, North Carolina 28402

Generator:

Project Number:

Material Code:

GENERATOR INFORMATION

Generator: David Tucker

213 North 23rd Street

Wilmington, N.C. 28405

Project: # Heating oil Tank

Phone: 910 251-2182

Contact: David Tucker

I certify that the materials being shipped under this special transportation manifest are properly described, classified, packaged, marked, labeled, and are in proper condition for transported in commerce under the applicable regulations of the state. U.S. Department of Transportation, and the U.S. Environmental Protection Agency. I further certify that this material is not a "hazardous waste", and has been delivered to the transporter designated below, for shipment to the treatment or disposal facility as indicated on this manifest document.

Generator Signature: Paul for D. Tucker

Date: 5 Mar 96

Material Description	Contaminant	Quantity	Unit
Soil	#2 Fuel oil		165

TRANSPORTER INFORMATION

Transporter: Southeast R/R Inc.

4770 Hwy 421 North

Wilmington, N.C. 28401

Date: 5 Mar 96

Phone: 910 763-4274

Contact: Bill Mansell

As the transporter I certify that the materials described above being shipped under this special transportation manifest are properly classified, packaged, labeled, secured, and are in proper condition for transport in commerce under the applicable regulations governing transportation, and I hereby receive this material for delivery to the facility designated.

Transporter Signature: _____

Date: _____

FACILITY INFORMATION

Facility: Soil Recovery

Cedar Hill Rd

Navassa, N.C.

Date: 5 Mar 96

Phone: _____

Contact: Sam Long

I certify that the transporter has delivered the materials described above to this facility, and I hereby accept this material for treatment and/or disposal in a manner that has been authorized by the State of North Carolina.

Facility Signature: _____

Date: _____

Top copy / Facility; 2nd copy / Return to Generator; 3rd Copy / Transporter; Back Copy / Generator

AST Review - 710 & 712 N. 30th St. Distance to 213 N. 23rd St. Residence



Acceptable Separation Distance (ASD) Electronic Assessment Tool

The Environmental Planning Division (EPD) has developed an electronic-based assessment tool that calculates the Acceptable Separation Distance (ASD) from stationary hazards. The ASD is the distance from above ground stationary containerized hazards of an explosive or fire prone nature, to where a HUD assisted project can be located. The ASD is consistent with the Department's standards of blast overpressure (0.5 psi-buildings) and thermal radiation (450 BTU/ft^2 - hr - people and 10,000 BTU/ft^2 - hr - buildings). Calculation of the ASD is the first step to assess site suitability for proposed HUD-assisted projects near stationary hazards. Additional guidance on ASDs is available in the Department's guidebook "Siting of HUD- Assisted Projects Near Hazardous Facilities" and the regulation 24 CFR Part 51, Subpart C, Sitting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature.

Note: Tool tips, containing field specific information, have been added in this tool and may be accessed by hovering over the ASD result fields with the mouse.

Acceptable Separation Distance Assessment Tool

Is the container above ground?	**Yes:** ☑ **No:** ☐
Is the container under pressure?	**Yes:** ☐ **No:** ☑
Does the container hold a cryogenic liquified gas?	**Yes:** ☐ **No:** ☐
Is the container diked?	**Yes:** ☐ **No:** ☑
What is the volume (gal) of the container?	275
What is the Diked Area Length (ft)?	
What is the Diked Area Width (ft)?	
Calculate Acceptable Separation Distance	
Diked Area (sqft)	
ASD for Blast Over Pressure (ASDBOP)	

ASD for Blast Overpressure (ASDBOP)	
ASD for Thermal Radiation for People (ASDPPU)	161.52
ASD for Thermal Radiation for Buildings (ASDBPU)	27.68
ASD for Thermal Radiation for People (ASDPNPD)	
ASD for Thermal Radiation for Buildings (ASDBNPD)	

For mitigation options, please click on the following link: Mitigation Options **(/resource/3846/acceptable-separation-distance-asd-hazard-mitigation-options/)**

Providing Feedback & Corrections

After using the ASD Assessment Tool following the directions in this User Guide, users are encouraged to provide feedback on how the ASD Assessment Tool may be improved. Users are also encouraged to send comments or corrections for the improvement of the tool.

Please send comments or other input using the **Contact Us (https://www.hudexchange.info/contact-us/)** form.

Related Information

- **ASD User Guide (/resource/3839/acceptable-separation-distance-asd-assessment-tool-user-guide/)**
- **ASD Flow Chart (/resource/3840/acceptable-separation-distance-asd-flowchart/)**

AST Review - Elousie Andrews Residence, 24 Mercer Ave – No AST



AST Review - 710 & 712 N. 30th St. Distance to 319 25th Street St. Residence



Acceptable Separation Distance (ASD) Electronic Assessment Tool

The Environmental Planning Division (EPD) has developed an electronic-based assessment tool that calculates the Acceptable Separation Distance (ASD) from stationary hazards. The ASD is the distance from above ground stationary containerized hazards of an explosive or fire prone nature, to where a HUD assisted project can be located. The ASD is consistent with the Department's standards of blast overpressure (0.5 psi-buildings) and thermal radiation (450 BTU/ft^2 - hr - people and 10,000 BTU/ft^2 - hr - buildings). Calculation of the ASD is the first step to assess site suitability for proposed HUD-assisted projects near stationary hazards. Additional guidance on ASDs is available in the Department's guidebook "Siting of HUD- Assisted Projects Near Hazardous Facilities" and the regulation 24 CFR Part 51, Subpart C, Sitting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature.

Note: Tool tips, containing field specific information, have been added in this tool and may be accessed by hovering over the ASD result fields with the mouse.

Acceptable Separation Distance Assessment Tool

Is the container above ground?	**Yes:** ☑ **No:** ☐
Is the container under pressure?	**Yes:** ☐ **No:** ☑
Does the container hold a cryogenic liquified gas?	**Yes:** ☐ **No:** ☐
Is the container diked?	**Yes:** ☐ **No:** ☑
What is the volume (gal) of the container?	275
What is the Diked Area Length (ft)?	
What is the Diked Area Width (ft)?	
Calculate Acceptable Separation Distance	
Diked Area (sqft)	
ASD for Blast Over Pressure (ASDBOP)	

ASD for Blast Overpressure (ASDBOP)	
ASD for Thermal Radiation for People (ASDPPU)	161.52
ASD for Thermal Radiation for Buildings (ASDBPU)	27.68
ASD for Thermal Radiation for People (ASDPNPD)	
ASD for Thermal Radiation for Buildings (ASDBNPD)	

For mitigation options, please click on the following link: Mitigation Options **(/resource/3846/acceptable-separation-distance-asd-hazard-mitigation-options/)**

Providing Feedback & Corrections

After using the ASD Assessment Tool following the directions in this User Guide, users are encouraged to provide feedback on how the ASD Assessment Tool may be improved. Users are also encouraged to send comments or corrections for the improvement of the tool.

Please send comments or other input using the **Contact Us (https://www.hudexchange.info/contact-us/)** form.

Related Information

- **ASD User Guide (/resource/3839/acceptable-separation-distance-asd-assessment-tool-user-guide/)**
- **ASD Flow Chart (/resource/3840/acceptable-separation-distance-asd-flowchart/)**

NCDENR
North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor
William G. Ross Jr., Secretary

Division of Waste Management
Underground Storage Tank Section

Dexter R. Matthews, Director

November 18, 2008

Mr. Don Latham
5920 Market Street
Wilmington, NC 28405

Re: Notice of No Further Action
15A NCAC 2L .0106
Corrective Action

Wilmington Hyundai
3302 Market Street
Wilmington, New Hanover County
Incident Number: 94044
Ranking: Low

Dear Mr. Latham:

The Soil Assessment Report received by the Underground Storage Tank (UST) Section, Wilmington Regional Office today has been reviewed. A review of the report indicates that soil contamination does not exceed the Oil and Grease action level (250 ppm).

Based on information provided to date, the UST Section determines that no further action is warranted for this incident. This determination shall apply unless the UST Section later finds that the discharge or release poses an unacceptable risk or a potentially unacceptable risk to human health or the environment.

This No Further Action determination applies only to the subject incident; for any other incidents at the subject site, the responsible party must continue to address contamination as required.

If you have any questions regarding this notice, please contact me at the address or telephone number listed below.

Sincerely,

Bruce Reed
Hydrogeologist II
Wilmington Regional Office

cc: David E. Rice, New Hanover County Health Department
Anna Disser, Redd Realty Services
Gene Clifton, Coastal Environmental Consulting, Inc.
WiRO-UST

UST Regional Offices

Asheville (ARO) – 2090 US Highway 70, Swannanoa, NC 28778 **(828) 296-4500**

Fayetteville (FAY) – 225 Green Street, Suite 714, Systel Building, Fayetteville, NC 28301 **(910) 433-3300**

Mooresville (MOR) – 610 East Center Avenue, Suite 301, Mooresville, NC 28115 **(704) 663-1699**

Raleigh (RRO) – 1628 Mail Service Center, Raleigh, NC 27699 **(919) 791-4200**

Washington (WAS) – 943 Washington Square Mall, Washington, NC 27889 **(252) 946-6481**

Wilmington (WIL) – 127 Cardinal Drive Extension, Wilmington, NC 28405 **(910) 796-7215**

Winston-Salem (WS) – 585 Waughtown Street, Winston-Salem, NC 27107 **(336) 771-5000**

Guilford County Environmental Health, 1203 Maple Street, Greensboro, NC 27405, **(336) 641-3771**

S;\bruce\latham.nfa

RECEIVED
NOV 18 2008
By

SOIL ASSESSMENT REPORT

CONDUCTED ON:

FORMER WILMINGTON HYUNDAI
3302 MARKET STREET
WILMINGTON, NC

PREPARED FOR:

DON LATHAM
WILMINGTON, NC

NOVEMBER 2008

COASTAL ENVIRONMENTAL CONSULTING, INC.
P.O. BOX 15102, WILMINGTON, NC 28408
PHONE: (910) 791-6411 FAX: (910) 791-6377

COASTAL ENVIRONMENTAL CONSULTING, INC.
P.O. BOX 15102, WILMINGTON, NC 28408
OFFICE: (910) 791-6411 FAX: (910) 791-6377 MOBILE: (910) 233-4730

Don Latham
5920 Market Street
Wilmington, NC 28405

November 17, 2008

Re: Soil Assessment Report
Former Wilmington Hyundai
3302 Market Street (U.S. Highway 17)
Wilmington, New Hanover County, NC

Dear Mr. Latham:

Coastal Environmental Consulting, Inc. (CEC) has completed a Soil Assessment Report (SAR) of the above-referenced site as authorized by our agreement dated November 6, 2008.

On your behalf, we have submitted a copy of this report to the Wilmington Regional Office of the North Carolina Department of Environment and Natural Resources (NCDENR) Division of Waste Management – Underground Storage Tank (UST) Section.

If you have any questions concerning the contents of this submittal, please contact the undersigned. We appreciate this opportunity to be of service.

Thank you.

Sincerely,
Coastal Environmental Consulting, Inc.

Harvey E. Clifton, Jr.
President

HEC/jmc

latham.sar

A. Site Identification

Date of Report:	November 17, 2008
Site Name:	Former Wilmington Hyundai
Site Location:	3302 Market Street (U.S. Hwy 17)
Nearest City/Town:	Wilmington, NC
County:	New Hanover
Responsible Party:	Don Latham
Address:	5920 Market Street, Wilmington, NC 28405
Phone:	(910) 392-4888
Property Occupant:	Currently vacant (Future Site of CVS Pharmacy)
Consultant:	Coastal Environmental Consulting, Inc.
Address:	P.O. Box 15102, Wilmington, NC 28408
Phone:	(910) 791-6411

Release Information

The release was discovered during a Real Estate Limited Phase 2 Environmental Site Assessment (ESA) conducted in November 2004 by ECS LTD. ECS had collected 11 soil samples from the area of the former Wilmington Hyundai Service Department where underground hydraulic lifts had been closed by removal. The analytical results revealed three (3) areas where concentrations of oil & grease exceeded the action level of 250 mg/kg.

Latitude:	N34 degrees 14.399'
Longitude:	W77 degrees 55.212'

Estimated Quantity of Release: Unknown

Source/Cause of Release: Leaking underground hydraulic lift tanks or lines.

I, John R. Huntsman, a Licensed Geologist for Coastal Environmental Consulting, Inc., do certify that the information contained in this report is correct and accurate to the best of my knowledge.

John R Huntsman

B. Exploration to Find Contaminated Soil

In early November 2008, following the razing of all of the site structures, Coastal Environmental Consulting, Inc. (CEC) was authorized to find the contaminated soil formerly detected under the Service Department of the former Wilmington Hyundai, excavate and transport all contaminated soil to a certified remediation facility, and collect and analyze soil samples verifying that all of the soil impacted by oil & grease had been removed. CEC engaged the services of Doug King & Sons Construction Company, Delco, NC to dig a series of exploratory excavations to locate the three (3) pockets of contaminated soil that ECS had identified in 2004 between 7 to 10 feet below land surface (BLS) in locations noted in Figure 1 (See red markings on sampling locations where concentrations of oil & grease greater than the regulatory action level of 250 mg/kg were detected).

On November 10, 2008, CEC supervised Doug King & Sons Construction Company to complete a total of eleven (11) excavations each approximately 10' x 8' x 10' deep as a part of this assessment. The first three (3) excavations were dug in the target areas identified in the ECS report. Since no staining or notable odors were detected in these excavations, five (5) additional holes were excavated in a grid pattern across most of the footprint of the Service Department. Since no evidence of contamination was observed in any of these excavations, three (3) additional holes in strategic locations were excavated on the northeastern corner, southwestern corner, and along the western side of the building footprint to ensure a complete coverage of any possible location of contamination (See sample locations in Figure 2).

C. Sampling Results

To confirm that no concentrations of oil & grease above the action level remained in each of the three (3) target areas identified by the 2004 ECS report, soil samples were collected at depths of 7 feet BLS in strategically-selected locations from the sidewalls of five (5) excavations and at the capillary fringe depth of 10 feet BLS in the bottoms of seven (7) excavations, blanketing the target areas where contamination had formerly been discovered. The soil samples were analyzed by the laboratories of SGS, Wilmington, NC using EPA Test Method 9071B. The analytical results ranged from below quantitation limit (BQL) to 95 mg/kg.

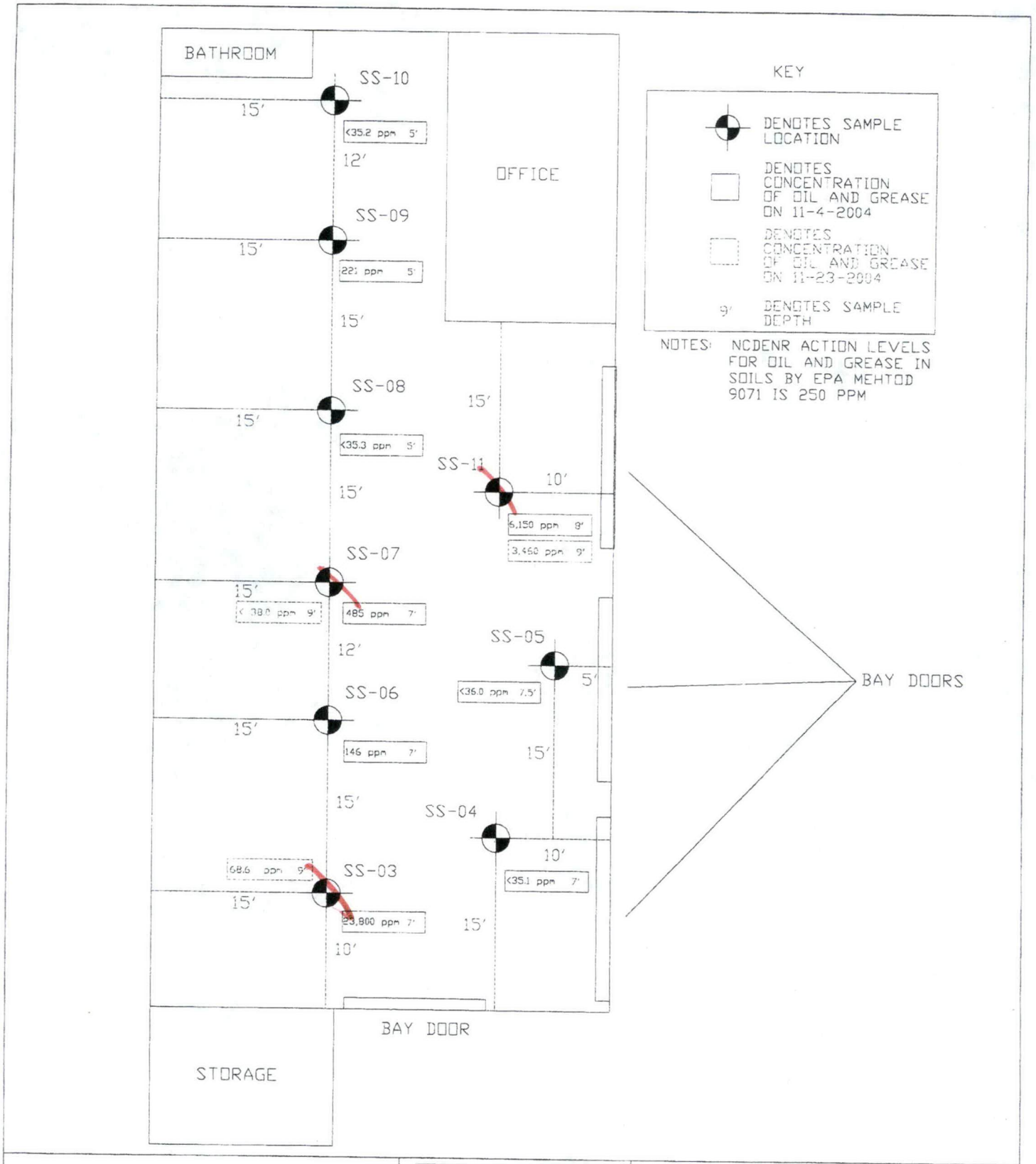
D. Conclusions and Recommendations

Based on the results of the exploratory excavations and confirmation soil samples, it is the professional opinion of Coastal Environmental Consulting, Inc. that no soil concentrations of oil & grease above the regulatory action level remain on the site.

E. Figure and Photographs

Figure 1: Map showing locations of soil samples analyzed by ECS in 2004

Figure 2: Map showing current locations of excavations and soil samples



REFERENCE:
NOTES BY ECS PERSONNEL

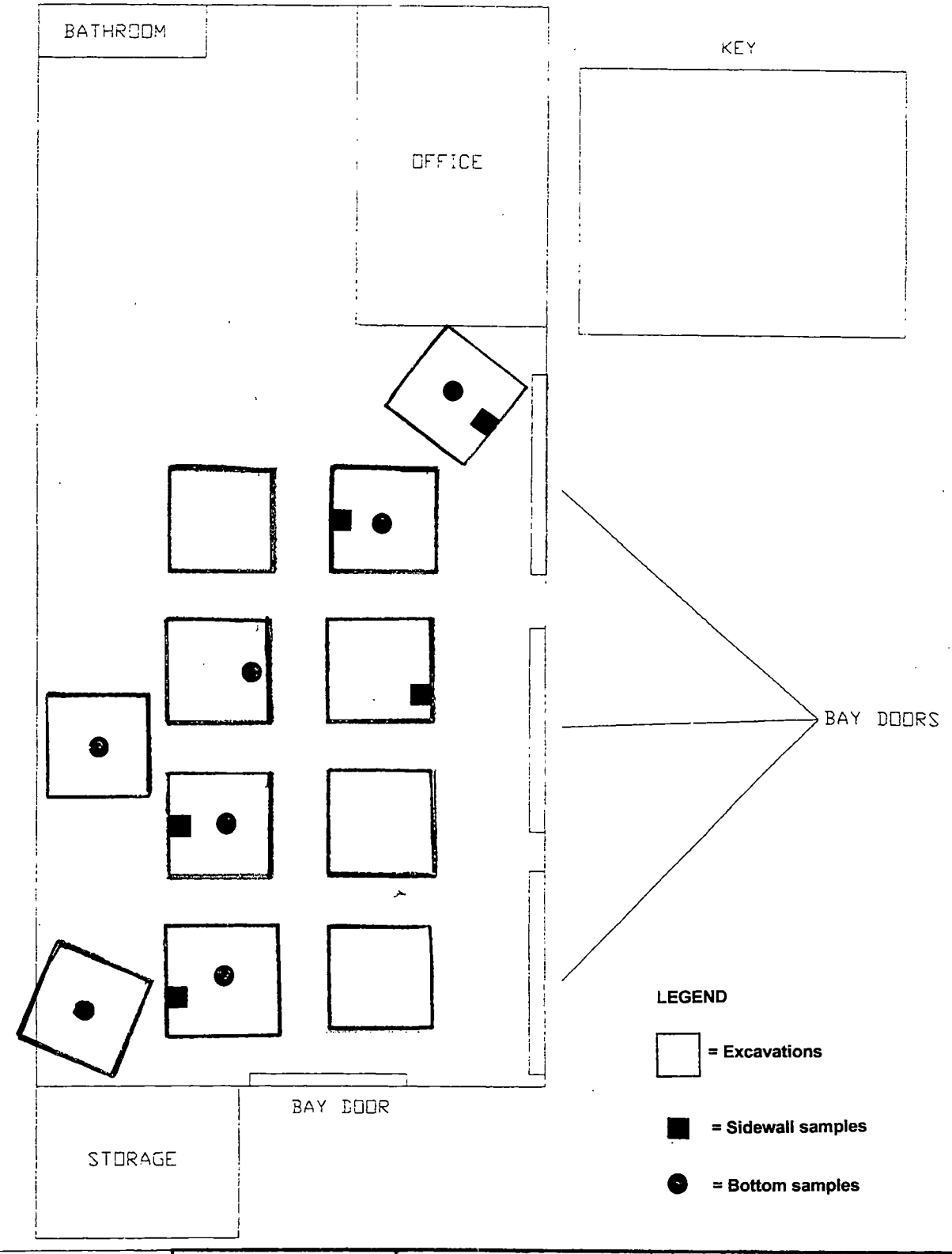
NOT TO SCALE

ECS LTD
ENGINEERING CONSULTING SERVICES, LTD

FIGURE 3
SAMPLE LOCATION MAP

WILMINGTON HYUNDAI
WILMINGTON, NORTH CAROLINA

DRAWN BY/DATE:	CHECKED BY/DATE:	PROJECT NO.
WEG/12-17-2004		22-10932-A

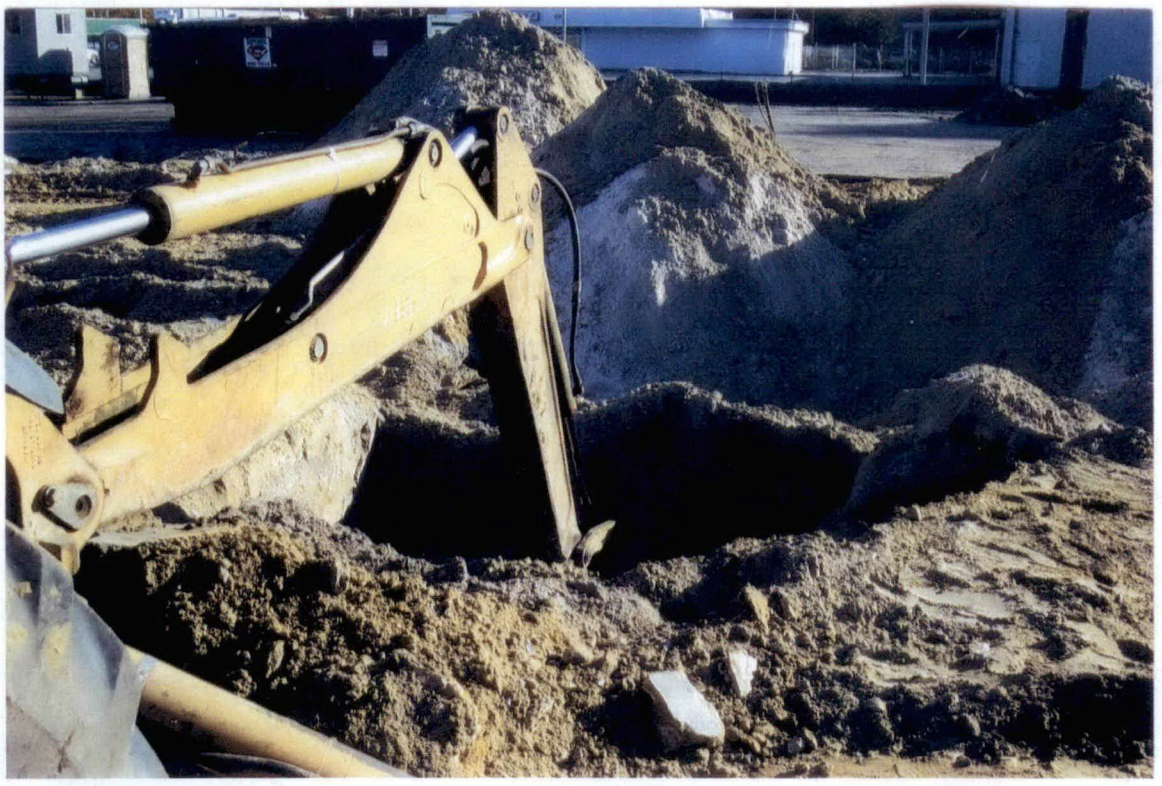


SCALE: NTS	LOCATIONS OF EXCAVATION & SAMPLES	DRAWN BY JMC
DATE: 11/17/08		REVISED
FORMER WILMINGTON HYUNDAI AUTO SERVICE BLDG 3302 MARKET STREET, WILMINGTON, NC		
COASTAL ENVIRONMENTAL CONSULTING, INC. WILMINGTON, NORTH CAROLINA		DRAWING NUMBER FIGURE 1



PHOTOS 1 AND 2: **ONE OF EIGHT EXCAVATIONS IN A GRID PATTERN UNDER THE FORMER BUILDING**





PHOTOS 3 AND 4: **EXCAVATION ON NORTHEAST CORNER OF FORMER BUILDING**





PHOTOS 5 AND 6: **EXCAVATION ON SOUTHWEST CORNER OF FORMER BUILDING**



Harvey Clifton
Coastal Environmental Consulting, INC
PO Box 15102
Wilmington, NC 28408

Report Number: G911-33

Client Project: 3302 Market St.

Dear Harvey Clifton,

Enclosed are the results of the analytical services performed under the referenced project. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or services performed during this project, please call Lori Lockamy at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS Environmental Services for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS Environmental Services, Inc.

Lori Lockamy
2008.11.13 16:53:16 -05'00'

Project Manager
Lori Lockamy

Date

List of Reporting Abbreviations and Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantitation Limit (RL or MDL)

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL/CL = Reporting Limit / Control Limit

RPD = Relative Percent Difference

mg/kg = milligram per kilogram, ppm, parts per million

ug/kg = micrograms per kilogram, ppb, parts per billion

mg/L = milligram per liter, ppm, parts per million

ug/L = micrograms per liter, ppb, parts per billion

% Rec = Percent Recovery

% soilds = Percent Solids

Special Notes:

1) Metals and mercury samples are digested with a hot block, see the standard operating procedure document for details.

2) Uncertainty for all reported data is less than or equal to 30 percent.

Print Date: 11/13/2008

Client Sample ID: **W-B**
Client Project ID: 3302 Market St.
Lab Sample ID: G911-33-1
Lab Project ID: G911-33

Collection Date: 10-Nov-08 7:45
Received Date: 10-Nov-08
Matrix: SOIL
Solids:
Basis: Dry

Results by 9071B

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Oil and Grease	**6**	3.3	MG/KG	1	13-Nov-08 0:00

Batch Information

Analytical Batch: SUB
Analytical Method: 9071B
Instrument: BRL
Analyst: BRL

Prep Batch:
Prep Method:
Prep Date/Time:
Initial Prep Wt./Vol.:
Prep Extract Vol:

Print Date: 11/13/2008

Client Sample ID: **W-S**
Client Project ID: 3302 Market St.
Lab Sample ID: G911-33-2
Lab Project ID: G911-33

Collection Date: 10-Nov-08 7:50
Received Date: 10-Nov-08
Matrix: SOIL
Solids:
Basis: Dry

Results by 9071B

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Oil and Grease	**81**	3.2	MG/KG	1	13-Nov-08 0:00

Batch Information

Analytical Batch: SUB
Analytical Method: 9071B
Instrument: BRL
Analyst: BRL

Prep Batch:
Prep Method:
Prep Date/Time:
Initial Prep Wt./Vol.:
Prep Extract Vol:

Print Date: 11/13/2008

Client Sample ID: **S-S**
Client Project ID: 3302 Market St.
Lab Sample ID: G911-33-3
Lab Project ID: G911-33

Collection Date: 10-Nov-08 8:20
Received Date: 10-Nov-08
Matrix: SOIL
Solids:
Basis: Dry

Results by 9071B

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Oil and Grease	**95**	3.2	MG/KG	1	13-Nov-08 0:00

Batch Information

Analytical Batch: SUB
Analytical Method: 9071B
Instrument: BRL
Analyst: BRL

Prep Batch:
Prep Method:
Prep Date/Time:
Initial Prep Wt./Vol.:
Prep Extract Vol:

Print Date: 11/13/2008

Client Sample ID: **C-B**
Client Project ID: 3302 Market St.
Lab Sample ID: G911-33-4
Lab Project ID: G911-33

Collection Date: 10-Nov-08 8:25
Received Date: 10-Nov-08
Matrix: SOIL
Solids:
Basis: Dry

Results by 9071B

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Oil and Grease	**25**	3.4	MG/KG	1	13-Nov-08 0:00

Batch Information

Analytical Batch: SUB
Analytical Method: 9071B
Instrument: BRL
Analyst: BRL

Prep Batch:
Prep Method:
Prep Date/Time:
Initial Prep Wt./Vol.:
Prep Extract Vol:

Print Date: 11/13/2008

Client Sample ID: **N-S**
Client Project ID: 3302 Market St.
Lab Sample ID: G911-33-5
Lab Project ID: G911-33

Collection Date: 10-Nov-08 9:10
Received Date: 10-Nov-08
Matrix: SOIL
Solids:
Basis: Dry

Results by 9071B

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Oil and Grease	BQL	3.3	MG/KG	1	13-Nov-08 0:00

Batch Information

Analytical Batch: SUB
Analytical Method: 9071B
Instrument: BRL
Analyst: BRL

Prep Batch:
Prep Method:
Prep Date/Time:
Initial Prep Wt./Vol.:
Prep Extract Vol:

Print Date: 11/13/2008

Client Sample ID: **E-S**
Client Project ID: 3302 Market St.
Lab Sample ID: G911-33-6
Lab Project ID: G911-33

Collection Date: 10-Nov-08 9:30
Received Date: 10-Nov-08
Matrix: SOIL
Solids:
Basis: Dry

Results by 9071B

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Oil and Grease	**18**	3.3	MG/KG	1	13-Nov-08 0:00

Batch Information

Analytical Batch: SUB
Analytical Method: 9071B
Instrument: BRL
Analyst: BRL

Prep Batch:
Prep Method:
Prep Date/Time:
Initial Prep Wt./Vol.:
Prep Extract Vol:

Print Date: 11/13/2008

Client Sample ID: **E-B**
Client Project ID: 3302 Market St.
Lab Sample ID: G911-33-7
Lab Project ID: G911-33

Collection Date: 10-Nov-08 9:35
Received Date: 10-Nov-08
Matrix: SOIL
Solids:
Basis: Dry

Results by 9071B

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Oil and Grease	**15**	3.4	MG/KG	1	13-Nov-08 0:00

Batch Information

Analytical Batch: SUB
Analytical Method: 9071B
Instrument: BRL
Analyst: BRL

Prep Batch:
Prep Method:
Prep Date/Time:
Initial Prep Wt./Vol.:
Prep Extract Vol:

Print Date: 11/13/2008

Client Sample ID: **NE-B**
Client Project ID: 3302 Market St.
Lab Sample ID: G911-33-8
Lab Project ID: G911-33

Collection Date: 10-Nov-08 10:05
Received Date: 10-Nov-08
Matrix: SOIL
Solids:
Basis: Dry

Results by 9071B

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Oil and Grease	**86**	3.6	MG/KG	1	13-Nov-08 0:00

Batch Information

Analytical Batch: SUB
Analytical Method: 9071B
Instrument: BRL
Analyst: BRL

Prep Batch:
Prep Method:
Prep Date/Time:
Initial Prep Wt./Vol.:
Prep Extract Vol:

Print Date: 11/13/2008

Client Sample ID: **SW-B**
Client Project ID: 3302 Market St.
Lab Sample ID: G911-33-9
Lab Project ID: G911-33

Collection Date: 10-Nov-08 10:30
Received Date: 10-Nov-08
Matrix: SOIL
Solids:
Basis: Dry

Results by 9071B

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Oil and Grease	**12**	3.4	MG/KG	1	13-Nov-08 0:00

Batch Information

Analytical Batch: SUB
Analytical Method: 9071B
Instrument: BRL
Analyst: BRL

Prep Batch:
Prep Method:
Prep Date/Time:
Initial Prep Wt./Vol.:
Prep Extract Vol:

Print Date: 11/13/2008

Client Sample ID: **SE**
Client Project ID: 3302 Market St.
Lab Sample ID: G911-33-10
Lab Project ID: G911-33

Collection Date: 10-Nov-08 13:10
Received Date: 10-Nov-08
Matrix: SOIL
Solids:
Basis: Dry

Results by 9071B

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Oil and Grease	**9**	3.5	MG/KG	1	13-Nov-08 0:00

Batch Information

Analytical Batch: SUB
Analytical Method: 9071B
Instrument: BRL
Analyst: BRL

Prep Batch:
Prep Method:
Prep Date/Time:
Initial Prep Wt./Vol.:
Prep Extract Vol:

Print Date: 11/13/2008

Client Sample ID: **NW**
Client Project ID: 3302 Market St.
Lab Sample ID: G911-33-11
Lab Project ID: G911-33

Collection Date: 10-Nov-08 13:15
Received Date: 10-Nov-08
Matrix: SOIL
Solids:
Basis: Dry

Results by 9071B

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Oil and Grease	**64**	3.2	MG/KG	1	13-Nov-08 0:00

Batch Information

Analytical Batch: SUB
Analytical Method: 9071B
Instrument: BRL
Analyst: BRL

Prep Batch:
Prep Method:
Prep Date/Time:
Initial Prep Wt./Vol.:
Prep Extract Vol:

Print Date: 11/13/2008

Client Sample ID: **C**
Client Project ID: 3302 Market St.
Lab Sample ID: G911-33-12
Lab Project ID: G911-33

Collection Date: 10-Nov-08 13:20
Received Date: 10-Nov-08
Matrix: SOIL
Solids:
Basis: Dry

Results by 9071B

Parameter	Result	RL/CL	Units	DF	Date Analyzed
Oil and Grease	**12**	3.3	MG/KG	1	13-Nov-08 0:00

Batch Information

Analytical Batch: SUB
Analytical Method: 9071B
Instrument: BRL
Analyst: BRL

Prep Batch:
Prep Method:
Prep Date/Time:
Initial Prep Wt./Vol.:
Prep Extract Vol:

SGS

CHAIN OF CUSTODY RECORD
SGS Environmental Services Inc.

Locations Nationwide
- Alaska
- Ohio
- New Jersey
- West Virginia
- Hawaii
- Maryland
- North Carolina

www.us.sgs.com

078990

(1)

CLIENT: COASTAL ENVIRONMENTAL CONSULTING, INC

CONTACT: HARVEY E. CLIFTON JR PHONE NO:(910) 791-6411

PROJECT: 3302 MARKET ST. SITE/PWSID# :

REPORTS TO: E-MAIL: hecliftonjr@bellsouth.net

HARVEY E. CLIFTON JR FAX NO.:( )

INVOICE TO: QUOTE #

P.O. NUMBER

SGS Reference: G911-33

PAGE 1 OF 1

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE (C= COMP, G= GRAB)	Preservatives Used: NONE	Analysis Required: (3) 90.71 OIL & GREASE	REMARKS
	W-B	11/10/08	7:45AM					X	
	W-S		7:50AM						
	S-S		8:20AM						
	C-B		8:25AM						
	N-S		9:10AM						
	E-S		9:30AM						
	E-B		9:35AM						
	NE-B		10:05AM						
	SW-B		10:30AM						

(5)

Collected/Relinquished By:(1)	Date	Time	Received By:	Date	Time
Harvey E Clifton	11/10/08	11:45		11/10/08	1145
Relinquished By: (2)	Date	Time	Received By:	Date	Time
Relinquished By: (3)	Date	Time	Received By:	Date	Time
Relinquished By: (4)	Date	Time	Received By:	Date	Time

(4)

Shipping Carrier:

Shipping Ticket No:

Samples Received Cold? (Circle) YES NO

Temperature iC: 5.9°C

Special Deliverable Requirements:

Chain of Custody Seal: (Circle)

INTACT BROKEN ABSENT

Special Instructions:

Requested Turnaround Time:

☒ RUSH 3-DAY TURNAROUND ☐ STD

Date Needed

☐ 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
☐ 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557
☐ 1270 Greenbrier Street Charleston, WV 25311 Tel: (304) 346-0725 Fax: (304) 346-0761

White - Retained by Lab
Yellow - Returned with Report
Pink - Retained by Sampler

SGS

CHAIN OF CUSTODY RECORD
SGS Environmental Services Inc.

Locations Nationwide
- Alaska
- Ohio
- New Jersey
- West Virginia
- Hawaii
- Maryland
- North Carolina

www.us.sgs.com

078991

(1)

CLIENT: COASTAL ENVIRONMENTAL CONSULTING, INC

CONTACT: HARVEY E. CLIFTON JR PHONE NO:(910) 791-6411

PROJECT: 3302 MARKET ST SITE/PWSID# :

REPORTS TO: E-MAIL: hecliftonjr@bellsouth.net

HARVEY E. CLIFTON JR FAX NO.:( )

INVOICE TO: QUOTE #

SAME P.O. NUMBER

SGS Reference: GAll-33

PAGE 2 OF 2

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	Preservatives Used: NONE	Analysis Required: (3) 9071 OIL & GREASE	REMARKS
	SE	11/10/08	1:15Pm	S	1	G		X	
	NW	11/10/08	1:15Pm	S	1	G		X	
	C	11/10/08	1:20Pm	S	1	G		X	

(5)

Collected/Relinquished By:(1)	Date	Time	Received By:	Date	Time
Harvey E Clifton	11/10/08	1:40Pm		11/10/8	BVO
Relinquished By: (2)	Date	Time	Received By:	Date	Time
Relinquished By: (3)	Date	Time	Received By:	Date	Time
Relinquished By: (4)	Date	Time	Received By:	Date	Time

(4)

Shipping Carrier:

Shipping Ticket No:

Samples Received Cold? (Circle) YES NO

Temperature °C: 5.9°C °F:

Special Deliverable Requirements:

Chain of Custody Seal: (Circle)

INTACT BROKEN ABSENT

Special Instructions:

Requested Turnaround Time:

☑ RUSH 3 DAY TURNAROUND ☐ STD

Date Needed

☐ 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
☐ 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557
☐ 1270 Greenbrier Street Charleston, WV 25311 Tel: (304) 346-0725 Fax: (304) 346-0761

White - Retained by Lab
Yellow - Returned with Report
Pink - Retained by Sampler

Waste Management
ENVIRONMENTAL QUALITY

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL SCOTT
Director

December 5, 2018

Charles Rackley
1905 Ryerson Drive
Garner, NC 27529

Re: Notice of No Further Action
15A NCAC 2L .0407(d)
Risk-based Assessment and Corrective Action for
Petroleum Underground Storage Tanks
Session Law 2015-241 - Noncommercial Incidents

Kerr Ave – 304 N
304 N. Kerr Ave., Wilmington
New Hanover County
Incident Number: 94375
Risk Classification: Low

Dear Mr. Rackley:

The Limited Site Assessment Report received by the UST Section, Division of Waste Management, Wilmington Regional Office on April 30, 2018 has been reviewed. The review indicates that soil contamination meets the cleanup requirements for a low-risk release from an aboveground storage tank (AST) or other source under Title 15A NCAC 2L .0500, but contamination exceeds the limits allowed for unrestricted closure of a site.

The UST Section determines that no further action is warranted for this incident. All required actions have been completed. On July 16, 2018, the UST Section received a certified copy of the Notice of Residual Petroleum. On December 4, 2018, the UST Section was provided with proof of receipt of the conditional Notice of No Further Action letter, proof of refusal by the addressee to accept delivery of the letter, or with a description of the manner in which the letter was posted.

This determination shall apply unless the UST Section later finds that the discharge or release poses an unacceptable risk or a potentially unacceptable risk to human health or the environment. Pursuant to Title 15A NCAC 2L .0507(a) you have a continuing obligation to notify the Department of any changes that might affect the risk or land use classifications that have been assigned.

Be advised that as soil contamination may exceed the residential MSCCs, the property containing the soil contamination is suitable only for restricted residential use ("residential" being inclusive of, but not limited to, private houses, apartment complexes, schools, nursing homes, parks, recreation areas and day care centers), as stipulated in the Notice of Residual Petroleum (attached).

Interested parties may examine the subject incident file by contacting this regional office and may submit comments on the site to the regional office at the address or telephone number listed below.

This No Further Action determination applies only to the subject incident; for any other incidents at the subject site, the responsible party must continue to address contamination as required.

If you have any questions regarding this notice, please contact me at the UST Section Office address or telephone number listed below.

Sincerely,

Liz Price
Hydrogeologist
Wilmington Regional Office
UST Section, Division of Waste Management, NCDEQ

Attachments: Notice of Residual Petroleum

cc: New Hanover County Health Department

Kirk McDonald, PES, via email correspondence

BK: RB 6156
PG: 1063-1068
RECORDED:
07-17-2018
10:54:51 AM
BY: ANGELA ENGLISH
DEPUTY

2018022426
NEW HANOVER COUNTY, NC
TAMMY THEUSCH BEASLEY
REGISTER OF DEEDS

NC FEE $26.00

NOTICE OF RESIDUAL PETROLEUM

Return to Kirk McDonald

Kerr Ave – 304 N., New Hanover County, North Carolina
(Site name)

The property that is the subject of this Notice (hereinafter referred to as the "Site") contains residual petroleum and is an Underground Storage Tank (UST) incident under North Carolina's Statutes and Regulations, which consist of N.C.G.S. 143-215.94 and regulations adopted thereunder. This Notice is part of a remedial action for the Site that has been approved by the Secretary (or his/her delegate) of the North Carolina Department of Environment and Natural Resources (or its successor in function), as authorized by N.C.G.S. Section 143B-279.9 and 143B-279.11. The North Carolina Department of Environment and Natural Resources shall hereinafter be referred to as "DENR".

NOTICE

Petroleum product was released and/or discharged at the Site. **Petroleum constituents remain on the site, but are not a danger to public health and the environment, provided that the restrictions described herein, and any other measures required by DENR pursuant to N.C.G.S. Sections 143B-279.9 and 143B-279.11, are strictly complied with.** This "Notice of Residual Petroleum" is composed of a description of the property, the location of the residual petroleum and the land use restrictions on the Site. The Notice has been approved and notarized by DENR pursuant to N.C.G.S. Sections 143B-279.9 and 143B-279.11 and has/shall be recorded at the New Hanover County Register of Deeds' office Book see above, Page see above.
(name of county)

Any map or plat required by DENR has been/shall be recorded at the New Hanover County
(name of county)
Register of Deeds' office Book see above, Page see above, and has been/shall be incorporated into the Notice by this reference.

Source Property

Charles Rackley of Garner, NC is the owner in fee
(owner's name) *(city & state of homeowner)*
simple of all or a portion of the Site, which is located in the County of New Hanover, State of North Carolina, and is known and legally described as:

(304 N. Kerr Ave., Wilmington, NC)

Beginning for reference at the centerline intersection of North Kerr Avenue and Birchwood Road, thence N 44°27'35" E a distance of 108.88' to a #5 rebar set in the easterly right of way line of North Kerr Avenue, said rebar set being the **PRINCIPAL PLACE OF BEGINNING** for this survey;

Thence N 02°17'16" E along said easterly line of North Kerr Avenue a distance of 79.17' to a #5 rebar set;

Thence S 87°42'34" E along with the southerly line of that parcel now or formerly owned by William J. and Catherine J. Buck a distance of 349.57' to a #5 rebar set in the westerly right of way of a 70' wide public road;

Thence S 01°56'20" W along the westerly line of said 70' wide right of way a distance of 80.01' to a concrete monument found;

Thence continuing S 45°21'24" W along said right of way a distance of 27.95' to a concrete monument found at the intersection of said right of way with the northerly right of way of Birchwood Drive;

Thence with the northerly right of way line of Birchwood Drive N 88°57'42" W a distance of 296.07' to a #5 rebar set;

Thence N 44°07'00" W a distance of 48.33' to the **PRINCIPAL PLACE OF BEGINNING** and containing 0.861 acres more or less.

For protection of public health and the environment, the following land use restrictions required by N.C.G.S. Section 143B-279.9(b) shall apply to all of the above-described real property. These restrictions shall continue in effect as long as residual petroleum remains on the site in excess of unrestricted use standards and cannot be amended or cancelled unless and until the New Hanover County Register of Deed receives and records the written concurrence of the Secretary (or his/her delegate) of DENR (or its successor in function).

PERPETUAL LAND USE RESTRICTIONS

Soil: *Soil containing residual petroleum above applicable regulatory standard(s) remains on the site in the area identified in Figure 1, Attachment A (Refer to extent of contamination as diagrammed in an existing report and attach copy of that figure(s)). No soil shall be excavated or disturbed within 3 feet of the area identified in Figure 1, Attachment A except to remediate the soil in accordance with all applicable state and federal statutes, regulations and guidelines.*

ENFORCEMENT

The above land use restriction(s) shall be enforced by any owner, operator, or other party responsible for the Site. The above land use restriction(s) may also be enforced by DENR through any of the remedies provided by law or by means of a civil action, and may also be enforced by any unit of local government having jurisdiction over any part of the Site. Any attempt to cancel this Notice without the approval of DENR (or its successor in function) shall be subject to enforcement by DENR to the full extent of the law. Failure by any party required or authorized to enforce any of the above restriction(s) shall in no event be deemed a waiver of the right to do so thereafter as to the same violation or as to one occurring prior or subsequent thereto.

IN WITNESS WHEREOF, Charles Rackley has caused this Notice to be executed pursuant to N.C.G.S. Sections 143B-279.9 and 143B-279.11,

this 10th day of July, 2018.

_____.
(name of responsible party if agent is signing)

By: Charles R. Rackley
(signature of responsible party, attorney or other agent if there is one)

_____.
(Title of agent for responsible party if there is one)

Signatory's name typed or printed: Charles Rackley.

NORTH CAROLINA
Wake COUNTY
(Name of county in which acknowledgment was taken)

I certify that the following person personally appeared before me this day, acknowledging to me that he or she signed the foregoing document: Charles Rackley.

Date: 7/10/18

(Official Seal)

ERICKA SANDOR
NOTARY PUBLIC
WAKE COUNTY, NC

_____
(signature of Notary Public)
Ericka Sandor
(printed or typed name of Notary Public)

Notary Public

My commission expires: 10/25/2019

Approved for the purposes of N.C.G.S. 143B-279.11

_____
(signature of Regional Supervisor)

_____, Regional Supervisor
(printed name of Regional Supervisor)

_____ Regional Office
UST Section
Division of Waste Management
Department of Environmental Quality

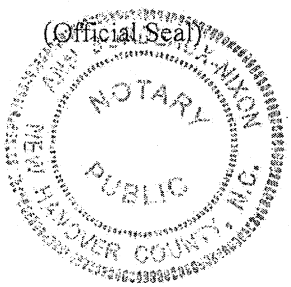
NORTH CAROLINA

_____ COUNTY
(Name of county in which acknowledgment was taken)

I certify that the following person(s) personally appeared before me this day, each acknowledging to me that he or she signed the foregoing document: _____
(full printed name of Regional Supervisor)

Date: _____

(Official Seal)

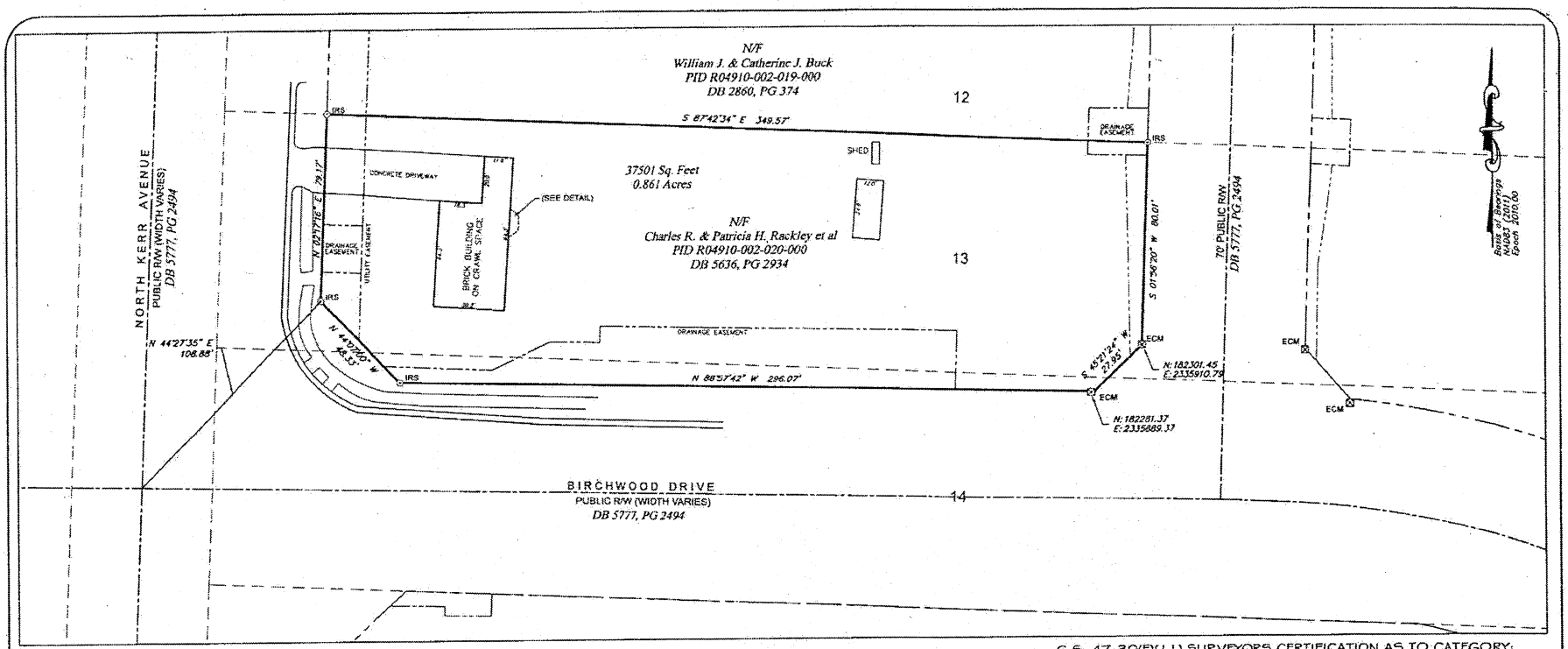


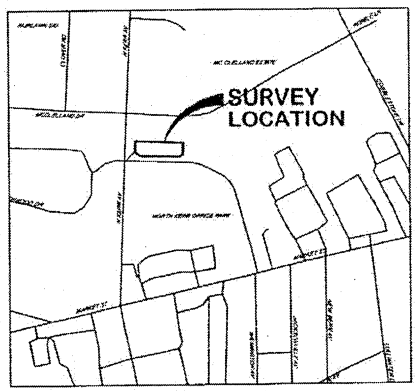
_____
(signature of Notary Public)

_____
(printed or typed name of Notary Public)

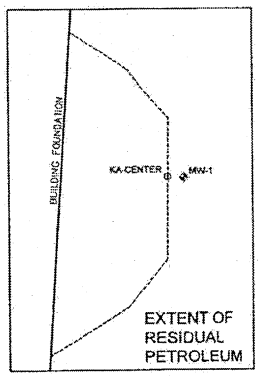
Notary Public

My commission expires: _____





VICINITY MAP
SCALE: 1" = 600'



DETAIL
SCALE: 1" = 3'

THIS MAP MAY NOT BE A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS AND HAS NOT BEEN REVIEWED FOR COMPLIANCE WITH RECORDING REQUIREMENTS FOR PLATS

G.S. 47-30(F)(11) SURVEYORS CERTIFICATION AS TO CATEGORY:

- ☐ a. THAT THE SURVEY CREATES A SUBDIVISION OF LAND WITHIN THE AREA OF A COUNTY OR MUNICIPALITY THAT HAS A ORDINANCE THAT REGULATES A PARCEL OF LAND;
- ☐ b. THAT THE SURVEY IS LOCATED IN A PORTION OF A COUNTY OR MUNICIPALITY THAT IS UNREGULATED AS TO AN ORDINANCE THAT REGULATES PARCELS OF LAND;
- c. ANY OF THE FOLLOWING:
  - ☒ 1. THAT THE SURVEY IS OF AN EXISTING PARCEL OR PARCELS OF LAND AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET;
  - ☐ 2. THAT THE SURVEY IS OF AN EXISTING BUILDING OR OTHER STRUCTURE, OR NATURAL FEATURE, SUCH AS WATER COURSE;
  - ☐ 3. THAT THE SURVEY IS A CONTROL SURVEY.
- ☐ d. THAT THE SURVEY IS OF ANOTHER CATEGORY, SUCH AS A RECOMBINATION PLAT OF EXISTING PARCELS, A COURT ORDERED SURVEY, OR OTHER EXCEPTION IN THE DEFINITION OF SUBDIVISION;
- ☐ e. THAT THE INFORMATION AVAILABLE TO THE SURVEYOR IS SUCH THAT THE SURVEYOR IS UNABLE TO MAKE A DETERMINATION TO THE BEST OF THE SURVEYORS PROFESSIONAL ABILITY AS TO THE PROVISIONS CONTAINED IN (a) THROUGH (e) ABOVE.

SURVEYOR CERTIFICATION

I, DEAN D. EXLINE, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (SEE PLAT); THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND IN (SEE PLAT), THAT THE RATIO OF PRECISION AS CALCULATED IS 1:10,000; THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED.

WITNESS MY ORIGINAL SIGNATURE, LICENSE NUMBER AND SEAL THIS 6th DAY OF July A.D., 2018

DEAN D. EXLINE, PLS LICENSE NO. L-4375

LEGEND:

COF	COTTON SPINDLE FOUND
ECM	EXISTING CONCRETE MONUMENT
IPF	IRON PIPE FOUND
PKF	PK NAIL/MAG NAIL FOUND
IPS	IRON PIPE SET
IRF	IRON ROD FOUND
IRS	IRON ROD SET
PKS	PK NAIL/MAG NAIL SET

SCALE IN FEET

NOTICE OF RESIDUAL PETROLEUM
304 NORTH KERR AVENUE
WILMINGTON TOWNSHIP, NEW HANOVER COUNTY
NORTH CAROLINA, 28405

Geolnnovation, PC
5740 Katherlands Dr., Suite A
Wilmington, North Carolina 28405
910.799.0099 Voice
910.799.3327 Fax
NCBELS Firm Number C-2561

PREPARED FOR
CHARLES RACKLEY
1905 RYERSON DRIVE
GARNER, NC 27529

DATE:	07/06/2018
SCALE:	1" = 30'
DRAWN:	CAD
CHECKED:	DDE
APPROVED:	DDE
PROJECT NO:	18044
SHEET NO:	1 of 1

TAMMY THEUSCH
BEASLEY
Register of Deeds

New Hanover County
Register of Deeds

320 CHESTNUT ST SUITE 102 • WILMINGTON, NORTH CAROLINA 28401
Telephone 910-798-4530 • Fax 910-798-7716

****

State of North Carolina, County of NEW HANOVER
Filed For Registration: 07/17/2018 10:54:51 AM
Book: RB 6156 Page: 1063-1068
6 PGS $26.00
Real Property $26.00
Recorder: ANGELA ENGLISH
Document No: 2018022426

****

DO NOT REMOVE!

This certification sheet is a vital part of your recorded document. Please retain with original document and submit when re-recording.

Initial Site Assessment Report

Aboveground Tank Cleanup

Site Location:
304 N. Kerr Ave.
Wilmington, NC
New Hanover County

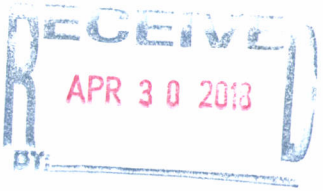
Prepared for:
Mr. Charles Rackley
1905 Ryerson Drive
Garner, NC 27529

Prepared by: **Practical Environmental Solutions, P.C.**
5634 Harvest Grove Lane
Wilmington, NC 28409
(910) 790-8265

April 19, 2018

Kirk W. McDonald, P.G.
License #1000
President and Project Manager





Practical Environmental Solutions, P.C.

Specializing in Residential Heating Oil Tanks: Evaluations, Removals and Closures, Contamination Cleanups, Site Assessments, and State Compliance

April 19, 2018

Mr. Wayne Randolph
UST Section - WiRO
127 Cardinal Drive Extension
Wilmington, NC 28405

Subject: Submittal of Initial Soil Assessment Report
Kerr Ave. – 304 N.
Incident # pending
Wilmington, New Hanover County

Dear Wayne,

Please accept the enclosed Initial Soil Assessment Report (AST Contamination Cleanup Report) for the subject site. This report documents the oil tank removal and the corrective actions that have been conducted in response to the discovered soil contamination.

In light of the actions documented in this report, we request that the State's Underground Storage Tank Section considers sending the property owner a "No Further Action" letter and officially closing this incident because an aggressive soil cleanup has been completed.

This property is currently for sale. We would appreciate a quick response to this report so that a "No Further Action" letter is available to assist in the sale of the property.

Thank you.

Sincerely,

Kirk W. McDonald

5634 Harvest Grove Lane, Wilmington, NC 28409
PES@oil-tank.com www.oil-tank.com
(910) 790-TANK (8265)

A. Site Information

1. Site Identification:

Report Date: April 20, 2018
Facility ID #: NA AST Incident #: pending Site Name: Kerr Ave. – 304 N
Site Location: 304 N. Kerr Ave.
Nearest Town: Wilmington County: New Hanover

Description of Geographical Location: residential map (see Figure #5)
Location Method: general street map and topographical map
Latitude: 34.245863 Longitude: 77.889382

2. Information about Contacts Associated with the Leaking UST System:

AST Owner: Mr. Charles Rackley

AST Operator: unknown tenant

Property Owner: Mr. Charles Rackley

Property Occupant: vacant

Consultant: **Practical Environmental Solutions, P.C.** – Kirk W. McDonald, P.G.
5634 Harvest Grove Lane, Wilmington, NC 28409 (910) 790-8265

Analytical Laboratory: Environmental Chemists, Inc.
6602 Windmill Way, Wilmington NC 28405 (910) 392-0223

3. Information about the Release:

Date Discovered: 2/22/18 Estimated Quantity of Release: unknown
Cause of Release: Leak from aboveground oil tank Source of Release: Aboveground oil tank
Size and contents of AST system(s) from which the release occurred:
270-gallon aboveground heating oil tank (steel) - obround
On 2/22/18, this tank was empty of liquid fuel

I, **Kirk W. McDonald,** a Licensed Geologist for Practical Environmental Solutions, P.C., do certify that the information contained in this report is correct and accurate to the best of my knowledge.

Kirk W. McDonald, P.G.
License #1000

NORTH CAROLINA LICENSED SEAL 1000 GEOLOGIST KIRK W. McDONALD

seal

Practical Environmental Solutions, P.C. is licensed to practice geology in North Carolina. The Certification number of the corporation is C-348.

B. Site History and Characterization

1. Ownership/Operation of owners and operators of the UST and AST system(s):

UST ID#	name of owner	dates of ownership	owner/operator	address
AST	Charles Rackley	12/11/08 – 3/5/18	Tank owner and property owner	1905 Ryerson Drive, Garner, NC

2. All AST systems currently or previously located at this site:

UST #	product	Capacity/ Construction	date installed	date removed or closed	release discovered(?)
NA	heating oil	270 gal.	unknown	3/5/18	suspected / later confirmed

Tank construction: Steel (not coated) Tank Dimensions: Diameter: 30 in. Length: 60 in.
Description of Piping: copper tubing
Indication of a Release: holes in the bottom of the tank, petroleum odor in the soil
Tank Location: The tank was located on the eastern side of the house (back yard).

3. UST systems information:

There is not a known UST at the incident site.

AST#	Current/ last Contents	Capacity	Date installed	Status of AST
NA	NA	NA	NA	NA

4. History on non-UST Releases:

Not applicable.

5. Description of the UST Release:

This bare steel tank was corroded and several holes were observed. The soil under the tank had a petroleum smell; a release from the tank was obvious.

6. Description of Site Characteristics:

This site is a landscaped residential property.

7. Initial Abatement Actions:

The oil tank contents were pumped and the tank has been removed from the site.

18.16 tons of contaminated soil were excavated from the tank area during the tank removal. This soil was received for treatment by Soil Recovery, Inc.

8. Receptor Information:

No receptor information is available at this time.

C. Free Product Investigation and Recovery Report

Not Applicable
(No free product observed during excavation or during well sampling.)

D. Groundwater and Surface Water Investigation

1. Surface Water Investigation:

See Figure #1 for a map showing all surface water bodies within 1500 feet of the source area of the release (USGS Topographic map).

No surface water sampling has been conducted at this time.

2. Groundwater Investigation:

Groundwater investigation result will be presented in the Limited Assessment Report that will be submitted soon.

E. Initial Response and Abatement Action:

Discharge Notification:

1) Action to Stop the Release - removal of tank contents:

Practical Environmental Solutions (PES) measured the tank contents on 3/5/2018. There was no measurable liquid in the tank. After opening the tank, the tank was pumped empty of flow-able liquids. Then spigot water was used to wash the "caked" sludge off the tank interior bottom and side walls. The entire tank contents were pumped by SR&R Environmental on 3/5/2018.

2) Source control actions (tank and lines):

The tank and copper fuel lines were removed on 3/5/2018. Because the copper fuel lines may have been connected to something under the house and might be reused, the fuel lines were cut and crimped at the edge of the house where the lines entered the brick wall of the house.

3) Contamination migration control measures (sorbents, berms, etc.):

None necessary or appropriate for this site.

4) Measures taken to mitigate fire/safety hazards:

None necessary or appropriate for this site.

5) Measures Taken to identify and mitigate pollution hazards:

None necessary or appropriate for this site.

6) Contamination soil storage, treatment, and/or disposal:

18.16 tons of petroleum contaminated soil were excavated from this site on 3/9/2018. The excavation reached a maximum depth of approximately 8.0 feet below the land surface (bls). All contaminated soil was taken to Soil Recovery, Inc. in Navassa, NC for proper disposal. See attached Disposal Manifest(s). (See Figure #3.)

7) Status of free product investigation and associated removal:

None necessary or appropriate for this site at this time.

No additional abatement actions have been taken since the tank removal / contaminated soil excavation.

F. Excavation of Contaminated Soil

1. Extent of Soil Contamination and Closure Soil Samples:

Please see Table #1 for all closure soil sample information and results. Sample locations relative to the former tank location and to the excavation dimensions are shown on Figures #3 and #4.

Sample results confirm that soil contamination levels before excavation were above the UST Section's "action level."

Tank Closure Sample Disclaimer:

For this site, petroleum odor levels under the tank were moderate or higher and contamination was obvious. PES collected the "tank closure sample" in one location, but did not necessarily make efforts to locate the most contaminated soil at this site. The level of contamination reported in the Total Petroleum Hydrocarbon "tank closure" sample may not reflect the highest level of contamination present at this site before excavation.

2. Excavation Process:

General and Background:

Heavy equipment was used to excavate contaminated soil from the former tank location. Dump trucks hauled away contaminated soil and brought clean back fill material to the site.

Excavation Depth:

Protecting the Building's Foundation:

Underground Storage Tank Section Guidelines are clear that building foundations should be protected from damage; soils supporting a building foundation should not be excavated.

PES follows these recommendations and guidelines on all excavations to ensure that the structural integrity of the house foundation is protected. This means that when tanks are sufficiently close to the house foundation, the sidewall against the house must be sloped to protect the house foundation.

Determining an Appropriate Excavation Depth:

The deeper an excavation the more unstable and the more the dangerous the excavation is to workers and other items located at the land surface including a house foundation. The total depth of a safe excavation is dependant on many factors including but not limited to: the soil and over burden weight, soil grain size, moisture content, etc.

Sidewall Instability Caused by Excavating Below the Water Table:

Because excavating into the water table greatly increases the instability of the excavation sidewalls, PES typically does not excavate deeper than one foot below the water table.

Reducing the risk of sidewall cave-in has two main benefits. It helps to provide additional safety to on-site workers by reducing the risk of sidewall collapse and a worker falling into the excavation. This is a very serious concern and could easily be a life-threatening situation. The second reason to reduce sidewall cave-in is to ensure that the sidewall next to the house is stable and does not cause structural damage to the foundation.

Although excavating contaminated soil below the water table may be effective to achieve the desired cleanup levels, this practice must be carefully weighed against the risk of possible damage to the building foundation. Also if the excavation extends below the water table a more conservative sidewall slope angle may be required.

During excavation we observed that water table at approximately 7.5 feet below land surface. PES excavated approximately 0.5 feet below the water table at the deepest portion of the excavation to a total excavation depth of 8.0 feet. (Water levels measured in the well shows the water table to be higher than the level determined during soil excavation. This area receives roof water runoff (no gutters). The ground water level may have been impacted by the rain event that we received the night before the collection of the well water sample)

Soil boring information is presented in the Appendix.

After considering the all of the site factors, PES determined that a reasonable and safe excavation dimensions are those presented on Figures #3 and #4. The total depth for this excavation at the deepest point was 8.0 feet below land surface.

Excavation Final Dimensions:

Once a "bottom" depth is determined for the site's excavation (as described above), the excavation pit is enlarged laterally in all directions. The lateral excavation was stopped

1) as necessary to protect the house foundation, and/or
2) once the petroleum odor could no longer be detected in the soil, and/or

Because we do not want to "over dig" in one direction while "under digging" in another direction, we continue to check the soil odor as we excavate and alternate digging on different sides of the excavation as we proceed. This helps to ensure that excavation is balanced and that the most contamination soil is removed from the site.

Heating oil is not very volatile and is not well detected by soil screening devices such as OVAs. However, fuel oil is very odoriferous and is extremely distinctive to an experienced investigator. PES has a very good "track record" using this method to direct excavation efforts.

18.16 tons of contaminated soil were removed from this site. Please see contaminated soil weigh tickets in the Appendix.

Final excavation dimensions are presented in Figures #3 and #4.

Justification of Final Excavation Dimensions:

The better sorted and the larger the grain size, the higher the risk of side wall cave-ins. Additionally, excavating below the water table increases the risk of side wall collapse.

The soil at this property was a fine sand. Because we were digging slightly below the water table, the likelihood of sidewall cave-in was moderate.

Because of this moderate concern of side wall cave-in, this 8.0 foot deep excavation was conducted very carefully.

The depth and lateral excavation was stopped for one of two reasons:

1) as necessary to protect the house foundation, and/or
2) once the petroleum odor could no longer be detected in the soil.

Field analyses lead us to believe that we had excavated sufficiently to remove all contaminated soil present the directions of Side Walls 2, 3 and 4. During excavation, we were aware that we might be leaving some level of contaminated soil on Sidewall 1.

For safety reasons, we did not excavate deeper than 8.0 feet. We were aware that we might be leaving some amount of contaminated soil at the bottom of the excavation (Center).

3. Post Excavation Soil Sampling:

Sidewall Samples

A sidewall sample was collected from each side of the excavation (see Figure #3). For details, see Tables #2, #3, and #4 and Figures #3 and #4.

Excavation Bottom Sample

A "center" soil sample was collected just above the groundwater level that was observed at approximately 7.5 feet below land surface during the excavation. The total depth of the excavation was approximately 8.0 feet below land surface.

Sampling Methods

Grab samples were taken by one of the following procedures:

Backhoe/Excavator Bucket: The backhoe extracted undisturbed soil from the bottom or sidewall of the excavation pit. A designated hand shovel was used to collect the center portion of the soil out of the backhoe bucket to ensure that the soil sent to the laboratory had not come into contact with any portion of the backhoe bucket.

From the hand shovel full of soil, the top layer of soil was scraped off using a clean unused wooden tongue depressor. This was done to ensure that the soil sent to the laboratory had not come into contact with the sample shovel. Using the clean unused tongue depressor, the soil sample was scooped into the laboratory provided sample bottle.

Hand Auger: The properly cleaned auger bit is carefully connected to the auger extension shaft and not allowed to touch any object or any ground area other than the location to be augered. The auger is then used to collect a soil sample out of the excavation sidewall or it is used to bore to the appropriate depth to collect the soil sample. A full auger bit of soil sample is retrieved and laid on clean, unused sheet plastic or suspended in air until the soil sample was taken.

The sample is removed from the auger bit with an unused tongue depressor (wooden) or "terra core sampler" and is placed directly into the laboratory sealed sample jar.

The sample jar(s) is placed on ice in a cooler and is kept on ice until it is delivered to the laboratory.

4. Soil Investigation:

Miscellaneous Items (Listed in the former State Report Format):

Prior to the tank removal and contaminated soil excavation, no earlier soil investigation is known for this site.

A soil boring description is located in the Appendix of this report.

Soil sample information is presented in Tables #1, #2, #3, and #4 and Figures #3 and #4.

Sampling Methods are described in Section F #3 of this report.

Soil Sample Results:

First, all excavation soil samples were analyzed for Total Petroleum Hydrocarbons.

All excavation soil sample results are presented in Table #1. Sample results higher than the State's "Action Level" are shown in shaded boxes.

TPH Soil Sample results show that petroleum constituent levels are higher than the State's "action level" in Sidewall 1.

The sample with the highest TPH concentration was then analyzed according to the State's "Risk Based" analytical procedures (EPA Method 8260, 8270 and MEDEP: VPH and EPH).

Sample results are presented in Tables #2, #3, and #4. Sample results higher than the "Soil to Water" Standards are shown in shaded boxes. Sample results higher than the "Residential Cleanup" Levels are shown in shaded boxes with an asterisk (*).

Sidewall #1 (KA-SW1) yielded the highest TPH value.

"Risk Based Analysis" of this sample shows that petroleum constituent levels are above both the "Residential Soil Cleanup" Levels and the "Soil-to Water" Levels.

The locations of all soil samples are presented on Figures #3 and #4.

Summary:

Soil contaminated above the "Residential Soil Cleanup" Levels and the "Soil-to Water" Levels remains at this site.

For a detailed description of the soil sample results see Section F #4 (Soil Sample Results) above and Tables #1, #2, #3 and #4.

Because the tank was located fairly close the house foundation, only a limited amount of soil material could be excavated along the sidewall adjacent to the house. See Figures #3 and #4. This was necessary to provide adequate protection to the house foundation as described in Section F #2 of this report.

Contaminated soil remains in the sidewall adjacent to the house foundation (SW1).

The final excavation depth was approximately 8 feet below land surface. Considering safety factors as well as site logistics, a deeper excavation at this site was not practical.

5. Disposal of Contaminated Soil:

All soil was disposed of at a facility licensed by the State of North Carolina to receive and treat petroleum contaminated soil.

See Section E #6 of this report for soil disposal and soil weight information. Total Petroleum Hydrocarbon levels are presented in Table #1.

The excavation was backfilled with clean fill dirt.

6. Excavation Conclusions:

Considering site factors, PES conducted an aggressive soil excavation at this site. Please see Figures #3 and #4 for the extent of final excavation and all sample locations.

Groundwater was encountered during the excavation of contaminated soil at this site. A groundwater investigation has been conducted and will be presented in the LSA that will be submitted soon.

Soil contaminated above the "Soil to Water" or "Residential Cleanup" Levels remains at this site.

Because the tank was located fairly close the house foundation, only a limited amount of soil material could be excavated along the sidewall adjacent to the house. See Figures #3 and #4. This was necessary to provide adequate protection to the house foundation as described in Section F #2 of this report.

Contaminated soil remains in the sidewall adjacent to the house foundation (SW1).

The final excavation depth was approximately 8 feet below land surface. Considering safety factors as well as site logistics, a deeper excavation at this site was not practical.

G. Conclusions:

The aboveground heating oil tank has been properly removed and disposed of (manifests attached).

Soil contaminated above the "Soil to Water" and "Residential Cleanup" Standard remains at this site.

The results of the groundwater investigation will be presented in the LSA report.

Investigation and Report Limitations

Our interpretations, conclusions, and recommendations made in this report are based on a limited investigation. Although our best professional judgment was used to determine the location of soil samples, the analytical results from the collected samples may not completely represent all of the subsurface conditions at this property. Furthermore, the results of the soil samples only represent the physical conditions at the date and time that the samples were collected.

This investigation was conducted and reported in accordance with generally accepted standards of geological and hydrogeological practices within the State of North Carolina.

The conclusions are based on available information and our professional judgment. This report presents our best interpretation of the data according to our experience and education in this field of study. No attempt has been made to misrepresent the conditions at this site.

H. Figures

Figure #1: Topographic Map

Figure #2: Site Map

Figure #3: Detailed Site Map showing the excavation limits and soil sample locations

Figure #4: Cross Section of Excavation

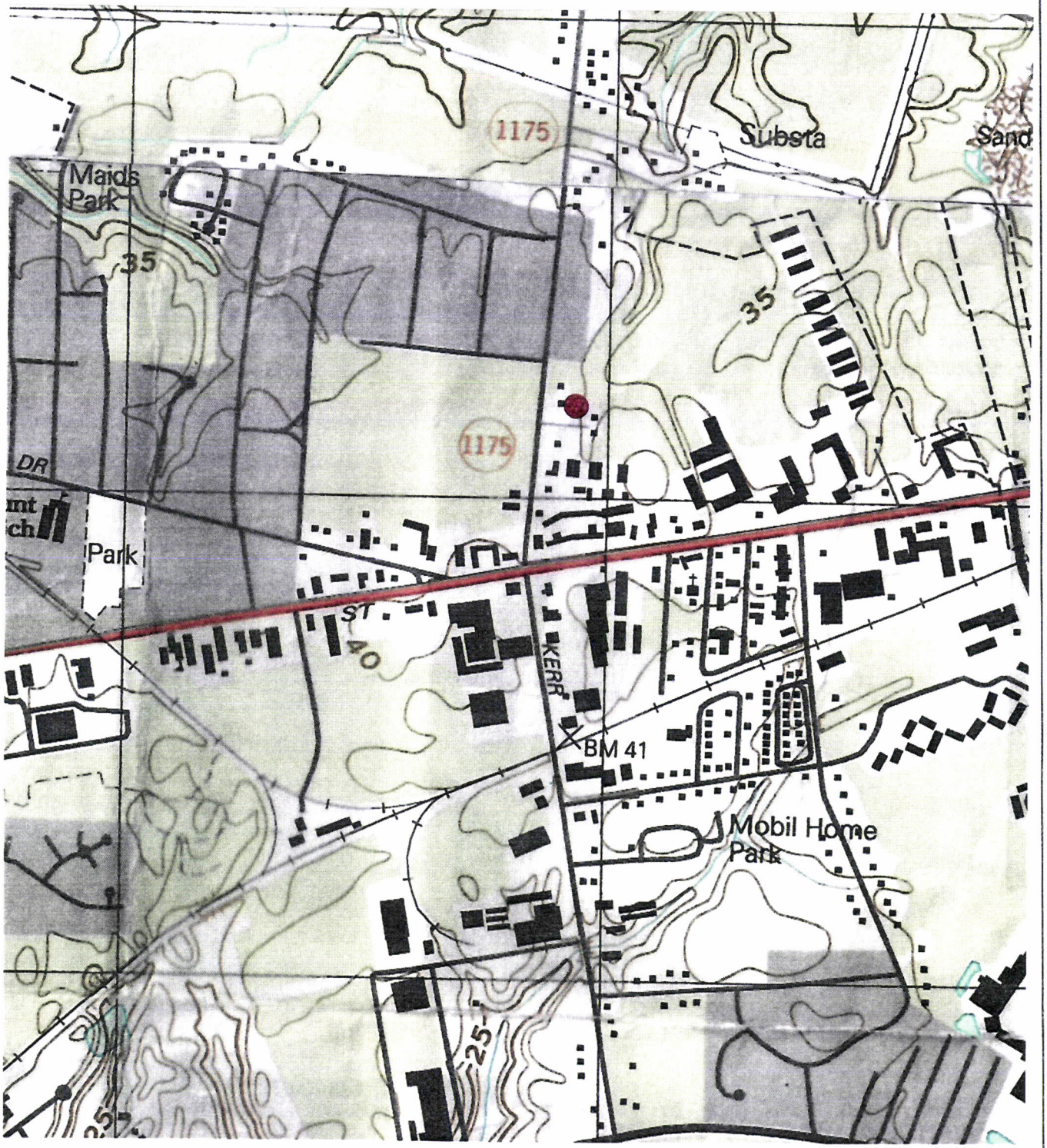
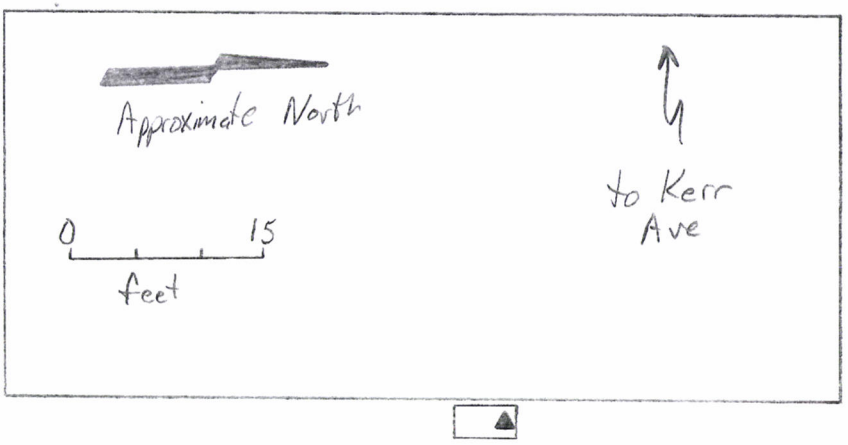


Figure #1 Topographic Map

Practical Environmental Solutions, P.C.	**Location:** Kerr Ave. – 304 N., Wilmington, NC **Site Location** =	**Created by:** KWM **Date:** 4/2018 **Scale:** 1" = 1000 ft

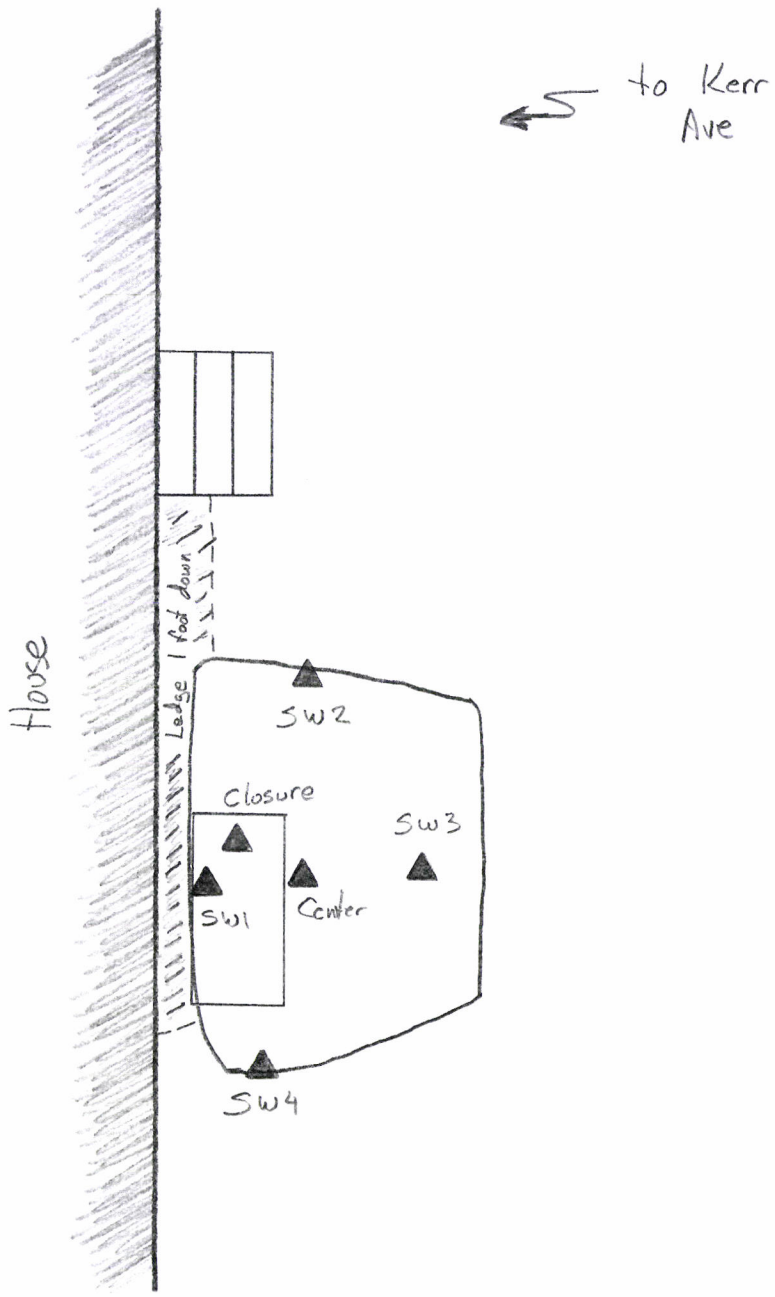


Note: House measurements obtained from New Hanover County tax records.

Key: UST, AST, Fill Pipe, Vent Pipe, Product Line, Vent Line, Sample Location KA-closure, Water Supply Well

Figure #2 Site Map

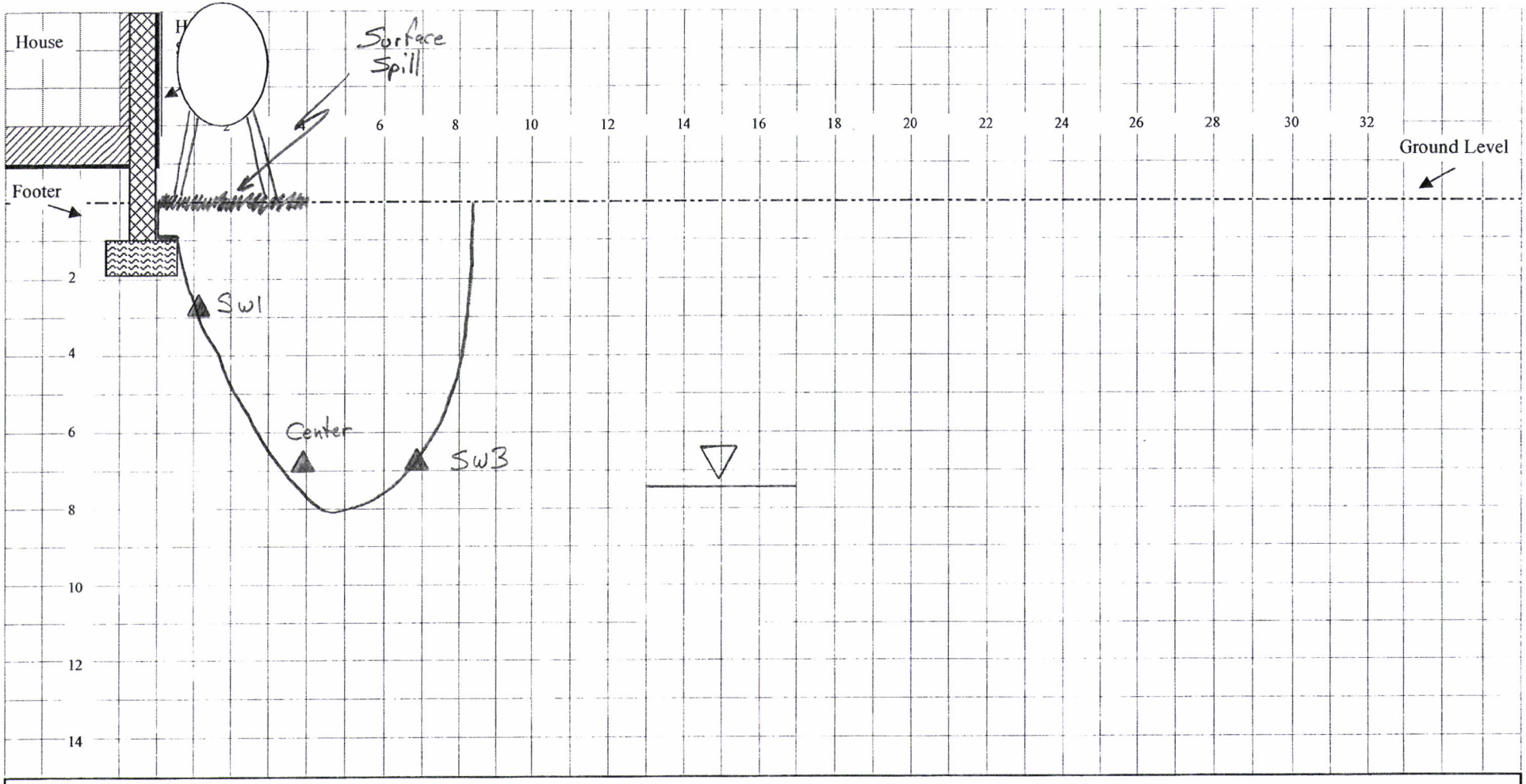
Practical Environmental Solutions, P.C.	**Location:** Kerr Ave. – 304 N, Wilmington, NC	**Created by:** KWM **Date:** 4/2018 **Scale:** 1" = 15'



Key: UST, AST, Fill Pipe, Vent Pipe, Hand Boring, Monitoring Well, Sample Location

Figure #3 Excavation and Sample Location Map

Practical Environmental Solutions, P.C.	**Location:** Kerr Ave. – 304 N, Wilmington, NC	**Created by:** KWM **Date:** 4/2018 **Scale:** 1 inch = 5 ft.



Key:

Former UST

Water table

Soil Sample Location

Figure #4 Cross Section of Excavation

Practical Environmental Solutions, P.C.	**Location:** 304 N. Kerr Ave., Wilmington, NC	**Created by:** KWM **Date:** 4-2018 **Scale: 1" = 4'**

I. Tables

Table #1: Soil Sample Results: Total Petroleum Hydrocarbon

Table #2: Soil Sample: Volatile and Semi-Volatile Analytical Results (EPA Method 8260)

Table #3: Soil Sample: Volatile and Semi-Volatile Analytical Results (EPA Method 8270)

Table #4: Soil Sample: MADEP – VPH and EPH Analytical Results

Table #1 Soil Sample Results: Total Petroleum Hydrocarbon

Kerr Ave. – 304 N, Wilmington, NC

Concentrations in parts per million (ppm) (mg/kg)

Tank Closure Soil Sample:

Analytical Method	**North Carolina "Action Level"**	**Sample ID: KA-closure** **Date:** 3/5/18 **Depth:** 0.75 ft.
EPA Method TPH-DRO	100	**19,600**
EPA Method TPH-GRO	50	**2070**

Excavation Soil Samples:

Analytical Method	**North Carolina "Action Level"**	**Sample ID: KA-SW1** **Date:** 3/9/18 **Depth:** 2.5 ft.	**Sample ID: KA-SW2** **Date:** 3/9/18 **Depth:** 5.0 ft.	**Sample ID: KA-SW3** **Date:** 3/9/18 **Depth:** 7.0 ft.	**Sample ID: KA-SW4** **Date:** 3/9/18 **Depth:** 5.0 ft.	**Sample ID: KA-Center** **Date:** 3/9/18 **Depth:** 7.0 ft.
EPA Method TPH-DRO	100	21,900	11.5	<8.00	<7.77	<7.72
EPA Method TPH-GRO	50	2760	<2.9	<3.2	<2.9	<2.8

TPH Action Levels were changed on 7/26/16.

Shaded areas represent concentrations above the standard
BQL = Below Quantitation Limit

Depth is in feet below land surface. Date is the date of sampling.

Table #2 Excavation Soil Samples: Volatile and Semi-Volatile Analytical Results EPA Method 8260

Kerr Ave. - 304 N., Wilmington, NC

Concentrations in parts per billion (ug/Kg or ppb)

Sample ID:	**KA – SW1**	**Residential Soil Cleanup Levels**	**Soil-to-Water Maximum Contaminant Concentrations**
Sample Date:	3/9/18		
Depth in feet: (below land surface)	2.5		
Compound ↓			
EPA Method 8260			
Acetone	BQL	14,000,000	2400
Benzene	BQL	18,000	5.6
Bromomethane	BQL	NS	NS
n-Butylbenzene	**22,300**	626,000	4300
sec-Butylbenzene	**9670**	626,000	3300
tert-Butylbenzene	BQL	626,000	3400
Carbon disulfide	BQL	1,564,000	4,300
Ethylbenzene	**10,600**	1,560,000	4900
Isopropyl benzene	**5750**	1,564,000	1700
4 - Isopropyltoluene	BQL	100,000	120
p-Isopropyltoluene	**7310**	100,000	120
Methylene Chloride	BQL	85,000	20
MTBE	BQL	350,000	91
Naphthalene	**4320**	313,000	160
n-Propyl benzene	**18,200**	626,000	1700
Toluene	**6280**	1,200,000	4,300
1,2,4 - Trimethylbenzene	**146,000**	782,000	8500
1,3,5 - Trimethylbenzene	**33,400**	782,000	8300
m, p-Xylene	**40,800**	3,129,000[1]	4,600
o - Xylene	**20,200**	3,129,000[1]	4,600

1 = Xylenes (mixed)
Shaded areas = concentrations above the Soil-to-Water standard.
* = Value is above the Residential Soil Cleanup Level
All results not included in this table were BQL

NS = No Standard
NA = Not Applicable

BQL = Below Quantitation Limit

Table #3 Excavation Soil Samples: Volatile and Semi-Volatile Analytical Results EPA Method 8270

Kerr Ave. – 304 N., Wilmington, NC

Concentrations in parts per billion (ug/Kg or ppb)

Sample ID:	**KA-SW1**	**Residential Soil Cleanup Levels**	**Soil-to-Water Maximum Contaminant Concentrations**
Sample Date:	11/1/17		
Depth in feet: (below land surface)	2.5		
Compound ↓			
EPA Method 8270			
Acenaphthene	BQL	940,000	8200
Acenaphthylene	BQL	469,000	11,000
Anthracene	BQL	4,600,000	940,000
Benzoic Acid	BQL	62,571,000	120,000
Benzo[a]anthracene	BQL	880	350
Benzo[a]pyrene	BQL	88	96
Benzo[b]fluoranthene	BQL	880	1200
Benzo[g,h,i]perylene	BQL	469,000	6,400,000
Benzo[k]fluoranthene	BQL	9,000	12,000
Chrysene	BQL	88,000	39,000
Di-n-Butylphthalate	BQL	NS	NS
Dibenzofuran	BQL	62,000	4700
Fluoranthene	BQL	620,000	290,000
Fluorene	BQL	620,000	47,000
Indeno(1,2,3-c,d)pyrene	BQL	880	3400
2 - Methylnaphthalene	BQL	63,000	3600
Naphthalene	BQL	313,000	160
Phenanthrene	BQL	469,000	5600
Pyrene	BQL	469,000	270,000

* = Value is above the Residential Soil Cleanup Level
Shaded areas represent concentrations above the Soil-to-Water standard.
All results not included in this table were BQL.

NS = No Standard
NA = Not Applicable
BQL = Below Quantitation Limit

Table #4 Excavation Soil Samples: MADEP – VPH and EPH Analytical Results

Kerr Ave. – 304 N., Wilmington, NC

Concentrations in parts per billion (ug/Kg or ppb)

Sample ID:	**KA – SW1**	**Residential Soil Cleanup Levels**	**Soil-to-Water Maximum Contaminant Concentrations**
Sample Date:	3/9/18		
Depth in feet: (below land surface)	2.5		
Compound ↓			
VPH Results			
C_5-C_8 Aliphatics	38,500		
C_9-C_{12} Aliphatics	255,000		
C_9-C_{10} Aromatics	110,000		
EPH Results			
C_9-C_{18} Aliphatics	11,400,000		
C_{19}-C_{36} Aliphatics	2,380,000		
C_{11}-C_{22} Aromatics	1,830,000		
Totals for Standard Comparison			
C_5-C_8 Aliphatics	**38,500**	**939,000**	**68,000**
VPH C_9-C_{12}	255,000		
EPH C_9-C_{18}	11,400,000		
C_9-C_{18} Aliphatics	***11,655,000**	**1,500,000**	**540,000**
C_{19}-C_{36} Aliphatics	**2,380,000**	**31,000,000**	**See note[1]**
VPH C_9-C_{10}	110,000		
EPH C_{11}-C_{22}	1,830,000		
C_9-C_{22} Aromatics	***1,940,000**	**469,000**	**31,000**

1 = Considered Immobile
Shaded areas represent concentrations above the Soil -to-Water standard.
* = Value is above the Residential Soil Cleanup Level
For more details on MADEP – VPH and EPH analytical methods, see the labs sheets

NS = No Standard
NA = Not Applicable

J. Appendices

1. 24-hour Reporting Form and Release Confirmation:

2. Disposal Manifests:

   Tank Contents
   Tank
   Contaminated Soil

3. Soil Boring Log

4. Photographs

5. Laboratory Results with Chain of Custody Records (State pdf copy only)

emailed 2-22-18 @ 10:05

Practical Environmental Solutions, P.C.

Specializing in Residential Heating Oil Tanks: Evaluations, Removal and Closures, Contamination Cleanups, Site Assessments, and State Compliance

Email Cover Sheet: **Date: 2/22/18** **Number of Pages: 4**

To:	From:
UST Section - Wilmington Wayne Randolph	Kirk McDonald Practical Environmental Solutions, P.C. (910) 790-8265

Subject: 304 N. Kerr Ave., Wilmington NC

Comments:

Please see the attached 24 Hour Reporting Form for the subject property.

Thank you.

This email attachment is only intended for the recipient named above. If this attachment is received by error, please call Practical Environmental Solutions, P.C. at (910) 790-8265.

5634 Harvest Grove Lane, Wilmington, NC 28409
PES@oil-tank.com www.oil-tank.com
(910) 790-TANK (8265)

UST-62 — 24-Hour Notification of Discharge Form

For Non-UST Releases of Petroleum in NC

This form should be completed and submitted to the UST Section's regional office following a known or suspected release of petroleum from a source other than an underground storage tank. This form is required to be submitted within 24 hours of discovery of a known or suspected petroleum release

(DWM USE ONLY)
Incident # _____ Priority Rank (H,I,L,U) _____
Received (time/date) _____
Received by _____ Region _____
Reported by (*circle one*): Phone, Fax or Report

Suspected Contamination? (Y/N) Yes
Confirmed GW Contamination? (Y/N) N
Confirmed Soil Contamination ?(Y/N) Y
Samples taken?(Y/N) N Free product? (Y/N) N
If Yes(free product), state greatest thickness: _____feet

Release discovered (time/date): 2-22-18

INCIDENT DESCRIPTION

Incident Name: Kerr Ave - 304 N.

Address (street number/name): 304 N. Kerr Ave

County: New Hanover

City/Town: Wilmington NC

Zip Code: 28405

Regional Office (*circle one*): Asheville, Mooresville, Fayetteville, Raleigh, Washington, Wilmington, Winston-Salem

Latitude (decimal degrees): 34.245863 Longitude (decimal degrees) : 77.889382

Obtained by:
- ☐ GPS
- ☐ Electronic topographic map
- ☐ GIS Address matching
- ☑ Other
- ☐ Unknown

Describe location:

Describe suspected or confirmed release (*nature of release, time/date of release, quantity of release, amount of free product*):
An aboveground heating oil tank had corroded allowing fuel oil to drip from the bottom of the tank.

Describe initial response/abatement (*time/date release stopped, cleanup begun/completed, quantity of product soil removed, confirmation sampling*): The tank is empty and we are scheduling contaminated soil removal.

Describe impacted receptors: Surface Soil

HOW RELEASE WAS DISCOVERED (Release Code)

(Check one)

- ☐ Observation of Release at Occurrence
- ☑ Visual or Olfactory Evidence
- ☑ Soil Contamination
- ☐ Groundwater Contamination
- ☐ Water Supply Well Contamination
- ☐ Surface Water Contamination
- ☐ Other (specify) _____

SOURCE OF CONTAMINATION

Source of Release *(Check one to indicate primary source)*
- ☑ AST (tank)
- ☐ AST Piping/ Dispenser
- ☐ AST Delivery Problem
- ☐ OTR Vehicle Tank
- ☐ OTR Bulk Transport Tank
- ☐ RR Bulk Transport Tank
- ☐ Transformer
- ☐ Unknown
- ☐ Other _____

Definitions presented on reverse

Cause of Release *(Check one to indicate primary cause)*
- ☐ Spill (Accidental)
- ☐ Spill (Intentional)
- ☑ Corrosion
- ☐ Physical or Mechanical Damage
- ☐ Equipment Failure
- ☐ AST Overfill
- ☐ AST Installation Problem
- ☐ Unknown
- ☐ Other _____

Definitions presented on reverse

Type of Release *(Check one)*
- ☑ Petroleum
- ☐ Both Petroleum & Non-Petroleum

Location *(Check one)*
- ☐ Facility
- ☑ Residence
- ☐ Highway/Road
- ☐ Railway
- ☐ Other

Product Type Released *(Check one to indicate primary petroleum product type released)*
- ☑ Gasoline/ Diesel/ Kerosene
- ☐ E11 – E20
- ☐ E21 – E84
- ☐ E85 – E99
- ☐ Ethanol 100%
- ☐ Diesel/Veg. Oil Blend
- ☐ Vegetable Oil 100%
- ☐ Heating Oil
- ☐ Waste Oil
- ☐ Mineral Oil-*no PCBs*
- ☐ Mineral Oil-*PCBs*
- ☐ Other Petroleum Products _____

Ownership
1. Municipal 2. Military 3. Unknown (4. Private) 5. Federal 6. County 7. State

Operation Type
1. Public Service 2. Agricultural (3. Residential) 4. Education/Relig. 5. Industrial 6. Commercial 7. Mining
Guidance presented on reverse

IMPACT ON DRINKING WATER SUPPLIES

Water Supply Wells Affected? 1. Yes 2. No (3.) Unknown Number of Water Supply Wells Affected _____

List of Water Supply Wells Contaminated: (*Include Users Names, Addresses and Phone Numbers. Attach additional sheet if necessary*)
1.
2.
3.

PARTY RESPONSIBLE FOR RELEASE

(if the source of the release is not an AST system or if it is an AST system and there is a responsible party other than the AST system owner/ operator)

Name of Person/Company	Mr. Charles Rackley	Address	1905 Ryerson Drive	
City	Garner	State	NC	Zip Code 27529	Telephone Number 919-

AST SYSTEM OWNER *(if the source of the release is an AST system)*

AST Owner/Company	as above	Address	
City	State	Zip Code	Telephone Number

AST SYSTEM OPERATOR *(if the source of the release is an AST system)*

UST Operator/Company	unknown tenant	Address	now moved out
City	State	Zip Code	Telephone Number

LANDOWNER AT LOCATION OF INCIDENT

Landowner	as above	Address	
City	State	Zip Code	Telephone Number

Draw Sketch of Area or Provide Map *(showing incident site, location of release, two major road intersections, potential receptors)*

Attach sketch or map to form. See attached

Give Directions to Incident Site *Attach directions to form if necessary.*

See attached.

Person Reporting Incident	Kirk McDonald	Company	PES	Telephone Number	910-790-8265
Title	Project Manager	Address	5634 Harvest Grove Lane, Wilmington NC	Date	2-22-18

Definitions of Sources

AST (Tank): means the tank is used to store product
AST Piping: means the piping and connectors running from the tank to the dispenser or other end-use equipment
AST Dispenser: includes the dispenser and the equipment used to connect the dispenser to the piping
AST Delivery Problem: identifies releases that occurred during product delivery to the tank.
OTR Vehicle Tank: means the tank is used to store product to fuel an over the road vehicle
OTR Bulk Transport Tank: means a tank that is used to transport product in bulk over the road (by truck)
RR :bulk Transport Tank: means a tank that is used to transport product in bulk by train
Transformer: means electrical transformer
Other: serves as the option to use when the release source is known but does not fit into one of the preceding categories
Unknown: identifies releases for which the source has not been determined

Definitions of Causes

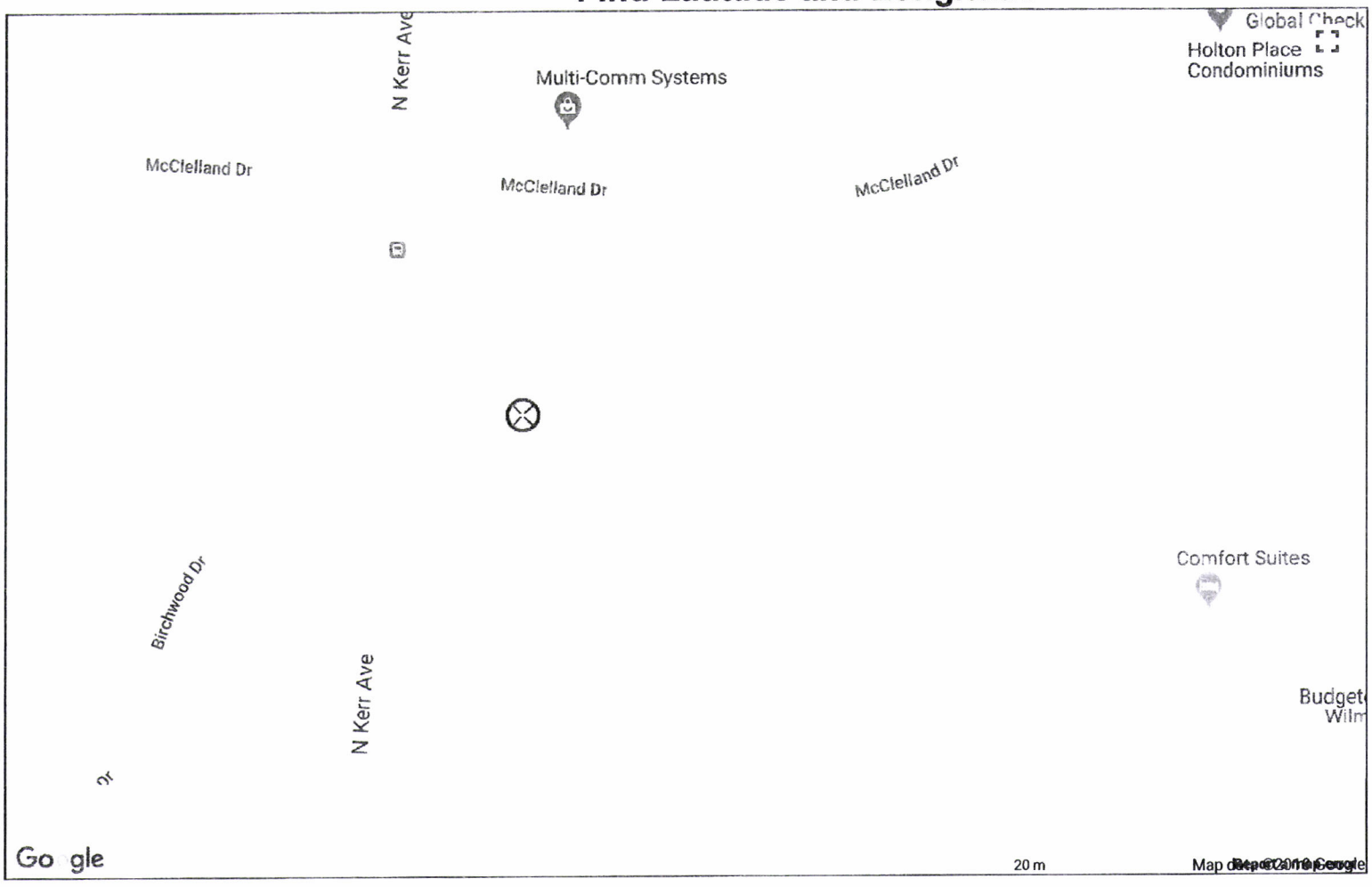
Spill (Accidental): use this cause when a spill occurs accidentally(e.g., when the delivery hose is disconnected from a fill pipe)
Spill (Intentional): use this cause when a spill occurs intentionally (e.g., intentional dumping or breakage)
Corrosion: use when a metal tank, piping, or other component has a release due to corrosion
Physical or Mechanical Damage: use for all types of physical or mechanical damage, except corrosion
Equipment failure: use when a release occurs due to equipment failure other than corrosion or physical or mechanical damage
AST Overfill: use when an overfill occurs (e.g., overfills may occur from the fill pipe at the tank or when the nozzle fails to shut off at the dispenser)
AST Installation Problem: use when the problem is determined to have occurred specifically because the AST system was not installed properly
Other: use this option when the cause is known but does not fit into one of the preceding categories
Unknown: use when the cause has not been determined

Guidance: Ownership and Operator Type

Ownership select the category which describes owner of the AST system, bulk transport tank, or other release source
Operator Type select the category which describes the operation in which owner uses the AST system, bulk transport tank, or other release source

Albuquerque Houses for Sale Milwaukee Tax Center

Find Latitude and Longitude



Start Now

3 Steps to Fast Maps & Directions

1) **Click** "Start Now"

2) **Free Access** - No Sign Up

3) **Get** Free Directions and Maps

onlinemapfinder.com

Load Location
Latitude: 34.245863479149634
Longitude: -77.88938201216371
Location:
Post Code:

Map Coordinates of Selected Location
Latitude: N 34° 14' 45.1085"
Longitude: W 77° 53' 21.7752"
Latitude: N 34° 14.751809'
Longitude: W 77° 53.362921'
Latitude: 34.245863°
Longitude: -77.889382°

Selected Location (Approximate)
Address:
Latitude:
Longitude:
Accuracy:
Status:

Map Coordinates of Mouse
Latitude: cursor off map

Map Parameters
Zoom: 18

Menu SHARE Home
Lat/Lng to Address · **Address to Lat/Lng**

emailed 3-27-18 11:55 AM

Practical Environmental Solutions, P.C.

Specializing in Residential Heating Oil Tanks: Evaluations, Removal and Closures, Contamination Cleanups, Site Assessments, and State Compliance

Email Cover Sheet: **Date: 3/27/18** **Number of Pages: 2**

To: Wayne Randolph
UST Section

(FAX #: 350-2004)

From: Kirk McDonald
Practical Environmental Solutions, PC
(910) 790-8265

Subject: Kerr Ave. – 304 N, Wilmington: Release Confirmation (soil sample results)

Comments:

For this project, petroleum contamination levels were measured above the State's established "action level."

Practical Environmental Solutions (PES) collected this sample from one location. The results are intended only to document if levels over the State's action level. The level of contamination reported in the Total Petroleum Hydrocarbon "tank closure" sample may not reflect the highest level of contamination present at this site. The results from this sample should not be used to characterize the overall contamination level at this site.

Contaminated soil was excavated and a report will be submitted to you soon.

Thank you. Kirk McDonald, PG, Project Manager

This Email is only intended for the recipient named above. If this Email is received by error, please call Practical Environmental Solutions, P.C. at (910) 790-8265.

5634 Harvest Grove Lane, Wilmington, NC 28409
PES@oil-tank.com www.oil-tank.com
(910) 790-TANK (8265)

envirochem SM

ANALYTICAL & CONSULTING CHEMISTS

Environmental Chemists, Inc.

6602 Windmill Way, Wilmington, NC 28405 • 910.392.0223 Lab • 910.392.4424 Fax
710 Bowsertown Road, Manteo, NC 27954 • 252.473.5702 Lab/Fax
255-A Wilmington Highway, Jacksonville, NC 28540 • 910.347.5843 Lab/Fax

info@environmentalchemists.com

Practical Environmental Solutions, Inc.
5634 Harvest Grove Lane
Wilmington NC 28409
Attention: Kirk McDonald

Date of Report: Mar 26, 2018
Customer PO #:
Customer ID: 08100097
Report #: 2018-03328
Project ID: Kerr Ave 304

Lab ID	Sample ID:	Collect Date/Time		Matrix	Sampled by
18-08171	**Site:** KA-Closure	3/5/2018	11:00 AM	Solid/Sludge	Client

Test	Method	Results	Date Analyzed
Total Solids (%)	SM 2540 G	84.6 %	03/07/2018
DRO	SW846 Method 8015C	19600 mg/kg	03/06/2018
GRO	SW846 Method 8015C	2070 mg/kg	3/14/2018

Comment: Reported on a dry weight basis.

Reviewed by: Marisela Olejarz

Please print or type
(Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
	CESQG	1	800-310-6757	18000

5. Generator's Name and Mailing Address
Practical Environmental Solution
5643 Harvest Grove Lane
Generator's Phone: 910-790-8265 Wilmington, NC 28409

Generator's Site Address (if different than mailing address)
Practical Environmental Solution
304 N. Kerr Avenue
Wilmington, NC 28405

6. Transporter 1 Company Name: SR&R Environmental — U.S. EPA ID Number: NC0000926618

7. Transporter 2 Company Name: — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
SR&R Environmental
4920 US Highway 421 N
Facility's Phone: 800-310-6757 Wilmington, NC 28401
U.S. EPA ID Number: NC0000926618

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Haz Non-Reg Material (Oil & Water)	001	TT	45	G	15001-BO
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
POC: Kirk McDonald

S-51

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Kirk McDonald — Signature: [signature] — Month 3 Day 5 Year 18

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Michael McDuffie — Signature: [signature] — Month 3 Day 5 Year 18
Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) — Month Day Year

SR01 SR02 4 gal oil

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: [signature] — Signature: [signature] — Month 03 Day 05 Year 18

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

GC Labels • Printed in the USA 1-800-937-6966

DESIGNATED FACILITY TO GENERATOR

Reorder Part# MANIFEST-CSNHWC 913-897-6966

Tank Disposal Manifest

1) **Property of Origin:** 304 N. Kerr Ave., Wilmington, NC

2) **Tank size:** 270 gallons (aboveground oil tank)

3) **Property Owner:** Charles Rackley, 1905 Ryerson Drive, Garner, NC

4) **Removed by:** Practical Environmental Solutions, P.C. date 3-5-18

Print name: Kirk McDonald Signature

5) **Transported by:** Practical Environmental Solutions, P.C. date 3-5-18

Print name: Kirk McDonald Signature

6) **Received for proper disposal:**

HORTON IRON & METAL CO.
P.O. BOX 1285
WILMINGTON, NC 28402
Phone: 910-763-8268 Fax: 910-763-8280

date 3-5-18

Print name: _____ Signature Bernie Campfield

CERTIFICATE OF ACCEPTANCE

FROM: SOIL RECOVERY, INC.
P. O. BOX 395
CASTLE HAYNE, NC 28429

TO; PRACTICAL ENVIRONMENTAL SOLUTIONS
P. O. BOX 12590
WILMINGTON, NC 28405

RE: 304 N. KERR AVE.

ATTN: KIRK MCDONALD

SOIL RECOVERY, INC. HAS TAKEN FULL OWNERSHIP OF 18.16 TONS OF CONTAMINATED SOIL RECEIVED FROM THE PROPERTY OF CHARLES RACKLEY, LOCATED AT 304 N. KERR AVE., WILMINGTON, NC. ALL LIABILITY WITH TREATMENT AND DISPOSAL OF THE CONTAMINATED SOIL WILL REMAIN WITH SOIL RECOVERY, INC.. PRACTICAL ENVIRONMENTAL SOLUTIONS AND/OR CHARLES RACKLEY ARE EXEMPT FROM ANY FURTHER LIABILITY AND/OR RESPONSIBILITY FOR THE 18,16 TONS OF CONTAMINATED SOIL.

SAMUEL E. LONG, JR., PRESIDENT — DATE 3/12/18

WITNESS — DATE 3/12/18

Soil Disposal Manifest

1). Generator's name:
Charles Rackley, 1905 Ryerson Drive, Garner, NC

2). Site: Physical Location (address): 304 N. Kerr Ave., Wilmington, NC

3). Owner of Contamination:
Same as above

---

4) Designated Disposal Name and Address:

Soil Recovery, Inc., P.O. Box 395, Castle Hayne, NC 28429 (910) 371-3460

(Truck Scales at American Distillation – ADI, 1690 Royster Road SE, Leland, NC 371-0993)

Disposal Site (incinerator): 2440 Cedar Hill Road, Navassa, NC
¼ mile from cross street, Southerland Way; gate on the right at the Navassa Sand sign.

---

5). Description of Waste: petroleum contaminated soil

---

6). Generators Certification: (910) 264-0884

I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous waste.

Print name: Kirk McDonald Signature: [signature] Date 3-9-18

---

7). Transporter Acknowledgement of Receipt to Materials:

Print name: David Porter Signature: [signature] Date 3/9/2018
Truck #: DP-5

---

8). Soil Disposal Facility Owner/Operator:
Certification of receipt of materials covered by this manifest.

Soil Recovery

Print name: SAM LONG Signature: [signature] Date 3/9/18

**Attach Weigh Ticket to verify the weight of the petroleum contaminated soil.

Appt. Time _____

WEIGHED ON A FAIRBANKS SCALE

Number 185

Date [illegible]

Customer [illegible]

Carrier [illegible]

Commodity [illegible]

Incoming Gross Weight

[illegible] lbs. Gross
[illegible] lbs. Tare
36320 lbs. Net

18.16 tons

NORTH CAROLINA
PUBLIC WEIGHMASTER
LICENSE EXPIRES JUNE 30, 2018
NANCY NEALE 28301
Nancy Neale
INVALID UNLESS SIGNED

Shipper _____

Weigher _____

Practical Environmental Solutions, P.C.

Kerr Ave. – 304 N

Lithographic Description

Depth in feet	Description
0 – 1.0	Black fine sand
1.0 – 2.0	Orange "hard pan"
3.0 – 5.0	Light brown fine sand
5.0 – 6.5	Light gray clay
6.5 – 8.0	Light gray fine sand

Description by: Kirk McDonald Conducted: 3/5/18

email: PES@oil-tank.com web site: www.oil-tank.com

Kerr Ave. – 304 N



The aboveground oil tank was standing very close to the back of the house. This picture shows the tank cut open to allow interior cleaning.



Corrosion holes in the bottom of the aboveground oil tank.



Photos showing the final "foot print" of the contaminated soil excavation.

Environmental Chemists, Inc.

6602 Windmill Way, Wilmington, NC 28405 • 910.392.0223 Lab • 910.392.4424 Fax
710 Bowsertown Road, Manteo, NC 27954 • 252.473.5702 Lab/Fax
255-A Wilmington Highway, Jacksonville, NC 28540 • 910.347.5843 Lab/Fax

ANALYTICAL & CONSULTING CHEMISTS

info@environmentalchemists.com

Practical Environmental Solutions, Inc.
5634 Harvest Grove Lane
Wilmington NC 28409
Attention: Kirk McDonald

Date of Report: Mar 26, 2018
Customer PO #:
Customer ID: 08100097
Report #: 2018-03328
Project ID: Kerr Ave 304

Lab ID	Sample ID:	Collect Date/Time		Matrix	Sampled by
18-08171	**Site:** KA-Closure	3/5/2018	11:00 AM	Solid/Sludge	Client

Test	Method	Results	Date Analyzed
Total Solids (%)	SM 2540 G	84.6 %	03/07/2018
DRO	SW846 Method 8015C	19600 mg/kg	03/06/2018
GRO	SW846 Method 8015C	2070 mg/kg	3/14/2018

Comment: Reported on a dry weight basis.

Reviewed by: Marisela Olivarez

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Analytical & Consulting Chemists

ENVIRONMENTAL CHEMISTS, INC

NCDENR: DWQ CERTERICATION # 94 NCDHHS: DLS CERTIFICATION # 37729

6602 Windmill Way Wilmington, NC 28405
OFFICE: 910-392-0223 FAX 910-392-4424

COLLECTION AND CHAIN OF CUSTODY - Trust Fund

CLIENT: Practical Environmental Solutions
ADDRESS: 5634 Harvest Grove Lane
Wilmington, NC 28409

PROJECT NAME: Kerr Ave - 304
CONTACT NAME: Kirk McDonald
REPORT TO: Kirk McDonald
COPY TO:

REPORT NO: KA304
PO NO: 18-03328
PHONE/FAX: (910) 790-8265
E-MAIL: kirk@oil-tank.com

Sampled By:

SAMPLE TYPE: I = Influent, E = Effluent, W = Well, ST = Stream, SO = Soil, SL = Sludge, Other:

Sample Identification	Collection			Sample Type	Composite or Grab	Container (P or G)	Chlorine mg/L	LAB ID NUMBER	PRESERVATION							ANALYSIS REQUESTED
	Date	Time	Temp						NONE	HCL	H2SO4	HNO3	NAOH	THIO	OTHER	
KA - closure	3-5	11:00			G	G		8171								GRO and DRO
					G	G										
					C	P										
					G	G										
					C	P										
					G	G										
					C	P										
					G	G										
					C	P										
					G	G										
					C	P										
					G	G										
					C	P										
					G	G										
					C	P										
					G	G										

NOTICE - DECHLORINATION: Samples for Ammonia, TKN, Cyanide, Phenol and Bacteria must be dechlorinated (0.2 ppm or less) in the field at the time of collection. See reverse for instructions

Transfer	Relinquished By:	Date/Time	Received By:	Date/Time
1.				
2.				

Temperature when Received: 4.0°C Accepted: ✓ Rejected: Resample Requested:
Delivered By: Received By: Date: 3/5/18 Time: 1330
Comments: TURNAROUND: Standard

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ANALYTICAL & CONSULTING CHEMISTS

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255-A Wilmington Highway, Jacksonville, NC 28540 • 910.347.5843 Lab/Fax

info@environmentalchemists.com

Practical Environmental Solutions, Inc.
5634 Harvest Grove Lane
Wilmington NC 28409
Attention: Kirk McDonald

Date of Report: Apr 18, 2018
Customer PO #:
Customer ID: 08100097
Report #: 2018-03769
Project ID: Kerr Ave -304

Lab ID	Sample ID:	Collect Date/Time	Matrix	Sampled by
18-09283	**Site:** KA-SW1	3/9/2018 9:15 AM	Solid/Sludge	Client

Test	Method	Results	Date Analyzed
Total Solids (%)	SM 2540 G	88.6 %	03/12/2018
1,1,1,2-Tetrachloroethane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
1,1,1-Trichloroethane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
1,1,2,2-Tetrachloroethane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
1,1,2-Trichloroethane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
1,1-Dichloroethane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
1,1-Dichloroethene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
1,1-Dichloropropene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
1,2,3-Trichlorobenzene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
1,2,3-Trichloropropane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
1,2,4-Trichlorobenzene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
1,2,4-Trimethylbenzene	SW 846 method 8260B/5035	146000 µg/kg	03/21/2018
1,2-Dibromo-3-Chloropropane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
1,2-Dibromoethane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
1,2-Dichlorobenzene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
1,2-Dichloroethane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
1,2-Dichloropropane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
1,3,5-Trimethylbenzene	SW 846 method 8260B/5035	33400 µg/kg	03/21/2018
1,3-Dichlorobenzene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
1,3-Dichloropropane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
1,4-Dichlorobenzene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
2,2-Dichloropropane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
2-Chlorotoluene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
2-Hexanone	SW 846 method 8260B/5035	<3820 µg/kg	03/21/2018
4-Chlorotoluene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Acetone	SW 846 method 8260B/5035	<3820 µg/kg	03/21/2018

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5634 Harvest Grove Lane
Wilmington NC 28409
Attention: Kirk McDonald

Date of Report: Apr 18, 2018
Customer PO #:
Customer ID: 08100097
Report #: 2018-03769
Project ID: Kerr Ave -304

Benzene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Bromobenzene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Bromochloromethane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Bromodichloromethane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Bromoform	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Bromomethane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Carbon tetrachloride	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Chlorobenzene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Chloroethane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Chloroform	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Chloromethane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
cis-1,2-Dichloroethene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
cis-1,3-Dichloropropene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Dibromochloromethane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Dibromomethane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Dichlorodifluoromethane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Ethanol	SW 846 method 8260B/5035	<38200 µg/kg	03/21/2018
Ethylbenzene	SW 846 method 8260B/5035	10600 µg/kg	03/21/2018
Hexachlorobutadiene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
IPE	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Isopropylbenzene	SW 846 method 8260B/5035	5750 µg/kg	03/21/2018
M+P Xylene	SW 846 method 8260B/5035	40800 µg/kg	03/21/2018
MEK	SW 846 method 8260B/5035	<3820 µg/kg	03/21/2018
Methylene chloride	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
MIBK	SW 846 method 8260B/5035	<3820 µg/kg	03/21/2018
MTBE	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Naphthalene	SW 846 method 8260B/5035	4320 µg/kg	03/21/2018
n-Butylbenzene	SW 846 method 8260B/5035	22300 µg/kg	03/21/2018
n-Propylbenzene	SW 846 method 8260B/5035	18200 µg/kg	03/21/2018
ortho-Xylene	SW 846 method 8260B/5035	20200 µg/kg	03/21/2018

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5634 Harvest Grove Lane
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Attention: Kirk McDonald

Date of Report: Apr 18, 2018
Customer PO #:
Customer ID: 08100097
Report #: 2018-03769
Project ID: Kerr Ave -304

p-Isopropyltoluene	SW 846 method 8260B/5035	7310 µg/kg	03/21/2018
sec-Butylbenzene	SW 846 method 8260B/5035	9670 µg/kg	03/21/2018
Styrene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
tert-Butylbenzene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Tetrachloroethene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Toluene	SW 846 method 8260B/5035	6280 µg/kg	03/21/2018
Trans-1,2-Dichloroethene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Trans-1,3-dichloropropene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Trichloroethene	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Trichlorofluoromethane	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
Vinyl acetate	SW 846 method 8260B/5035	<3820 µg/kg	03/21/2018
Vinyl chloride	SW 846 method 8260B/5035	<763 µg/kg	03/21/2018
1,2,4-Trichlorobenzene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
1,2-Dichlorobenzene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
1,3-Dichlorobenzene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
1,4-Dichlorobenzene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
2,4,5-Trichlorophenol	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
2,4,6-Trichlorophenol	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
2,4-Dichlorophenol	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
2,4-Dimethylphenol	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
2,4-Dinitrophenol	SW 846 method 8270/3510	<73600 µg/kg	03/14/2018
2,4-Dinitrotoluene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
2,6-Dinitrotoluene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
2-Chloronaphthalene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
2-Chlorophenol	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
2-Methylnaphthalene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
2-Methylphenol	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
2-Nitrophenol	SW 846 method 8270/3510	<73600 µg/kg	03/14/2018
3,3'-Dichlorobenzidine	SW 846 method 8270/3510	<36800 µg/kg	03/14/2018
3+4-Methylphenol	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018

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info@environmentalchemists.com

Practical Environmental Solutions, Inc.
5634 Harvest Grove Lane
Wilmington NC 28409
Attention: Kirk McDonald

Date of Report: Apr 18, 2018
Customer PO #:
Customer ID: 08100097
Report #: 2018-03769
Project ID: Kerr Ave -304

4,6-Dinitro-2-methylphenol	SW 846 method 8270/3510	<73600 µg/kg	03/14/2018
4-Bromophenyl phenyl ether	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
4-Chloro-3-methylphenol	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
4-Chloroaniline	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
4-Chlorophenyl phenyl ether	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
4-Nitrophenol	SW 846 method 8270/3510	<73600 µg/kg	03/14/2018
Acenaphthene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Acenaphthylene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Anthracene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Benzo(a)anthracene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Benzo(a)pyrene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Benzo(b)fluoroanthene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Benzo(g,h,i)perylene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Benzo(k)fluoranthene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Bis(2-Chloroethoxy)methane	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Bis(2-Chloroethyl)ether	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Bis-(2-Chloroisopropyl)ether	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Bis-(2-Ethylhexyl)phthalate	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Butylbenzylphthalate	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Chrysene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Dibenzo(a,h)anthracene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Dibenzofuran	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Diethylphthalate	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Dimethylphthalate	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Di-n-Butylphthalate	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Di-n-Octylphthalate	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Fluoranthene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Fluorene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Hexachlorobenzene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Hexachlorobutadiene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018

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info@environmentalchemists.com

Practical Environmental Solutions, Inc.
5634 Harvest Grove Lane
Wilmington NC 28409
Attention: Kirk McDonald

Date of Report: Apr 18, 2018
Customer PO #:
Customer ID: 08100097
Report #: 2018-03769
Project ID: Kerr Ave -304

Hexachlorocyclopentadiene	SW 846 method 8270/3510	<73600 µg/kg	03/14/2018
Hexachloroethane	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Indeno(1,2,3-cd)pyrene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Isophorone	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Naphthalene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Nitrobenzene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
N-Nitroso-di-n-propylamine	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Pentachlorophenol	SW 846 method 8270/3510	<73600 µg/kg	03/14/2018
Phenanthrene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Phenol	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
Pyrene	SW 846 method 8270/3510	<14700 µg/kg	03/14/2018
DRO	SW846 Method 8015C	21900 mg/kg	03/12/2018
GRO	SW846 Method 8015C	2760 mg/kg	3/15/2018

Lab ID	Sample ID:	Collect Date/Time		Matrix	Sampled by
18-09292	**Site:** KA-SW2	3/9/2018	9:45 AM	Solid/Sludge	Client

Test	Method	Results	Date Analyzed
Total Solids (%)	SM 2540 G	85.4 %	03/12/2018
DRO	SW846 Method 8015C	11.5 mg/kg	03/12/2018
GRO	SW846 Method 8015C	< 2.9 mg/kg	3/15/2018

Lab ID	Sample ID:	Collect Date/Time		Matrix	Sampled by
18-09293	**Site:** KA-SW3	3/9/2018	10:00 AM	Solid/Sludge	Client

Test	Method	Results	Date Analyzed
Total Solids (%)	SM 2540 G	82.6 %	03/12/2018
DRO	SW846 Method 8015C	<8.00 mg/kg	03/12/2018
GRO	SW846 Method 8015C	< 3.2 mg/kg	3/15/2018

envirochem SM
ANALYTICAL & CONSULTING CHEMISTS

Environmental Chemists, Inc.

6602 Windmill Way, Wilmington, NC 28405 • 910.392.0223 Lab • 910.392.4424 Fax
710 Bowsertown Road, Manteo, NC 27954 • 252.473.5702 Lab/Fax
255-A Wilmington Highway, Jacksonville, NC 28540 • 910.347.5843 Lab/Fax

info@environmentalchemists.com

Practical Environmental Solutions, Inc.
5634 Harvest Grove Lane
Wilmington NC 28409
Attention: Kirk McDonald

Date of Report: Apr 18, 2018
Customer PO #:
Customer ID: 08100097
Report #: 2018-03769
Project ID: Kerr Ave -304

Lab ID	Sample ID:	Collect Date/Time	Matrix	Sampled by
18-09294	**Site:** KA-SW4	3/9/2018 9:50 AM	Solid/Sludge	Client

Test	Method	Results	Date Analyzed
Total Solids (%)	SM 2540 G	84.8 %	03/12/2018
DRO	SW846 Method 8015C	<7.77 mg/kg	03/12/2018
GRO	SW846 Method 8015C	< 2.9 mg/kg	3/15/2018

Lab ID	Sample ID:	Collect Date/Time	Matrix	Sampled by
18-09295	**Site:** KA-Center	3/9/2018 9:45 AM	Solid/Sludge	Client

Test	Method	Results	Date Analyzed
Total Solids (%)	SM 2540 G	86.0 %	03/12/2018
DRO	SW846 Method 8015C	<7.72 mg/kg	03/12/2018
GRO	SW846 Method 8015C	< 2.8 mg/kg	3/15/2018

Comment:
Reviewed by: _____

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name Practical Environmental Solutions
Project Name Kerr Ave - 304
Site Location

Laboratory Name Environmental Chemists Inc
NC Certification # (Lab) 94
Sample Matrix Soil
Report 2018-03769

Sample Information and Analytical Results

Method for Ranges: MADEP EPH
EPH Surrogate Standards

Aliphatic: Chlorooctadecane
Aromatic: Ortho-Terphenyl
EPH Fractionation Surrogates
#1: 2-Fluorobiphenyl

Sample Identification					KA-SW1				
					18-09283				
Date Collected					3/9/2018				
Date Received					3/9/2018				
Date Extracted					3/13/2018				
Date Analyzed					4/12/2018				
% Dry Solids					88.64				
Dilution Factor AL/AR					200/10				
Hydrocarbon Ranges	**Units of Measure**	**MDL**	**RL**	**Blank**					
C9 - C18 Aliphatics*	**µg/Kg**	12	2400	<2400	11400000				
C19 - C36 Aliphatics*	**µg/Kg**	41	3200	<3200	2380000				
C11 - C22 Aromatics*	**µg/Kg**	46	6800	<6800	1830000				
Sample Surrogate Acceptance Range				**40-140%**	**40-140%**	**40-140%**	**40-140%**	**40-140%**	**40-140%**
Aliphatic Surrogate % Recovery				67.6	**				
Aromatic Surrogate % Recovery				85.3	**				
Fractionation Surrogate Acceptance Range				**40-140%**	**40-140%**	**40-140%**	**40-140%**	**40-140%**	**40-140%**
Fractionation Surrogate #1 % Recovery				86.0	**				

* Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range.
CDL = Method Detection Limit RL = Reporting Limit Blank = Laboratory Method Blank

EPH rev. 11/00

Were all performance/acceptance standards for required QA/QC procedures achieved? Yes **No - Details Below**
Was blank correction applied as a significant modification of the method ? Yes **No**
Were any significant modifications to the EPH method made? **No** **Yes - Details Attached**

** Surrogate outside QC limit due to sample matrix and dilution factor.

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name	Practical Environmental Solutions, Inc	Laboratory Name	Environmental Chemists Inc
Project Name	Kerr Ave	NC Certification # (Lab)	94
Site Location	304 Kerr Avenue	Sample Matrix	SOIL
		Report #	**2018-03769**

Sample Information and Analytical Results

Method for Ranges: MADEP VPH		**Sample Identification**			KA-SW1					
					18-09283					
		Collection Option (for soil)*			2					
VPH Surrogate Standards		**Date Collected**			3/9/2018					
Aliphatic:4-Bromofluorobenzene		**Date Received**			3/9/2018					
Aromatic:4-Bromofluorobenzene		**Date Extracted**			3/9/2018					
		Date Analyzed			3/19/2018					
		% Dry Solids			88.6					
		Dilution Factor			0.668;26.7					
Hydrocarbon Ranges	**Units of Measure**	**MDL**	**RL**	**Blank**						
C5 - C8 Aliphatics**	**µg/Kg**	106	300	<300	38,500					
C9 - C12 Aliphatics**	**µg/Kg**	80	200	<200	255,000					
C9 - C10 Aromatics**	**µg/Kg**	37	100	<100	110,000					
Sample Surrogate Acceptance Range				**70-130%**	**70-130%**					
Aliphatic Surrogate % Recovery - FID				87.41	103.3					
Aromatic Surrogate % Recovery - PID				86.7	95.37					

* Option 1 = Established fill line on vial Option 2 = Sampling Device (indicate brand, e.g. EnCore™) Option 3 = Field weight of soil

** Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range.

MDL = Method Detection Limit RL = Reporting Limit Blank = ***Laboratory Method Blank*** or Trip Blank whichever is higher (indicate type)

VPH rev. 11/00

Were all performance/acceptance standards for required QA/QC procedures achieved? (Yes) **No - Details Attached**

Were any significant modifications to the VPH method made? (No) **Yes - Details Attached**

envirochem
Analytical & Consulting Chemists

ENVIRONMENTAL CHEMISTS, INC

NCDENR: DWQ CERTERICATION # 94 NCDHHS: DLS CERTIFICATION # 37729

6602 Windmill Way Wilmington, NC 28405
OFFICE: 910-392-0223 FAX 910-392-4424

COLLECTION AND CHAIN OF CUSTODY - Trust Fund

CLIENT: Practical Environmental Solutions
ADDRESS: 5634 Harvest Grove Lane
Wilmington, NC 28409

PROJECT NAME: Kerr Ave - 304
CONTACT NAME: Kirk McDonald
REPORT TO: Kirk McDonald
COPY TO:

REPORT NO: KA304
PO NO: 18-03769
PHONE/FAX: (910) 790-8265
E-MAIL: kirk@oil-tank.com

Sampled By:

SAMPLE TYPE: I = Influent, E = Effluent, W = Well, ST = Stream, SO = Soil, SL = Sludge, Other:

Sample Identification	Collection: Date	Collection: Time	Collection: Temp	Sample Type	Composite or Grab	Container (P or G)	Chlorine mg/L	LAB ID NUMBER	PRESERVATION: NONE	HCL	H2SO4	HNO3	NAOH	THIO	OTHER	ANALYSIS REQUESTED
KA - SW1	3-9	9:15			G	G		9283								GRO, DRO
KA - SW1		↓			G	G										8260, 8270, MADEP:VPH and EPH
KA - SW2		9:45			G	G		9292								GRO, DRO
KA - SW2		↓			G	G										8260, 8270, MADEP:VPH and EPH
KA - SW3		10:00			G	G		9293								GRO, DRO
KA - SW3		↓			G	G										8260, 8270, MADEP:VPH and EPH
KA - SW4		9:50			G	G		9294								GRO, DRO
KA - SW4		↓			G	G										8260, 8270, MADEP:VPH and EPH
KA - Center		9:45			G	G		9295								GRO, DRO
KA - Center	↓	↓			G	G										8260, 8270, MADEP:VPH and EPH

NOTICE - DECHLORINATION: Samples for Ammonia, TKN, Cyanide, Phenol and Bacteria must be dechlorinated (0.2 ppm or less) in the field at the time of collection. See reverse for instructions

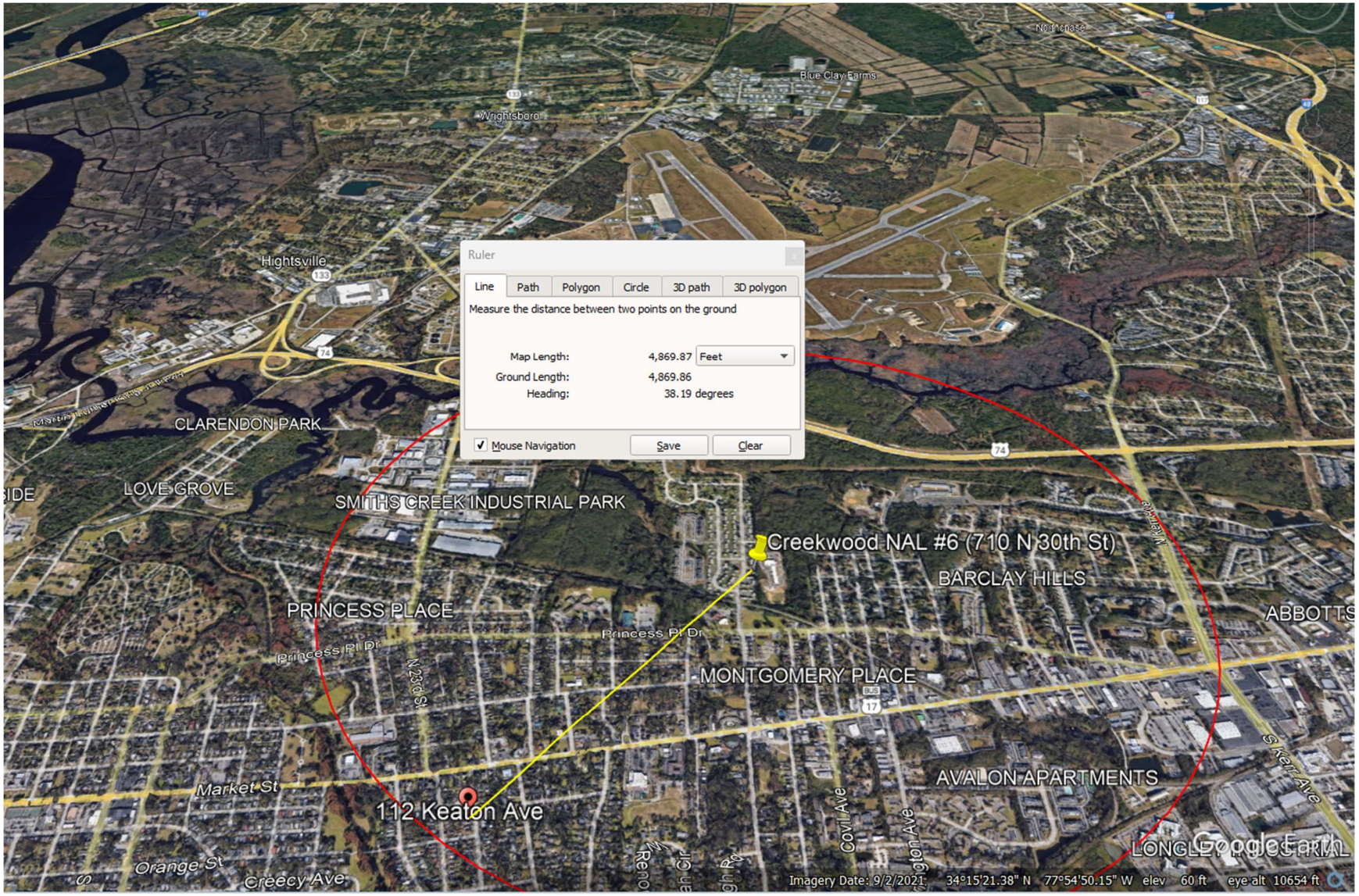
Transfer	Relinquished By:	Date/Time	Received By:	Date/Time
1.				3/9/18 2:10
2.				

Temperature when Received: Accepted: ✓ Rejected: Resample Requested:
Delivered By: Received By: Date: 3/9/18 Time: 1500
Comments: Run TPH for all samples first. On highest single GRO/DRO sample, run 8260, 8270, & MADEP
TURNAROUND: Standard

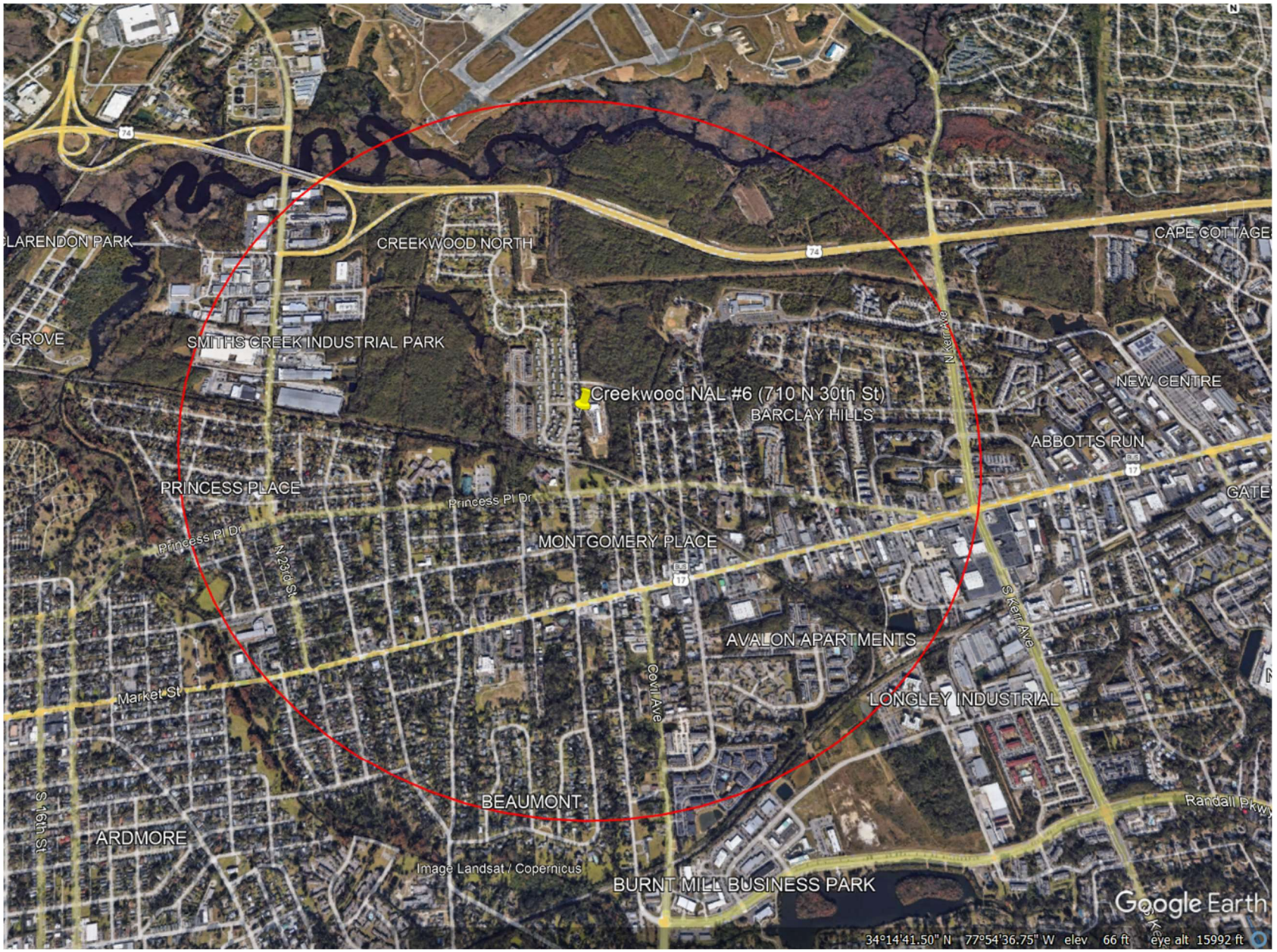
AST Review - 304 N. Kerr Ave. – No AST



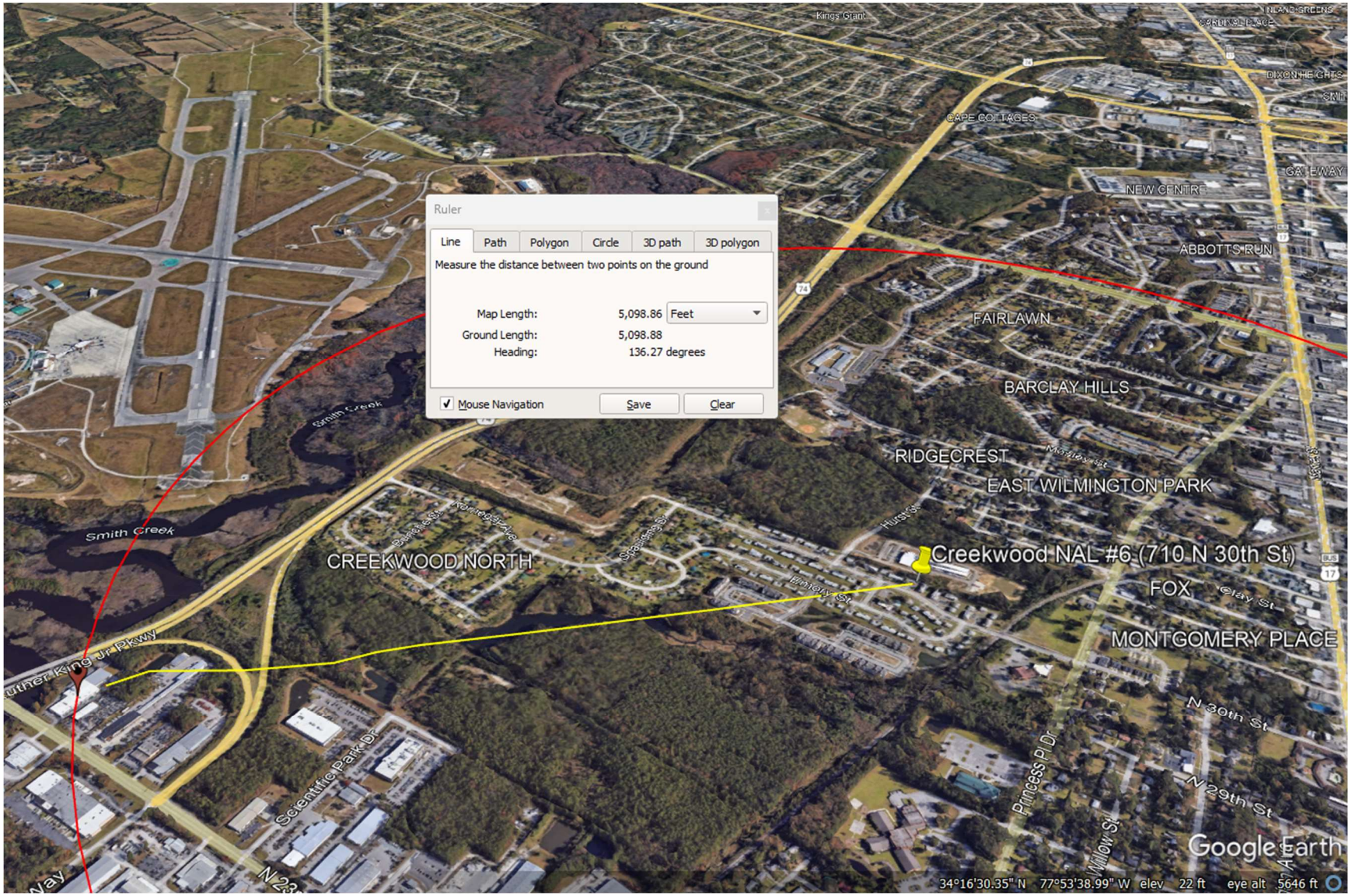
AST Review - 710 & 712 N. 30th St. Distance to 112 Keaton Avenue Residence



Creekwood/Creekwood South – ASTs 1-mile Radius Search for 710 & 712 N. 30th St.



AST Review - 710 & 712 N. 30th St. Distance to Alcami, 1744 N. 23rd St.



AST Review - Alcami, 1744 N. 23rd St. – Potential AST



Acceptable Separation Distance (ASD) Electronic Assessment Tool

The Environmental Planning Division (EPD) has developed an electronic-based assessment tool that calculates the Acceptable Separation Distance (ASD) from stationary hazards. The ASD is the distance from above ground stationary containerized hazards of an explosive or fire prone nature, to where a HUD assisted project can be located. The ASD is consistent with the Department's standards of blast overpressure (0.5 psi-buildings) and thermal radiation (450 BTU/ft^2 - hr - people and 10,000 BTU/ft^2 - hr - buildings). Calculation of the ASD is the first step to assess site suitability for proposed HUD-assisted projects near stationary hazards. Additional guidance on ASDs is available in the Department's guidebook "Siting of HUD- Assisted Projects Near Hazardous Facilities" and the regulation 24 CFR Part 51, Subpart C, Sitting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature.

Note: Tool tips, containing field specific information, have been added in this tool and may be accessed by hovering over the ASD result fields with the mouse.

Acceptable Separation Distance Assessment Tool

Is the container above ground?	**Yes:** ☑ **No:** ☐
Is the container under pressure?	**Yes:** ☑ **No:** ☐
Does the container hold a cryogenic liquified gas?	**Yes:** ☑ **No:** ☐
Is the container diked?	**Yes:** ☐ **No:** ☑
What is the volume (gal) of the container?	3000
What is the Diked Area Length (ft)?	
What is the Diked Area Width (ft)?	
Calculate Acceptable Separation Distance	
Diked Area (sqft)	
ASD for Blast Over Pressure (ASDBOP)	

ASD for Blast Overpressure (ASDBOP)	
ASD for Thermal Radiation for People (ASDPPU)	437.09
ASD for Thermal Radiation for Buildings (ASDBPU)	83.56
ASD for Thermal Radiation for People (ASDPNPD)	
ASD for Thermal Radiation for Buildings (ASDBNPD)	

For mitigation options, please click on the following link: Mitigation Options **(/resource/3846/acceptable-separation-distance-asd-hazard-mitigation-options/)**

Providing Feedback & Corrections

After using the ASD Assessment Tool following the directions in this User Guide, users are encouraged to provide feedback on how the ASD Assessment Tool may be improved. Users are also encouraged to send comments or corrections for the improvement of the tool.

Please send comments or other input using the **Contact Us (https://www.hudexchange.info/contact-us/)** form.

Related Information

- **ASD User Guide (/resource/3839/acceptable-separation-distance-asd-assessment-tool-user-guide/)**
- **ASD Flow Chart (/resource/3840/acceptable-separation-distance-asd-flowchart/)**

AST Review - 710/712 N. 30th St. Distance to Long Business Center, 1215 N. 23rd St.



AST Review - Long Business Center, 1215 N. 23rd St. – Propane AST



Acceptable Separation Distance (ASD) Electronic Assessment Tool

The Environmental Planning Division (EPD) has developed an electronic-based assessment tool that calculates the Acceptable Separation Distance (ASD) from stationary hazards. The ASD is the distance from above ground stationary containerized hazards of an explosive or fire prone nature, to where a HUD assisted project can be located. The ASD is consistent with the Department's standards of blast overpressure (0.5 psi-buildings) and thermal radiation (450 BTU/ft^2 - hr - people and 10,000 BTU/ft^2 - hr - buildings). Calculation of the ASD is the first step to assess site suitability for proposed HUD-assisted projects near stationary hazards. Additional guidance on ASDs is available in the Department's guidebook "Siting of HUD- Assisted Projects Near Hazardous Facilities" and the regulation 24 CFR Part 51, Subpart C, Sitting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature.

Note: Tool tips, containing field specific information, have been added in this tool and may be accessed by hovering over the ASD result fields with the mouse.

Acceptable Separation Distance Assessment Tool

Is the container above ground?	**Yes:** ☑ **No:** ☐
Is the container under pressure?	**Yes:** ☑ **No:** ☐
Does the container hold a cryogenic liquified gas?	**Yes:** ☑ **No:** ☐
Is the container diked?	**Yes:** ☐ **No:** ☑
What is the volume (gal) of the container?	1000
What is the Diked Area Length (ft)?	
What is the Diked Area Width (ft)?	
Calculate Acceptable Separation Distance	
Diked Area (sqft)	
ASD for Blast Over Pressure (ASDBOP)	

ASD for Blast Overpressure (ASDBOP)	
ASD for Thermal Radiation for People (ASDPPU)	276.57
ASD for Thermal Radiation for Buildings (ASDBPU)	50.28
ASD for Thermal Radiation for People (ASDPNPD)	
ASD for Thermal Radiation for Buildings (ASDBNPD)	

For mitigation options, please click on the following link: Mitigation Options **(/resource/3846/acceptable-separation-distance-asd-hazard-mitigation-options/)**

Providing Feedback & Corrections

After using the ASD Assessment Tool following the directions in this User Guide, users are encouraged to provide feedback on how the ASD Assessment Tool may be improved. Users are also encouraged to send comments or corrections for the improvement of the tool.

Please send comments or other input using the **Contact Us (https://www.hudexchange.info/contact-us/)** form.

Related Information

- **ASD User Guide (/resource/3839/acceptable-separation-distance-asd-assessment-tool-user-guide/)**
- **ASD Flow Chart (/resource/3840/acceptable-separation-distance-asd-flowchart/)**

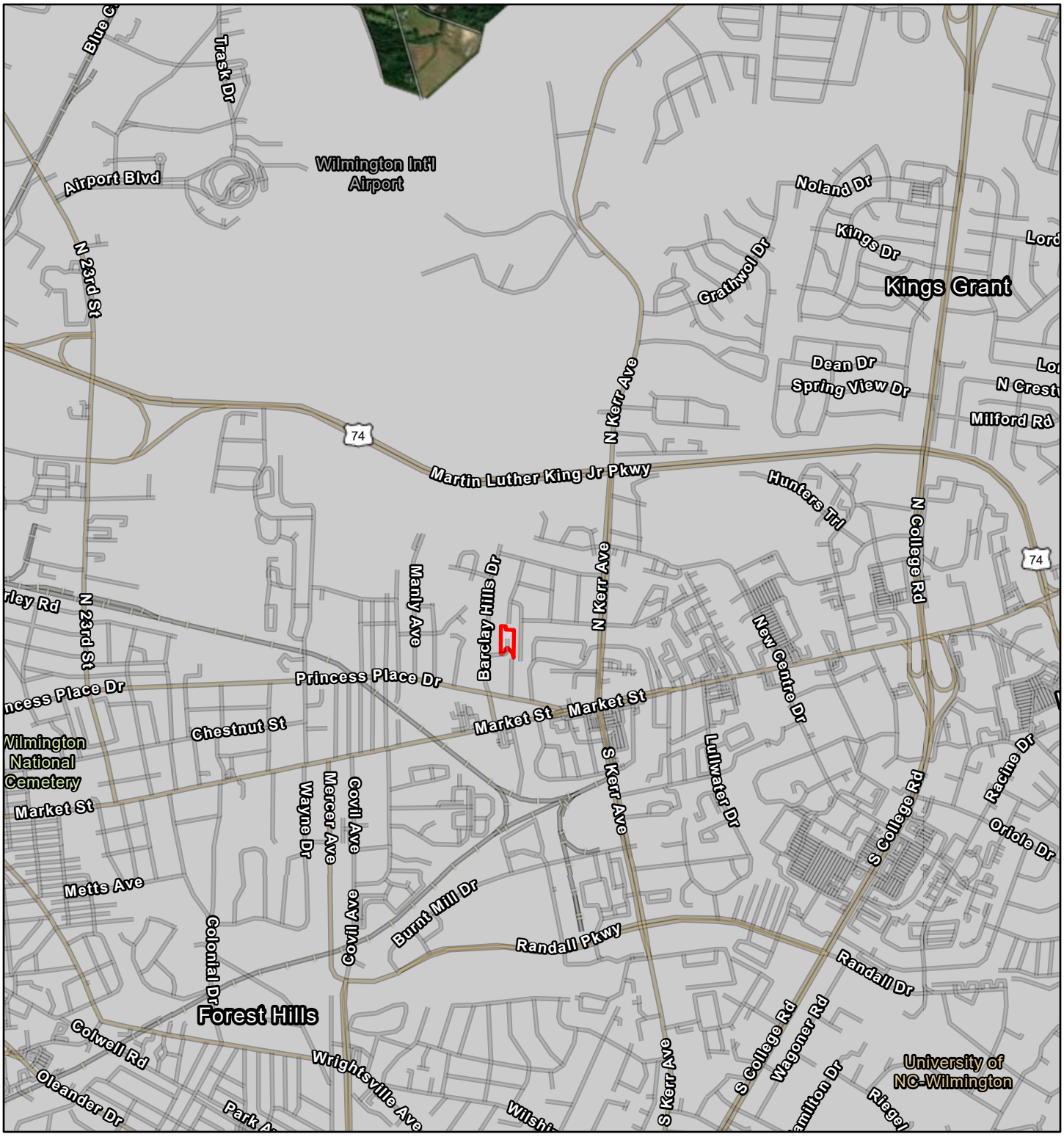
ATTACHMENT 10:

Farmlands Protection

NEPAssist Urban Areas Maps

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212)

Woodbridge Apartments - Urban Areas Map



April 28, 2023

1:36,112

0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

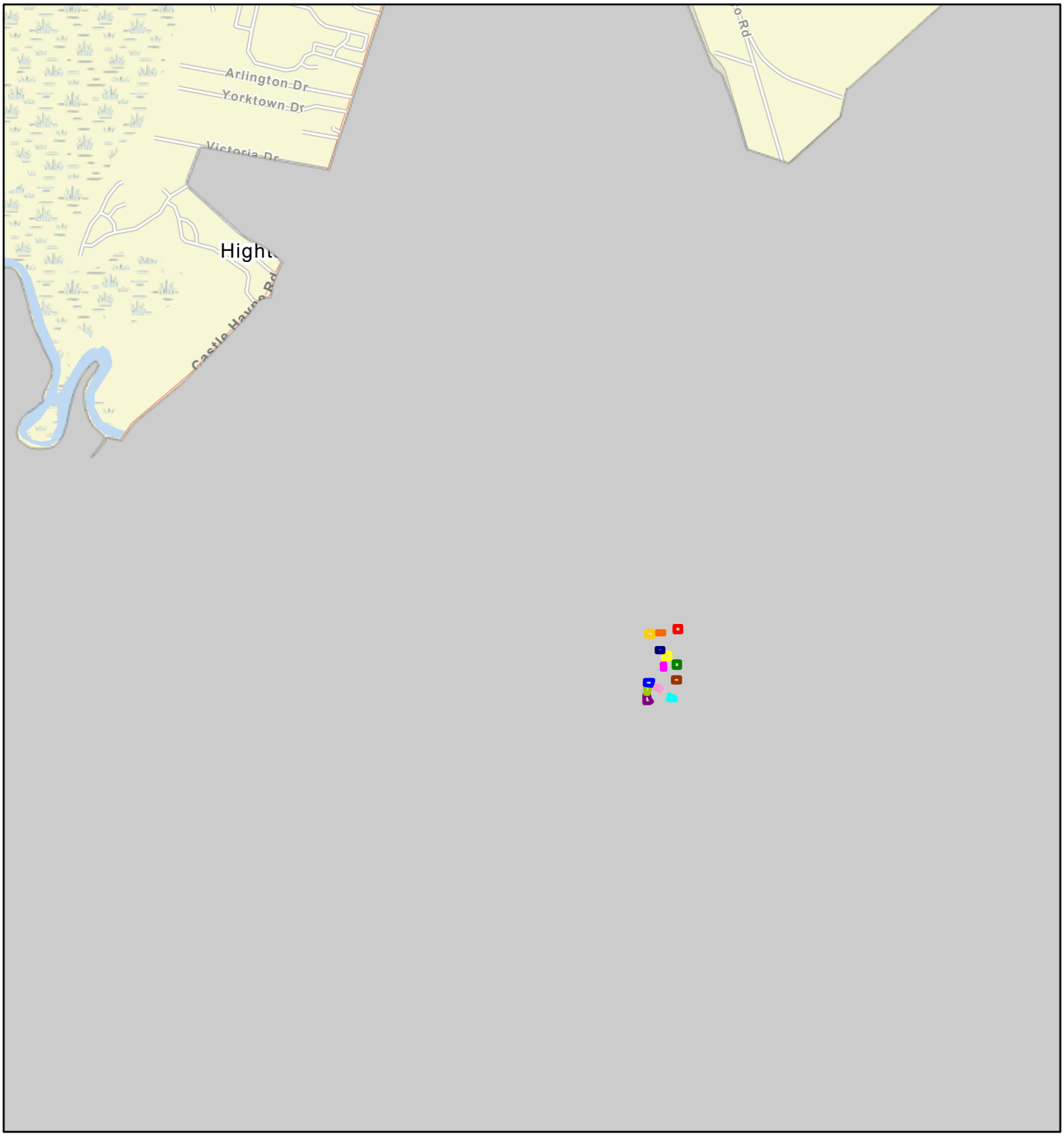
Woodbridge Apartments

Urbanized Areas

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

Creekwood (14 Units) at
602, 712, 804, 805, 809 & 1008 N. 30th St.,
617, 701, 707, 708, 902, 915 & 922 Emory St.,
and 2905 Clayton Place, Wilmington, NC
28405

Creekwood (14 Units) - Urban Areas Map



April 28, 2023

1:36,112

0 0.25 0.5 1 mi

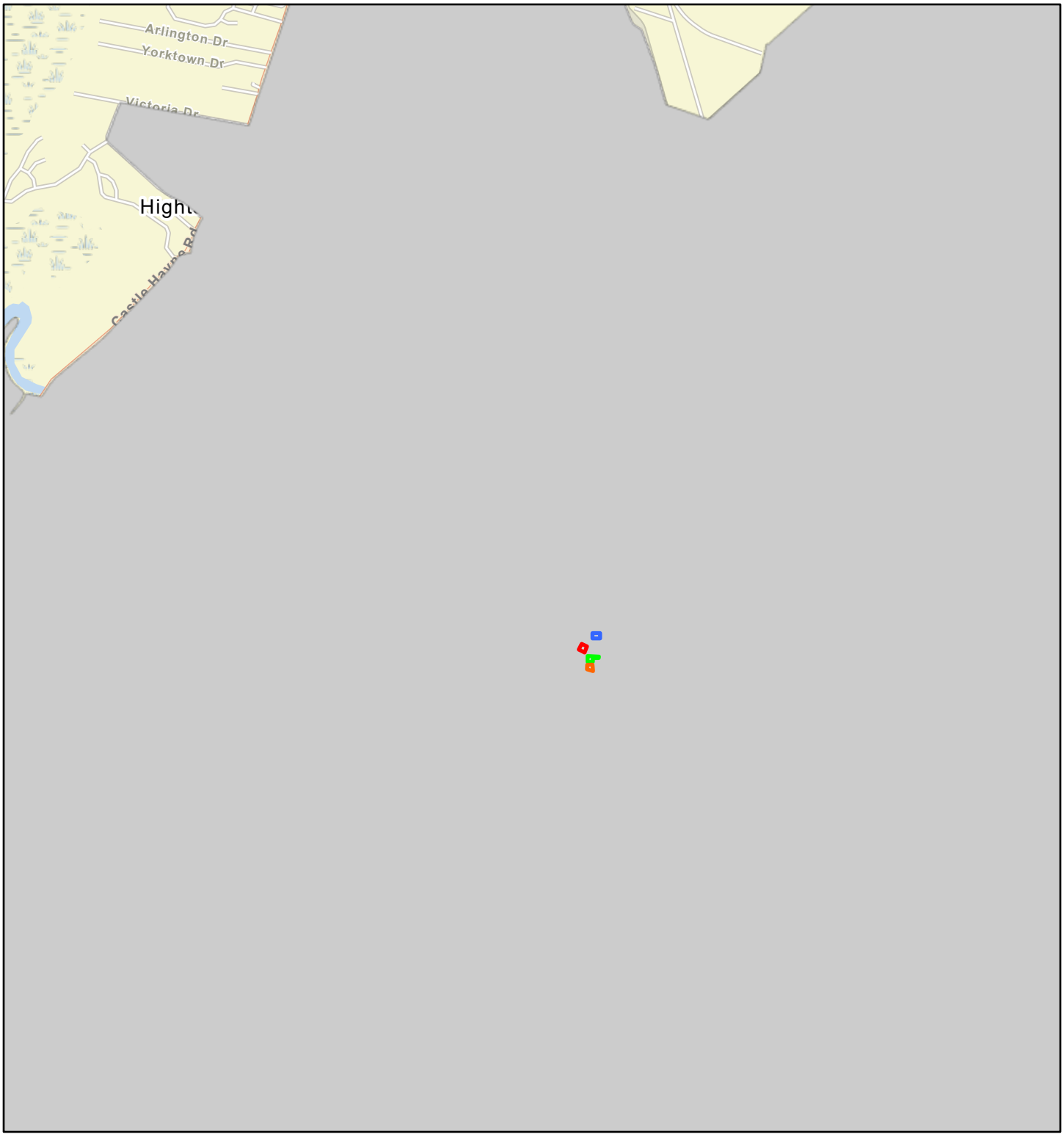
0 0.4 0.8 1.6 km

804 N. 30th St.
902 Emory St.
712 N. 30th St.
707 Emory St.
708 Emory St.
1008 N. 30th St.
602 N. 30th St.
2905 Clayton Pl.
922 Emory St.
915 Emory St.
701 Emory St.
617 Emory St.
805 & 809 N. 30th St.
Urbanized Areas

State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, EPA OEI

Creekwood South (6 Units) at
502, 522, 609, 611, 613 & 710 N. 30th St.,
Wilmington, NC 28405

Creekwood South (6 Units) - Urban Areas Map



April 28, 2023

1:36,112

0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

710 N. 30th St.

609, 611 & 613 N. 30th St.

502 N. 30th St.

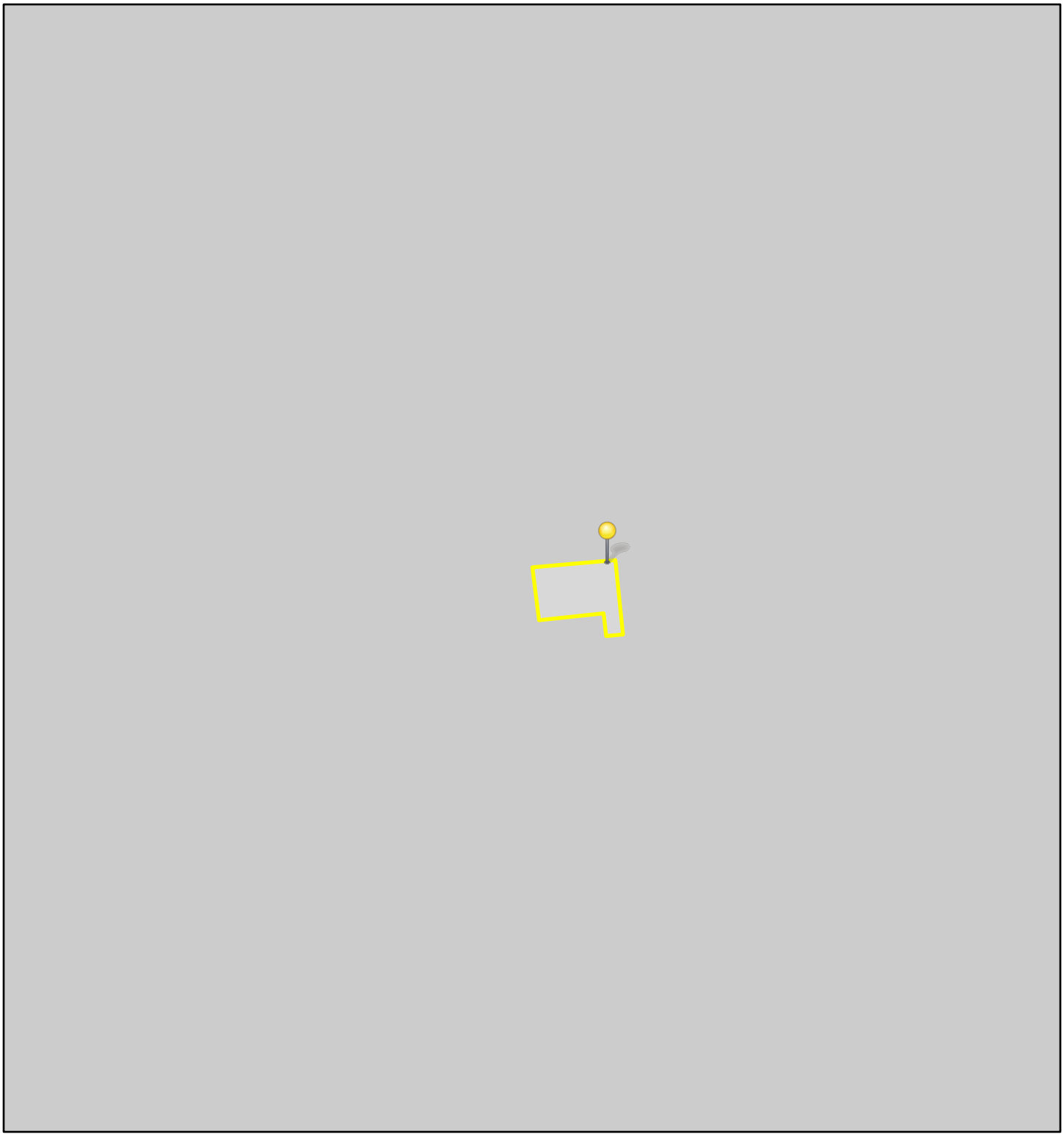
522 N. 30th St.

Urbanized Areas

State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, EPA OEI

Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405

Houston Moore - Urban Areas Map



April 28, 2023

1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

1420 Greenfield St.

Houston Moore

Urbanized Areas

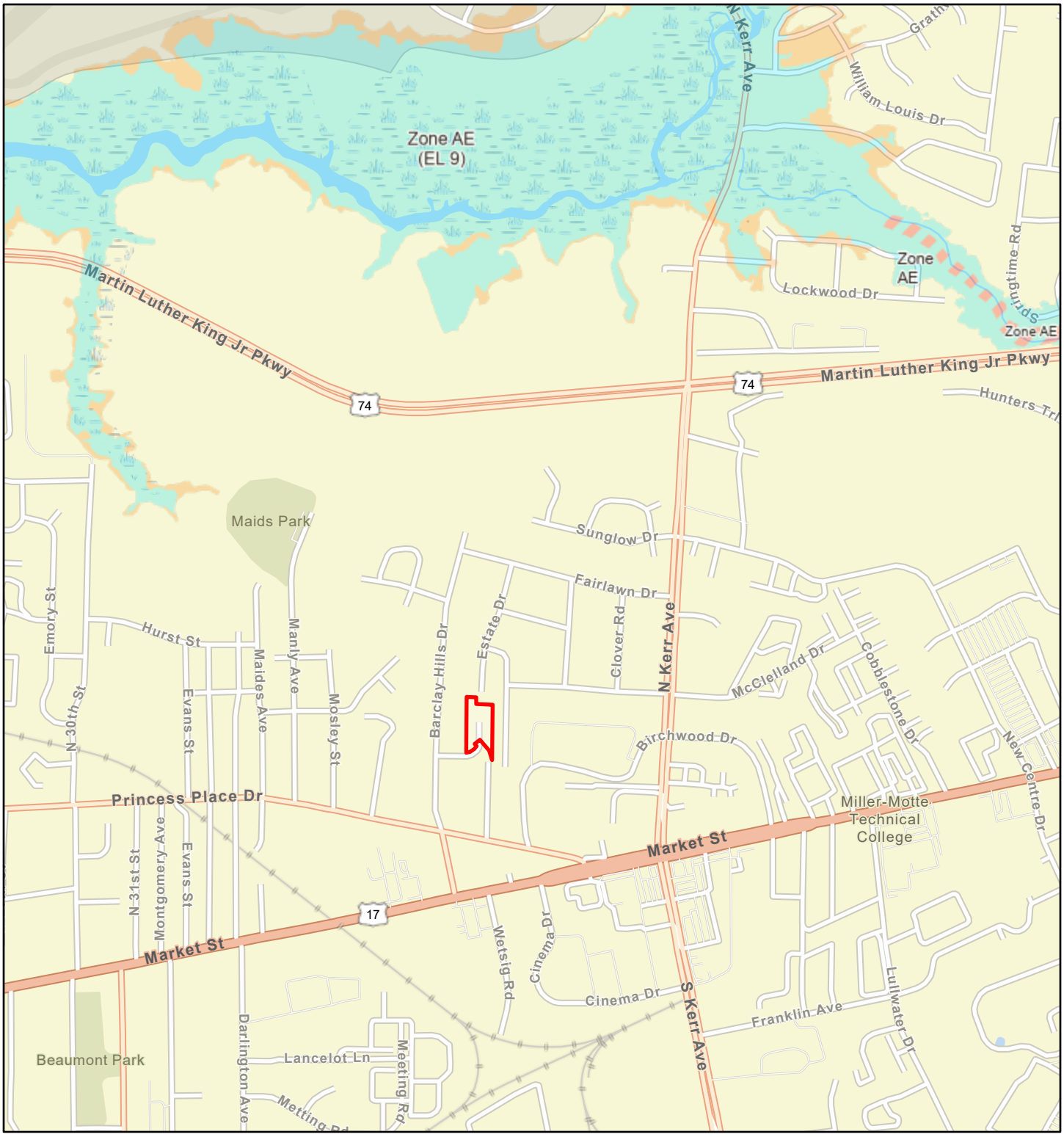
Esri Community Maps Contributors, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, EPA OEI

ATTACHMENT 11:

Floodplain Management

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212)

Woodbridge Apartments - FEMA FIRM



April 28, 2023

1:18,056

Flood Hazard Zones

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard

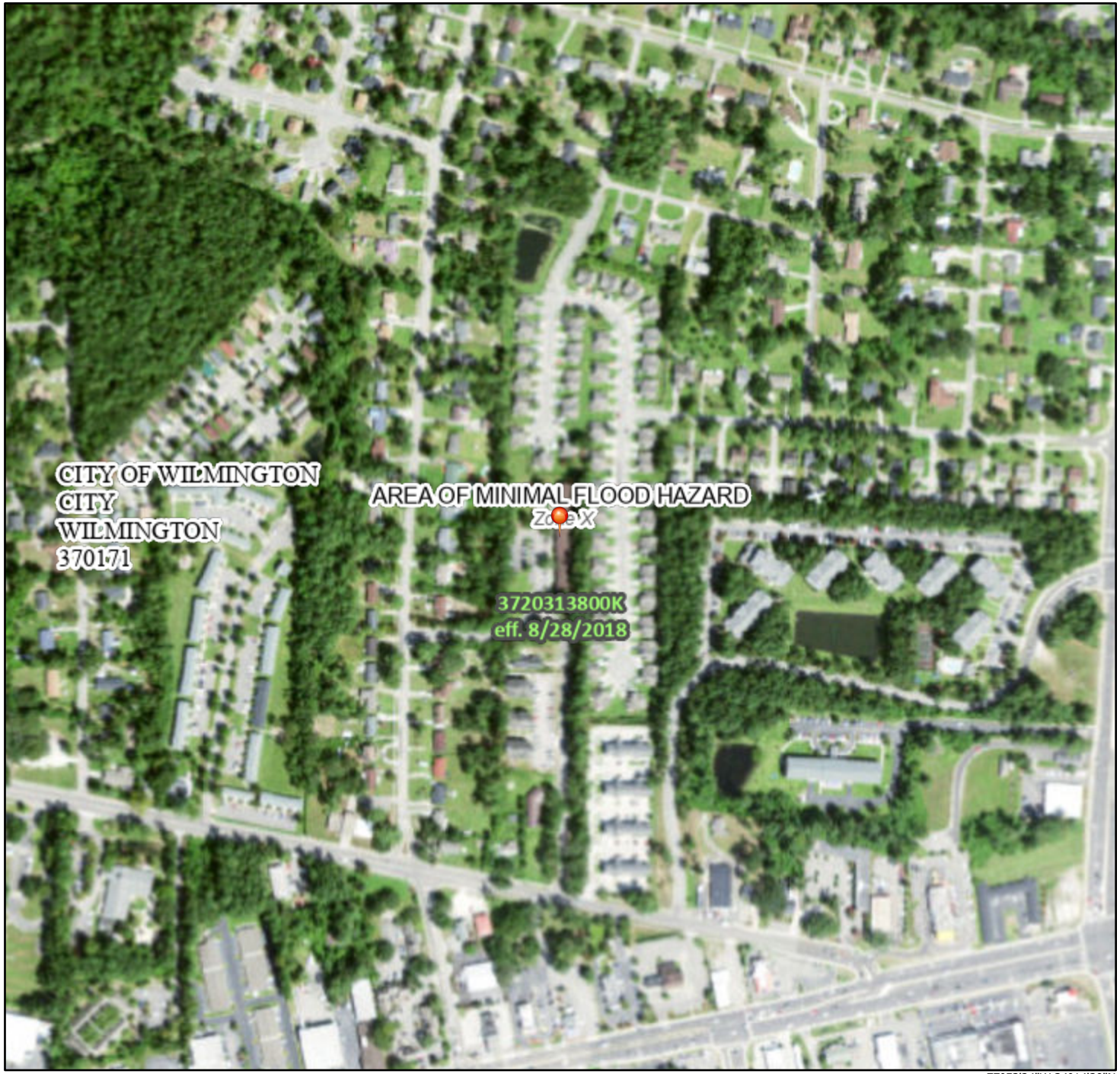
0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

Esri Community Maps Contributors, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

National Flood Hazard Layer FIRMette

77°54'1"W 34°15'N



77°53'24"W 34°14'30"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

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
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

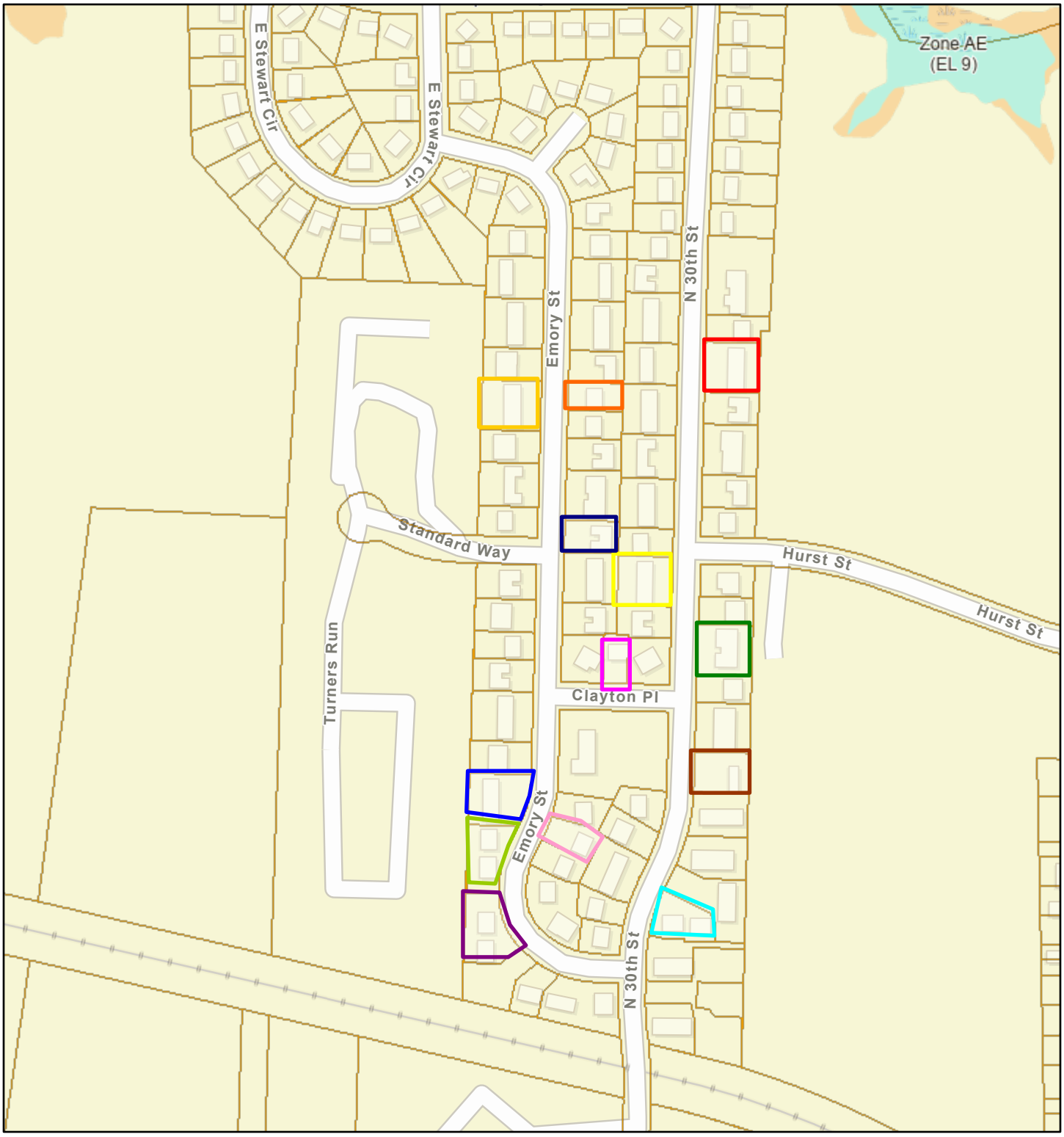
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/1/2023 at 2:11 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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.

Creekwood (14 Units) at
602, 712, 804, 805, 809 & 1008 N. 30th St.,
617, 701, 707, 708, 902, 915 & 922 Emory St.,
and 2905 Clayton Place, Wilmington, NC
28405

Creekwood (14 Units) - FEMA FIRM



April 28, 2023

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

Flood Hazard Zones

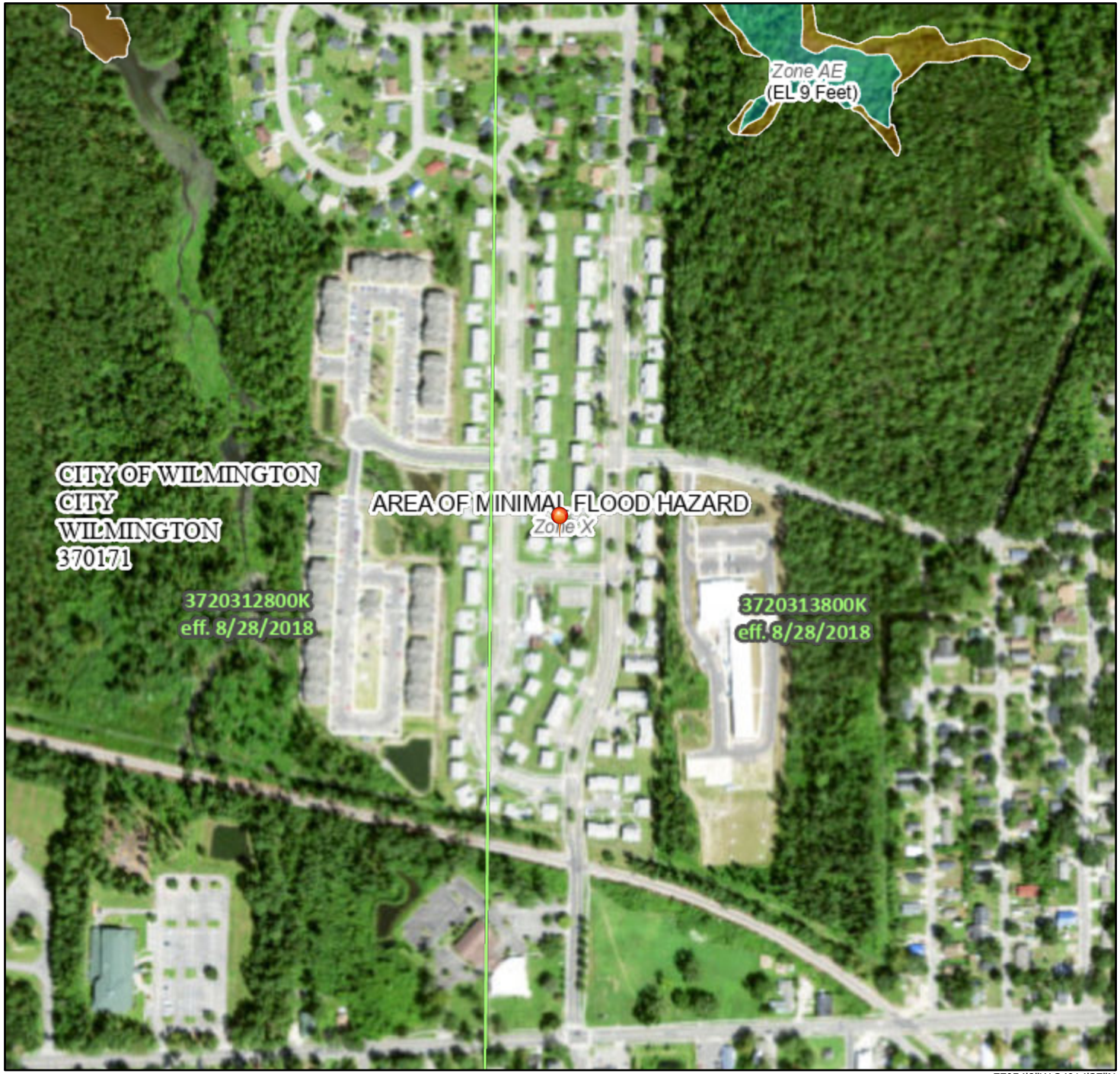
- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard

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

National Flood Hazard Layer FIRMette

FEMA

77°54'45"W 34°15'7"N



77°54'8"W 34°14'37"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

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
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

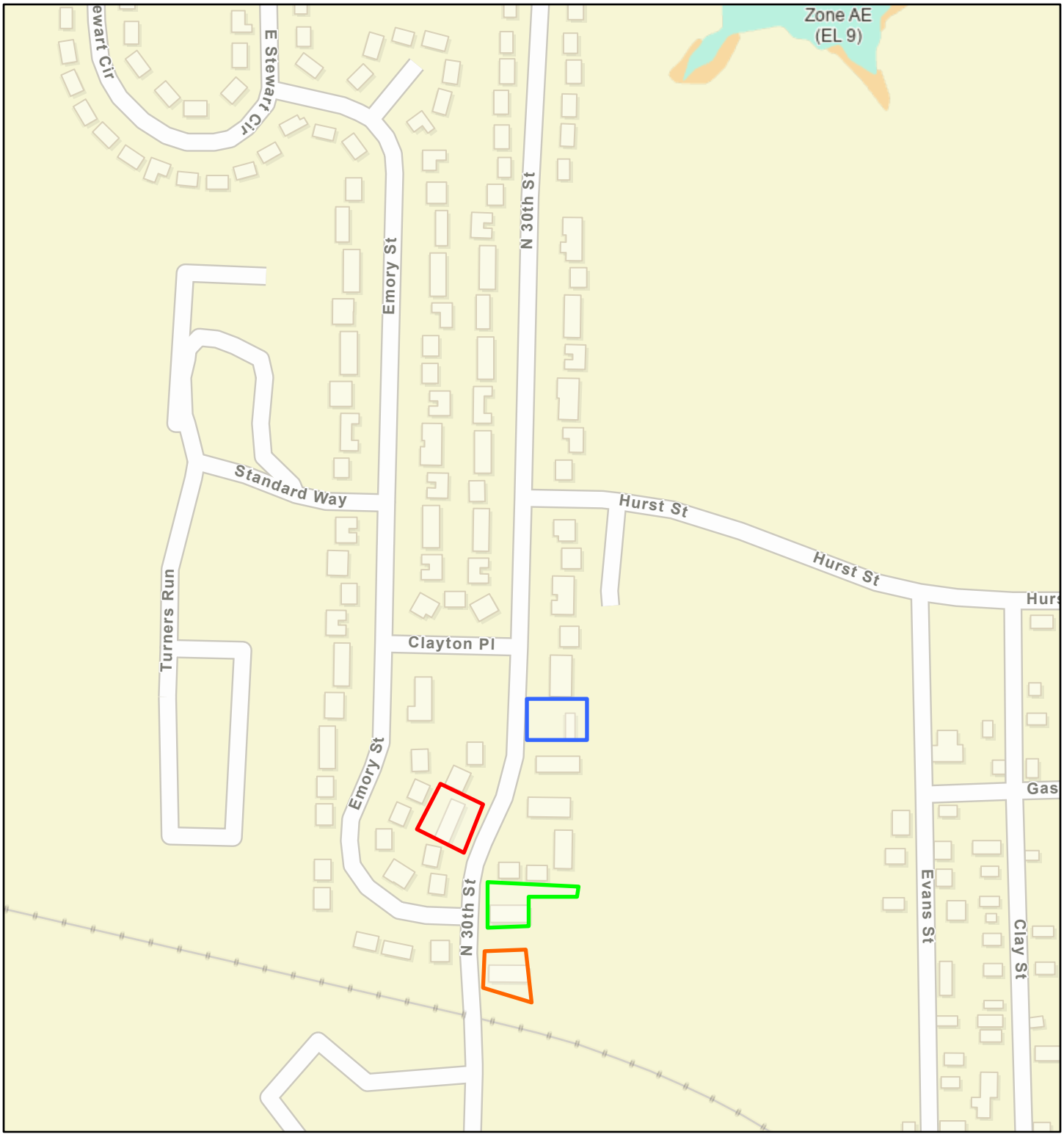
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/1/2023 at 1:09 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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.

Creekwood South (6 Units) at
502, 522, 609, 611, 613 & 710 N. 30th St.,
Wilmington, NC 28405

Creekwood South (6 Units) - FEMA FIRM



April 28, 2023

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

Flood Hazard Zones

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard

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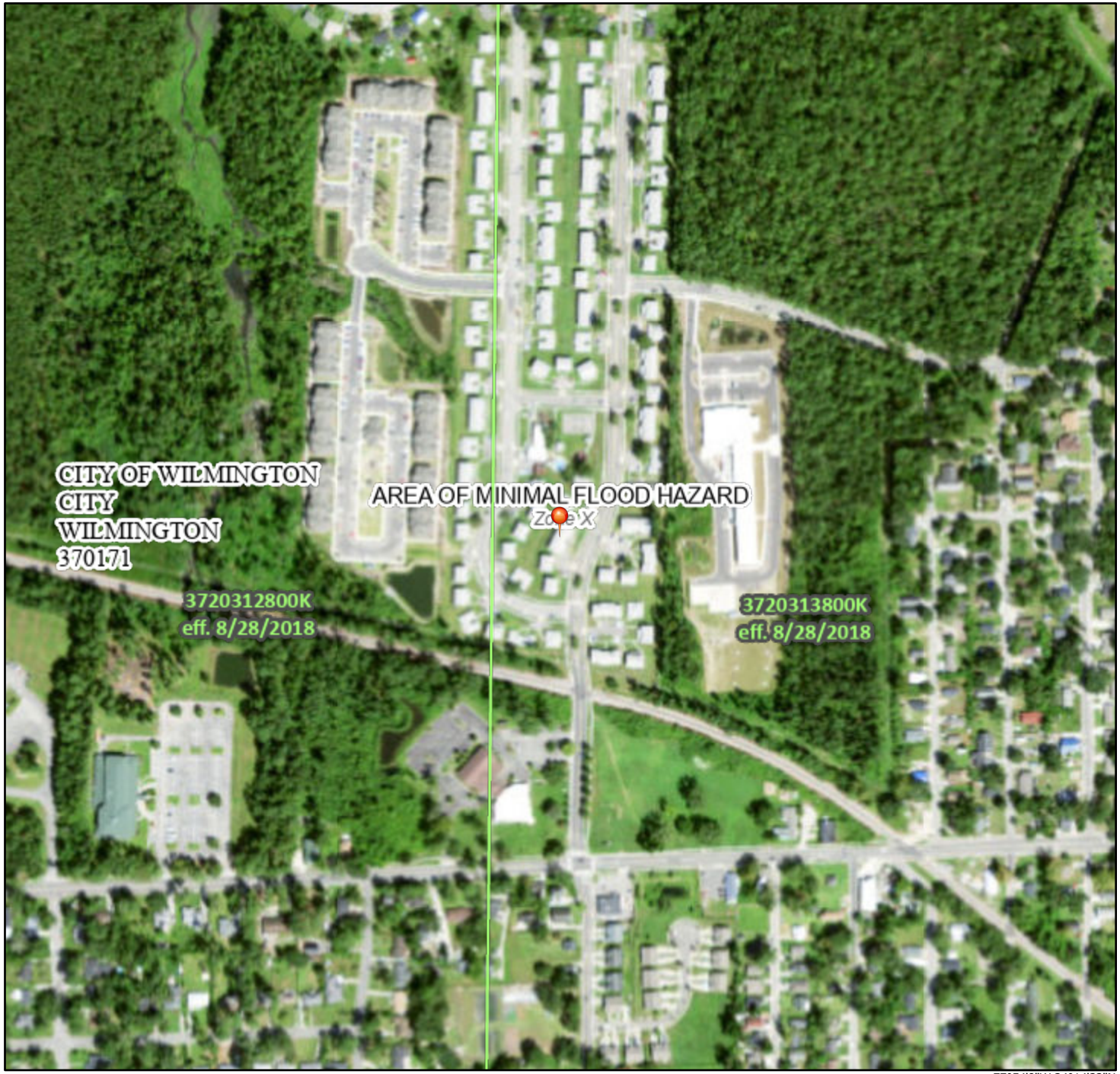
National Flood Hazard Layer FIRMette

77°54'46"W 34°15'2"N



77°54'8"W 34°14'32"N

Feet 1:6,000

0 250 500 1,000 1,500 2,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

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*
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- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/1/2023 at 1:11 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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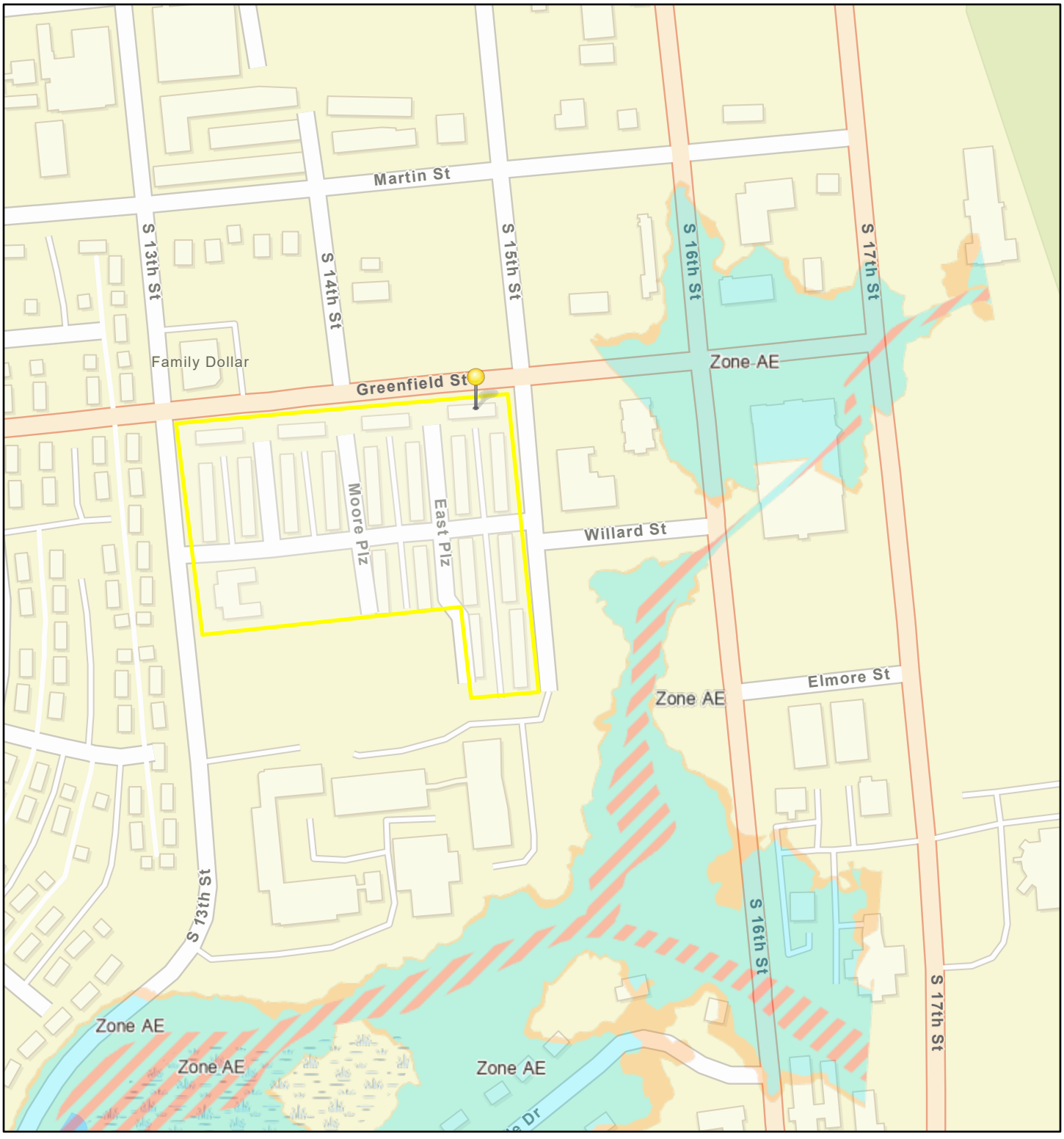
Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405

Houston Moore - FEMA FIRM



April 28, 2023

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

Flood Hazard Zones

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard

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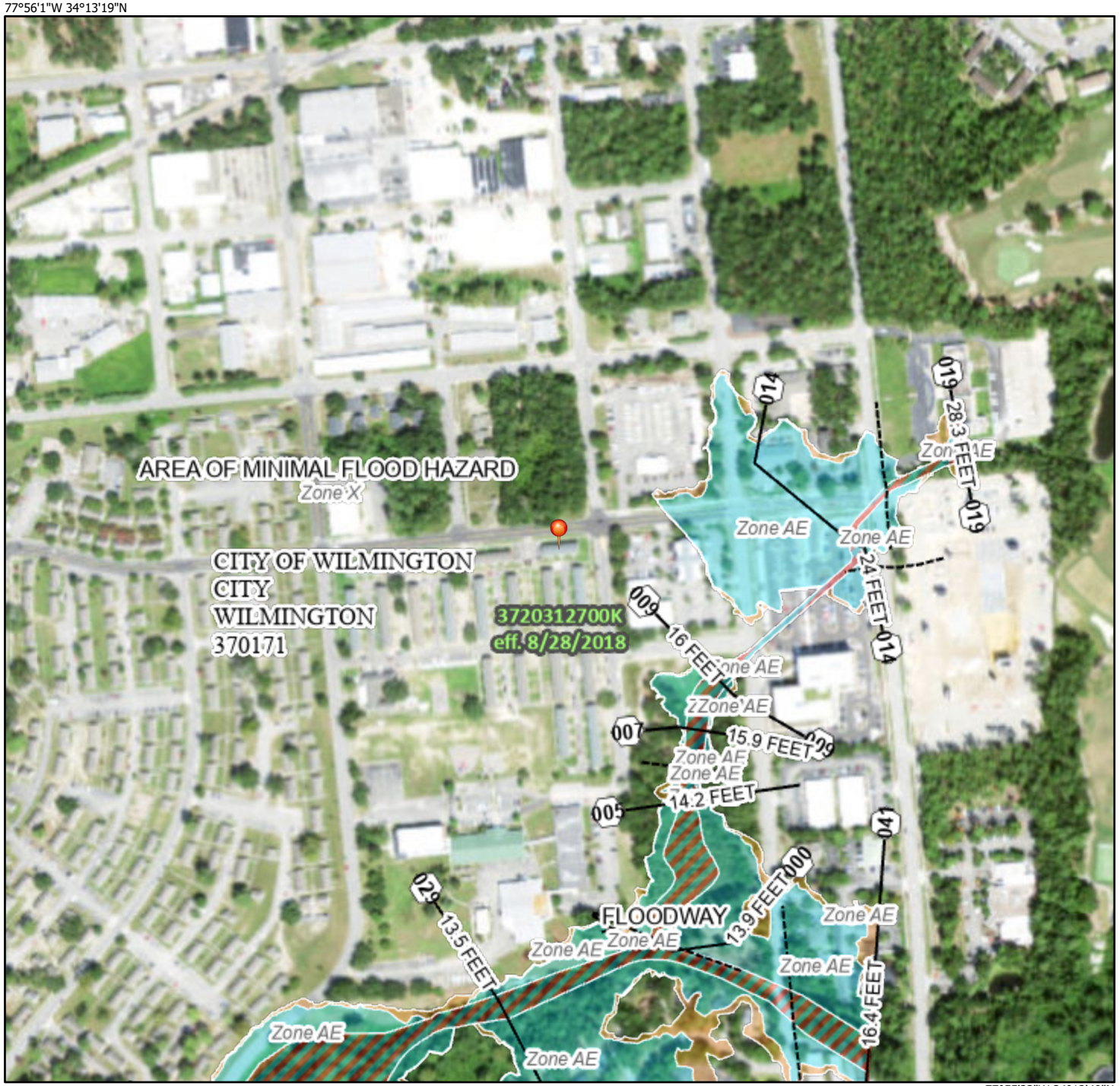
National Flood Hazard Layer FIRMette

FEMA

77°56'1"W 34°13'19"N



77°55'23"W 34°12'49"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

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

SPECIAL FLOOD HAZARD AREAS
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- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/1/2023 at 12:59 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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ATTACHMENT 12:

Historic Preservation

SHPO Response, NCORR SHPO Submission Package, HUD TDAT Results, Catawba Indian Nation Response, NCORR Catawba Indian Nation Submission Package, and When to Consult with Tribes under Section 106 Checklist

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.

June 1, 2023

MEMORANDUM

TO: Crystal Best
North Carolina State Clearinghouse
Department of Administration
crystal.best@doa.nc.gov

FROM: Ramona M. Bartos, Deputy
State Historic Preservation Officer
RSL for Ramona M. Bartos

SUBJECT: Wilmington Housing Authority Scattered Sites Rehabilitation Project located at Woodbridge Apartments (20 Units); Creekwood (14 Units); Creekwood South (6 Units); and Houston Moore (1 Unit), Wilmington, New Hanover County, 23-E-4600-0231, ER 23-1096 through ER 23-1099

Thank you for your submission of May 5, 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@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

North Carolina Department of Public Safety
Office of Recovery and Resiliency

Roy Cooper, Governor
Eddie M. Buffaloe, Jr., Secretary

Laura H. Hogshead, Director

May 4, 2023

Ms. Renee Gledhill-Earley
Environmental Review Coordinator
NC State Historic Preservation Office
4617 Mail Service Center
Raleigh, NC 27699-4617

Sent via email to the State Environmental Clearinghouse:
State.Clearinghouse@doa.nc.gov
crystal.best@doa.nc.gov

RE: State Historic Preservation Office Request for Concurrence
Section 106 Review - HUD CDBG-DR Program
Wilmington Housing Authority Scattered Sites Rehabilitation Project
Woodbridge Apartments (20 Units), **Creekwood** (14 Units), **Creekwood South** (6 Units), and **Houston Moore** (1 Unit) in Wilmington, New Hanover 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 – 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). The City of Wilmington was hit hard by Hurricane Florence which stalled over the City for three days and dropped 20 inches of rain on the area. These vacant 41 storm-damaged units also have mold necessitating renovation and mold remediation. Over the past year, WHA has paid for the alternative housing of 150 families in

hotels and market-rate apartments as well as provided per-diem payments for food and transportation. Therefore, funding for the proposed project will be provided in part by the HUD CDBG-DR North Carolina Public Housing Restoration Fund Program for Hurricane Florence storm recovery activities in North Carolina.

Proposed Project Location: The proposed project sites (Subject Property) are located at **Woodbridge Apartments** (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212); **Creekwood** (14 Units) at 602, 712, 804, 805, 809 & 1008 N. 30th St., 617, 701, 707, 708, 902, 915 & 922 Emory St., and 2905 Clayton Place, Wilmington, NC 28405; **Creekwood South** (6 Units) at 502, 522, 609, 611, 613 & 710 N. 30th St., Wilmington, NC 28405; and **Houston Moore** (1 Unit) at 1420 Greenfield St., Wilmington, New Hanover County, NC 28401. (Herein "Subject Property" refers to the Woodbridge Apartments, Creekwood, Creekwood South and Houston Moore affected parcels.)

Area of Potential Effects (APE) under §800.16(d): Based on the proposed project activities, we have defined the Area of Potential Effect (APE) as the Subject Property's boundaries. *The proposed project does not involve exterior work or ground disturbance.*

Proposed Project Description: The WHA is requesting $2,036,241 in NCORR CDBG-DR funds to rehabilitate a total of 41 units of severely damaged public housing located at 4 separate sites. The proposed project location maps are included in the attachments for your review. The Wilmington Housing Authority (WHA) will use the HUD CDBG-DR funding to complete repairs, replacements and mold remediation at 41 public housing units severely damaged by Hurricane Florence. The proposed project activities include repairing and/or replacing drywall, plumbing, appliances, water heaters, broken windows, and duct work; painting; patching; and mold remediation of cleaning ducts and identified affected interior areas. There are 164 low-income (30%-50% area median income [AMI]) residents, comprised of 41 adults and 123 children, who have been displaced from these 41 currently vacant units. Woodbridge Apartments contain the only units that have been torn out down to the studs. The proposed project does not involve exterior work or ground disturbance. There is no change in zoning or land use required for the proposed project.

We have made a Finding of *"No Historic Properties Affected"* pursuant to 36 CFR 800.4(d)(1) based on the following:

> A review of the Subject Property in the National Register of Historic Places, North Carolina State Historic Preservation Office's HPOWEB, and site review identified 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. The Creekwood North Historic District (#NH3669, DOE) is located north of Creekwood and Creekwood South. The Seaboard Air Line Railway/Atlantic Coast Railroad District (NH3674, DOE) is located south of Creekwood and Creekwood South. The Greenfield Lake Park and Gardens (NH1381, LHD) is located approximately 0.23-mile south of Houston Moore. The Hillcrest and Hillcrest Annex Public Housing Complex (NH 3679, DOE) and Seaboard Air Line Railway/Atlantic Coast Railroad District (NH3674, DOE) are located approximately 0.30-mile north of Houston Moore.

Attached for your review are copies of relevant documents supporting our finding, along with maps 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 will also be sent to the Catawba Indian Nation. 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

Andrea Gievers, JD, MSEL, ERM
NCORR Environmental Subject Matter Expert

Proposed Project's Enclosures:
Attachment 1: Proposed Project Location Maps
Attachment 2: NRHP and NC HPOWEB Maps

Concurrence:

_____

State Historic Preservation Officer Date

Section 106 ATTACHMENT 1:

Proposed Project Location
Maps

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212)

Woodbridge Apartments (20 Units) - Aerial Map



April 26, 2023

1:4,514

Woodbridge Apartments (20 Units), 302 Grass Lane, Wilmington, NC 28405

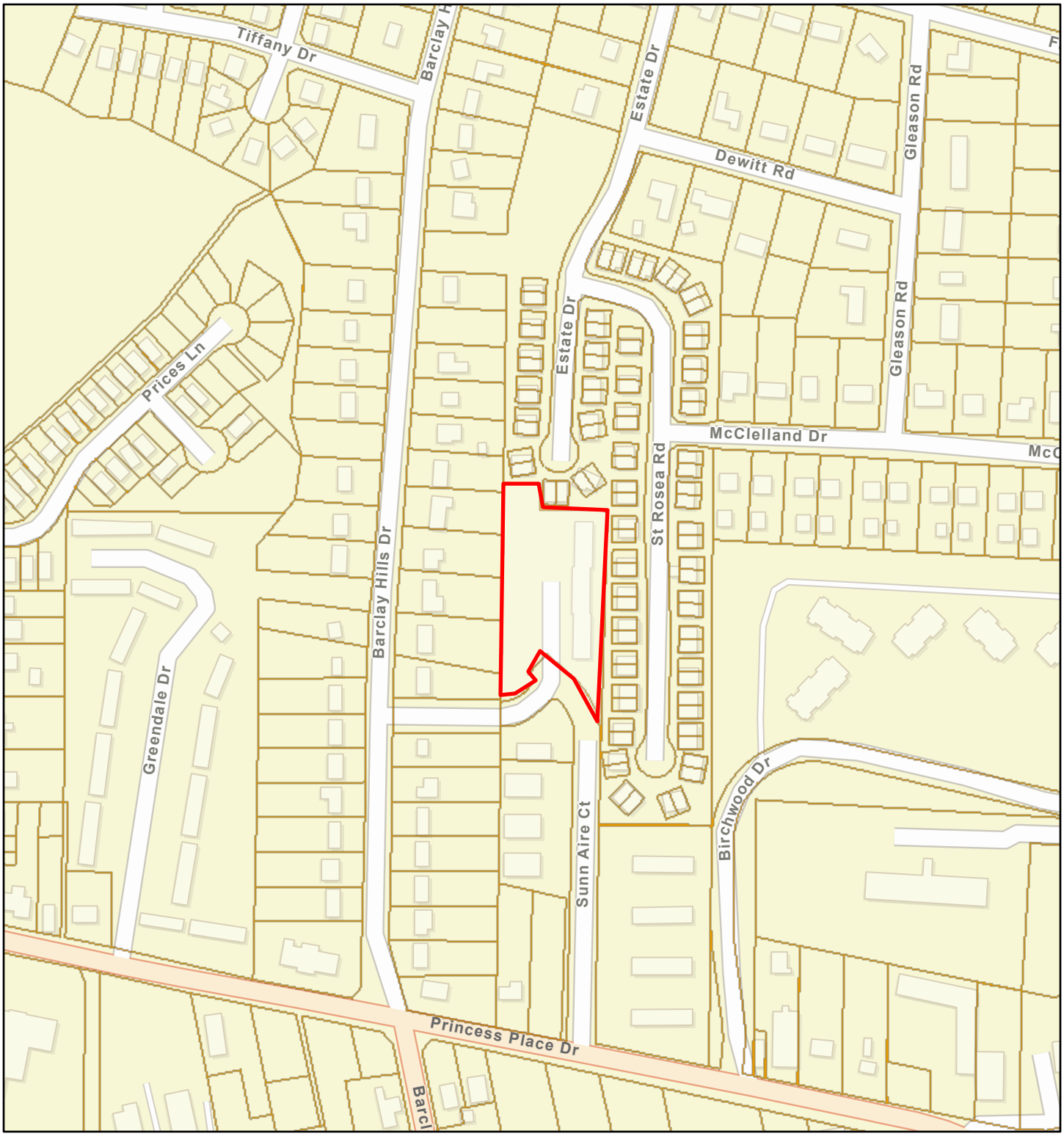
Parcel Boundaries

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

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

Woodbridge Apartments (20 Units) - Street Map



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

Woodbridge Apartments (20 Units) - Topo Map



April 26, 2023

1:4,514

0 0.03 0.06 0.12 mi

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Woodbridge Apartments (20 Units), 302 Grass Lane, Wilmington, NC 28405

Parcel Boundaries

New Hanover County NC, Copyright:© 2013 National Geographic Society, i-cubed

Creekwood (14 Units) at
602, 712, 804, 805, 809 & 1008 N. 30th St.,
617, 701, 707, 708, 902, 915 & 922 Emory St.,
and 2905 Clayton Place, Wilmington, NC
28405

Creekwood (14 Units) - Aerial Map



April 28, 2023

1:4,514

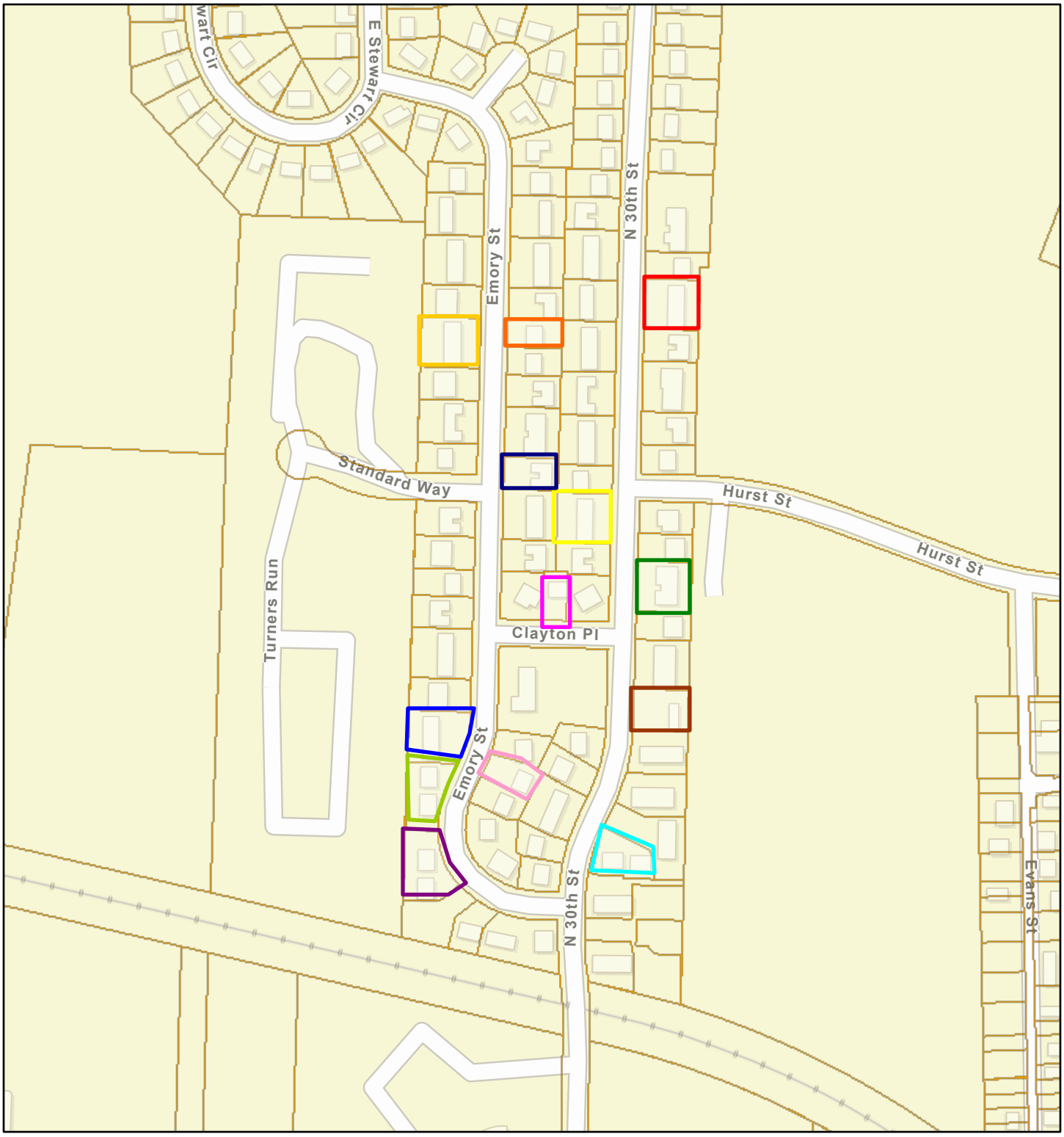
0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

804 N. 30th St.
902 Emory St.
712 N. 30th St.
707 Emory St.
708 Emory St.
1008 N. 30th St.
602 N. 30th St.
2905 Clayton Pl.
922 Emory St.
915 Emory St.
701 Emory St.
617 Emory St.
805 & 809 N. 30th St.
Parcel Boundaries

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

Creekwood (14 Units) - Street Map



April 28, 2023

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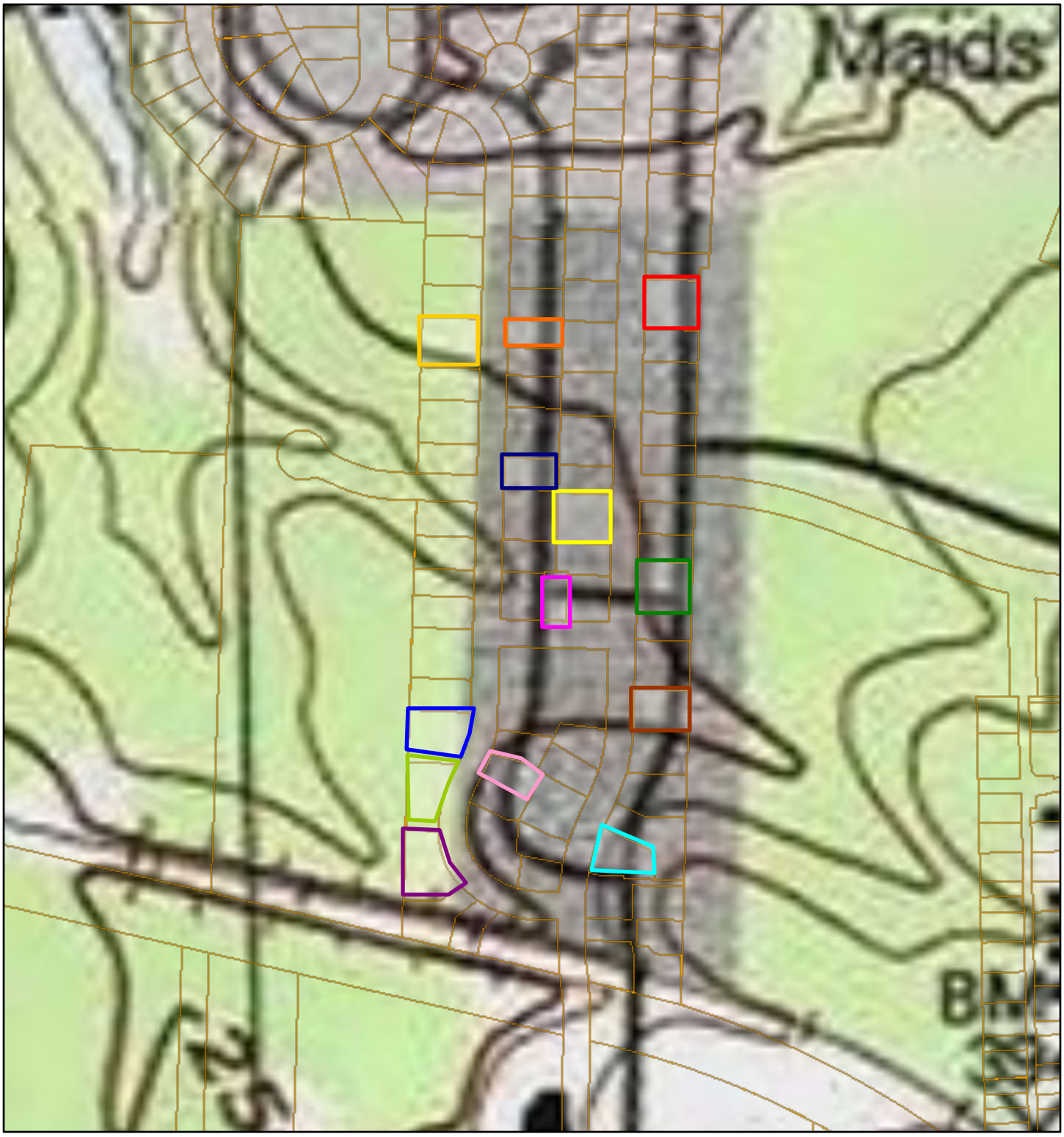
- 804 N. 30th St.
- 902 Emory St.
- 712 N. 30th St.
- 707 Emory St.
- 708 Emory St.
- 1008 N. 30th St.
- 602 N. 30th St.
- 2905 Clayton Pl.
- 922 Emory St.
- 915 Emory St.
- 701 Emory St.
- 617 Emory St.
- 805 & 809 N. 30th St.
- Parcel Boundaries

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

Creekwood (14 Units) - Topo Map



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2905 Clayton Pl.
922 Emory St.
915 Emory St.
701 Emory St.
617 Emory St.
805 & 809 N. 30th St.
Parcel Boundaries

New Hanover County NC, Copyright:© 2013 National Geographic Society, i-cubed

Creekwood South (6 Units) at
502, 522, 609, 611, 613 & 710 N. 30th St.,
Wilmington, NC 28405

Creekwood South (6 Units) - Aerial Map



April 28, 2023

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

710 N. 30th St.

609, 611 & 613 N. 30th St.

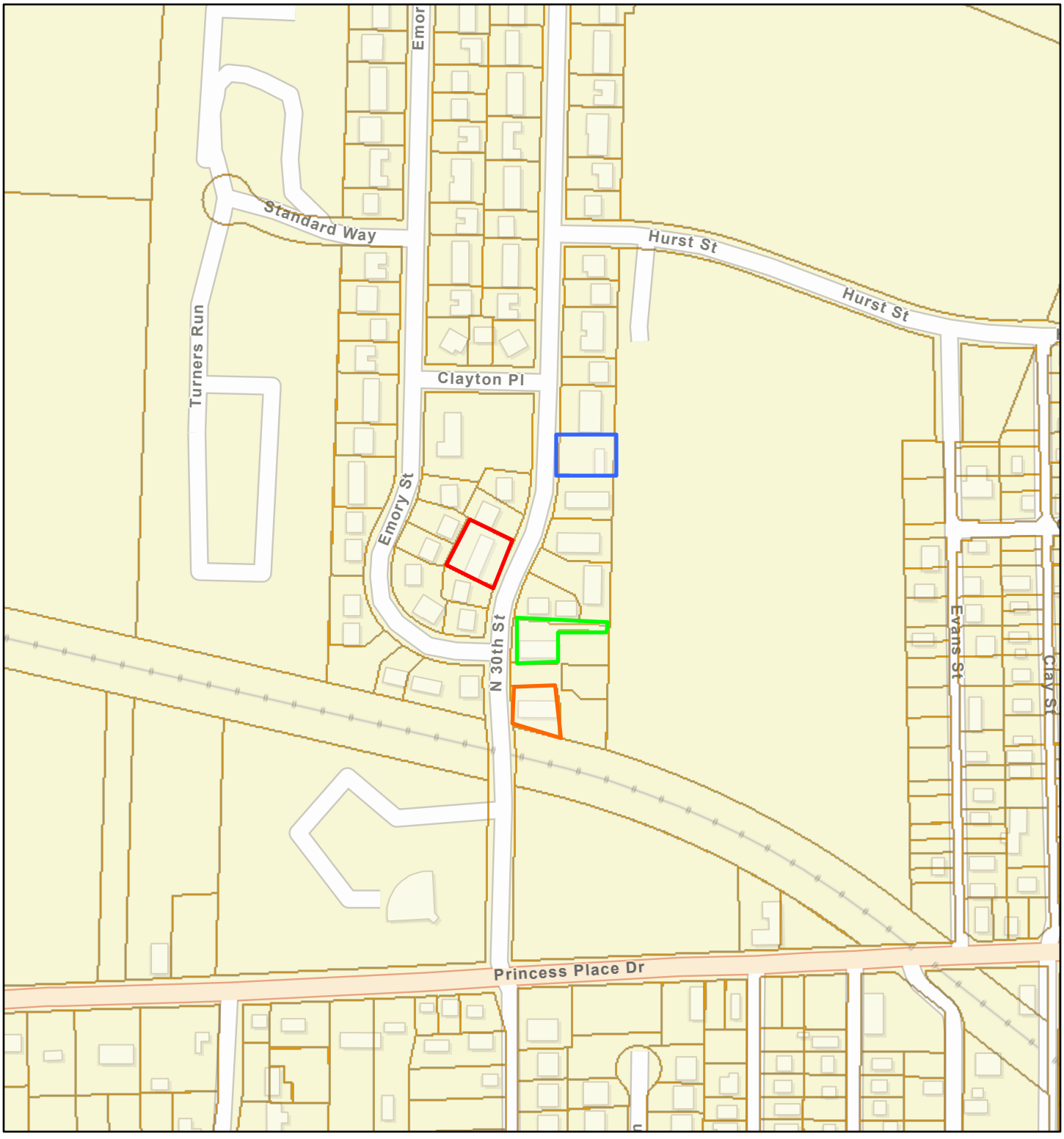
502 N. 30th St.

522 N. 30th St.

Parcel Boundaries

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

Creekwood South (6 Units) - Street Map



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522 N. 30th St.

Parcel Boundaries

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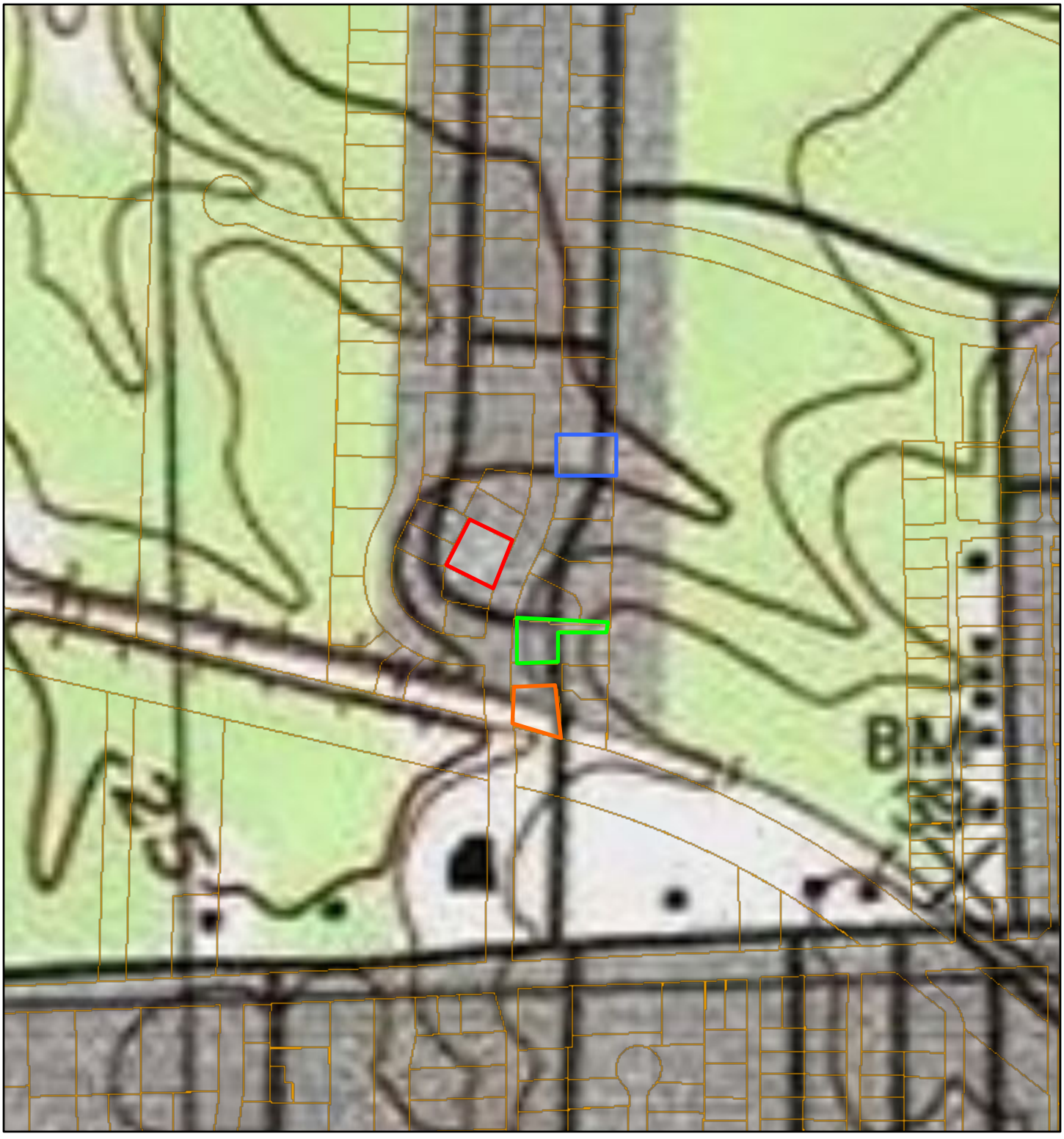
Creekwood South (6 Units) - Topo Map



April 28, 2023

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0 0.05 0.1 0.2 km

710 N. 30th St.

609, 611 & 613 N. 30th St.

502 N. 30th St.

522 N. 30th St.

Parcel Boundaries

New Hanover County NC, Copyright:© 2013 National Geographic Society, i-cubed

Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405

Houston Moore (1 Unit) - Aerial Map



April 26, 2023

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

1420 Greenfield St.

Houston Moore

Parcel Boundaries

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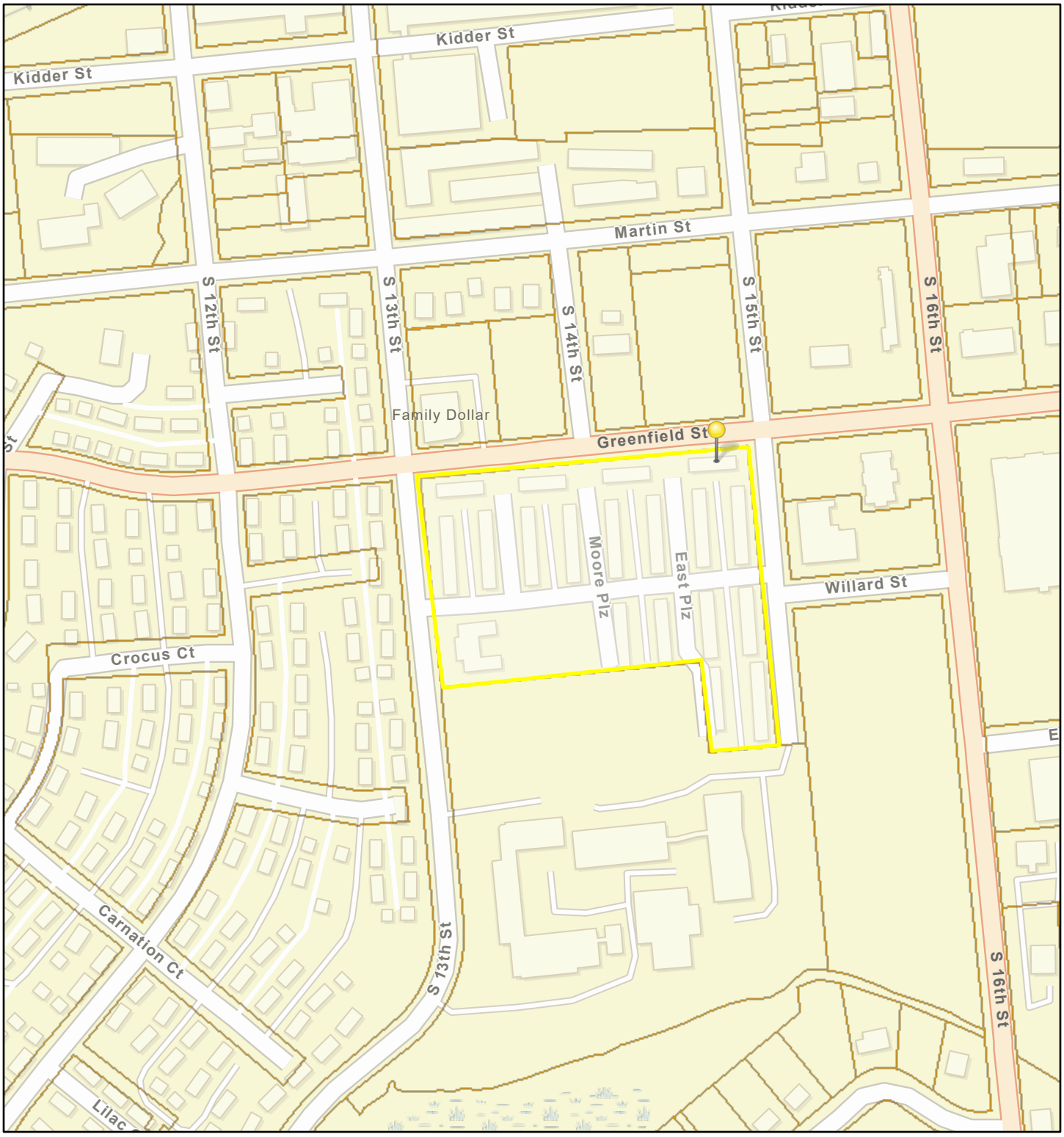
Houston Moore (1 Unit) - Street Map



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1420 Greenfield St.

Houston Moore

Parcel Boundaries

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Houston Moore (1 Unit) - Topo Map



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1420 Greenfield St.

Houston Moore

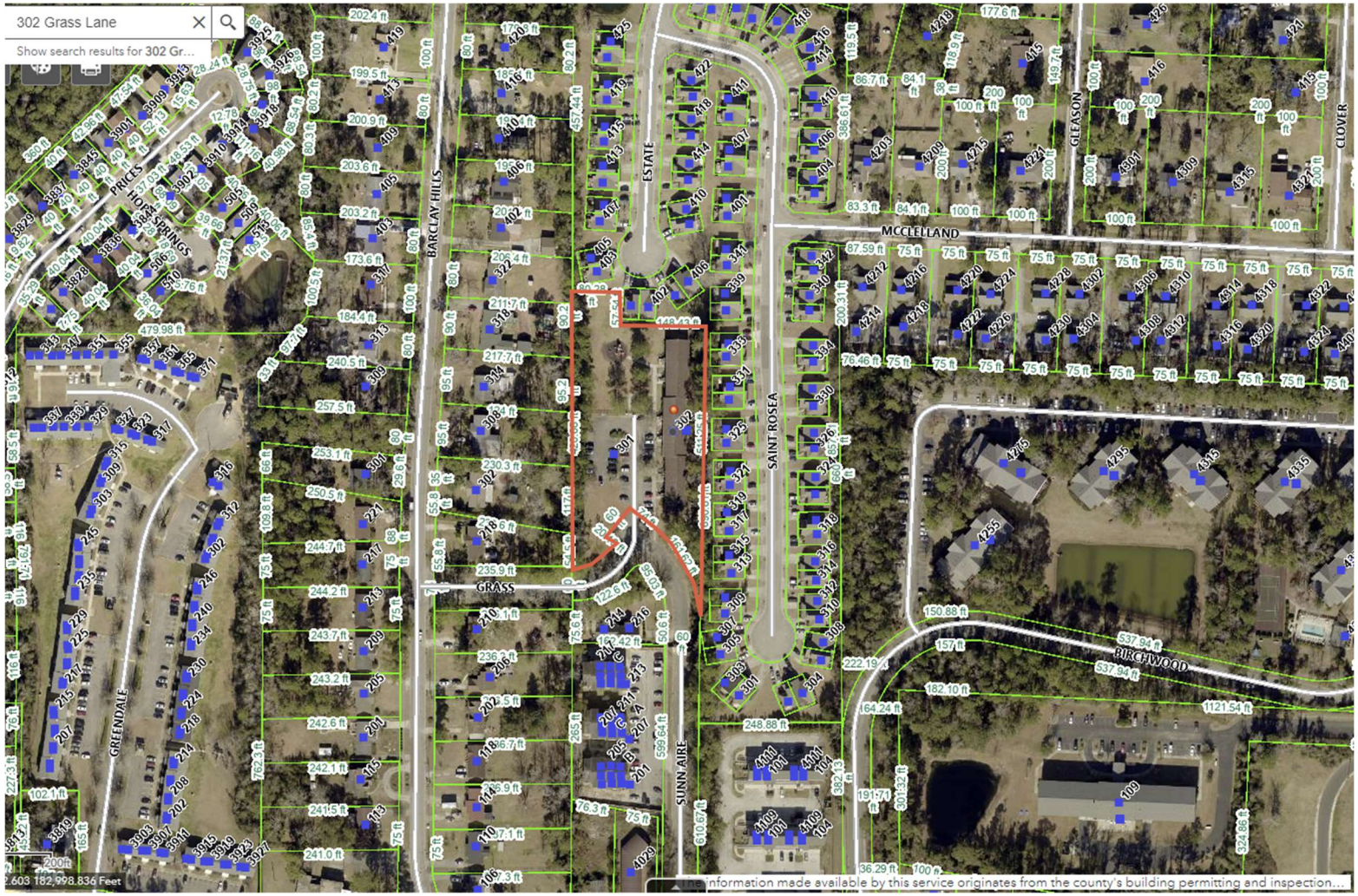
Parcel Boundaries

New Hanover County NC, Copyright:© 2013 National Geographic Society, i-cubed

New Hanover County Parcel Information and Maps

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212)

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405
New Hanover County Parcel Map



COMMERCIAL PROPERTY RECORD CARD 2023

NEW HANOVER COUNTY, NORTH CAROLINA

CA329NCHAN

R04910-006-022-000	Situs : 302 GRASS LN BUILDING	Land Use: Apartment	Card: 1 of 1	Printed: 03/20/23

Ownership & Legal Description:

WILMINGTON HOUSING AUTHORITY
PO BOX 899
WILMINGTON NC 28402

Legal: PT HERITAGE FEDERAL TRACT

Alternate Id: 313818.32.8238.000
District:
Book/Page:
Nbhd: CGC00
Living Units: 4
Routing No. CGC0-0 071
Class: CHR3



Property Description

Restr 1/2/3:
Topo 1/2/3: Level With Street
Utilities 1/2/3: Water/Sewer, Public
Road 1/2: Residential Street
Zoning: MULTI FAMILY MED DEN

Traffic: Light
Fronting:
Location:
Spot Loc:

Land Information

Code	Type	Size	Infl. Factors	Base Rate	Incr/Decr	Value
Commercial	AC	2.1000		75,000.00	35,000.00	163,080

Total Acres: 2.1

Assessment Information

	Assessed	Appraised	Cost	Income	Market
Land	163,100	163,100	163,100		0
Building	1,672,200	1,672,200	1,672,200		0
Total	1,835,300	1,835,300	1,835,300		0

Exempt Code EX
Exempt Amount 1,835,300
Class CHR3

Entrance Information

Date	ID	Entry Code	Source
12/05/02	TN		
01/14/06	RK	Entrance Gained New Const	Appraiser
08/14/06	TN	Drive By	Appraiser
06/23/09	BL	Reviewer	Appraiser
09/10/10	BL	Reviewer	Appraiser

Permit Information

Date	Number	Price	Purpose	Notes	% Complete

Sales/Ownership History

Transfer Date	Price	Type	Validity	Deed Book/Page	Deed Type	Grantee
08/18/14		Improved		5833/0792	Easement	TIME WARNER CABLE ENTERPRISES LLC
09/06/05			Unqualified	4900/997	Warranty Deed	WALMARK LLC
09/06/05	2,825,000	Improved	Qualified	4900/1002	Warranty Deed	WILMINGTON HOUSING AUTHORITY
09/06/05				4900/1009	Special Proceedings	WILMI HOUSING AUTHORITY
12/23/98		Vacant	Unqualified	2492/0067	Warranty Deed	WOODBRIDGE LLC
12/02/98		Vacant	Unqualified	2479/0804	Deed Of Correction	TIME WARNER ENT ADV/NEWH PART
11/06/98		Vacant	Unqualified	2465/0179	Easement	TIME WARNER ENT ADV/NEWH PART
05/05/98		Vacant	Unqualified	2359/0907	Easement	WOODBRIDGE PARTNERSHIP
05/05/98		Vacant	Unqualified	2359/0877	Easement	WOODBRIDGE PARTNERSHIP
12/09/92	125,000	Vacant	Unqualified	1634/1154	Warranty Deed	WOODBRIDGE PARTNERSHIP

Inspection Witnessed By _____

R04910-006-022-000 | **Situs : 302 GRASS LN BUILDING** | **Land Use: Apartment** | **Card:** 1 **of** 1 | Printed: 03/20/23

Building Information

Year Built/Eff Year	1993 /
Building #	1
Structure Type	Apartment Garden/T
Identical Units	1
Total Units	24
Grade	C-
# Covered Parking	
# Uncovered Parking	
DBA	WOODBRIDGE APARTMENTS

Building Other Features

Line	Type	+/-	Meas1	Meas2	# Stops	Ident Units
1	Open Porch		1	188		2
1	Open Porch		1	188		2
1	Open Porch		1	188		2

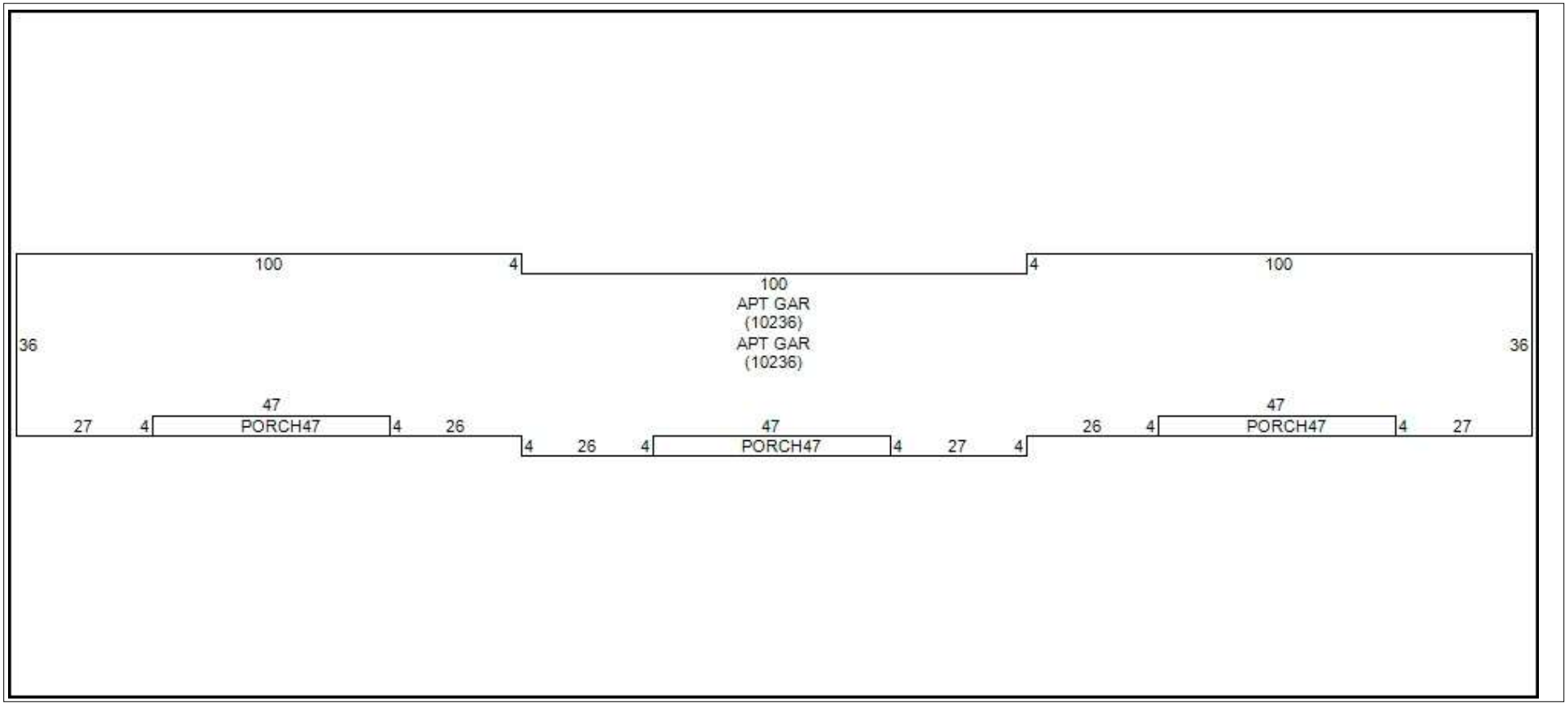
Interior/Exterior Information

Line	From	To	Int Fin	Yr Blt	Area	Perim	Use Type	Wall Ht	Ext Wall	Constr	Part	Heating	Cooling	Plumb	Phy	Fun	%Good	%Comp	RCNLD	BLFCT	ADJRCNLD
1	01	01	100		10,236	712	Apartment/Ga	9	Part Brick A	Wood Siding(I	Normal	Hot Air	Hvac	Normal	A	A	72		841,916	1	841,916
2	02	02	100		10,236	712	Apartment/Ga	9	Part Brick A	Wood Siding(I	Normal	Hot Air	Hvac	Normal	A	A	72		814,855	1	814,855

Outbuilding Data

Line	Type	Yr Blt	Eff Yr	YrRemd	W x L	Area	Grd	Units	Mod Cd	Rate	Ovrd Rt	RCN	Phy	Fun	%Cmp	%Gd	Tble	%Gd	FunDep	EcoDep	AdjFact	Value
1	Pvmt/Asp	1993	1993		x	51,400	C	1		1.50		77,100									1	15,420

R04910-006-022-000	Situs : 302 GRASS LN BUILDING	Land Use: Apartment	Card: 1 of 1	Printed: 03/20/23



Vector Strings

Bldg	1	APG	A0CR100D4R100U04R100D36L27U04L47D04L26D04L27U04L47D04L26U04L26U04L47D04L27U36
Bldg	2	APG	A0CR100D4R100U04R100D36L27U04L47D04L26D04L27U04L47D04L26U04L26U04L47D04L27U36
Features	1	POR	A1D36R27CU04R47D04L47
Features	2	POR	A2D36R27U04R47D04R26D04R26CU04R47D04L47
Features	3	POR	A3D36R27U04R47D04R26D04R26R74U04R26CR47U04L47D04

Creekwood (14 Units) at
602, 712, 804, 805, 809 & 1008 N. 30th St.,
617, 701, 707, 708, 902, 915 & 922 Emory St.,
and 2905 Clayton Place, Wilmington, NC
28405

Creekwood (14 Units), 602 North 30th Street, Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-010-000 2023 *New Hanover County, NC - Property Card* Printed: 04/26/23 Card: 1 of 2 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

602 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 5 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	44,500	Oby		Exempt Code:	EX
Bldg	207,700	Class	CHR3	Exempt Amount:	252,200
Total	252,200	Taxable:		Routing:	071

Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	11,282	3.5	1.25	1.25			1		44,478

Total Parcel Size: 11,282 0.2590 44,478

CA16: **Date:** 09/24/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 2 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**\
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**\
Style: Duplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**\
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**\
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 2296 **Econ Dep%:**\
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**\
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**\
Bedrms: 6 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**\
Full Baths: 2 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,148	209,640	1971		C-	AV		50		102,724
1		UTL				16	274	1970		C-	AV		49		134
2		MST				32	576	1970		C-	AV		49		282
3		MST				32	576	1970		C-	AV		49		282
4		UTL				16	274	1970		C-	AV		49		134
5		CS				56	302	1970		C-	AV		49		148
6		CS				56	302	1970		C-	AV		49		148

Nbhd Factor: 1.0000 ***Total:*** **103,852**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		202783
Plumbing		4320
Basement		0
Heating		2537
Attic		0
Other features		0
Subtotal		209640
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		209640
Base Dwell RCNLD		102724
Additions		1128
Total RCNLD		103852
Nbhd Factor		1.0000
%complete		
Dwelling Value		103852
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,148
Area Factor	0.716
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	18-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 04/18/11
MN13	03-MAY-11	SPLIT FROM R04909-002-003-000 MOVE BLDG HERE PER SW 5/2/11 JD 5/3/11
MN13	14-OCT-11	CLSE PRMTS, NO VC PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



R04909-001-010-000 2023 *New Hanover County, NC - Property Card* Printed: 04/26/23 Card: 2 of 2 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

602 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 5 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

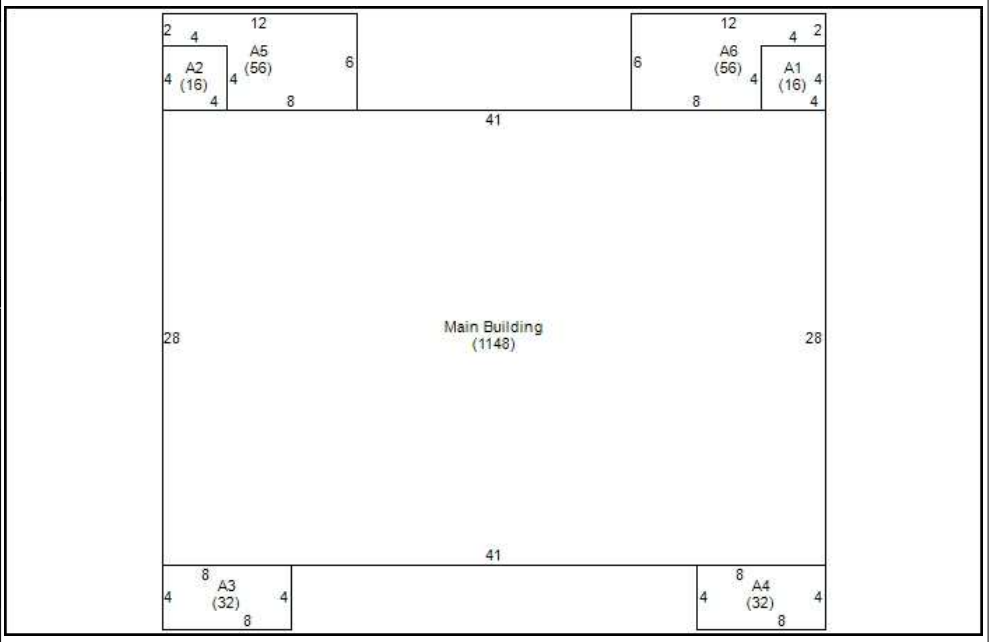
Land	44,500	Oby		Exempt Code:	EX
Bldg	207,700	Class	CHR3	Exempt Amount:	252,200
Total	252,200	Taxable:		Routing:	071

Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	11,282	3.5	1.25	1.25			1		44,478
Total Parcel Size:			11,282		0.2590						44,478

CA16: **Date:** 09/24/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 2 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**\
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**\
Style: Duplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**\
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**\
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 2296 **Econ Dep%:**\
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**\
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**\
Bedrms: 6 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**\
Full Baths: 2 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,148	209,640	1971		C-	AV		50		102,724
1		UTL				16	274	1970		C-	AV		49		134
2		UTL				16	274	1970		C-	AV		49		134
3		MST				32	576	1970		C-	AV		49		282
4		MST				32	576	1970		C-	AV		49		282
5		CS				56	302	1970		C-	AV		49		148
6		CS				56	302	1970		C-	AV		49		148

Nbhd Factor: 1.0000 ***Total:*** **103,852**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		202783
Plumbing		4320
Basement		0
Heating		2537
Attic		0
Other features		0
Subtotal		209640
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		209640
Base Dwell RCNLD		102724
Additions		1128
Total RCNLD		103852
Nbhd Factor		1.0000
%complete		
Dwelling Value		103852
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,148
Area Factor	0.716
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	18-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 04/18/11
MN13	03-MAY-11	SPLIT FROM R04909-002-003-000 MOVE BLDG HERE PER SW 5/2/11 JD 5/3/11
MN13	14-OCT-11	CLSE PRMTS, NO VC PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:

Creekwood (14 Units), 712 North 30th Street, Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-014-000 2023 *New Hanover County, NC - Property Card* Printed: 04/26/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

710 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal:
LOT 9 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	44,000	Oby		Exempt Code:	EX
Bldg	90,700	Class	CHR3	Exempt Amount:	134,700
Total	134,700	Taxable:		Routing:	067

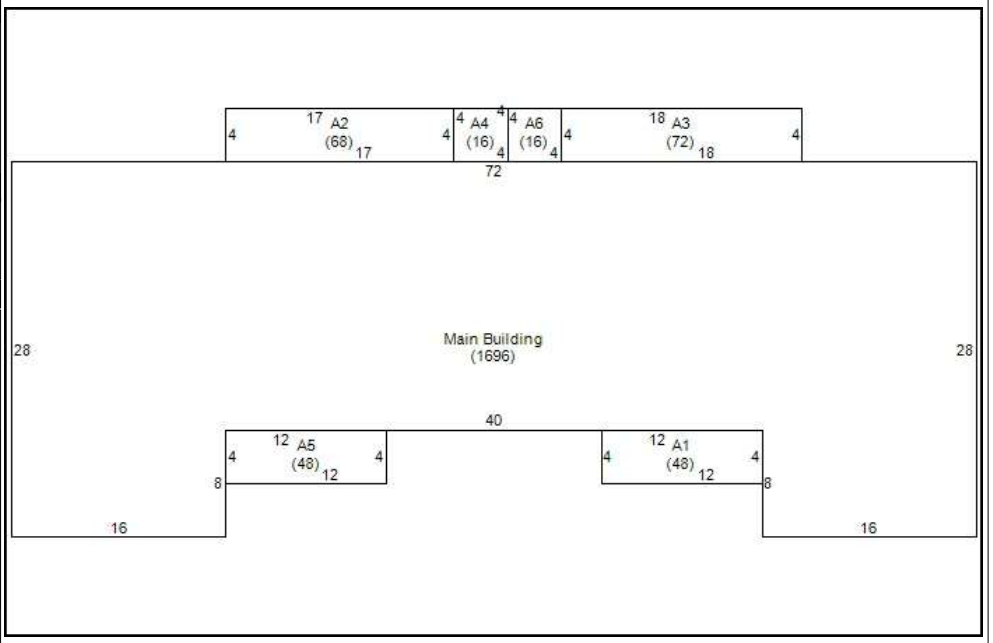
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light
Topo 1/2/3: Level With Street **Fronting:**
Utils 1/2/3: Water/Sewer, Public **Location:**
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	10,861	3.5	1.25	1.25			1		43,951

Total Parcel Size: 10,861 0.2493 43,951

CA16: **Date:** 09/24/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht:	1	**Half Baths:**	0	**Int vs. Ext Cnd:**		**Grade:**	C-
Cnstr:	Brick	**Extra Fixtures:**	0	**Bldg Use Code:**		**CDU:**	AVERAGE
Style:	Duplex	**Bsmt:**	None	**Masonry Trim:**		**Market Adj:**	
Yr Blt:	1970	**Heating:**	Central With A/C	**Unfin Area:**		**Pct Cmplt:**	
Eff Year:		**Heating Fuel:**	Electric	**Rec Room:**	0	**SFLA:**	1696
Yr Remod:		**System:**	Heat Pump	**Fin.Bsmt Area:**		**Excavated**	
% Remod:		**Attic:**		**WBFP Stacks:**		**Pilings**	
Bedrms:	4	**Phys Cond:**		**Prefab Stacks:**	0	**Concrete**	
Full Baths:	2	**Elevators**		**Bsmt Gar # Cars:**			

C&D Factor:
C&D Descrip:
Funct Dep %
Funct Desc:
Econ Dep%:
Econ Desc:
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,696	183,305	1971		C-	AV		50		89,819
1		CS				48	259	1970		C-	AV		49		127
2		CS				68	367	1970		C-	AV		49		180
3		CS				72	389	1970		C-	AV		49		191
4		UTL				16	274	1970		C-	AV		49		134
5		CS				48	259	1970		C-	AV		49		127
6		UTL				16	274	1970		C-	AV		49		134

Nbhd Factor: 1.0000 ***Total:*** **90,712**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		181122
Plumbing		0
Basement		0
Heating		2183
Attic		0
Other features		0
Subtotal		183305
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		183305
Base Dwell RCNLD		89819
Additions		893
Total RCNLD		90712
Nbhd Factor		1.0000
%complete		
Dwelling Value		90712
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,696
Area Factor	0.998
Story Height Factor	1.000
Construct Factor	1.090
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	18-APR-11	SPLIT PER MB55 PG360 FOR 1/1.2012 SHT 4/18/11
MN13	03-MAY-11	SPLIT FROM R04909-002-003-000 MOVE BLDG HERE PER SW 5/2/11 JD 5/3/11
MN13	14-OCT-11	CLSE PRMTS, NO VC PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:
FIRE	$5,000	01/24/23		FIRE	712 N 30TH BUILDING FIRE NO DETAILS

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



Creekwood (14 Units), 804 North 30th Street, Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-017-000 2023 *New Hanover County, NC - Property Card* Printed: 04/26/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

804 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT12 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	47,100	Oby		Exempt Code:	EX
Bldg	238,100	Class	CHR3	Exempt Amount:	285,200
Total	285,200	Taxable:		Routing:	064

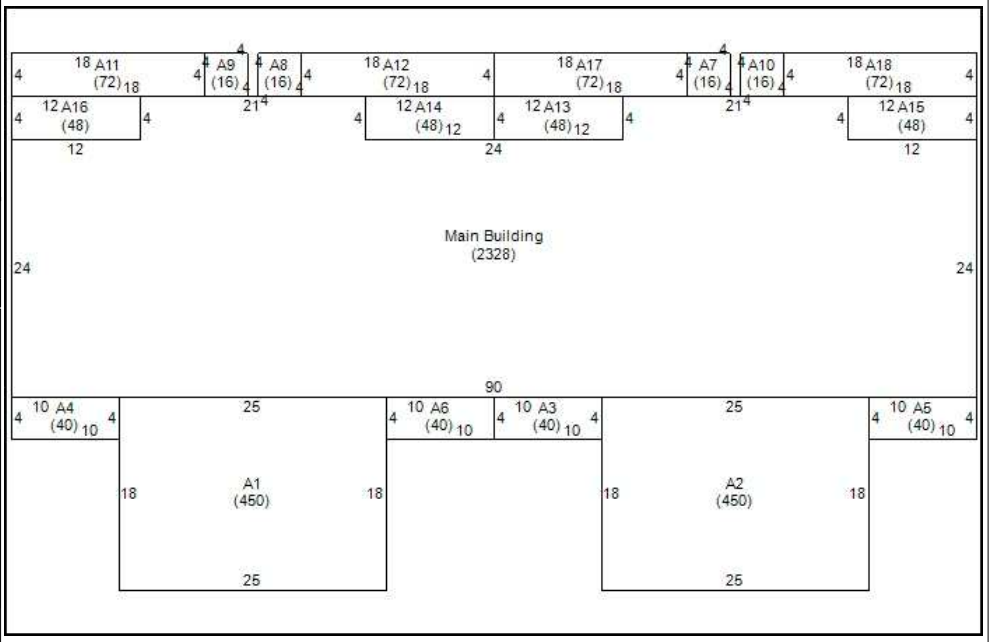
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	13,352	3.5	1.25	1.25			1		47,065

Total Parcel Size: 13,352 0.3065 47,065

CA16: **Date:** 09/24/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2\
Cnstr: Part Brick & Fran\
Style: Quadplex\
Yr Blt: 1970\
Eff Year:\
Yr Remod:\
% Remod:\
Bedrms: 16\
Full Baths: 8

Half Baths: 0\
Extra Fixtures: 0\
Bsmt: None\
Heating: Central With A/C\
Heating Fuel: Electric\
System: Heat Pump\
Attic:\
Phys Cond:\
Elevators

Int vs. Ext Cnd:\
Bldg Use Code:\
Masonry Trim:\
Unfin Area:\
Rec Room: 0\
Fin.Bsmt Area:\
WBFP Stacks:\
Prefab Stacks: 0\
Bsmt Gar # Cars:

Grade: C-\
CDU: AVERAGE\
Market Adj:\
Pct Cmplt:\
SFLA: 5908\
Excavated\
Pilings\
Concrete

C&D Factor:\
C&D Descrip:\
Funct Dep %\
Funct Desc:\
Econ Dep%:\
Econ Desc:\
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						2,328	396,816	1971		C-	AV		50		194,440
1		BAS				450	28,350	1971		C-	AV		50		14,175
2		BAS				450	28,350	1971		C-	AV		50		14,175
3		POR	BAS			40	3,240	1970		C-	AV		49		1,588
4		POR	BAS			40	3,240	1970		C-	AV		49		1,588
5		POR	BAS			40	3,240	1970		C-	AV		49		1,588
6		POR	BAS			40	3,240	1970		C-	AV		49		1,588
7		UTL				16	274	1970		C-	AV		49		134
8		UTL				16	274	1970		C-	AV		49		134

Continued on additional page... **Nbhd Factor:** 1.0000 ***Total:*** **238,062**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		372713
Plumbing		19440
Basement		0
Heating		4663
Attic		0
Other features		0
Subtotal		396816
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		396816
Base Dwell RCNLD		194440
Additions		43622
Total RCNLD		238062
Nbhd Factor		1.0000
%complete		
Dwelling Value		238062
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	2,328
Area Factor	1.316
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	18-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/18/11
MN13	03-MAY-11	SPLIT FROM R04909-002-003-000 MOVE BLDG HERE PER SW 5/2/11 JD 5/3/11
MN13	14-OCT-11	CLSE PRMTS, NO VC PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



ADDITIONS - CONTINUED....

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
9		UTL				16	274	1970		C-	AV		49		134
10		UTL				16	274	1970		C-	AV		49		134
11		CS				72	389	1970		C-	AV		49		191
12		CS				72	389	1970		C-	AV		49		191
13		POR	BAS			48	3,888	1970		C-	AV		49		1,905
14		POR	BAS			48	3,888	1970		C-	AV		49		1,905
15		POR	BAS			48	3,888	1970		C-	AV		49		1,905
16		POR	BAS			48	3,888	1970		C-	AV		49		1,905
17		CS				72	389	1970		C-	AV		49		191
18		CS				72	389	1970		C-	AV		49		191

Creekwood (14 Units), 805 & 809 North 30th Street Wilmington, NC 28405
New Hanover County Parcel Map



Creekwood (14 Units), 805 & 809 North 30th Street Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-035-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

805 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 30 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	46,700	Oby		Exempt Code:	EX
Bldg	238,100	Class	CHR3	Exempt Amount:	284,800
Total	284,800	Taxable:		Routing:	046

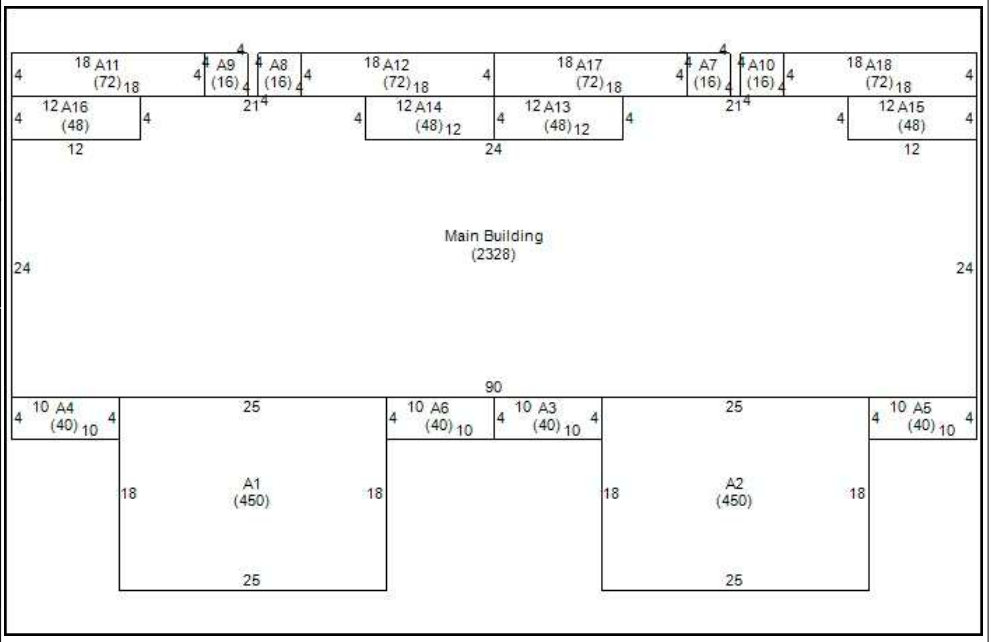
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	13,084	3.5	1.25	1.25			1		46,730

Total Parcel Size: 13,084 0.3004 46,730

CA16: **Date:** 09/25/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 0 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**\
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**\
Style: Quadplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**\
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**\
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 5908 **Econ Dep%:**\
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**\
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**\
Bedrms: 16 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**\
Full Baths: 8 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						2,328	396,816	1971		C-	AV		50		194,440
1		BAS				450	28,350	1971		C-	AV		50		14,175
2		BAS				450	28,350	1971		C-	AV		50		14,175
3		POR	BAS			40	3,240	1970		C-	AV		49		1,588
4		POR	BAS			40	3,240	1970		C-	AV		49		1,588
5		POR	BAS			40	3,240	1970		C-	AV		49		1,588
6		POR	BAS			40	3,240	1970		C-	AV		49		1,588
7		UTL				16	274	1970		C-	AV		49		134
8		UTL				16	274	1970		C-	AV		49		134

Continued on additional page... **Nbhd Factor:** 1.0000 ***Total:*** **238,062**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		372713
Plumbing		19440
Basement		0
Heating		4663
Attic		0
Other features		0
Subtotal		396816
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		396816
Base Dwell RCNLD		194440
Additions		43622
Total RCNLD		238062
Nbhd Factor		1.0000
%complete		
Dwelling Value		238062
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	2,328
Area Factor	1.316
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	14-OCT-11	CLSE PRMTS, NO VC PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

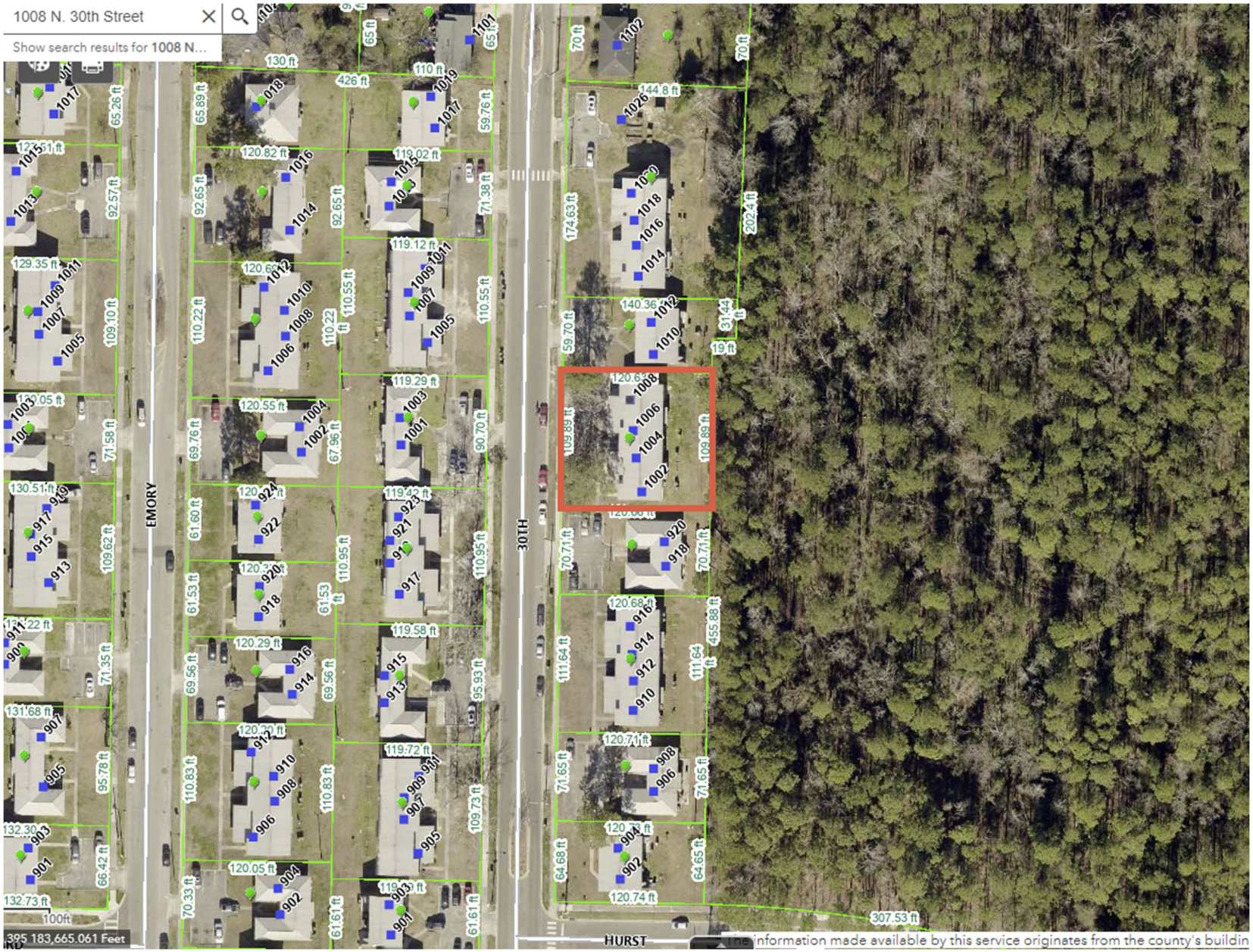
Photo:



ADDITIONS - CONTINUED....

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
9		UTL				16	274	1970		C-	AV		49		134
10		UTL				16	274	1970		C-	AV		49		134
11		CS				72	389	1970		C-	AV		49		191
12		CS				72	389	1970		C-	AV		49		191
13		POR	BAS			48	3,888	1970		C-	AV		49		1,905
14		POR	BAS			48	3,888	1970		C-	AV		49		1,905
15		POR	BAS			48	3,888	1970		C-	AV		49		1,905
16		POR	BAS			48	3,888	1970		C-	AV		49		1,905
17		CS				72	389	1970		C-	AV		49		191
18		CS				72	389	1970		C-	AV		49		191

Creekwood (14 Units), 1008 North 30th Street, Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-024-000 2023 *New Hanover County, NC - Property Card* Printed: 04/26/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

1002 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT
PO BOX 899
WILMINGTON NC 28402

Legal:
LOT 19 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	46,900	Oby		Exempt Code:	EX
Bldg	257,300	Class	CHR3	Exempt Amount:	304,200
Total	304,200	Taxable:		Routing:	057

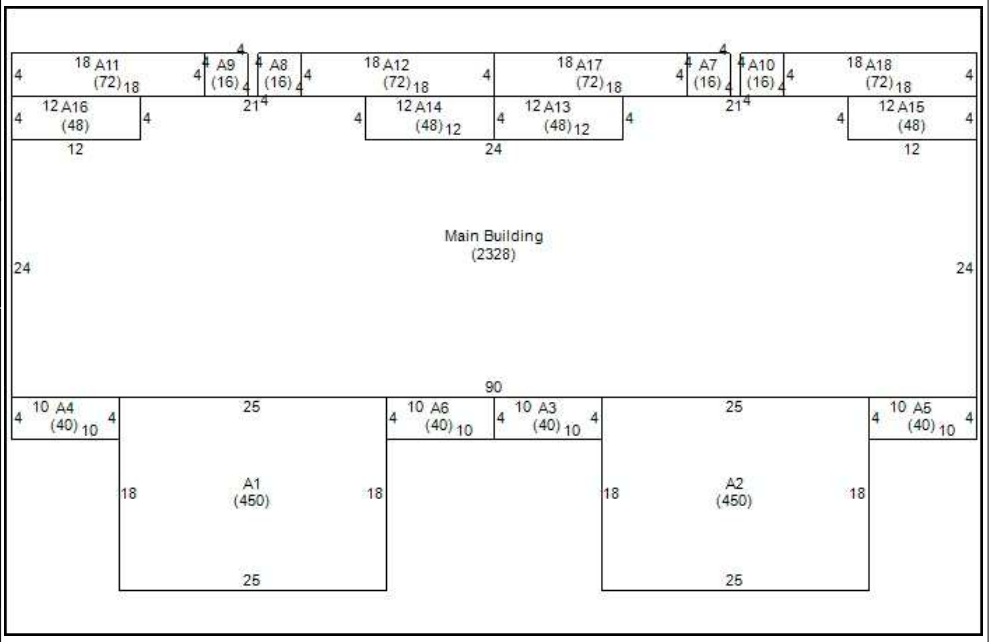
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light
Topo 1/2/3: Level With Street **Fronting:**
Utils 1/2/3: Water/Sewer, Public **Location:**
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	13,258	3.5	1.25	1.25			1		46,948

Total Parcel Size: 13,258 0.3044 46,948

CA16: **Date:** 09/24/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2
Cnstr: Part Brick & Fran
Style: Quadplex
Yr Blt: 1970
Eff Year:
Yr Remod:
% Remod:
Bedrms: 16
Full Baths: 8
Half Baths: 0
Extra Fixtures: 0
Bsmt: None
Heating: Central With A/C
Heating Fuel: Electric
System: Heat Pump
Attic:
Phys Cond:
Elevators
Int vs. Ext Cnd:
Bldg Use Code:
Masonry Trim:
Unfin Area:
Rec Room: 0
Fin.Bsmt Area:
WBFP Stacks:
Prefab Stacks: 0
Bsmt Gar # Cars:
Grade: C-
CDU: AVERAGE
Market Adj:
Pct Cmplt:
SFLA: 5908
Excavated
Pilings
Concrete
C&D Factor:
C&D Descrip:
Funct Dep %
Funct Desc:
Econ Dep%:
Econ Desc:
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						2,328	396,816	2005		C-	AV		84		194,440
1		BAS				450	28,350	2005		C-	AV		84		23,814
2		BAS				450	28,350	2005		C-	AV		84		23,814
3		POR	BAS			40	3,240	1970		C-	AV		49		1,588
4		POR	BAS			40	3,240	1970		C-	AV		49		1,588
5		POR	BAS			40	3,240	1970		C-	AV		49		1,588
6		POR	BAS			40	3,240	1970		C-	AV		49		1,588
7		UTL				16	274	1970		C-	AV		49		134
8		UTL				16	274	1970		C-	AV		49		134

Continued on additional page... **Nbhd Factor:** 1.0000 ***Total:*** **257,340**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		372713
Plumbing		19440
Basement		0
Heating		4663
Attic		0
Other features		0
Subtotal		396816
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		396816
Base Dwell RCNLD		194440
Additions		62900
Total RCNLD		257340
Nbhd Factor		1.0000
%complete		
Dwelling Value		257340
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	2,328
Area Factor	1.316
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	18-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/18/11
MN13	03-MAY-11	SPLIT FROM R04909-002-003-000 MOVE BLDG HERE PER SW 5/2/11 JD 5/3/11
MN13	14-OCT-11	CLSE PRMTS, NO VC PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

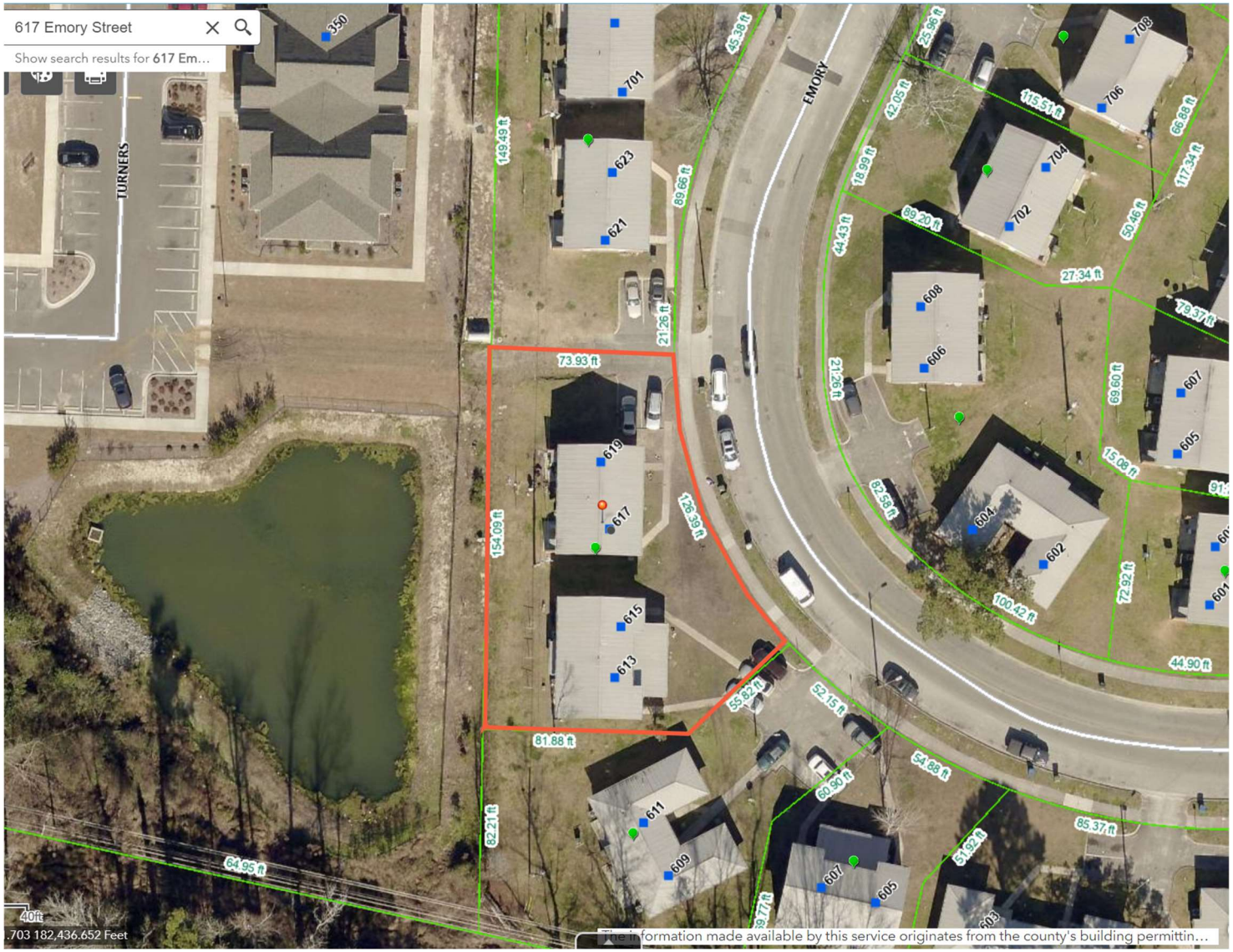
Photo:



ADDITIONS - CONTINUED....

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
9		UTL				16	274	1970		C-	AV		49		134
10		UTL				16	274	1970		C-	AV		49		134
11		CS				72	389	1970		C-	AV		49		191
12		CS				72	389	1970		C-	AV		49		191
13		POR	BAS			48	3,888	1970		C-	AV		49		1,905
14		POR	BAS			48	3,888	1970		C-	AV		49		1,905
15		POR	BAS			48	3,888	1970		C-	AV		49		1,905
16		POR	BAS			48	3,888	1970		C-	AV		49		1,905
17		CS				72	389	1970		C-	AV		49		191
18		CS				72	389	1970		C-	AV		49		191

Creekwood (14 Units), 617 Emory Street Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-077-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 2 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

613 EMORY ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 72 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	48,200	Oby		Exempt Code:	EX
Bldg	230,600	Class	CHR3	Exempt Amount:	278,800
Total	278,800	Taxable:		Routing:	004

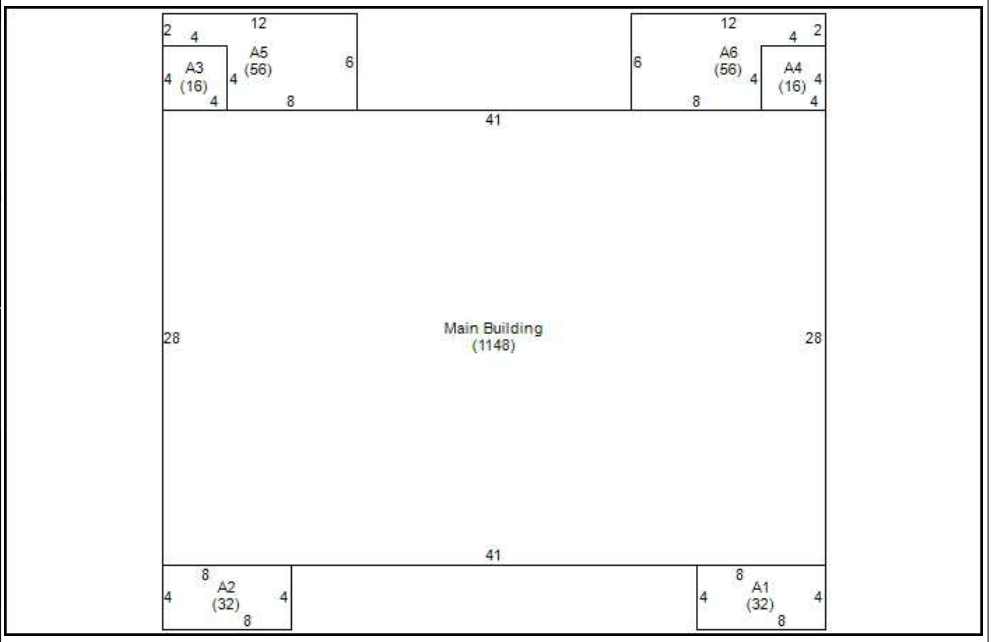
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	14,227	3.5	1.25	1.25			1		48,159

Total Parcel Size: 14,227 0.3266 48,159

CA16: **Date:** 01/07/19 **Entr Rslt:** R **Spoke With:** A **Appr:** RLK



Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 2 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**\
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**\
Style: Duplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**\
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**\
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 2296 **Econ Dep%:**\
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**\
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**\
Bedrms: 6 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**\
Full Baths: 2 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,148	209,640	1971		C-	AV		50		102,724
1		MST				32	576	1970		C-	AV		49		282
2		MST				32	576	1970		C-	AV		49		282
3		UTL				16	274	1970		C-	AV		49		134
4		UTL				16	274	1970		C-	AV		49		134
5		CS				56	302	1970		C-	AV		49		148
6		CS				56	302	1970		C-	AV		49		148

Nbhd Factor: 1.0000 ***Total:*** **103,852**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		202783
Plumbing		4320
Basement		0
Heating		2537
Attic		0
Other features		0
Subtotal		209640
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		209640
Base Dwell RCNLD		102724
Additions		1128
Total RCNLD		103852
Nbhd Factor		1.0000
%complete		
Dwelling Value		103852
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,148
Area Factor	0.716
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MAPP	20-DEC-18	20' PUBLIC UTILITY & EMERGENCY ACCESS ESMT PER MB65/322 FOR 1/1/19 -TL 12/20/18
MN13	31-JAN-13	NO VC-CLOSED PERMITS #12-1604, #12-1603, #12-1602, #12-1601 PER SW 1/30/13 MC
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	07-JAN-19	20' PUBLIC UTILITY & EMERGENCY ACCESS ESMT NO VC PER RLK 1/7/19 JD

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



R04909-001-077-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 2 of 2 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

613 EMORY ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 72 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	48,200	Oby		Exempt Code:	EX
Bldg	230,600	Class	CHR3	Exempt Amount:	278,800
Total	278,800	Taxable:		Routing:	004

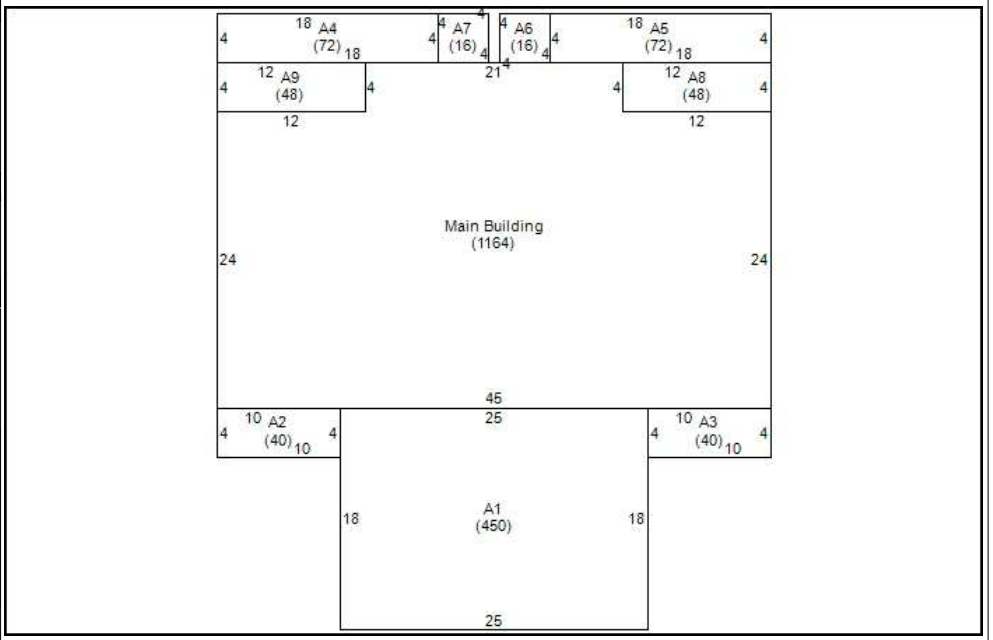
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	14,227	3.5	1.25	1.25			1		48,159

Total Parcel Size: 14,227 0.3266 48,159

CA16: **Date:** 01/07/19 **Entr Rslt:** R **Spoke With:** A **Appr:** RLK



Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 0 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**\
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**\
Style: Duplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**\
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**\
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 2954 **Econ Dep%:**\
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**\
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**\
Bedrms: 8 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**\
Full Baths: 4 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,164	214,094	1971		C-	AV		50		104,906
1		BAS				450	28,350	1971		C-	AV		50		14,175
2		POR	BAS			40	3,240	1970		C-	AV		49		1,588
3		POR	BAS			40	3,240	1970		C-	AV		49		1,588
4		CS				72	389	1970		C-	AV		49		191
5		CS				72	389	1970		C-	AV		49		191
6		UTL				16	274	1970		C-	AV		49		134
7		UTL				16	274	1970		C-	AV		49		134
8		POR	BAS			48	3,888	1970		C-	AV		49		1,905

Continued on additional page... **Nbhd Factor:** 1.0000 ***Total:*** **126,717**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		205049
Plumbing		6480
Basement		0
Heating		2565
Attic		0
Other features		0
Subtotal		214094
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		214094
Base Dwell RCNLD		104906
Additions		21811
Total RCNLD		126717
Nbhd Factor		1.0000
%complete		
Dwelling Value		126717
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,164
Area Factor	0.724
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MAPP	20-DEC-18	20' PUBLIC UTILITY & EMERGENCY ACCESS ESMT PER MB65/322 FOR 1/1/19 -TL 12/20/18
MN13	31-JAN-13	NO VC-CLOSED PERMITS #12-1604, #12-1603, #12-1602, #12-1601 PER SW 1/30/13 MC
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	07-JAN-19	20' PUBLIC UTILITY & EMERGENCY ACCESS ESMT NO VC PER RLK 1/7/19 JD

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

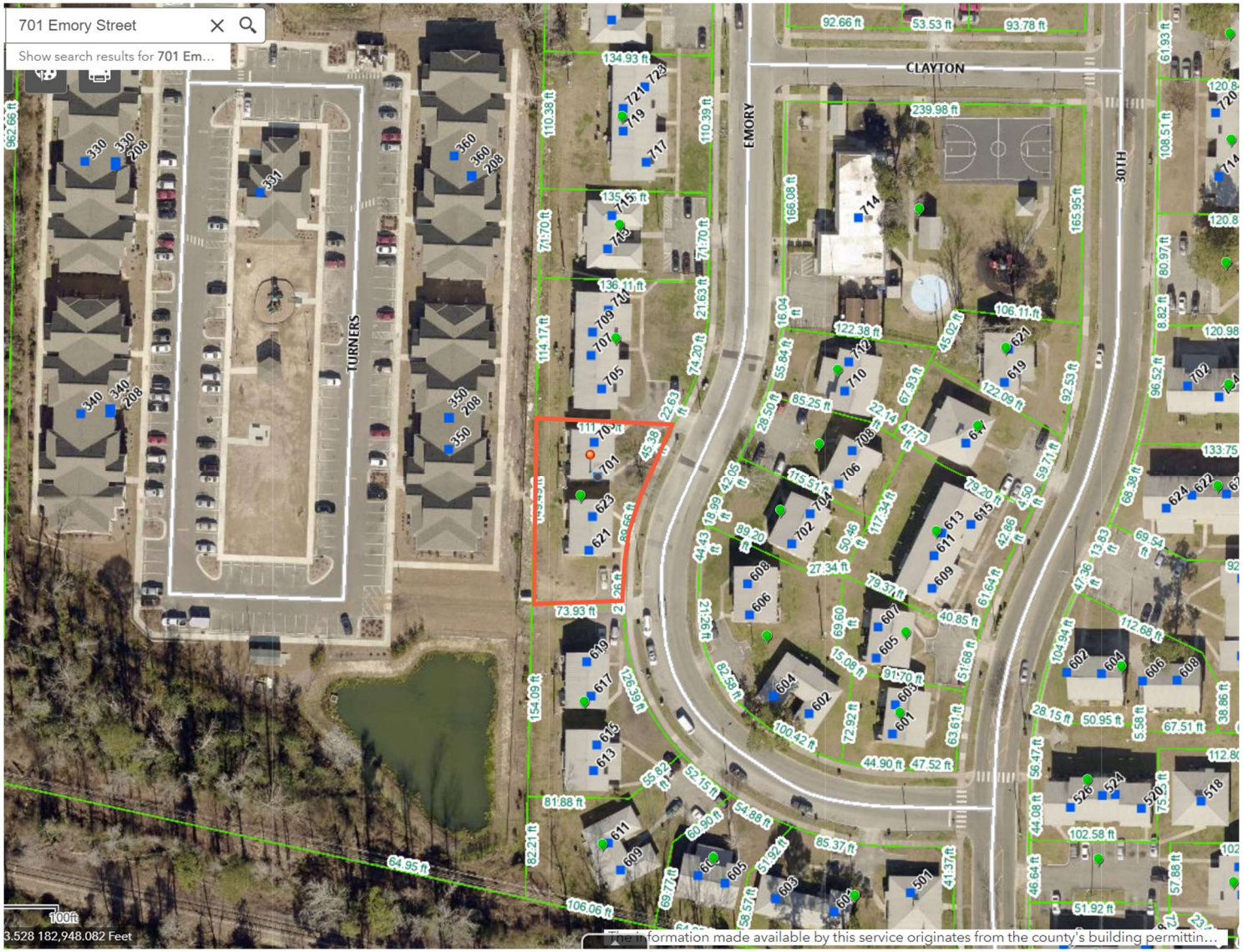
Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:

ADDITIONS - CONTINUED....

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
9		POR	BAS			48	3,888	1970		C-	AV		49		1,905

Creekwood (14 Units), 701 Emory Street Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-076-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 2 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

621 EMORY ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 71 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	46,300	Oby		Exempt Code:	EX
Bldg	207,700	Class	CHR3	Exempt Amount:	254,000
Total	254,000	Taxable:		Routing:	005

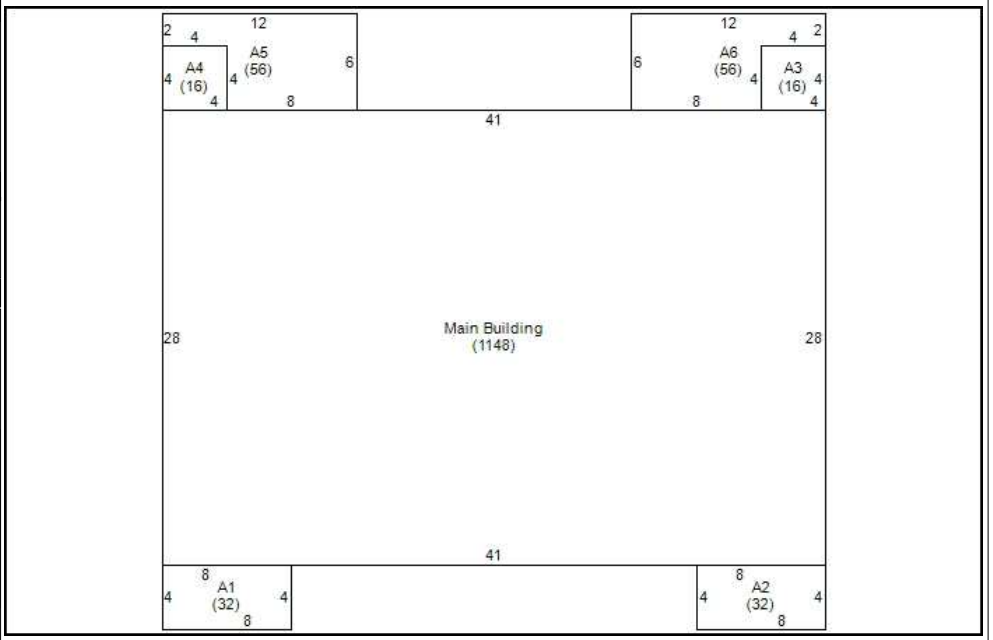
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	12,736	3.5	1.25	1.25			1		46,295

Total Parcel Size: 12,736 0.2924 46,295

CA16: **Date:** 01/07/19 **Entr Rslt:** R **Spoke With:** A **Appr:** RLK



Improvement Description (CA21):

Story Ht:	2	**Half Baths:**	2	**Int vs. Ext Cnd:**		**Grade:**	C-
Cnstr:	Part Brick & Fran	**Extra Fixtures:**	0	**Bldg Use Code:**		**CDU:**	AVERAGE
Style:	Duplex	**Bsmt:**	None	**Masonry Trim:**		**Market Adj:**	
Yr Blt:	1970	**Heating:**	Central With A/C	**Unfin Area:**		**Pct Cmplt:**	
Eff Year:		**Heating Fuel:**	Electric	**Rec Room:**	0	**SFLA:**	2296
Yr Remod:		**System:**	Heat Pump	**Fin.Bsmt Area:**		**Excavated**	
% Remod:		**Attic:**		**WBFP Stacks:**		**Pilings**	
Bedrms:	6	**Phys Cond:**		**Prefab Stacks:**	0	**Concrete**	
Full Baths:	2	**Elevators**		**Bsmt Gar # Cars:**			

C&D Factor:
C&D Descrip:
Funct Dep %
Funct Desc:
Econ Dep%:
Econ Desc:
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,148	209,640	1971		C-	AV		50		102,724
1		MST				32	576	1970		C-	AV		49		282
2		MST				32	576	1970		C-	AV		49		282
3		UTL				16	274	1970		C-	AV		49		134
4		UTL				16	274	1970		C-	AV		49		134
5		CS				56	302	1970		C-	AV		49		148
6		CS				56	302	1970		C-	AV		49		148

Nbhd Factor: 1.0000 ***Total:*** **103,852**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		202783
Plumbing		4320
Basement		0
Heating		2537
Attic		0
Other features		0
Subtotal		209640
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		209640
Base Dwell RCNLD		102724
Additions		1128
Total RCNLD		103852
Nbhd Factor		1.0000
%complete		
Dwelling Value		103852
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,148
Area Factor	0.716
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MAPP	20-DEC-18	20' PUBLIC UTILITY & EMERGENCY ACCESS ESMT PER MB65/322 FOR 1/1/19 -TL 12/20/18
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	07-JAN-19	20' PUBLIC UTILITY & EMERGENCY ACCESS ESMT NO VC PER RLK 1/7/19 JD
MN13	31-JAN-13	NO VC-CLOSED PERMITS #12-1609, #12-1607, #12-1606, #12-1605 PER SW 1/30/13 MC

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



R04909-001-076-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 2 of 2 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

621 EMORY ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 71 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	46,300	Oby		Exempt Code:	EX
Bldg	207,700	Class	CHR3	Exempt Amount:	254,000
Total	254,000	Taxable:		Routing:	005

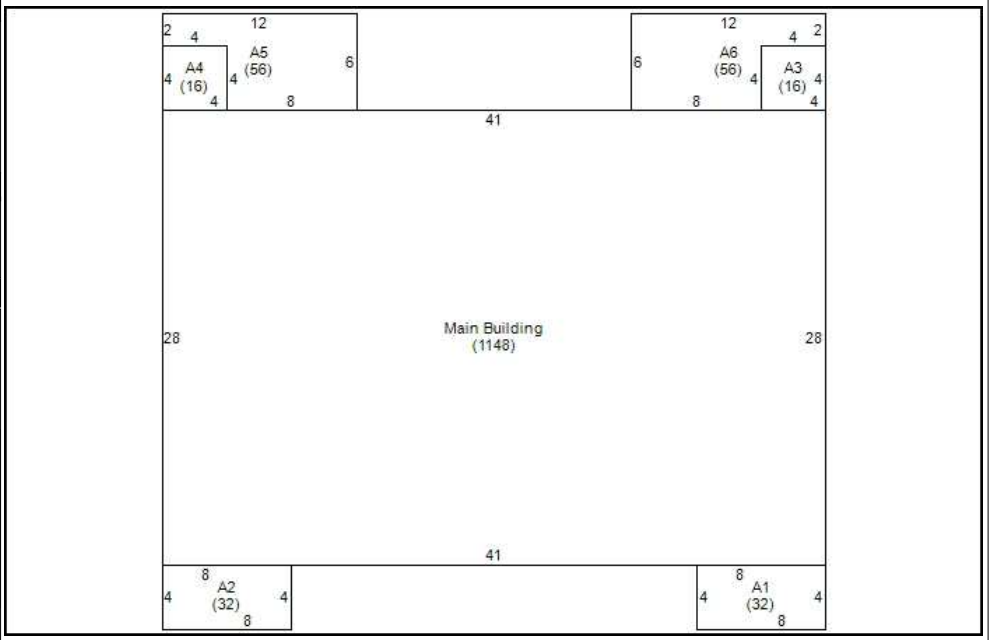
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	12,736	3.5	1.25	1.25			1		46,295

Total Parcel Size: 12,736 0.2924 46,295

CA16: **Date:** 01/07/19 **Entr Rslt:** R **Spoke With:** A **Appr:** RLK



Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 2 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**\
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**\
Style: Duplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**\
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**\
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 2296 **Econ Dep%:**\
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**\
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**\
Bedrms: 6 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**\
Full Baths: 2 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,148	209,640	1971		C-	AV		50		102,724
1		MST				32	576	1970		C-	AV		49		282
2		MST				32	576	1970		C-	AV		49		282
3		UTL				16	274	1970		C-	AV		49		134
4		UTL				16	274	1970		C-	AV		49		134
5		CS				56	302	1970		C-	AV		49		148
6		CS				56	302	1970		C-	AV		49		148

Nbhd Factor: 1.0000 ***Total:*** **103,852**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		202783
Plumbing		4320
Basement		0
Heating		2537
Attic		0
Other features		0
Subtotal		209640
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		209640
Base Dwell RCNLD		102724
Additions		1128
Total RCNLD		103852
Nbhd Factor		1.0000
%complete		
Dwelling Value		103852
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,148
Area Factor	0.716
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MAPP	20-DEC-18	20' PUBLIC UTILITY & EMERGENCY ACCESS ESMT PER MB65/322 FOR 1/1/19 -TL 12/20/18
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	07-JAN-19	20' PUBLIC UTILITY & EMERGENCY ACCESS ESMT NO VC PER RLK 1/7/19 JD
MN13	31-JAN-13	NO VC-CLOSED PERMITS #12-1609, #12-1607, #12-1606, #12-1605 PER SW 1/30/13 MC

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:

Creekwood (14 Units), 707 Emory Street, Wilmington, NC 28405
New Hanover County Parcel Map


707 Emory St.
Show search results for 707 Em...
EMORY
CLAYTON
30TH
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R04909-001-075-000 2023 *New Hanover County, NC - Property Card* Printed: 04/26/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

705 EMORY ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 70 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	48,900	Oby		Exempt Code:	EX
Bldg	238,100	Class	CHR3	Exempt Amount:	287,000
Total	287,000	Taxable:		Routing:	006

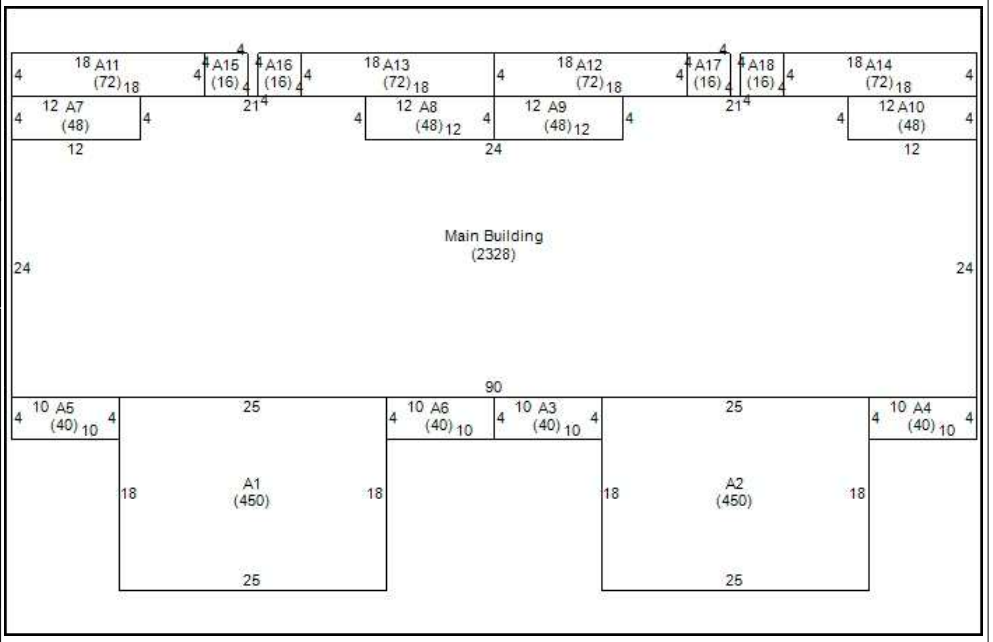
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	14,781	3.5	1.25	1.25			1		48,851

Total Parcel Size: 14,781 0.3393 48,851

CA16: **Date:** 10/01/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 0 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**\
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**\
Style: Quadplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**\
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**\
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 5908 **Econ Dep%:**\
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**\
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**\
Bedrms: 16 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**\
Full Baths: 8 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						2,328	396,816	1971		C-	AV		50		194,440
1		BAS				450	28,350	1971		C-	AV		50		14,175
2		BAS				450	28,350	1971		C-	AV		50		14,175
3		POR	BAS			40	3,240	1970		C-	AV		49		1,588
4		POR	BAS			40	3,240	1970		C-	AV		49		1,588
5		POR	BAS			40	3,240	1970		C-	AV		49		1,588
6		POR	BAS			40	3,240	1970		C-	AV		49		1,588
7		POR	BAS			48	3,888	1970		C-	AV		49		1,905
8		POR	BAS			48	3,888	1970		C-	AV		49		1,905

Continued on additional page... **Nbhd Factor:** 1.0000 ***Total:*** **238,062**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		372713
Plumbing		19440
Basement		0
Heating		4663
Attic		0
Other features		0
Subtotal		396816
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		396816
Base Dwell RCNLD		194440
Additions		43622
Total RCNLD		238062
Nbhd Factor		1.0000
%complete		
Dwelling Value		238062
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	2,328
Area Factor	1.316
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	31-JAN-13	NO VC-CLOSED PERMITS #12-1723, #12-1680, #12-1679, #12-1677 PER SW 1/30/13 MC

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

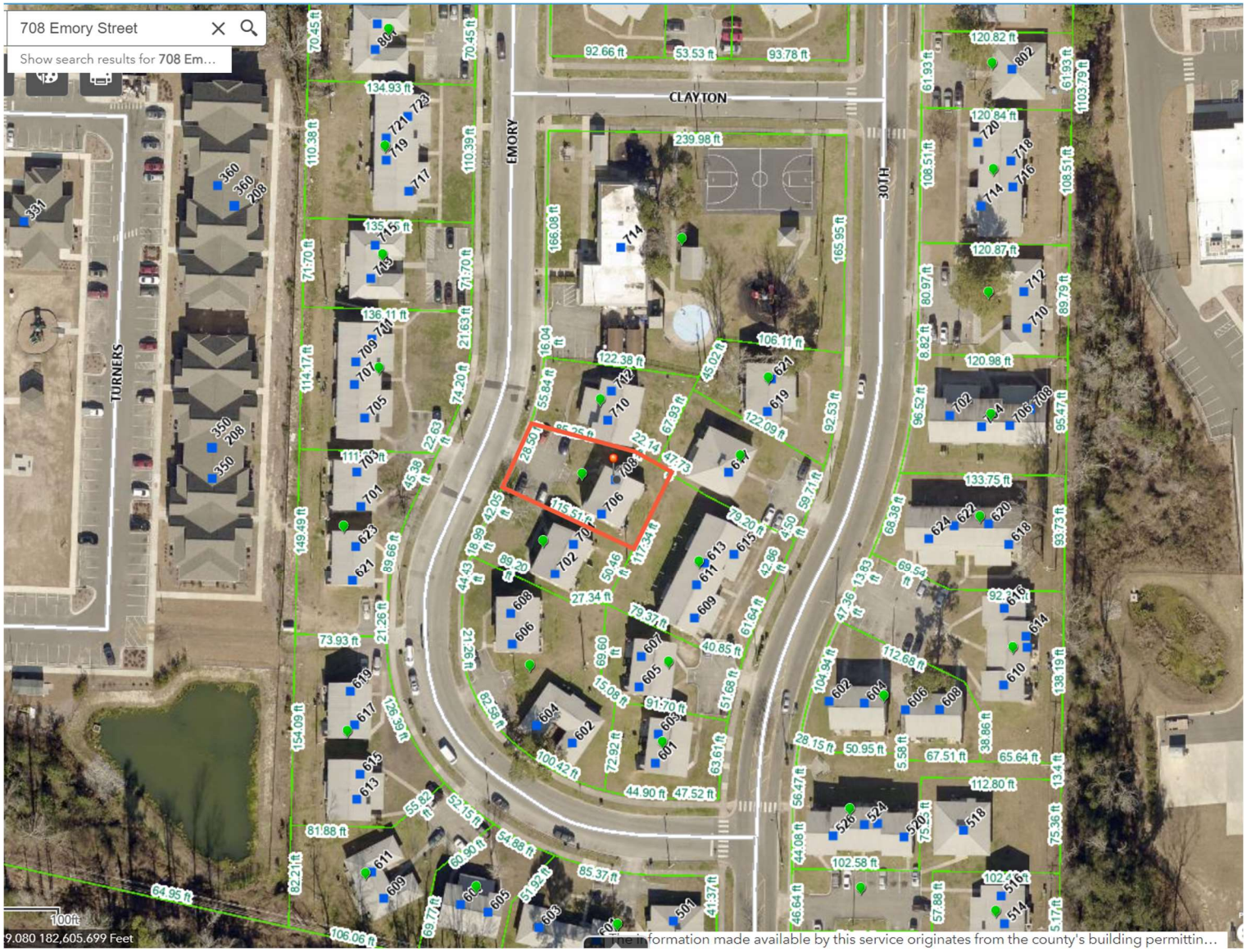
Photo:



ADDITIONS - CONTINUED....

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
9		POR	BAS			48	3,888	1970		C-	AV		49		1,905
10		POR	BAS			48	3,888	1970		C-	AV		49		1,905
11		CS				72	389	1970		C-	AV		49		191
12		CS				72	389	1970		C-	AV		49		191
13		CS				72	389	1970		C-	AV		49		191
14		CS				72	389	1970		C-	AV		49		191
15		UTL				16	274	1970		C-	AV		49		134
16		UTL				16	274	1970		C-	AV		49		134
17		UTL				16	274	1970		C-	AV		49		134
18		UTL				16	274	1970		C-	AV		49		134

Creekwood (14 Units), 708 Emory Street Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-046-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

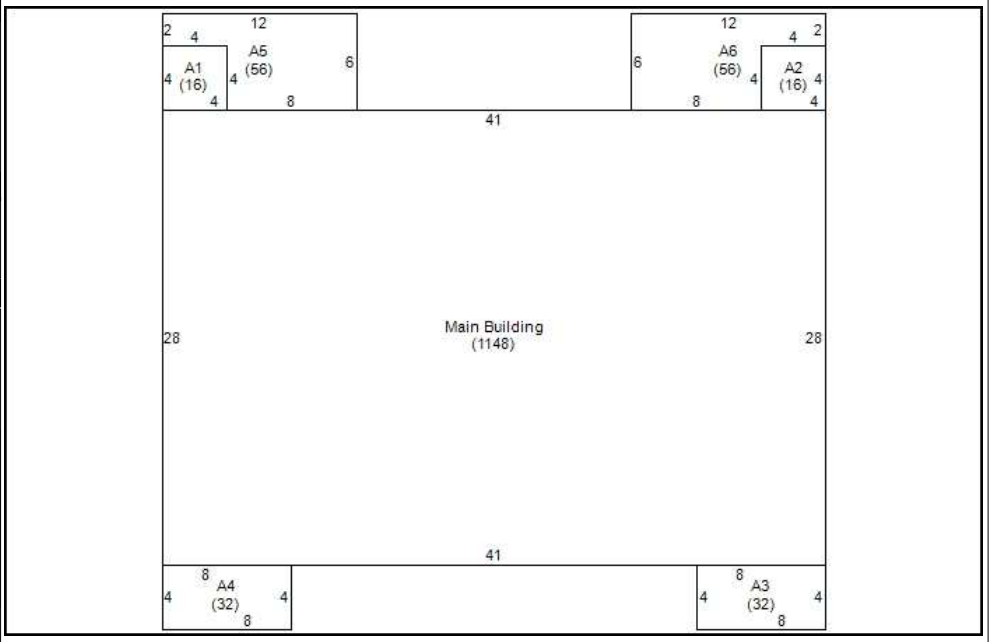
Ownership & Legal Description:

706 EMORY ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORITY
PO BOX 899
WILMINGTON NC 28402

Legal: LOT 41 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12



Assessment

Land	39,800	Oby		Exempt Code:	EX
Bldg	103,900	Class	CHR3	Exempt Amount:	143,700
Total	143,700	Taxable:		Routing:	036

Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light
Topo 1/2/3: Level With Street **Fronting:**
Utils 1/2/3: Water/Sewer, Public **Location:**
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	7,516	3.5	1.25	1.25			1		39,770

Total Parcel Size: 7,516 0.1725 39,770

CA16: **Date:** 09/25/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW

Improvement Description (CA21):

Story Ht: 2
Cnstr: Part Brick & Fran
Style: Duplex
Yr Blt: 1970
Eff Year:
Yr Remod:
% Remod:
Bedrms: 6
Full Baths: 2
Half Baths: 2
Extra Fixtures: 0
Bsmt: None
Heating: Central With A/C
Heating Fuel: Electric
System: Heat Pump
Attic:
Phys Cond:
Elevators
Int vs. Ext Cnd:
Bldg Use Code:
Masonry Trim:
Unfin Area:
Rec Room: 0
Fin.Bsmt Area:
WBFP Stacks:
Prefab Stacks: 0
Bsmt Gar # Cars:
Grade: C-
CDU: AVERAGE
Market Adj:
Pct Cmplt:
SFLA: 2296
Excavated
Pilings
Concrete
C&D Factor:
C&D Descrip:
Funct Dep %
Funct Desc:
Econ Dep%:
Econ Desc:
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,148	209,640	1971		C-	AV		50		102,724
1		UTL				16	274	1970		C-	AV		49		134
2		UTL				16	274	1970		C-	AV		49		134
3		MST				32	576	1970		C-	AV		49		282
4		MST				32	576	1970		C-	AV		49		282
5		CS				56	302	1970		C-	AV		49		148
6		CS				56	302	1970		C-	AV		49		148

Nbhd Factor: 1.0000 ***Total:*** **103,852**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		202783
Plumbing		4320
Basement		0
Heating		2537
Attic		0
Other features		0
Subtotal		209640
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		209640
Base Dwell RCNLD		102724
Additions		1128
Total RCNLD		103852
Nbhd Factor		1.0000
%complete		
Dwelling Value		103852
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,148
Area Factor	0.716
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	23-JAN-12	CK BK '13 ON ALL PERMIT WORK PER SW 1/23/12 JD
MN13	18-JAN-13	PRMT RVW '13-NO VC, CLSD PRMTS PER SW 1/14/13; 1/18/13 CAF

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

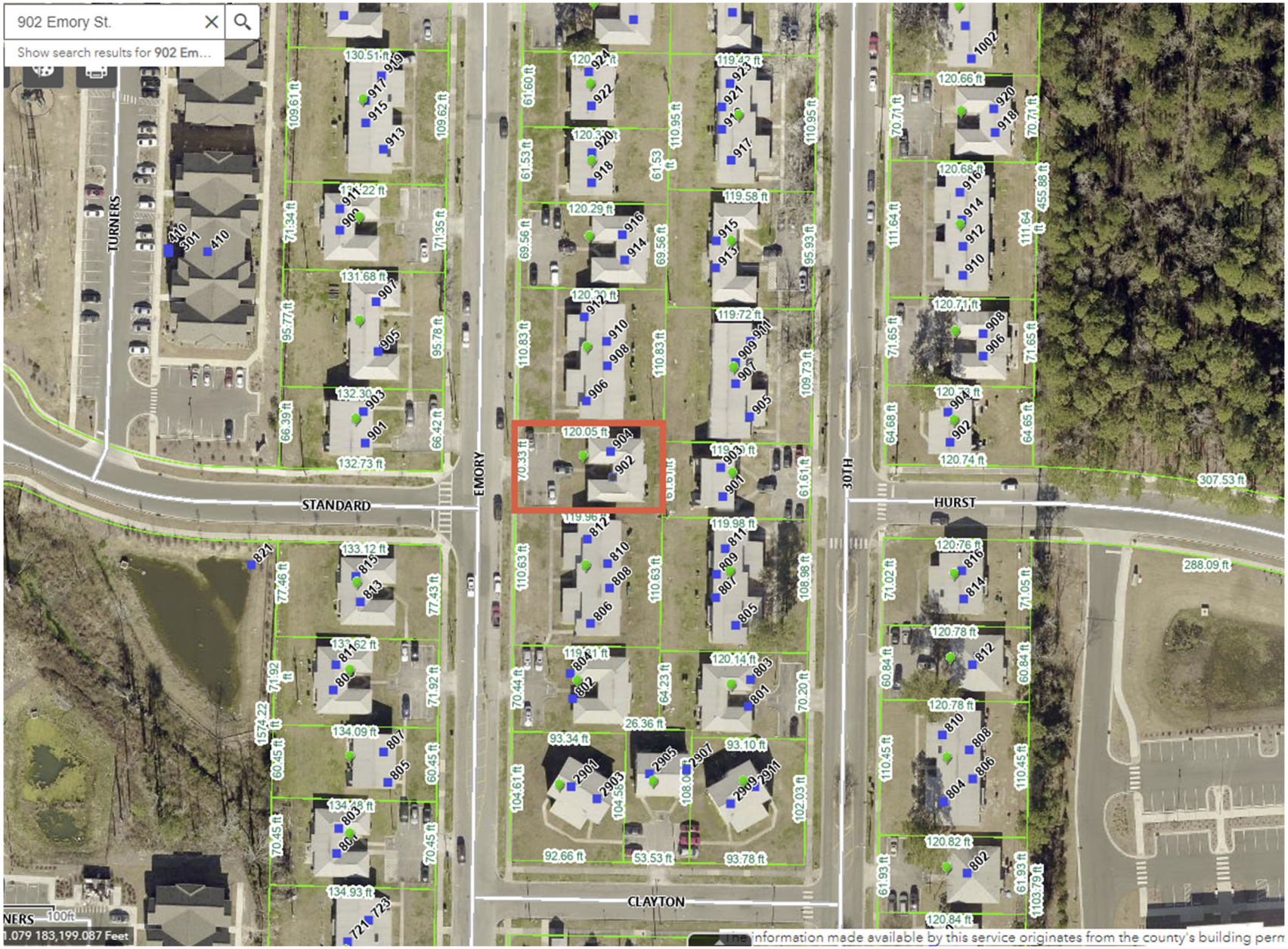
Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



Creekwood (14 Units), 902 Emory Street, Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-052-000 2023 *New Hanover County, NC - Property Card* Printed: 04/26/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

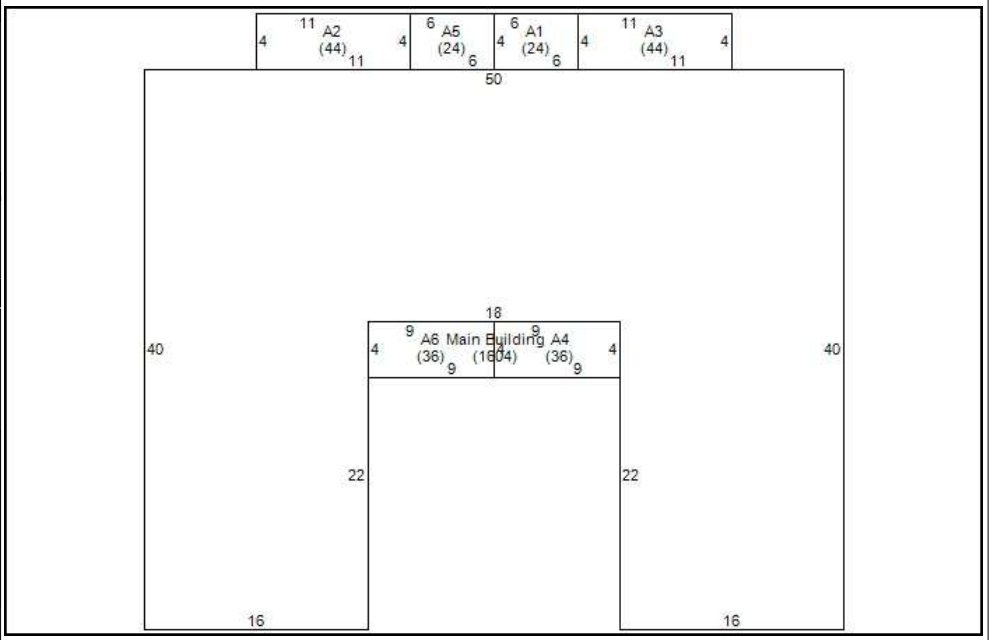
Ownership & Legal Description:

902 EMORY ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORITY
PO BOX 899
WILMINGTON NC 28402

Legal: LOT 47 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12



Assessment

Land	40,900	Oby		Exempt Code:	EX
Bldg	86,900	Class	CHR3	Exempt Amount:	127,800
Total	127,800	Taxable:		Routing:	029

Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light
Topo 1/2/3: Level With Street **Fronting:**
Utils 1/2/3: Water/Sewer, Public **Location:**
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	8,440	3.5	1.25	1.25			1		40,925

Total Parcel Size: 8,440 0.1938 40,925

CA16: **Date:** 09/25/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW

Improvement Description (CA21):

Story Ht: 1
Cnstr: Brick Veneer
Style: Duplex
Yr Blt: 1970
Eff Year:
Yr Remod:
% Remod:
Bedrms: 4
Full Baths: 2

Half Baths: 0
Extra Fixtures: 0
Bsmt: None
Heating: Central With A/C
Heating Fuel: Electric
System: Heat Pump
Attic:
Phys Cond:
Elevators

Int vs. Ext Cnd:
Bldg Use Code:
Masonry Trim:
Unfin Area:
Rec Room: 0
Fin.Bsmt Area:
WBFP Stacks:
Prefab Stacks: 0
Bsmt Gar # Cars:

Grade: C-
CDU: AVERAGE
Market Adj:
Pct Cmplt:
SFLA: 1604
Excavated
Pilings
Concrete

C&D Factor:
C&D Descrip:
Funct Dep %
Funct Desc:
Econ Dep%:
Econ Desc:
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,604	174,672	1971		C-	AV		50		85,589
1		UTL				24	410	1970		C-	AV		49		201
2		CS				44	238	1970		C-	AV		49		117
3		CS				44	238	1970		C-	AV		49		117
4		POR				36	648	1970		C-	AV		49		318
5		UTL				24	410	1970		C-	AV		49		201
6		POR				36	648	1970		C-	AV		49		318

Nbhd Factor: 1.0000 ***Total:*** **86,861**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		172592
Plumbing		0
Basement		0
Heating		2080
Attic		0
Other features		0
Subtotal		174672
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		174672
Base Dwell RCNLD		85589
Additions		1272
Total RCNLD		86861
Nbhd Factor		1.0000
%complete		
Dwelling Value		86861
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,604
Area Factor	0.951
Story Height Factor	1.000
Construct Factor	1.090
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	22-JAN-13	PRMT RVW '13-NO VC, CLSD PRMTS PER SW 1/14/13; 1/22/13 CAF

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

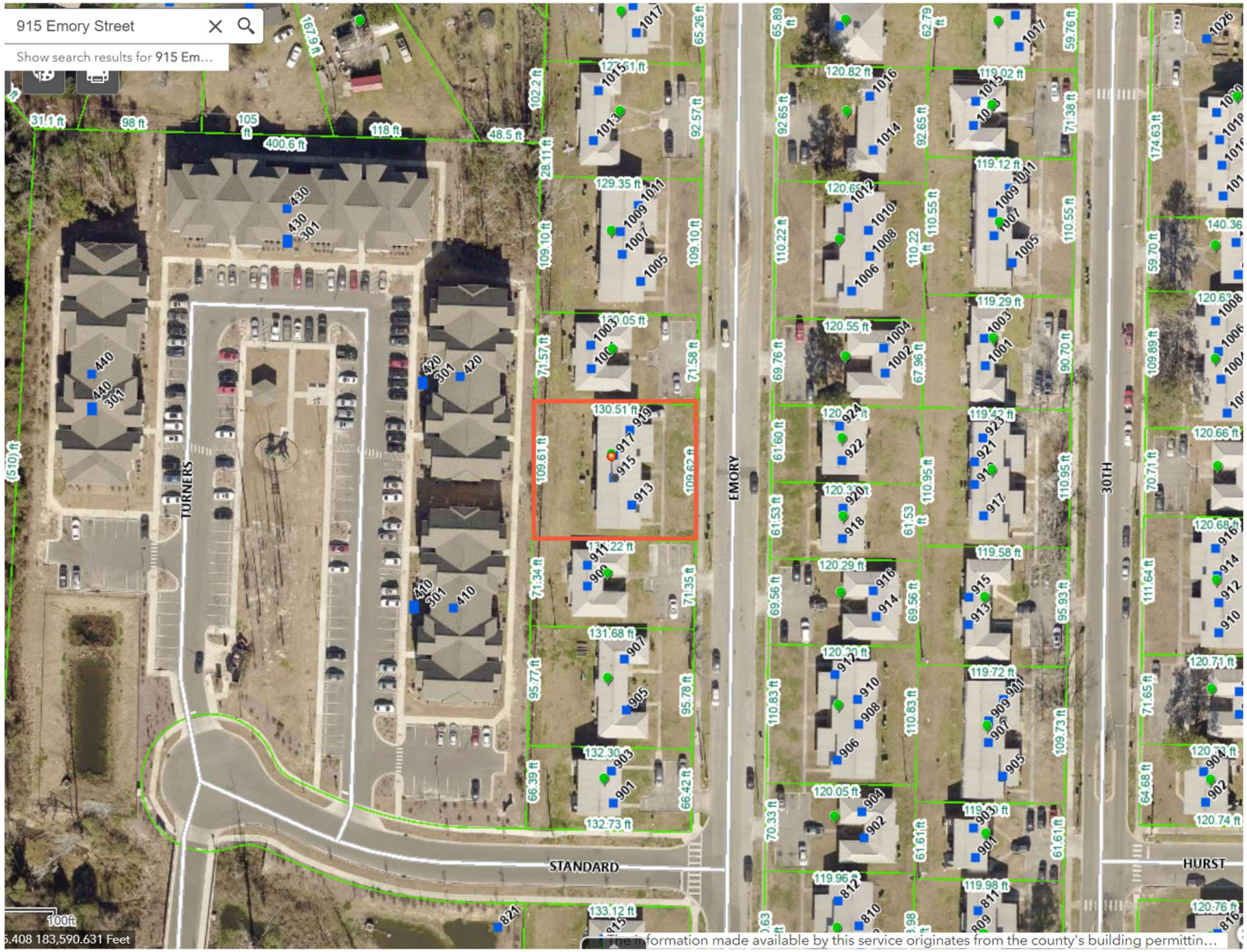
Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



Creekwood (14 Units), 915 Emory Street Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-065-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

913 EMORY ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 60 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	48,300	Oby		Exempt Code:	EX
Bldg	238,100	Class	CHR3	Exempt Amount:	286,400
Total	286,400	Taxable:		Routing:	016

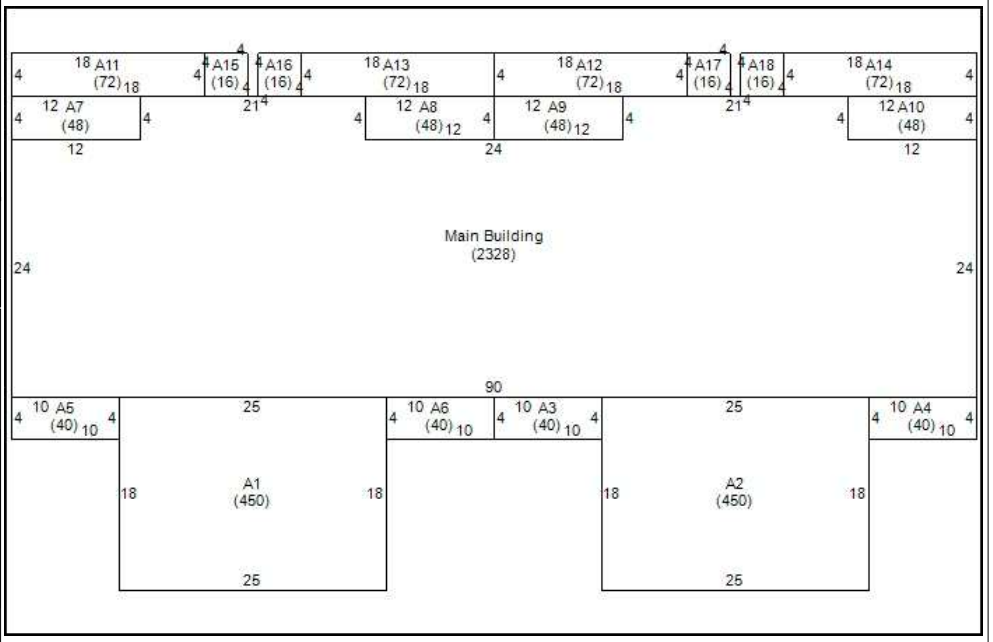
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	14,345	3.5	1.25	1.25			1		48,306

Total Parcel Size: 14,345 0.3293 48,306

CA16: **Date:** 10/01/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 0 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**\
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**\
Style: Quadplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**\
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**\
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 5908 **Econ Dep%:**\
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**\
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**\
Bedrms: 16 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**\
Full Baths: 8 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						2,328	396,816	1971		C-	AV		50		194,440
1		BAS				450	28,350	1971		C-	AV		50		14,175
2		BAS				450	28,350	1971		C-	AV		50		14,175
3		POR	BAS			40	3,240	1970		C-	AV		49		1,588
4		POR	BAS			40	3,240	1970		C-	AV		49		1,588
5		POR	BAS			40	3,240	1970		C-	AV		49		1,588
6		POR	BAS			40	3,240	1970		C-	AV		49		1,588
7		POR	BAS			48	3,888	1970		C-	AV		49		1,905
8		POR	BAS			48	3,888	1970		C-	AV		49		1,905

Continued on additional page... **Nbhd Factor:** 1.0000 ***Total:*** **238,062**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		372713
Plumbing		19440
Basement		0
Heating		4663
Attic		0
Other features		0
Subtotal		396816
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		396816
Base Dwell RCNLD		194440
Additions		43622
Total RCNLD		238062
Nbhd Factor		1.0000
%complete		
Dwelling Value		238062
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	2,328
Area Factor	1.316
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000
********	****	CA31	BLDGVAL	.8000
********	****	CA31	BLDGVAL	.9000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	31-JAN-13	NO VC-CLOSED PERMITS #12-1692, #12-1691, #12-1690, #12-1689 PER SW 1/30/13 MC

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

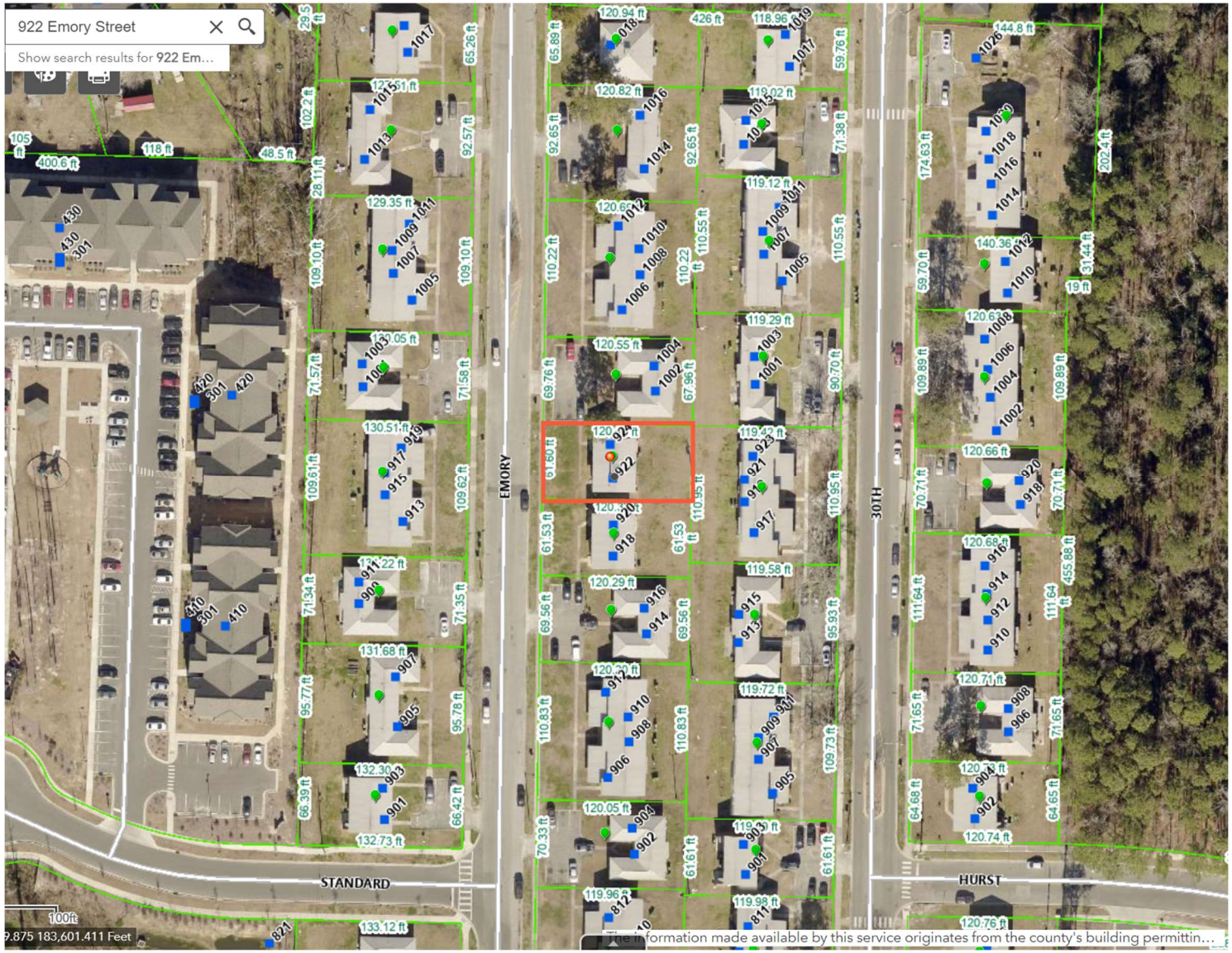
Photo:



ADDITIONS - CONTINUED....

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
9		POR	BAS			48	3,888	1970		C-	AV		49		1,905
10		POR	BAS			48	3,888	1970		C-	AV		49		1,905
11		CS				72	389	1970		C-	AV		49		191
12		CS				72	389	1970		C-	AV		49		191
13		CS				72	389	1970		C-	AV		49		191
14		CS				72	389	1970		C-	AV		49		191
15		UTL				16	274	1970		C-	AV		49		134
16		UTL				16	274	1970		C-	AV		49		134
17		UTL				16	274	1970		C-	AV		49		134
18		UTL				16	274	1970		C-	AV		49		134

Creekwood (14 Units), 922 Emory Street Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-056-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

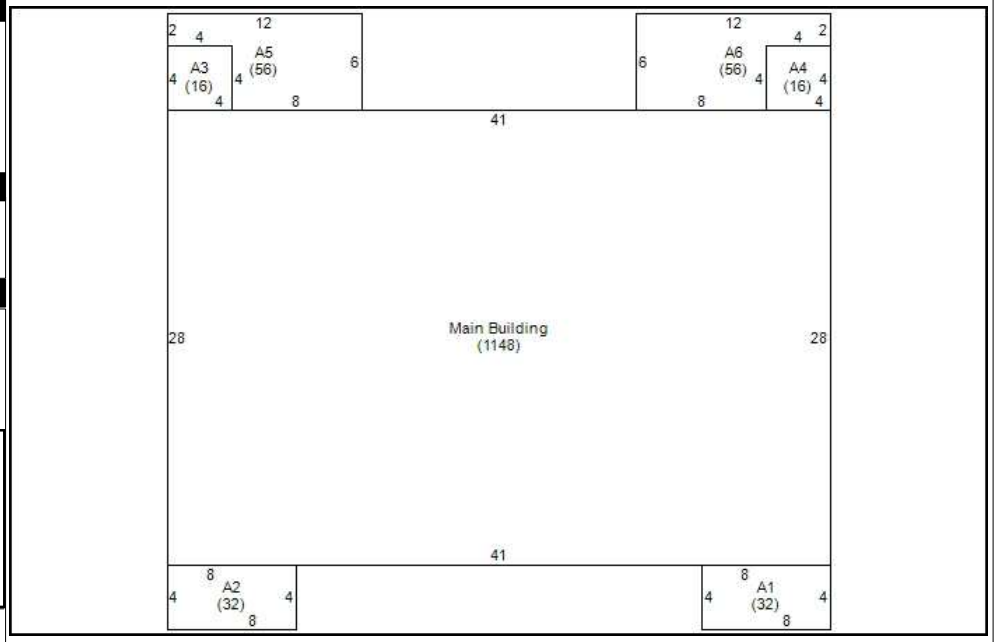
Ownership & Legal Description:

922 EMORY ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 51 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12



Assessment

Land	39,600	Oby		Exempt Code:	EX
Bldg	103,900	Class	CHR3	Exempt Amount:	143,500
Total	143,500	Taxable:		Routing:	025

Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	7,417	3.5	1.25	1.25			1		39,646
Total Parcel Size:			7,417		0.1703						39,646

CA16: **Date:** 09/25/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW

Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 2 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**\
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**\
Style: Duplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**\
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**\
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 2296 **Econ Dep%:**\
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**\
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**\
Bedrms: 6 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**\
Full Baths: 2 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,148	209,640	1971		C-	AV		50		102,724
1		MST				32	576	1970		C-	AV		49		282
2		MST				32	576	1970		C-	AV		49		282
3		UTL				16	274	1970		C-	AV		49		134
4		UTL				16	274	1970		C-	AV		49		134
5		CS				56	302	1970		C-	AV		49		148
6		CS				56	302	1970		C-	AV		49		148

Nbhd Factor: 1.0000 ***Total:*** **103,852**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD
Total:																					

Dwelling Pricing Ladder

Adjusted Base		202783
Plumbing		4320
Basement		0
Heating		2537
Attic		0
Other features		0
Subtotal		209640
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		209640
Base Dwell RCNLD		102724
Additions		1128
Total RCNLD		103852
Nbhd Factor		1.0000
%complete		
Dwelling Value		103852
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,148
Area Factor	0.716
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	22-JAN-13	PRMT RVW '13-NO VC, CLSD PRMTS PER SW 1/14/13; 1/22/13 CAF

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

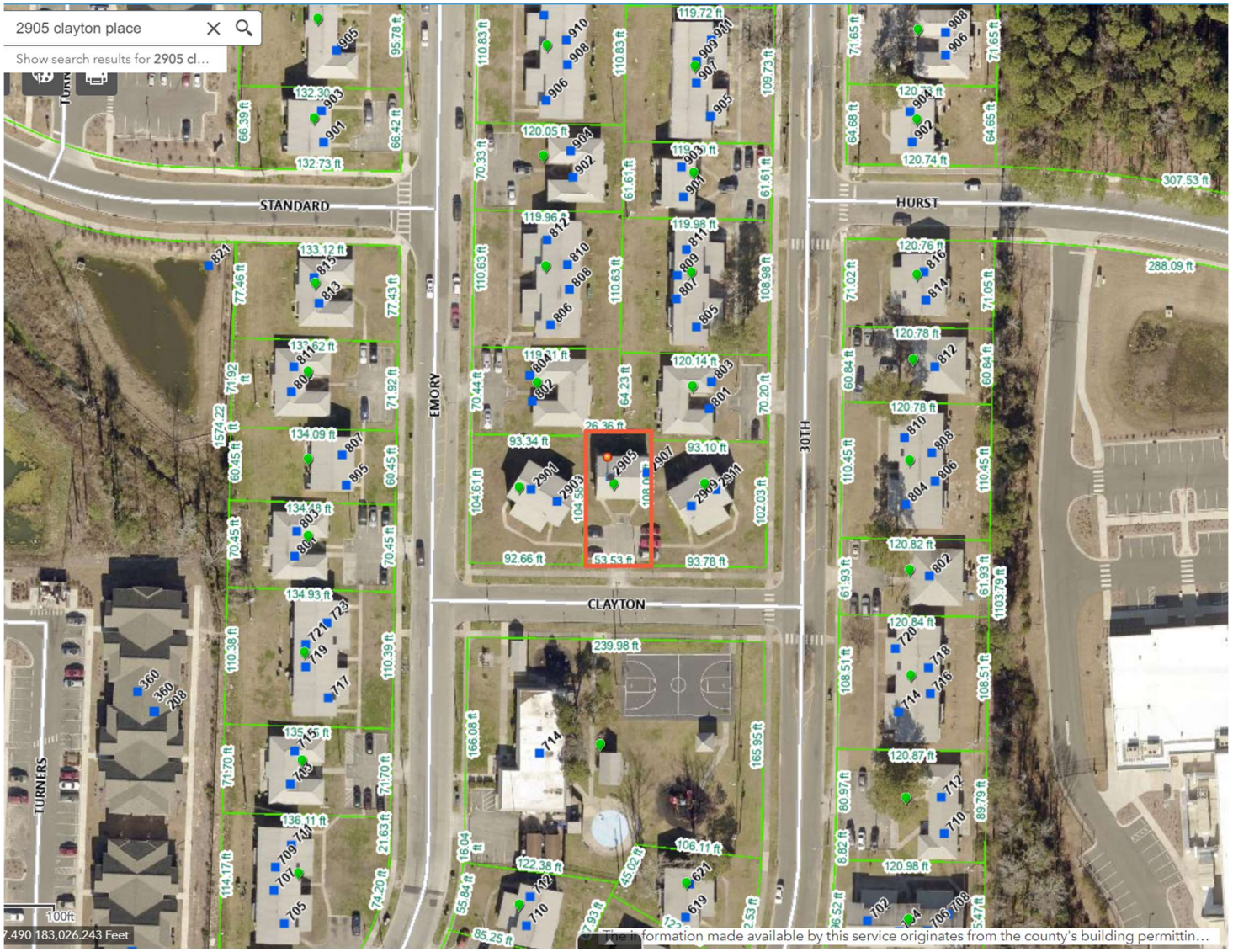
Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



Creekwood (14 Units), 2905 Clayton Place, Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-048-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

2905 CLAYTON PL WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 43 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	37,600	Oby		Exempt Code:	EX
Bldg	103,900	Class	CHR3	Exempt Amount:	141,500
Total	141,500	Taxable:		Routing:	033

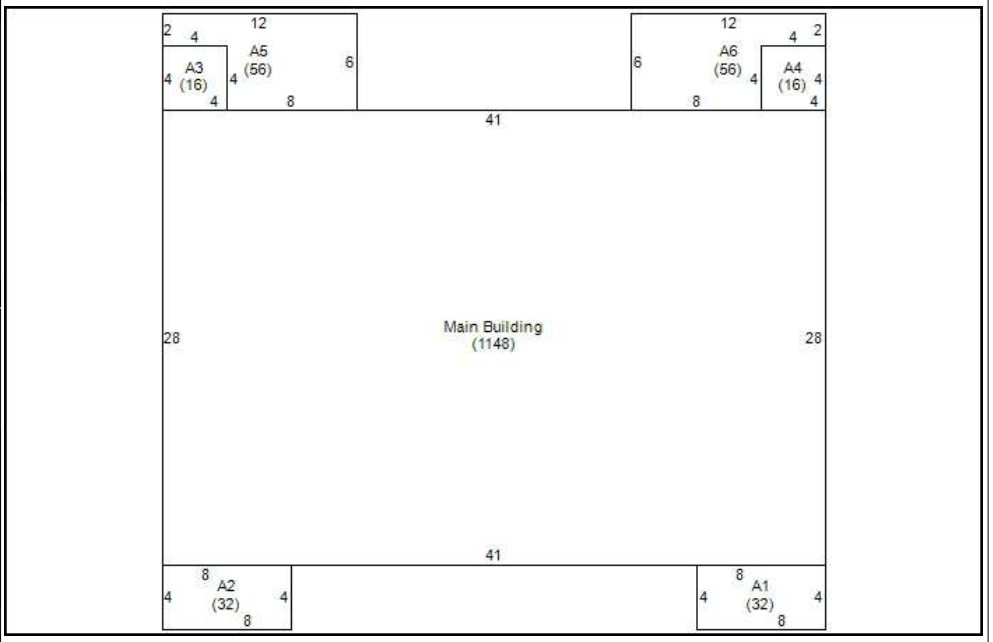
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	5,783	3.5	1.25	1.25			1		37,604

Total Parcel Size: 5,783 0.1328 37,604

CA16: **Date:** 09/25/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 2 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**\
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**\
Style: Duplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**\
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**\
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 2296 **Econ Dep%:**\
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**\
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**\
Bedrms: 6 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**\
Full Baths: 2 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,148	209,640	1971		C-	AV		50		102,724
1		MST				32	576	1970		C-	AV		49		282
2		MST				32	576	1970		C-	AV		49		282
3		UTL				16	274	1970		C-	AV		49		134
4		UTL				16	274	1970		C-	AV		49		134
5		CS				56	302	1970		C-	AV		49		148
6		CS				56	302	1970		C-	AV		49		148

Nbhd Factor: 1.0000 ***Total:*** **103,852**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		202783
Plumbing		4320
Basement		0
Heating		2537
Attic		0
Other features		0
Subtotal		209640
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		209640
Base Dwell RCNLD		102724
Additions		1128
Total RCNLD		103852
Nbhd Factor		1.0000
%complete		
Dwelling Value		103852
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,148
Area Factor	0.716
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	14-OCT-11	CLSE PRMTS, NO VC PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

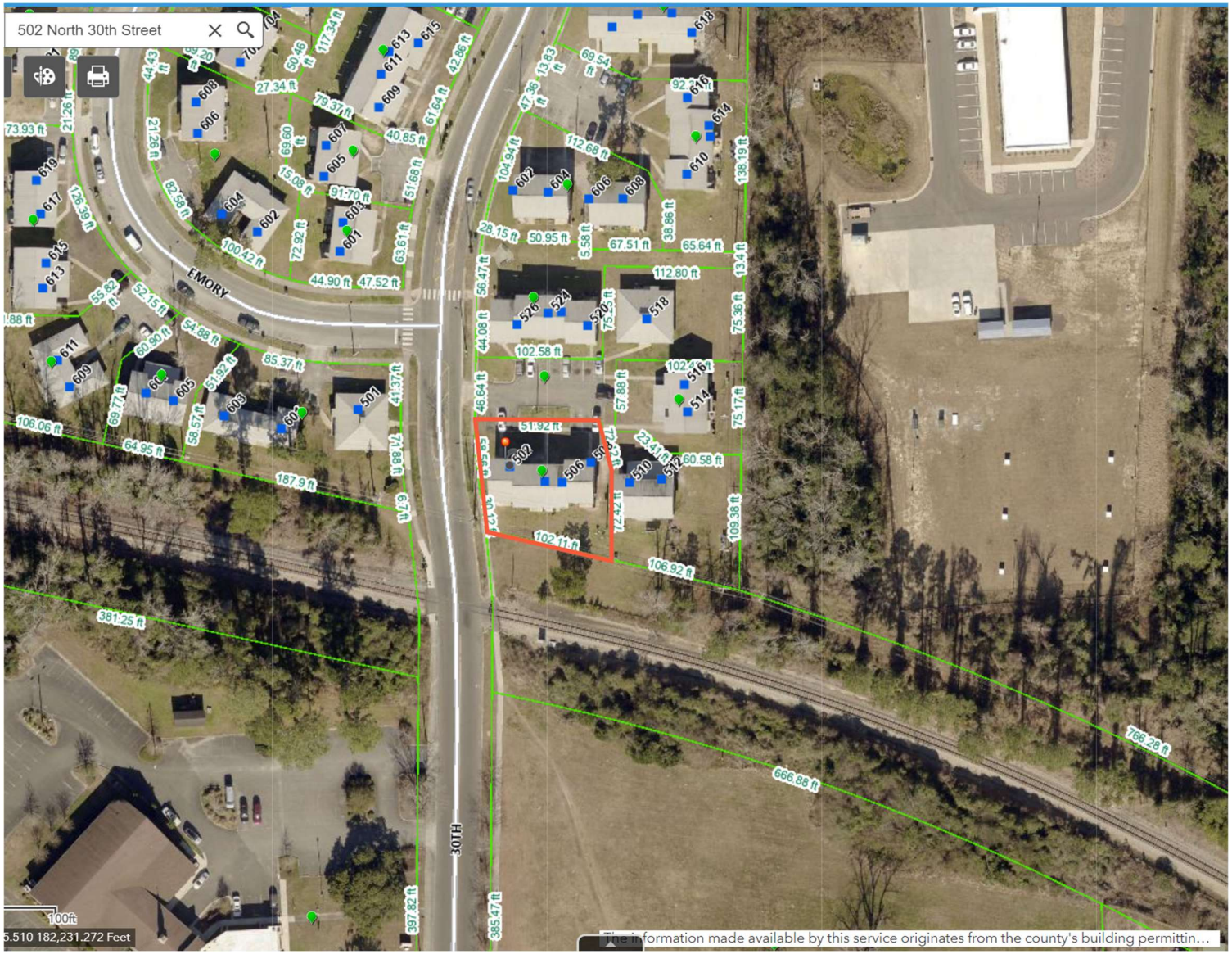
Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



Creekwood South (6 Units) at
502, 522, 609, 611, 613 & 710 N. 30th St.,
Wilmington, NC 28405

Creekwood South (6 Units), 502 North 30th Street, Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-006-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

502 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT
PO BOX 899
WILMINGTON NC 28402

Legal: LOT 1 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	43,600	Oby		Exempt Code:	EX
Bldg	203,700	Class	CHR3	Exempt Amount:	247,300
Total	247,300	Taxable:		Routing:	075

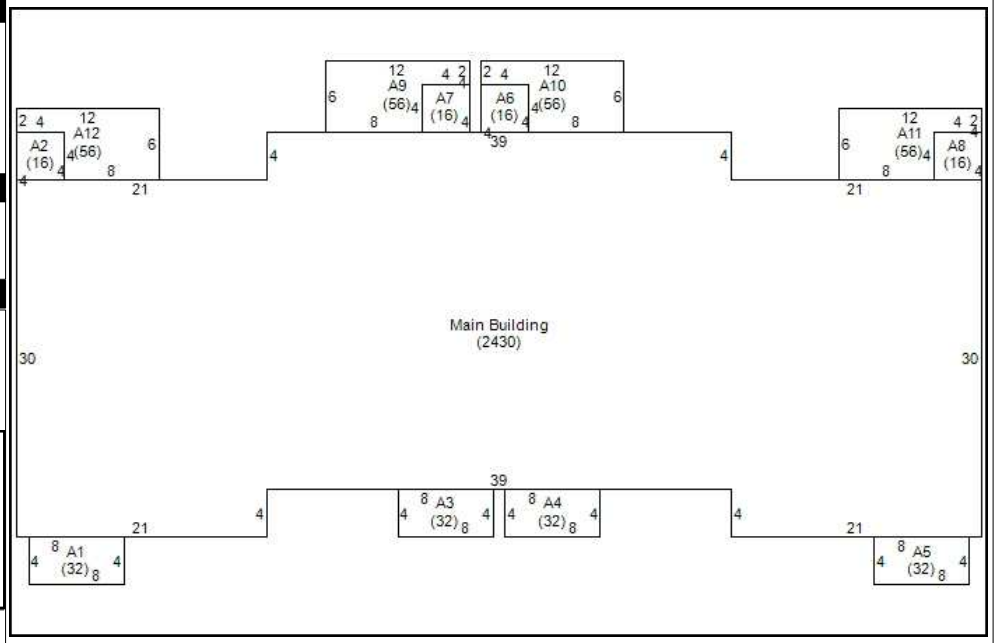
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light
Topo 1/2/3: Level With Street **Fronting:**
Utils 1/2/3: Water/Sewer, Public **Location:**
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	10,572	3.5	1.25	1.25			1		43,590

Total Parcel Size: 10,572 0.2427 43,590

CA16: **Date:** 09/24/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 0 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**
Style: Quadplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 4860 **Econ Dep%:**
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**
Bedrms: 12 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**
Full Baths: 8 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						2,430	411,154	1970		C-	AV		49		201,465
1		MST				32	576	1970		C-	AV		49		282
2		UTL				16	274	1970		C-	AV		49		134
3		MST				32	576	1970		C-	AV		49		282
4		MST				32	576	1970		C-	AV		49		282
5		MST				32	576	1970		C-	AV		49		282
6		UTL				16	274	1970		C-	AV		49		134
7		UTL				16	274	1970		C-	AV		49		134
8		UTL				16	274	1970		C-	AV		49		134

Continued on additional page... **Nbhd Factor:** 1.0000 ***Total:*** **203,721**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		386874
Plumbing		19440
Basement		0
Heating		4840
Attic		0
Other features		0
Subtotal		411154
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		411154
Base Dwell RCNLD		201465
Additions		2256
Total RCNLD		203721
Nbhd Factor		1.0000
%complete		
Dwelling Value		203721
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	2,430
Area Factor	1.366
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	18-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/18/11
MN13	03-MAY-11	SPLIT FROM R04909-002-003-000 MOVE BLDG HERE PER SW 5/2/11 JD 5/3/11
MN13	14-OCT-11	CLSE PRMTS, NO VC . PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



ADDITIONS - CONTINUED....

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
9		CS				56	302	1970		C-	AV		49		148
10		CS				56	302	1970		C-	AV		49		148
11		CS				56	302	1970		C-	AV		49		148
12		CS				56	302	1970		C-	AV		49		148

Creekwood South (6 Units), 522 North 30th Street, Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-009-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

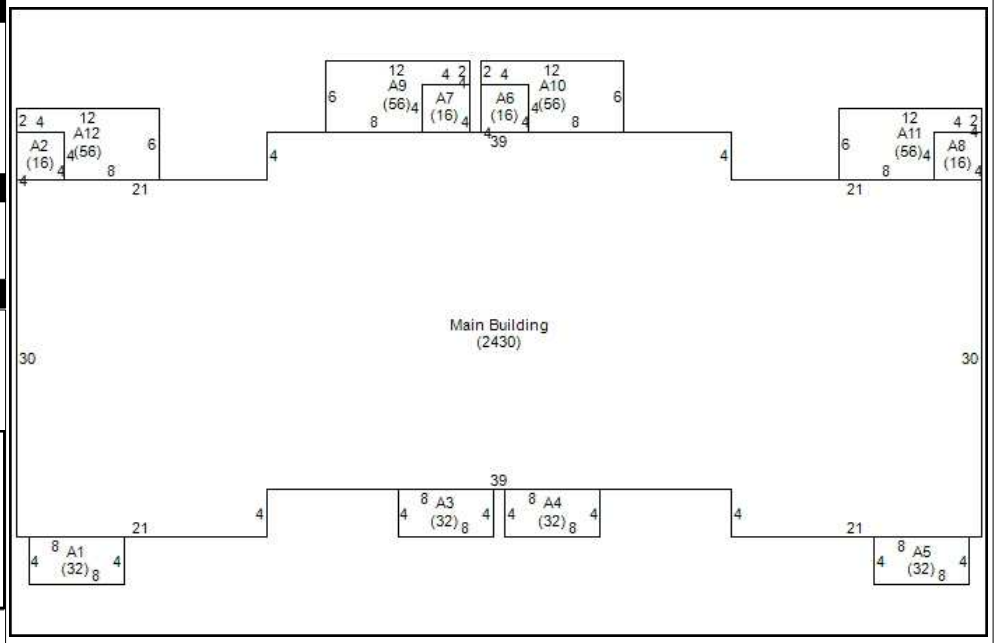
Ownership & Legal Description:

520 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT
PO BOX 899
WILMINGTON NC 28402

Legal: LOT 3 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12



Assessment

Land	44,300	Oby		Exempt Code:	EX
Bldg	203,700	Class	CHR3	Exempt Amount:	248,000
Total	248,000	Taxable:		Routing:	072

Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light
Topo 1/2/3: Level With Street **Fronting:**
Utils 1/2/3: Water/Sewer, Public **Location:**
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	11,145	3.5	1.25	1.25			1		44,306

Total Parcel Size: 11,145 0.2559 44,306

CA16: **Date:** 09/24/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW

Improvement Description (CA21):

Story Ht: 2
Cnstr: Part Brick & Fran
Style: Quadplex
Yr Blt: 1970
Eff Year:
Yr Remod:
% Remod:
Bedrms: 12
Full Baths: 8
Half Baths: 0
Extra Fixtures: 0
Bsmt: None
Heating: Central With A/C
Heating Fuel: Electric
System: Heat Pump
Attic:
Phys Cond:
Elevators
Int vs. Ext Cnd:
Bldg Use Code:
Masonry Trim:
Unfin Area:
Rec Room: 0
Fin.Bsmt Area:
WBFP Stacks:
Prefab Stacks: 0
Bsmt Gar # Cars:
Grade: C-
CDU: AVERAGE
Market Adj:
Pct Cmplt:
SFLA: 4860
Excavated
Pilings
Concrete
C&D Factor:
C&D Descrip:
Funct Dep %
Funct Desc:
Econ Dep%:
Econ Desc:
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						2,430	411,154	1971		C-	AV		50		201,465
1		MST				32	576	1970		C-	AV		49		282
2		UTL				16	274	1970		C-	AV		49		134
3		MST				32	576	1970		C-	AV		49		282
4		MST				32	576	1970		C-	AV		49		282
5		MST				32	576	1970		C-	AV		49		282
6		UTL				16	274	1970		C-	AV		49		134
7		UTL				16	274	1970		C-	AV		49		134
8		UTL				16	274	1970		C-	AV		49		134

Continued on additional page... **Nbhd Factor:** 1.0000 ***Total:*** **203,721**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		386874
Plumbing		19440
Basement		0
Heating		4840
Attic		0
Other features		0
Subtotal		411154
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		411154
Base Dwell RCNLD		201465
Additions		2256
Total RCNLD		203721
Nbhd Factor		1.0000
%complete		
Dwelling Value		203721
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	2,430
Area Factor	1.366
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	18-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/17/11
MN13	03-MAY-11	SPLIT FROM R04909-002-003-000 MOVE BLDG HERE PER SW 5/2/11 JD 5/3/11
MN13	14-OCT-11	CLSE PRMTS, NO VC PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



ADDITIONS - CONTINUED....

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
9		CS				56	302	1970		C-	AV		49		148
10		CS				56	302	1970		C-	AV		49		148
11		CS				56	302	1970		C-	AV		49		148
12		CS				56	302	1970		C-	AV		49		148

Creekwood South (6 Units), 609, 611 & 613 N. 30th Street, Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-041-000 2023 *New Hanover County, NC - Property Card* Printed: 04/26/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

609 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 36 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	46,600	Oby		Exempt Code:	EX
Bldg	238,100	Class	CHR3	Exempt Amount:	284,700
Total	284,700	Taxable:		Routing:	041

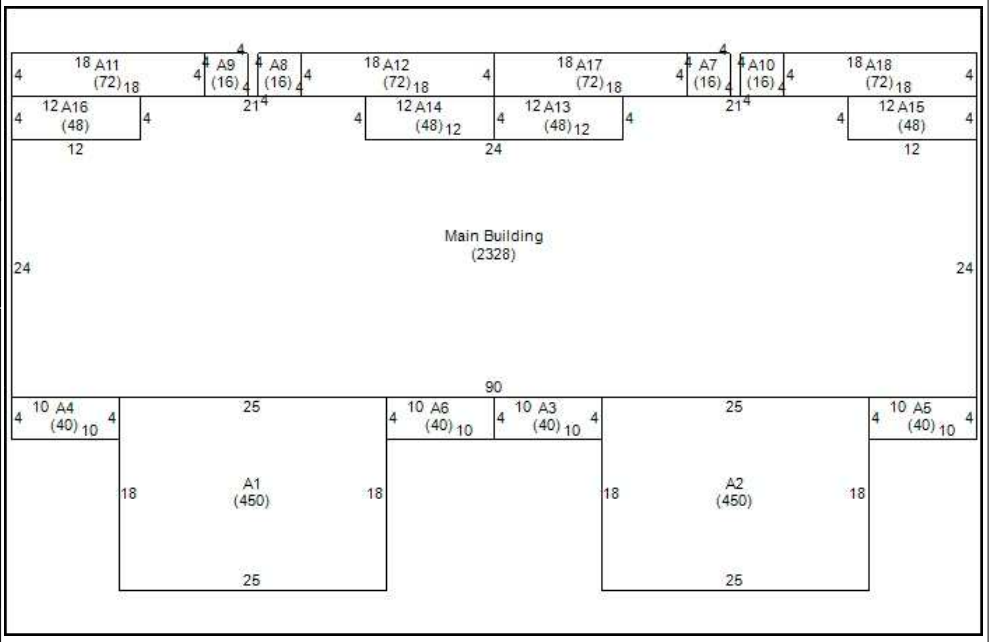
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	12,941	3.5	1.25	1.25			1		46,551

Total Parcel Size: 12,941 0.2971 46,551

CA16: **Date:** 09/25/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 0 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**\
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**\
Style: Quadplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**\
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**\
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 5908 **Econ Dep%:**\
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**\
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**\
Bedrms: 16 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**\
Full Baths: 8 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						2,328	396,816	1971		C-	AV		50		194,440
1		BAS				450	28,350	1971		C-	AV		50		14,175
2		BAS				450	28,350	1971		C-	AV		50		14,175
3		POR	BAS			40	3,240	1970		C-	AV		49		1,588
4		POR	BAS			40	3,240	1970		C-	AV		49		1,588
5		POR	BAS			40	3,240	1970		C-	AV		49		1,588
6		POR	BAS			40	3,240	1970		C-	AV		49		1,588
7		UTL				16	274	1970		C-	AV		49		134
8		UTL				16	274	1970		C-	AV		49		134

Continued on additional page... **Nbhd Factor:** 1.0000 ***Total:*** **238,062**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		372713
Plumbing		19440
Basement		0
Heating		4663
Attic		0
Other features		0
Subtotal		396816
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		396816
Base Dwell RCNLD		194440
Additions		43622
Total RCNLD		238062
Nbhd Factor		1.0000
%complete		
Dwelling Value		238062
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	2,328
Area Factor	1.316
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	18-JAN-13	PRMT RVW '13-NO VC, CLSD ALL PRMTS PER SW 1/14/13; 1/18/13 CAF
MN13	23-JAN-12	CK BK '13 ON ALL PERMIT WORK PER SW 1/23/12 JD

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



ADDITIONS - CONTINUED....

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
9		UTL				16	274	1970		C-	AV		49		134
10		UTL				16	274	1970		C-	AV		49		134
11		CS				72	389	1970		C-	AV		49		191
12		CS				72	389	1970		C-	AV		49		191
13		POR	BAS			48	3,888	1970		C-	AV		49		1,905
14		POR	BAS			48	3,888	1970		C-	AV		49		1,905
15		POR	BAS			48	3,888	1970		C-	AV		49		1,905
16		POR	BAS			48	3,888	1970		C-	AV		49		1,905
17		CS				72	389	1970		C-	AV		49		191
18		CS				72	389	1970		C-	AV		49		191

Creekwood South (6 Units), 710 North 30th Street, Wilmington, NC
28405 New Hanover County Parcel Map



R04909-001-014-000 2023 *New Hanover County, NC - Property Card* Printed: 04/26/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

710 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal:
LOT 9 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	44,000	Oby		Exempt Code:	EX
Bldg	90,700	Class	CHR3	Exempt Amount:	134,700
Total	134,700	Taxable:		Routing:	067

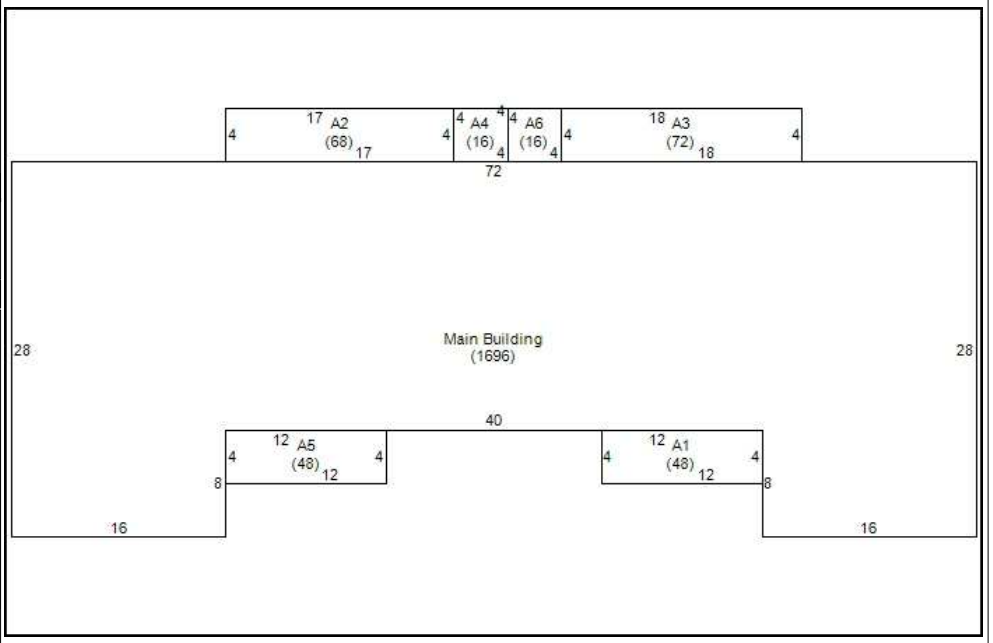
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light
Topo 1/2/3: Level With Street **Fronting:**
Utils 1/2/3: Water/Sewer, Public **Location:**
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	10,861	3.5	1.25	1.25			1		43,951

Total Parcel Size: 10,861 0.2493 43,951

CA16: **Date:** 09/24/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht:	1	**Half Baths:**	0	**Int vs. Ext Cnd:**		**Grade:**	C-
Cnstr:	Brick	**Extra Fixtures:**	0	**Bldg Use Code:**		**CDU:**	AVERAGE
Style:	Duplex	**Bsmt:**	None	**Masonry Trim:**		**Market Adj:**	
Yr Blt:	1970	**Heating:**	Central With A/C	**Unfin Area:**		**Pct Cmplt:**	
Eff Year:		**Heating Fuel:**	Electric	**Rec Room:**	0	**SFLA:**	1696
Yr Remod:		**System:**	Heat Pump	**Fin.Bsmt Area:**		**Excavated**	
% Remod:		**Attic:**		**WBFP Stacks:**		**Pilings**	
Bedrms:	4	**Phys Cond:**		**Prefab Stacks:**	0	**Concrete**	
Full Baths:	2	**Elevators**		**Bsmt Gar # Cars:**			

C&D Factor:
C&D Descrip:
Funct Dep %
Funct Desc:
Econ Dep%:
Econ Desc:
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,696	183,305	1971		C-	AV		50		89,819
1		CS				48	259	1970		C-	AV		49		127
2		CS				68	367	1970		C-	AV		49		180
3		CS				72	389	1970		C-	AV		49		191
4		UTL				16	274	1970		C-	AV		49		134
5		CS				48	259	1970		C-	AV		49		127
6		UTL				16	274	1970		C-	AV		49		134

Nbhd Factor: 1.0000 ***Total:*** **90,712**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		181122
Plumbing		0
Basement		0
Heating		2183
Attic		0
Other features		0
Subtotal		183305
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		183305
Base Dwell RCNLD		89819
Additions		893
Total RCNLD		90712
Nbhd Factor		1.0000
%complete		
Dwelling Value		90712
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,696
Area Factor	0.998
Story Height Factor	1.000
Construct Factor	1.090
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	18-APR-11	SPLIT PER MB55 PG360 FOR 1/1.2012 SHT 4/18/11
MN13	03-MAY-11	SPLIT FROM R04909-002-003-000 MOVE BLDG HERE PER SW 5/2/11 JD 5/3/11
MN13	14-OCT-11	CLSE PRMTS, NO VC PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:
FIRE	$5,000	01/24/23		FIRE	712 N 30TH BUILDING FIRE NO DETAILS

Sales History

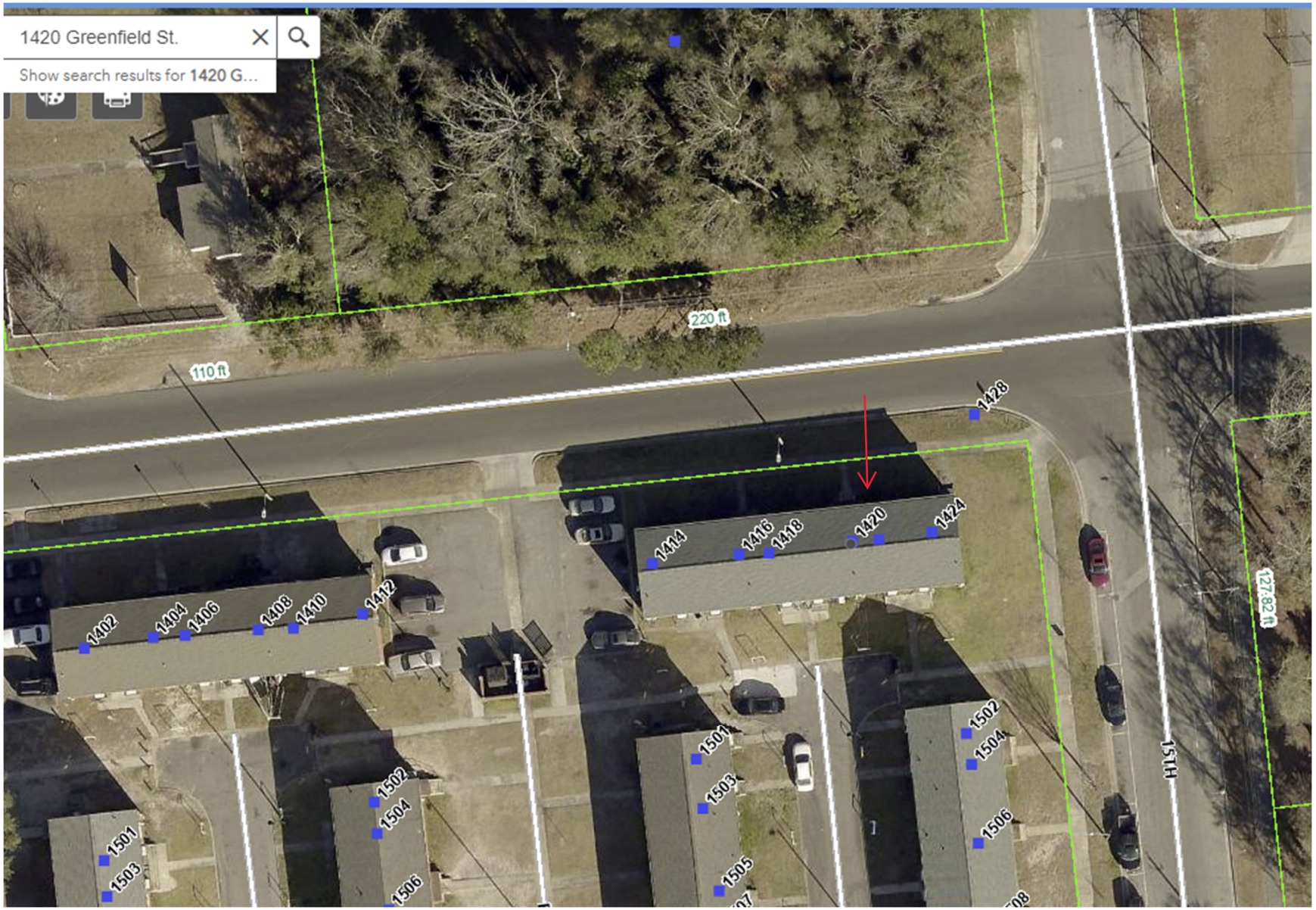
Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405

Houston Moore (1 Unit), 1420 Greenfield Street, Wilmington, NC 28405
New Hanover County Parcel Map



Houston Moore (1 Unit), 1420 Greenfield Street, Wilmington, NC 28405
New Hanover County Parcel Map



R05418-005-001-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 19 Appr#: Input Dte: ___/___/_____ ID:_____

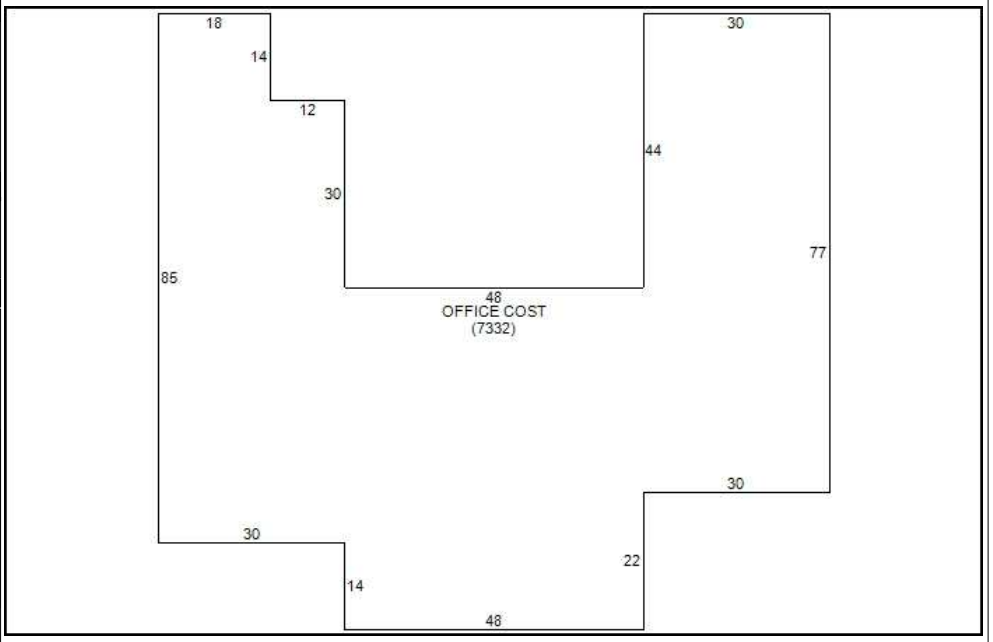
Ownership & Legal Description:

1601 S 13TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: TRACT FRENCH PROPERTY

Nbhd: CHC03 **Land Use:** 12



Assessment

Land	634,300	Oby	4,100	Exempt Code:	EX
Bldg	6,565,100	Class	CHR3	Exempt Amount:	7,199,400
Total	7,199,400	Taxable:		Routing:	012

Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	A	COA	8.3926	75000	35000	72000			1		634,267
Total Parcel Size:			365,582		8.3926						634,267

CA16: **Date:** 01/11/22 **Entr Rslt:** 6 **Spoke With:** A **Appr:** AP

Improvement Description (CA21):

Story Ht:	**Half Baths:**	**Int vs. Ext Cnd:**	**Grade:**	C	**C&D Factor:**
Cnstr:	**Extra Fixtures:**	**Bldg Use Code:**	**CDU:**	AVERAGE	**C&D Descrip:**
Style:	**Bsmt:**	**Masonry Trim:**	**Market Adj:**		**Funct Dep %**
Yr Blt:	**Heating:**	**Unfin Area:**	**Pct Cmplt:**		**Funct Desc:**
Eff Year:	**Heating Fuel:**	**Rec Room:**	**SFLA:**		**Econ Dep%:**
Yr Remod:	**System:**	**Fin.Bsmt Area:**	**Excavated**		**Econ Desc:**
% Remod:	**Attic:**	**WBFP Stacks:**	**Pilings**		**Over Depr Tbl:**
Bedrms:	**Phys Cond:**	**Prefab Stacks:**	**Concrete**		
Full Baths:	**Elevators**	**Bsmt Gar # Cars:**			

Remarks - (CA12 Notes)

HOUSTON MOORE

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD

Nbhd Factor: 1.0000 ***Total:***

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD
2	CS	1960			130 x 10	1,300	C	1		6.00		7,800					20			1	1,560
4	CAN	2000			24 x 28	672	D	1		18.75		12,600					20			1	2,520

Total: **4,080**

Dwelling Pricing Ladder

Adjusted Base	
Plumbing	
Basement	
Heating	
Attic	
Other features	0
Subtotal	
User Factor / CD %	
User Amount	
Dwelling RCN	
Base Dwell RCNLD	
Additions	
Total RCNLD	
Nbhd Factor	
%complete	
Dwelling Value	
Condo base Value	
Condo Adj Value	

Cost Factors

Level Factor	100
Adjusted Area	
Area Factor	0.022
Story Height Factor	1.000
Construct Factor	1.000
Grade Factor	
Table % Good	
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000
********	****	CA31	BLDGVAL	.8000
********	****	CA31	BLDGVAL	.7500

Remarks - Most Recent (AA14)

Code	Date	Text
MN13	24-SEP-05	NO CHANGE IN VALUE ON PERMIT
MN13	24-SEP-05	PERMIT # 58312 HAS ADDRESS OF1601 S. 13TH ST
MN13	24-SEP-05	MOVED PERMIT #10904 TO R5414-22-1, NO VC CLOSED PERMIT
MN13	24-SEP-05	#13681 PER CB 4/7/03 LJ
MN13	24-SEP-05	NO VC-CLOSED PERMIT #13203, REPAIRED FIRE DAMAGE PER CB
MN13	24-SEP-05	2/18/04 LJ
MN13	23-MAR-09	CLOSE PERMIT NO VC FOR WORK PER BL 3/18/09 JD
MN13	28-DEC-22	NVC ALL 2022 PERMITS PLAN DEPT'100% COMPLET-NO CHNG TO BLD FTPRNTS 12/28/22 BTJ
MN13	01-MAR-13	CLOSE MULI PERMITS, UPDATE CARDS EFF AGE, CARDS 2-19 STYHGT,ADD OBYS JH 3/1/13
MN13	14-FEB-14	CK BK '15 ON PERMIT WORK PER TG 2/14/14 JD
MN13	16-SEP-14	CK BK '16 ON PERMIT #13-9793 PER SS 9/16/14 MC
MN13	09-OCT-18	CLOSE PERMIT NO VC PER ED 10/9/18 JD
MN13	14-DEC-20	CLOSE PERMIT NO VC PER BB 12/3/2020 JD
MN13	24-JAN-22	CK BK 23 PER AP 1/11/22

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:
FIRE	$10,000	01/12/23		FIRE	BUILDING FIRE NO DETAILS

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code
04/27/18			I	6137/1528	
01/01/01			V	0000/0000	Unqualified

Photo:

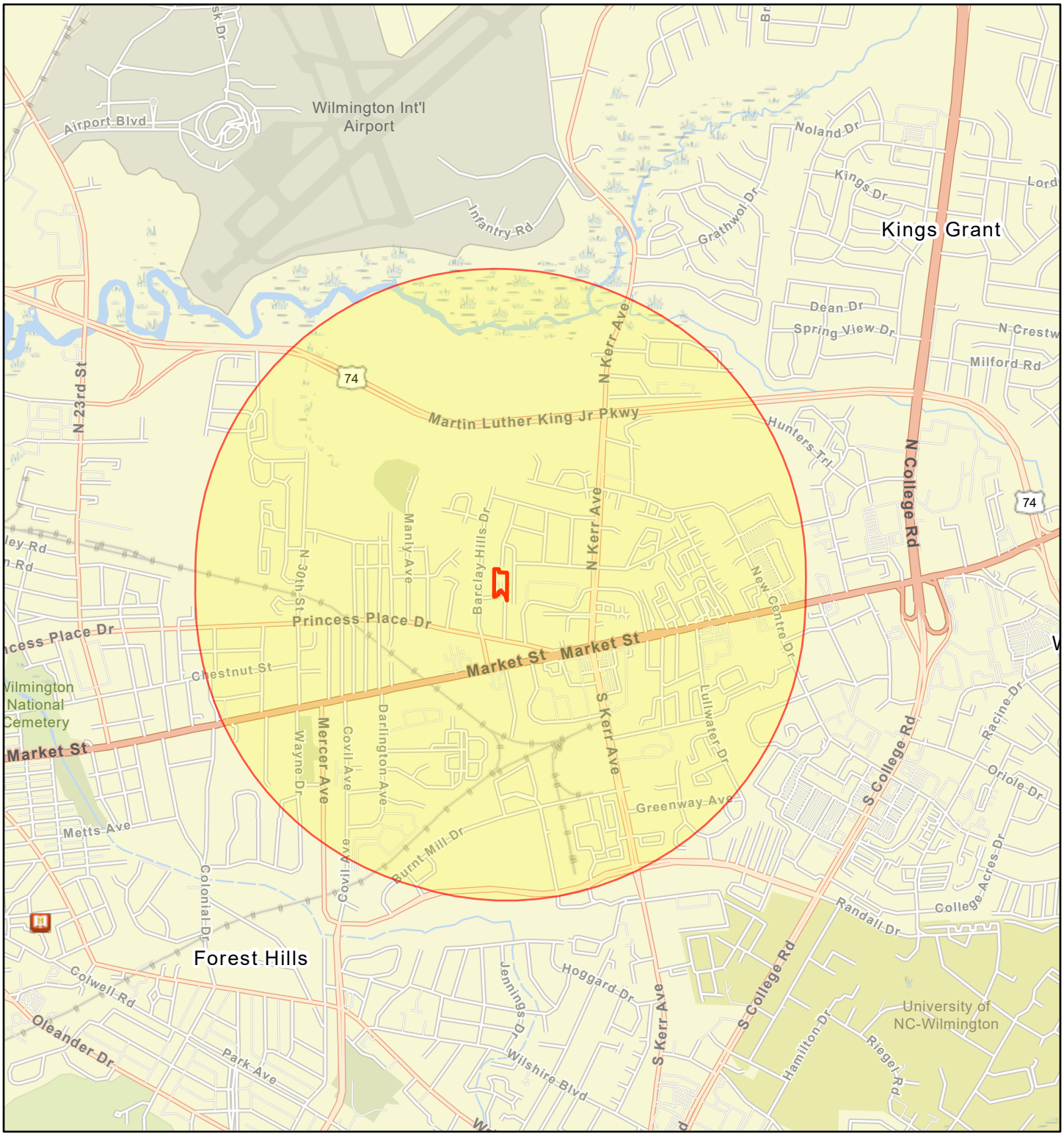


Section 106 ATTACHMENT 2:

NRHP and NC HPOWEB Maps

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212)

Woodbridge Apartments - NRHP Map with 1-mile Buffer



April 28, 2023

1:36,112

0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

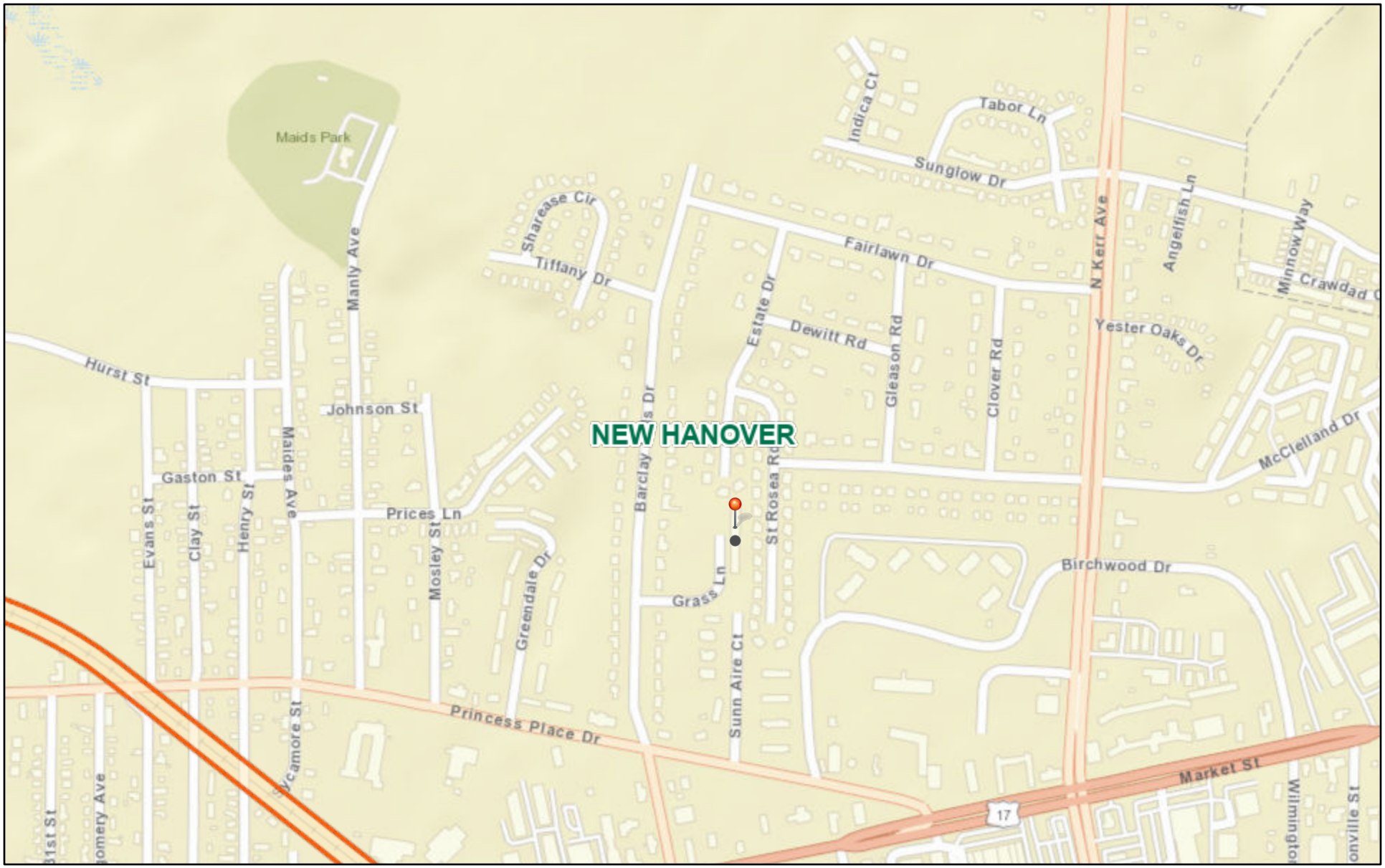
Project Buffer

Woodbridge Apartments

National Register of Historic Places

State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, EPA OEI, OFA

NCHPO HPOWEB - Woodbridge Apts



5/2/2023, 11:33:01 AM

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

DOE districts & boundaries

Determined Eligible Boundary

DOE districts & boundaries

DOE

Counties (outline)

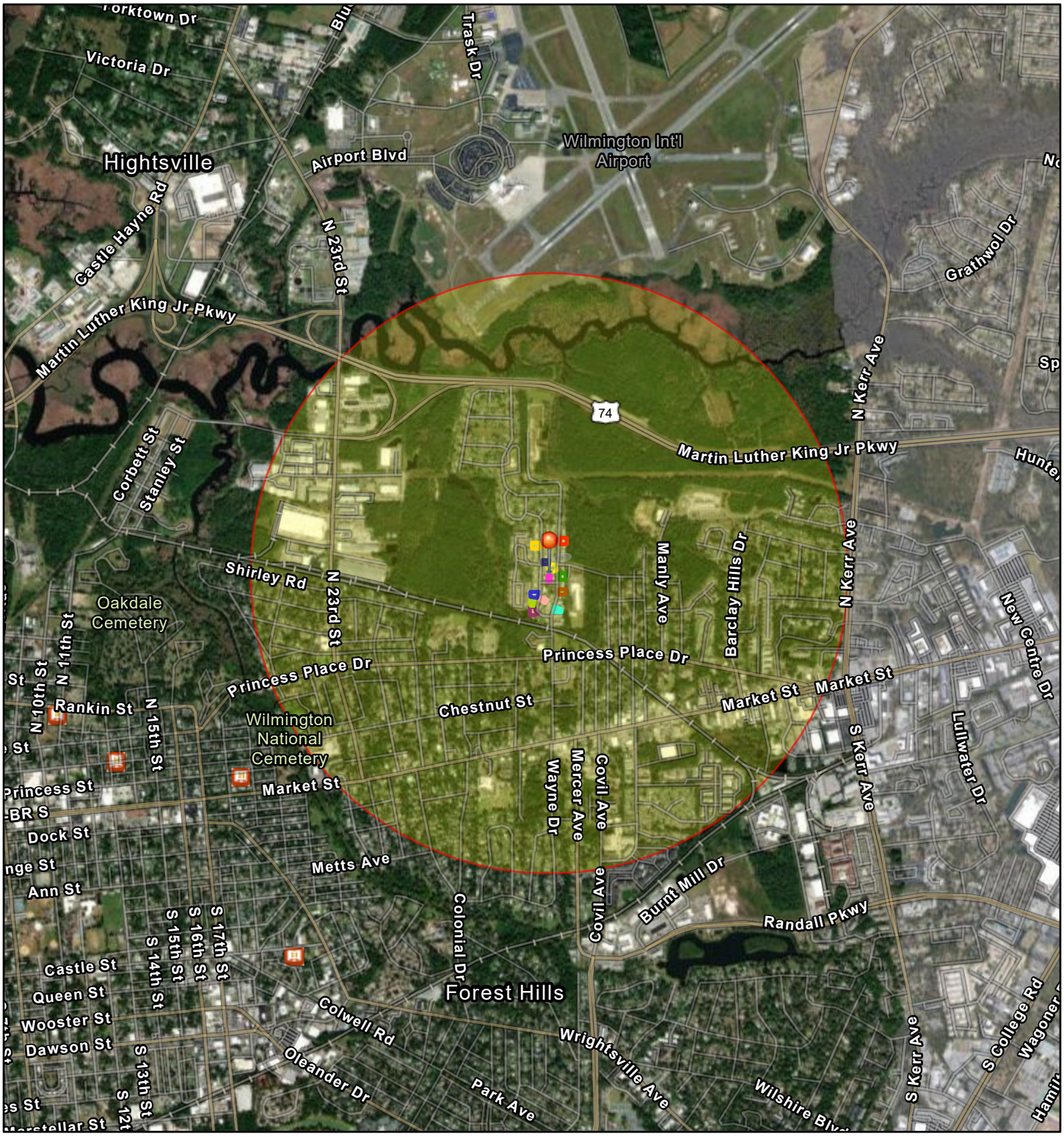
New Hanover County, State of North Carolina DOT, Esri, HERE, Garmin, INCREMENT P, Intermap, NGA, USGS

North Carolina State Historic Preservation Office

New Hanover County, State of North Carolina DOT, Esri, HERE, Garmin, INCREMENT P, Intermap, NGA, USGS |

Creekwood (14 Units) at
602, 712, 804, 805, 809 & 1008 N. 30th St.,
617, 701, 707, 708, 902, 915 & 922 Emory St.,
and 2905 Clayton Place, Wilmington, NC
28405

Creekwood (14 Units) - NRHP Map with 1-mile Buffer



April 28, 2023

1:36,112

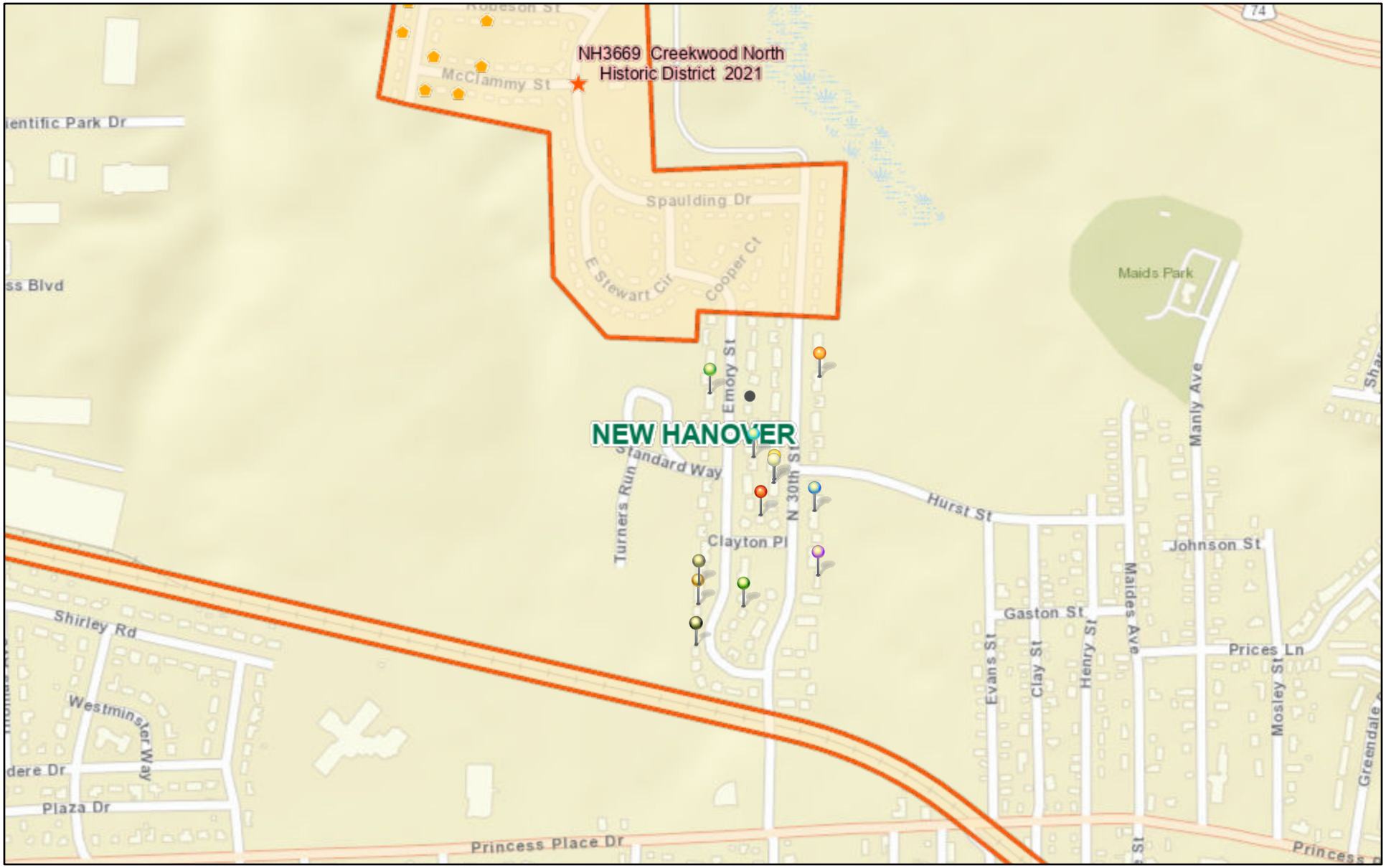
0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

- Creekwood (14 Units)
- Project Buffer
- 804 N. 30th St.
- 902 Emory St.
- 712 N. 30th St.
- 707 Emory St.
- 708 Emory St.
- 1008 N. 30th St.
- 602 N. 30th St.
- 2905 Clayton Pl.
- 922 Emory St.
- 915 Emory St.
- 701 Emory St.
- 617 Emory St.
- 805 & 809 N. 30th St.
- National Register of Historic Places

NC CGIA, Maxar, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, EPA OEI, OFA

NCHPO HPOWEB - Creekwood



5/2/2023, 12:13:33 PM

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Surveyed Only individual resources & centerpoints

Surveyed Only

DOE individual resources & centerpoints

DOEHD Center Point

Counties (outline)

DOE districts & boundaries

Determined Eligible Boundary

DOE districts & boundaries

DOE

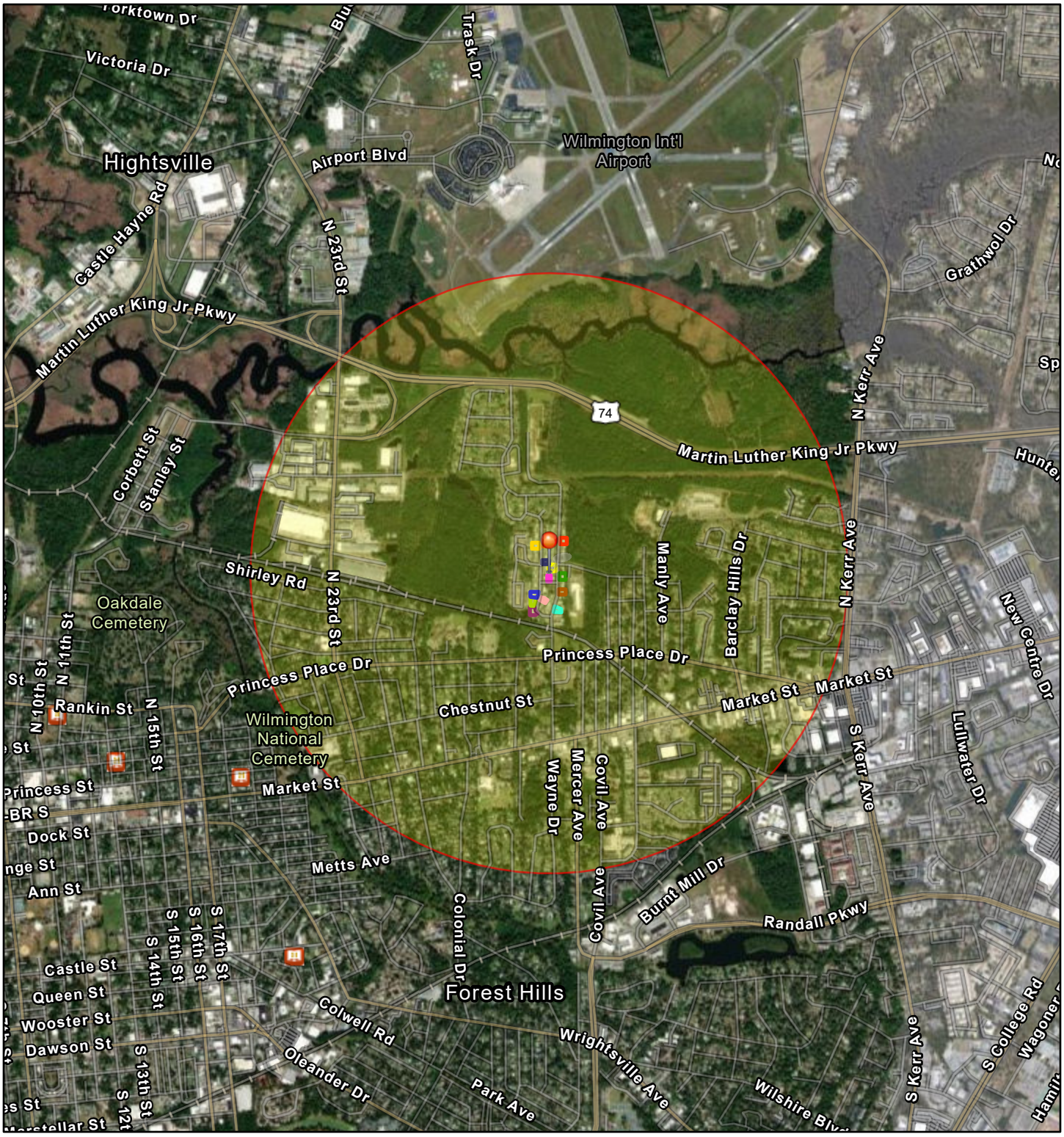
New Hanover County, State of North Carolina DOT, Esri, HERE, Garmin, INCREMENT P, Intermap, NGA, USGS

North Carolina State Historic Preservation Office

New Hanover County, State of North Carolina DOT, Esri, HERE, Garmin, INCREMENT P, Intermap, NGA, USGS |

Creekwood South (6 Units) at
502, 522, 609, 611, 613 & 710 N. 30th St.,
Wilmington, NC 28405

Creekwood (14 Units) - NRHP Map with 1-mile Buffer



April 28, 2023

1:36,112

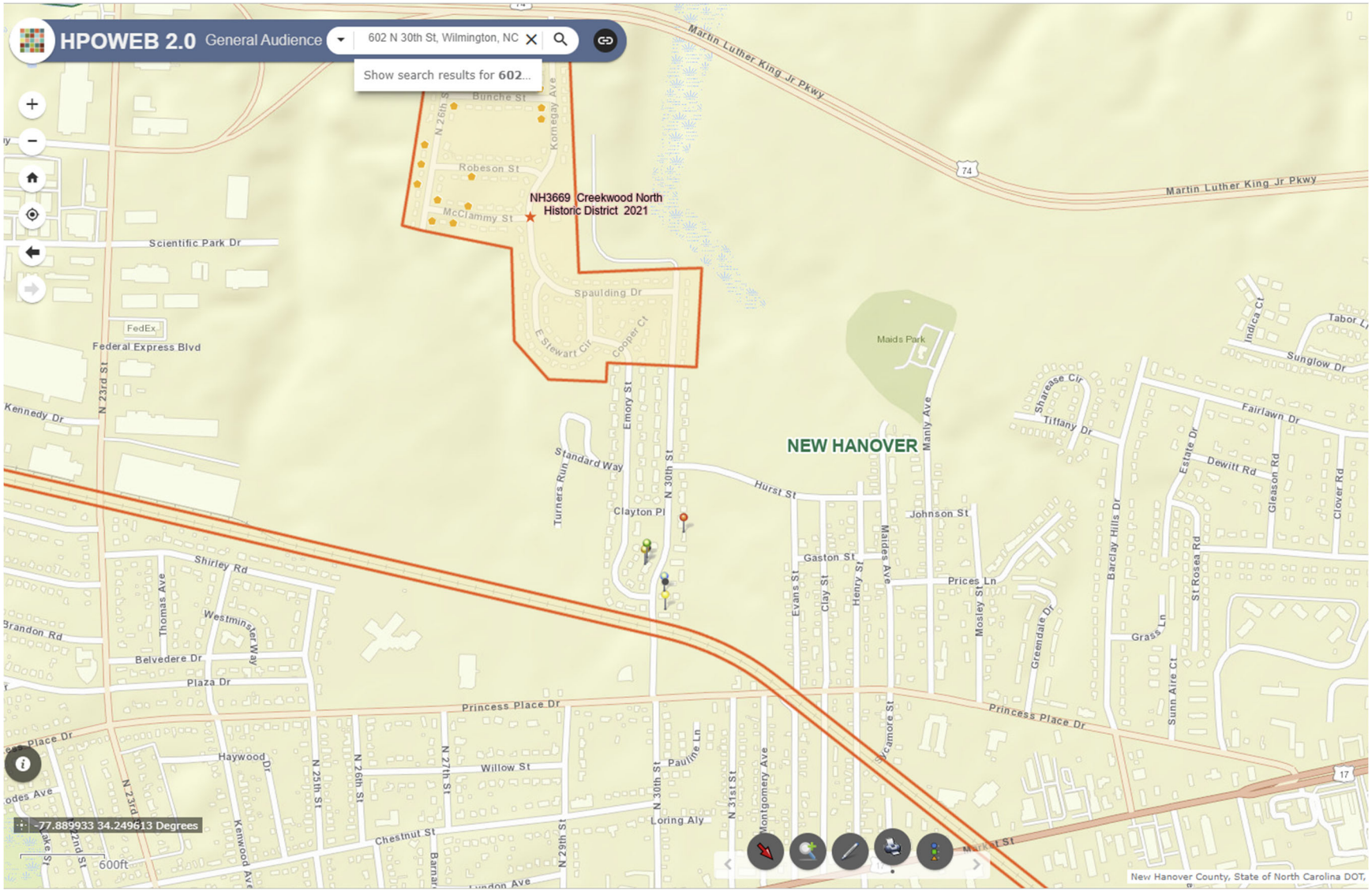
0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

- Creekwood (14 Units)
- Project Buffer
- 804 N. 30th St.
- 902 Emory St.
- 712 N. 30th St.
- 707 Emory St.
- 708 Emory St.
- 1008 N. 30th St.
- 602 N. 30th St.
- 2905 Clayton Pl.
- 922 Emory St.
- 915 Emory St.
- 701 Emory St.
- 617 Emory St.
- 805 & 809 N. 30th St.
- National Register of Historic Places

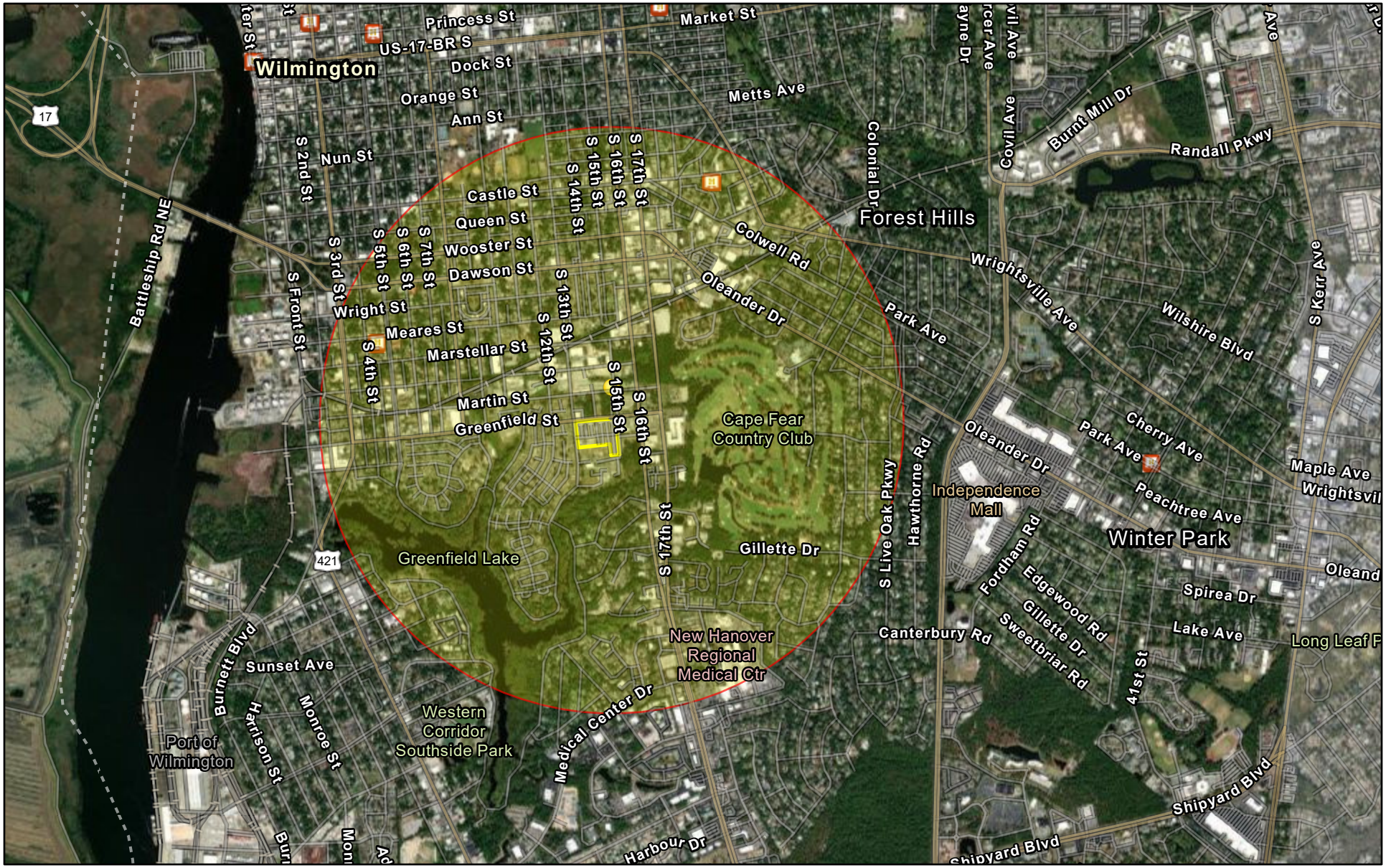
NC CGIA, Maxar, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, EPA OEI, OFA

Creekwood South (6 Units) – NC HPOWEB Map



Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405

Houston Moore - NRHP Map with 1-mile Buffer



April 28, 2023

Project Buffer

Houston Moore

1420 Greenfield St.

National Register of Historic Places

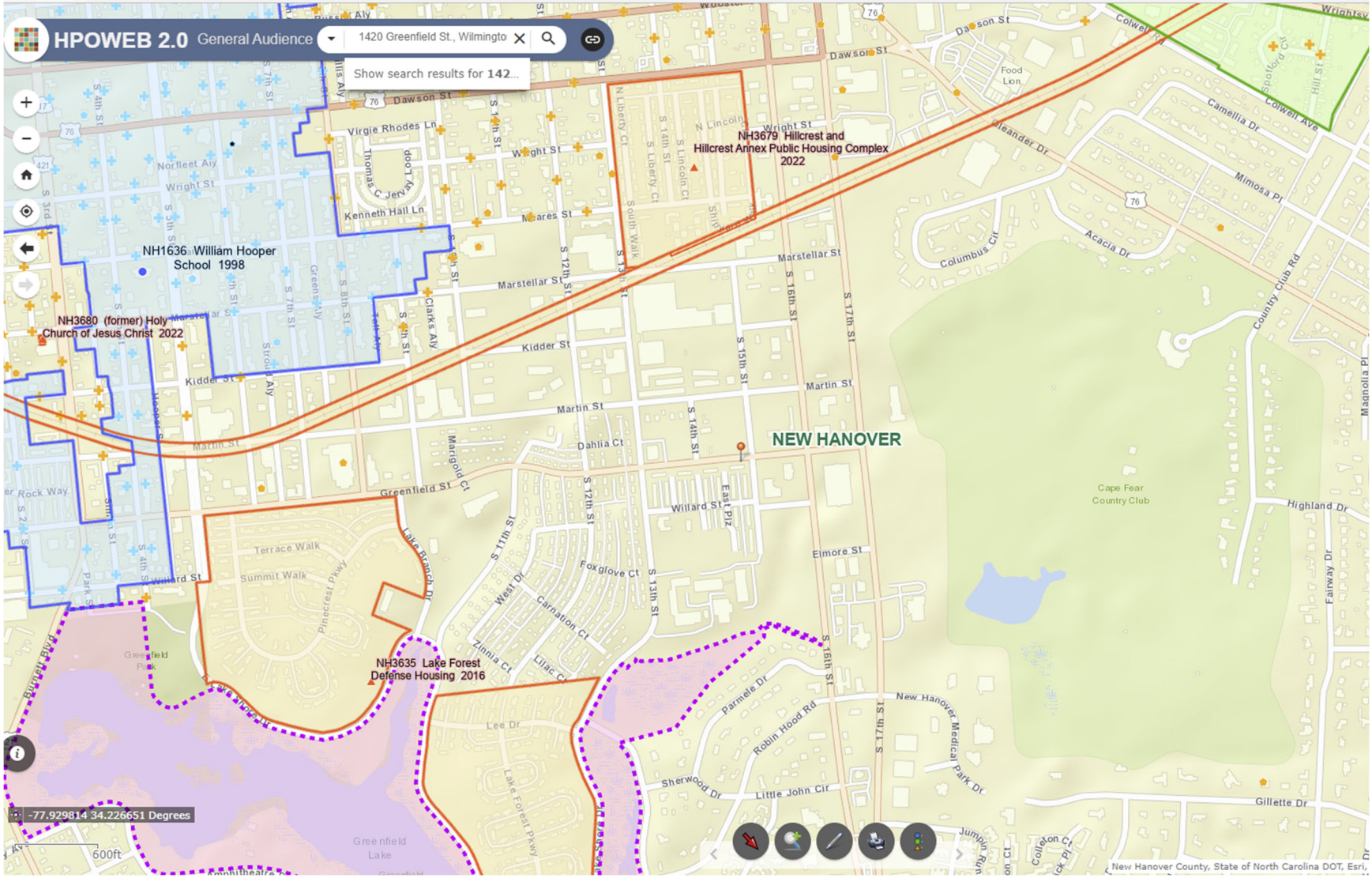
1:36,112

0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

NC CGIA, Maxar, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US

Houston Moore (1 Unit) – NC HPOWEB Map



Tribal Directory Assessment Information

Contact Information for Tribes with Interests in New Hanover County, North Carolina

	Tribal Name	County Name
−	Catawba Indian Nation (aka Catawba Indian Tribe of South Carolina)	New Hanover

Contact Name	Title	Mailing Address	Work Phone	Fax Number	Email Address	URL
Bill Harris	Chief	996 Avenue of the Nations, Rock Hill, SC - 29730	(803) 366-4792	(803) 327-4853	bill.harris@catawbaindian.net	http://www.catawbaindian.net/
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.catawbaindian.net/

1 - 1 of 1 results

« ‹ 1 › » 10

Gievers, Andrea

From: Caitlin Rogers <Caitlin.Rogers@catawba.com>
Sent: Friday, May 5, 2023 9:36 AM
To: Gievers, Andrea
Subject: [External] Re: Wilmington Housing Authority Scattered Sites Rehabilitation Project - No Ground Disturbance

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.

We don't need to review this project. We are only concerned with ground disturbing activities.

From: Gievers, Andrea <andrea.l.gievers@rebuild.nc.gov>
Sent: Thursday, May 4, 2023 2:18 PM
To: Caitlin Rogers <Caitlin.Rogers@catawba.com>
Subject: Wilmington Housing Authority Scattered Sites Rehabilitation Project - No Ground Disturbance

Hello Caitlin:

Here is another NCORR project with no proposed ground disturbance or exterior work, only interior renovation and mold remediation inside existing public housing units. Please let me know if you need a full formal consultation package sent to your Nation. 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 considering funding this proposed public housing restoration project, **Wilmington Housing Authority Scattered Sites Rehabilitation Project** located at **Woodbridge Apartments** (20 Units); **Creekwood** (14 Units); **Creekwood South** (6 Units); and **Houston Moore** (1 Unit) in Wilmington, New Hanover County, NC. The State of North Carolina was adversely impacted by the landfall of Hurricanes Matthew (October 8, 2016) and Florence (September 14, 2018). The City of Wilmington was hit hard by Hurricane Florence which stalled over the City for three days and dropped 20 inches of rain on the area. These vacant 41 storm-damaged units also have mold necessitating renovation and mold remediation. Over the past year, WHA has paid for the alternative housing of 150 families in hotels and market-rate apartments as well as provided per-diem payments for food and transportation. Therefore, funding for the proposed project will be provided in part by the HUD CDBG-DR North Carolina Public Housing Restoration Fund Program for Hurricane Florence storm recovery activities in North Carolina.

Proposed Project Location: **Woodbridge Apartments** (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212); **Creekwood** (14 Units) at 602, 712, 804, 805, 809 & 1008 N. 30th St., 617, 701, 707, 708, 902, 915 & 922 Emory St., and 2905 Clayton Place, Wilmington, NC 28405; **Creekwood South** (6 Units) at 502, 522, 609, 611, 613 & 710 N. 30th St., Wilmington, NC 28405; and **Houston Moore** (1 Unit) at 1420 Greenfield St., Wilmington, New Hanover County, NC 28401.

Proposed Project Activities: The WHA is requesting $2,036,241 in NCORR CDBG-DR funds to rehabilitate a total of 41 units of severely damaged public housing located at 4 separate sites. The proposed project location maps are included for your review. The Wilmington Housing Authority (WHA) will use the HUD CDBG-DR funding to complete repairs, replacements and mold remediation at 41 public housing units severely damaged by Hurricane Florence. The proposed project activities include repairing and/or replacing drywall, plumbing, appliances, water heaters, broken windows, and duct work; painting; patching; and mold remediation of cleaning ducts and identified affected interior areas. There are 164 low-income (30%-50% area median income [AMI]) residents, comprised of 41 adults and 123 children, who have been displaced from these 41 currently vacant units. Woodbridge Apartments contain the only units that have been torn out down to the studs. The proposed project does not involve exterior work or ground disturbance. Therefore, NCORR is asking if the Catawba Indian

Nation requires a formal consultation to make a determination on this proposed project. Please feel free to contact me if you have any additional questions. 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.

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Gievers, Andrea

From: Gievers, Andrea
Sent: Thursday, May 4, 2023 2:19 PM
To: Caitlin Rogers
Subject: Wilmington Housing Authority Scattered Sites Rehabilitation Project - No Ground Disturbance
Attachments: ATTACHMENT 1 Proposed Project Location Maps rdcd.pdf

Hello Caitlin:

Here is another NCORR project with no proposed ground disturbance or exterior work, only interior renovation and mold remediation inside existing public housing units. Please let me know if you need a full formal consultation package sent to your Nation. 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 considering funding this proposed public housing restoration project, **Wilmington Housing Authority Scattered Sites Rehabilitation Project** located at **Woodbridge Apartments** (20 Units); **Creekwood** (14 Units); **Creekwood South** (6 Units); and **Houston Moore** (1 Unit) in Wilmington, New Hanover County, NC. The State of North Carolina was adversely impacted by the landfall of Hurricanes Matthew (October 8, 2016) and Florence (September 14, 2018). The City of Wilmington was hit hard by Hurricane Florence which stalled over the City for three days and dropped 20 inches of rain on the area. These vacant 41 storm-damaged units also have mold necessitating renovation and mold remediation. Over the past year, WHA has paid for the alternative housing of 150 families in hotels and market-rate apartments as well as provided per-diem payments for food and transportation. Therefore, funding for the proposed project will be provided in part by the HUD CDBG-DR North Carolina Public Housing Restoration Fund Program for Hurricane Florence storm recovery activities in North Carolina.

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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

ATTACHMENT 1:

Proposed Project Location Maps and New Hanover County Parcel Information and Maps

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212)

Woodbridge Apartments (20 Units) - Aerial Map



April 26, 2023

1:4,514

Woodbridge Apartments (20 Units), 302 Grass Lane, Wilmington, NC 28405

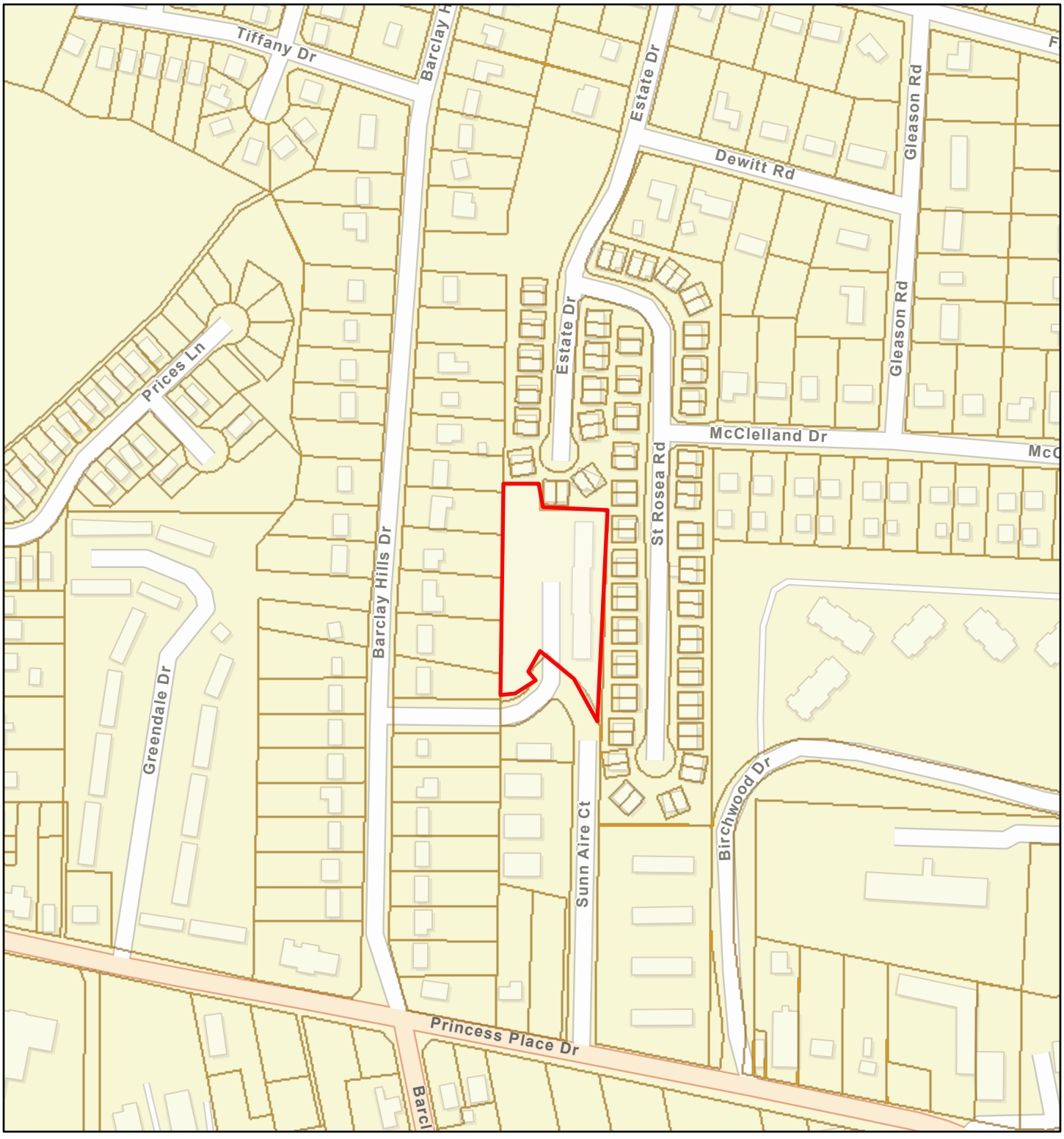
Parcel Boundaries

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

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

Woodbridge Apartments (20 Units) - Street Map



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Woodbridge Apartments (20 Units) - Topo Map



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Woodbridge Apartments (20 Units), 302 Grass Lane, Wilmington, NC 28405

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New Hanover County NC, Copyright:© 2013 National Geographic Society, i-cubed

Creekwood (14 Units) at
602, 712, 804, 805, 809 & 1008 N. 30th St.,
617, 701, 707, 708, 902, 915 & 922 Emory St.,
and 2905 Clayton Place, Wilmington, NC
28405

Creekwood (14 Units) - Aerial Map



April 28, 2023

1:4,514

0 0.03 0.06 0.12 mi

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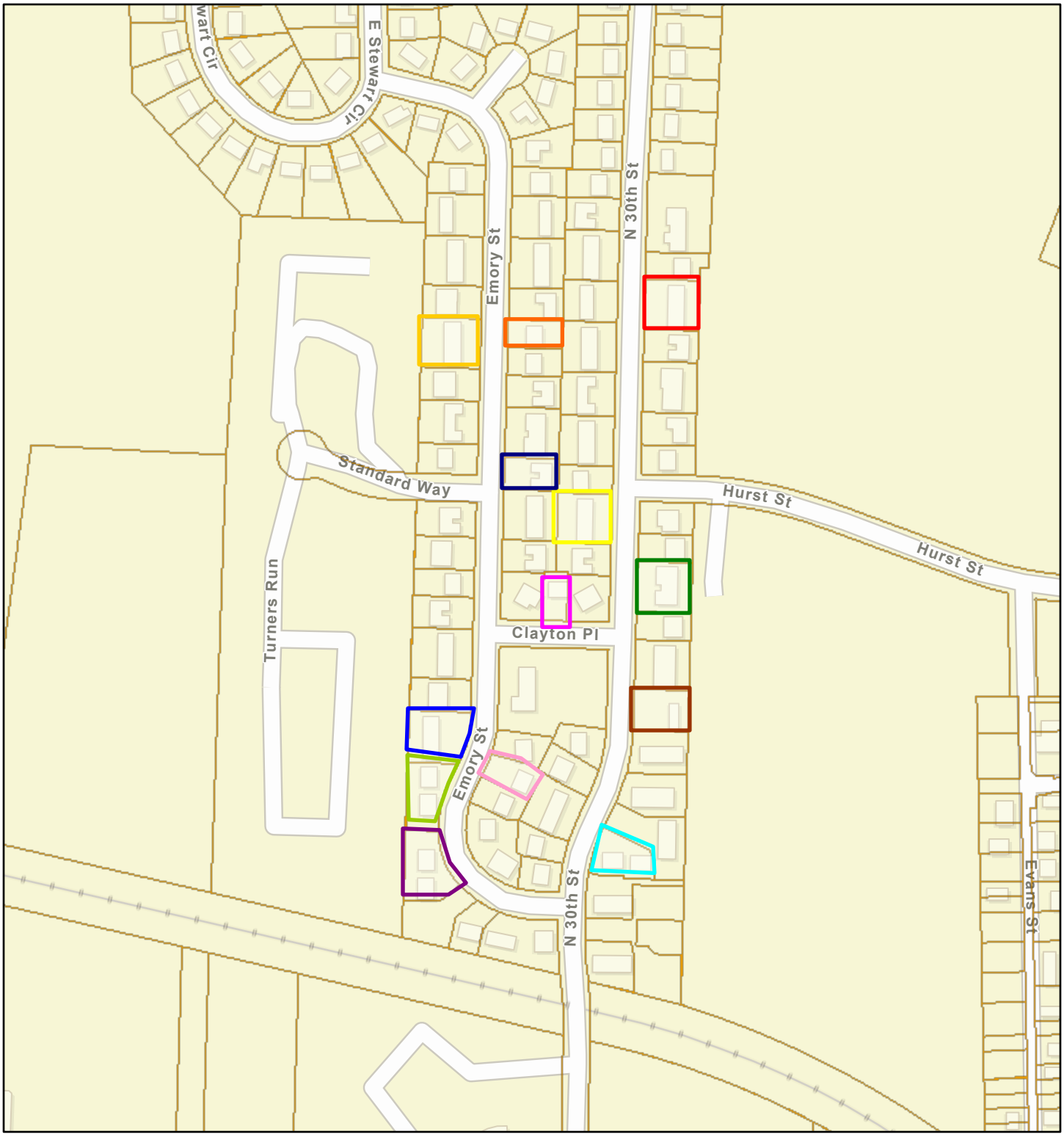
- 804 N. 30th St.
- 902 Emory St.
- 712 N. 30th St.
- 707 Emory St.
- 708 Emory St.
- 1008 N. 30th St.
- 602 N. 30th St.
- 2905 Clayton Pl.
- 922 Emory St.
- 915 Emory St.
- 701 Emory St.
- 617 Emory St.
- 805 & 809 N. 30th St.
- Parcel Boundaries

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

Creekwood (14 Units) - Street Map



April 28, 2023

1:4,514

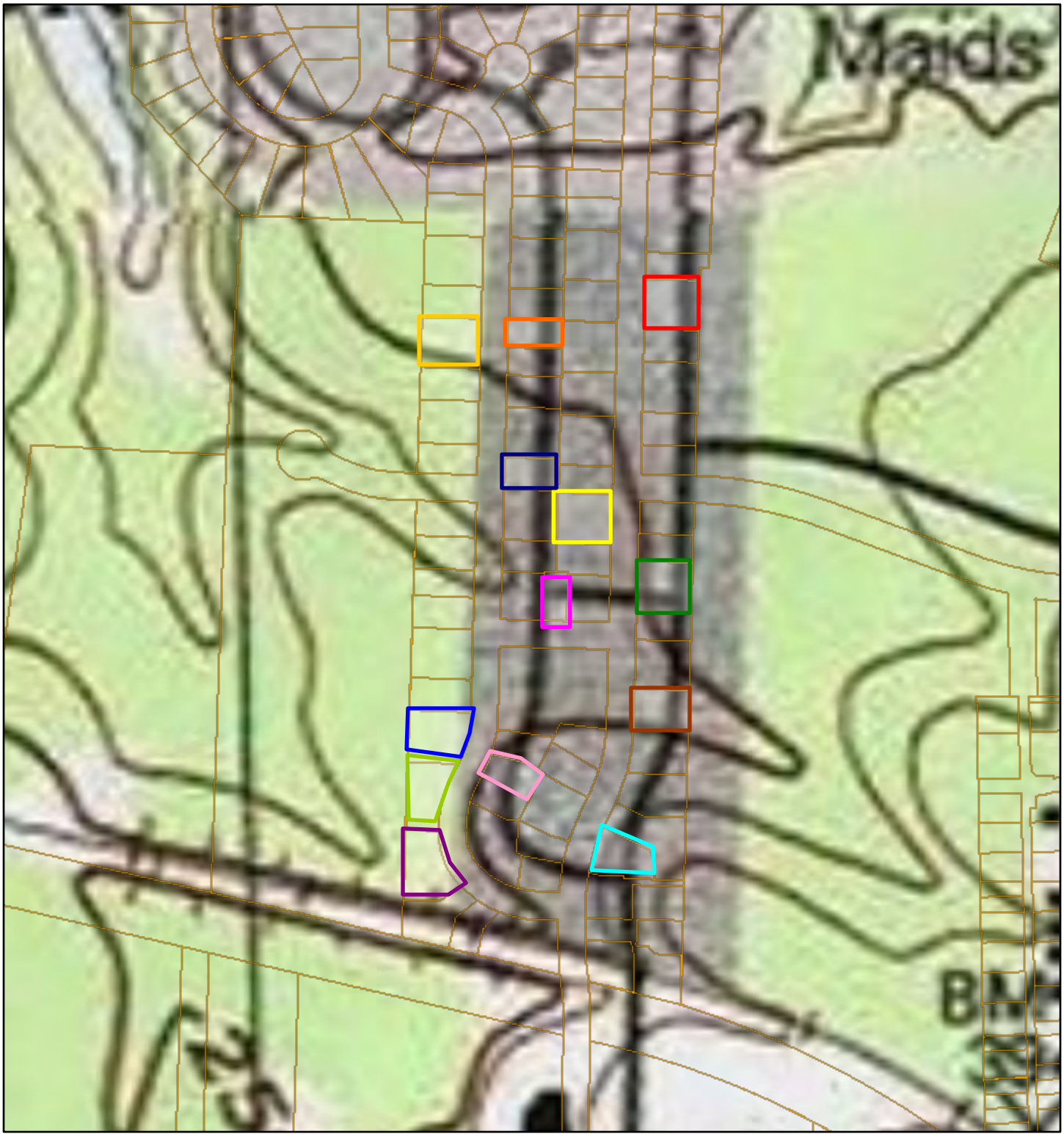
0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

804 N. 30th St.
902 Emory St.
712 N. 30th St.
707 Emory St.
708 Emory St.
1008 N. 30th St.
602 N. 30th St.
2905 Clayton Pl.
922 Emory St.
915 Emory St.
701 Emory St.
617 Emory St.
805 & 809 N. 30th St.
Parcel Boundaries

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

Creekwood (14 Units) - Topo Map



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707 Emory St.
922 Emory St.
Parcel Boundaries
708 Emory St.
915 Emory St.

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Creekwood South (6 Units) at
502, 522, 609, 611, 613 & 710 N. 30th St.,
Wilmington, NC 28405

Creekwood South (6 Units) - Aerial Map



April 28, 2023

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

710 N. 30th St.

609, 611 & 613 N. 30th St.

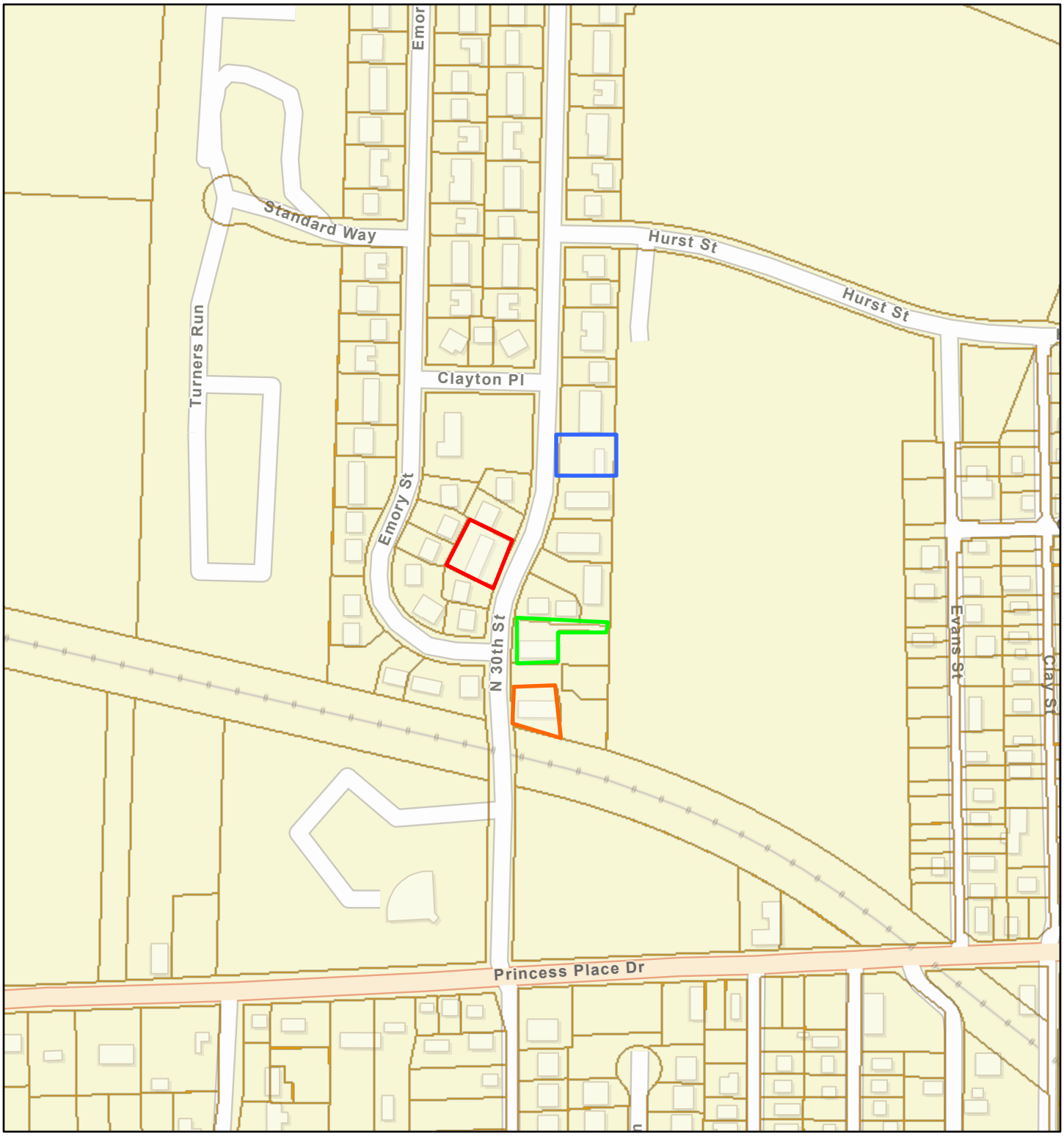
502 N. 30th St.

522 N. 30th St.

Parcel Boundaries

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

Creekwood South (6 Units) - Street Map



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Parcel Boundaries

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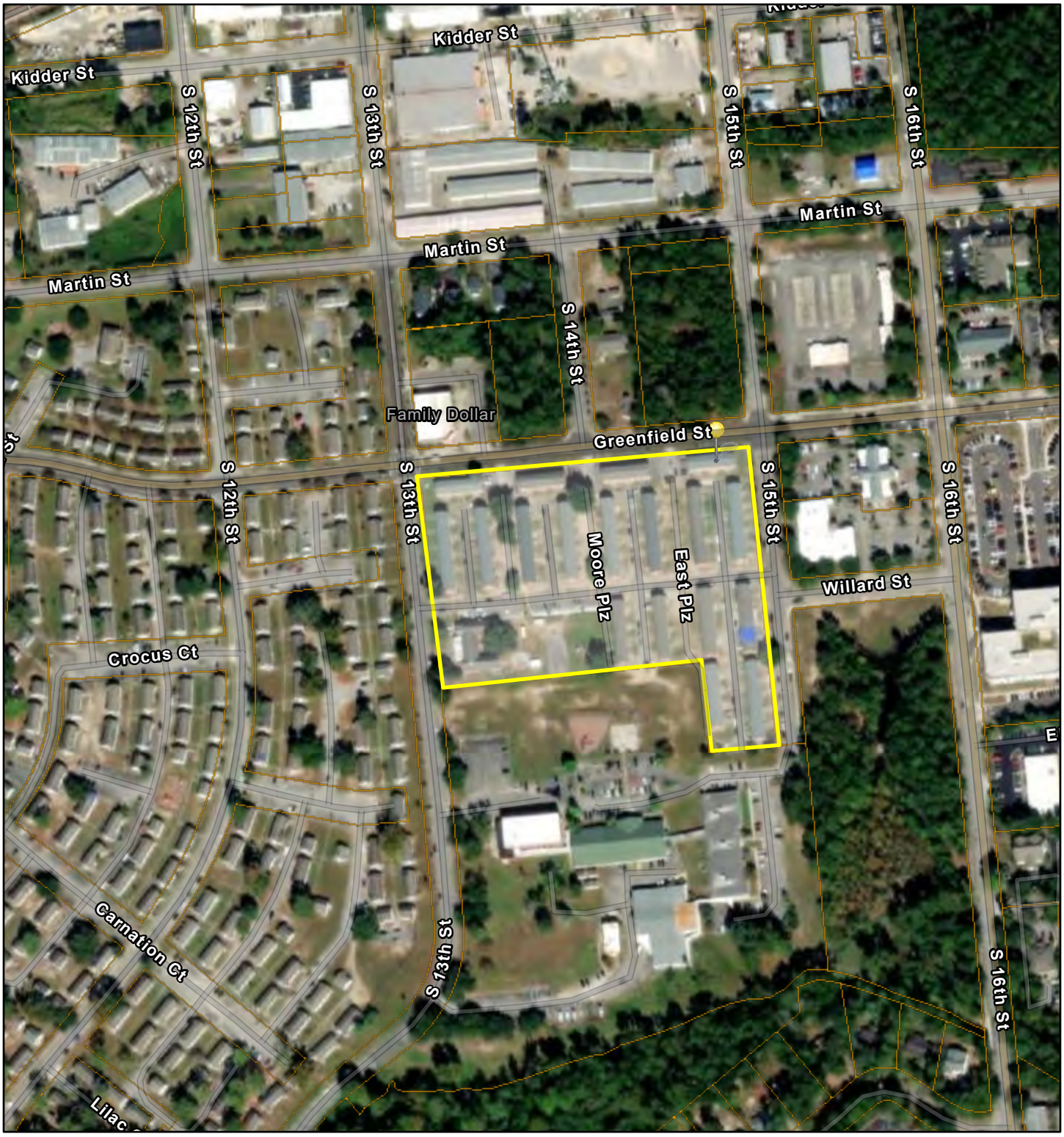
Parcel Boundaries

New Hanover County NC, Copyright:© 2013 National Geographic Society, i-cubed

Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405

Houston Moore (1 Unit) - Aerial Map



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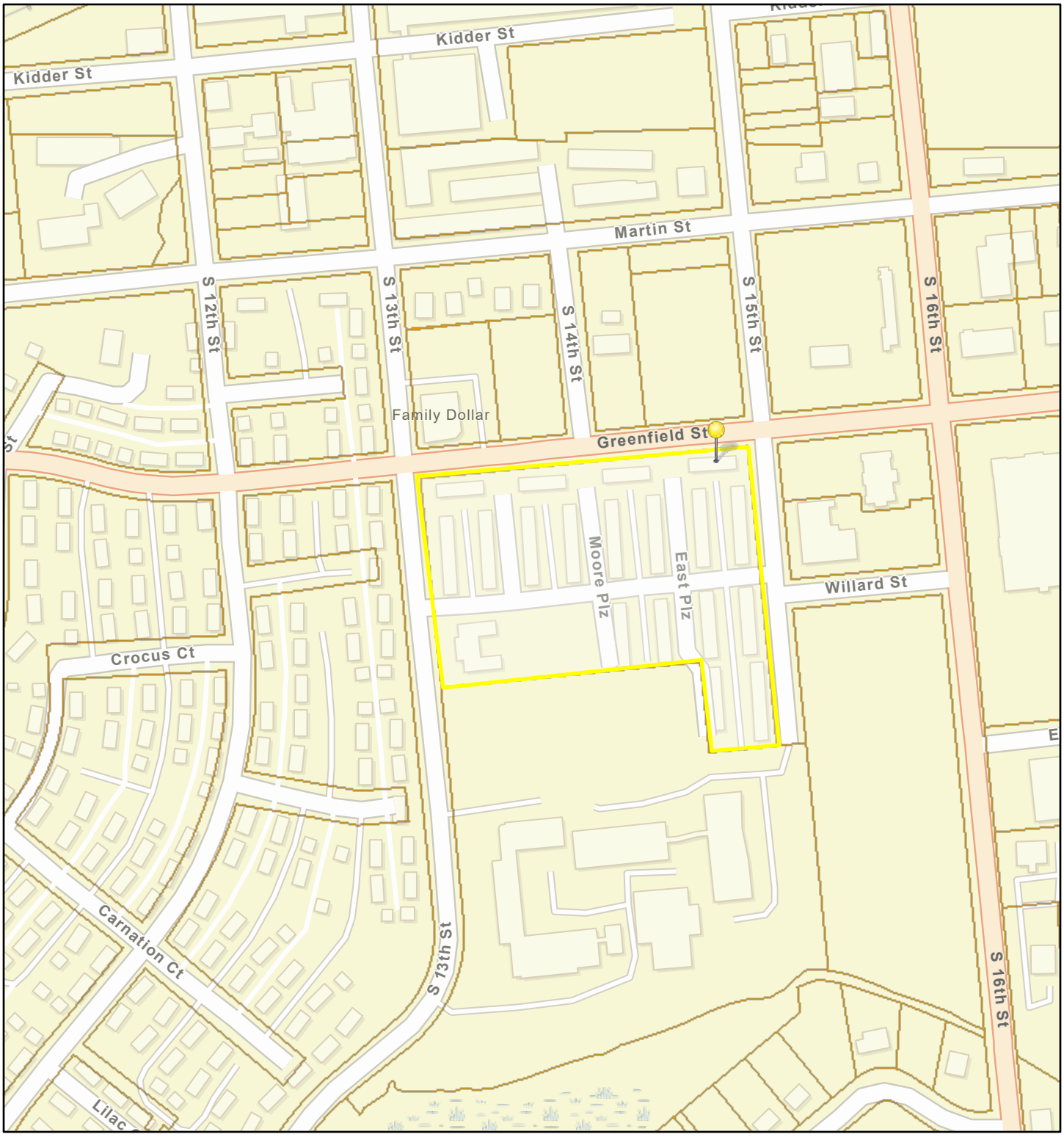
Houston Moore (1 Unit) - Street Map



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Houston Moore

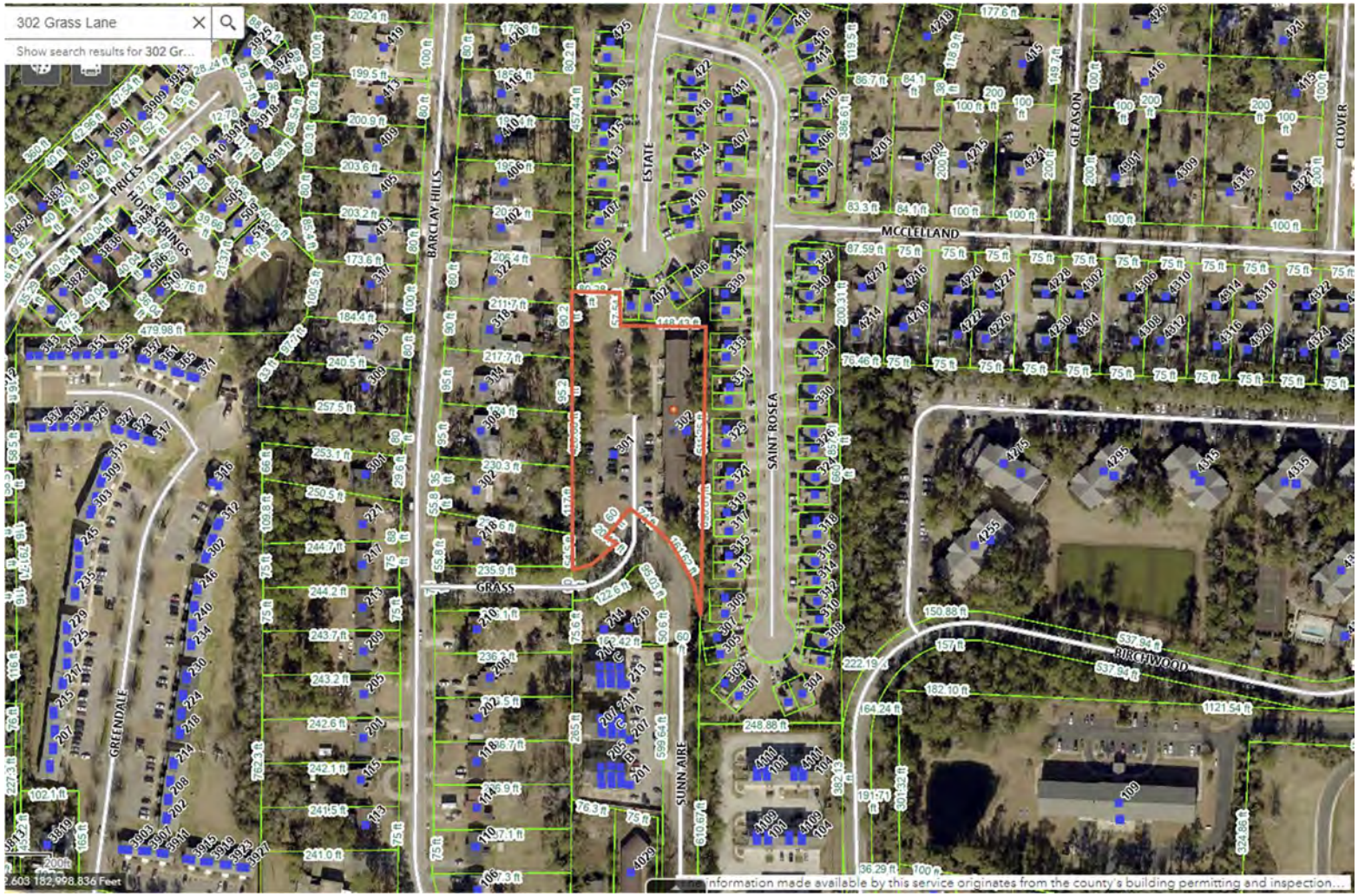
Parcel Boundaries

New Hanover County NC, Copyright:© 2013 National Geographic Society, i-cubed

New Hanover County Parcel Information and Maps

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212)

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405
New Hanover County Parcel Map



COMMERCIAL PROPERTY RECORD CARD 2023

NEW HANOVER COUNTY, NORTH CAROLINA

CA329NCHAN

R04910-006-022-000	Situs : 302 GRASS LN BUILDING	Land Use: Apartment	Card: 1 of 1	Printed: 03/20/23

Ownership & Legal Description:

WILMINGTON HOUSING AUTHORITY
PO BOX 899
WILMINGTON NC 28402

Legal: PT HERITAGE FEDERAL TRACT

Alternate Id: 313818.32.8238.000
District:
Book/Page:
Nbhd: CGC00
Living Units: 4
Routing No. CGC0-0 071
Class: CHR3



Property Description

Restr 1/2/3:
Topo 1/2/3: Level With Street
Utilities 1/2/3: Water/Sewer, Public
Road 1/2: Residential Street
Zoning: MULTI FAMILY MED DEN

Traffic: Light
Fronting:
Location:
Spot Loc:

Land Information

Code	Type	Size	Infl. Factors	Base Rate	Incr/Decr	Value
Commercial	AC	2.1000		75,000.00	35,000.00	163,080

Total Acres: 2.1

Assessment Information

	Assessed	Appraised	Cost	Income	Market
Land	163,100	163,100	163,100		0
Building	1,672,200	1,672,200	1,672,200		0
Total	1,835,300	1,835,300	1,835,300		0

Exempt Code EX
Exempt Amount 1,835,300
Class CHR3

Entrance Information

Date	ID	Entry Code	Source
12/05/02	TN		
01/14/06	RK	Entrance Gained New Const	Appraiser
08/14/06	TN	Drive By	Appraiser
06/23/09	BL	Reviewer	Appraiser
09/10/10	BL	Reviewer	Appraiser

Permit Information

Date	Number	Price	Purpose	Notes	% Complete

Sales/Ownership History

Transfer Date	Price	Type	Validity	Deed Book/Page	Deed Type	Grantee
08/18/14		Improved		5833/0792	Easement	TIME WARNER CABLE ENTERPRISES LLC
09/06/05			Unqualified	4900/997	Warranty Deed	WALMARK LLC
09/06/05	2,825,000	Improved	Qualified	4900/1002	Warranty Deed	WILMINGTON HOUSING AUTHORITY
09/06/05				4900/1009	Special Proceedings	WILMI HOUSING AUTHORITY
12/23/98		Vacant	Unqualified	2492/0067	Warranty Deed	WOODBRIDGE LLC
12/02/98		Vacant	Unqualified	2479/0804	Deed Of Correction	TIME WARNER ENT ADV/NEWH PART
11/06/98		Vacant	Unqualified	2465/0179	Easement	TIME WARNER ENT ADV/NEWH PART
05/05/98		Vacant	Unqualified	2359/0907	Easement	WOODBRIDGE PARTNERSHIP
05/05/98		Vacant	Unqualified	2359/0877	Easement	WOODBRIDGE PARTNERSHIP
12/09/92	125,000	Vacant	Unqualified	1634/1154	Warranty Deed	WOODBRIDGE PARTNERSHIP

Inspection Witnessed By _____

R04910-006-022-000 | **Situs : 302 GRASS LN BUILDING** | **Land Use: Apartment** | **Card:** 1 **of** 1 | Printed: 03/20/23

Building Information

Year Built/Eff Year	1993 /
Building #	1
Structure Type	Apartment Garden/T
Identical Units	1
Total Units	24
Grade	C-
# Covered Parking	
# Uncovered Parking	
DBA	WOODBRIDGE APARTMENTS

Building Other Features

Line	Type	+/-	Meas1	Meas2	# Stops	Ident Units
1	Open Porch		1	188		2
1	Open Porch		1	188		2
1	Open Porch		1	188		2

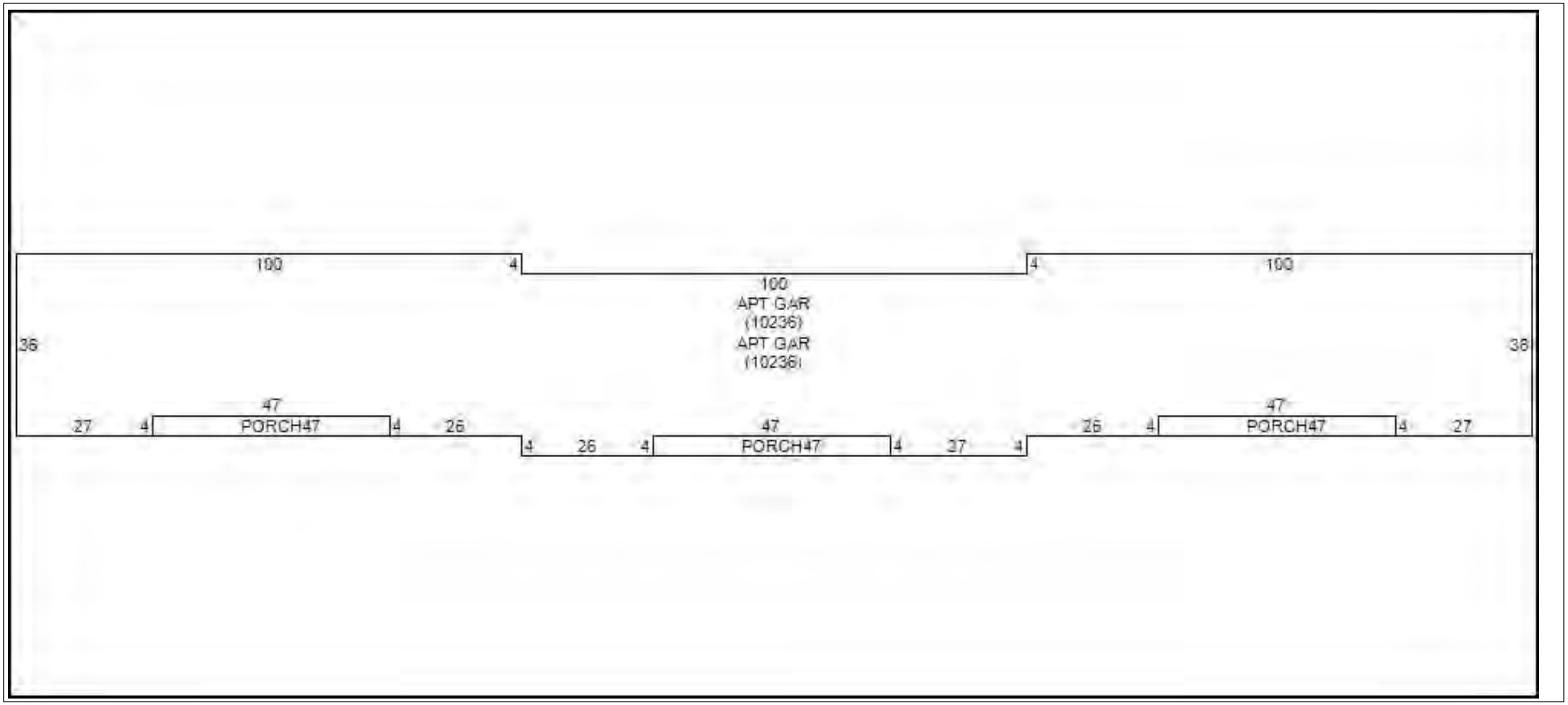
Interior/Exterior Information

Line	From	To	Int Fin	Yr Blt	Area	Perim	Use Type	Wall Ht	Ext Wall	Constr	Part	Heating	Cooling	Plumb	Phy	Fun	%Good	%Comp	RCNLD	BLFCT	ADJRCNLD
1	01	01	100		10,236	712	Apartment/Ga	9	Part Brick A	Wood Siding(I	Normal	Hot Air	Hvac	Normal	A	A	72		841,916	1	841,916
2	02	02	100		10,236	712	Apartment/Ga	9	Part Brick A	Wood Siding(I	Normal	Hot Air	Hvac	Normal	A	A	72		814,855	1	814,855

Outbuilding Data

Line	Type	Yr Blt	Eff Yr	YrRemd	W x L	Area	Grd	Units	Mod Cd	Rate	Ovrd Rt	RCN	Phy	Fun	%Cmp	%Gd	Tble	%Gd	FunDep	EcoDep	AdjFact	Value
1	Pvmt/Asp	1993	1993		x	51,400	C	1		1.50		77,100									1	15,420

R04910-006-022-000	Situs : 302 GRASS LN BUILDING	Land Use: Apartment	Card: 1 of 1	Printed: 03/20/23



Vector Strings

Bldg	1	APG	A0CR100D4R100U04R100D36L27U04L47D04L26D04L27U04L47D04L26U04L26U04L47D04L27U36
Bldg	2	APG	A0CR100D4R100U04R100D36L27U04L47D04L26D04L27U04L47D04L26U04L26U04L47D04L27U36
Features	1	POR	A1D36R27CU04R47D04L47
Features	2	POR	A2D36R27U04R47D04R26D04R26CU04R47D04L47
Features	3	POR	A3D36R27U04R47D04R26D04R26R74U04R26CR47U04L47D04

Creekwood (14 Units) at
602, 712, 804, 805, 809 & 1008 N. 30th St.,
617, 701, 707, 708, 902, 915 & 922 Emory St.,
and 2905 Clayton Place, Wilmington, NC
28405

Creekwood (14 Units), 602 North 30th Street, Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-010-000 2023 *New Hanover County, NC - Property Card* Printed: 04/26/23 Card: 1 of 2 Appr#: Input Dte: ___/___/_____ ID:_____

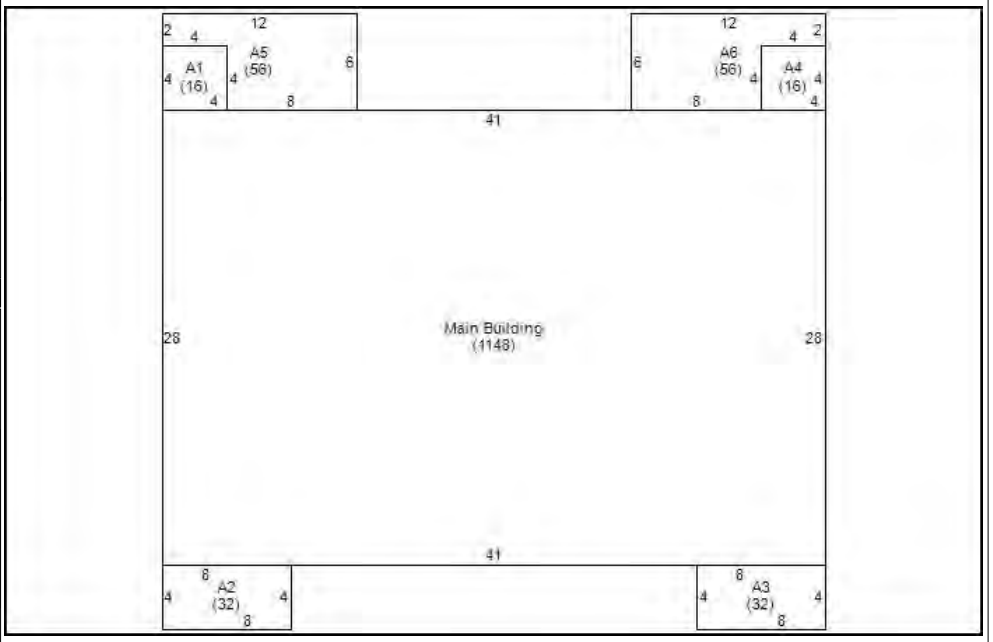
Ownership & Legal Description:

602 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 5 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12



Assessment

Land	44,500	Oby		Exempt Code:	EX
Bldg	207,700	Class	CHR3	Exempt Amount:	252,200
Total	252,200	Taxable:		Routing:	071

Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	11,282	3.5	1.25	1.25			1		44,478

Total Parcel Size: 11,282 0.2590 44,478

CA16: **Date:** 09/24/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW

Improvement Description (CA21):

Story Ht: 2\
Cnstr: Part Brick & Fran\
Style: Duplex\
Yr Blt: 1970\
Eff Year:\
Yr Remod:\
% Remod:\
Bedrms: 6\
Full Baths: 2

Half Baths: 2\
Extra Fixtures: 0\
Bsmt: None\
Heating: Central With A/C\
Heating Fuel: Electric\
System: Heat Pump\
Attic:\
Phys Cond:\
Elevators

Int vs. Ext Cnd:\
Bldg Use Code:\
Masonry Trim:\
Unfin Area:\
Rec Room: 0\
Fin.Bsmt Area:\
WBFP Stacks:\
Prefab Stacks: 0\
Bsmt Gar # Cars:

Grade: C-\
CDU: AVERAGE\
Market Adj:\
Pct Cmplt:\
SFLA: 2296\
Excavated\
Pilings\
Concrete

C&D Factor:\
C&D Descrip:\
Funct Dep %\
Funct Desc:\
Econ Dep%:\
Econ Desc:\
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,148	209,640	1971		C-	AV		50		102,724
1		UTL				16	274	1970		C-	AV		49		134
2		MST				32	576	1970		C-	AV		49		282
3		MST				32	576	1970		C-	AV		49		282
4		UTL				16	274	1970		C-	AV		49		134
5		CS				56	302	1970		C-	AV		49		148
6		CS				56	302	1970		C-	AV		49		148

Nbhd Factor: 1.0000 ***Total:*** **103,852**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		202783
Plumbing		4320
Basement		0
Heating		2537
Attic		0
Other features		0
Subtotal		209640
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		209640
Base Dwell RCNLD		102724
Additions		1128
Total RCNLD		103852
Nbhd Factor		1.0000
%complete		
Dwelling Value		103852
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,148
Area Factor	0.716
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	18-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 04/18/11
MN13	03-MAY-11	SPLIT FROM R04909-002-003-000 MOVE BLDG HERE PER SW 5/2/11 JD 5/3/11
MN13	14-OCT-11	CLSE PRMTS, NO VC PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



R04909-001-010-000 2023 *New Hanover County, NC - Property Card* Printed: 04/26/23 Card: 2 of 2 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

602 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 5 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	44,500	Oby		Exempt Code:	EX
Bldg	207,700	Class	CHR3	Exempt Amount:	252,200
Total	252,200	Taxable:		Routing:	071

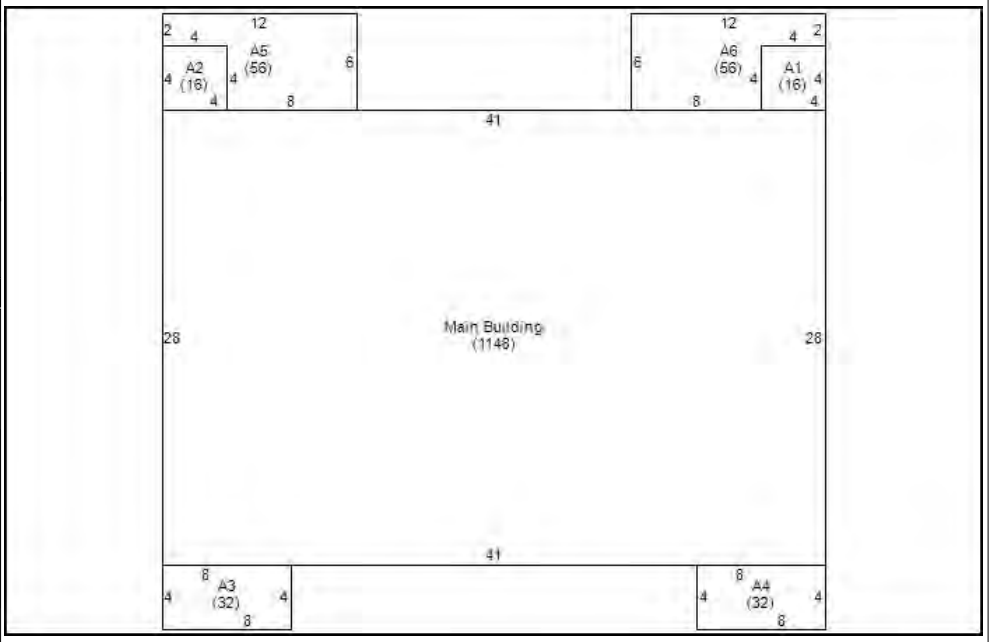
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	11,282	3.5	1.25	1.25			1		44,478

Total Parcel Size: 11,282 0.2590 44,478

CA16: **Date:** 09/24/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 2 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**\
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**\
Style: Duplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**\
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**\
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 2296 **Econ Dep%:**\
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**\
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**\
Bedrms: 6 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**\
Full Baths: 2 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,148	209,640	1971		C-	AV		50		102,724
1		UTL				16	274	1970		C-	AV		49		134
2		UTL				16	274	1970		C-	AV		49		134
3		MST				32	576	1970		C-	AV		49		282
4		MST				32	576	1970		C-	AV		49		282
5		CS				56	302	1970		C-	AV		49		148
6		CS				56	302	1970		C-	AV		49		148

Nbhd Factor: 1.0000 ***Total:*** **103,852**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		202783
Plumbing		4320
Basement		0
Heating		2537
Attic		0
Other features		0
Subtotal		209640
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		209640
Base Dwell RCNLD		102724
Additions		1128
Total RCNLD		103852
Nbhd Factor		1.0000
%complete		
Dwelling Value		103852
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,148
Area Factor	0.716
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	18-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 04/18/11
MN13	03-MAY-11	SPLIT FROM R04909-002-003-000 MOVE BLDG HERE PER SW 5/2/11 JD 5/3/11
MN13	14-OCT-11	CLSE PRMTS, NO VC PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:

Creekwood (14 Units), 712 North 30th Street, Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-014-000 2023 *New Hanover County, NC - Property Card* Printed: 04/26/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

710 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal:
LOT 9 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	44,000	Oby		Exempt Code:	EX
Bldg	90,700	Class	CHR3	Exempt Amount:	134,700
Total	134,700	Taxable:		Routing:	067

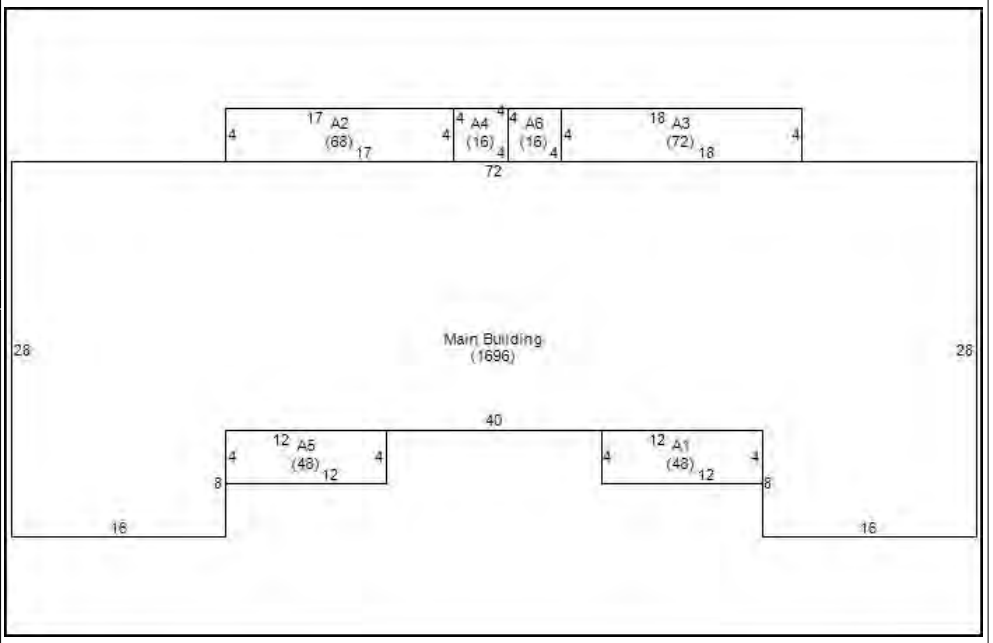
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light
Topo 1/2/3: Level With Street **Fronting:**
Utils 1/2/3: Water/Sewer, Public **Location:**
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	10,861	3.5	1.25	1.25			1		43,951

Total Parcel Size: 10,861 0.2493 43,951

CA16: **Date:** 09/24/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 1
Cnstr: Brick
Style: Duplex
Yr Blt: 1970
Eff Year:
Yr Remod:
% Remod:
Bedrms: 4
Full Baths: 2

Half Baths: 0
Extra Fixtures: 0
Bsmt: None
Heating: Central With A/C
Heating Fuel: Electric
System: Heat Pump
Attic:
Phys Cond:
Elevators

Int vs. Ext Cnd:
Bldg Use Code:
Masonry Trim:
Unfin Area:
Rec Room: 0
Fin.Bsmt Area:
WBFP Stacks:
Prefab Stacks: 0
Bsmt Gar # Cars:

Grade: C-
CDU: AVERAGE
Market Adj:
Pct Cmplt:
SFLA: 1696
Excavated
Pilings
Concrete

C&D Factor:
C&D Descrip:
Funct Dep %
Funct Desc:
Econ Dep%:
Econ Desc:
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,696	183,305	1971		C-	AV		50		89,819
1		CS				48	259	1970		C-	AV		49		127
2		CS				68	367	1970		C-	AV		49		180
3		CS				72	389	1970		C-	AV		49		191
4		UTL				16	274	1970		C-	AV		49		134
5		CS				48	259	1970		C-	AV		49		127
6		UTL				16	274	1970		C-	AV		49		134

Nbhd Factor: 1.0000 ***Total:*** **90,712**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		181122
Plumbing		0
Basement		0
Heating		2183
Attic		0
Other features		0
Subtotal		183305
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		183305
Base Dwell RCNLD		89819
Additions		893
Total RCNLD		90712
Nbhd Factor		1.0000
%complete		
Dwelling Value		90712
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,696
Area Factor	0.998
Story Height Factor	1.000
Construct Factor	1.090
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	18-APR-11	SPLIT PER MB55 PG360 FOR 1/1.2012 SHT 4/18/11
MN13	03-MAY-11	SPLIT FROM R04909-002-003-000 MOVE BLDG HERE PER SW 5/2/11 JD 5/3/11
MN13	14-OCT-11	CLSE PRMTS, NO VC PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:
FIRE	$5,000	01/24/23		FIRE	712 N 30TH BUILDING FIRE NO DETAILS

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



Creekwood (14 Units), 804 North 30th Street, Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-017-000 2023 *New Hanover County, NC - Property Card* Printed: 04/26/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

804 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT12 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	47,100	Oby		Exempt Code:	EX
Bldg	238,100	Class	CHR3	Exempt Amount:	285,200
Total	285,200	Taxable:		Routing:	064

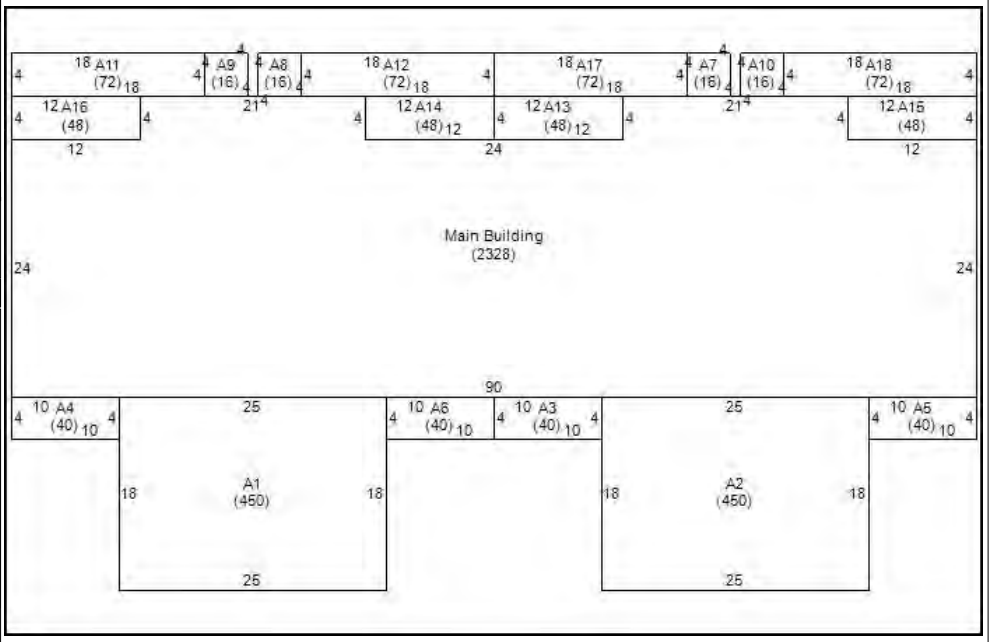
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	13,352	3.5	1.25	1.25			1		47,065

Total Parcel Size: 13,352 0.3065 47,065

CA16: **Date:** 09/24/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2\
Cnstr: Part Brick & Fran\
Style: Quadplex\
Yr Blt: 1970\
Eff Year:\
Yr Remod:\
% Remod:\
Bedrms: 16\
Full Baths: 8

Half Baths: 0\
Extra Fixtures: 0\
Bsmt: None\
Heating: Central With A/C\
Heating Fuel: Electric\
System: Heat Pump\
Attic:\
Phys Cond:\
Elevators

Int vs. Ext Cnd:\
Bldg Use Code:\
Masonry Trim:\
Unfin Area:\
Rec Room: 0\
Fin.Bsmt Area:\
WBFP Stacks:\
Prefab Stacks: 0\
Bsmt Gar # Cars:

Grade: C-\
CDU: AVERAGE\
Market Adj:\
Pct Cmplt:\
SFLA: 5908\
Excavated\
Pilings\
Concrete

C&D Factor:\
C&D Descrip:\
Funct Dep %\
Funct Desc:\
Econ Dep%:\
Econ Desc:\
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						2,328	396,816	1971		C-	AV		50		194,440
1		BAS				450	28,350	1971		C-	AV		50		14,175
2		BAS				450	28,350	1971		C-	AV		50		14,175
3		POR	BAS			40	3,240	1970		C-	AV		49		1,588
4		POR	BAS			40	3,240	1970		C-	AV		49		1,588
5		POR	BAS			40	3,240	1970		C-	AV		49		1,588
6		POR	BAS			40	3,240	1970		C-	AV		49		1,588
7		UTL				16	274	1970		C-	AV		49		134
8		UTL				16	274	1970		C-	AV		49		134

Continued on additional page... **Nbhd Factor:** 1.0000 ***Total:*** **238,062**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		372713
Plumbing		19440
Basement		0
Heating		4663
Attic		0
Other features		0
Subtotal		396816
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		396816
Base Dwell RCNLD		194440
Additions		43622
Total RCNLD		238062
Nbhd Factor		1.0000
%complete		
Dwelling Value		238062
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	2,328
Area Factor	1.316
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	18-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/18/11
MN13	03-MAY-11	SPLIT FROM R04909-002-003-000 MOVE BLDG HERE PER SW 5/2/11 JD 5/3/11
MN13	14-OCT-11	CLSE PRMTS, NO VC PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



ADDITIONS - CONTINUED....

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
9		UTL				16	274	1970		C-	AV		49		134
10		UTL				16	274	1970		C-	AV		49		134
11		CS				72	389	1970		C-	AV		49		191
12		CS				72	389	1970		C-	AV		49		191
13		POR	BAS			48	3,888	1970		C-	AV		49		1,905
14		POR	BAS			48	3,888	1970		C-	AV		49		1,905
15		POR	BAS			48	3,888	1970		C-	AV		49		1,905
16		POR	BAS			48	3,888	1970		C-	AV		49		1,905
17		CS				72	389	1970		C-	AV		49		191
18		CS				72	389	1970		C-	AV		49		191

Creekwood (14 Units), 805 & 809 North 30th Street Wilmington, NC 28405
New Hanover County Parcel Map



Creekwood (14 Units), 805 & 809 North 30th Street Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-035-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

805 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 30 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	46,700	Oby		Exempt Code:	EX
Bldg	238,100	Class	CHR3	Exempt Amount:	284,800
Total	284,800	Taxable:		Routing:	046

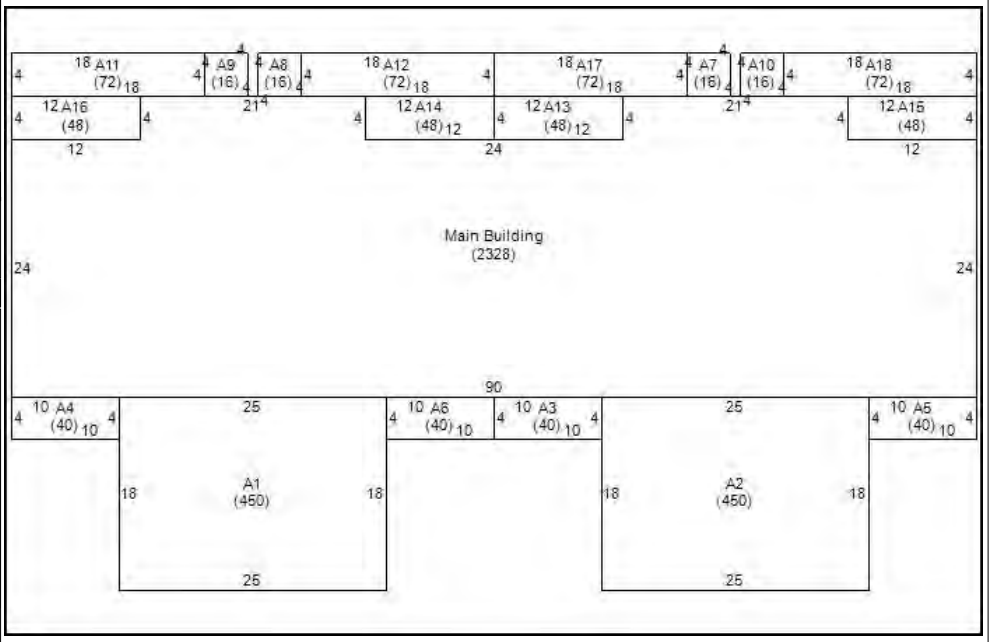
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	13,084	3.5	1.25	1.25			1		46,730

Total Parcel Size: 13,084 0.3004 46,730

CA16: **Date:** 09/25/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2\
Cnstr: Part Brick & Fran\
Style: Quadplex\
Yr Blt: 1970\
Eff Year:\
Yr Remod:\
% Remod:\
Bedrms: 16\
Full Baths: 8

Half Baths: 0\
Extra Fixtures: 0\
Bsmt: None\
Heating: Central With A/C\
Heating Fuel: Electric\
System: Heat Pump\
Attic:\
Phys Cond:\
Elevators

Int vs. Ext Cnd:\
Bldg Use Code:\
Masonry Trim:\
Unfin Area:\
Rec Room: 0\
Fin.Bsmt Area:\
WBFP Stacks:\
Prefab Stacks: 0\
Bsmt Gar # Cars:

Grade: C-\
CDU: AVERAGE\
Market Adj:\
Pct Cmplt:\
SFLA: 5908\
Excavated\
Pilings\
Concrete

C&D Factor:\
C&D Descrip:\
Funct Dep %\
Funct Desc:\
Econ Dep%:\
Econ Desc:\
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						2,328	396,816	1971		C-	AV		50		194,440
1		BAS				450	28,350	1971		C-	AV		50		14,175
2		BAS				450	28,350	1971		C-	AV		50		14,175
3		POR	BAS			40	3,240	1970		C-	AV		49		1,588
4		POR	BAS			40	3,240	1970		C-	AV		49		1,588
5		POR	BAS			40	3,240	1970		C-	AV		49		1,588
6		POR	BAS			40	3,240	1970		C-	AV		49		1,588
7		UTL				16	274	1970		C-	AV		49		134
8		UTL				16	274	1970		C-	AV		49		134

Continued on additional page... **Nbhd Factor:** 1.0000 ***Total:*** **238,062**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		372713
Plumbing		19440
Basement		0
Heating		4663
Attic		0
Other features		0
Subtotal		396816
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		396816
Base Dwell RCNLD		194440
Additions		43622
Total RCNLD		238062
Nbhd Factor		1.0000
%complete		
Dwelling Value		238062
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	2,328
Area Factor	1.316
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	14-OCT-11	CLSE PRMTS, NO VC PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

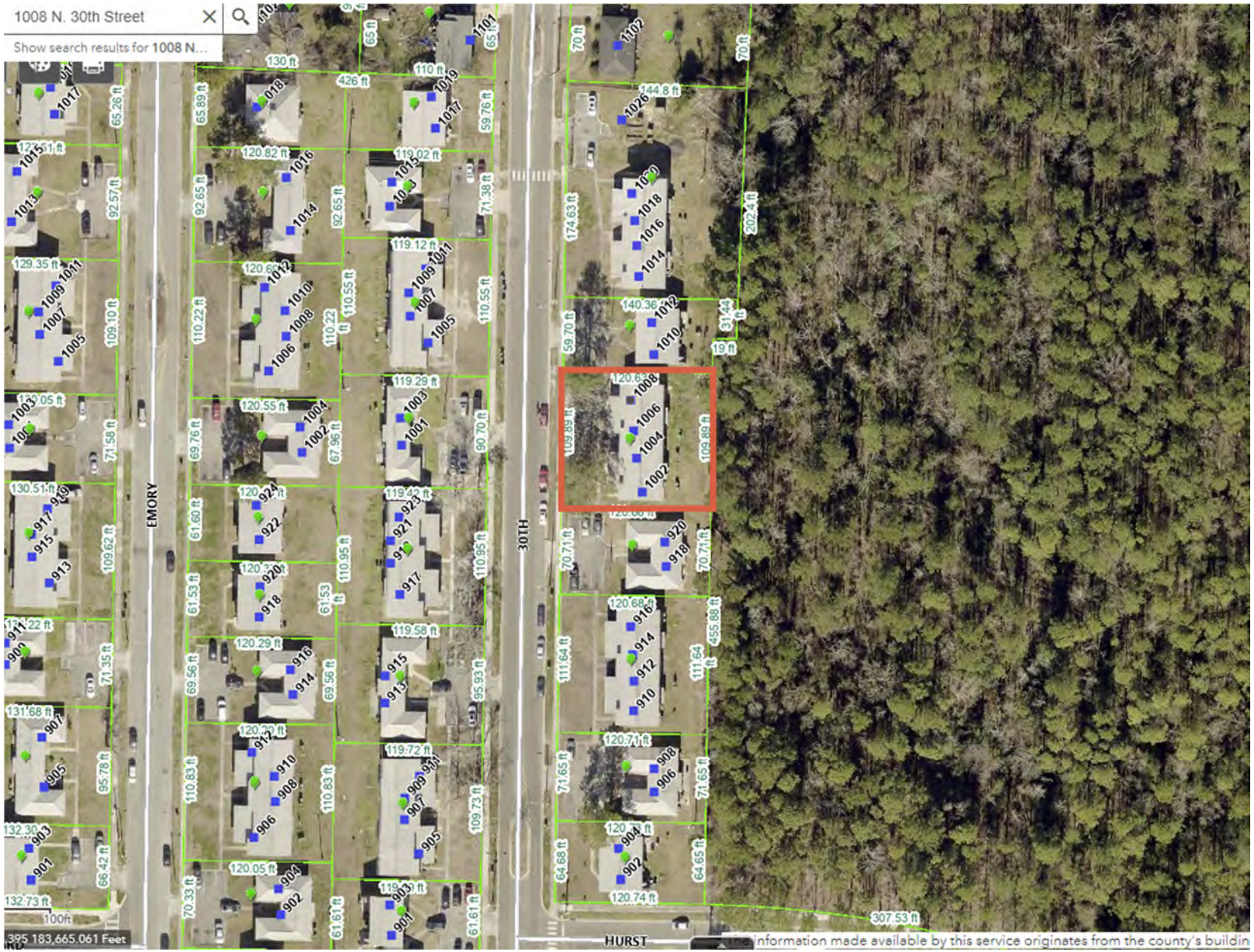
Photo:



ADDITIONS - CONTINUED....

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
9		UTL				16	274	1970		C-	AV		49		134
10		UTL				16	274	1970		C-	AV		49		134
11		CS				72	389	1970		C-	AV		49		191
12		CS				72	389	1970		C-	AV		49		191
13		POR	BAS			48	3,888	1970		C-	AV		49		1,905
14		POR	BAS			48	3,888	1970		C-	AV		49		1,905
15		POR	BAS			48	3,888	1970		C-	AV		49		1,905
16		POR	BAS			48	3,888	1970		C-	AV		49		1,905
17		CS				72	389	1970		C-	AV		49		191
18		CS				72	389	1970		C-	AV		49		191

Creekwood (14 Units), 1008 North 30th Street, Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-024-000 2023 *New Hanover County, NC - Property Card* Printed: 04/26/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

1002 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT
PO BOX 899
WILMINGTON NC 28402

Legal: LOT 19 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	46,900	Oby		Exempt Code:	EX
Bldg	257,300	Class	CHR3	Exempt Amount:	304,200
Total	304,200	Taxable:		Routing:	057

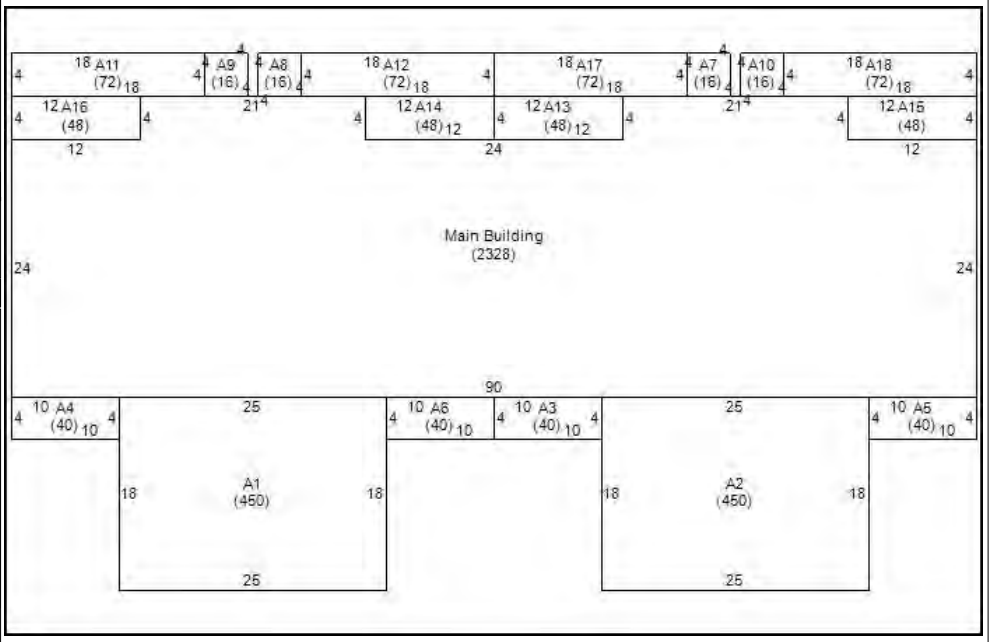
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light
Topo 1/2/3: Level With Street **Fronting:**
Utils 1/2/3: Water/Sewer, Public **Location:**
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	13,258	3.5	1.25	1.25			1		46,948

Total Parcel Size: 13,258 0.3044 46,948

CA16: **Date:** 09/24/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2
Cnstr: Part Brick & Fran
Style: Quadplex
Yr Blt: 1970
Eff Year:
Yr Remod:
% Remod:
Bedrms: 16
Full Baths: 8
Half Baths: 0
Extra Fixtures: 0
Bsmt: None
Heating: Central With A/C
Heating Fuel: Electric
System: Heat Pump
Attic:
Phys Cond:
Elevators
Int vs. Ext Cnd:
Bldg Use Code:
Masonry Trim:
Unfin Area:
Rec Room: 0
Fin.Bsmt Area:
WBFP Stacks:
Prefab Stacks: 0
Bsmt Gar # Cars:
Grade: C-
CDU: AVERAGE
Market Adj:
Pct Cmplt:
SFLA: 5908
Excavated
Pilings
Concrete
C&D Factor:
C&D Descrip:
Funct Dep %
Funct Desc:
Econ Dep%:
Econ Desc:
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						2,328	396,816	2005		C-	AV		84		194,440
1		BAS				450	28,350	2005		C-	AV		84		23,814
2		BAS				450	28,350	2005		C-	AV		84		23,814
3		POR	BAS			40	3,240	1970		C-	AV		49		1,588
4		POR	BAS			40	3,240	1970		C-	AV		49		1,588
5		POR	BAS			40	3,240	1970		C-	AV		49		1,588
6		POR	BAS			40	3,240	1970		C-	AV		49		1,588
7		UTL				16	274	1970		C-	AV		49		134
8		UTL				16	274	1970		C-	AV		49		134

Continued on additional page... **Nbhd Factor:** 1.0000 ***Total:*** **257,340**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		372713
Plumbing		19440
Basement		0
Heating		4663
Attic		0
Other features		0
Subtotal		396816
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		396816
Base Dwell RCNLD		194440
Additions		62900
Total RCNLD		257340
Nbhd Factor		1.0000
%complete		
Dwelling Value		257340
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	2,328
Area Factor	1.316
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	18-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/18/11
MN13	03-MAY-11	SPLIT FROM R04909-002-003-000 MOVE BLDG HERE PER SW 5/2/11 JD 5/3/11
MN13	14-OCT-11	CLSE PRMTS, NO VC PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



ADDITIONS - CONTINUED....

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
9		UTL				16	274	1970		C-	AV		49		134
10		UTL				16	274	1970		C-	AV		49		134
11		CS				72	389	1970		C-	AV		49		191
12		CS				72	389	1970		C-	AV		49		191
13		POR	BAS			48	3,888	1970		C-	AV		49		1,905
14		POR	BAS			48	3,888	1970		C-	AV		49		1,905
15		POR	BAS			48	3,888	1970		C-	AV		49		1,905
16		POR	BAS			48	3,888	1970		C-	AV		49		1,905
17		CS				72	389	1970		C-	AV		49		191
18		CS				72	389	1970		C-	AV		49		191

Creekwood (14 Units), 617 Emory Street Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-077-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 2 Appr#: Input Dte: ___/___/_____ ID:_____

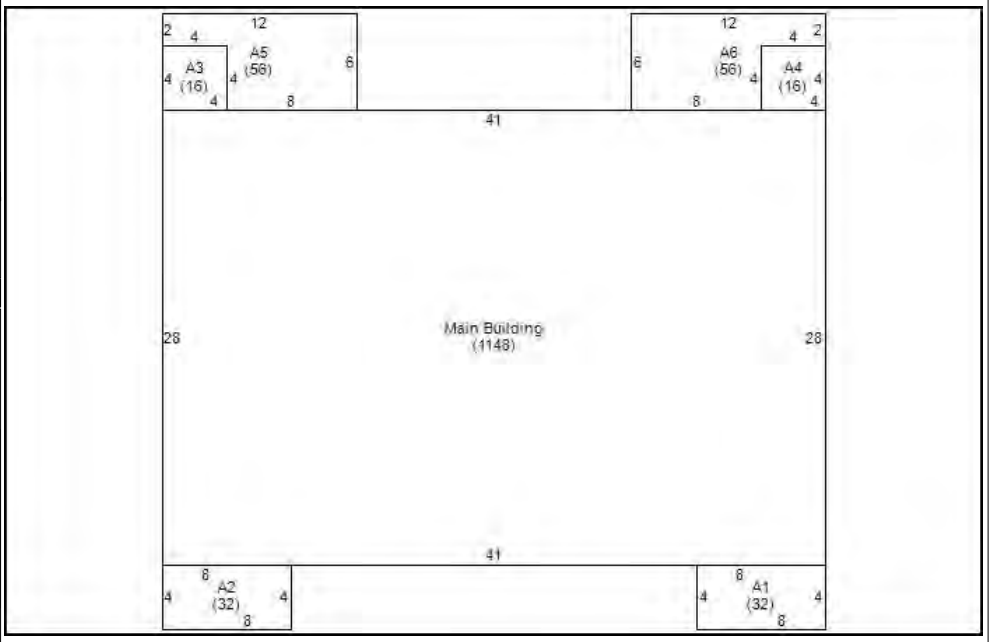
Ownership & Legal Description:

613 EMORY ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 72 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12



Assessment

Land	48,200	Oby		Exempt Code:	EX
Bldg	230,600	Class	CHR3	Exempt Amount:	278,800
Total	278,800	Taxable:		Routing:	004

Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	14,227	3.5	1.25	1.25			1		48,159
Total Parcel Size:			14,227		0.3266						48,159

CA16: **Date:** 01/07/19 **Entr Rslt:** R **Spoke With:** A **Appr:** RLK

Improvement Description (CA21):

Story Ht: 2\
Cnstr: Part Brick & Fran\
Style: Duplex\
Yr Blt: 1970\
Eff Year:\
Yr Remod:\
% Remod:\
Bedrms: 6\
Full Baths: 2

Half Baths: 2\
Extra Fixtures: 0\
Bsmt: None\
Heating: Central With A/C\
Heating Fuel: Electric\
System: Heat Pump\
Attic:\
Phys Cond:\
Elevators

Int vs. Ext Cnd:\
Bldg Use Code:\
Masonry Trim:\
Unfin Area:\
Rec Room: 0\
Fin.Bsmt Area:\
WBFP Stacks:\
Prefab Stacks: 0\
Bsmt Gar # Cars:

Grade: C-\
CDU: AVERAGE\
Market Adj:\
Pct Cmplt:\
SFLA: 2296\
Excavated\
Pilings\
Concrete

C&D Factor:\
C&D Descrip:\
Funct Dep %\
Funct Desc:\
Econ Dep%:\
Econ Desc:\
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,148	209,640	1971		C-	AV		50		102,724
1		MST				32	576	1970		C-	AV		49		282
2		MST				32	576	1970		C-	AV		49		282
3		UTL				16	274	1970		C-	AV		49		134
4		UTL				16	274	1970		C-	AV		49		134
5		CS				56	302	1970		C-	AV		49		148
6		CS				56	302	1970		C-	AV		49		148

Nbhd Factor: 1.0000 ***Total:*** **103,852**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		202783
Plumbing		4320
Basement		0
Heating		2537
Attic		0
Other features		0
Subtotal		209640
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		209640
Base Dwell RCNLD		102724
Additions		1128
Total RCNLD		103852
Nbhd Factor		1.0000
%complete		
Dwelling Value		103852
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,148
Area Factor	0.716
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MAPP	20-DEC-18	20' PUBLIC UTILITY & EMERGENCY ACCESS ESMT PER MB65/322 FOR 1/1/19 -TL 12/20/18
MN13	31-JAN-13	NO VC-CLOSED PERMITS #12-1604, #12-1603, #12-1602, #12-1601 PER SW 1/30/13 MC
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	07-JAN-19	20' PUBLIC UTILITY & EMERGENCY ACCESS ESMT NO VC PER RLK 1/7/19 JD

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



R04909-001-077-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 2 of 2 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

613 EMORY ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 72 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	48,200	Oby		Exempt Code:	EX
Bldg	230,600	Class	CHR3	Exempt Amount:	278,800
Total	278,800	Taxable:		Routing:	004

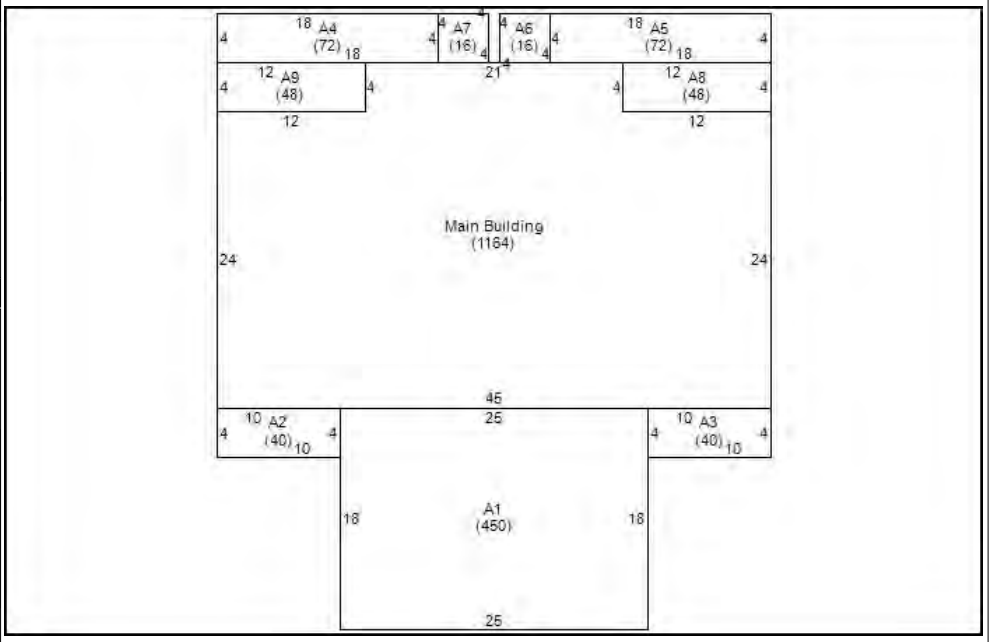
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	14,227	3.5	1.25	1.25			1		48,159

Total Parcel Size: 14,227 0.3266 48,159

CA16: **Date:** 01/07/19 **Entr Rslt:** R **Spoke With:** A **Appr:** RLK



Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 0 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**\
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**\
Style: Duplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**\
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**\
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 2954 **Econ Dep%:**\
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**\
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**\
Bedrms: 8 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**\
Full Baths: 4 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,164	214,094	1971		C-	AV		50		104,906
1		BAS				450	28,350	1971		C-	AV		50		14,175
2		POR	BAS			40	3,240	1970		C-	AV		49		1,588
3		POR	BAS			40	3,240	1970		C-	AV		49		1,588
4		CS				72	389	1970		C-	AV		49		191
5		CS				72	389	1970		C-	AV		49		191
6		UTL				16	274	1970		C-	AV		49		134
7		UTL				16	274	1970		C-	AV		49		134
8		POR	BAS			48	3,888	1970		C-	AV		49		1,905

Continued on additional page... **Nbhd Factor:** 1.0000 ***Total:*** **126,717**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		205049
Plumbing		6480
Basement		0
Heating		2565
Attic		0
Other features		0
Subtotal		214094
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		214094
Base Dwell RCNLD		104906
Additions		21811
Total RCNLD		126717
Nbhd Factor		1.0000
%complete		
Dwelling Value		126717
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,164
Area Factor	0.724
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MAPP	20-DEC-18	20' PUBLIC UTILITY & EMERGENCY ACCESS ESMT PER MB65/322 FOR 1/1/19 -TL 12/20/18
MN13	31-JAN-13	NO VC-CLOSED PERMITS #12-1604, #12-1603, #12-1602, #12-1601 PER SW 1/30/13 MC
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	07-JAN-19	20' PUBLIC UTILITY & EMERGENCY ACCESS ESMT NO VC PER RLK 1/7/19 JD

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:

ADDITIONS - CONTINUED....

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
9		POR	BAS			48	3,888	1970		C-	AV		49		1,905

Creekwood (14 Units), 701 Emory Street Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-076-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 2 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

621 EMORY ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 71 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	46,300	Oby		Exempt Code:	EX
Bldg	207,700	Class	CHR3	Exempt Amount:	254,000
Total	254,000	Taxable:		Routing:	005

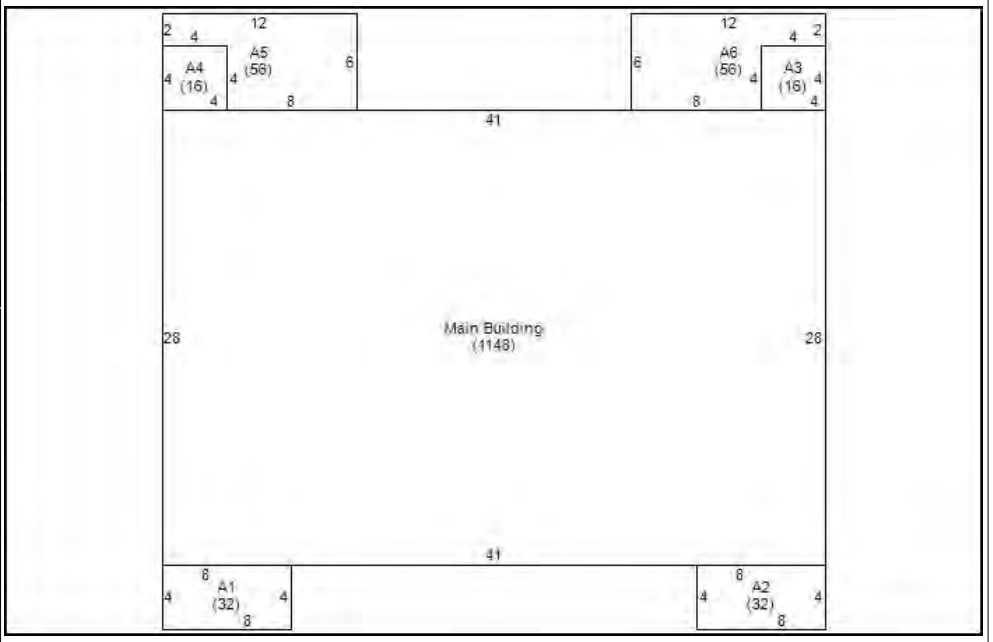
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	12,736	3.5	1.25	1.25			1		46,295

Total Parcel Size: 12,736 0.2924 46,295

CA16: **Date:** 01/07/19 **Entr Rslt:** R **Spoke With:** A **Appr:** RLK



Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 2 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**\
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**\
Style: Duplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**\
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**\
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 2296 **Econ Dep%:**\
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**\
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**\
Bedrms: 6 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**\
Full Baths: 2 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,148	209,640	1971		C-	AV		50		102,724
1		MST				32	576	1970		C-	AV		49		282
2		MST				32	576	1970		C-	AV		49		282
3		UTL				16	274	1970		C-	AV		49		134
4		UTL				16	274	1970		C-	AV		49		134
5		CS				56	302	1970		C-	AV		49		148
6		CS				56	302	1970		C-	AV		49		148

Nbhd Factor: 1.0000 ***Total:*** **103,852**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		202783
Plumbing		4320
Basement		0
Heating		2537
Attic		0
Other features		0
Subtotal		209640
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		209640
Base Dwell RCNLD		102724
Additions		1128
Total RCNLD		103852
Nbhd Factor		1.0000
%complete		
Dwelling Value		103852
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,148
Area Factor	0.716
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MAPP	20-DEC-18	20' PUBLIC UTILITY & EMERGENCY ACCESS ESMT PER MB65/322 FOR 1/1/19 -TL 12/20/18
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	07-JAN-19	20' PUBLIC UTILITY & EMERGENCY ACCESS ESMT NO VC PER RLK 1/7/19 JD
MN13	31-JAN-13	NO VC-CLOSED PERMITS #12-1609, #12-1607, #12-1606, #12-1605 PER SW 1/30/13 MC

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



R04909-001-076-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 2 of 2 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

621 EMORY ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 71 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	46,300	Oby		Exempt Code:	EX
Bldg	207,700	Class	CHR3	Exempt Amount:	254,000
Total	254,000	Taxable:		Routing:	005

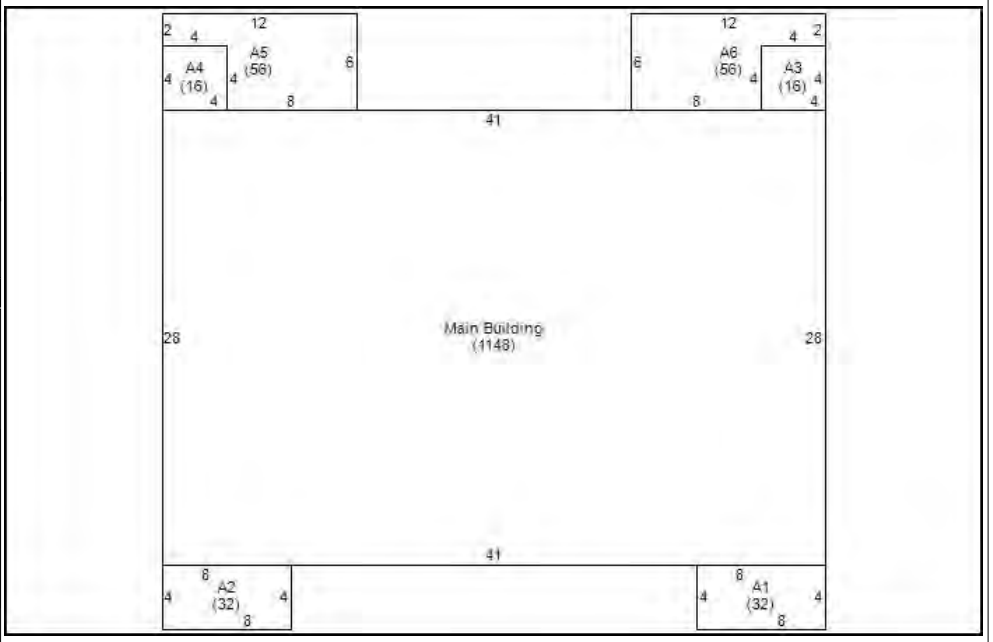
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	12,736	3.5	1.25	1.25			1		46,295

Total Parcel Size: 12,736 0.2924 46,295

CA16: **Date:** 01/07/19 **Entr Rslt:** R **Spoke With:** A **Appr:** RLK



Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 2 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**\
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**\
Style: Duplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**\
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**\
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 2296 **Econ Dep%:**\
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**\
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**\
Bedrms: 6 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**\
Full Baths: 2 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,148	209,640	1971		C-	AV		50		102,724
1		MST				32	576	1970		C-	AV		49		282
2		MST				32	576	1970		C-	AV		49		282
3		UTL				16	274	1970		C-	AV		49		134
4		UTL				16	274	1970		C-	AV		49		134
5		CS				56	302	1970		C-	AV		49		148
6		CS				56	302	1970		C-	AV		49		148

Nbhd Factor: 1.0000 ***Total:*** **103,852**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		202783
Plumbing		4320
Basement		0
Heating		2537
Attic		0
Other features		0
Subtotal		209640
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		209640
Base Dwell RCNLD		102724
Additions		1128
Total RCNLD		103852
Nbhd Factor		1.0000
%complete		
Dwelling Value		103852
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,148
Area Factor	0.716
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MAPP	20-DEC-18	20' PUBLIC UTILITY & EMERGENCY ACCESS ESMT PER MB65/322 FOR 1/1/19 -TL 12/20/18
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	07-JAN-19	20' PUBLIC UTILITY & EMERGENCY ACCESS ESMT NO VC PER RLK 1/7/19 JD
MN13	31-JAN-13	NO VC-CLOSED PERMITS #12-1609, #12-1607, #12-1606, #12-1605 PER SW 1/30/13 MC

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:

Creekwood (14 Units), 707 Emory Street, Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-075-000 2023 *New Hanover County, NC - Property Card* Printed: 04/26/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

705 EMORY ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 70 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	48,900	Oby		Exempt Code:	EX
Bldg	238,100	Class	CHR3	Exempt Amount:	287,000
Total	287,000	Taxable:		Routing:	006

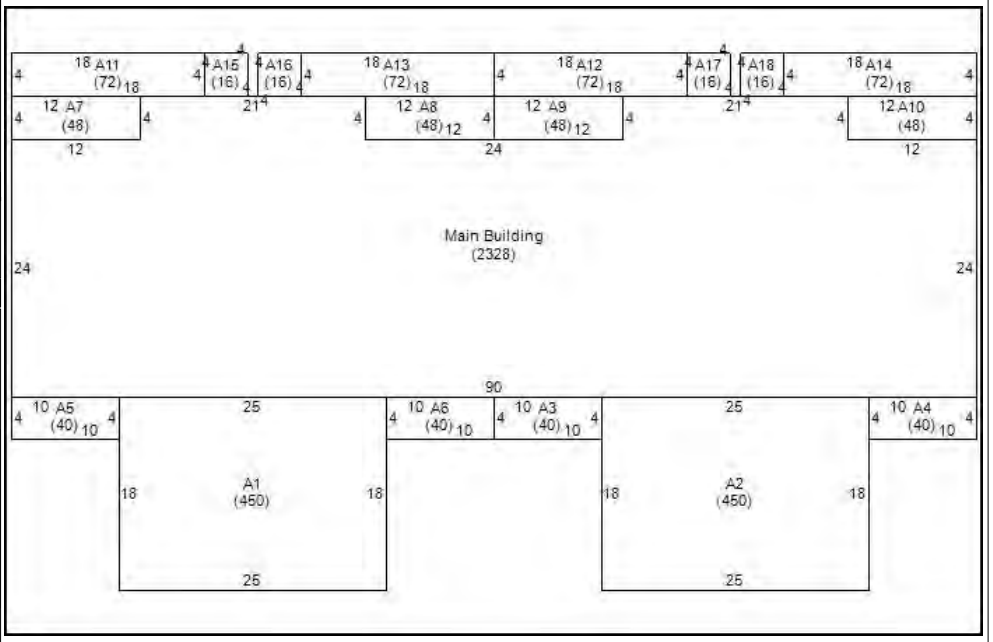
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	14,781	3.5	1.25	1.25			1		48,851

Total Parcel Size: 14,781 0.3393 48,851

CA16: **Date:** 10/01/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 0 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**\
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**\
Style: Quadplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**\
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**\
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 5908 **Econ Dep%:**\
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**\
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**\
Bedrms: 16 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**\
Full Baths: 8 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						2,328	396,816	1971		C-	AV		50		194,440
1		BAS				450	28,350	1971		C-	AV		50		14,175
2		BAS				450	28,350	1971		C-	AV		50		14,175
3		POR	BAS			40	3,240	1970		C-	AV		49		1,588
4		POR	BAS			40	3,240	1970		C-	AV		49		1,588
5		POR	BAS			40	3,240	1970		C-	AV		49		1,588
6		POR	BAS			40	3,240	1970		C-	AV		49		1,588
7		POR	BAS			48	3,888	1970		C-	AV		49		1,905
8		POR	BAS			48	3,888	1970		C-	AV		49		1,905

Continued on additional page... **Nbhd Factor:** 1.0000 ***Total:*** **238,062**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		372713
Plumbing		19440
Basement		0
Heating		4663
Attic		0
Other features		0
Subtotal		396816
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		396816
Base Dwell RCNLD		194440
Additions		43622
Total RCNLD		238062
Nbhd Factor		1.0000
%complete		
Dwelling Value		238062
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	2,328
Area Factor	1.316
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	31-JAN-13	NO VC-CLOSED PERMITS #12-1723, #12-1680, #12-1679, #12-1677 PER SW 1/30/13 MC

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



ADDITIONS - CONTINUED....

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
9		POR	BAS			48	3,888	1970		C-	AV		49		1,905
10		POR	BAS			48	3,888	1970		C-	AV		49		1,905
11		CS				72	389	1970		C-	AV		49		191
12		CS				72	389	1970		C-	AV		49		191
13		CS				72	389	1970		C-	AV		49		191
14		CS				72	389	1970		C-	AV		49		191
15		UTL				16	274	1970		C-	AV		49		134
16		UTL				16	274	1970		C-	AV		49		134
17		UTL				16	274	1970		C-	AV		49		134
18		UTL				16	274	1970		C-	AV		49		134

Creekwood (14 Units), 708 Emory Street Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-046-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

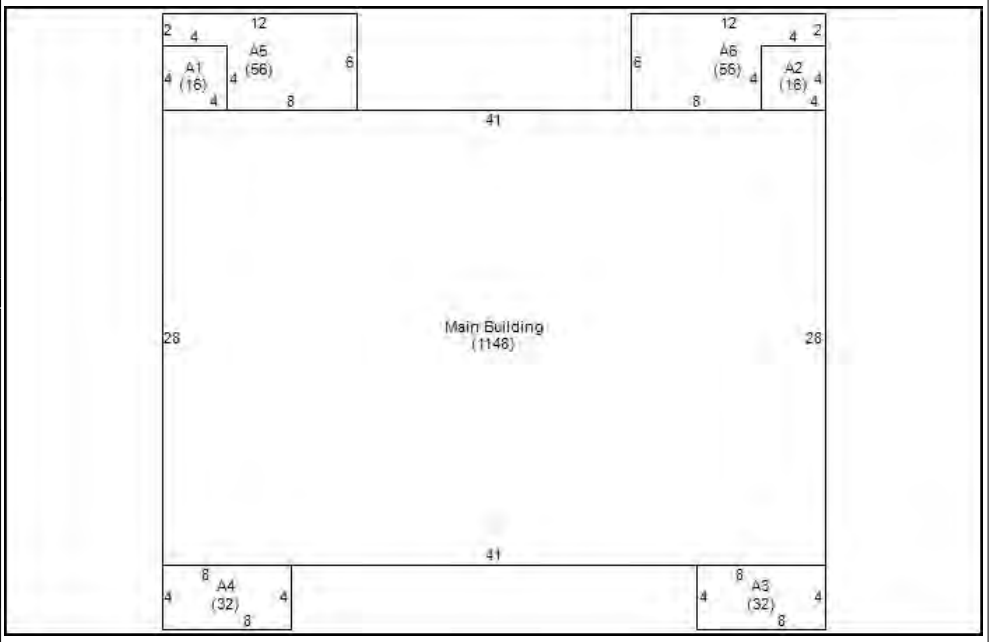
Ownership & Legal Description:

706 EMORY ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORITY
PO BOX 899
WILMINGTON NC 28402

Legal: LOT 41 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12



Assessment

Land	39,800	Oby		Exempt Code:	EX
Bldg	103,900	Class	CHR3	Exempt Amount:	143,700
Total	143,700	Taxable:		Routing:	036

Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light
Topo 1/2/3: Level With Street **Fronting:**
Utils 1/2/3: Water/Sewer, Public **Location:**
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	7,516	3.5	1.25	1.25			1		39,770
Total Parcel Size:			7,516		0.1725						39,770

CA16: **Date:** 09/25/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW

Improvement Description (CA21):

Story Ht: 2
Cnstr: Part Brick & Fran
Style: Duplex
Yr Blt: 1970
Eff Year:
Yr Remod:
% Remod:
Bedrms: 6
Full Baths: 2
Half Baths: 2
Extra Fixtures: 0
Bsmt: None
Heating: Central With A/C
Heating Fuel: Electric
System: Heat Pump
Attic:
Phys Cond:
Elevators
Int vs. Ext Cnd:
Bldg Use Code:
Masonry Trim:
Unfin Area:
Rec Room: 0
Fin.Bsmt Area:
WBFP Stacks:
Prefab Stacks: 0
Bsmt Gar # Cars:
Grade: C-
CDU: AVERAGE
Market Adj:
Pct Cmplt:
SFLA: 2296
Excavated
Pilings
Concrete
C&D Factor:
C&D Descrip:
Funct Dep %
Funct Desc:
Econ Dep%:
Econ Desc:
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,148	209,640	1971		C-	AV		50		102,724
1		UTL				16	274	1970		C-	AV		49		134
2		UTL				16	274	1970		C-	AV		49		134
3		MST				32	576	1970		C-	AV		49		282
4		MST				32	576	1970		C-	AV		49		282
5		CS				56	302	1970		C-	AV		49		148
6		CS				56	302	1970		C-	AV		49		148

Nbhd Factor: 1.0000 ***Total:*** **103,852**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD
Total:																					

Dwelling Pricing Ladder

Adjusted Base		202783
Plumbing		4320
Basement		0
Heating		2537
Attic		0
Other features		0
Subtotal		209640
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		209640
Base Dwell RCNLD		102724
Additions		1128
Total RCNLD		103852
Nbhd Factor		1.0000
%complete		
Dwelling Value		103852
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,148
Area Factor	0.716
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	23-JAN-12	CK BK '13 ON ALL PERMIT WORK PER SW 1/23/12 JD
MN13	18-JAN-13	PRMT RVW '13-NO VC, CLSD PRMTS PER SW 1/14/13; 1/18/13 CAF

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

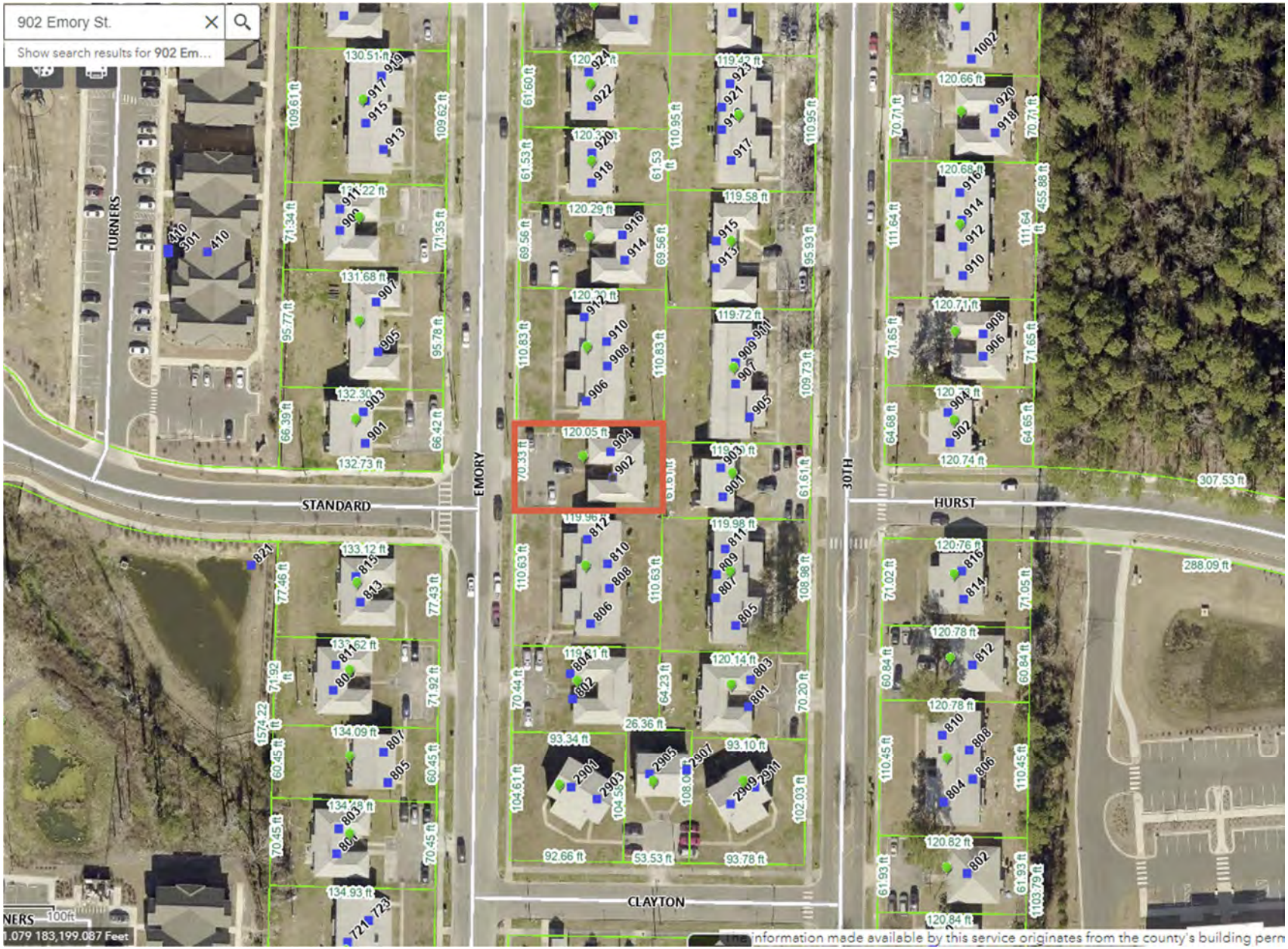
Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



Creekwood (14 Units), 902 Emory Street, Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-052-000 2023 *New Hanover County, NC - Property Card* Printed: 04/26/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

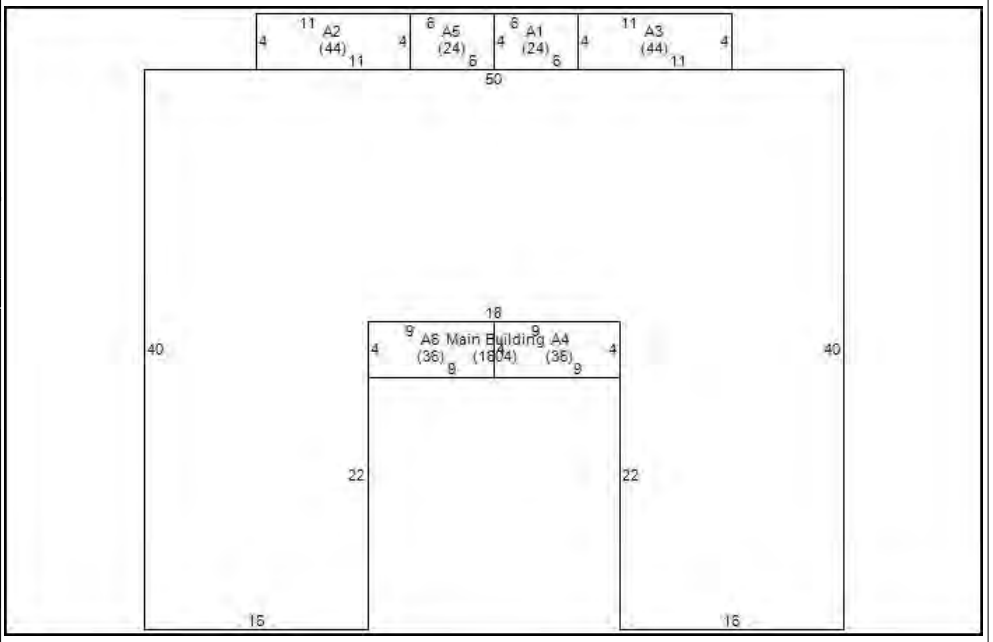
Ownership & Legal Description:

902 EMORY ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORITY
PO BOX 899
WILMINGTON NC 28402

Legal: LOT 47 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12



Assessment

Land	40,900	Oby		Exempt Code:	EX
Bldg	86,900	Class	CHR3	Exempt Amount:	127,800
Total	127,800	Taxable:		Routing:	029

Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light
Topo 1/2/3: Level With Street **Fronting:**
Utils 1/2/3: Water/Sewer, Public **Location:**
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	8,440	3.5	1.25	1.25			1		40,925

Total Parcel Size: 8,440 0.1938 40,925

CA16: **Date:** 09/25/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW

Improvement Description (CA21):

Story Ht: 1
Cnstr: Brick Veneer
Style: Duplex
Yr Blt: 1970
Eff Year:
Yr Remod:
% Remod:
Bedrms: 4
Full Baths: 2

Half Baths: 0
Extra Fixtures: 0
Bsmt: None
Heating: Central With A/C
Heating Fuel: Electric
System: Heat Pump
Attic:
Phys Cond:
Elevators

Int vs. Ext Cnd:
Bldg Use Code:
Masonry Trim:
Unfin Area:
Rec Room: 0
Fin.Bsmt Area:
WBFP Stacks:
Prefab Stacks: 0
Bsmt Gar # Cars:

Grade: C-
CDU: AVERAGE
Market Adj:
Pct Cmplt:
SFLA: 1604
Excavated
Pilings
Concrete

C&D Factor:
C&D Descrip:
Funct Dep %
Funct Desc:
Econ Dep%:
Econ Desc:
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,604	174,672	1971		C-	AV		50		85,589
1		UTL				24	410	1970		C-	AV		49		201
2		CS				44	238	1970		C-	AV		49		117
3		CS				44	238	1970		C-	AV		49		117
4		POR				36	648	1970		C-	AV		49		318
5		UTL				24	410	1970		C-	AV		49		201
6		POR				36	648	1970		C-	AV		49		318

Nbhd Factor: 1.0000 ***Total:*** **86,861**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		172592
Plumbing		0
Basement		0
Heating		2080
Attic		0
Other features		0
Subtotal		174672
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		174672
Base Dwell RCNLD		85589
Additions		1272
Total RCNLD		86861
Nbhd Factor		1.0000
%complete		
Dwelling Value		86861
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,604
Area Factor	0.951
Story Height Factor	1.000
Construct Factor	1.090
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	22-JAN-13	PRMT RVW '13-NO VC, CLSD PRMTS PER SW 1/14/13; 1/22/13 CAF

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

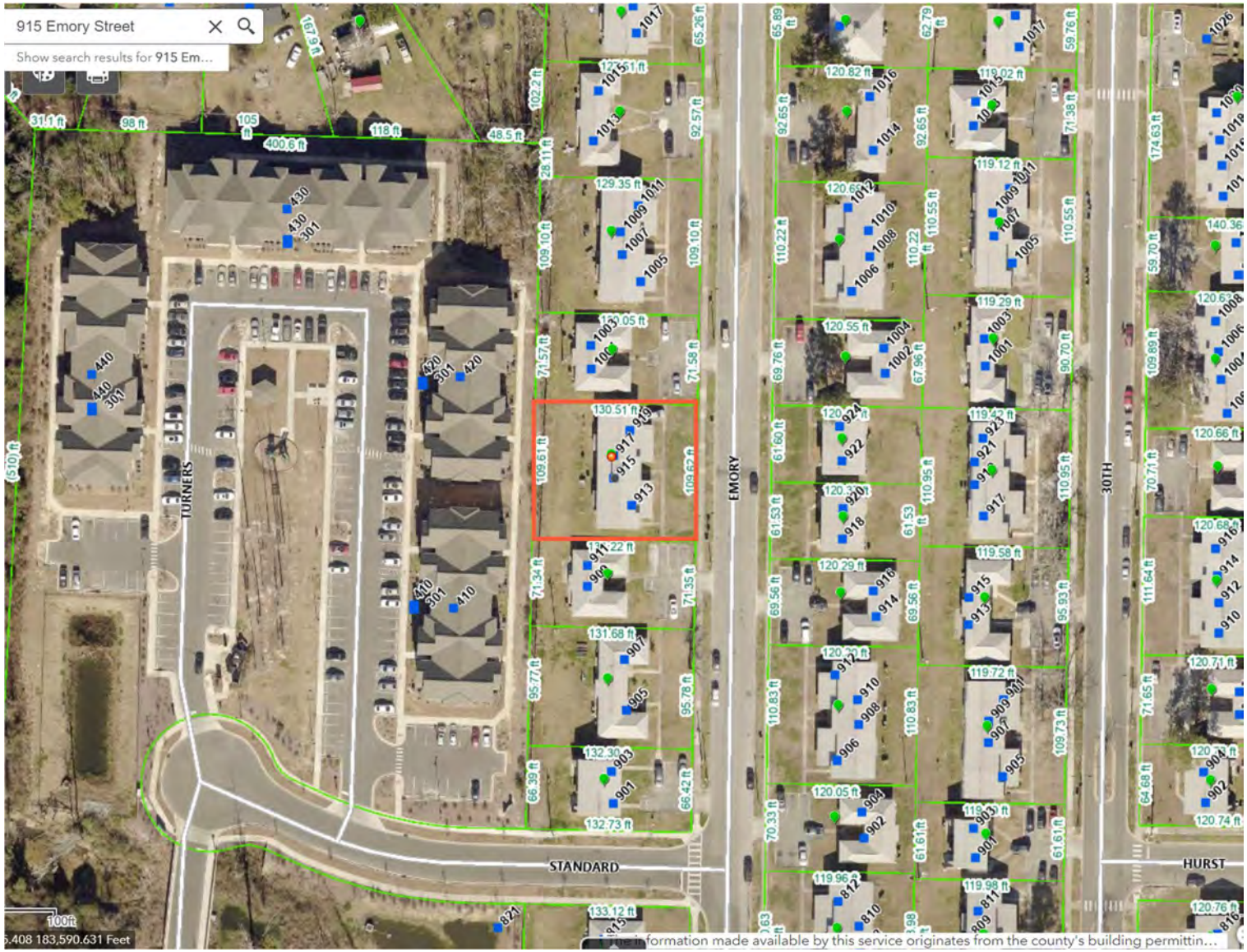
Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



Creekwood (14 Units), 915 Emory Street Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-065-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

913 EMORY ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 60 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	48,300	Oby		Exempt Code:	EX
Bldg	238,100	Class	CHR3	Exempt Amount:	286,400
Total	286,400	Taxable:		Routing:	016

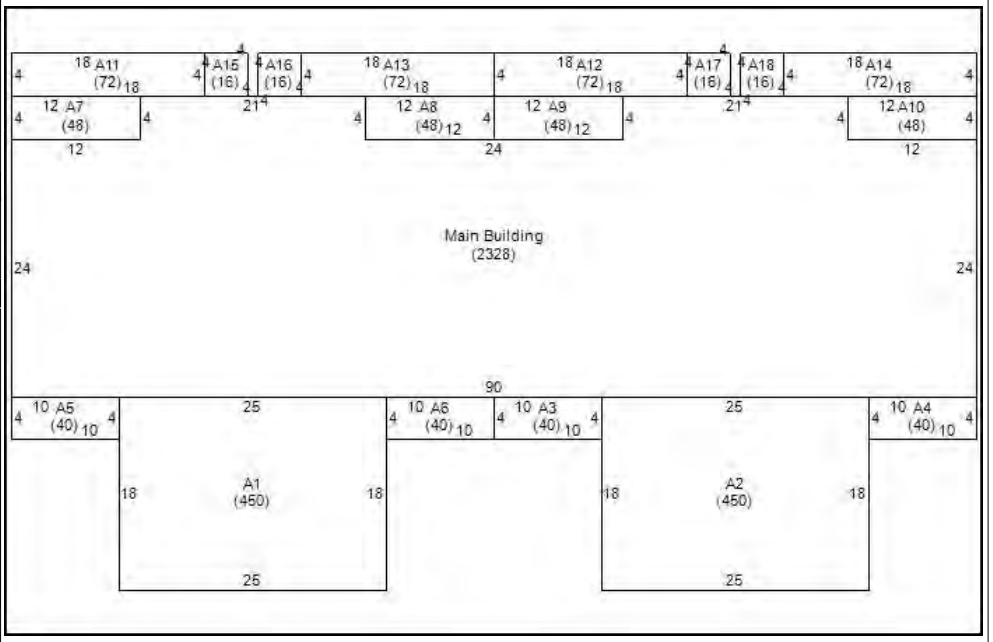
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	14,345	3.5	1.25	1.25			1		48,306

Total Parcel Size: 14,345 0.3293 48,306

CA16: **Date:** 10/01/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2\
Cnstr: Part Brick & Fran\
Style: Quadplex\
Yr Blt: 1970\
Eff Year:\
Yr Remod:\
% Remod:\
Bedrms: 16\
Full Baths: 8

Half Baths: 0\
Extra Fixtures: 0\
Bsmt: None\
Heating: Central With A/C\
Heating Fuel: Electric\
System: Heat Pump\
Attic:\
Phys Cond:\
Elevators

Int vs. Ext Cnd:\
Bldg Use Code:\
Masonry Trim:\
Unfin Area:\
Rec Room: 0\
Fin.Bsmt Area:\
WBFP Stacks:\
Prefab Stacks: 0\
Bsmt Gar # Cars:

Grade: C-\
CDU: AVERAGE\
Market Adj:\
Pct Cmplt:\
SFLA: 5908\
Excavated\
Pilings\
Concrete

C&D Factor:\
C&D Descrip:\
Funct Dep %\
Funct Desc:\
Econ Dep%:\
Econ Desc:\
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						2,328	396,816	1971		C-	AV		50		194,440
1		BAS				450	28,350	1971		C-	AV		50		14,175
2		BAS				450	28,350	1971		C-	AV		50		14,175
3		POR	BAS			40	3,240	1970		C-	AV		49		1,588
4		POR	BAS			40	3,240	1970		C-	AV		49		1,588
5		POR	BAS			40	3,240	1970		C-	AV		49		1,588
6		POR	BAS			40	3,240	1970		C-	AV		49		1,588
7		POR	BAS			48	3,888	1970		C-	AV		49		1,905
8		POR	BAS			48	3,888	1970		C-	AV		49		1,905

Continued on additional page... **Nbhd Factor:** 1.0000 ***Total:*** **238,062**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		372713
Plumbing		19440
Basement		0
Heating		4663
Attic		0
Other features		0
Subtotal		396816
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		396816
Base Dwell RCNLD		194440
Additions		43622
Total RCNLD		238062
Nbhd Factor		1.0000
%complete		
Dwelling Value		238062
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	2,328
Area Factor	1.316
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000
********	****	CA31	BLDGVAL	.8000
********	****	CA31	BLDGVAL	.9000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	31-JAN-13	NO VC-CLOSED PERMITS #12-1692, #12-1691, #12-1690, #12-1689 PER SW 1/30/13 MC

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

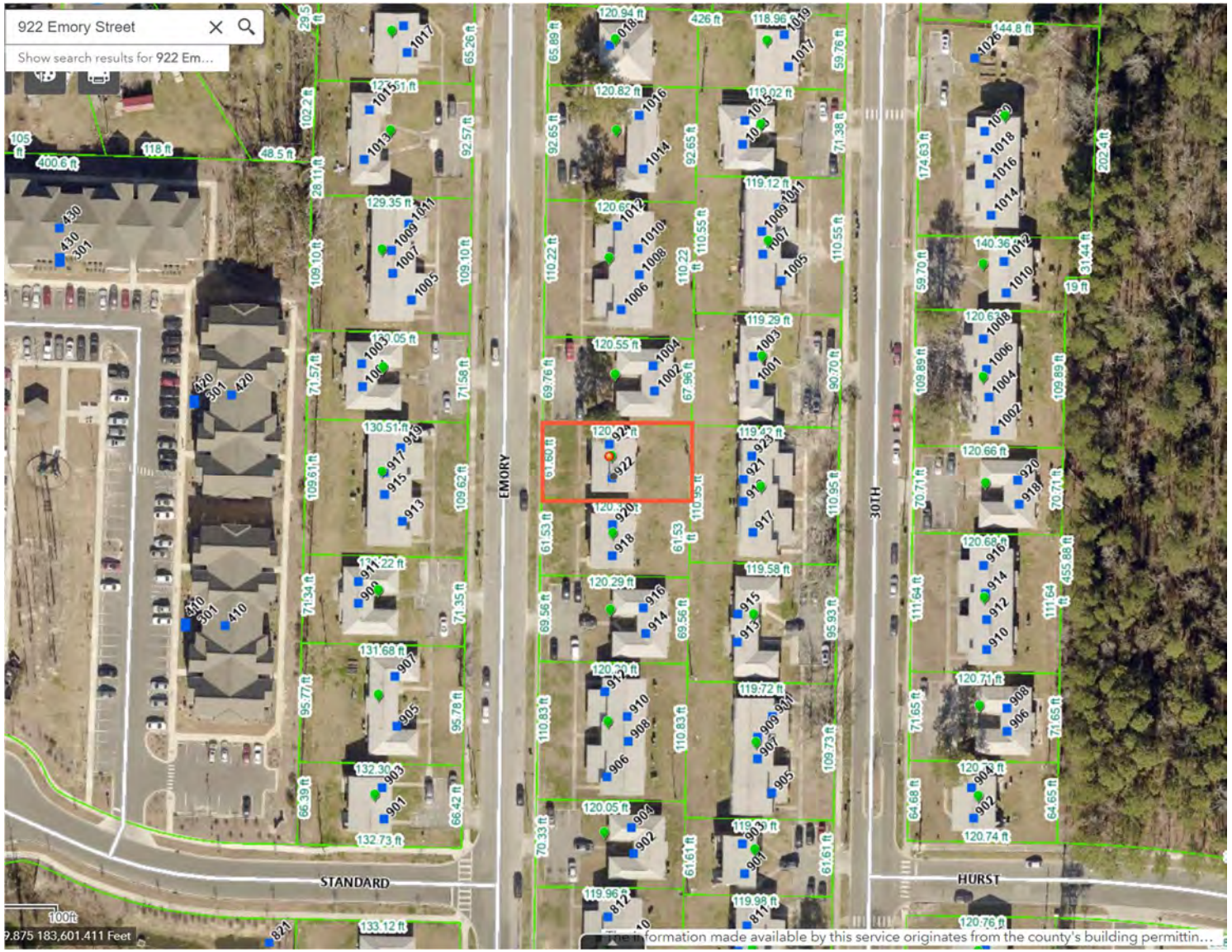
Photo:



ADDITIONS - CONTINUED....

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
9		POR	BAS			48	3,888	1970		C-	AV		49		1,905
10		POR	BAS			48	3,888	1970		C-	AV		49		1,905
11		CS				72	389	1970		C-	AV		49		191
12		CS				72	389	1970		C-	AV		49		191
13		CS				72	389	1970		C-	AV		49		191
14		CS				72	389	1970		C-	AV		49		191
15		UTL				16	274	1970		C-	AV		49		134
16		UTL				16	274	1970		C-	AV		49		134
17		UTL				16	274	1970		C-	AV		49		134
18		UTL				16	274	1970		C-	AV		49		134

Creekwood (14 Units), 922 Emory Street Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-056-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

922 EMORY ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORITY
PO BOX 899
WILMINGTON NC 28402

Legal: LOT 51 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	39,600	Oby		Exempt Code:	EX
Bldg	103,900	Class	CHR3	Exempt Amount:	143,500
Total	143,500	Taxable:		Routing:	025

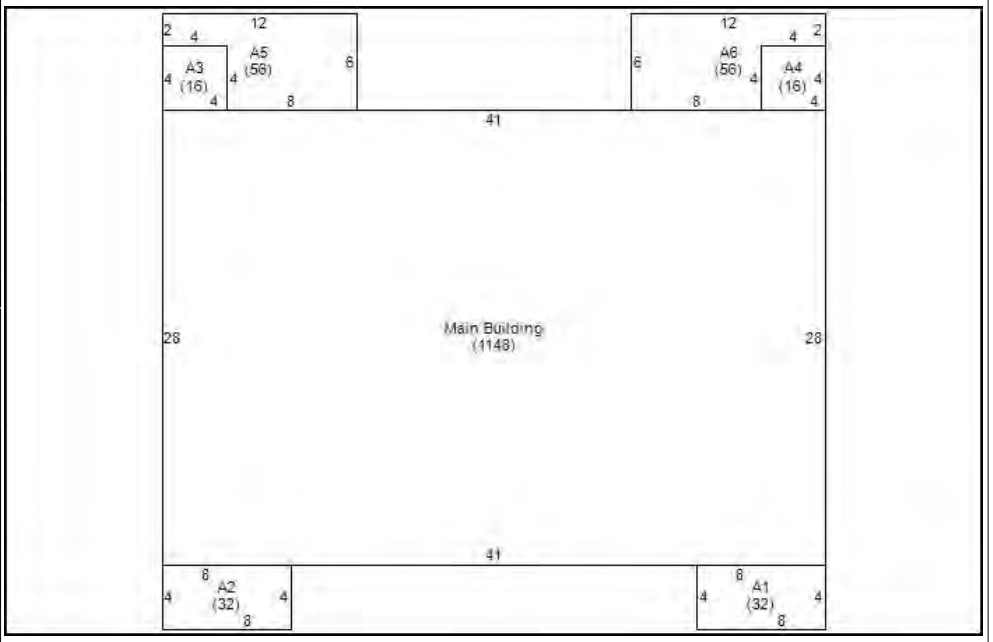
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light
Topo 1/2/3: Level With Street **Fronting:**
Utils 1/2/3: Water/Sewer, Public **Location:**
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	7,417	3.5	1.25	1.25			1		39,646

Total Parcel Size: 7,417 0.1703 39,646

CA16: **Date:** 09/25/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2
Cnstr: Part Brick & Fran
Style: Duplex
Yr Blt: 1970
Eff Year:
Yr Remod:
% Remod:
Bedrms: 6
Full Baths: 2
Half Baths: 2
Extra Fixtures: 0
Bsmt: None
Heating: Central With A/C
Heating Fuel: Electric
System: Heat Pump
Attic:
Phys Cond:
Elevators
Int vs. Ext Cnd:
Bldg Use Code:
Masonry Trim:
Unfin Area:
Rec Room: 0
Fin.Bsmt Area:
WBFP Stacks:
Prefab Stacks: 0
Bsmt Gar # Cars:
Grade: C-
CDU: AVERAGE
Market Adj:
Pct Cmplt:
SFLA: 2296
Excavated
Pilings
Concrete
C&D Factor:
C&D Descrip:
Funct Dep %
Funct Desc:
Econ Dep%:
Econ Desc:
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,148	209,640	1971		C-	AV		50		102,724
1		MST				32	576	1970		C-	AV		49		282
2		MST				32	576	1970		C-	AV		49		282
3		UTL				16	274	1970		C-	AV		49		134
4		UTL				16	274	1970		C-	AV		49		134
5		CS				56	302	1970		C-	AV		49		148
6		CS				56	302	1970		C-	AV		49		148

Nbhd Factor: 1.0000 ***Total:*** **103,852**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		202783
Plumbing		4320
Basement		0
Heating		2537
Attic		0
Other features		0
Subtotal		209640
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		209640
Base Dwell RCNLD		102724
Additions		1128
Total RCNLD		103852
Nbhd Factor		1.0000
%complete		
Dwelling Value		103852
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,148
Area Factor	0.716
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	22-JAN-13	PRMT RVW '13-NO VC, CLSD PRMTS PER SW 1/14/13; 1/22/13 CAF

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

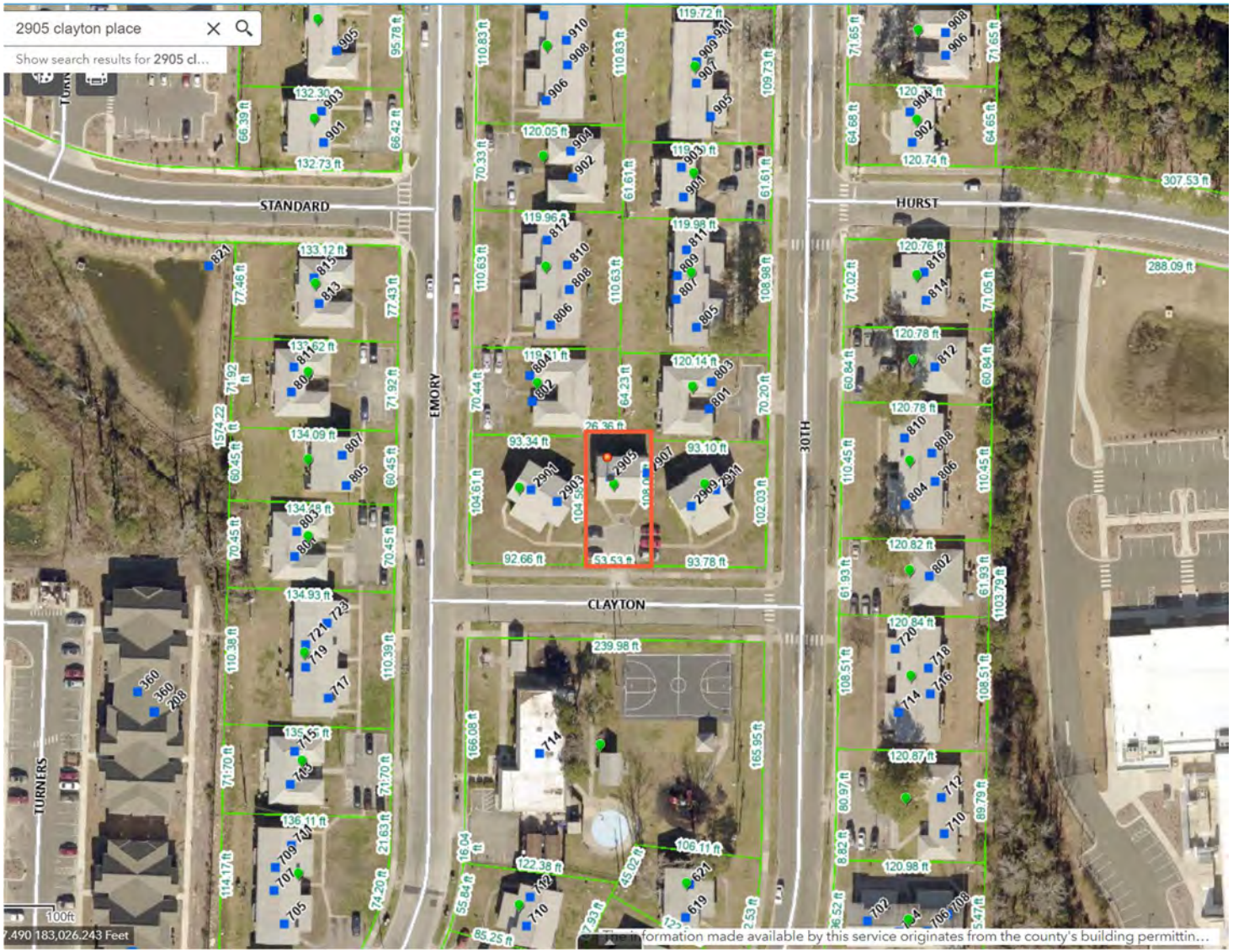
Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



Creekwood (14 Units), 2905 Clayton Place, Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-048-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

2905 CLAYTON PL WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 43 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	37,600	Oby		Exempt Code:	EX
Bldg	103,900	Class	CHR3	Exempt Amount:	141,500
Total	141,500	Taxable:		Routing:	033

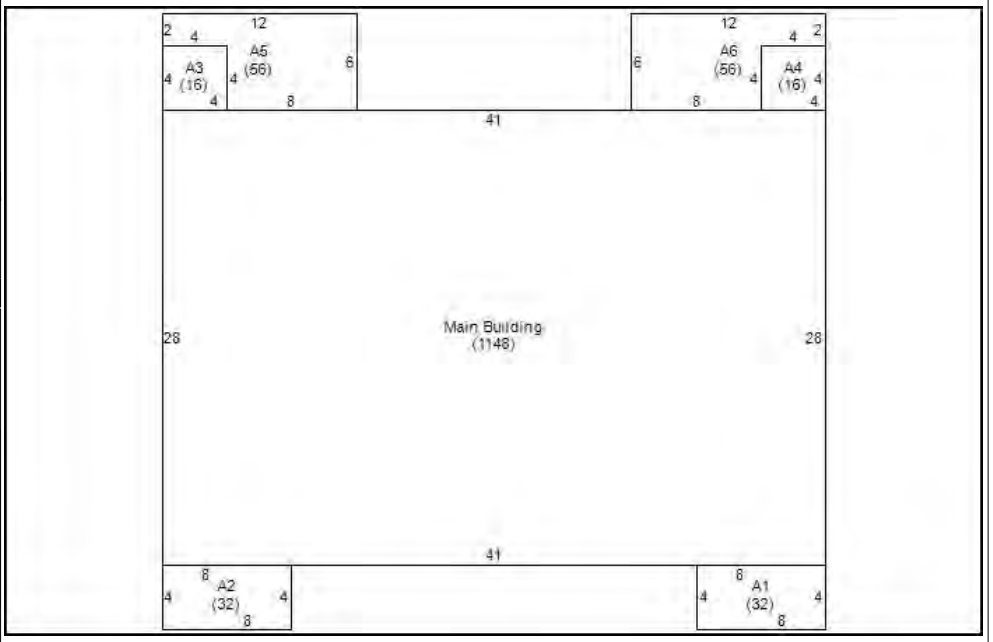
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	5,783	3.5	1.25	1.25			1		37,604

Total Parcel Size: 5,783 0.1328 37,604

CA16: **Date:** 09/25/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 2 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**\
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**\
Style: Duplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**\
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**\
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 2296 **Econ Dep%:**\
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**\
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**\
Bedrms: 6 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**\
Full Baths: 2 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,148	209,640	1971		C-	AV		50		102,724
1		MST				32	576	1970		C-	AV		49		282
2		MST				32	576	1970		C-	AV		49		282
3		UTL				16	274	1970		C-	AV		49		134
4		UTL				16	274	1970		C-	AV		49		134
5		CS				56	302	1970		C-	AV		49		148
6		CS				56	302	1970		C-	AV		49		148

Nbhd Factor: 1.0000 ***Total:*** **103,852**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		202783
Plumbing		4320
Basement		0
Heating		2537
Attic		0
Other features		0
Subtotal		209640
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		209640
Base Dwell RCNLD		102724
Additions		1128
Total RCNLD		103852
Nbhd Factor		1.0000
%complete		
Dwelling Value		103852
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,148
Area Factor	0.716
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	14-OCT-11	CLSE PRMTS, NO VC PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

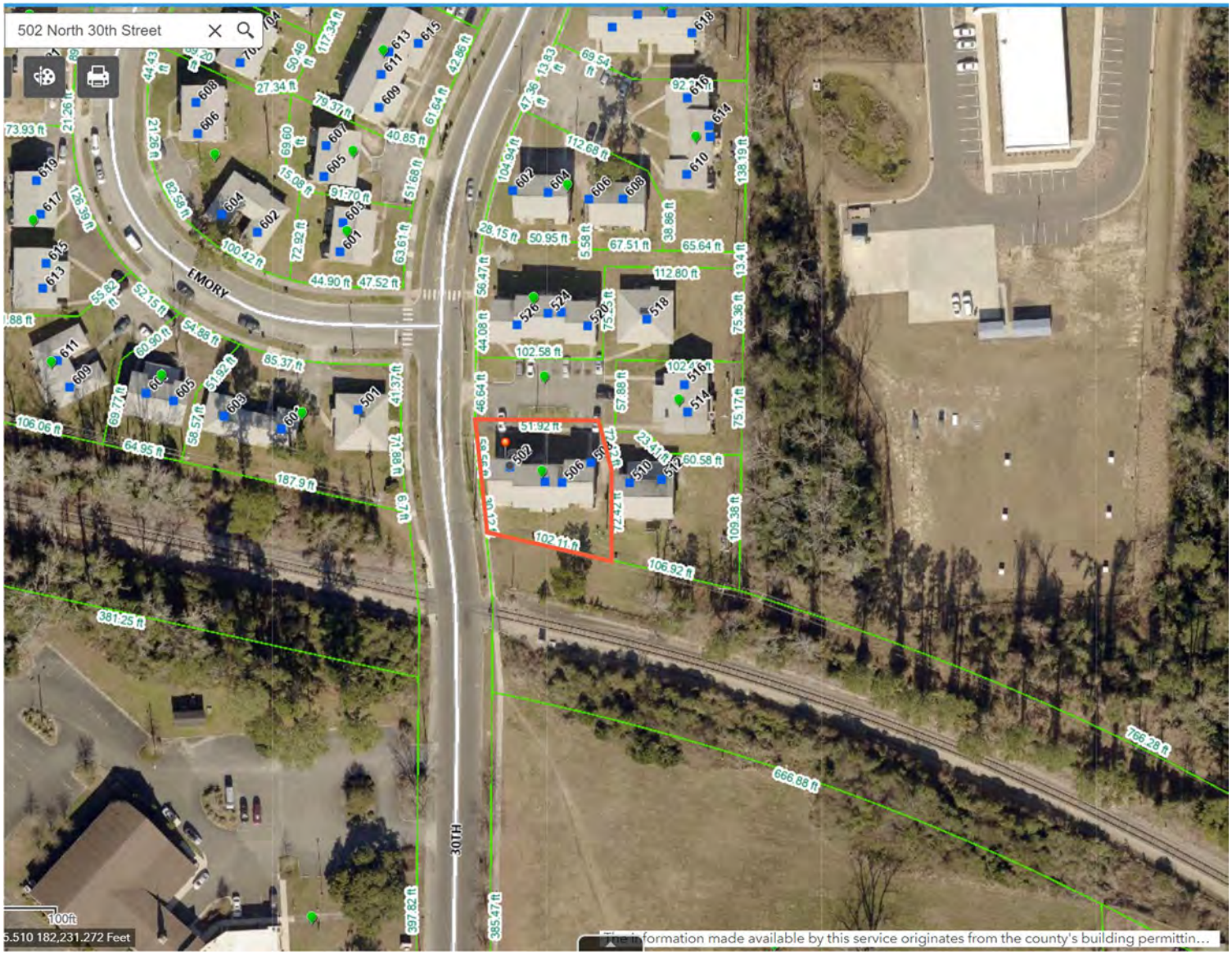
Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



Creekwood South (6 Units) at
502, 522, 609, 611, 613 & 710 N. 30th St.,
Wilmington, NC 28405

Creekwood South (6 Units), 502 North 30th Street, Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-006-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

502 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORITY
PO BOX 899
WILMINGTON NC 28402

Legal: LOT 1 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	43,600	Oby		Exempt Code:	EX
Bldg	203,700	Class	CHR3	Exempt Amount:	247,300
Total	247,300	Taxable:		Routing:	075

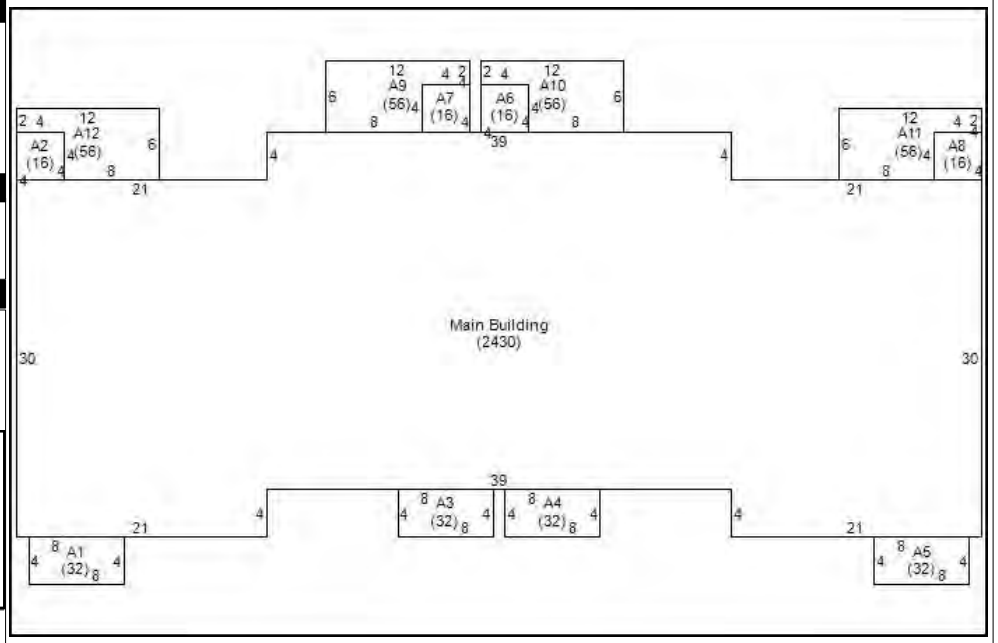
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light
Topo 1/2/3: Level With Street **Fronting:**
Utils 1/2/3: Water/Sewer, Public **Location:**
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	10,572	3.5	1.25	1.25			1		43,590

Total Parcel Size: 10,572 0.2427 43,590

CA16: **Date:** 09/24/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 0 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**
Style: Quadplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 4860 **Econ Dep%:**
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**
Bedrms: 12 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**
Full Baths: 8 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						2,430	411,154	1970		C-	AV		49		201,465
1		MST				32	576	1970		C-	AV		49		282
2		UTL				16	274	1970		C-	AV		49		134
3		MST				32	576	1970		C-	AV		49		282
4		MST				32	576	1970		C-	AV		49		282
5		MST				32	576	1970		C-	AV		49		282
6		UTL				16	274	1970		C-	AV		49		134
7		UTL				16	274	1970		C-	AV		49		134
8		UTL				16	274	1970		C-	AV		49		134

Continued on additional page... **Nbhd Factor:** 1.0000 ***Total:*** **203,721**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		386874
Plumbing		19440
Basement		0
Heating		4840
Attic		0
Other features		0
Subtotal		411154
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		411154
Base Dwell RCNLD		201465
Additions		2256
Total RCNLD		203721
Nbhd Factor		1.0000
%complete		
Dwelling Value		203721
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	2,430
Area Factor	1.366
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	18-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/18/11
MN13	03-MAY-11	SPLIT FROM R04909-002-003-000 MOVE BLDG HERE PER SW 5/2/11 JD 5/3/11
MN13	14-OCT-11	CLSE PRMTS, NO VC . PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



ADDITIONS - CONTINUED....

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
9		CS				56	302	1970		C-	AV		49		148
10		CS				56	302	1970		C-	AV		49		148
11		CS				56	302	1970		C-	AV		49		148
12		CS				56	302	1970		C-	AV		49		148

Creekwood South (6 Units), 522 North 30th Street, Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-009-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

520 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 3 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	44,300	Oby		Exempt Code:	EX
Bldg	203,700	Class	CHR3	Exempt Amount:	248,000
Total	248,000	Taxable:		Routing:	072

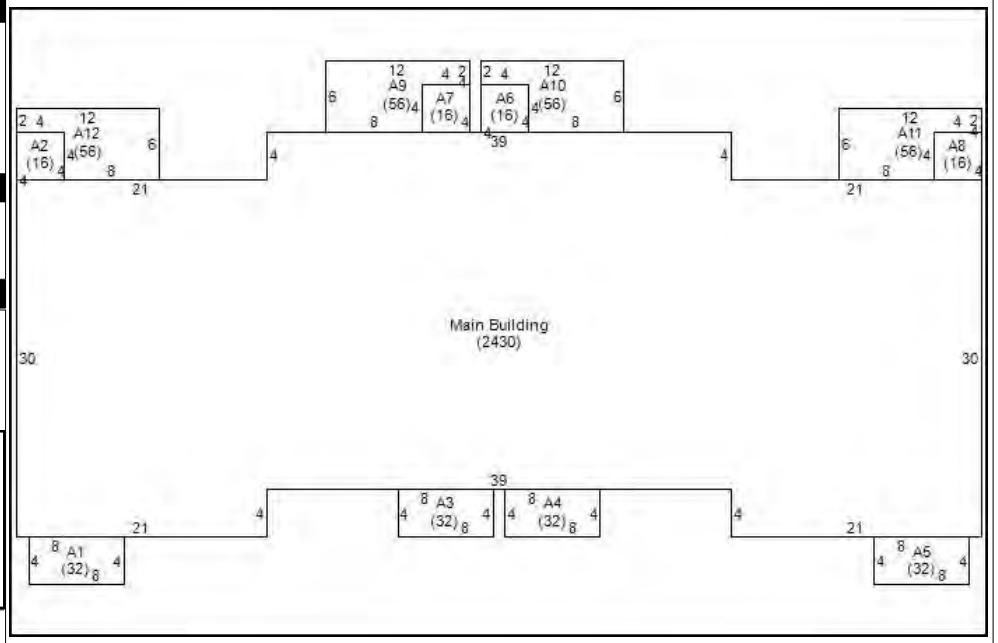
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	11,145	3.5	1.25	1.25			1		44,306

Total Parcel Size: 11,145 0.2559 44,306

CA16: **Date:** 09/24/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 2 **Half Baths:** 0 **Int vs. Ext Cnd:** **Grade:** C- **C&D Factor:**\
Cnstr: Part Brick & Fran **Extra Fixtures:** 0 **Bldg Use Code:** **CDU:** AVERAGE **C&D Descrip:**\
Style: Quadplex **Bsmt:** None **Masonry Trim:** **Market Adj:** **Funct Dep %**\
Yr Blt: 1970 **Heating:** Central With A/C **Unfin Area:** **Pct Cmplt:** **Funct Desc:**\
Eff Year: **Heating Fuel:** Electric **Rec Room:** 0 **SFLA:** 4860 **Econ Dep%:**\
Yr Remod: **System:** Heat Pump **Fin.Bsmt Area:** **Excavated** **Econ Desc:**\
% Remod: **Attic:** **WBFP Stacks:** **Pilings** **Over Depr Tbl:**\
Bedrms: 12 **Phys Cond:** **Prefab Stacks:** 0 **Concrete**\
Full Baths: 8 **Elevators** **Bsmt Gar # Cars:**

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						2,430	411,154	1971		C-	AV		50		201,465
1		MST				32	576	1970		C-	AV		49		282
2		UTL				16	274	1970		C-	AV		49		134
3		MST				32	576	1970		C-	AV		49		282
4		MST				32	576	1970		C-	AV		49		282
5		MST				32	576	1970		C-	AV		49		282
6		UTL				16	274	1970		C-	AV		49		134
7		UTL				16	274	1970		C-	AV		49		134
8		UTL				16	274	1970		C-	AV		49		134

Continued on additional page... **Nbhd Factor:** 1.0000 ***Total:*** **203,721**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		386874
Plumbing		19440
Basement		0
Heating		4840
Attic		0
Other features		0
Subtotal		411154
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		411154
Base Dwell RCNLD		201465
Additions		2256
Total RCNLD		203721
Nbhd Factor		1.0000
%complete		
Dwelling Value		203721
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	2,430
Area Factor	1.366
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	18-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/17/11
MN13	03-MAY-11	SPLIT FROM R04909-002-003-000 MOVE BLDG HERE PER SW 5/2/11 JD 5/3/11
MN13	14-OCT-11	CLSE PRMTS, NO VC PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



ADDITIONS - CONTINUED....

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
9		CS				56	302	1970		C-	AV		49		148
10		CS				56	302	1970		C-	AV		49		148
11		CS				56	302	1970		C-	AV		49		148
12		CS				56	302	1970		C-	AV		49		148

Creekwood South (6 Units), 609, 611 & 613 N. 30th Street, Wilmington, NC 28405
New Hanover County Parcel Map



R04909-001-041-000 2023 *New Hanover County, NC - Property Card* Printed: 04/26/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

609 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal: LOT 36 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	46,600	Oby		Exempt Code:	EX
Bldg	238,100	Class	CHR3	Exempt Amount:	284,700
Total	284,700	Taxable:		Routing:	041

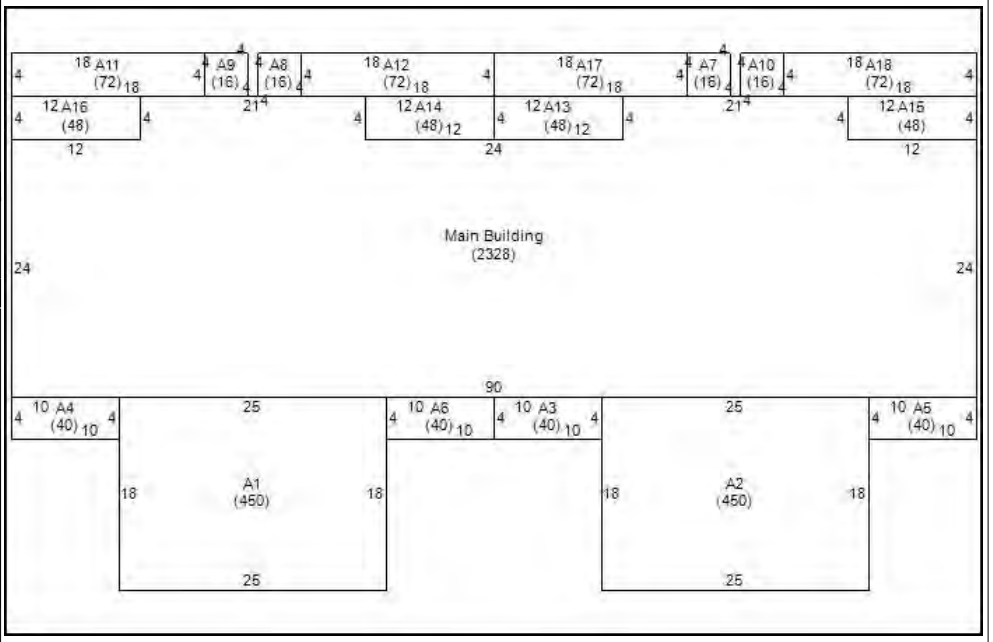
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light\
Topo 1/2/3: Level With Street **Fronting:**\
Utils 1/2/3: Water/Sewer, Public **Location:**\
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	12,941	3.5	1.25	1.25			1		46,551

Total Parcel Size: 12,941 0.2971 46,551

CA16: **Date:** 09/25/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht:	2	**Half Baths:**	0	**Int vs. Ext Cnd:**		**Grade:**	C-
Cnstr:	Part Brick & Fran	**Extra Fixtures:**	0	**Bldg Use Code:**		**CDU:**	AVERAGE
Style:	Quadplex	**Bsmt:**	None	**Masonry Trim:**		**Market Adj:**	
Yr Blt:	1970	**Heating:**	Central With A/C	**Unfin Area:**		**Pct Cmplt:**	
Eff Year:		**Heating Fuel:**	Electric	**Rec Room:**	0	**SFLA:**	5908
Yr Remod:		**System:**	Heat Pump	**Fin.Bsmt Area:**		**Excavated**	
% Remod:		**Attic:**		**WBFP Stacks:**		**Pilings**	
Bedrms:	16	**Phys Cond:**		**Prefab Stacks:**	0	**Concrete**	
Full Baths:	8	**Elevators**		**Bsmt Gar # Cars:**			

C&D Factor:
C&D Descrip:
Funct Dep %
Funct Desc:
Econ Dep%:
Econ Desc:
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						2,328	396,816	1971		C-	AV		50		194,440
1		BAS				450	28,350	1971		C-	AV		50		14,175
2		BAS				450	28,350	1971		C-	AV		50		14,175
3		POR	BAS			40	3,240	1970		C-	AV		49		1,588
4		POR	BAS			40	3,240	1970		C-	AV		49		1,588
5		POR	BAS			40	3,240	1970		C-	AV		49		1,588
6		POR	BAS			40	3,240	1970		C-	AV		49		1,588
7		UTL				16	274	1970		C-	AV		49		134
8		UTL				16	274	1970		C-	AV		49		134

Continued on additional page... **Nbhd Factor:** 1.0000 ***Total:*** **238,062**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		372713
Plumbing		19440
Basement		0
Heating		4663
Attic		0
Other features		0
Subtotal		396816
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		396816
Base Dwell RCNLD		194440
Additions		43622
Total RCNLD		238062
Nbhd Factor		1.0000
%complete		
Dwelling Value		238062
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	2,328
Area Factor	1.316
Story Height Factor	1.620
Construct Factor	1.050
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	19-APR-11	SPLIT PER MB55 PG360 FOR 1/1/2012 SHT 4/19/11
MN13	04-MAY-11	SPLIT FROM R04909-001-001-000 MOVED BLDG HERE PER SW 5/2/11 JD 5/4/11
MN13	18-JAN-13	PRMT RVW '13-NO VC, CLSD ALL PRMTS PER SW 1/14/13; 1/18/13 CAF
MN13	23-JAN-12	CK BK '13 ON ALL PERMIT WORK PER SW 1/23/12 JD

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



ADDITIONS - CONTINUED....

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
9		UTL				16	274	1970		C-	AV		49		134
10		UTL				16	274	1970		C-	AV		49		134
11		CS				72	389	1970		C-	AV		49		191
12		CS				72	389	1970		C-	AV		49		191
13		POR	BAS			48	3,888	1970		C-	AV		49		1,905
14		POR	BAS			48	3,888	1970		C-	AV		49		1,905
15		POR	BAS			48	3,888	1970		C-	AV		49		1,905
16		POR	BAS			48	3,888	1970		C-	AV		49		1,905
17		CS				72	389	1970		C-	AV		49		191
18		CS				72	389	1970		C-	AV		49		191

Creekwood South (6 Units), 710 North 30th Street, Wilmington, NC
28405 New Hanover County Parcel Map



R04909-001-014-000 2023 *New Hanover County, NC - Property Card* Printed: 04/26/23 Card: 1 of 1 Appr#: Input Dte: ___/___/_____ ID:_____

Ownership & Legal Description:

710 N 30TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal:
LOT 9 CREEKWOOD SOUTH

Nbhd: G8D85 **Land Use:** 12

Assessment

Land	44,000	Oby		Exempt Code:	EX
Bldg	90,700	Class	CHR3	Exempt Amount:	134,700
Total	134,700	Taxable:		Routing:	067

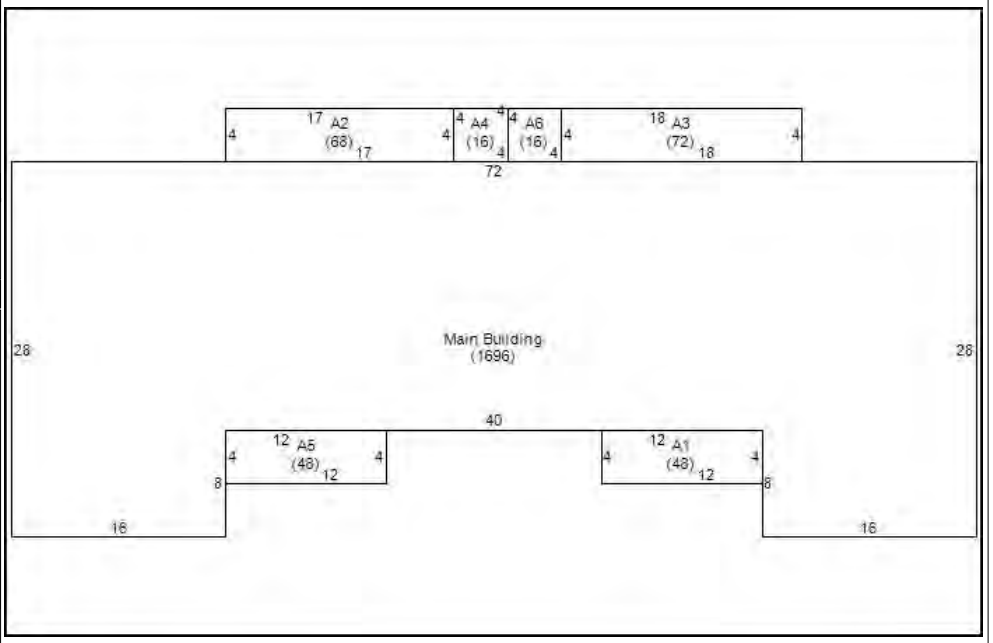
Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light
Topo 1/2/3: Level With Street **Fronting:**
Utils 1/2/3: Water/Sewer, Public **Location:**
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	S	RES	10,861	3.5	1.25	1.25			1		43,951

Total Parcel Size: 10,861 0.2493 43,951

CA16: **Date:** 09/24/15 **Entr Rslt:** R **Spoke With:** A **Appr:** SW



Improvement Description (CA21):

Story Ht: 1
Cnstr: Brick
Style: Duplex
Yr Blt: 1970
Eff Year:
Yr Remod:
% Remod:
Bedrms: 4
Full Baths: 2

Half Baths: 0
Extra Fixtures: 0
Bsmt: None
Heating: Central With A/C
Heating Fuel: Electric
System: Heat Pump
Attic:
Phys Cond:
Elevators

Int vs. Ext Cnd:
Bldg Use Code:
Masonry Trim:
Unfin Area:
Rec Room: 0
Fin.Bsmt Area:
WBFP Stacks:
Prefab Stacks: 0
Bsmt Gar # Cars:

Grade: C-
CDU: AVERAGE
Market Adj:
Pct Cmplt:
SFLA: 1696
Excavated
Pilings
Concrete

C&D Factor:
C&D Descrip:
Funct Dep %
Funct Desc:
Econ Dep%:
Econ Desc:
Over Depr Tbl:

Remarks - (CA12 Notes)

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD
0						1,696	183,305	1971		C-	AV		50		89,819
1		CS				48	259	1970		C-	AV		49		127
2		CS				68	367	1970		C-	AV		49		180
3		CS				72	389	1970		C-	AV		49		191
4		UTL				16	274	1970		C-	AV		49		134
5		CS				48	259	1970		C-	AV		49		127
6		UTL				16	274	1970		C-	AV		49		134

Nbhd Factor: 1.0000 ***Total:*** **90,712**

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD

Total:

Dwelling Pricing Ladder

Adjusted Base		181122
Plumbing		0
Basement		0
Heating		2183
Attic		0
Other features		0
Subtotal		183305
User Factor / CD %	1.000	
User Amount		0
Dwelling RCN		183305
Base Dwell RCNLD		89819
Additions		893
Total RCNLD		90712
Nbhd Factor		1.0000
%complete		
Dwelling Value		90712
Condo base Value		
Condo Adj Value		

Cost Factors

Level Factor	100
Adjusted Area	1,696
Area Factor	0.998
Story Height Factor	1.000
Construct Factor	1.090
Grade Factor	0.900
Table % Good	49
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
G8D85	****	CA14	PRICE	1.0000
G8D85	****	CA21	ADJRCNLD	1.0000
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000

Remarks - Most Recent (AA14)

Code	Date	Text
MAPP	18-APR-11	SPLIT PER MB55 PG360 FOR 1/1.2012 SHT 4/18/11
MN13	03-MAY-11	SPLIT FROM R04909-002-003-000 MOVE BLDG HERE PER SW 5/2/11 JD 5/3/11
MN13	14-OCT-11	CLSE PRMTS, NO VC PER SW 10/13/11,JW 10/14/11

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:
FIRE	$5,000	01/24/23		FIRE	712 N 30TH BUILDING FIRE NO DETAILS

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code

Photo:



Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405

Houston Moore (1 Unit), 1420 Greenfield Street, Wilmington, NC 28405
New Hanover County Parcel Map



Houston Moore (1 Unit), 1420 Greenfield Street, Wilmington, NC 28405
New Hanover County Parcel Map



R05418-005-001-000 2023 *New Hanover County, NC - Property Card* Printed: 03/20/23 Card: 1 of 19 Appr#: Input Dte: ___/___/_____ ID:_____

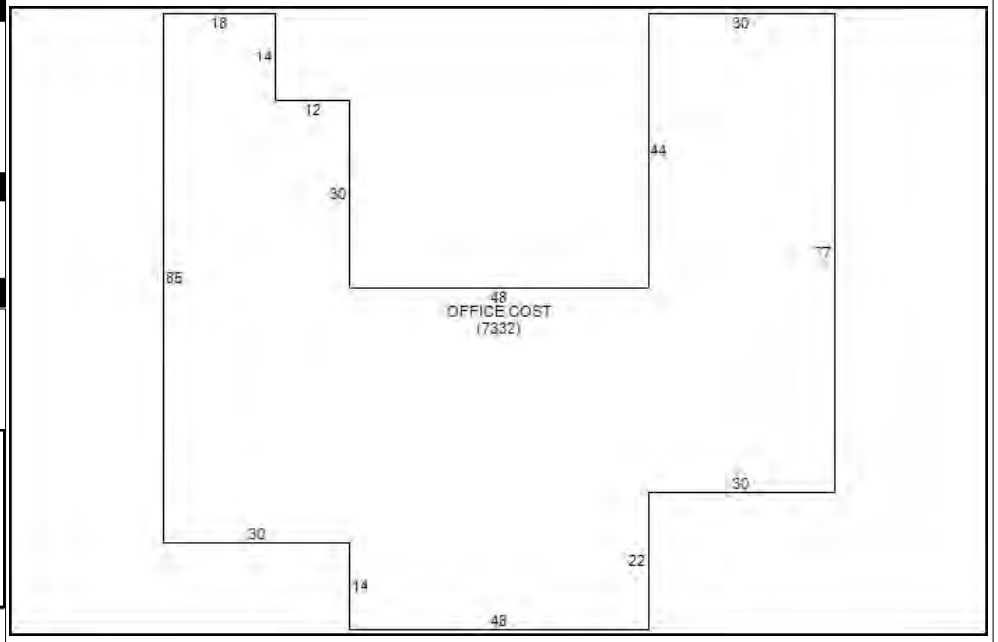
Ownership & Legal Description:

1601 S 13TH ST WILMINGTON

Owner: WILMINGTON HOUSING AUTHORIT\
PO BOX 899\
WILMINGTON NC 28402

Legal:
TRACT FRENCH PROPERTY

Nbhd: CHC03 **Land Use:** 12



Assessment

Land	634,300	Oby	4,100	Exempt Code:	EX
Bldg	6,565,100	Class	CHR3	Exempt Amount:	7,199,400
Total	7,199,400	Taxable:		Routing:	012

Land Description (CA12 and CA14):

Restr. 1/2/3: **Traffic:** Light
Topo 1/2/3: Level With Street **Fronting:**
Utils 1/2/3: Water/Sewer, Public **Location:**
Road 1 /2: Residential Street **Zoning:** MF-M **Spot Loc:**

L#	Typ	Code	Unit	Rate	Incr	Decr	Depth	Fact	Nbhd	Infl Cd /Pct	Value
1	A	COA	8.3926	75000	35000	72000			1		634,267

Total Parcel Size: 365,582 8.3926 634,267

CA16: **Date:** 01/11/22 **Entr Rslt:** 6 **Spoke With:** A **Appr:** AP

Improvement Description (CA21):

Story Ht:	**Half Baths:**	**Int vs. Ext Cnd:**	**Grade:**	C	**C&D Factor:**
Cnstr:	**Extra Fixtures:**	**Bldg Use Code:**	**CDU:**	AVERAGE	**C&D Descrip:**
Style:	**Bsmt:**	**Masonry Trim:**	**Market Adj:**		**Funct Dep %**
Yr Blt:	**Heating:**	**Unfin Area:**	**Pct Cmplt:**		**Funct Desc:**
Eff Year:	**Heating Fuel:**	**Rec Room:**	**SFLA:**		**Econ Dep%:**
Yr Remod:	**System:**	**Fin.Bsmt Area:**	**Excavated**		**Econ Desc:**
% Remod:	**Attic:**	**WBFP Stacks:**	**Pilings**		**Over Depr Tbl:**
Bedrms:	**Phys Cond:**	**Prefab Stacks:**	**Concrete**		
Full Baths:	**Elevators**	**Bsmt Gar # Cars:**			

Remarks - (CA12 Notes)

HOUSTON MOORE

DWELL ADDNS CA22

L#	Low	1st	2nd	3rd	Description	Area	Value(RCN)	Year Built	Eff Yr Built	Grade	CDU	%Good	Table	% Comp	RCNLD

Nbhd Factor: 1.0000 ***Total:***

OB&Y CA22

L#	Code	Yr Blt	Eff Yr	Yr Remd	W x L	Area	Grd	Units	Mod Codes	Rate	Ovrd Rte	RCN	Cnd	Funct	%Cmp	%Gd	Tble%Gd	Func Dep	Econ Dep	Adj Fact	RCNLD
2	CS	1960			130 x 10	1,300	C	1		6.00		7,800					20			1	1,560
4	CAN	2000			24 x 28	672	D	1		18.75		12,600					20			1	2,520

Total: **4,080**

Dwelling Pricing Ladder

Adjusted Base	
Plumbing	
Basement	
Heating	
Attic	
Other features	0
Subtotal	
User Factor / CD %	
User Amount	
Dwelling RCN	
Base Dwell RCNLD	
Additions	
Total RCNLD	
Nbhd Factor	
%complete	
Dwelling Value	
Condo base Value	
Condo Adj Value	

Cost Factors

Level Factor	100
Adjusted Area	
Area Factor	0.022
Story Height Factor	1.000
Construct Factor	1.000
Grade Factor	
Table % Good	
Land Nbhd Factor	1.0000
Dwelling Nbhd Factor	1.0000

Nbhd	Class	Scrn	Column	Factor
********	****	CA24	ADJRCNLD	1.0000
********	****	CA31	BLDGVAL	1.0000
********	****	CA31	BLDGVAL	.9000
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	.9500
********	****	CA31	BLDGVAL	1.2000
********	****	CA31	BLDGVAL	.8000
********	****	CA31	BLDGVAL	.7500

Remarks - Most Recent (AA14)

Code	Date	Text
MN13	24-SEP-05	NO CHANGE IN VALUE ON PERMIT
MN13	24-SEP-05	PERMIT # 58312 HAS ADDRESS OF1601 S. 13TH ST
MN13	24-SEP-05	MOVED PERMIT #10904 TO R5414-22-1, NO VC CLOSED PERMIT
MN13	24-SEP-05	#13681 PER CB 4/7/03 LJ
MN13	24-SEP-05	NO VC-CLOSED PERMIT #13203, REPAIRED FIRE DAMAGE PER CB
MN13	24-SEP-05	2/18/04 LJ
MN13	23-MAR-09	CLOSE PERMIT NO VC FOR WORK PER BL 3/18/09 JD
MN13	28-DEC-22	NVC ALL 2022 PERMITS PLAN DEPT'100% COMPLET-NO CHNG TO BLD FTPRNTS 12/28/22 BTJ
MN13	01-MAR-13	CLOSE MULI PERMITS, UPDATE CARDS EFF AGE, CARDS 2-19 STYHGT,ADD OBYS JH 3/1/13
MN13	14-FEB-14	CK BK '15 ON PERMIT WORK PER TG 2/14/14 JD
MN13	16-SEP-14	CK BK '16 ON PERMIT #13-9793 PER SS 9/16/14 MC
MN13	09-OCT-18	CLOSE PERMIT NO VC PER ED 10/9/18 JD
MN13	14-DEC-20	CLOSE PERMIT NO VC PER BB 12/3/2020 JD
MN13	24-JAN-22	CK BK 23 PER AP 1/11/22

Permit Information (CA15) x

Pmt#:	Amount:	Pmt Date:	Cert Date:	Purpose:	Notes:
FIRE	$10,000	01/12/23		FIRE	BUILDING FIRE NO DETAILS

Sales History

Sale Date	Price	Adj Price	Sales Type	Db/Pg	Valid. Code
04/27/18			I	6137/1528	
01/01/01			V	0000/0000	Unqualified

Photo:



Appendix A

When To Consult With Tribes Under Section 106

Section 106 requires consultation with federally-recognized Indian tribes when a project may affect a historic property of religious and cultural significance to the tribe. Historic properties of religious and cultural significance include: archeological sites, burial grounds, sacred landscapes or features, ceremonial areas, traditional cultural places, traditional cultural landscapes, plant and animal communities, and buildings and structures with significant tribal association. The types of activities that may affect historic properties of religious and cultural significance include: ground disturbance (digging), new construction in undeveloped natural areas, introduction of incongruent visual, audible, or atmospheric changes, work on a building with significant tribal association, and transfer, lease or sale of properties of the types listed above.

If a project includes any of the types of activities below, invite tribes to consult:

significant ground disturbance (digging)
Examples: new sewer lines, utility lines (above and below ground), foundations, footings, grading, access roads

new construction in undeveloped natural areas
Examples: industrial-scale energy facilities, transmission lines, pipelines, or new recreational facilities, in undeveloped natural areas like mountaintops, canyons, islands, forests, native grasslands, etc., and housing, commercial, and industrial facilities in such areas

incongruent visual changes
Examples: construction of a focal point that is out of character with the surrounding natural area, impairment of the vista or viewshed from an observation point in the natural landscape, or impairment of the recognized historic scenic qualities of an area

incongruent audible changes
Examples: increase in noise levels above an acceptable standard in areas known for their quiet, contemplative experience

incongruent atmospheric changes
Examples: introduction of lights that create skyglow in an area with a dark night sky

work on a building with significant tribal association
Examples: rehabilitation, demolition or removal of a surviving ancient tribal structure or village, or a building or structure that there is reason to believe was the location of a significant tribal event, home of an important person, or that served as a tribal school or community hall

transfer, lease or sale of a historic property of religious and cultural significance
Example: transfer, lease or sale of properties that contain archeological sites, burial grounds, sacred landscapes or features, ceremonial areas, plant and animal communities, or buildings and structures with significant tribal association

[X] **None of the above apply**

WHA Scattered Sites Rehabilitation Project	Andrea Sievers	5/4/23
Project	**Reviewed By**	**Date**

ATTACHMENT 13:

Noise Abatement and Control

HUD Noise Assessment - Review Summary, Noise Assessment Location (NAL) Maps, Major Roads with AADT Data Available Maps Showing 1,000-foot Buffer, Speed Limits, Distance Maps, 10-year Traffic Projections, Railroad Maps Showing 3,000-foot Buffer, Distance Maps, U.S. DOT Crossing Inventory Forms, CSX Correspondence, Airport Map Showing 15-mile Buffer, National Transportation Noise Map, ILM Noise Contour Map, FAA 5010 Airport Operations Data, and DNL Calculations Current and Future with 10-year Projections

HUD NOISE ASSESSMENT - 24 CFR 51 Subpart B

Project Name: Wilmington Housing Authority Scattered Sites Rehabilitation Project

Project Location: Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212); **Creekwood** (14 Units) at 602, 712, 804, 805, 809 & 1008 N. 30th St., 617, 701, 707, 708, 902, 915 & 922 Emory St., and 2905 Clayton Place, Wilmington, NC 28405; **Creekwood South** (6 Units) at 502, 522, 609, 611, 613 & 710 N. 30th St., Wilmington, NC 28405; and **Houston Moore** (1 Unit) at 1420 Greenfield St., Wilmington, New Hanover County, NC 28401.

Project Activities:

☒ Rehabilitation of an existing residential property
NOTE: For major or substantial rehabilitation in Normally Unacceptable zones, HUD encourages mitigation to reduce levels to acceptable compliance standards. For major rehabilitation in Unacceptable zones, *HUD strongly encourages* mitigation to reduce levels to acceptable compliance standards. See 24 CFR 51 Subpart B for further details.

☒ A research demonstration project which does not result in new construction or reconstruction, interstate, land sales registration, **or any timely emergency assistance under disaster assistance** provisions or appropriations which are provided to save lives, protect property, protect public health and safety, remove debris and wreckage, or assistance that has the effect of restoring facilities substantially as they existed prior to the disaster.

Preliminary Screening Results (1000' from a major road, 3000' from a railroad, or 15 miles from an airport)**:**

1. **Woodbridge Apartments**, (20 Units) at 302 Grass Lane, Wilmington, NC 28405. Woodbridge Apartments have 24 total apartment units and were built in 1993. Woodbridge Apartments contain the only units that have been torn out down to the studs. The HUD Day/Night Noise Level (DNL) Assessment resulted in a Current and a Projected 2035 combined DNL including airport of 59 decibels (dB). The 59 dB DNL for this site is within the HUD **Acceptable** noise level range (65 dB or less). No further action is required.

    a. **Roads within 1,000 feet with NC DOT Average Annual Daily Traffic (AADT) data.** There are two roads that meet these criteria located south of the site: Princess Palace Drive and Barclay Hills Drive (Southern Extension). There is no data from NC DOT on truck usage so HUD Field Officer Lenwood Smith's Major Arterial Urban traffic mix percentages were used (Automobiles - 92%; Medium Trucks - 4%; Heavy Trucks – 4%). The NC DOT Speed Limits Map and Google Earth were used to ascertain speed limits. The 2035 traffic projections were made and the largest number of Linear Regression or Exponential Regression used in DNL calculations.

b. **Railroads within 3,000 feet.** Operations data on RR Crossings ID# 629290C Market Street and ID#629292R South Loop were obtained from U.S. DOT Crossing Inventory Form and CSX Railway.
c. **Airports within 15-miles**. The Wilmington International Airport's FAA Master Record 5010, Airport Noise Contour Map, and National Transportation Noise Map were obtained and reviewed for the proposed project site.

2. **Creekwood/Creekwood South - Creekwood** (14 Units) at *602*, *712*, 804, 805, 809 & 1008 North 30th St., *617*, *701*, 707, 708, 902, 915 & 922 Emory St., and 2905 Clayton Place, Wilmington, NC 28405; **Creekwood South** (6 Units) at *502*, *522*, *609, 611, 613* & *710* N. 30th St., Wilmington, NC 28405. The buildings were built in 1970.

Noise Assessment Locations. The NALs were chosen based on their close proximity to noise generating sources. ***NAL #1*** IS 617 Emory Street, ***NAL #2*** is 602 North 30th Street, ***NAL #3*** is 502 North 30th Street, ***NAL #4*** is 522 North 30th Street, ***NAL #5*** is 609, 611 and 613 North 30th Street, ***NAL #6*** is 710 and 712 North 30th Street (the only entirely vacant building in proposed project), and ***NAL #7*** is 701 Emory Street.

For ***NAL #1*** (617 Emory St.), the HUD DNL Assessment resulted in a Current and a Projected 2035 combined DNL including airport of ***69*** dB. For ***NAL #2*** (602 N. 30th St.), the HUD DNL Assessment resulted in a Current and a Projected 2035 combined DNL including airport of ***67*** dB. For ***NAL #3*** (502 N. 30th St.), the HUD DNL Assessment resulted in a Current and a Projected 2035 combined DNL including airport of ***74*** dB. For ***NAL #4*** (522 N. 30th St.), the HUD DNL Assessment resulted in a Current and a Projected 2035 combined DNL including airport of ***69*** dB. For ***NAL #5*** (609, 611 and 613 N. 30th St.), the HUD DNL Assessment resulted in a Current and a Projected 2035 combined DNL including airport of ***66*** dB. For ***NAL #6*** (710 and 712 N. 30th St.), the HUD DNL Assessment resulted in a Current and a Projected 2035 combined DNL including airport of ***62*** dB. For ***NAL #7*** (701 Emory St.), the HUD DNL Assessment resulted in a Current and a Projected 2035 combined DNL including airport of ***65*** dB. The DNLs for ***NALs #6*** and ***#7*** are within the HUD **Acceptable** noise level range (65 dB or less).

The DNLs for ***NALs #1, 2, 3, 4*** and ***5*** are within the HUD **Normally Unacceptable** noise level range (above 65 dB but not exceeding 75 dB). *However, these are individual units within existing public housing buildings that are undergoing rehabilitation in response to storm damage.* Additionally, many of the buildings are surrounded by existing residential uses and not in line-of-sight of a major or arterial roadway, railroad or within the noise contour lines of a commercial or military airport. According to 24 CFR 51.101(a)(5), "[f]or major or substantial rehabilitation projects in the Normally Unacceptable and Unacceptable noise zones, HUD actively shall seek to have project sponsors incorporate noise attenuation features, given the extent and nature of the rehabilitation being undertaken and the level or exterior noise exposure." The main noise paths are roofs, eaves, walls, windows, door and penetrations. The laboratory STC (Sound Transmission Class) values represent the maximum value of sound insulation a construction can provide. Recommendations include the use of wall materials meeting appropriate STC levels and double-paned windows with an appropriate STC level for each unit. Each unit has a different level of rehabilitation and activities required and not all units might include new drywall and windows. The HUD Noise Guidebook has recommendations which might be able to be incorporated into one or more units such as sealing cracks and edges, staggering studs, increase glass window thickness and installing double-glazed windows. The HUD Sound Transmission Classification Assessment Tool (STraCAT) is an electronic version of Figures 17 and 19 in The HUD Noise Guidebook which can be used by the project architect. The purpose of this tool is to document sound attenuation performance of wall systems. Based on wall, window, and door STC values, the STraCAT

generates a composite STC value for the wall assembly as a whole. Users can enter the calculated noise level related to a specific Noise Assessment Location in front of a building façade and STraCAT will generate a target required attenuation value for the wall assembly in STC. Based on wall materials, the tool will state whether the composite wall assembly STC meets the required attenuation value. The Grant Recipient will notify NCORR which noise attenuation methods are incorporated into the units.

a. **Roads within 1,000 feet with NC DOT Average Annual Daily Traffic (AADT) data**. There is one road that meets these criteria located south of the site: Princess Palace Drive. There is no data from NC DOT on truck usage so HUD Field Officer Lenwood Smith's Major Arterial Urban traffic mix percentages were used (Automobiles - 92%; Medium Trucks - 4%; Heavy Trucks – 4%). The NC DOT Speed Limits Map and Google Earth were used to ascertain speed limits. The 2035 traffic projections were made and the largest number of Linear Regression or Exponential Regression used in DNL calculations.
b. **Railroads within 3,000 feet**. Operations data on RR Crossing ID# 629287U 30th Street was obtained from U.S. DOT Crossing Inventory Form and CSX Railway.
c. **Airports within 15-miles**. The Wilmington International Airport's FAA Master Record 5010, Airport Noise Contour Map, and National Transportation Noise Map were obtained and reviewed for the proposed project site.

3. **Houston Moore,** (1 Unit) 1420 Greenfield St., Wilmington, New Hanover County, NC 28401. The building was constructed circa 1952 to 1953. The HUD DNL Assessment resulted in a Current and a Projected 2035 combined DNL of ***71*** dB. The DNL is within the HUD **Normally Unacceptable** noise level range (above 65 dB but not exceeding 75 dB). *However, this individual unit is within an existing public housing building that is undergoing rehabilitation in response to storm damage.* According to 24 CFR 51.101(a)(5), "[f]or major or substantial rehabilitation projects in the Normally Unacceptable and Unacceptable noise zones, HUD actively shall seek to have project sponsors incorporate noise attenuation features, given the extent and nature of the rehabilitation being undertaken and the level or exterior noise exposure." The main noise paths are roofs, eaves, walls, windows, door and penetrations. The laboratory STC (Sound Transmission Class) values represent the maximum value of sound insulation a construction can provide. Recommendations include the use of wall materials meeting appropriate STC levels and double-paned windows with an appropriate STC level for each unit. Each unit has a different level of rehabilitation and activities required and not all units might include new drywall and windows. The HUD Noise Guidebook has recommendations which might be able to be incorporated into one or more units such as sealing cracks and edges, staggering studs, increase glass window thickness and installing double-glazed windows. The HUD Sound Transmission Classification Assessment Tool (STraCAT) is an electronic version of Figures 17 and 19 in The HUD Noise Guidebook which can be used by the project architect. The purpose of this tool is to document sound attenuation performance of wall systems. Based on wall, window, and door STC values, the STraCAT generates a composite STC value for the wall assembly as a whole. Users can enter the calculated noise level related to a specific Noise Assessment Location in front of a building façade and STraCAT will generate a target required attenuation value for the wall assembly in STC. Based on wall materials, the tool will state whether the composite wall assembly STC meets the required attenuation value. The Grant Recipient will notify NCORR which noise attenuation methods are incorporated into the unit.

a. **Roads within 1,000 feet with NC DOT Average Annual Daily Traffic (AADT) data.** There are three roads that meet these criteria located north and east of the site: Greenfield Street, South 16th Street and South 17th Street. There is a stop sign located at the intersection of Greenfield Street and South 15th Street. There is no data from NC DOT on

truck usage so HUD Field Officer Lenwood Smith's Major Arterial Urban traffic mix percentages were used (Automobiles - 92%; Medium Trucks - 4%; Heavy Trucks – 4%). The NC DOT Speed Limits Map and Google Earth were used to ascertain speed limits. The 2035 traffic projections were made and the largest number of Linear Regression or Exponential Regression used in DNL calculations.

b. **Railroads within 3,000 feet.** Operations data on RR Crossing ID# 629435L 13th Street was obtained from U.S. DOT Crossing Inventory Form and CSX Railway.
c. **Airports within 15-miles**. The Wilmington International Airport's FAA Master Record 5010, Airport Noise Contour Map, and National Transportation Noise Map were obtained and reviewed for the proposed project site.

Summary: The HUD DNL Assessment for **Woodbridge Apartments** resulted in a Current and a Projected 2035 combined DNL including airport of 59 decibels (dB) which is within the HUD **Acceptable** noise level range (65 dB or less). The **Creekwood/ Creekwood South** DNLs for NALs #6 and #7 are also within the HUD **Acceptable** noise level range (65 dB or less). No further action is required at **Woodbridge Apartments** and **Creekwood/ Creekwood South** NALs #6 and #7.

The **Creekwood/Creekwood South** DNLs for NALs #1, 2, 3, 4 and 5 are within the HUD **Normally Unacceptable** noise level range (above 65 dB but not exceeding 75 dB). The HUD DNL Assessment for **Houston Moore** resulted in a Current and a Projected 2035 combined DNL of 71 dB which is within the HUD **Normally Unacceptable** noise level range. For ***rehabilitation*** activities involving existing noise sensitive facilities exposed to **Normally Unacceptable** or Unacceptable noise levels, ***HUD encourages incorporation of noise attenuation measures given the extent and nature of the rehabilitation being undertaken and the level of exterior noise exposure***. *These are individual units within existing public housing buildings that are undergoing rehabilitation in response to storm damage.* Additionally, many of the buildings are surrounded by existing residential uses and not in line-of-sight of a major or arterial roadway, railroad or within the noise contour lines of a commercial or military airport. According to 24 CFR 51.101(a)(5), "[f]or major or substantial rehabilitation projects in the Normally Unacceptable and Unacceptable noise zones, HUD actively shall seek to have project sponsors incorporate noise attenuation features, given the extent and nature of the rehabilitation being undertaken and the level or exterior noise exposure." The main noise paths are roofs, eaves, walls, windows, door and penetrations. The laboratory STC (Sound Transmission Class) values represent the maximum value of sound insulation a construction can provide. Recommendations include the use of wall materials meeting appropriate STC levels and double-paned windows with an appropriate STC level for each unit. Each unit has a different level of rehabilitation and activities required and not all units might include new drywall and windows. The HUD Noise Guidebook has recommendations which might be able to be incorporated into one or more units such as sealing cracks and edges, staggering studs, increase glass window thickness and installing double-glazed windows. The HUD Sound Transmission Classification Assessment Tool (STraCAT) is an electronic version of Figures 17 and 19 in The HUD Noise Guidebook which can be used by the project architect. The purpose of this tool is to document sound attenuation performance of wall systems. Based on wall, window, and door STC values, the STraCAT generates a composite STC value for the wall assembly as a whole. Users can enter the calculated noise level related to a specific Noise Assessment Location in front of a building façade and STraCAT will generate a target required attenuation value for the wall assembly in STC. Based on wall materials, the tool will state whether the composite wall assembly STC meets the

required attenuation value. The Grant Recipient will notify NCORR which noise attenuation methods are incorporated into the units.

References:

- The HUD Noise Guidebook, at (https://www.hudexchange.info/resource/313/hud-noise-guidebook/
- HUD Day/Night Noise Level Electronic Assessment Tool, at https://www.hudexchange.info/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/
- NC DOT Staff, at https://www.ncdot.gov/divisions/highways/Pages/contact.aspx
- NC DOT AADT Mapping Application, at https://ncdot.maps.arcgis.com/apps/webappviewer/index.html?id=964881960f0549de8c3583bf46ef5ed4
- NC DOT North Carolina Speed Limits Map, at https://ncdot.maps.arcgis.com/home/webmap/viewer.html?webmap=978abf2f2fe341c78f6d52636a60ebff
- NCDOT North Carolina Truck Network, at https://ncdot.maps.arcgis.com/home/webmap/viewer.html?webmap=a8f091b8fadc4c5d8bb905bf44556a5d
- NCDOT Traffic Forecasting Data Map, at https://ncdot.maps.arcgis.com/home/webmap/viewer.html?webmap=dd4fe2927b924bbb81cbd5d9075108c1
- NC DOT Planning, at https://connect.ncdot.gov/projects/planning/Pages/default.aspx
- U.S. DOT Federal Railroad Administration (FRA) Safety Map, at https://fragis.fra.dot.gov/GISFRASafety/
- CSX Railways HUD Form https://www.csx.com/index.cfm/about-us/contact-us/contact-us-hud-forms/
- National Transportation Noise Map, at https://www.bts.gov/geospatial/national-transportation-noise-map
- Wilmington International Airport Administration
- Federal Aviation Administration (FAA) Airport Data and Information Portal, at https://adip.faa.gov/agis/public/#/airportSearch
- HUD Barrier Performance Module, at https://www.hudexchange.info/environmental-review/bpm-calculator/#scenarios
- USGS National Map Viewer, at https://apps.nationalmap.gov/viewer/
- Google Earth
- Sound Transmission Classification Assessment Tool (STraCAT), at https://www.hudexchange.info/stracat/

Attachments:

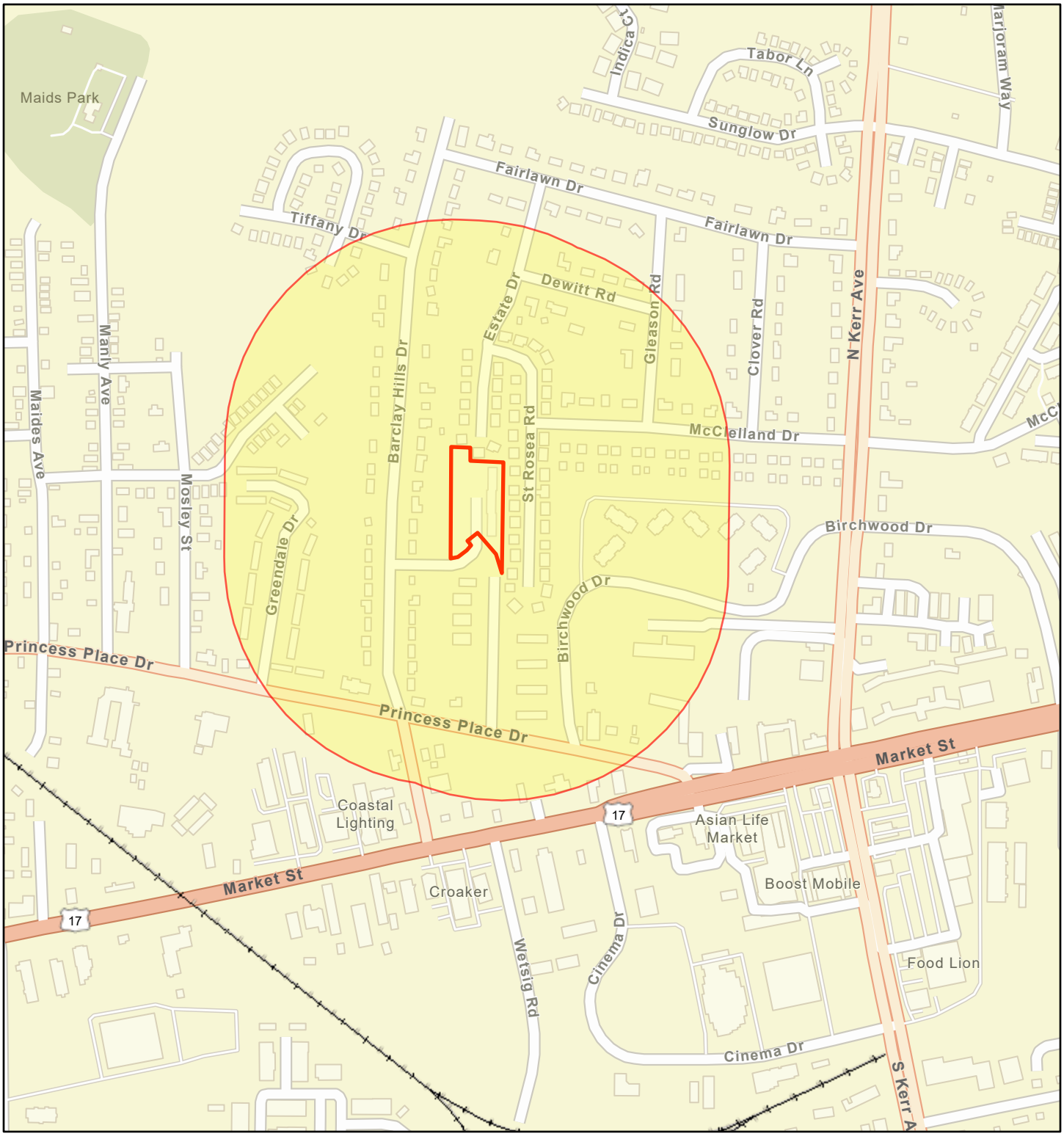
- Noise Assessment Locations (NAL) Maps
- Roads Map Showing 1,000-foot Buffer
- NC DOT AADT Map (Major Roads with AADT Data Available)
- NAL to Closest and Furthest Lanes and Stop Sign Maps
- NC DOT Speed Limit Map and/or Google Earth Sign Photo
- Traffic Projections

- Railroads Map Showing 3,000-foot Buffer
- Railroad Crossing ID Location
- U.S. DOT Crossing Inventory Form
- NAL Distance to Railroad Maps
- Railroad Crossing Operations Data
- Airports Map Showing 15-mile Buffer
- National Transportation Noise Map
- Airport Noise Contour Map
- FAA Airport Master Record 5010 Form
- DNL Calculations Current and 12-year Projections

Woodbridge Apartments

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212)

Woodbridge Apartments - Roads Map with 1,000-foot Buffer



April 28, 2023

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

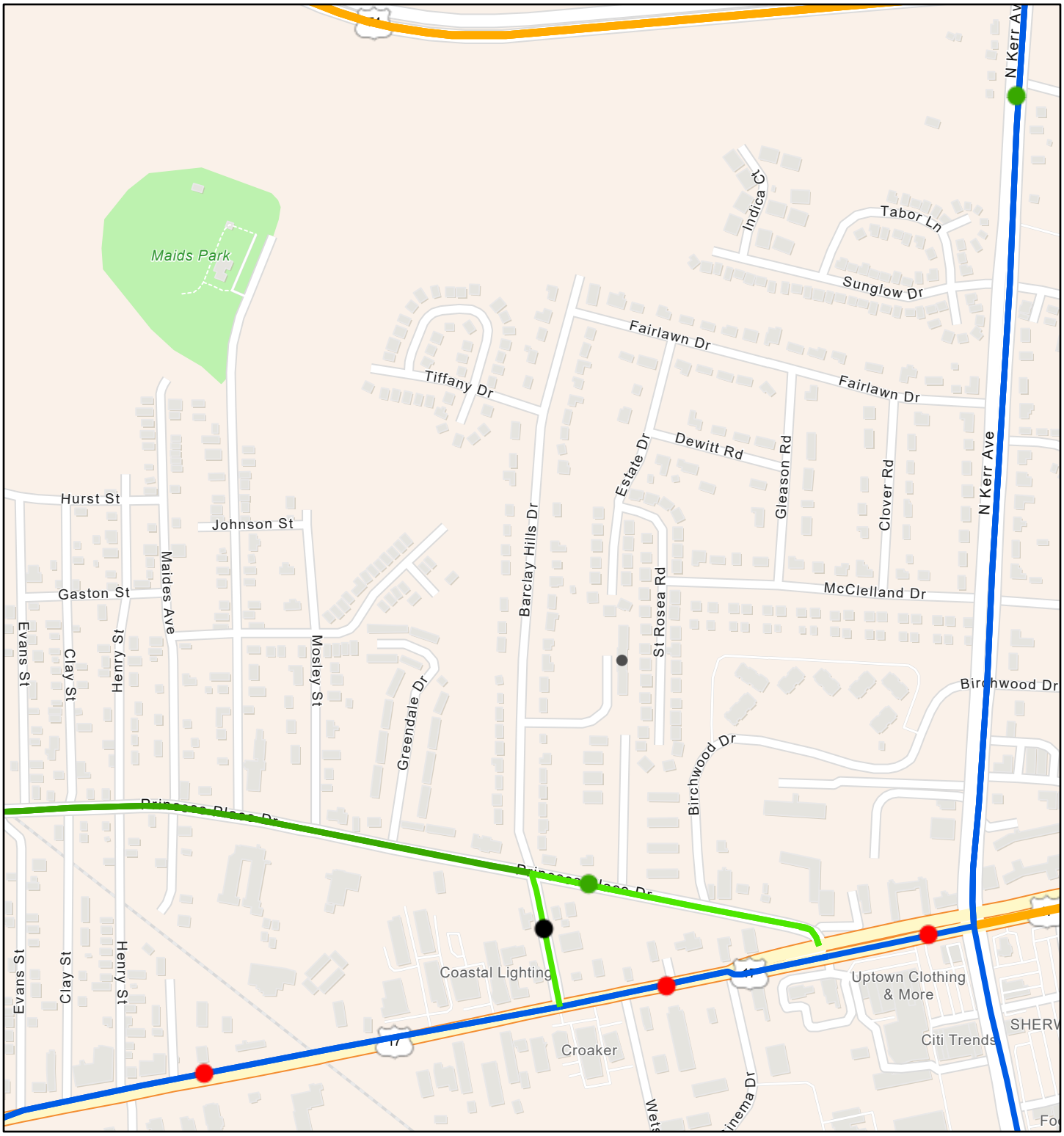
Project Buffer

Woodbridge Apartments

Railroads

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

Woodbridge Apts - NCDOT AADT Map



6/12/2023, 5:27:56 PM

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

NCDOT_AADT_Traffic_Segmentation - NCDOT_AADT_Stations

- US Routes
- Secondary Routes
- Non-System Routes

NCDOT_AADT_Traffic_Segmentation - NCDOT_AADT_Traffic_Segments_Secondary_Non-System

- 2,000 - 4,999
- 5,000 - 9,999
- 20,000 - 34,999

NCDOT_AADT_Traffic_Segmentation - NCDOT_AADT_Traffic_Segments_Primaries

- 20,000 - 34,999

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NCDOT Traffic Survey Group staff collected, analyzed, processed and reported this data for calendar year 2021 | NCDOT Traffic Survey Group staff collected, analyzed, processed and reported this

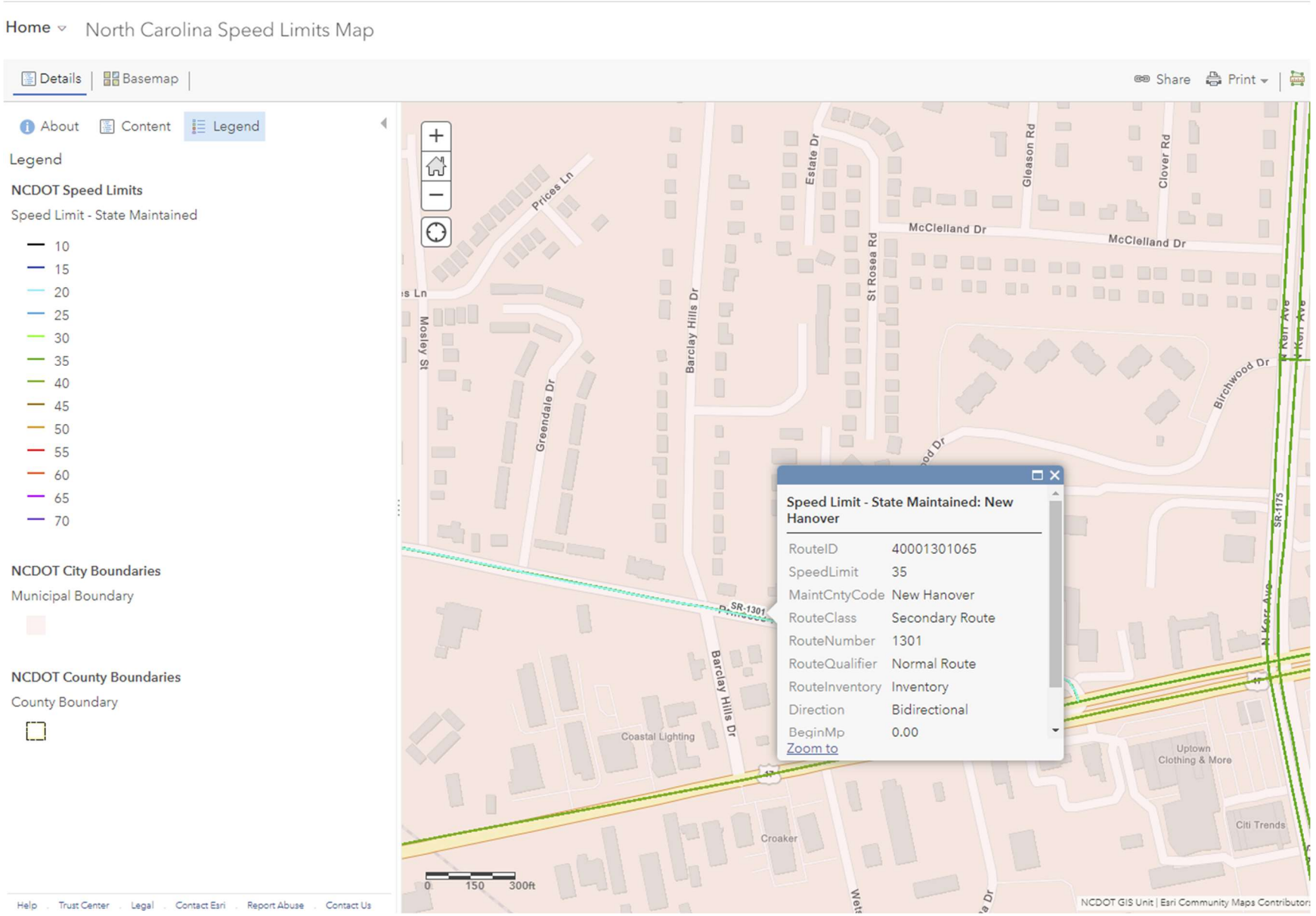
Woodbridge Apartments (20 Units), 302 Grass Lane Wilmington, NC 28405
NAL #1 Distance to Princess Palace Drive (Closest Lane)



Woodbridge Apartments (20 Units), 302 Grass Lane Wilmington, NC 28405
NAL #1 Distance to Princess Palace Drive (Furthest Lane)

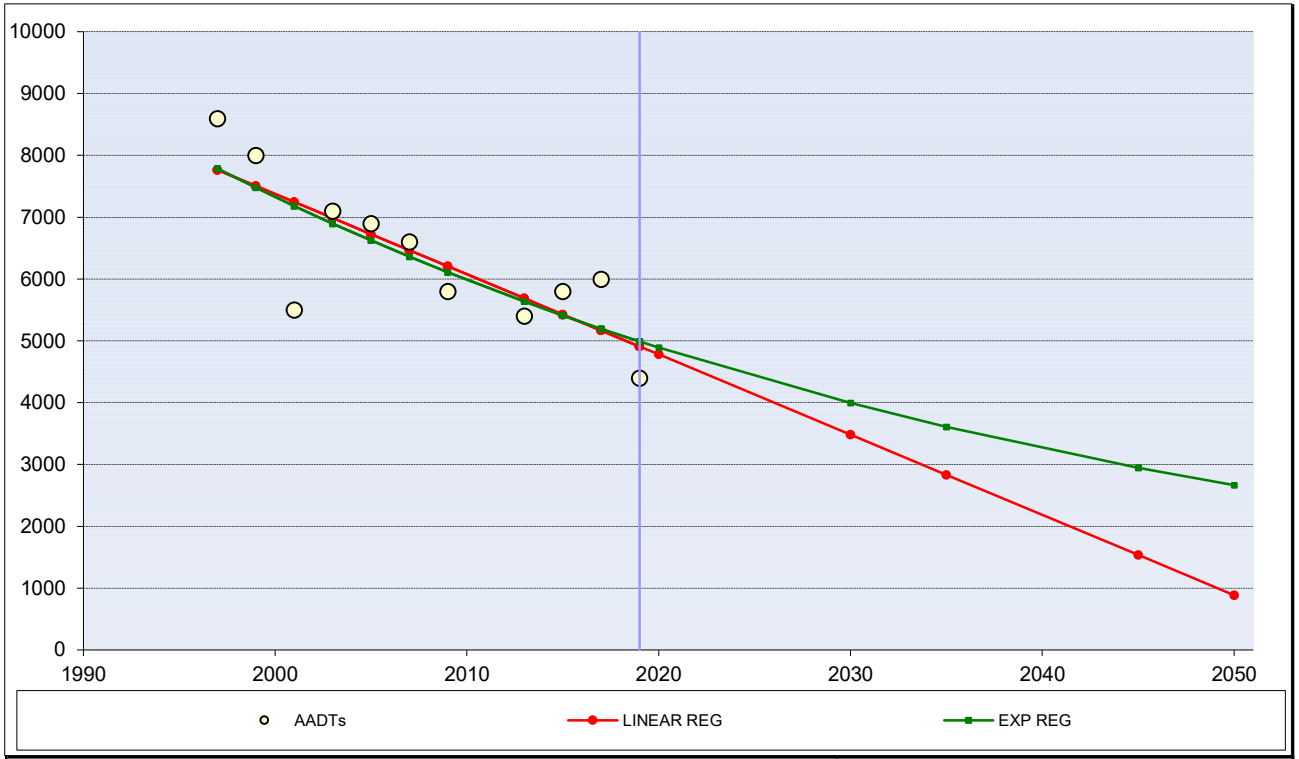


Woodbridge Apartments – Speed Limit Map



AADT TREND ANALYSIS

#1 -- SR 1301 E OF BARCLAY DR



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	LINEAR REG:	-129.8
1997	8600	LINEAR %:	-2.06%
1999	8000	EXPONENTIAL REG:	-2.00%
2001	5500		
2003	7100		
2005	6900	R-SQUARED	
2007	6600	LINEAR:	0.6375
2009	5800	EXPONENTIAL:	0.6298
2013	5400		
2015	5800		
2017	6000	NUMBER OF DATA POINTS:	
2019	4400		11

SHOW HISTORIC DATA:	SHOW FUTURE DATA:	SHOW STATION #:	
☑ LINEAR REGRESSION	☑ LINEAR REGRESSION	1- SR 1301 E OF BARCLAY DR	
☑ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION	FUT YRS:	2019
		#1	2020
☑ HISTORIC DATA		#2	2030
		#3	2035
		#4	2045
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH		#5	2050

FUTURE PROJECTIONS:

Linear Reg	Exp Reg			
4909	4990			
4779	4890			
3481	3994			
2832	3610			
1534	2949			
885	2665			

Title - Replace with text

Title - Replace with text or delete

Woodbridge Apts – Distance from NAL #1 to Barclay Hills Drive (Closest Lane)



Woodbridge Apts – Distance from NAL #1 to Barclay Hills Drive (Furthest Lane)

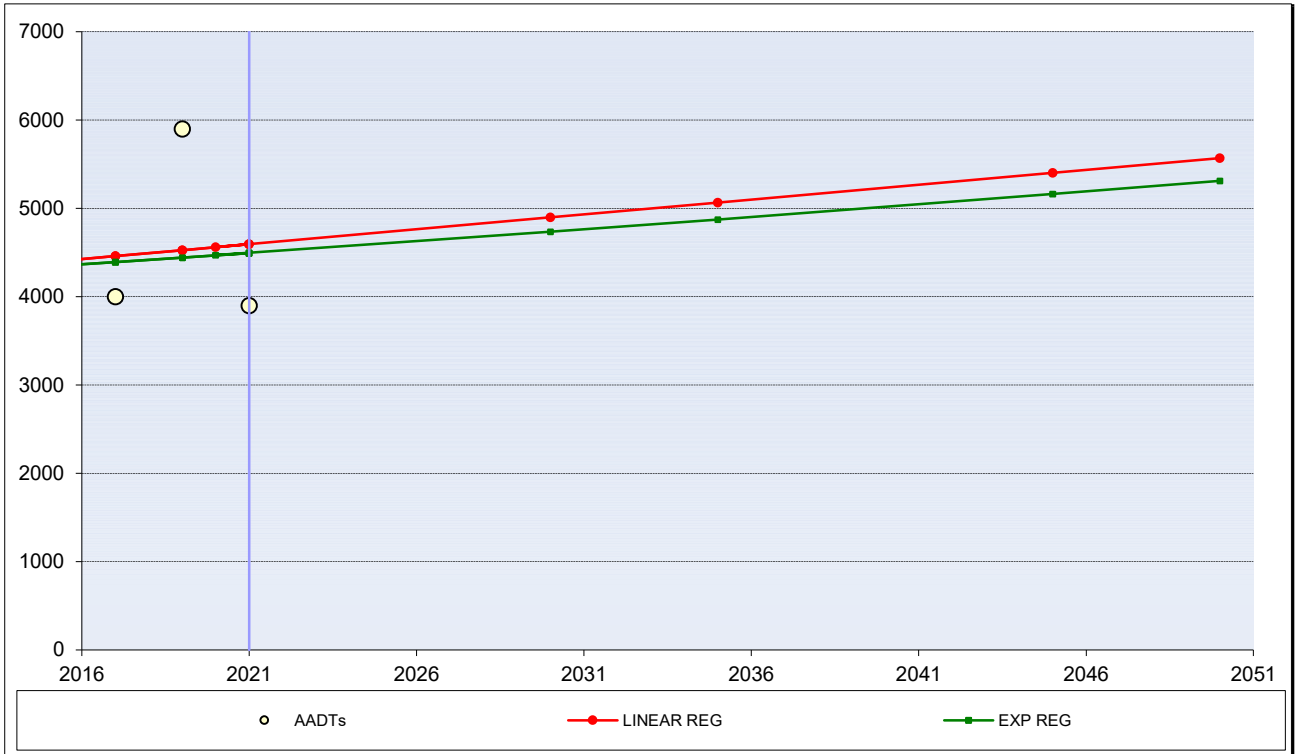


Woodbridge Apts – Barclay Hills Drive Speed Limit



AADT TREND ANALYSIS

#1 -- BARCLAY HILLS DR N OF US 17



HISTORIC DATA	
Year	AADT
2009	4400
2013	3900
2017	4000
2019	5900
2021	3900

STATISTICAL RESULTS	
LINEAR REG:	33.6
LINEAR %:	0.77%
EXPONENTIAL REG:	0.58%
R-SQUARED	
LINEAR:	0.0361
EXPONENTIAL:	0.0249
NUMBER OF DATA POINTS:	
	5

SHOW HISTORIC DATA:	SHOW FUTURE DATA:
☑ LINEAR REGRESSION	☑ LINEAR REGRESSION
☑ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION
☑ HISTORIC DATA	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH	

SHOW STATION #:	
1- BARCLAY HILLS DR N OF US 17	
FUT YRS:	2021
#1	2020
#2	2030
#3	2035
#4	2045
#5	2050

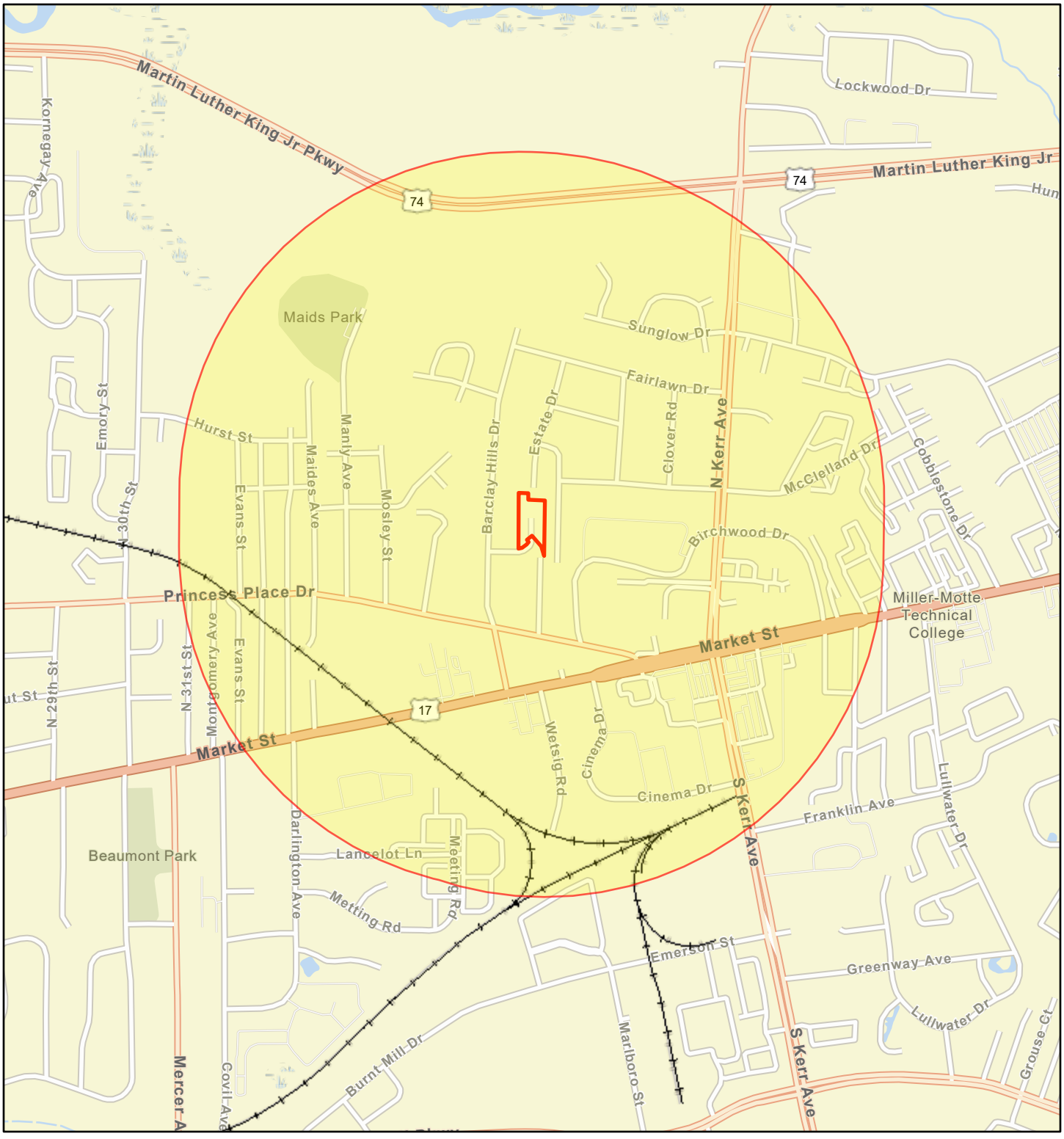
FUTURE PROJECTIONS:

Linear Reg	Exp Reg			
4595	4495			
4561	4469			
4897	4734			
5066	4873			
5402	5162			
5570	5313			

Title - Replace with text

Title - Replace with text or delete

Woodbridge Apartments - Railroads Map with 3,000-foot Buffer



April 28, 2023

1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

Project Buffer

Woodbridge Apartments

Railroads

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

Woodbridge Apts - RR Crossing ID# 629290C Market Street



U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date *(MM/DD/YYYY)*: 08 / 03 / 2022

B. Reporting Agency: ☐ Railroad ☐ Transit ☒ State ☐ Other

C. Reason for Update *(Select only one)*: ☒ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☐ Admin. Correction

D. DOT Crossing Inventory Number: 629290C

Part I: Location and Classification Information

1. Primary Operating Railroad: CSX Transportation [CSX]

2. State: NORTH CAROLINA

3. County: NEW HANOVER

4. City / Municipality: ☒ In ☐ Near WILMINGTON

5. Street/Road Name & Block Number: MARKET STREET (Street/Road Name) | 3800 (* Block Number)

6. Highway Type & No.: US 17

7. Do Other Railroads Operate a Separate Track at Crossing? ☐ Yes ☒ No
If Yes, Specify RR

8. Do Other Railroads Operate Over Your Track at Crossing? ☐ Yes ☒ No
If Yes, Specify RR

9. Railroad Division or Region: ☐ None CAROLINAS

10. Railroad Subdivision or District: ☐ None WILMINGTON

11. Branch or Line Name: ☐ None WILMINGTON BELT LIN

12. RR Milepost: ACB | 0246.240 | *(prefix) | (nnnn.nnn) | (suffix)*

13. Line Segment *: 937041

14. Nearest RR Timetable Station *: WILMINGTON

15. Parent RR *(if applicable)*: ☒ N/A

16. Crossing Owner *(if applicable)*: ☒ N/A

17. Crossing Type: ☒ Public ☐ Private

18. Crossing Purpose: ☒ Highway ☐ Pathway, Ped. ☐ Station, Ped.

19. Crossing Position: ☒ At Grade ☐ RR Under ☐ RR Over

20. Public Access *(if Private Crossing)*: ☐ Yes ☐ No

21. Type of Train: ☒ Freight ☐ Intercity Passenger ☐ Commuter ☐ Transit ☐ Shared Use Transit ☐ Tourist/Other

22. Average Passenger Train Count Per Day: ☐ Less Than One Per Day ☐ Number Per Day 0

23. Type of Land Use: ☐ Open Space ☐ Farm ☐ Residential ☒ Commercial ☐ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?: ☐ Yes ☒ No If Yes, Provide Crossing Number

25. Quiet Zone *(FRA provided)*: ☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established

26. HSR Corridor ID: ☒ N/A

27. Latitude in decimal degrees *(WGS84 std: nn.nnnnnnn)*: 34.24107290

28. Longitude in decimal degrees *(WGS84 std: -nnn.nnnnnnn)*: -77.89966230

29. Lat/Long Source: ☒ Actual ☐ Estimated

30.A. Railroad Use *:

31.A. State Use *:

30.B. Railroad Use *:

31.B. State Use *:

30.C. Railroad Use *:

31.C. State Use *:

30.D. Railroad Use *:

31.D. State Use *:

32.A. Narrative *(Railroad Use)* *:

32.B. Narrative *(State Use)* *:

33. Emergency Notification Telephone No. *(posted)*: 800-232-0144

34. Railroad Contact *(Telephone No.)*: 904-366-3051

35. State Contact *(Telephone No.)*: 919-707-4100

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains *(6 AM to 6 PM)*: 0

1.B. Total Night Thru Trains *(6 PM to 6 AM)*: 0

1.C. Total Switching Trains: 0

1.D. Total Transit Trains: 0

1.E. Check if Less Than One Movement Per Day ☒ How many trains per week? 4

2. Year of Train Count Data *(YYYY)*: 2021

3. Speed of Train at Crossing
3.A. Maximum Timetable Speed *(mph)*: 10
3.B. Typical Speed Range Over Crossing *(mph)* From 10 to 10

4. Type and Count of Tracks
Main 1 Siding 0 Yard 0 Transit 0 Industry 0

5. Train Detection *(Main Track only)*
☐ Constant Warning Time ☒ Motion Detection ☐ AFO ☐ PTC ☐ DC ☐ Other ☐ None

6. Is Track Signaled? ☐ Yes ☒ No

7.A. Event Recorder ☒ Yes ☐ No

7.B. Remote Health Monitoring ☐ Yes ☒ No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date *(MM/DD/YYYY)*	PAGE 2	D. Crossing Inventory Number *(7 char.)*
08/03/2022		629290C

Part III: Highway or Pathway Traffic Control Device Information

1. Are there Signs or Signals? ☒ Yes ☐ No

2. Types of Passive Traffic Control Devices associated with the Crossing

2.A. Crossbuck Assemblies *(count)*	2.B. STOP Signs *(R1-1)* *(count)*	2.C. YIELD Signs *(R1-2)* *(count)*	2.D. Advance Warning Signs *(Check all that apply; include count)* ☐ None
0	0	0	☒ W10-1 2 ☒ W10-3 0 ☒ W10-11 0 ☒ W10-2 0 ☒ W10-4 0 ☒ W10-12 0

2.E. Low Ground Clearance Sign *(W10-5)*	2.F. Pavement Markings	2.G. Channelization Devices/Medians	2.H. EXEMPT Sign *(R15-3)*	2.I. ENS Sign *(I-13)* Displayed
☐ Yes *(count* 0 *)* ☒ No	☒ Stop Lines ☐ Dynamic Envelope ☒ RR Xing Symbols ☐ None	☐ All Approaches ☐ Median ☐ One Approach ☒ None	☐ Yes ☒ No	☒ Yes ☐ No

2.J. Other MUTCD Signs	2.K. Private Crossing Signs *(if private)*	2.L. LED Enhanced Signs *(List types)*
☐ Yes ☒ No Specify Type _____ Count 0 Specify Type _____ Count 0 Specify Type _____ Count 0	☐ Yes ☐ No	

3. Types of Train Activated Warning Devices at the Grade Crossing *(specify count of each device for all that apply)*

3.A. Gate Arms *(count)*	3.B. Gate Configuration	3.C. Cantilevered *(or Bridged)* Flashing Light Structures *(count)*	3.D. Mast Mounted Flashing Lights *(count of masts)* 2	3.E. Total Count of Flashing Light Pairs
Roadway 2 Pedestrian 0	☒ 2 Quad ☐ Full *(Barrier)* Resistance ☐ 3 Quad ☐ 4 Quad ☐ Median Gates	Over Traffic Lane 2 ☒ Incandescent Not Over Traffic Lane 0 ☐ LED	☒ Incandescent ☐ LED ☐ Back Lights Included ☐ Side Lights Included	10

3.F. Installation Date of Current Active Warning Devices: *(MM/YYYY)*	3.G. Wayside Horn	3.H. Highway Traffic Signals Controlling Crossing	3.I. Bells *(count)*
_____/_____ ☐ Not Required	☐ Yes Installed on *(MM/YYYY)* _____/_____ ☒ No	☐ Yes ☒ No	2

3.J. Non-Train Active Warning	3.K. Other Flashing Lights or Warning Devices
☐ Flagging/Flagman ☐ Manually Operated Signals ☐ Watchman ☐ Floodlighting ☒ None	Count 0 Specify type _____

4.A. Does nearby Hwy Intersection have Traffic Signals?	4.B. Hwy Traffic Signal Interconnection	4.C. Hwy Traffic Signal Preemption	5. Highway Traffic Pre-Signals	6. Highway Monitoring Devices *(Check all that apply)*
☐ Yes ☒ No	☒ Not Interconnected ☐ For Traffic Signals ☐ For Warning Signs	☐ Simultaneous ☐ Advance	☐ Yes ☒ No Storage Distance * 0 Stop Line Distance * 0	☐ Yes - Photo/Video Recording ☐ Yes – Vehicle Presence Detection ☒ None

Part IV: Physical Characteristics

1. Traffic Lanes Crossing Railroad	2. Is Roadway/Pathway Paved?	3. Does Track Run Down a Street?	4. Is Crossing Illuminated? *(Street lights within approx. 50 feet from nearest rail)*
☐ One-way Traffic ☒ Two-way Traffic ☐ Divided Traffic Number of Lanes 5	☒ Yes ☐ No	☐ Yes ☒ No	☒ Yes ☐ No

5. Crossing Surface *(on Main Track, multiple types allowed)* Installation Date * *(MM/YYYY)* _____/_____ Width * _____ Length * 96

☐ 1 Timber ☐ 2 Asphalt ☐ 3 Asphalt and Timber ☒ 4 Concrete ☐ 5 Concrete and Rubber ☐ 6 Rubber ☐ 7 Metal
☐ 8 Unconsolidated ☐ 9 Composite ☐ 10 Other *(specify)* _____

6. Intersecting Roadway within 500 feet?	7. Smallest Crossing Angle	8. Is Commercial Power Available? *
☒ Yes ☐ No If Yes, Approximate Distance *(feet)* 500	☐ 0° – 29° ☒ 30° – 59° ☐ 60° - 90°	☒ Yes ☐ No

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☐ (02) Other Nat Hwy System (NHS) ☐ (03) Federal AID, Not NHS ☒ (08) Non-Federal Aid	☐ (0) Rural ☒ (1) Urban ☐ (1) Interstate ☐ (5) Major Collector ☐ (2) Other Freeways and Expressways ☒ (3) Other Principal Arterial ☐ (6) Minor Collector ☐ (4) Minor Arterial ☐ (7) Local	☒ Yes ☐ No	40 MPH ☒ Posted ☐ Statutory

5. Linear Referencing System *(LRS Route ID)* *

6. LRS Milepost *

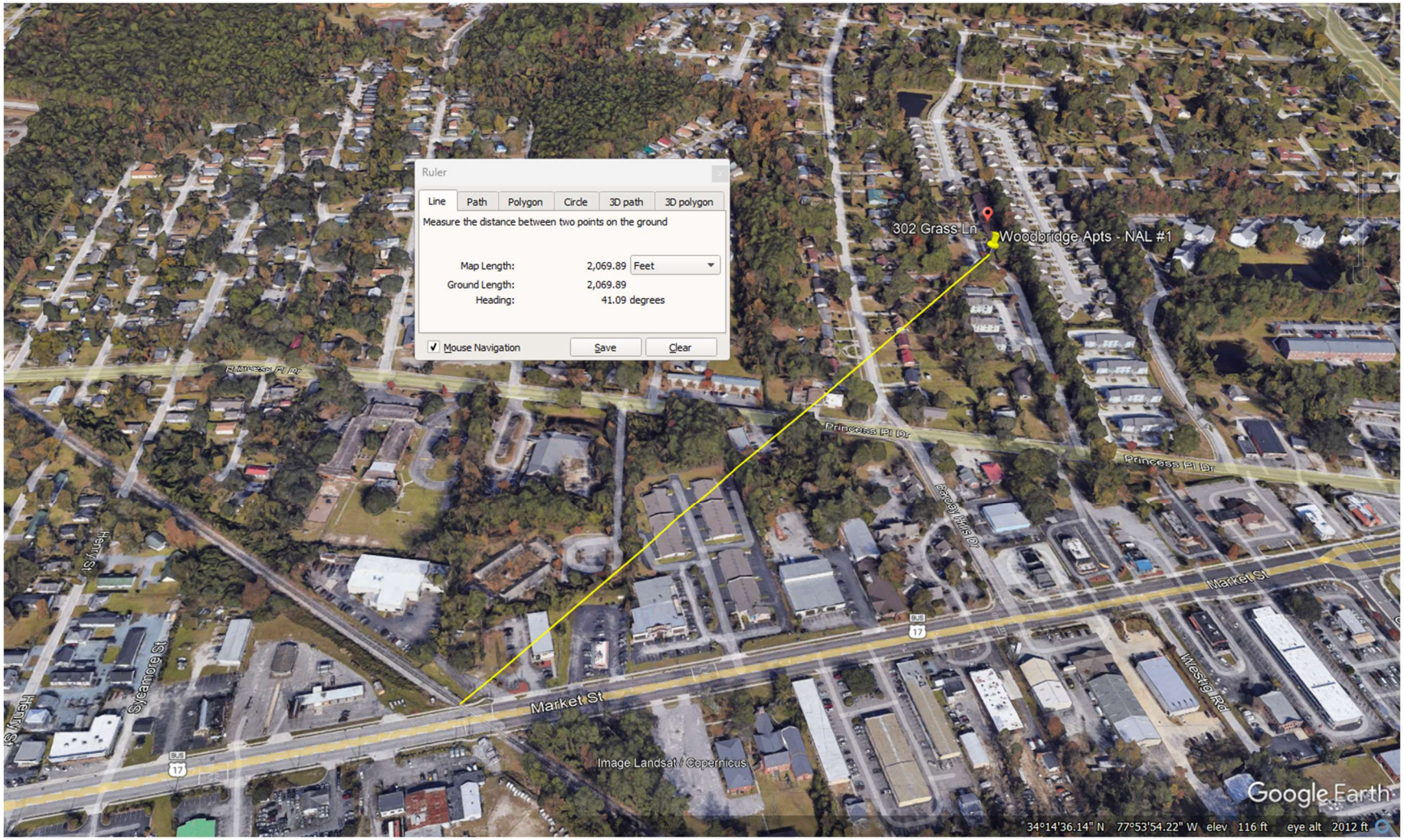
7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 2014 AADT 35920	8 %	☒ Yes ☐ No Average Number per Day 13	☐ Yes ☒ No

Submission Information - *This information is used for administrative purposes and is not available on the public website.*

Submitted by _____ Organization _____ Phone _____ Date _____

Public reporting burden for this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for information collection is 2130-0017. Send comments regarding this burden estimate or any other aspect of this collection, including for reducing this burden to: Information Collection Officer, Federal Railroad Administration, 1200 New Jersey Ave. SE, MS-25 Washington, DC 20590.

Woodbridge Apartments (20 Units), 302 Grass Lane Wilmington, NC 28405
NAL #1 Distance to RR# 629290C Track



Gievers, Andrea

From: Community Affairs and Safety <CommunityAffairsAndSafety@csx.com>
Sent: Thursday, June 22, 2023 2:58 PM
To: Gievers, Andrea
Subject: [External] FW: HUD Form Request 629290C

Follow Up Flag: Follow up
Flag Status: Flagged

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.

1. Train type - Electric or Diesel? Diesel
2. Average Train Speed? 10
3. Engines per Train? 2
4. Railway Cars per Train? 35
5. Average Train Operations? 2 *4 days per week
6. Night Fraction of ATO? 35%
7. Railway Whistles or Horns? Yes, horns are sounded in compliance with federal regulations
8. Bolted or Welded Tracks? Welded

From: Gievers, Andrea <andrea.l.gievers@rebuild.nc.gov>
Sent: Friday, June 16, 2023 1:53 PM
To: Community Affairs and Safety <CommunityAffairsAndSafety@csx.com>
Subject: [E] RE: [External] FW: HUD Form Request

This Message Is From an External Sender
This message came from outside your organization.

Thank you so much. Here is the usual HUD Railway info needed below. Let me know if you have any questions. Thanks again!

1. Train type - Electric or Diesel?
2. Average Train Speed?
3. Engines per Train?
4. Railway Cars per Train?
5. Average Train Operations? *[Average Train Operations (ATO) are determined by adding Total Day Thru Trains (Field 1.A), Total Night Thru Trains (Field 1.B) and Total Switching Trains (Field 1.C)]*
6. Night Fraction of ATO? *[derived by the equation ([Field 1.B * 0.75] + [Field 1.C * 0.375])/ATO]*
7. Railway Whistles or Horns?
8. Bolted or Welded Tracks?

Railroad #1 Track Identifier:	

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☐
Effective Distance		
Average Train Speed		
Engines per Train		
Railway cars per Train		
Average Train Operations (ATO)		
Night Fraction of ATO		
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☐ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☐
Train DNL		

Sincerely,

Andrea Gievers

-----Original Message-----
From: Community Affairs and Safety <CommunityAffairsAndSafety@csx.com>
Sent: Friday, June 16, 2023 1:23 PM
To: Gievers, Andrea <andrea.l.gievers@rebuild.nc.gov>
Subject: [External] FW: HUD Form Request

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.

Please provide a complete list of questions you want answered. I will assume the questions remain the same with the 5 requests you submitted.

-----Original Message-----
From: noreply-csx@csx.com <noreply-csx@csx.com>
Sent: Wednesday, June 14, 2023 1:03 PM

To: Community Affairs and Safety <CommunityAffairsandSafety@csx.com>
Subject: HUD Form Request

This form was sent at: Jun 14, 2023 1:02 PM

REASON: HUD Forms Request
NAME: Andrea Gievers
PHONENUMBER: 18456821700
EMAILADDRESS: andrea.l.gievers@rebuild.nc.gov
AFFECTEDLOCATIONORDOT: 629290C
YOURMESSAGE: HUD noise railway assessment data request. Thanks!

This email transmission and any accompanying attachments may contain CSX privileged and confidential or business proprietary information intended only for the use of the intended addressee. Any dissemination, distribution, forwarding, copying, or action taken in reliance on the contents of this email by anyone other than the intended recipient is strictly prohibited. If you have received this email in error please immediately delete it, destroy all copies, and notify the sender at the above CSX email address.

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Woodbridge Apts - RR Crossing ID#629292R



U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date (MM/DD/YYYY)	B. Reporting Agency	C. Reason for Update (Select only one)	D. DOT Crossing Inventory Number
10 / 04 / 2022	☒ Railroad ☐ Transit ☐ State ☐ Other	☐ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☒ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☐ Admin. Correction	629292R

Part I: Location and Classification Information

1. Primary Operating Railroad	2. State	3. County
CSX Transportation [CSX]	NORTH CAROLINA	NEW HANOVER

4. City / Municipality	5. Street/Road Name & Block Number	6. Highway Type & No.
☒ In ☐ Near WILMINGTON	PRIVATE (Street/Road Name) | * (Block Number)	PRIVATE

7. Do Other Railroads Operate a Separate Track at Crossing?	8. Do Other Railroads Operate Over Your Track at Crossing?
☐ Yes ☒ No If Yes, Specify RR	☐ Yes ☒ No If Yes, Specify RR

9. Railroad Division or Region	10. Railroad Subdivision or District	11. Branch or Line Name	12. RR Milepost
☐ None CAROLINAS	☐ None WILMINGTON	☐ None WILMINGTON BELT LIN	ACB | 0246.490 | (prefix) | (nnnn.nnn) | (suffix)

13. Line Segment *	14. Nearest RR Timetable Station *	15. Parent RR (if applicable)	16. Crossing Owner (if applicable)
937041	WILMINGTON	☒ N/A	☒ N/A

17. Crossing Type	18. Crossing Purpose	19. Crossing Position	20. Public Access (if Private Crossing)	21. Type of Train	22. Average Passenger Train Count Per Day
☐ Public ☒ Private	☒ Highway ☐ Pathway, Ped. ☐ Station, Ped.	☒ At Grade ☐ RR Under ☐ RR Over	☐ Yes ☒ No	☒ Freight ☐ Intercity Passenger ☐ Commuter ☐ Transit ☐ Shared Use Transit ☐ Tourist/Other	☐ Less Than One Per Day ☐ Number Per Day 0

23. Type of Land Use
☐ Open Space ☐ Farm ☐ Residential ☐ Commercial ☒ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?	25. Quiet Zone (FRA provided)
☐ Yes ☒ No If Yes, Provide Crossing Number	☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established

26. HSR Corridor ID	27. Latitude in decimal degrees	28. Longitude in decimal degrees	29. Lat/Long Source
☒ N/A	(WGS84 std: nn.nnnnnnn) 34.2356850	(WGS84 std: -nnn.nnnnnnn) -77.8913650	☒ Actual ☐ Estimated

30.A. Railroad Use *	31.A. State Use *
MP is the point of switch at the Wye	
30.B. Railroad Use *	**31.B. State Use ***
30.C. Railroad Use *	**31.C. State Use ***
30.D. Railroad Use *	**31.D. State Use ***
32.A. Narrative (Railroad Use) *	**32.B. Narrative** (State Use) *

33. Emergency Notification Telephone No. (posted)	34. Railroad Contact (Telephone No.)	35. State Contact (Telephone No.)
800-232-0144	904-366-3051	919-707-4100

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains (6 AM to 6 PM)	1.B. Total Night Thru Trains (6 PM to 6 AM)	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day
0	0	0	0	☒ How many trains per week? 2

2. Year of Train Count Data (YYYY)	3. Speed of Train at Crossing
2022	3.A. Maximum Timetable Speed (mph) 10 3.B. Typical Speed Range Over Crossing (mph) From 10 to 10

4. Type and Count of Tracks
Main 0 Siding 0 Yard 0 Transit 0 Industry 1

5. Train Detection (Main Track only)
☐ Constant Warning Time ☐ Motion Detection ☐AFO ☐ PTC ☐ DC ☐ Other ☒ None

6. Is Track Signaled?	7.A. Event Recorder	7.B. Remote Health Monitoring
☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date *(MM/DD/YYYY)*	PAGE 2	D. Crossing Inventory Number *(7 char.)*
10/04/2022		629292R

Part III: Highway or Pathway Traffic Control Device Information

1. Are there Signs or Signals? ☒ Yes ☐ No

2. Types of Passive Traffic Control Devices associated with the Crossing

2.A. Crossbuck Assemblies *(count)*	2.B. STOP Signs *(R1-1)* *(count)*	2.C. YIELD Signs *(R1-2)* *(count)*	2.D. Advance Warning Signs *(Check all that apply; include count)* ☒ None
1	0		☐ W10-1 ____ ☐ W10-3 ____ ☐ W10-11 ____ ☐ W10-2 ____ ☐ W10-4 ____ ☐ W10-12 ____

2.E. Low Ground Clearance Sign *(W10-5)*	2.F. Pavement Markings	2.G. Channelization Devices/Medians	2.H. EXEMPT Sign *(R15-3)*	2.I. ENS Sign *(I-13)* Displayed
☐ Yes *(count_____)* ☐ No	☐ Stop Lines ☐ Dynamic Envelope ☐ RR Xing Symbols ☐ None	☐ All Approaches ☐ Median ☐ One Approach ☐ None	☐ Yes ☐ No	☐ Yes ☒ No

2.J. Other MUTCD Signs ☐ Yes ☒ No
Specify Type _____ Count _____
Specify Type _____ Count _____
Specify Type _____ Count _____

2.K. Private Crossing Signs *(if private)* ☒ Yes ☐ No

2.L. LED Enhanced Signs *(List types)*

3. Types of Train Activated Warning Devices at the Grade Crossing *(specify count of each device for all that apply)*

3.A. Gate Arms *(count)*	3.B. Gate Configuration	3.C. Cantilevered *(or Bridged)* Flashing Light Structures *(count)*	3.D. Mast Mounted Flashing Lights *(count of masts)* 0	3.E. Total Count of Flashing Light Pairs
Roadway 0 Pedestrian _____	☐ 2 Quad ☐ 3 Quad ☐ 4 Quad ☐ Full *(Barrier)* Resistance ☐ Median Gates	Over Traffic Lane 0 ☐ Incandescent Not Over Traffic Lane 0 ☐ LED	☐ Incandescent ☐ LED ☐ Back Lights Included ☐ Side Lights Included	0

3.F. Installation Date of Current Active Warning Devices: *(MM/YYYY)*	3.G. Wayside Horn	3.H. Highway Traffic Signals Controlling Crossing	3.I. Bells *(count)*
_____/_____ ☒ Not Required	☐ Yes Installed on *(MM/YYYY)* _____/_____ ☒ No	☐ Yes ☒ No	0

3.J. Non-Train Active Warning
☐ Flagging/Flagman ☐ Manually Operated Signals ☐ Watchman ☐ Floodlighting ☐ None

3.K. Other Flashing Lights or Warning Devices
Count 0 Specify type _____

4.A. Does nearby Hwy Intersection have Traffic Signals?	4.B. Hwy Traffic Signal Interconnection	4.C. Hwy Traffic Signal Preemption	5. Highway Traffic Pre-Signals	6. Highway Monitoring Devices *(Check all that apply)*
☐ Yes ☐ No	☐ Not Interconnected ☐ For Traffic Signals ☐ For Warning Signs	☐ Simultaneous ☐ Advance	☐ Yes ☐ No Storage Distance * _____ Stop Line Distance * _____	☐ Yes - Photo/Video Recording ☐ Yes – Vehicle Presence Detection ☐ None

Part IV: Physical Characteristics

1. Traffic Lanes Crossing Railroad	2. Is Roadway/Pathway Paved?	3. Does Track Run Down a Street?	4. Is Crossing Illuminated? *(Street lights within approx. 50 feet from nearest rail)*
☐ One-way Traffic ☐ Two-way Traffic ☐ Divided Traffic Number of Lanes 0	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

5. Crossing Surface *(on Main Track, multiple types allowed)* Installation Date * *(MM/YYYY)* _____/_____ Width * _____ Length * _____
☐ 1 Timber ☐ 2 Asphalt ☐ 3 Asphalt and Timber ☐ 4 Concrete ☐ 5 Concrete and Rubber ☐ 6 Rubber ☐ 7 Metal
☐ 8 Unconsolidated ☐ 9 Composite ☐ 10 Other *(specify)* _____

6. Intersecting Roadway within 500 feet?	7. Smallest Crossing Angle	8. Is Commercial Power Available? *
☐ Yes ☒ No If Yes, Approximate Distance *(feet)* _____	☐ 0° – 29° ☐ 30° – 59° ☐ 60° - 90°	☐ Yes ☐ No

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☐ (02) Other Nat Hwy System (NHS) ☐ (03) Federal AID, Not NHS ☐ (08) Non-Federal Aid	☐ (0) Rural ☐ (1) Urban ☐ (1) Interstate ☐ (5) Major Collector ☐ (2) Other Freeways and Expressways ☐ (3) Other Principal Arterial ☐ (6) Minor Collector ☐ (4) Minor Arterial ☐ (7) Local	☐ Yes ☐ No	_____ MPH ☐ Posted ☐ Statutory

5. Linear Referencing System *(LRS Route ID)* *

6. LRS Milepost *

7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 1970 AADT _____	_____ %	☐ Yes ☒ No Average Number per Day 0	☐ Yes ☐ No

Submission Information - *This information is used for administrative purposes and is not available on the public website.*

Submitted by _____ Organization _____ Phone _____ Date _____

Public reporting burden for this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for information collection is 2130-0017. Send comments regarding this burden estimate or any other aspect of this collection, including for reducing this burden to: Information Collection Officer, Federal Railroad Administration, 1200 New Jersey Ave. SE, MS-25 Washington, DC 20590.

Woodbridge Apartments (20 Units), 302 Grass Lane Wilmington, NC 28405
NAL #1 Distance to RR# 629292R Track



Gievers, Andrea

From: Community Affairs and Safety <CommunityAffairsAndSafety@csx.com>
Sent: Thursday, June 22, 2023 2:59 PM
To: Gievers, Andrea
Subject: [External] FW: HUD Form Request 629292R

Follow Up Flag: Follow up
Flag Status: Flagged

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.

1. Train type - Electric or Diesel? Diesel
2. Average Train Speed? 10
3. Engines per Train? 2
4. Railway Cars per Train? 35
5. Average Train Operations? 2 *4 days per week
6. Night Fraction of ATO? 35%
7. Railway Whistles or Horns? Yes, horns are sounded in compliance with federal regulations
8. Bolted or Welded Tracks? Welded

-----Original Message-----
From: noreply-csx@csx.com <noreply-csx@csx.com>
Sent: Wednesday, June 14, 2023 1:02 PM
To: Community Affairs and Safety <CommunityAffairsandSafety@csx.com>
Subject: HUD Form Request

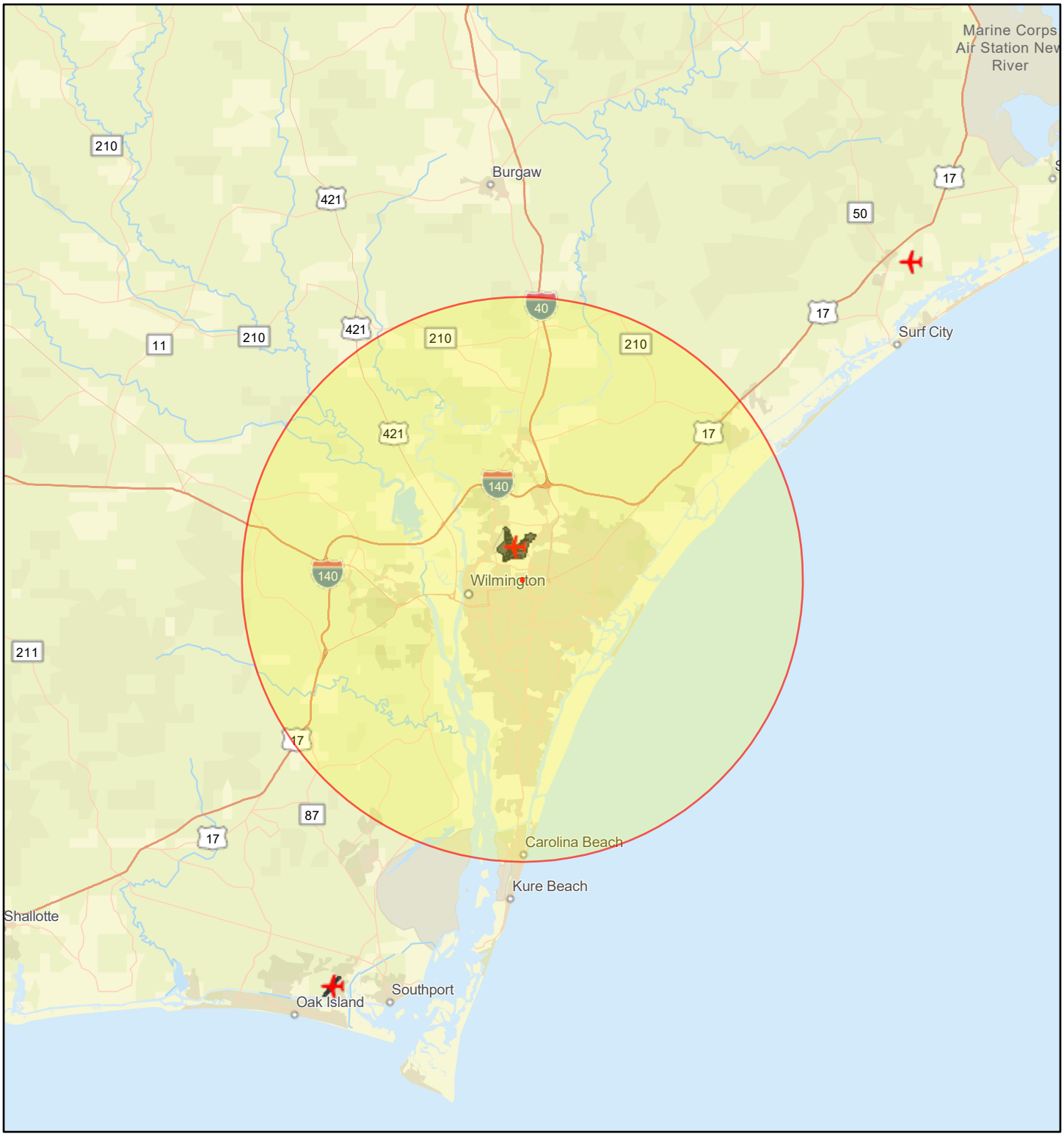
This form was sent at: Jun 14, 2023 1:01 PM

REASON: HUD Forms Request
NAME: Andrea Gievers
PHONENUMBER: 18456821700
EMAILADDRESS: andrea.l.gievers@rebuild.nc.gov
AFFECTEDLOCATIONORDOT: 629292R
YOURMESSAGE: HUD noise railway assessment data request. Thanks!

This email transmission and any accompanying attachments may contain CSX privileged and confidential or business proprietary information intended only for the use of the intended addressee. Any dissemination, distribution, forwarding, copying, or action taken in reliance on the contents of this email by anyone other than the intended recipient is strictly prohibited. If you have received this email in error please immediately delete it, destroy all copies, and notify the sender at the above CSX email address.

recipient is strictly prohibited. If you have received this email in error please immediately delete it, destroy all copies, and notify the sender at the above CSX email address.

Woodbridge Apartments - Airports Map with 15-mile Buffer



April 28, 2023

1:577,791

0 4 8 16 mi

0 5 10 20 km

Project Buffer

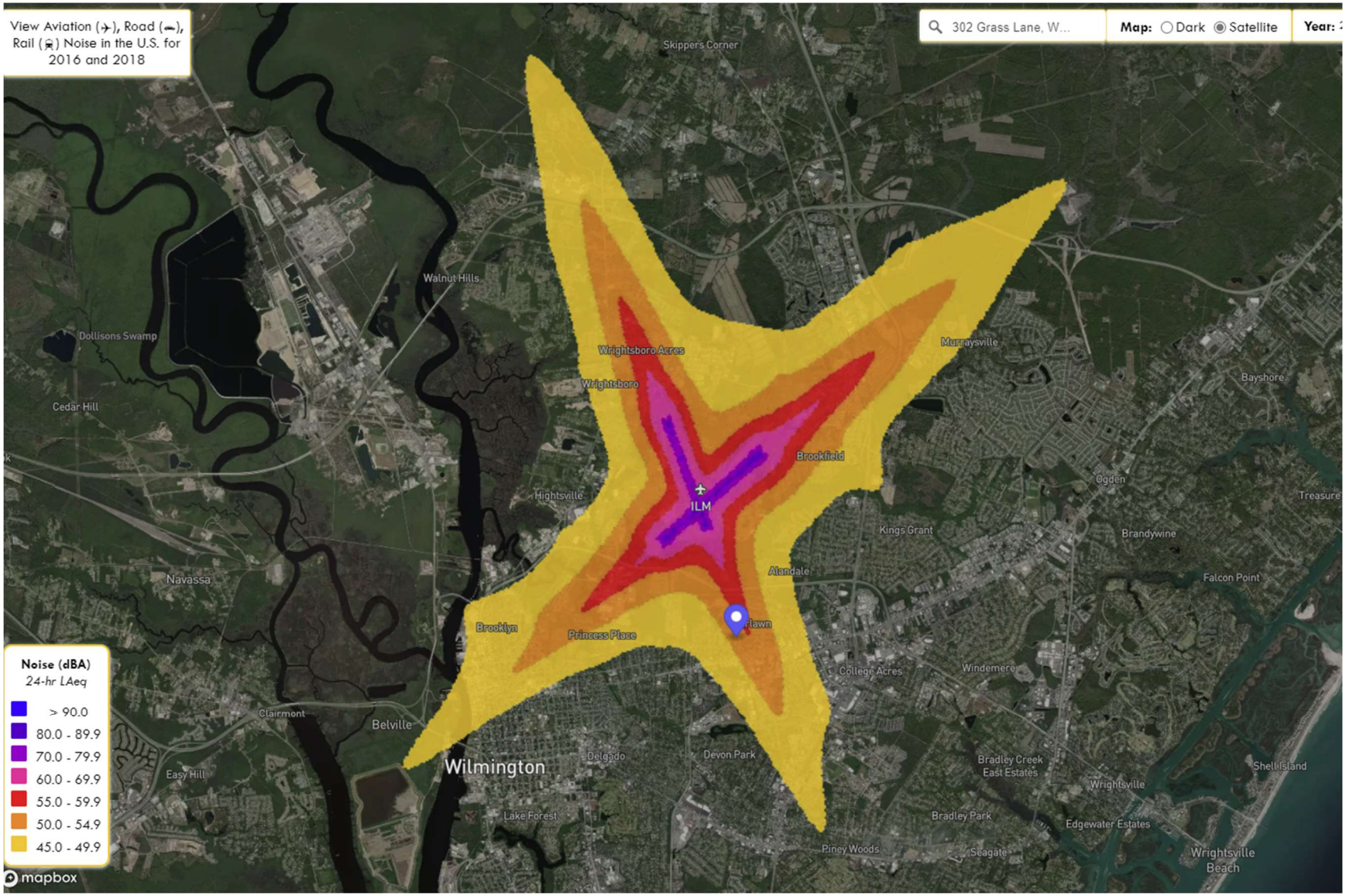
Woodbridge Apartments

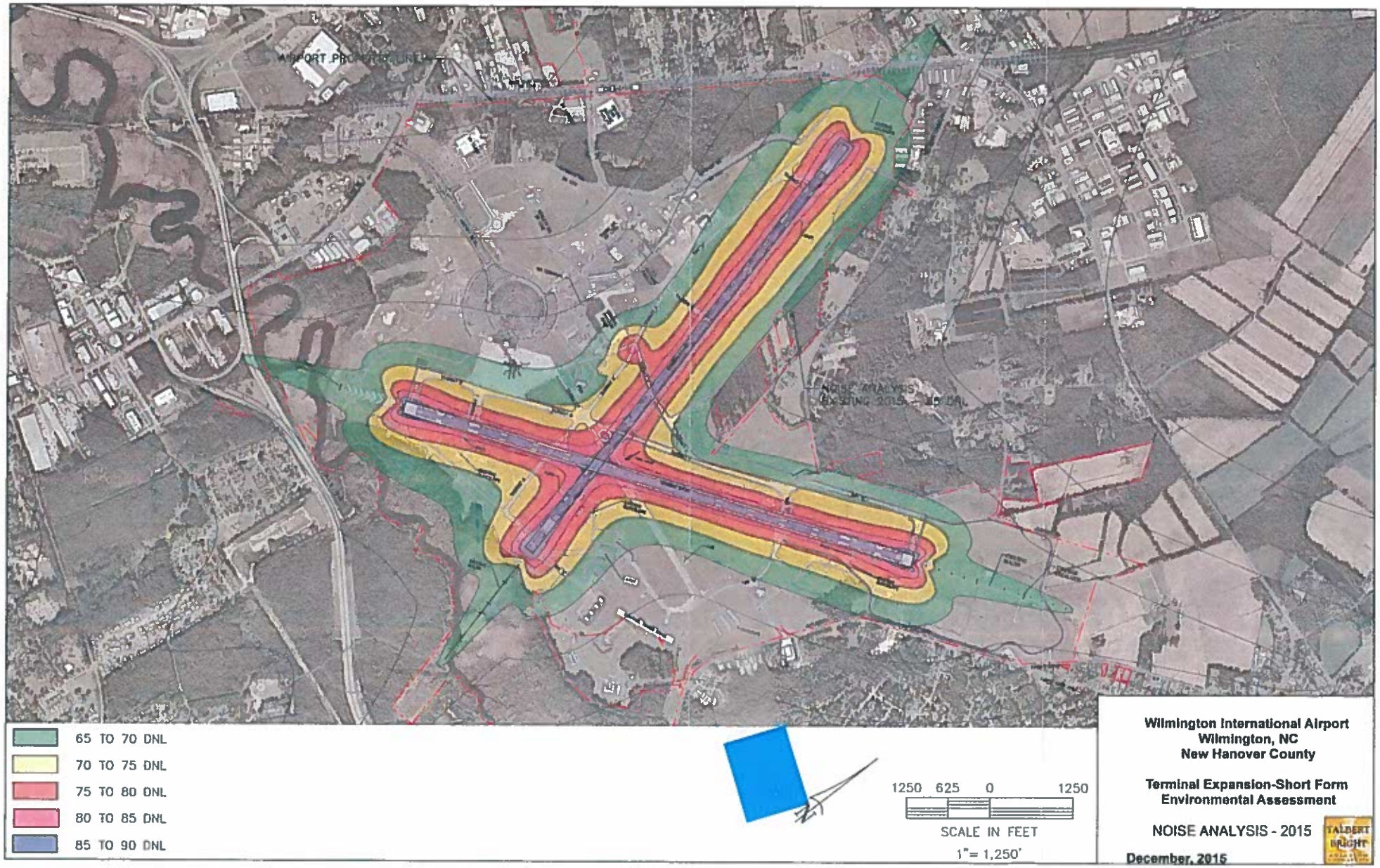
Airport Points

Airport Polygons

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

Woodbridge Apartments (20 Units), 302 Grass Lane, Wilmington, NC 28405
National Transportation Noise Map




65 TO 70 DNL
70 TO 75 DNL
75 TO 80 DNL
80 TO 85 DNL
85 TO 90 DNL
1250 625 0 1250
SCALE IN FEET
1"= 1,250'
Wilmington International Airport
Wilmington, NC
New Hanover County
Terminal Expansion-Short Form
Environmental Assessment
NOISE ANALYSIS - 2015
December, 2015
TALBERT BRIGHT

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

AIRPORT MASTER RECORD

PRINT DATE: 07/05/2022
AFD EFF 06/16/2022
FORM APPROVED OMB 2120-0015

> 1 ASSOC CITY:	WILMINGTON	4 STATE: NC	LOC ID: ILM	FAA SITE NR: 17211.*A
> 2 AIRPORT NAME:	WILMINGTON INTL		5 COUNTY: NEW HANOVER, NC	
3 CBD TO AIRPORT (NM): 3 NE		6 REGION/ADO: ASO /MEM	7 SECT AERO CHT: CHARLOTTE	

GENERAL

10 OWNERSHIP:	PUBLIC
> 11 OWNER:	NEW HANOVER COUNTY
> 12 ADDRESS:	1740 AIRPORT BLVD WILMINGTON, NC 28405
> 13 PHONE NR:	910-341-4333
> 14 MANAGER:	JEFFREY BOURK, A.A.E.
> 15 ADDRESS:	1740 AIRPORT BLVD WILMINGTON, NC 28405
> 16 PHONE NR:	910-341-4333

> 17 ATTENDANCE SCHEDULE:

MONTHS	DAYS	HOURS
ALL	ALL	ALL

18 AIRPORT USE:	PUBLIC
19 ARPT LAT:	34-16-16.1N ESTIMATED
20 ARPT LONG:	77-54-10.4W
21 ARPT ELEV:	31.7 SURVEYED
22 ACREAGE:	1,800
> 23 RIGHT TRAFFIC:	NO
> 24 NON-COMM LANDING:	NO
25 NPIAS/FED AGREEMENTS:	YES / NGPRY3
> 26 FAR 139 INDEX:	I B S 05/1973

SERVICES

> 70 FUEL:	100LL A A+
> 71 AIRFRAME RPRS:	MAJOR
> 72 PWR PLANT RPRS:	MAJOR
> 73 BOTTLE OXYGEN:	HIGH/LOW
> 74 BULK OXYGEN:	HIGH/LOW
75 TSNT STORAGE:	HGR TIE
76 OTHER SERVICES:	AFRT,CARGO,CHTR, INSTR,RNTL,SALES

FACILITIES

> 80 ARPT BCN:	CG
> 81 ARPT LGT SKED:	SEE RMK
BCN LGT SKED:	SS-SR
> 82 UNICOM:	122.950
> 83 WIND INDICATOR:	YES-L
84 SEGMENTED CIRCLE:	
85 CONTROL TWR:	YES
86 FSS:	RALEIGH
87 FSS ON ARPT:	NO
88 FSS PHONE NR:	
89 TOLL FREE NR:	1-800-WX-BRIEF

BASED AIRCRAFT

90 SINGLE ENG:	67
91 MULTI ENG:	11
92 JET:	21
93 HELICOPTERS:	8
TOTAL:	107
94 GLIDERS:	0
95 MILITARY:	0
96 ULTRA-LIGHT:	0

OPERATIONS

100 AIR CARRIER:	10,829
102 AIR TAXI:	10,984
103 G A LOCAL:	13,513
104 G A ITNRNT:	29,595
105 MILITARY:	13,316
TOTAL:	78,237

OPERATIONS FOR 12 MONTHS ENDING 01/31/2022

RUNWAY DATA

		06/24	17/35
> 30 RUNWAY IDENT:			
> 31 LENGTH:		8,016	7,754
> 32 WIDTH:		150	150
> 33 SURF TYPE-COND:		ASPH-G	ASPH-G
> 34 SURF TREATMENT:		GRVD	GRVD
35 GROSS WT:	S	75.0	60.0
36 (IN THSDS)	D	160.0	185.0
37	2D	275.0	300.0
38	2D/2DS		
> 39 PCN / PCR:		78/F/B/W/T (PCN)	61/F/B/W/T (PCN)

LIGHTING/APCH AIDS

> 40 EDGE INTENSITY:	HIGH	HIGH
> 42 RWY MARK TYPE-COND:	PIR- G / PIR- G	PIR- G / PIR- G
> 43 VGSI:	P4R / P4L	P4L / P4L
44 THR CROSSING HGT:	57 / 48	50 / 36
45 VISUAL GLIDE ANGLE:	3.00 / 3.00	3.00 / 3.00
> 46 CNTRLN-TDZ:	- N / - N	- / -
> 47 RVR-RVV:	TR - / TR -	R - / T - N
> 48 REIL:	Y / N	Y /
> 49 APCH LIGHTS:	/ MALSR	/ MALSR

OBSTRUCTION DATA

50 FAR 77 CATEGORY:	PIR / PIR	C / PIR
> 51 DISPLACED THR:	/	350 / 400
> 52 CTLG OBSTN:	/	/
> 53 OBSTN MARKED/LGTD:	/	/
> 54 HGT ABOVE RWY END:	/	/
> 55 DIST FROM RWY END:	0 / 0	0 / 0
> 56 CNTRLN OFFSET:	/	/
57 OBSTN CLNC SLOPE:	50:1 / 50:1	50:1 / 50:1
58 CLOSE-IN OBSTN:	N / N	N / N

DECLARED DISTANCES

> 60 TAKE OFF RUN AVBL (TORA):	8,016 / 8,016	7,754 / 7,754
> 61 TAKE OFF DIST AVBL (TODA):	8,016 / 8,016	7,754 / 7,754
> 62 ACLT STOP DIST AVBL (ASDA):	8,016 / 8,016	6,954 / 7,604
> 63 LNDG DIST AVBL (LDA):	8,016 / 8,016	6,604 / 7,204

(>) ARPT MGR PLEASE ADVISE FSS IN ITEM 86 WHEN CHANGES OCCUR TO ITEMS PRECEDED BY >

> 110 REMARKS:

A 016	EXT 1001.
A 081	ACTVT MALSR RWY 24 & 35; REIL RWY 06 & 17; PAPI RWY 06, 17, 24; HIRL RWY 06/24 & 17/35; AND ALL TWY LGTS - CTAF.
A 086	FSS-RALEIGH RDU-NOTAM ILM
A 110-001	FUEL: AIR WILMINGTON, INC, 910-763-4691
A 110-004	BEARING STRENGTH RWY 06-24: ST175
A 110-005	BEARING STRENGTH RWY 17-35: ST175
A 110-006	FOR CD IF UNA TO CTC ON FSS FREQ, CTC WASHINGTON ARTCC AT 703-771-3587.

111 INSPECTOR: (F) 112 LAST INSP: 03/09/2022 113 LAST INFO REQ:

DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Woodbridge Apts - NAL #1 (Current)
Record Date	07/20/2023
User's Name	Andrea Gievers

Road # 1 Name:	**Princess Palace Drive (Current)**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	852	852	852
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	3772	164	164
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	41	37	48
Calculate Road #1 DNL	49	Reset	

Road # 2 Name:	**Barclay Hills Drive (Current)**

Road #2

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑

Effective Distance	911	911	911
Distance to Stop Sign			
Average Speed	25	25	25
Average Daily Trips (ADT)	3588	156	156
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	38	34	47
Calculate Road #2 DNL	48	Reset	

Railroad #1 Track Identifier: **ID# 629290C Market Street**

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☑
Effective Distance		2070
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	54

Calculate Rail #1 DNL	54	Reset

Railroad #2 Track Identifier:	**RR# 629292R South Loop**

Rail # 2

Train Type	**Electric** ☐	**Diesel** ☑
Effective Distance		2858
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	52
Calculate Rail #2 DNL	52	Reset

Add Road Source | Add Rail Source

Airport Noise Level	54.9
Loud Impulse Sounds?	○**Yes** ◉**No**

Combined DNL for all	**58**

Road and Rail sources	58
Combined DNL including Airport	**59**
Site DNL with Loud Impulse Sound	

Calculate Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
  - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
  - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
  - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
  - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
  - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

DNL Calculator

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- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Woodbridge Apts - NAL #1 (2035)
Record Date	07/20/2023
User's Name	Andrea Gievers

Road # 1 Name:	**Princess Palace Drive (2035)**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	852	852	852
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	3321	144	144
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	41	37	47

Calculate Road #1 DNL | 49 | Reset

Road # 2 Name:	**Barclay Hills Drive (2035)**

Road #2

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑

Effective Distance	911	911	911
Distance to Stop Sign			
Average Speed	25	25	25
Average Daily Trips (ADT)	4661	203	203
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	39	35	48
Calculate Road #2 DNL	49	Reset	

Railroad #1 Track Identifier: **ID# 629290C Market Street**

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☑
Effective Distance		2070
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	54

Calculate Rail #1 DNL	54	Reset

Railroad #2 Track Identifier:	**RR# 629292R South Loop**

Rail # 2

Train Type	**Electric** ☐	**Diesel** ☑
Effective Distance		2858
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	52
Calculate Rail #2 DNL	52	Reset

Add Road Source | Add Rail Source

Airport Noise Level	54.9
Loud Impulse Sounds?	○**Yes** ◉**No**

Combined DNL for all	**58**

Road and Rail sources	58
Combined DNL including Airport	**59**
Site DNL with Loud Impulse Sound	

Calculate Reset

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If your site DNL is in Excess of 65 decibels, your options are:

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- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
  - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
  - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
  - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
  - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
  - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

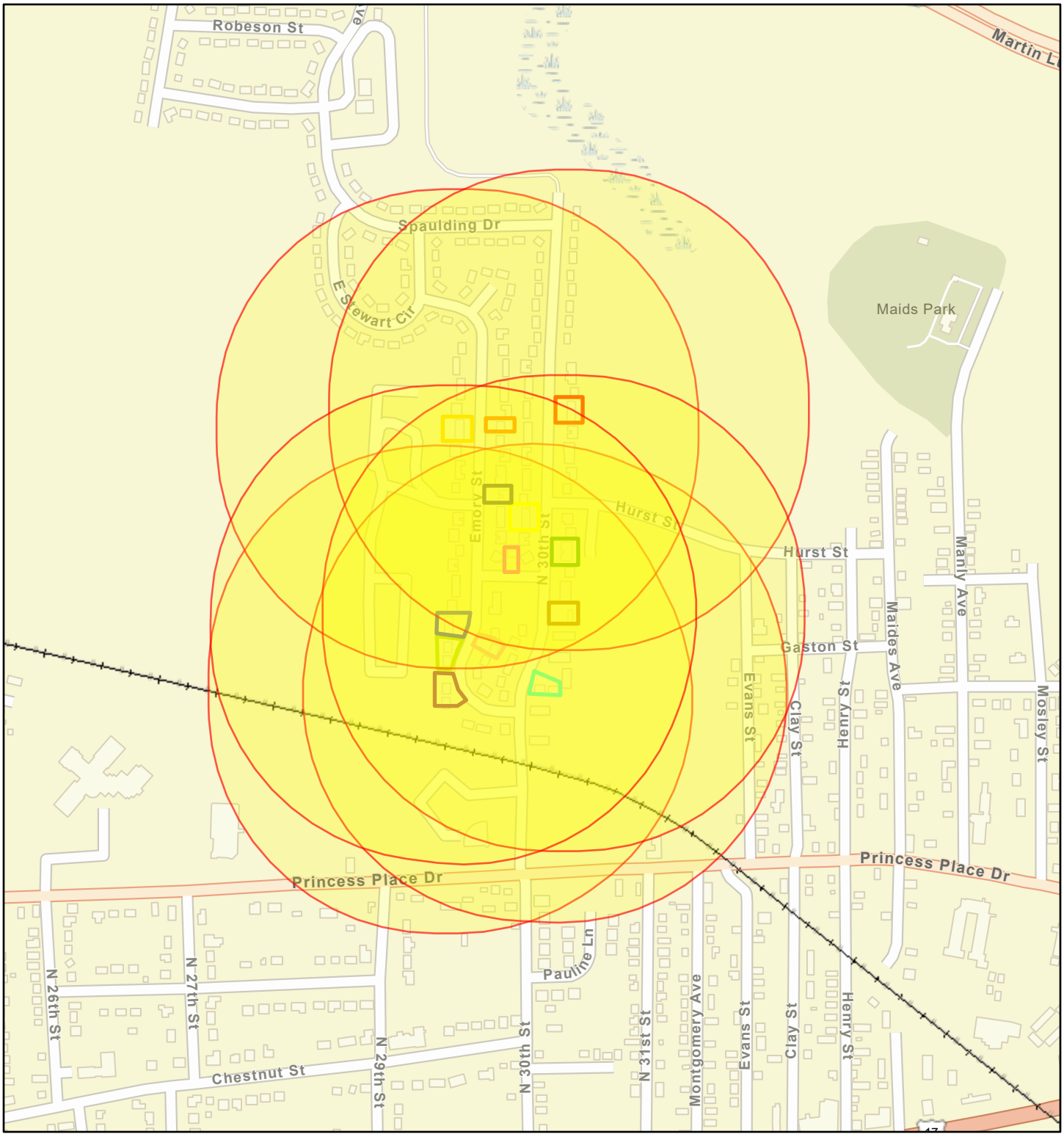
Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

Creekwood/ Creekwood South

Creekwood (14 Units) at
602, 712, 804, 805, 809 & 1008 N. 30th St.,
617, 701, 707, 708, 902, 915 & 922 Emory St.,
and 2905 Clayton Place, Wilmington, NC
28405

Creekwood (14 Units) - Roads Map with 1,000-foot Buffer



April 28, 2023

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

- Project Buffer
- 804 N. 30th St.
- 902 Emory St.
- 712 N. 30th St.
- 707 Emory St.
- 708 Emory St.
- 1008 N. 30th St.
- 602 N. 30th St.
- 2905 Clayton Pl.
- 922 Emory St.
- 915 Emory St.
- 701 Emory St.
- 617 Emory St.
- 805 & 809 N. 30th St.
- Railroads

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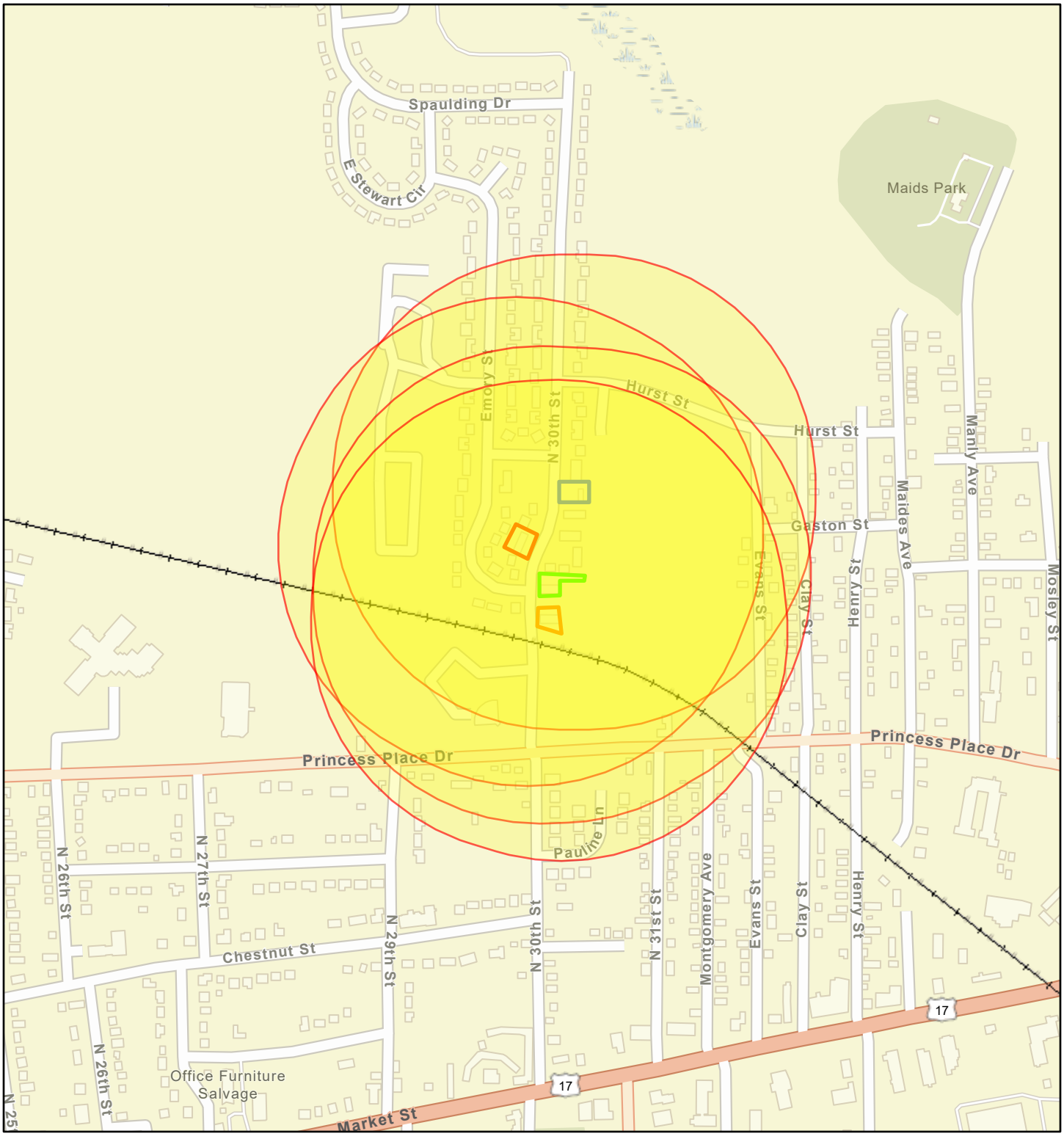
Creekwood South (6 Units) - Roads Map with 1,000-foot Buffer



April 28, 2023

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

- Project Buffer
- 710 N. 30th St.
- 609, 611 & 613 N. 30th St.
- 502 N. 30th St.
- 522 N. 30th St.
- Railroads

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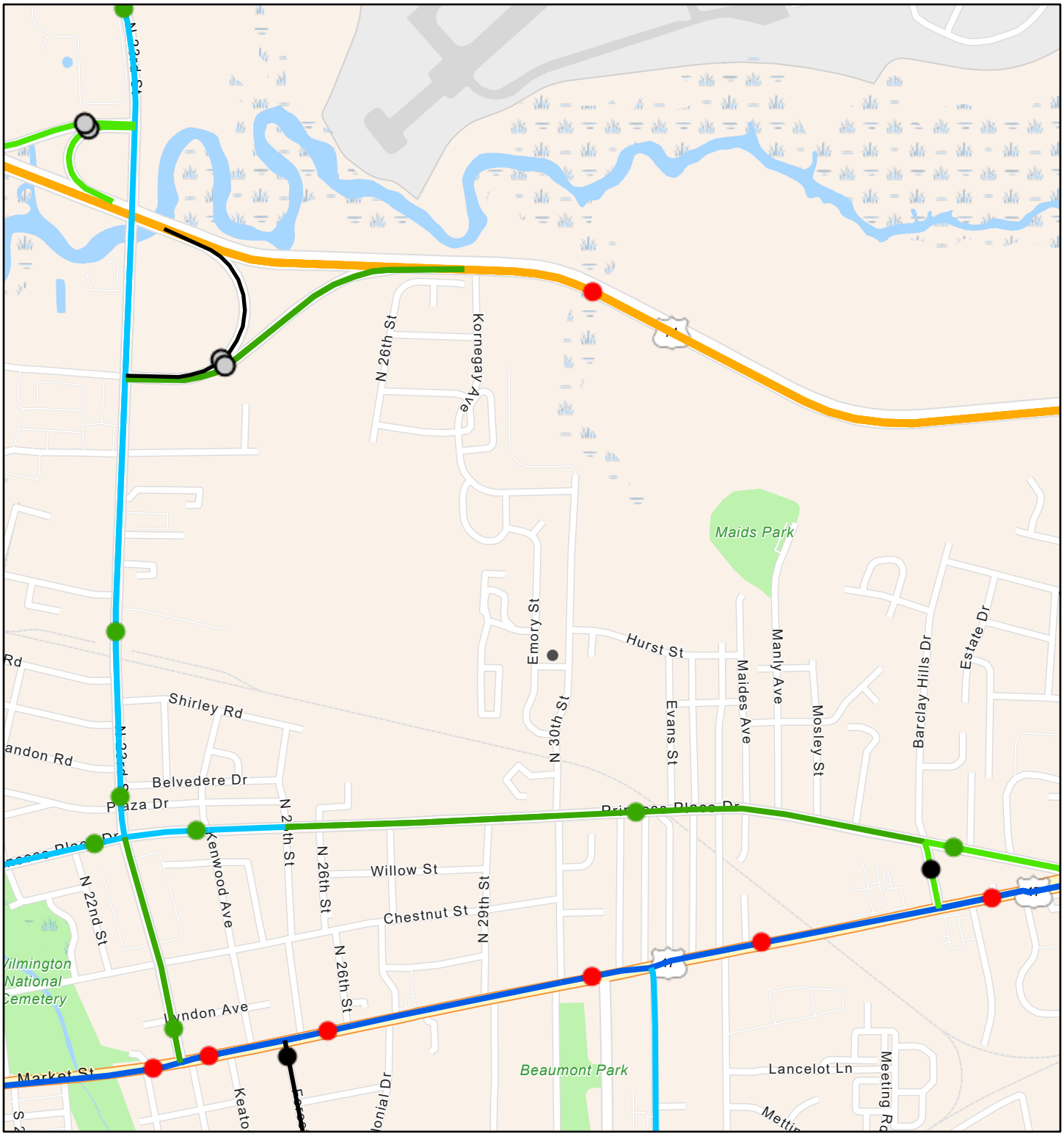
Creekwood - NCDOT AADT Map



6/12/2023, 5:23:22 PM

1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

NCDOT_AADT_Traffic_Segmentation - NCDOT_AADT_Stations

- US Routes
- Secondary Routes
- Non-System Routes
- Ramps

NCDOT_AADT_Traffic_Segmentation - NCDOT_AADT_Traffic_Segments_Secondary_Non-System

- 500 - 1,999
- 2,000 - 4,999
- 5,000 - 9,999
- 10,000 - 19,999

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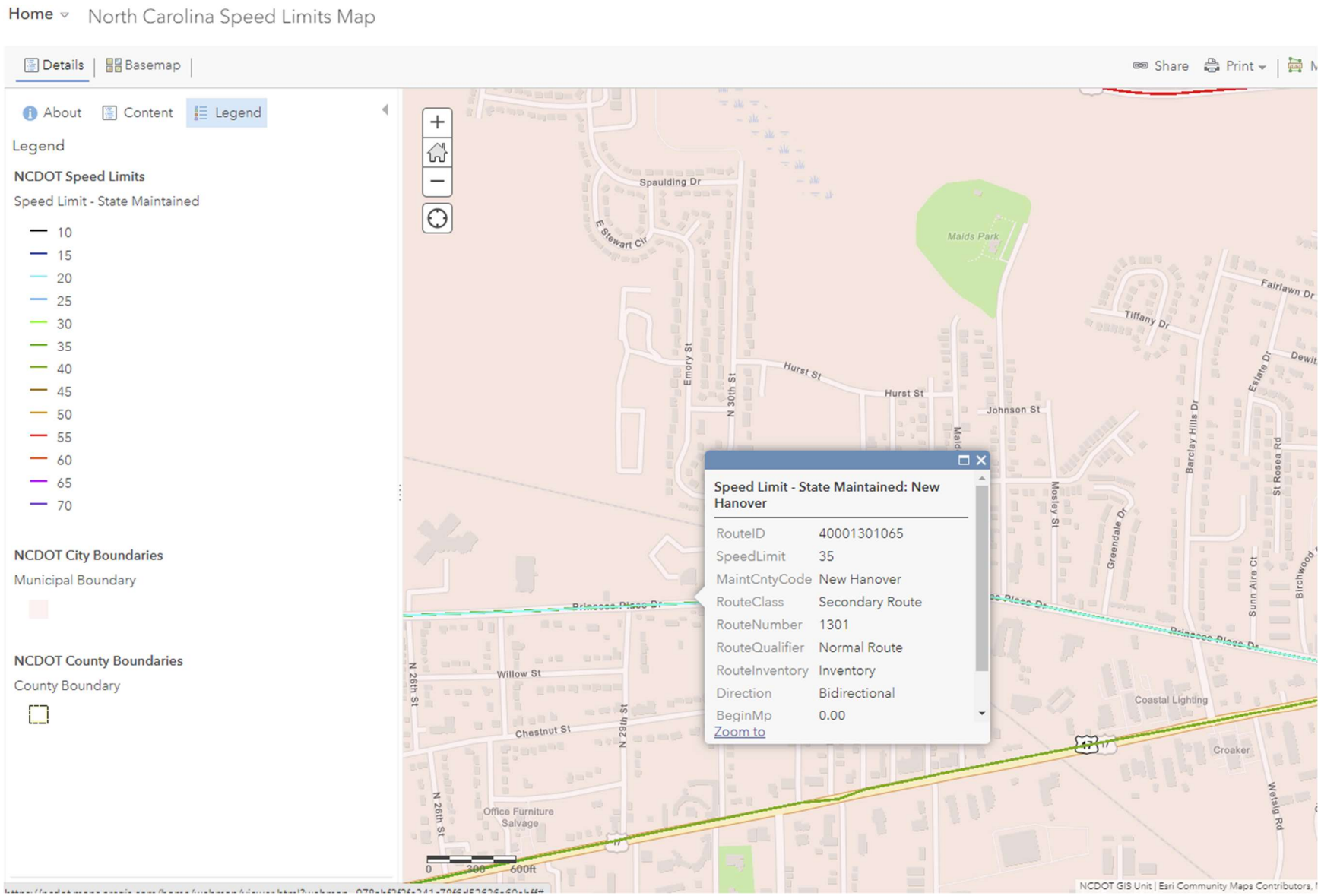
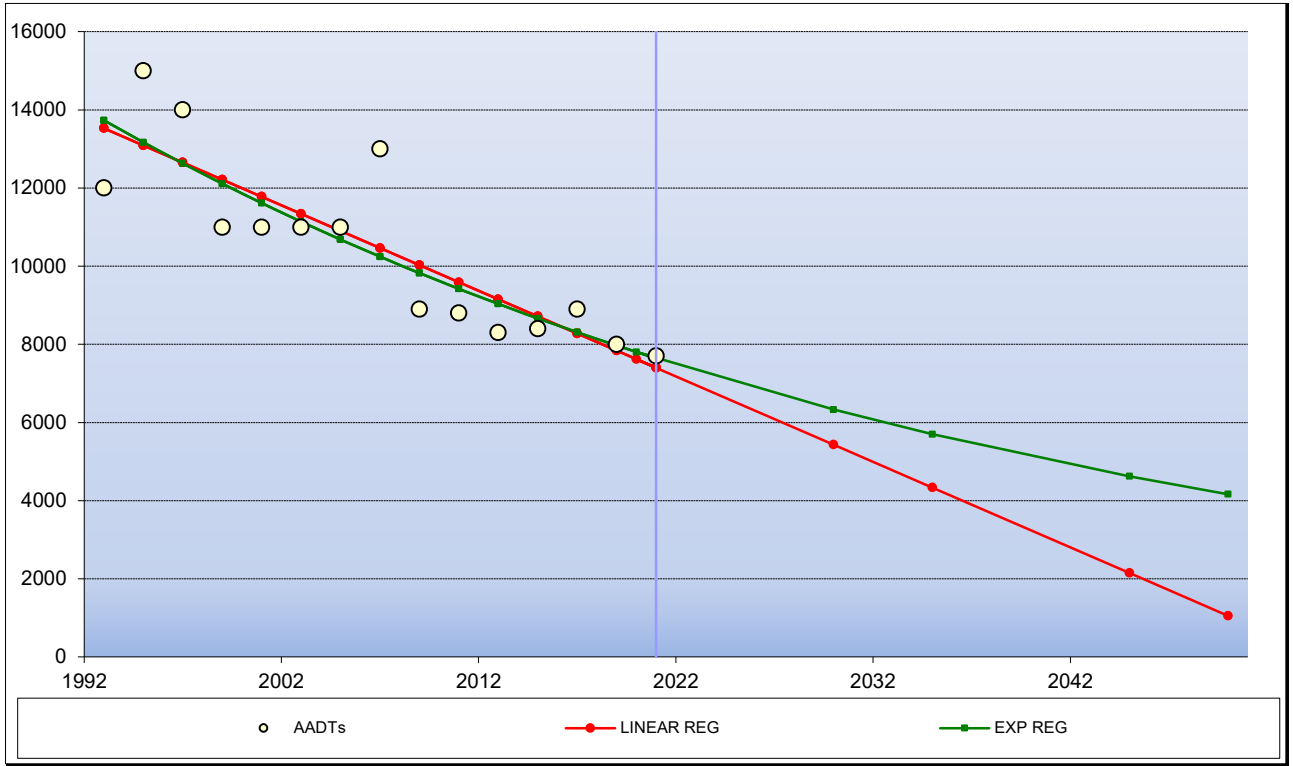
NCDOT Traffic Survey Group staff collected, analyzed, processed and reported this data for calendar year 2021 | NCDOT Traffic Survey Group staff collected, analyzed, processed and reported this

Creekwood/ Creekwood South – Speed Limit Map



AADT TREND ANALYSIS

#1 -- SR 1301 (PRINCESS PALACE DR) W OF EVANS ST



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	LINEAR REG:	-218.9
1993	12000	LINEAR %:	-2.13%
1995	15000	EXPONENTIAL REG:	-2.07%
1997	14000		
1999	11000		
2001	11000	R-SQUARED	
2003	11000	LINEAR:	0.7320
2005	11000	EXPONENTIAL:	0.7743
2007	13000		
2009	8900		
2011	8800	NUMBER OF DATA POINTS:	
2013	8300		15
2015	8400		
2017	8900		
2019	8000		
2021	7700		

SHOW HISTORIC DATA:	SHOW FUTURE DATA:	SHOW STATION #:	
☑ LINEAR REGRESSION	☑ LINEAR REGRESSION	1- SR 1301 (PRINCESS PALACE DR) W OF EVANS ST	
☑ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION	FUT YRS:	2021
		#1	2020
☑ HISTORIC DATA		#2	2030
		#3	2035
		#4	2045
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH		#5	2050

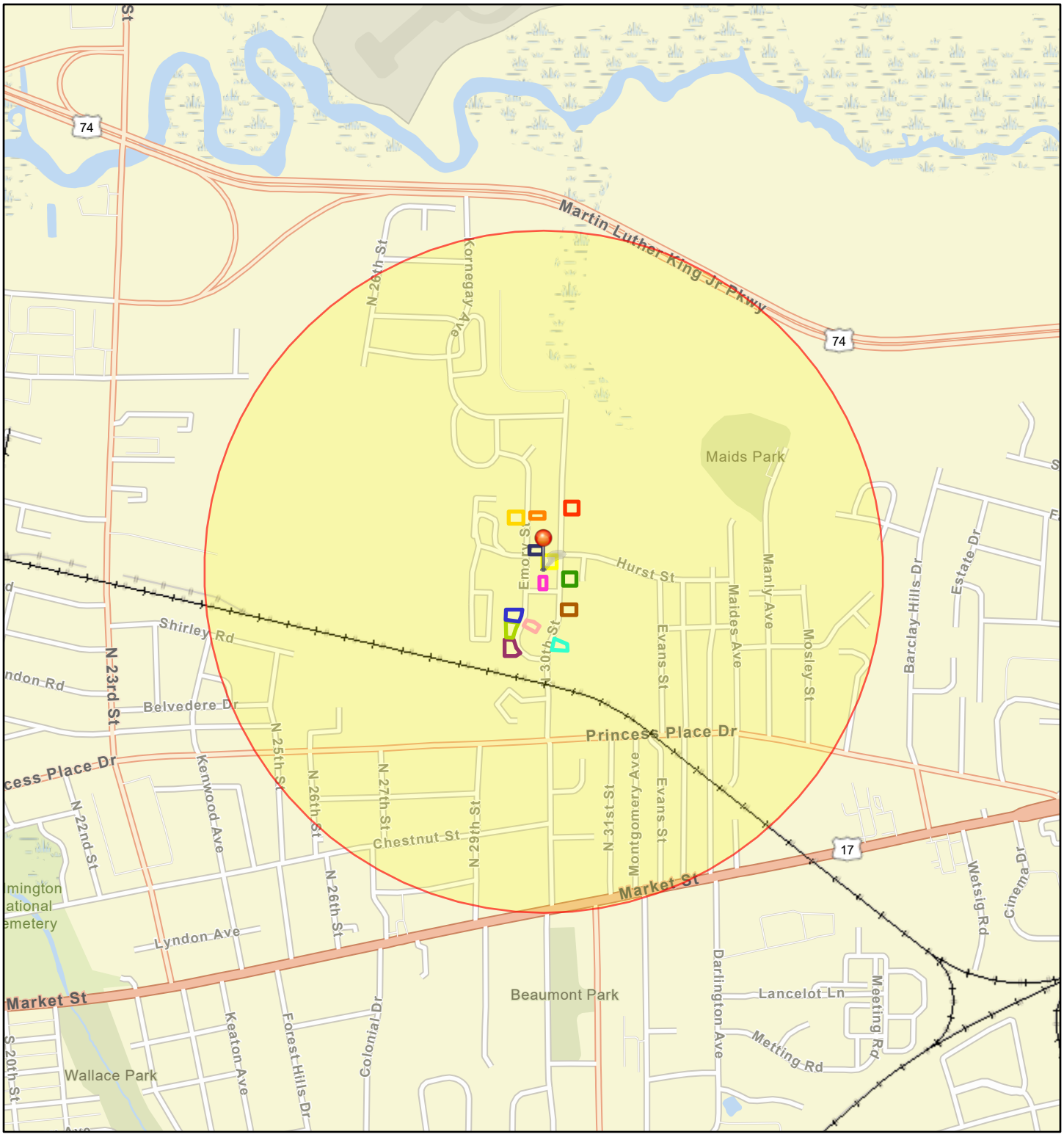
FUTURE PROJECTIONS:

Linear Reg	Exp Reg			
7402	7642			
7621	7803			
5431	6329			
4337	5700			
2147	4623			
1053	4164			

Title - Replace with text

Title - Replace with text or delete

Creekwood (14 Units) - Railroads Map with 3,000-foot Buffer



April 28, 2023

1:18,056

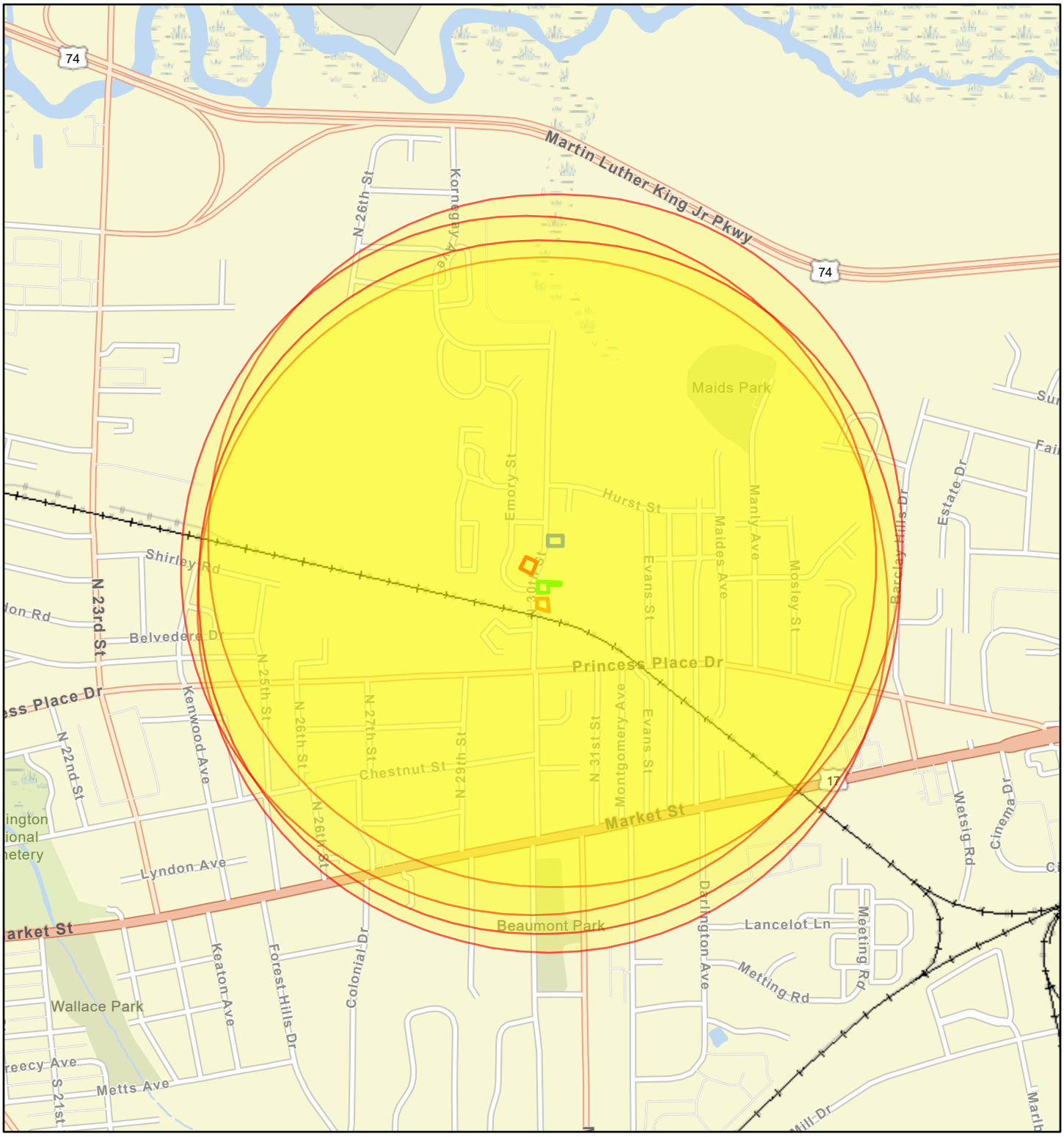
0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

- Creekwood (14 Units)
- Project Buffer
- 804 N. 30th St.
- 902 Emory St.
- 712 N. 30th St.
- 707 Emory St.
- 708 Emory St.
- 1008 N. 30th St.
- 602 N. 30th St.
- 2905 Clayton Pl.
- 922 Emory St.
- 915 Emory St.
- 701 Emory St.
- 617 Emory St.
- 805 & 809 N. 30th St.
- Railroads

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

Creekwood South (6 Units) - Railroads Map with 3,000-foot Buffer



April 28, 2023

1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

- Project Buffer
- 710 N. 30th St.
- 609, 611 & 613 N. 30th St.
- 502 N. 30th St.
- 522 N. 30th St.
- Railroads

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

Creekwood - RR Crossing ID# 629287U 30th St



U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date *(MM/DD/YYYY)*: 08 / 03 / 2022

B. Reporting Agency: ☐ Railroad ☐ Transit ☒ State ☐ Other

C. Reason for Update *(Select only one)*: ☒ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☐ Admin. Correction

D. DOT Crossing Inventory Number: 629287U

Part I: Location and Classification Information

1. Primary Operating Railroad: CSX Transportation [CSX]

2. State: NORTH CAROLINA

3. County: NEW HANOVER

4. City / Municipality: ☒ In ☐ Near WILMINGTON

5. Street/Road Name & Block Number: THIRTIETH STREET (Street/Road Name) | 500 * (Block Number)

6. Highway Type & No.: LS

7. Do Other Railroads Operate a Separate Track at Crossing? ☐ Yes ☒ No
If Yes, Specify RR

8. Do Other Railroads Operate Over Your Track at Crossing? ☐ Yes ☒ No
If Yes, Specify RR

9. Railroad Division or Region: ☐ None CAROLINAS

10. Railroad Subdivision or District: ☐ None WILMINGTON

11. Branch or Line Name: ☐ None WILMINGTON BELT LIN

12. RR Milepost: ACB | 0245.720 | *(prefix) | (nnnn.nnn) | (suffix)*

13. Line Segment *: 937041

14. Nearest RR Timetable Station *: WILMINGTON

15. Parent RR *(if applicable)*: ☒ N/A

16. Crossing Owner *(if applicable)*: ☒ N/A

17. Crossing Type: ☒ Public ☐ Private

18. Crossing Purpose: ☒ Highway ☐ Pathway, Ped. ☐ Station, Ped.

19. Crossing Position: ☒ At Grade ☐ RR Under ☐ RR Over

20. Public Access *(if Private Crossing)*: ☐ Yes ☐ No

21. Type of Train: ☒ Freight ☐ Intercity Passenger ☐ Commuter ☐ Transit ☐ Shared Use Transit ☐ Tourist/Other

22. Average Passenger Train Count Per Day: ☐ Less Than One Per Day ☐ Number Per Day 0

23. Type of Land Use: ☐ Open Space ☐ Farm ☒ Residential ☐ Commercial ☐ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?: ☐ Yes ☒ No If Yes, Provide Crossing Number

25. Quiet Zone *(FRA provided)*: ☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established

26. HSR Corridor ID: ☒ N/A

27. Latitude in decimal degrees *(WGS84 std: nn.nnnnnnn)*: 34.245278

28. Longitude in decimal degrees *(WGS84 std: -nnn.nnnnnnn)*: -77.907282

29. Lat/Long Source: ☒ Actual ☐ Estimated

30.A. Railroad Use *

31.A. State Use *

30.B. Railroad Use *

31.B. State Use *

30.C. Railroad Use *

31.C. State Use *

30.D. Railroad Use *

31.D. State Use *

32.A. Narrative *(Railroad Use)* *

32.B. Narrative *(State Use)* *

33. Emergency Notification Telephone No. *(posted)*: 800-232-0144

34. Railroad Contact *(Telephone No.)*: 904-366-3051

35. State Contact *(Telephone No.)*: 919-707-4100

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains *(6 AM to 6 PM)*	1.B. Total Night Thru Trains *(6 PM to 6 AM)*	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day
0	0	0	0	☒ How many trains per week? 4

2. Year of Train Count Data *(YYYY)*: 2021

3. Speed of Train at Crossing
3.A. Maximum Timetable Speed *(mph)*: 10
3.B. Typical Speed Range Over Crossing *(mph)* From 10 to 10

4. Type and Count of Tracks
Main 1 Siding 0 Yard 0 Transit 0 Industry 0

5. Train Detection *(Main Track only)*
☐ Constant Warning Time ☒ Motion Detection ☐ AFO ☐ PTC ☐ DC ☐ Other ☐ None

6. Is Track Signaled? ☐ Yes ☒ No

7.A. Event Recorder ☐ Yes ☒ No

7.B. Remote Health Monitoring ☐ Yes ☒ No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date *(MM/DD/YYYY)*	PAGE 2	D. Crossing Inventory Number *(7 char.)*
08/03/2022		629287U

Part III: Highway or Pathway Traffic Control Device Information

1. Are there Signs or Signals? ☒ Yes ☐ No

2. Types of Passive Traffic Control Devices associated with the Crossing

2.A. Crossbuck Assemblies *(count)*	2.B. STOP Signs *(R1-1)* *(count)*	2.C. YIELD Signs *(R1-2)* *(count)*	2.D. Advance Warning Signs *(Check all that apply; include count)* ☐ None
0	0	0	☒ W10-1 1 ☒ W10-3 0 ☒ W10-11 0 ☒ W10-2 0 ☒ W10-4 0 ☒ W10-12 0

2.E. Low Ground Clearance Sign *(W10-5)*	2.F. Pavement Markings	2.G. Channelization Devices/Medians	2.H. EXEMPT Sign *(R15-3)*	2.I. ENS Sign *(I-13)* Displayed
☐ Yes *(count* 0 *)* ☒ No	☐ Stop Lines ☐ Dynamic Envelope ☐ RR Xing Symbols ☒ None	☐ All Approaches ☐ Median ☐ One Approach ☒ None	☐ Yes ☒ No	☒ Yes ☐ No

2.J. Other MUTCD Signs	2.K. Private Crossing Signs *(if private)*	2.L. LED Enhanced Signs *(List types)*
☐ Yes ☒ No Specify Type _____ Count 0 Specify Type _____ Count 0 Specify Type _____ Count 0	☐ Yes ☐ No	

3. Types of Train Activated Warning Devices at the Grade Crossing *(specify count of each device for all that apply)*

3.A. Gate Arms *(count)*	3.B. Gate Configuration	3.C. Cantilevered *(or Bridged)* Flashing Light Structures *(count)*	3.D. Mast Mounted Flashing Lights *(count of masts)* 2	3.E. Total Count of Flashing Light Pairs
Roadway 0 Pedestrian 0	☐ 2 Quad ☐ Full *(Barrier)* Resistance ☐ 3 Quad ☐ 4 Quad ☐ Median Gates	Over Traffic Lane 0 ☐ Incandescent Not Over Traffic Lane 0 ☐ LED	☒ Incandescent ☐ LED ☒ Back Lights Included ☐ Side Lights Included	4

3.F. Installation Date of Current Active Warning Devices: *(MM/YYYY)*	3.G. Wayside Horn	3.H. Highway Traffic Signals Controlling Crossing	3.I. Bells *(count)*
_____/_____ ☐ Not Required	☐ Yes Installed on *(MM/YYYY)* _____/_____ ☒ No	☐ Yes ☒ No	2

3.J. Non-Train Active Warning	3.K. Other Flashing Lights or Warning Devices
☐ Flagging/Flagman ☐ Manually Operated Signals ☐ Watchman ☐ Floodlighting ☒ None	Count 0 Specify type _____

4.A. Does nearby Hwy Intersection have Traffic Signals?	4.B. Hwy Traffic Signal Interconnection	4.C. Hwy Traffic Signal Preemption	5. Highway Traffic Pre-Signals	6. Highway Monitoring Devices *(Check all that apply)*
☒ Yes ☐ No	☒ Not Interconnected ☐ For Traffic Signals ☐ For Warning Signs	☐ Simultaneous ☐ Advance	☐ Yes ☒ No Storage Distance * 0 Stop Line Distance * 0	☐ Yes - Photo/Video Recording ☐ Yes – Vehicle Presence Detection ☒ None

Part IV: Physical Characteristics

1. Traffic Lanes Crossing Railroad	2. Is Roadway/Pathway Paved?	3. Does Track Run Down a Street?	4. Is Crossing Illuminated? *(Street lights within approx. 50 feet from nearest rail)*
☐ One-way Traffic ☒ Two-way Traffic ☐ Divided Traffic Number of Lanes 2	☒ Yes ☐ No	☐ Yes ☒ No	☒ Yes ☐ No

5. Crossing Surface *(on Main Track, multiple types allowed)* Installation Date * *(MM/YYYY)* _____/_____ Width * _____ Length * 57
☐ 1 Timber ☐ 2 Asphalt ☒ 3 Asphalt and Timber ☐ 4 Concrete ☐ 5 Concrete and Rubber ☐ 6 Rubber ☐ 7 Metal
☐ 8 Unconsolidated ☐ 9 Composite ☐ 10 Other *(specify)* _____

6. Intersecting Roadway within 500 feet?	7. Smallest Crossing Angle	8. Is Commercial Power Available? *
☒ Yes ☐ No If Yes, Approximate Distance *(feet)* 500	☐ 0° – 29° ☐ 30° – 59° ☒ 60° - 90°	☒ Yes ☐ No

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☐ (02) Other Nat Hwy System (NHS) ☐ (03) Federal AID, Not NHS ☒ (08) Non-Federal Aid	☐ (0) Rural ☒ (1) Urban ☐ (1) Interstate ☐ (5) Major Collector ☐ (2) Other Freeways and Expressways ☐ (3) Other Principal Arterial ☐ (6) Minor Collector ☐ (4) Minor Arterial ☒ (7) Local	☐ Yes ☒ No	25 MPH ☒ Posted ☐ Statutory

5. Linear Referencing System *(LRS Route ID)* *

6. LRS Milepost *

7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 2014 AADT 3664	1 %	☒ Yes ☐ No Average Number per Day 57	☐ Yes ☒ No

Submission Information - *This information is used for administrative purposes and is not available on the public website.*

Submitted by _____ Organization _____ Phone _____ Date _____

Public reporting burden for this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for information collection is 2130-0017. Send comments regarding this burden estimate or any other aspect of this collection, including for reducing this burden to: Information Collection Officer, Federal Railroad Administration, 1200 New Jersey Ave. SE, MS-25 Washington, DC 20590.

Gievers, Andrea

From: Community Affairs and Safety <CommunityAffairsAndSafety@csx.com>
Sent: Thursday, June 22, 2023 2:58 PM
To: Gievers, Andrea
Subject: [External] FW: HUD Form Request 629287U

Follow Up Flag: Follow up
Flag Status: Flagged

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.

1. Train type - Electric or Diesel? Diesel
2. Average Train Speed? 10
3. Engines per Train? 2
4. Railway Cars per Train? 35
5. Average Train Operations? 2 *4 days per week
6. Night Fraction of ATO? 35%
7. Railway Whistles or Horns? Yes, horns are sounded in compliance with federal regulations
8. Bolted or Welded Tracks? Welded

-----Original Message-----
From: Community Affairs and Safety <CommunityAffairsAndSafety@csx.com>
Sent: Thursday, June 22, 2023 12:11 PM
To: Smith, Peggy <Peggy_Smith@CSX.com>
Subject: FW: HUD Form Request

-----Original Message-----
From: noreply-csx@csx.com <noreply-csx@csx.com>
Sent: Wednesday, June 14, 2023 1:00 PM
To: Community Affairs and Safety <CommunityAffairsandSafety@csx.com>
Subject: HUD Form Request

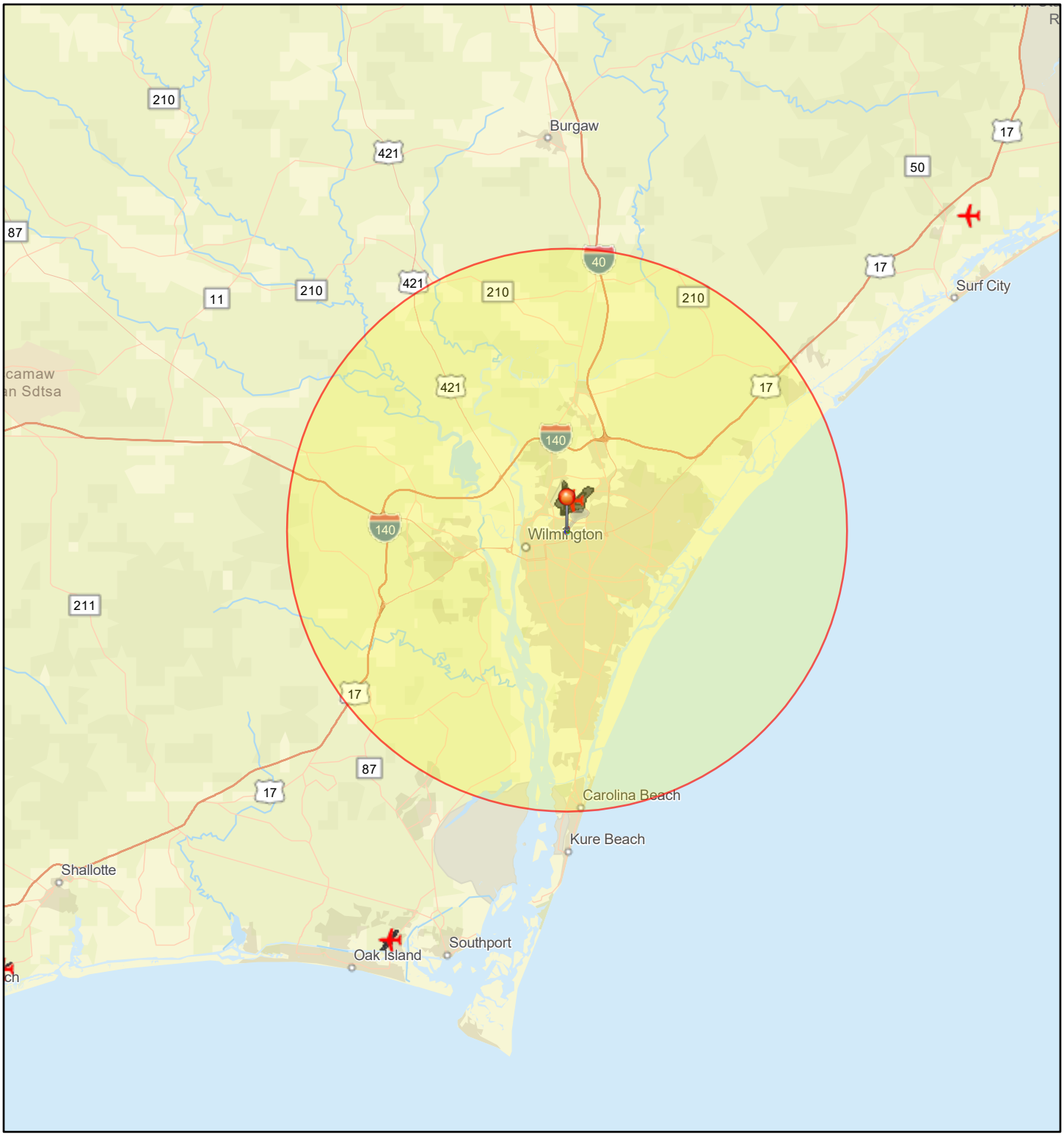
This form was sent at: Jun 14, 2023 12:59 PM

REASON: HUD Forms Request
NAME: Andrea Gievers
PHONENUMBER: 18456821700
EMAILADDRESS: andrea.l.gievers@rebuild.nc.gov
AFFECTEDLOCATIONORDOT: 629287U
YOURMESSAGE: HUD noise railway assessment data request. Thanks!

This email transmission and any accompanying attachments may contain CSX privileged and confidential or business proprietary information intended only for the use of the intended addressee. Any dissemination, distribution, forwarding, copying, or action taken in reliance on the contents of this email by anyone other than the intended

recipient is strictly prohibited. If you have received this email in error please immediately delete it, destroy all copies, and notify the sender at the above CSX email address.

Creekwood (14 Units) - Airports Map with 15-mile Buffer



April 28, 2023

1:577,791

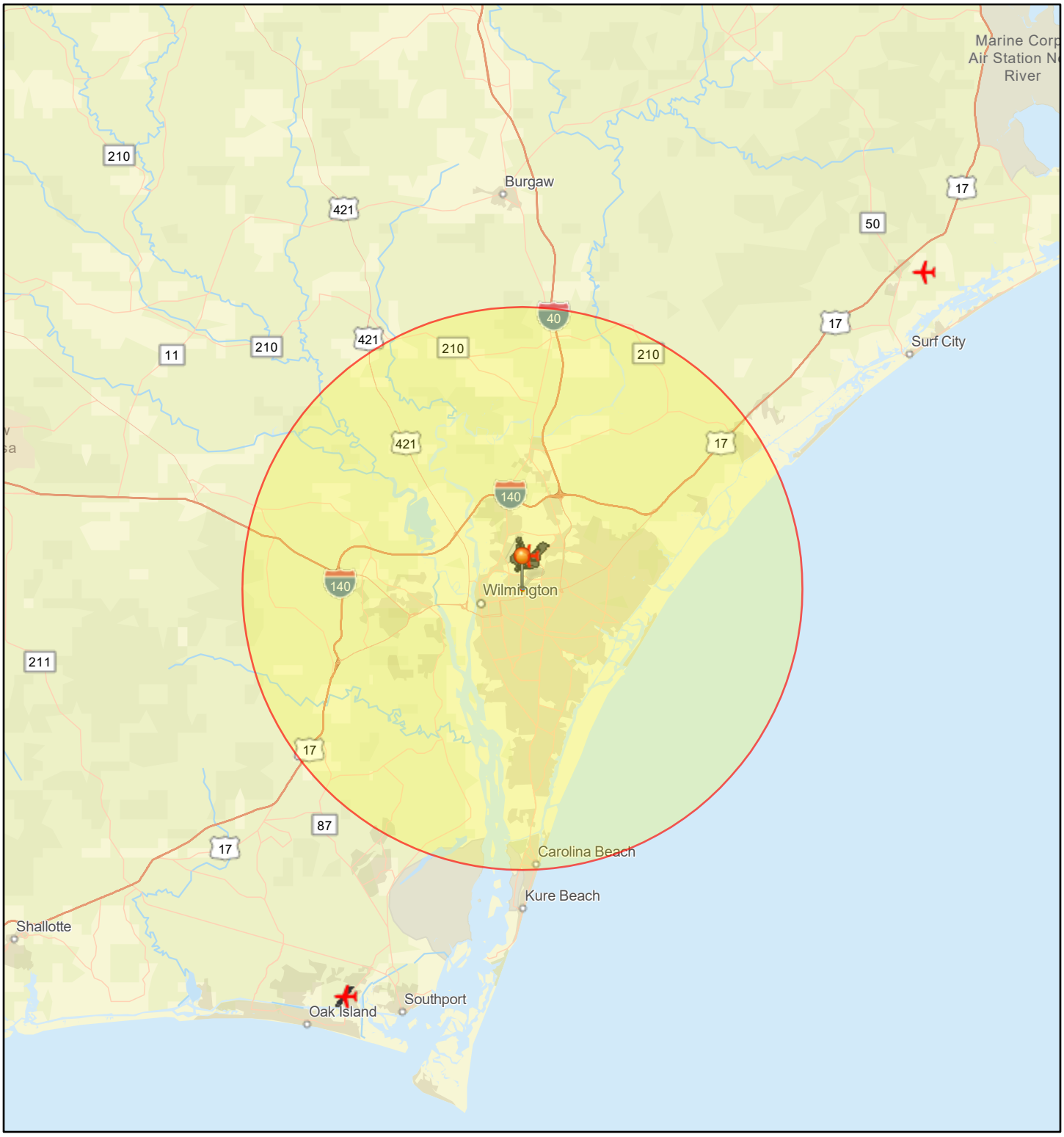
0 4 8 16 mi

0 5 10 20 km

- Creekwood (14 Units)
- Project Buffer
- 804 N. 30th St.
- 902 Emory St.
- 712 N. 30th St.
- 707 Emory St.
- 708 Emory St.
- 1008 N. 30th St.
- 602 N. 30th St.
- 2905 Clayton Pl.
- 922 Emory St.
- 915 Emory St.
- 701 Emory St.
- 617 Emory St.
- 805 & 809 N. 30th St.
- Airport Points
- Airport Polygons

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

Creekwood South (6 Units) - Airports Map with 15-mile Buffer



April 28, 2023

1:577,791

0 4 8 16 mi

0 5 10 20 km

Project Buffer

Creekwood South

710 N. 30th St.

609, 611 & 613 N. 30th St.

502 N. 30th St.

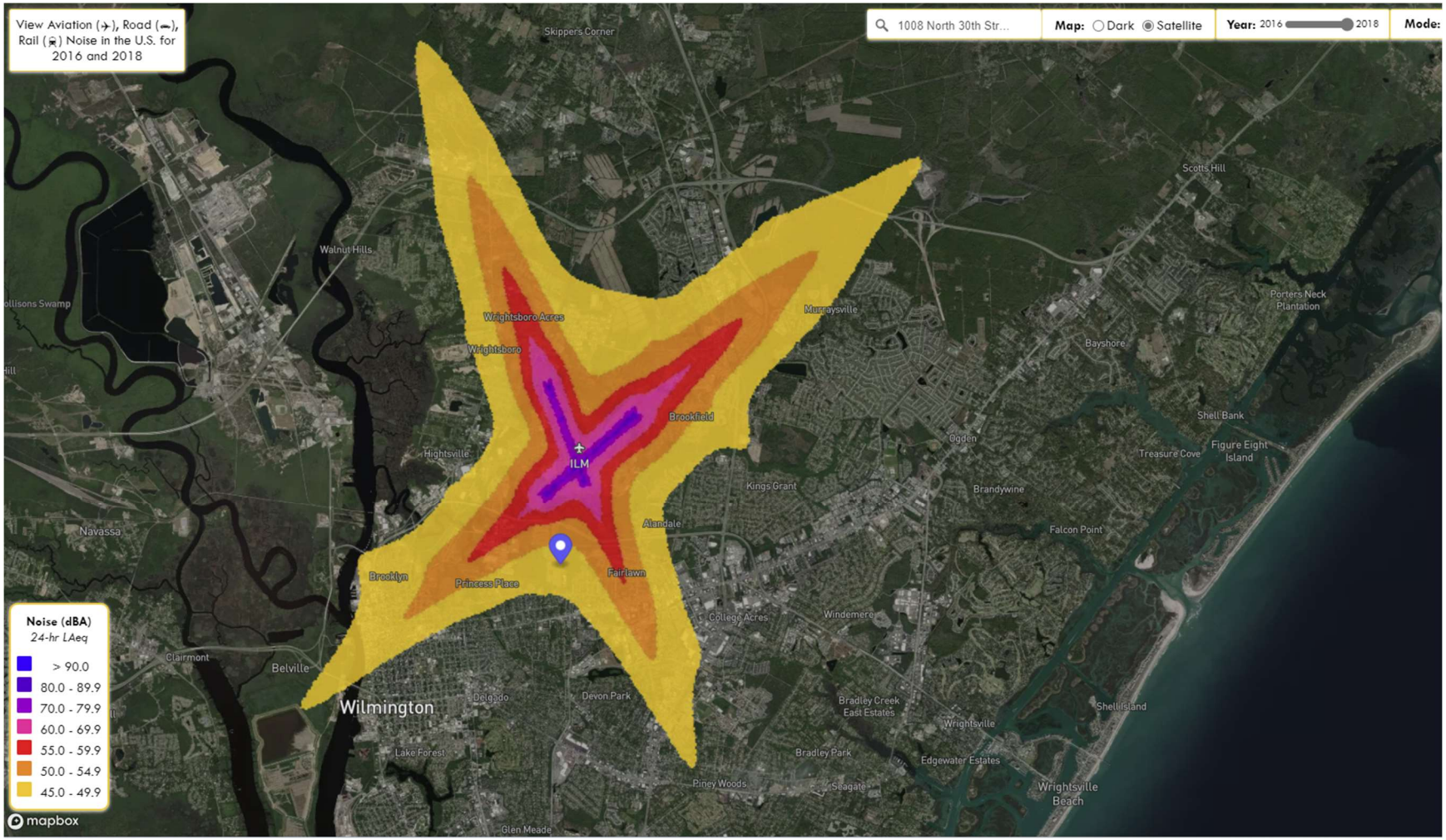
522 N. 30th St.

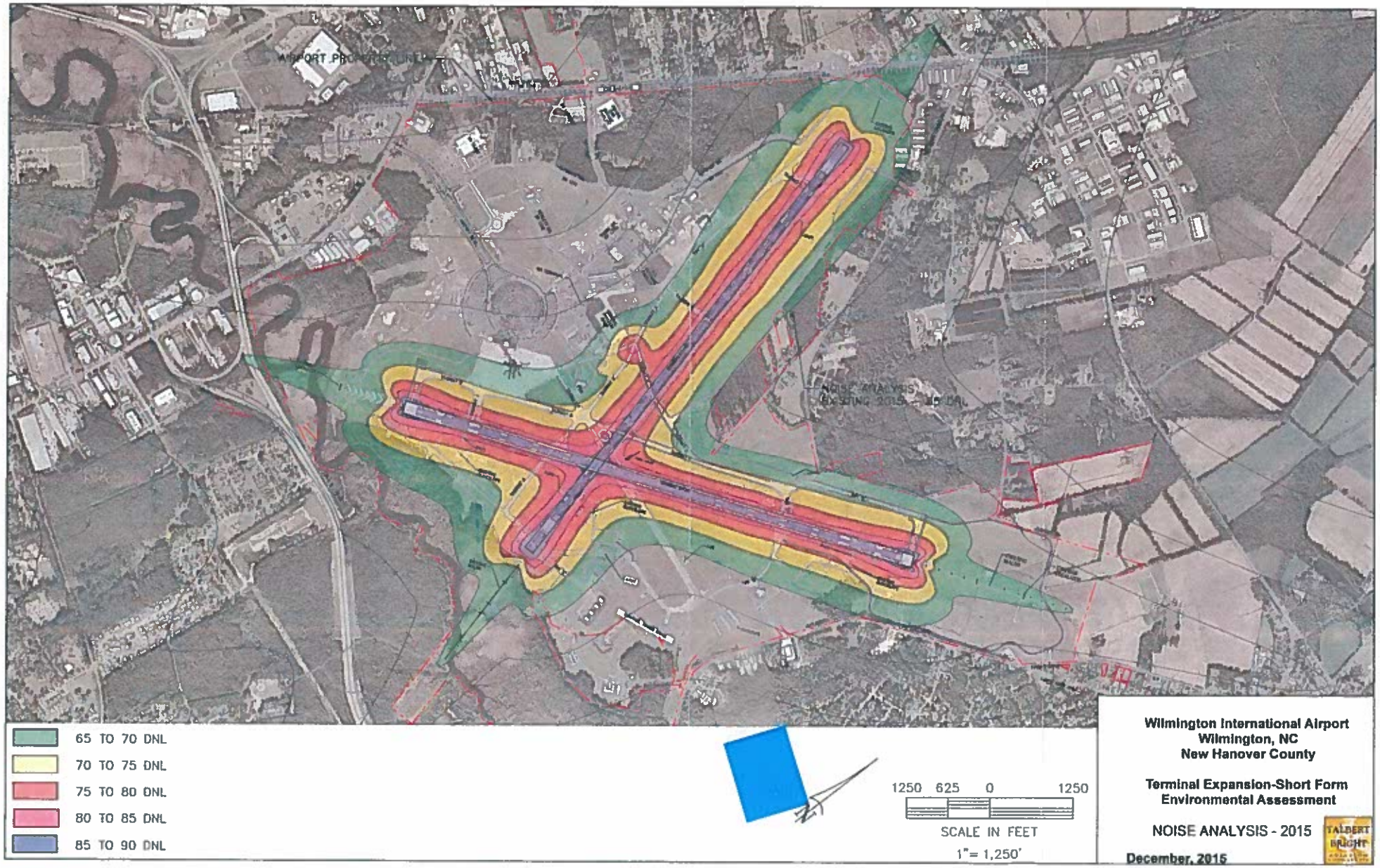
Airport Points

Airport Polygons

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

Creekwood (14 Units), 1008 North 30th St., Wilmington, NC 28405
National Transportation Noise Map




65 TO 70 DNL
70 TO 75 DNL
75 TO 80 DNL
80 TO 85 DNL
85 TO 90 DNL
1250 625 0 1250
SCALE IN FEET
1"= 1,250'
Wilmington International Airport
Wilmington, NC
New Hanover County
Terminal Expansion-Short Form
Environmental Assessment
NOISE ANALYSIS - 2015
December, 2015
TALBERT BRIGHT

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

AIRPORT MASTER RECORD

PRINT DATE: 07/05/2022
AFD EFF 06/16/2022
FORM APPROVED OMB 2120-0015

> 1 ASSOC CITY:	WILMINGTON	4 STATE: NC	LOC ID: ILM	FAA SITE NR: 17211.*A
> 2 AIRPORT NAME:	WILMINGTON INTL		5 COUNTY: NEW HANOVER, NC	
3 CBD TO AIRPORT (NM): 3 NE		6 REGION/ADO: ASO /MEM	7 SECT AERO CHT: CHARLOTTE	

GENERAL

10 OWNERSHIP:	PUBLIC
> 11 OWNER:	NEW HANOVER COUNTY
> 12 ADDRESS:	1740 AIRPORT BLVD WILMINGTON, NC 28405
> 13 PHONE NR:	910-341-4333
> 14 MANAGER:	JEFFREY BOURK, A.A.E.
> 15 ADDRESS:	1740 AIRPORT BLVD WILMINGTON, NC 28405
> 16 PHONE NR:	910-341-4333

> 17 ATTENDANCE SCHEDULE:

MONTHS	DAYS	HOURS
ALL	ALL	ALL

18 AIRPORT USE:	PUBLIC
19 ARPT LAT:	34-16-16.1N ESTIMATED
20 ARPT LONG:	77-54-10.4W
21 ARPT ELEV:	31.7 SURVEYED
22 ACREAGE:	1,800
> 23 RIGHT TRAFFIC:	NO
> 24 NON-COMM LANDING:	NO
25 NPIAS/FED AGREEMENTS:	YES / NGPRY3
> 26 FAR 139 INDEX:	I B S 05/1973

SERVICES

> 70 FUEL:	100LL A A+
> 71 AIRFRAME RPRS:	MAJOR
> 72 PWR PLANT RPRS:	MAJOR
> 73 BOTTLE OXYGEN:	HIGH/LOW
> 74 BULK OXYGEN:	HIGH/LOW
75 TSNT STORAGE:	HGR TIE
76 OTHER SERVICES:	AFRT,CARGO,CHTR, INSTR,RNTL,SALES

FACILITIES

> 80 ARPT BCN:	CG
> 81 ARPT LGT SKED:	SEE RMK
BCN LGT SKED:	SS-SR
> 82 UNICOM:	122.950
> 83 WIND INDICATOR:	YES-L
84 SEGMENTED CIRCLE:	
85 CONTROL TWR:	YES
86 FSS:	RALEIGH
87 FSS ON ARPT:	NO
88 FSS PHONE NR:	
89 TOLL FREE NR:	1-800-WX-BRIEF

BASED AIRCRAFT

90 SINGLE ENG:	67
91 MULTI ENG:	11
92 JET:	21
93 HELICOPTERS:	8
TOTAL:	107
94 GLIDERS:	0
95 MILITARY:	0
96 ULTRA-LIGHT:	0

OPERATIONS

100 AIR CARRIER:	10,829
102 AIR TAXI:	10,984
103 G A LOCAL:	13,513
104 G A ITNRNT:	29,595
105 MILITARY:	13,316
TOTAL:	78,237

OPERATIONS FOR 12 MONTHS ENDING 01/31/2022

RUNWAY DATA

		06/24	17/35
> 30 RUNWAY IDENT:			
> 31 LENGTH:		8,016	7,754
> 32 WIDTH:		150	150
> 33 SURF TYPE-COND:		ASPH-G	ASPH-G
> 34 SURF TREATMENT:		GRVD	GRVD
35 GROSS WT:	S	75.0	60.0
36 (IN THSDS)	D	160.0	185.0
37	2D	275.0	300.0
38	2D/2DS		
> 39 PCN / PCR:		78/F/B/W/T (PCN)	61/F/B/W/T (PCN)

LIGHTING/APCH AIDS

> 40 EDGE INTENSITY:	HIGH	HIGH
> 42 RWY MARK TYPE-COND:	PIR- G / PIR- G	PIR- G / PIR- G
> 43 VGSI:	P4R / P4L	P4L / P4L
44 THR CROSSING HGT:	57 / 48	50 / 36
45 VISUAL GLIDE ANGLE:	3.00 / 3.00	3.00 / 3.00
> 46 CNTRLN-TDZ:	- N / - N	- / -
> 47 RVR-RVV:	TR - / TR -	R - / T - N
> 48 REIL:	Y / N	Y /
> 49 APCH LIGHTS:	/ MALSR	/ MALSR

OBSTRUCTION DATA

50 FAR 77 CATEGORY:	PIR / PIR	C / PIR
> 51 DISPLACED THR:	/	350 / 400
> 52 CTLG OBSTN:	/	/
> 53 OBSTN MARKED/LGTD:	/	/
> 54 HGT ABOVE RWY END:	/	/
> 55 DIST FROM RWY END:	0 / 0	0 / 0
> 56 CNTRLN OFFSET:	/	/
57 OBSTN CLNC SLOPE:	50:1 / 50:1	50:1 / 50:1
58 CLOSE-IN OBSTN:	N / N	N / N

DECLARED DISTANCES

> 60 TAKE OFF RUN AVBL (TORA):	8,016 / 8,016	7,754 / 7,754
> 61 TAKE OFF DIST AVBL (TODA):	8,016 / 8,016	7,754 / 7,754
> 62 ACLT STOP DIST AVBL (ASDA):	8,016 / 8,016	6,954 / 7,604
> 63 LNDG DIST AVBL (LDA):	8,016 / 8,016	6,604 / 7,204

(>) ARPT MGR PLEASE ADVISE FSS IN ITEM 86 WHEN CHANGES OCCUR TO ITEMS PRECEDED BY >

> 110 REMARKS:

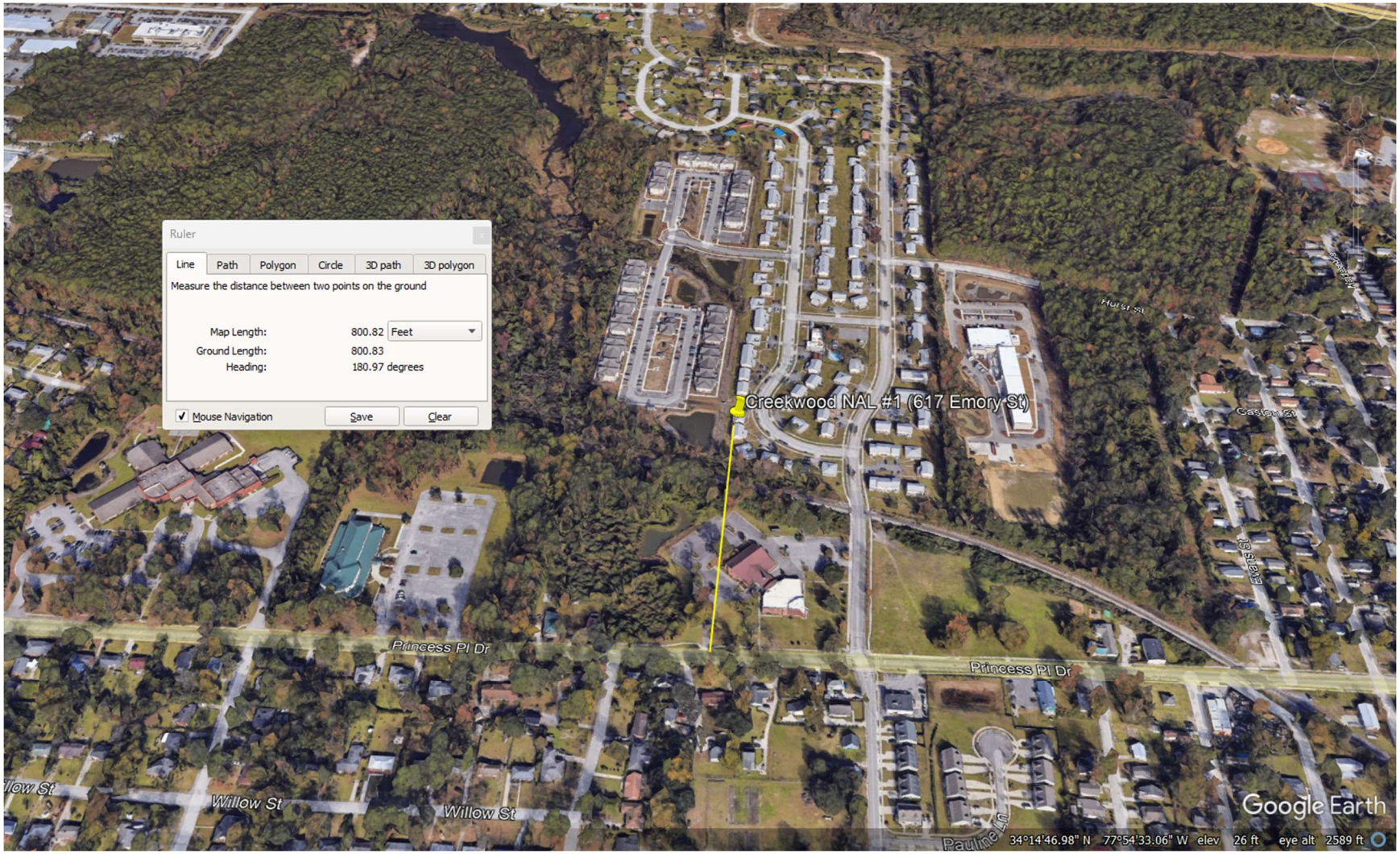
A 016	EXT 1001.
A 081	ACTVT MALSR RWY 24 & 35; REIL RWY 06 & 17; PAPI RWY 06, 17, 24; HIRL RWY 06/24 & 17/35; AND ALL TWY LGTS - CTAF.
A 086	FSS-RALEIGH RDU-NOTAM ILM
A 110-001	FUEL: AIR WILMINGTON, INC, 910-763-4691
A 110-004	BEARING STRENGTH RWY 06-24: ST175
A 110-005	BEARING STRENGTH RWY 17-35: ST175
A 110-006	FOR CD IF UNA TO CTC ON FSS FREQ, CTC WASHINGTON ARTCC AT 703-771-3587.

111 INSPECTOR: (F) 112 LAST INSP: 03/09/2022 113 LAST INFO REQ:

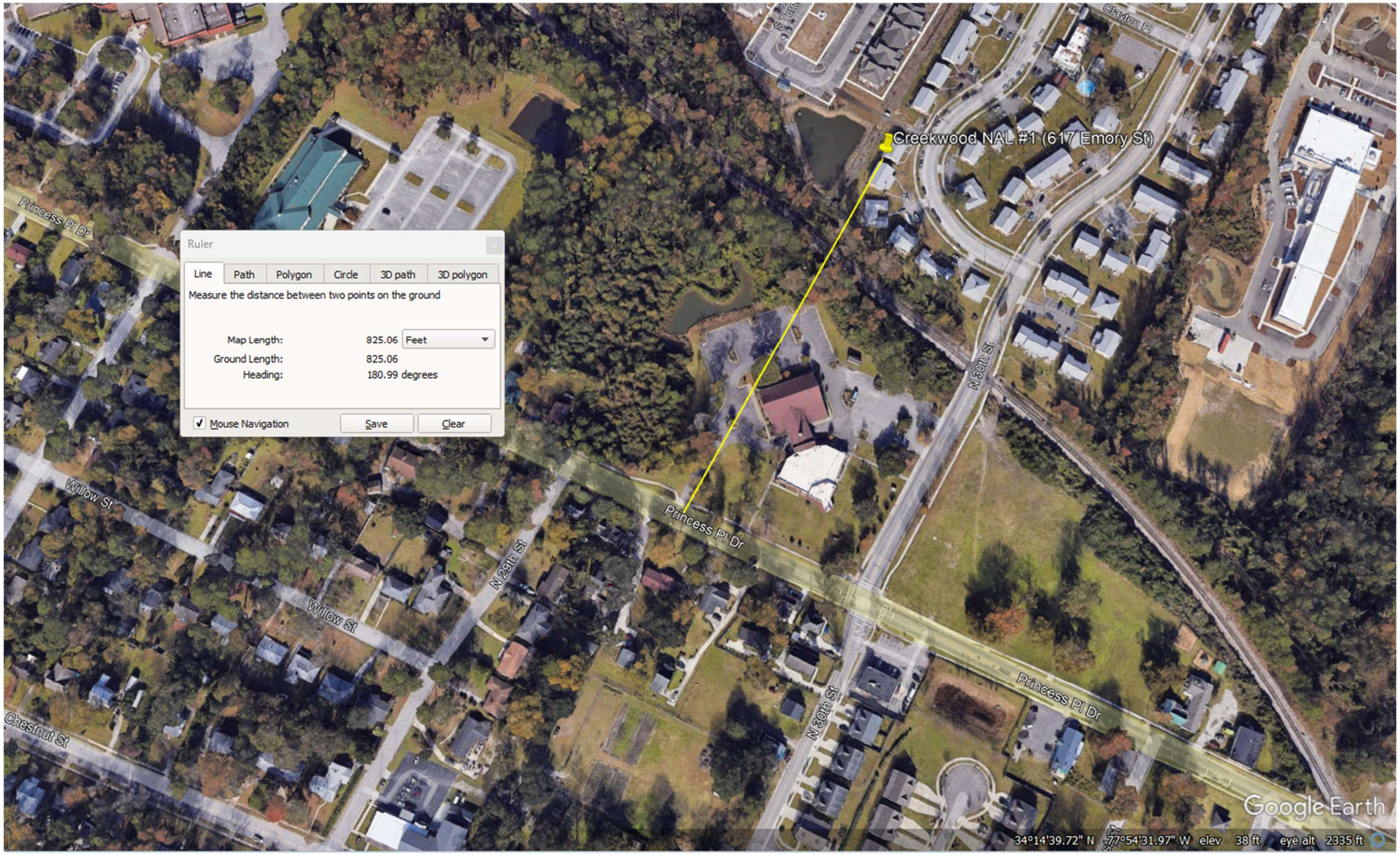
Creekwood Noise Assessment Location #1

617 Emory Street

Creekwood – NAL #1 (617 Emory St) to Princess Palace Drive (Closest Lane)



Creekwood – NAL #1 (617 Emory St) to Princess Palace Drive (Furthest Lane)



Creekwood – NAL #1 (617 Emory St) to RR ID# 629287U Track



DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Creekwood - NAL #1 (Current)
Record Date	07/20/2023
User's Name	Andrea Gievers

Road # 1 Name:	**Princess Palace Drive (Current)**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	813	813	813
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	7084	308	308
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	44	41	51
Calculate Road #1 DNL	52	Reset	

Railroad #1 Track Identifier:	**ID# 629287U**

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☑

Effective Distance		217
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	69
Calculate Rail #1 DNL	69	Reset

Add Road Source | Add Rail Source

Airport Noise Level	49.9
Loud Impulse Sounds?	○ **Yes** ◉ **No**
Combined DNL for all Road and Rail sources	**69**
Combined DNL including Airport	**69**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

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- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Creekwood - NAL #1 (2035)
Record Date	07/20/2023
User's Name	Andrea Gievers

Road # 1 Name:	**Princess Palace Drive (2035)**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	813	813	813
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	5244	228	228
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	43	39	50
Calculate Road #1 DNL	51	Reset	

Railroad #1 Track Identifier:	**ID# 629287U**

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☑

Effective Distance		217
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	69
Calculate Rail #1 DNL	69	Reset

Add Road Source | Add Rail Source

Airport Noise Level	49.9
Loud Impulse Sounds?	○**Yes** ◉**No**
Combined DNL for all Road and Rail sources	**69**
Combined DNL including Airport	**69**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

Creekwood Noise Assessment Location #2

602 North 30th Street

Creekwood – NAL #2 (602 N 30th St) to Princess Palace Drive (Closest Lane)



Creekwood – NAL #2 (602 N 30th St) to Princess Palace Drive (Furthest Lane)



Creekwood – NAL #2 (602 N 30th St) to RR ID# 629287U Track



DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

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- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Creekwood - NAL #2 (Current)
Record Date	07/20/2023
User's Name	Andrea Gievers

Road # 1 Name:	**Princess Palace Drive (Current)**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	796	796	796
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	7084	308	308
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	44	41	51
Calculate Road #1 DNL	52	Reset	

Railroad #1 Track Identifier:	**ID# 629287U**

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☑

Effective Distance		321
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	66
Calculate Rail #1 DNL	66	Reset

Add Road Source | Add Rail Source

Airport Noise Level	49.9
Loud Impulse Sounds?	○**Yes** ◉**No**
Combined DNL for all Road and Rail sources	**67**
Combined DNL including Airport	**67**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

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- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Creekwood - NAL #2 (2035)
Record Date	07/20/2023
User's Name	Andrea Gievers

Road # 1 Name:	**Princess Palace Drive (2035)**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	796	796	796
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	5244	228	228
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	43	39	50
Calculate Road #1 DNL	51	Reset	

Railroad #1 Track Identifier:	**ID# 629287U**

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☑

Effective Distance		321
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	66
Calculate Rail #1 DNL	66	Reset

Add Road Source | Add Rail Source

Airport Noise Level	49.9
Loud Impulse Sounds?	○**Yes** ◉**No**
Combined DNL for all Road and Rail sources	**67**
Combined DNL including Airport	**67**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

Creekwood Noise Assessment Location #3

502 North 30th Street

Creekwood – NAL #3 (502 N 30th St) to Princess Palace Drive (Closest Lane)



Creekwood – NAL #3 (502 N 30th St) to Princess Palace Drive (Furthest Lane)



Creekwood – NAL #3 (502 N 30th St) to RR ID# 629287U Track



DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

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- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Creekwood - NAL #3 (Current)
Record Date	07/21/2023
User's Name	Andrea Gievers

Road # 1 Name:	**Princess Palace Drive (Current)**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	564	564	564
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	7084	308	308
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	47	43	53
Calculate Road #1 DNL	55	Reset	

Railroad #1 Track Identifier:	**ID# 629287U**

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☑

Effective Distance		94
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	74
Calculate Rail #1 DNL	74	Reset

Add Road Source | Add Rail Source

Airport Noise Level	49.9
Loud Impulse Sounds?	○**Yes** ◉**No**
Combined DNL for all Road and Rail sources	**74**
Combined DNL including Airport	**74**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

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- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
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- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Creekwood - NAL #3 (2035)
Record Date	07/21/2023
User's Name	Andrea Gievers

Road # 1 Name:	**Princess Palace Drive (2035)**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	564	564	564
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	5244	228	228
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	45	42	52
Calculate Road #1 DNL	53	Reset	

Railroad #1 Track Identifier:	**ID# 629287U**

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☑

Effective Distance		94
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	74
Calculate Rail #1 DNL	74	Reset

Add Road Source | Add Rail Source

Airport Noise Level	49.9
Loud Impulse Sounds?	○**Yes** ◉**No**
Combined DNL for all Road and Rail sources	**74**
Combined DNL including Airport	**74**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

Creekwood Noise Assessment Location #4

522 North 30th Street

Creekwood – NAL #4 (522 N 30th St) to Princess Palace Drive (Closest Lane)



Creekwood – NAL #4 (522 N 30th St) to Princess Palace Drive (Furthest Lane)



Creekwood – NAL #4 (522 N 30th St) to RR ID# 629287U Track



DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Creekwood - NAL #4 (Current)
Record Date	07/21/2023
User's Name	Andrea Gievers

Road # 1 Name:	**Princess Palace Drive (Current)**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	699	699	699
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	7084	308	308
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	45	42	52
Calculate Road #1 DNL	53	Reset	

Railroad #1 Track Identifier:	**ID# 629287U**

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☑

Effective Distance		230
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	69
Calculate Rail #1 DNL	69	Reset

Add Road Source | Add Rail Source

Airport Noise Level	49.9
Loud Impulse Sounds?	○**Yes** ◉**No**
Combined DNL for all Road and Rail sources	**69**
Combined DNL including Airport	**69**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

DNL Calculator

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Guidelines

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- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Creekwood - NAL #4 (2035)
Record Date	07/21/2023
User's Name	Andrea Gievers

Road # 1 Name:	**Princess Palace Drive (2035)**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	699	699	699
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	5244	228	228
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	44	40	51
Calculate Road #1 DNL	52	Reset	

Railroad #1 Track Identifier:	**ID# 629287U**

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☑

Effective Distance		230
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	69
Calculate Rail #1 DNL	69	Reset

Add Road Source | Add Rail Source

Airport Noise Level	49.9
Loud Impulse Sounds?	○**Yes** ◉**No**
Combined DNL for all Road and Rail sources	**69**
Combined DNL including Airport	**69**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

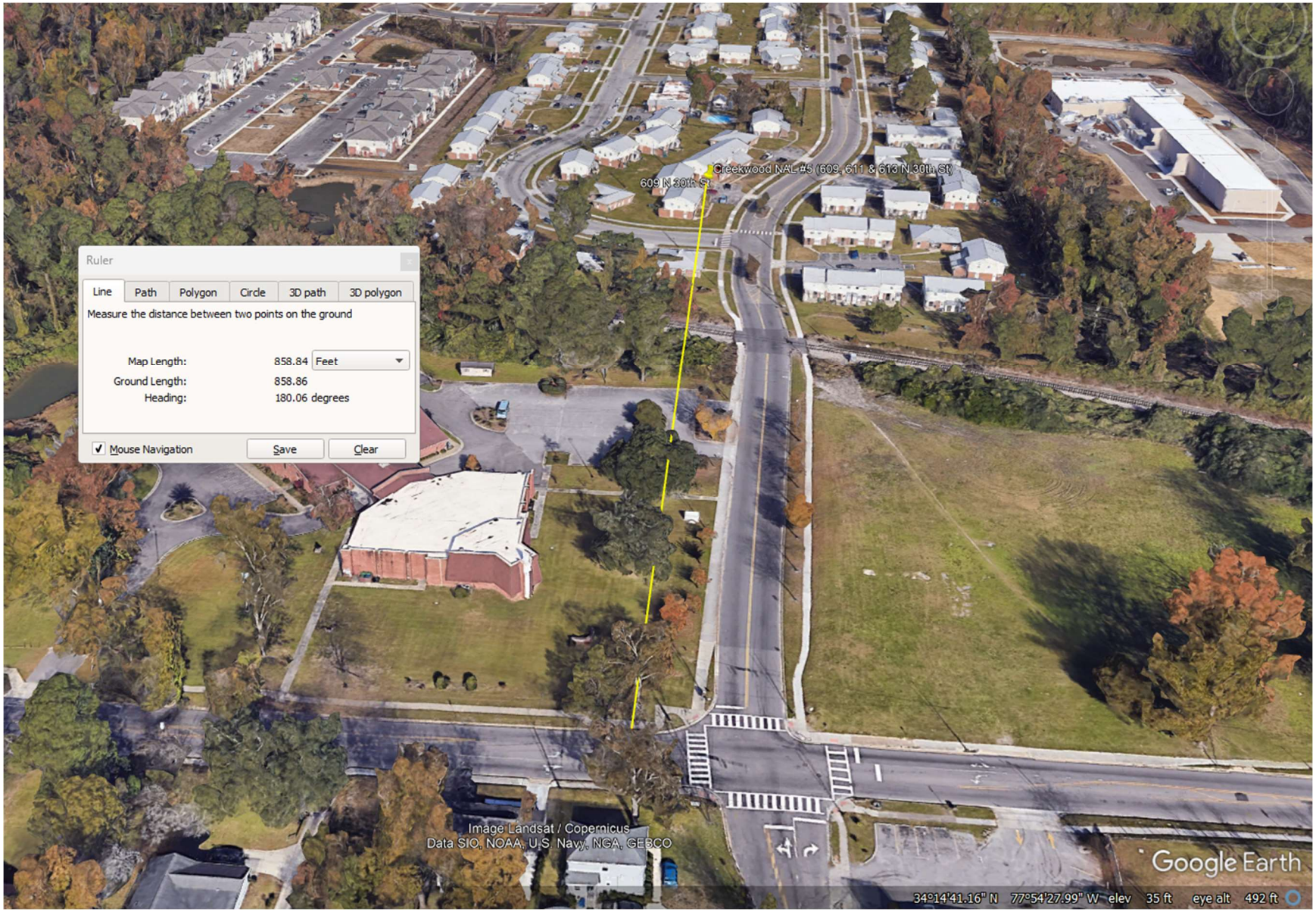
Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

Creekwood Noise Assessment Location #5

609, 611 & 613 North 30th Street

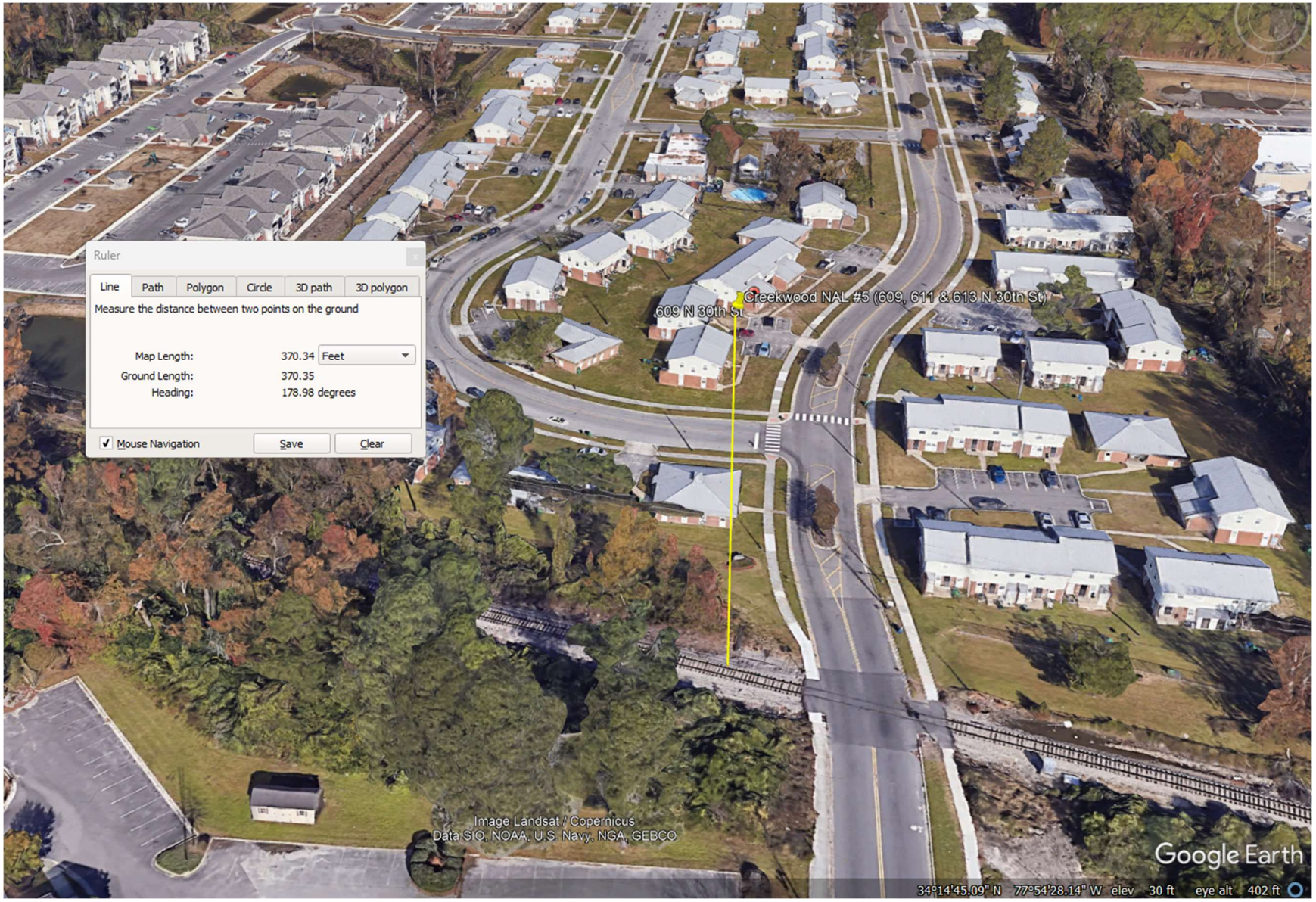
Creekwood – NAL #5 (609, 611 & 613 N 30th St) to Princess Palace Drive (Closest Lane)



Creekwood – NAL #5 (609, 611 & 613 N 30th St) to Princess Palace Drive (Furthest Lane)



Creekwood – NAL #5 (609, 611 & 613 N 30th St) to RR ID# 629287U Track



DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Creekwood - NAL #5 (Current)
Record Date	07/21/2023
User's Name	Andrea Gievers

Road # 1 Name:	**Princess Palace Drive (Current)**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	878	878	878
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	7084	308	308
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	44	40	50
Calculate Road #1 DNL	52	Reset	

Railroad #1 Track Identifier:	**ID# 629287U**

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☑

Effective Distance		370
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	65
Calculate Rail #1 DNL	65	Reset

Add Road Source | Add Rail Source

Airport Noise Level	49.9
Loud Impulse Sounds?	○**Yes** ◉**No**
Combined DNL for all Road and Rail sources	**66**
Combined DNL including Airport	**66**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Creekwood - NAL #5 (2035)
Record Date	07/21/2023
User's Name	Andrea Gievers

Road # 1 Name:	**Princess Palace Drive (2035)**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	878	878	878
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	5244	228	228
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	42	39	49
Calculate Road #1 DNL	50	Reset	

Railroad #1 Track Identifier:	**ID# 629287U**

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☑

Effective Distance		370
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	65
Calculate Rail #1 DNL	65	Reset

Add Road Source | Add Rail Source

Airport Noise Level	49.9
Loud Impulse Sounds?	○**Yes** ◉**No**
Combined DNL for all Road and Rail sources	**66**
Combined DNL including Airport	**66**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

Creekwood Noise Assessment Location #6

710 & 712 North 30th Street

Creekwood – NAL #6 (710 & 712 N 30th St) to Princess Palace Drive (Closest Lane)



Creekwood – NAL #6 (710 & 712 N 30th St) to Princess Palace Drive (Furthest Lane)



Creekwood – NAL #6 (710 & 712 N 30th St) to RR ID# 629287U Track



DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Creekwood - NAL #6 (Current)
Record Date	07/21/2023
User's Name	Andrea Gievers

Road # 1 Name:	**Princess Palace Drive (Current)**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	1096	1096	1096
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	7084	308	308
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	42	39	49
Calculate Road #1 DNL	50	Reset	

Railroad #1 Track Identifier:	**ID# 629287U**

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☑

Effective Distance		656
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	62
Calculate Rail #1 DNL	62	Reset

Add Road Source | Add Rail Source

Airport Noise Level	49.9
Loud Impulse Sounds?	○**Yes** ◉**No**
Combined DNL for all Road and Rail sources	**62**
Combined DNL including Airport	**62**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

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- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
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- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Creekwood - NAL #6 (2035)
Record Date	07/21/2023
User's Name	Andrea Gievers

Road # 1 Name:	**Princess Palace Drive (2035)**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	1096	1096	1096
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	5244	228	228
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	41	37	48
Calculate Road #1 DNL	49	Reset	

Railroad #1 Track Identifier:	**ID# 629287U**

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☑

Effective Distance		656
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	62
Calculate Rail #1 DNL	62	Reset

Add Road Source | Add Rail Source

Airport Noise Level	49.9
Loud Impulse Sounds?	○**Yes** ◉**No**
Combined DNL for all Road and Rail sources	**62**
Combined DNL including Airport	**62**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

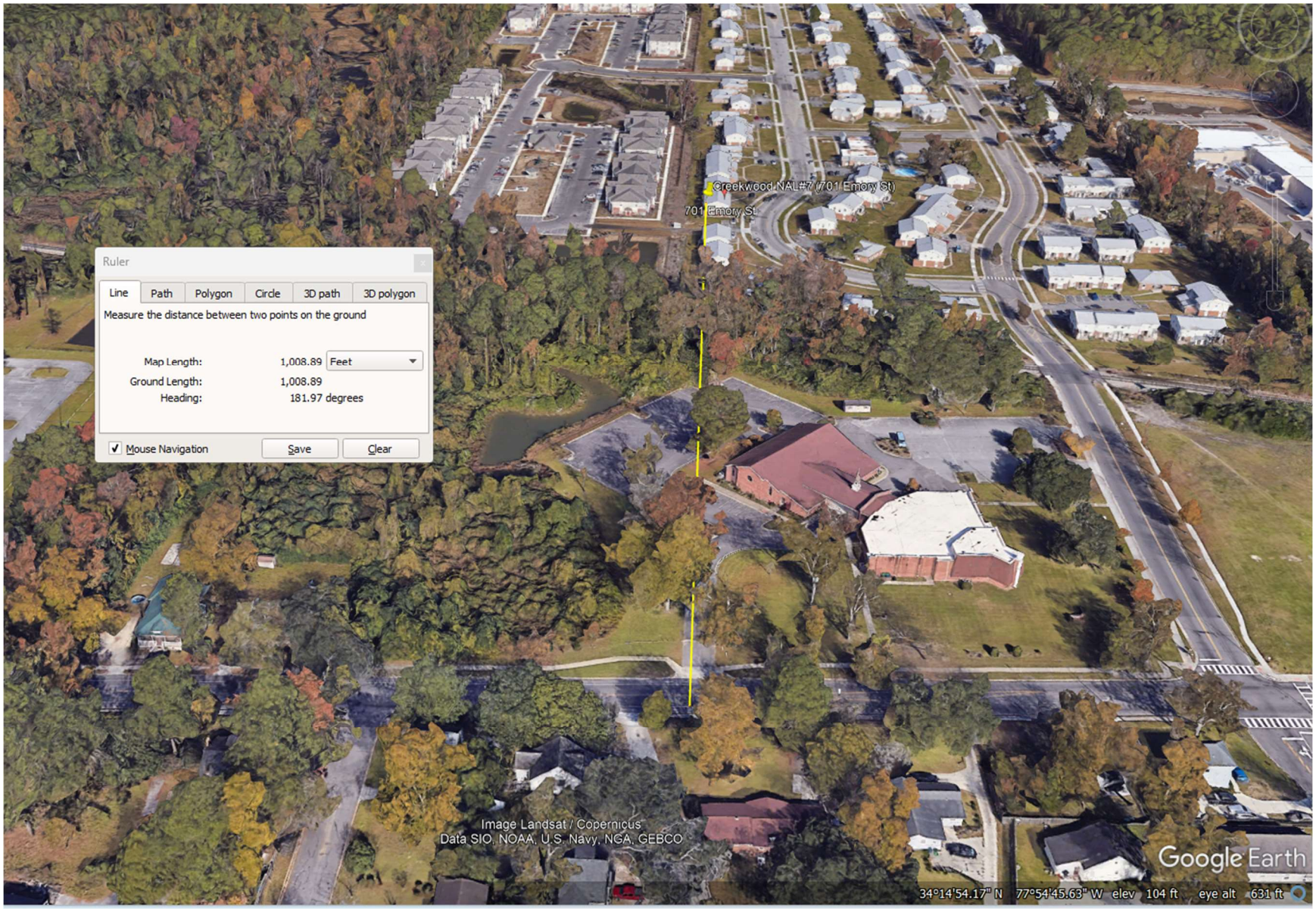
Creekwood Noise Assessment Location #7

701 Emory Street

Creekwood – NAL #7 (701 Emory St) to Princess Palace Drive (Closest Lane)



Creekwood – NAL #7 (701 Emory St) to Princess Palace Drive (Furthest Lane)



Creekwood – NAL #7 (701 Emory St) to RR ID# 629287U Track



DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

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- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Creekwood - NAL #7 (Current)
Record Date	07/21/2023
User's Name	Andrea Gievers

Road # 1 Name:	**Princess Palace Drive (Current)**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	995	995	995
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	7084	308	308
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	43	39	50
Calculate Road #1 DNL	51	Reset	

Railroad #1 Track Identifier:	**ID# 629287U**

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☑

Effective Distance		398
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	65
Calculate Rail #1 DNL	65	Reset

Add Road Source | Add Rail Source

Airport Noise Level	49.9
Loud Impulse Sounds?	○**Yes** ◉**No**
Combined DNL for all Road and Rail sources	**65**
Combined DNL including Airport	**65**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
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Tools and Guidance

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Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

DNL Calculator

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Guidelines

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- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Creekwood - NAL #7 (2035)
Record Date	07/21/2023
User's Name	Andrea Gievers

Road # 1 Name:	**Princess Palace Drive (2035)**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	995	995	995
Distance to Stop Sign			
Average Speed	35	35	35
Average Daily Trips (ADT)	5244	228	228
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	42	38	48
Calculate Road #1 DNL	49	Reset	

Railroad #1 Track Identifier:	**ID# 629287U**

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☑

Effective Distance		398
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	65
Calculate Rail #1 DNL	65	Reset

Add Road Source | Add Rail Source

Airport Noise Level	49.9
Loud Impulse Sounds?	○**Yes** ◉**No**
Combined DNL for all Road and Rail sources	**65**
Combined DNL including Airport	**65**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

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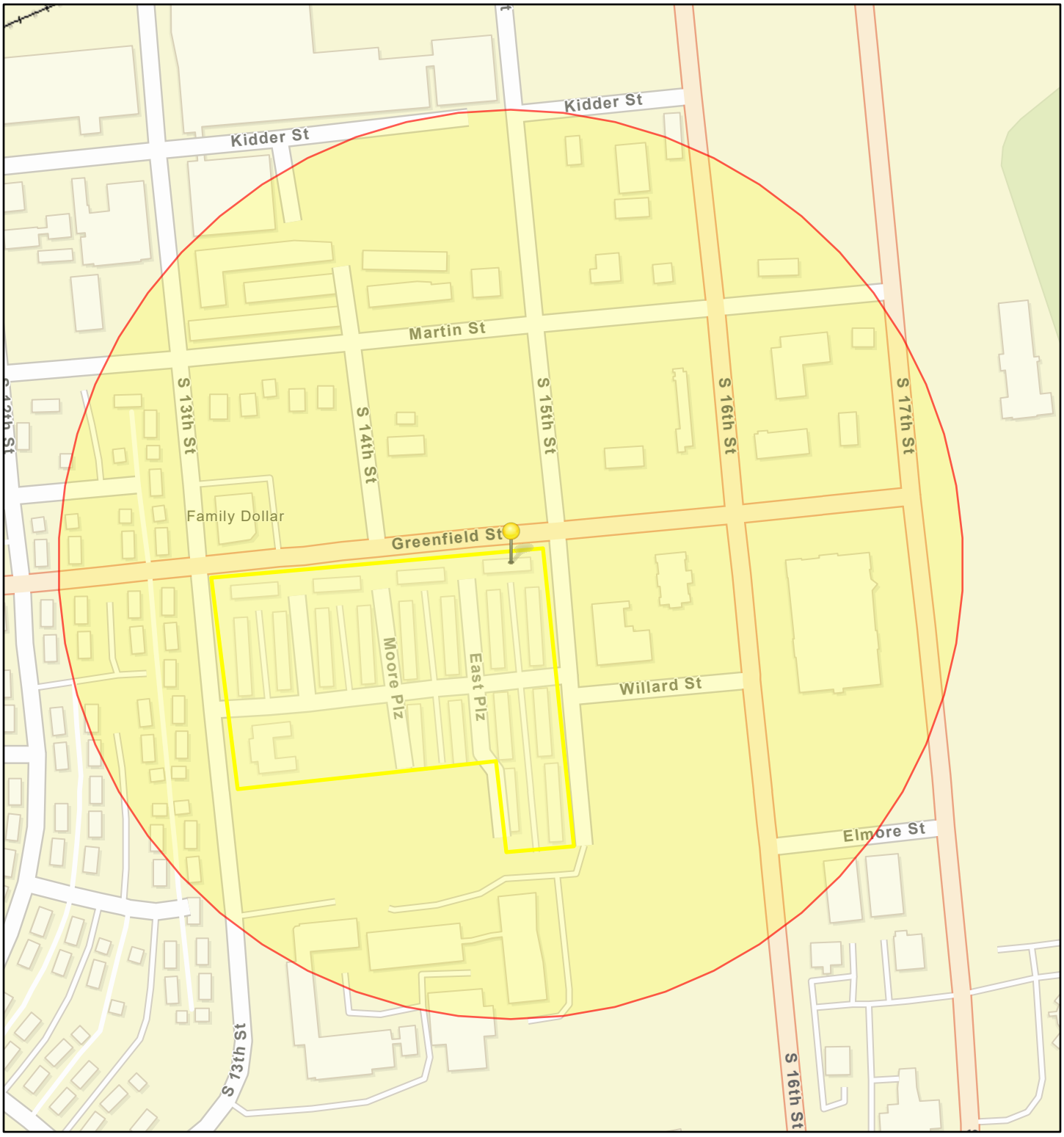
Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

Houston Moore

Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405

Houston Moore - Roads Map with 1,000-foot Buffer



April 28, 2023

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

Project Buffer

1420 Greenfield St.

Houston Moore

Railroads

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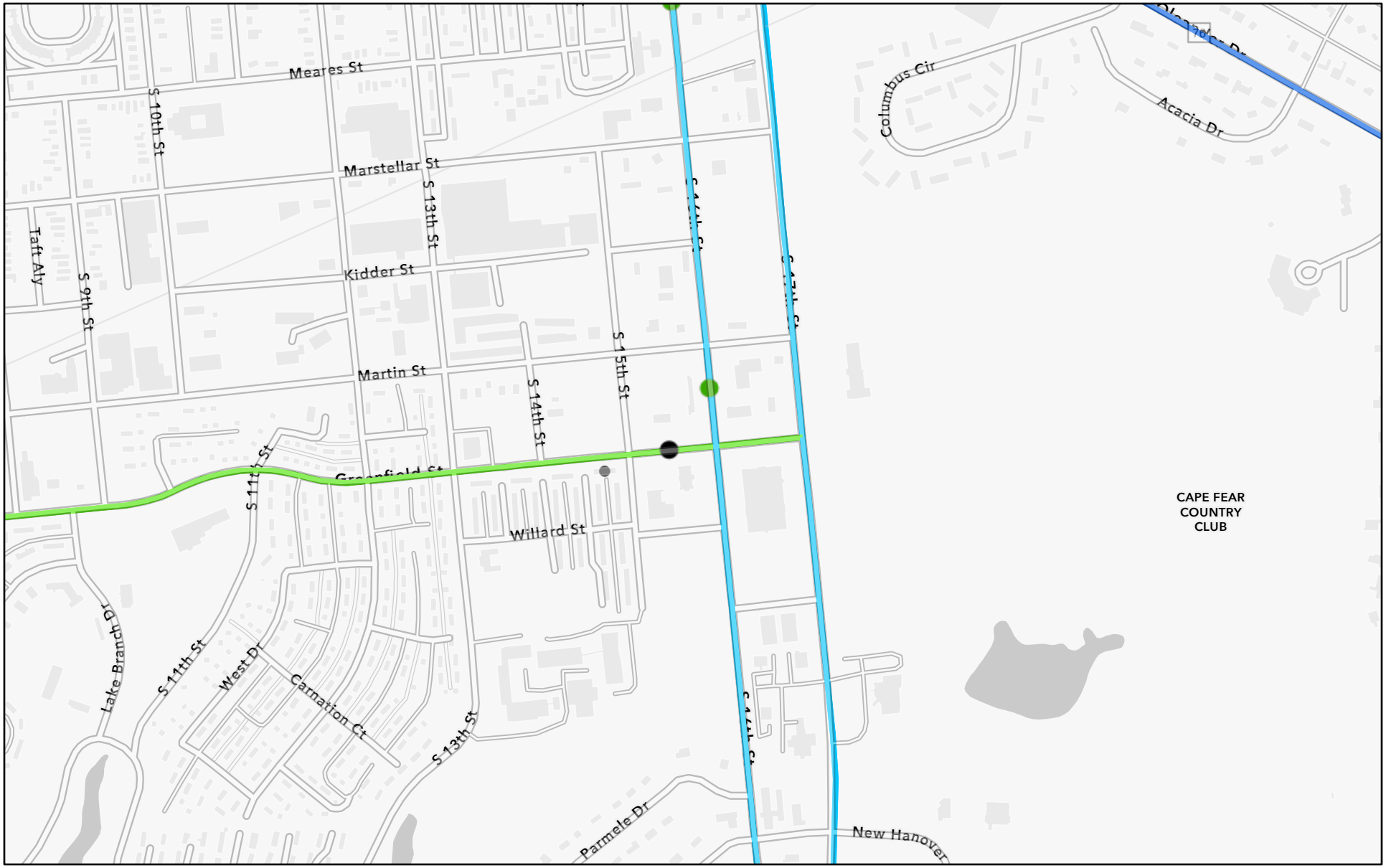
Houston Moore - NCDOT AADT Map



6/12/2023, 5:31:02 PM

NCDOT_AADT_Traffic_Segmentation - NCDOT_AADT_Stations

- Secondary Routes
- Non-System Routes

NCDOT_AADT_Traffic_Segmentation - NCDOT_AADT_Traffic_Segments_Secondary_Non-System

- 2,000 - 4,999
- 10,000 - 19,999

NCDOT_AADT_Traffic_Segmentation - NCDOT_AADT_Traffic_Segments_Primaries

- 20,000 - 34,999

1:9,028

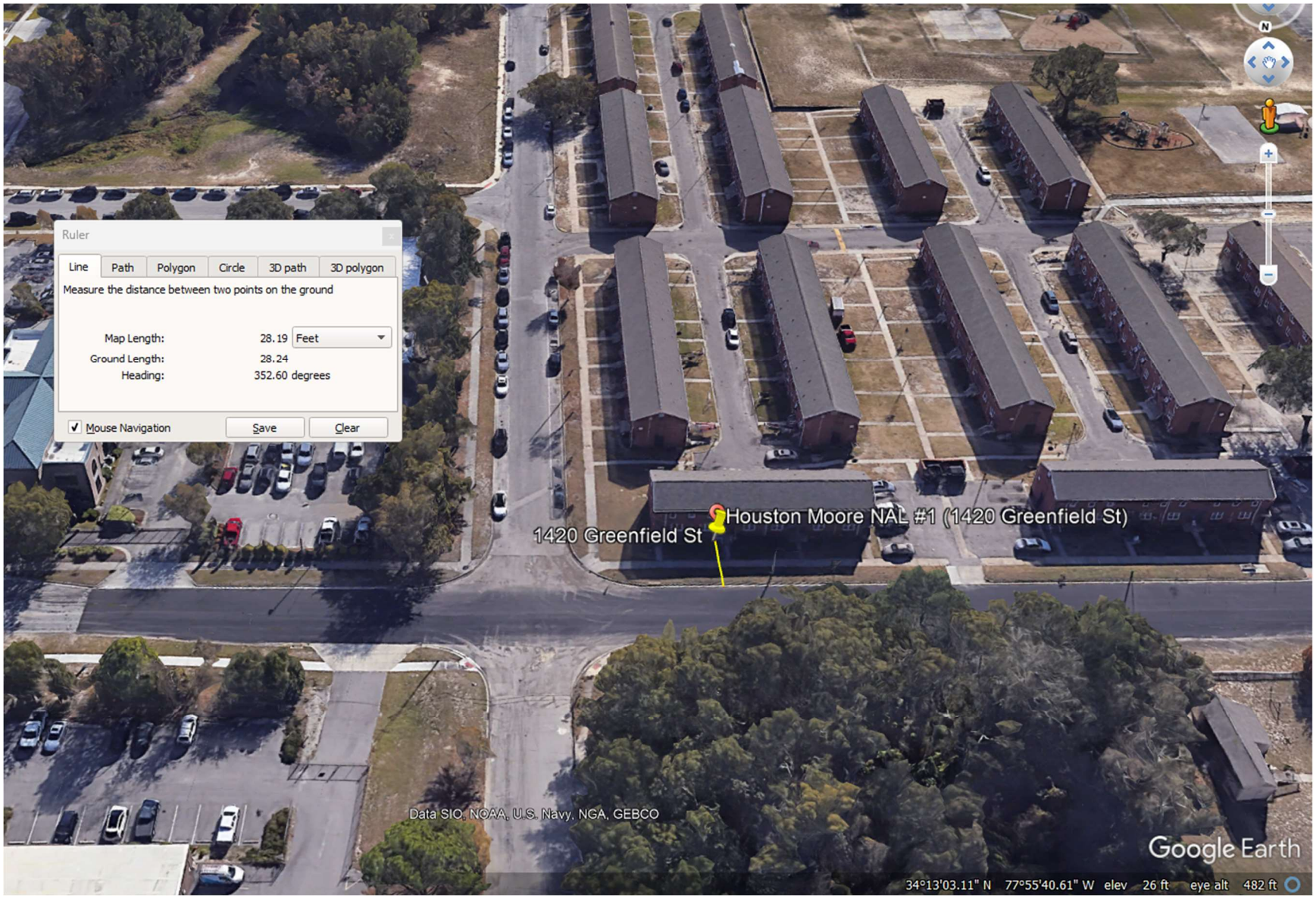
0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

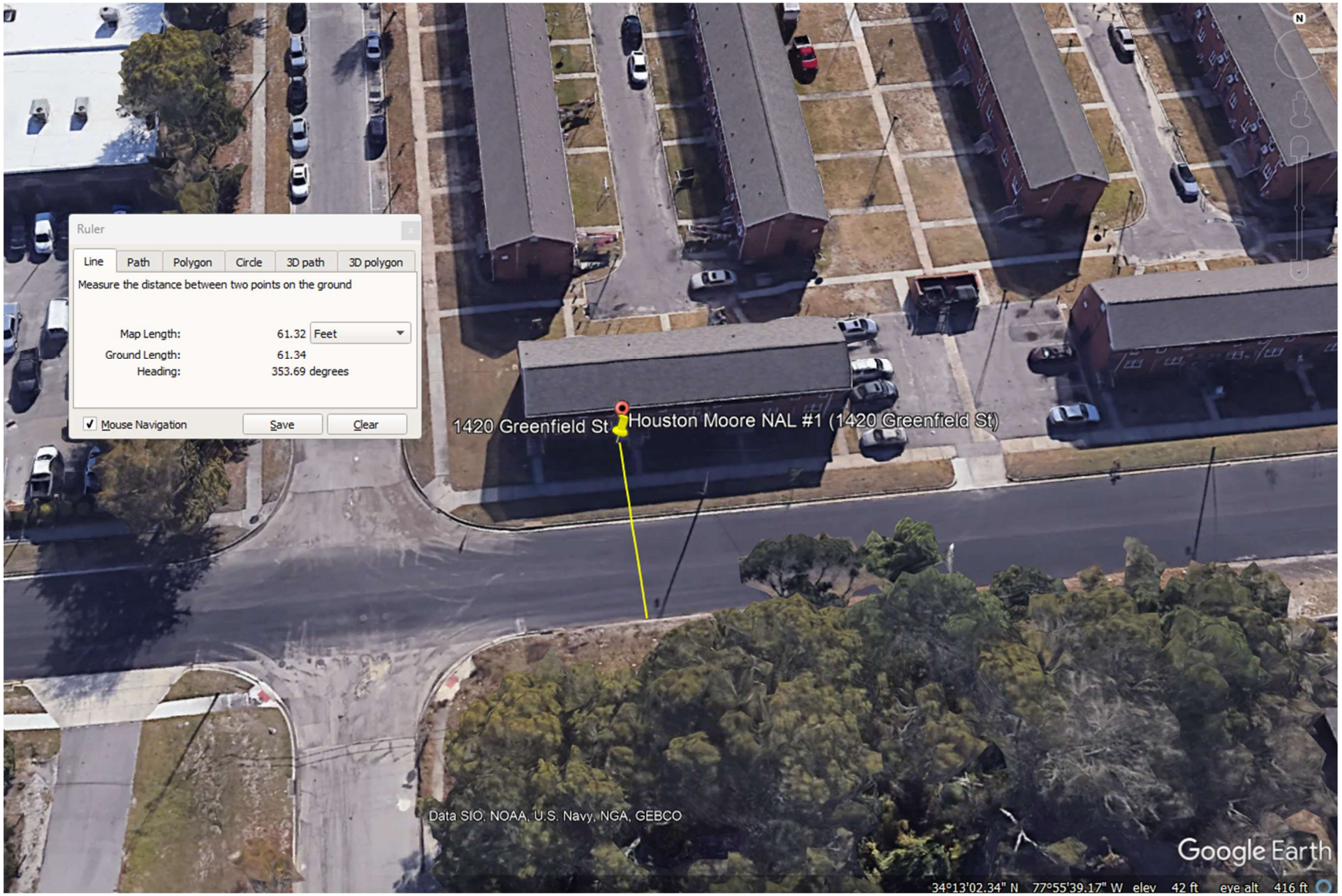
Esri Community Maps Contributors, New Hanover County, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, HERE, Garmin,

Esri Community Maps Contributors, New Hanover County, State of North Carolina DOT, © OpenStreetMap, Microsoft, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA | NCDOT Traffic Survey Group

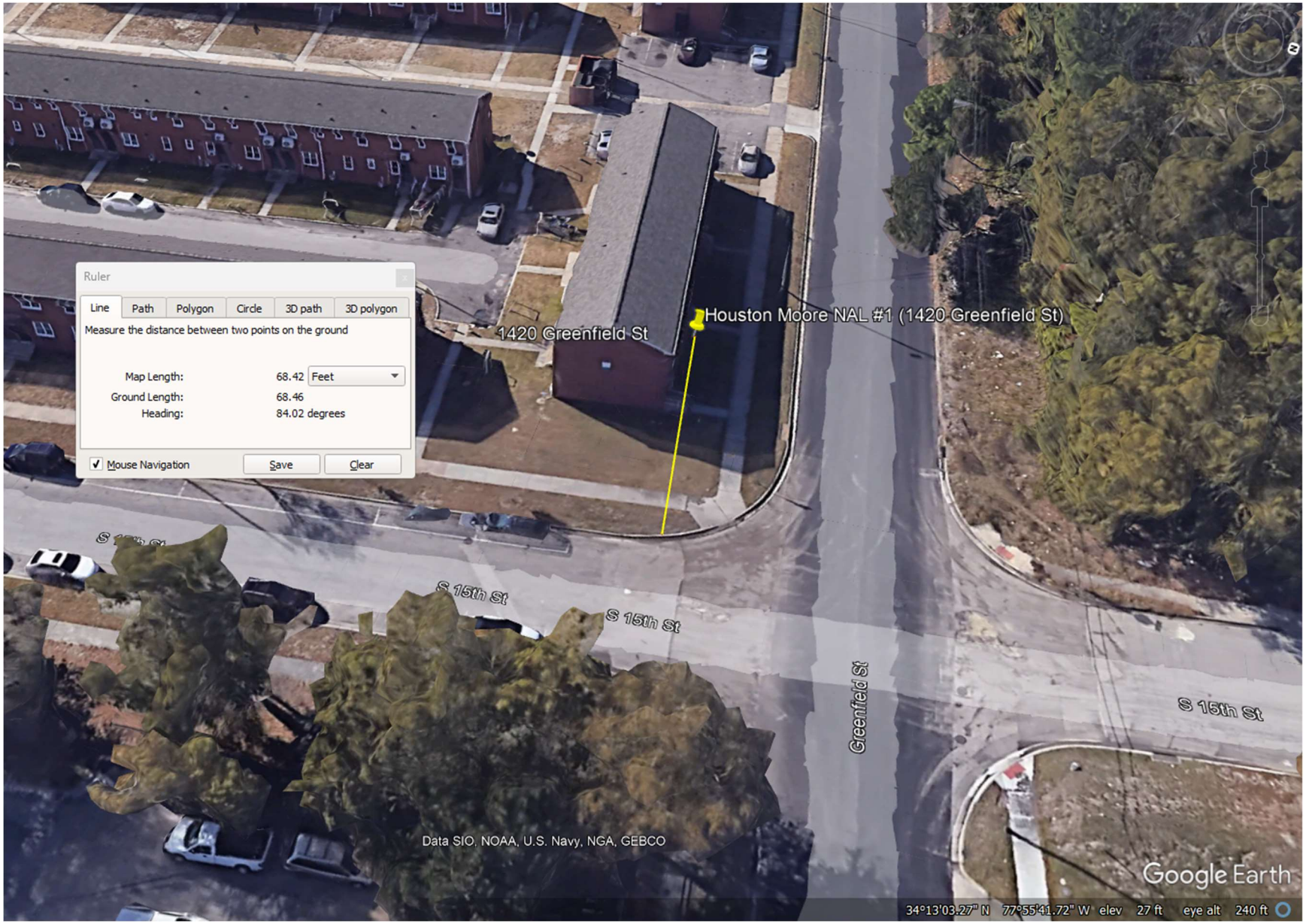
Houston Moore – NAL #1 (1420 Greenfield St) to Greenfield St. (Closest Lane)



Houston Moore – NAL #1 (1420 Greenfield St) to Greenfield St. (Furthest Lane)



Houston Moore – NAL #1 (1420 Greenfield St) to S. 15th St. Stop Sign



Houston Moore – Speed Limit Map for Greenfield St.



AADT TREND ANALYSIS

#1 -- GREENFIELD ST W OF S 16TH ST



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	LINEAR REG:	-45.0
2009	5500	LINEAR %:	-0.81%
2013	5400	EXPONENTIAL REG:	-0.95%
2015	5600		
2017	6700		
2019	5300	R-SQUARED	
2021	4500	LINEAR:	0.0756
		EXPONENTIAL:	0.1057
		NUMBER OF DATA POINTS:	
			6

SHOW HISTORIC DATA:	SHOW FUTURE DATA:	SHOW STATION #:	
☑ LINEAR REGRESSION	☑ LINEAR REGRESSION	1- GREENFIELD ST W OF S 16TH ST	
☑ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION	FUT YRS:	2021
		#1	2020
☑ HISTORIC DATA		#2	2030
		#3	2035
		#4	2045
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH		#5	2050

FUTURE PROJECTIONS:

Linear Reg	Exp Reg			
5260	5191			
5305	5241			
4855	4762			
4630	4540			
4180	4125			
3955	3932			

Title - Replace with text

Title - Replace with text or delete

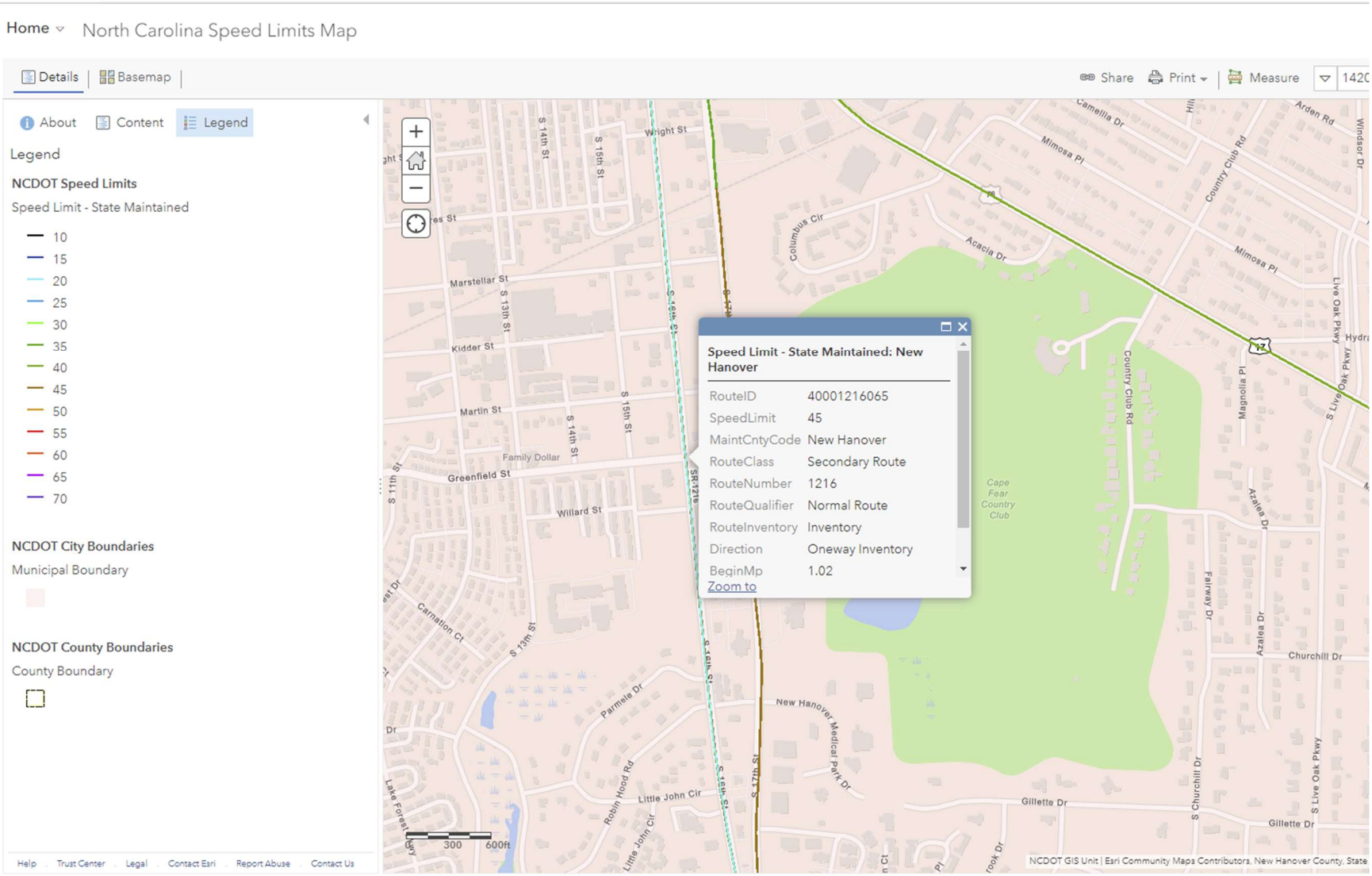
Houston Moore – NAL #1 (1420 Greenfield St) to S. 16th St. (Closest Lane)



Houston Moore – NAL #1 (1420 Greenfield St) to S. 16th St. (Furthest Lane)

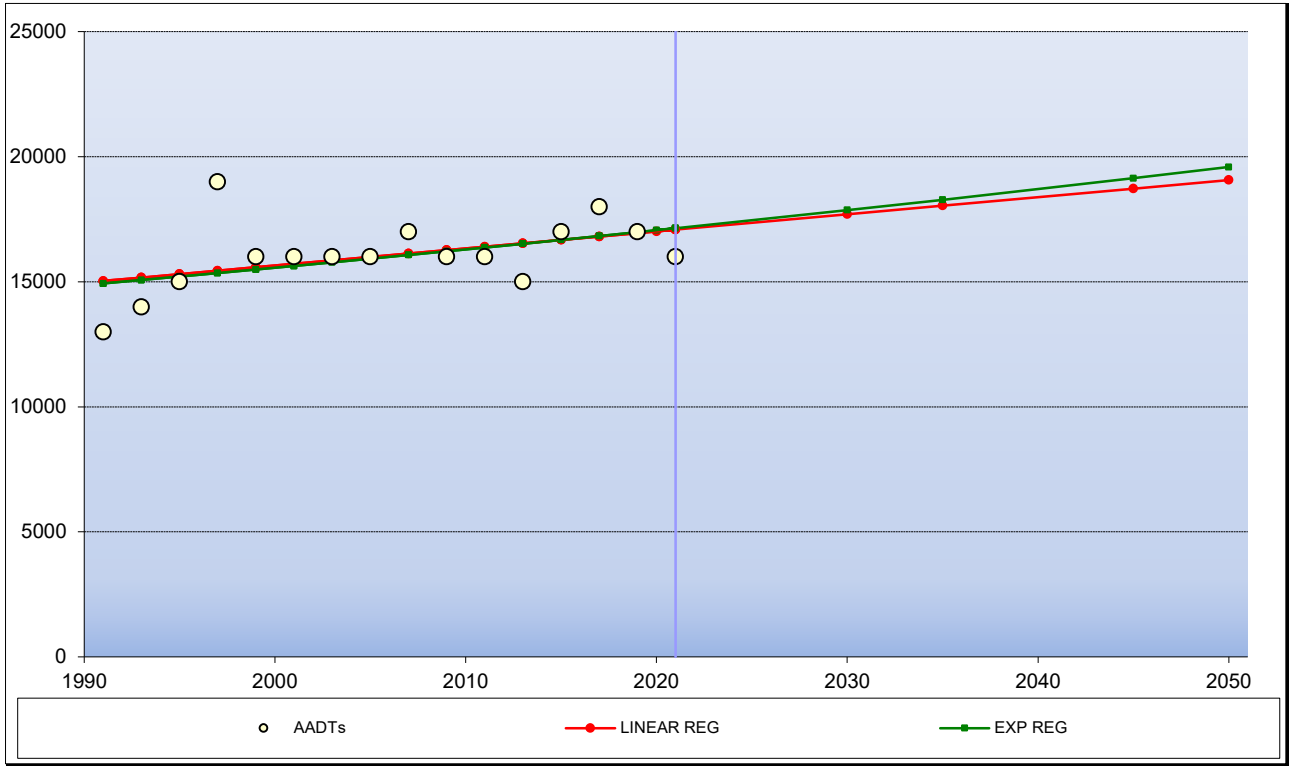


Houston Moore – Speed Limit Map for S. 16th St.



AADT TREND ANALYSIS

#1 -- SR 1218 (16TH ST) S OF MARTIN ST



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	LINEAR REG:	68.4
1991	13000	LINEAR %:	0.43%
1993	14000	EXPONENTIAL REG:	0.46%
1995	15000		
1997	19000		
1999	16000	R-SQUARED	
2001	16000	LINEAR:	0.2056
2003	16000	EXPONENTIAL:	0.2323
2005	16000		
2007	17000		
2009	16000	NUMBER OF DATA POINTS:	
2011	16000		16
2013	15000		
2015	17000		
2017	18000		
2019	17000		
2021	16000		

SHOW HISTORIC DATA:	SHOW FUTURE DATA:	SHOW STATION #:	
☑ LINEAR REGRESSION	☑ LINEAR REGRESSION	1- SR 1218 (16TH ST) S OF MARTIN ST	
☑ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION	FUT YRS:	2021
		#1	2020
☑ HISTORIC DATA		#2	2030
		#3	2035
		#4	2045
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH		#5	2050

FUTURE PROJECTIONS:

Linear Reg	Exp Reg			
17088	17144			
17020	17065			
17704	17868			
18046	18283			
18729	19143			
19071	19588			

Title - Replace with text

Title - Replace with text or delete

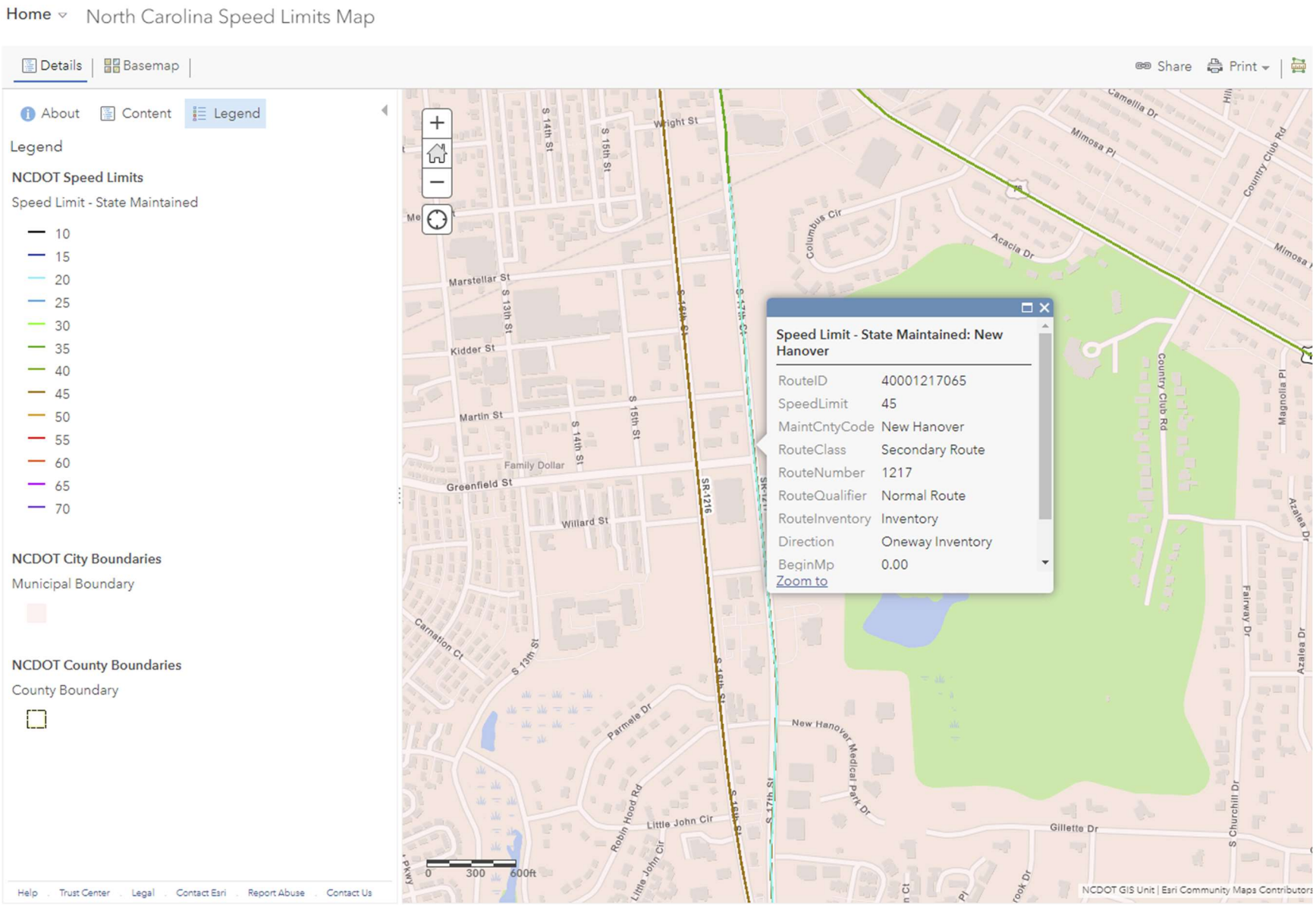
Houston Moore – NAL #1 (1420 Greenfield St) to S. 17th St. (Closest Lane)



Houston Moore – NAL #1 (1420 Greenfield St) to S. 17th St. (Furthest Lane)

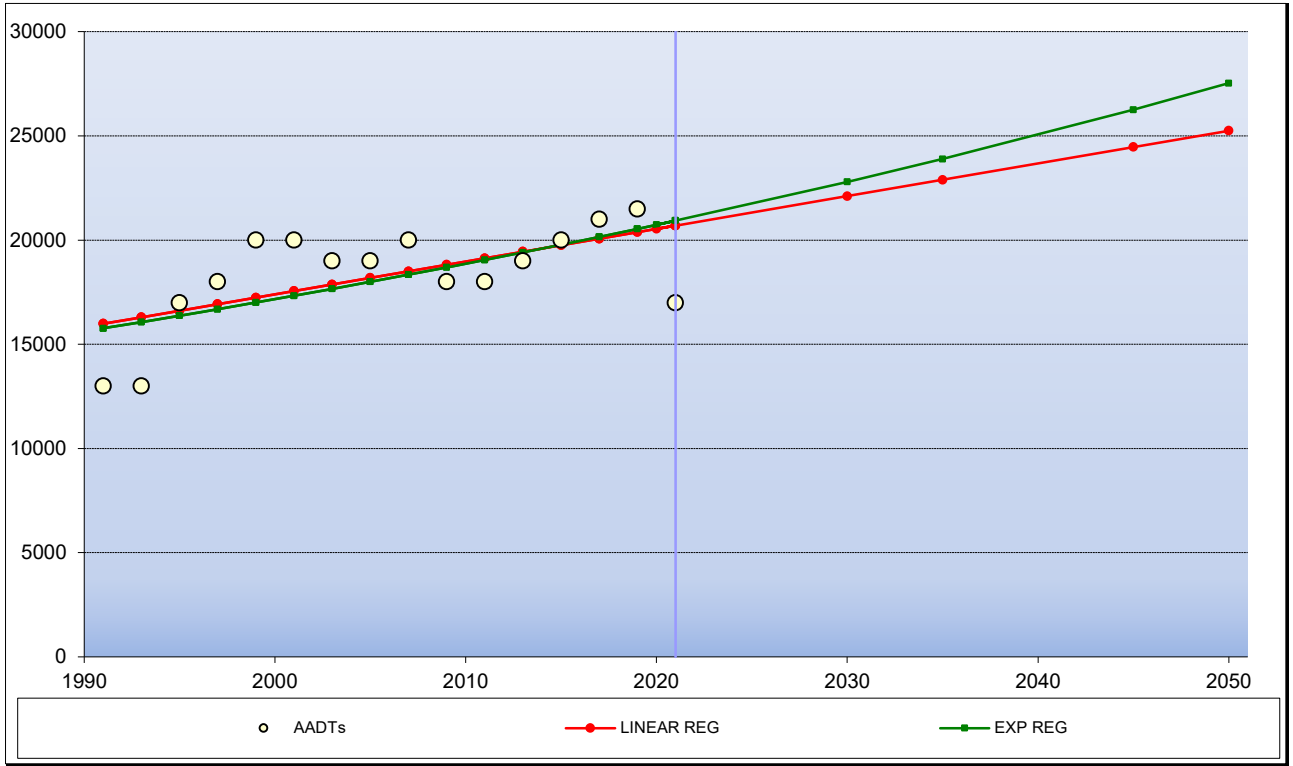


Houston Moore – Speed Limit Map for S. 17th St.



AADT TREND ANALYSIS

#1 -- SR 1219 (17TH ST) S OF MARSTELLER ST



HISTORIC DATA		STATISTICAL RESULTS	
Year	AADT	LINEAR REG:	157.0
1991	13000	LINEAR %:	0.86%
1993	13000	EXPONENTIAL REG:	0.95%
1995	17000		
1997	18000		
1999	20000	R-SQUARED	
2001	20000	LINEAR:	0.3709
2003	19000	EXPONENTIAL:	0.3725
2005	19000		
2007	20000		
2009	18000	NUMBER OF DATA POINTS:	
2011	18000		16
2013	19000		
2015	20000		
2017	21000		
2019	21500		
2021	17000		

SHOW HISTORIC DATA:	SHOW FUTURE DATA:	SHOW STATION #:	
☑ LINEAR REGRESSION	☑ LINEAR REGRESSION	1- SR 1219 (17TH ST) S OF MARSTELLER ST	
☑ EXPONENTIAL REGRESSION	☑ EXPONENTIAL REGRESSION	FUT YRS:	2021
		#1	2020
☑ HISTORIC DATA		#2	2030
		#3	2035
		#4	2045
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION / TRANSP. PLANNING BRANCH		#5	2050

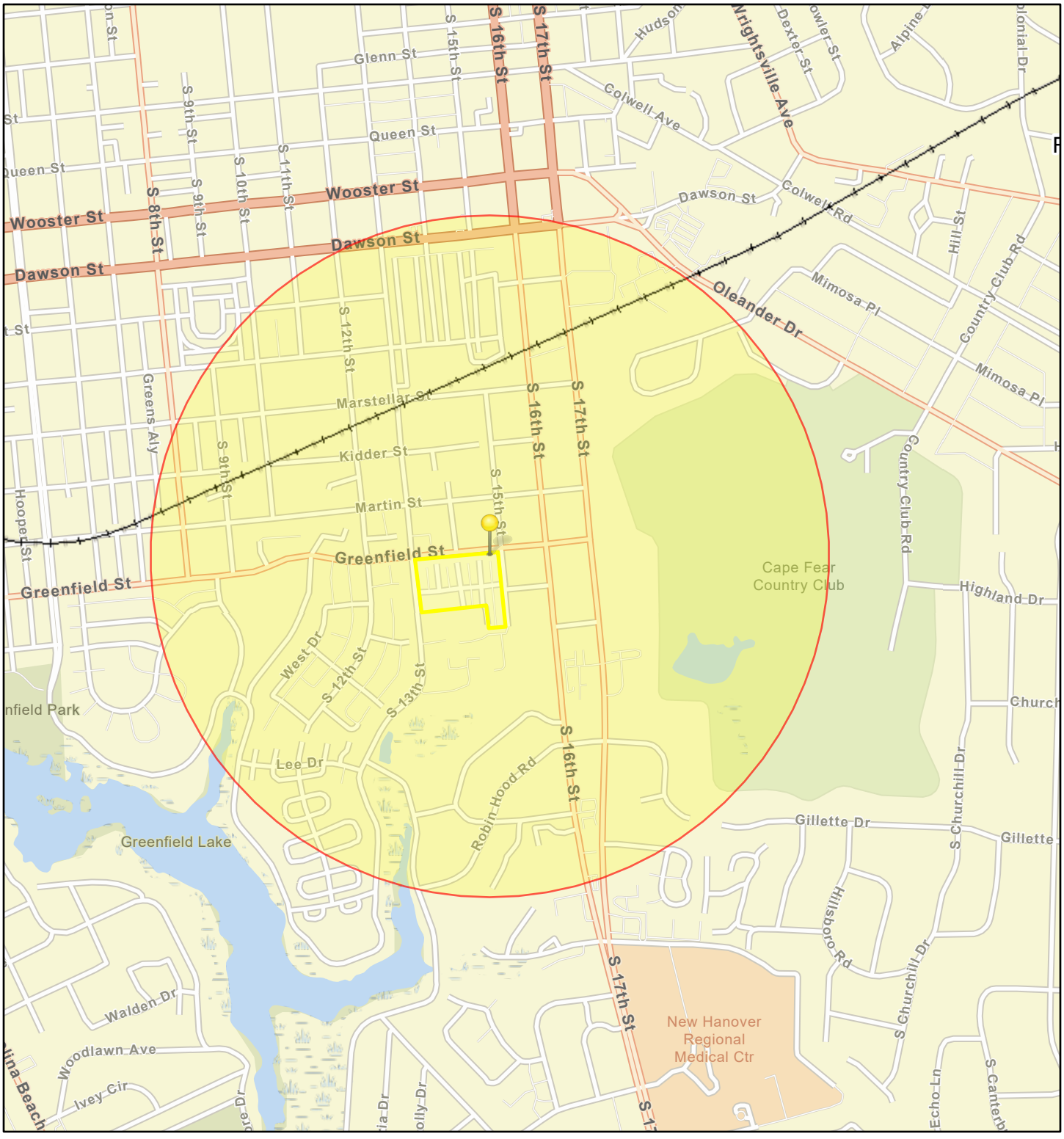
FUTURE PROJECTIONS:

Linear Reg	Exp Reg			
20699	20934			
20542	20738			
22111	22791			
22896	23892			
24466	26258			
25251	27527			

Title - Replace with text

Title - Replace with text or delete

Houston Moore - Railroads Map with 3,000-foot Buffer



April 28, 2023

1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

Project Buffer

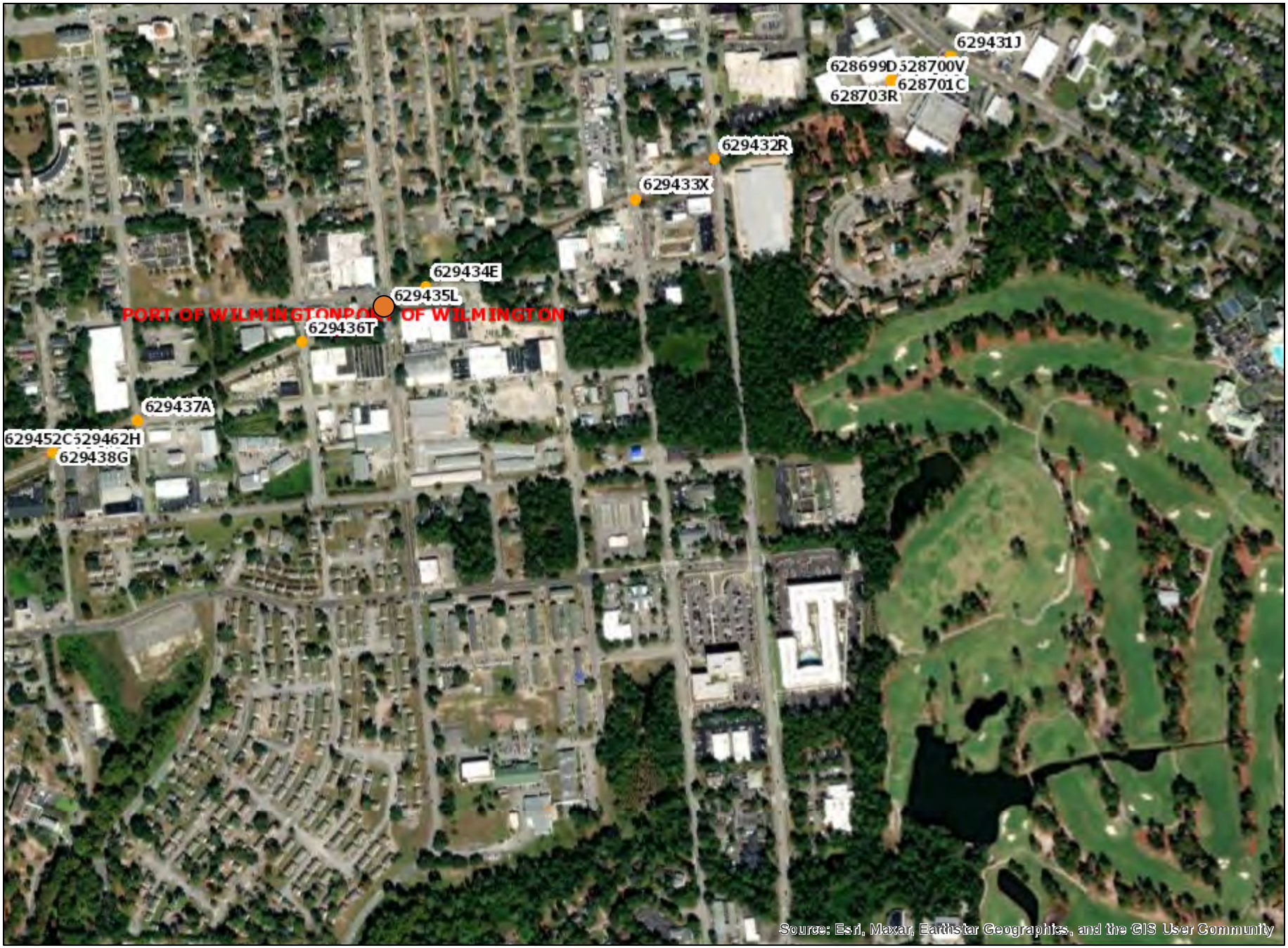
1420 Greenfield St.

Houston Moore

Railroads

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

Houston Moore - RR Crossing ID# 629435L 13th Street



U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date (MM/DD/YYYY)	B. Reporting Agency	C. Reason for Update (Select only one)	D. DOT Crossing Inventory Number
08 / 03 / 2022	☐ Railroad ☐ Transit ☒ State ☐ Other	☒ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☐ Admin. Correction	629435L

Part I: Location and Classification Information

1. Primary Operating Railroad	2. State	3. County
CSX Transportation [CSX]	NORTH CAROLINA	NEW HANOVER

4. City / Municipality	5. Street/Road Name & Block Number	6. Highway Type & No.
☒ In ☐ Near WILMINGTON	THIRTEENTH STREET (Street/Road Name) | 1200 (* Block Number)	LS

7. Do Other Railroads Operate a Separate Track at Crossing?	8. Do Other Railroads Operate Over Your Track at Crossing?
☐ Yes ☒ No If Yes, Specify RR	☐ Yes ☒ No If Yes, Specify RR

9. Railroad Division or Region	10. Railroad Subdivision or District	11. Branch or Line Name	12. RR Milepost
☐ None CAROLINAS	☐ None WILMINGTON	☐ None WILMINGTON BELT LIN	ACB | 0248.950 | (prefix) | (nnnn.nnn) | (suffix)

13. Line Segment *	14. Nearest RR Timetable Station *	15. Parent RR (if applicable)	16. Crossing Owner (if applicable)
937041	WILMINGTON	☒ N/A	☒ N/A

17. Crossing Type	18. Crossing Purpose	19. Crossing Position	20. Public Access (if Private Crossing)	21. Type of Train	22. Average Passenger Train Count Per Day
☒ Public ☐ Private	☒ Highway ☐ Pathway, Ped. ☐ Station, Ped.	☒ At Grade ☐ RR Under ☐ RR Over	☐ Yes ☐ No	☒ Freight ☐ Intercity Passenger ☐ Commuter ☐ Transit ☐ Shared Use Transit ☐ Tourist/Other	☐ Less Than One Per Day ☐ Number Per Day 0

23. Type of Land Use
☐ Open Space ☐ Farm ☐ Residential ☐ Commercial ☒ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?	25. Quiet Zone (FRA provided)
☒ Yes ☐ No If Yes, Provide Crossing Number 629434E	☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established

26. HSR Corridor ID	27. Latitude in decimal degrees	28. Longitude in decimal degrees	29. Lat/Long Source
☒ N/A	(WGS84 std: nn.nnnnnnn) 34.22133940	(WGS84 std: -nnn.nnnnnnn) -77.931028	☐ Actual ☒ Estimated

30.A. Railroad Use *	31.A. State Use *
30.B. Railroad Use *	31.B. State Use *
30.C. Railroad Use *	31.C. State Use *
30.D. Railroad Use *	31.D. State Use *
32.A. Narrative (Railroad Use) *	32.B. Narrative (State Use) *

33. Emergency Notification Telephone No. (posted)	34. Railroad Contact (Telephone No.)	35. State Contact (Telephone No.)
800-232-0144	904-366-3051	919-707-4100

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains (6 AM to 6 PM)	1.B. Total Night Thru Trains (6 PM to 6 AM)	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day
0	0	0	0	☒ How many trains per week? 4

2. Year of Train Count Data (YYYY)	3. Speed of Train at Crossing
2021	3.A. Maximum Timetable Speed (mph) 10 3.B. Typical Speed Range Over Crossing (mph) From 10 to 10

4. Type and Count of Tracks
Main 1 Siding 0 Yard 0 Transit 0 Industry 0

5. Train Detection (Main Track only)
☐ Constant Warning Time ☒ Motion Detection ☐ AFO ☐ PTC ☐ DC ☐ Other ☐ None

6. Is Track Signaled?	7.A. Event Recorder	7.B. Remote Health Monitoring
☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date *(MM/DD/YYYY)*	PAGE 2	D. Crossing Inventory Number *(7 char.)*
08/03/2022		629435L

Part III: Highway or Pathway Traffic Control Device Information

1. Are there Signs or Signals? ☒ Yes ☐ No

2. Types of Passive Traffic Control Devices associated with the Crossing

2.A. Crossbuck Assemblies *(count)*	2.B. STOP Signs *(R1-1)* *(count)*	2.C. YIELD Signs *(R1-2)* *(count)*	2.D. Advance Warning Signs *(Check all that apply; include count)* ☐ None
0	0	0	☒ W10-1 2 ☒ W10-3 0 ☒ W10-11 0 ☒ W10-2 0 ☒ W10-4 0 ☒ W10-12 0

2.E. Low Ground Clearance Sign *(W10-5)*	2.F. Pavement Markings	2.G. Channelization Devices/Medians	2.H. EXEMPT Sign *(R15-3)*	2.I. ENS Sign *(I-13)* Displayed
☐ Yes *(count* 0 *)* ☒ No	☒ Stop Lines ☐ Dynamic Envelope ☒ RR Xing Symbols ☐ None	☐ All Approaches ☐ Median ☐ One Approach ☒ None	☐ Yes ☒ No	☒ Yes ☐ No

2.J. Other MUTCD Signs	2.K. Private Crossing Signs *(if private)*	2.L. LED Enhanced Signs *(List types)*
☐ Yes ☒ No Specify Type _____ Count 0 Specify Type _____ Count 0 Specify Type _____ Count 0	☐ Yes ☐ No	

3. Types of Train Activated Warning Devices at the Grade Crossing *(specify count of each device for all that apply)*

3.A. Gate Arms *(count)*	3.B. Gate Configuration	3.C. Cantilevered *(or Bridged)* Flashing Light Structures *(count)*	3.D. Mast Mounted Flashing Lights *(count of masts)* 0	3.E. Total Count of Flashing Light Pairs
Roadway 0 Pedestrian 0	☐ 2 Quad ☐ Full *(Barrier)* Resistance ☐ 3 Quad ☐ 4 Quad ☐ Median Gates	Over Traffic Lane 2 ☒ Incandescent Not Over Traffic Lane 0 ☐ LED	☒ Incandescent ☐ LED ☐ Back Lights Included ☐ Side Lights Included	8

3.F. Installation Date of Current Active Warning Devices: *(MM/YYYY)*	3.G. Wayside Horn	3.H. Highway Traffic Signals Controlling Crossing	3.I. Bells *(count)*
_____/_____ ☐ Not Required	☐ Yes Installed on *(MM/YYYY)* _____/_____ ☒ No	☐ Yes ☒ No	2

3.J. Non-Train Active Warning	3.K. Other Flashing Lights or Warning Devices
☐ Flagging/Flagman ☐ Manually Operated Signals ☐ Watchman ☐ Floodlighting ☒ None	Count 0 Specify type _____

4.A. Does nearby Hwy Intersection have Traffic Signals?	4.B. Hwy Traffic Signal Interconnection	4.C. Hwy Traffic Signal Preemption	5. Highway Traffic Pre-Signals	6. Highway Monitoring Devices *(Check all that apply)*
☐ Yes ☒ No	☒ Not Interconnected ☐ For Traffic Signals ☐ For Warning Signs	☐ Simultaneous ☐ Advance	☐ Yes ☒ No Storage Distance * 0 Stop Line Distance * 0	☐ Yes - Photo/Video Recording ☐ Yes – Vehicle Presence Detection ☒ None

Part IV: Physical Characteristics

1. Traffic Lanes Crossing Railroad	2. Is Roadway/Pathway Paved?	3. Does Track Run Down a Street?	4. Is Crossing Illuminated? *(Street lights within approx. 50 feet from nearest rail)*
☐ One-way Traffic ☒ Two-way Traffic Number of Lanes 2 ☐ Divided Traffic	☒ Yes ☐ No	☐ Yes ☒ No	☒ Yes ☐ No

5. Crossing Surface *(on Main Track, multiple types allowed)* Installation Date * *(MM/YYYY)* _____/_____ Width * _____ Length * 73

☐ 1 Timber ☒ 2 Asphalt ☐ 3 Asphalt and Timber ☐ 4 Concrete ☐ 5 Concrete and Rubber ☐ 6 Rubber ☐ 7 Metal
☐ 8 Unconsolidated ☐ 9 Composite ☐ 10 Other *(specify)* _____

6. Intersecting Roadway within 500 feet?	7. Smallest Crossing Angle	8. Is Commercial Power Available? *
☒ Yes ☐ No If Yes, Approximate Distance *(feet)* 75	☐ 0° – 29° ☐ 30° – 59° ☒ 60° - 90°	☒ Yes ☐ No

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☐ (02) Other Nat Hwy System (NHS) ☐ (03) Federal AID, Not NHS ☒ (08) Non-Federal Aid	☐ (0) Rural ☒ (1) Urban ☐ (1) Interstate ☒ (5) Major Collector ☐ (2) Other Freeways and Expressways ☐ (3) Other Principal Arterial ☐ (6) Minor Collector ☐ (4) Minor Arterial ☐ (7) Local	☐ Yes ☒ No	35 MPH ☐ Posted ☒ Statutory

5. Linear Referencing System *(LRS Route ID)* *

6. LRS Milepost *

7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 2014 AADT 2797	1 %	☒ Yes ☐ No Average Number per Day 27	☐ Yes ☒ No

Submission Information - *This information is used for administrative purposes and is not available on the public website.*

Submitted by _____ Organization _____ Phone _____ Date _____

Public reporting burden for this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for information collection is 2130-0017. Send comments regarding this burden estimate or any other aspect of this collection, including for reducing this burden to: Information Collection Officer, Federal Railroad Administration, 1200 New Jersey Ave. SE, MS-25 Washington, DC 20590.

Gievers, Andrea

From: Smith, Peggy <Peggy_Smith@CSX.com>
Sent: Thursday, June 22, 2023 2:59 PM
To: Gievers, Andrea
Subject: [External] FW: HUD Form Request 629435L

Follow Up Flag: Follow up
Flag Status: Flagged

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.

1. Train type - Electric or Diesel? Diesel
2. Average Train Speed? 10
3. Engines per Train? 2
4. Railway Cars per Train? 35
5. Average Train Operations? 2 *4 days per week
6. Night Fraction of ATO? 35%
7. Railway Whistles or Horns? Yes, horns are sounded in compliance with federal regulations
8. Bolted or Welded Tracks? Welded

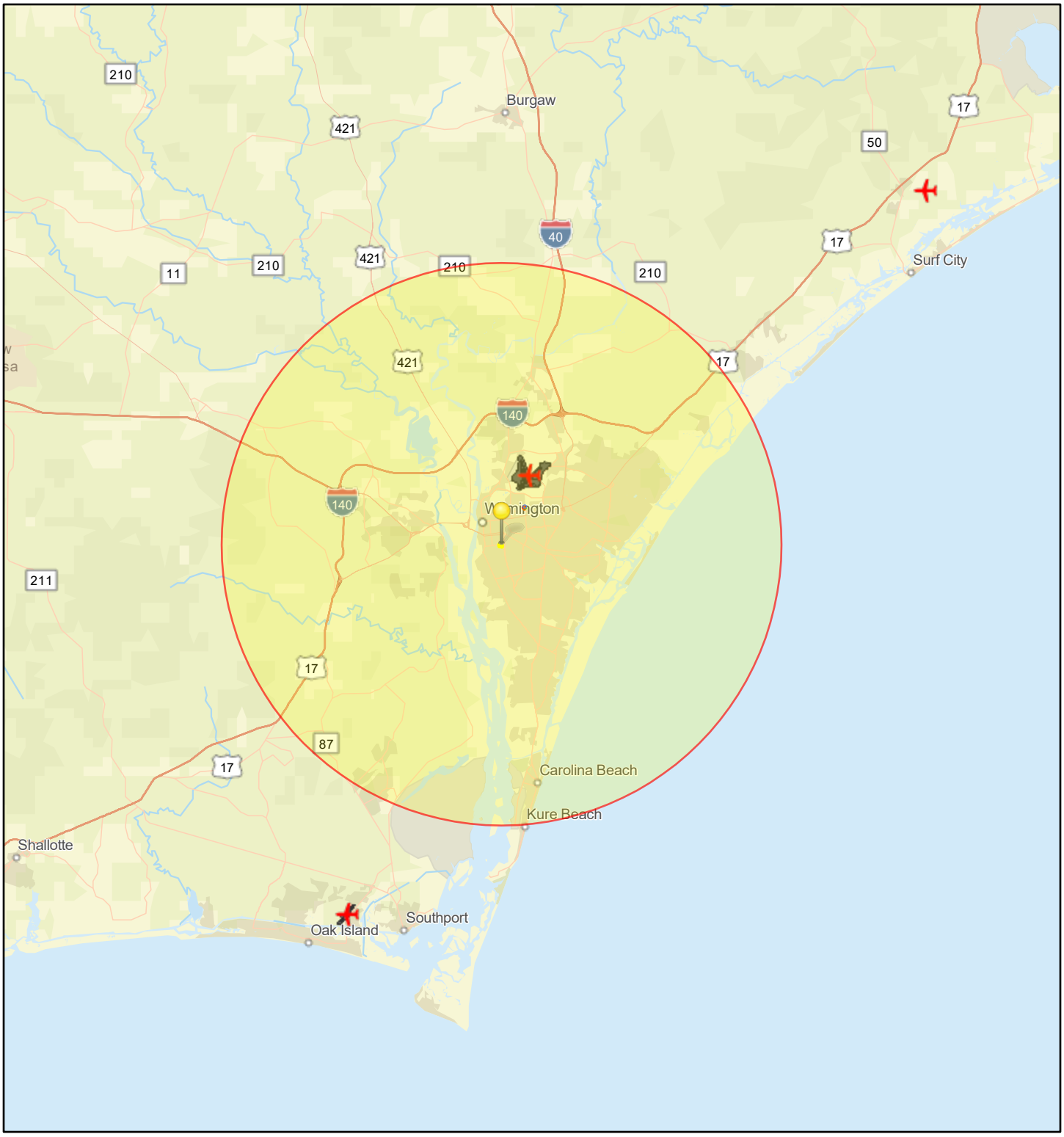
-----Original Message-----
From: noreply-csx@csx.com <noreply-csx@csx.com>
Sent: Wednesday, June 14, 2023 12:58 PM
To: Community Affairs and Safety <CommunityAffairsandSafety@csx.com>
Subject: HUD Form Request

This form was sent at: Jun 14, 2023 12:58 PM

REASON: HUD Forms Request
NAME: Andrea Gievers
PHONENUMBER: 18456821700
EMAILADDRESS: andrea.l.gievers@rebuild.nc.gov
AFFECTEDLOCATIONORDOT: 629435L
YOURMESSAGE: HUD Noise Railway Assessment data request. Thanks!

This email transmission and any accompanying attachments may contain CSX privileged and confidential or business proprietary information intended only for the use of the intended addressee. Any dissemination, distribution, forwarding, copying, or action taken in reliance on the contents of this email by anyone other than the intended recipient is strictly prohibited. If you have received this email in error please immediately delete it, destroy all copies, and notify the sender at the above CSX email address.

Houston Moore - Airports Map with 15-mile Buffer



April 28, 2023

1:577,791

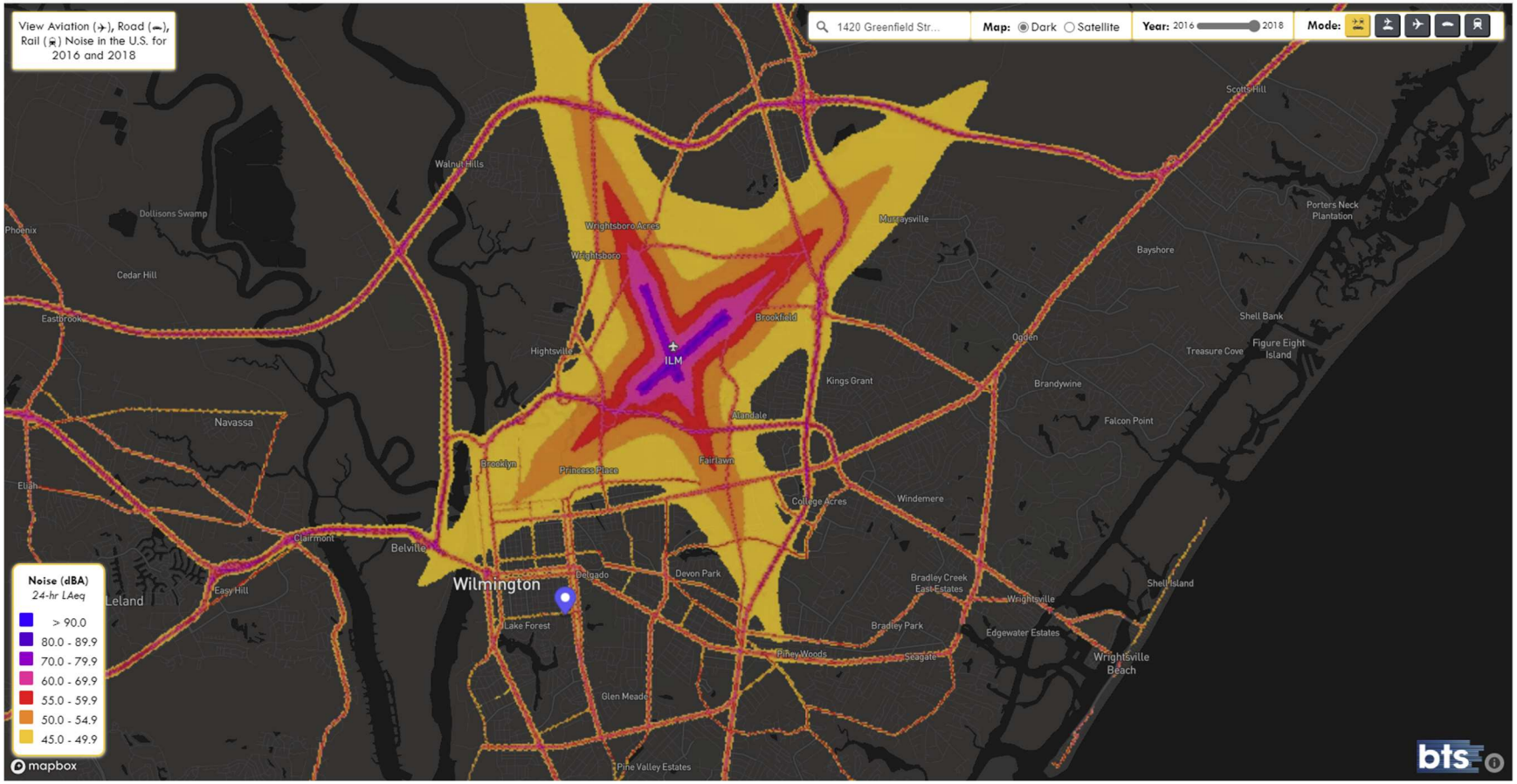
0 4 8 16 mi

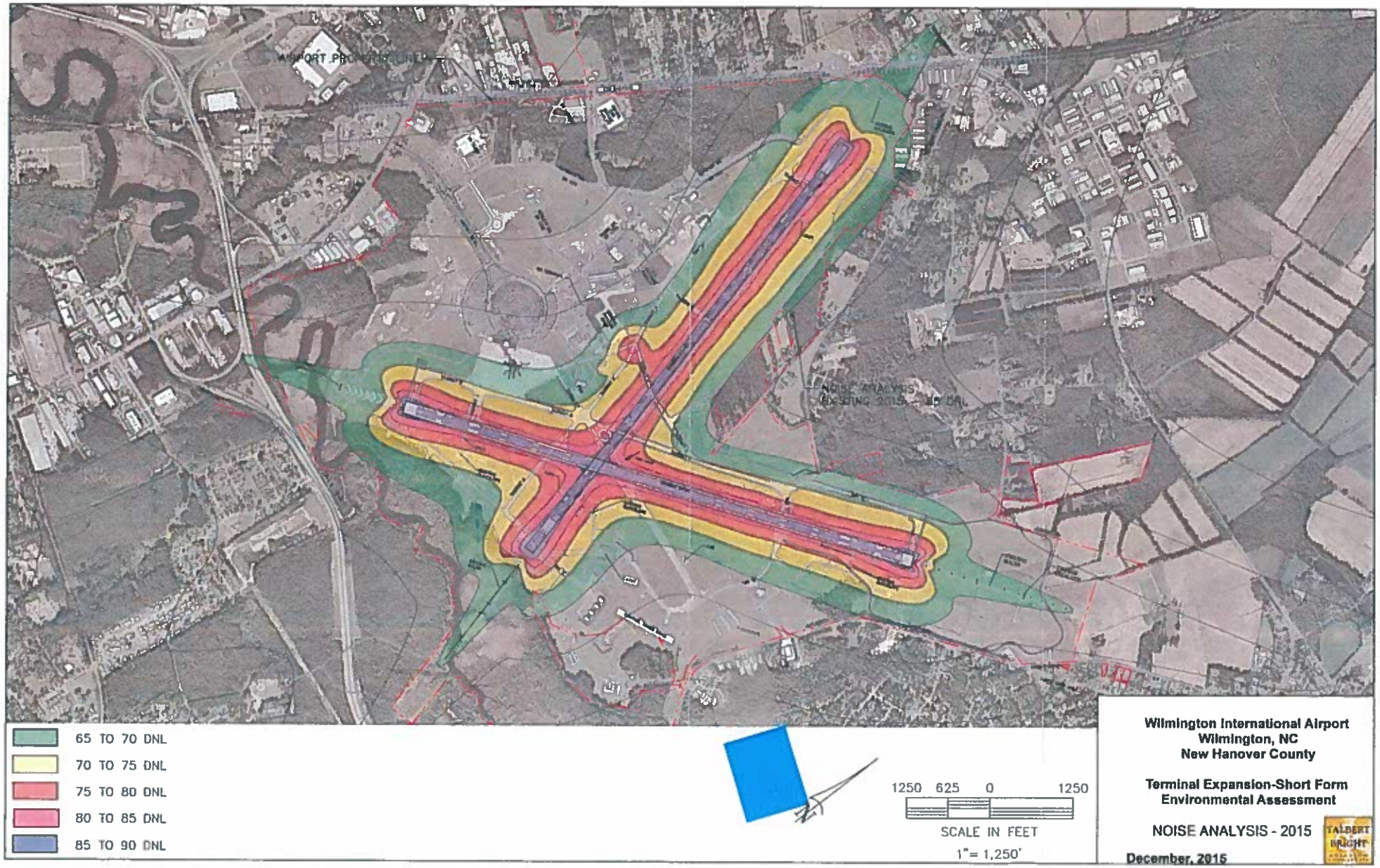
0 5 10 20 km

- Project Buffer
- 1420 Greenfield St.
- Houston Moore
- 710 N. 30th St.
- 609, 611 & 613 N. 30th St.
- 502 N. 30th St., Wilmington, NC 28405
- 522 N. 30th St.
- Airport Points
- Airport Polygons

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

Houston Moore – National Transportation Noise Map




65 TO 70 DNL
70 TO 75 DNL
75 TO 80 DNL
80 TO 85 DNL
85 TO 90 DNL
1250 625 0 1250
SCALE IN FEET
1"= 1,250'
Wilmington International Airport
Wilmington, NC
New Hanover County
Terminal Expansion-Short Form
Environmental Assessment
NOISE ANALYSIS - 2015
December, 2015
TALBERT BRIGHT

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

AIRPORT MASTER RECORD

PRINT DATE: 07/05/2022
AFD EFF 06/16/2022
FORM APPROVED OMB 2120-0015

> 1 ASSOC CITY:	WILMINGTON	4 STATE: NC	LOC ID: ILM	FAA SITE NR: 17211.*A
> 2 AIRPORT NAME:	WILMINGTON INTL		5 COUNTY: NEW HANOVER, NC	
3 CBD TO AIRPORT (NM): 3 NE		6 REGION/ADO: ASO /MEM	7 SECT AERO CHT: CHARLOTTE	

GENERAL

10 OWNERSHIP:	PUBLIC
> 11 OWNER:	NEW HANOVER COUNTY
> 12 ADDRESS:	1740 AIRPORT BLVD WILMINGTON, NC 28405
> 13 PHONE NR:	910-341-4333
> 14 MANAGER:	JEFFREY BOURK, A.A.E.
> 15 ADDRESS:	1740 AIRPORT BLVD WILMINGTON, NC 28405
> 16 PHONE NR:	910-341-4333

> 17 ATTENDANCE SCHEDULE:

MONTHS	DAYS	HOURS
ALL	ALL	ALL

18 AIRPORT USE:	PUBLIC
19 ARPT LAT:	34-16-16.1N ESTIMATED
20 ARPT LONG:	77-54-10.4W
21 ARPT ELEV:	31.7 SURVEYED
22 ACREAGE:	1,800
> 23 RIGHT TRAFFIC:	NO
> 24 NON-COMM LANDING:	NO
25 NPIAS/FED AGREEMENTS:	YES / NGPRY3
> 26 FAR 139 INDEX:	I B S 05/1973

SERVICES

> 70 FUEL:	100LL A A+
> 71 AIRFRAME RPRS:	MAJOR
> 72 PWR PLANT RPRS:	MAJOR
> 73 BOTTLE OXYGEN:	HIGH/LOW
> 74 BULK OXYGEN:	HIGH/LOW
75 TSNT STORAGE:	HGR TIE
76 OTHER SERVICES:	AFRT,CARGO,CHTR, INSTR,RNTL,SALES

FACILITIES

> 80 ARPT BCN:	CG
> 81 ARPT LGT SKED:	SEE RMK
BCN LGT SKED:	SS-SR
> 82 UNICOM:	122.950
> 83 WIND INDICATOR:	YES-L
84 SEGMENTED CIRCLE:	
85 CONTROL TWR:	YES
86 FSS:	RALEIGH
87 FSS ON ARPT:	NO
88 FSS PHONE NR:	
89 TOLL FREE NR:	1-800-WX-BRIEF

BASED AIRCRAFT

90 SINGLE ENG:	67
91 MULTI ENG:	11
92 JET:	21
93 HELICOPTERS:	8
TOTAL:	107
94 GLIDERS:	0
95 MILITARY:	0
96 ULTRA-LIGHT:	0

OPERATIONS

100 AIR CARRIER:	10,829
102 AIR TAXI:	10,984
103 G A LOCAL:	13,513
104 G A ITNRNT:	29,595
105 MILITARY:	13,316
TOTAL:	78,237

OPERATIONS FOR 12 MONTHS ENDING 01/31/2022

RUNWAY DATA

		06/24	17/35
> 30 RUNWAY IDENT:			
> 31 LENGTH:		8,016	7,754
> 32 WIDTH:		150	150
> 33 SURF TYPE-COND:		ASPH-G	ASPH-G
> 34 SURF TREATMENT:		GRVD	GRVD
35 GROSS WT:	S	75.0	60.0
36 (IN THSDS)	D	160.0	185.0
37	2D	275.0	300.0
38	2D/2DS		
> 39 PCN / PCR:		78/F/B/W/T (PCN)	61/F/B/W/T (PCN)

LIGHTING/APCH AIDS

> 40 EDGE INTENSITY:	HIGH	HIGH
> 42 RWY MARK TYPE-COND:	PIR- G / PIR- G	PIR- G / PIR- G
> 43 VGSI:	P4R / P4L	P4L / P4L
44 THR CROSSING HGT:	57 / 48	50 / 36
45 VISUAL GLIDE ANGLE:	3.00 / 3.00	3.00 / 3.00
> 46 CNTRLN-TDZ:	- N / - N	- / -
> 47 RVR-RVV:	TR - / TR -	R - / T - N
> 48 REIL:	Y / N	Y /
> 49 APCH LIGHTS:	/ MALSR	/ MALSR

OBSTRUCTION DATA

50 FAR 77 CATEGORY:	PIR / PIR	C / PIR
> 51 DISPLACED THR:	/	350 / 400
> 52 CTLG OBSTN:	/	/
> 53 OBSTN MARKED/LGTD:	/	/
> 54 HGT ABOVE RWY END:	/	/
> 55 DIST FROM RWY END:	0 / 0	0 / 0
> 56 CNTRLN OFFSET:	/	/
57 OBSTN CLNC SLOPE:	50:1 / 50:1	50:1 / 50:1
58 CLOSE-IN OBSTN:	N / N	N / N

DECLARED DISTANCES

> 60 TAKE OFF RUN AVBL (TORA):	8,016 / 8,016	7,754 / 7,754
> 61 TAKE OFF DIST AVBL (TODA):	8,016 / 8,016	7,754 / 7,754
> 62 ACLT STOP DIST AVBL (ASDA):	8,016 / 8,016	6,954 / 7,604
> 63 LNDG DIST AVBL (LDA):	8,016 / 8,016	6,604 / 7,204

(>) ARPT MGR PLEASE ADVISE FSS IN ITEM 86 WHEN CHANGES OCCUR TO ITEMS PRECEDED BY >

> 110 REMARKS:

A 016	EXT 1001.
A 081	ACTVT MALSR RWY 24 & 35; REIL RWY 06 & 17; PAPI RWY 06, 17, 24; HIRL RWY 06/24 & 17/35; AND ALL TWY LGTS - CTAF.
A 086	FSS-RALEIGH RDU-NOTAM ILM
A 110-001	FUEL: AIR WILMINGTON, INC, 910-763-4691
A 110-004	BEARING STRENGTH RWY 06-24: ST175
A 110-005	BEARING STRENGTH RWY 17-35: ST175
A 110-006	FOR CD IF UNA TO CTC ON FSS FREQ, CTC WASHINGTON ARTCC AT 703-771-3587.

111 INSPECTOR: (F) 112 LAST INSP: 03/09/2022 113 LAST INFO REQ:

DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Houston Moore - NAL #1 (Current)
Record Date	07/21/2023
User's Name	Andrea Gievers

Road # 1 Name:	**Greenfield Street (Current)**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	44	44	44
Distance to Stop Sign	68	68	68
Average Speed	25	25	25
Average Daily Trips (ADT)	4140	180	180
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	51	47	70

Calculate Road #1 DNL | 70 | Reset

Road # 2 Name:	**S. 16th Street (Current)**

Road #2

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑

Effective Distance	484	484	484
Distance to Stop Sign			
Average Speed	45	45	45
Average Daily Trips (ADT)	14720	640	640
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	53	49	58
Calculate Road #2 DNL	59	Reset	

Road # 3 Name:	**S. 17th Street (Current)**

Road #3

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	880	880	880
Distance to Stop Sign			
Average Speed	45	45	45
Average Daily Trips (ADT)	15640	680	680
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	49	46	54
Calculate Road #3 DNL	56	Reset	

Railroad #1 Track Identifier:	**RR ID# 629435L**

Rail # 1

Train Type	**Electric** ☐	**Diesel** ☑
Effective Distance		1601
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐

Railway Whistles or Horns?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	56
Calculate Rail #1 DNL	56	Reset

Add Road Source | Add Rail Source

Airport Noise Level	
Loud Impulse Sounds?	○**Yes** ◉**No**
Combined DNL for all Road and Rail sources	**71**
Combined DNL including Airport	**N/A**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location

- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	Houston Moore - NAL #1 (2035)
Record Date	07/21/2023
User's Name	Andrea Gievers

Road # 1 Name:	**Greenfield Street (2035)**

Road #1

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑
Effective Distance	44	44	44
Distance to Stop Sign	68	68	68
Average Speed	25	25	25
Average Daily Trips (ADT)	4260	185	185
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	51	47	70
Calculate Road #1 DNL	70	Reset	

Road # 2 Name:	**S. 16th Street (2035)**

Road #2

Vehicle Type	**Cars** ☑	**Medium Trucks** ☑	**Heavy Trucks** ☑

Effective Distance	484	484	484
Distance to Stop Sign			
Average Speed	45	45	45
Average Daily Trips (ADT)	16820	731	731
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	53	50	58
Calculate Road #2 DNL	60	Reset	

Road # 3 Name:	S. 17th Street (2035)

Road #3

Vehicle Type	Cars ☑	Medium Trucks ☑	Heavy Trucks ☑
Effective Distance	880	880	880
Distance to Stop Sign			
Average Speed	45	45	45
Average Daily Trips (ADT)	21981	955	955
Night Fraction of ADT	15	15	15
Road Gradient (%)			2
Vehicle DNL	51	47	55
Calculate Road #3 DNL	57	Reset	

Railroad #1 Track Identifier:	RR ID# 629435L

Rail # 1

Train Type	Electric ☐	Diesel ☑
Effective Distance		1601
Average Train Speed		10
Engines per Train		2
Railway cars per Train		35
Average Train Operations (ATO)		2
Night Fraction of ATO		35
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐

Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	56
Calculate Rail #1 DNL	56	Reset

Add Road Source | Add Rail Source

Airport Noise Level	
Loud Impulse Sounds?	○ **Yes** ◉ **No**
Combined DNL for all Road and Rail sources	**71**
Combined DNL including Airport	**N/A**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location

- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

ATTACHMENT 14:

Sole Source Aquifers

EPA Sole Source Aquifer Map

U.S. EPA Sole Source Aquifer Map



4/17/2023, 4:12:52 PM

1:9,244,649

Sole_Source_Aquifers

0 65 130 260 mi

0 105 210 420 km

Esri, HERE, Garmin, NGA, USGS, NPS

U.S. Environmental Protection Agency

ATTACHMENT 15:

Wetlands Protection

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212)

Woodbridge Apartments - NWI Wetlands Map



April 28, 2023

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

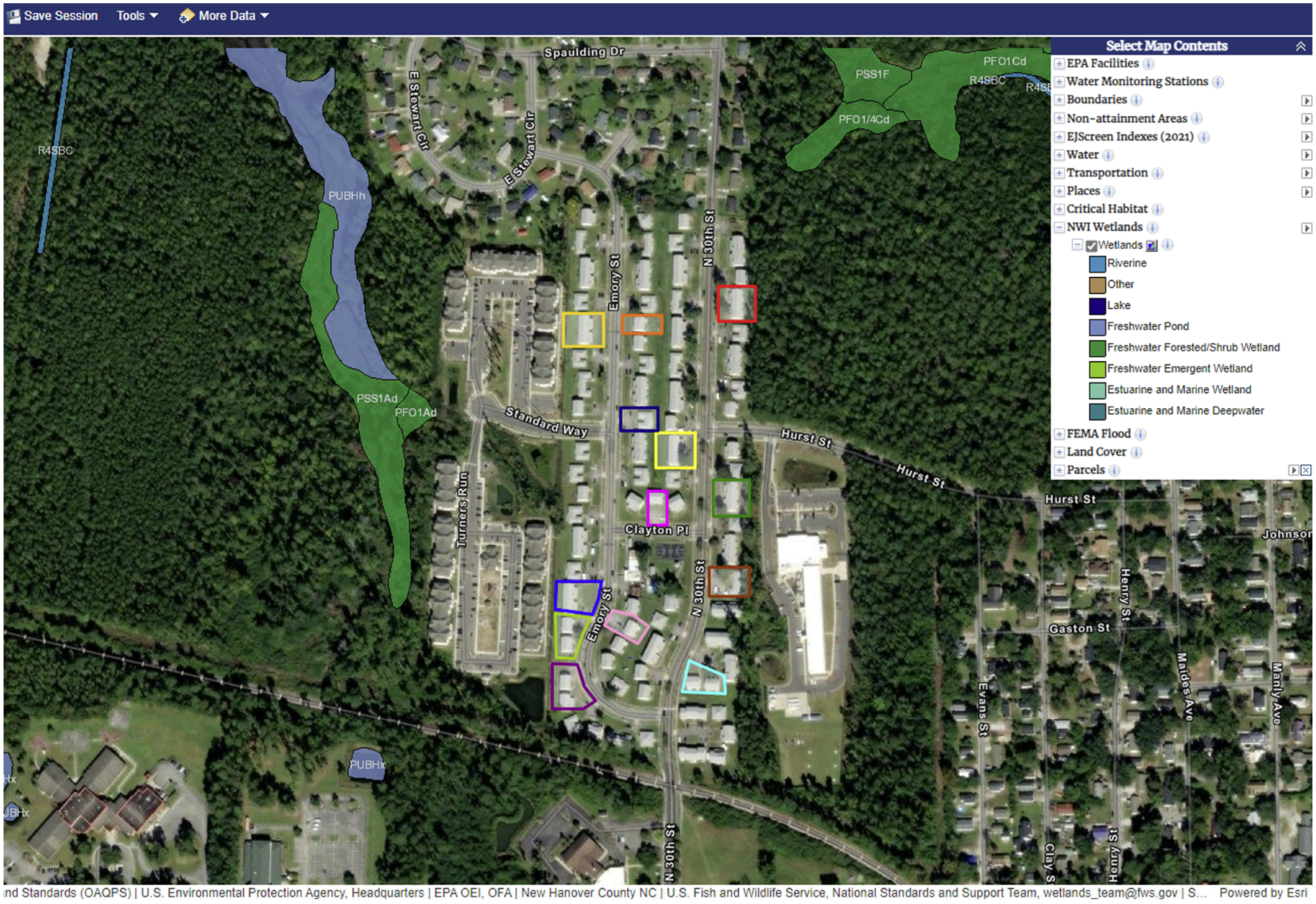
Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Woodbridge Apartments

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

Creekwood (14 Units) at
602, 712, 804, 805, 809 & 1008 N. 30th St.,
617, 701, 707, 708, 902, 915 & 922 Emory St.,
and 2905 Clayton Place, Wilmington, NC
28405

Creekwood (14 Units) – NWI Wetlands Map



Creekwood South (6 Units) at
502, 522, 609, 611, 613 & 710 N. 30th St.,
Wilmington, NC 28405

Creekwood South (6 Units) - NWI Wetlands Map



April 28, 2023

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- 710 N. 30th St.
- 609, 611 & 613 N. 30th St.
- 502 N. 30th St.
- 522 N. 30th St.

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws.gov, NC CGIA, Maxar, Esri Community Maps

Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405

Houston Moore - NWI Wetlands Map



April 28, 2023

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.2 km

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- 1420 Greenfield St.
- Houston Moore

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

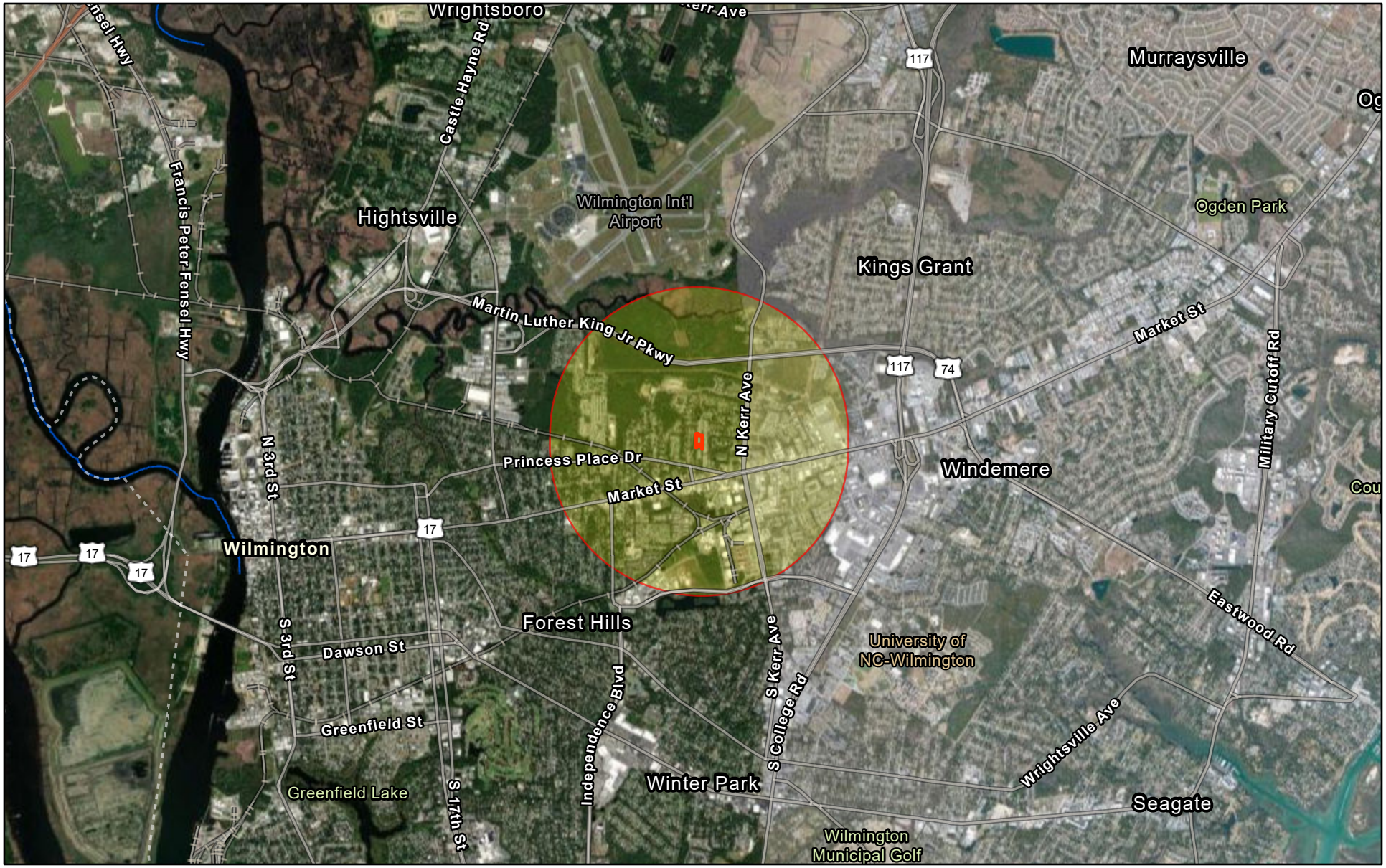
ATTACHMENT 16:

Wild and Scenic Rivers

NEPAssist Maps of DOI NPS Nationwide Rivers Inventory and National Wild and Scenic Rivers System Showing 1-mile Buffer from Proposed Project Site

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212)

Woodbridge Apartments - WSR Map with 1-mile Buffer



April 28, 2023

1:72,224

0 0.5 1 2 mi

0 0.75 1.5 3 km

HYDRO_NationwideRiversInventory_ln

Woodbridge Apartments

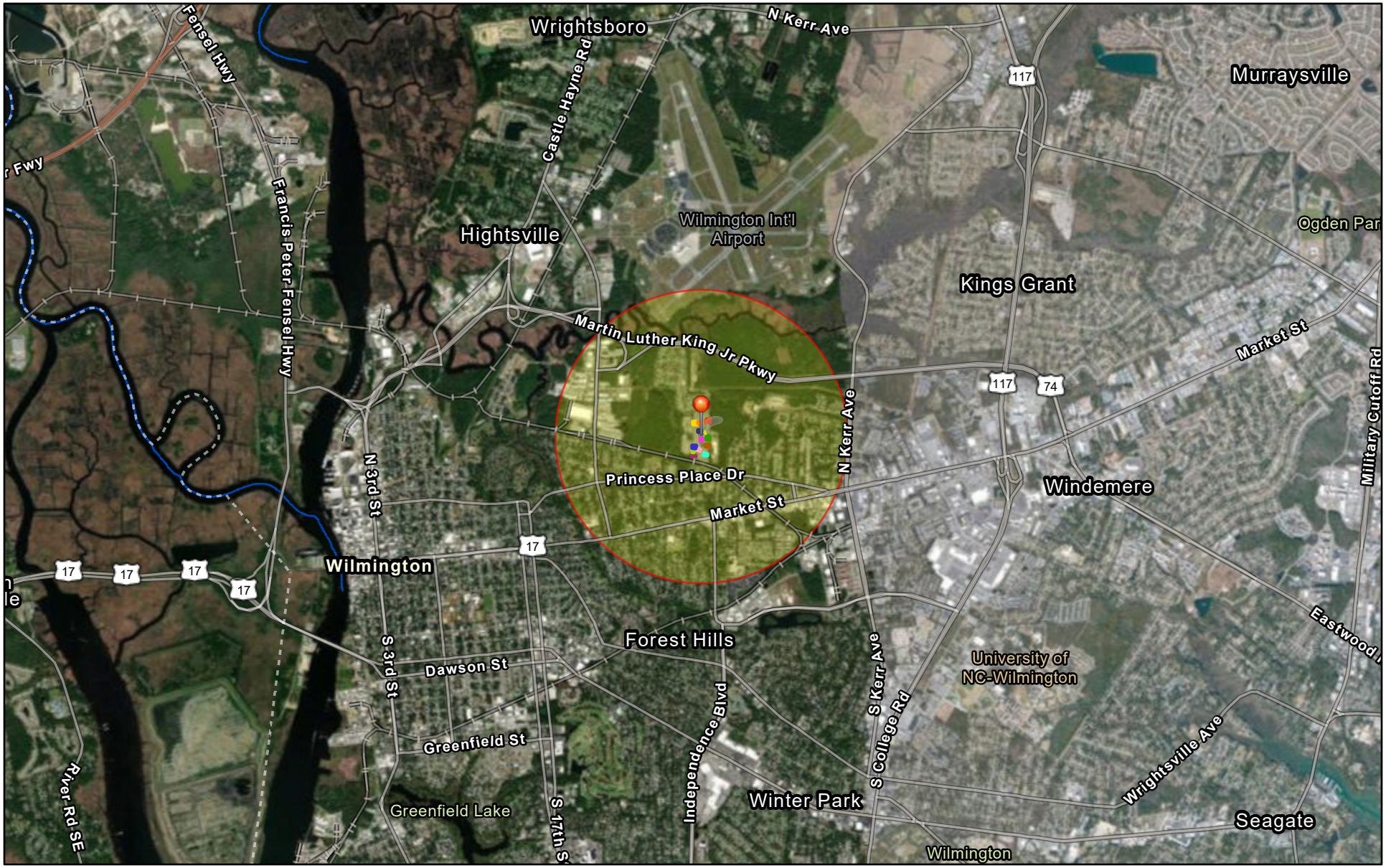
Project Buffer

Wild and Scenic Rivers

National Park Service, peter_bonsall@nps.gov, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS,

Creekwood (14 Units) at
602, 712, 804, 805, 809 & 1008 N. 30th St.,
617, 701, 707, 708, 902, 915 & 922 Emory St.,
and 2905 Clayton Place, Wilmington, NC
28405

Creekwood (14 Units) - WSR Map with 1-mile Buffer



April 28, 2023

HYDRO_NationwideRiversInventory_In

Creekwood (14 Units)

Project Buffer

804 N. 30th St.
902 Emory St.
712 N. 30th St.
707 Emory St.
708 Emory St.
1008 N. 30th St.
602 N. 30th St.
2905 Clayton Pl.
922 Emory St.

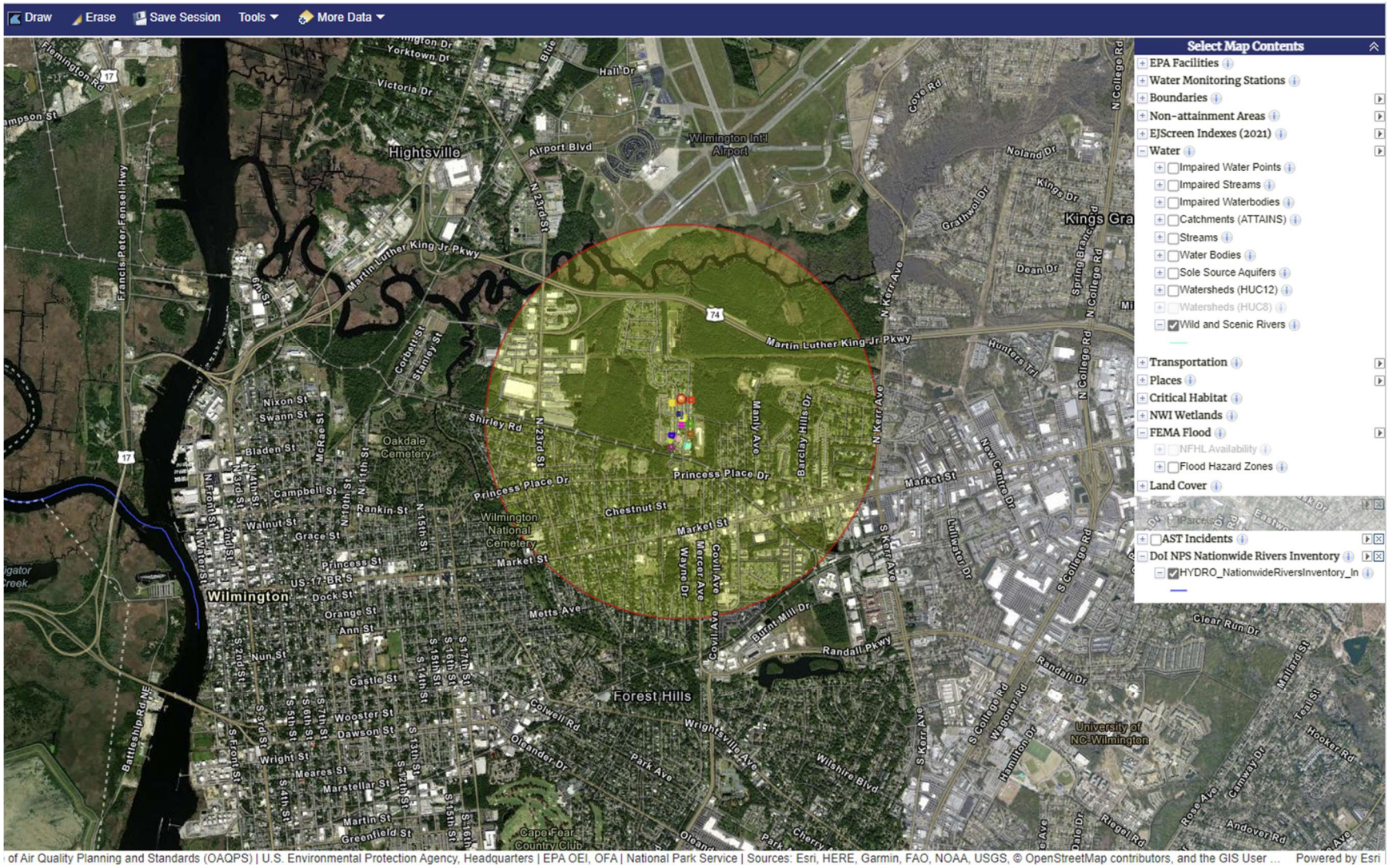
1:72,224

0 0.5 1 2 mi

0 0.75 1.5 3 km

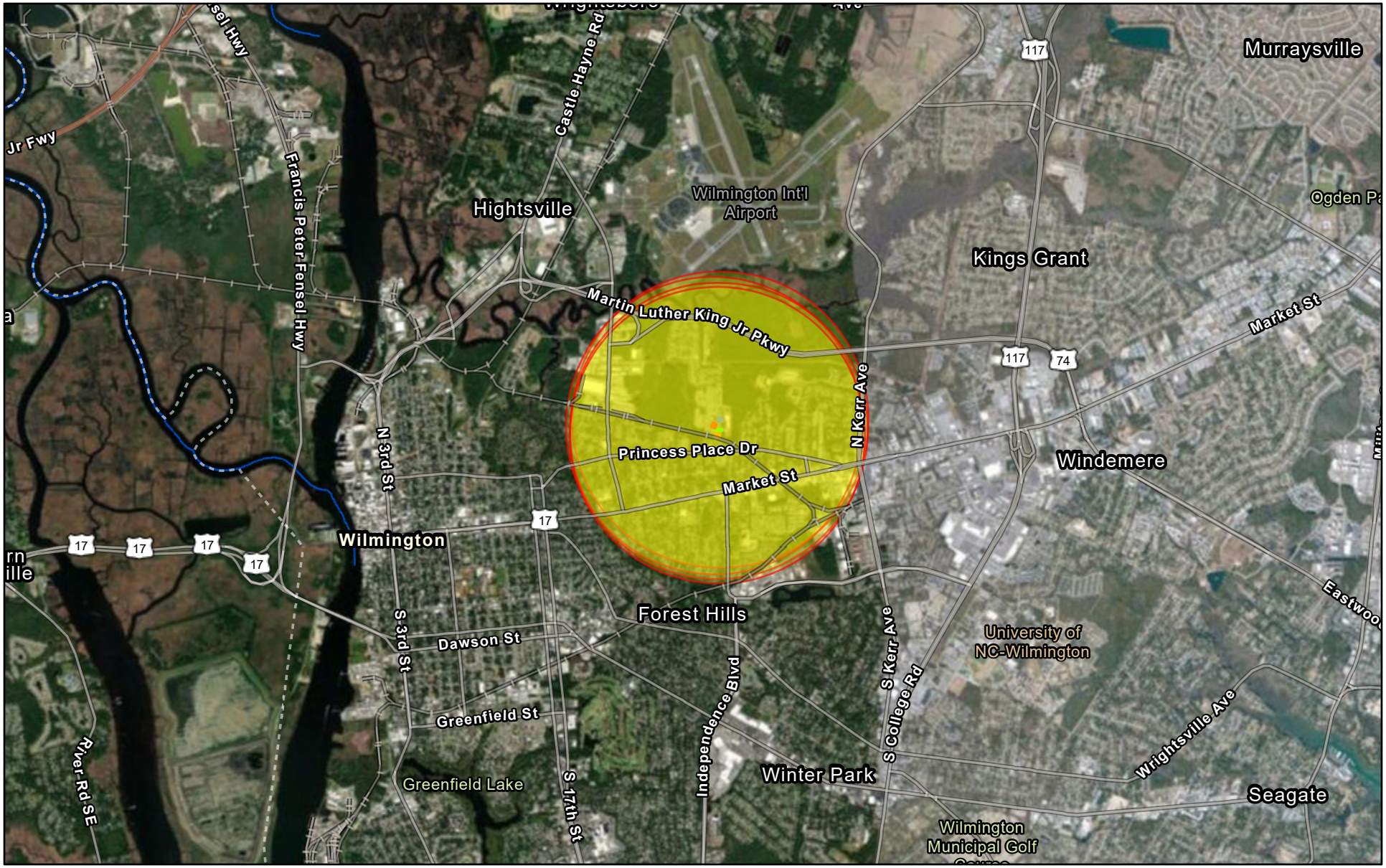
National Park Service, peter_bonsall@nps.gov, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS,

Creekwood (14 Units) – Wild and Scenic Rivers (1-mile Buffer)



Creekwood South (6 Units) at
502, 522, 609, 611, 613 & 710 N. 30th St.,
Wilmington, NC 28405

Creekwood South (6 Units) - WSR Map with 1-mile Buffer



April 28, 2023

HYDRO_NationwideRiversInventory_In

Project Buffer

710 N. 30th St.

609, 611 & 613 N. 30th St.

502 N. 30th St.

522 N. 30th St.

Wild and Scenic Rivers

1:72,224

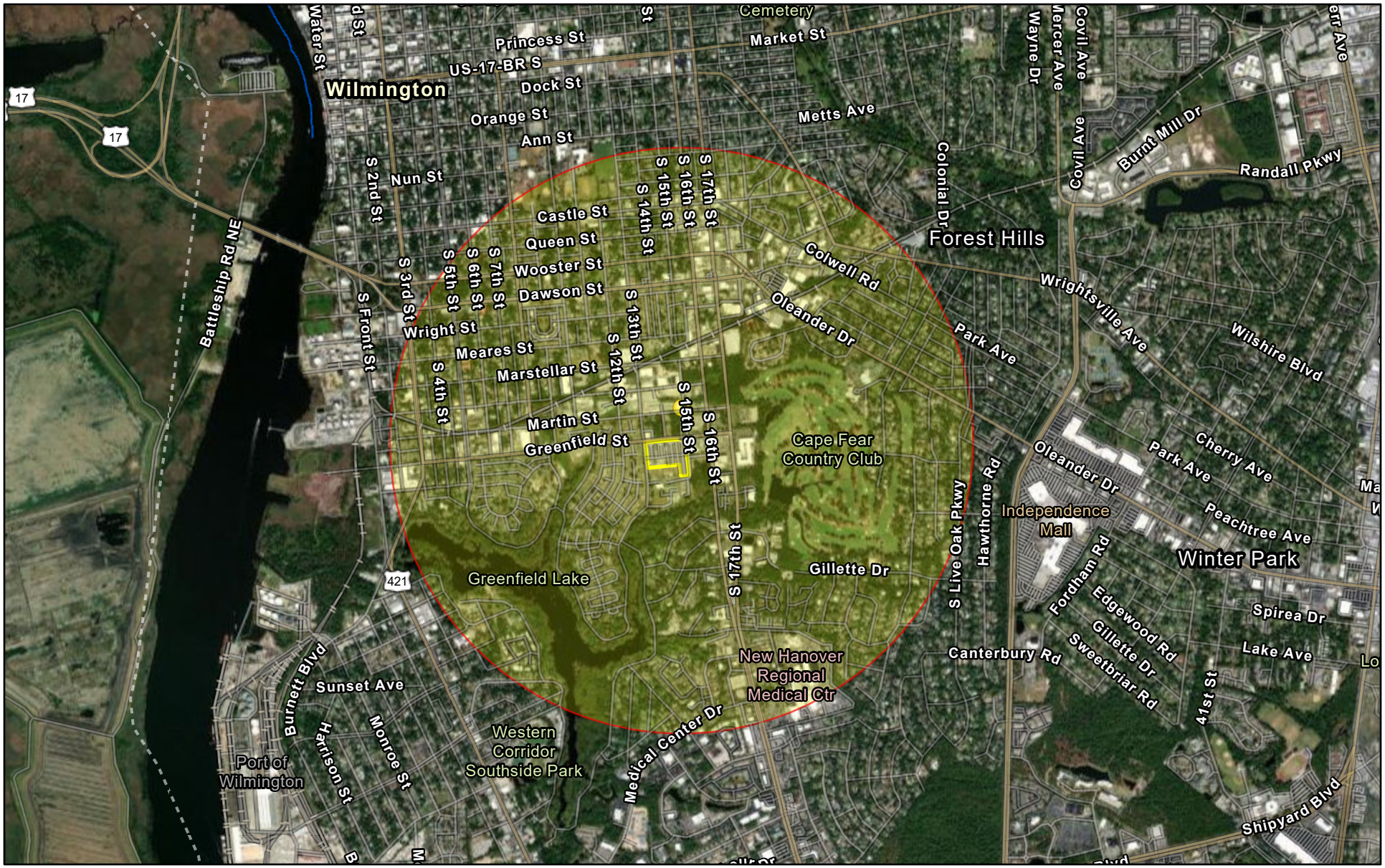
0 0.5 1 2 mi

0 0.75 1.5 3 km

National Park Service, peter_bonsall@nps.gov, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS,

Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405

Houston Moore - WSR Map with 1-mile Buffer



April 28, 2023

HYDRO_NationwideRiversInventory_ln

Project Buffer

1420 Greenfield St.

Houston Moore

Wild and Scenic Rivers

1:36,112

0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

National Park Service, peter_bonsall@nps.gov, NC CGIA, Maxar, State of North Carolina DOT, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc,

ATTACHMENT 17:

Environmental Justice

EJSCREEN Standard Reports, EJSCREEN ACS Summary Reports, EJSCREEN Census 2010 Summary Reports, NC DEQ Community Mapping System Maps, EJSCREEN Community Report, and CDC Report for New Hanover County

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212)

EJScreen Report (Version 2.11)

1 mile Ring around the Area, NORTH CAROLINA, EPA Region 4

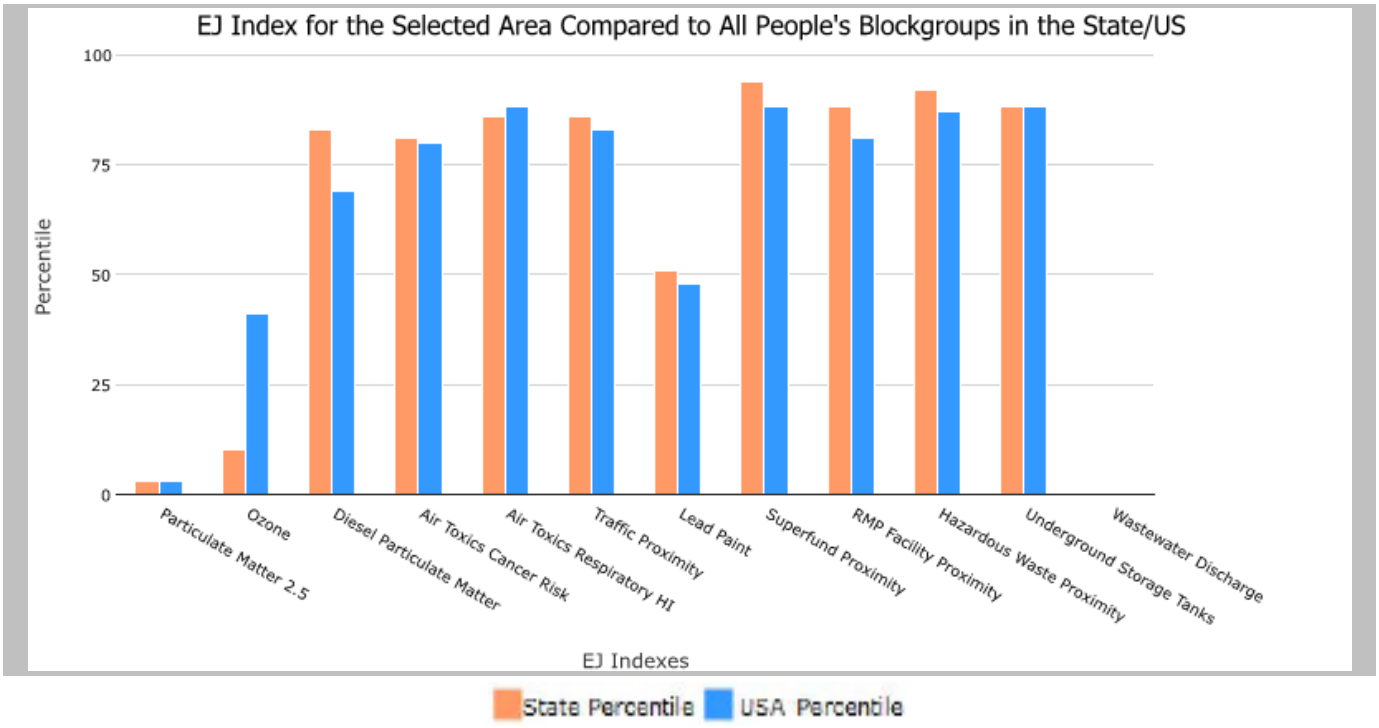
Approximate Population: 11,117

Input Area (sq. miles): 3.41

Woodbridge Apartments (The study area contains 1 blockgroup(s) with zero population.)

Selected Variables	State Percentile	USA Percentile
Environmental Justice Indexes		
Particulate Matter 2.5 EJ index	3	3
Ozone EJ index	10	41
Diesel Particulate Matter EJ index*	83	69
Air Toxics Cancer Risk EJ index*	81	80
Air Toxics Respiratory HI EJ index*	86	88
Traffic Proximity EJ index	86	83
Lead Paint EJ index	51	48
Superfund Proximity EJ index	94	88
RMP Facility Proximity EJ index	88	81
Hazardous Waste Proximity EJ index	92	87
Underground Storage Tanks EJ index	88	88
Wastewater Discharge EJ index	N/A	N/A

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.



*Diesel particular 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.

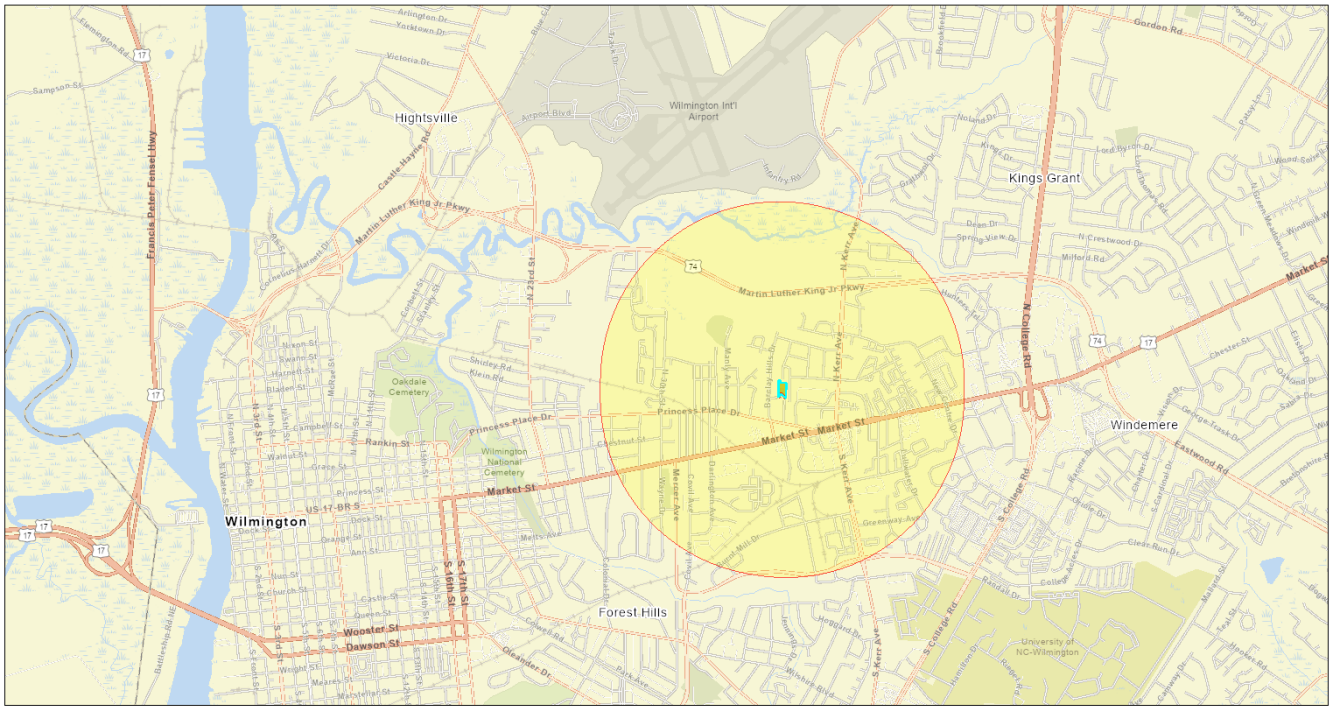
EJScreen Report (Version 2.11)

1 mile Ring around the Area, NORTH CAROLINA, EPA Region 4

Approximate Population: 11,117

Input Area (sq. miles): 3.41

Woodbridge Apartments (The study area contains 1 blockgroup(s) with zero population.)



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	1

EJScreen Report (Version 2.11)

1 mile Ring around the Area, NORTH CAROLINA, EPA Region 4

Approximate Population: 11,117

Input Area (sq. miles): 3.41

Woodbridge Apartments (The study area contains 1 blockgroup(s) with zero population.)

Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
Pollution and Sources					
Particulate Matter 2.5 (µg/m^3)	5.07	7.67	1	8.67	1
Ozone (ppb)	36.8	41.5	4	42.5	16
Diesel Particulate Matter* (µg/m^3)	0.216	0.178	68	0.294	<50th
Air Toxics Cancer Risk* (lifetime risk per million)	30	28	95	28	80-90th
Air Toxics Respiratory HI*	0.69	0.36	99	0.36	95-100th
Traffic Proximity (daily traffic count/distance to road)	850	400	86	760	78
Lead Paint (% Pre-1960 Housing)	0.081	0.15	41	0.27	32
Superfund Proximity (site count/km distance)	0.17	0.08	90	0.13	81
RMP Facility Proximity (facility count/km distance)	0.75	0.41	85	0.77	68
Hazardous Waste Proximity (facility count/km distance)	3.9	0.83	96	2.2	83
Underground Storage Tanks (count/km^2)	10	3.9	89	3.9	89
Wastewater Discharge (toxicity-weighted concentration/m distance)	N/A	0.28	N/A	12	N/A
Socioeconomic Indicators					
Demographic Index	53%	35%	78	35%	77
Supplemental Demographic Index	18%	15%	69	15%	72
People of Color	49%	37%	69	40%	66
Low Income	58%	33%	85	30%	86
Unemployment Rate	6%	5%	64	5%	64
Limited English Speaking Households	1%	2%	68	5%	57
Less Than High School Education	6%	11%	32	12%	37
Under Age 5	4%	6%	42	6%	40
Over Age 64	9%	16%	19	16%	21
Low Life Expectancy	14%	21%	3	20%	7

EJScreen is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJScreen outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

EJScreen Report (Version 2.11)

1 mile Ring around the Area, NORTH CAROLINA, EPA Region 4

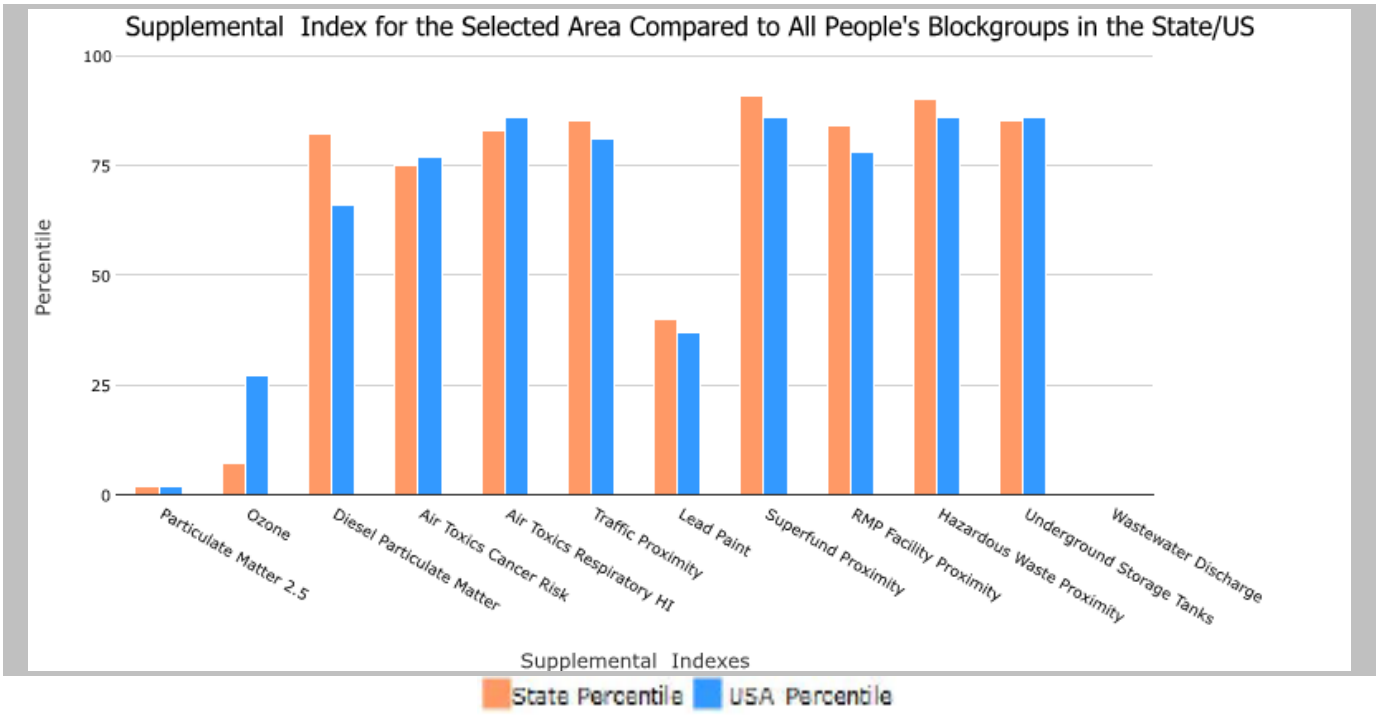
Approximate Population: 11,117

Input Area (sq. miles): 3.41

Woodbridge Apartments (The study area contains 1 blockgroup(s) with zero population.)

Selected Variables	State Percentile	USA Percentile
Supplemental Indexes		
Particulate Matter 2.5 Supplemental Index	2	2
Ozone Supplemental Index	7	27
Diesel Particulate Matter Supplemental Index*	82	66
Air Toxics Cancer Risk Supplemental Index*	75	77
Air Toxics Respiratory HI Supplemental Index*	83	86
Traffic Proximity Supplemental Index	85	81
Lead Paint Supplemental Index	40	37
Superfund Proximity Supplemental Index	91	86
RMP Facility Proximity Supplemental Index	84	78
Hazardous Waste Proximity Supplemental Index	90	86
Underground Storage Tanks Supplemental Index	85	86
Wastewater Discharge Supplemental Index	N/A	N/A

Supplemental Indexes - The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on low-income, limited English speaking, less than high school education, unemployed, and low life expectancy populations with a single environmental indicator.



This report shows the values for environmental and demographic indicators, EJScreen indexes, and supplemental indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports. For additional information, see: www.epa.gov/environmentaljustice.

EJSCREEN ACS Summary Report

Location: User-specified polygonal location
Ring (buffer): 1-miles radius
Description: Woodbridge Apartments

Summary of ACS Estimates	2016 - 2020
Population	11,117
Population Density (per sq. mile)	3,413
People of Color Population	5,457
% People of Color Population	49%
Households	4,679
Housing Units	5,324
Housing Units Built Before 1950	201
Per Capita Income	22,637
Land Area (sq. miles) (Source: SF1)	3.26
% Land Area	98%
Water Area (sq. miles) (Source: SF1)	0.05
% Water Area	2%

	2016 - 2020 ACS Estimates	Percent	MOE (±)
Population by Race			
Total	11,117	100%	897
Population Reporting One Race	10,855	98%	1,765
White	6,592	59%	909
Black	4,129	37%	662
American Indian	0	0%	13
Asian	94	1%	106
Pacific Islander	8	0%	27
Some Other Race	32	0%	48
Population Reporting Two or More Races	262	2%	138
Total Hispanic Population	1,092	10%	356
Total Non-Hispanic Population	10,025		
White Alone	5,660	51%	871
Black Alone	4,041	36%	662
American Indian Alone	0	0%	13
Non-Hispanic Asian Alone	94	1%	106
Pacific Islander Alone	8	0%	27
Other Race Alone	0	0%	13
Two or More Races Alone	221	2%	138
Population by Sex			
Male	4,853	44%	513
Female	6,265	56%	834
Population by Age			
Age 0-4	445	4%	196
Age 0-17	2,038	18%	307
Age 18+	9,080	82%	682
Age 65+	951	9%	283

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) 2016 - 2020 .

EJSCREEN ACS Summary Report

Location: User-specified polygonal location
Ring (buffer): 1-miles radius
Description: Woodbridge Apartments

	2016 - 2020 ACS Estimates	Percent	MOE (±)
Population 25+ by Educational Attainment			
Total	6,281	100%	528
Less than 9th Grade	144	2%	177
9th - 12th Grade, No Diploma	205	3%	104
High School Graduate	2,166	34%	322
Some College, No Degree	937	15%	232
Associate Degree	607	10%	137
Bachelor's Degree or more	2,222	35%	378
Population Age 5+ Years by Ability to Speak English			
Total	10,672	100%	859
Speak only English	10,052	94%	863
Non-English at Home[1+2+3+4]	620	6%	203
[1]Speak English "very well"	356	3%	185
[2]Speak English "well"	53	0%	71
[3]Speak English "not well"	138	1%	114
[4]Speak English "not at all"	74	1%	112
[3+4]Speak English "less than well"	211	2%	114
[2+3+4]Speak English "less than very well"	264	2%	129
Linguistically Isolated Households*			
Total	30	100%	65
Speak Spanish	17	58%	64
Speak Other Indo-European Languages	12	42%	58
Speak Asian-Pacific Island Languages	0	0%	13
Speak Other Languages	0	0%	13
Households by Household Income			
Household Income Base	4,679	100%	393
< $15,000	1,183	25%	210
$15,000 - $25,000	474	10%	243
$25,000 - $50,000	1,365	29%	340
$50,000 - $75,000	803	17%	171
$75,000 +	855	18%	229
Occupied Housing Units by Tenure			
Total	4,679	100%	393
Owner Occupied	933	20%	175
Renter Occupied	3,746	80%	367
Employed Population Age 16+ Years			
Total	9,227	100%	859
In Labor Force	5,927	64%	848
Civilian Unemployed in Labor Force	345	4%	182
Not In Labor Force	3,299	36%	545

Data Note: Datail 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.

EJSCREEN ACS Summary Report

Location: User-specified polygonal location
Ring (buffer): 1-miles radius
Description: Woodbridge Apartments

	2016 - 2020 ACS Estimates	Percent	MOE (±)
Population by Language Spoken at Home*			
Total (persons age 5 and above)	10,440	100%	1,103
English	9,809	94%	1,119
Spanish	508	5%	336
French, Haitian, or Cajun	21	0%	72
German or other West Germanic	0	0%	19
Russian, Polish, or Other Slavic	35	0%	113
Other Indo-European	49	0%	147
Korean	0	0%	19
Chinese (including Mandarin, Cantonese)	12	0%	39
Vietnamese	0	0%	19
Tagalog (including Filipino)	0	0%	19
Other Asian and Pacific Island	0	0%	19
Arabic	0	0%	19
Other and Unspecified	7	0%	22
Total Non-English	631	6%	1,571

Data Note: Detail may not sum to totals due to rounding. Hispanic popultion can be of any race.
N/A meansnot available. **Source:** U.S. Census Bureau, American Community Survey (ACS) 2016 - 2020.
*Population by Language Spoken at Home is available at the census tract summary level and up.

EJSCREEN Census 2010 Summary Report

Location: User-specified polygonal location
Ring (buffer): 1-miles radius
Description: Woodbridge Apartments

Summary	Census 2010
Population	10,131
Population Density (per sq. mile)	3,028
People of Color Population	5,172
% People of Color Population	51%
Households	4,657
Housing Units	5,261
Land Area (sq. miles)	3.35
% Land Area	98%
Water Area (sq. miles)	0.08
% Water Area	2%

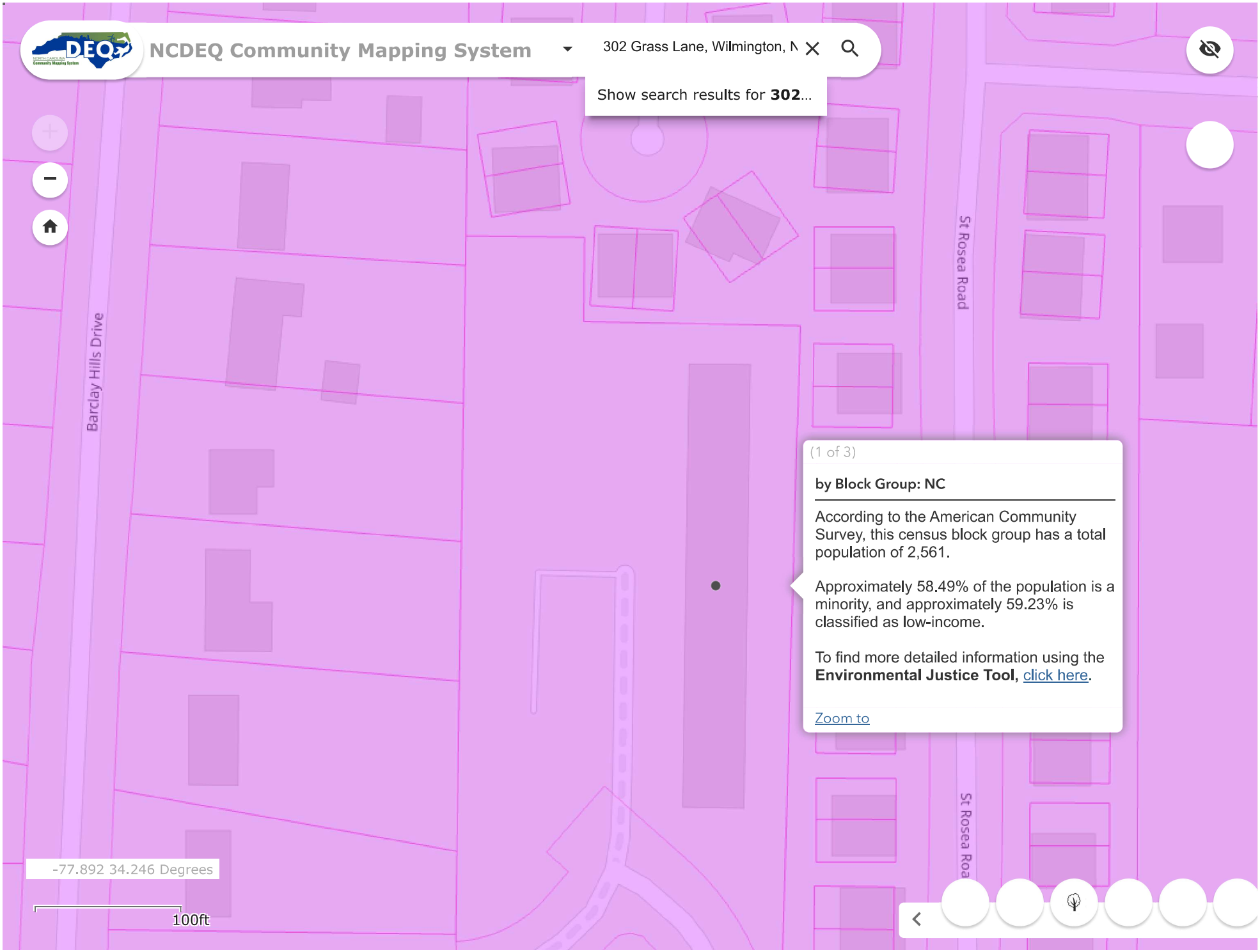
Population by Race	Number	Percent
Total	10,131	-------
Population Reporting One Race	9,831	97%
White	5,265	52%
Black	3,966	39%
American Indian	63	1%
Asian	116	1%
Pacific Islander	7	0%
Some Other Race	414	4%
Population Reporting Two or More Races	300	3%
Total Hispanic Population	836	8%
Total Non-Hispanic Population	9,295	92%
White Alone	4,959	49%
Black Alone	3,908	39%
American Indian Alone	47	0%
Non-Hispanic Asian Alone	115	1%
Pacific Islander Alone	7	0%
Other Race Alone	33	0%
Two or More Races Alone	225	2%

Population by Sex	Number	Percent
Male	4,834	48%
Female	5,297	52%

Population by Age	Number	Percent
Age 0-4	760	8%
Age 0-17	2,064	20%
Age 18+	8,067	80%
Age 65+	617	6%

Households by Tenure	Number	Percent
Total	4,657	
Owner Occupied	949	20%
Renter Occupied	3,709	80%

Data Note: Detail may not sum to totals due to rounding. Hispanic population can be of any race.
Source: U.S. Census Bureau, Census 2010 Summary File 1.

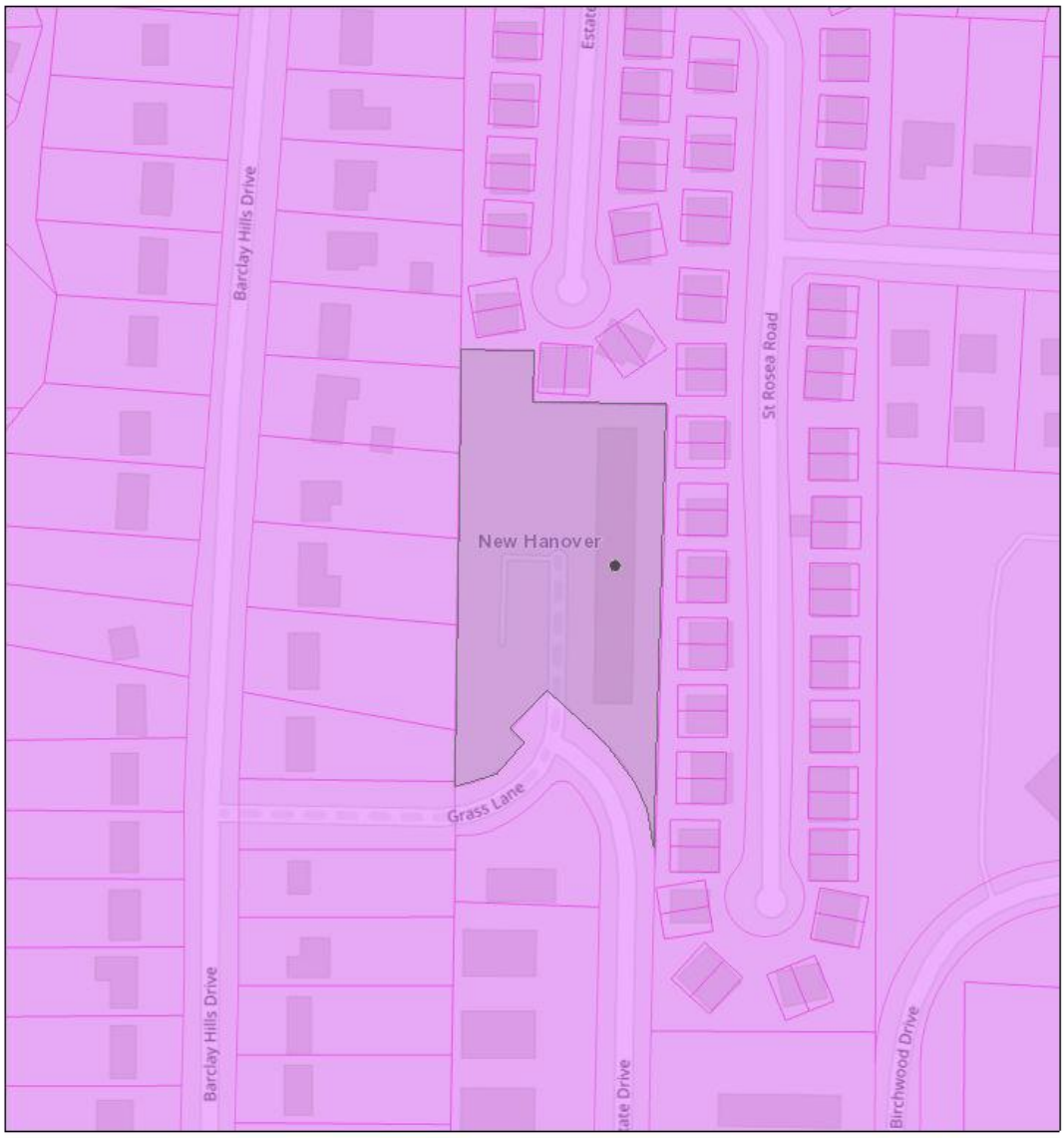

NCDEQ Community Mapping System
302 Grass Lane, Wilmington, N
Show search results for 302...
Barclay Hills Drive
St Rosea Road
St Rosea Roa
(1 of 3)
by Block Group: NC
According to the American Community Survey, this census block group has a total population of 2,561.
Approximately 58.49% of the population is a minority, and approximately 59.23% is classified as low-income.
To find more detailed information using the Environmental Justice Tool, click here.
Zoom to
-77.892 34.246 Degrees
100ft

NCDEQ Facility Screening Report - Woodbridge Apartments

Area of Interest (AOI) Information

Area : 90,330.46 ft²

May 2 2023 13:18:26 Eastern Daylight Time



NC DEQ's Potentially Underserved Block Groups 2019

- County and State
- census2017acs - by Block Group
- County Boundary
- Parcels

1:2,257

0 0.01 0.03 0.06 mi

0 0.03 0.05 0.1 km

NCDOT GIS Unit, Map data © OpenStreetMap contributors, CC-BY-SA, NC Center for Geographic Information and Analysis (NCCGIA), NC County Governments, US EPA

Creekwood (14 Units) at
602, 712, 804, 805, 809 & 1008 N. 30th St.,
617, 701, 707, 708, 902, 915 & 922 Emory St.,
and 2905 Clayton Place, Wilmington, NC
28405

Creekwood South (6 Units) at
502, 522, 609, 611, 613 & 710 N. 30th St.,
Wilmington, NC 28405

EJScreen Report (Version 2.11)

1 mile Ring around the Area, NORTH CAROLINA, EPA Region 4

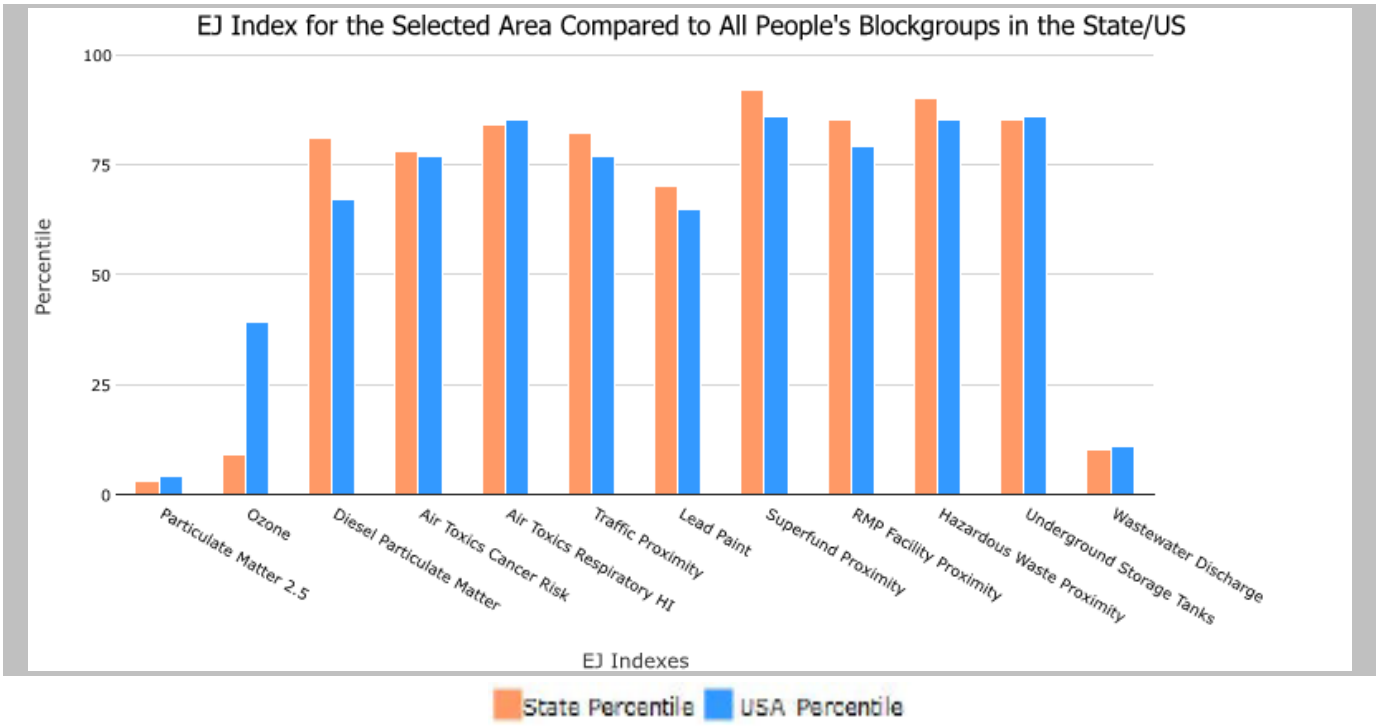
Approximate Population: 10,676

Input Area (sq. miles): 4.10

Creekwood and Creekwood South (The study area contains 1 blockgroup(s) with zero population.

Selected Variables	State Percentile	USA Percentile
Environmental Justice Indexes		
Particulate Matter 2.5 EJ index	3	4
Ozone EJ index	9	39
Diesel Particulate Matter EJ index*	81	67
Air Toxics Cancer Risk EJ index*	78	77
Air Toxics Respiratory HI EJ index*	84	85
Traffic Proximity EJ index	82	77
Lead Paint EJ index	70	65
Superfund Proximity EJ index	92	86
RMP Facility Proximity EJ index	85	79
Hazardous Waste Proximity EJ index	90	85
Underground Storage Tanks EJ index	85	86
Wastewater Discharge EJ index	10	11

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.



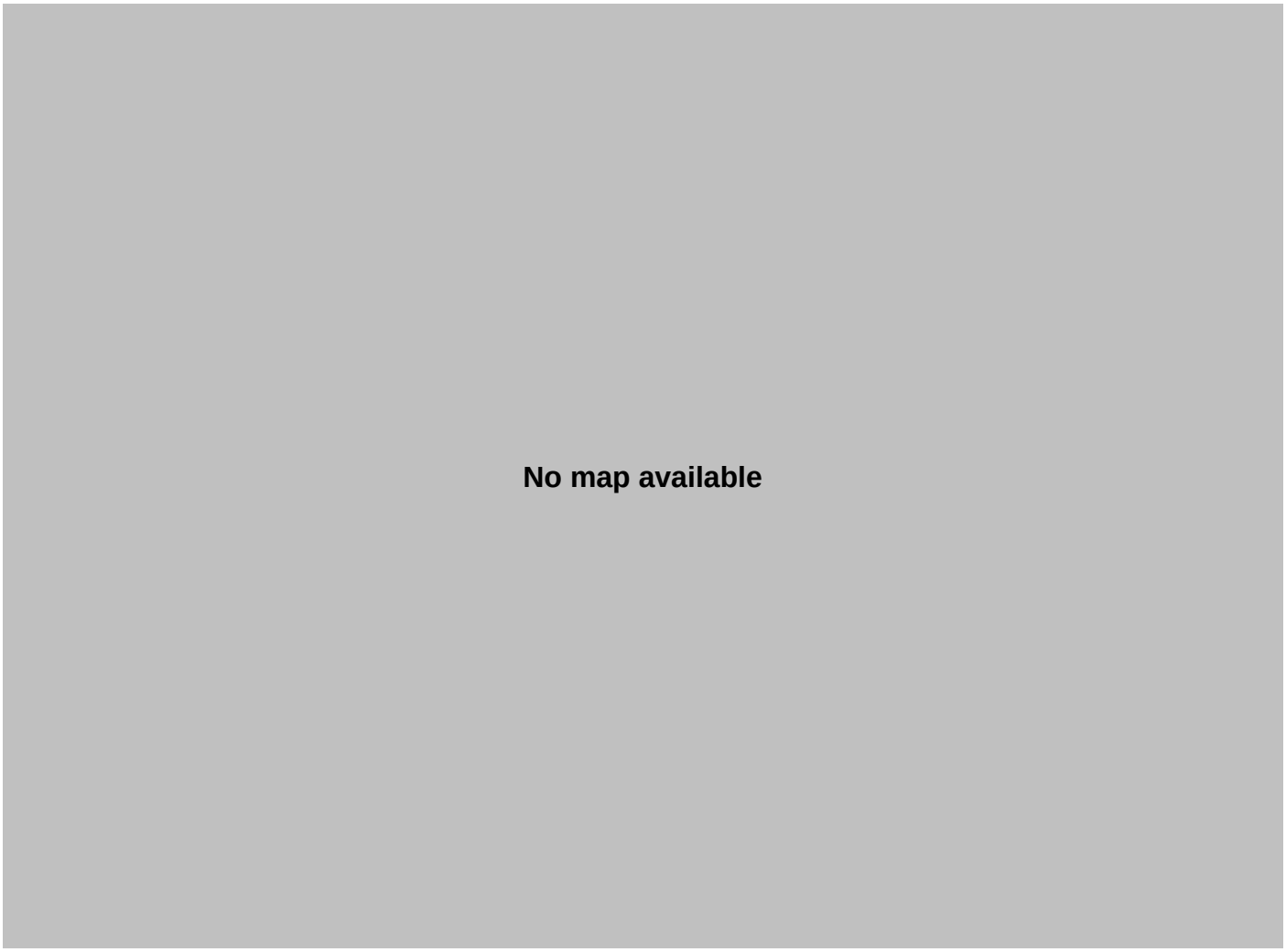
*Diesel particular matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations 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.

1 mile Ring around the Area, NORTH CAROLINA, EPA Region 4

Approximate Population: 10,676

Input Area (sq. miles): 4.10

Creekwood and Creekwood South (The study area contains 1 blockgroup(s) with zero population.



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	4

EJScreen Report (Version 2.11)

1 mile Ring around the Area, NORTH CAROLINA, EPA Region 4

Approximate Population: 10,676

Input Area (sq. miles): 4.10

:reekwood and Creekwood South (The study area contains 1 blockgroup(s) with zero population.

Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
Pollution and Sources					
Particulate Matter 2.5 (µg/m^3)	5.09	7.67	1	8.67	1
Ozone (ppb)	36.8	41.5	4	42.5	16
Diesel Particulate Matter* (µg/m^3)	0.219	0.178	69	0.294	<50th
Air Toxics Cancer Risk* (lifetime risk per million)	30	28	95	28	80-90th
Air Toxics Respiratory HI*	0.56	0.36	99	0.36	95-100th
Traffic Proximity (daily traffic count/distance to road)	630	400	82	760	72
Lead Paint (% Pre-1960 Housing)	0.28	0.15	78	0.27	56
Superfund Proximity (site count/km distance)	0.19	0.08	92	0.13	85
RMP Facility Proximity (facility count/km distance)	0.7	0.41	83	0.77	66
Hazardous Waste Proximity (facility count/km distance)	4.7	0.83	98	2.2	86
Underground Storage Tanks (count/km^2)	11	3.9	89	3.9	89
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.00052	0.28	57	12	43
Socioeconomic Indicators					
Demographic Index	49%	35%	74	35%	73
Supplemental Demographic Index	17%	15%	67	15%	70
People of Color	47%	37%	67	40%	64
Low Income	51%	33%	78	30%	81
Unemployment Rate	8%	5%	73	5%	73
Limited English Speaking Households	1%	2%	69	5%	58
Less Than High School Education	8%	11%	41	12%	48
Under Age 5	5%	6%	53	6%	52
Over Age 64	10%	16%	24	16%	27
Low Life Expectancy	8%	21%	0	20%	0

EJScreen is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJScreen outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

EJScreen Report (Version 2.11)

1 mile Ring around the Area, NORTH CAROLINA, EPA Region 4

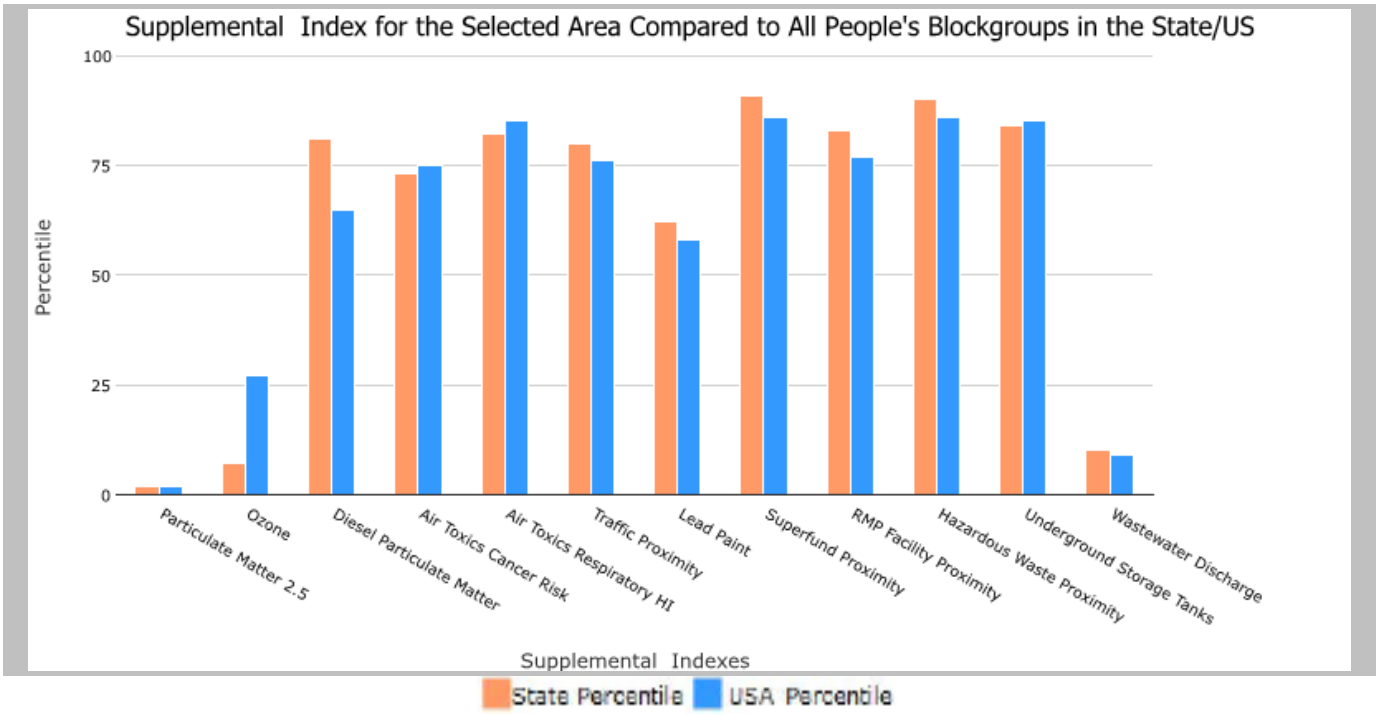
Approximate Population: 10,676

Input Area (sq. miles): 4.10

Creekwood and Creekwood South (The study area contains 1 blockgroup(s) with zero population.

Selected Variables	State Percentile	USA Percentile
Supplemental Indexes		
Particulate Matter 2.5 Supplemental Index	2	2
Ozone Supplemental Index	7	27
Diesel Particulate Matter Supplemental Index*	81	65
Air Toxics Cancer Risk Supplemental Index*	73	75
Air Toxics Respiratory HI Supplemental Index*	82	85
Traffic Proximity Supplemental Index	80	76
Lead Paint Supplemental Index	62	58
Superfund Proximity Supplemental Index	91	86
RMP Facility Proximity Supplemental Index	83	77
Hazardous Waste Proximity Supplemental Index	90	86
Underground Storage Tanks Supplemental Index	84	85
Wastewater Discharge Supplemental Index	10	9

Supplemental Indexes - The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on low-income, limited English speaking, less than high school education, unemployed, and low life expectancy populations with a single environmental indicator.



This report shows the values for environmental and demographic indicators, EJScreen indexes, and supplemental indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports. For additional information, see: www.epa.gov/environmentaljustice.

EJSCREEN ACS Summary Report

Location: User-specified polygonal location
Ring (buffer): 1-miles radius
Description: Creekwood and Creekwood South

Summary of ACS Estimates	2016 - 2020
Population	10,676
Population Density (per sq. mile)	2,913
People of Color Population	4,998
% People of Color Population	47%
Households	4,189
Housing Units	4,525
Housing Units Built Before 1950	808
Per Capita Income	26,071
Land Area (sq. miles) (Source: SF1)	3.66
% Land Area	98%
Water Area (sq. miles) (Source: SF1)	0.09
% Water Area	2%

	2016 - 2020 ACS Estimates	Percent	MOE (±)
Population by Race			
Total	10,676	100%	882
Population Reporting One Race	10,344	97%	1,514
White	6,040	57%	624
Black	4,202	39%	662
American Indian	4	0%	87
Asian	66	1%	66
Pacific Islander	8	0%	27
Some Other Race	24	0%	48
Population Reporting Two or More Races	332	3%	138
Total Hispanic Population	562	5%	279
Total Non-Hispanic Population	10,114		
White Alone	5,678	53%	591
Black Alone	4,161	39%	662
American Indian Alone	4	0%	86
Non-Hispanic Asian Alone	66	1%	66
Pacific Islander Alone	8	0%	27
Other Race Alone	0	0%	13
Two or More Races Alone	197	2%	138
Population by Sex			
Male	4,674	44%	513
Female	6,002	56%	582
Population by Age			
Age 0-4	551	5%	194
Age 0-17	2,360	22%	307
Age 18+	8,316	78%	682
Age 65+	1,081	10%	283

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) 2016 - 2020 .

EJSCREEN ACS Summary Report

Location: User-specified polygonal location
Ring (buffer): 1-miles radius
Description: Creekwood and Creekwood South

	2016 - 2020 ACS Estimates	Percent	MOE (±)
Population 25+ by Educational Attainment			
Total	6,312	100%	528
Less than 9th Grade	224	4%	177
9th - 12th Grade, No Diploma	272	4%	143
High School Graduate	2,127	34%	322
Some College, No Degree	716	11%	185
Associate Degree	539	9%	137
Bachelor's Degree or more	2,433	39%	358
Population Age 5+ Years by Ability to Speak English			
Total	10,125	100%	775
Speak only English	9,634	95%	710
Non-English at Home[1+2+3+4]	490	5%	203
[1]Speak English "very well"	348	3%	148
[2]Speak English "well"	21	0%	46
[3]Speak English "not well"	114	1%	114
[4]Speak English "not at all"	8	0%	26
[3+4]Speak English "less than well"	122	1%	114
[2+3+4]Speak English "less than very well"	143	1%	114
Linguistically Isolated Households*			
Total	37	100%	59
Speak Spanish	0	0%	13
Speak Other Indo-European Languages	33	88%	58
Speak Asian-Pacific Island Languages	0	0%	13
Speak Other Languages	4	12%	15
Households by Household Income			
Household Income Base	4,189	100%	393
< $15,000	1,005	24%	210
$15,000 - $25,000	342	8%	120
$25,000 - $50,000	1,241	30%	340
$50,000 - $75,000	703	17%	142
$75,000 +	897	21%	229
Occupied Housing Units by Tenure			
Total	4,189	100%	393
Owner Occupied	1,369	33%	149
Renter Occupied	2,820	67%	367
Employed Population Age 16+ Years			
Total	8,604	100%	669
In Labor Force	5,514	64%	613
Civilian Unemployed in Labor Force	415	5%	194
Not In Labor Force	3,090	36%	545

Data Note: Datail 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.

EJSCREEN ACS Summary Report

Location: User-specified polygonal location
Ring (buffer): 1-miles radius
Description: Creekwood and Creekwood South

	2016 - 2020 ACS Estimates	Percent	MOE (±)
Population by Language Spoken at Home*			
Total (persons age 5 and above)	11,185	100%	1,103
English	10,606	95%	1,119
Spanish	304	3%	214
French, Haitian, or Cajun	33	0%	72
German or other West Germanic	0	0%	19
Russian, Polish, or Other Slavic	65	1%	113
Other Indo-European	109	1%	147
Korean	0	0%	19
Chinese (including Mandarin, Cantonese)	31	0%	48
Vietnamese	0	0%	19
Tagalog (including Filipino)	0	0%	19
Other Asian and Pacific Island	0	0%	19
Arabic	0	0%	19
Other and Unspecified	37	0%	81
Total Non-English	579	5%	1,571

Data Note: Detail may not sum to totals due to rounding. Hispanic popultion can be of any race.
N/A meansnot available. **Source:** U.S. Census Bureau, American Community Survey (ACS) 2016 - 2020.
*Population by Language Spoken at Home is available at the census tract summary level and up.

EJSCREEN Census 2010 Summary Report

Location: User-specified polygonal location
Ring (buffer): 1-miles radius
Description: Creekwood and Creekwood South

Summary	Census 2010
Population	8,552
Population Density (per sq. mile)	2,331
People of Color Population	4,257
% People of Color Population	50%
Households	3,658
Housing Units	4,055
Land Area (sq. miles)	3.67
% Land Area	97%
Water Area (sq. miles)	0.11
% Water Area	3%

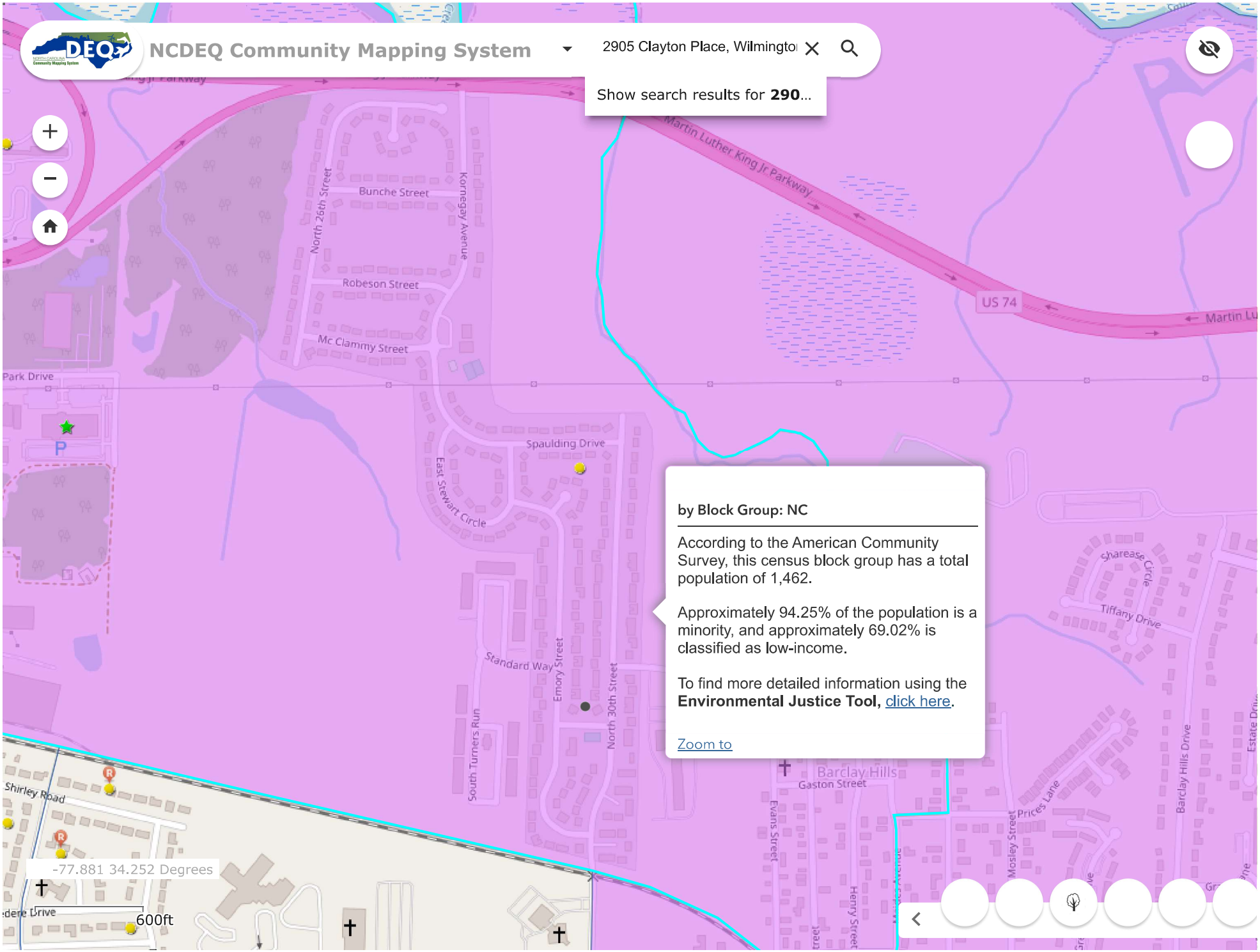
Population by Race	Number	Percent
Total	8,552	-------
Population Reporting One Race	8,342	98%
White	4,415	52%
Black	3,646	43%
American Indian	52	1%
Asian	76	1%
Pacific Islander	6	0%
Some Other Race	146	2%
Population Reporting Two or More Races	210	2%
Total Hispanic Population	348	4%
Total Non-Hispanic Population	8,204	96%
White Alone	4,295	50%
Black Alone	3,604	42%
American Indian Alone	40	0%
Non-Hispanic Asian Alone	75	1%
Pacific Islander Alone	6	0%
Other Race Alone	13	0%
Two or More Races Alone	170	2%

Population by Sex	Number	Percent
Male	3,956	46%
Female	4,596	54%

Population by Age	Number	Percent
Age 0-4	672	8%
Age 0-17	1,975	23%
Age 18+	6,577	77%
Age 65+	787	9%

Households by Tenure	Number	Percent
Total	3,658	
Owner Occupied	1,320	36%
Renter Occupied	2,338	64%

Data Note: Detail may not sum to totals due to rounding. Hispanic population can be of any race.
Source: U.S. Census Bureau, Census 2010 Summary File 1.

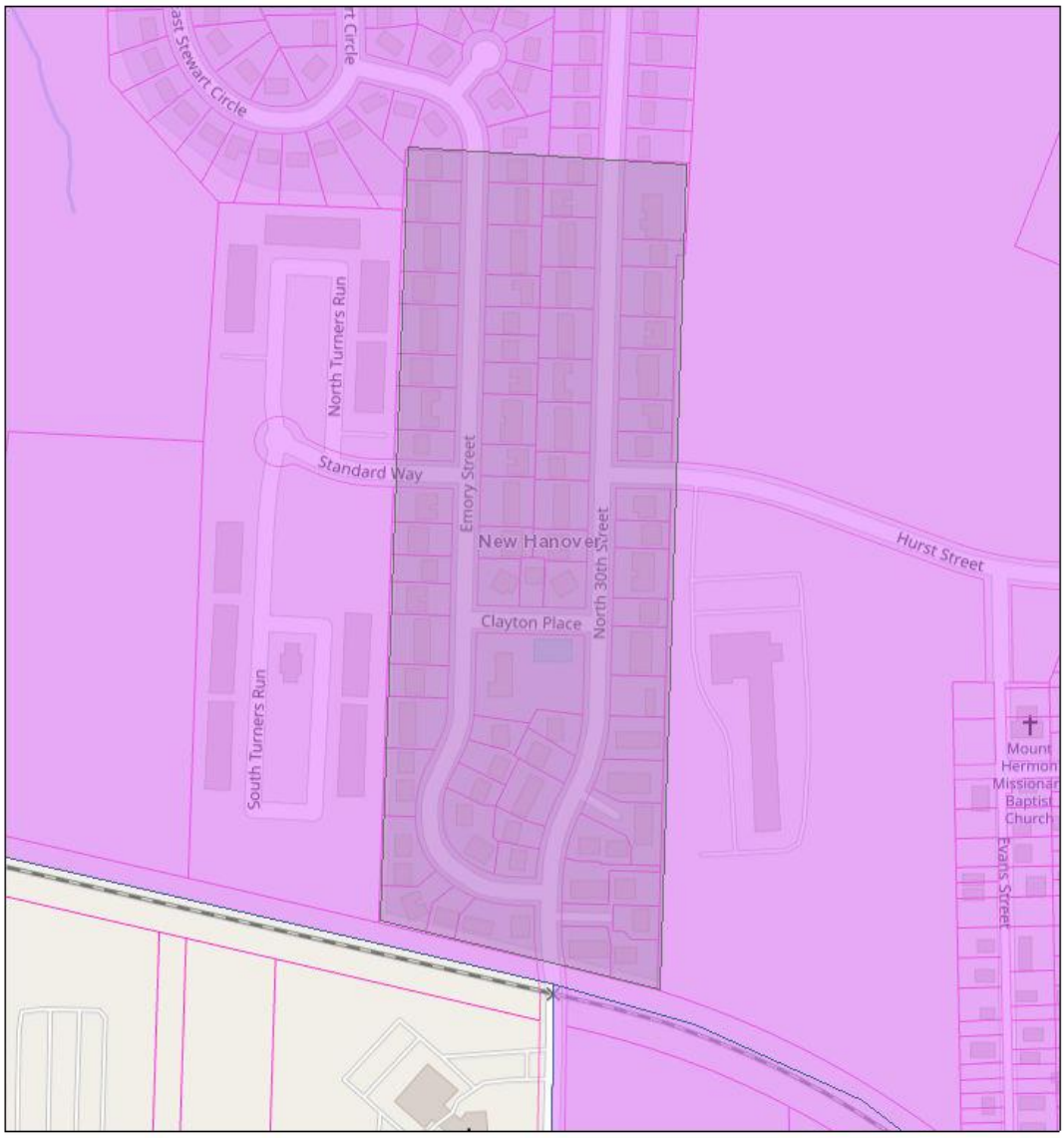

NCDEQ Community Mapping System
2905 Clayton Place, Wilmingto
Show search results for 290...
Martin Luther King Jr Parkway
US 74
Bunche Street
North 26th Street
Kornegay Avenue
Robeson Street
Mc Clammy Street
Park Drive
Spaulding Drive
East Stewart Circle
Standard Way
Emory Street
North 30th Street
South Turners Run
Shirley Road
Barclay Hills
Gaston Street
Evans Street
Mosley Street
Prices Lane
Barclay Hills Drive
Tiffany Drive
-77.881 34.252 Degrees
600ft
by Block Group: NC
According to the American Community Survey, this census block group has a total population of 1,462.
Approximately 94.25% of the population is a minority, and approximately 69.02% is classified as low-income.
To find more detailed information using the Environmental Justice Tool, click here.
Zoom to

NCDEQ Facility Screening Report - Creekwood and Creekwood Sou

Area of Interest (AOI) Information

Area : 1,093,226.66 ft²

May 2 2023 13:07:35 Eastern Daylight Time



Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405

EJScreen Report (Version 2.11)

1 mile Ring around the Area, NORTH CAROLINA, EPA Region 4

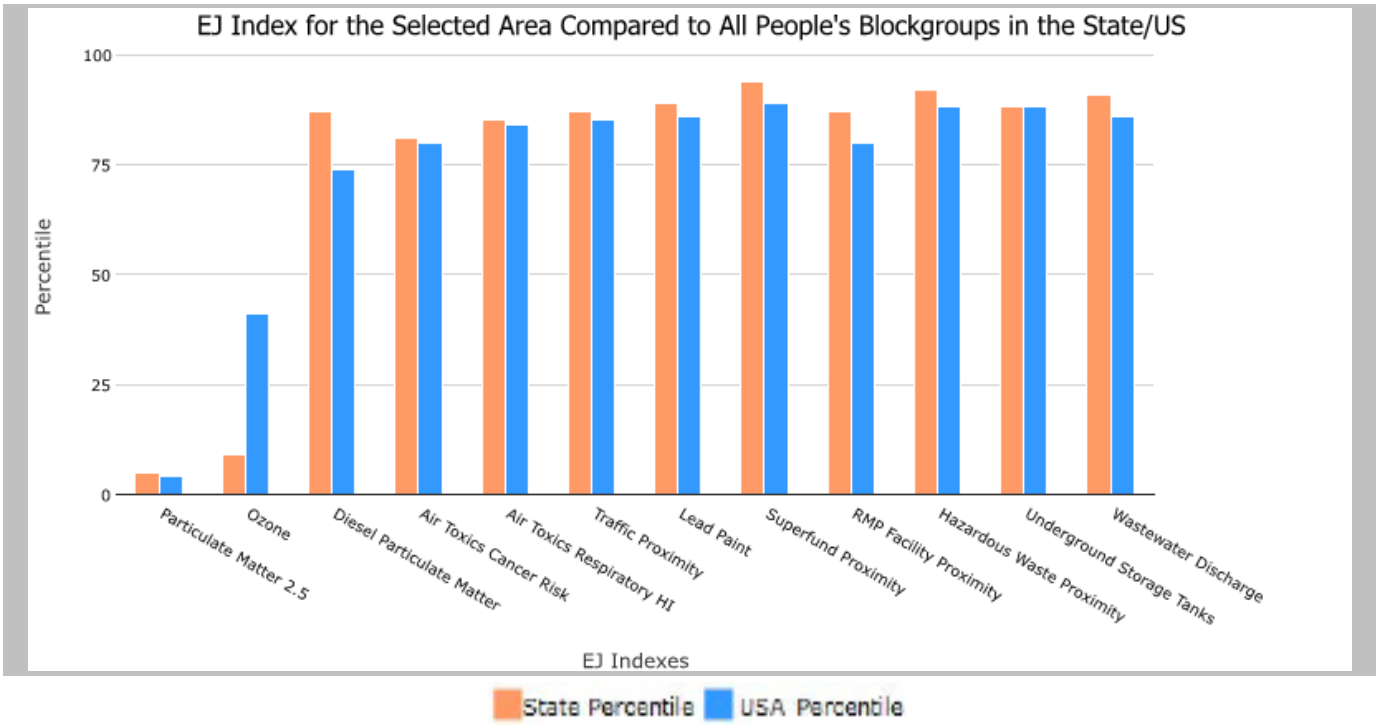
Approximate Population: 12,361

Input Area (sq. miles): 3.66

Houston Moore - 1420 Greenfield St.

Selected Variables	State Percentile	USA Percentile
Environmental Justice Indexes		
Particulate Matter 2.5 EJ index	5	4
Ozone EJ index	9	41
Diesel Particulate Matter EJ index*	87	74
Air Toxics Cancer Risk EJ index*	81	80
Air Toxics Respiratory HI EJ index*	85	84
Traffic Proximity EJ index	87	85
Lead Paint EJ index	89	86
Superfund Proximity EJ index	94	89
RMP Facility Proximity EJ index	87	80
Hazardous Waste Proximity EJ index	92	88
Underground Storage Tanks EJ index	88	88
Wastewater Discharge EJ index	91	86

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.



*Diesel particular 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.

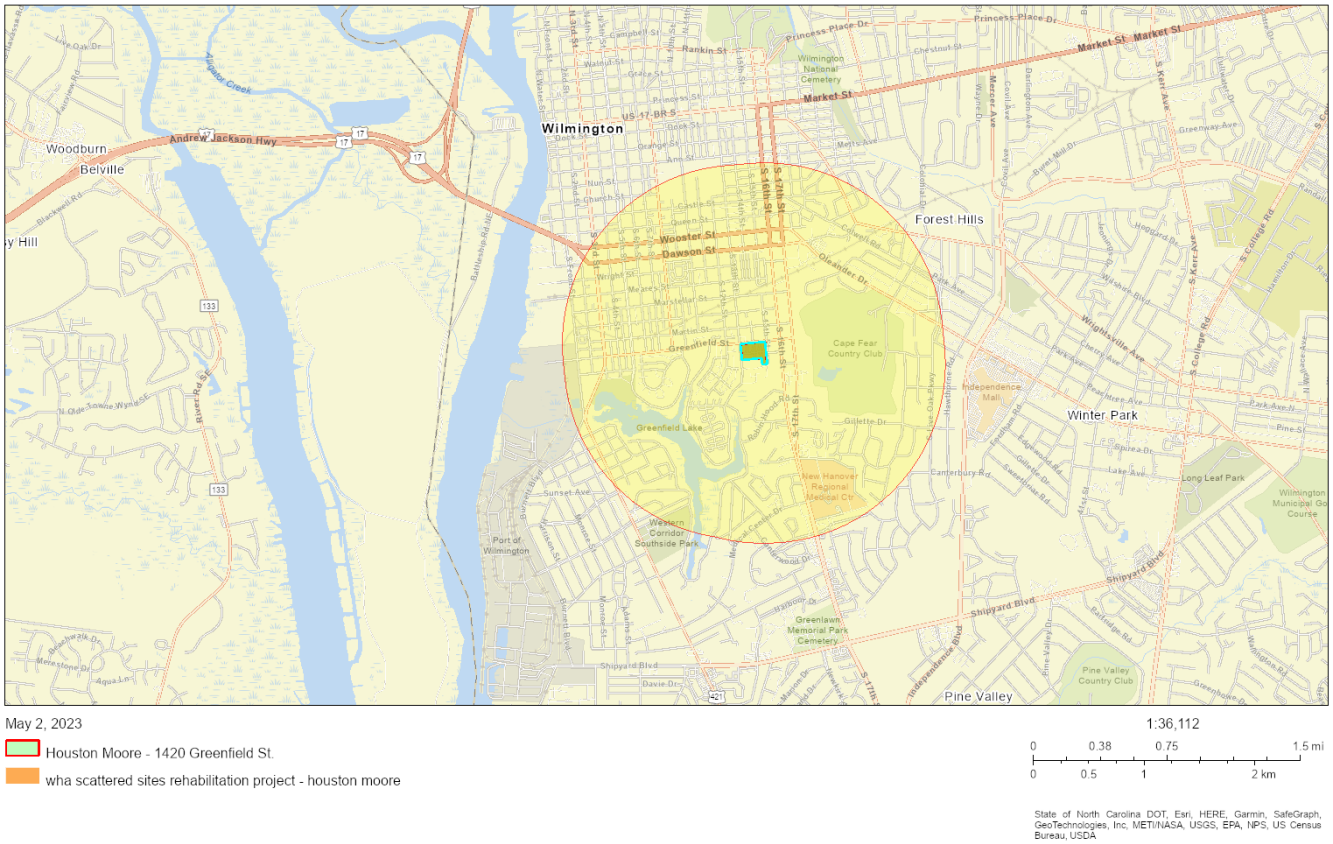
EJScreen Report (Version 2.11)

1 mile Ring around the Area, NORTH CAROLINA, EPA Region 4

Approximate Population: 12,361

Input Area (sq. miles): 3.66

Houston Moore - 1420 Greenfield St.



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	2

EJScreen Report (Version 2.11)

1 mile Ring around the Area, NORTH CAROLINA, EPA Region 4

Approximate Population: 12,361

Input Area (sq. miles): 3.66

Houston Moore - 1420 Greenfield St.

Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
Pollution and Sources					
Particulate Matter 2.5 (µg/m^3)	5.13	7.67	2	8.67	1
Ozone (ppb)	36.7	41.5	4	42.5	16
Diesel Particulate Matter* (µg/m^3)	0.251	0.178	80	0.294	50-60th
Air Toxics Cancer Risk* (lifetime risk per million)	30	28	95	28	80-90th
Air Toxics Respiratory HI*	0.44	0.36	96	0.36	80-90th
Traffic Proximity (daily traffic count/distance to road)	1200	400	92	760	85
Lead Paint (% Pre-1960 Housing)	0.56	0.15	94	0.27	77
Superfund Proximity (site count/km distance)	0.18	0.08	91	0.13	83
RMP Facility Proximity (facility count/km distance)	0.7	0.41	83	0.77	66
Hazardous Waste Proximity (facility count/km distance)	5.1	0.83	98	2.2	88
Underground Storage Tanks (count/km^2)	11	3.9	90	3.9	90
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.017	0.28	83	12	73
Socioeconomic Indicators					
Demographic Index	54%	35%	79	35%	77
Supplemental Demographic Index	19%	15%	75	15%	76
People of Color	55%	37%	74	40%	70
Low Income	52%	33%	79	30%	82
Unemployment Rate	6%	5%	64	5%	64
Limited English Speaking Households	1%	2%	68	5%	57
Less Than High School Education	13%	11%	60	12%	65
Under Age 5	7%	6%	67	6%	65
Over Age 64	18%	16%	57	16%	60
Low Life Expectancy	23%	21%	78	20%	83

EJScreen is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJScreen outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

EJScreen Report (Version 2.11)

1 mile Ring around the Area, NORTH CAROLINA, EPA Region 4

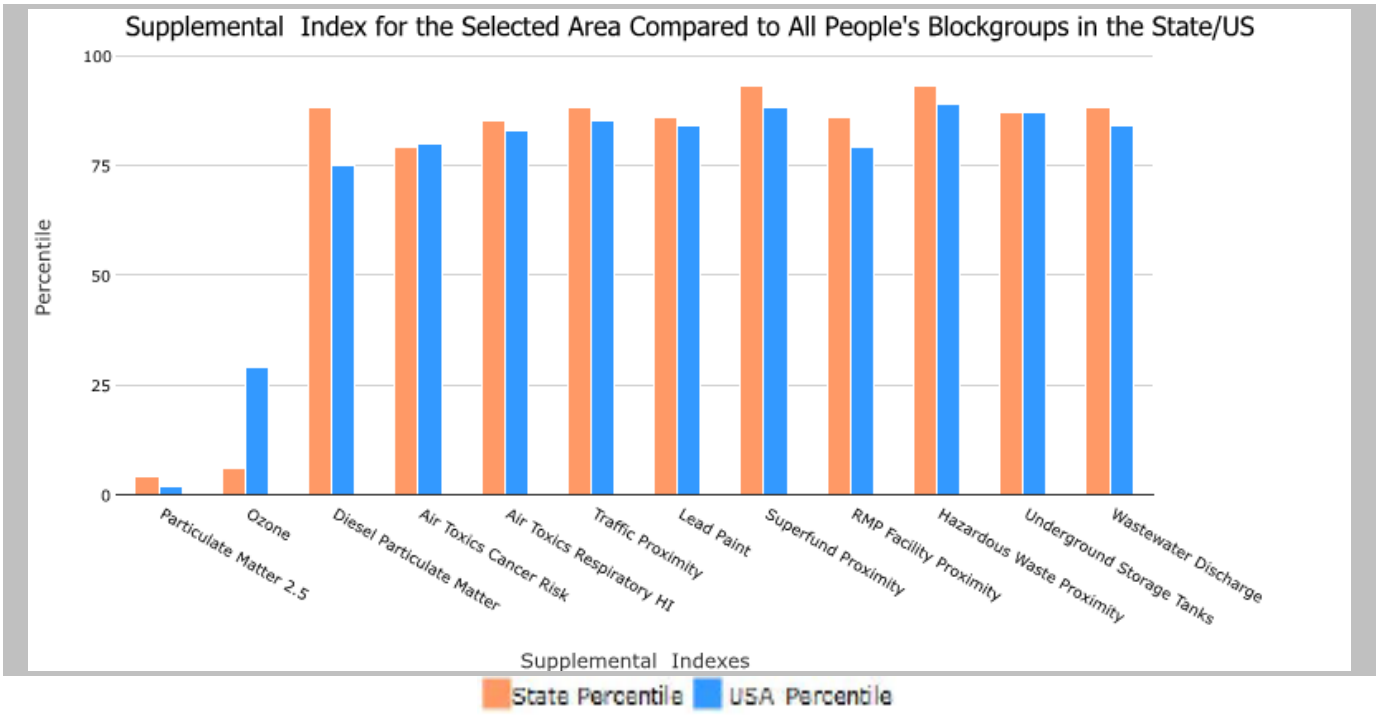
Approximate Population: 12,361

Input Area (sq. miles): 3.66

Houston Moore - 1420 Greenfield St.

Selected Variables	State Percentile	USA Percentile
Supplemental Indexes		
Particulate Matter 2.5 Supplemental Index	4	2
Ozone Supplemental Index	6	29
Diesel Particulate Matter Supplemental Index*	88	75
Air Toxics Cancer Risk Supplemental Index*	79	80
Air Toxics Respiratory HI Supplemental Index*	85	83
Traffic Proximity Supplemental Index	88	85
Lead Paint Supplemental Index	86	84
Superfund Proximity Supplemental Index	93	88
RMP Facility Proximity Supplemental Index	86	79
Hazardous Waste Proximity Supplemental Index	93	89
Underground Storage Tanks Supplemental Index	87	87
Wastewater Discharge Supplemental Index	88	84

Supplemental Indexes - The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on low-income, limited English speaking, less than high school education, unemployed, and low life expectancy populations with a single environmental indicator.



This report shows the values for environmental and demographic indicators, EJScreen indexes, and supplemental indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports. For additional information, see: www.epa.gov/environmentaljustice.

EJSCREEN ACS Summary Report

Location: User-specified polygonal location
Ring (buffer): 1-miles radius
Description: Houston Moore - 1420 Greenfield St.

Summary of ACS Estimates	2016 - 2020
Population	12,361
Population Density (per sq. mile)	3,620
People of Color Population	6,815
% People of Color Population	55%
Households	5,744
Housing Units	6,600
Housing Units Built Before 1950	2,732
Per Capita Income	29,643
Land Area (sq. miles) (Source: SF1)	3.42
% Land Area	94%
Water Area (sq. miles) (Source: SF1)	0.21
% Water Area	6%

	2016 - 2020 ACS Estimates	Percent	MOE (±)
Population by Race			
Total	12,361	100%	822
Population Reporting One Race	11,996	97%	1,814
White	5,774	47%	821
Black	5,486	44%	485
American Indian	36	0%	50
Asian	174	1%	104
Pacific Islander	194	2%	42
Some Other Race	333	3%	312
Population Reporting Two or More Races	365	3%	121
Total Hispanic Population	515	4%	318
Total Non-Hispanic Population	11,847		
White Alone	5,546	45%	844
Black Alone	5,486	44%	485
American Indian Alone	16	0%	33
Non-Hispanic Asian Alone	174	1%	104
Pacific Islander Alone	194	2%	42
Other Race Alone	163	1%	231
Two or More Races Alone	268	2%	86
Population by Sex			
Male	5,542	45%	427
Female	6,819	55%	422
Population by Age			
Age 0-4	830	7%	155
Age 0-17	2,736	22%	252
Age 18+	9,625	78%	539
Age 65+	2,209	18%	188

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) 2016 - 2020 .

EJSCREEN ACS Summary Report

Location: User-specified polygonal location
Ring (buffer): 1-miles radius
Description: Houston Moore - 1420 Greenfield St.

	2016 - 2020 ACS Estimates	Percent	MOE (±)
Population 25+ by Educational Attainment			
Total	8,875	100%	482
Less than 9th Grade	178	2%	88
9th - 12th Grade, No Diploma	948	11%	121
High School Graduate	2,470	28%	384
Some College, No Degree	1,661	19%	282
Associate Degree	1,004	11%	264
Bachelor's Degree or more	2,613	29%	314
Population Age 5+ Years by Ability to Speak English			
Total	11,531	100%	833
Speak only English	10,984	95%	835
Non-English at Home[1+2+3+4]	547	5%	121
[1]Speak English "very well"	297	3%	121
[2]Speak English "well"	129	1%	75
[3]Speak English "not well"	82	1%	56
[4]Speak English "not at all"	38	0%	38
[3+4]Speak English "less than well"	121	1%	65
[2+3+4]Speak English "less than very well"	249	2%	76
Linguistically Isolated Households*			
Total	41	100%	41
Speak Spanish	27	65%	39
Speak Other Indo-European Languages	3	7%	13
Speak Asian-Pacific Island Languages	10	24%	18
Speak Other Languages	2	4%	15
Households by Household Income			
Household Income Base	5,744	100%	283
< $15,000	1,558	27%	201
$15,000 - $25,000	912	16%	248
$25,000 - $50,000	1,375	24%	212
$50,000 - $75,000	732	13%	187
$75,000 +	1,166	20%	152
Occupied Housing Units by Tenure			
Total	5,744	100%	283
Owner Occupied	1,902	33%	232
Renter Occupied	3,842	67%	265
Employed Population Age 16+ Years			
Total	9,914	100%	834
In Labor Force	5,227	53%	845
Civilian Unemployed in Labor Force	304	3%	125
Not In Labor Force	4,686	47%	469

Data Note: Datail 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.

EJSCREEN ACS Summary Report

Location: User-specified polygonal location
Ring (buffer): 1-miles radius
Description: Houston Moore - 1420 Greenfield St.

	2016 - 2020 ACS Estimates	Percent	MOE (±)
Population by Language Spoken at Home*			
Total (persons age 5 and above)	10,676	100%	893
English	10,212	96%	894
Spanish	229	2%	132
French, Haitian, or Cajun	40	0%	115
German or other West Germanic	5	0%	33
Russian, Polish, or Other Slavic	0	0%	13
Other Indo-European	80	1%	115
Korean	12	0%	21
Chinese (including Mandarin, Cantonese)	38	0%	104
Vietnamese	4	0%	23
Tagalog (including Filipino)	22	0%	79
Other Asian and Pacific Island	7	0%	22
Arabic	9	0%	40
Other and Unspecified	19	0%	81
Total Non-English	464	4%	1,264

Data Note: Detail may not sum to totals due to rounding. Hispanic popultion can be of any race.
N/A meansnot available. **Source:** U.S. Census Bureau, American Community Survey (ACS) 2016 - 2020.
*Population by Language Spoken at Home is available at the census tract summary level and up.

EJSCREEN Census 2010 Summary Report

Location: User-specified polygonal location
Ring (buffer): 1-miles radius
Description: Houston Moore - 1420 Greenfield St.

Summary	Census 2010
Population	10,841
Population Density (per sq. mile)	3,167
People of Color Population	5,886
% People of Color Population	54%
Households	4,985
Housing Units	5,737
Land Area (sq. miles)	3.42
% Land Area	94%
Water Area (sq. miles)	0.20
% Water Area	6%

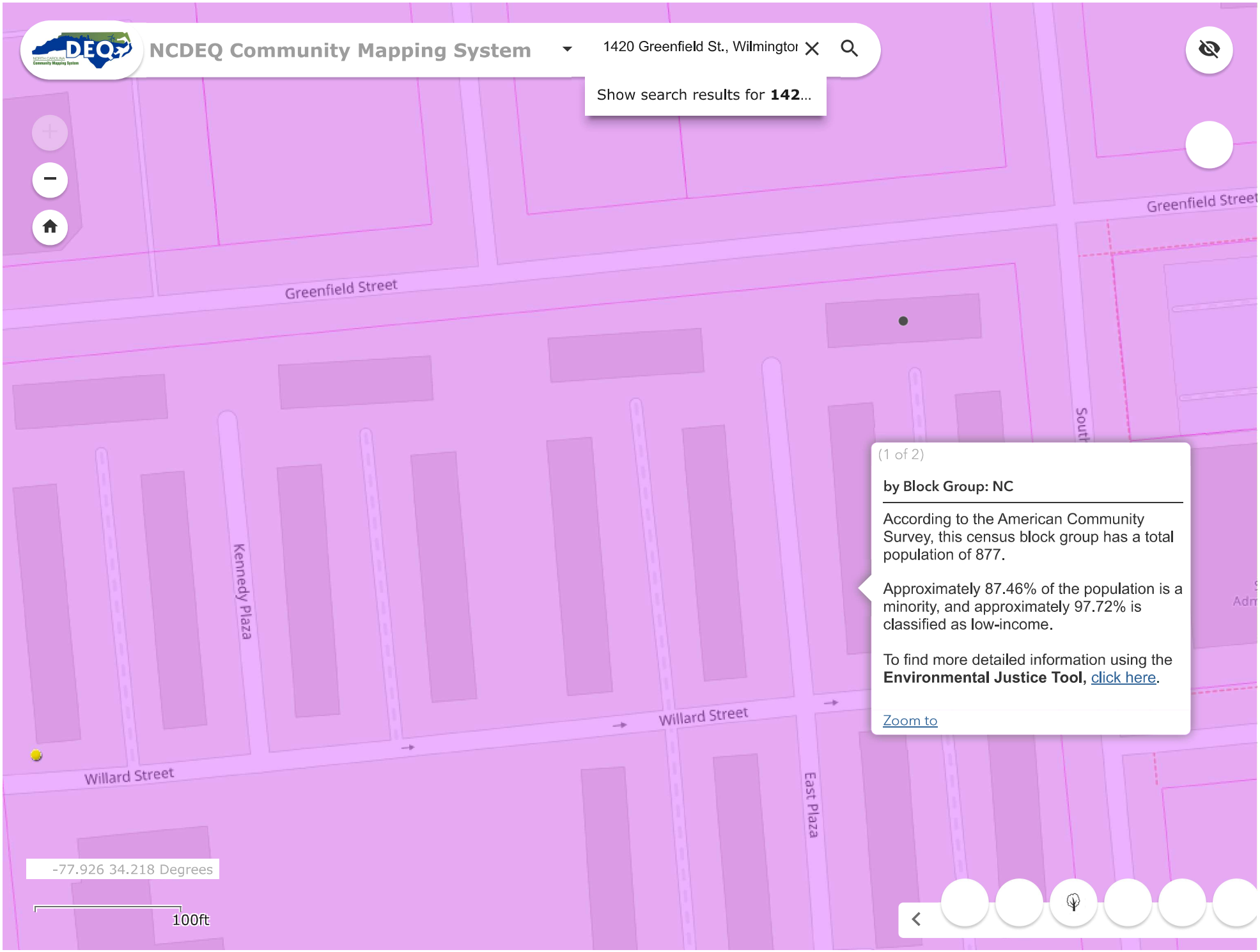
Population by Race	Number	Percent
Total	10,841	-------
Population Reporting One Race	10,552	97%
White	5,092	47%
Black	5,260	49%
American Indian	47	0%
Asian	47	0%
Pacific Islander	3	0%
Some Other Race	103	1%
Population Reporting Two or More Races	289	3%
Total Hispanic Population	360	3%
Total Non-Hispanic Population	10,481	97%
White Alone	4,955	46%
Black Alone	5,198	48%
American Indian Alone	37	0%
Non-Hispanic Asian Alone	46	0%
Pacific Islander Alone	3	0%
Other Race Alone	11	0%
Two or More Races Alone	231	2%

Population by Sex	Number	Percent
Male	4,875	45%
Female	5,966	55%

Population by Age	Number	Percent
Age 0-4	763	7%
Age 0-17	2,368	22%
Age 18+	8,473	78%
Age 65+	1,667	15%

Households by Tenure	Number	Percent
Total	4,985	
Owner Occupied	1,798	36%
Renter Occupied	3,187	64%

Data Note: Detail may not sum to totals due to rounding. Hispanic population can be of any race.
Source: U.S. Census Bureau, Census 2010 Summary File 1.

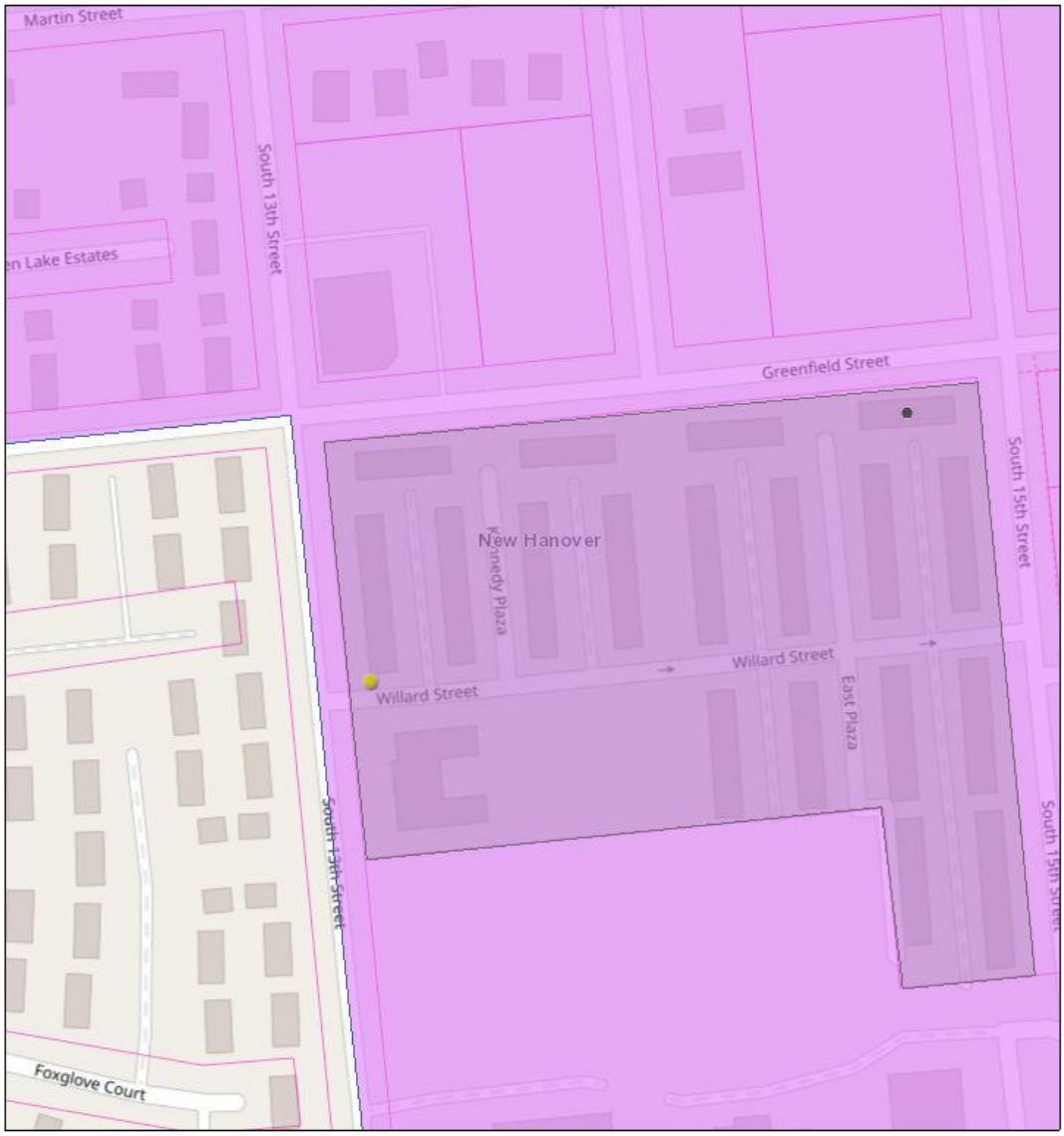

NCDEQ Community Mapping System
1420 Greenfield St., Wilmingtor
Show search results for 142...
Greenfield Street
Greenfield Street
Kennedy Plaza
Willard Street
Willard Street
East Plaza
(1 of 2)
by Block Group: NC
According to the American Community Survey, this census block group has a total population of 877.
Approximately 87.46% of the population is a minority, and approximately 97.72% is classified as low-income.
To find more detailed information using the Environmental Justice Tool, click here.
Zoom to
-77.926 34.218 Degrees
100ft

NCDEQ Facility Screening Report - Houston Moore

Area of Interest (AOI) Information

Area : 362,682.31 ft²

May 2 2023 12:56:15 Eastern Daylight 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.

Don't know the county name? Type in a zip code instead.

SUBMIT

Select Topics (optional) »

New Hanover County, North Carolina†



POPULATION: 213,190

INCOME

Average Household Income

New Hanover County: $57,252

North Carolina: $57,388

Residents who live below the poverty line



10.2%

New Hanover County

12.9%

North Carolina

QUICK FACTS:

Out of 10 people living in this county

SEX



5 are male & 5 are female

AGE



About 2 are between the ages of 0 and 19 years

About 2 are between the ages of 20 and 34 years

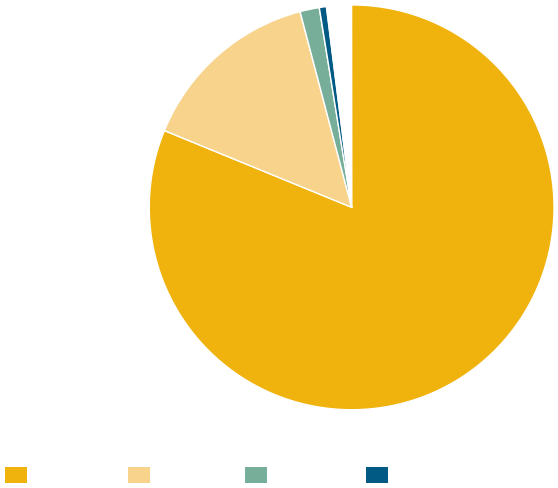
About 2 are between the ages of 35 and 49 years

About 3 are 50 years and older

ETHNICITY

1 are Hispanic and 9 are non-Hispanic

RACE



(https://twitter.com/share?

url=https%3A%2F%2Fephtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking)

rned%20some%20quick%20facts%20about%20the%20people%20in%20my%20county.%20Visit%20https://ephtracking.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

North Carolina	National
7.8%	7.0%

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?

url=https%3A%2F%2Fephtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking)

rned%20some%20quick%20facts%20about%20the%20people%20in%20my%20county.%20Visit%20https://ephtracking.cdc.gov/InfoByLocation%2F%20to%20find%20out%20facts%20for%20your%20county.)

Discover the data (/../DataExplorer/?query=1F12A3B5-E744-4857-9110-401524CC8D8E&fips=37&G5=9999) | Learn more about this topic (/showAsthma.action)

† 2020 data from the National Environmental Public Health Tracking Network (/showHome.action)

Air Quality: Ground-Level Ozone†



New Hanover 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.

New Hanover 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?

url=https%3A%2F%2Fephtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking)

rned%20some%20quick%20facts%20about%20the%20people%20in%20my%20county.%20Visit%20https://ephtracking.cdc.gov/InfoByLocation%2F%20to%20find%20out%20facts%20for%20your%20county.)

Discover the data (/../DataExplorer/?query=1C537D70-420B-4B25-ABBE-F1B6FAD2C30B&fips=37129&G5=9999) | Learn more about this topic (/showAirHealth.action)

† 2019 data from the National Environmental Public Health Tracking Network (/showHome.action)

Air Quality: Particulate Matter†

ANNUAL AMBIENT CONCENTRATION OF $PM_{2.5}$

$\mu g/m^3$*

New Hanover County, North Carolina

$\mu g/m^3$*

Annual National Standard

*Micrograms Per Cubic Meter ($\mu g/m^3$)

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 , the annual level of $PM_{2.5}$ in **New Hanover County** was **µg/m³**. *

* Micrograms per cubic meter (./images/content/PM2-5_5.jpg) ($\mu g/m^3$)

(https://twitter.com/share?

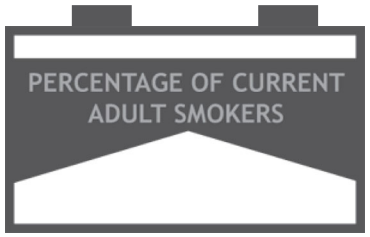
url=https%3A%2F%2Fephtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking)

rned%20some%20quick%20facts%20about%20the%20people%20in%20my%20county.%20Visit%20https://ephtracking.cdc.gov/InfoByLocation%2F%20to%20find%20out%20facts%20for%20your%20county.)

Discover the data (REPLACED BY JAVASCRIPT) | Learn more about this topic (/showAirLanding.action)

† 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?

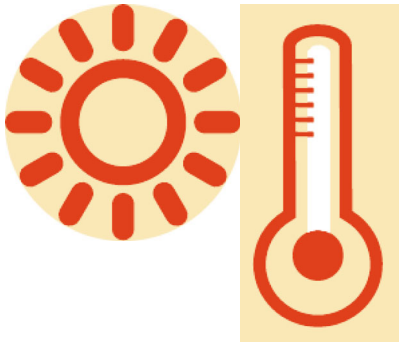
url=https%3A%2F%2Fephtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking)

rned%20some%20quick%20facts%20about%20the%20people%20in%20my%20county.%20Visit%20https://ephtracking.cdc.gov/InfoByLocation%2F%20to%20find%20out%20facts%20for%20your%20county.)

Discover the data (REPLACED BY JAVASCRIPT) | Learn more about this topic (/showHBSmokingPrevalence.action)

† data from the National Environmental Public Health Tracking Network (/showHome.action)

Extreme Heat†



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).

New Hanover County had with maximum temperatures above 90°F during May-September .

Heat-related death or illnesses are preventable if you follow a few simple steps.

- Stay cool.
- Stay hydrated.

- Stay informed.

(https://twitter.com/share?

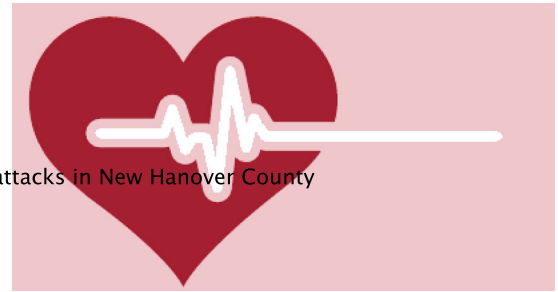
url=https%3A%2F%2Fephtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking)

rned%20some%20quick%20facts%20about%20the%20people%20in%20my%20county.%20Visit%20https://ephtracking.cdc.gov/InfoByLocation%2F%20to%20find%20out%20facts%20for%20your%20county.)

Discover the data (REPLACED BY JAVASCRIPT) | Learn more about this topic (/showClimateChangeExtremeHeat.action)

† data from the National Environmental Public Health Tracking Network (/showHome.action)

Heart Attacks†



deaths from heart attacks in New Hanover County

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 , there were

- **deaths** from heart attacks in New Hanover County.

- **deaths** from heart attacks in North Carolina.

(https://twitter.com/share?

url=https%3A%2F%2Fephtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking)

rned%20some%20quick%20facts%20about%20the%20people%20in%20my%20county.%20Visit%20https://ephtracking.cdc.gov/InfoByLocation%2F%20to%20find%20out%20facts%20for%20your%20county.)

Discover the data (REPLACED BY JAVASCRIPT) | Learn more about this topic (/showHeartAttack.action)

† data from the National Environmental Public Health Tracking Network (/showHome.action)

Access To Parks†



Live within half a mile of a park in New Hanover 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 ,

of people living in **New Hanover County** lived within half a mile of a park.

of people living in **North Carolina** lived within half a mile of a park.

(https://twitter.com/share?

url=https%3A%2F%2Fephtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20#environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking)

rned%20some%20quick%20facts%20about%20the%20people%20in%20my%20county.%20Visit%20https://ephtracking.cdc.gov/InfoByLocation%2F%20to%20find%20out%20facts%20for%20your%20county.)

Discover the data (REPLACED BY JAVASCRIPT) | Learn more about this topic (/showProximityToHighways.action)

† data from the National Environmental Public Health Tracking Network (/showHome.action)

Proximity To Highways†



of New Hanover 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 , of the population of New Hanover County lived within 150 meters* of a major highway.

In , of New Hanover County public schools were sited within 150 meters* of a major highway.

* 150 meters is about 2 blocks.

(https://twitter.com/share?

url=https%3A%2F%2Fephtracking.cdc.gov%2FInfoByLocation%2F&text=Check%20out%20environmental%20health%20in%20your%20county&hashtags=PublicHealth,Tracking)

rned%20some%20quick%20facts%20about%20the%20people%20in%20my%20county.%20Visit%20https://ephtracking.cdc.gov/InfoByLocation%2F%20to%20find%20out%20facts%20for%20your%20county.)

Discover the data (REPLACED BY JAVASCRIPT) | Learn more about this topic (/showProximityToHighways.action)

† data from the National Environmental Public Health Tracking Network (/showHome.action)

Share this page with this link (../InfoByLocation/?FIPS=37129&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/)

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(http://www.facebook.com/CDCEPHTracking)

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(mailto:EPHT@LISTSERV.CDC.GOV?

subject=Please%20add%20me%20to%20CDC's%20Environmental%20Public%2

serv.&body=Please%20fill%20in%20the%20information%20below:%0AName:%

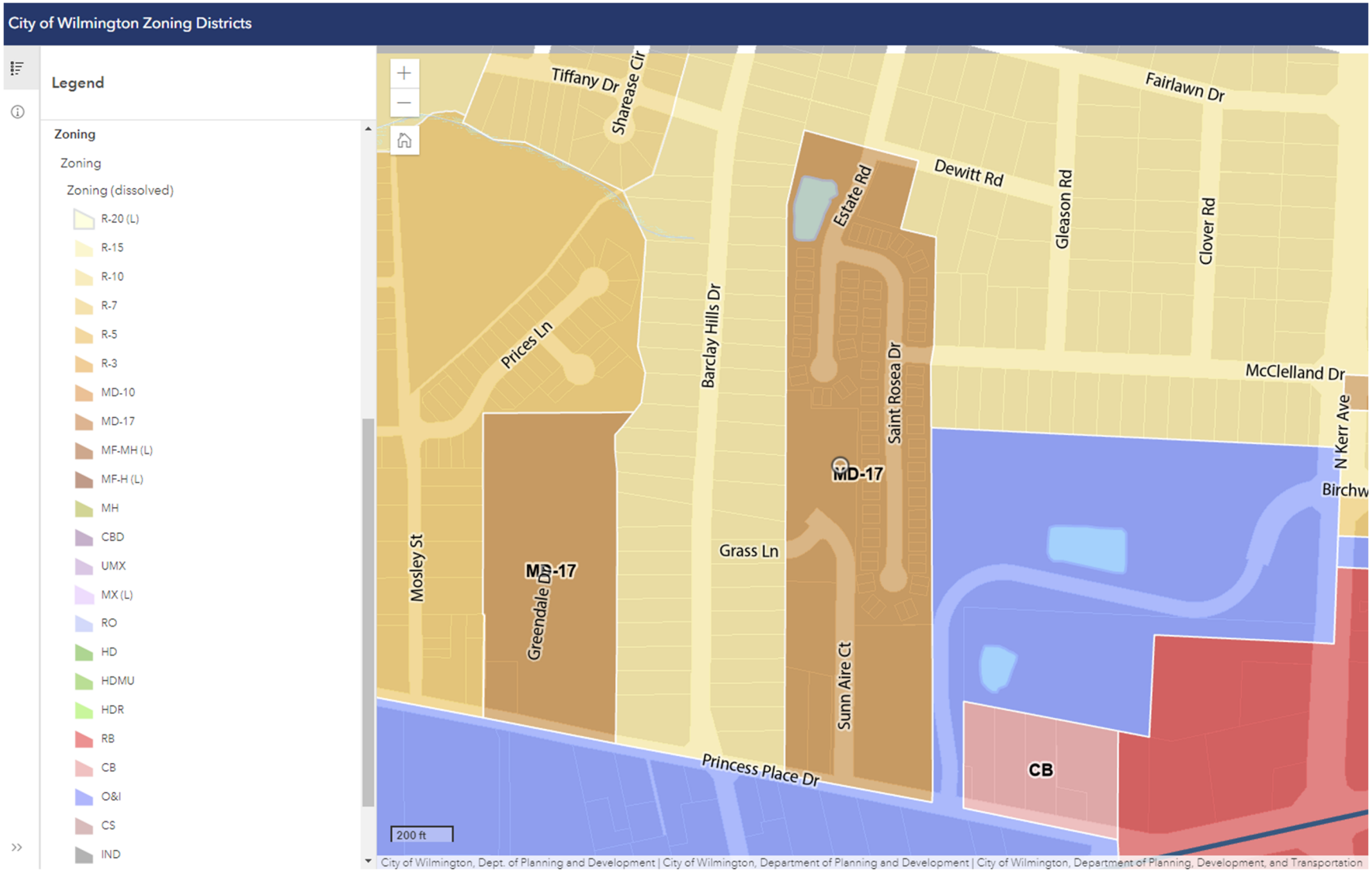
ATTACHMENT 18:

Zoning

City of Wilmington Zoning Maps

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212)

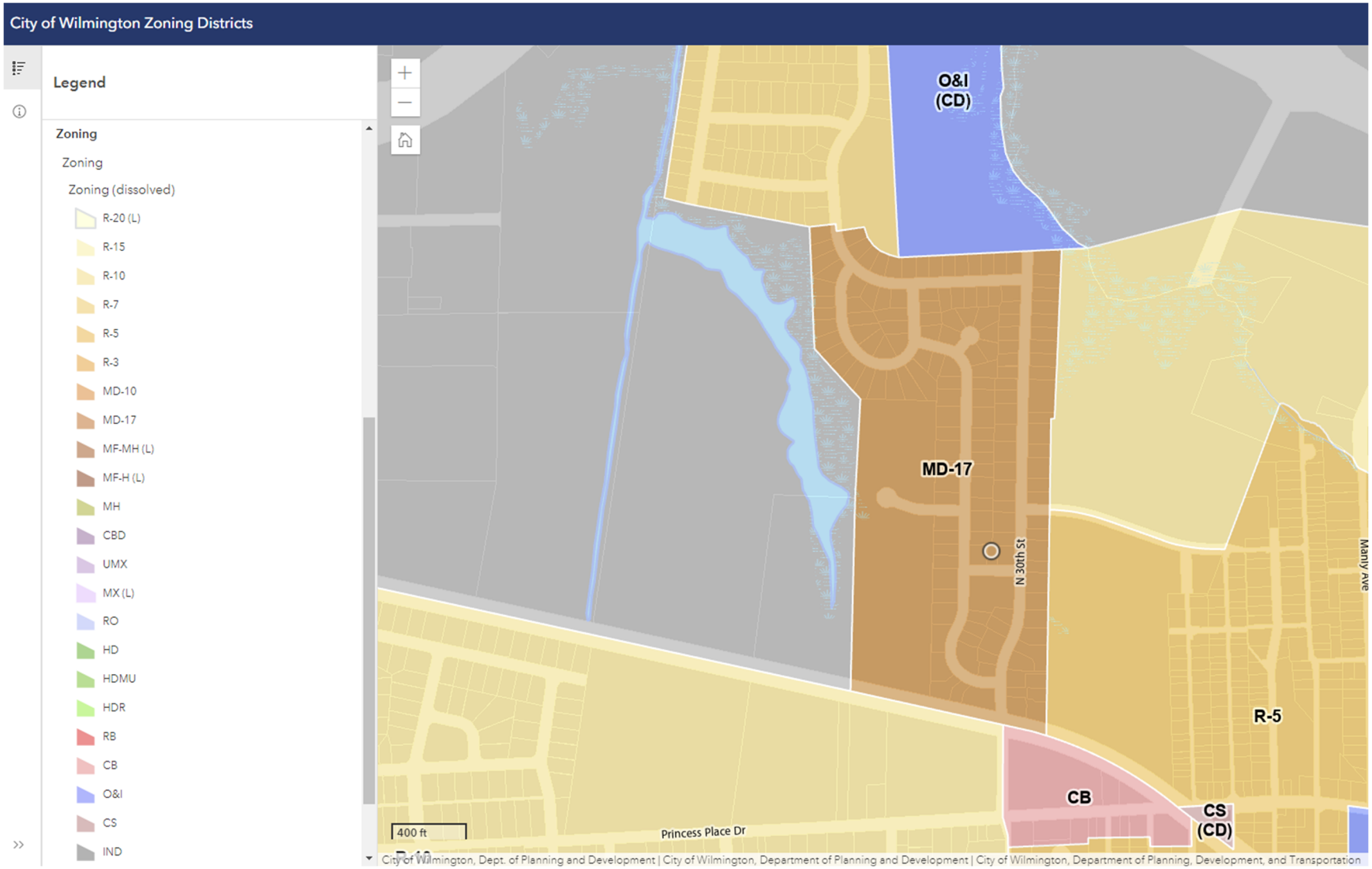
Woodbridge Apartments (20 Units)– City of Wilmington Zoning Map



Creekwood (14 Units) at
602, 712, 804, 805, 809 & 1008 N. 30th St.,
617, 701, 707, 708, 902, 915 & 922 Emory St.,
and 2905 Clayton Place, Wilmington, NC
28405

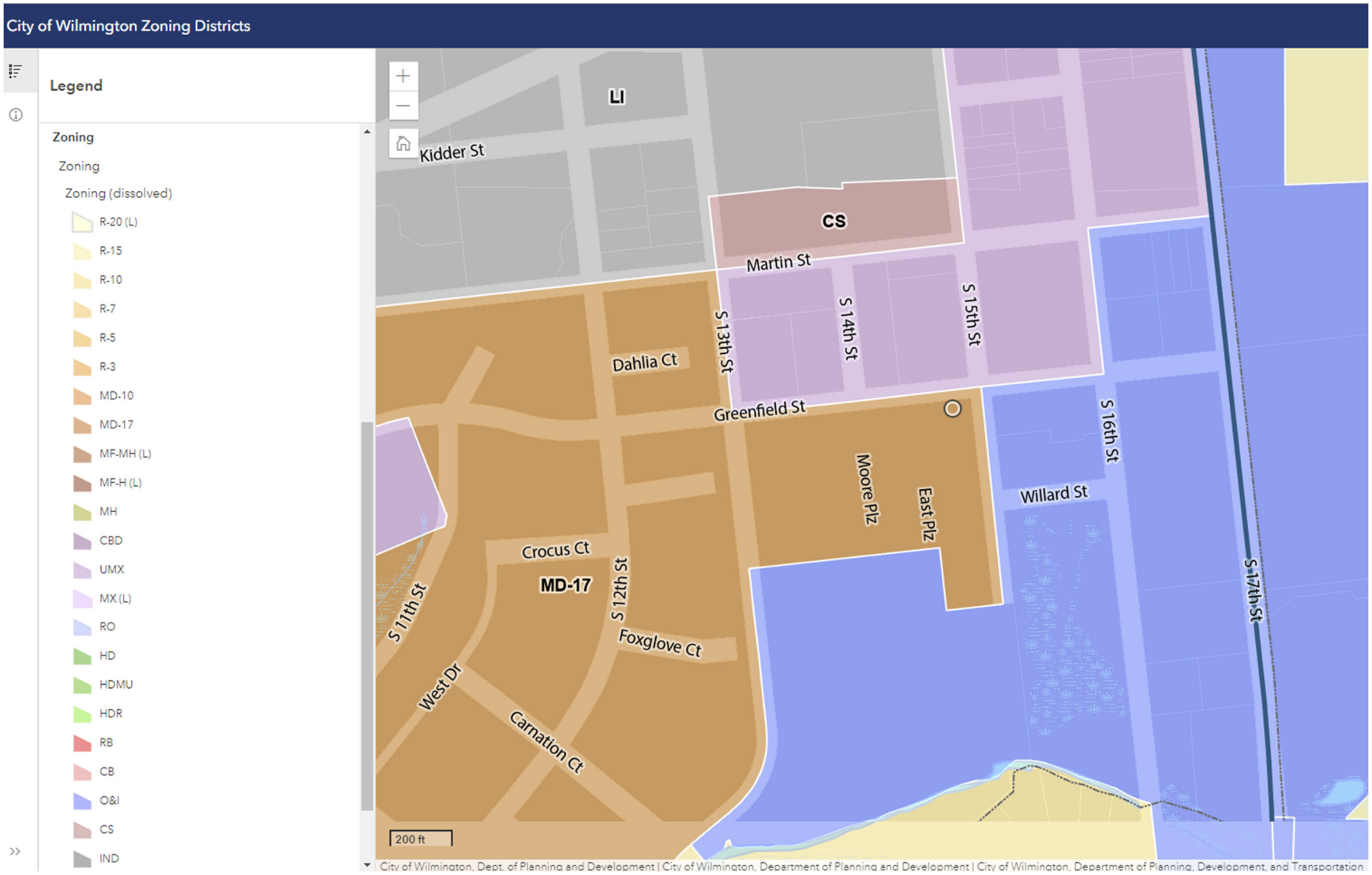
Creekwood South (6 Units) at
502, 522, 609, 611, 613 & 710 N. 30th St.,
Wilmington, NC 28405

Creekwood (14 Units) and Creekwood South (6 Units) – City of Wilmington Zoning Map



Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405

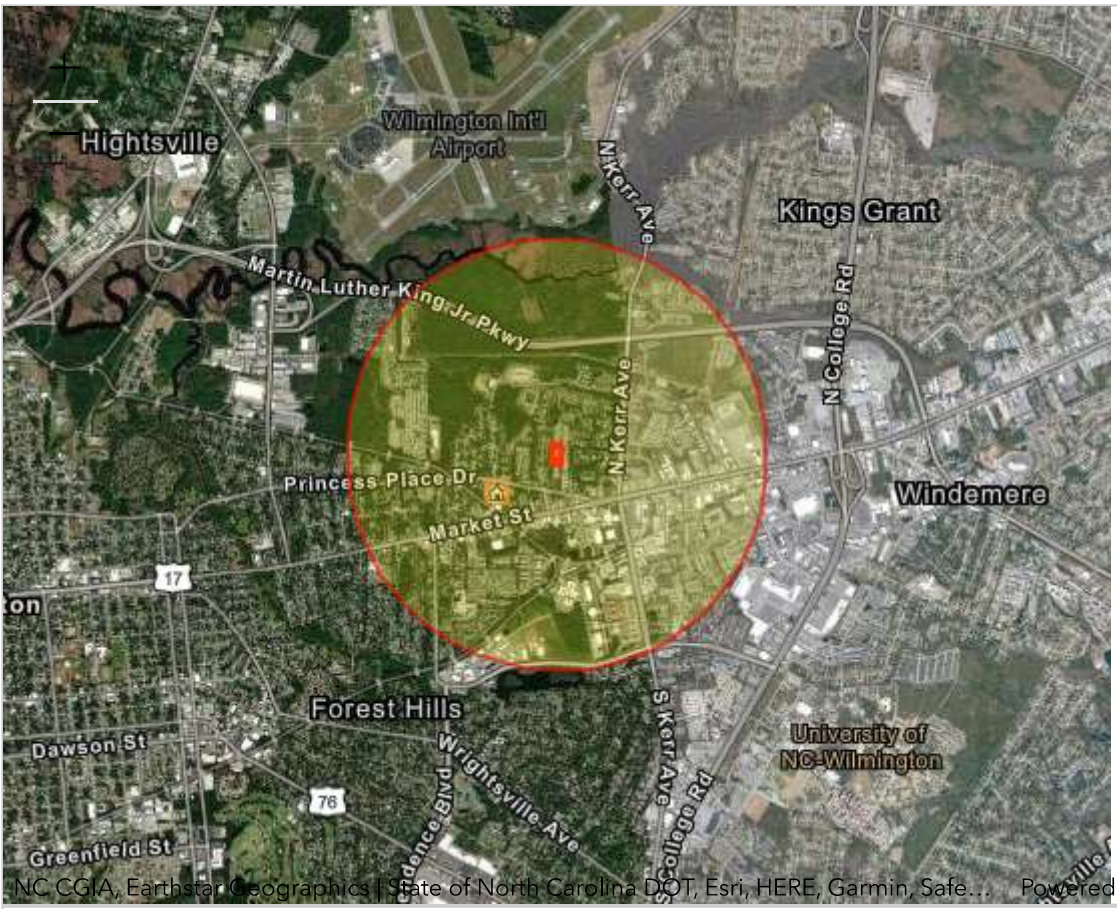
Houston Moore (1 Unit)– City of Wilmington Zoning Map



ATTACHMENT 19:

Educational and Cultural Facilities

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212)



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
☐ Blount School	0.30 mile

Feature ID: 981612
Name: Blount School
Class: School
State: NC
State FIPS: 37
County: New Hanover
County FIPS: 129
Latitude: 34.2432254
Longitude: -77.9005418
USGS Map Name: Wilmington
Date Created: 06/17/1980
Date Edited:

Creekwood (14 Units) at
602, 712, 804, 805, 809 & 1008 N. 30th St.,
617, 701, 707, 708, 902, 915 & 922 Emory St.,
and 2905 Clayton Place, Wilmington, NC
28405

Creekwood South (6 Units) at
502, 522, 609, 611, 613 & 710 N. 30th St.,
Wilmington, NC 28405

NEPAssist

Home (https://www.epa.gov/nepa/nepassist) | Help (help/NEPAssistHelp.pdf)

US Environmental Protection Agency (//www.epa.gov)



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: 2

Name	Distance
Blount School	0.51 mile

Feature ID: 981612
Name: Blount School
Class: School
State: NC
State FIPS: 37
County: New Hanover
County FIPS: 129
Latitude: 34.2432254
Longitude: -77.9005418
USGS Map Name: Wilmington
Date Created: 06/17/1980
Date Edited:

Name	Distance
Chestnut Street Junior High School	0.95 mile

Feature ID: 983132
Name: Chestnut Street Junior High School
Class: School
State: NC
State FIPS: 37
County: New Hanover
County FIPS: 129
Latitude: 34.2396142
Longitude: -77.9205426
USGS Map Name: Wilmington
Date Created: 06/17/1980
Date Edited:

Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405

NEPAssist

Home (https://www.epa.gov/nepa/nepassist) | Help (help/NEPAssistHelp.pdf)

US Environmental Protection Agency (//www.epa.gov)



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: 5

Name	Distance
Catlett School	0.75 mile

Feature ID: 982764
Name: Catlett School
Class: School
State: NC
State FIPS: 37
County: New Hanover
County FIPS: 129
Latitude: 34.22767
Longitude: -77.9224871
USGS Map Name: Wilmington
Date Created: 06/17/1980
Date Edited:

Name	Distance
☐ Hooper School	0.74 mile

Feature ID: 987033
Name: Hooper School
Class: School
State: NC
State FIPS: 37
County: New Hanover
County FIPS: 129
Latitude: 34.221559
Longitude: -77.9424879
USGS Map Name: Wilmington
Date Created: 06/17/1980
Date Edited:

☐ Lake Forest School — 0.09 mile

Feature ID: 988079
Name: Lake Forest School
Class: School
State: NC
State FIPS: 37
County: New Hanover
County FIPS: 129
Latitude: 34.2151702
Longitude: -77.9297096
USGS Map Name: Wilmington
Date Created: 06/17/1980
Date Edited:

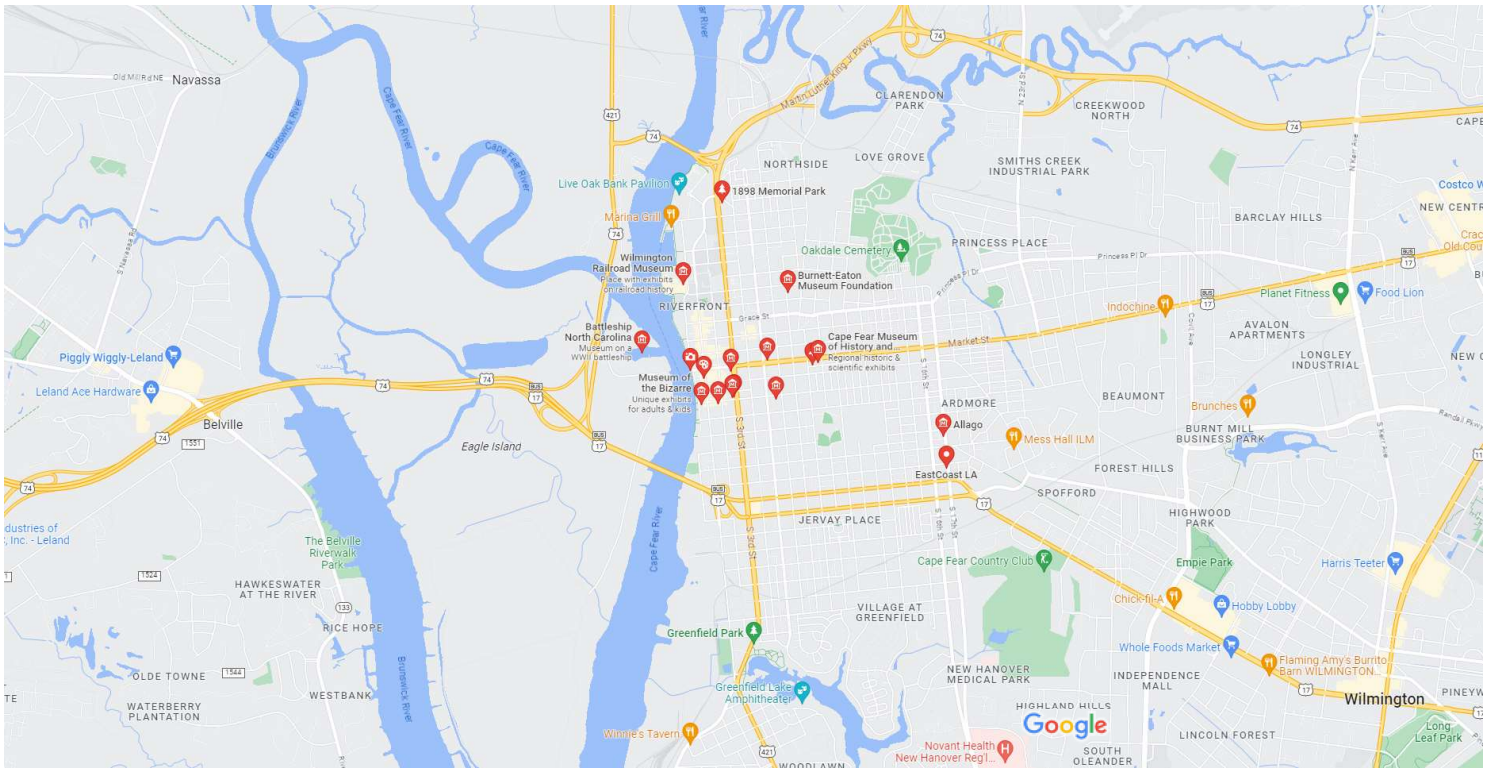
☐ Washington School — 0.36 mile

Feature ID: 996829
Name: Washington School
Class: School
State: NC
State FIPS: 37
County: New Hanover
County FIPS: 129
Latitude: 34.2218368
Longitude: -77.9341542
USGS Map Name: Wilmington
Date Created: 06/17/1980
Date Edited:

☐ Sunset Park Elementary School — 0.91 mile

Feature ID: 1006721
Name: Sunset Park Elementary School
Class: School
State: NC
State FIPS: 37
County: New Hanover
County FIPS: 129
Latitude: 34.207188
Longitude: -77.941672
USGS Map Name: Wilmington
Date Created: 07/01/1989
Date Edited: 04/28/2015

wilmington, NC museums



Rating | Hours | All filters

Cape Fear Museum of History and Science



4.8 (175)
Museum · 814 Market St
Regional historic & scientific exhibits
Open · Closes 5 PM

"Very nice museum with loads of local wilmington history."

Museum of the Bizarre



4.2 (1,281)
Museum · 201 S Water St
Unique exhibits for adults & kids
Open · Closes 8 PM

"I wouldn't even count it as a museum."

Bellamy Mansion Museum



4.6 (835)
Local history museum · 503 Market St
House, garden & slave quarters tours
Open · Closes 4 PM

"Beautiful, old, home that is a museum and art gallery."

The Children's Museum of Wilmington



4.4 (456)
Children's museum · 116 Orange St
Hands-on exhibits for kids ages 1 to 10
Open · Closes 5 PM

"Great little childrens museum."

ATTACHMENT 20:

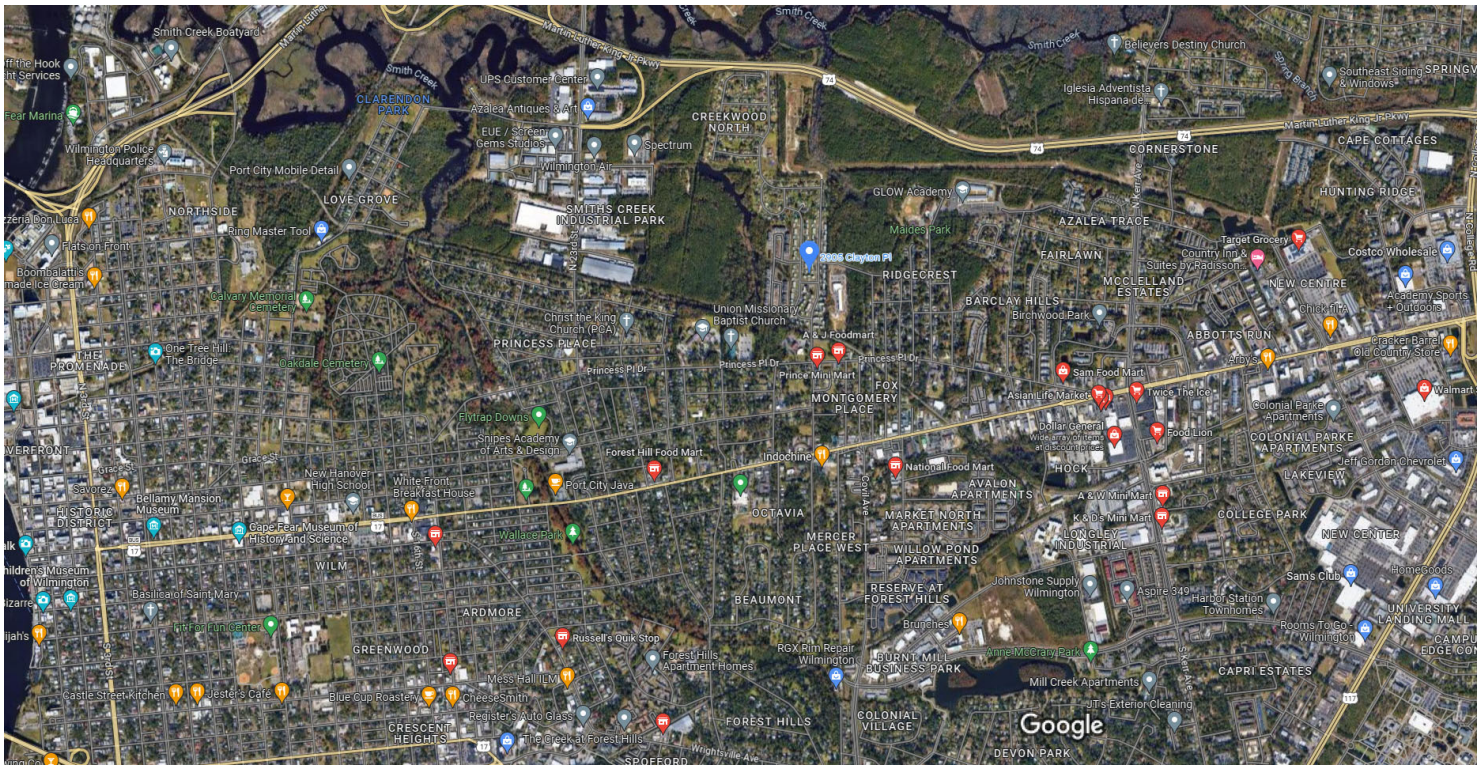
Commercial Facilities

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212)

Creekwood (14 Units) at
602, 712, 804, 805, 809 & 1008 N. 30th St.,
617, 701, 707, 708, 902, 915 & 922 Emory St.,
and 2905 Clayton Place, Wilmington, NC
28405

Creekwood South (6 Units) at
502, 522, 609, 611, 613 & 710 N. 30th St.,
Wilmington, NC 28405

Google Maps grocery stores



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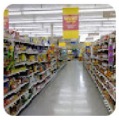
Rating | Hours | All filters

Food Lion



4.3 (980) · $$
Grocery store · 45 S Kerr Ave
Open · Closes 11 PM · (910) 343-1997

In-store shopping · Curbside pickup

Target Grocery



5.0 (1)
Grocery store · 4711 New Centre Dr
Open · Closes 10 PM · (910) 395-5057

In-store shopping · Curbside pickup

A & J Foodmart



3.6 (5)
Convenience store · 3016 Princess Pl Dr
Open · Closes 9 PM · (910) 762-3420

In-store shopping

17th Street Market



4.5 (77)
Convenience store
Open · Closes 2 AM

In-store shopping

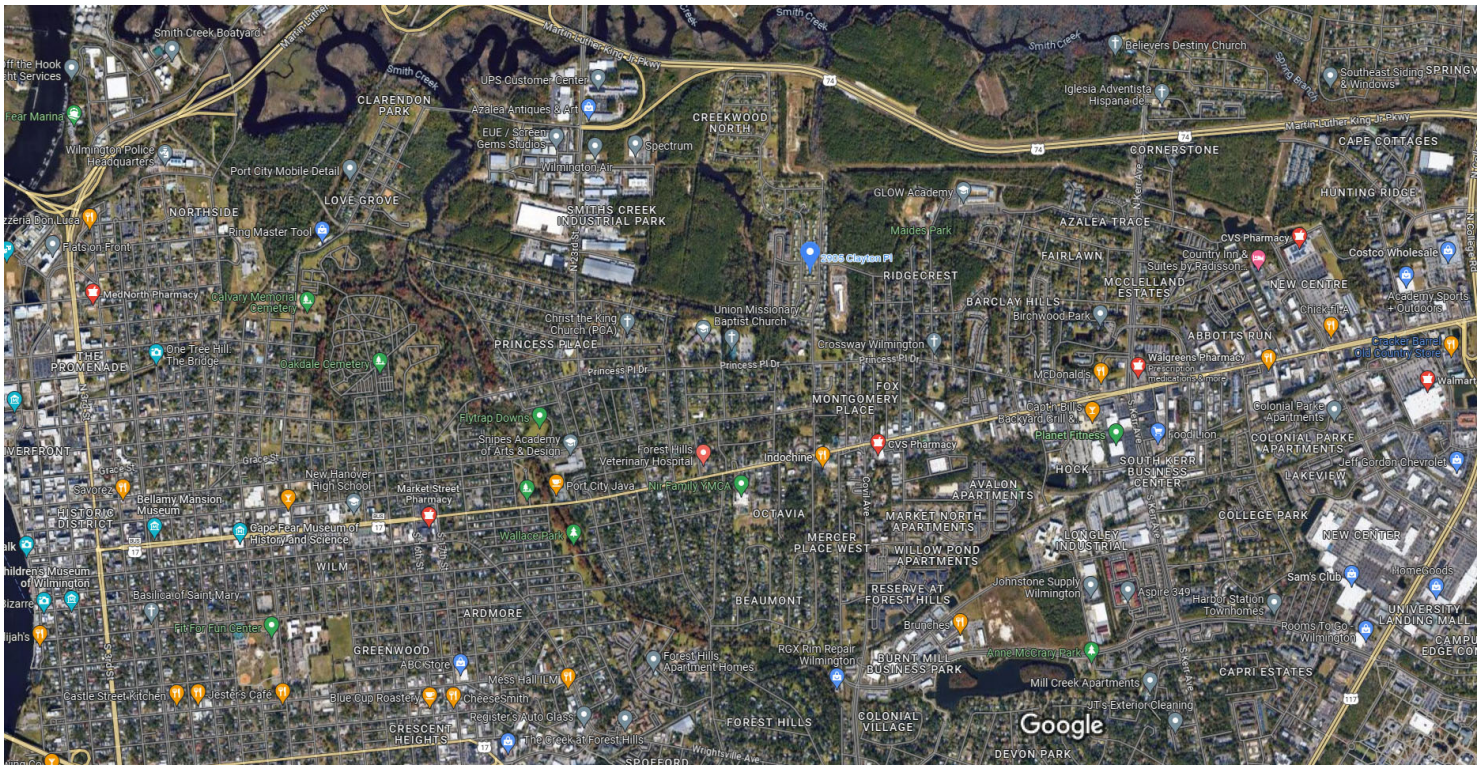
Sam Food Mart



5.0 (26)
Store · 4133 Princess Pl Dr
Open · Closes 1 AM

In-store shopping

Google Maps pharmacy



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Hours | All filters

CVS Pharmacy
3.3 (41)
Pharmacy · 4600 Oleander Dr
Closes soon · 1:30 PM · Reopens 2 PM · (910) 392-1921
In-store shopping · Curbside pickup · Delivery
Website | Directions

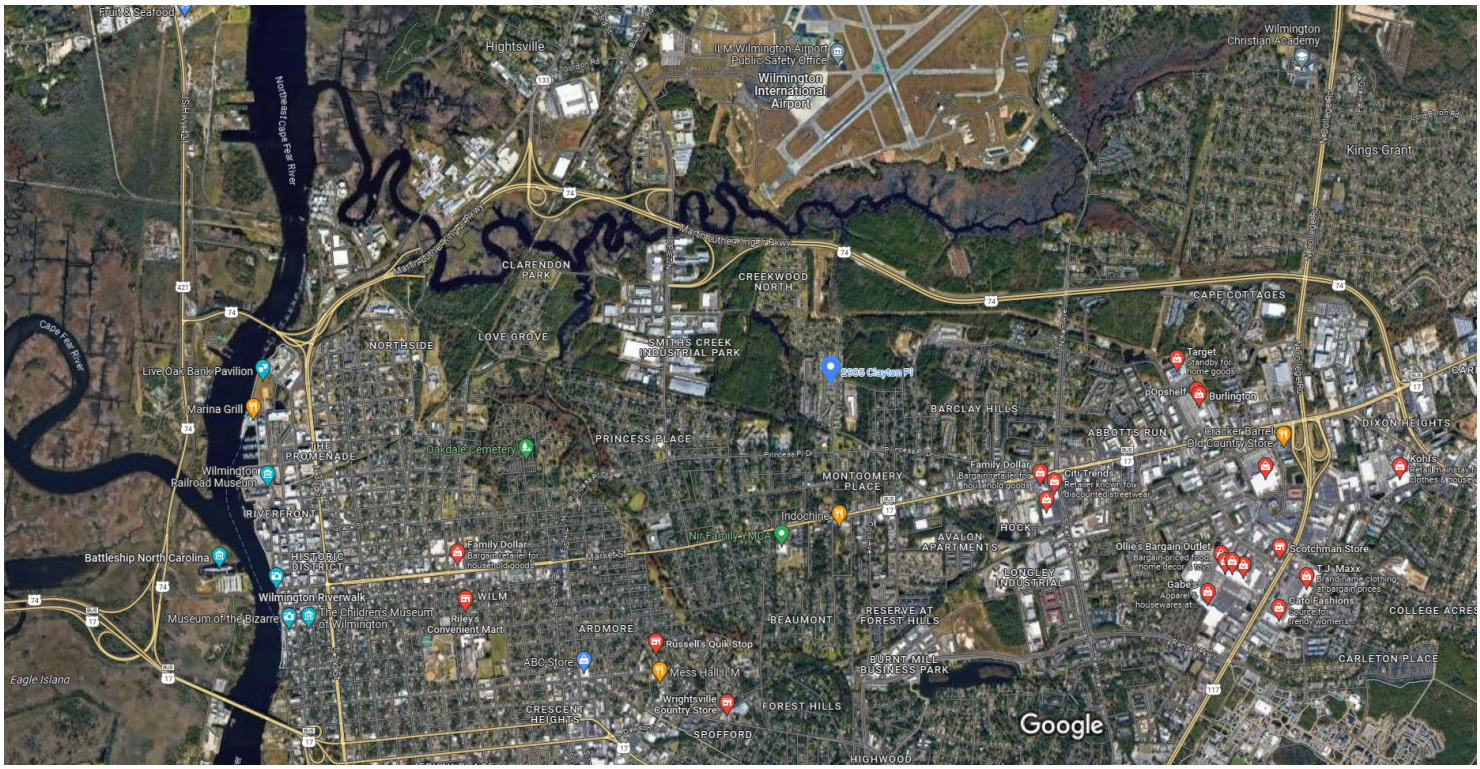
CVS Pharmacy
3.2 (6)
Pharmacy · 1712 Eastwood Rd
Closes soon · 1:30 PM · Reopens 2 PM · (910) 256-3761
In-store shopping · In-store pickup · Delivery
Website | Directions

CVS Pharmacy
4.3 (8)
Pharmacy · 3302 Market St
Closes soon · 1:30 PM · Reopens 2 PM · (910) 772-0686
In-store shopping · Curbside pickup · Delivery
Website | Directions

CVS Pharmacy
4.3 (16)
Pharmacy · 4711 New Centre Dr
Closes soon · 1:30 PM · Reopens 2 PM · (910) 395-0749
In-store shopping · Delivery
Website | Directions

Walgreens Pharmacy
4.3 (16) · $$
Pharmacy · 4521 Oleander Dr
Prescription medications & more
Website | Directions

Google Maps stores



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Rating Hours All filters

Gabe's



4.2 (276)
Discount store · 412 College Rd
Apparel & housewares at discount prices
Open · Closes 9 PM · (910) 798-5210

In-store shopping

Ross Dress for Less



4.1 (833) · $
Clothing store · 352 College Rd
Discounted apparel, shoes & housewares
Open · Closes 10 PM · (910) 793-5733

In-store shopping

Target



4.1 (617) · $$
Department store · 4711 New Centre Dr
Standby for home goods, clothing & more
Open · Closes 10 PM · (910) 395-5057

In-store shopping · Curbside pickup · Delivery

rue21

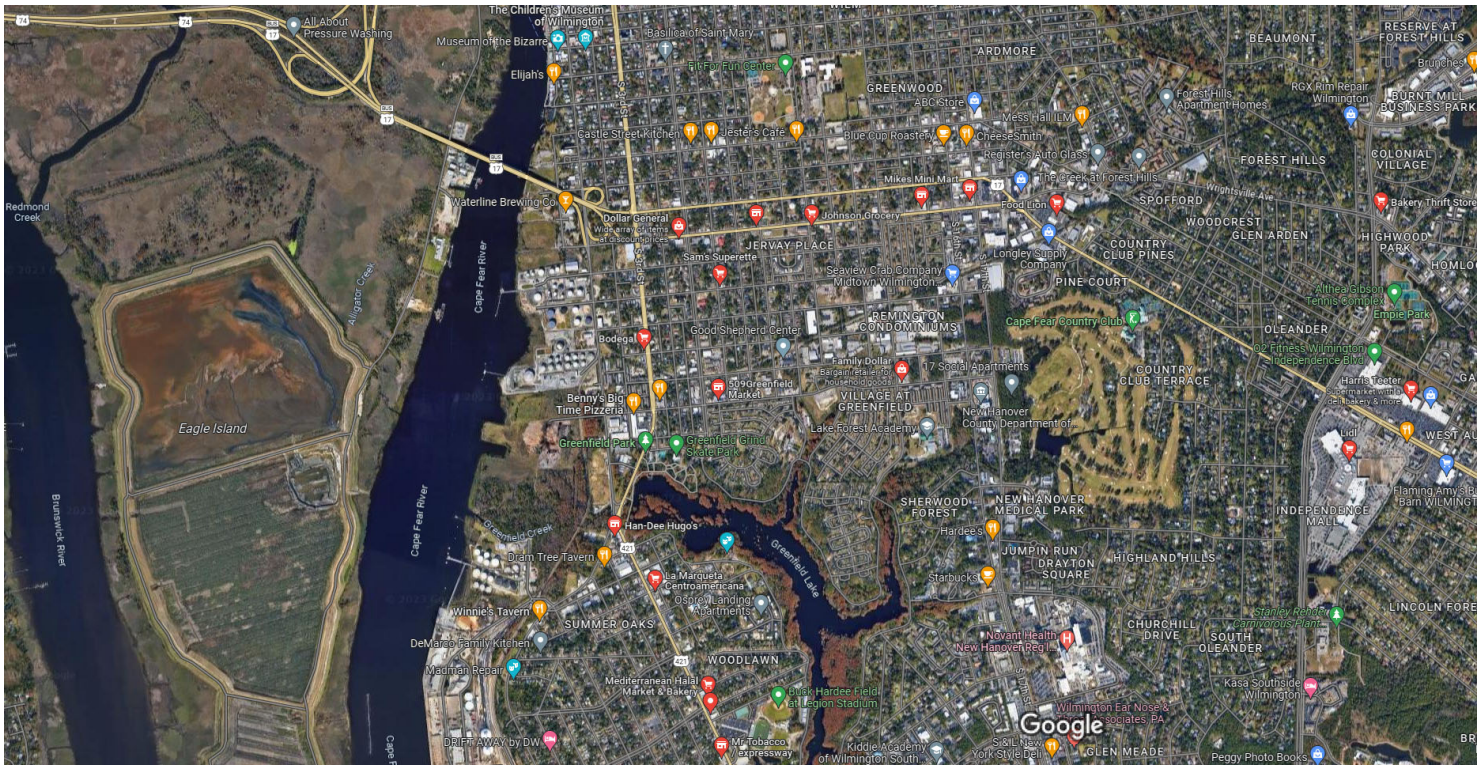


4.2 (152) · $
Clothing store · 352 College Rd #10-D
Retailer for youth-oriented fashions
Open · Closes 7 PM · (910) 792-6588

In-store shopping · In-store pickup

Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405

Google Maps grocery stores



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Rating | Hours | All filters

Harris Teeter



4.5 (1,030)
Grocery store · 3501 Oleander Dr #18
Supermarket with a deli, bakery & more
Open · Closes 11 PM · (910) 343-4216

In-store shopping · Curbside pickup

Food Lion



4.2 (785) · $$
Grocery store · 1929 Oleander Dr
Open · Closes 11 PM · (910) 762-3269

In-store shopping · Curbside pickup

Johnson Grocery



4.0 (29)
Grocery store · 1002 Dawson St
Open · Closes 12 AM · (910) 254-0350

In-store shopping

Sam's Superette



4.7 (71)
Grocery store · 1023 S 6th St
Open · Closes 8 PM · (910) 763-8627

In-store shopping

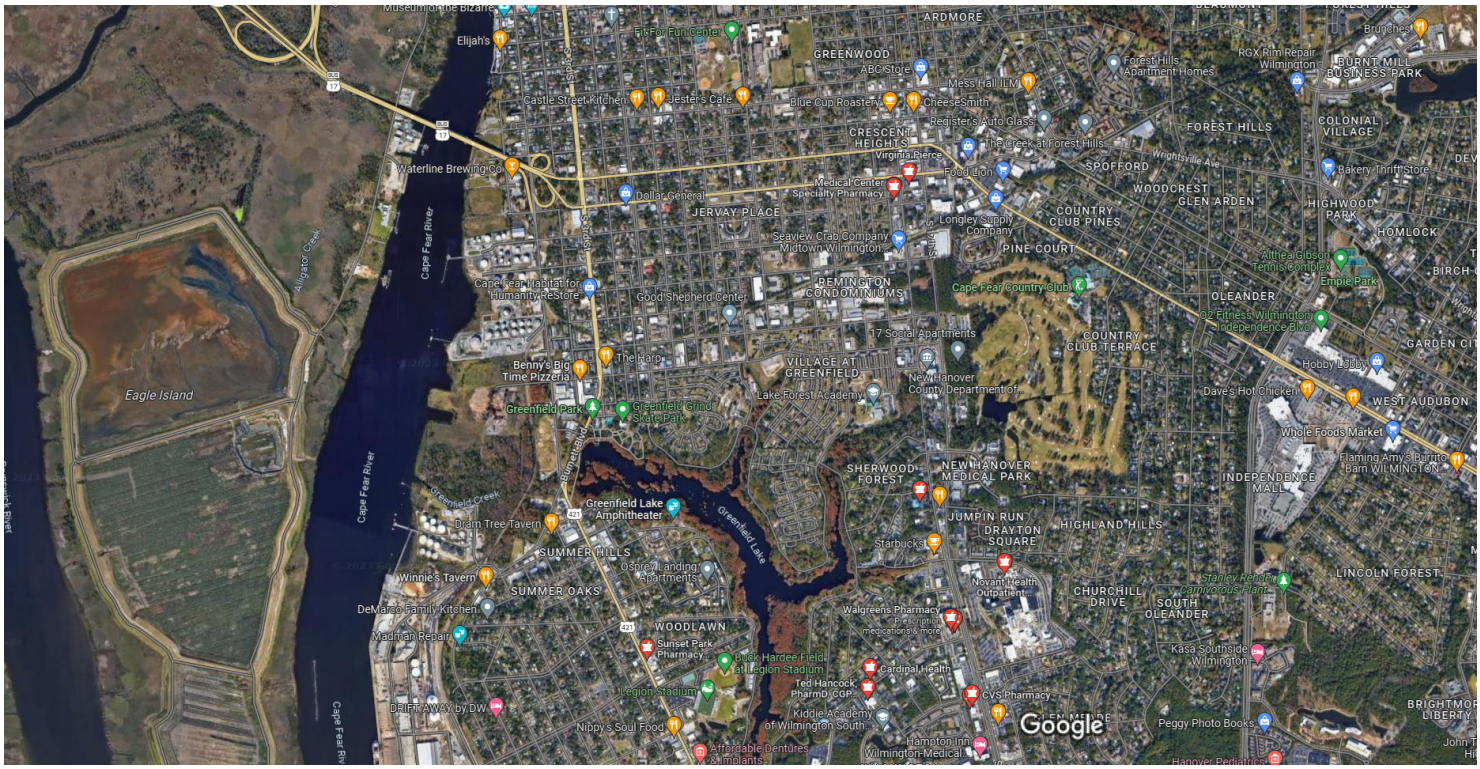
Lidl



4.5 (300)
Grocery store · 3500 Oleander Dr Suite R70
Open · Closes 9 PM · (888) 654-3515

In-store shopping

Google Maps pharmacy



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Hours | All filters

CVS Pharmacy

3.2 (5)
Pharmacy · 2302 S 17th St
Closes soon · 1:30 PM · Reopens 2 PM · (910) 392-1180

Website Directions

In-store shopping · Curbside pickup · Delivery

Sunset Park Pharmacy, Pharmacy near Wilmington North Carolina

4.6 (10)
Pharmacy · 2059 Carolina Beach Rd
Open · Closes 6 PM · (910) 762-6278

Website Directions

In-store shopping · Delivery

Walgreens Pharmacy

2.5 (2)
Pharmacy · 2130 S 17th St
Prescription medications & more
Closes soon · 1:30 PM · Reopens 2 PM · (910) 343-2988

Website Directions

In-store shopping · Curbside pickup

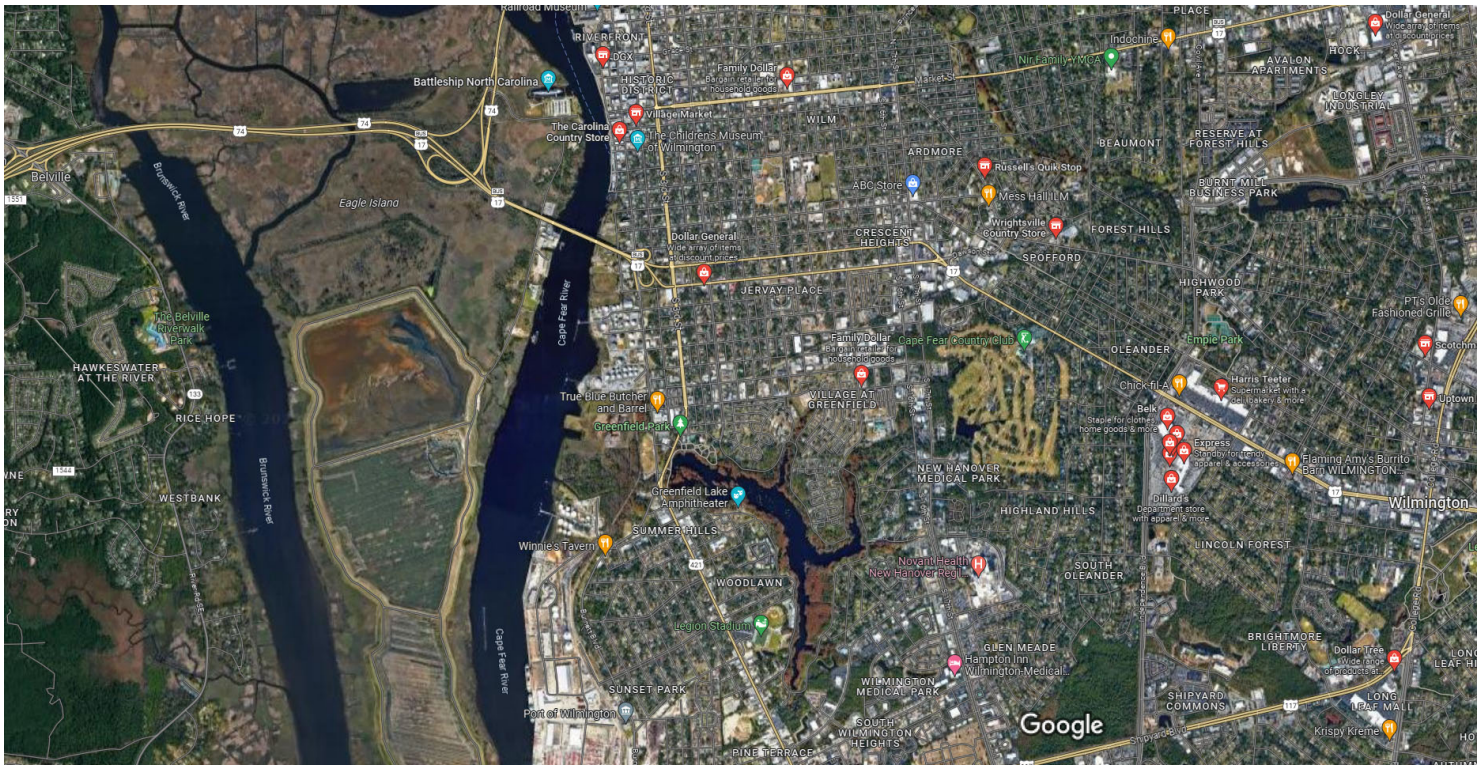
Medical Center Specialty Pharmacy

4.5 (57)
Pharmacy · 912 S 16th St
Open · Closes 6 PM · (910) 763-1896

Website Directions

In-store shopping · In-store pickup · Delivery

Google Maps stores



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Rating Hours All filters

Wrightsville Country Store



3.4 (10)
Convenience store · 2401 Wrightsville Ave
Open · Closes 12 AM · (910) 762-1716

In-store shopping

Dollar General



4.0 (420) · $
Dollar store · 68 S Kerr Ave
Wide array of items at discount prices
Open · Closes 9 PM · (910) 550-0451

In-store shopping · In-store pickup

Village Market



3.7 (32)
Convenience store · 26 S 2nd St
Open · Closes 1 AM · (910) 762-6229

In-store shopping

American Eagle Store



4.0 (98) · $$
Clothing store · 3500 Oleander Dr
On-trend casualwear, shoes & accessories
Open · Closes 7 PM · (910) 392-9332

In-store shopping · Curbside pickup

Belk



4.2 (1,300) · $$
Department store · 3500 Oleander Dr
Staple for clothes, home goods & more

ATTACHMENT 21:

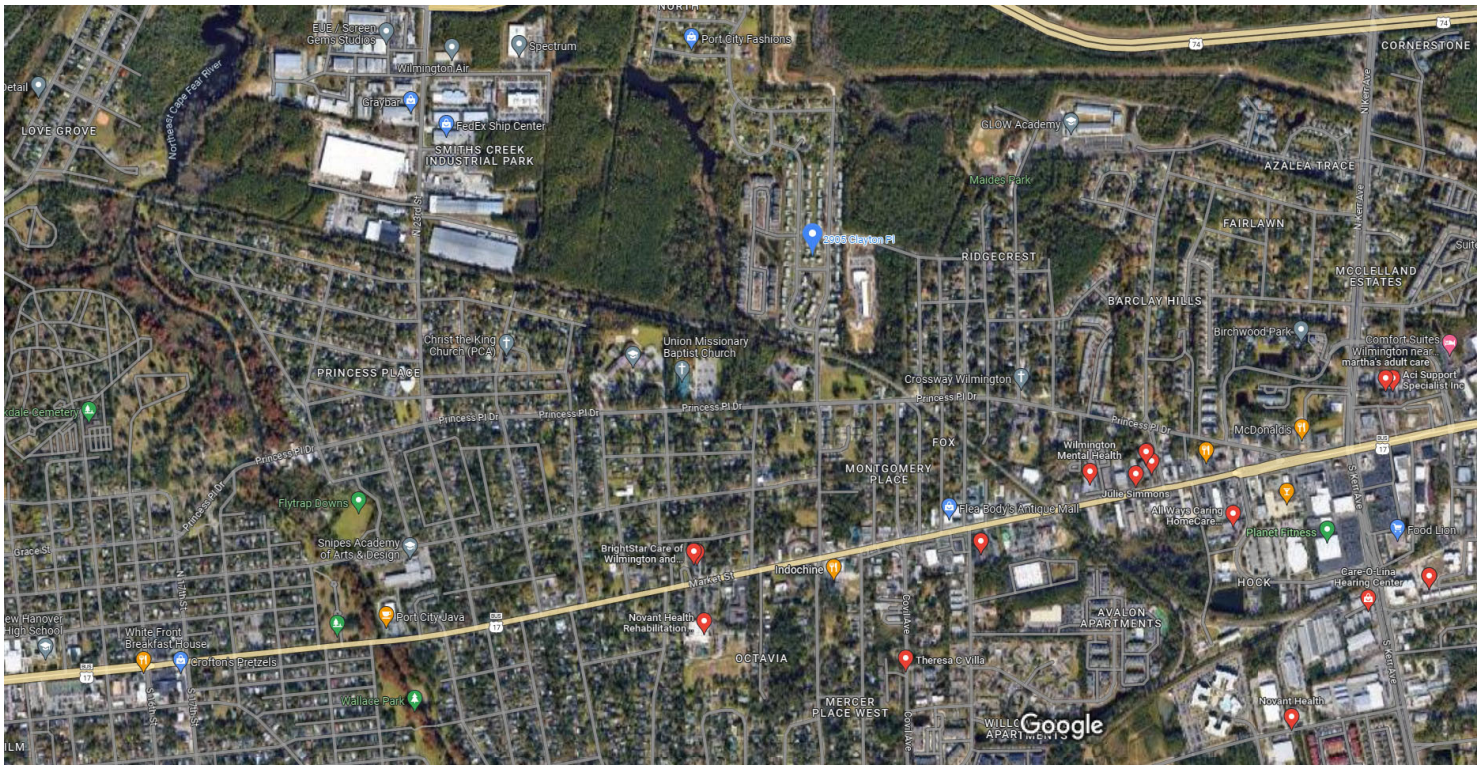
Health Care and Social Services

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212)

Creekwood (14 Units) at
602, 712, 804, 805, 809 & 1008 N. 30th St.,
617, 701, 707, 708, 902, 915 & 922 Emory St.,
and 2905 Clayton Place, Wilmington, NC
28405

Creekwood South (6 Units) at
502, 522, 609, 611, 613 & 710 N. 30th St.,
Wilmington, NC 28405

Google Maps health care facility



Imagery ©2023 CNES / Airbus, Maxar Technologies, New Hanover County, NC, U.S. Geological Survey, USDA/FPAC/GEO, Map data ©2023 500 ft

Rating | Hours | All filters

martha's adult care
No reviews
Home health care service · 108 N Kerr Ave
Open now · (910) 233-2446
Directions

BrightStar Care of Wilmington and Brunswick County
4.5 (14)
Home health care service · 2709 Market St Suite 201
Open 24 hours · (910) 599-9555
Website | Directions

Novant Health
1.5 (8)
Medical clinic · Emerson St
Open now · (910) 579-1050
Website | Directions

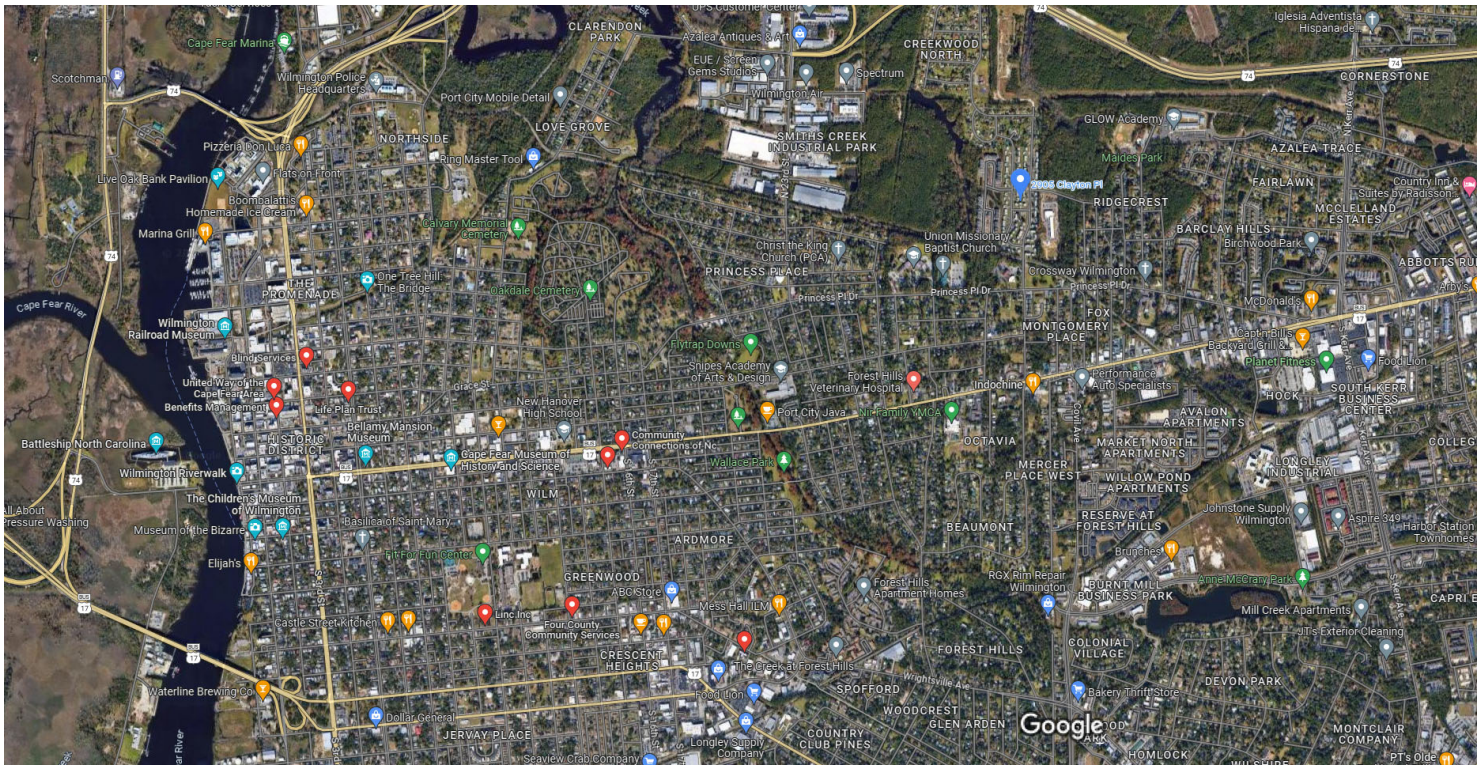
"We got at the urgent care at 7am and it's 12pm."

Theresa C Villa
No reviews
Assisted living facility · 202 Covil Ave
(910) 762-2504
Directions

Angels of Care Pediatric Home Health
5.0 (11)
Home health care service · 2709 Market St Suite 202
Open · Closes 5 PM · (910) 338-4883
Website | Directions

All Ways Caring HomeCare - Wilmington, North Carolina
No reviews
Website | Directions

Google Maps social services



Imagery ©2023 CNES / Airbus, Maxar Technologies, New Hanover County, NC, U.S. Geological Survey, USDA/FPAC/GEO, Map data ©2023 1000 ft

Rating | Hours | All filters

New Hanover County Department of Social Services

3.9 (160)
Department of Social Services · 1650 Greenfield St
Open · Closes 5 PM · (910) 798-3500

Website | Directions

Four County Community Services

4.0 (2)
Social services organization · 1301 Castle St
(910) 763-5611

Directions

Coastal Employee Assistance

No reviews
Social services organization · 2505 S 17th St
(910) 350-1127

Directions

Community Connections of Nc

No reviews
Social services organization · 12 S 16th St
(910) 833-8624

Directions

MQA Support Services

No reviews
Social services organization · 4016 Shipyard Blvd
(910) 799-1633

Directions

First In Families of SE Nc

4.3 (7)
Social services organization · 5041 New Centre Dr # 100
(910) 350-2737

Directions

Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405

NEPAssist

Home (https://www.epa.gov/nepa/nepassist) | Help (help/NEPAssistHelp.pdf)

US Environmental Protection Agency (//www.epa.gov)



Report question: ***Within 1 mile of a hospital?*** **yes**

Modify question by entering a new buffer distance and unit for the selected study area:

1 | miles | Submit

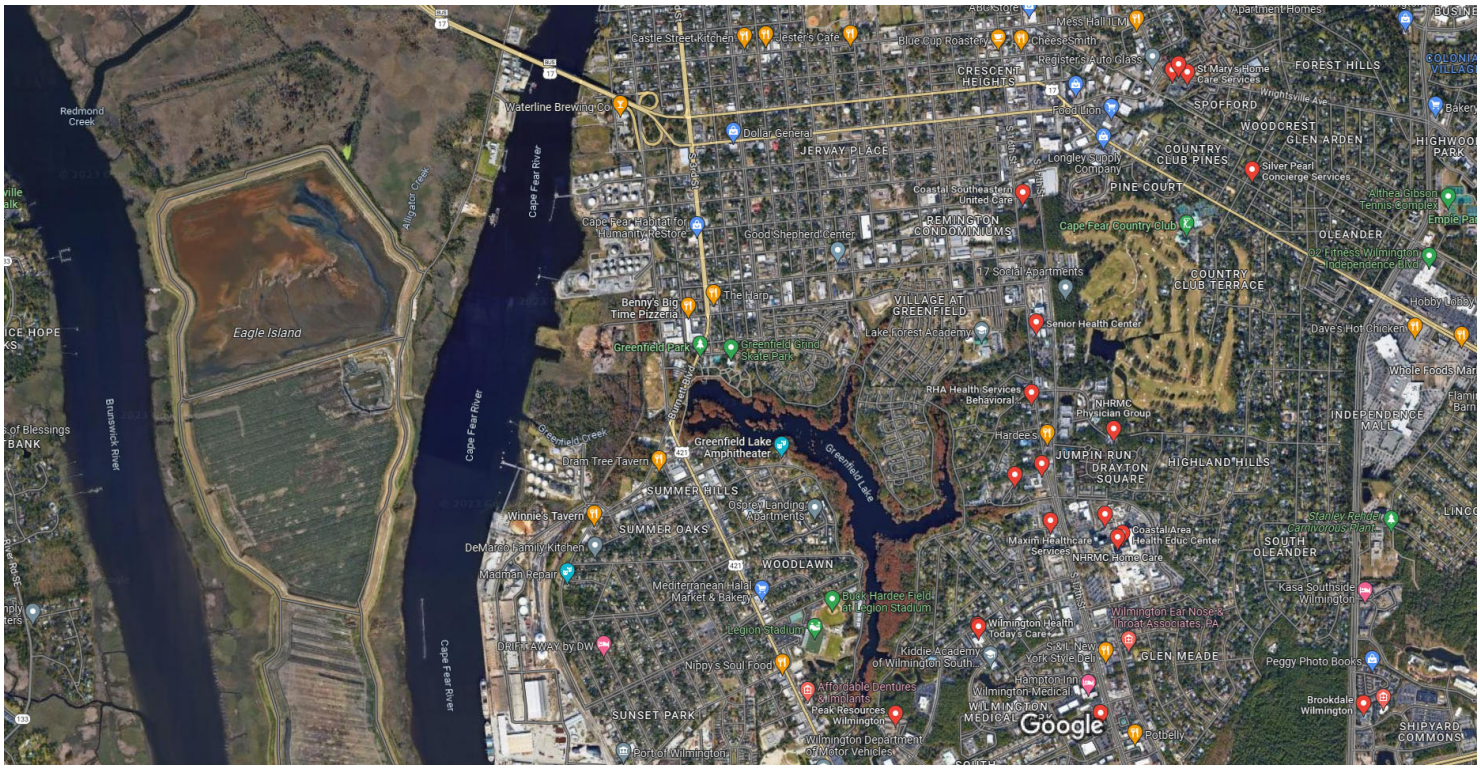
Features within Study Area

Features found: 1

Name	Distance
New Hanover Regional Medical Center	0.81 mile

FEATURE_ID: 1024186
Name: New Hanover Regional Medical Center
Class: Hospital
Feature ID: NC
State FIPS: 37
County: New Hanover
County FIPS: 129
Latitude: 34.2057679
Longitude: -77.9208637
SOURCE_LAT_DEC:
SOURCE_LONG_DEC:
ELEV_IN_M: 19
ELEV_IN_FT: 62
USGS Map Name: Wilmington
Date Created: 06/17/1980
Date Edited: 08/23/2016

Google Maps health care facility



Imagery ©2023 CNES / Airbus, Maxar Technologies, New Hanover County, NC, U.S. Geological Survey, USDA/FPAC/GEO, Map data ©2023 Google 1000 ft

Rating | Hours | All filters

NHRMC Home Care
3.0 (2)
Home health care service · 2131 S 17th St
Open now · (910) 259-1224
Website | Directions

Wilmington Health Today's Care+
4.0 (73)
Urgent care center · 1202 Medical Center Dr
Open · Closes 6 PM · (910) 341-3421
Website | Directions

"I don't know what I would have done without this **facility**!"

Peak Resources Wilmington
3.2 (18)
Nursing home · 2305 Silver Stream Ln
Open 24 hours · (910) 362-3621
Website | Directions

"Great staff in nursing care Physical therapy and all levels of care."

Silver Pearl Concierge Services
No reviews
Nursing home · 2515 Mimosa Pl
(910) 232-2524
Directions

PORT HEALTH | Wilmington Clinic
3.2 (24)
Mental health service · 2206A Wrightsville Ave
Website | Directions

ATTACHMENT 22:

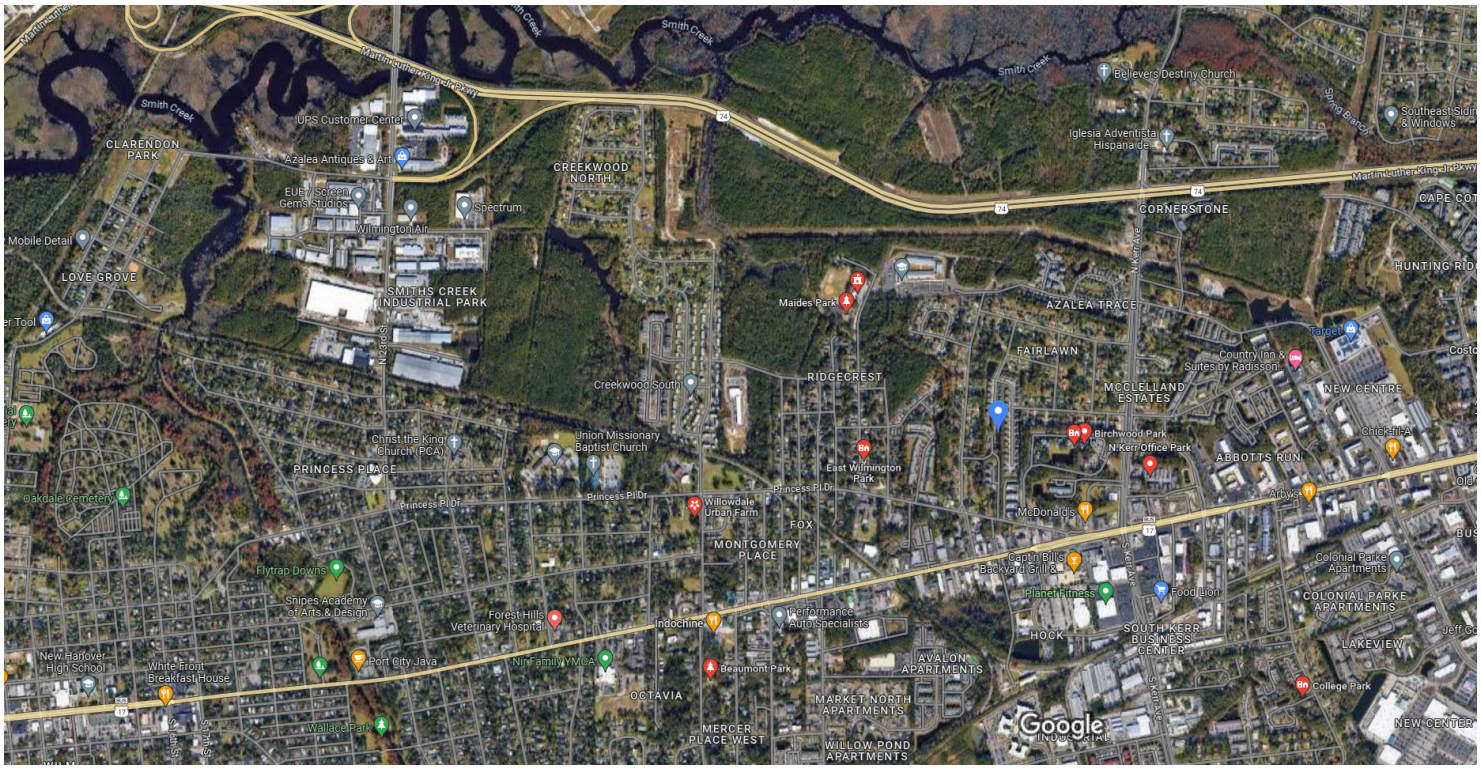
Parks, Open Space and Recreation

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212)

Creekwood (14 Units) at
602, 712, 804, 805, 809 & 1008 N. 30th St.,
617, 701, 707, 708, 902, 915 & 922 Emory St.,
and 2905 Clayton Place, Wilmington, NC
28405

Creekwood South (6 Units) at
502, 522, 609, 611, 613 & 710 N. 30th St.,
Wilmington, NC 28405

Google Maps parks



Imagery ©2023 CNES / Airbus, Maxar Technologies, New Hanover County, NC, U.S. Geological Survey, USDA/FPAC/GEO, Map data ©2023 1000 ft

Rating | Hours | All filters

Maides Park



4.4 (199)
Park · 1101 Manly Ave
Open · Closes 8 PM

"Great park and more to come it seems!"

Beaumont Park



4.5 (4)
Park · 101 Wayne Dr
Open 24 hours

"Nice park for kids, pets n picnic."

East Wilmington Park

No reviews
Wilmington, NC 28405

Derick G.S. Davis Community Center



4.8 (17)
Community center · 1101 Manly Ave
Open · Closes 7 PM

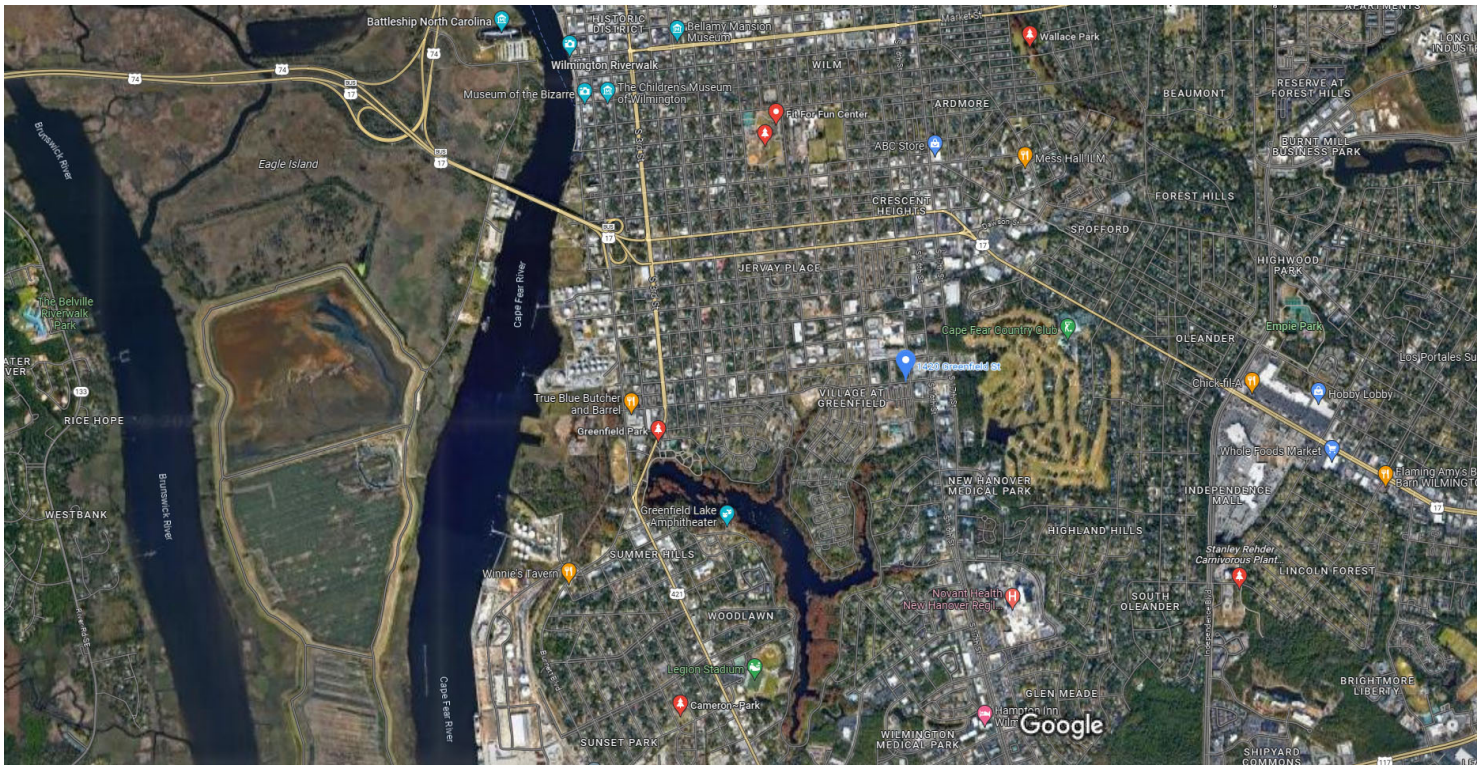
Willowdale Urban Farm



5.0 (1)
Garden · 301 N 30th St

Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405

Google Maps parks open space and recreation



Imagery ©2023 CNES / Airbus, Landsat / Copernicus, Maxar Technologies, New Hanover County, NC, U.S. Geological Survey, USDA/FPAC/GEO, Map data ©2023 Google 1000 ft

Rating Hours All filters

Greenfield Park



4.6 (823)
Park · 1739 Burnett Blvd
Open now

"Awesome **park**, tons of **open space**."

Cameron~Park



4.4 (43)
Park · 245 Southern Blvd
Open · Closes 9 PM

"Nice large **open** sunny **field** for playing baseball **and** basketball."

Robert Strange Park



4.4 (71)
Park · 401 S 8th St
Open · Closes 9 PM

"Nice outdoor **space** for the community"

Wallace Park



4.4 (87)
Park · 2110 Market St
Open · Closes 8 PM

"Nice **green open space** to play soccer"

Stanley Rehder Carnivorous Plant Garden at Piney Ridge Nature Preserve - Wilmington

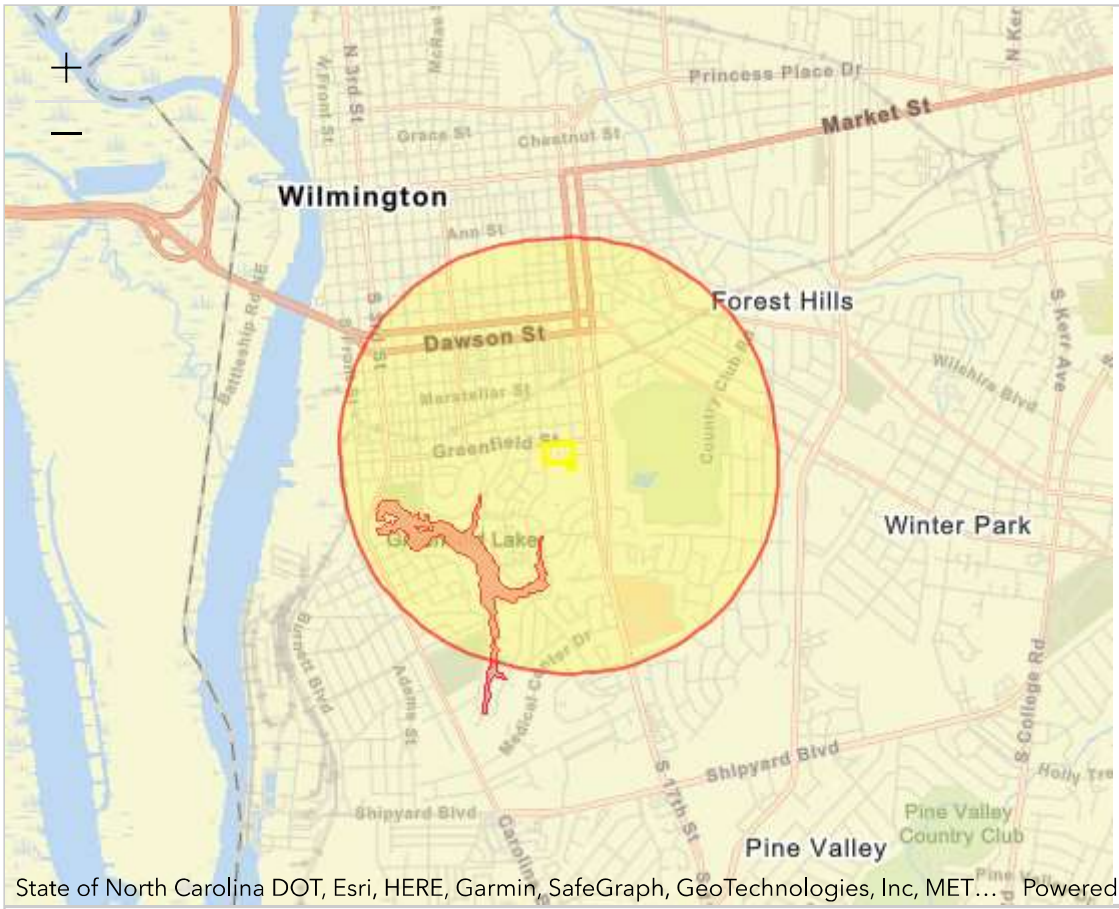


4.7 (286)
Nature preserve · 3800 Canterbury Rd
Open · Closes 7:30 PM

ATTACHMENT 23:

Unique Natural Features & Water Resources

Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405



Report question: ***Within 1 mile of an impaired waterbody?*** **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**

☐ Greenfield Lake 0.35 mile

Submission ID: {af6ba1a6-048c-71a7-7221-e01ee8a1e7fa}
PermID Joinkey: {E5D54A5C-9684-3309-E053-BCE443861336}
State: NC
Region: 04
OrganizationID: 21NC01WQ
Organization Type: State
TAS 303(d): Y
Organization Name: N.C. Dept. of Environmental Quality
Reporting Cycle: 2022
AssessmentUnitIdentifier: NC18-76-1
Assmnt_JoinKey: {E5D54A53-D75C-3309-E053-BCE443861336}
AssessmentUnitName: Greenfield Lake
Waterbody Report Link: https://mywaterway.epa.gov/waterbody-report/21NC01WQ/NC18-76-1/2022
IR Category: 5
Overall Status: Not Supporting
Is Assessed: Y
Is Impaired: Y
Is Threatened: N
On 303d List: Y
Has TMDL: Y
Has 4B Plan: N
Has Alternative Plan: N
Has Protection Plan: N
VisionPriority303d: N
Cultural_Use:
Drinking Water Use:
Ecological Use: Not Supporting
FishConsumption_Use:
Recreation Use:
Other_Use:
Algal_Growth: Cause
Ammonia:
Biotoxins:
Cause Unknown:
Cause Unknown Fish Kills:
Cause Unknown Impaired Biota:
Chlorine:
Dioxins:
Fish_Consumption_Advisory:
Flow_Alterations:
Habitat Alterations:
Hydrologic Alteration:
Mercury:
Metals Other Than Mercury:
Noxious Aquatic Plants:
Nuisance_Exotic_Species:
Nuisance_Native_Species:
Nutrients:
Oil And Grease:
Oxygen Depletion: Insufficient Information
Other_Cause:
Pathogens:
Pesticides:
PH_Acidity_Caustic_Conditions: Insufficient Information
Polychlorinated_Biphenyls_PCBs:
Radiation:
Solids Chlorides Sulfates:
Sediment:
Taste, Color And Odor:
Temperature: Insufficient Information
Total Toxics:
Toxic Inorganics:
Toxic Organics:
Trash:
Turbidity: Insufficient Information
GlobalID: {46E4D27E-B1A0-43B3-B2D0-B5E30B985062}
ORIG_FID: 42185
Shape_Length: 10511.225873763799
Shape_Area: 446721.8474479991

ATTACHMENT 24:

Climate Change

Hazard Report

Extreme Heat

New Hanover County, North Carolina

Total Population
227,938

Non-Hispanic White Population (%)
23%

Income Below Poverty in Last 12 Mo (%)
16%

Building Codes Hazard Resistance
Lower Resistance

% Population Disadvantaged
29.33%

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
0.65

Expected Annual Loss Rating
Relatively High

Expected Annual Loss Total ($)
$1,105,046.01



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	**33 days** 33 - 40	**64 days** 41 - 83	**67 days** 46 - 85	**77 days** 48 - 104	**87 days** 58 - 109	**89 days** 59 - 118	**122 days** 81 - 149
Annual days with maximum temperature > 95°F	**6 days** 5 - 7	**15 days** 7 - 28	**17 days** 10 - 32	**22 days** 10 - 43	**29 days** 15 - 49	**31 days** 14 - 59	**65 days** 27 - 103
Annual days with maximum temperature > 100°F	**0 days** 0 - 1	**2 days** 0 - 6	**2 days** 1 - 5	**3 days** 1 - 8	**5 days** 1 - 12	**6 days** 1 - 8	**18 days** 4 - 45
Annual days with maximum temperature > 105°F	**0 days** 0 - 0	**0 days** 0 - 0	**0 days** 0 - 0	**0 days** 0 - 1	**0 days** 0 - 2	**0 days** 0 - 1	**3 days** 0 - 10
Annual temperature:							
Annual single highest maximum temperature °F	**98 °F** 97 - 99	**100 °F** 98 - 102	**100 °F** 98 - 102	**101 °F** 98 - 103	**102 °F** 99 - 105	**102 °F** 99 - 104	**106 °F** 101 - 108
Annual highest maximum temperature averaged over a 5-day period °F	**94 °F** 93 - 95	**97 °F** 94 - 99	**97 °F** 95 - 99	**97 °F** 95 - 100	**98 °F** 96 - 101	**99 °F** 96 - 101	**102 °F** 98 - 105
Cooling degree days (CDD)	**1993 degree-days** 1929 - 2087	**2,403 degree-days** 2,102 - 2,812	**2,440 degree-days** 2,169 - 2,740	**2,615 degree-days** 2,207 - 3,128	**2,784 degree-days** 2,383 - 3,163	**2,830 degree-days** 2,376 - 3,363	**3,518 degree-days** 2,820 - 4,252

N/A = Data Not Available for the selected area

Hazard Report

Drought

New Hanover County, North Carolina

Total Population
227,938

Non-Hispanic White Population (%)
23%

Income Below Poverty in Last 12 Mo (%)
16%

Building Codes Hazard Resistance
Lower Resistance

% Population Disadvantaged
29.33%

Explore additional data



U.S. Climate Resilience Toolkit

Source: Census Bureau, CEQ, Esri, FEMA, MRLC, NOAA, UCSD

National Risk Index Rating
Very Low



according to the FEMA National Risk Index

Drought Annualized Frequency
7.63

Expected Annual Loss Rating
Very Low

Expected Annual Loss Total ($)
$3,832.89

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	**56"** 54 - 59	**58"** 52 - 62	**58"** 53 - 63	**58"** 53 - 65	**58"** 51 - 63	**59"** 51 - 65	**59"** 48 - 67
Days per year with precipitation (wet days)	**179 days** 175 - 185	**178 days** 171 - 190	**177 days** 165 - 186	**178 days** 168 - 191	**176 days** 158 - 190	**178 days** 162 - 190	**173 days** 153 - 190
Days per year with no precipitation (dry days)	**186 days** 180 - 190	**187 days** 175 - 194	**188 days** 179 - 200	**187 days** 174 - 197	**189 days** 175 - 208	**187 days** 175 - 203	**193 days** 176 - 213
Maximum number of consecutive dry days	**13 days** 12 - 15	**13 days** 11 - 14	**13 days** 12 - 16	**13** days 12 - 15	**14 days** 12 - 16	**14 days** 11 - 16	**14 days** 12 - 17
Temperature thresholds:							
Annual days with maximum temperature > 90 °F	**33 days** 33 - 40	**64 days** 41 - 83	**67 days** 46 - 85	**77 days** 48 - 104	**87 days** 58 - 109	**89 days** 59 - 118	**122 days** 81 - 149
Annual days with maximum temperature > 100 °F	**0 days** 0 - 1	**2 days** 0 - 6	**2 days** 1 - 5	**3 days** 1 - 8	**5 days** 1 - 12	**6 days** 1 - 8	**18 days** 4 - 45

N/A = Data Not Available for the selected area

Hazard Report

Wildfire

New Hanover County, North Carolina

Total Population
227,938

Non-Hispanic White Population (%)
23%

Income Below Poverty in Last 12 Mo (%)
16%

Building Codes Hazard Resistance
Lower Resistance

% Population Disadvantaged
29.33%

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)
205.17

Expected Annual Loss Rating
Relatively Moderate

Expected Annual Loss Total ($)
$1,464,931.42

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:							
Days per year with no precipitation (dry days)	**186 days** 180 - 190	**187 days** 175 - 194	**188 days** 179 - 200	**187 days** 174 - 197	**189 days** 175 - 208	**187 days** 175 - 203	**193 days** 176 - 213
Maximum number of consecutive dry days	**13 days** 12 - 15	**13 days** 11 - 14	**13 days** 12 - 16	**13 days** 12 - 15	**14 days** 12 - 16	**14 days** 11 - 16	**14 days** 12 - 17
Days per year with precipitation (wet days)	**179 days** 175 - 185	**178 days** 171 - 190	**177 days** 165 - 186	**178 days** 168 - 191	**176 days** 158 - 190	**178 days** 162 - 190	**173 days** 153 - 190
Temperature thresholds:							
Annual days with maximum temperature > 90°F	**33 days** 33 - 40	**64 days** 41 - 83	**67 days** 46 - 85	**77 days** 48 - 104	**87 days** 58 - 109	**89 days** 59 - 118	**122 days** 81 - 149
Annual days with maximum temperature > 100°F	**0 days** 0 - 1	**2 days** 0 - 6	**2 days** 1 - 5	**3 days** 1 - 8	**5 days** 1 - 12	**6 days** 1 - 8	**18 days** 4 - 45

N/A = Data Not Available for the selected area

Hazard Report

Flooding

New Hanover County, North Carolina

Total Population
227,938

Non-Hispanic White Population (%)
23%

Income Below Poverty in Last 12 Mo (%)
16%

Building Codes Hazard Resistance
Lower Resistance

% Population Disadvantaged
29.33%

Explore additional data



U.S. Climate Resilience Toolkit

Source: Census Bureau, CEQ, Esri, FEMA, MRLC, NOAA, UCSD

National Risk Index Rating
Relatively Low



according to the FEMA National Risk Index

Flooding Annualized Frequency
2.83

Expected Annual Loss Rating
Relatively Low

Expected Annual Loss Total ($)
$406,285.11

Area in a 100-year / 500-year flood zone (%)
29.85% / 3.61%

Area outside 100-year or 500-year flood zone (%)
66.46%

Area unmapped/undetermined for flooding (%)
0.08%

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:							
Annual average total precipitation	**56"** 54 - 59	**58"** 52 - 62	**58"** 53 - 63	**58"** 53 - 65	**58"** 51 - 63	**59"** 51 - 65	**59"** 48 - 67
Days per year with precipitation (wet days)	**179 days** 175 - 185	**178 days** 171 - 190	**177 days** 165 - 186	**178 days** 168 - 191	**176 days** 158 - 190	**178 days** 162 - 190	**173 days** 153 - 190
Maximum period of consecutive wet days	**14 days** 12 - 16	**14 days** 12 - 17	**14 days** 11 - 16	**14 days** 11 - 17	**14 days** 11 - 17	**14 days** 11 - 18	**14 days** 10 - 17
Annual days with:							
Annual days with total precipitation > 1inch	**12 days** 11 - 13	**12 days** 10 - 14	**12 days** 11 - 14	**13 days** 10 - 15	**13 days** 10 - 14	**13 days** 10 - 15	**13 days** 8 - 16
Annual days with total precipitation > 2 inches	**2 days** 2 - 3	**3 days** 2 - 3	**3 days** 2 - 4	**3 days** 2 - 3	**3 days** 2 - 3	**3 days** 2 - 3	**3 days** 2 - 4
Annual days with total precipitation > 3 inches	**1 days** 0 - 1	**1 days** 0 - 1	**1 days** 0 - 1	**1 days** 0 - 1	**1 days** 0 - 1	**1 days** 1 - 1	**1 days** 1 - 1
Annual days that exceed 99th percentile precipitation	**9 days** 8 - 10	**10 days** 9 - 11	**10 days** 9 - 11	**11 days** 10 - 11	**11 days** 10 - 12	**11 days** 10 - 12	**12 days** 11 - 13
Days with maximum temperature below 32 °F	**0 days** 0 - 1	**0 days** 0 - 1	**0 days** 0 - 1	**0 days** 0 - 1	**0 days** 0 - 0	**0 days** 0 - 0	**0 days** 0 - 0

N/A = Data Not Available for the selected area

Hazard Report

Coastal Inundation

New Hanover County, North Carolina

Total Population
227,938

Non-Hispanic White Population (%)
23%

Income Below Poverty in Last 12 Mo (%)
16%

Building Codes Hazard Resistance
Lower Resistance

% Population Disadvantaged
29.33%

Explore additional data



U.S. Climate Resilience Toolkit

Source: Census Bureau, CEQ, Esri, FEMA, MRLC, NOAA, UCSD

National Risk Index Rating
Relatively Low



according to the FEMA National Risk Index

Coastal Inundation Annualized Frequency
2.77

Expected Annual Loss Rating
Relatively Moderate

Expected Annual Loss Total ($)
$1,295,877.45

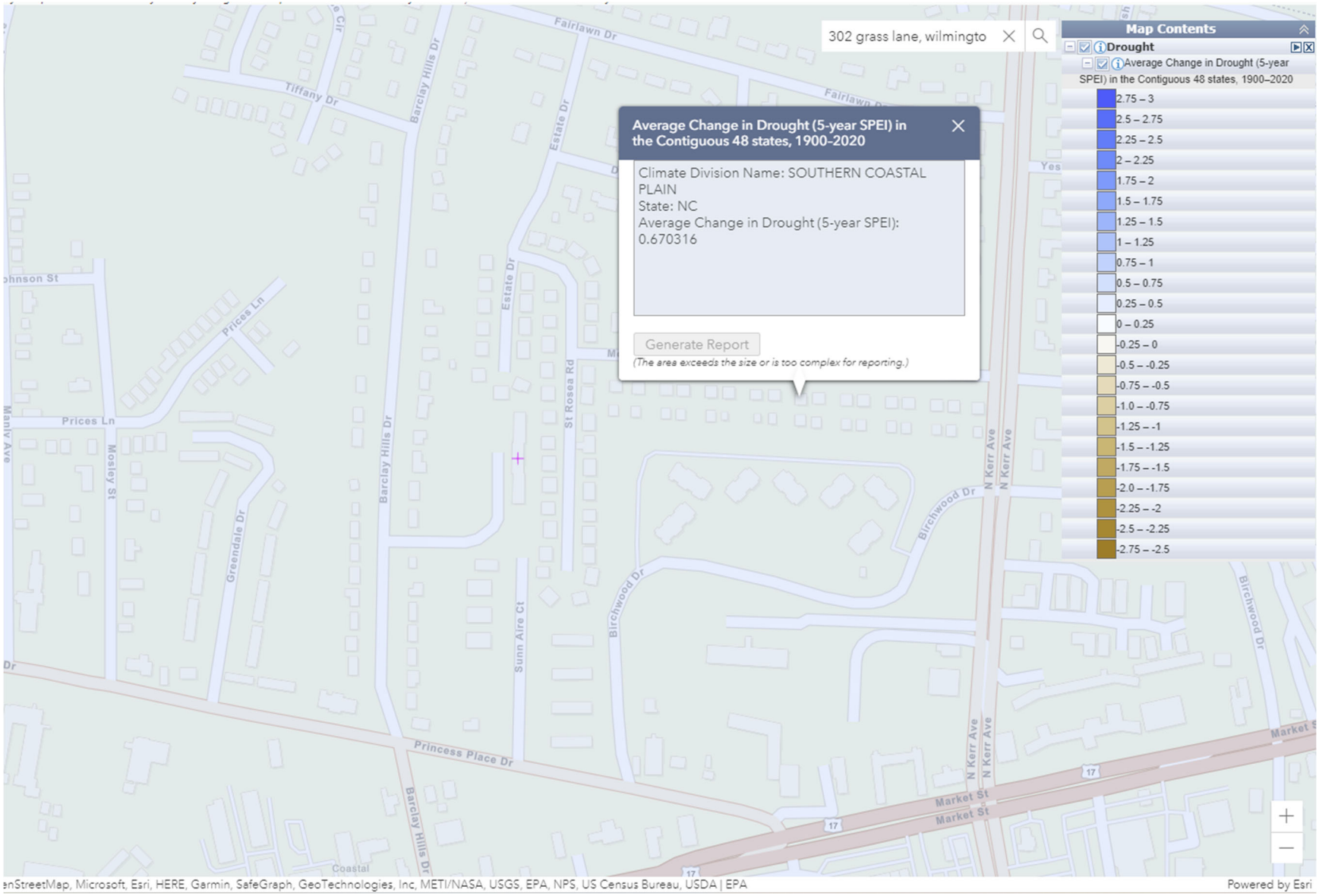
Future Climate Indicators

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
Sea level rise:							
Percent of selected county impacted by global sea level rise	N/A	1%	1%	2%	2%	4%	5%

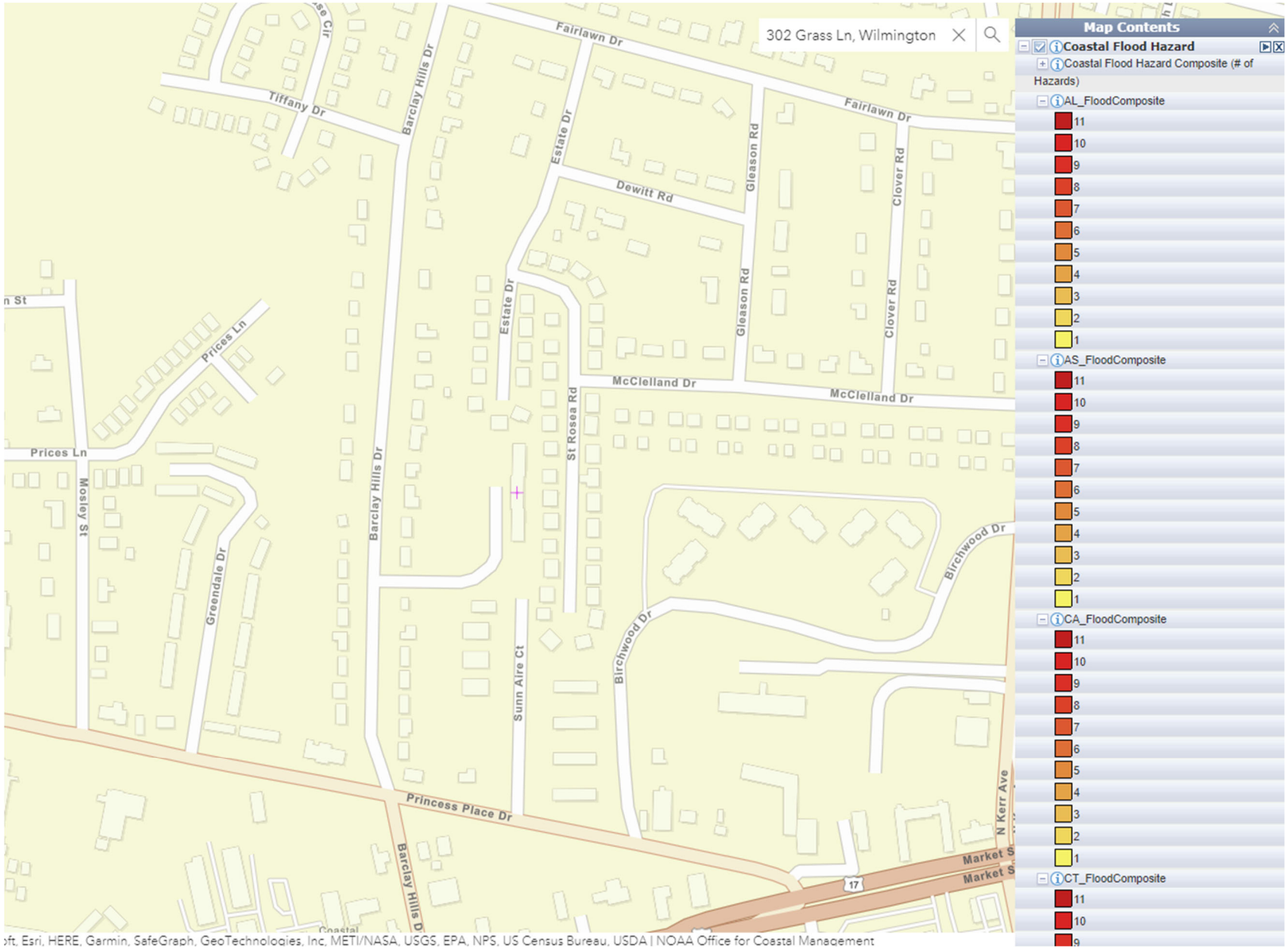
N/A = Data Not Available for the selected area

Woodbridge Apartments (20 Units) at 302 Grass Lane, Wilmington, NC 28405 (Unit #s 101-110, 201-205, 207 & 209-212)

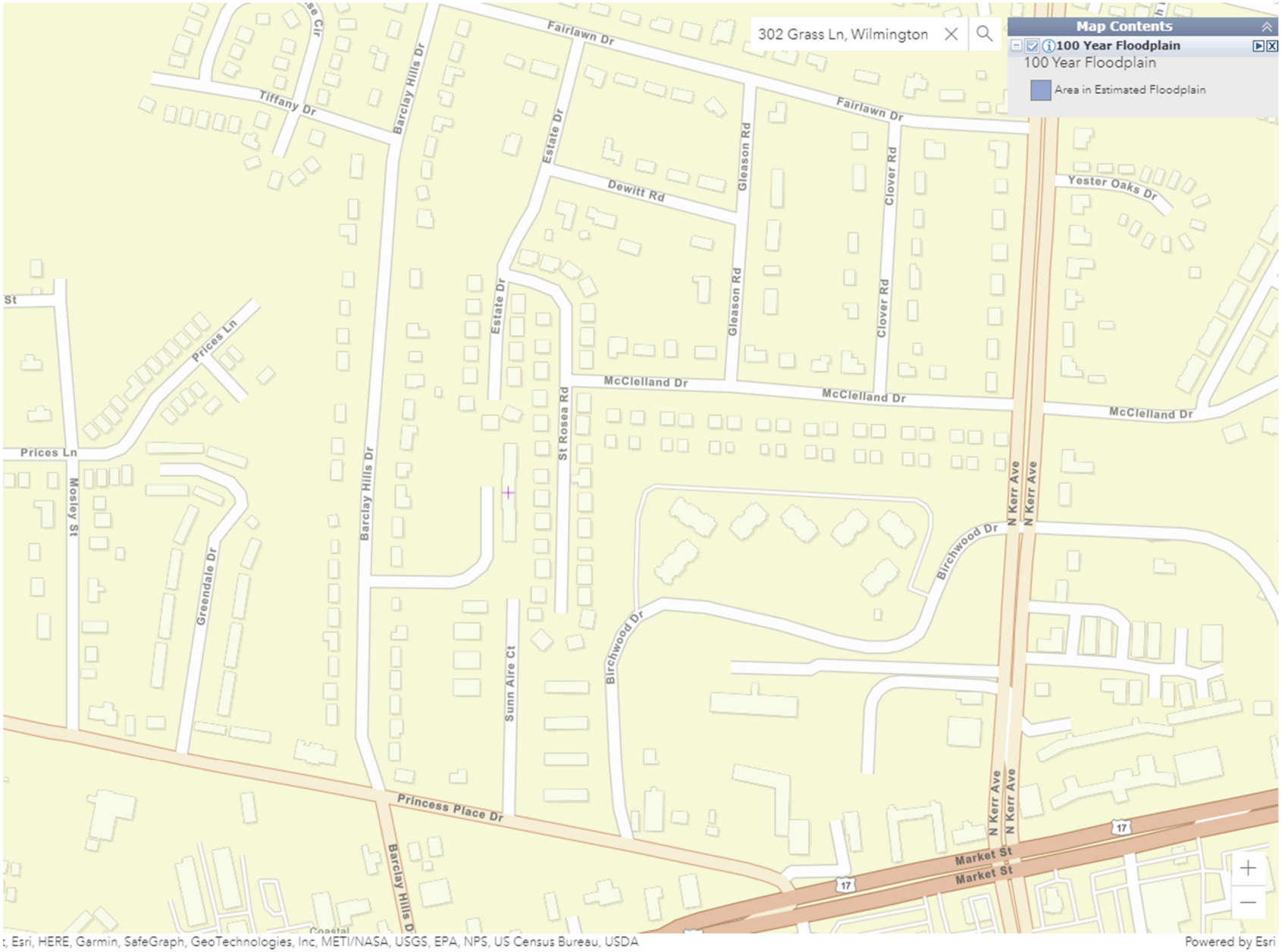
Woodbridge Apartments – EJSCREEN Average Change in Drought (5-year SPEI)



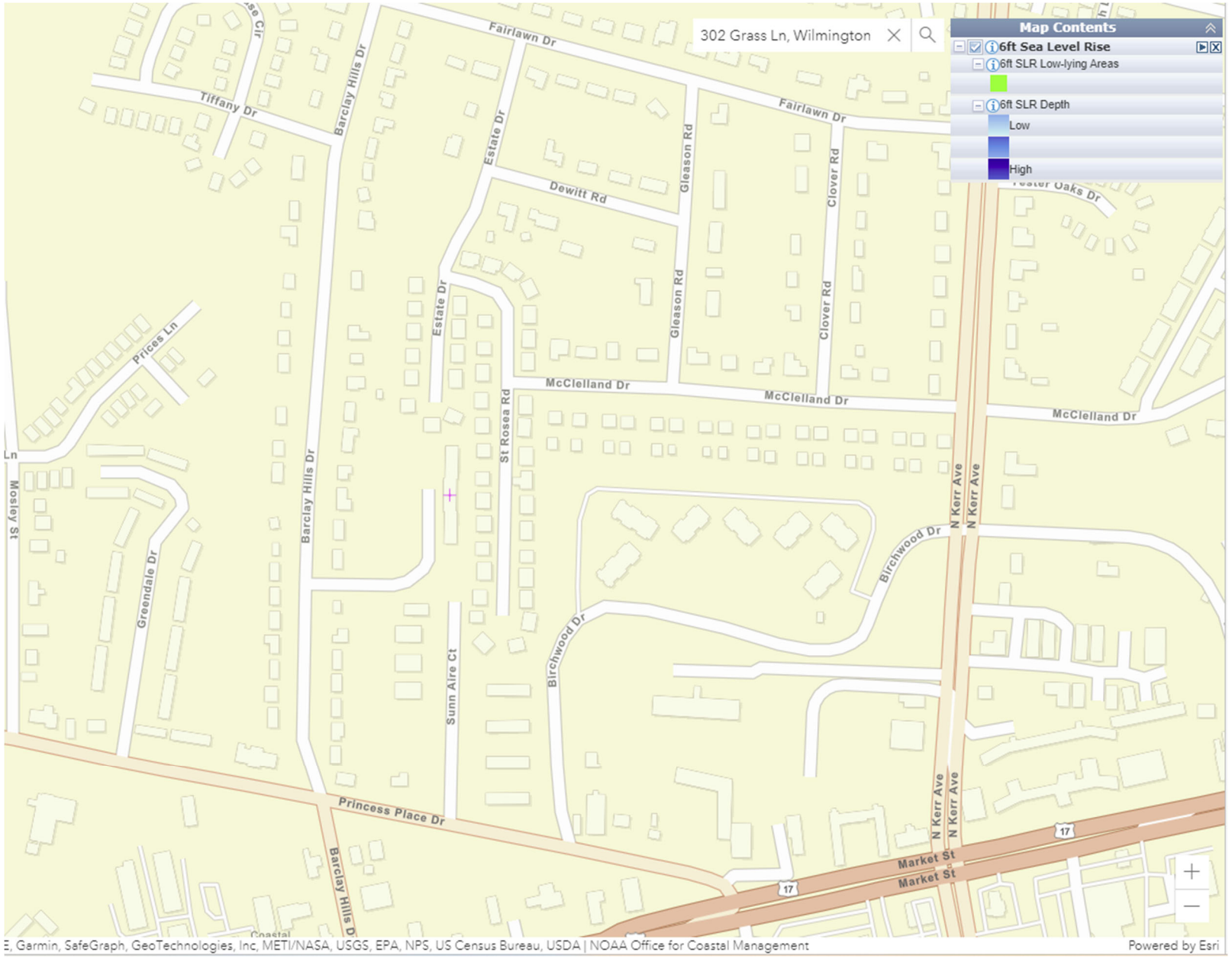
Woodbridge Apartments – EJSCREEN Coastal Flood Hazard



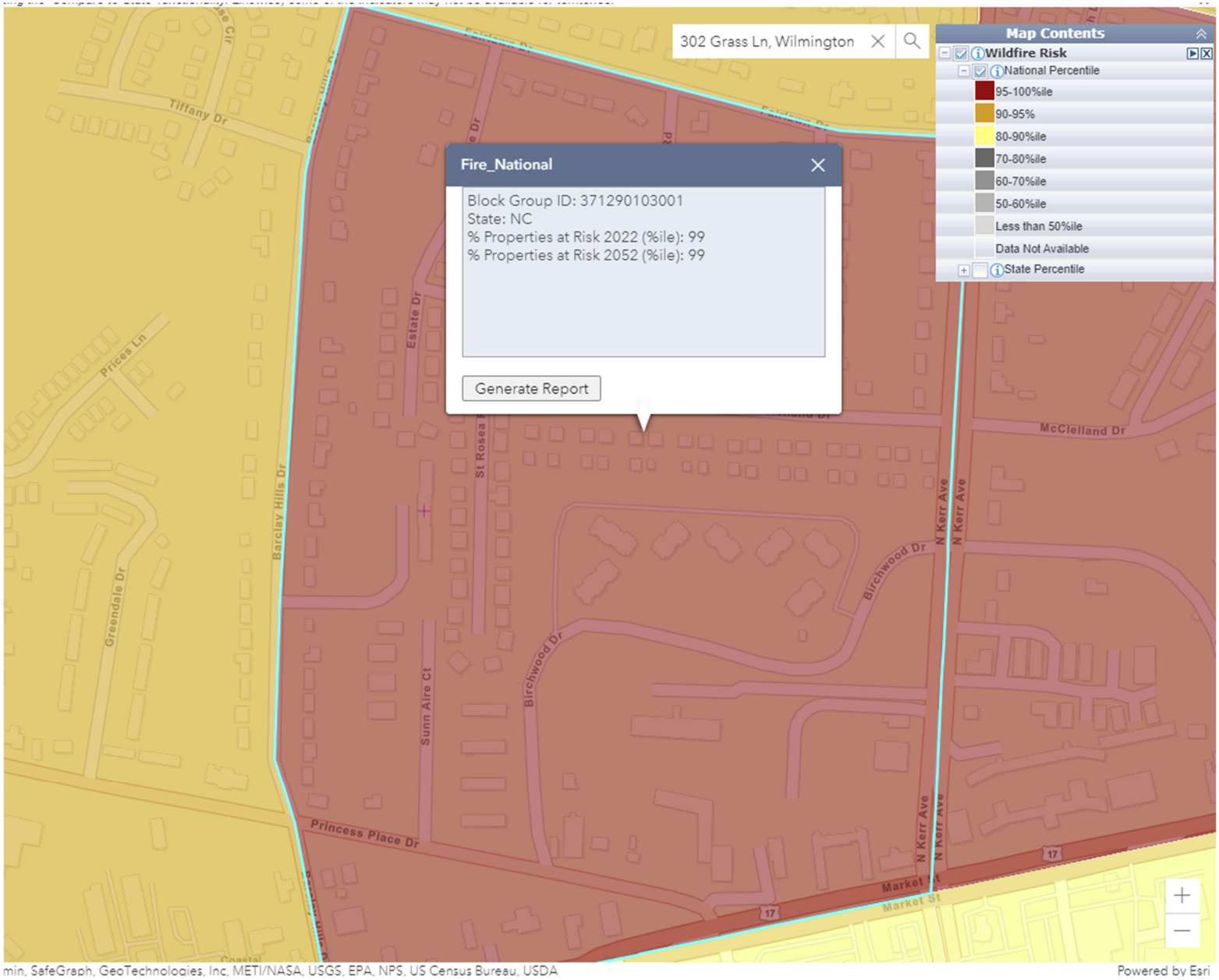
Woodbridge Apartments – EJSCREEN 100-year Floodplain



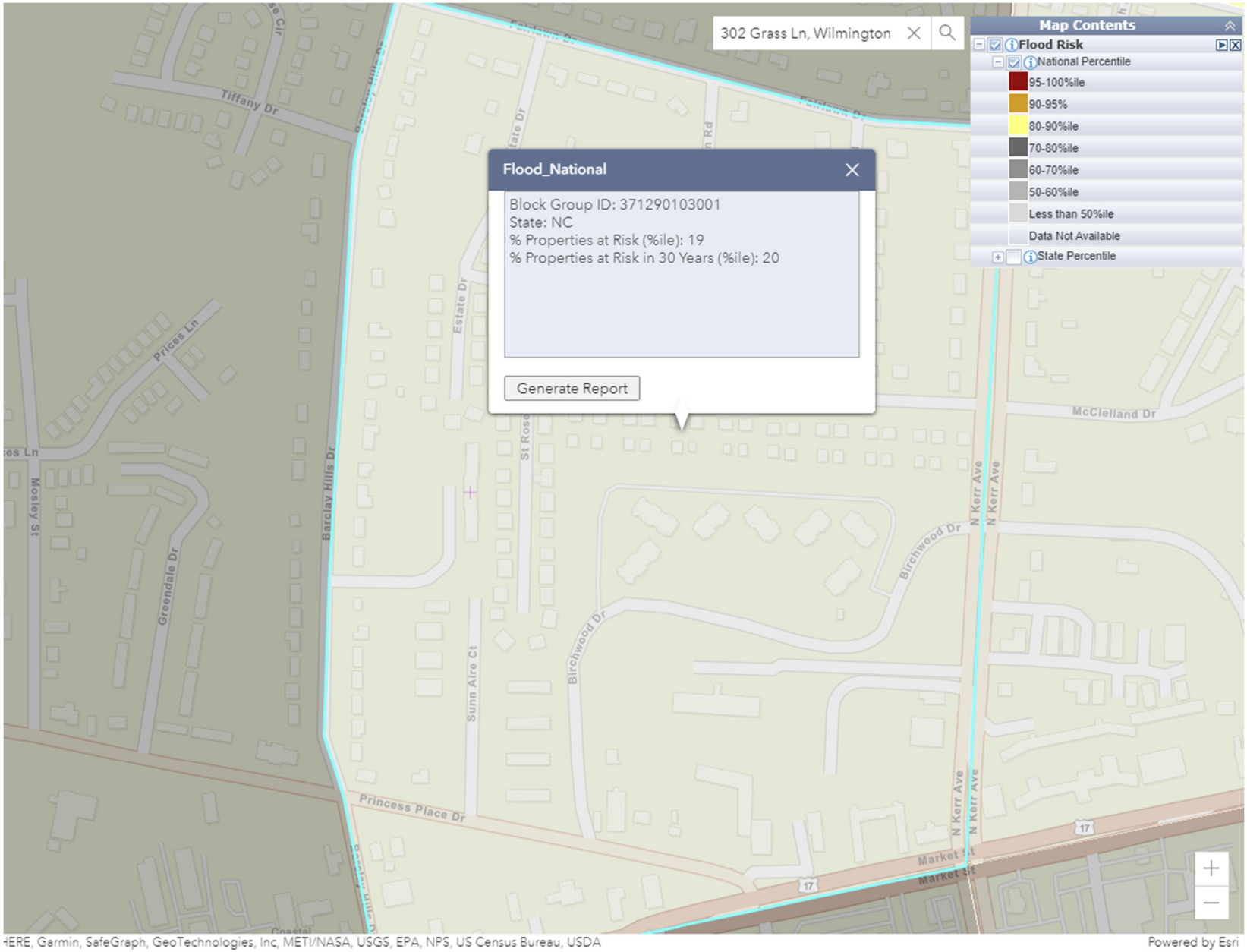
Woodbridge Apartments – EJSCREEN 6-foot Sea Level Rise



Woodbridge Apartments – EJSCREEN Wildfire Risk



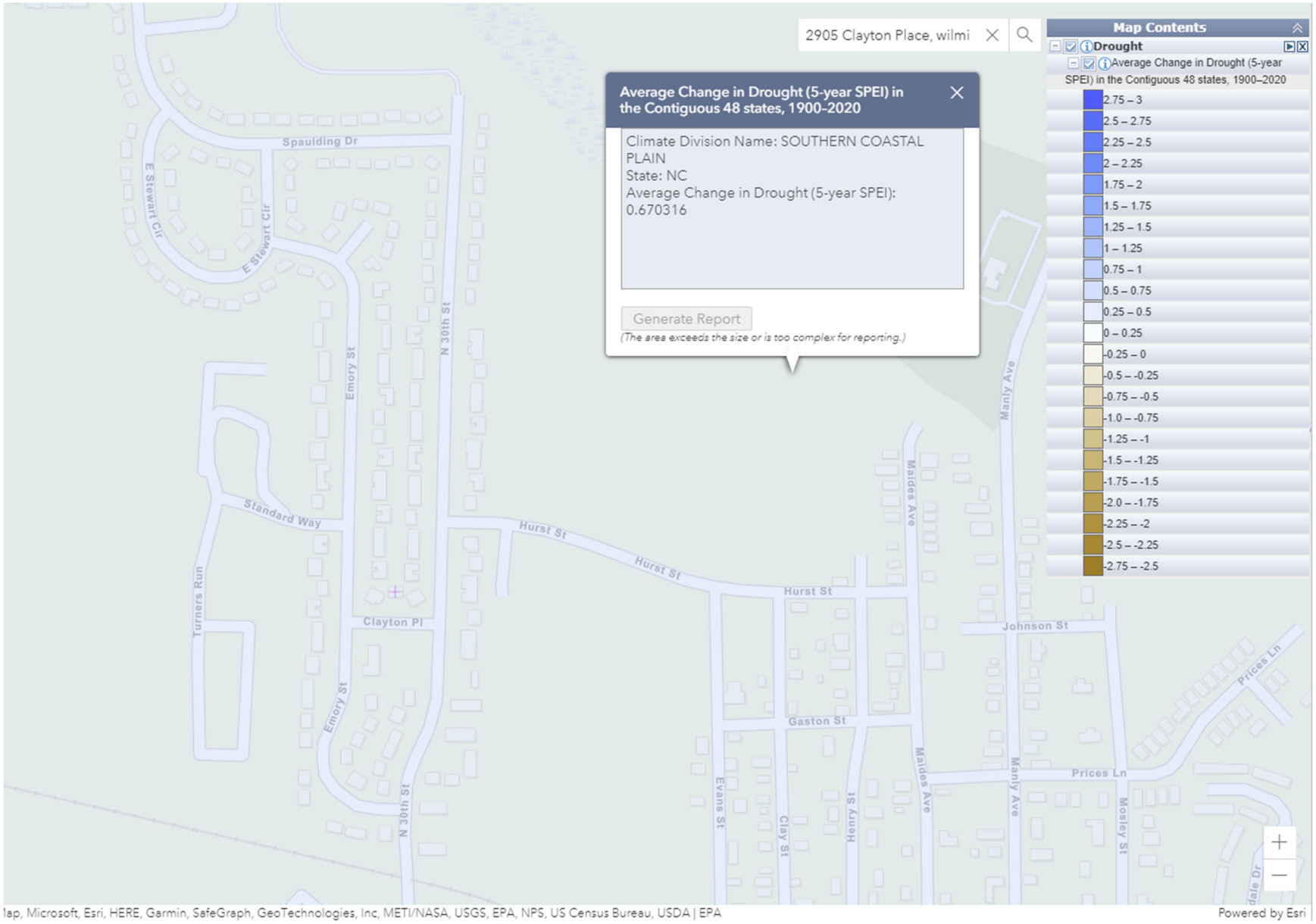
Woodbridge Apartments – EJSCREEN Flood Risk



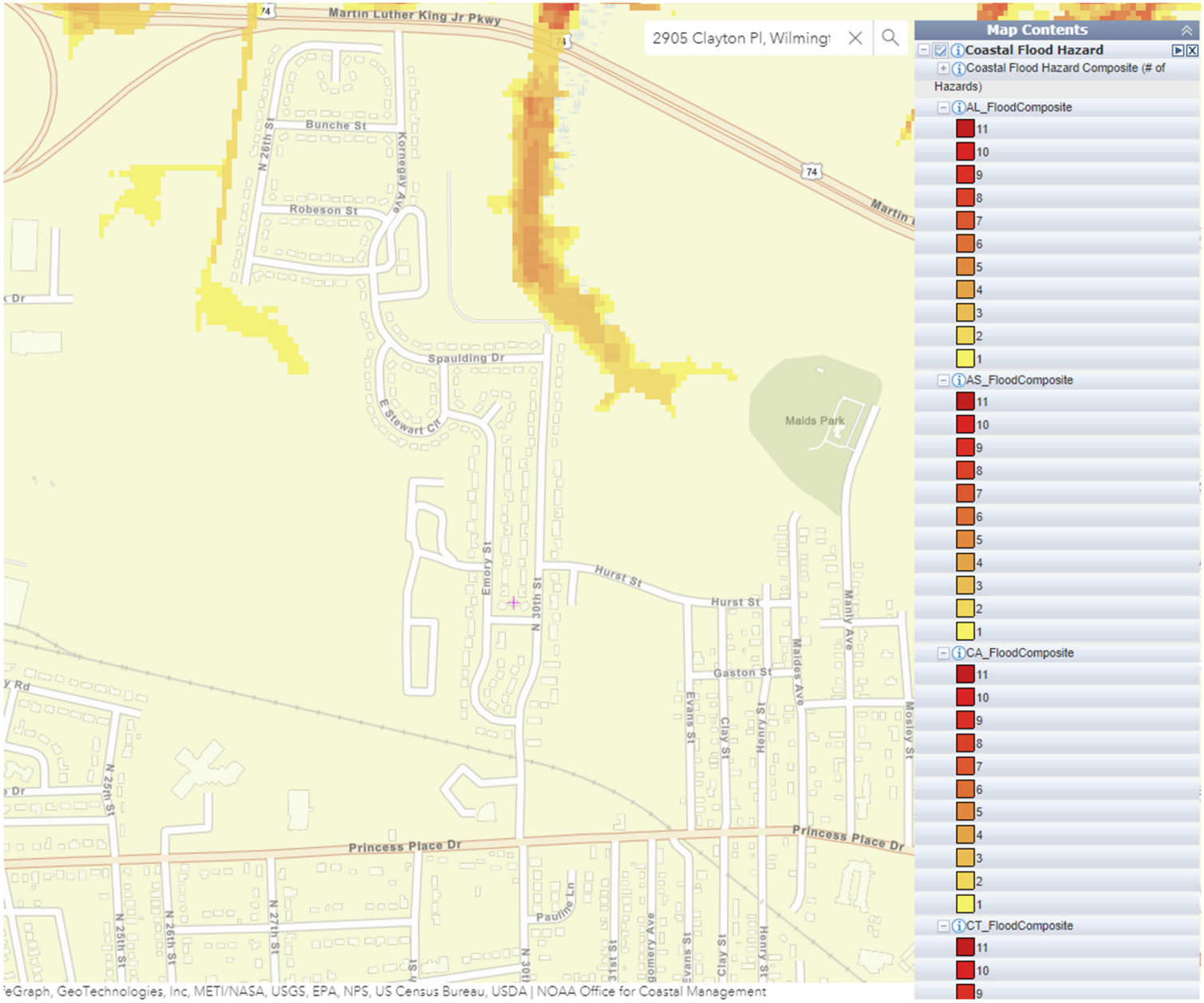
Creekwood (14 Units) at
602, 712, 804, 805, 809 & 1008 N. 30th St.,
617, 701, 707, 708, 902, 915 & 922 Emory St.,
and 2905 Clayton Place, Wilmington, NC
28405

Creekwood South (6 Units) at
502, 522, 609, 611, 613 & 710 N. 30th St.,
Wilmington, NC 28405

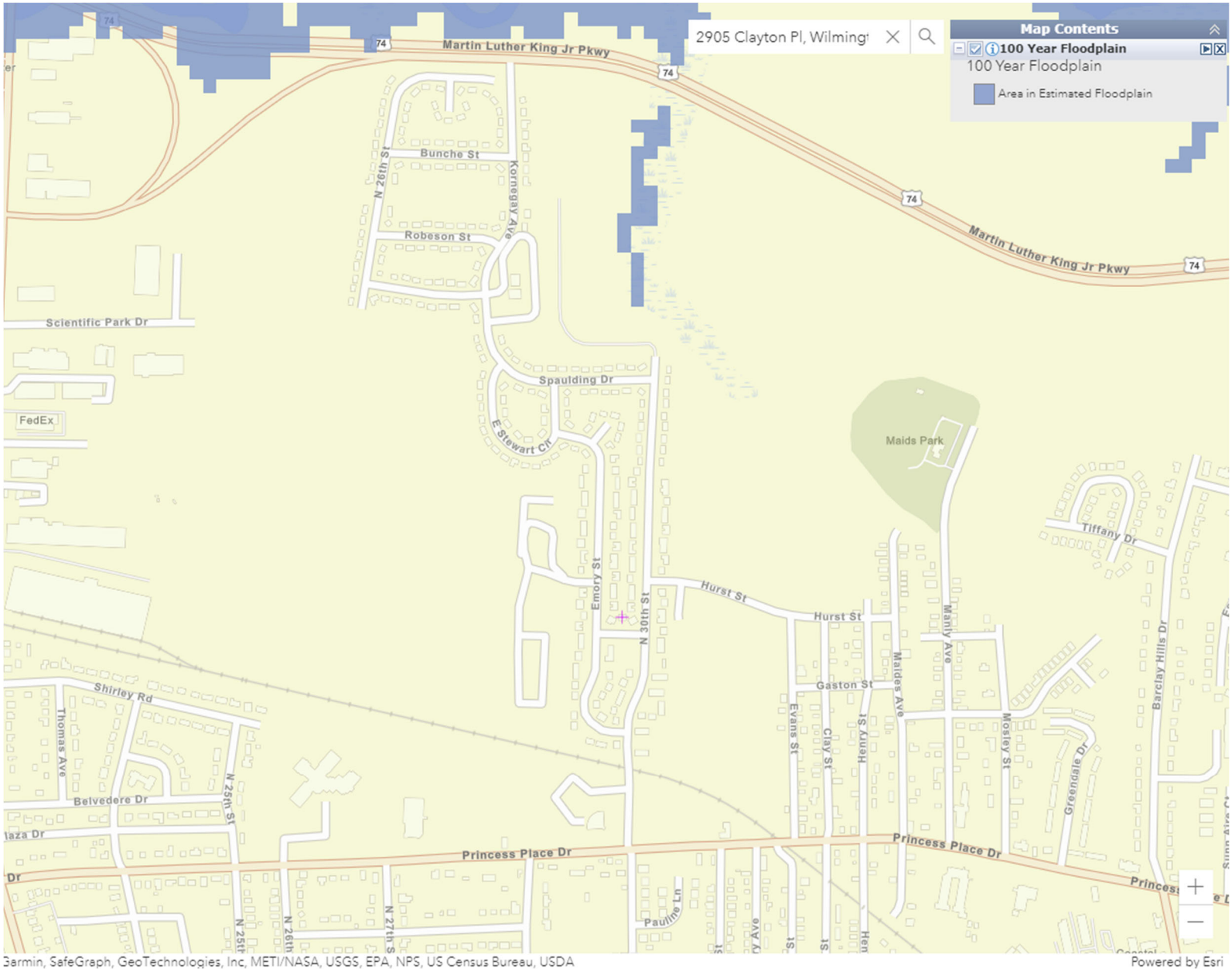
Creekwood and Creekwood South – EJSCREEN Average Change in Drought (5-year SPEI)



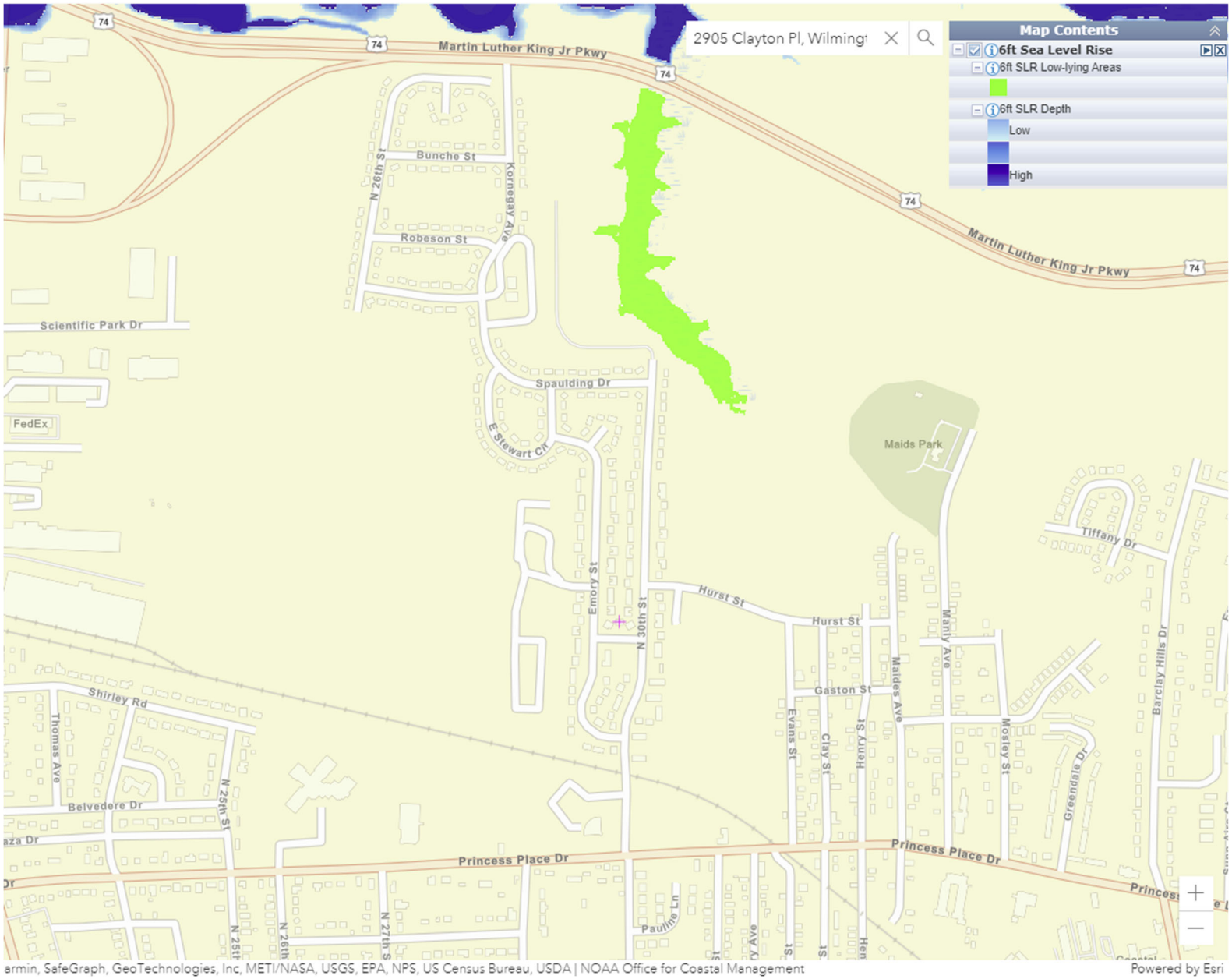
Creekwood and Creekwood South – EJSCREEN Coastal Flood Hazard



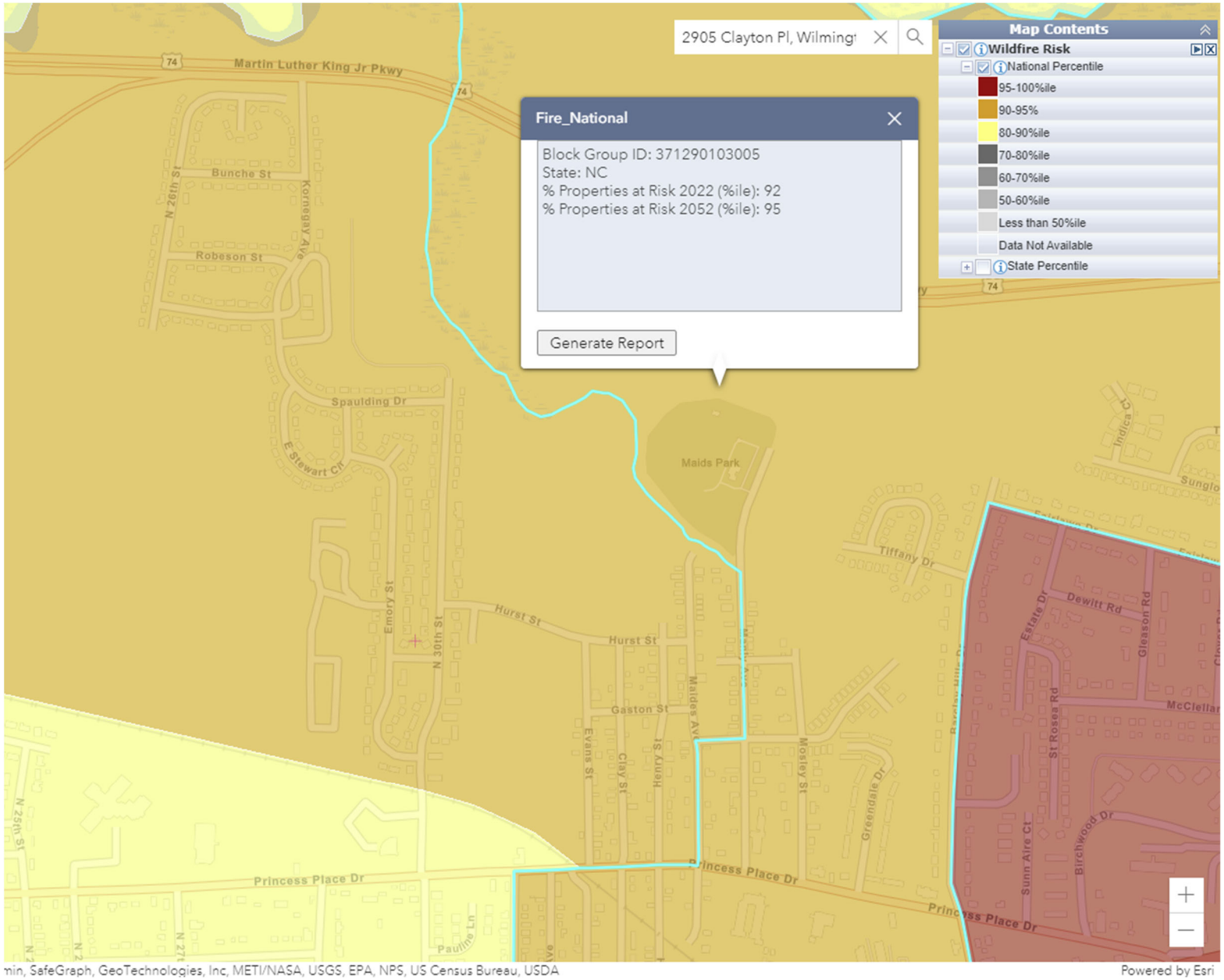
Creekwood and Creekwood South – EJSCREEN 100-year Floodplain



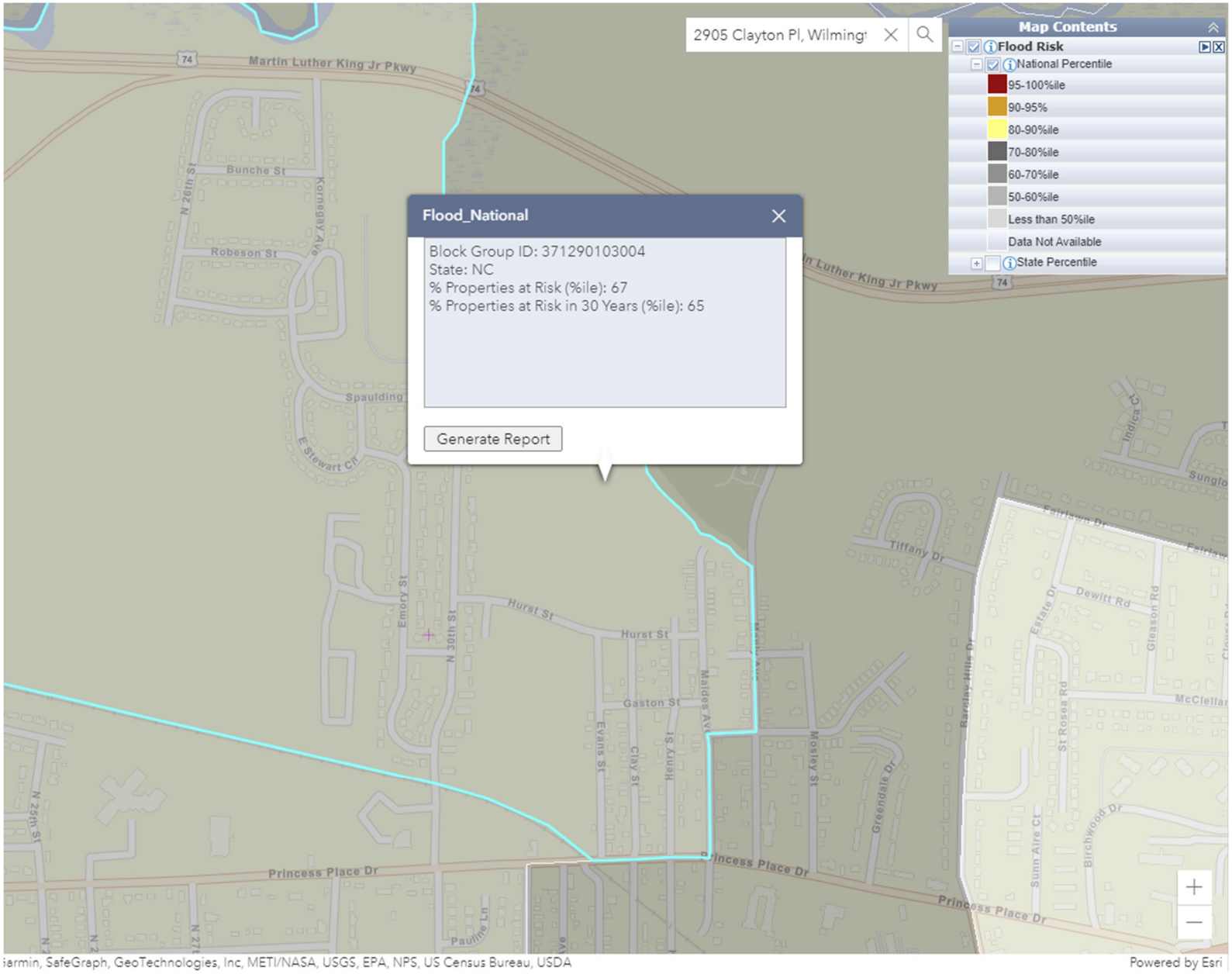
Creekwood and Creekwood South – EJSCREEN 6-foot Sea Level Rise



Creekwood and Creekwood South – EJSCREEN Wildfire Risk

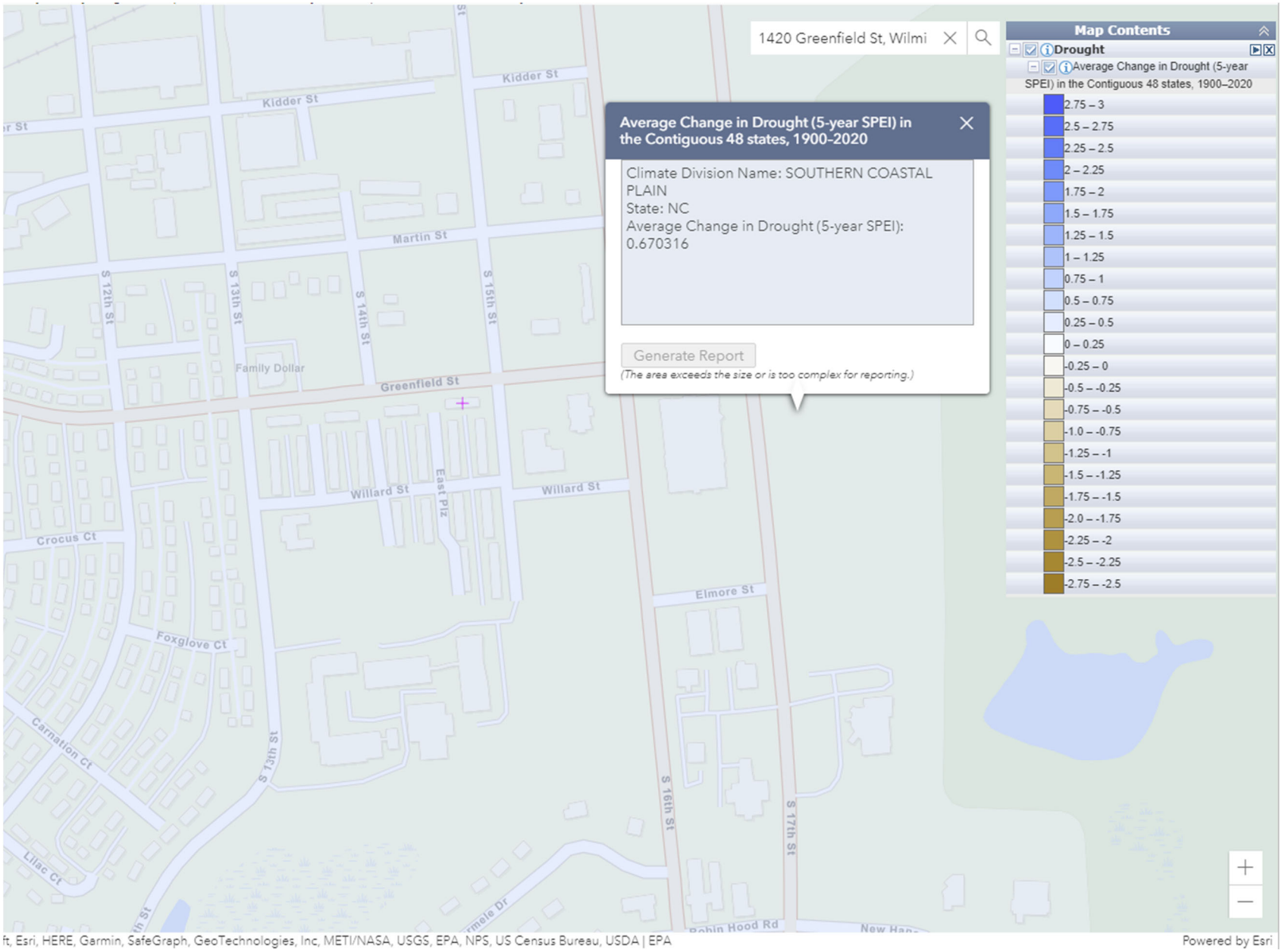


Creekwood and Creekwood South – EJSCREEN Flood Risk

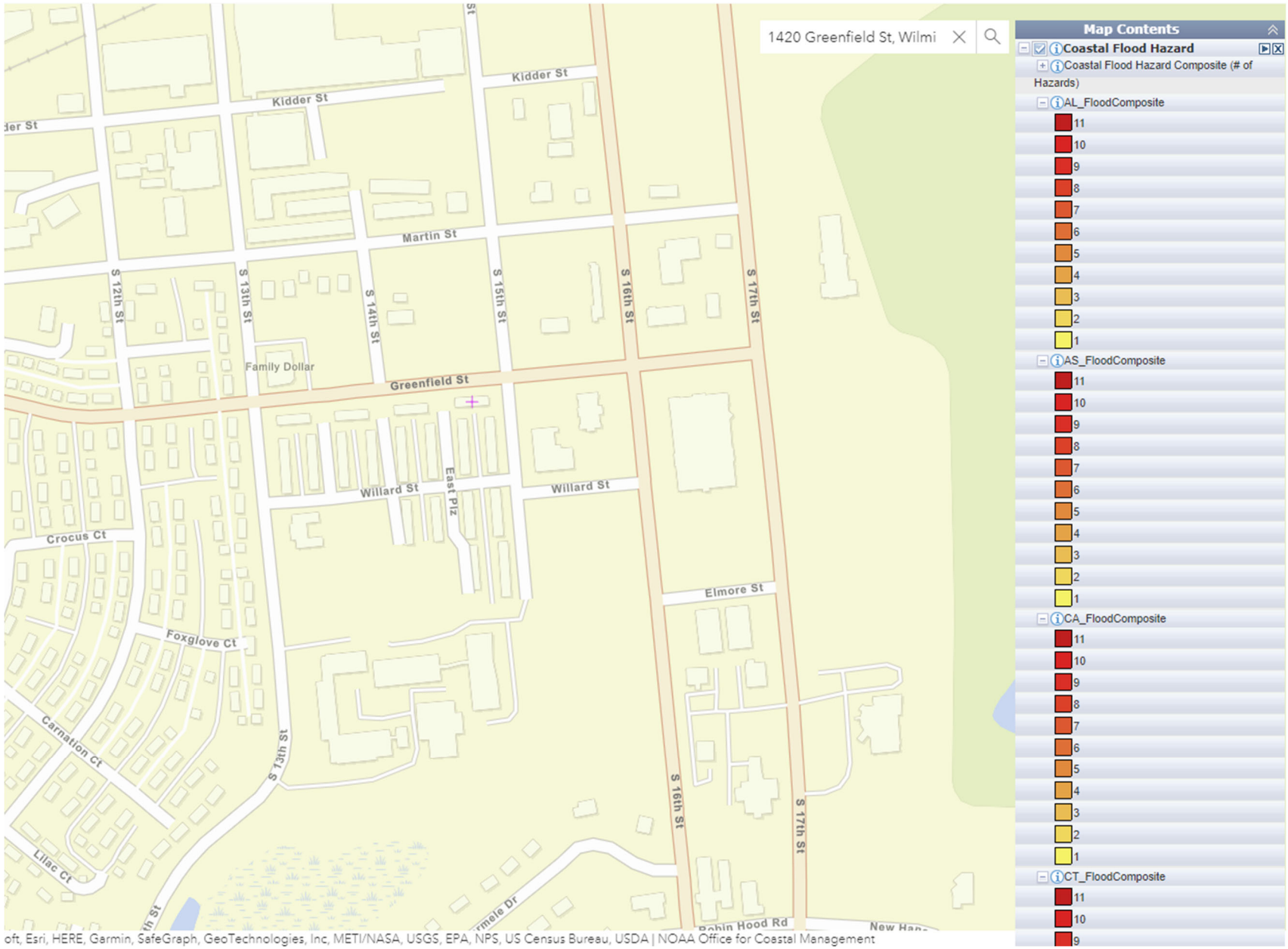


Houston Moore (1 Unit) at
1420 Greenfield St., Wilmington, NC
28405

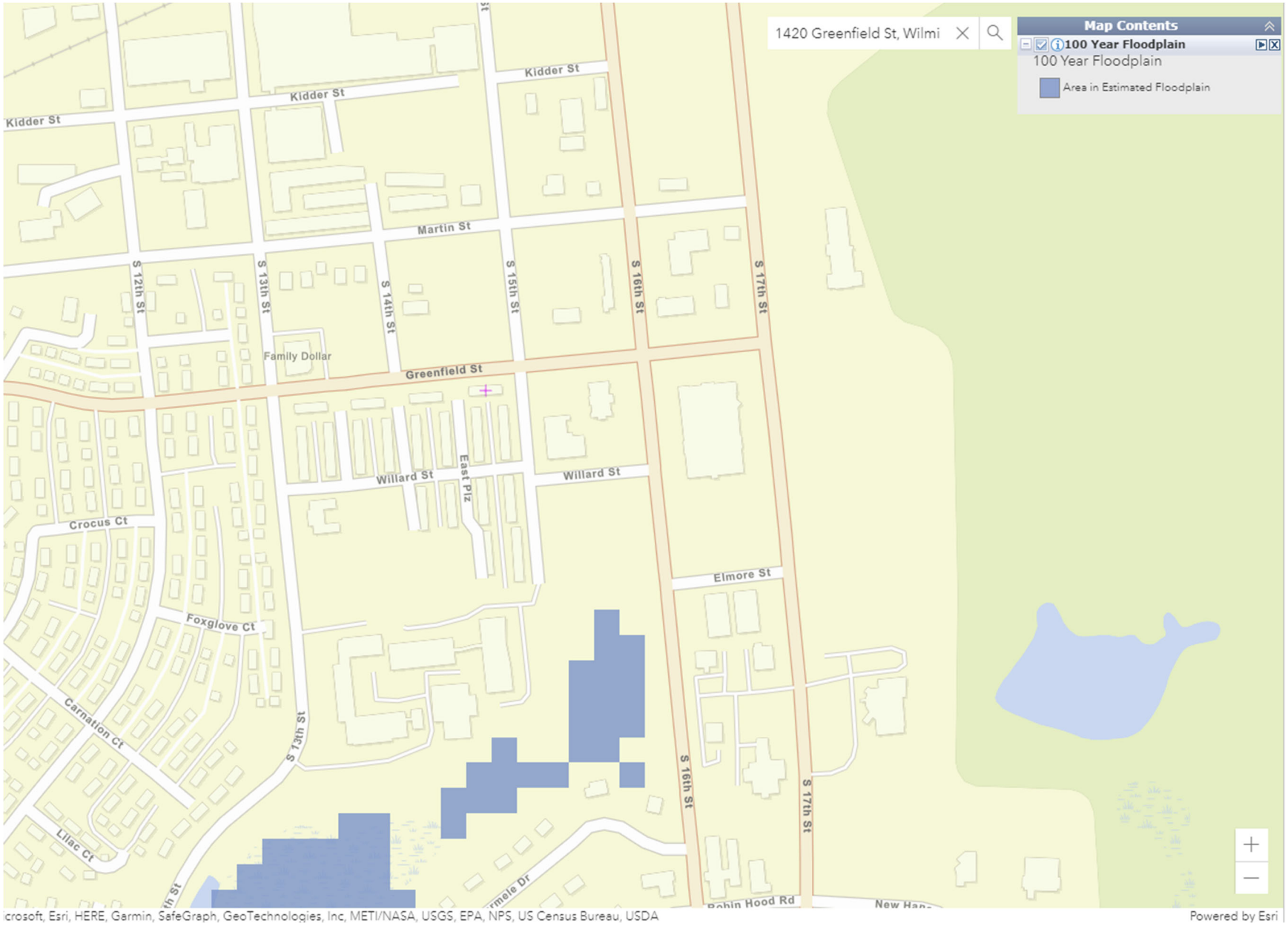
Houston Moore – EJSCREEN Average Change in Drought (5-year SPEI)



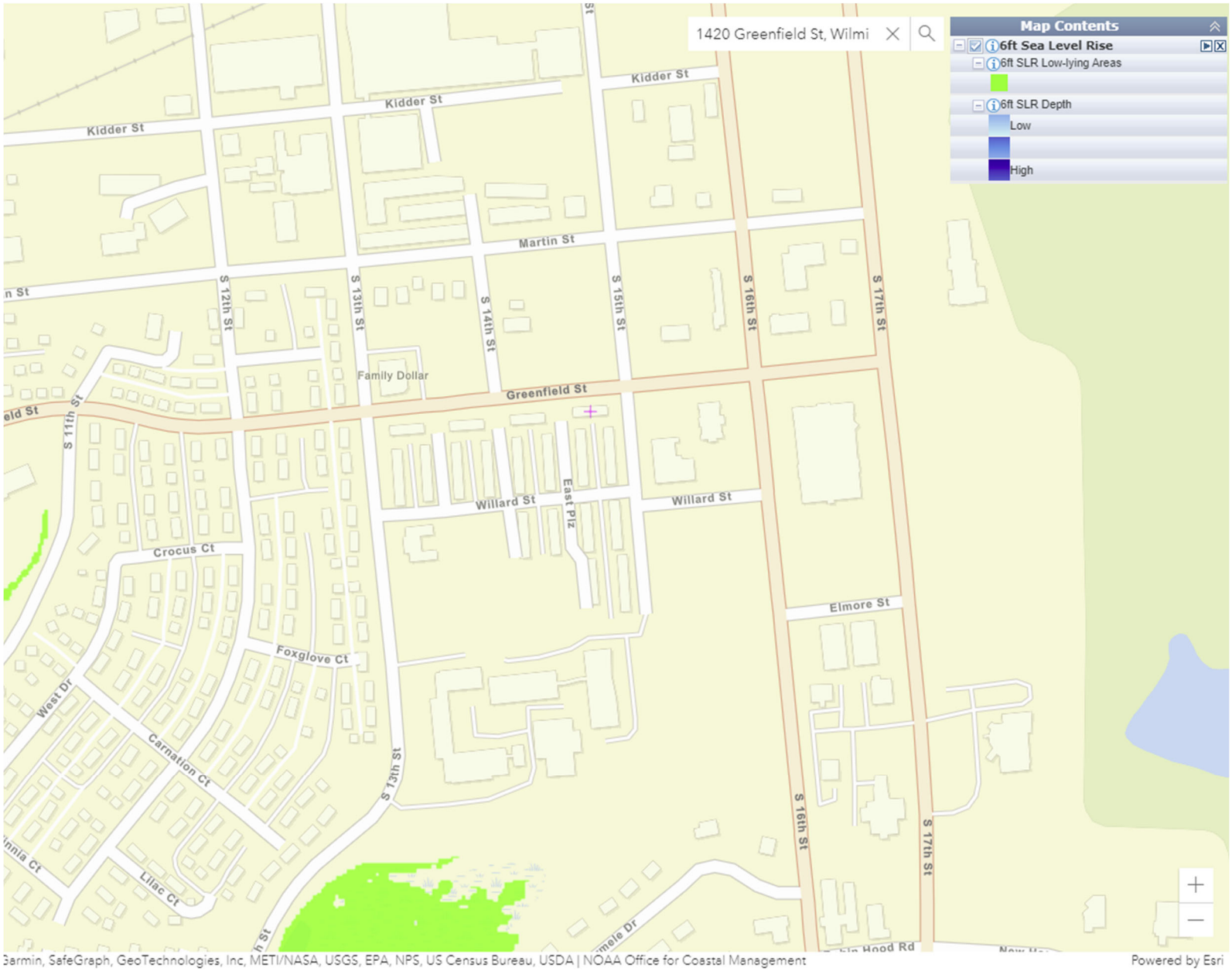
Houston Moore – EJSCREEN Coastal Flood Hazard



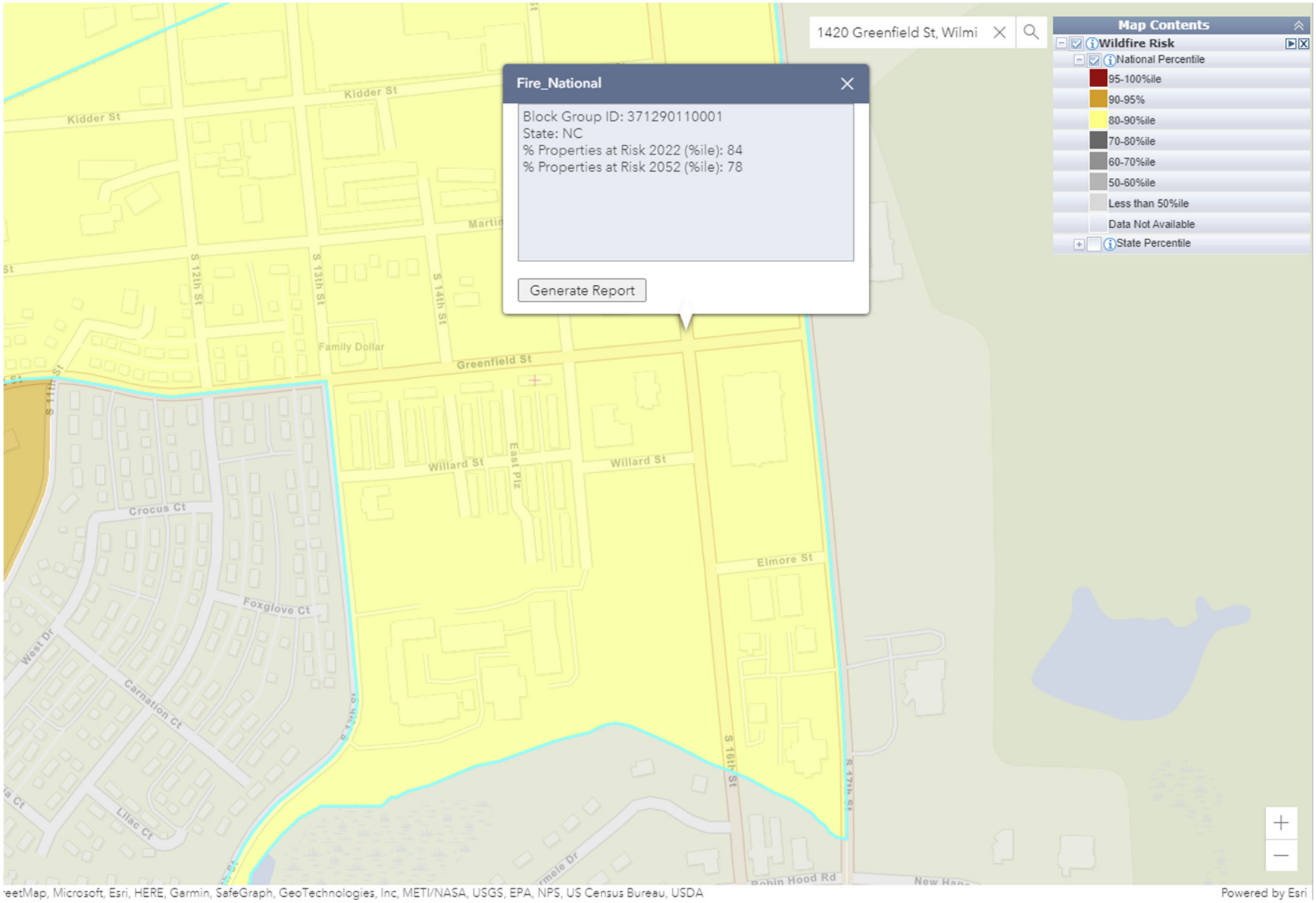
Houston Moore – EJSCREEN 100-year Floodplain



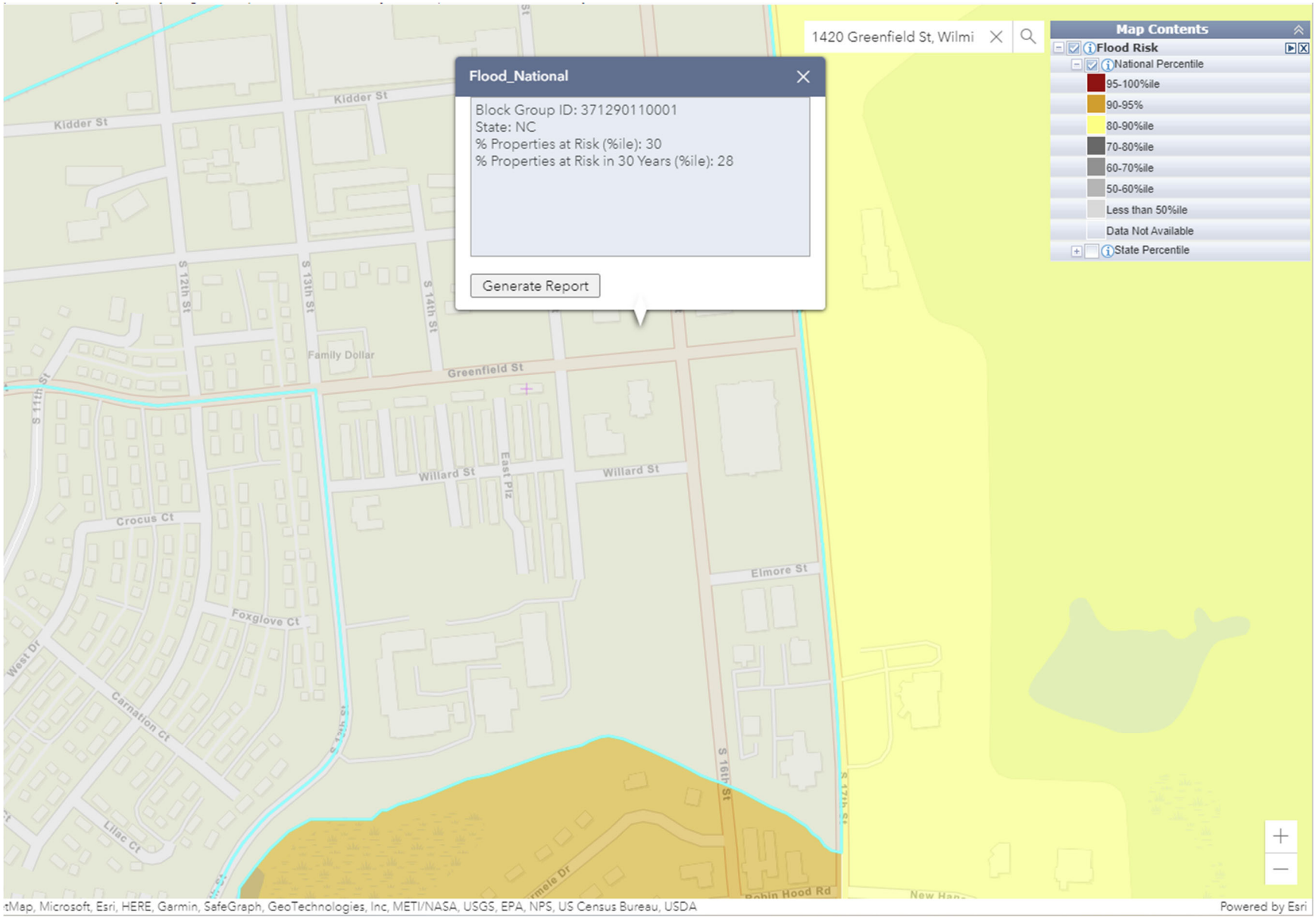
Houston Moore – EJSCREEN 6-foot Sea Level Rise



Houston Moore – EJSCREEN Wildfire Risk



Houston Moore – EJSCREEN Flood Risk



ATTACHMENT 25:

State Environmental Clearinghouse Comments

DRAFT EA

NC DOA
Department of Administration

Roy Cooper
Governor

Pamela B. Cashwell
Secretary

June 6, 2023

Andrea Gievers
Wilmington Housing Authority
c/o NC Department of Public Safety
Office of Recovery and Resiliency
Durham, NC 27709-

Re: SCH File # 23-E-4600-0231 Proposed project is for the Wilmington Housing Authority Scattered Sites Rehabilitation Project located at Woodbridge Apartments (20 Units); Creekwood (14 Units); Creekwood South (6 Units); and Houston Moore (1 Unit) in Wilmington, NC. Project will rehabilitate a total of 41 units of severely damag

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,

CRYSTAL BEST
State Environmental Review Clearinghouse

Attachments

Mailing
1301 Mail Service Center | Raleigh, NC 27699-1301

Location
116 West Jones St. | Raleigh NC 27603
984-236-0000 T

ncadmin.nc.gov

Control No.: 23-E-4600-0231

County.: NEW HANOVER

Date Received: 5/5/2023

Agency Response: 6/5/2023

Review Closed: 6/5/2023

JINTAO WEN

CLEARINGHOUSE COORDINATOR

DPS - DIV OF EMERGENCY MANAGEMENT

Project Information

Type: National Environmental Policy Act ironmental Assessment

Applicant: Wilmington Housing Authority

Project Desc.: Proposed project is for the Wilmington Housing Authority Scattered Sites Rehabilitation Project located at Woodbridge Apartments (20 Units); Creekwood (14 Units); Creekwood South (6 Units); and Houston Moore (1 Unit) in Wilmington, NC. Project will rehabilitate a total of 41 units of severely damaged public housing located at four separate sites – Woodbridge Apartments, Creekwood, Creekwood South and Houston Moore. The proposed project activities include repairing and/or replacing drywall, plumbing, appliances, water heaters, broken windows, and duct work; painting; patching; and mold remediation of cleaning ducts and identified affected interior areas.

As a result of this review the following is submitted:

☑ No Comment ☐ Comments Below ☐ Documents Attached

Reviewed By: JINTAO WEN Date: 5/22/2023

Control No.: 23-E-4600-0231

County.: NEW HANOVER

Date Received: 5/5/2023

Agency Response: 6/5/2023

Review Closed: 6/5/2023

DEVON BORGARDT

CLEARINGHOUSE COORDINATOR

DEPT OF NATURAL & CULTURAL RESOURCE

Project Information

Type: National Environmental Policy Act ironmental Assessment

Applicant: Wilmington Housing Authority

Project Desc.: Proposed project is for the Wilmington Housing Authority Scattered Sites Rehabilitation Project located at Woodbridge Apartments (20 Units); Creekwood (14 Units); Creekwood South (6 Units); and Houston Moore (1 Unit) in Wilmington, NC. Project will rehabilitate a total of 41 units of severely damaged public housing located at four separate sites – Woodbridge Apartments, Creekwood, Creekwood South and Houston Moore. The proposed project activities include repairing and/or replacing drywall, plumbing, appliances, water heaters, broken windows, and duct work; painting; patching; and mold remediation of cleaning ducts and identified affected interior areas.

As a result of this review the following is submitted:

☐ No Comment ☑ Comments Below ☐ Documents Attached

No Comment

Reviewed By: DEVON BORGARDT Date: 6/1/2023

Control No.: 23-E-4600-0231

County.: NEW HANOVER

Date Received: 5/5/2023

Agency Response: 6/5/2023

Review Closed: 6/5/2023

LYN HARDISON
CLEARINGHOUSE COORDINATOR
DEPT OF ENVIRONMENTAL QUALITY

Project Information

Type: National Environmental Policy Act ironmental Assessment

Applicant: Wilmington Housing Authority

Project Desc.: Proposed project is for the Wilmington Housing Authority Scattered Sites Rehabilitation Project located at Woodbridge Apartments (20 Units); Creekwood (14 Units); Creekwood South (6 Units); and Houston Moore (1 Unit) in Wilmington, NC. Project will rehabilitate a total of 41 units of severely damaged public housing located at four separate sites – Woodbridge Apartments, Creekwood, Creekwood South and Houston Moore. The proposed project activities include repairing and/or replacing drywall, plumbing, appliances, water heaters, broken windows, and duct work; painting; patching; and mold remediation of cleaning ducts and identified affected interior areas.

As a result of this review the following is submitted:

☐ No Comment ☐ Comments Below ☑ Documents Attached

Reviewed By: LYN HARDISON Date: 6/5/2023

ROY COOPER
Governor
ELIZABETH S. BISER
Secretary

NORTH CAROLINA
Environmental Quality

To: Crystal Best
State Clearinghouse
NC Department of Administration

From: Lyn Biles
Division of Environmental Assistance and Customer Service
Washington Regional Office

Re: 23-0231
Environmental Assessment - Proposed project is for the Wilmington Housing Authority Scattered Sites Rehabilitation Project which will include rehabilitation a total of 41 units of severely damaged public housing located at four separate sites – Woodbridge Apartments, Creekwood, Creekwood South and Houston Moore.
New Hanover County

Date: June 5, 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 applicant's 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

ROY COOPER
Governor
ELIZABETH S. BISER
Secretary
MICHAEL SCOTT
Director

NORTH CAROLINA
Environmental Quality

Date: May 9, 2023

To: Michael Scott, Director
Division of Waste Management

Through: Janet Macdonald
Inactive Hazardous Sites Branch

From: Katie C Tatum
Inactive Hazardous Sites Branch

Subject: NEPA Project # 23-0231 Wilmington Housing Authority/HUD CDBG-DR, New Hanover County, North Carolina

The Superfund Section has reviewed the proximity of sites under its jurisdiction to the Wilmington Housing Authority/HUD CDBG-DR project. Proposed project is for the Wilmington Housing Authority Scattered Sites Rehabilitation Project located at Woodbridge Apartments (20 Units); Creekwood (14 Units); Creekwood South (6 Units); and Houston Moore (1 Unit) in Wilmington, NC. Project will rehabilitate a total of 41 units of severely damaged public housing located at four separate sites – Woodbridge Apartments, Creekwood, Creekwood South and Houston Moore. The proposed project activities include repairing and/or replacing drywall, plumbing, appliances, water heaters, broken windows, and duct work; painting; patching; and mold remediation of cleaning ducts and identified affected interior areas.

Eighteen (18) Superfund Section sites and six (6) Brownfields Program Sites were identified within one mile of the project as shown on the attached report. The Superfund Section recommends that site files be reviewed to ensure that appropriate precautions are incorporated into any construction activities that encounter potentially contaminated soil or groundwater. Superfund Section files can be viewed at: http://deq.nc.gov/waste-management-laserfiche.

Please contact Janet Macdonald at 919.707.8349 if you have any questions concerning the Superfund Section review portion of this SEPA/NEPA inquiry.

Superfund & Brownfield Sites SEPA/NEPA Review Report

MAP 1

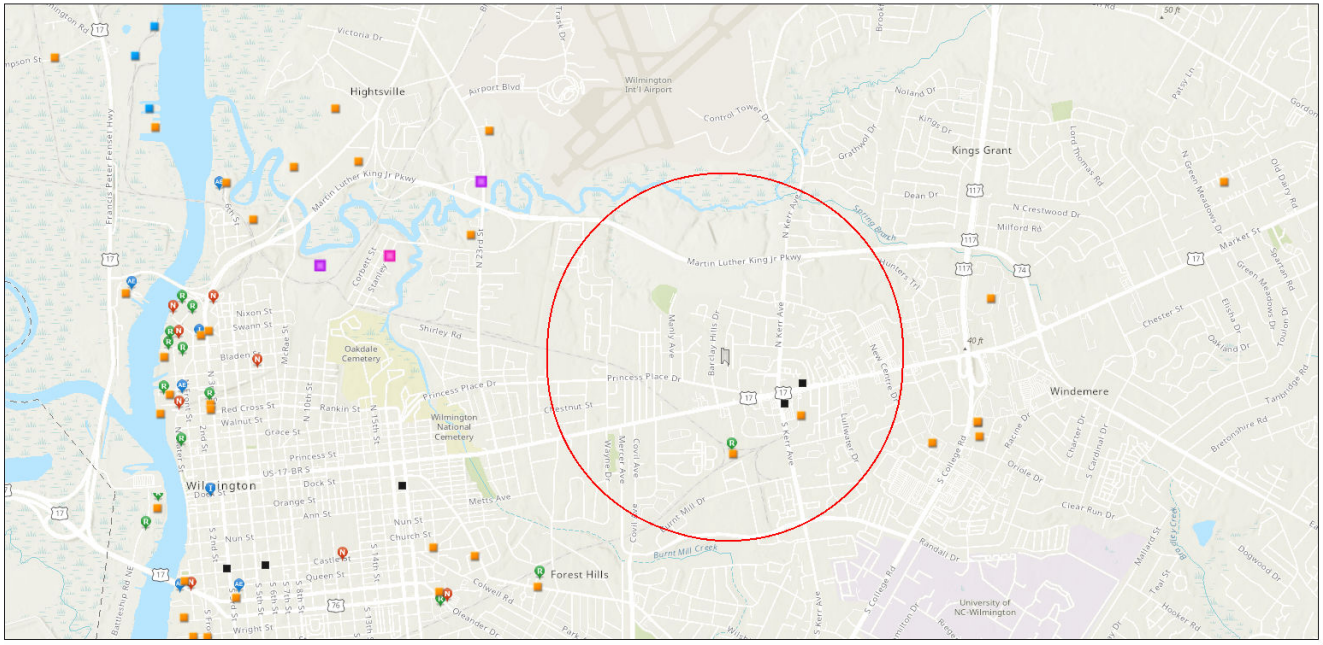
Area of Interest (AOI) Information

New Hanover County **NEPA project 23-0231**

Area : 2,187.27 acres

Map 1: Woodbridge Apartments

May 9 2023 9:52:58 Eastern Daylight Time



Superfund and Brownfield Sites
New Hanover County NEPA project 23-0231
Map 1: Woodbridge Apartments

Summary

Name	Count	Area(acres)	Length(mi)
Certified DSCA Sites	2	N/A	N/A
Federal Remediation Branch Sites	0	N/A	N/A
Inactive Hazardous Sites	2	N/A	N/A
Pre-Regulatory Landfill Sites	0	N/A	N/A
Brownfields Program Sites	1	N/A	N/A

Certified DSCA Sites

#	Site_ID	Site_Name	Count
1	DC650008	Kings Laundry	1
2	DC650009	Coastal Cleaners	1

Inactive Hazardous Sites

#	EPAID	SITENAME	Count
1	NONCD0001105	WETSIG YACHTS	1
2	NONCD0001330	BECKER BUILDERS SUPPLY COMPANY	1

Brownfields Program Sites

#	BF_ID	BF_Name	Count
1	1801614065	Wetsig Yachts	1

Superfund & Brownfield Sites SEPA/NEPA Review Report

MAP 2

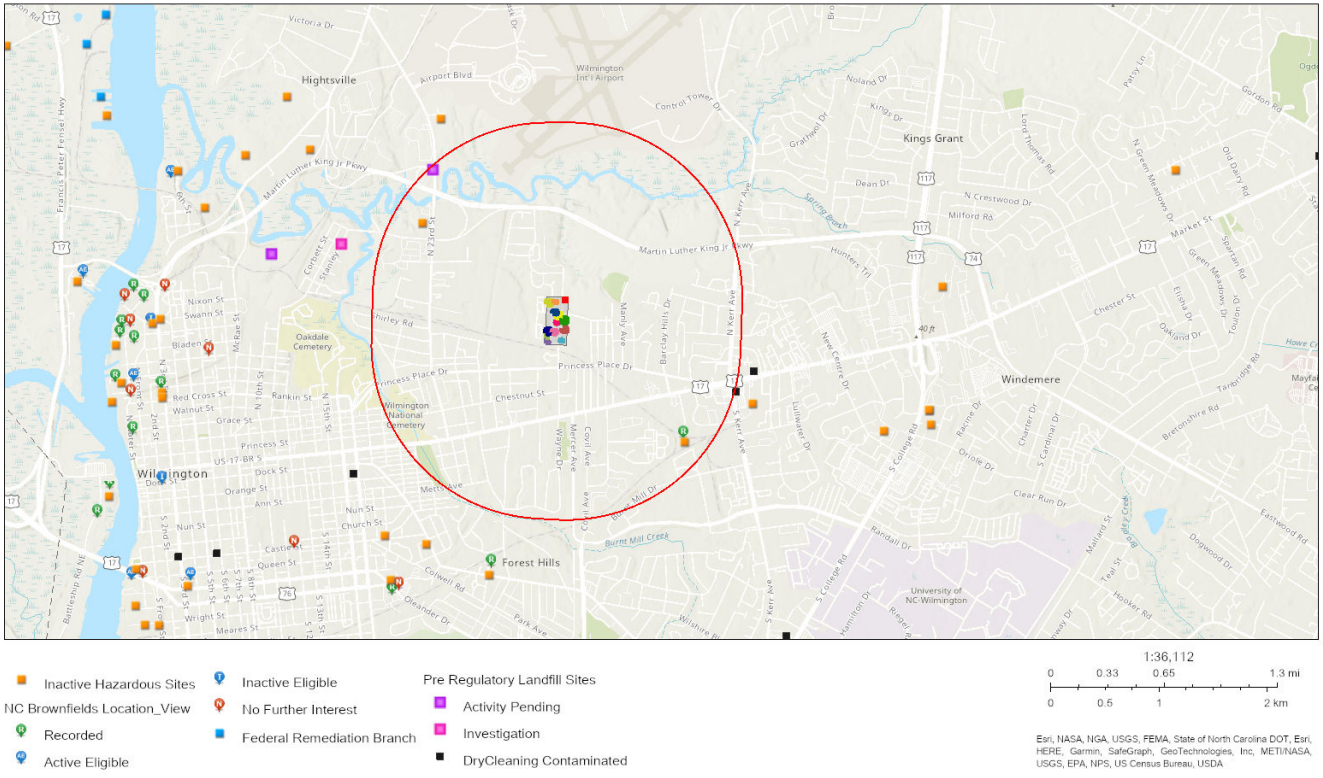
Area of Interest (AOI) Information

New Hanover County **NEPA project 23-0231**

Area : 2,535.22 acres

Map 2: Creekwood

May 9 2023 10:05:06 Eastern Daylight Time



Superfund and Brownfield Sites
New Hanover County NEPA project 23-0231
Map 2: Creekwood

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	2	N/A	N/A
Pre-Regulatory Landfill Sites	1	N/A	N/A
Brownfields Program Sites	1	N/A	N/A

Inactive Hazardous Sites

#	EPAID	SITENAME	Count
1	NCD986171965	CARO-KNIT	1
2	NONCD0001105	WETSIG YACHTS	1

Pre-Regulatory Landfill Sites

#	EPAID	SITENAME	Count
1	NONCD0000466	Wilmington Landfill	1

Brownfields Program Sites

#	BF_ID	BF_Name	Count
1	1801614065	Wetsig Yachts	1

Superfund & Brownfield Sites SEPA/NEPA Review Report

MAP 3

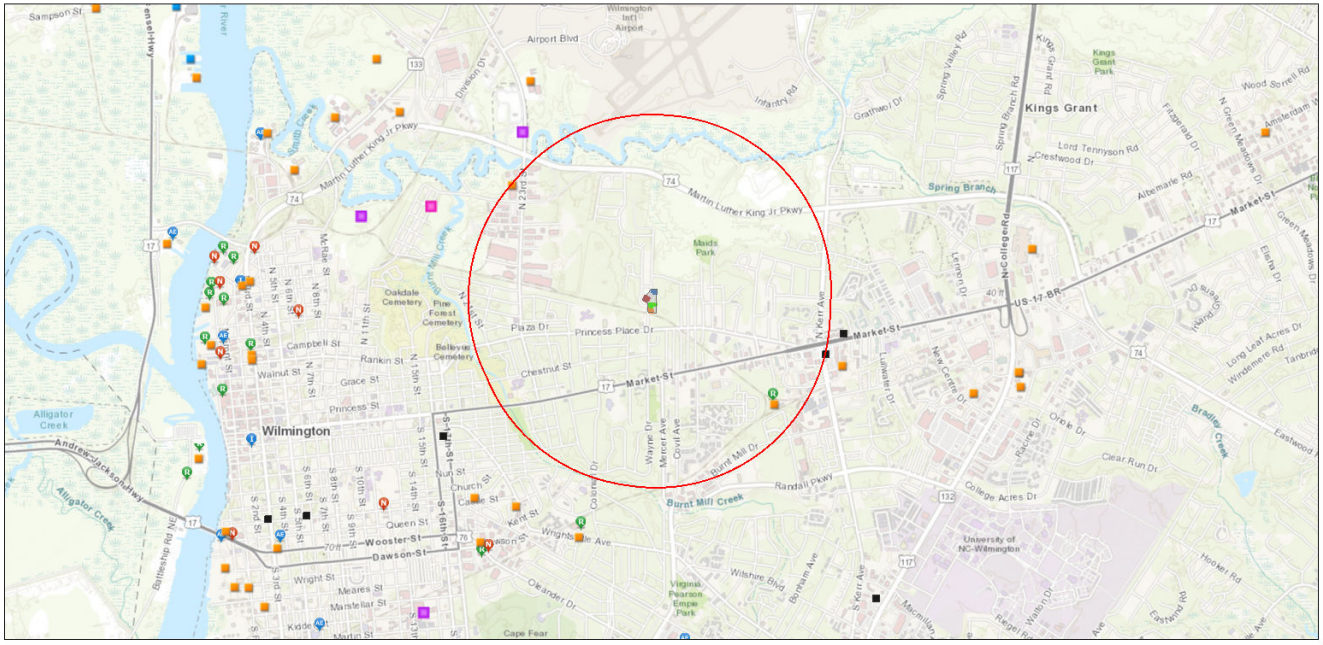
Area of Interest (AOI) Information

New Hanover County **NEPA project 23-0231**

Area : 2,250.4 acres

Map 3: Creekwood South

May 9 2023 10:50:36 Eastern Daylight Time



Superfund and Brownfield Sites
New Hanover County NEPA project 23-0231
Map 3: Creekside South

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	2	N/A	N/A
Pre-Regulatory Landfill Sites	0	N/A	N/A
Brownfields Program Sites	1	N/A	N/A

Inactive Hazardous Sites

#	EPAID	SITENAME	Count
1	NCD986171965	CARO-KNIT	1
2	NONCD0001105	WETSIG YACHTS	1

Brownfields Program Sites

#	BF_ID	BF_Name	Count
1	1801614065	Wetsig Yachts	1

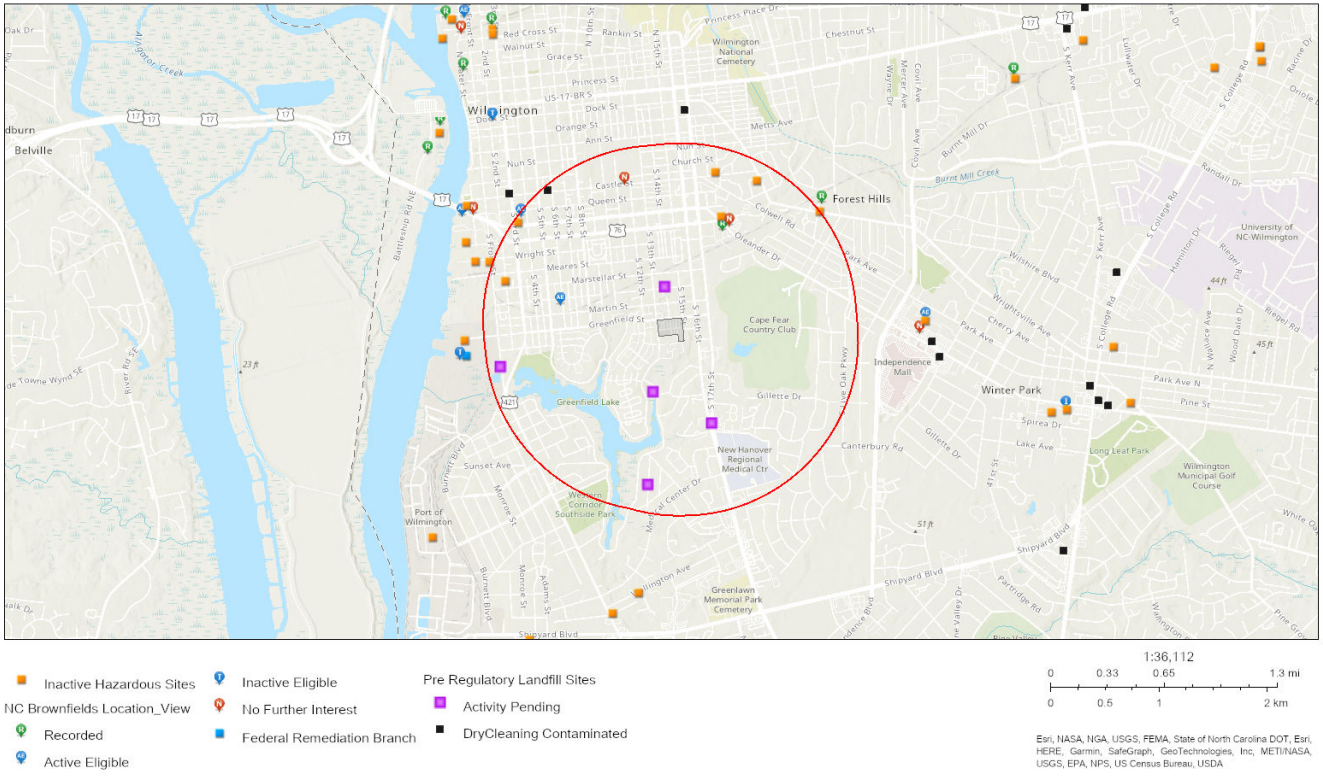
Area of Interest (AOI) Information

New Hanover County **NEPA project 23-0231**

Area : 2,349.28 acres

Map 4: Houston Moore

May 9 2023 10:54:18 Eastern Daylight Time



Superfund and Brownfield Sites
New Hanover County NEPA project 23-0231
Map 4: Houston Moore

Summary

Name	Count	Area(acres)	Length(mi)
Certified DSCA Sites	1	N/A	N/A
Federal Remediation Branch Sites	0	N/A	N/A
Inactive Hazardous Sites	6	N/A	N/A
Pre-Regulatory Landfill Sites	5	N/A	N/A
Brownfields Program Sites	5	N/A	N/A

Certified DSCA Sites

#	Site_ID	Site_Name	Count
1	DC650020	Coastal Dry Cleaners	1

Inactive Hazardous Sites

#	EPAID	SITENAME	Count
1	NONCD0001391	BROWNS RADIATOR SERVICE	1
2	NONCD0002074	MILLER & TALENT RADIATOR SERVICE	1
3	NONCD0002645	UNIFIRST	1
4	NONCD0002799	WRIGHTSVILLE AVE	1
5	NONCD0002838	WACCAMAW TRANSPORT (FORMER)	1
6	NONCD0003064	EXXON WOOSTER ST FRMR	1

Pre-Regulatory Landfill Sites

#	EPAID	SITENAME	Count
1	NONCD0000757	East Lake Shore Drive LF	1
2	NONCD0000760	Optimist Ball Park	1
3	NONCD0000759	Tallman Clay Pit	1
4	NONCD0000756	Wilmington Ldfl (Kidder St)	1
5	NONCD0000758	Wisteria Dr. LF	1

Brownfields Program Sites

#	BF_ID	BF_Name	Count
1	1602512065	WSFX - New	1
2	1005706065	WSFX Television Studio	1
3	2402820065	National Linen Service (RN)	1
4	2405820065	Wave Transit Maintenance	1
5	2508521065	Exxon Wooster (RN)	1

State of North Carolina Department of Environmental Quality
INTERGOVERNMENTAL REVIEW PROJECT COMMENTS

Reviewing Regional Office: WIRO
Project Number: 23-0231 Due Date: 05/30/2023
County: New Hanover

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)
☐	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)
☒	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)
☐	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)
☐	Water Use Permit	Pre-application technical conference usually necessary.	30 days (N/A)
☐	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)
☐	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)
☐	Permit to construct & operate Air Pollution Abatement facilities and/or Emission Sources as per 15 A NCAC (2Q.O100 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
☐	Any open burning associated with subject proposal must be in compliance with 15 A NCAC 2D.1900	N/A	60 days (90 days)
☐	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)
☐	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)
☐	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)
☐	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
☐	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)
☐	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: WIRO
Project Number: 23-0231 Due Date: 05/30/2023
County: New Hanover

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
☐	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)
☐	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)
☐	Oil Refining Facilities	N/A	90-120 days (N/A)
☐	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
☐	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
☐	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
☐	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)
☐	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		
☐	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		
☐	CAMA Permit for MAJOR development	$250.00 - $475.00 fee must accompany application	75 days (150 days)
☐	CAMA Permit for MINOR development	$100.00 fee must accompany application	22 days (25 days)
☐	Abandonment of any wells, if required must be in accordance with Title 15A. Subchapter 2C.0100.		
☐	Notification of the proper regional office is requested if "orphan" underground storage tanks (USTS) are discovered during any excavation operation.		
☐	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
☐	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
☐	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: WIRO
Project Number: 23-0231 Due Date: 05/30/2023
County: New Hanover

Other Comments (attach additional pages as necessary, being certain to comment authority)

Division	Initials	No comment	Comments	Date Review
DAQ		☐		/ /
DWR-WQROS (Aquifer & Surface)	&	☐	&	/ /
DWR-PWS	HLC	☒		5/25/2023
DEMLR (LQ & SW)		☐		/ /
DWM – UST	LP	☐	After review of the documents provided, please note that the UST Section is aware of one petroleum releases that has been issued a No Further Action Status, located at 1601 S. 13th Street. This incident was associated with UST Facility ID #00-0-000002185. Records for this incident can be viewed online at: https://deq.nc.gov/about/divisions/waste-management/laserfiche To view/find other petroleum related incidents in the area please use the LINK TO UST Section GIS MAP: http://deq.nc.gov/about/divisions/waste-management/waste-management-rules-data/waste-management-gis-maps	5/15/2023
Other Comments		☐		/ /

REGIONAL OFFICES

Questions regarding these permits should be addressed to the Regional Office marked below.

☐ **Asheville Regional Office**
2090 U.S. 70 Highway
Swannanoa, NC 28778-8211
Phone: 828-296-4500
Fax: 828-299-7043

☐ **Fayetteville Regional Office**
225 Green Street, Suite 714,
Fayetteville, NC 28301-5043
Phone: 910-433-3300
Fax: 910-486-0707

☐ **Mooresville Regional Office**
610 East Center Avenue, Suite 301,
Mooresville, NC 28115
Phone: 704-663-1699
Fax: 704-663-6040

☐ **Raleigh Regional Office**
3800 Barrett Drive,
Raleigh, NC 27609
Phone: 919-791-4200
Fax: 919-571-4718

☐ **Washington Regional Office**
943 Washington Square Mall,
Washington, NC 27889
Phone: 252-946-6481
Fax: 252-975-3716

☒ **Wilmington Regional Office**
127 Cardinal Drive Ext.,
Wilmington, NC 28405
Phone: 910-796-7215
Fax: 910-350-2004

☐ **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 Internal Review

Project Number: 23-0231 **County: New Hanover** **Date Received: 5-5-2023**

Due Date: 5-30-2023

Project Description: *Environmental Assessment - Proposed project is for the Wilmington Housing Authority Scattered Sites Rehabilitation Project located at Woodbridge Apartments (20 Units); Creekwood (14 Units); Creekwood South (6 Units); and Houston Moore (1 Unit) in Wilmington, NC. Project will rehabilitate a total of 41 units of severely damaged public housing located at four separate sites – Woodbridge Apartments, Creekwood, Creekwood South and Houston Moore. The proposed project activities include repairing and/or replacing drywall, plumbing, appliances, water heaters, broken windows, and duct work; painting; patching; and mold remediation of cleaning ducts and identified affected interior areas.*

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
☐ Mooresville	☑ DWR - Public Water	☐ Water Resources Mgmt (Public Water, Planning & Water Quality Program)	☐ CC & PS Div. of Emergency Mgmt
☐ Raleigh	☑ DEMLR (LQ & SW)		☐ DMF-Shellfish Sanitation
☐ Washington	☑ DWM	☐ DWR-Transportation Unit	☑ Wildlife Maria
☑ Wilmington			☐ Wildlife/DOT
☐ Winston Salem			

Manager Sign-Off/Region:	Date: 5/26/23	In-House Reviewer/Agency: Melodi Deaver, DWM, Hazardous Waste

Response (check all applicable)

____ No objection to project as proposed. X ____ No Comment

____ Insufficient information to complete review ____ Other (specify or attach comments)

Department of Environmental Quality
Project Internal Review

Project Number: 23-0231 **County: New Hanover** **Date Received: 5-5-2023**

Due Date: 5-30-2023

Project Description: *Environmental Assessment - Proposed project is for the Wilmington Housing Authority Scattered Sites Rehabilitation Project located at Woodbridge Apartments (20 Units); Creekwood (14 Units); Creekwood South (6 Units); and Houston Moore (1 Unit) in Wilmington, NC. Project will rehabilitate a total of 41 units of severely damaged public housing located at four separate sites – Woodbridge Apartments, Creekwood, Creekwood South and Houston Moore. The proposed project activities include repairing and/or replacing drywall, plumbing, appliances, water heaters, broken windows, and duct work; painting; patching; and mold remediation of cleaning ducts and identified affected interior areas.*

This Project is being reviewed as indicated below:

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☐ Raleigh	☑ DEMLR (LQ & SW)	☐ DWR-Transportation Unit	☐ DMF-Shellfish Sanitation
☐ Washington	☑ DWM		☑ Wildlife Maria
☑ Wilmington			☐ Wildlife/DOT
☐ Winston Salem			

Manager Sign-Off/Region:	Date:	In-House Reviewer/Agency:
	5-9-2023	[signature] /NCWRC

Response (check all applicable)

____ No objection to project as proposed.

____ Insufficient information to complete review

✓ No Comment

____ Other (specify or attach comments)

NC DOA
Department of Administration

Roy Cooper
Governor

Pamela B. Cashwell
Secretary

June 7, 2023

Andrea Gievers
Elijah's Landing Apartments
c/o NC Department of Public Safety
Office of Recovery and Resiliency
Durham, NC 27709-

Re: SCH File # 23-E-4600-0227 Proposed project is for the construction of Elijah's Landing Apartments, a 168-unit affordable housing apartment complex with a clubhouse, dog park, playground, parking, access and infrastructure. The affordable apartment complex will consist of seven separate apartment buildings with a mix of thirt

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,

CRYSTAL BEST
State Environmental Review Clearinghouse

Attachments

Mailing
1301 Mail Service Center | Raleigh, NC 27699-1301

Location
116 West Jones St. | Raleigh NC 27603
984-236-0000 T

ncadmin.nc.gov

Control No.: 23-E-4600-0227

County.: CARTERET

Date Received: 4/26/2023

Agency Response: 5/26/2023

Review Closed: 5/26/2023

DEVON BORGARDT

CLEARINGHOUSE COORDINATOR

DEPT OF NATURAL & CULTURAL RESOURCE

Project Information

Type: National Environmental Policy Act ping

Applicant: Elijah's Landing Apartments

Project Desc.: Proposed project is for the construction of Elijah's Landing Apartments, a 168-unit affordable housing apartment complex with a clubhouse, dog park, playground, parking, access and infrastructure. The affordable apartment complex will consist of seven separate apartment buildings with a mix of thirty (30) one-bedroom units, seventy-eight (78) two-bedroom units and sixty (60) three-bedroom units. Project is located at 3200 Bridges Road, Morehead City, NC.

As a result of this review the following is submitted:

☐ No Comment ☐ Comments Below ☑ Documents Attached

Reviewed By: DEVON BORGARDT Date: 6/7/2023

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.

June 1, 2023

MEMORANDUM

TO: Crystal Best
North Carolina State Clearinghouse
Department of Administration
crystal.best@doa.nc.gov

FROM: Ramona M. Bartos, Deputy
State Historic Preservation Officer
RSL for Ramona M. Bartos

SUBJECT: Wilmington Housing Authority Scattered Sites Rehabilitation Project located at Woodbridge Apartments (20 Units); Creekwood (14 Units); Creekwood South (6 Units); and Houston Moore (1 Unit), Wilmington, New Hanover County, 23-E-4600-0231, ER 23-1096 through ER 23-1099

Thank you for your submission of May 5, 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@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

FONSI/NOI-RROF