




STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

November 30, 2017

MEMORANDUM TO: Mr. Ronnie Keeter, P.E.
Division 4 Engineer

FROM: Philip S. Harris, III, P.E., Manager
for Environmental Analysis Unit 

SUBJECT: Johnston County; SR 1923 (Booker Dairy Rd. Ext.) from US 70
Bus. To US 301; Federal Aid Proj. STP-1923 (2);
State Project 8.2312101; WBS 34929.1.3; **TIP U-3334.**

Attached are the US Army Corps of Engineers Individual Permit, N.C. Division of Water Resources (NCDWR) Water Quality Certification, and Neuse Buffer Authorization. All environmental permits have been received for the construction of this project.

A copy of this permit package will be posted on the NCDOT website at:

<https://connect.ncdot.gov/resources/Environmental/Pages/default.aspx>

Quick Links>Permit Documents> Issued Permits.

cc: w/o attachment (see website for attachments)

Mr. Andy Gay, P.E. State Contract Officer
Mr. Clarence Coleman, P.E., FHWA
Mr. Chad Coggins, Division Environmental Officer
Dr. Majed Al-Ghandour, P.E., Programming and TIP
Mr. Gary Lovering, P.E., Roadway Design
Mr. Carl Barclay, P.E., Utilities Unit
Mr. Stephen Morgan, P.E., Hydraulics
Mr. Brian Hanks, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. Ron Hancock, P.E., Deputy Chief Engineer
Ms. Cheterra Sheff, Single Audit Compliance Unit
Ms. Beth Harmon, Division of Mitigation Services
Ms. LeiLani Paugh, ICI/Onsite Mitigation

PROJECT COMMITMENTS

TIP Project U-3334
SR 1923 (Booker Dairy Road Extension)
From US 70 Business to US 301
Johnston County
Federal-Aid Project STP-1923 (2)
State Project 8.2312101
WBS Element 34929.1.3

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

Current status, changes, or additions to the project commitments as shown in the environmental document for the project are printed in italics.

Project Development and Environmental Analysis (Section A only)

The buffer zone for the intermittent channel, UT BC1, technically will not be subject to the Neuse River Buffer Rules, because at the point the stream crosses the project area, the stream does not appear on the USGS Topographic Quad and/or the NRCS Soil Survey. Therefore, NCDOT will apply for exemption in the permit application process.

In a letter dated April 16, 2008, The NC Division of Water Quality (DWQ) stated the Neuse Buffer Rules apply to this unnamed tributary south of SR 1923 (Booker Dairy Road). The buffer rules apply because this portion of the stream is “approximately shown” on the NRCS soil survey map. The calculated impacts are considered allowable by DWQ and will not require mitigation.

Hydraulics/Division 4 Construction (Section A only)

Guidelines for Anadromous Fish Passage will be followed during construction of the proposed project.

This commitment will be implemented during project construction.

Hazardous spill basins are not required on this project as the Poplar Creek and Neuse River crossing is more than one mile upstream from the water supply intake. Due to the bridge deck drainage system hazardous spill basins will be installed and DOT will add sluice gates to the hazardous spill basins for stormwater management.

Due to the length and the Neuse River being nutrient sensitive waters, it is likely that a bridge deck drainage system will be required.

The current plans show a bridge deck drainage system and hazardous spill basins.

Division 4 Construction (Section A only)

An in water construction moratorium for anadromous fish passage for the Neuse River and Poplar Creek will be in effect from February 15 to June 15.

The in-water work moratorium is applicable to Poplar Creek and the Neuse River, and includes any surface water that is actively connected to Poplar Creek and the Neuse River, i.e. it would include the wetlands and floodplain only when they were inundated during flood conditions. This commitment will be implemented during project construction.

COMMITMENTS FROM PERMITTING

Project Development and Environmental Analysis (Section A only)

This permit authorizes impacts to wetlands, streams and open waters to section A only. Construction on Section B of this project may occur only after final design has been completed and the NCDWQ and USACE have reviewed these plans and made a determination that all appropriate and practicable measures have been undertaken to minimize impacts to the aquatic environment, and this permit has been modified, in writing, to allow its construction.

Compensatory mitigation for the unavoidable impacts to 0.33 acres of riparian wetlands, 1.99 acres of non-riparian wetlands, and 69 linear feet of stream associated with T.I.P. U-3334 Section A shall be provided by the Ecosystem Enhancement Program (EEP). Pursuant to the EEP Memorandum of Agreement (MOA) between the State of North Carolina and the US Army Corps of Engineers signed on July 22, 2003, the EEP will provide 0.66 acres of restoration equivalent riparian wetlands, 3.98 acres of restoration equivalent non-riparian wetlands, and 138 linear feet of restoration equivalent warm water stream channel in the Neuse River basin (Hydrologic Cataloging Unit 03020201) in accordance with Section X of the MOA. For wetlands, a minimum of 1:1 (impact to mitigation) must be in the form of wetlands restoration. The NCDOT shall, within 30 days of the issue date of this permit, certify that sufficient funds have been provided to EEP to complete the required mitigation, pursuant to Paragraph V. of the MOA.

The permittee shall acquire compensatory mitigation for Section B of this project 5 years in advance of its construction. Proof of such acquisition shall be provided in any subsequent request to modify this permit to allow construction of Section B.

(Section B only)

In order to compensate for impacts associated with this permit modification, mitigation shall be provided in accordance with the provisions outlined on the most recent version of the attached Compensatory Mitigation Responsibility Transfer Form. The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit authorization.



**DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS**

Washington Regulatory Field Office
2407 West 5th Street
Washington, North Carolina 27889

IN REPLY REFER TO

November 27, 2017

Regulatory Division

Action ID No. 2008-02482

Mr. Phillip Harris III, P.E., C.P.M.
Natural Environment Section Head
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Harris:

Reference the Department of the Army (DA) individual permit (IP) issued to you on March 17, 2009 to construct Section A of the U-3334 AB; the extension of SR 1923 (Booker Dairy Road), starting from US 70 Business and ending at US 301. The project is located on the north side of Smithfield in Johnston County, North Carolina.

U-3334 AB is a phased permit. The A section, from US 70 Business to the intersection of Buffalo Road and existing Booker Dairy Rd. on new location, was completed in October 2011. The B section extends along existing Booker Dairy Rd. just east of its intersection with Buffalo Rd. to US 301, on new and existing location terminating at US 301.

This office received a permit modification request dated October 10, 2017, requesting a modification to the United States Army Corps of Engineers (USACE) Section 404 Individual Permit for Section B for the above referenced project. The original permit application (submitted July 10, 2008) presented final impacts for U-3334A and preliminary impacts for U-3334B. This modification presents the final design impacts for U-3334B.

The preliminary design impacts projected from the original permit application for U-3334B were 176 linear feet of permanent stream impacts and 5.3 acres of permanent impacts to wetlands. Final design impacts for U-3334B are 430 linear feet of permanent impacts to streams, 96 linear feet of bank stabilization, and 54 linear feet of temporary stream impacts and 4.10 acres of permanent impacts to wetlands. The increase in stream impacts from preliminary to final design are due to the preliminary cross section being designed for a two-lane 26-foot roadway with 8-foot shoulders and the final cross section being designed for two 12-foot travel lanes in each direction from Buffalo Road to US 301 (Brightleaf Boulevard) with 4-foot paved and 4-foot grassed shoulders and extending project area on White Oak Drive. The following tables represent the overall final impacts for the U-3334 AB project:

Summary of Wetland Impacts for U-3334 AB

Section	Design Stage	Wetland Impact Type	Wetland Impact Area (ac)	Wetland Impacts Requiring Mitigation (ac)
U-3334A	Final	Permanent Wetland Fill	1.96	2.39
		Excavation in Wetlands	0.02	
		Mechanized Clearing in Wetlands	0.41	
		Hand Clearing in Wetlands	7.02	
		Temp. Clearing in Wetlands	0.21	
U-3334B	Final	Permanent Wetland Fill	3.57	4.11
		Mechanized Clearing in Wetlands	0.54	
Total				6.50

Summary of Stream Impacts for U-3334

Section	Design Stage	Stream Impact Type	Impact Length (lf)	Stream Impacts Requiring Mitigation (lf)
U-3334A	Final	Permanent Fill	78	78
		Bank Stabilization	0	
		Temporary	0	
U-3334B	Final	Permanent Fill	430	430
		Bank Stabilization	96	
		Temporary	54	
Total			658	508

Compensatory mitigation requirements for the proposed U-3334B are summarized in the table below. Mitigation of impacts to jurisdictional streams wetlands, and buffers will be provided by DMS.

Jurisdictional Impacts on Section B Requiring Mitigation

Non-riparian Wetland (ac.)		Streams (ft.)
4.11 ac. @ 2:1 ratio		430 ft. @ 2:1 ratio
Totals	8.22	860

This modification request was discussed and coordinated with the appropriate State and Federal agencies at several Merger-01 meetings and the coordination revealed no objections to the request. The proposed modifications to the U-3334 AB project as detailed above are hereby approved in accordance with the specific work activities described and depicted on the plan sheets, drawings and descriptions enclosed with the permit modification request package dated October 10, 2017.

In addition, a permit modification request was received on November 27, 2017 to extend the permit expiration date from December 31, 2017 to December 31, 2020. This modification letter hereby approves this request and extends the permit expiration date to December 31, 2020.

It is understood that all conditions of the original permit and applicable modifications remain valid. In addition, the permittee will comply with the additional special permit conditions as follows:

- a.) All work authorized by this permit modification must be performed in strict compliance with the submitted work plans, which are part of this permit. Any modification to the permit plans must be approved by US Army Corps of Engineers (Corps) prior to implementation.
- b.) The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit, and any authorized modifications. A copy of this permit, and any authorized modifications, including all conditions, shall be available at the project site during construction and maintenance of this project.
- c.) In order to compensate for impacts associated with this permit modification, mitigation shall be provided in accordance with the provisions outlined on the most recent version of the attached Compensatory Mitigation Responsibility Transfer Form. The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit authorization.

Questions regarding this correspondence may be directed to Tom Steffens, NCDOT Coordinator/Regulatory Project Manager at the Washington Regulatory Field Office, telephone (910) 251-4615.

Sincerely,

STEFFENS.THOMAS.A
NCRUM.1284706273

Digitally signed by
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Date: 2017.11.27 14:16:55 -05'00'

Tom Steffens
Regulatory Project Manager
Washington Regulatory Field Office

E-Copies furnished:

Rob Ridings/NCDWR
Travis Wilson/NCWRC
Gary Jordan/USFWS

U.S. ARMY CORPS OF ENGINEERS
Wilmington District
Compensatory Mitigation Responsibility Transfer Form

Permittee: NCDOT /Phil Harris/NEU
 Project Name: U-3334 B Booker Dairy Rd Extension

Action ID: SAW-2008-02482
 County: Johnston

Instructions to Permittee: The Permittee must provide a copy of this form to the Mitigation Sponsor, either an approved Mitigation Bank or the North Carolina Ecosystem Enhancement Program (NCEEP), who will then sign the form to verify the transfer of the mitigation responsibility. Once the Sponsor has signed this form, it is the Permittee's responsibility to ensure that to the U.S. Army Corps of Engineers (USACE) Project Manager identified on page two is in receipt of a signed copy of this form before conducting authorized impacts, unless otherwise specified below. If more than one mitigation Sponsor will be used to provide the mitigation associated with the permit, or if the impacts and/or the mitigation will occur in more than one 8-digit Hydrologic Unit Code (HUC), multiple forms will be attached to the permit, and the separate forms for each Sponsor and/or HUC must be provided to the appropriate mitigation Sponsors.

Instructions to Sponsor: The Sponsor must verify that the mitigation requirements (credits) shown below are available at the identified site. By signing below, the Sponsor is accepting full responsibility for the identified mitigation, regardless of whether or not they have received payment from the Permittee. Once the form is signed, the Sponsor must update the bank ledger and provide a copy of the signed form and the updated bank ledger to the Permittee, the USACE Project Manager, and the Wilmington District Mitigation Office (see contact information on page 2). The Sponsor must also comply with all reporting requirements established in their authorizing instrument.

Permitted Impacts and Compensatory Mitigation Requirements:

Permitted Impacts Requiring Mitigation* **8-digit HUC and Basin: 03020201, Neuse River Basin**

Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
430					4.11	

*If more than one mitigation sponsor will be used for the permit, only include impacts to be mitigated by this sponsor.

Compensatory Mitigation Requirements: **8-digit HUC and Basin: 03020201, Neuse River Basin**

Stream Mitigation (credits)			Wetland Mitigation (credits)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-Riverine	Non-Riparian	Coastal
860					8.22	

Mitigation Site Debited: NCDMS

(List the name of the bank to be debited. For umbrella banks, also list the specific site. For NCEEP, list NCEEP. If the NCEEP acceptance letter identifies a specific site, also list the specific site to be debited).

Section to be completed by the Mitigation Sponsor

Statement of Mitigation Liability Acceptance: I, the undersigned, verify that I am authorized to approve mitigation transactions for the Mitigation Sponsor shown below, and I certify that the Sponsor agrees to accept full responsibility for providing the mitigation identified in this document (see the table above), associated with the USACE Permittee and Action ID number shown. I also verify that released credits (and/or advance credits for NCEEP), as approved by the USACE, are currently available at the mitigation site identified above. Further, I understand that if the Sponsor fails to provide the required compensatory mitigation, the USACE Wilmington District Engineer may pursue measures against the Sponsor to ensure compliance associated with the mitigation requirements.

Mitigation Sponsor Name: NCEEP DMS

Name of Sponsor's Authorized Representative: Beth Harmon

Beth Harmon 11/28/2017
 Signature of Sponsor's Authorized Representative Date of Signature

**USACE Wilmington District
Compensatory Mitigation Responsibility Transfer Form, Page 2**

Conditions for Transfer of Compensatory Mitigation Credit:

- Once this document has been signed by the Mitigation Sponsor and the USACE is in receipt of the signed form, the Permittee is no longer responsible for providing the mitigation identified in this form, though the Permittee remains responsible for any other mitigation requirements stated in the permit conditions.
- Construction within jurisdictional areas authorized by the permit identified on page one of this form can begin only after the USACE is in receipt of a copy of this document signed by the Sponsor, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein. For authorized impacts conducted by the North Carolina Department of Transportation (NCDOT), construction within jurisdictional areas may proceed upon permit issuance; however, a copy of this form signed by the Sponsor must be provided to the USACE within 30 days of permit issuance. NCDOT remains fully responsible for the mitigation until the USACE has received this form, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein.
- Signed copies of this document must be retained by the Permittee, Mitigation Sponsor, and in the USACE administrative records for both the permit and the Bank/ILF Instrument. It is the Permittee's responsibility to ensure that the USACE Project Manager (address below) is provided with a signed copy of this form.
- If changes are proposed to the type, amount, or location of mitigation after this form has been signed and returned to the USACE, the Sponsor must obtain case-by-case approval from the USACE Project Manager and/or North Carolina Interagency Review Team (NCIRT). If approved, higher mitigation ratios may be applied, as per current District guidance and a new version of this form must be completed and included in the USACE administrative records for both the permit and the Bank/ILF Instrument.

Comments/Additional Conditions: This is the final part of U-3334 AB; a phased permit. Section A was originally permitted on March 17, 2009; and this mitigation responsibility transfer form references U-3334 Section B.

This form is not valid unless signed below by the USACE Project Manager and by the Mitigation Sponsor on Page 1. **Once signed, the Sponsor should provide copies of this form along with an updated bank ledger to: 1) the Permittee, 2) the USACE Project Manager at the address below, and 3) the Wilmington District Mitigation Office, Attn: Todd Tugwell, 11405 Falls of Neuse Road, Wake Forest, NC 27587 (email: todd.tugwell@usace.army.mil).** Questions regarding this form or any of the permit conditions may be directed to the USACE Project Manager below.

USACE Project Manager: Tom Steffens
USACE Field Office: Washington Regulatory Field Office
US Army Corps of Engineers
2407 West Fifth Street
Washington, NC 27889
Email: thomas.a.steffens@usace.army.mil

**STEFFENS.THOMAS.A
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ou=USA, cn=STEFFENS.THOMAS.ANCRUM.1284706273
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USACE Project Manager Signature

**November 27, 2017
Date of Signature**

Current Wilmington District mitigation guidance, including information on mitigation ratios, functional assessments, and mitigation bank location and availability, and credit classifications (including stream temperature and wetland groupings) is available at <http://ribits.usace.army.mil>.



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

S. JAY ZIMMERMAN
Director

October 30, 2017

Mr. Philip S. Harris, III, P.E., CPM
Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina, 27699-1598

Subject: Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and NEUSE BUFFER RULES, with ADDITIONAL CONDITIONS for Proposed SR 1923 extension in Johnston County, Federal Aid Project No. STP-1923(2), State Project No. 8.3212101, TIP No. U-3334B.
NCDWR Project No. 20081106 ver. 3.

Dear Mr. Harris:

Attached hereto is a modification of Certification No. 3760 issued to The North Carolina Department of Transportation (NCDOT) originally dated October 8, 2008 (and modified July 22, 2009).

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

A handwritten signature in blue ink, appearing to read 'S. Jay Zimmerman'.

S. Jay Zimmerman, Director
Division of Water Resources

Attachments

Electronic copy only distribution:

Tom Steffens, US Army Corps of Engineers, Washington Field Office
Chad Coggins, Division 4 Environmental Officer
Chris Rivenbark, NC Department of Transportation
Beth Harmon, Division of Mitigation Services
File Copy

Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and NEUSE BUFFER RULES, with ADDITIONAL CONDITIONS

THIS CERTIFICATION is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Resources (NCDWR) Regulations in 15 NCAC 2H .0500 and 15A NCAC 2B.0233. This certification authorizes the NCDOT to impact an additional 4.11 acres of jurisdictional wetlands, 580 linear feet of jurisdictional streams and 44363 square feet of protected riparian buffers in Johnston County. The project shall be constructed pursuant to the modification dated received October 10, 2017. The authorized additional impacts are as described below:

Section B Stream Impacts in the Neuse River Basin

Site	Permanent Fill in Intermittent Stream (linear ft)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Bank Stabilization to Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
2	0	0	315	32	20	367	347
3	0	0	100	64	24	188	0
4	15	10	0	0	0	25	0
Total	15	10	415	96	44	580	347

Total Stream Impact for Section B: 580 linear feet.

Section B Wetland Impacts in the Neuse River Basin

Site	Permanent Fill (ac)	Mechanized Clearing (ac)	Total Wetland Impact (ac)	Wetland Impacts Requiring Mitigation (ac)
1	3.57	0.54	4.11	4.11
Total	3.57	0.54	4.11	4.11

Total Wetland Impact for Section B: 4.11 acres.

Section B Neuse Riparian Buffer Impacts

Site	Zone 1 Impact (sq ft)	Zone 1 Buffer Mitigation Required (using 3:1 ratio)	Zone 2 Impact (sq ft)	Zone 2 Buffer Mitigation Required (using 1.5:1 ratio)
1	22159	66477	8455	12683
2- Crossing	4650	N/A	1784	N/A
2- Ditch	2985	8955	1240	1860
3	2480	N/A	610	N/A
Totals	32274	75432	12089	14543

* n/a = Site impact Allowable, no mitigation required

Total Buffer Impact for Section B: 44363 square feet.

The application provides adequate assurance that the discharge of fill material into the waters of the Neuse River Basin in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your modified application dated received October 10, 2017. All the authorized activities and conditions of certification associated with the original Water Quality Certification dated October 8, 2008, and modification dated July 22, 2009, still apply except where superseded by this certification. Should your project change, you are required to notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). Additional buffer impacts may require compensatory mitigation as described in 15A NCAC 2B.0233. For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

Conditions of Certification:

1. Compensatory mitigation for impacts to 4.11 acres of non-riparian wetlands is required. We understand that you have chosen to perform compensatory mitigation for impacts to wetlands through the North Carolina Division of Mitigation Services (DMS) (formerly NCEEP), and that the DMS has agreed to implement the mitigation for the project. DMS has indicated in a letter dated October 6, 2017 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with DMS's Mitigation Banking Instrument signed July 28, 2010.
2. Compensatory mitigation for 347 linear feet of impact to perennial streams is required. We understand that you have chosen to perform compensatory mitigation for impacts to streams through the North Carolina Division of Mitigation Service (DMS) (formerly NCEEP), and that the DMS has agreed to implement the mitigation for the project. The DMS has indicated in a letter dated October 6, 2017 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the DMS Mitigation Banking Instrument signed July 28, 2010.
3. Compensatory mitigation for impacts to 25144 square feet of protected riparian buffers in Zone 1 and 9695 square feet of protected riparian buffers in Zone 2 shall be required. We understand that you have chosen to perform compensatory mitigation for impacts to protected buffers through use of the North Carolina Division of Mitigation Services (DMS) (formerly NCEEP). Mitigation for unavoidable impacts to Neuse Riparian Buffers shall be provided in the Neuse River Basin and done in accordance with 15A NCAC .02B .0295. The DMS has indicated in a letter dated October 6, 2014 that they will assume responsibility for satisfying the compensatory mitigation requirements for the above-referenced project, in accordance with DMS's Mitigation Banking Instrument signed June 14, 2016.
4. Unless otherwise approved in this certification, placement of culverts and other structures in open waters and streams, shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by the NCDWR. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NCDWR for guidance on how to proceed and to determine whether or not a permit modification will be required. [15A NCAC 02H.0506(b)(2)]
5. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage. [15A NCAC 02H.0506(b)(2)]
6. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed. [15A NCAC 02H.0506(b)(2)]
7. For any streams being impacted due to site dewatering activities, the site shall be graded to its preconstruction contours and revegetated with appropriate native species. [15A NCAC 02H.0506(b)(2)]
8. The stream channel shall be excavated no deeper than the natural bed material of the stream, to the maximum extent practicable. Efforts must be made to minimize impacts to the stream banks, as well as to vegetation responsible for maintaining the stream bank stability. Any applicable riparian buffer impact for access to stream channel shall be temporary and be revegetated with native riparian species. [15A NCAC 02H.0506(b)(2)]
9. Pipes and culverts used exclusively to maintain equilibrium in wetlands, where aquatic life passage is not a concern, shall not be buried. These pipes shall be installed at natural ground elevation. [15A NCAC 2H.0506(b)]
10. All stormwater runoff shall be directed as sheetflow through stream buffers at non-erosive velocities, unless otherwise approved by this certification. [15A NCAC 2B.0233]

11. All riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegetated. Maintained buffers shall be permanently revegetated with non-woody species by the end of the growing season following completion of construction. For the purpose of this condition, maintained buffer areas are defined as areas within the transportation corridor that will be subject to regular NCDOT maintenance activities including mowing. The area with non-maintained buffers shall be permanently revegetated with native woody species before the next growing season following completion of construction. Insert buffer rule citation. [15A NCAC 2B.0233]
12. Pursuant to 15A NCAC 2B.0233(6), sediment and erosion control devices shall not be placed in Zone 1 of any Neuse Buffer without prior approval by the NCDWR. At this time, the NCDWR has approved no sediment and erosion control devices in Zone 1, outside of the approved project impacts, anywhere on this project. Moreover, sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised and that discharge is released as diffuse flow.
13. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills. [15A NCAC 02B.0200]
14. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers. [15A NCAC 02H.0506(b)(2)]
15. The dimension, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions. [15A NCAC 02H.0506(b)(2)]
16. The use of rip-rap above the Normal High Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage. [15A NCAC 02H.0506(b)(2)]
17. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval. [15A NCAC 02H .0507 (c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
18. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water. [15A NCAC 02H.0506(b)(3) and (c)(3)]
19. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream. [15A NCAC 02H.0506(b)(3)]
20. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials. [15A NCAC 02H.0506(b)(3)]
21. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification. [15A NCAC 02H.0506(b)(3)]
22. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited. [15A NCAC 02H.0506(b)(3)]
23. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If the NCDWR determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, the NCDWR may reevaluate and modify this certification. [15A NCAC 02B.0200]
24. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification. [15A NCAC 02H.0506(b)(2)]

25. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager. [15A NCAC 02H .0507(c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]

26. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization, including all non-commercial borrow and waste sites associated with the project, shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification. [15A NCAC 02H.0501 and .0502]

27. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.

28. The Permittee shall report any violations of this certification to the Division of Water Resources within 24 hours of discovery. [15A NCAC 02B.0506(b)(2)]

29. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify the NCDWR when all work included in the 401 Certification has been completed. [15A NCAC 02H.0502(f)]

30. Native riparian vegetation (i.e., trees and shrubs native to your geographic region) must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction. [15A NCAC 02B.0233(10)] & [15A NCAC 02B.0506(b)(2)]

31. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities. [15A NCAC 02H.0506(b)(3) and (c)(3)]

32. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards [15A NCAC 02H.0506(b)(3) and (c)(3)]:

- a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
- b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
- c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
- d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.

33. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification. [15A NCAC 02H.0506(b)(3) and (c)(3)]

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

If you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

The petition may be faxed-provided the original and one copy of the document is received by the Office of Administrative Hearings within five (5) business days following the faxed transmission.

The mailing address for the Office of Administrative Hearings is:

Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
Telephone: (919) 431-3000, Facsimile: (919) 431-3100

A copy of the petition must also be served on DEQ as follows:

Mr. Bill F. Lane, General Counsel
Department of Environmental Quality
1601 Mail Service Center

This the 30th day of October 2017

DIVISION OF WATER RESOURCES

S. Jay Zimmerman, Director

WQC No. 3760



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

S. JAY ZIMMERMAN
Director

NCDWR Project No.: _____ County: _____

Applicant: _____

Project Name: _____

Date of Issuance of 401 Water Quality Certification: _____

Certificate of Completion

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401 Transportation Permitting Unit, North Carolina Division of Water Resources, 1617 Mail Service Center, Raleigh, NC, 27699-1617. This form may be returned to NCDWR by the applicant, the applicant's authorized agent, or the project engineer. It is not necessary to send certificates from all of these.

Applicant's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Agent's Certification

I, _____, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: _____ Date: _____

Engineer's Certification

_____ Partial _____ Final

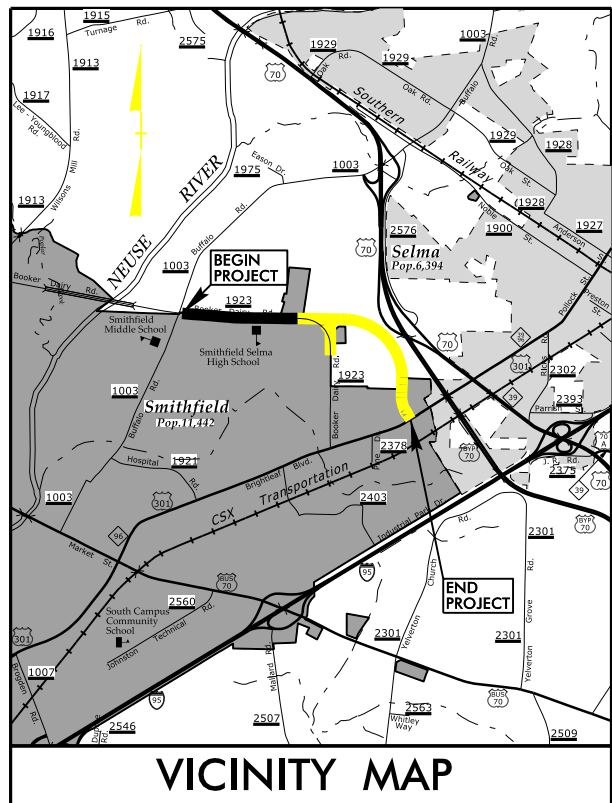
I, _____, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature _____ Registration No. _____ Date _____

09/08/19

TIP PROJECT: U-3334B

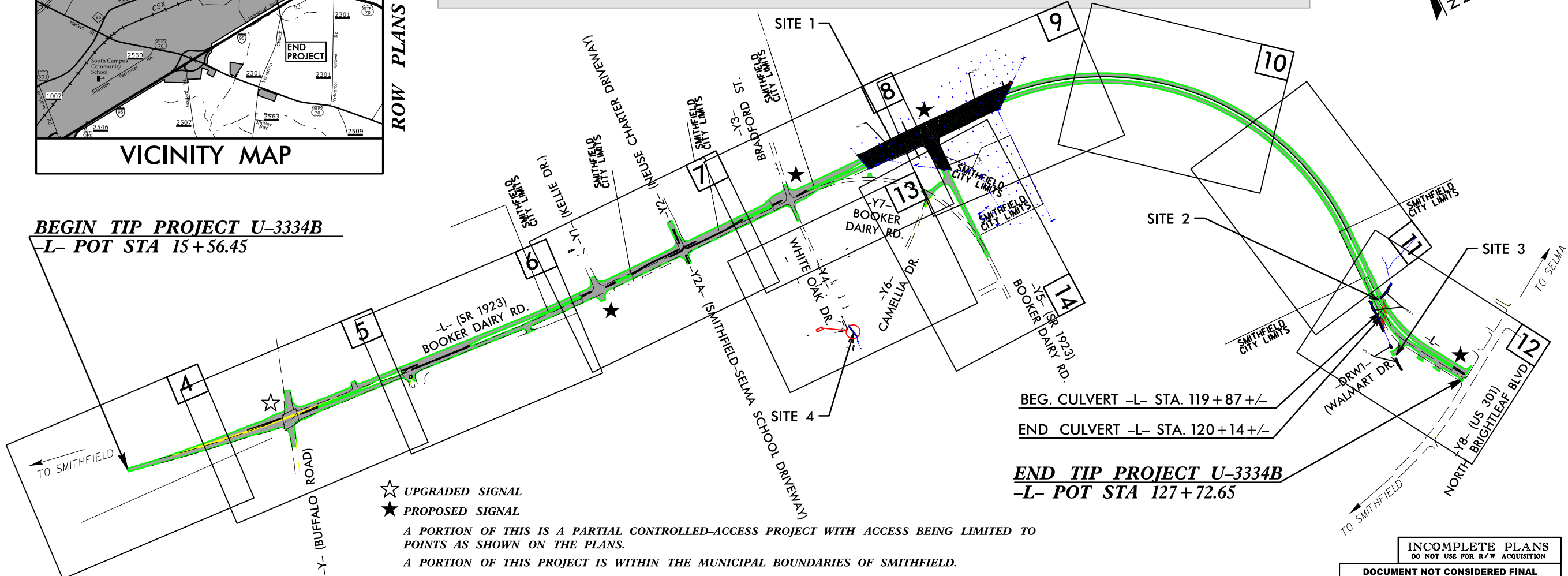
See Sheet 1-B for Conventional Symbols
See Sheets 1-C thru 1-D for Survey Control Sheets



VICINITY MAP

ROW PLANS

BEGIN TIP PROJECT U-3334B
-L- POT STA 15+56.45



BEG. CULVERT -L- STA. 119+87 +/-
END CULVERT -L- STA. 120+14 +/-

END TIP PROJECT U-3334B
-L- POT STA 127+72.65

- ☆ UPGRADED SIGNAL
- ★ PROPOSED SIGNAL

A PORTION OF THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF SMITHFIELD.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
JOHNSTON COUNTY



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3334B	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34929.1.3	STP-1923(12)	P.E.	
34929.2.5	STP-1923(12)	R/W	
34929.2.6		UTIL.	

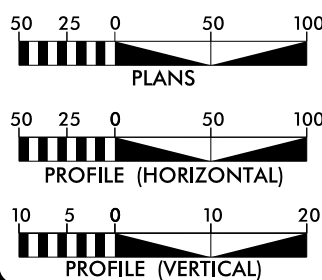
LOCATION: SR 1923 EXTENSION (BOOKER DAIRY ROAD) FROM SR 1003 (BUFFALO ROAD) TO US 301 (BRIGHTLEAF BOULEVARD)

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

WETLAND AND SURFACE WATER IMPACTS PERMIT

CONTRACT:

GRAPHIC SCALES



DESIGN DATA

ADT 2018 = 10,637
ADT 2038 = 16,785
K = 9 %
D = 55 %
T = 3 % *
V = 50 MPH
* (1% TTST + 2% DUALS)
FUNC CLASS =
URBAN COLLECTOR
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT U-3334B = 2.123 MILES
LENGTH OF STRUCTURE TIP PROJECT U-3334B = 0.001 MILES
TOTAL LENGTH OF TIP PROJECT U-3334B = 2.124 MILES

Prepared in the Office of:



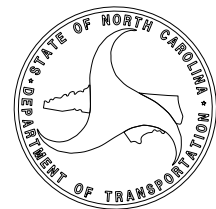
for the North Carolina Department of Transportation

2012 STANDARD SPECIFICATIONS
RIGHT OF WAY DATE:
JUNE 10, 2016
LETTING DATE:
JANUARY 16, 2018

STANTEC CONTACT
STEVE SMALLWOOD, P.E.
PROJECT ENGINEER
NCDOT CONTACT:
REKHA PATEL, P.E.

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.
ROADWAY DESIGN ENGINEER
SIGNATURE: _____ P.E.

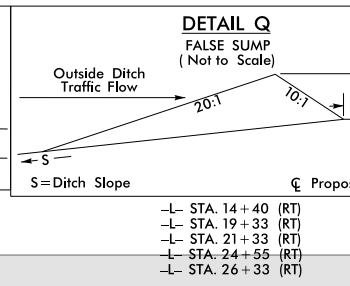
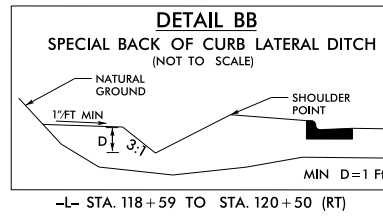
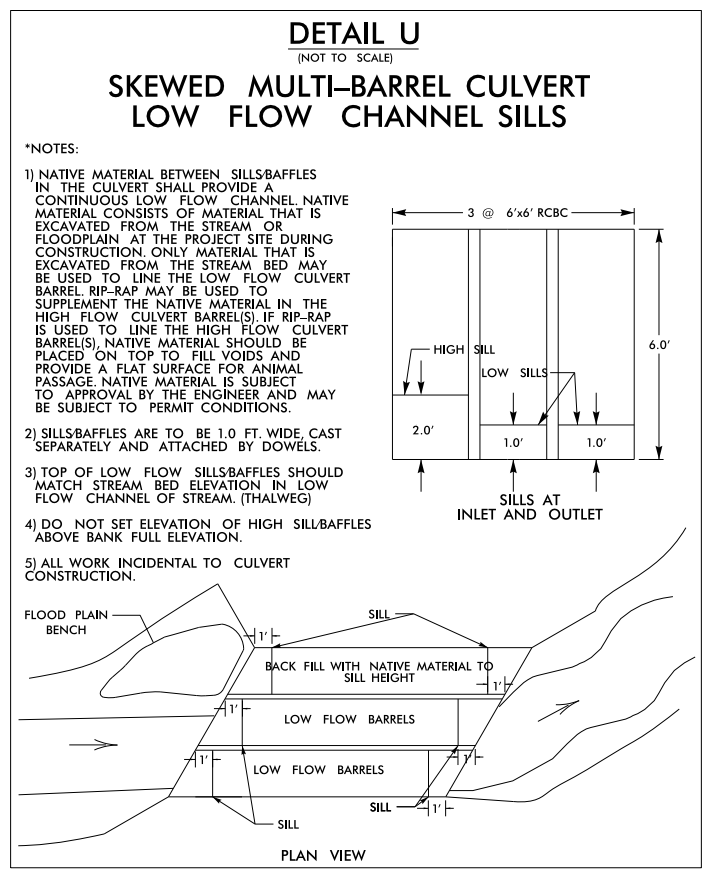
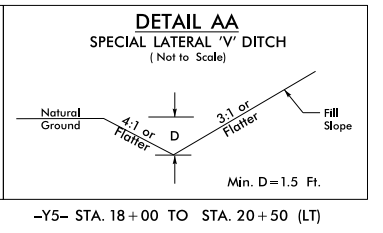
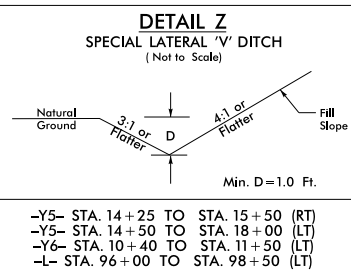
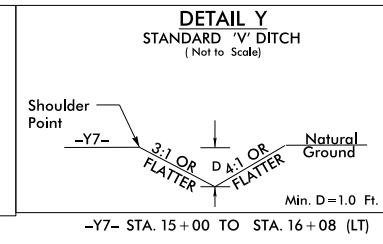
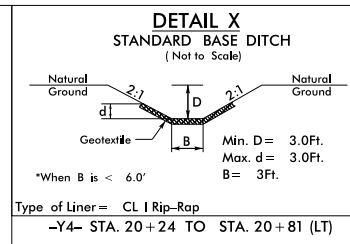
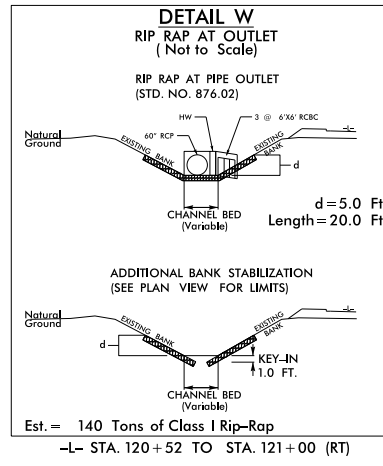
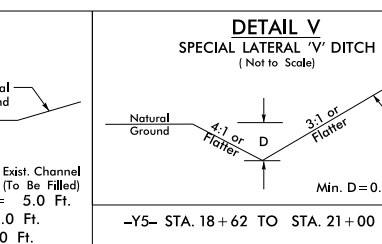
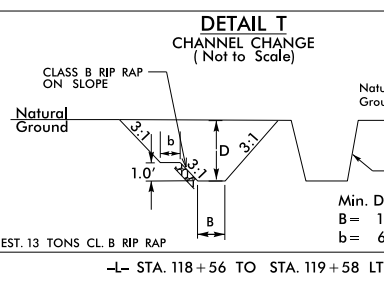
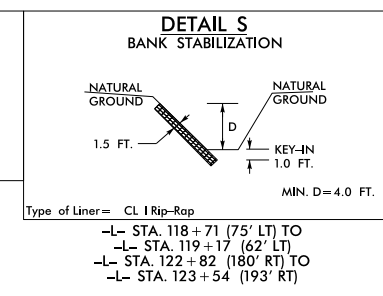
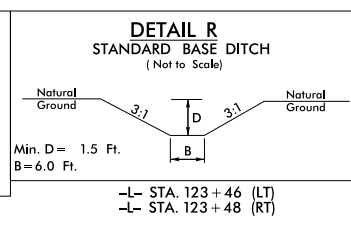
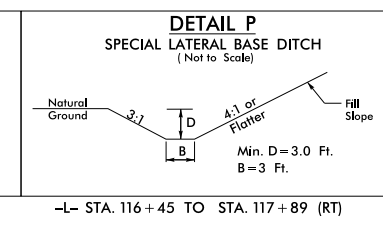
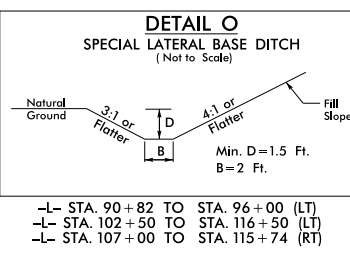
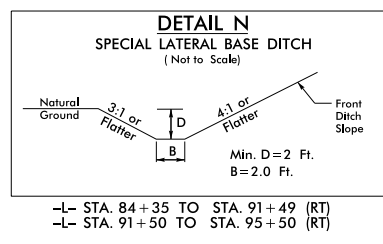
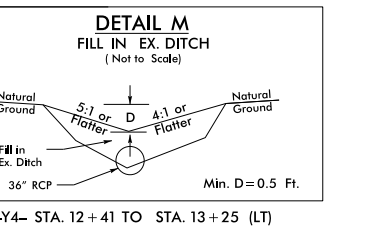
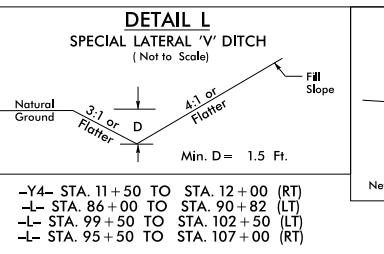
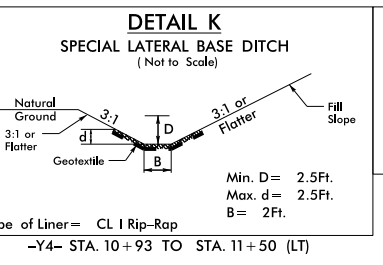
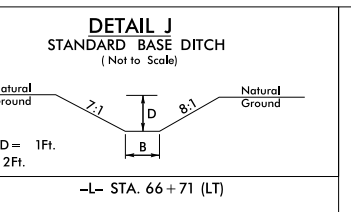
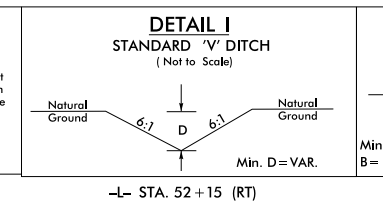
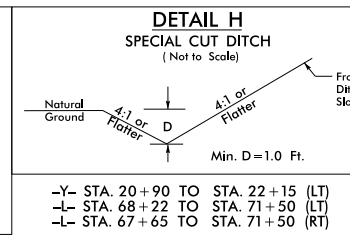
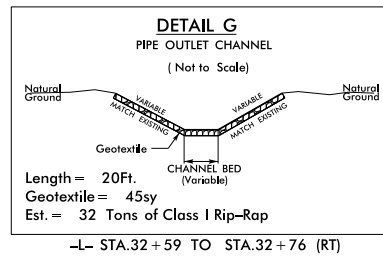
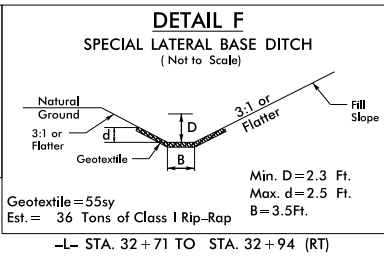
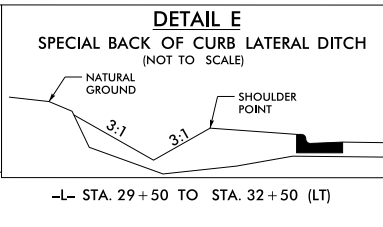
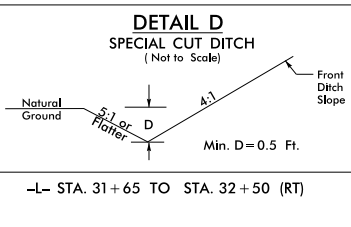
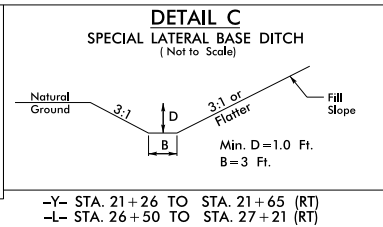
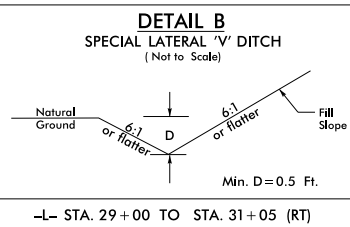
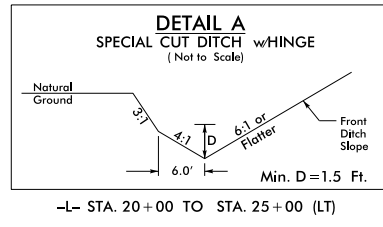


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mberry
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DRAINAGE DETAILS

HYDRAULIC DESIGN
ENGINEER

PERMIT DRAWING
SHEET 2 OF 16



WETLAND AND SURFACE WATER IMPACTS PERMIT

8/17/99
8/7/2017
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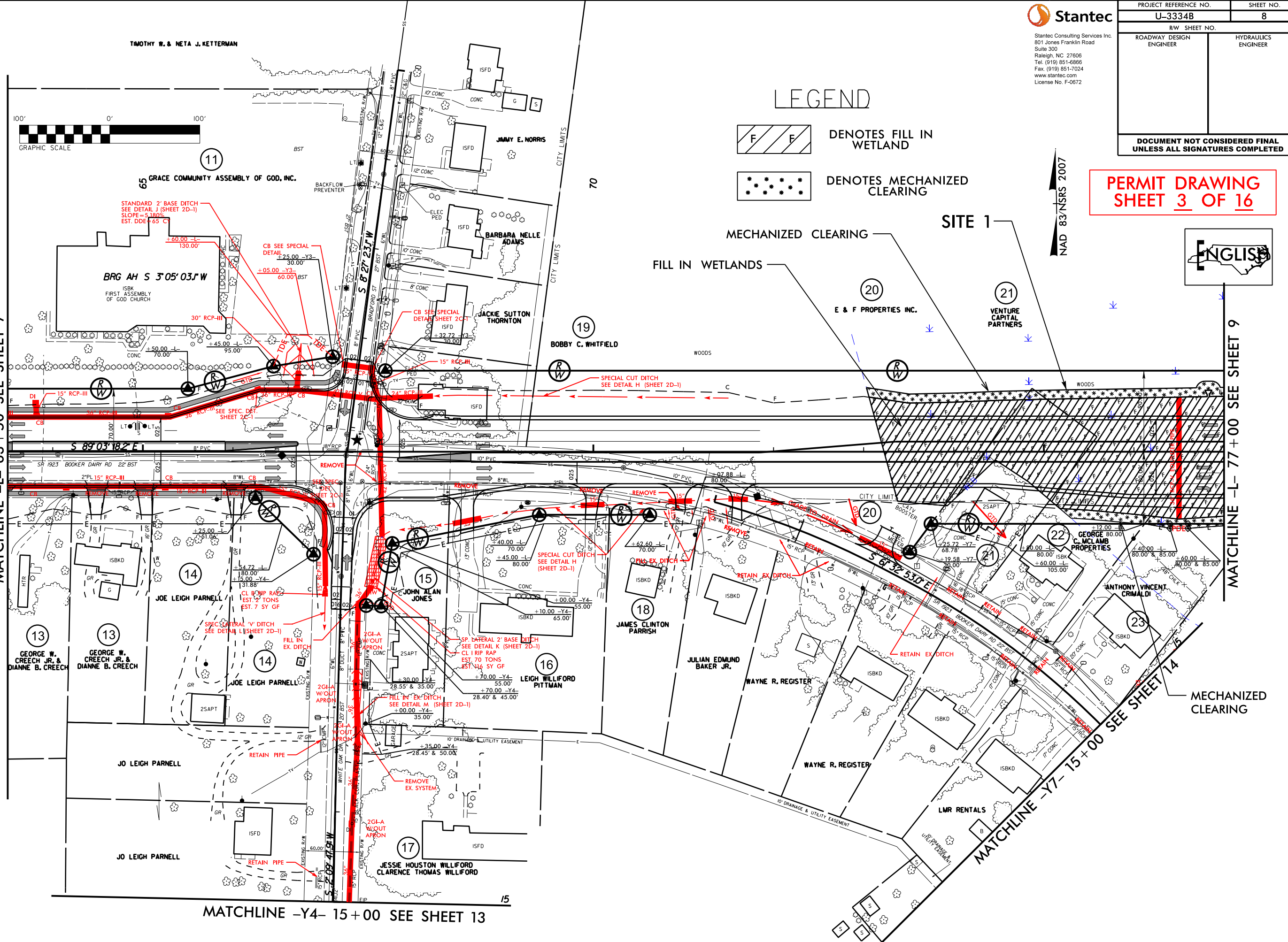
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PERMIT DRAWING
SHEET 3 OF 16

LEGEND

- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING

NAD 83 NSRS 2007



MATCHLINE -L- 63+50 SEE SHEET 7

MATCHLINE -L- 77+00 SEE SHEET 9

MATCHLINE -Y4- 15+00 SEE SHEET 13

MATCHLINE -Y7- 15+00 SEE SHEET 14

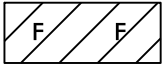

REVISIONS
 11/30/2016 - RAW REVISIONS; ADJUSTED THE STATIONS AND/OR OFFSETS BASED ON THE FIELD STAKING ON PARCELS 11,14,15 AND 17 THROUGH 21; PROPERTY OWNER NAMES AND/OR DEED REFERENCES ON PARCELS 11,14 AND 23 - SS

8/17/99

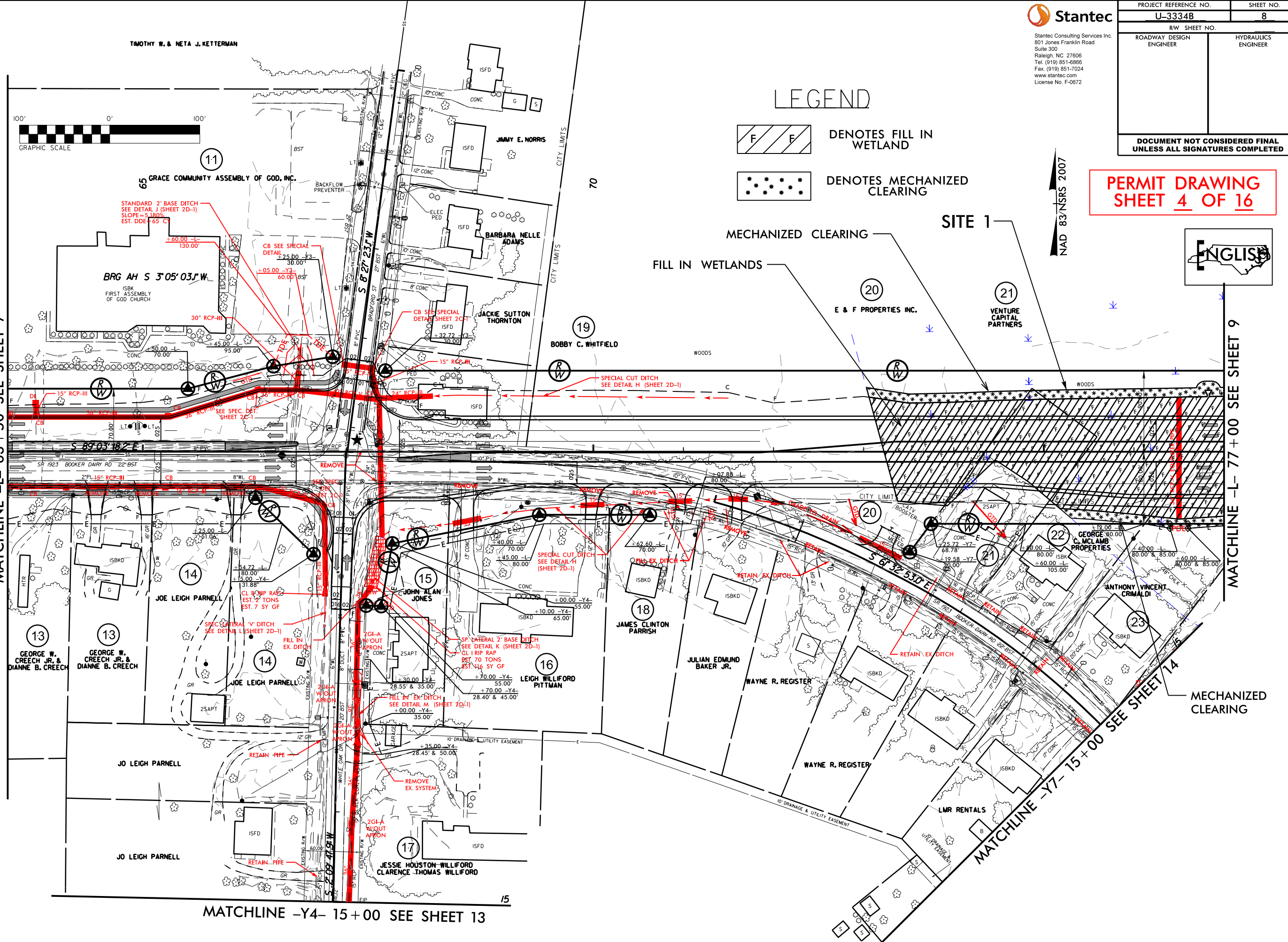
PROJECT REFERENCE NO. U-3334B	SHEET NO. 8
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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PERMIT DRAWING
SHEET 4 OF 16

LEGEND

-  DENOTES FILL IN WETLAND
-  DENOTES MECHANIZED CLEARING

NAD 83 NSRS 2007



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MATCHLINE -L- 77+00 SEE SHEET 9

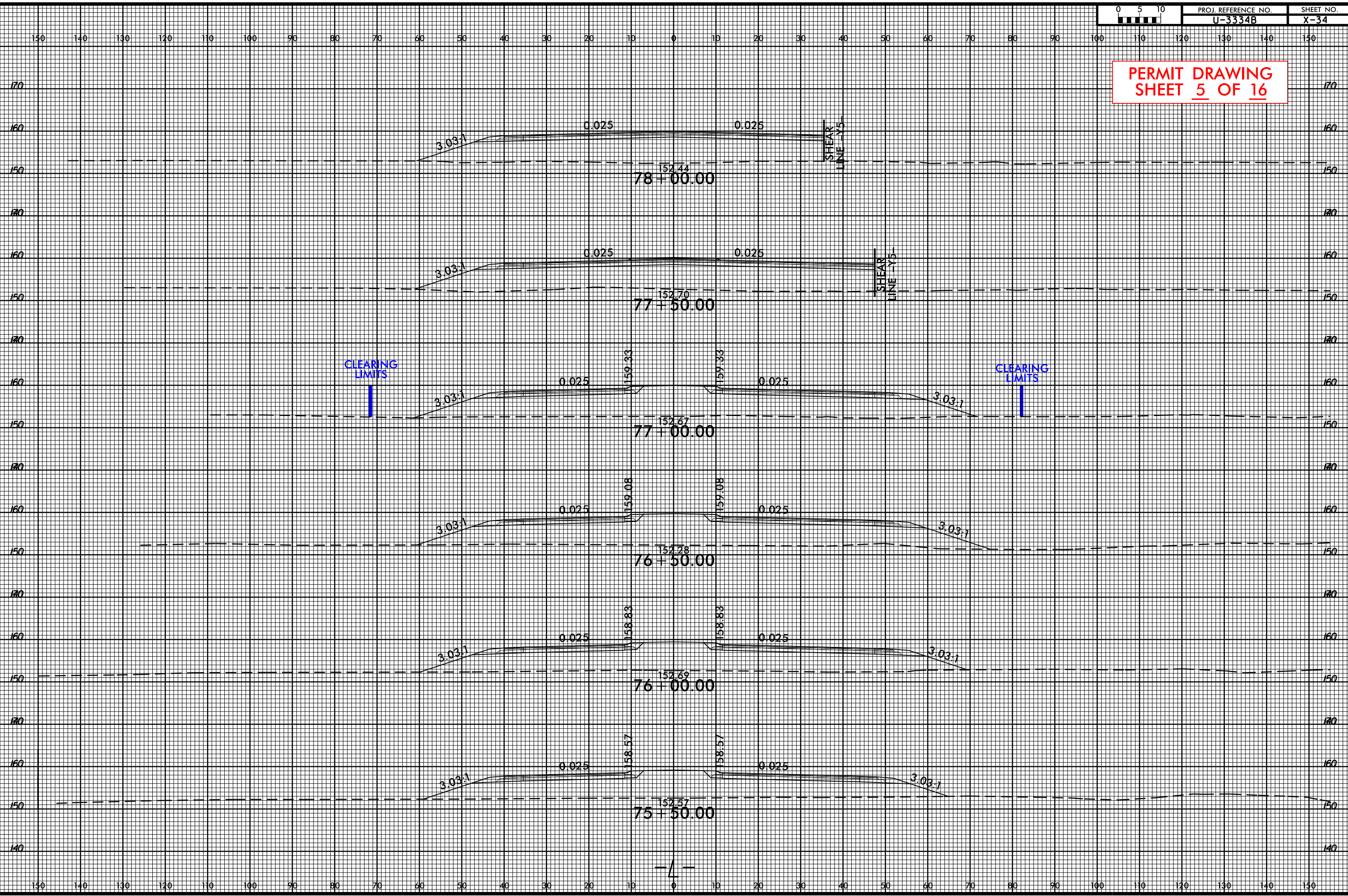
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MATCHLINE -Y7- 15+00 SEE SHEET 14

REVISIONS
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 11/30/2016 - ADJUSTED PROPERTY OWNER NAMES AND/OR DEED REFERENCES ON PARCELS 11, 14 AND 23 - SS
 11/30/2016 - ADJUSTED PROPERTY OWNER NAMES AND/OR DEED REFERENCES ON PARCELS 11, 14 AND 23 - SS

8/17/99

PERMIT DRAWING
SHEET 5 OF 16

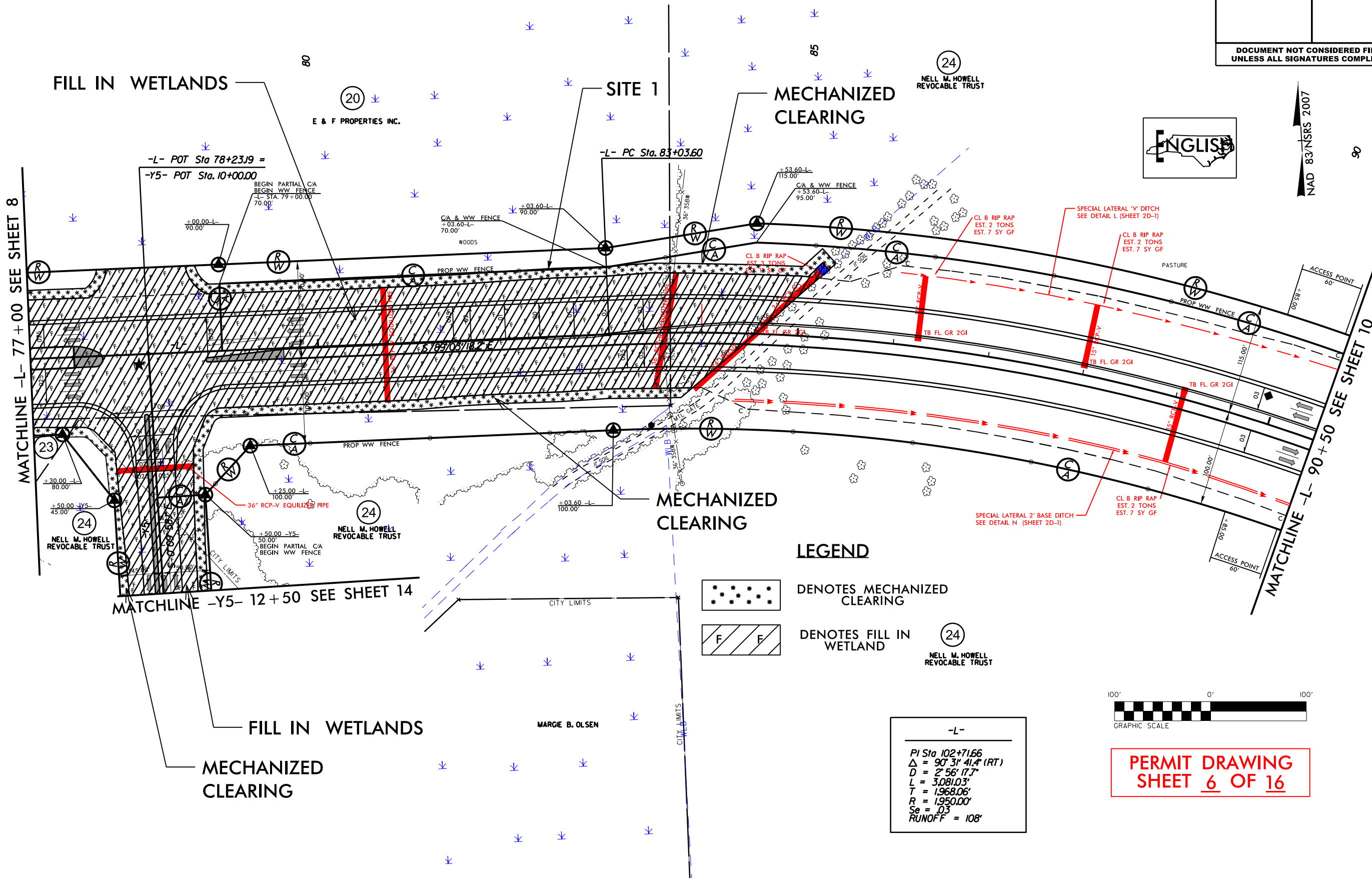


WETLAND AND SURFACE WATER IMPACTS PERMIT



Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27608
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

PROJECT REFERENCE NO. U-3334B	SHEET NO. 9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



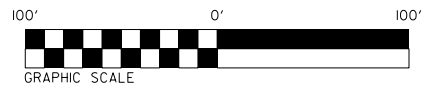
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 9/18/2017 - R/W REVISION: CREATED PARCEL 23Z; ADDED TCE ON PARCEL 23Z; - SS

LEGEND

- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND
- NELL M. HOWELL REVOCABLE TRUST

-L-

PI Sta 102+71.66
 $\Delta = 90^\circ 31' 41.4" (RT)$
 $D = 2' 56' 17.7"$
 $L = 3.081.03'$
 $T = 1,968.06'$
 $R = 1,950.00'$
 $Se = .03$
 RUNOFF = 108'



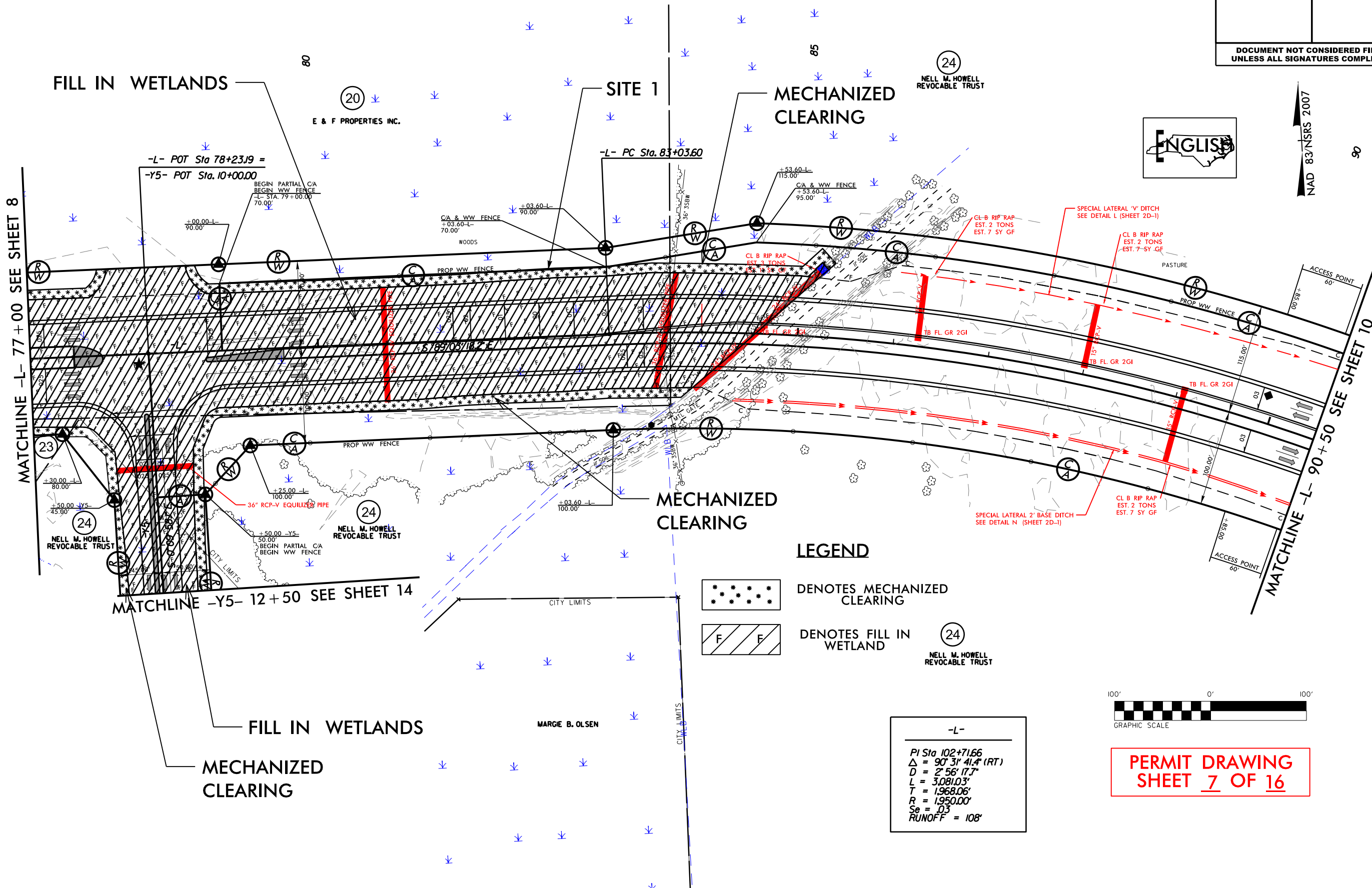
PERMIT DRAWING
 SHEET 6 OF 16

WETLAND AND SURFACE WATER IMPACTS PERMIT



Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6865
Fax. (919) 851-7024
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License No. F-0672

PROJECT REFERENCE NO. U-3334B	SHEET NO. 9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



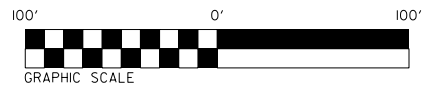
REVISIONS
 9/18/2017 - R/W REVISION: CREATED PARCEL 23Z; ADDED TCE ON PARCEL 23Z; - SS

LEGEND

- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND
- NELL M. HOWELL REVOCABLE TRUST

-L-

PI Sta 102+71.66
 $\Delta = 90^\circ 31' 41.4''$ (RT)
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 RUNOFF = 108'



PERMIT DRAWING
 SHEET 7 OF 16

WETLAND AND SURFACE WATER IMPACTS PERMIT



Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6868
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

PROJECT REFERENCE NO. U-3334B	SHEET NO. 12
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



IMPACTS IN SURFACE WATER

IMPACTS IN SURFACE WATER

TEMP. IMPACTS IN SURFACE WATER

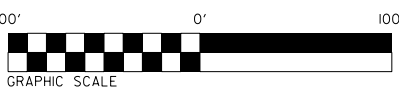
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TEMP. IMPACTS IN SURFACE WATER

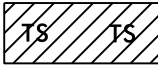
IMPACTS IN SURFACE WATER

TEMP. IMPACTS IN SURFACE WATER

TEMP. IMPACTS IN SURFACE WATER



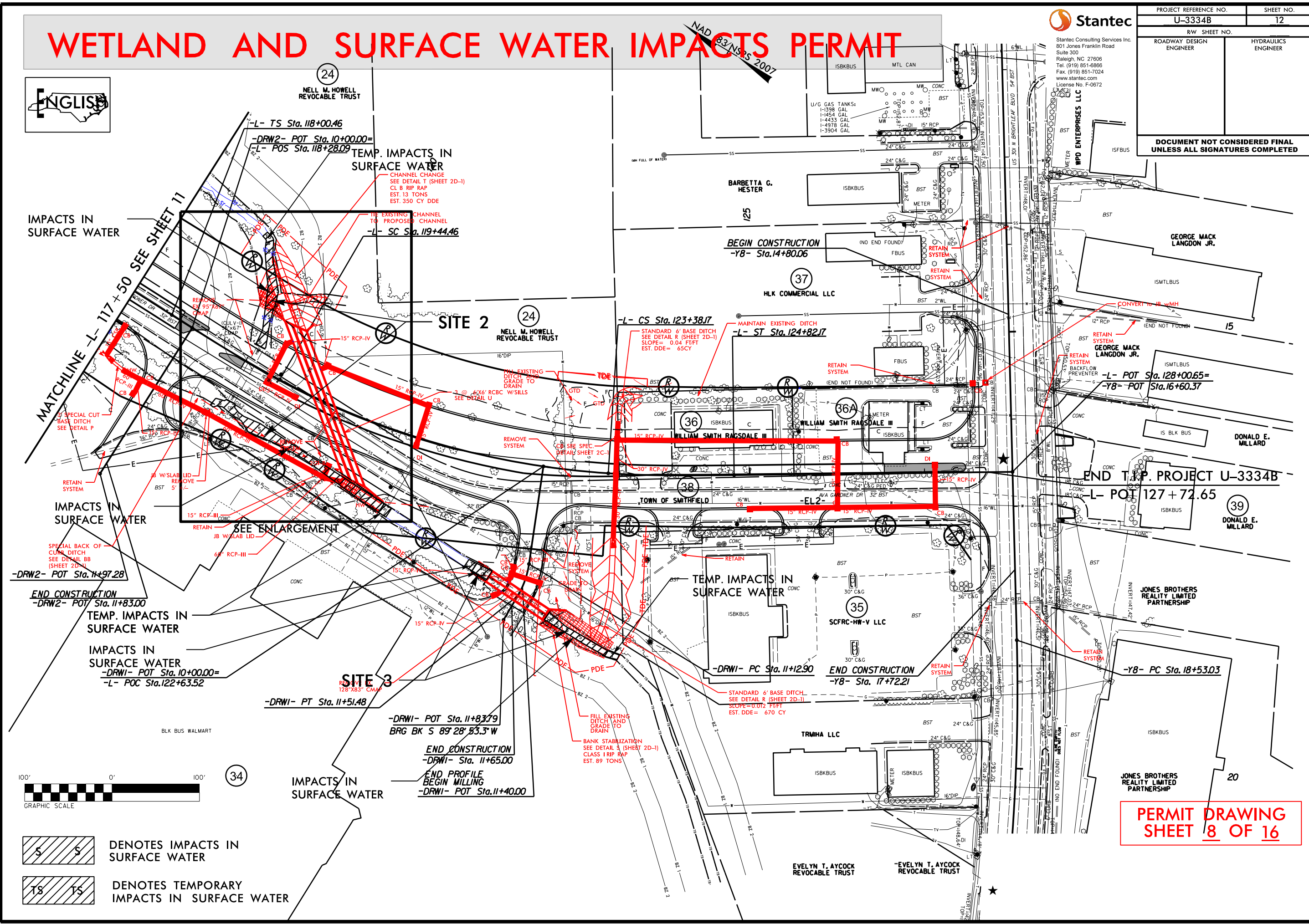
DENOTES IMPACTS IN SURFACE WATER



DENOTES TEMPORARY IMPACTS IN SURFACE WATER

REVISIONS
11/30/2016 - R/W REVISIONS: ADDED PARCEL 36A; ADJUSTED THE STATIONS AND/OR OFFSETS BASED ON THE FIELD STAKING ON PARCELS 35, 36A, 37 AND 39;
3/14/2017 - UPDATED PROPERTY OWNER NAME AND DEED REFERENCE ON PARCEL 35. - SS
8/17/2017 - R/W REVISION: ADDED TDE TO PARCELS 24 & 37 AND REVISED PDE ON PARCELS 34 & 35. - SS

8/20/2017
R:\Hydraulics\PERMITS\Environmental\Drawings\WETLANDS\U3334B_Hyd.dwg
R:\Hydraulics\PERMITS\Environmental\Drawings\WETLANDS\U3334B_Hyd.dwg



PERMIT DRAWING SHEET 8 OF 16

WETLAND AND SURFACE WATER IMPACTS PERMIT



PROJECT REFERENCE NO. U-3334B	SHEET NO. 12
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	ENGINEER

Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



IMPACTS IN SURFACE WATER

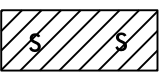
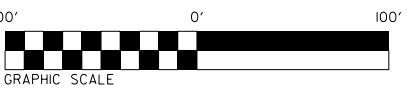
IMPACTS IN SURFACE WATER

TEMP. IMPACTS IN SURFACE WATER

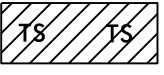
IMPACTS IN SURFACE WATER

IMPACTS IN SURFACE WATER

TEMP. IMPACTS IN SURFACE WATER



DENOTES IMPACTS IN SURFACE WATER



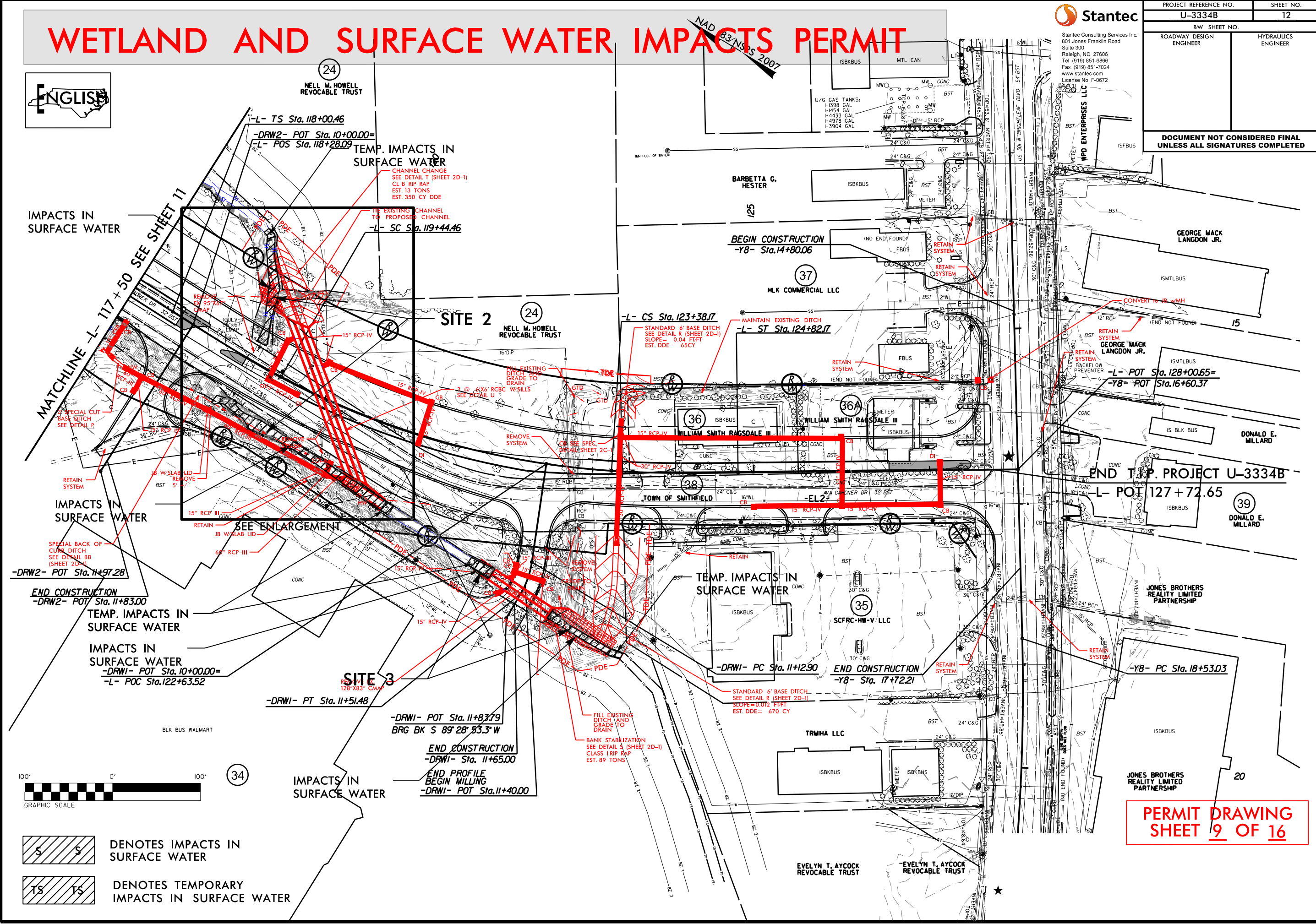
DENOTES TEMPORARY IMPACTS IN SURFACE WATER

REVISIONS
 11/30/2016 - R/W REVISIONS. ADDED PARCEL 36A. ADJUSTED THE STATIONS AND/OR OFFSETS BASED ON THE FIELD STAKING ON PARCELS 35, 36A, 37 AND 39;
 3/14/2017 - R/W REVISIONS. ADDED PARCEL 36A. ADJUSTED THE STATIONS AND/OR OFFSETS BASED ON THE FIELD STAKING ON PARCELS 34 & 35. - SS
 3/14/2017 - R/W REVISIONS. ADDED TDE TO PARCELS 24 & 37 AND REVISED PDE ON PARCELS 34 & 35. - SS

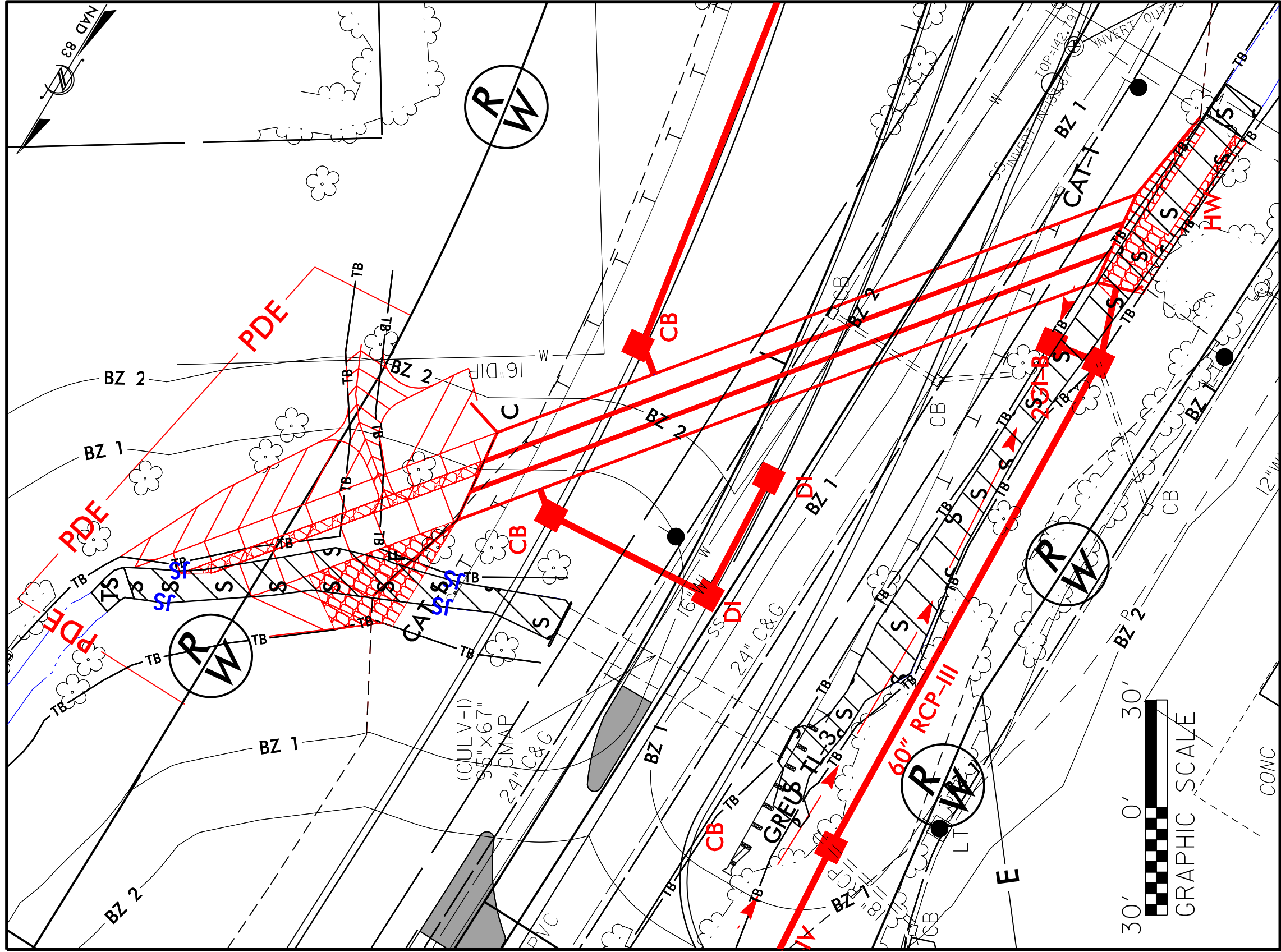
8/17/99

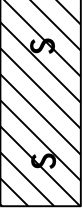

8/20/17

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PERMIT DRAWING
 SHEET 9 OF 16



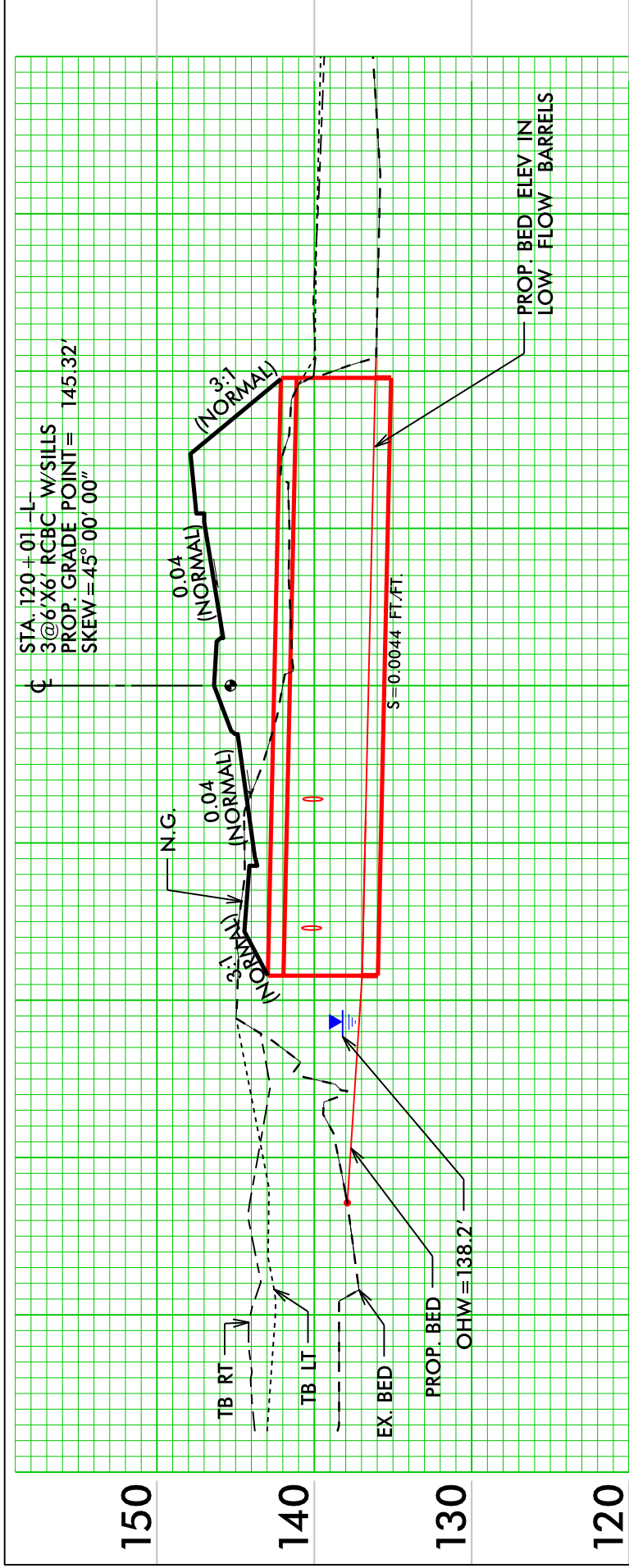
- SITE 2**
- ENLARGEMENT**
-  DENOTES IMPACTS IN SURFACE WATER
 -  DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NCDOT

DIVISION OF HIGHWAYS
JOHNSTON COUNTY

PROJECT: 34929.1.3 (U-3334B)

SR1923 EXTENSION (BOOKER DAIRY RD) FROM SR1003 (BUFFALO RD) TO US 301 (BRIGHTLEAF BLVD)

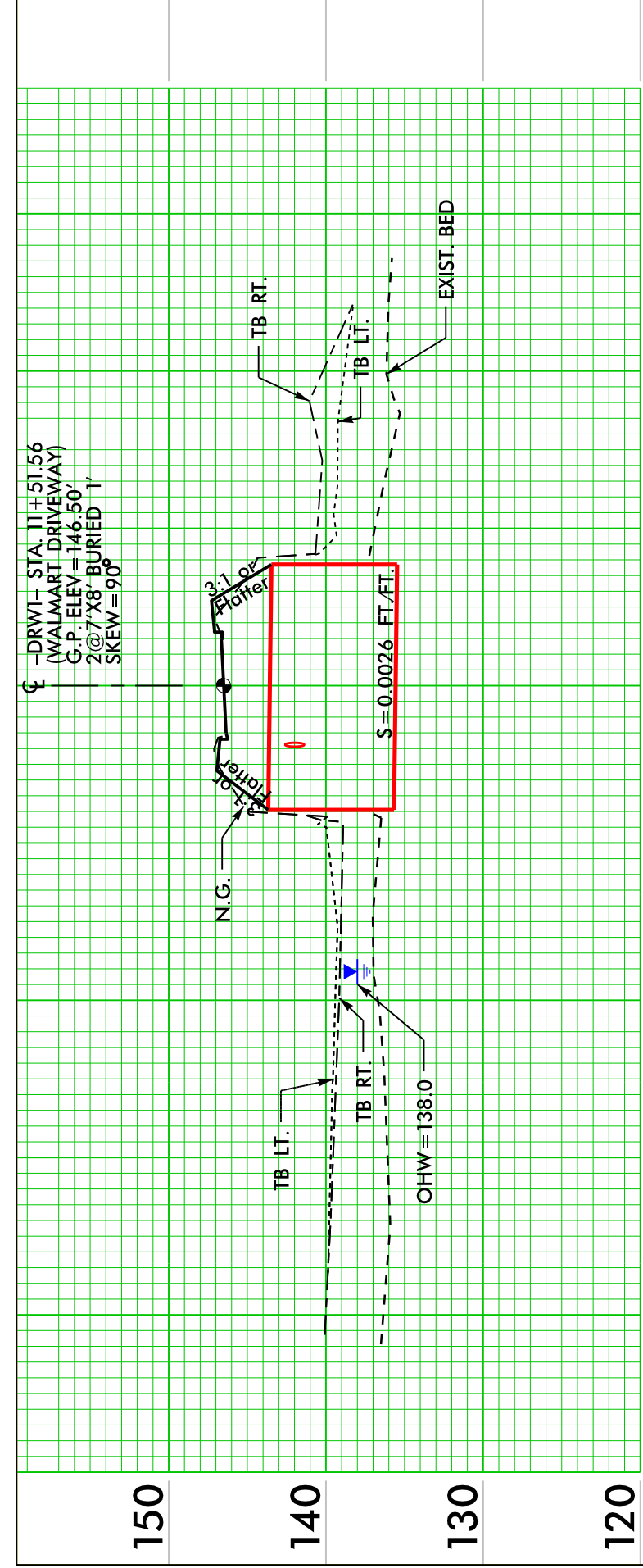


250' LT. 200' LT. 150' LT. 100' LT. 50' LT. 0 50' RT. 100' RT. 150' RT. 200' RT.

SCALE
HORIZ: 1" = 50'
VERT: 1" = 10'

SITE 2
-L- CULVERT PROFILE

NCDOT
DIVISION OF HIGHWAYS
JOHNSTON COUNTY
PROJECT: 34929.1.3 (U-3334B)
SR 1923 EXTENSION (BOOKER DAIRY RD) FROM SR 1003 (BUFFALE RD) TO US 301 (BRIGHTLEAF BLVD)



250' LT. 200' LT. 150' LT. 100' LT. 50' LT. 0 50' RT. 100' RT. 150' RT. 200' RT.

SCALE
HORIZ: 1" = 50'
VERT: 1" = 10'

SITE 3
-DRW1- WALMART
CULVERT PROFILE

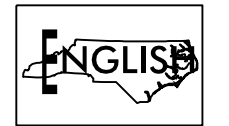
NCDOT
DIVISION OF HIGHWAYS
JOHNSTON COUNTY
PROJECT: 34929.1.3 (U-3334B)
SR 1923 EXTENSION (BOOKER DAIRY RD) FROM SR 1003 (BUFFALE RD) TO US 301 (BRIGHTLEAF BLVD)

WETLAND AND SURFACE WATER IMPACTS PERMIT

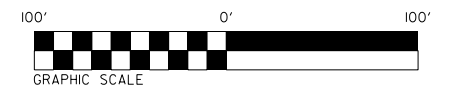
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 Tel. (919) 851-6866
 Fax. (919) 851-7024
 www.stantec.com
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PROJECT REFERENCE NO. U-3334B	SHEET NO. 13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

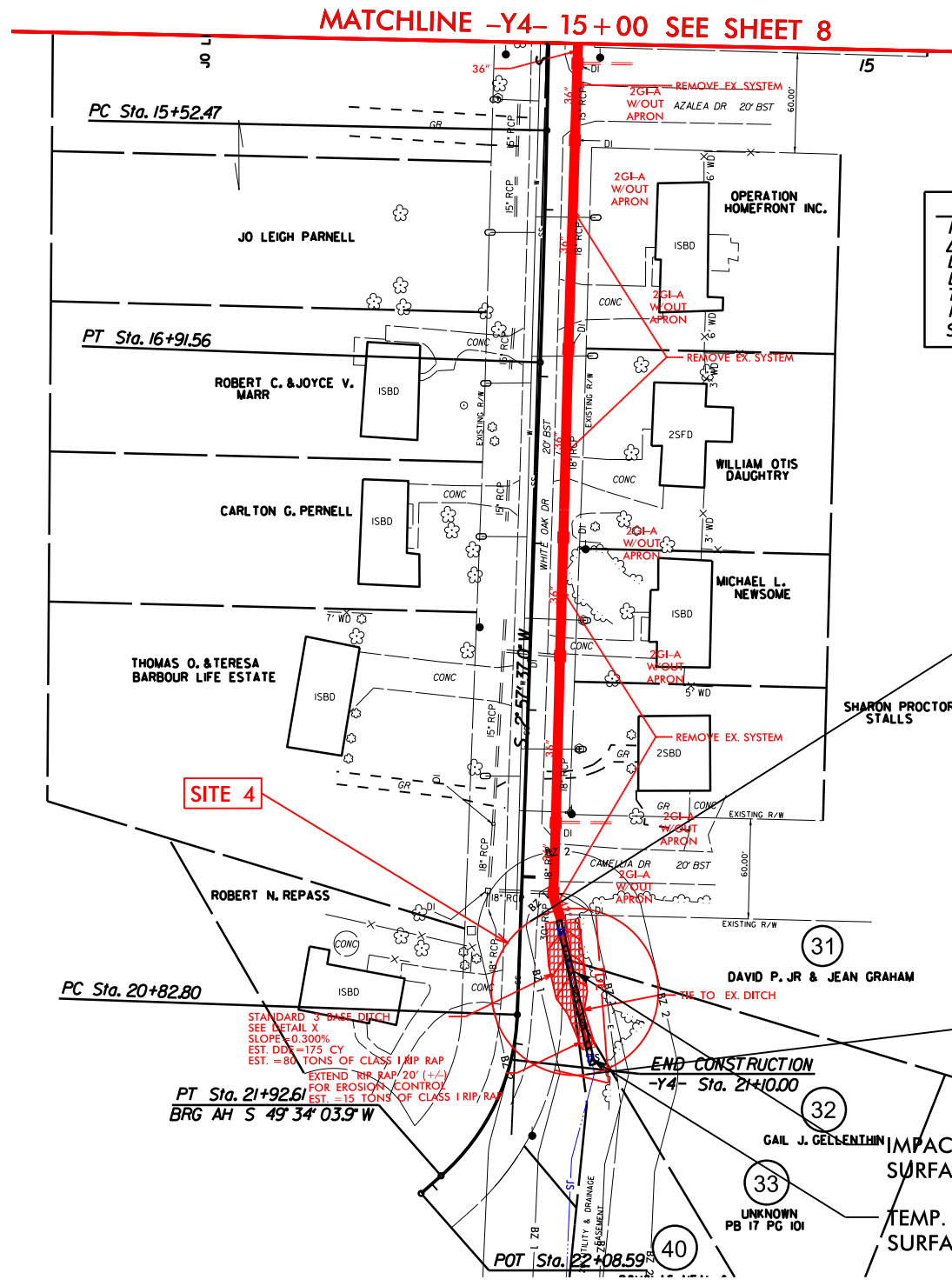
PERMIT DRAWING
SHEET 12 OF 16



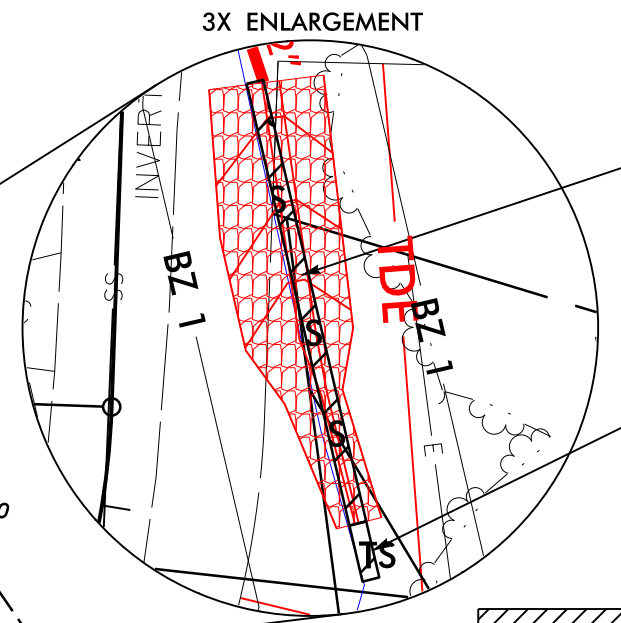
NAD 83/NSRS 2007



REVISIONS
 11/30/2016 - R/W REVISIONS: ADJUSTED THE STATIONS AND/OR OFFSETS BASED ON THE FIELD STAKING ON PARCELS 31 AND 40; SUBDIVIDED PARCEL 32 INTO PARCELS 32 AND 40; UPDATED PROPERTY OWNER NAME AND DEED REFERENCE ON PARCEL 32 - SS



-Y4-	-Y4-
PI Sta 16+22.02	PI Sta 21+40.95
$\Delta = 0' 47' 49.0''$ (RT)	$\Delta = 46' 36' 26.9''$ (RT)
$D = 0' 34' 22.6''$	$D = 42' 26' 28.7''$
$L = 139.09'$	$L = 109.82'$
$T = 69.55'$	$T = 58.15'$
$R = 10,000.00'$	$R = 135.00'$
Se = EXISTING	Se = EXISTING



IMPACTS IN SURFACE WATER

TEMP. IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER

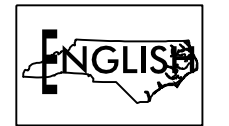
NOTES:
 SEE SHEET 21 FOR -Y4- PROFILE.

WETLAND AND SURFACE WATER IMPACTS PERMIT

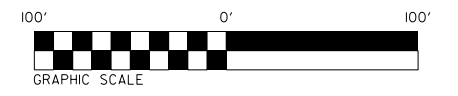
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PROJECT REFERENCE NO. U-3334B	SHEET NO. 13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

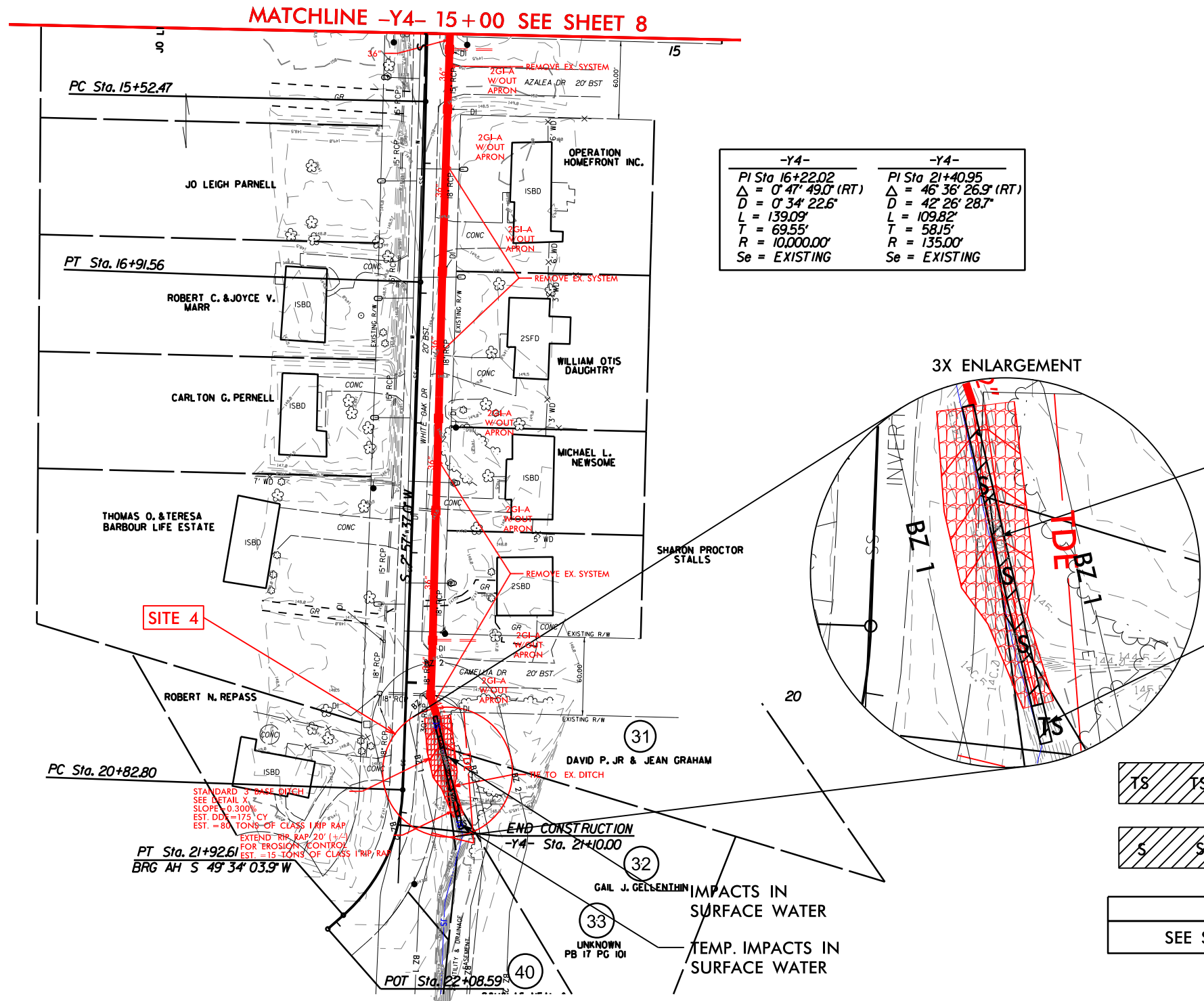
PERMIT DRAWING
SHEET 13 OF 16



NAD 83/NSRS 2007



REVISIONS
 11/30/2016 - R/W REVISIONS: ADJUSTED THE STATIONS AND/OR OFFSETS BASED ON THE FIELD STAKING ON PARCELS 31 AND 40; SUBDIVIDED PARCEL 32 INTO PARCELS 32 AND 40; UPDATED PROPERTY OWNER NAME AND DEED REFERENCE ON PARCEL 32 - SS



-Y4-	-Y4-
PI Sta 16+22.02	PI Sta 21+40.95
$\Delta = 0' 47' 49.0''$ (RT)	$\Delta = 46' 36' 26.9''$ (RT)
$D = 0' 34' 22.6''$	$D = 42' 26' 28.7''$
$L = 139.09'$	$L = 109.82'$
$T = 69.55'$	$T = 58.15'$
$R = 10,000.00'$	$R = 135.00'$
Se = EXISTING	Se = EXISTING

- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES IMPACTS IN SURFACE WATER

NOTES:
SEE SHEET 21 FOR -Y4- PROFILE.

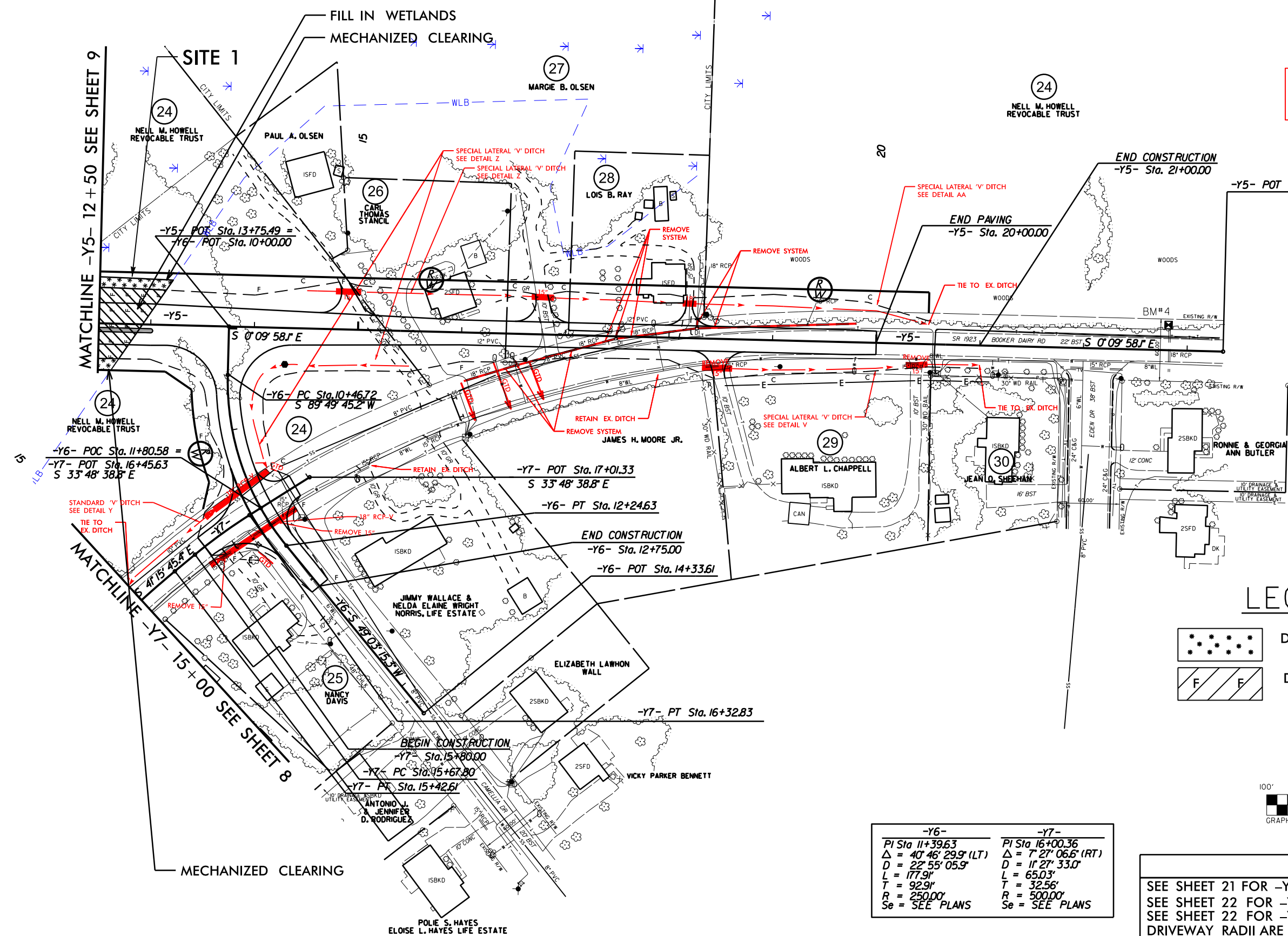
WETLAND AND SURFACE WATER IMPACTS PERMIT

NAD 83/NSRS 2007

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 Fax. (919) 851-7024
 www.stantec.com
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PROJECT REFERENCE NO. U-3334B	SHEET NO. 14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PERMIT DRAWING
SHEET 14 OF 16



LEGEND

- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND

-Y6-	-Y7-
PI Sta 11+39.63	PI Sta 16+00.36
$\Delta = 40' 46' 29.9''$ (LT)	$\Delta = 7' 27' 06.6''$ (RT)
$D = 22' 55' 05.9''$	$D = 11' 27' 33.0''$
$L = 177.91'$	$L = 65.03'$
$T = 92.91'$	$T = 32.56'$
$R = 250.00'$	$R = 500.00'$
Se = SEE PLANS	Se = SEE PLANS

NOTES:
 SEE SHEET 21 FOR -Y5- PROFILE.
 SEE SHEET 22 FOR -Y6- PROFILE.
 SEE SHEET 22 FOR -Y7- PROFILE.
 DRIVEWAY RADII ARE 20' UNLESS NOTED OTHERWISE

REVISIONS

8/17/99

SYTIME DESIGN

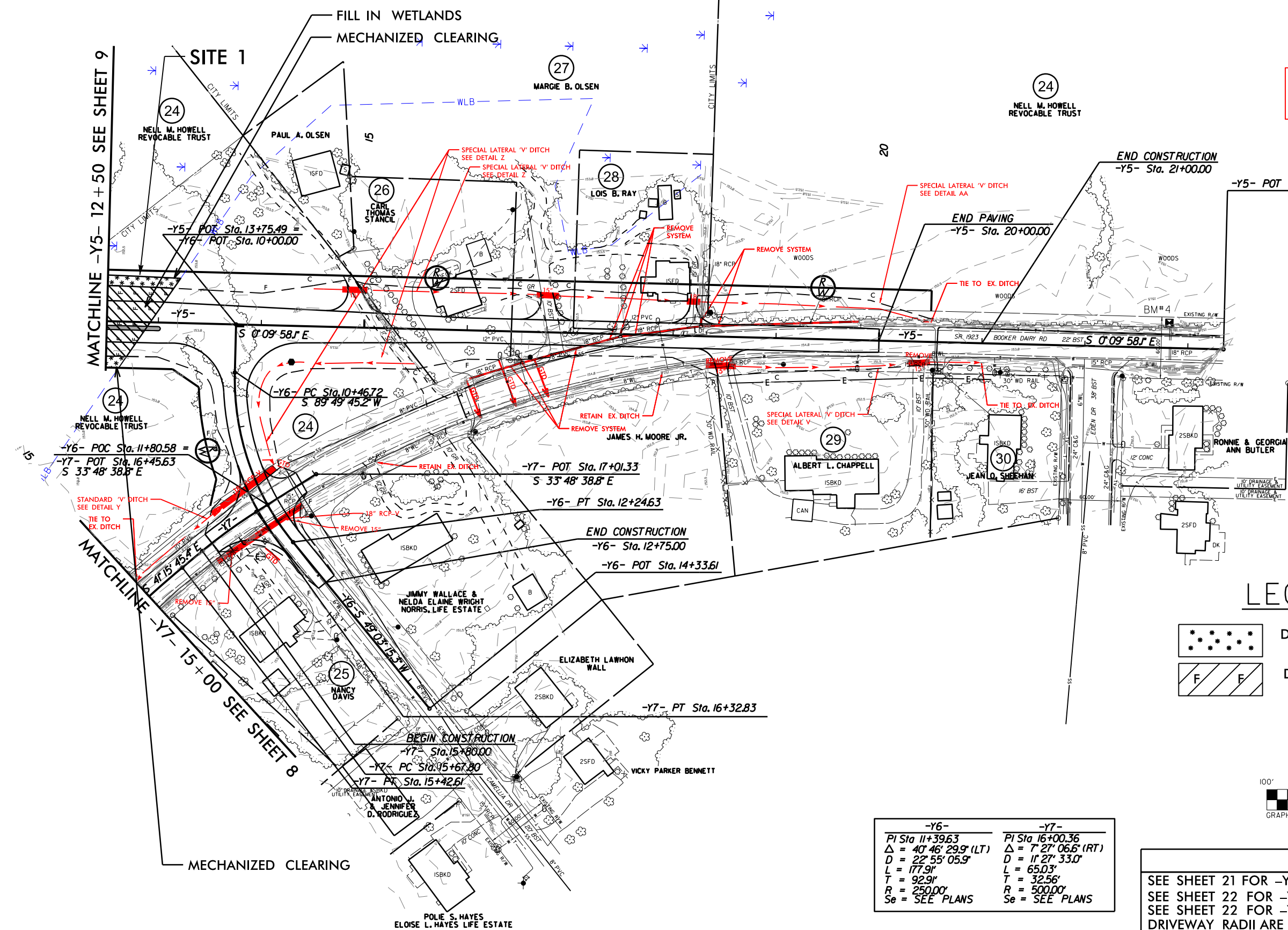
WETLAND AND SURFACE WATER IMPACTS PERMIT

NAD 83/NSRS 2007

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 Fax. (919) 851-7024
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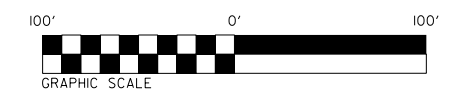
PROJECT REFERENCE NO. U-3334B	SHEET NO. 14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PERMIT DRAWING
SHEET 15 OF 16



LEGEND

- DENOTES MECHANIZED CLEARING
- DENOTES FILL IN WETLAND



-Y6-	-Y7-
PI Sta 11+39.63	PI Sta 16+00.36
$\Delta = 40' 46' 29.9"$ (LT)	$\Delta = 7' 27' 06.6"$ (RT)
$D = 22' 55' 05.9"$	$D = 11' 27' 33.0"$
$L = 177.9'$	$L = 65.0'$
$T = 92.9'$	$T = 32.56'$
$R = 250.00'$	$R = 500.00'$
Se = SEE PLANS	Se = SEE PLANS

NOTES:
 SEE SHEET 21 FOR -Y5- PROFILE.
 SEE SHEET 22 FOR -Y6- PROFILE.
 SEE SHEET 22 FOR -Y7- PROFILE.
 DRIVEWAY RADII ARE 20' UNLESS NOTED OTHERWISE

REVISIONS

8/17/99

\$\$\$\$\$\$SYTIME\$\$\$\$\$\$
 \$\$\$\$\$\$DESIGN\$\$\$\$\$\$
 \$\$\$\$\$\$DATE\$\$\$\$\$\$

WETLAND PERMIT IMPACT 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	-L- 73+01 to -L- 85+33	Roadway Embankment	3.57			0.54						
2	-L- 118+24 to 121+50	3 @ 6'x6' RCBC						0.07	< 0.01	315	20	
2		Bank Stabilization						< 0.01		32		
3	-DRW1- 11+51.48	2 @ 7'X8' RCBC						< 0.01	< 0.01	100	24	
3		Bank Stabilizaion						0.01		64		
4	-Y4- 20+25 to 20+97 LT	42" RCP						< 0.01	< 0.01	15	10	
TOTALS*:			3.57			0.54		0.10	< 0.01	526	54	0

*Rounded totals are sum of actual impacts

NOTES:

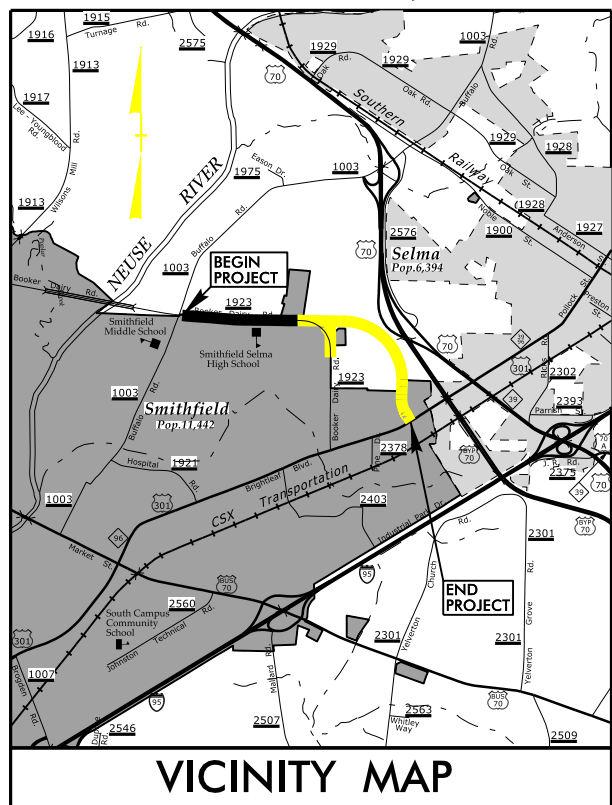
NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 10/04/17
 Johnston County
 U-3334B
 34929.1.3

Revised 2013 10 24 SHEET 16 OF 16

09/08/19

TIP PROJECT: U-3334B

See Sheet 1-B for Conventional Symbols
See Sheets 1-C thru 1-D for Survey Control Sheets



STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS JOHNSTON COUNTY

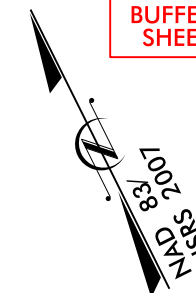
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3334B	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34929.1.3	STP-1923(12)	P.E.	
34929.2.5	STP-1923(12)	R/W	
34929.2.6		UTIL.	

LOCATION: SR 1923 EXTENSION (BOOKER DAIRY ROAD) FROM SR 1003 (BUFFALO ROAD) TO US 301 (BRIGHTLEAF BOULEVARD)

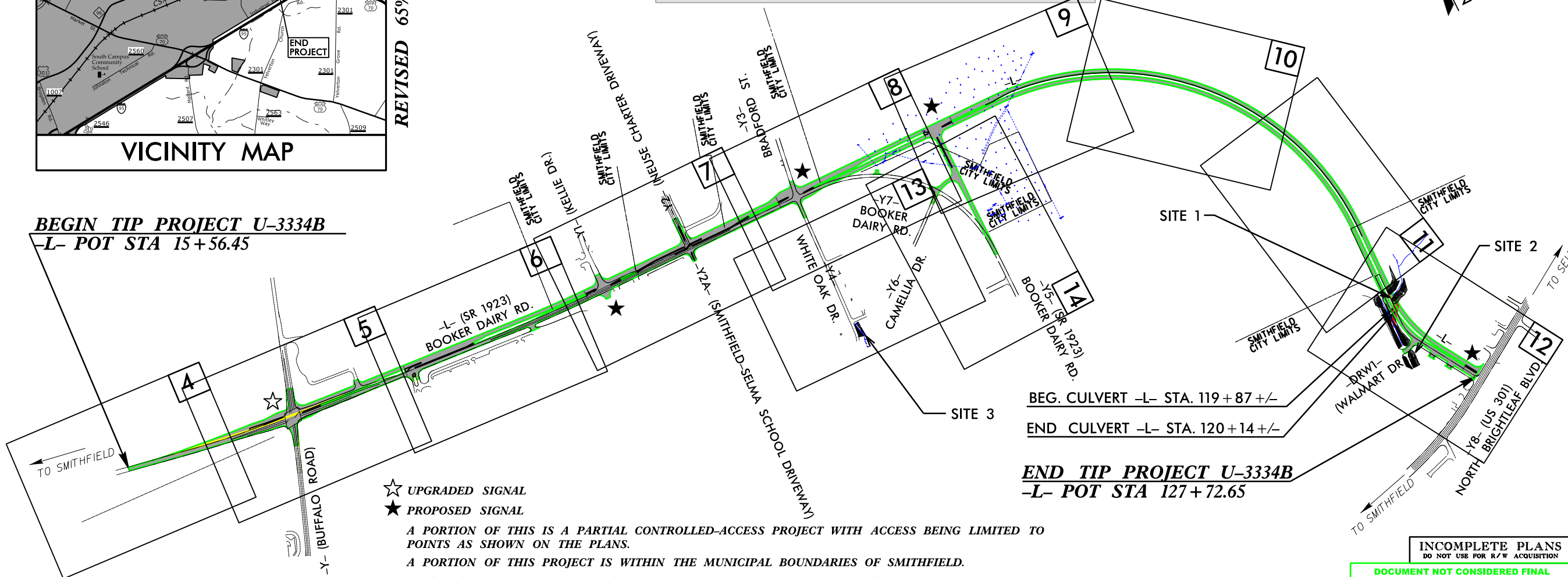
TYPE OF WORK: GRADING, PAVING, DRAINAGE, CULVERT, AND SIGNALS

BUFFER IMPACTS PERMIT

BUFFER DRAWING SHEET 1 OF 6



BEGIN TIP PROJECT U-3334B
-L- POT STA 15+56.45



BEG. CULVERT -L- STA. 119+87+/-
END CULVERT -L- STA. 120+14+/-

END TIP PROJECT U-3334B
-L- POT STA 127+72.65

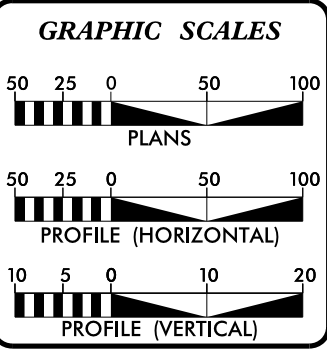
- ☆ UPGRADED SIGNAL
- ★ PROPOSED SIGNAL

A PORTION OF THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF SMITHFIELD.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CONTRACT:



DESIGN DATA

ADT 2018 =	10,637
ADT 2038 =	16,785
K =	9 %
D =	55 %
T =	3 % *
V =	50 MPH
* (1% TTST + 2% DUALS)	
FUNC CLASS =	URBAN COLLECTOR
SUBREGIONAL TIER	

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT U-3334B =	2.123 MILES
LENGTH OF STRUCTURE TIP PROJECT U-3334B =	0.001 MILES
TOTAL LENGTH OF TIP PROJECT U-3334B =	2.124 MILES

Prepared in the Office of:

for the North Carolina Department of Transportation

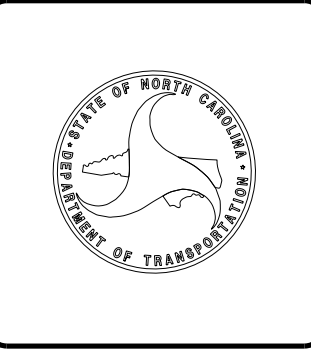
2012 STANDARD SPECIFICATIONS	STANTEC CONTACT
RIGHT OF WAY DATE: JUNE 10, 2016	STEVE SMALLWOOD, P.E. PROJECT ENGINEER
LETTING DATE: JANUARY 16, 2018	NC DOT CONTACT: REKHA PATEL, P.E.

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

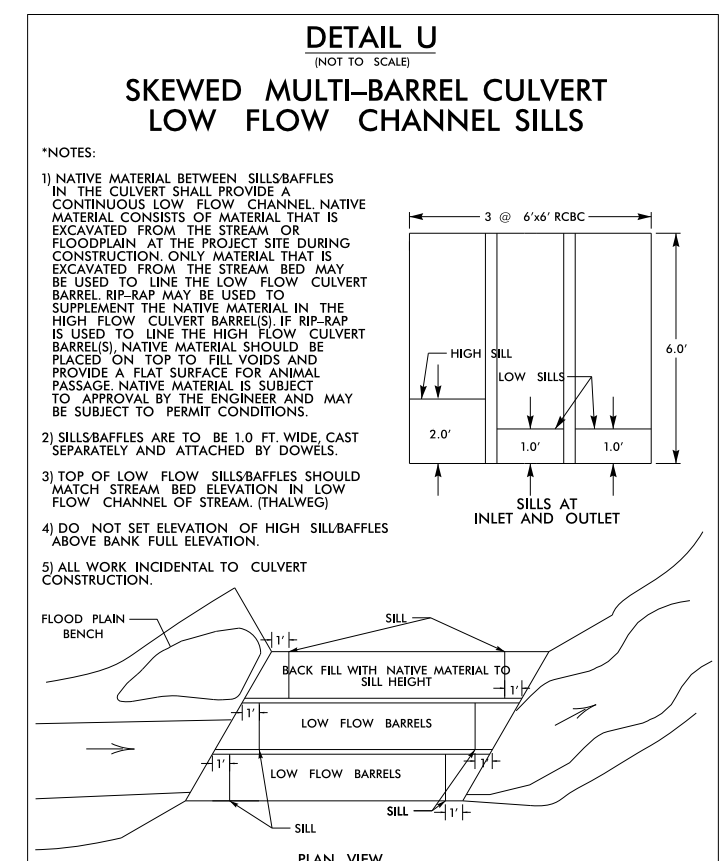
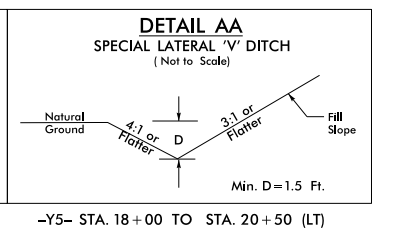
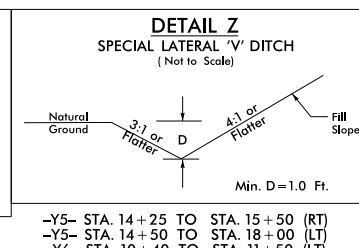
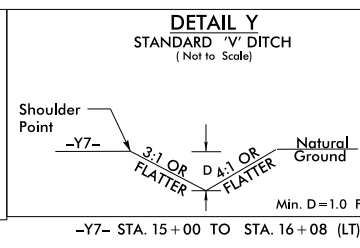
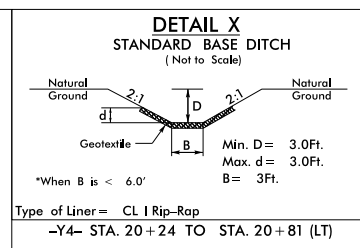
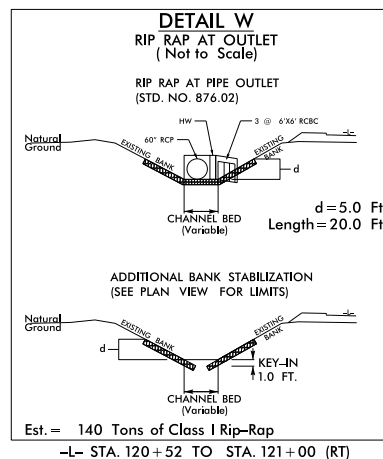
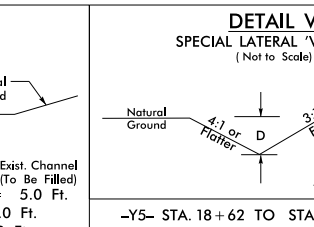
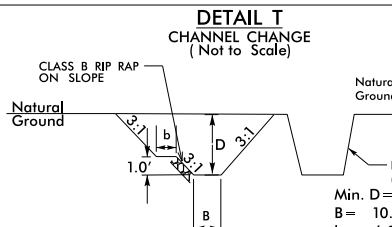
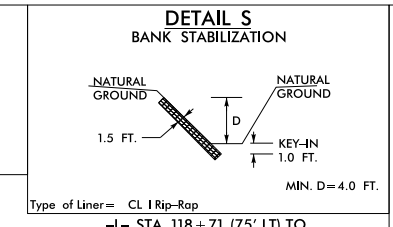
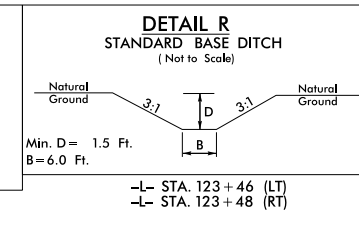
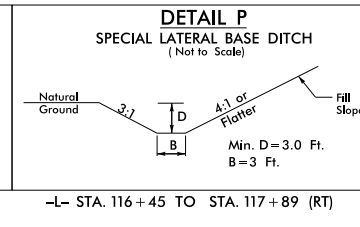
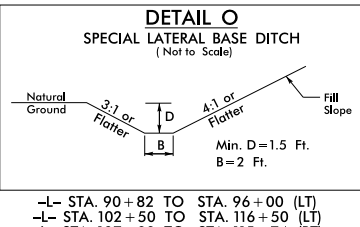
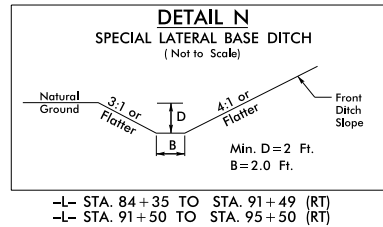
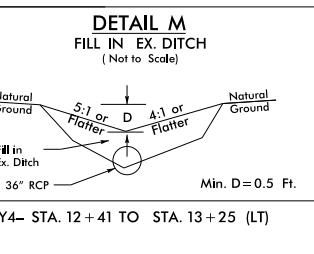
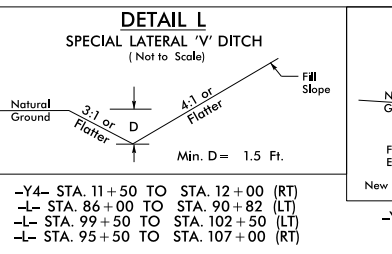
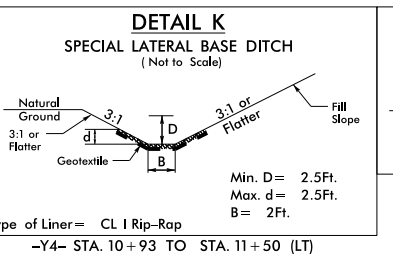
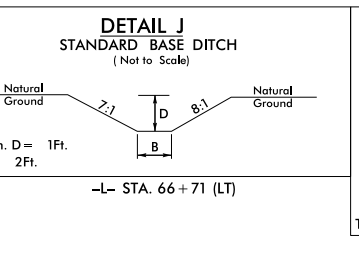
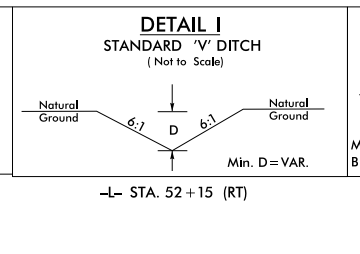
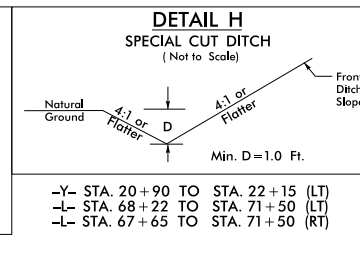
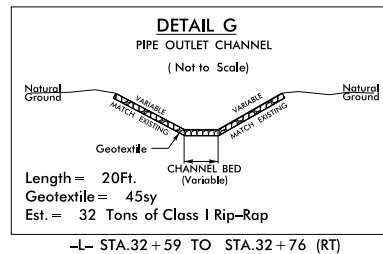
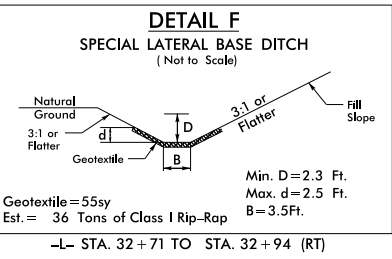
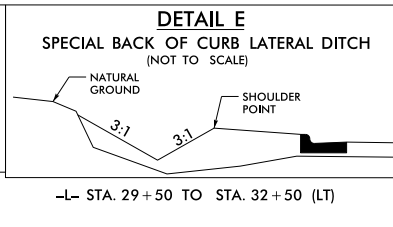
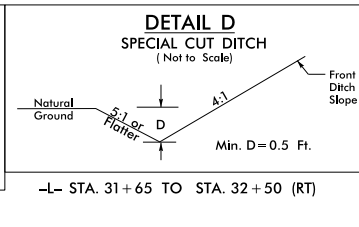
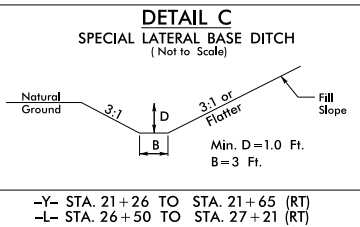
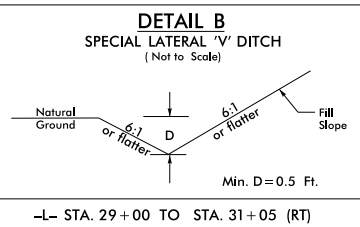
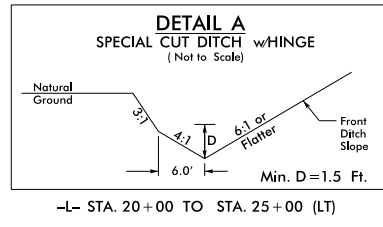


4/6/2017
mgberry
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DRAINAGE DETAILS

HYDRAULIC DESIGN
ENGINEER

BUFFER DRAWING
SHEET 2 OF 6

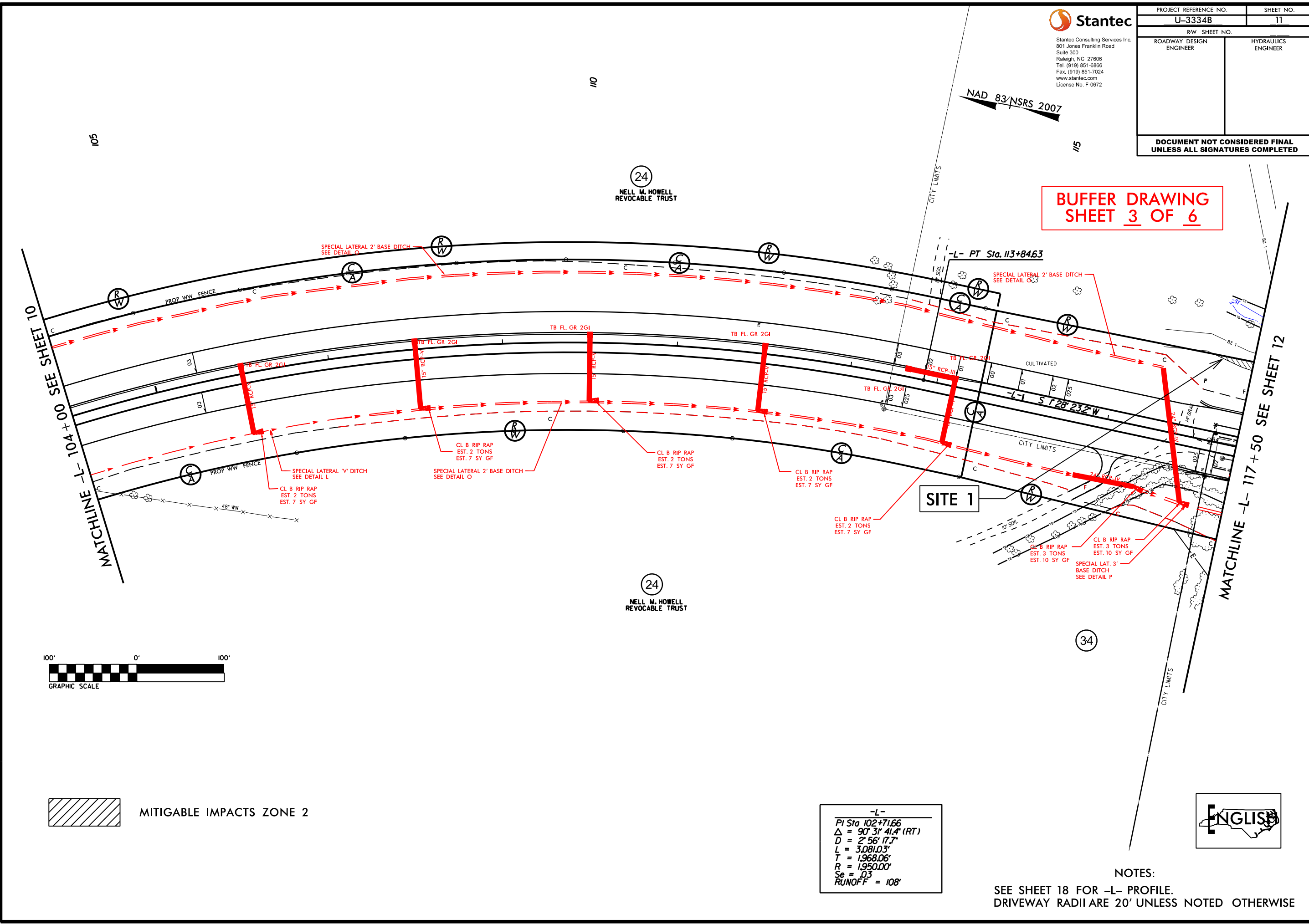


BUFFER IMPACTS PERMIT

8/17/99
8/7/2017
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PROJECT REFERENCE NO. U-3334B	SHEET NO. 11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

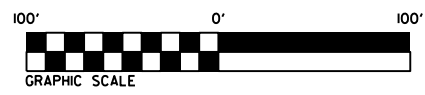
**BUFFER DRAWING
SHEET 3 OF 6**



REVISIONS

MATCHLINE -L- 104+00 SEE SHEET 10

MATCHLINE -L- 117+50 SEE SHEET 12



MITIGABLE IMPACTS ZONE 2

-L-
 PI Sta 102+71.66
 $\Delta = 90^\circ 31' 41.4''$ (RT)
 $D = 2^\circ 56' 17.7''$
 $L = 3,081.03'$
 $T = 1,968.06'$
 $R = 1,950.00'$
 $S_e = 0.3$
 RUNOFF = 108'

NOTES:
 SEE SHEET 18 FOR -L- PROFILE.
 DRIVEWAY RADII ARE 20' UNLESS NOTED OTHERWISE



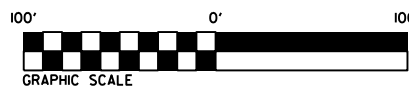
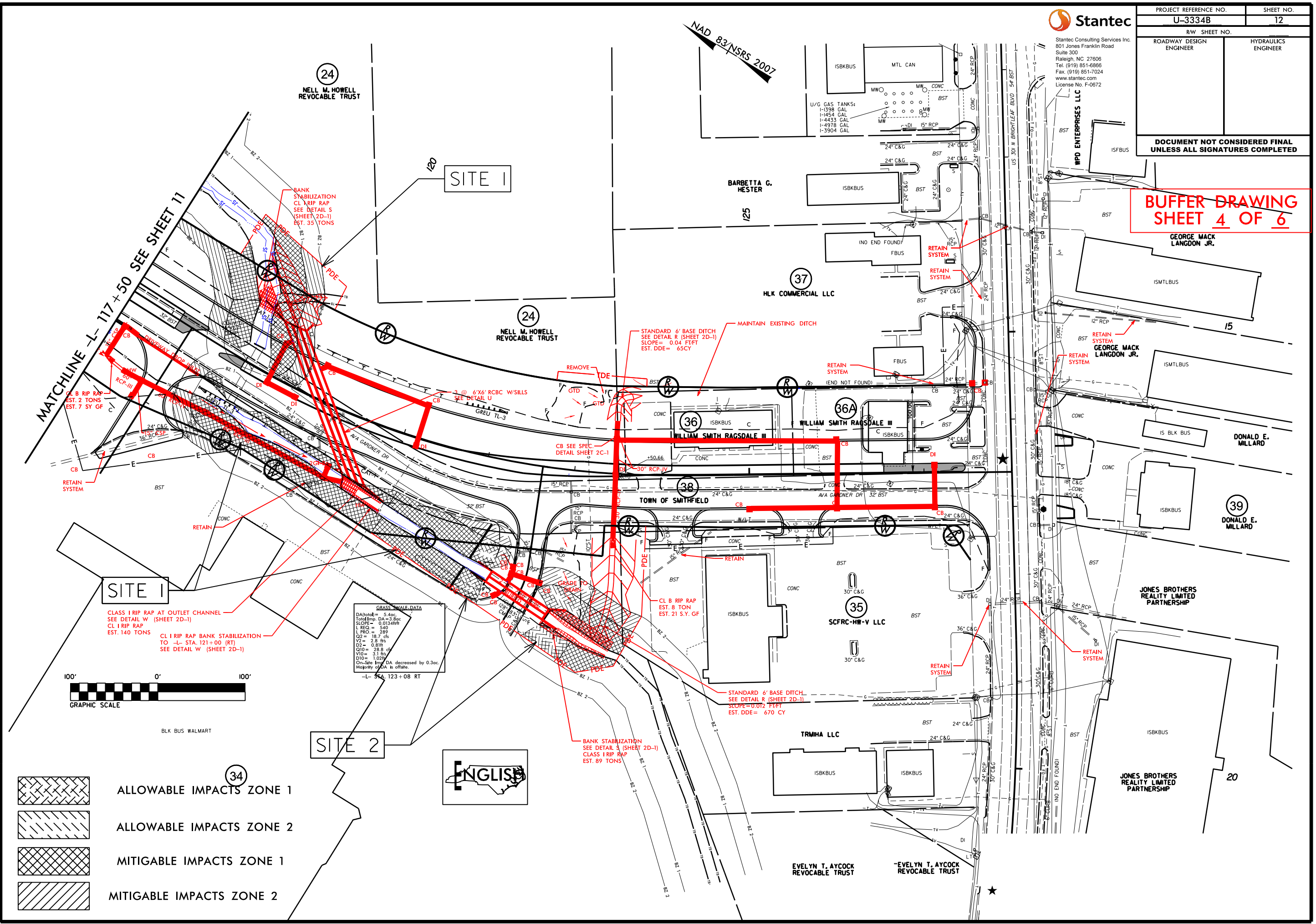
4/6/2017
 maberry
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PROJECT REFERENCE NO. U-3334B	SHEET NO. 12
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

**BUFFER DRAWING
SHEET 4 OF 6**

REVISIONS
11/30/2016 - R/W REVISIONS: ADDED PARCEL 36A; ADJUSTED THE STATIONS AND/OR OFFSETS BASED ON THE FIELD STAKING ON PARCELS 35, 36A, 37 AND 39; UPDATED PROPERTY OWNER NAME AND DEED REFERENCE ON PARCEL 35. - SS
3/14/2017 - R/W REVISION: ADDED TDE TO PARCELS 24 & 37 AND REVISED PDE ON PARCELS 34 & 35. - SS
8/16/2017 - R/W REVISION: CONVERTED A TEMPORARY DRIVEWAY TO PERMANENT DRIVEWAY AND ADDED A LEFT TURN LANE AT -L- STA. 118+30+/-, - SS



- ALLOWABLE IMPACTS ZONE 1
- ALLOWABLE IMPACTS ZONE 2
- MITIGABLE IMPACTS ZONE 1
- MITIGABLE IMPACTS ZONE 2

GRASS SWALE DATA

DA _{Total} = 5.40c
Total Imp. DA = 3.80c
SLCWF = 0.0134hft
L REQ = 540
L PRO = 289
OZ = 187 cfs
V2 = 2.8 f/s
D2 = 0.81ft
G10 = 28.8 c
V10 = 31 f/s
D10 = 11.02ft
On-Site Imp. DA decreased by 0.30c
Majority of DA is diffuse.

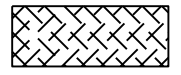
-L- STA. 123+08 RT



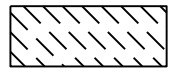
BUFFER IMPACTS PERMIT

Stantec
 Stantec Consulting Services Inc.
 801 Jones Franklin Road
 Suite 300
 Raleigh, NC 27606
 Tel. (919) 851-6866
 Fax. (919) 851-7024
 www.stantec.com
 License No. F-0672

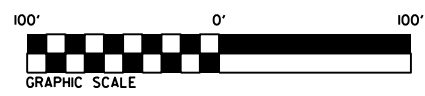
PROJECT REFERENCE NO. U-3334B	SHEET NO. 13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



ALLOWABLE IMPACTS ZONE 1



ALLOWABLE IMPACTS ZONE 2



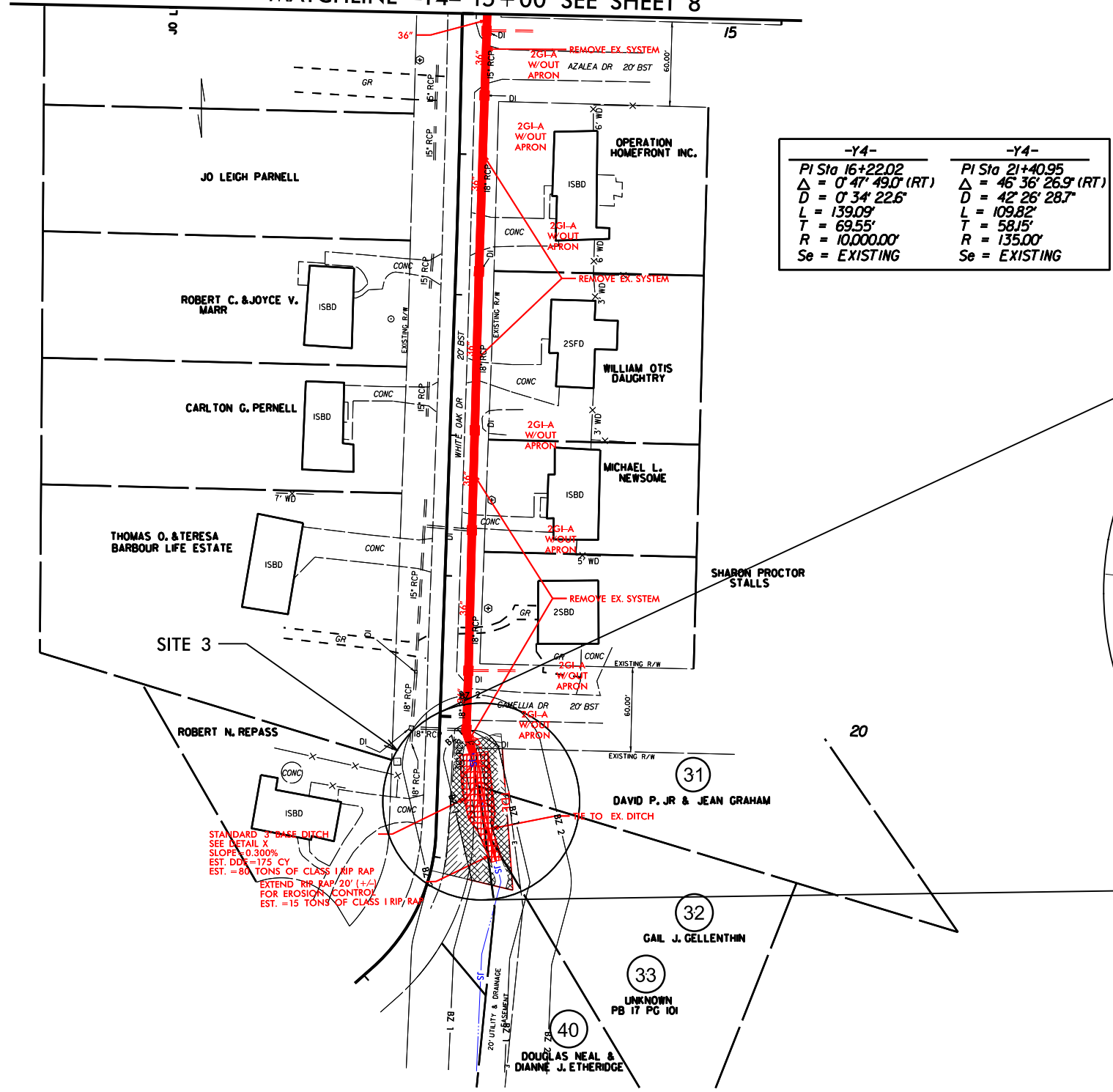
NAD 83 NSRS 2007

BUFFER DRAWING
SHEET 5 OF 6



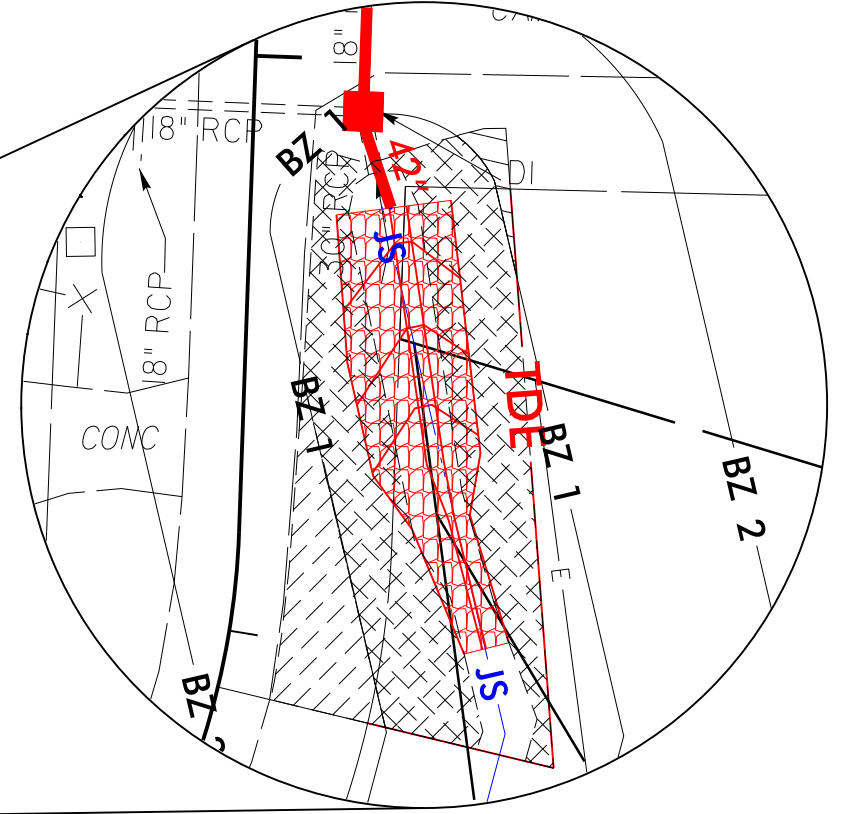
REVISIONS
 11/30/2016 - R/W REVISIONS: ADJUSTED THE STATIONS AND/OR OFFSETS BASED ON THE FIELD STAKING ON PARCELS 31 AND 40; SUBDIVIDED PARCEL 32 INTO PARCELS 32 AND 40; UPDATED PROPERTY OWNER NAME AND DEED REFERENCE ON PARCEL 32. - SS

MATCHLINE -Y4- 15+00 SEE SHEET 8



-Y4-	-Y4-
PI Sta 16+22.02	PI Sta 21+40.95
$\Delta = 0' 47' 49.0''$ (RT)	$\Delta = 46' 36' 26.9''$ (RT)
$D = 0' 34' 22.6''$	$D = 42' 26' 28.7''$
$L = 139.09'$	$L = 109.82'$
$T = 69.55'$	$T = 58.15'$
$R = 10,000.00'$	$R = 135.00'$
Se = EXISTING	Se = EXISTING

**SITE 3
3X ENLARGEMENT**



STANDARD 3' BASE DITCH
 SEE DETAIL X
 SLOPE = 0.300%
 EST. DIRT = 175 CY
 EST. = 80 TONS OF CLASS 1 RIP RAP
 EXTEND RIP RAP 20' (+/-)
 FOR EROSION CONTROL
 EST. = 15 TONS OF CLASS 1 RIP RAP

NOTES:
 SEE SHEET 21 FOR -Y4- PROFILE.

BUFFER IMPACTS SUMMARY

SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	IMPACT									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft ²)	ZONE 2 (ft ²)
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)		
1	3 @ 6'x6' RCBC w/ Sills (2@ Buried 1', 1@ Buried 2')	-L- 118+24 LT to -L- 121+08 RT	x						16523	8056	24579		
1	3 @ 6'x6' RCBC w/ Sills (2@ Buried 1', 1@ Buried 2')	-L- 121+08 RT to -L- 122+02 RT			x				5636	399	6035		
2	2 @ 7'x8' RCBC, Buried 1'	-L- 122+02 RT to -L- 123+20 RT	x			4650	1784	6434					
2	Relocation of Existing Ditch	-DRW1- 11+21 LT to -DRW1- 11+84 LT			x				2985	1240	4225		
3	42" RCP	-Y4- 20+17 LT to -Y4- 21+10 LT			x	2480	610	3091					
TOTAL:						7130	2394	9525	25144	9695	34839		

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

JONHSTON COUNTY
PROJECT: 34929.1.3 (U-3334B)

9/28/2017
SHEET 6 OF 6