



5410 Trinity Road
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Raleigh, NC 27607

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**PUBLIX DISTRIBUTION CENTER
INDIVIDUAL PERMIT REQUEST**

**PREPARED FOR:
PUBLIX SUPER MARKETS, INC.
ATTN: MR. JOHN FISHER**

**PREPARED BY:
TIMMONS GROUP
5410 TRINITY ROAD, SUITE 102
RALEIGH, NC 27607**

FEBRUARY 2019

EXECUTIVE SUMMARY

On behalf of Publix Super Markets, Inc (Applicant), Timmons Group is submitting this Individual Permit Request for the development of a product distribution center, to include both on and off-site roadway improvements at the Guilford County Publix Distribution Center (Project). The proposed Publix Distribution Park is comprised of 342.5 acres located on Birch Creek Drive, 5 miles east of Greensboro in Guilford County, North Carolina (Figure 1-Vicinity Map). In addition, there are approximately 11.7 acres of roadway improvements proposed along US 70 for a length of approximately 1.5 mile from Mt. Hope Church Road to Sun Lake Road. Therefore, the total Project area is approximately 354.2 acres.

The purpose of the proposed project is to establish a secure corporate campus which: (1) includes the following components arranged in a contiguous, functional, efficient manner: refrigerated warehouse, dry warehouse, return center, food manufacturing facility, parking and staging for tractor trailers, parking for associates and ancillary support facilities; and (2) is located at a site that will efficiently serve its current and future grocery stores within North Carolina, South Carolina and Virginia. The facility components include a 1.1 million square feet (sq.ft) refrigerated warehouse, 1.3 million sq.ft. dry warehouse, return center, 120,000 sq.ft. food manufacturing facility, parking and staging areas for tractor trailers, parking for associates, and ancillary support buildings (i.e fleet maintenance, fleet fueling, dispatch and site security).

Food warehousing and distribution facilities and systems must be well-designed and well-managed to ensure food safety. In general, grocery sales are a very low margin market. Therefore, efficiency of operations and minimization of operating costs are crucial to a company's viability and success. Considering the average life span of a Publix distribution center is 75 years or more, inefficiencies in site selection, layout, or design of a distribution center would have long lasting negative impacts.

Due to the existing conditions of the preferred site location and the sizing requirements of the proposed distribution center, a contiguous 2.5 million square feet facility could not be developed without direct impacts to Jurisdictional Waters of the U.S. A typical grocery distribution center has significant space requirements to house the refrigerated warehouse, dry warehouse, return center, food manufacturing facility, tractor trailer and associate parking, and ancillary support facilities (i.e fleet maintenance, fleet fueling, dispatch and site security). These components must be contiguous in order to function and adjusting the layout to completely avoid streams and wetlands on the site would require separation of these components and would not be suitable for proposed project.

Based on the proposed park layout approximately 4,502 linear feet of stream, 0.8 acres of wetland, and 1.8 acres of open water will be permanently impacted by the proposed project. No temporary impacts are proposed. Impacts will result from the development of building pads, parking areas, and proposed road crossings. The current proposed layout provides sufficient area to construct the approximately 2.5 million square feet facility as well as position the facility along the existing ridgeline which will serve to minimize impacts to 2nd order streams. Fill slopes will be graded to 3:1 slopes and will be hydroseeded and matted to stabilize the site and prevent secondary impacts to downstream receiving waters.

Storm runoff from the proposed park will be managed and treated and ultimately directed into off-site waters. Therefore, the drainage area of the receiving waters located off-site will not be significantly reduced. The

project will meet all relative requirements of Best Management Practices and Engineered Stormwater Control Structures as outlined through State and Local Stormwater Rules. Stormwater management on-site will be managed and treated before discharging into down gradient waters in order to protect waters from degradation. Therefore, the project should have minimal effect on downstream waters, shellfish or other aquatic species. Rip-rap dissipater pads that will be installed flush with the existing grade of the stream bed to allow for aquatic life passage (see Appendix C for Preliminary Construction Drawings). The proposed project is a single and complete project and will not spur development or cumulative impacts.

Based on the current layout, potential indirect impacts to downstream waters may occur to the stream located along the southernmost boundary. Quantification of indirect impacts can be completed upon request. For the purpose of this application however, the proposed Project has minimized the possibility of indirect impacts through implementation of planning practices which reduce the influence of direct impacts on downstream water quality. Specifically, the project water management system will be designed to detain the 1-year, 24-hour storm to pre-development discharge levels. Stormwater ponds have been located to disperse runoff to both the eastern and western large stream features in a manner that is consistent with pre-development drainage patterns. As the ponds will be detention facilities, run-off will still be discharged during smaller rain events with volumes similar to pre-development rates. Pond outlets will be designed to hydrate the remaining stream “tails” that are not impacted so as to keep these segments as viable streams. The pond drawdown outlets will also have mechanisms for diffuse flow to prevent erosion due to point discharge.

Impacts to jurisdictional features were avoided and minimized to the maximum extent practicable throughout the planning and design process including the utilization of the delineation, minimization of partial stream or wetland impacts, minimization of impacts to all primary drainage ways and floodplains, and strict adherence to all state and local stormwater control measures. Unavoidable impacts will be mitigated through the purchase of compensatory wetland and stream credits through the N.C Division of Mitigation Services (DMS) and private mitigation banks, contingent on the agency approval. The purchase of this compensatory mitigation will ensure the unavoidable impacts proposed by the Project, will result in a “no net loss” of aquatic resource function and value to Waters of the U.S.

A good standard of living and quality of life requires ready access to and availability of affordable groceries, including fresh fruits and vegetables. The proposed distribution center will ensure efficient distribution of groceries by timely product sourcing and packaging as well as efficient warehousing and distribution for the groceries. Publix refrigerated network currently consists of five facilities, four of which are located in Florida, including Deerfield, Orlando, Lakeland, and Jacksonville with one facility in Atlanta, Georgia. With the exception of Jacksonville and Atlanta, each of these facilities has capacity to support projected growth for the next five years. In order to meet the demand, new facilities will be required to support growth beyond five years.

When utilization nears 90%, a facility may not be able to meet store growth or unexpected fluctuations in demand. Achieving over ~95% utilization is not ideal because facilities require free space to accommodate item changes and maintain efficient day-to-day operations. At 100% utilization, a facility would be in gridlock with no room to receive supplier deliveries.



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Utilization for the Jacksonville refrigerated facility is already near maximum capacity and the Atlanta refrigerated facility is projected to be at maximum capacity by 2020. These facilities will reach 100% utilization soon despite numerous changes to mitigate constraints by implementing source of supply (SOS) changes. A SOS change refers to reassigning which stores are assigned to a specific facility. These changes are required when capacity constraints prohibit facilities from servicing the store that are closest to their geographic service areas.

The proposed Greensboro facility was determined to be the most practicable long-term solution to the distribution issues. The proposed Greensboro facility relieves capacity constraints at the Atlanta refrigerated facility, reduces transportation costs by \$23 million, meets the preferred site requirements since it is a centralized location where there will be more store growth, presence of a solid interstate system, and significant government incentives. This option also enables Publix to provide the expected level of service, quality and lead times throughout the network and allows for delivery using Publix's fleet. Finally, the proposed Greensboro facility provides long-term capacity to support future growth and provides support to the existing networks during unexpected events.

Furthermore, Guilford County is currently designated by the N.C. Department of Commerce as a Tier 2 County, or an economically distressed county. Based on the 2016 Census data, 28.4% of Greensboro residents and 17.6% of Guilford County residents are living below the poverty level. Eastern Guilford County is identified by local officials as especially in need of employment opportunities. The proposed project would add 1,000 jobs with an average pay of \$42,000 to \$44,000. These wages are double the current average income for a family of four currently living in poverty. Furthermore, these jobs will ensure reduced premiums for employees for health care coverage, short term and long-term disability insurance, access to affordable vision and dental insurance, 401k match, employee-stock ownership plan, and access to hot meals during scheduled shift.

The property is currently zoned Industrial and the proposed use is consistent with the current zoning and is considered a permitted use. The proposed distribution center was determined suitable for the proposed development based on specific industry requirements including, but not limited to, Location, Site Characteristics, Available Infrastructure, Surrounding Land Use and Availability of labor force. The following permit support document demonstrates that the proposed Project meets the purpose and need of the proposed project and is the Least Environmentally Damaging Practicable Alternative (LEDPA).



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PUBLIX SUPER MARKETS, INC. – PUBLIX DISTRIBUTION CENTER INDIVIDUAL PERMIT REQUEST

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APPENDICES

Appendix A	Joint Permit Application
Appendix B	Figures
Appendix C	Preliminary Construction Drawings
Appendix D	Off-Site Alternatives Location Maps
Appendix E	On-Site Alternative Impact Maps
Appendix F	Waters of the U.S. Impact Maps
Appendix G	Agency Correspondence
Appendix H	Mitigation Acceptance Letters
Appendix I	Application for Individual Section 404 Individual Permit, Section 401 Water Quality Certification, and Riparian Buffer Certification for the Widening of US 70 from Mt. Hope Church Road to Sun Lake Road in Guilford County. NCDOT Division 7, TIP No. U-2581 BA



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1.0 PROJECT INFORMATION SHEET

General

Project Name: Publix Distribution Center
State: North Carolina
Location: Guilford County
Latitude: 36.0805°
Longitude: 79.6556°
Subject Property Size: 354.2 Acres

HUC Code: 03030002
Waterbodies on Property: Unnamed Tributaries to Little Alamance Creek

Corresponding Information

USGS Quad: McLeansville
County: Guilford County

Applicant: Publix Super Markets, Inc.
Name: Mr. John Fisher
Address: 501 North Galloway Road
Lakeland, FL 33815

Contact:
Telephone: C: (863) 393-6952
Email: john.fisher@publix.com



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Richmond, Virginia 23225
Contact:
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Email: Brian.Breissinger@timmons.com

Anticipated Permit Authorizations

- U.S. Army Corps of Engineers: Individual Permit
- North Carolina Division of Water Resources: 401 General Water Quality Certification
- Major Buffer Variance
- Site Plan Permit

2.0 INTRODUCTION



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On behalf of the Publix Super Markets (Applicant), Timmons Group is submitting this permit request for the proposed Publix Distribution Center (Project). The Project is located approximately 5 miles east of Greensboro in Guilford County, North Carolina (see Figure 1. Vicinity Map) and is situated on approximately 342.5 acres located on Highway 70 (Burlington Road) and Birch Creek Road. In addition, there are approximately 11.7 acres of roadway improvements proposed along US 70 for a length of approximately 1.5 mile from Mt. Hope Church Road to Sun Lake Road. Therefore, the total Project area is approximately 354.2 acres. Land use at the Project site includes both forested and maintained areas. Forested areas on the site are characterized as pine and mixed hardwood communities. Maintained areas at the Project site include upland grass areas managed as a golf course, multiple structures associated with the golf course such as a club house and one single-family home. Birch Creek Road transects the center of the Project site. The Project site is bound to the north by Highway 70 (Burlington Road). Land use surrounding the site is comprised of both agricultural and single family, residential properties.

The applicant's purpose and need is to establish a secure corporate campus which: (1) includes the following components arranged in a contiguous, functional, efficient manner: refrigerated warehouse, dry warehouse, return center, food manufacturing facility, parking and staging for tractor trailers, parking for associates and ancillary support facilities; and (2) is located at a site that will efficiently serve its current and future grocery stores within North Carolina, South Carolina, and Virginia. The proposed distribution facility components include a 1.1 million square feet (sq.ft) refrigerated warehouse, 1.3 million sq.ft. dry warehouse, return center, 120,000 sq.ft. food manufacturing facility, parking and staging areas for tractor trailers, parking for associates, and ancillary support buildings (i.e fleet maintenance, fleet fueling, dispatch and site security).

A good standard of living and quality of life requires ready access to and availability of affordable groceries, including fresh fruits and vegetables. The proposed distribution center will ensure efficient distribution of groceries by timely product sourcing and packaging as well as efficient warehousing and distribution for the groceries. Publix refrigerated network currently consists of five facilities, with four located in Deerfield, Orlando, Lakeland, and Jacksonville Florida and one in Atlanta, Georgia. With the exception of Jacksonville and Atlanta, each of these facilities has the capacity to support projected growth over the next five years. New planned facilities will be required to meet the demand beyond five years.

When utilization nears 90%, a facility may not be able to meet store growth or unexpected fluctuations in demand. Achieving over ~95% utilization is not ideal because facilities require free space to accommodate item changes and maintain efficient day-to-day operations. At 100% utilization, a facility would be in gridlock with no room to receive supplier deliveries.

Utilization for the Jacksonville refrigerated facility is already near maximum capacity and the Atlanta refrigerated facility is projected to be at maximum capacity by 2020. These facilities will reach 100% utilization soon despite numerous changes to mitigate constraints by implementing source of supply (SOS) changes. A SOS change refers to reassigning which stores are assigned to a specific facility. These changes are required when capacity constraints prohibit facilities from servicing the store that are closest to their geographic service areas.

The proposed Greensboro facility was determined to be the most practicable long-term solution to the distribution issues. The proposed Greensboro facility relieves capacity constraints at the Atlanta refrigerated



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facility, reduces transportation costs by \$23 million, meets the preferred site requirements since it is a centralized location where there will be more store growth, presence of a solid interstate system, and significant government incentives. This option also enables Publix to provide the expected level of service, quality and lead times throughout the network and allows for delivery using Publix's fleet. Finally, the proposed Greensboro facility provides long-term capacity to support future growth and provides support to the existing networks during unexpected events.

Furthermore, Guilford County is currently designated by the N.C. Department of Commerce as a Tier 2 County, or an economically distressed county. Based on the 2016 Census data, 28.4% of Greensboro residents and 17.6% of Guilford County residents are below the poverty level. Eastern Guilford County is identified by local officials as especially in need of employment opportunities. The proposed project would add 1,000 jobs with an average pay of \$42,000 to \$44,000. These wages are double the current average income for a family of four currently living in poverty. Furthermore, these jobs will ensure reduced premiums for employees for health care coverage, short term and long-term disability insurance, access to affordable vision and dental insurance, 401k match, employee-stock ownership plan, and access to hot meals during scheduled shifts.

The property is currently zoned as Industrial and the proposed use is consistent with the current zoning and is considered a permitted use. The proposed distribution center was determined suitable for the proposed development based on specific industry requirements including, but not limited to, Location, Site Characteristics, Available Infrastructure, Surrounding Land Use and Availability of labor force.

Due-diligence completed to date includes wetland and stream investigations, historic and cultural resource surveys, and threatened and endangered species surveys. In addition, on-site concurrence meetings and pre-application meetings have been held with Guilford County, U.S. Army Corps of Engineers and the N.C. Division of Water Resources.

To accomplish the goals of the Project, the Applicant has proposed the Preferred Alternative as the Least Environmentally Damaging Practicable Alternative (LEDPA). Based on the proposed distribution center layout approximately 4,502 linear feet of stream, 0.8 acres of wetland, and 1.8 acres of open water will be impacted by the proposed project. Impacts to jurisdictional features were avoided and minimized to the maximum extent practicable throughout the planning and design process including the utilization of the delineation, minimization of partial stream or wetland impacts, minimization of impacts to all primary drainage ways and floodplains, and strict adherence to all state and local stormwater control measures. These unavoidable impacts will be mitigated through the purchase of compensatory wetland and stream credits through U.S. Army Corps of Engineers approved private mitigation banks and the N.C Division of Mitigation Services (DMS), contingent on the agency approval. Therefore, the proposed Project has been determined to meet the purpose and need of the Project, provide considerable economic relief to the citizens of Guilford County and will result in the least amount of impacts to sensitive environmental resources.

3.0 SITE DESCRIPTION

3.1 Site Location

The proposed Publix Distribution Center (Project site) comprises approximately 342.5 acres and is located approximately 5 miles east of Greensboro city limits in Guilford County, North Carolina (see Appendix B, Figure 1. Vicinity Map). To the north, the Project site is bound by US-70. The project is bound by forested areas interspersed with agricultural fields to the south. To the east, the Project site is bound by forested areas, agricultural fields, and Knox Road. The western side of the Project is bound by Sprucetree Drive and residential homes. The proposed Project site is located in the Cape Fear River Basin (HUC 030300020303) within the Lower Little Alamance Creek sub-watershed which is within the Jordan Lake Watershed. All surface waters drain to Little Alamance Creek, located approximately 2 miles to the south east. The property is located within the Piedmont Physiographic Province.

3.2 Site Conditions

Access to the Project site is via US-70, which borders the Project site to the north or Birch Creek Road which bisects the Project site from north to south. The portion of Birch Creek Road running through the project limits has been formally closed by NCDOT. Properties that utilized this section of road for access to US-70 are either now part of this project or will access the public road network using other right-of-way to the south. No properties have been left without access to a public right-of-way. Current land use at the Project site includes both forested and maintained areas. Forested areas on the site are characterized as pine and mixed hardwood communities. Maintained areas at the Project site include upland grass areas managed as a golf course, multiple structures associated with the golf course such as a club house, one single-family home, and maintained transportation corridors. Land use surrounding the proposed Project site is predominately comprised of undeveloped forested lands interspersed with agricultural fields and single-family residential homes.

The Project site has moderate slopes along a ridgeline that bisects the center of the property. Elevations range from 628 feet above mean sea level (MSL) to 726 feet MSL within the Project site Boundaries. Surface waters drain to Little Alamance Creek, located approximately 2 miles to the south east of the Project site.

Jurisdictional Waters of the U.S. at the Project site include open waters, wetlands and streams and are primarily characterized as farm ponds, small headwater wetland systems and 1st and 2nd order streams. The entirety of the 342.5-acre Project site was delineated to identify the presence and location of jurisdictional wetlands and streams. The wetland delineation was performed in accordance with the U.S. Army Corps of Engineers (COE) 1987 Delineation Manual and subsequently issued Regional Supplement to the 1987 Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0). The delineation was verified by David Bailey on July 3, 2018 (SAW-2018-00240). There are no wetlands, open water, stream and associated upland buffers within the Project Area that are under a deed restriction, conservation easement restrictive covenant, or other land use protective instruments.

4.0 PURPOSE AND NEED

The applicant's purpose and need is to establish a secure corporate campus which: (1) includes the following components arranged in a contiguous, functional, efficient manner: refrigerated warehouse, dry warehouse, return center, food manufacturing facility, parking and staging for tractor trailers, parking for associates and ancillary support facilities; and (2) is located at a site that will efficiently serve its current and future grocery stores within North Carolina, South Carolina, and Virginia. The proposed distribution center is intended to meet the retailers 50-year plan and is to be constructed in two phases to match the timing of expenditures to the increasing need as well as satisfy the current minimum site criteria.

A good standard of living and quality of life requires ready access to and availability of affordable groceries, including fresh fruits and vegetables. The proposed distribution center will ensure efficient distribution of groceries by timely product sourcing and packaging as well as efficient warehousing and distribution for the groceries.

Food warehousing and distribution facilities and systems must be well-designed and well-managed to ensure food safety. In general, grocery sales are a very low margin market. Therefore, efficiency of operations and minimization of operating costs are crucial to company viability and success. Considering the average life span on a Publix distribution center is 75 years or more, inefficiencies in site selection, layout, or design of a distribution center would have long lasting negative impacts. The facility components include a 1.1 million square feet (sq.ft) refrigerated warehouse, 1.3 million sq.ft. dry warehouse, return center, 120,000 sq.ft. food manufacturing facility, parking and staging areas for tractor trailers, parking for associates, and ancillary support buildings (i.e fleet maintenance, fleet fueling, dispatch and site security).

Efficiency of design begins with the selection of the geographical area for the campus. Current retail growth projections show the center of gravity solution to be the immediate Greensboro area. Within the Greensboro area, the proposed location is required to have suitable access to the interstate system (3-5 miles) while maintaining minimal efficiency loss due to traffic congestion.

The Atlanta refrigerated facility primarily supports the Atlanta and Charlotte divisions. Future store growth across Publix is based on the current Three Year Plan and growth projections. Percentage of growth outside of Florida continues to exceed Florida growth. Current growth projections include an average of 17 stores per year added outside of Florida through 2028, at total of 584 stores.

Publix refrigerated network currently consists of four facilities located in Florida including Deerfield, Orlando, Lakeland, and Jacksonville and one in Atlanta, Georgia. With the exception of Jacksonville and Atlanta, each of these facilities has capacity to support projected growth at least over the next five years.

When utilization nears 90%, a facility may not be able to meet store growth or unexpected fluctuations in demand. Achieving over ~95% utilization is not ideal because facilities require free space to accommodate item changes and maintain efficient day-to-day operations. At 100% utilization, a facility would be in gridlock with no room to receive supplier deliveries.

Utilization for the Jacksonville refrigerated facility is already near maximum capacity and Atlanta refrigerated is projected to be at maximum capacity by 2020. These facilities will reach 100% utilization soon despite numerous changes to mitigate constraints by implementing source of supply (SOS) changes. A SOS change refers to reassigning which stores are assigned to a specific facility. These changes are required when capacity constraints prohibit facilities from servicing the stores that are closest to their geographic service areas.

Transportation is a key component of service and quality. Deliveries for highly perishable produce items are scheduled as often as daily to ensure the highest quality and longest shelf life. Long-distance deliveries may require longer order lead times, which can result in less reliable forecasts, shorter item shelf life, increased damage to sensitive products and increase shrink at the store.

The proposed project will bring significant economic relief to the citizens of Greensboro and Guilford County. Guilford County is currently designated by the N.C. Department of Commerce as a Tier 2 County, or an economically distressed county. Based on the 2016 Census data, 28.4% of Greensboro residents and 17.6% of Guilford County residents are below the poverty level. Eastern Guilford County is identified by local officials as especially in need of employment opportunities. The proposed project would add 1,000 jobs with an average pay of \$42,000 to \$44,000. These wages are double the current average income for a family of four currently living in poverty. Furthermore, these jobs will ensure reduced premiums for employees for health care coverage, short term and long-term disability insurance, access to affordable vision and dental insurance, 401k match, employee-stock ownership plan, and access to hot meals during scheduled shift.

The proposed Greensboro facility was determined to be the most practicable long-term solution to the distribution issues. The proposed Greensboro facility relieves capacity constraints at the Atlanta refrigerated facility, reduces transportation costs by \$23 million, meets the preferred site requirements since it is a centralized location where there will be more store growth, presence of a solid interstate system, and significant government incentives. This option also enables Publix to provide the expected level of service, quality and lead times throughout the network and allows for delivery using Publix's fleet. Finally, the proposed Greensboro facility provides long-term capacity to support future growth and provides support to the existing networks during unexpected events.

5.0 ALTERNATIVES ANALYSIS

The alternatives that were evaluated to determine the Least Environmentally Damaging Practicable Alternative (LEDPA) include: (1) The no-action alternative, (2) off-site alternatives, and (3) on-site alternatives. After consideration of available alternatives to meet the needs of the project, the Preferred Alternative as proposed, is considered the Least Environmentally Damaging Practicable Alternative (LEDPA). The Preferred Alternative has been designed to accommodate the specific site requirements of the distribution center while meeting the retailers demand in the geographic region.

The criteria evaluated during site selection for this type of facility is extensive. Considering the average life span of a Publix distribution center is 75 years or more, inefficiencies in site selection, layout, or design of a distribution center would have long lasting negative impacts. Based on information from Publix, the minimal criteria for site selection includes the following:

- Retail growth projections determine center of gravity solution
- Must efficiently serve current and future grocery stores in NC, SC and VA
- Must be located within 3-5 miles of I-40/I-85
- At least 250 acres of correctly configured construction pad
- Availability of Alternative Routes (in the event of disruption of the primary route)
- Sufficient municipal water and sewer service to support office space, refrigeration systems and food manufacturing facilities (water/sewer/power)
- Sufficient electrical service to support multiple 3000-4000 amp electrical mains for distribution systems operations and refrigeration equipment
- Infrastructure improvements must be completed prior to occupancy
- Convenient access to sufficient labor force
- Limited ingress/egress (e.g. fencing, natural buffers) to ensure security
- Compatible land uses on adjacent land to ensure food safety
- Not adjacent to or in the vicinity of airplane flight path due to height restrictions and lighting requirements
- Proximity to a high quality truck stop

The proposed Greensboro distribution facility was determined to be the Least Environmentally Damaging Practicable Alternative (LEDPA) as it meets the preferred site requirements listed above, while minimizing impacts to valuable environmental resources compared to the other alternatives. This solution also provides long-term capacity to support future growth. Details of each alternative considered are described below.

5.1 No-Action Alternative

The No-Action Alternative, which would avoid all impacts to aquatic resources, is not a viable option given the purpose and need of the Project is to establish a secure corporate campus which: (1) includes the following components arranged in a contiguous, functional, efficient manner: refrigerated warehouse, dry warehouse, return center, food manufacturing facility, parking and staging for tractor trailers, parking for associates and ancillary support facilities; and (2) is located at a site that will efficiently serve its current and future grocery stores within North Carolina, South Carolina, and Virginia.

Under the No Action Alternative, the proposed development of the Publix distribution center would not result in impacts to Jurisdictional Waters of the U.S. and would not require the issuance of a 404/401 Individual Permit. Publix evaluated the possibility of delaying investment in a new facility through SOS changes and

expansion of existing facilities. However, it was determined that the Jacksonville and Atlanta refrigerated capacity constraints would require expansion of the existing facility to meet demand. Since northeast growth is expected to continue, expanding these two facilities would sub-optimize transportation costs. A study conducted on expanding Atlanta Frozen Foods concluded that it is not economically viable due to the limited space available and associated high cost per square foot. In addition, store service and product quality would be at risk due to the long distances and transportation costs would exceed all other alternatives evaluated.

Due to the existing conditions of the preferred site location and the sizing requirements of the proposed distribution center, a contiguous 2.5 million square foot facility could not be developed without direct impacts to Jurisdictional Waters of the U.S. A typical grocery distribution center has significant space requirements to house the refrigerated warehouse, dry warehouse, return center, food manufacturing facility, tractor trailer and associate parking, and ancillary support facilities (i.e fleet maintenance, fleet fueling, dispatch and site security). These components must be contiguous in order to function and adjusting the layout to completely avoid open waters, streams and wetlands on the site would require separation of these components and would not be suitable for proposed project.

Due to scattered aquatic resources throughout the Site, impacts to waters of the U.S. are unavoidable, and therefore, development could not occur without a permit. The preferred layout provides sufficient area to construct the proposed distribution center along the existing ridgeline which will serve to minimize impacts to streams and wetlands, avoid all impacts to the 100-year floodplain, will not encroach on the existing utility easement, and will require the least amount of cut and fill based on the existing percent slope.

5.2 Off-site Alternatives

As stated previously, current growth projections include an average of 17 stores per year added outside of Florida through 2028, at total of 584 stores. The Guilford County area was determined to be the most practicable long-term solution to the distribution issues. This location will enable Publix to provide the expected level of service, quality and lead times throughout the network and allows for delivery using Publix's fleet. Finally, a distribution center in Guilford County will provide long-term capacity to support future growth and provides support to the existing networks during unexpected events.

Following the identification of the Guilford County area as the geographical solution, several sites were considered prior to determining the preferred alternative. The **Reedy Fork Corporate Park Site**, the **Youngs Mill Site**, and the **Triad Business Park** were evaluated in addition to the proposed alternative. Based on a comparison of all four sites, the proposed alternative best meets the minimal site criteria. A comparison of all four sites is provided in Table 1 below.

Table 1: Primary Matrix Criteria Evaluated for Project Alternatives

Publix Distribution Center Site Criteria				
	Preferred Alternative	Reedy Fork	Youngs Mill Road	Triad Business Park
Retail growth projections determine center of gravity solution	X	X	X	X
Must efficiently serve current and future grocery stores in NC, SC, and VA	X	X	X	X
Within 3-5 miles of I-40/I-85	X		X	X
At least 250 acres of correctly configured construction pad	X			
Access to connecting roads that can support tractor trailer traffic	X			
Availability of Alternate Routes (in the event of disruption of the primary route)	X			
Sufficient municipal water and sewer service to support office space, refrigeration systems and food manufacturing facilities (water/sewer/power)	X	X	X	X
Sufficient electrical service to support multiple 3000-4000 amp electrical mains for distribution systems operations and refrigeration equipment	X	X	X	X
Infrastructure improvements completed prior to occupancy	X	X	X	X
Sufficient labor force	X	X	X	
Limited ingress/egress (e.g. fencing, natural buffers) to ensure security	X		X	X
Compatible land uses on adjacent land to ensure food safety	X			X
Not adjacent to or in the vicinity of airplane flight path due to height restrictions and lighting requirements	X	X	X	X
Proximity to high quality truck stop	X		X	

The **Reedy Fork Corporate Park site** is located on Summit Road, approximately 10 miles north of Greensboro, in northeast Guilford County and is the northern-most site in consideration within Guilford County. The site is bound in all directions by undisturbed, forested lands. One utility easement transects the center of the site from north to south. The Reedy Fork Corporate Park Site is zoned by the City of Greensboro as heavy industrial and meets the zoning requirements of the proposed project.

However, this site did not meet all the minimum site criteria required. The Reedy Fork Corporate Park only comprises approximately 185 acres and does not meet the minimum site acreage criteria. Furthermore, this site is located over ten miles from a reliable interstate system (i.e. I-40/I-85). Access to the Reedy Fork Corporate Site is limited to Chickasha Drive, a secondary road that is currently, only partially maintained by NCDOT. Based on the current condition of Chickasha Road, significant upgrades would be required to accommodate the tractor trailer traffic anticipated for the proposed distribution center.

Based on a review of available mapping resources including, but not limited to, the most recent QL2 Lidar data, U.S. Fish and Wildlife's National Wetland Inventory mapping, Natural Resource Conservation Service Soil Survey mapping, recent and historic aerial photography, as well as USGS Topographic Mapping, potentially developable areas are significantly limited at the Reedy Fork Corporate Park Site due to the location and size of wetland and stream systems associated with Reedy Fork Creek. There are several locations with extreme contour changes, extensive wet areas, and streams fed from Reedy Fork creek. Due to the location and extent of the existing surface waters, the Reedy Fork Corporate Park would not meet the minimum acreage criteria for the proposed distribution center.

The mainstem of Reedy Fork Creek, a major waterway, flows along the southern boundary. Reedy Fork Creek is currently classified by the N.C. Division of Water Resources as a Nutrient Sensitive Water (NSW) and a water supply water (WS-V). Furthermore, approximately 30 percent (~50 acres) of area within the Reedy Fork corporate Park Site is classified as occurring within the 100-year floodzone and/or floodway as designated by the Federal Emergency Management Act (FEMA). The close proximity and extent of these environmental features further limits the amount of developable land at the Reedy Fork Corporate site.

This site does not meet the minimum requirements of the proposed project. The lack of developable land, limited access to suitable roadways and interstate systems as well as the non-compatible adjacent land use prohibits the use of the Reedy Fork Corporate Park site from being utilized for the proposed distribution center.

The **Youngs Mill Site** is located on Youngs Mill Road approximately 5 miles south of Greensboro in Guilford County and comprises approximately 250 acres. Current land use at the site includes both forested and agricultural areas. Several single-family homes and out-buildings are present on the property. In addition, a high voltage power line transects the center of the property.

All surface water at the site flows to an unnamed tributary to Little Alamance Creek that transects the center of the Site. Little Alamance Creek is classified by the N.C. Division of Water Resources as a Nutrient Sensitive Water (NSW) and a water supply water (WS-IV). No areas on the site are designated as occurring within the 100-year floodzone or floodway.

Land use surrounding the site is limited to residential in all directions. The presence of residential properties along the boundaries of the site, limits the access off I-85. Furthermore, the Youngs Mill site is currently zoned as agricultural. Therefore, rezoning would be required to accommodate the proposed distribution center.

The Youngs Mill site does meet the minimum acreage criteria. A high voltage power line splits the property and it would not, therefore, support the required layout for the proposed project. The cost and time associated with moving the transmission line would not be a viable option for the proposed project.

Interstate 85 is located immediately north of the Site. Multiple access routes are available to the site including via Youngs Mill Road, Hickory Valley Road, Millpoint Road, and Presbyterian Road. All access roads are classified as secondary roads currently maintained by NCDOT. However, based on the characteristics of the access roadways, considerable upgrades would be needed to accommodate the tractor trailer traffic anticipated for the proposed distribution center.

Finally, the property assemblage consists of four different property owners. Based on information from the Client, assembling multiple parcels is not preferred due to the increased level of risk associated with dealing with multiple owners.

Based on the lack of a contiguous 250-acres to configure the construction pad, lack of sufficient roadways to support tractor trailer traffic, and incompatible zoning, the Youngs Mill site does not meet the minimum preferred criteria for the proposed project.

The **Triad Business Park** encompasses approximately 230 acres and is located off South Bunker Hill Road. Land use at the site consists of both forested and maintained areas. Interstate 40 is located directly south of the site. Access to the Site is via South Bunker Hill Road or Bending Road. All access roads are classified as secondary roads, currently maintained by NCDOT.

The site exists in an established industrial park and has been mostly cleared. The site is bound to the north and west by commercial and industrial development with residential lands bordering the site to the east and south. The Triad Business Park is currently zoned Industrial by Forsyth County.

Current development in the park indicate favorable soils and all required utilities are available at the edge of the site. The condition of the property is favorable for construction. However, based on information from the Client, a portion of the Site is currently under contract with another buyer which would significantly impact the recommended layout for the distribution center. All other areas are under the control of one land owner. Furthermore, a large FedEx Ground facility is located adjacent to the property which causes labor concerns and the cost per acre is more expensive and firm as FedEx recently closed at a similar price.

The Triad Business Park does not meet all the minimum criteria for the proposed project based on the size of the site, significant risk associated with securing the property, and the lack of sufficient labor force.

5.3 On-Site Alternatives

A typical grocery distribution center has significant space requirements to house the refrigerated warehouse, dry warehouse, return center, food manufacturing facility, tractor trailer and associate parking, and ancillary support facilities (i.e. fleet maintenance, fleet fueling, dispatch and site security). These components must be contiguous in order to function. To provide an optimal facility layout that is arranged in the most efficient manner, numerous on-site layouts were examined to locate the Project in a manner that avoids and minimizes

impacts to environmentally sensitive areas to the maximum extent practicable while meeting the development needs of the Client.

Based on information from the applicant, three optional central operations facility layouts were examined to determine the least environmentally damaging practicable alternative (LEDPA), while meeting the needs of the proposed development. The two on-site alternatives considered, in addition to the preferred alternative, are shown on figures included as Appendix E.

Option 1, includes positioning the entirety of the distribution center project in the easternmost portion of the Site within parcel 8804696116. Option 1 would result in the greatest amount of direct stream, buffer and wetland impacts compared to the other on-site options including 7,088 linear feet of stream and 3.1 acres of wetland impacts.

Furthermore, this option does not meet the applicant's minimum access requirements for the site. **Option 1**, only includes one access road into the site from Birch Creek Drive. Birch Creek drive is a secondary roadway and would not accommodate the tractor trailer traffic anticipated for the proposed distribution center. Significant upgrades would be needed. Furthermore, this option would not allow for separate entrances for the personally owned vehicles and the tractor trailers.

Option 2, includes shifting the entirety of the site layout 90 degrees or a north/south orientation. Based on the size of the proposed facility, including the attendant features, the Site would not be large enough accommodate the Project. Therefore, additional land was evaluated south of the Project for purchase and/or development. Based on information from the applicant, the development of areas south of the Site would have required the construction of a retaining wall of substantial height along the entire length of the development, on the eastern side. As discussed in more detail in Section 7.0 Avoidance and Minimization, the use of retaining walls for this proposed Project would result in substantial increases in construction costs and maintenance costs, would inhibit the relocation of power and communication lines, and would create a safety concern considering the high volume of tractor trailer traffic.

The selected alternative, provides sufficient area to construct the approximately 2.5 million square feet development and allows for separate entrances and parking for both tractor trailer and personal vehicles, an important site criteria for the proposed development. **The selected alternative** positions the facility along the existing ridgeline which will serve to minimize impacts to 2nd order streams on the property and, therefore, results in the least impacts compared to the other on-site alternatives.

5.4 Preferred Alternative

The preferred alternative meets the minimum site requirements for the distribution center and was determined to be the most practicable long-term solution to the distribution issues. The proposed project meets the purpose and need including the establishment of a secure corporate campus which: (1) includes the following components arranged in a contiguous, functional, efficient manner: refrigerated warehouse, dry warehouse, return center, food manufacturing facility, parking and staging for tractor trailers, parking for associates and ancillary support facilities; and (2) is located at a site that will efficiently serve its current and future grocery stores within North Carolina, South Carolina, and Virginia.

In selecting a suitable option, the applicant applies criteria it has developed based on over 75 years of grocery distribution experience. Efficiency of design begins with the selection of the geographical area for the campus. As stated previously, current growth projections include an average of 17 stores per year added outside of Florida through 2028, at total of 584 stores. The proposed Greensboro facility was determined to be the most practicable long-term solution to the distribution issues.

As part of the preferred alternative, the North Carolina Department of Transportation (NCDOT) proposes to improve the US 70 corridor for a length of approximately 1.5 miles from approximately Mt. Hope Church Road to Sun Lake Road in Guilford County. The purpose and need for the proposed US 70 improvements is to reduce congestion along US 70 between Mt. Hope Church Road to Sun Lake Road. NCDOT has prepared an application for the US 70 corridor improvements pursuant to the October 18, 2018 letter from the Corps of Engineers to the Department of Transportation and is combined with this application (Appendix I: NCDOT STIP Project No. U-2581 BA Application).

The proposed Greensboro facility relieves capacity constraints existing refrigerated facilities, reduces transportation costs by \$23 million, and meets the preferred site requirements since it is a centralized location where there will be more store growth, presence of a solid interstate system, and significant government incentives. This option also enables Publix to provide the expected level of service, quality and lead times throughout the network and allows for delivery using Publix's fleet. Finally, the proposed Greensboro facility provides long-term capacity to support future growth and provides support to the existing networks during unexpected events.

Efficiency of operations and minimization of operating costs are crucial to company viability and success. Inefficiencies in site selection, layout or design would have long lasting negative effects. The proposed facility components include a 1.1 million square feet (sq.ft) refrigerated warehouse, 1.3 million sq.ft. dry warehouse, return center, 120,000 sq.ft. food manufacturing facility, parking and staging areas for tractor trailers, parking for associates, and ancillary support buildings (i.e fleet maintenance, fleet fueling, dispatch and site security).

Food warehousing and distribution facilities and systems must be well-designed and well-managed to ensure food safety. Grocery distribution sites area designed to assure the most efficient use of space and resources while maintaining a high level of associate safety. Safety on these sites starts with the separation of associates from forklift and tractor trailer traffic.

This design concept begins with the associate parking areas being sperate from all tractor trailer movement. Associates are required to use the dedicated entrance for personally owned vehicles and park in the secured parking area. From the secured parking area associates enter the distribution center complex and make their way along elevated walkways to the center core support areas of the warehouses.

The Publix distribution warehouses are designed with a center support core which houses associated comfort needs as well as support functions for distribution center operations. Examples of these comfort and operational areas are: break areas, better rooms, locker rooms, restrooms, cafeteria, office space, etc. These areas are concentrated in the center core to maximize efficiencies by minimizing travel time and walk path to these essential service areas from any point within the distribution center.

The center core concept is continued by aligning our distribution warehouses parallel to each other. Center core areas of each building can share resources while maintaining a compact footprint to minimize associate walk path between two buildings. This minimizes the opportunities for associates to be in contact with rolling equipment such as forklifts and tractor trailers.

Associates that work in our dispatch office return center, and fleet maintenance garage are provided a separate entrance and secured parking area. This continues the design concept of separation of associates and personally owned vehicles from tractor trailer and forklift traffic.

6.0 JURISDICTIONAL IMPACTS

To accomplish the goals of the Project, the Applicant has proposed the Preferred Alternative as the Least Environmentally Damaging Practicable Alternative (LEDPA), as the least impactful action to jurisdictional areas when compared to other alternatives. To accomplish the goals of the Project, impacts to jurisdictional Waters of the U.S. are unavoidable. The location of impacts to jurisdictional Waters of the U.S. identified within the Project limits are shown on the attached Impact Maps (Appendix F: Jurisdictional Waters of the U.S. Impacts Maps). All proposed impacts associated with the US 70 corridor improvements have been quantified by NCDOT and are discussed in Appendix I: NCDOT STIP Project No. U-2581 BA Application.

Based on the proposed park layout approximately 4,502 linear feet of stream, 0.8 acres of wetland, and 1.8 acres of open water will be permanently impacted by the proposed project. No temporary impacts are proposed. Impacts will result from the required grading and proposed road crossings. The current proposed layout provides sufficient area to construct the approximately 2.5 million square feet facility as well as position the facility along the existing ridgeline which will serve to minimize impacts to 2nd order streams. Fill slopes will be graded to 3:1 slopes and will be hydroseeded and matted to stabilize the site and prevent secondary impacts from sediment discharges.

Storm runoff from the proposed park will be managed and treated and ultimately directed into off-site waters. Therefore, the drainage area of the receiving waters located off-site will not be significantly reduced. The project will meet all relative requirements of Best Management Practices and Engineered Stormwater Control Structures as outlined through State and Local Stormwater Rules. Stormwater management on-site will be managed and treated before discharging into down gradient waters in order to protect waters from degradation. Therefore, the project should have minimal effect on downstream waters, shellfish or other aquatic species. Rip-rap dissipater pads that will be installed flush with the existing grade of the stream bed to allow for aquatic life passage (see Appendix C for Preliminary Construction Drawings).

7.0 AVOIDANCE AND MINIMIZATION

Impacts to jurisdictional features were avoided and minimized to the maximum extent practicable by incorporating resourceful site planning, including the utilization of the wetland delineation to adjust the layout to avoid and minimize impacts. After the wetlands were delineated, an engineering plan was developed to meet all needs at the proposed distribution center, while minimizing impacts to Waters of the U.S. The

proposed location results in the least impacts to Waters of the U.S. while meeting the needs of the industry. The current proposed layout provides sufficient area to construct the approximately 2.5 million square foot facility as well as position the facility along the existing ridgeline which will serve to minimize impacts to 2nd order streams.

Fill slopes will be graded to 3:1 slopes and will be hydroseeded and matted to stabilize the site. Incorporating steeper slopes (i.e 2:1 or 2.5:1) was analyzed for the project. However, given the high level of traffic anticipated for the proposed roadways (i.e. tractor trailer, forklift, etc.), 3:1 slopes were utilized for the project in order to safeguard the site from any potential slope failures which could result in massive and costly disruption to operations. Based on the preliminary geo-technical reports completed for the Project, 3:1 slopes were selected to ensure the site grading would work within the impact envelope, given that the soils may not be able to structurally withstand steeper slopes. Furthermore, it was determined that a 3:1 slope provides an increased level of safety for vehicles and pedestrians in the event that either leave the travel way.

The use of retaining walls was also reviewed for the project to reduce potential impact to waterways. However, retaining walls along the eastern access road would inhibit the relocation of power and communications lines that are being relocated from the vacated Birch Creek right-of-way. Given the importance of these lines, placement behind walls or within the geogrid system would not be allowed by the utility companies. As these lines cannot be located within the secure limits of the distribution center, placement along the access road is the only option for relocation. Furthermore, in areas where wall could be utilized to reduce impacts, the benefit of the impact reduction would be significantly offset by the cost of the wall. The stream section at the southeast corner of the dry warehouse building would require a 20-30-ft, four-sided wall to preserve. It was determined that while there will be guardrail along the walls, they still create a safety concern for a facility that will experience very high volumes and constant employee and truck traffic. Given this traffic, any large vertical drop is to be avoided as it represents some level of safety risk no matter how well protected.

Dissipator pads associated with each culvert will be installed flush with the existing grade of the streambed to allow for aquatic life passage. Measures will be taken to prevent oil, tar, trash, debris and other pollutants from entering the adjacent jurisdictional streams and wetlands. Any excess excavated materials not utilized as back fill will be placed and contained within upland areas and permanently stabilized to prevent erosion into adjacent jurisdictional streams and wetlands. Therefore, stockpiling of excavated material within jurisdictional streams and wetlands will be strictly prohibited as part of the construction of this project. All project construction activities initiated within jurisdictional streams and wetlands will be carried to completion in an expeditious manner in order to minimize the period of disturbance within the jurisdictional streams and wetlands.

The proposed Project has minimized the possibility of indirect impacts through implementation of planning practices which reduce the influence of direct impacts on downstream water quality. Efforts to reduce indirect impacts generally include:

1. Avoidance/minimization of direct wetlands/waters impacts through innovative site planning and utilization of confirmed wetland delineation
2. Minimization of partial wetland/stream impacts
3. Minimization of impacts to primary drainage ways and floodplains
4. Strict adherence to all state and local stormwater and sediment control measures

Based on the current layout, potential indirect impacts to downstream waters may still occur to the stream located along the southernmost boundary. Quantification of indirect impacts can be completed upon request. For the purpose of this application however, the project water management system will be designed to detain the 1-year, 24-hour storm to pre-development discharge levels. Stormwater ponds have been located to disperse run-off to both the eastern and western large stream features in a manner that is consistent with pre-development drainage patterns. As the ponds will be detention facilities, run-off will still be discharged during smaller rain events with volumes similar to pre-development rates. Pond outlets will be designed to hydrate the remaining stream “tails” that are not impacted so as to keep these segments as viable streams. The pond drawdown outlets will also have mechanisms for diffuse flow to prevent erosion due to point discharge.

An Erosion and Sediment Control (E&S) Plan that meets the latest State and local regulations and adheres to the methodology prescribed in the North Carolina Sedimentation and Pollution Control Act of 1973 will be utilized. All erosion and sediment control measures will be checked for stability and operation following every runoff producing rainfall, but in no case less than once every week. Any needed repairs will be made immediately to maintain all measures designed. The project will meet all relative requirements of Best Management Practices and Engineered Stormwater Control Structures as outlined through State and Local Stormwater Rules. Stormwater management facilities have been strategically placed adjacent to streams within natural drainageways to manage and treat runoff before discharging into down gradient waters in order to protect waters from degradation. Therefore, the project should have no effect on downstream waters, shellfish or other aquatic species (see Appendix C for Preliminary Construction Drawings).

8.0 COMPENSATORY MITIGATION

Compensatory mitigation for unavoidable stream, wetland, and buffer impacts can be satisfied by a combination of purchasing credits from a United States Army Corps of Engineers approved private mitigation bank or through payment into the North Carolina Division of Mitigation Services (DMS) in-lieu fund.

All compensatory mitigation requirements for unavoidable buffer impacts can be satisfied by the purchase of buffer credits from both the South Fork Nutrient Offset and Buffer Mitigation Bank and the UT to Pine Hill Branch Nutrient Offset and Buffer Mitigation Bank. Currently, only 525.30 stream mitigation credits can be purchased from the Cape Fear 02 Umbrella Mitigation Bank (from the Dairyland Site). The remainder of compensatory mitigation requirements for unavoidable stream and wetland impacts will be achieved through payment into the DMS in-lieu fund. Statement of Availability letters are provided in Appendix H for the purchase of buffer and stream credits from private mitigation banks. Also located in Appendix H is an issued

acceptance letter from DMS stating that DMS is willing to accept payment for stream and wetland compensatory mitigation requirements.

Compensatory mitigation for unavoidable stream, wetland, and buffer impacts associated with the proposed US 70 corridor improvements can be satisfied through payment into the North Carolina Division of Mitigation Services (DMS) in-lieu fund. NCDOT has received a Division of Mitigation Services (DMS) mitigation acceptance letter associated with the proposed US 70 corridor improvements (Appendix I: NCDOT STIP Project No. U-2581 BA Application).

9.0 SUPPORTING SITE INFORMATION

9.1 Threatened and Endangered Species Information

Species with the federal listing of Endangered or Threatened are protected under the Endangered Species Act (ESA) of 1976, as amended (16 U.S.C. 1531 et seq.). In a list updated on June 27, 2018, the U.S. Fish and Wildlife Service (USFWS) lists four federally protected species for Guilford County (**Table 1**). There is also one species in Guilford County listed as At Risk. Timmons Group obtained federally listed endangered and threatened species data from the USFWS Information for Planning and Consultation (IPaC) list (Appendix G) which generates a list of species and other resources that are known or expected to be within or near the study area. The IPaC list includes considerations for species range and potential indirect impacts. In addition, the N.C. Natural Heritage Program (NCNHP) Data Explorer website was used to generate a list of known element occurrences within one mile of the proposed project (Appendix G).

Table 1. Federally protected species listed for Guilford County

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
Vertebrate:				
<i>Notropis mekistocholas</i>	Cape Fear shiner	E	No	No Effect
<i>Percina rex</i>	Roanoke logperch	E	No	No Effect
Invertebrate:				
<i>Fusconaia masoni</i>	Atlantic pigtoe	ARS	No	Not Required
Vascular Plant:				
<i>Helianthus schweinitzii</i>	Schweinitz's sunflower	E	Yes	No Effect
<i>Isotria medeoloides</i>	Small whorled pogonia	T	No	No Effect

E - Endangered

T - Threatened

T(S/A) - Threatened due to similarity of appearance.

ARS - At Risk Species. Species that are Petitioned, Candidates or Proposed for Listing under the Endangered Species Act. These species are not afforded protection under Section 7 of the Endangered Species Act. As such, formal Section 7 consultation with the USFWS is not required for these species. However, the USFWS recommends ARS be considered. Timmon's Group evaluated the study area for suitable habitat but did not conduct specific ARS surveys.

A review of the NCNHP database and USFWS IPaC on March 29, 2018, indicated no known occurrences of any federally protected species, At Risk species, or critical habitat within one mile of the study area. A pedestrian survey was conducted on May 15, 2018 by Timmons Group biologists for small whorled pogonia and bald eagle (*Haliaeetus leucocephalus*). A biological opinion of "No effect" was rendered for both small whorled pogonia and bald eagle due to the absence of suitable habitat, observation of individuals, and lack of occurrences within 1 mile of the Project site. The USFWS issued a scoping response letter on September 20, 2018 that stated that the proposed action is not likely to adversely affect any federally-listed endangered or threatened species, their formally designated critical habitat, or species currently proposed for listing under the Act at the property and all requirements of section 7(a)(2) of the Act have been satisfied. A copy of the scoping response letters has been included in Appendix G - Agency Correspondence.

On June 27, 2018, the USFWS updated the Guilford County Threatened and Endangered species list to include Schweinitz's sunflower, Cape Fear Shiner, and Roanoke logperch as endangered species and the Atlantic pigtoe as an ARS.

A review of the NCNHP database and USFWS IPaC on December 12, 2018, indicated no known occurrences of any federally protected species, At Risk species, or critical habitat within one mile of the study area. As per personal communication with the USFWS Raleigh Ecological Field Services Office (December 12, 2018), Biological Conclusions of "No effect" shall be rendered for the Cape Fear Shiner, Roanoke logperch, and Schweinitz's sunflower (Appendix G - Agency Correspondence). It is the opinion of the USFWS that the proposed action will have no impact on these newly listed species for Guilford County.

9.2 Cultural Resources

A query of the North Carolina State Historic Preservation Office (SHPO) database was performed for the Project site and the vicinity (0.25 miles from the project boundary) to determine the effect, if any, that the project. No National Register sites or sites Eligible for listing in the National Register are present on the property or within 0.25 miles of the property. In addition, a background review of maps and files maintained by the North Carolina Office of State Archaeology (OSA) was conducted on December 17, 2018. No previously recorded archaeological resources were found within 0.25 mile of the Project site.

A concurrence letter from SHPO was received on April 13, 2017 for a 202-acre portion of the Project site stating that no known archaeological sites have been recorded with the project boundaries. A copy of the letter has been included in Appendix G– Agency Correspondence. At the time of issuance, SHPO recommended that the 202-acre site be systematically surveyed for archaeological resources. At this time, a systemic survey of the entire 342.5 acres is currently being conducted by Terracon Consultants, Inc.

10.0 CONCLUSIONS

Publix Super Markets, Inc. (Applicant) proposes the development of a product distribution center, to include both on and off-site roadway improvements and utility installations, at the Guilford County Publix Distribution Center (Project). The proposed Publix Distribution Park is comprised of 342.5 acres located on Birch Creek Drive, 5 miles east of Greensboro in Guilford County, North Carolina. For the purpose of this permit application, the Project also includes study corridors along adjacent roadways for transportation improvements and utility installation (Figure 1-Vicinity Map).

The purpose of the proposed project is to establish a secure corporate campus which: (1) includes the following components arranged in a contiguous, functional, efficient manner: refrigerated warehouse, dry warehouse, return center , food manufacturing facility, parking and staging for tractor trailers, parking for associates and ancillary support facilities; and (2) is located at a site that will efficiently serve its current and future grocery stores within North Carolina, South Carolina and Virginia. The facility components include a 1.1 million square feet (sq.ft) refrigerated warehouse, 1.3 million sq.ft. dry warehouse, return center, 120,000 sq.ft. food manufacturing facility, parking and staging areas for tractor trailers, parking for associates, and ancillary support buildings (i.e fleet maintenance, fleet fueling, dispatch and site security).

Impacts to jurisdictional features were avoided and minimized to the maximum extent practicable throughout the planning and design process including the utilization of the delineation, minimization of partial stream or wetland impacts, minimization of impacts to all primary drainage ways and floodplains, and strict adherence to all state and local stormwater control measures. The current proposed layout provides sufficient area to construct the approximately 2.5 million square feet central operations facility as well as position the facility along the existing ridgeline which will serve to minimize impacts to 2nd order streams on the property.

Unavoidable impacts will be mitigated through the purchase of compensatory wetland and stream credits through the N.C Division of Mitigation Services (DMS) and private mitigation banks, contingent on the agency approval. The purchase of this compensatory mitigation will ensure the unavoidable impacts proposed by the Project, will result in a “no net loss” of aquatic resource function and value to Waters of the U.S.



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Based on the current layout, potential indirect impacts to downstream waters may occur to the stream located along the southernmost boundary. Quantification of indirect impacts can be completed upon request. For the purpose of this application however, the proposed Project has minimized the possibility of indirect impacts through implementation of planning practices which reduce the influence of direct impacts on downstream water quality. Specifically, the project water management system will be designed to detain the 1-year, 24-hour storm to pre-development discharge levels. Stormwater ponds have been located to disperse run-off to both the eastern and western large stream features in a manner that is consistent with pre-development drainage patterns. As the ponds will be detention facilities, run-off will still be discharged during smaller rain events with volumes similar to pre-development rates. Pond outlets will be designed to hydrate the remaining stream “tails” that are not impacted so as to keep these segments as viable streams. The pond drawdown outlets will also have mechanisms for diffuse flow to prevent erosion due to point discharge.

The proposed Greensboro facility was determined to be the most practicable long-term solution to the distribution issues. The proposed Greensboro facility relieves capacity constraints at existing facilities, reduces transportation costs, and meets the preferred site requirements. The proposed Greensboro facility also enables Publix to provide the expected level of service, quality and led times throughout the network and allows for delivery using Publix’s fleet. Finally, the proposed Greensboro facility provides long-term capacity to support future growth and provides support to the existing networks during unexpected events. The proposed distribution center was determined suitable for the proposed development based on specific industry requirements including, but not limited to, Location, Site Characteristics, Available Infrastructure, Surrounding Land Use and Availability of labor force. To accomplish the goals of the Project, the Applicant has proposed the Preferred Alternative as the Least Environmentally Damaging Practicable Alternative (LEDPA).

APPENDIX A
JOINT PERMIT APPLICATION

17. DIRECTIONS TO THE SITE

From Wake Forest USACE office take NC Highway 98 West. Continue on NC Highway 98 West for approximately 20 miles. Merge onto I-85 South and continue for approximately 45 miles. Exit onto the Mt. Hope Church road exist and turn right onto Mt. Church Road. Turn right onto Knox Road. Turn left onto Birch Creek Road.

18. Nature of Activity (Description of project, include all features)

The proposed distribution facility components include a 1.1 million square feet (sq.ft) refrigerated warehouse, 1.3 million sq.ft. dry warehouse, return center, 120,000 sq.ft. food manufacturing facility, parking and staging areas for tractor trailers, parking for associates, and ancillary support buildings (i.e fleet maintenance, fleet fueling, dispatch and site security).

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

Establish a secure corporate campus which: (1) includes the following components arranged in a contiguous, functional, efficient manner: refrigerated warehouse, dry warehouse, return center, food manufacturing facility, parking and staging for tractor trailers, parking for associates and ancillary support facilities; and (2) is located at a site that will efficiently serve its current and future grocery stores within North Carolina, South Carolina, and Virginia.

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

In order to accomplish the goals of the Project, a total of 4,502 linear feet of stream, 2.4 acres of wetland, and 1.8 acres of open water are required. Discharge into special aquatic sites will result from the development of building pads, parking areas, roadway improvements and new road locations All fill material utilized for the project will be free of contaminants brought only from local sources.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type	Type	Type
Amount in Cubic Yards	Amount in Cubic Yards	Amount in Cubic Yards

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

2.4 Acres of wetland, 1.8 Acres of open water

and

4,502 Linear Feet of stream

23. Description of Avoidance, Minimization, and Compensation (see instructions) Please refer to attached permit support document Sections 6, 7, and 8.

24. Is Any Portion of the Work Already Complete? Yes No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address-See attached list (4A and 4B)

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.


SIGNATURE OF APPLICANT

2/15/19
DATE

SIGNATURE OF AGENT

DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.



TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH Ours.

AGENT AUTHORIZATION AND PROPERTY OWNER CERTIFICATION FORM

The Department of the Army
US Army Corps of Engineers
Wilmington District
PO Box 1890
Wilmington, NC 28402-1890

NCDENR – Division of Water Resources
401 & Buffer Permitting Unit
1650 Mail Service Center
Raleigh, NC 27699-1650

To Whom It May Concern:

I, the undersigned, current property owner designate and authorize representatives of Timmons Group, Inc., to act on my behalf as my agent in the processing of permit applications, to furnish upon request supplemental information in support of applications, etc., from this day forward.

This the 20th day of December, 2018.
(number) (Month) (Year)

This notification supersedes any previous correspondence concerning the agent for this project.

Project Name: Publix Distribution Center Location: Greensboro NC

Property Owner's Name (Print): Randy Barber

Property Owner's Signature: Randy B

Property Owner's Mailing Address: 501 N. Galloway Rd.
Lakeland, FL 33815

Property Owner's Telephone: 863-688-1188 x. 52237 Fax No. _____

Property Owner's Email Address: contact John.Fisher@Publix.com

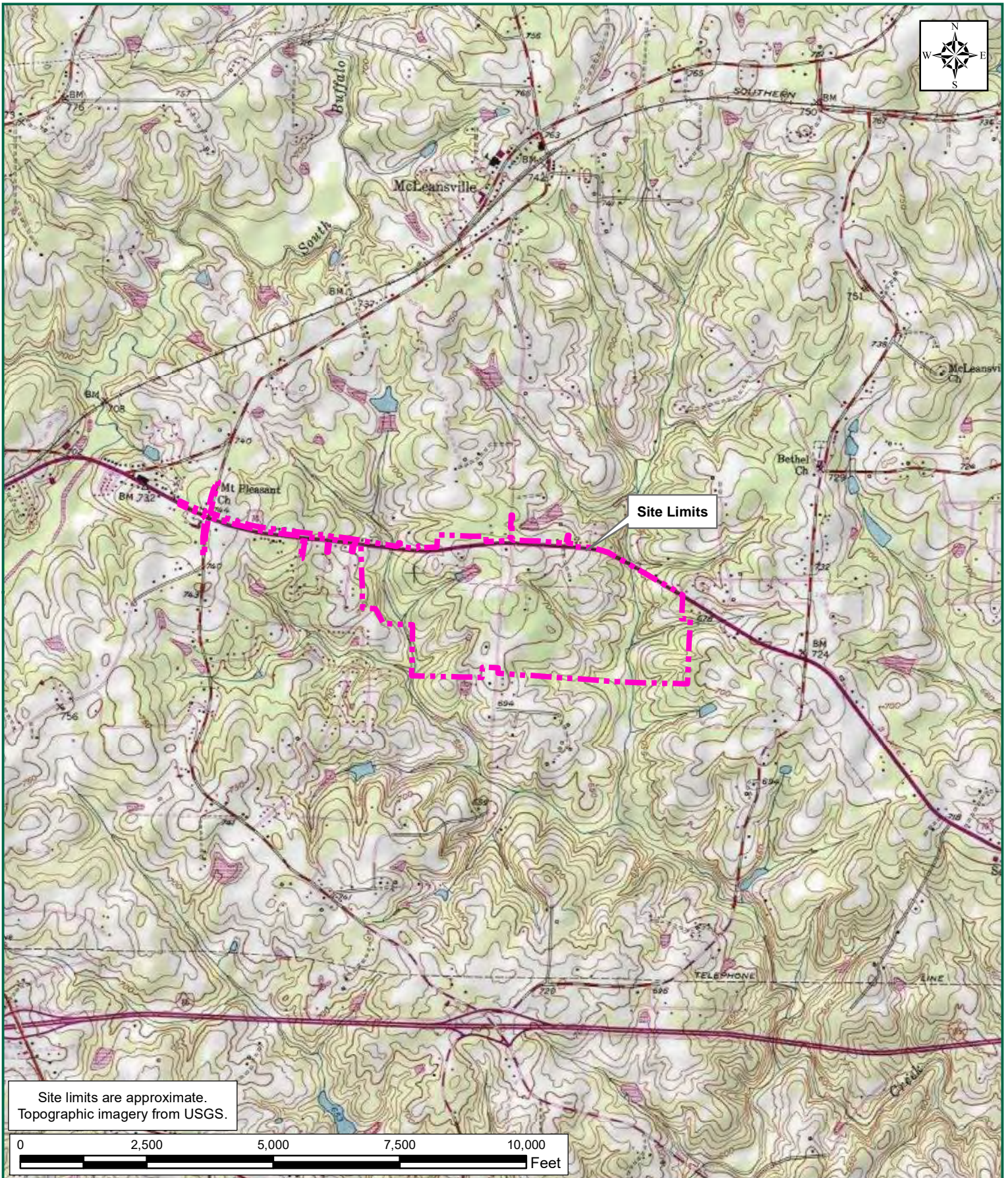
5410 Trinity Rd. Suite 112 | Raleigh, NC 27607

TFI 919.866.4951 FAX 919.859.5663

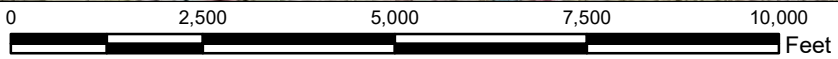
Site Development | Residential | Infrastructure | Technology

www.timmons.com

APPENDIX B
FIGURES



Site limits are approximate.
Topographic imagery from USGS.



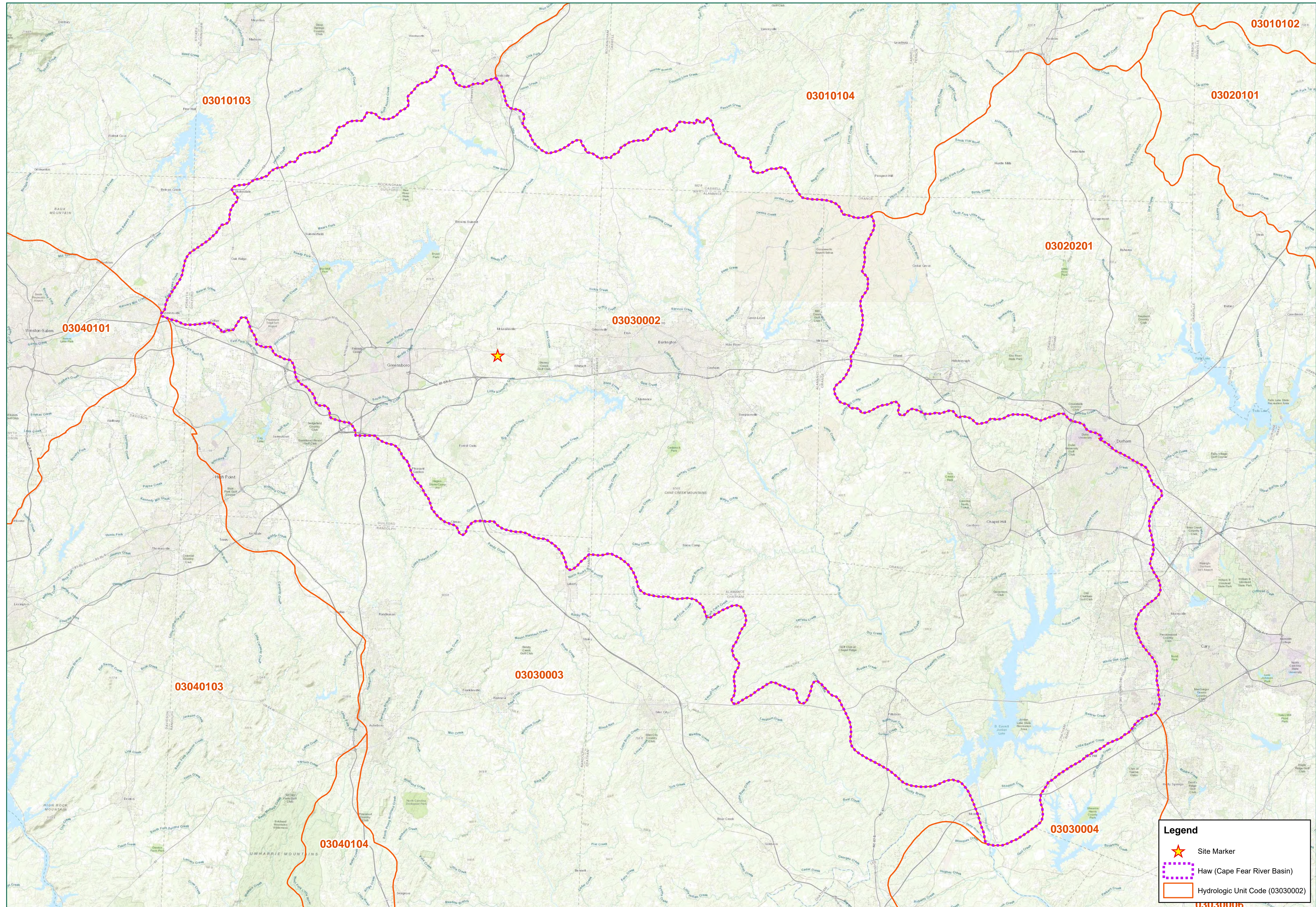
PUBLIX DISTRIBUTION CENTER
GUILFORD COUNTY, NORTH CAROLINA
FIGURE 1: VICINITY MAP

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP JOB NUMBER: 42407
PROJECT STUDY LIMITS: 354.2 ACRES
LATITUDE: 36.079016
LONGITUDE: -79.663402

U.S.G.S. QUADRANGLE(S): MCLEANSVILLE
DATE(S): 2016
WATERSHED(S): HAW (CAPE FEAR RIVER BASIN)
HYDROLOGIC UNIT CODE(S): 03030002

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PROJECT NAME & LOCATION
PUBLIX DISTRIBUTION CENTER
 GUILFORD COUNTY,
 NORTH CAROLINA

DATE 11/29/2018

PROJECT NUMBER 42407

PROJECT NAME PUBLIX DISTRIBUTION CENTER

DESIGNED BY DRAWN BY
A. MEHFOUD




NOTES:
 Site marker is approximate.
 HUC from USGS.
 Topographic basemap from
 Esri Online.

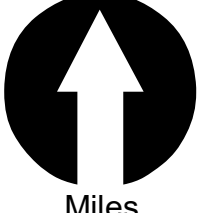
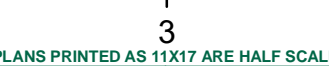
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 shall not be used for any purpose whatsoever,
 inclusive, but not limited to construction, bidding,
 and/or construction staking without the express
 written consent of TIMMONS GROUP.

REVISIONS	
#	DESCRIPTION

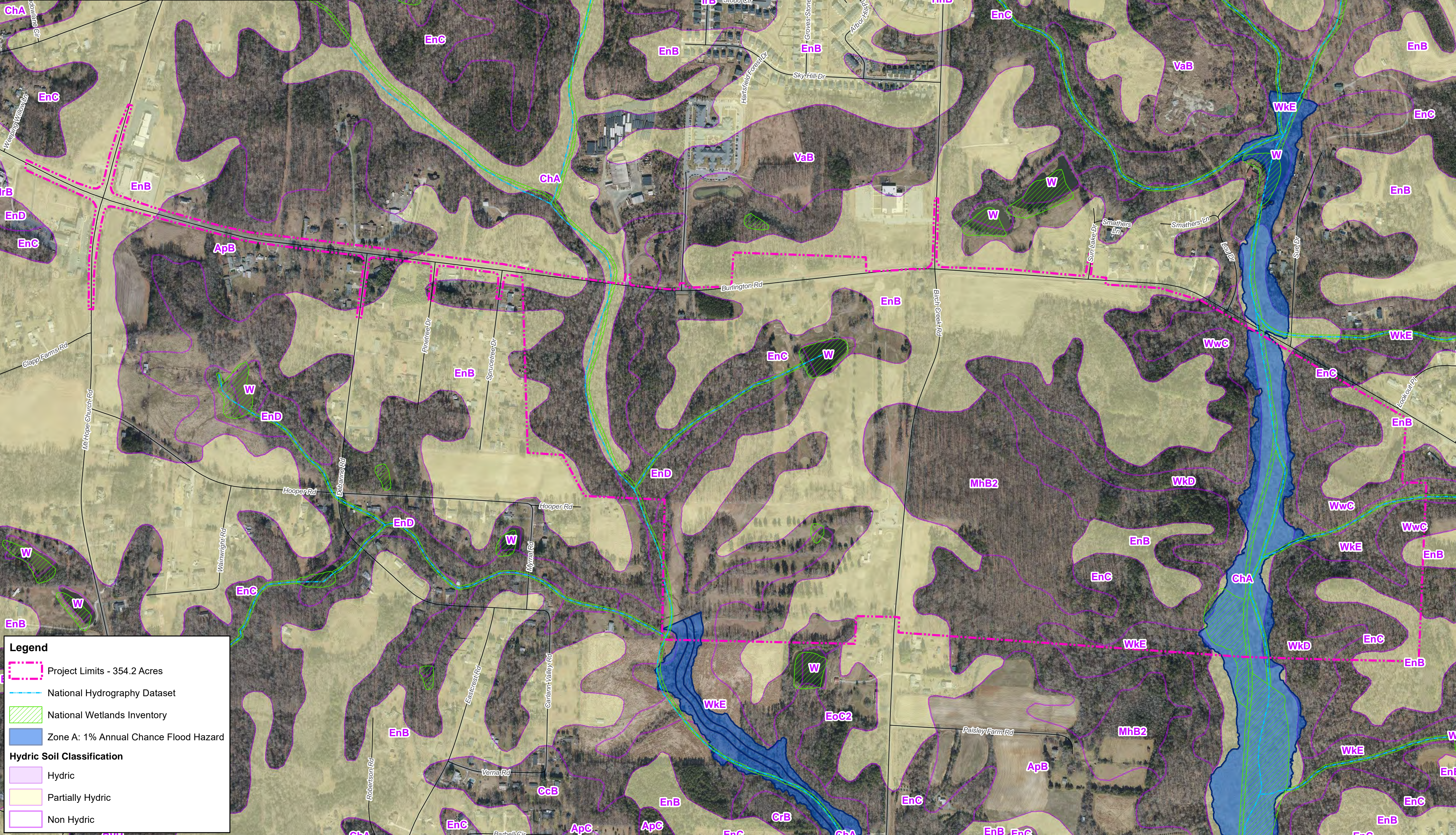
DRAWING DESCRIPTION
FIGURE 2:
HYDROLOGIC
UNIT CODE MAP

Legend

-  Site Marker
-  Haw (Cape Fear River Basin)
-  Hydrologic Unit Code (03030002)


 Miles

 PLANS PRINTED AS 11X17 ARE HALF SCALE
 SCALE SHEET NUMBER
 H: 1
 1" = 3 Miles 1

Guilford County Soils	
Mapunit Symbol	Mapunit Name
ApB	Appling sandy loam, 2 to 6 percent slopes
ApC	Appling sandy loam, 6 to 10 percent slopes
CcB	Cecil sandy loam, 2 to 6 percent slopes
ChA	Chewacla loam, 0 to 2 percent slopes, frequently flooded
CrB	Coronaca clay loam, 2 to 6 percent slopes
EnB	Enon fine sandy loam, 2 to 6 percent slopes
EnC	Enon fine sandy loam, 6 to 10 percent slopes
EnD	Enon fine sandy loam, 10 to 15 percent slopes
EoC2	Enon clay loam, 6 to 10 percent slopes, moderately eroded
MhB2	Mecklenburg sandy clay loam, 2 to 6 percent slopes, moderately eroded
VaB	Vance sandy loam, 2 to 6 percent slopes
W	Water
WkD	Wilkes-Poindexter-Wynott complex, 10 to 15 percent slopes
WkE	Wilkes-Poindexter-Wynott complex, 15 to 45 percent slopes
WwC	Wynott-Wilkes-Poindexter complex, 2 to 10 percent slopes



Legend

- Project Limits - 354.2 Acres
- National Hydrography Dataset
- National Wetlands Inventory
- Zone A: 1% Annual Chance Flood Hazard

Hydric Soil Classification

- Hydric
- Partially Hydric
- Non Hydric

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 Richmond, VA 23225
 TEL: 804-200-6500
 www.timmons.com

PROJECT NAME & LOCATION
PUBLIX DISTRIBUTION CENTER
 GUILFORD COUNTY,
 NORTH CAROLINA

DATE	11/29/2018
PROJECT NUMBER	42407
PROJECT NAME	PUBLIX DISTRIBUTION CENTER
DESIGNED BY / DRAWN BY	A. MEHFOLD

NOTES:
 Project Limits are approximate.
 NWI from US Fish and Wildlife Service.
 Soils data from SSURGO.
 National Hydrography Dataset from USGS.
 Aerial imagery from VGIN.

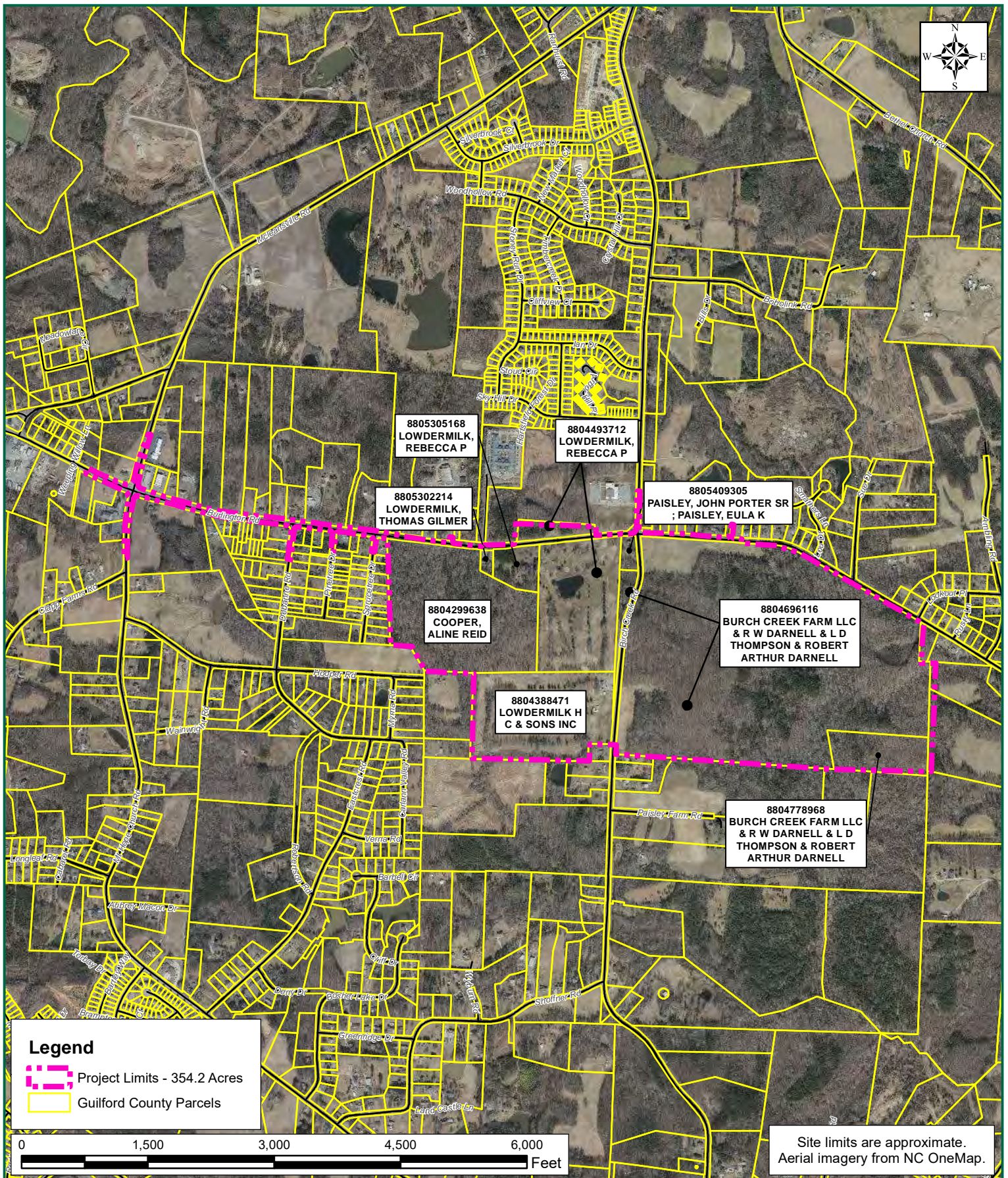
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REVISIONS	
#	DESCRIPTION

DRAWING DESCRIPTION
FIGURE 3:
ENVIRONMENTAL INVENTORY MAP

SCALE (FEET)

0 360 720
 PLANS PRINTED AS 11X17 ARE HALF SCALE
 SCALE SHEET NUMBER
 H:1" = 350' 1

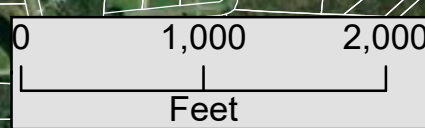
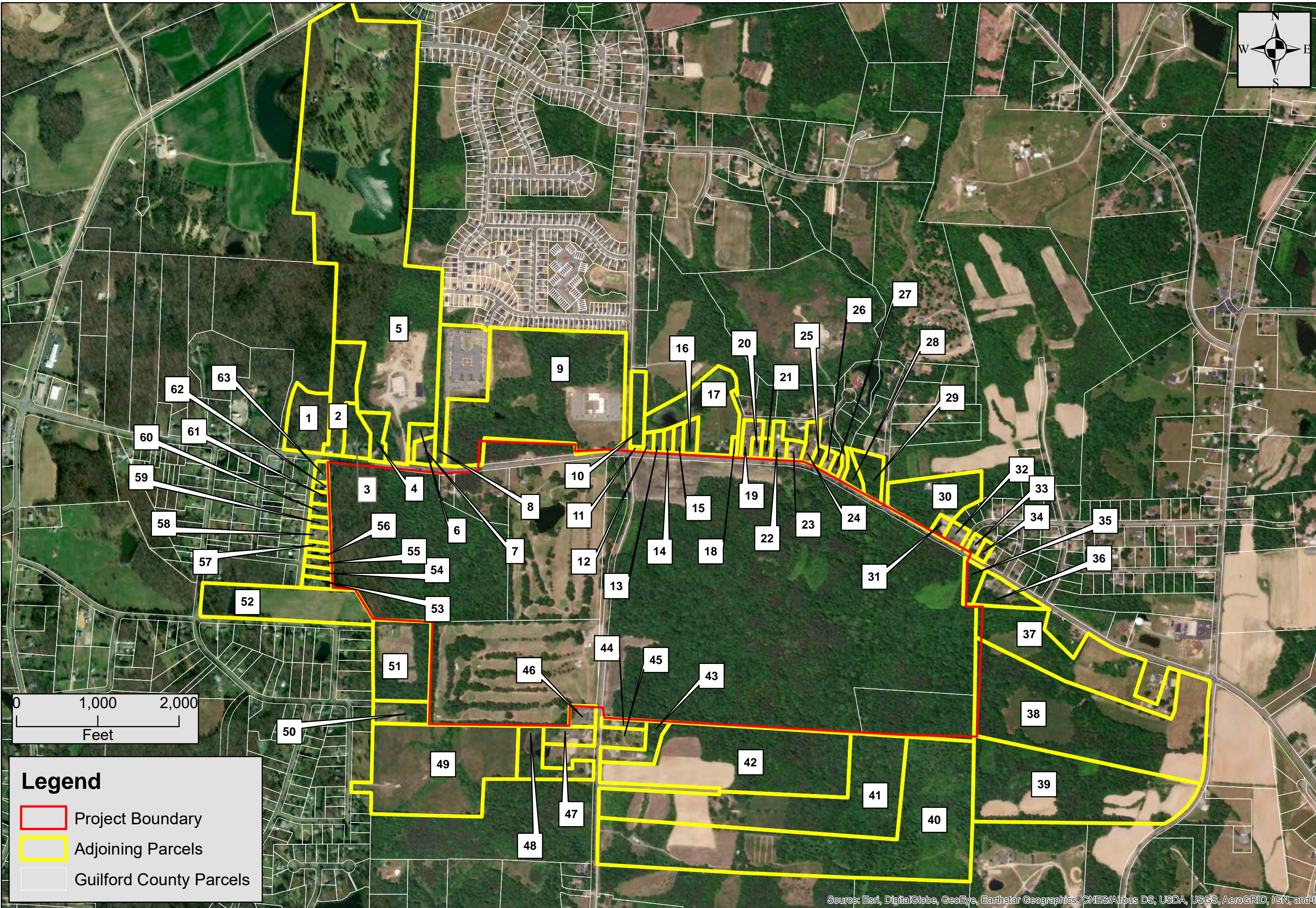


PUBLIX DISTRIBUTION CENTER
 GUILFORD COUNTY, NORTH CAROLINA
FIGURE 4: PARCEL MAP

TIMMONS GROUP
 YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP JOB NUMBER: 42407
 PROJECT STUDY LIMITS: 354.2 ACRES
 LATITUDE: 36.079016
 LONGITUDE: -79.663402

U.S.G.S. QUADRANGLE(S): MCLEANSVILLE
 DATE(S): 2016
 WATERSHED(S): HAW (CAPE FEAR RIVER BASIN)
 HYDROLOGIC UNIT CODE(S): 03030002



Legend

- Project Boundary
- Adjoining Parcels
- Guilford County Parcels



TIMMONS GROUP

PUBLIX DISTRIBUTION CENTER
GUILFORD COUNTY, NORTH CAROLINA

FIGURE 4A: ADJOINING PARCEL MAP

THIS DRAWING PREPARED AT THE
CORPORATE OFFICE
1001 Boulders Parkway, Suite 300 | Richmond, VA 23225
TEL 804.200.6500 FAX 804.560.7016 www.timmons.com

YOUR VISION. ACHIEVED THROUGH OURS.

Site Development	Residential	Infrastructure	Technology	Environmental

REVISION DESCRIPTION

DATE	REVISION DESCRIPTION
12/17/2018	

DRAWN BY
A. REUSCHE

DESIGNED BY
A. REUSCHE

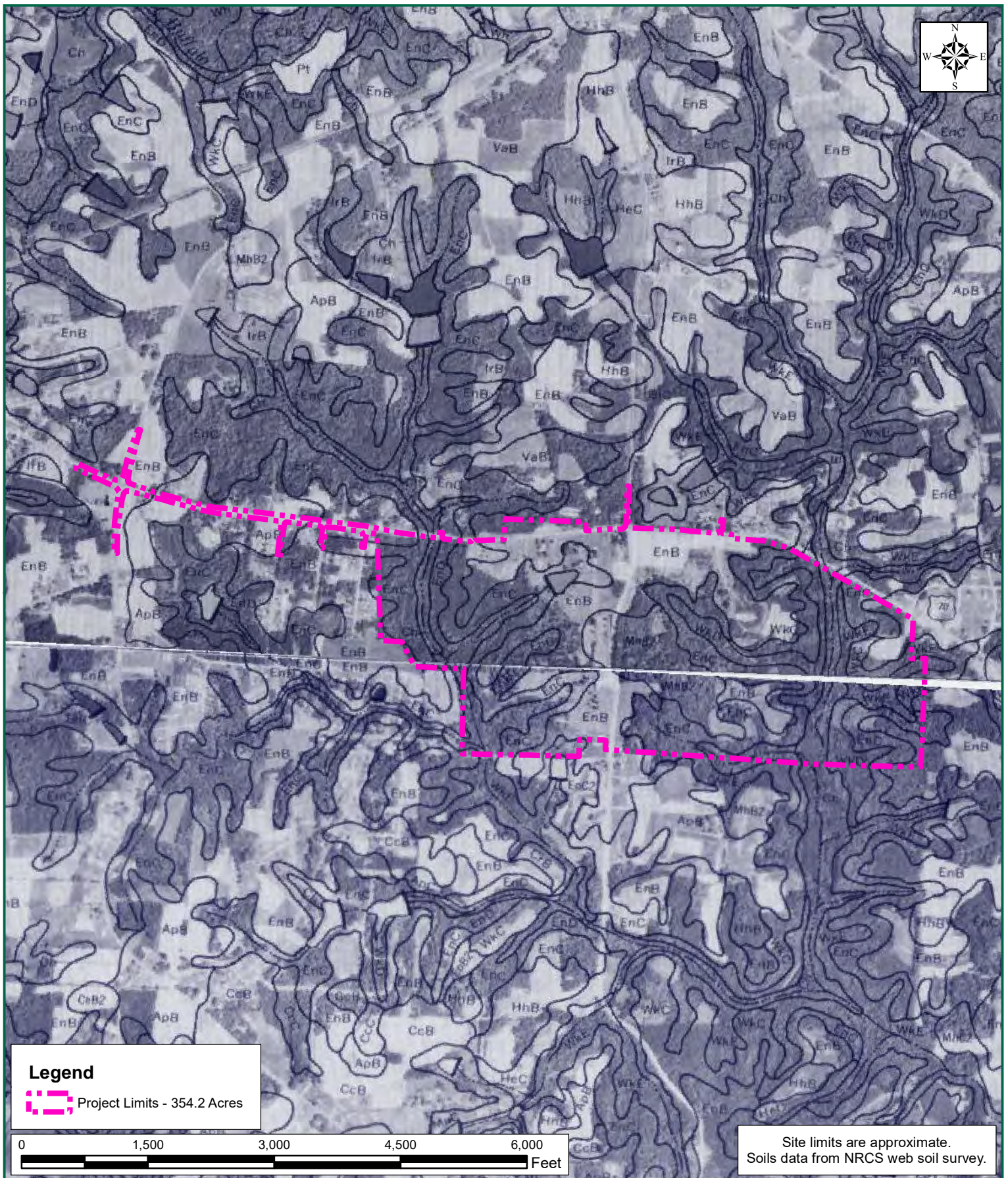
CHECKED BY
A. REUSCHE

SCALE
1" = 1,054'

JOB NO.
42407

SHEET NO.
1 of 1

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the



PUBLIX DISTRIBUTION CENTER
 GUILFORD COUNTY, NORTH CAROLINA
FIGURE 5: NRCS SOIL SURVEY MAP

TIMMONS GROUP
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TIMMONS GROUP JOB NUMBER: 42407
 PROJECT STUDY LIMITS: 354.2 ACRES
 LATITUDE: 36.079016
 LONGITUDE: -79.663402

U.S.G.S. QUADRANGLE(S): MCLEANSVILLE
 DATE(S): 2016
 WATERSHED(S): HAW (CAPE FEAR RIVER BASIN)
 HYDROLOGIC UNIT CODE(S): 03030002

APPENDIX C
PRELIMINARY CONSTRUCTION DRAWINGS

NOT FOR CONSTRUCTION

THIS DRAWING PREPARED AT THE
GREENSBORO OFFICE
8642 W. Market Street Suite 136 | Greensboro, NC 27409
TEL 336.662.0411 FAX 336.662.0420 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

Site Development	Residential	Infrastructure	Technology
DATE	12/17/2018		
DRAWN BY	J. MOORE		
DESIGNED BY	J. MOORE		
CHECKED BY	J. MATEY		
SCALE	1" = 200'		

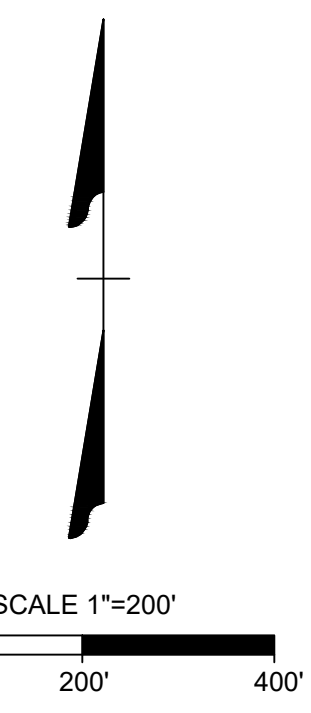
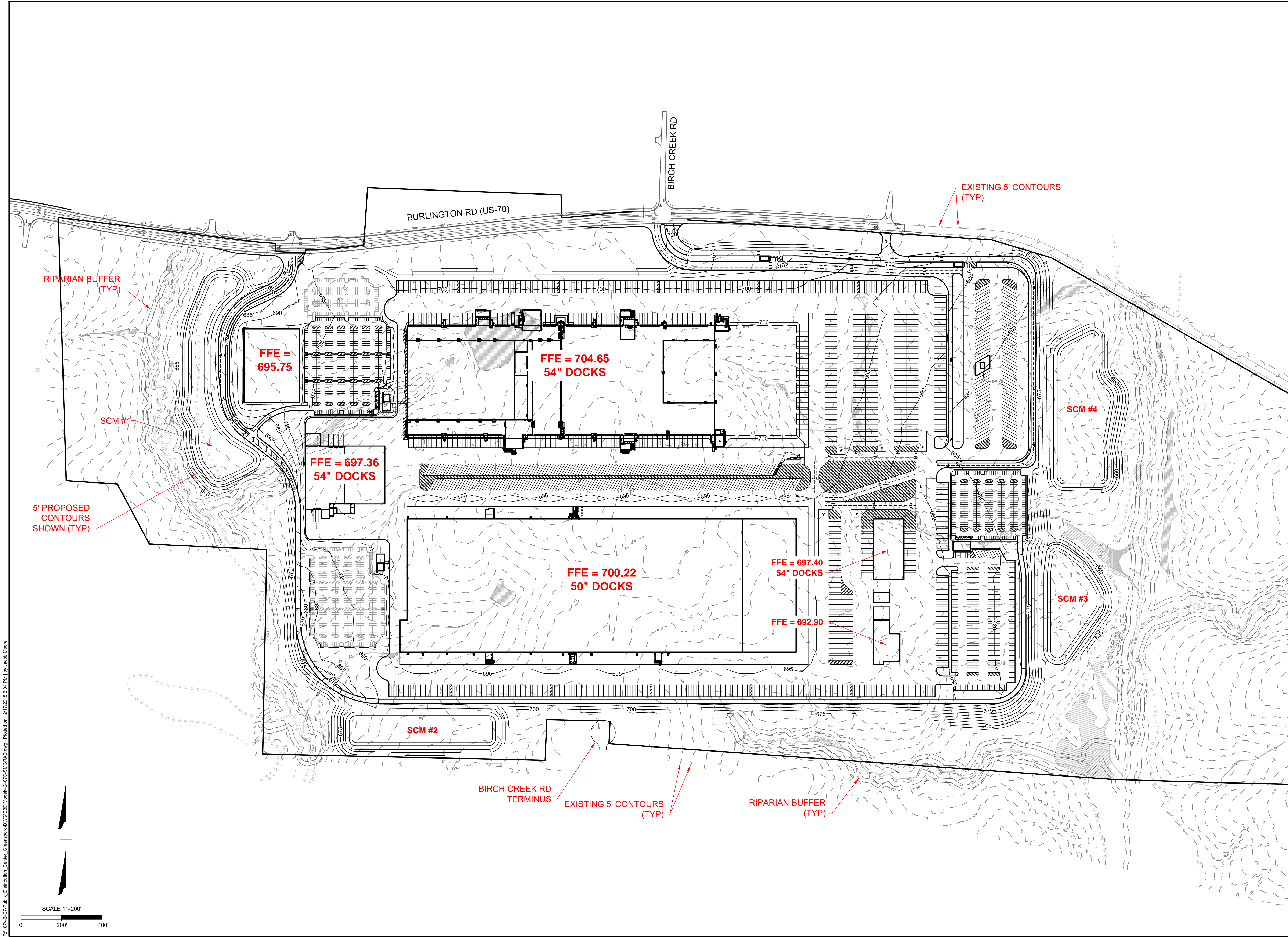


TIMMONS GROUP

PUBLIX - GREENSBORO DISTRIBUTION CENTER
CITY OF GREENSBORO - GUILFORD COUNTY - NORTH CAROLINA

PRELIMINARY GRADING EXHIBIT

JOB NO.	42407
SHEET NO.	EX1.0



R:\110742407-Publix_Distribution_Center_Greensboro\DWG\CSD_Model\12407C-SNGRAD.dwg | Printed on: 12/17/2018 2:04 PM | by Jacob Moore

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YOUR VISION ACHIEVED THROUGH OURS.

DATE	REVISION DESCRIPTION
12/17/2018	
J. MOORE	DRAWN BY
J. MOORE	DESIGNED BY
J. MATEY	CHECKED BY
1" = 200'	SCALE

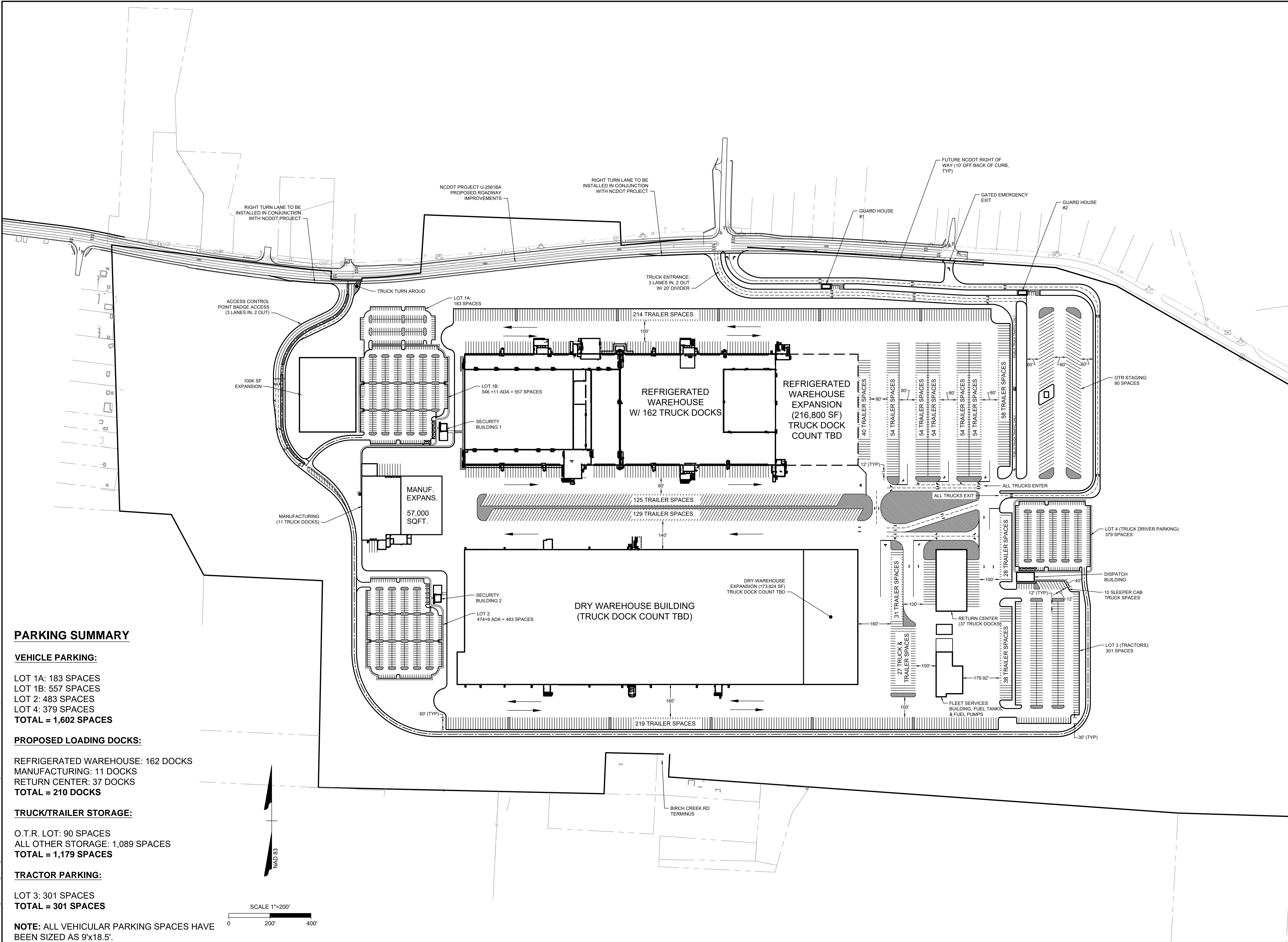
TIMMONS GROUP

PUBLIX DISTRIBUTION CENTER - GREENSBORO
 CITY OF GREENSBORO - GUILFORD COUNTY - NORTH CAROLINA

SITE LAYOUT AND PARKING EXHIBIT

Site Development	Residential	Infrastructure	Technology

JOB NO. 42407
 SHEET NO. EX1.1



PARKING SUMMARY

VEHICLE PARKING:

LOT 1A: 183 SPACES
 LOT 1B: 557 SPACES
 LOT 2: 483 SPACES
 LOT 4: 379 SPACES
TOTAL = 1,602 SPACES

PROPOSED LOADING DOCKS:

REFRIGERATED WAREHOUSE: 162 DOCKS
 MANUFACTURING: 11 DOCKS
 RETURN CENTER: 37 DOCKS
TOTAL = 210 DOCKS

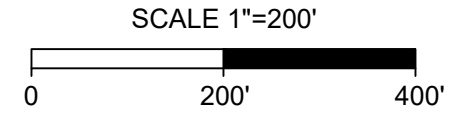
TRUCK/TRAILER STORAGE:

O.T.R. LOT: 90 SPACES
 ALL OTHER STORAGE: 1,089 SPACES
TOTAL = 1,179 SPACES

TRACTOR PARKING:

LOT 3: 301 SPACES
TOTAL = 301 SPACES

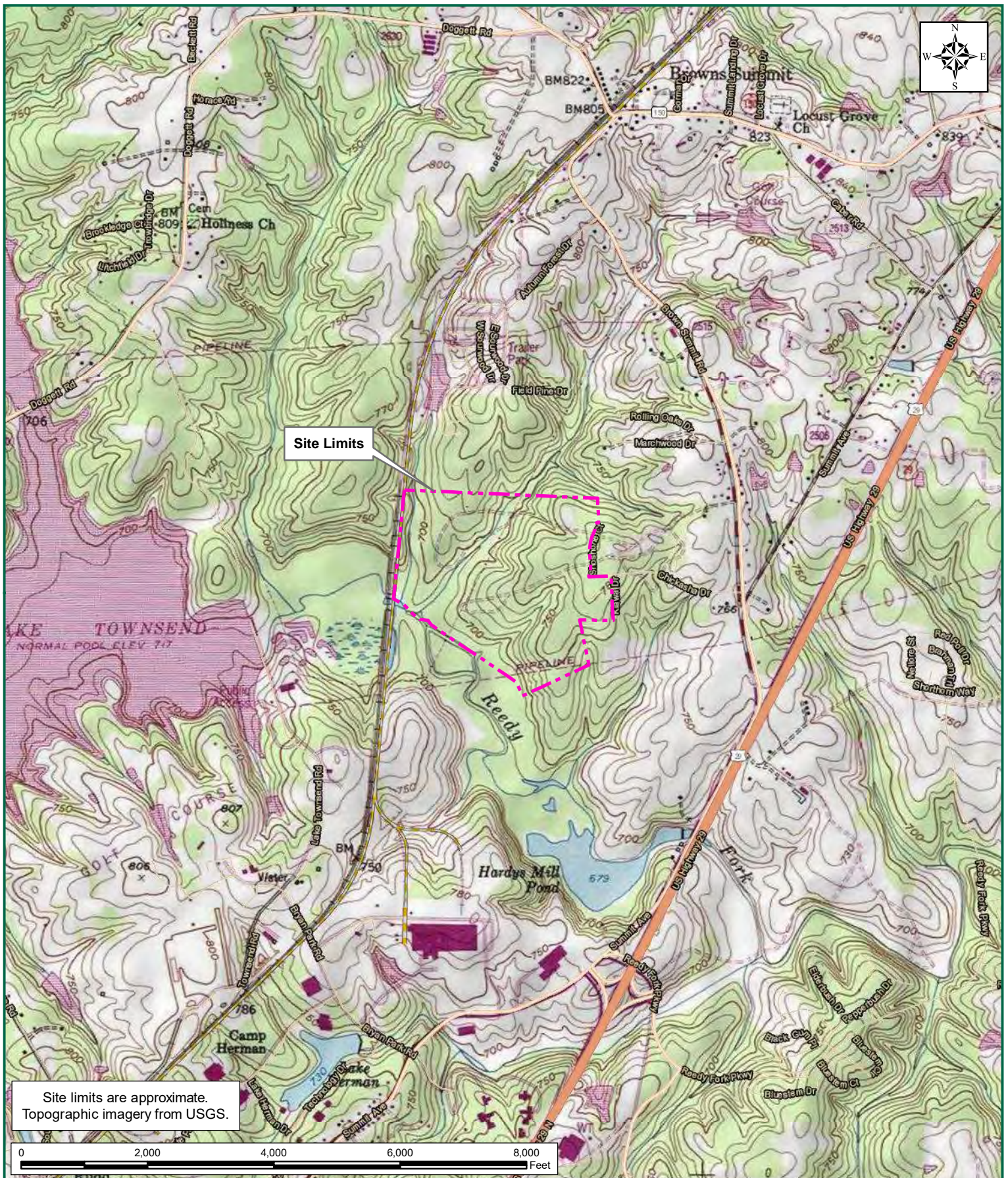
NOTE: ALL VEHICULAR PARKING SPACES HAVE BEEN SIZED AS 9'x18.5'.



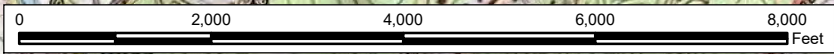
R:\10742407-Publix_Distribution_Center_Greensboro\DWG\42407-C-SPRAY\0.dwg | Plotted on 12/17/2018 2:08 PM by Jacob Moore

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APPENDIX D
OFF-SITE ALTERNATIVES LOCATION MAPS



Site limits are approximate.
Topographic imagery from USGS.



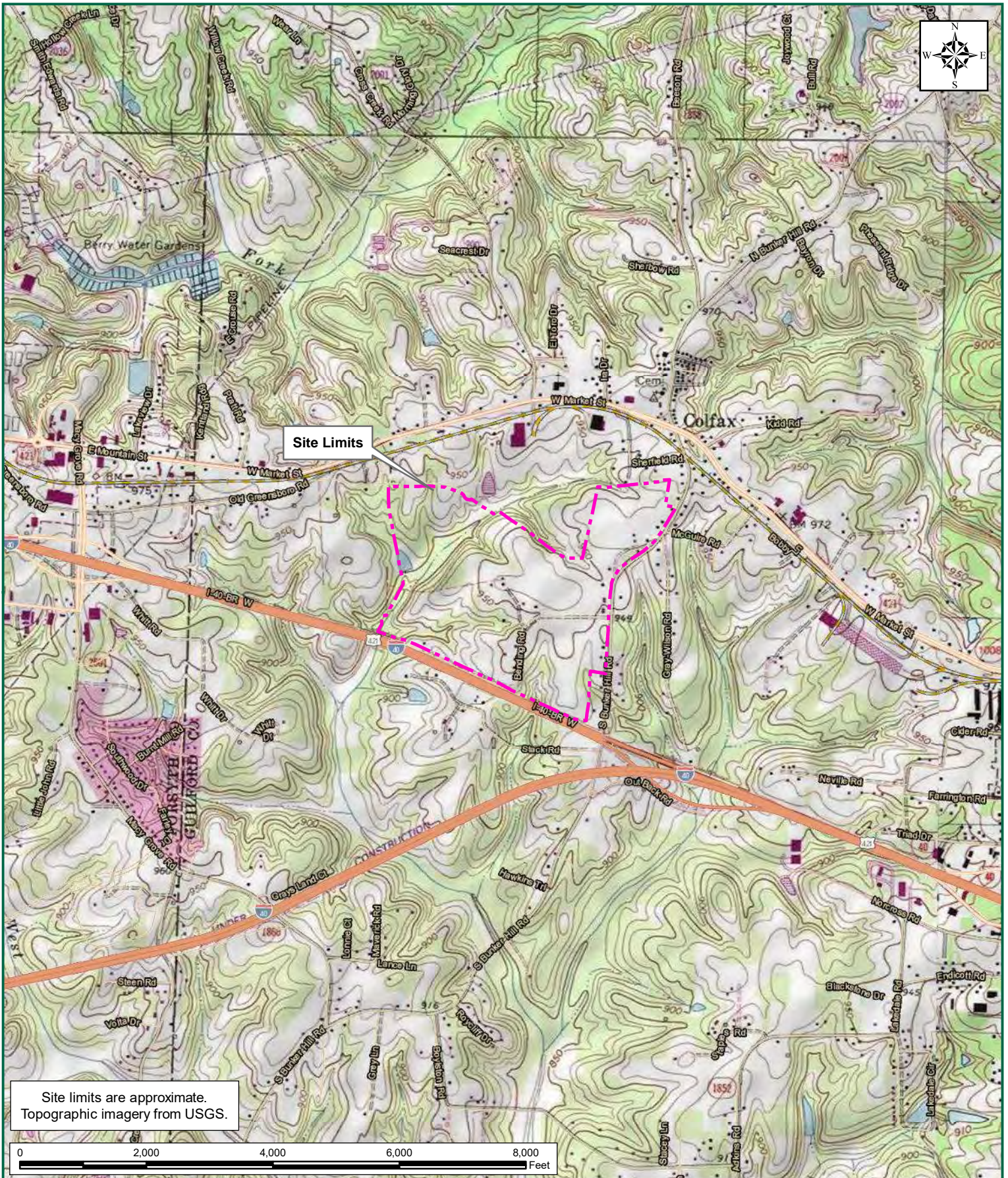
PUBLIX - REEDY FORK
GUILFORD COUNTY, NORTH CAROLINA
FIGURE 1: VICINITY MAP

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP JOB NUMBER: 42407
PROJECT STUDY LIMITS: 185.4 ACRES
LATITUDE: 36.18881
LONGITUDE: -79.718217

U.S.G.S. QUADRANGLE(S): BROWNS SUMMIT
DATE(S): 2016
WATERSHED(S): (HAW) CAPE FEAR RIVER BASIN
HYDROLOGIC UNIT CODE(S): 3030002

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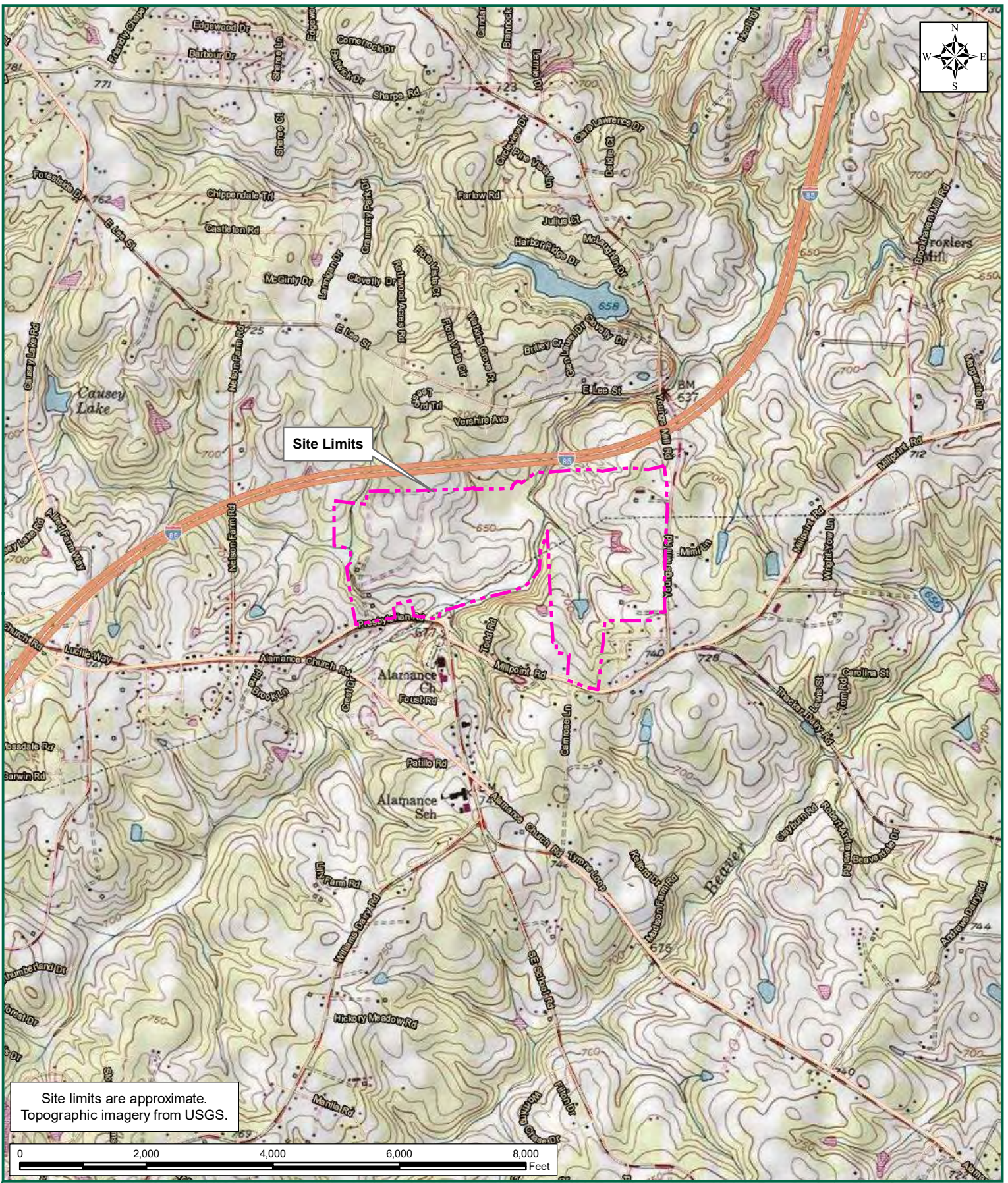
Site limits are approximate.
Topographic imagery from USGS.

PUBLIX - TRIAD BUSINESS PARK
GUILFORD COUNTY, NORTH CAROLINA
FIGURE 1: VICINITY MAP

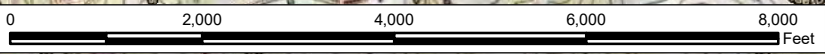
TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP JOB NUMBER: 42407
PROJECT STUDY LIMITS: 229.6 ACRES
LATITUDE: 36.10611
LONGITUDE: -80.023349

U.S.G.S. QUADRANGLE(S): KERNERSVILLE
DATE(S): 2016
WATERSHED(S): (DEEP) CAPE FEAR RIVER BASIN
HYDROLOGIC UNIT CODE(S): 3030003



Site limits are approximate.
Topographic imagery from USGS.



PUBLIX - YOUNGS MILL
GUILFORD COUNTY, NORTH CAROLINA
FIGURE 1: VICINITY MAP

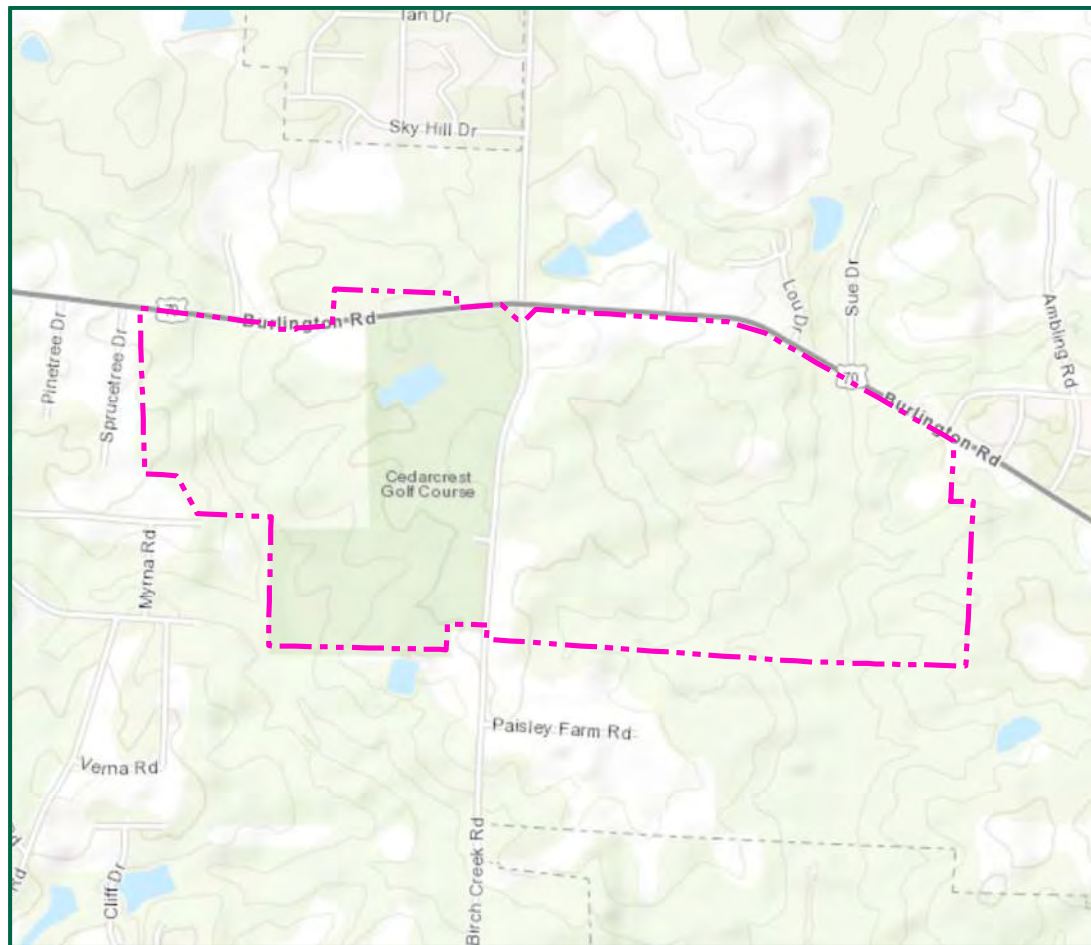
TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP JOB NUMBER: 42407
PROJECT STUDY LIMITS: 249.7 ACRES
LATITUDE: 36.030576
LONGITUDE: -79.702565

U.S.G.S. QUADRANGLE(S): MCLEANSVILLE
DATE(S): 2016
WATERSHED(S): (HAW) CAPE FEAR RIVER BASIN
HYDROLOGIC UNIT CODE(S): 3030002

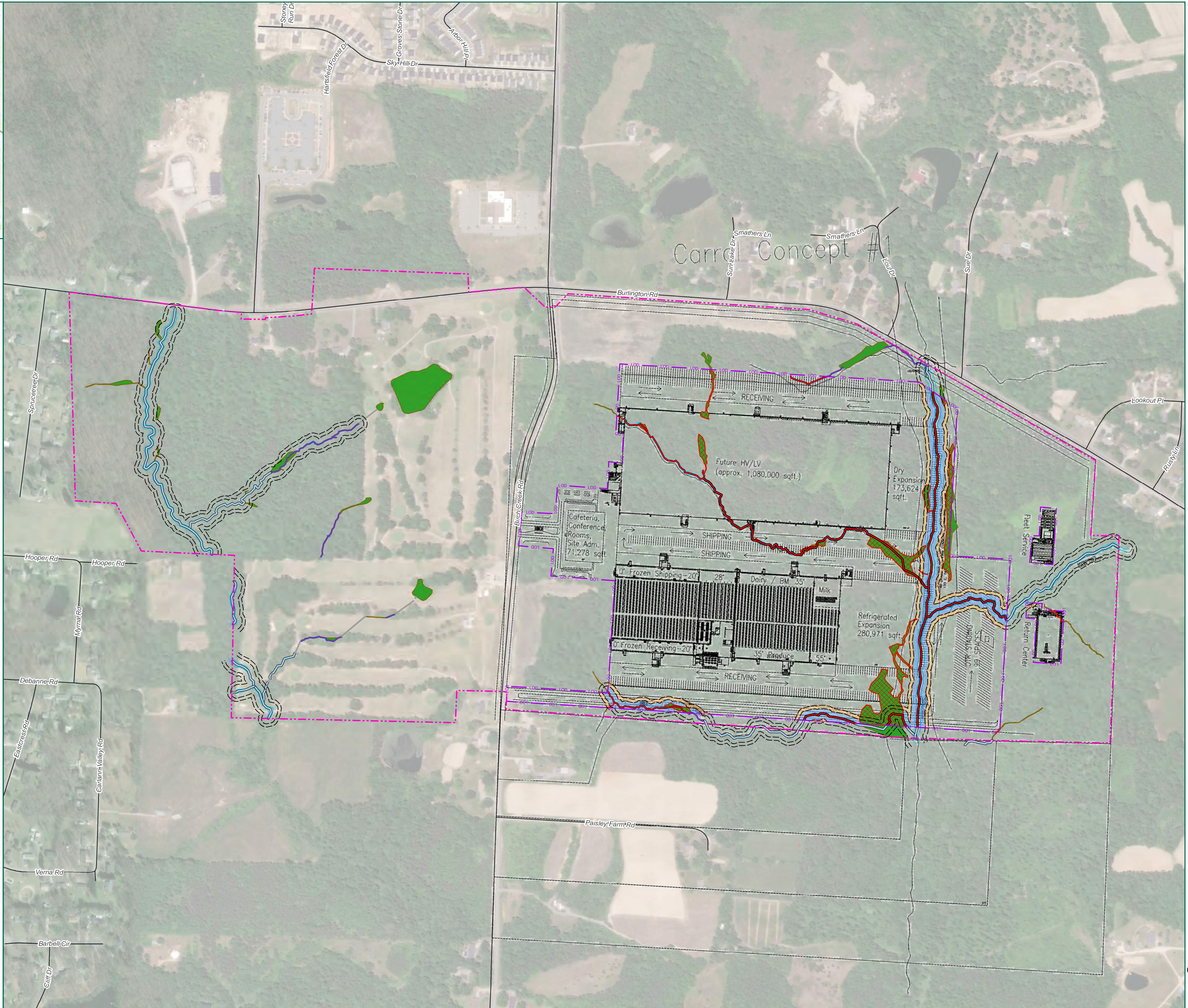
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APPENDIX E
ON-SITE ALTERNATIVES IMPACT MAPS



Legend

- Project Study Limits - 342.5 Acres
- Limits of Disturbance - 120.5 Acres
- Stream Buffers
- Zone 1 Buffer Impacts - 4.8 Acres
- Zone 2 Buffer Impacts - 2.9 Acres
- Perennial Stream (R3)
- Intermittent Stream (R4)
- Stream Top of Bank
- Stream Impacts - 7,088 lf
- Wetlands
- Wetland Impacts - 3.1 Acres



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 TEL 804.200.6500
 www.timmons.com

**PUBLIX DISTRIBUTION CENTER -
 ON-SITE ALTERNATIVE #1**
 GUILFORD COUNTY,
 NORTH CAROLINA

DATE	12/19/2018
PROJECT NUMBER	42407
PROJECT NAME	PUBLIX
DESIGNED BY / DRAWN BY	L. MAJOR

1. Waters of the U.S. within the project study limits have been located using submeter, Bluetooth GPS antennas by Timmons Group.
2. Waters of the U.S. have not been confirmed by the U.S. Army Corps of Engineers.
3. Project limits are approximate.
4. Topography based on USGS LIDAR.
5. Cowardin Stream Classifications are based solely on field observations. No formal Stream assessment methodology was completed to determine these Cowardin Classifications.

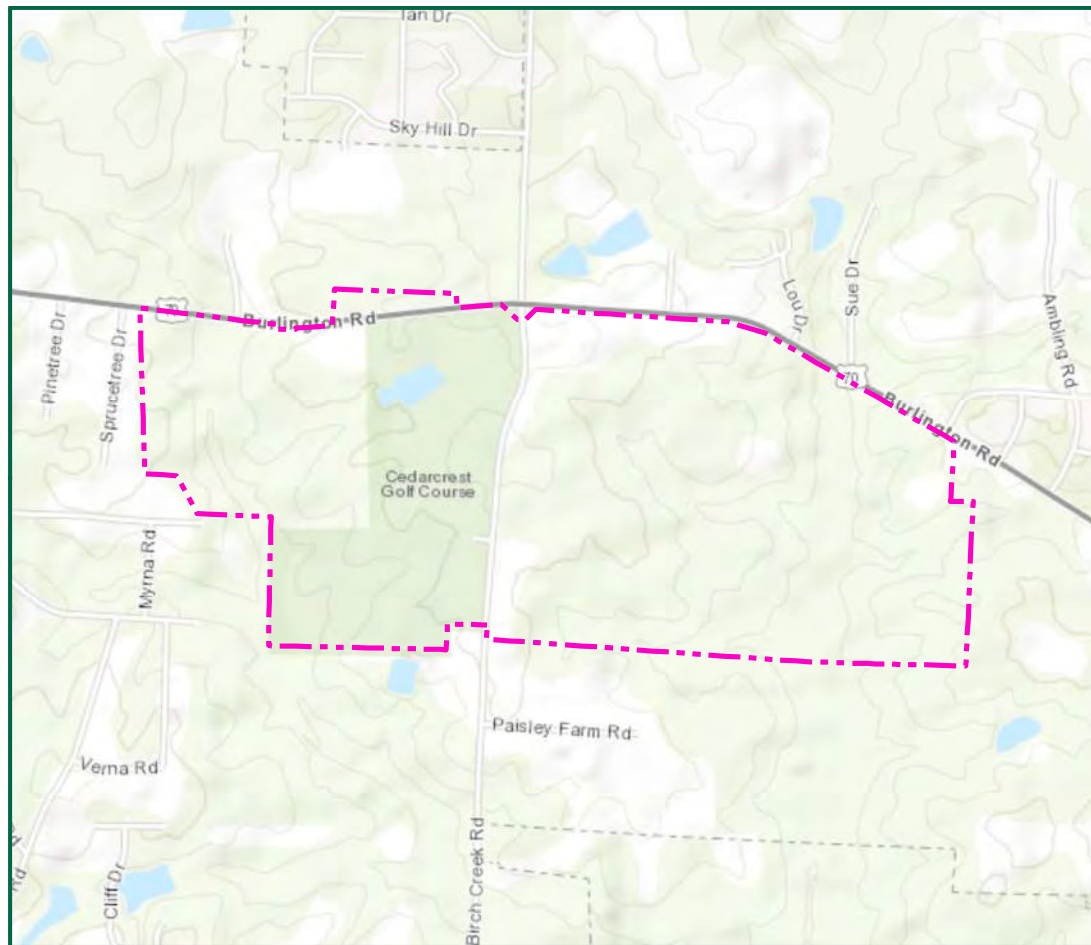
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#	MM/DD/YY	DESCRIPTION

DRAWING DESCRIPTION
 ALTERNATIVE
 PRELIMINARY
 JURISDICTIONAL
 WATERS OF THE
 U.S. IMPACTS MAP

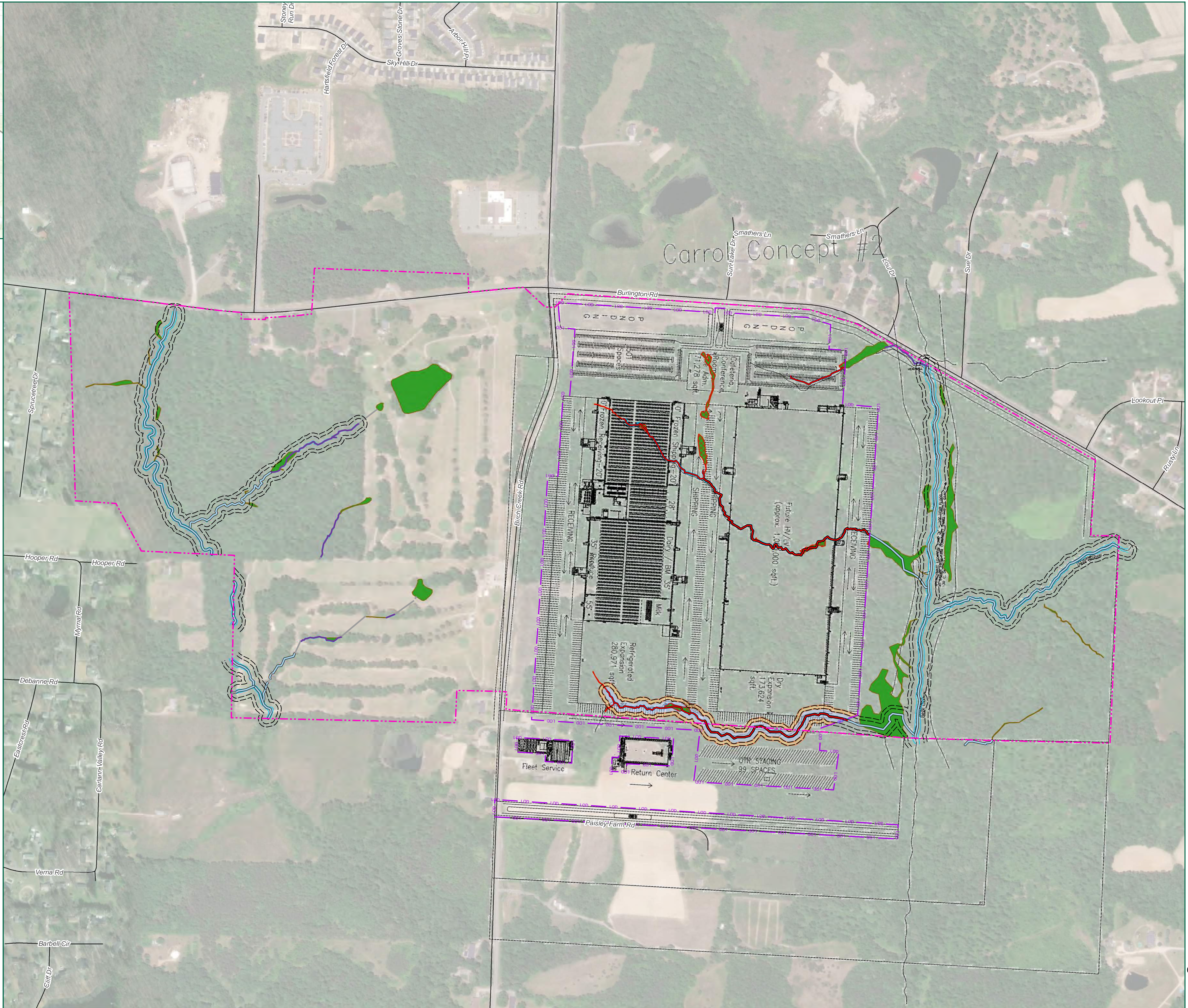
SCALE (FEET)

0	300	600
PLANS PRINTED AS 11X17 ARE HALF SCALE	SHEET NUMBER	1
SCALE	H:1" = 300'	1



Legend

- Project Study Limits - 342.5 Acres
- Limits of Disturbance - 128.8 Acres
- Stream Buffers
- Zone 1 Buffer Impacts - 2.4 Acres
- Zone 2 Buffer Impacts - 1.7 Acres
- Perennial Stream (R3)
- Intermittent Stream (R4)
- Stream Top of Bank
- Stream Impacts - 4,549 lf
- Wetlands
- Wetland Impacts - 0.6 Acres



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 Richmond, VA 23225
 TEL 804.200.6500
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**PUBLIX DISTRIBUTION CENTER -
 ON-SITE ALTERNATIVE #2**
 GUILFORD COUNTY,
 NORTH CAROLINA

DATE	12/19/2018
PROJECT NUMBER	42407
PROJECT NAME	PUBLIX
DESIGNED BY / DRAWN BY	L. MAJOR

1. Waters of the U.S. within the project study limits have been located using submeter, Bluetooth GPS antennas by Timmons Group.
2. Waters of the U.S. have not been confirmed by the U.S. Army Corps of Engineers.
3. Project limits are approximate.
4. Topography based on USGS LIDAR.
5. Cowardin Stream Classifications are based solely on field observations. No formal Stream assessment methodology was completed to determine these Cowardin Classifications.

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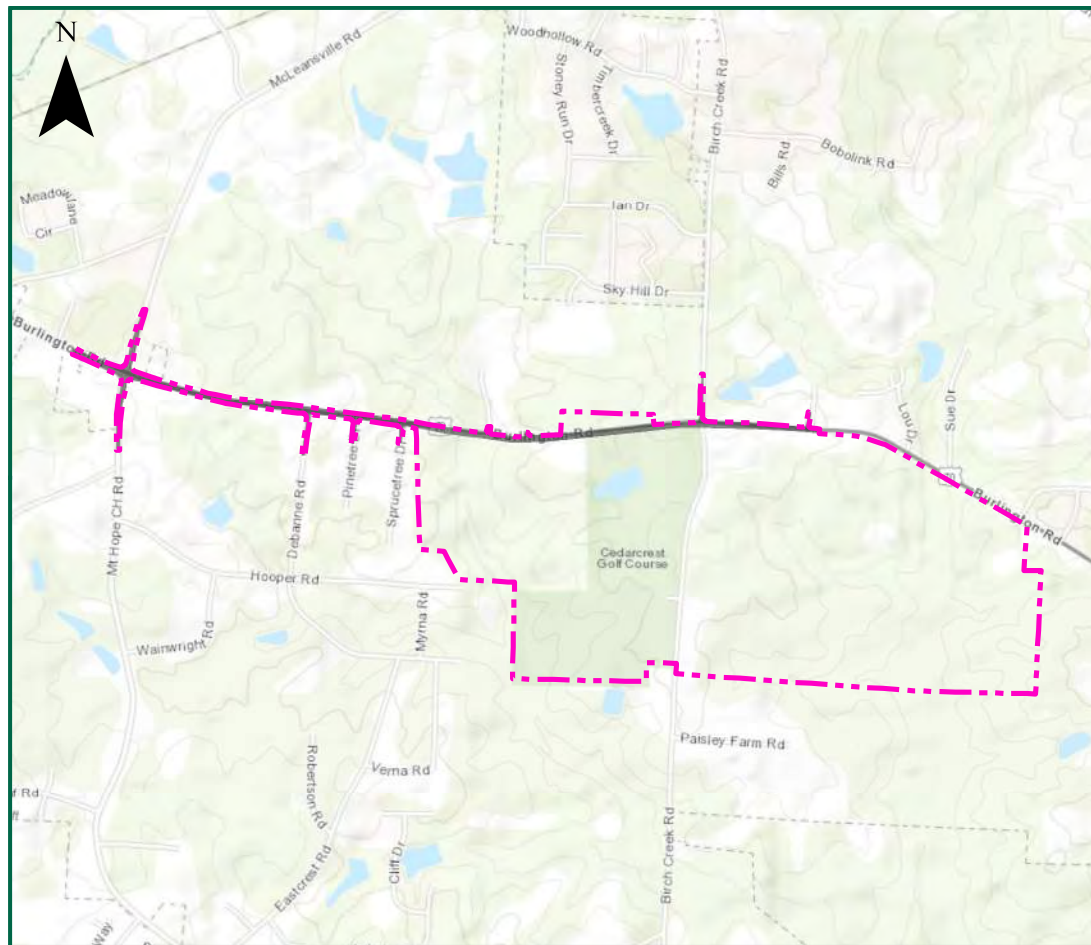
#	MM/DD/YYYY	DESCRIPTION

DRAWING DESCRIPTION
 ALTERNATIVE
 PRELIMINARY
 JURISDICTIONAL
 WATERS OF THE
 U.S. IMPACTS MAP

SCALE (FEET)

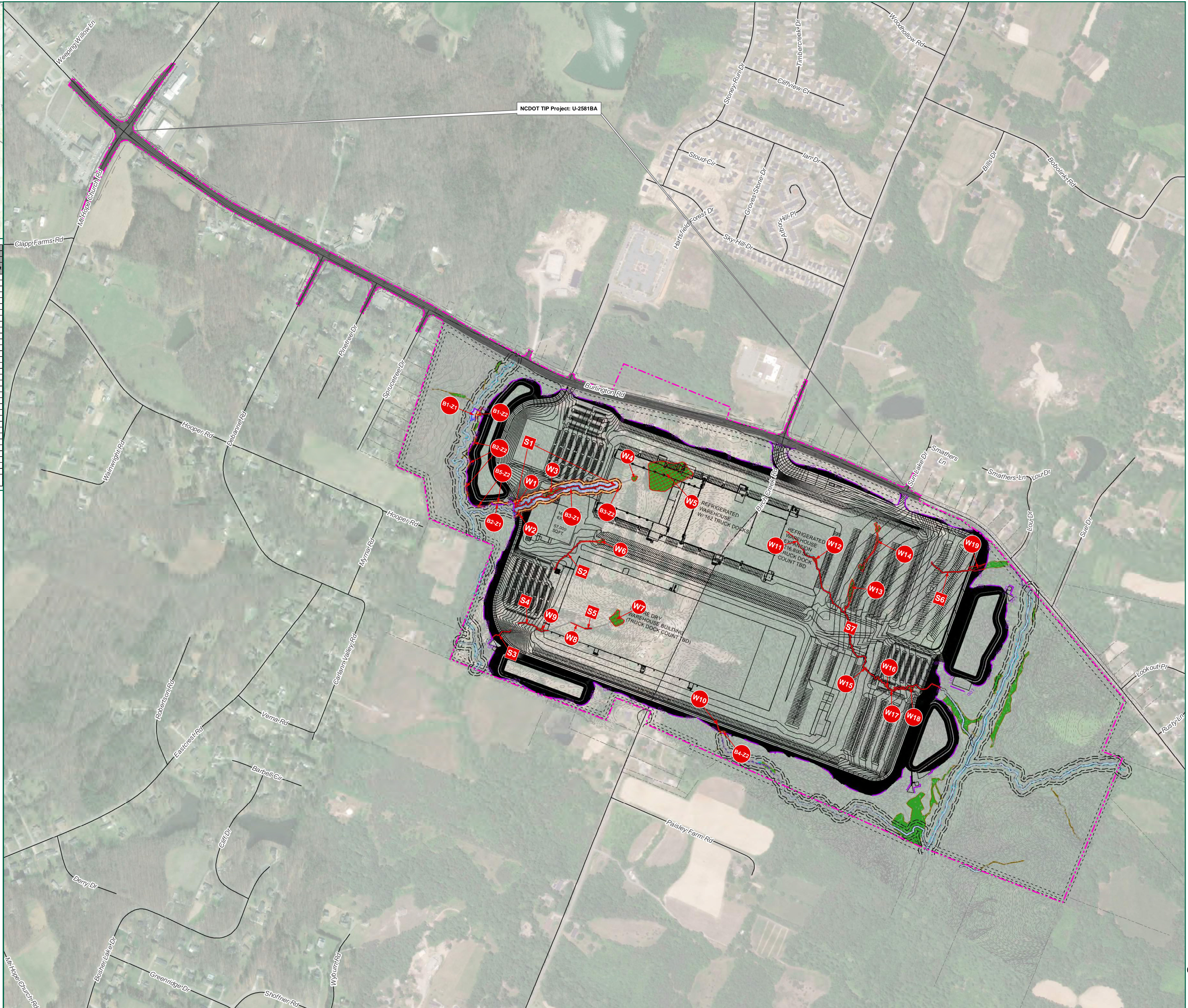
0	300	600
PLANS PRINTED AS 11X17 ARE HALF SCALE	SCALE	SHEET NUMBER
H:1" = 300'	1	

APPENDIX F
WATERS OF THE U.S. IMPACT MAPS



Impact ID	Wetland (sq. ft)						Stream Buffers (sq. ft)		Stream (ft)	
	Impact		Conversion		Impact		Impact			
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent		
W1		142								
W2		764								
W3		6,203								
W4		1,468								
W5		66,963								
W6		2,281								
W7		9,160								
W8		255								
W9		316								
W10		261								
W11		519								
W12		1,292								
W13		5,696								
W14		7,167								
W15		132								
W16		67								
W17		87								
W18		3,354								
W19		4,932								
S1									1,030	
S2									318	
S3									192	
S4									283	
S5									57	
S6									373	
S7									2,248	
B1-21									2,784	
B1-22									1,585	
B2-21									717	
B2-22									2,523	
B3-21									54,019	
B3-22									38,616	
B4-22									843	
B5-22									3,421	
Total	0 sq. ft 0.0 ac	76,123 sq. ft 1.8 ac	35,796 sq. ft 0.8 ac	0 sq. ft 0.0 ac	0 sq. ft 0.0 ac	0 sq. ft 0.0 ac	105,518 sq. ft 2.4 ac	0 ft 0.0 ac	4,502 ft	

- ### Legend
- Project Limits - 354.2
 - Limits of Disturbance - 219.9
 - x Stream Impact
 - x Wetland Impact
 - Stream Buffers
 - Zone 1 Buffer Impact
 - Zone 2 Buffer Impact
 - Perennial Stream (R3)
 - Intermittent Stream (R4)
 - Stream Impacts
 - Stream Top of Bank
 - Wetlands
 - Wetland Impacts
 - NC DOT TIP Project: U-2581BA - 15.1 Acres



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 1001 Boulders Parkway, Suite 300
 Richmond, VA 23225
 TEL 804.200.6500
 www.timmons.com

PROJECT NAME & LOCATION
PUBLIX DISTRIBUTION CENTER
 GUILFORD COUNTY,
 NORTH CAROLINA

DATE: 12/18/2018
 PROJECT NUMBER: 42407
 PROJECT NAME: PUBLIX
 DESIGNED BY / DRAWN BY: L. MAJOR

1. Waters of the U.S. within the project study limits have been located using submeter, Bluetooth GPS antennas by Timmons Group.
2. Waters of the U.S. have not been confirmed by the U.S. Army Corps of Engineers.
3. Project limits are approximate.
4. Topography based on USGS LIDAR.
5. Cowardin Stream Classifications are based solely on field observations. No formal Stream assessment methodology was completed to determine these Cowardin Classifications.

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REVISIONS	
#	DESCRIPTION

DRAWING DESCRIPTION
PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP

SCALE (FEET)

0	400	800
PLANS PRINTED AS 11X17 ARCH HALF SCALE		
SCALE		SHEET NUMBER
H:1" = 400'		1

APPENDIX G
AGENCY COORESPONDANCE

Franklin, Samuel W

From: James Carter <JCarter@greensboro.org>
Sent: Monday, March 13, 2017 1:08 PM
To: DCR - Environmental_Review
Subject: N Certified Sites Program - 311 Birch Creek Road
Attachments: 202 Acre Map - Timmons Group.pdf

Greetings,

My name is James Carter and I work for the Greensboro Chamber of Commerce. At present, we are working to certify 202 acres located at 311 Birch Creek Road in McLeansville, NC 27301 through the program. A map of the property boundaries is attached.

I would like to request an archeological report on the property; I appreciate any next steps or guidance you can share.

Thank you.

Regards,

James



James Carter

Project Manager

Greensboro Chamber of Commerce

WE'VE MOVED!

111 W. February One Place | Greensboro, NC 27401

Office: 336.387.8313

Mobile: 336.317.7469

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North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office
Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary Susi H. Hamilton

Office of Archives and History
Deputy Secretary Kevin Cherry

April 13, 2017

James Carter
Greensboro Chamber of Commerce
111 West February One Place
Greensboro, NC 27401

Re: Certified Site, 311 Birch Creek Road, McLeansville, Guilford County, ER 17-0645

Dear Mr. Carter:

Thank you for your letter of March 13, 2017, requesting our review of the proposed NC Department of Commerce certified site. We have conducted a review of our files and offer the following comments.

There are no known recorded archaeological sites within the project boundaries. However, the project area has never been systematically surveyed to determine the location or significance of archaeological resources. We recommend that a reconnaissance level survey of the parcel be conducted by an experienced archaeologist. The purpose of this investigation is to identify archaeological remains that may be readily apparent and to identify areas that have a high probability for containing archaeological sites that may be eligible for inclusion in the National Register of Historic Places. If archaeological sites are found on the parcel and/or if it is determined that the potential for eligible sites exists, additional archaeological investigations may be recommended at such time as development activities are proposed.

If an archaeological field investigation is conducted, one paper copy and one digital file (PDF on disc) of each report, and one paper copy and one digital copy (MS Word on disc) of each site form should be submitted to the OSA for review and comment as soon as they are available and well in advance of any earth moving activities. PDF-A (Archival format) is preferred but a high-quality standard PDF file is also acceptable. A letter will be sent to you for submission to the NC Department of Commerce Certified Site Program for final certification.

Staff archaeologists at the Office of State Archaeology are available to assist you in the development of Request for Proposals (RFP) and a Scope of Work (SOW) for the reconnaissance survey. Please visit their website at www.archaeology.ncdcr.gov for the appropriate staff archaeologist.

A list of archaeological consultants who have conducted or expressed an interest in contract work in North Carolina is available at www.archaeology.ncdcr.gov/ncarch/resource/consultants.htm. The archaeologists listed, or any other experienced archaeologist, may be contacted to conduct the recommended survey.

We have determined that the project as proposed will not have an effect on any historic structures.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

A handwritten signature in blue ink that reads "Renee Gledhill-Earley".

for Ramona M. Bartos

cc: Susan Fleetwood, NC Department of Commerce

Christopher Inscore

From: Ellis, John <john_ellis@fws.gov>
Sent: Thursday, December 13, 2018 10:00 AM
To: Christopher Inscore; Leigh Mann
Subject: Re: [EXTERNAL] Project Sky Update: Schweinitz's sunflower

Chris,

The Service would also concur with a no effect determination for Atlantic pigtoe, Roanoke logperch, and Cape Fear shiner.

John

On Wed, Dec 12, 2018 at 11:49 AM Ellis, John <john_ellis@fws.gov> wrote:
If you feel you need to do so you can. If not, I wouldn't worry about it.

On Wed, Dec 12, 2018 at 11:48 AM Christopher Inscore <Christopher.Inscore@timmons.com> wrote:

John,

Thank you for checking with Dale. Would you like for me to resubmit a species conclusion table with all of the new species we discussed?

Chris Inscore, AWB

Environmental Scientist

TIMMONS GROUP | www.timmons.com

5410 Trinity Rd, Suite 102 | Raleigh, NC 27607

Office: 919.352.3249 | Fax: 919.859.5663 | Mobile: 919.805.9861

christopher.inscore@timmons.com

Your Vision Achieved Through Ours

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

From: Ellis, John <john_ellis@fws.gov>

Sent: Wednesday, December 12, 2018 11:44 AM

To: Christopher Inscore <Christopher.Inscore@timmons.com>; Dale Suiter <dale_suiter@fws.gov>

Subject: Re: [EXTERNAL] Project Sky Update: Schweinitz's sunflower

I checked with Dale Suiter, our botanist, and he said he doesn't believe surveys are warranted and could concur with a no effect determination.

On Wed, Dec 12, 2018 at 11:37 AM Christopher Inscore <Christopher.Inscore@timmons.com> wrote:

John,

As per our phone conversation, I just wanted to get your opinion on the new listing of Schweinitz's sunflower for Guilford County and if it would impact this Project Site.

Regards,

Chris Inscore, AWB

Environmental Scientist

TIMMONS GROUP | www.timmons.com

5410 Trinity Rd, Suite 102 | Raleigh, NC 27607

Office: 919.352.3249 | Fax: 919.859.5663 | Mobile: 919.805.9861

christopher.inscore@timmons.com

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Roy Cooper, Governor
Susi Hamilton, Secretary
Walter Clark, Director, Land and Water Stewardship

NCNHDE-7721

December 12, 2018

Chris Inscore
Timmon's Group
5410 Trinity Rd
Raleigh, NC 27607
RE: Publix Distribution Center

Dear Chris Inscore:

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/Directories/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, Clean Water Management Trust 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
Publix Distribution Center
December 12, 2018
NCNHDE-7721

No Element Occurrences are Documented Within a One-mile Radius of the Project Area

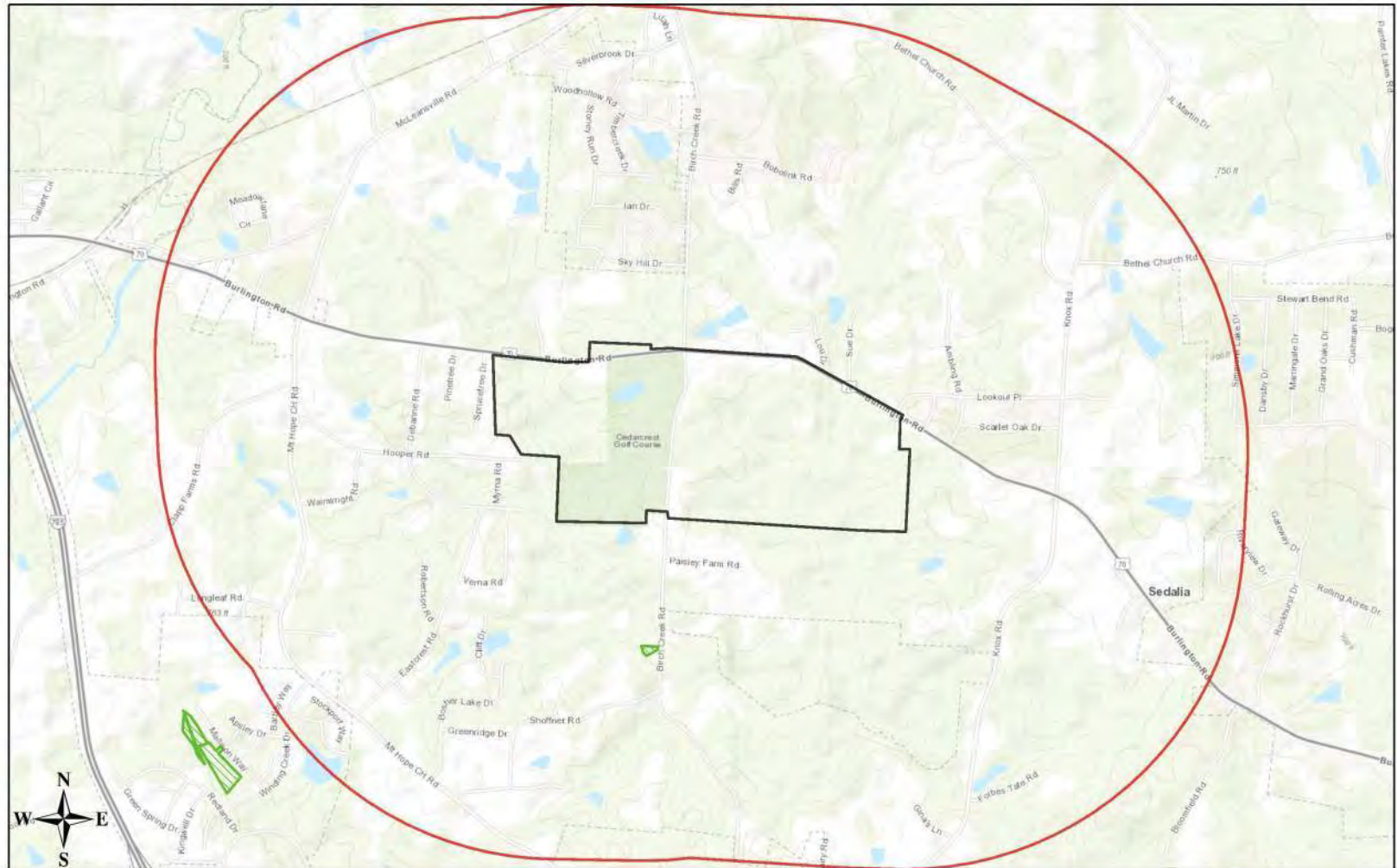
No Natural Areas are Documented Within a One-mile Radius of the Project Area

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

Managed Area Name	Owner	Owner Type
Guilford County Open Space	Guilford County: multiple local government	Local Government

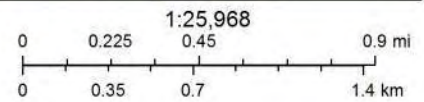
Definitions and an explanation of status designations and codes can be found at <https://ncnhde.natureserve.org/content/help>. Data query generated on December 12, 2018; source: NCNHP, Q4 Oct 2018. Please resubmit your information request if more than one year elapses before project initiation as new information is continually added to the NCNHP database.

NCNHDE-7721: Publix Distribution Center



December 12, 2018

- Project Boundary
- Buffered Project Boundary
- Managed Area (MAREA)



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

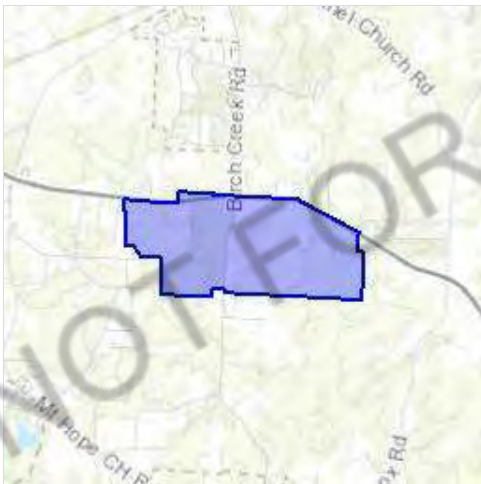
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Guilford County, North Carolina



Local office

Raleigh Ecological Services Field Office

☎ (919) 856-4520

📠 (919) 856-4556

MAILING ADDRESS

Post Office Box 33726
Raleigh, NC 27636-3726

PHYSICAL ADDRESS

551 Pylon Drive, Suite F

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [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.

The following species are potentially affected by activities in this location:

Flowering Plants

NAME

STATUS

Schweinitz's Sunflower *Helianthus schweinitzii* Endangered
 No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/3849>

Small Whorled Pogonia *Isotria medeoloides* Threatened
 No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/1890>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

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

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

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

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



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Raleigh ES Field Office

Post Office Box 33726

Raleigh, North Carolina 27636-3726

September 20, 2018

George Buchholz
Timmons Group
5410 Trinity Road, Suite 102
Raleigh, NC 27607

Re: Project Sky – Guilford County, NC

Dear Mr. Buchholz:

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

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

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

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

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

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

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

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

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

The North Carolina Wildlife Resources Commission has developed a Guidance Memorandum (a copy can be found on our website at (<http://www.fws.gov/raleigh>) to address and mitigate secondary and cumulative impacts to aquatic and terrestrial wildlife resources and water quality.

We recommend that you consider this document in the development of your projects and in completing an initiation package for consultation (if necessary).

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

Sincerely,

A handwritten signature in blue ink that reads "Pete Benjamin". The signature is written in a cursive style with a large initial "P" and "B".

Pete Benjamin
Field Supervisor

APPENDIX H
MITIGATION ACCEPTANCE LETTERS



Riparian Buffer Credits Statement of Availability
Cape Fear 02 Jordan Lake - *Haw River Subwatershed*

December 12, 2018

Mark Miley
Publix Super Market, Inc.
3300 Publix Corporate Parkway, Building #3
Lakeland, FL 33802

RE: Availability of Riparian Buffer Credits for the "Publix" project
Bank Name: UT to Pine Hill Branch Nutrient Offset & Buffer Mitigation Bank
Bank Sponsor: Wildlands Holdings, IV, LLC
DWR Project Number: 2017-0886v2
Permittee: Publix Super Market, Inc.
Riparian Buffer Credits Available: 3.31 acres (144,074 sq. ft.)
Cape Fear 03030002 River Basin

Dear Mr. Miley:

Wildlands Holdings IV, LLC currently has sufficient riparian Buffer credits from the **UT to Pine Hill Branch Nutrient Offset & Buffer Mitigation Bank** to satisfy some or all of the riparian buffer mitigation requirements related to the above-mentioned project (including the attached South Fork SOA). The project is located within the service area (HUC **03030002**) of the Bank.

This letter is simply a statement of availability of credits as of the date written. Although current inventory is high, the letter is not a guarantee of availability as credits will be sold on a first come, first serve basis. An invoice for this transaction will be sent upon your request and we will formally reserve both the credits and price quoted for a period of 30 days from the invoice at no cost.

Final transfer of the credits will be made upon receipt of a copy of the 401 Water Quality Certification Authorization Certificate from the NC Department of Environmental Quality approving the Riparian Buffer mitigation purchase from the Bank and upon receipt of your payment to Wildlands Holding III, LLC. We will then issue a credit transfer certificate verifying your credit purchase to the North Carolina Division of Water Resources and to you for your records

We appreciate the opportunity to assist you with your mitigation requirements. Please contact me at 205-807-0800 or jhazelhoff@wildlandseng.com if you have any questions or need any additional information.



Sincerely,

A handwritten signature in blue ink, appearing to read "Ian M. Hazelhoff".

Ian M. Hazelhoff
Wildlands Engineering, Inc.
Land Acquisition
ihazelhoff@wildlandseng.com
O: (704) 332-7754 ex. 120
M: (205) 807-0800



**Riparian Buffer Credits Statement of Availability
Cape Fear 02 Jordan Lake - *Haw River Subwatershed***

December 12, 2018

Mark Miley
Publix Super Market, Inc.
3300 Publix Corporate Parkway, Building #3
Lakeland, FL 33802

RE: Availability of Riparian Buffer Credits for the “Publix” project
Bank Name: South Fork Nutrient Offset & Buffer Mitigation Bank
Bank Sponsor: Wildlands Holdings, IV, LLC
DWR Project Number: 2016-0225v2
Permittee: Publix Super Market, Inc.
Riparian Buffer Credits Available: 2.53 acres (110,315 sq. ft.)
Cape Fear 03030002 River Basin

Dear Mr. Miley:

Wildlands Holdings IV, LLC currently has sufficient riparian Buffer credits from the **South Fork Nutrient Offset & Buffer Mitigation Bank** to satisfy some or all of the riparian buffer mitigation requirements related to the above-mentioned project (including attached Pine Hill SOA). The project is located within the service area (HUC **03030002**) of the Bank.

This letter is simply a statement of availability of credits as of the date written. Although current inventory is high, the letter is not a guarantee of availability as credits will be sold on a first come, first serve basis. An invoice for this transaction will be sent upon your request and we will formally reserve both the credits and price quoted for a period of 30 days from the invoice at no cost.

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We appreciate the opportunity to assist you with your mitigation requirements. Please contact me at 205-807-0800 or jhazelhoff@wildlandseng.com if you have any questions or need any additional information.



Sincerely,

A handwritten signature in blue ink, appearing to read "Ian M. Hazelhoff".

Ian M. Hazelhoff
Wildlands Engineering, Inc.
Land Acquisition
ihazelhoff@wildlandseng.com
O: (704) 332-7754 ex. 120
M: (205) 807-0800



**Environmental Banc & Exchange, LLC Stream and Wetland Banks
Statement of Availability December 13, 2018**

U.S. Army Corps of Engineers

David Bailey
Raleigh Regulatory Field Office
3331 Heritage Trade Center, Suite 105
Wake Forest, NC 27587

Re Project: Publix Distribution Center

This document confirms that the **Publix Super Market, Inc.** (Applicant) for the **Publix Distribution Center** (Project) has expressed an interest to utilize **525.30 Stream Mitigation Credits** from the EBX sponsored RES Cape Fear 02 Umbrella Mitigation Bank, *specifically 525.30 stream credits from the Dairyland Site*, in the Cape Fear HUC 03030002. As the official Bank Sponsor, Environmental Banc & Exchange, LLC, attests to the fact that mitigation is available for reservation at this time.

These mitigation credits are not considered secured, and consequently are eligible to be used for alternate purposes by the Bank Sponsor, until payment in full is received from the Applicant resulting in the issuance of a Mitigation Credit Transfer Certificate by the bank acknowledging that the Applicant has fully secured credits from the bank and the Banker has accepted full responsibility for the mitigation obligation requiring the credits/units.

The Banker will issue the Mitigation Credit Transfer Certificate within three (3) days of receipt of the purchase price. Banker shall provide to Applicant a copy of the Mitigation Credit Transfer Certificate and a documented copy of the debit of credits from the Bank Official Credit Ledger(s), indicating the permit number and the resource type secured by the applicant. A copy of the Mitigation Credit Transfer Certificate, with an updated Official Credit Ledger will also be sent to regulatory agencies showing the proper documentation.

If any questions need to be answered, please contact me at 919-209-1075.

Best Regards,

A handwritten signature in black ink that reads 'Caitlan B. Parker'.

Caitlan B. Parker
Resource Environmental Solutions, LLC
302 Jefferson Street, Suite 110
Raleigh, NC 27605



NORTH CAROLINA
Environmental Quality

December 12, 2018

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

TIM BAUMGARTNER
Director

Mark Miley
Publix Super Market
3300 Publix Corporate Parkway
Lakeland, FL 33802

Expiration of Acceptance: 6/12/2019

Project: Publix Distribution Center

County: Guilford

The purpose of this letter is to notify you that the NCDEQ Division of Mitigation Services (DMS) is willing to accept payment for compensatory mitigation for impacts associated with the above referenced project as indicated in the table below. Please note that this decision does not assure that participation in the DMS in-lieu fee mitigation program will be approved by the permit issuing agencies as mitigation for project impacts. It is the responsibility of the applicant to contact permitting agencies to determine if payment to the DMS will be approved. **You must also comply with all other state, federal or local government permits, regulations or authorizations associated with the proposed activity including G.S. § 143-214.11.**

This acceptance is valid for six months from the date of this letter and is not transferable. **If we have not received a copy of the issued 404 Permit/401 Certification within this time frame, this acceptance will expire.** It is the applicant's responsibility to send copies of the permits to DMS. Once DMS receives a copy of the permit(s) an invoice will be issued based on the required mitigation in that permit and payment must be made prior to conducting the authorized work. The amount of the in-lieu fee to be paid by an applicant is calculated based upon the Fee Schedule and policies listed on the DMS website.

Based on the information supplied by you in your request to use the DMS, the impacts for which you are requesting compensatory mitigation credit are summarized in the following table. The amount of mitigation required and assigned to DMS for this impact is determined by permitting agencies and may exceed the impact amounts shown below.

River Basin	Impact Location (8-digit HUC)	Impact Type	Impact Quantity
Cape Fear	03030002	Warm Stream	4,502
Cape Fear	03030002	Riparian Wetland	2.57

Upon receipt of payment, DMS will take responsibility for providing the compensatory mitigation. The mitigation will be performed in accordance with the In-Lieu Fee Program instrument dated July 28, 2010 and 15A NCAC 02B .0295 as applicable. Thank you for your interest in the DMS in-lieu fee mitigation program. If you have any questions or need additional information, please contact Kelly Williams at (919) 707-8915.

Sincerely,

James B Stanfill
Asset Management Supervisor

cc: George Buchholz, agent



APPENDIX I

Application for Individual Section 404 Individual Permit, Section 401 Water Quality Certification, and Riparian Buffer Certification for the Widening of US 70 from Mt. Hope Church Road to Sun Lake Road in Guilford County. NCDOT Division 7, TIP No. U-2581 BA



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

January 18, 2019

U. S. Army Corps of Engineers
Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, North Carolina 27587

ATTN: Mr. David Bailey
NCDOT Coordinator

Subject: **Application for Individual Section 404 Individual Permit, Section 401 Water Quality Certification, and Riparian Buffer Certification** for the Widening of US 70 from Mt. Hope Church Road to Sun Lake Road in Guilford County. NCDOT Division 7, TIP No. U-2581 BA, Debit \$570 from WBS 34840.1.4.

Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes to improve the US 70 corridor for a length of approximately 1.5 miles from approximately Mt. Hope Church Road to Sun Lake Road in Guilford County (NCDOT STIP Project No. U-2581 BA).

This application is combined with the Publix Distribution Center Individual Permit Application pursuant to the October 18, 2018 letter from the Corps of Engineers to the Department of Transportation.

Please see the enclosed Division of Mitigation Services (DMS) mitigation acceptance letter, permit drawings, and buffer drawings.

PURPOSE AND NEED

The purpose and need for this project is to reduce congestion along US 70 between Mt. Hope Church Road to Sun Lake Road in Guilford County.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
ENVIRONMENT ANALYSIS UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

Telephone: (919) 707-6000
Customer Service: 1-877-368-4968
Website: www.ncdot.gov

Location:
1000 BIRCH RIDGE DRIVE
RALEIGH NC 27610

NEPA DOCUMENT HISTORY

This project was initially developed as U-2581 B/R-2910 (US 70 Improvements from Mt. Hope Church Road (SR 3045 /SR 2819) in Guilford County to Westbrook Avenue (SR 1309) in Alamance County). A Federal Environmental Assessment (EA) was under development, and the project was in the Merger Process for concurrence on project milestones (Concurrence Point (CP) 1 was signed on October 11, 2011, CP 2 and 2A signed on November 20, 2013). In July 2015, a partial Draft EA was developed, however, due to a lack of funding the project was placed on hold.

NCDOT is restarting a portion of the larger U-2581 B project as a state-funded project, but limit it to approximately 1.2 miles of the original corridor (section BA); subsequent environmental review and design stages will follow for the BB and BC sections of U-2581 B.

A Minimum Criteria Determination Checklist for U-2581 BA was completed on September 12, 2018 to ensure proper documentation of this revised project.

CULTURAL RESOURCES

The project will not have an “effect” on property or site listed on the Natural Register of Historic Places or require the additional right of way from publicly owned parkland or recreational area.

RESOURCE STATUS

Wetland and stream determinations within R-2581 were conducted using the field delineation method outlined in the 1987 Corps of Engineers Wetland Delineation Manual and subsequent guidance including the Eastern Mountains and Piedmont Regional Supplement. Mr. John Thomas of the U.S. Army Corps of Engineers (USACE) conducted a jurisdictional determination, and Mr. Brian Wrenn conducted a determination of the applicability of the Jordan Lake Buffer Rules on May 22, 2012.

The jurisdictional resources on this section were revisited on November 17, 2018 to ensure they remain accurate. The extent of these resources remains unchanged.

Two jurisdictional streams were noted in areas outside of the previous NRTR study limits. Those streams are noted as Sites 1 and 6.

Jurisdictional features within the U-2581 BA project are all within the Cape Fear River Basin, Hydrologic Unit Code 03030002.

IMPACTS TO WATERS OF THE UNITED STATES

Tables 1-4 provide impact values and descriptions of jurisdictional water resources for the project. Site numbers correspond with the permit (hydraulic) drawings included in this application.

Table 1: Wetland Impacts (values in acres)

Permit Site	NRTR Site	NC WAM Classification	Wetland Size	Permanent Fill in Wetlands	Mechanized Clearing	Hand Clearing	Impact Description
2	WAB	Headwater Forest	0.1	0.02	0.01	--	Fill for roadway widening.
4	WD	Headwater Forest	0.3	0.05	0.03	--	Fill for roadway widening.
5	WB	Riverine Swamp Forest	0.1	< 0.01	--	--	Fill for roadway widening and culvert replacement, and pad for discharge of a 36" reinforced concrete pipe.
Total Wetland Impacts:				0.07	0.04	--	
Total Loss of Water Impacts				0.11			
Total Wetland Impacts Requested from DMS:				0.11			

Table 2: Stream Impacts (values in linear feet)

Permit Site	Stream Name/ NRTR ID	Status/ Class/ Index	Perm. Channel Impacts	Temp. Channel Impacts	ACOE Required Mitigation	DWR Required Mitigation	Impact Description
1	UT to Little Alamance Creek*	Perennial WS-IV NSW 16-19-3-(0.5)	10	19	10	--	The existing 24" reinforced concrete pipe will be upgraded to a 30". The impact is a result of the pipe and riprap pad installation.
2	UT to Little Alamance Creek SC	Perennial WS-IV NSW 16-19-3-(0.5)	6	10	6	--	A 24" base ditch will outlet adjacent to the stream. Due to the small size of this system, it would not be possible to use bank stabilization without impacting the channel bottom. As such, the impact was accounted for as loss of water.
3			11	16	11	--	The 15" corrugated metal pipe will be replaced with a 30" reinforced concrete pipe.
5	UT to Little Alamance Creek SB	Perennial WS-IV NSW 16-19-3-(0.5)	251	33	251	--	The 46-foot long 10' x 6' culvert will be replaced with a 127-foot long, 10' x 8' culvert with sills.
6	UT to Little Alamance Creek **	Perennial WS-IV NSW 16-19-3-(0.5)	20	15	20	--	The existing 18" reinforced concrete pipe will be upgraded to a 24" reinforced concrete pipe. The impact is the result of raising the grade of the road as well as the larger pipe.
Total Stream Impacts			298	93	298	0	
Total Requested from DMS:					298		

* This system was outside of the original NRTR study limits. It was included due to the need to capture stormwater on the lane taper/transition.

**This stream was outside of the original NRTR study limits. Raising of the grade of this intersecting road was not originally accounted for.

Table 3: Riparian Buffer Impacts (values in square feet)

Road Crossing/ Allowable			Road Crossing/ Mitigable		
Zone 1	Zone 2	Total	Zone 1	Zone 2	Total
2,836	896	3,732	11,763	4,355	16,118
Minus Wetlands in Buffer:			<i>none for this project</i>		
Total Buffer Mitigation requested from DMS:			11,763	4,355	

Table 4: Buffer Cross-Walk (Buffer Sites to Corresponding Permit Drawing Site)

Buffer Site Number	Jurisdictional Resources Site Number
1	1
2	5
3	6

FEDERALLY PROTECTED SPECIES

Plants and animals with Federal classification of Endangered (E) or Threatened (T) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. The USFWS lists the following federally protected species for Guilford County.

Table 5: Federally protected species listed for Guilford County as of October 4, 2018

Common Name	Scientific Name	Federal Status	Habitat Present	Biological Conclusion	Last Survey
Schweinitz's sunflower	<i>Helianthus schweinitzii</i>	Endangered	Yes	No Effect	October 2018
Small whorled pogonia	<i>Isotria medeoloides</i>	Threatened	Yes	No Effect	May & July 2012*
Cape Fear shiner	<i>Notropis mekistocholas</i>	Endangered	Outside of Range	No Effect	n/a
Roanoke logperch	<i>Percina rex</i>	Endangered	Outside of Range	No Effect	n/a

*Limited habitat is found in the U-2581 BA project area. However, surveys will be updated during the appropriate survey season in 2019.

AVOIDANCE AND MINIMIZATION

The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts, at all stages of a project, and to provide full compensatory mitigation of all remaining, unavoidable jurisdictional impacts.

Specific avoidance and minimization measures include:

Roadway Plansheet 5: Avoidance

Wetland WA and Stream SA were avoided.

Roadway Plansheet 6/ Permit Drawing Sheet 6/ Site 2: Minimization

Slopes were steepened to reduce impacts to Wetland WD.

Roadway Plansheet 7/ Permit Drawing Sheet 8/ Site 3: Minimization

The existing 46-foot long culvert is perched, and does not allow for aquatic passage at normal stream flow. The culvert will be replaced with a 127-foot long, 10' x 8' culvert containing alternating sills intended to retain natural streambed material and approximate natural stream velocities. The new structure will also be buried to allow for aquatic passage.

MITIGATION

NCDOT has avoided and minimized impacts to jurisdictional resources to the greatest extent practicable as described above. Tables 1-4 display the describe the wetland and stream impacts for each section of this project and summarize the mitigation as proposed for the project.

Please see the attached mitigation acceptance letter from DMS.

REGULATORY APPROVALS

Section 404: Application is hereby made for an USACE Individual 404 Permit as required for the above-described activities.

Section 401 and Jordan Lake River Riparian Buffer Authorization: Application is hereby made for an Individual 401 Certification and Jordan Lake Riparian Buffer Authorization from the NC Division of Water Resources. In compliance with Section 143 215.3D(e) of the NCAC, we will provide \$570.00 to act as payment for processing the Section 401 permit application previously noted in this application (see Subject line).

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Michael Turchy at maturchy@ncdot.gov or (919) 707-6157. A copy of this application and distribution list will also be posted on the NCDOT website at: <http://connect.ncdot.gov/resources/Environmental/Pages>.

Sincerely,

Philip S. Harris III, P.E., C.P.M.
Environmental Analysis Unit Head

cc: NCDOT Permit Application Standard Distribution List



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
FOR NCDOT PROJECTS



(Version 2.08; Released April 2018)

WBS Element: 34840.1.1 TIP No.: U-2581BA County(ies): Guilford Guilford Page 1 of 1

General Project Information

WBS Element:	34840.1.1	TIP Number:	U-2581BA	Project Type:	Roadway Widening	Date:	12/21/2018
NCDOT Contact:	Craig Lee, PE		Contractor / Designer:	Brandon Barham, PE			
Address:	1590 Mail Service Center Raleigh, NC 27699-1590		Address:	940 Main Campus Drive Suite 500 Raleigh, NC 27606			
Phone:	919-707-6708		Phone:	919-741-5779			
Email:	clee@ncdot.gov		Email:	bbarham@vhb.com			
City/Town:	Mcleansville		County(ies):	Guilford			
River Basin(s):	Cape Fear		CAMA County?	No			
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	1.5 Miles	Surrounding Land Use:	Residential, Agriculture, Forest					
	Proposed Project			Existing Site				
Project Built-Upon Area (ac.)	14.0	ac.	8.6	ac.				
Typical Cross Section Description:	4@ 12' lanes, 2 @ 6' turn lanes, 2'-6" C&G, 10' sidewalk behind curb			3@10' lanes with variable paved shoulder				
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	25,890	Year:	2039	Existing:	15,430	Year:	2019
General Project Narrative: (Description of Minimization of Water Quality Impacts)	<p>This project proposes the widening of US 70 (Burlington Rd) from west of SR 3045/SR 2819 (Mt. Hope Church Rd) to just east of SR 3175 Birch Creek Rd. The existing roadway will be widened with proposed C&G with sidewalk behind the curb. There is an existing 1 @ 10' X 6' RCBC with headwall that will be replaced with a 1@ 10' x 8' RCBC with beveled headwall. The proposed culvert will be buried 1' and sills will be included. The culvert conveys UT to Little Alamance Ck underneath US 70 from north to south. UT to Little Alamance Ck is not a FEMA studied stream. The proposed project calls for Rip Rap both upstream and downstream of the new culvert in order to stabilize the existing bed and banks of UT to Little Alamance Ck. Whenever possible proposed drainage systems were stubbed into the side of the proposed box culvert in order to dissipate energy and avoid erosion along the fill slope. All other proposed outfalls within the project will utilize Rip Rap outlet pads to provide energy dissipation and lessen erosive velocities.</p>							

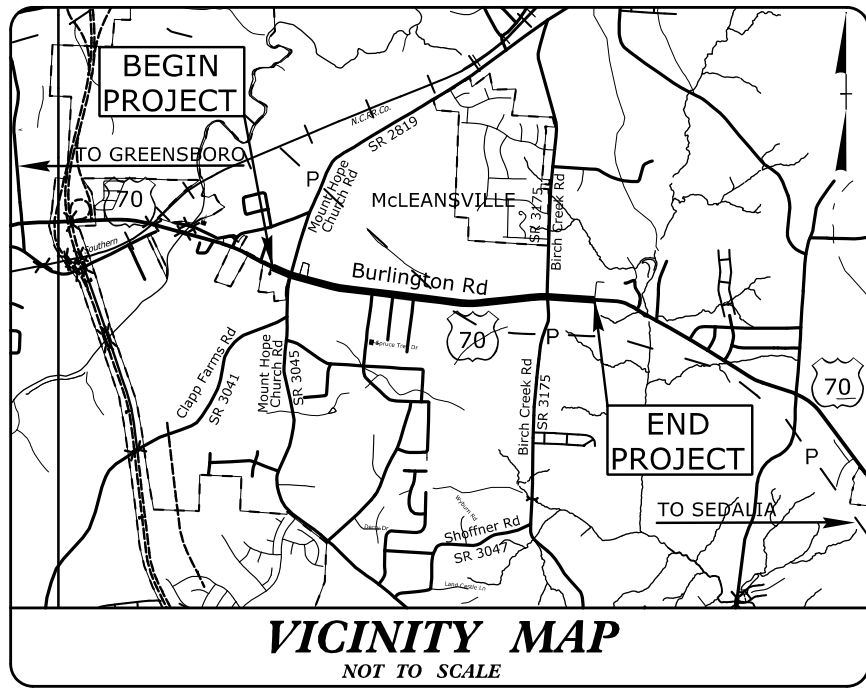
Waterbody Information

Surface Water Body (1):	UT to Little Alamance Creek		NCDWR Stream Index No.:	16-19-3-(0.5)			
NCDWR Surface Water Classification for Water Body	Primary Classification:		Water Supply IV (WS-IV)				
	Supplemental Classification:		Nutrient Sensitive Waters (NSW)				
Other Stream Classification:	None						
Impairments:	None						
Aquatic T&E Species?	Yes	Comments:					
NRTR Stream ID:				Buffer Rules in Effect:	Jordan Lake		
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A		
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)			
	(If yes, provide justification in the General Project Narrative)						

09/28/19

TIP PROJECT: U-2581BA

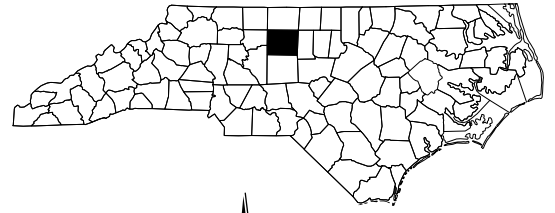
See Sheet 1B For Conventional Symbols



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
GUILFORD COUNTY

**PERMIT DRAWING
SHEET 1 OF 14**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2581BA	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34840.1.1		PE R/W, UTIL. CONST.	

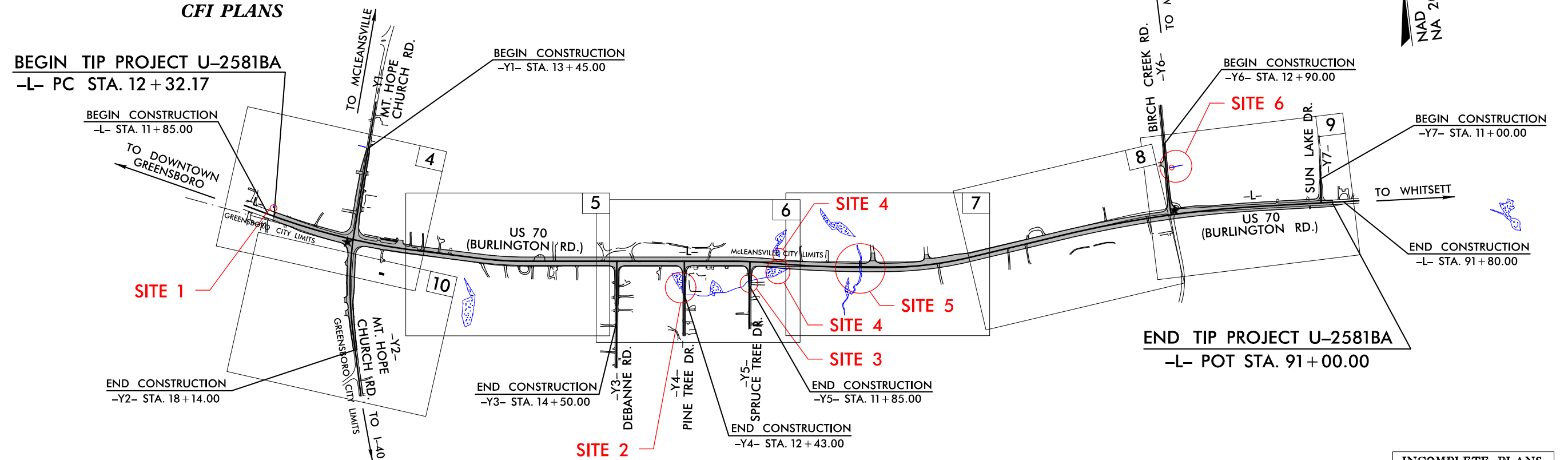


LOCATION: US 70 (BURLINGTON ROAD) FROM WEST OF SR 3045/SR 2819 (MT. HOPE CHURCH ROAD) TO JUST EAST OF SR 3175 (BIRCH CREEK ROAD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE, SIGNALS AND CULVERT

WETLAND AND SURFACE WATER IMPACTS PERMIT

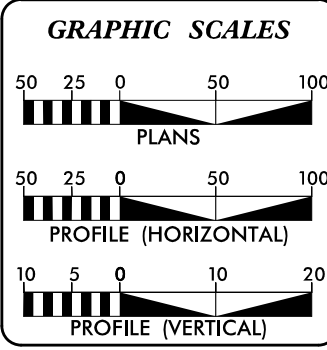
★ EXISTING SIGNAL TO BE MODIFIED



A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF GREENSBORO AND McLEANSVILLE. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ??.

**INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

CONTRACT:



DESIGN DATA

ADT 2019 =	15,430
ADT 2039 =	25,890
K =	12 %
D =	60 %
T =	6 % *
V =	50 MPH
* (TTST 1 + DUAL 5)	
FUNC CLASS =	PRINCIPAL ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-2581BA =	1.490 MI.
TOTAL LENGTH OF TIP PROJECT U-2581BA =	1.490 MI.

Prepared for the North Carolina Department of Transportation
In the Office of:

VHB Engineering NC, P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27606

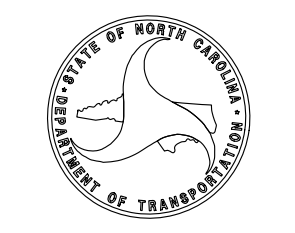
2018 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE:	JIMMY GOODNIGHT, PE PROJECT ENGINEER
OCTOBER 30, 2018	
LETTING DATE:	JERRY JAVELLANA, PE PROJECT DESIGN ENGINEER
OCTOBER 15, 2019	
NCDOT CONTACT	LAURA SUTTON, PE

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

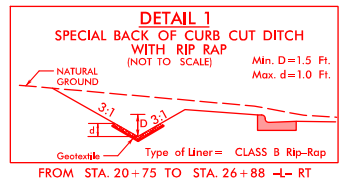
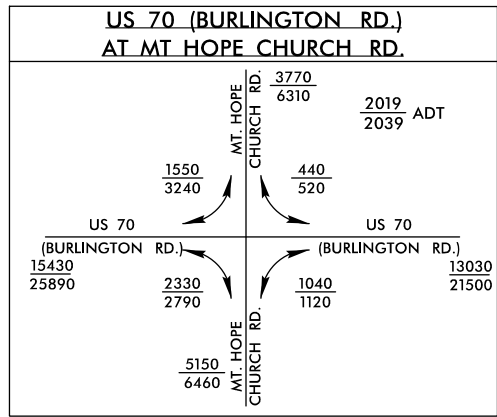


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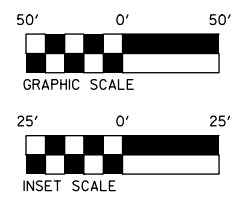
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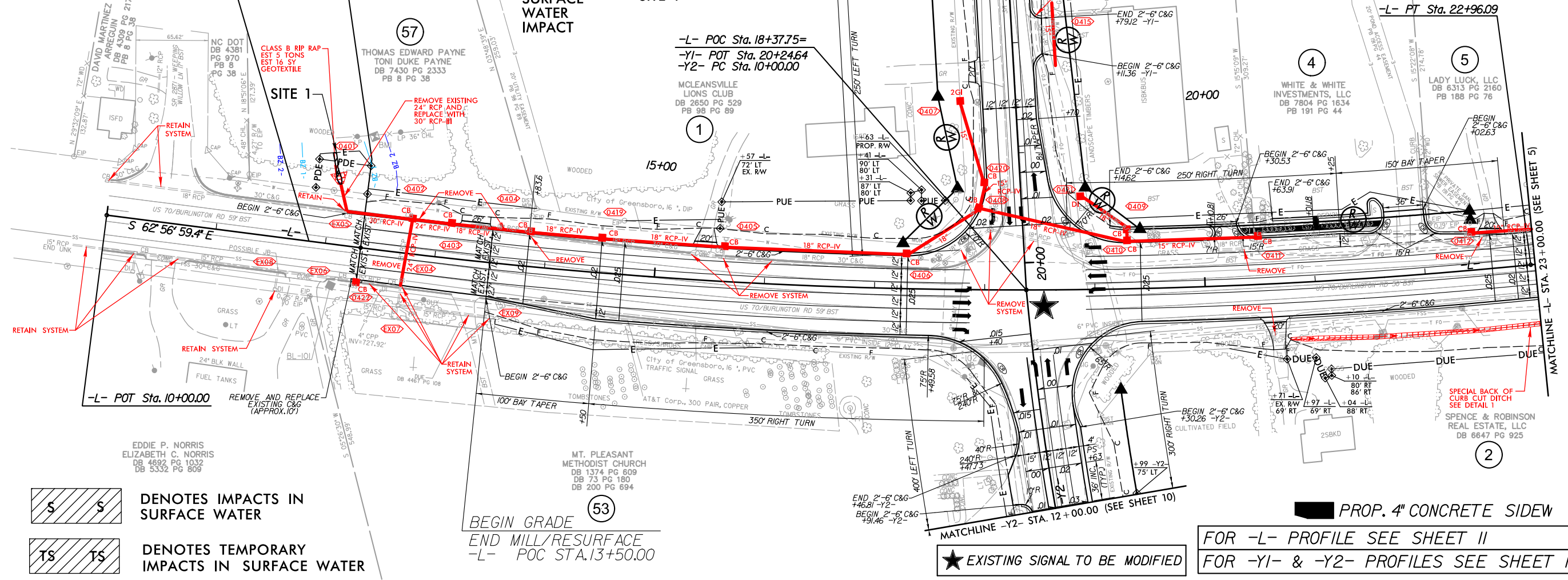
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared by vhb VHB Engineering Inc., P.C. (C-2705) 980 Main Campus Drive, Suite 500 Raleigh, NC 27606	

PERMIT DRAWING
SHEET 2 OF 14



BEGIN TIP PROJECT U-2581BA
-L- PC STA. 12+32.17
 BEGIN MILL/RESURFACE
 BEGIN WIDENING (LT SIDE ONLY)

BEGIN CONSTRUCTION
-L- POT Sta. 11+85.00



DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER


BEGIN GRADE
 END MILL/RESURFACE
-L- POT STA. 13+50.00

PROF. 4\"/>

★ EXISTING SIGNAL TO BE MODIFIED

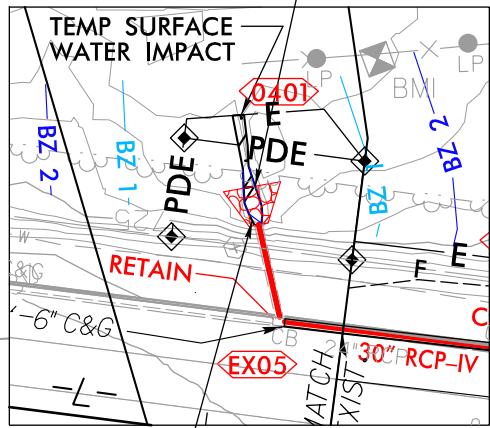
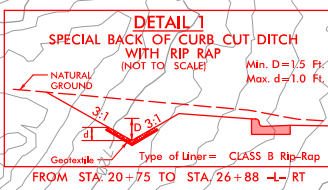
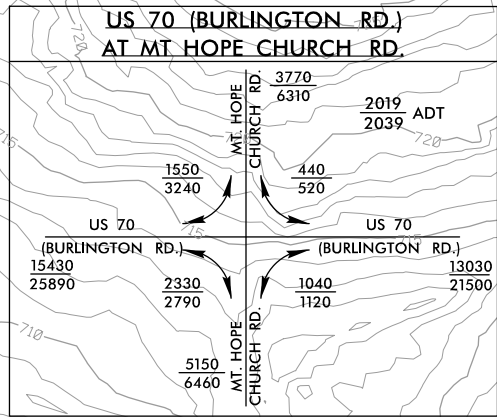
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PROJECT REFERENCE NO. U-2581BA	SHEET NO. 4
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 VHB Engineering, Inc. P.C. (C-2705) 900 Main Campus Drive, Suite 500 Raleigh, NC 27606	

PERMIT DRAWING
SHEET 3 OF 14

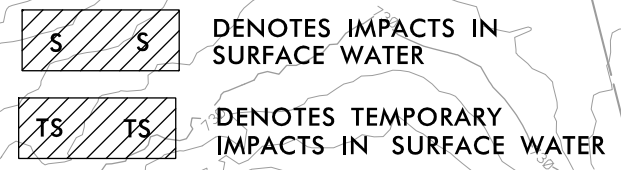
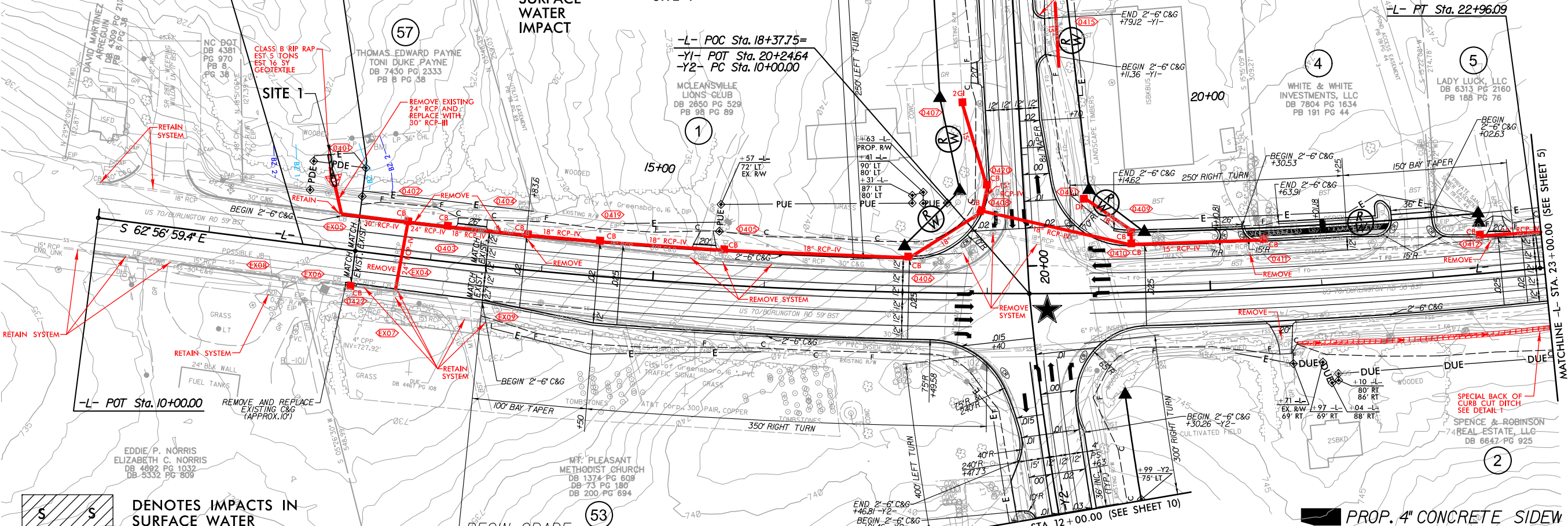
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$D = 113' 08.6"$	$D = 2' 06' 23.3"$
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$T = 534.24'$	$T = 349.93'$
$R = 4700.00'$	$R = 2720.00'$
$SE = 0.025$	$SE = 0.04$
$RO = 105^{\circ}$	$RO = 144^{\circ}$
$INC = 42^{\circ}$	



BEGIN TIP PROJECT U-2581BA

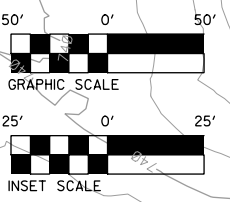
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 BEGIN WIDENING (LT SIDE ONLY)

BEGIN CONSTRUCTION
-L- POT Sta. 11+85.00



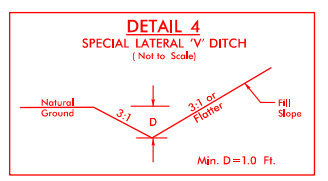
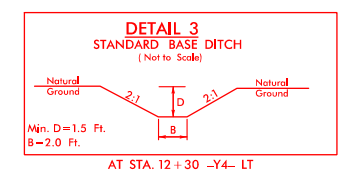
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FOR -L- PROFILE SEE SHEET 11
 FOR -Y1- & -Y2- PROFILES SEE SHEET 14

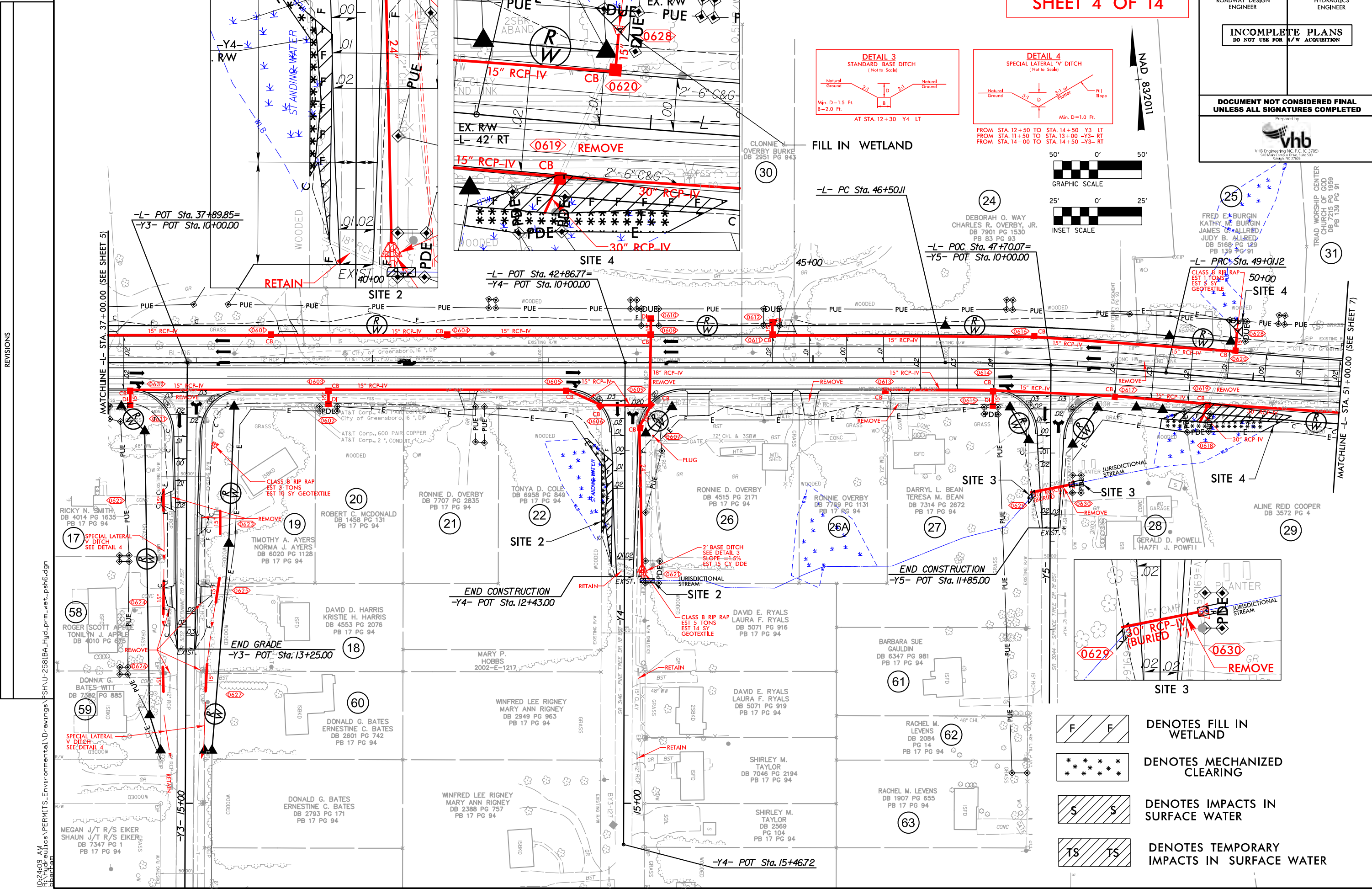
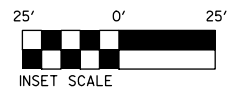
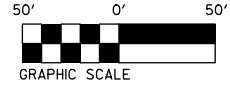






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PERMIT DRAWING
SHEET 4 OF 14



FROM STA. 12+50 TO STA. 14+50 -Y3- LT
FROM STA. 11+50 TO STA. 13+00 -Y3- RT
FROM STA. 14+00 TO STA. 14+50 -Y3- RT



-  DENOTES FILL IN WETLAND
-  DENOTES MECHANIZED CLEARING
-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER

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MATCHLINE -L- STA. 37+00.00 (SEE SHEET 5)

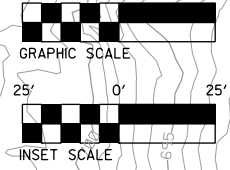
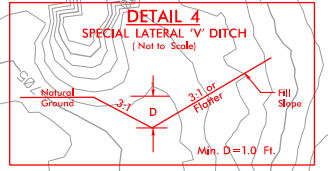
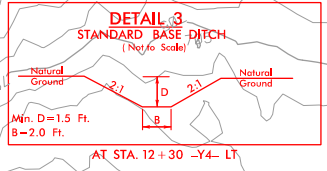
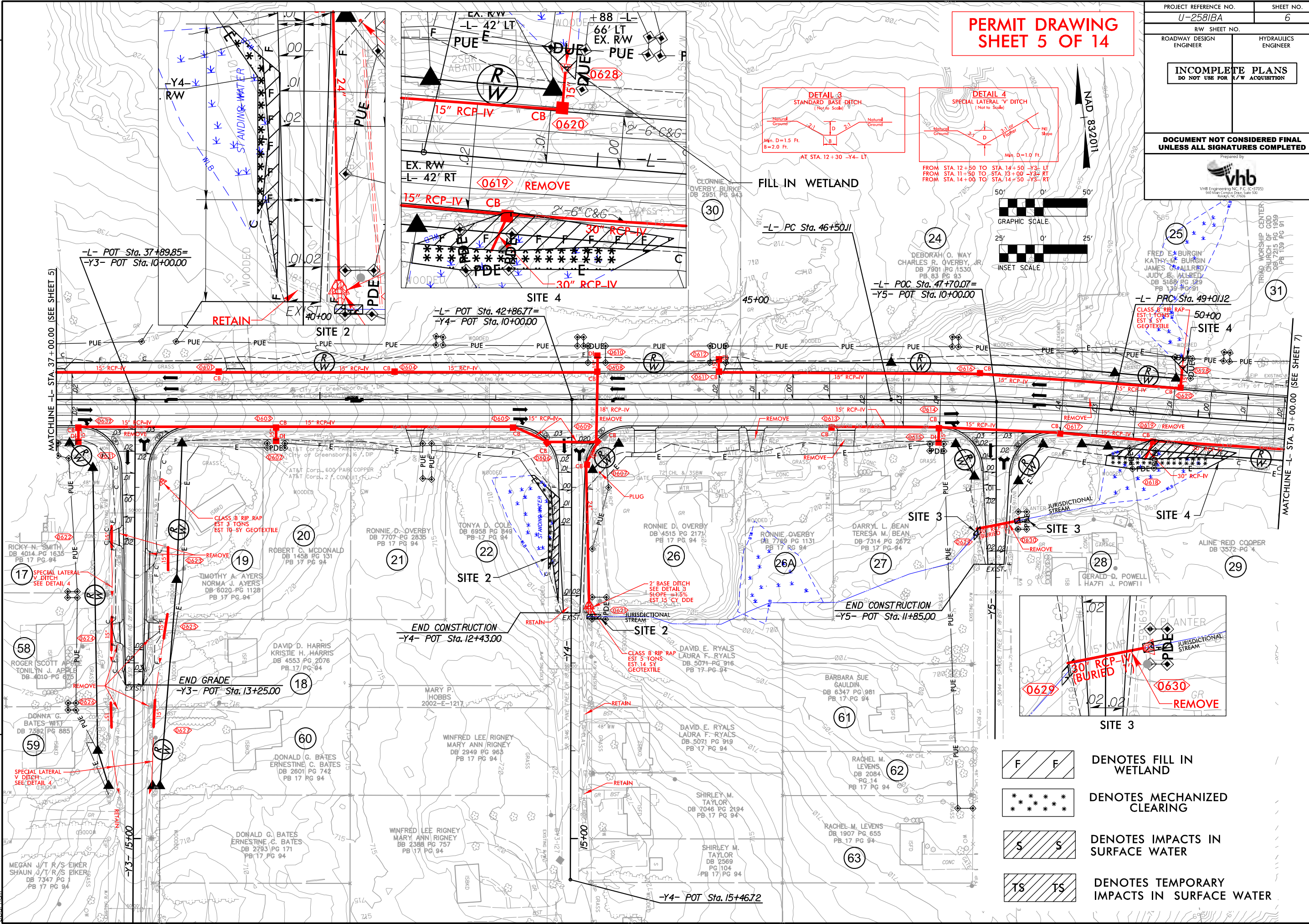
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PERMIT DRAWING SHEET 5 OF 14

PROJECT REFERENCE NO. U-2581BA	SHEET NO. 6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 VHB Engineering Inc. P.C. (C-2705) 900 Main Campus Drive, Suite 500 Raleigh, NC 27606	

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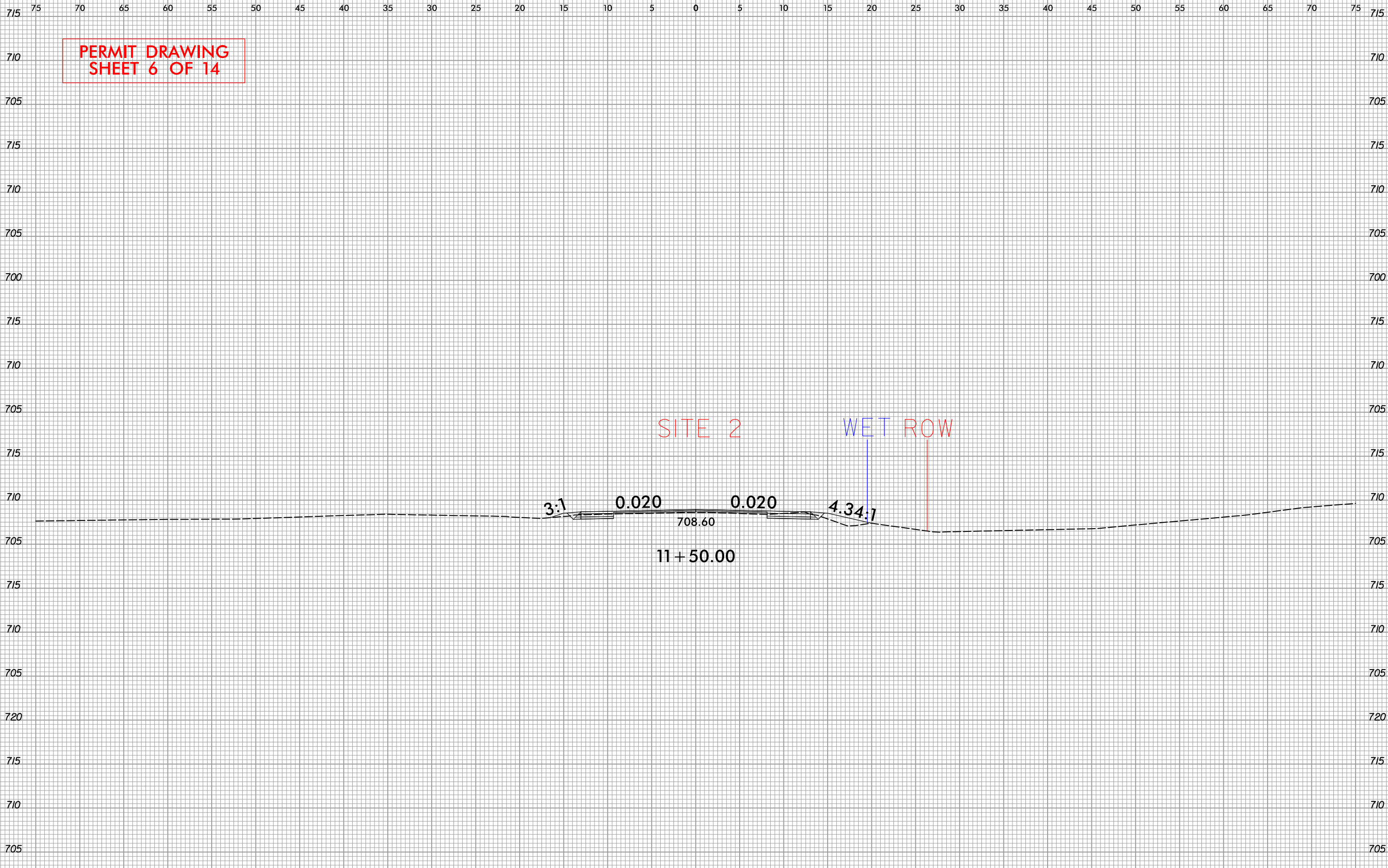


FROM STA. 12+50 TO STA. 14+50 -Y3- LT
 FROM STA. 11+50 TO STA. 13+00 -Y3- RT
 FROM STA. 14+00 TO STA. 14+50 -Y3- RT

- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

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PERMIT DRAWING
SHEET 6 OF 14



SITE 2

WET ROW

3:1

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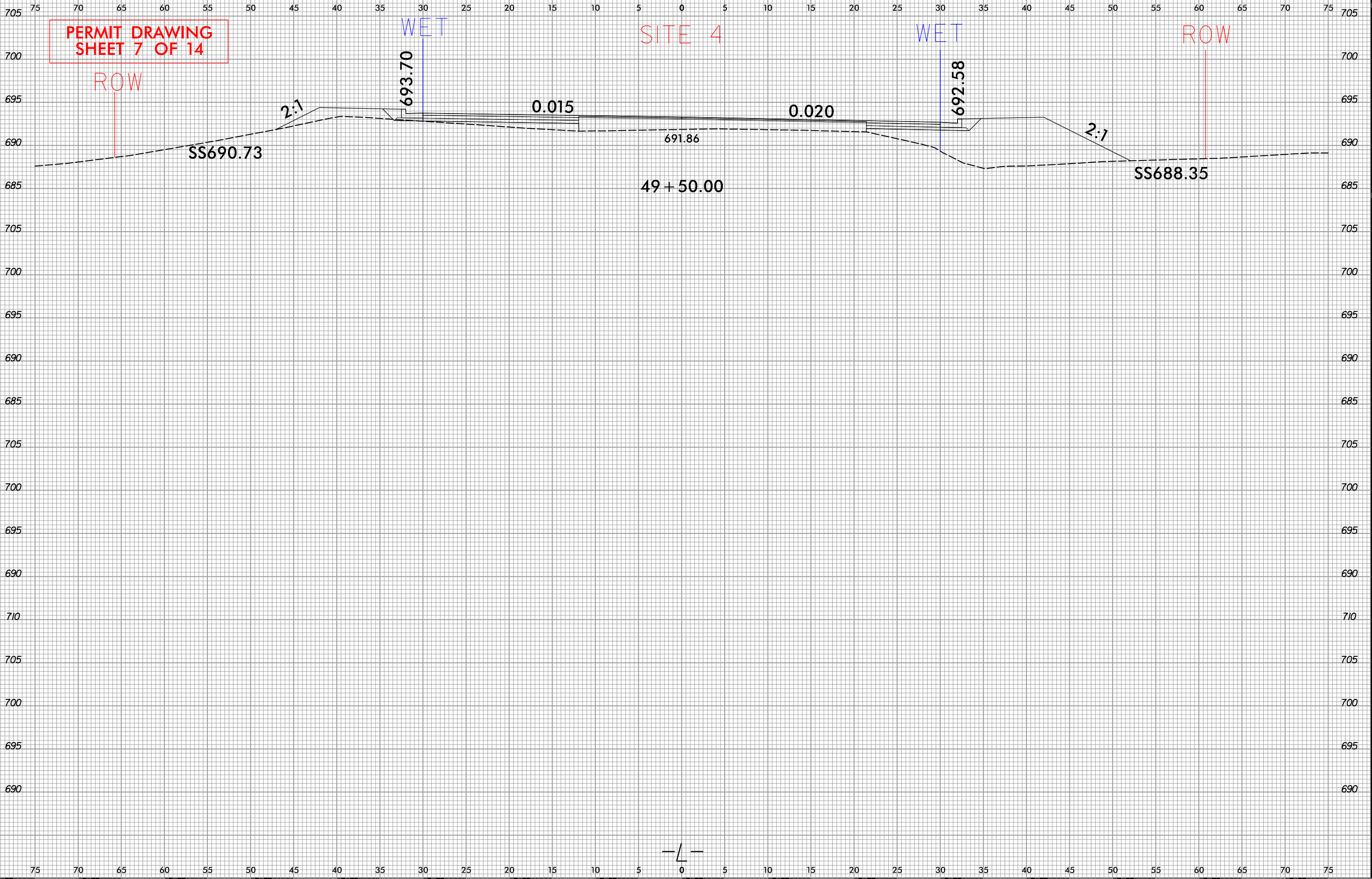
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708.60

11+50.00

6/23/16



PERMIT DRAWING
SHEET 7 OF 14

ROW

WET

SITE 4

WET

ROW

SS690.73

693.70

0.015

691.86

0.020

692.58

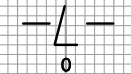
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SS688.35

49 + 50.00

2:1

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bbm



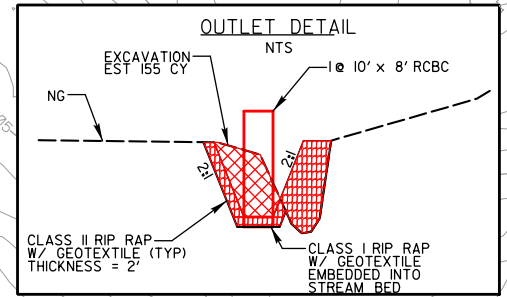
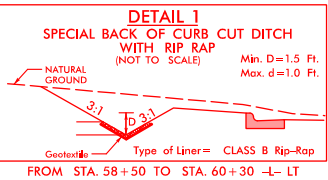
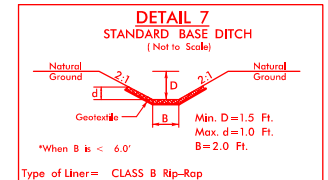
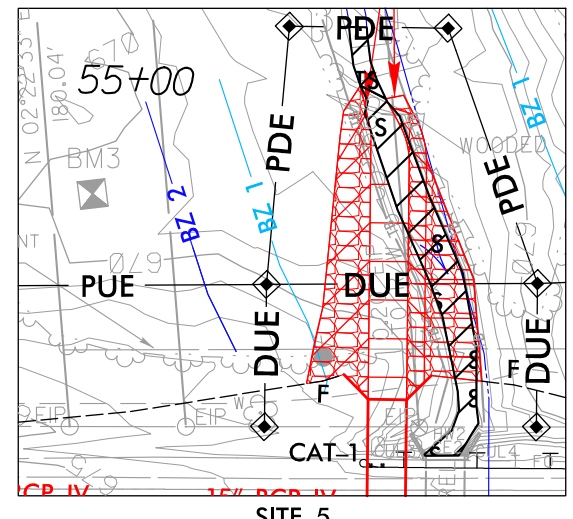
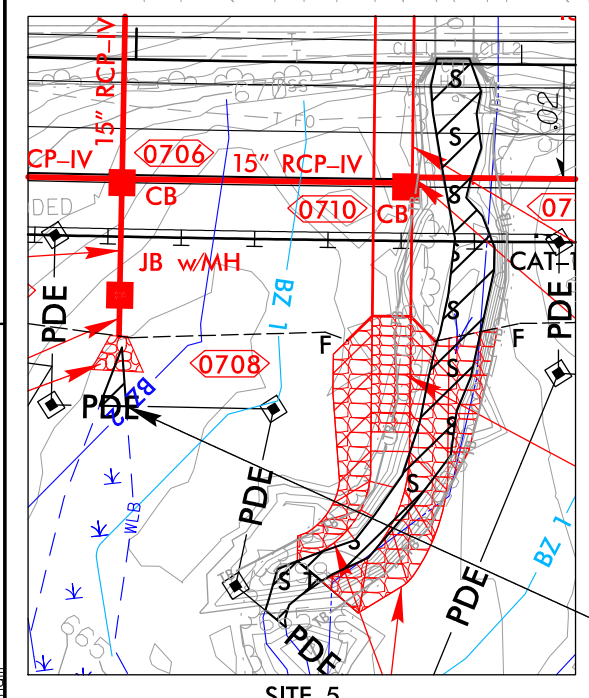
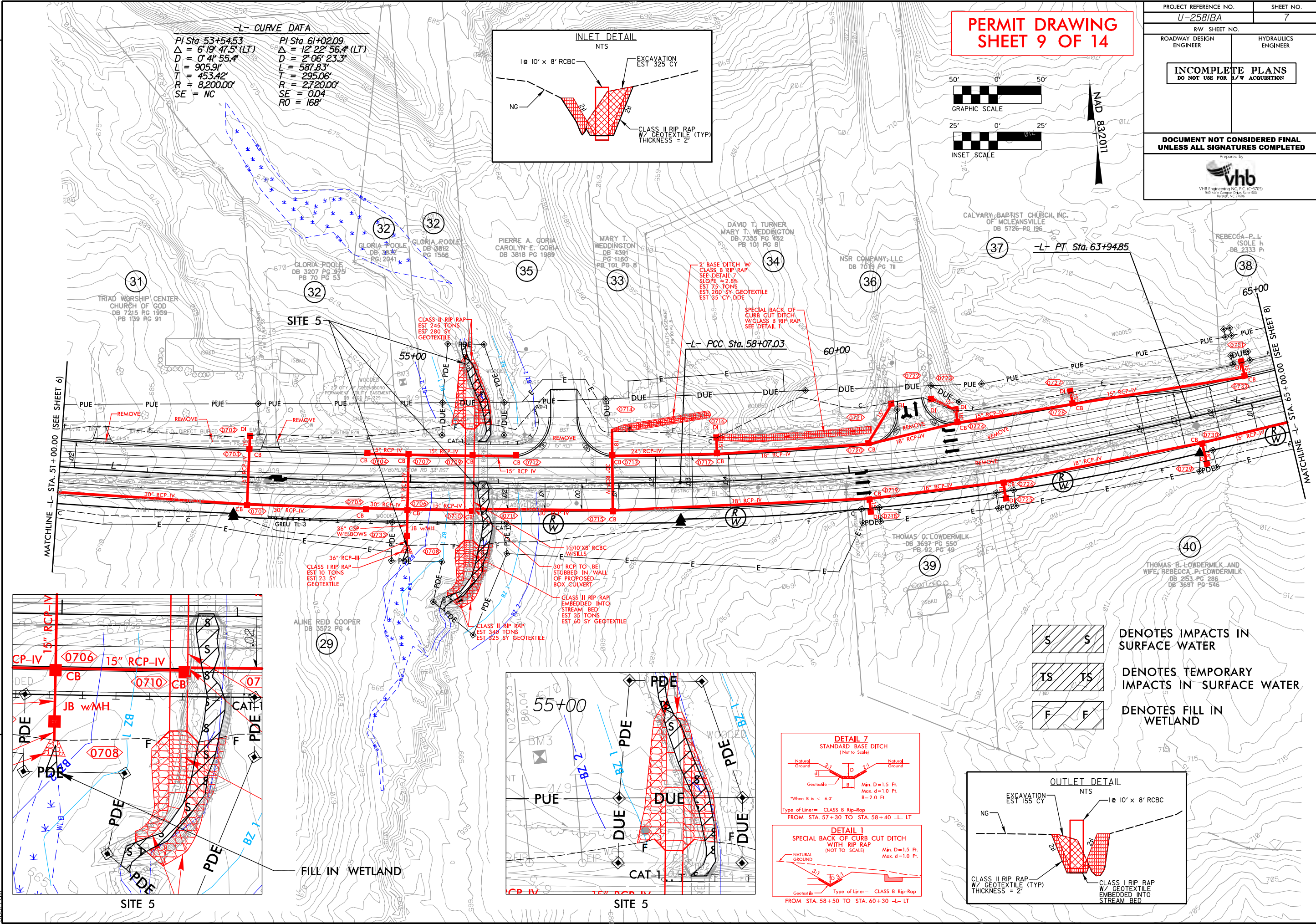
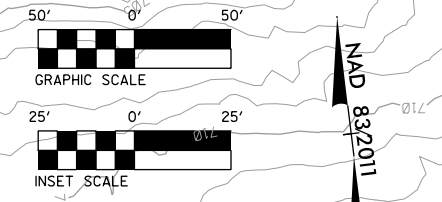
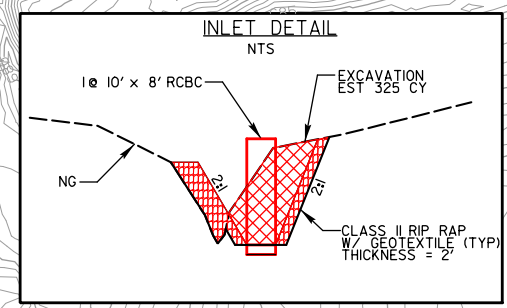
8/17/99

PERMIT DRAWING SHEET 9 OF 14

PROJECT REFERENCE NO. U-2581BA	SHEET NO. 7
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Prepared by vhb VHB Engineering, P.C. (C-2705) 900 Maywood Drive, Suite 500 Raleigh, NC 27606	

L-CURVE DATA

PI Sta 53+54.53	PI Sta 61+02.09
$\Delta = 6' 19" 47.5" (LT)$	$\Delta = 12' 22" 56.4" (LT)$
$D = 0' 4' 55.4"$	$D = 2' 06" 23.3"$
$L = 905.9'$	$L = 587.83'$
$T = 453.42'$	$T = 295.06'$
$R = 8,200.00'$	$R = 27,200.00'$
SE = NC	SE = 0.04
	RO = 168'



S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

REVISIONS

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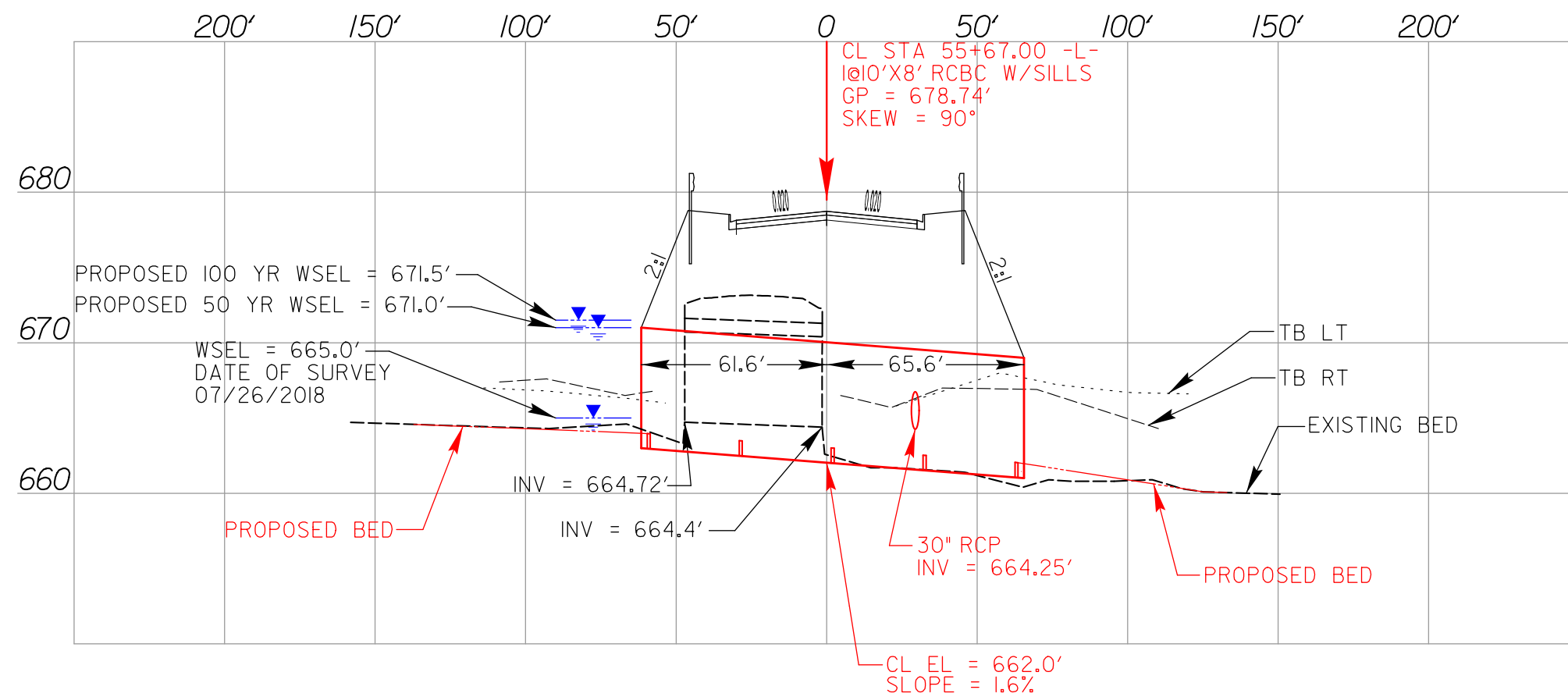
REVISIONS

8/17/99

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abraham

PERMIT DRAWING
SHEET 10 OF 14

PROJECT REFERENCE NO. U-2581BA	SHEET NO.
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



6/23/16

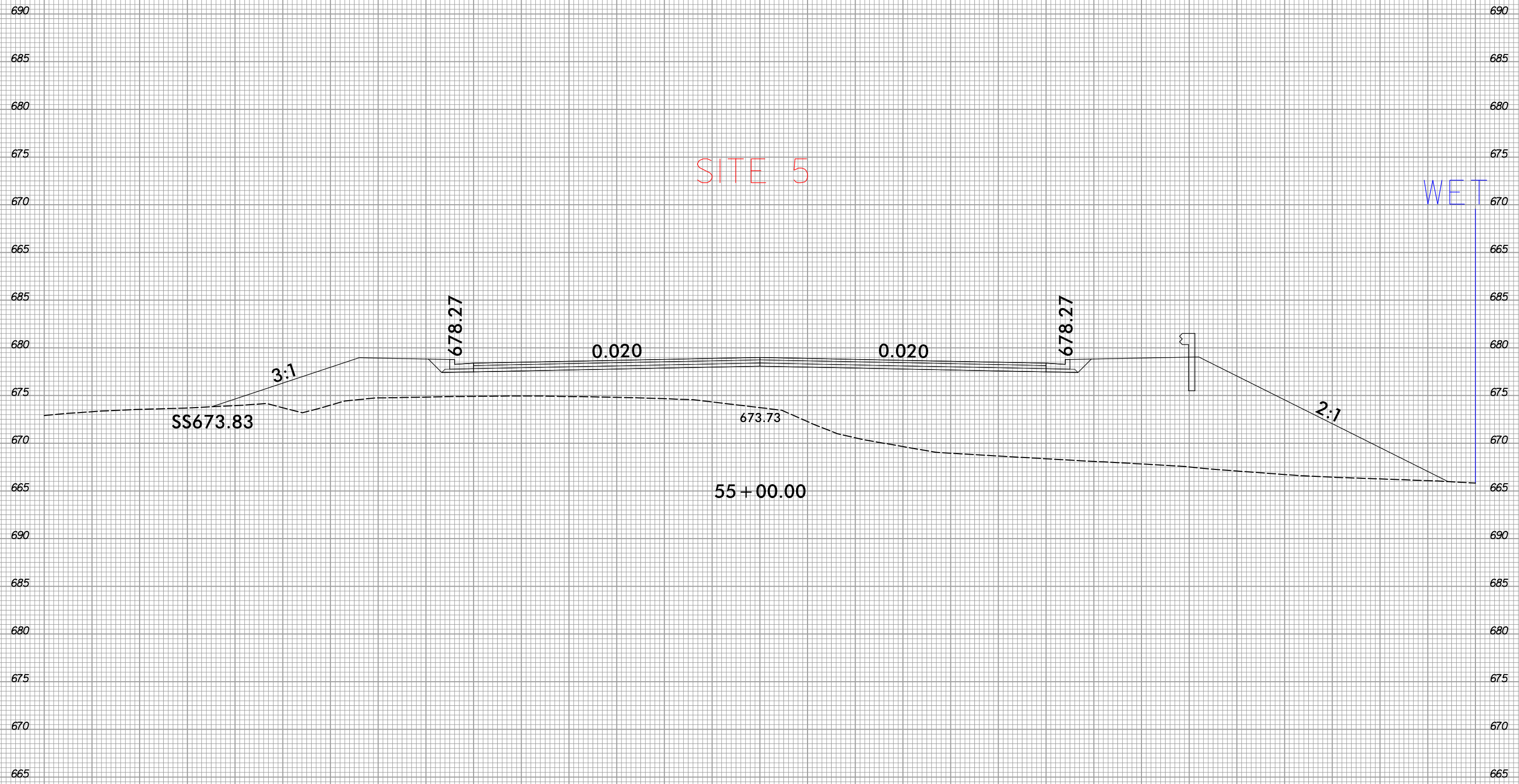
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PERMIT DRAWING
SHEET 11 OF 14

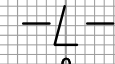
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WET



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bbm


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**PERMIT DRAWING
SHEET 12 OF 14**

PROJECT REFERENCE NO. U-2581BA	SHEET NO. 9
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

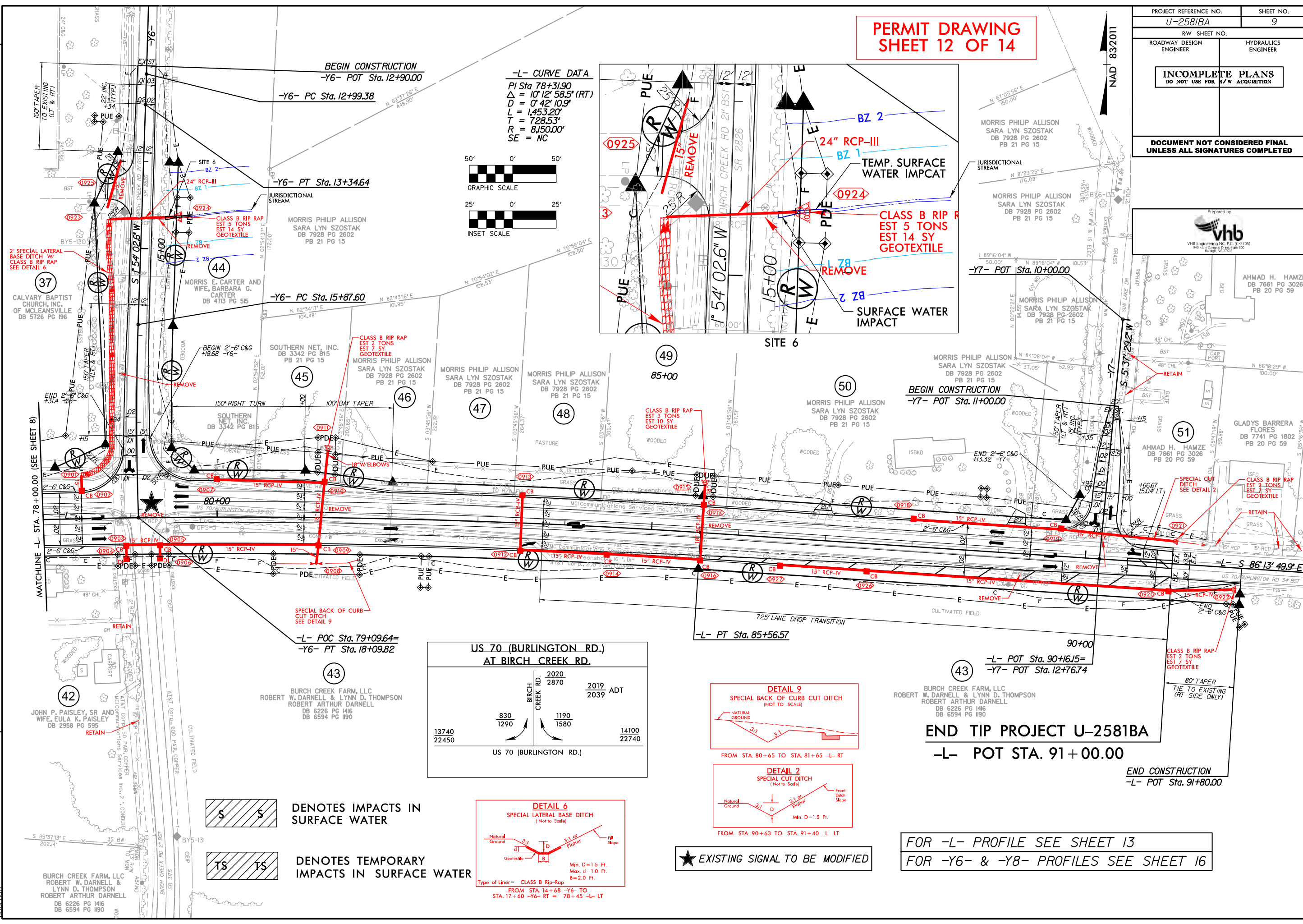
Prepared by



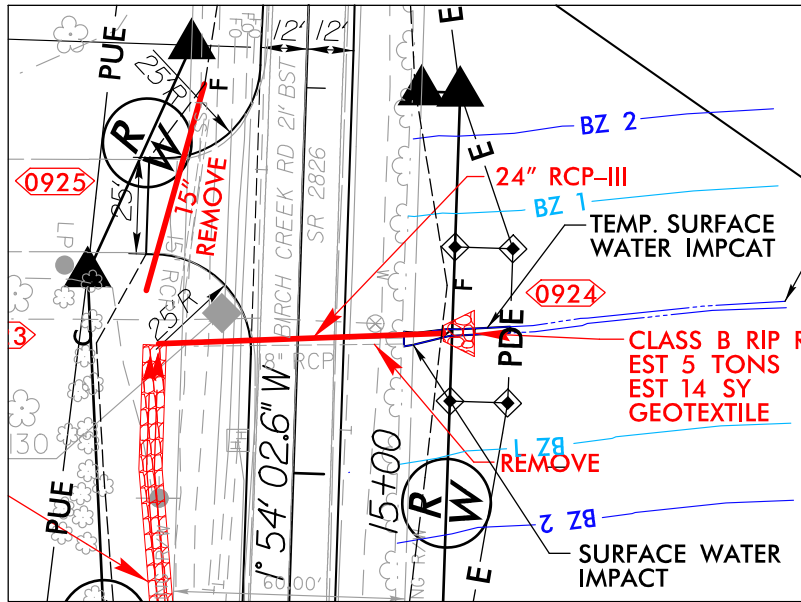
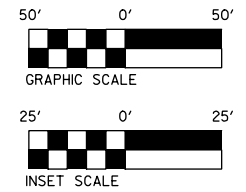
VHB Engineering, Inc. P.C. (L-0105)
940 Kilar, Campus Drive, Suite 500
Renoir, NC 27688

AHMAD H. HAMZE
DB 7661 PG 3026
PB 20 PG 59

GADY BARRERA FLORES
DB 7741 PG 1802
PB 20 PG 59



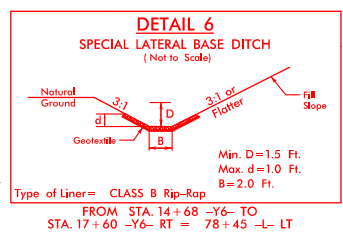
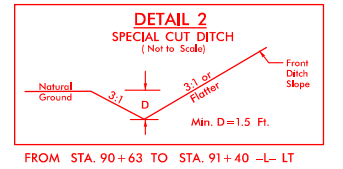
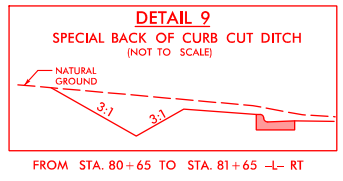
-L- CURVE DATA
 $PI Sta. 78+31.90$
 $\Delta = 10^\circ 12' 58.5" (RT)$
 $D = 0' 42' 10.9"$
 $L = 1,453.20'$
 $T = 728.53'$
 $R = 8,150.00'$
 $SE = NC$



US 70 (BURLINGTON RD.) AT BIRCH CREEK RD.

	BIRCH RD.	2020 2870	2019 2039	ADT
13740 22450	830 1290	1190 1580		14100 22740

US 70 (BURLINGTON RD.)



★ EXISTING SIGNAL TO BE MODIFIED

FOR -L- PROFILE SEE SHEET 13
FOR -Y6- & -Y8- PROFILES SEE SHEET 16

S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER


REVISIONS

8/17/99
7:36:46 AM
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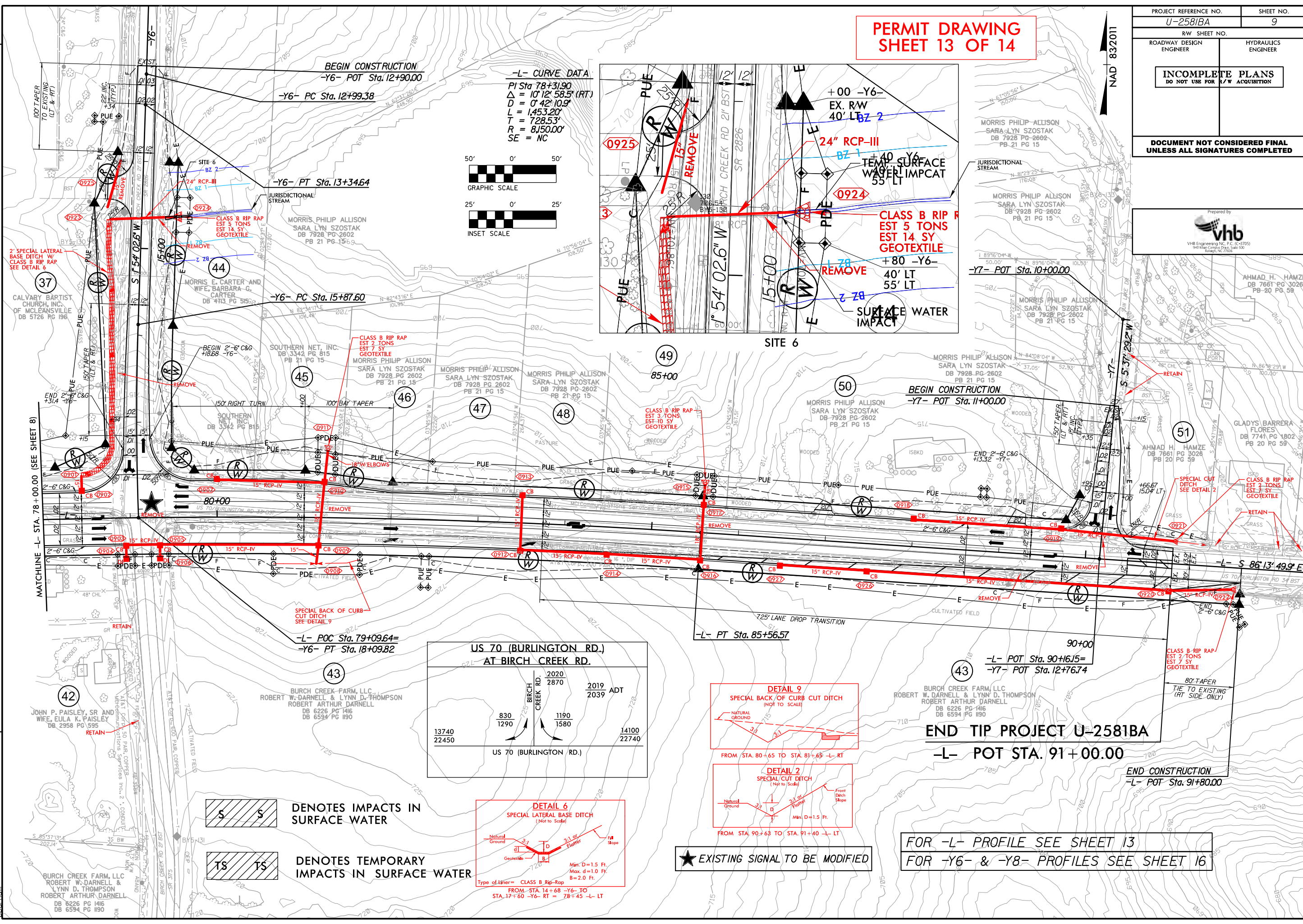
**PERMIT DRAWING
SHEET 13 OF 14**

PROJECT REFERENCE NO. U-2581BA	SHEET NO. 9
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

Prepared by

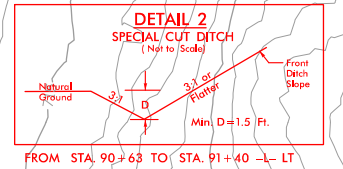
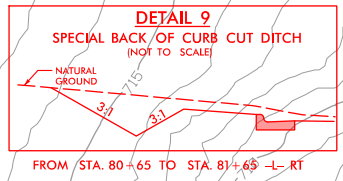
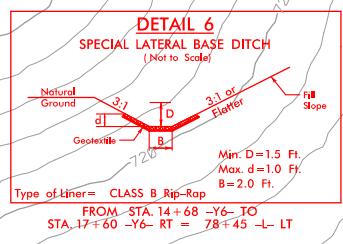


VHB Engineering, Inc. P.C. (L-00100)
940 Kilar, Campus Drive, Suite 500
Kearney, NE 68130



S S DENOTES IMPACTS IN SURFACE WATER

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER



REVISIONS

7:36:52 AM
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8/17/99

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	12+02/12+07 -L- LT	30" RCP						< 0.01	< 0.01	10	19	
2	10+86/12+50 -Y4- RT	Roadway Fill/24" Pipe	0.02			0.01		< 0.01	< 0.01	6	10	
3	11+30/11+50 -Y5-	30" RCP								11	16	
4	49+00/50+47 -L-	Roadway Fill	0.05			0.03						
5	54+92/55+93 -L-	1@10'x8' RCBC/Roadway Fill	< 0.01					0.05	< 0.01	251	33	
6	14+60/14+66 -Y6- LT	24" RCP						< 0.01	< 0.01	20	15	
TOTALS*:			0.07			0.04		0.05	< 0.01	298	93	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 01/18/2019
 GUILFORD COUNTY
 U-2581BA

 SHEET 14 OF 14