



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY  
GOVERNOR

ANTHONY J. TATA  
SECRETARY

August 23, 2013

**Addendum No. 1**

RE: Contract ID C203197

WBS # 34820.3.GVSS

F. A. # NHF-708(67)

**Guilford County (U-2524C)**

Greensboro Western Loop From South Of SR-2137 (Old Oak Ridge Road) To  
North Of US-220 (Battleground Avenue)

**September 17, 2013 Letting**

To Whom It May Concern:

Reference is made to the plans and proposal form furnished to you on this project.

The following revisions have been made to the Roadway plans:

Sheet Nos.3-A and 3-J have been revised to reflect the below noted drainage quantity changes. Please void Sheet Nos. 3-A and 3-J in your plans and staple the revised Sheet Nos 3-A and 3-J thereto.

On Sheet No. 5 a collar was added to drainage structure # 0527. Please void Sheet No. 5 in your plans and staple the revised Sheet No. 5 thereto.

The following revisions have been made to the proposal:

Page No. R-1 has been revised to indicate that permits have been received. Please void Page No. R-1 in your proposal and staple the revised Page No. R-1 thereto.

New Page Nos. R-2 thru R-84 had been added to include the 404 and 401 permits required for the project. Please staple New Page Nos. R-2 thru R-84 in your proposal after revised Page No. R-1.

**MAILING ADDRESS:**  
NC DEPARTMENT OF TRANSPORTATION  
CONTRACT STANDARDS AND DEVELOPMENT UNIT  
1591 MAIL SERVICE CENTER  
RALEIGH NC 27699-1591

TELEPHONE: 919-707-6900  
FAX: 919-250-4119

WEBSITE: [www.NCDOT.GOV](http://www.NCDOT.GOV)

**LOCATION:**  
CENTURY CENTER COMPLEX  
ENTRANCE B-2  
1020 BIRCH RIDGE DRIVE  
RALEIGH NC 27610

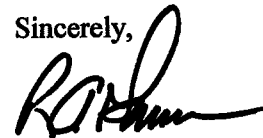
On the item sheets the following pay item quantities have been revised or added:

<u>Item</u>	<u>Description</u>	<u>Old Quantity</u>	<u>New Quantity</u>
100-2253000000-E-840	Pipe Collars	3.327CY	3.726 CY
101-2286000000-N-840	Masonry Drainage Structures	154 EA	165 EA
103-2308000000-E-840	Masonry Drainage Structures	181 LF	188 LF
106-2364200000-N-840	Frame With Two Grates, STD 840.20	12 EA	16EA
107-2365000000-N-840	Frame With Two Grates, STD 840.22	64 EA	71 EA
404-8105500000-E-411	4'-6" Dia. Drilled Piers In Soil	1,457.9 LF	1,048.3 LF
407-8105600000-E-411	4'-6" Dia. Drilled Piers Not In Soil	812 LF	618 LF
415-8147000000-E-420	Reinforced Concrete Deck Slab	674,074.226 SF	702,672.1 SF
416-8161000000-E-420	Grooving Bridge Floors	615,923.952 SF	641,793 SF
426-8217000000-E-425	Reinforcing Steel (Bridge)	3,565,669.036 LB	3,687,138 LB
454-8105560000-E-411	4'-0" Dia. Drilled Piers In Soil	NEW ITEM	409.6 LF
455-8105660000-E-411	4'-0" Dia. Drilled Piers Not In Soil	NEW ITEM	194 LF

The Contractor's bid must be based on these revised pay item quantities and new pay items. The contract will be prepared accordingly.

The Expedite File has been updated to reflect these revisions. Please download the Expedite Addendum File and follow the instructions for applying the addendum. Bid Express will not accept your bid unless the addendum has been applied.

Sincerely,



R. A. Garris, PE  
Contract Officer

RAG/jag  
Attachments

cc: Mr. Ron Hancock, PE  
Mr. Mike Mills, PE  
Ms. D. M. Barbour, PE  
Mr. J. V. Barbour, PE  
Mr. Jay Bennett, PE  
Mr. R.E. Davenport, PE  
Mr. Brad Hibbs, PE (Attn: Mr. Jake Riggsbee, PE)  
Ms. Marsha Sample  
Project File (2)

Mr. Ray Arnold, PE  
Ms. Natalie Roskam, PE  
Ms. Penny Higgins  
Ms. Jaci Kincaid  
Mr. Ronnie Higgins  
Mr. Larry Strickland  
Ms. Lori Strickland

**PROJECT SPECIAL PROVISION**

(10-18-95)

Z-1

**PERMITS**

The Contractor's attention is directed to the following permits, which have been issued to the Department of Transportation by the authority granting the permit.

<b><u>PERMIT</u></b>	<b><u>AUTHORITY GRANTING THE PERMIT</u></b>
Dredge and Fill and/or Work in Navigable Waters (404)	U. S. Army Corps of Engineers
Water Quality (401)	Division of Environmental Management, DENR State of North Carolina

The Contractor shall comply with all applicable permit conditions during construction of this project. Those conditions marked by \* are the responsibility of the department and the Contractor has no responsibility in accomplishing those conditions.

Agents of the permitting authority will periodically inspect the project for adherence to the permits.

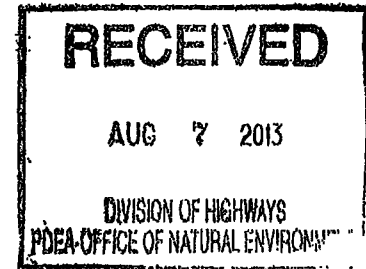
The Contractor's attention is also directed to Articles 107-10 and 107-13 of the *2012 Standard Specifications* and the following:

Should the Contractor propose to utilize construction methods (such as temporary structures or fill in waters and/or wetlands for haul roads, work platforms, cofferdams, etc.) not specifically identified in the permit (individual, general, or nationwide) authorizing the project it shall be the Contractor's responsibility to coordinate with the Engineer to determine what, if any, additional permit action is required. The Contractor shall also be responsible for initiating the request for the authorization of such construction method by the permitting agency. The request shall be submitted through the Engineer. The Contractor shall not utilize the construction method until it is approved by the permitting agency. The request normally takes approximately 60 days to process; however, no extensions of time or additional compensation will be granted for delays resulting from the Contractor's request for approval of construction methods not specifically identified in the permit.

**Where construction moratoriums are contained in a permit condition which restricts the Contractor's activities to certain times of the year, those moratoriums will apply only to the portions of the work taking place in the waters or wetlands provided that activities outside those areas is done in such a manner as to not affect the waters or wetlands.**

REPLY TO  
ATTENTION OFDEPARTMENT OF THE ARMY  
WILMINGTON DISTRICT, CORPS OF ENGINEERS  
69 DARLINGTON AVENUE  
WILMINGTON, NORTH CAROLINA 28403-1343

August 1, 2013



Regulatory Division/1200A

Action ID: SAW-2001-21125

Dr. Gregory J. Thorpe, Ph.D.  
Environmental Management Director, PDEA  
NC Department of Transportation  
1548 Mail Service Center  
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe, PhD.:

In accordance with your written request of April 2013, and the ensuing administrative record, enclosed is a copy of a Department of the Army (DA) Permit to authorize the following: 1) Permanent placement of fill material into 7,717 linear feet of jurisdictional stream channel and 6.13 acres of adjacent riparian wetlands and, 2) Temporary placement of fill material into 438 linear feet of jurisdictional stream channel and 0.80 acre adjacent wetlands. These impacts are associated with the construction of a 4.8 mile, six-lane divided facility on new location, identified as U-2524CD. The project site is located from north of SR 2176 (Bryan Boulevard) to SR 2303 (Lawndale Drive) in Greensboro, Guilford County, North Carolina.

Any deviation in the authorized work will likely require modification of this permit. If a change in the authorized work is necessary, you should promptly submit revised plans to the Corps showing the proposed changes. You may not undertake the proposed changes until the Corps notified you that your permit has been modified.

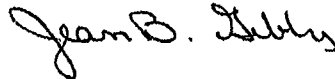
Carefully read your permit. The general and special conditions are important. Your failure to comply with these conditions could result in a violation of Federal law. Certain significant general conditions require that:

- a. You must complete construction before December 31, 2018.
- b. You must notify this office in advance as to when you intend to commence and complete work.
- c. You must allow representatives from this office to make periodic visits to your worksite as deemed necessary to assure compliance with permit plans and conditions.

You should address all questions regarding this authorization to Mr. Andrew Williams in the Raleigh Regulatory Field Office, telephone number (919) 554-4884, extension 26.

Thank you in advance for completing our Customer Survey Form. This can be accomplished by visiting our web-site at <http://per2.nwp.usace.army.mil.survey.html> and completing the survey on-line. We value your comments and appreciate your taking the time to complete a survey each time you interact with our office.

Sincerely,



for Steven A. Baker  
Colonel, U.S. Army  
District Commander

Enclosures

Copy Furnished (with enclosures):

Chief, Source Data Unit  
NOAA/National Ocean Service  
Attn: Sharon Tear N/CS261  
1315 East-West Hwy., Rm 7316  
Silver Spring, MD 20910-3282

Copies Furnished with special conditions and plans:

Mr. Pete Benjamin  
U.S. Fish and Wildlife Service  
Raleigh Ecological Service Field Office  
Post Office Box 33726  
Raleigh, North Carolina 27636-3726

Mr. Fritz Rohde  
Habitat Conservation Division – Atlantic Branch  
101 Pivers Island Road  
Beaufort, North Carolina 28516

Mr. William Cox  
Wetlands and Marine Regulatory Section  
U.S. Environmental Protection Agency – Region 4  
Sam Nunn Atlanta Federal Center  
61 Forsyth Street, SW  
Atlanta, GA 30303-8931

Mr. Doug Huggett  
Division Coastal Management  
N.C. Department of Environment  
And Natural Resources  
400Commerce Avenue  
Morehead City, North Carolina 28557

Dr. Pace Wilber  
Habitat Conservation Division – Atlantic Branch  
NOAA Fisheries Service  
219 Fort Johnston Road  
Charleston, South Carolina 29412

Mr. Tony Able  
Wetlands Regulatory Section  
U.S. Environmental Protection Agency – Region 4  
Sam Nunn Atlanta Federal Center  
61 Forsyth Street, SW  
Atlanta, Georgia 30303

**DEPARTMENT OF THE ARMY PERMIT**

**Permittee:** NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
ATTN: DR. GREGORY J. THORPE, PH.D

**Permit No:** SAW-2001-21125

**Issuing Office:** USAED, WILMINGTON

**NOTE:** The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of the office acting under the authority of the commanding officer.

**You are authorized to perform work in the accordance with the terms and conditions specified below.**

**Project Description:** The project, identified as U-2524CD, consists of the construction of a 4.8 mile, six-lane divided facility on new location. U-2524CD begins north of SR 2176 (Bryan Boulevard) and terminates at SR 2303 (Lawndale Drive) in Greensboro, Guilford County, North Carolina. Total permanent impacts for the construction of this project are 7,717 linear feet of jurisdictional stream channel, and 6.13 acres of adjacent wetlands. Total temporary impacts for the construction of this project are 438 linear feet of jurisdictional stream channel and 0.80 acre of adjacent wetlands. All impacts are within the Cape Fear River basin (Hydrologic Categorical Unit 03030002). **THIS IS A PHASED PERMIT AUTHORIZATION: This permit only authorizes work on Section C of TIP U-2524.** Construction on Section D of TIP U-2524 shall not commence until final design has been completed for this section, the permittee has minimized impacts to waters and wetlands to the maximum extent practicable, any modifications to the plans, and a compensatory mitigation plan, have been approved by the US Army Corps of Engineers (the Corps).

In order to compensate for impacts associated with this permit, 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.

**Project Location:** The project, identified as U-2524CD is located from north of SR 2176 (Bryan Boulevard) to SR 2303 (Lawndale Drive) in Greensboro, Guilford County, North Carolina. Section C of this project begins immediately north of SR 2176 (Bryan Boulevard) and terminates immediately east of US220 (Battleground Avenue) and Section D begins immediately east of Battleground Avenue and ends at SR 2303 (Lawndale Drive). Coordinates (in decimal degrees) for the site are 36.1377° N, -79.8616° W (NAD83/WGS84). The site a portion of Horsepen Creek, fifteen (15) unnamed tributaries to Horsepen Creek, a portion of Richland Creek, five (5) unnamed tributaries to Richland Creek, and fifteen (15) adjacent wetland areas in the Cape Fear River Basin (8-Digit Cataloging Unit 03030002).

**Permit Conditions:**

**General Conditions:**

1. The time Limit for completing the work authorized ends on **December 31, 2018**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Conditions 4 below. Should you wish to

cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

### Special Conditions:

\*SEE ATTACHED SPECIAL CONDITIONS

#### Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S. C. 403).

(X) Section 404 of the clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United states in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.




- d. Design or construction deficiencies associated with the permitted work.
  - e. Damage claims associated with any future modification, suspension, or revocation of this permit.
4. **Reliance on Applicant's Data:** The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
5. **Reevaluation of Permit Decision.** This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:
- a. You fail to comply with the terms and conditions of this permit.
  - b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).
  - c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measure by contract or otherwise and bill you for the cost.

6. **Extensions.** General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

  
 \_\_\_\_\_ July 25, 2013  
 (PERMITTEE) NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (DATE)  
 ATTN: DR. GREGORY J. THORPE, PH.D

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

  
 Per (DISTRICT Engineer) STEVEN A. BAKER, COLONEL \_\_\_\_\_ 1 August 2013  
 (DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

\_\_\_\_\_ (Transferee) \_\_\_\_\_ (DATE)

**SPECIAL CONDITIONS**  
**ACTION ID. SAW-2001-21125**  
**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION U-2524CD**

**WORK LIMITS**

**1. CONSTRUCTION PLANS:** All work authorized by this permit must be performed in strict compliance with the attached plans for U-2524C dated March 4, 2013 (sheets, 3-6, 11-18, 21,22, 23,24, 27-36), April 12, 2013 (sheets 9,10, 19, 20, 25,26), and May 22, 2013 (sheets 1, 2, 7, 8, 22A, 22B, 39) and with the attached plans for U-2524D dated March 4, 2013 (sheets 1-13) and for the Utility Permit Drawings dated March 4, 2013 (sheets 1-6), which are a part of this permit. Any modification to these plans must be approved by the US Army Corps of Engineers (USACE) prior to implementation.

The North Carolina Division of Water Quality (DWQ) permit/certification number 3965 was issued for this project on July 2, 2013. Special conditions were issued associated with this water quality permit/certification and a copy of these conditions is attached. These referenced conditions are hereby incorporated as special conditions of this permit.

**2.UNAUTHORIZED DREDGE OR FILL:** Except as authorized by this permit or any USACE approved modification to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, within waters or wetlands. This permit does not authorize temporary placement or double handling of excavated or fill material within waters or wetlands outside the permitted area. This prohibition applies to all borrow and fill activities connected with this project.

**3. MAINTAIN CIRCULATION AND FLOW OF WATERS:** Except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within waters or wetlands or to reduce the reach of waters or wetlands.

**4. DEVIATION FROM PERMITTED PLANS:** Except as authorized by this permit or any USACE approved modification to this permit, no excavation, fill, or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, within waters or wetlands, or shall any activities take place that cause the degradation of waters or wetlands. There shall be no excavation from, waste disposal into, or degradation of, jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit, including appropriate compensatory mitigation. This prohibition applies to all borrow and fill activities connected with this project. In addition, except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within, into, or out of waters or wetlands or to reduce the reach of waters or wetlands..

**5. PRECONSTRUCTION MEETING:** The permittee shall schedule and attend a preconstruction meeting between its representatives, the contractors representatives, and the Corps of Engineers, Raleigh Field Office, NCDOT Regulatory Project Manager, prior to any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all the terms and conditions contained with this Department of Army Permit. The permittee shall provide the USACE, Raleigh Field Office, NCDOT Project Manager, with a copy of the

**SPECIAL CONDITIONS**  
**ACTION ID. SAW-2001-21125**  
**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION U-2524CD**

final permit plans at least two weeks prior to the preconstruction meeting along with a description of any changes that have been made to the project's design, construction methodology or construction timeframe. The permittee shall schedule the preconstruction meeting for a time frame when the USACE, NCDCM, and NCDWQ Project Managers can attend. The permittee shall invite the Corps, NCDCM, and NCDWQ Project Managers a minimum of thirty (30) days in advance of the scheduled meeting in order to provide those individuals with ample opportunity to schedules and participate in the required meeting.

**RELATED LAWS**

**6. WATER CONTAMINATION:** All mechanized equipment will be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic materials. In the event of a spill of petroleum products or any other hazardous waste, the permittee shall immediately report it to the N.C. Division of Water Quality at (919) 733-3300 or (800) 858-0368 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.

**PROJECT MAINTENANCE**

**7. NOTIFICATION OF CONSTRUCTION COMMENCEMENT AND COMPLETION:** The permittee shall advise the Corps in writing prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.

**8. CLEAN FILL:** Unless otherwise authorized by this permit, all fill material placed in waters or wetlands shall be generated from an upland source and will be clean and free of any pollutants except in trace quantities. Metal products, organic materials (including debris from land clearing activities), or unsightly debris will not be used. Soils used for fill shall not be contaminated with any toxic substance in concentrations governed by Section 307 of the Clean Water Act.

**9. PERMIT DISTRIBUTION:** 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. A copy of this permit, including all conditions, shall be available at the project site during construction and maintenance of this project.

**10. SILT-FENCING:** The permittee shall employ all sedimentation and erosion control measures necessary to prevent an increase in sedimentation or turbidity within waters and wetlands outside the permit area. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4).

**SPECIAL CONDITIONS**  
**ACTION ID. SAW-2001-21125**  
**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION U-2524CD**

**11. PERMIT REVOCATION:** The permittee, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the work will, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the water or wetland to its pre-project condition.

**12. EROSION CONTROL MEASURES IN WETLANDS:** The permittee shall remove all sediment and erosion control measures placed in wetlands or waters, and shall restore natural grades in those areas, prior to project completion.

**ENFORCEMENT**

**13. REPORTING ADDRESS:** All reports, documentation and correspondence required by the conditions of this permit shall be submitted to the following address: U.S. Army Corps of Engineers, Regulatory Division, Raleigh Regulatory Field Office, c/o Mr. Andrew Williams, 3331 Heritage Trade Drive, Wake Forest, NC 27587, and by telephone at: 919-554-4884 extension 26. The Permittee shall reference the following permit number, SAW-2001-21125, on all submittals.

**14. REPORTING VIOLATIONS OF THE CLEAN WATER ACT AND RIVERS AND HARBORS ACT:** Violation of these conditions or violation of Section 404 of the Clean Water Act of Section 10 of the Rivers and Harbors Act must be reported in writing to the Wilmington District U.S. Army Corps of Engineers within 24 hours of the permittee's discovery of the violation.

**15. COMPLIANCE INSPECTION:** A representative of the Corps of Engineers will periodically and randomly inspect the work for compliance with these conditions. Deviations from these procedures may result in an administrative financial penalty and/or directive to cease work until the problem is resolved to the satisfaction of the Corps.

**UTILITY LINES**

**16. TEMPORARY IMPACTS RESTORATION MEASURES:** Temporary discharge of excavated or fill material into wetlands and waters of the United States will be for the absolute minimum period of time necessary to accomplish the work. All authorized temporary wetland, stream, and tributary impacts will be returned to pre-disturbance grade and contour, and re-vegetated. In wetland areas where pipeline installation via trenching is authorized, wetland topsoil will be segregated from the underlying subsoil, and the top 6 to 12 inches of the trench will be backfilled with topsoil from the trench.

**17.** The permittee shall submit to the U.S. Army Corps of Engineers, Wilmington District as-built surveys of each of the authorized jurisdictional crossings associated with the utility line installation. The permittee must submit the surveys within 30 days of construction completion of the subject utilities.

**SPECIAL CONDITIONS**  
**ACTION ID. SAW-2001-21125**  
**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION U-2524CD**

18. Cleared wetland areas shall be re-vegetated with a wetland seed mix or a mix of native woody species. Fescue grass or any invasive species such as Lespedeza, shall not be used within the wetland areas.

19. Prior to construction within any jurisdictional areas, the permittee must correctly install silt fencing (with or without safety fencing) parallel with the utility line corridor, on both sides of the jurisdictional crossing. This barrier is to serve both as an erosion control measure and a visual identifier of the limits of construction within any jurisdictional area. The permittee must maintain the fencing, at minimum, until the wetlands have re-vegetated and stabilized.

20. **PHASE PERMITS:** This permit only authorizes work on Section C of TIP U-2524. Construction on Section D of TIP U-2524 shall not commence until final design has been completed for this section, the permittee has minimized impacts to waters and wetlands to the maximum extent practicable, any modifications to the plans, and a compensatory mitigation plan, have been approved by the US Army Corps of Engineers (the Corps).

**21. CULVERTS:**

A. Unless otherwise requested in the applicant's application and depicted on the approved work plans, culverts greater than 48 inches in diameter will be buried at least one foot below the bed of the stream. Culverts 48 inches in diameter and less shall be buried or placed on the stream bed as practicable and appropriate to maintain aquatic passage, and every effort shall be made to maintain existing channel slope. The bottom of the culvert must be placed at a depth below the natural stream bottom to provide for passage during drought or low flow conditions. Destabilizing the channel and head cutting upstream should be considered in the placement of the culvert.

B. Measures will be included in the construction/installation that will promote the safe passage of fish and other aquatic organisms. The dimension, pattern, and profile of the stream above and below a pipe or culvert should not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed opening should be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. Spring flow should be determined from gauge data, if available. In the absence of such data, bankfull flow can be used as a comparable level.

**22. SEDIMENT EROSION CONTROL:**

A. During the clearing phase of the project, heavy equipment must not be operated in surface waters or stream channels. Temporary stream crossings will be used to access the opposite sides of stream channels. All temporary diversion channels and stream crossings will be constructed of non-erodible materials. Grubbing of riparian vegetation will not occur until immediately before construction begins on a given segment of stream channel.

**SPECIAL CONDITIONS**  
**ACTION ID. SAW-2001-21125**  
**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION U-2524CD**

B. No fill or excavation impacts for the purposes of sedimentation and erosion control shall occur within jurisdictional waters, including wetlands, unless the impacts are included on the plan drawings and specifically authorized by this permit.

C. The permittee shall remove all sediment and erosion control measures placed in wetlands or waters, and shall restore natural grades on those areas, prior to project completion.

D. The permittee shall use appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" to assure compliance with the appropriate turbidity water quality standard. 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 assure compliance with the appropriate turbidity water quality standards. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4). Adequate sedimentation and erosion control measures must be implemented prior to any ground disturbing activities to minimize impacts to downstream aquatic resources. These measures must be inspected and maintained regularly, especially following rainfall events. All fill material must be adequately stabilized at the earliest practicable date to prevent sediment from entering into adjacent waters or wetlands.

**23. TEMPORARY FILLS:** Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

**24. BORROW AND WASTE:**

A. To ensure that all borrow and waste activities occur on high ground and do not result in the degradation of adjacent wetlands and streams, except as authorized by this permit, the permittee shall require its contractors and/or agents to identify all areas to be used to borrow material, or to dispose of dredged, fill, or waste material. The permittee shall provide the USACE with appropriate maps indicating the locations of proposed borrow or waste sites as soon as the permittee has that information. The permittee will coordinate with the USACE before approving any borrow or waste sites that are within 400 feet of any streams or wetlands.

B. To ensure that all borrow and waste activities occur on high ground and do not result in the degradation of adjacent waters and wetlands, except as authorized by this permit, the permittee shall require its contractors and/or agents to identify all areas to be used to borrow material or to dispose of dredged, fill or waste material. The permittee shall provide the Corps of Engineers with appropriate maps indicating the

**SPECIAL CONDITIONS**  
**ACTION ID. SAW-2001-21125**  
**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION U-2524CD**

locations of proposed borrow or waste sites as soon as such information is available. The permittee will coordinate with the Corps of Engineers before approving any borrow or waste sites that are within 400 feet of any stream or wetland. All jurisdictional wetland delineations on borrow and waste areas shall be verified by the Corps of Engineers and shown on the approved reclamation plans. The permittee shall ensure that all such areas comply with the Special Condition 4 of this permit and shall require and maintain documentation of the location and characteristics of all borrow and disposal sites associated with this project. This documentation will include data regarding soils, vegetation and hydrology sufficient to clearly demonstrate compliance with Special Condition 4. All information will be available to the Corps of Engineers upon request. The permittee shall require its contractors to complete and execute reclamation plans for each waste and borrow site and provide written documentation that the reclamation plans have been implemented and all work is completed. This documentation will be provided to the Corps of Engineers within 30 days of the completion of the reclamation work.

**25. MITIGATION:** In order to compensate for impacts associated with this permit, 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.

U.S. ARMY CORPS OF ENGINEERS

Wilmington District

**Compensatory Mitigation Responsibility Transfer Form**

Permittee: North Carolina Department of Transportation  
 Project Name: NCDOT/U-2524CD/Division 7

Action ID: SAW-2001-21125  
 County: Guilford

**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 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 appropriate ledger and provide a copy of the signed form to the Permittee and to the USACE Bank/In-Lieu Fee Program Manager. 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: 03030002, Cape Fear River Basin**

Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-riverine	Non-Riparian	Coastal
7,717	0	0	6.13	0	0	0

\*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: 03030002, Cape Fear River Basin**

Stream Mitigation (credits)			Wetland Mitigation (credits)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-riverine	Non-Riparian	Coastal
14,758	0	0	10.53	0	0	0

**Mitigation Site Debited:** North Carolina Ecosystem Enhancement Program (NCEEP)

(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:** \_\_\_\_\_

**Name of Sponsor's Authorized Representative:** \_\_\_\_\_

\_\_\_\_\_  
**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:** None

This form is not valid unless signed by the mitigation Sponsor and USACE Project Manager. For questions regarding this form or any of the conditions of the permit authorization, contact the Project Manager at the address below.

**USACE Project Manager:** Andy Williams  
**USACE Field Office:** Raleigh Regulatory Field Office  
 US Army Corps of Engineers  
 3331 Heritage Trade Drive, Suite 105  
 Wake Forest, North Carolina 27587

**Email:** [Andrew.e.williams2@usace.army.mil](mailto:Andrew.e.williams2@usace.army.mil)

*Andrew Williams*

Digitally signed by WILLIAMS.ANDREW.E.1244561655  
 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI,  
 ou=USA, cn=WILLIAMS.ANDREW.E.1244561655  
 Date: 2013.07.19 16:04:44 -04'00'

\_\_\_\_\_  
**USACE Project Manager Signature**

\_\_\_\_\_  
 July 19, 2013

**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>.

NOTICE OF INTENTION FOR ADMINISTRATIVE APPEAL OF DECISIONS AND DETERMINATIONS IN MATTERS OF PERMITS AND APPROVALS		
Applicant: <b>North Carolina Department of Transportation Dr. Gregory J. Thorpe, Ph.D</b>	File Number: <b>SAW-2001-21125</b>	Date: <b>July 25, 2013</b>
Attached is:	See Section below	
<input checked="" type="checkbox"/> INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A	
<input type="checkbox"/> PROFFERED PERMIT (Standard Permit or Letter of permission)	B	
<input type="checkbox"/> PERMIT DENIAL	C	
<input type="checkbox"/> APPROVED JURISDICTIONAL DETERMINATION	D	
<input type="checkbox"/> PRELIMINARY JURISDICTIONAL DETERMINATION	E	

**SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://www.usace.army.mil/inet/functions/cw/cecwo/reg> or Corps regulations at 33 CFR Part 331.**

**A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.**

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

**B: PROFFERED PERMIT: You may accept or appeal the permit**

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.**

**D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.**

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the district engineer. This form must be received by the division engineer within 60 days of the date of this notice.

<p><b>E: PRELIMINARY JURISDICTIONAL DETERMINATION:</b> You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.</p>		
<p><b>SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT</b></p>		
<p><b>REASONS FOR APPEAL OR OBJECTIONS:</b> (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)</p>		
<p><b>ADDITIONAL INFORMATION:</b> The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.</p>		
<p><b>POINT OF CONTACT FOR QUESTIONS OR INFORMATION:</b></p>		
<p>If you have questions regarding this decision and/or the appeal process you may contact:  <b>District Engineer, Wilmington Regulatory Division,                  Attn: Andrew Williams                  3331 Heritage Trade Drive, Suite 105                  Wake Forest, North Carolina 27587</b></p>	<p>If you only have questions regarding the appeal process you may also contact:  <b>Mr. Jason Steele, Administrative Appeal Review Officer                  CESAD-PDO                  U.S. Army Corps of Engineers, South Atlantic Division                  60 Forsyth Street, Room 10M15                  Atlanta, Georgia 30303-8801                  Phone: (404) 562-5137</b></p>	
<p><b>RIGHT OF ENTRY:</b> Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.</p>		
<p>_____                  Signature of appellant or agent.</p>	<p>Date:</p>	<p>Telephone number:</p>

**For appeals on Initial Proffered Permits send this form to:**

**District Engineer, Wilmington Regulatory Division, Attn: Andrew Williams, 69 Darlington Avenue, Wilmington, North Carolina 28403**

**For Permit denials, Proffered Permits and approved Jurisdictional Determinations send this form to:**

**Division Engineer, Commander, U.S. Army Engineer Division, South Atlantic, Attn: Mr. Jason Steele, Administrative Appeal Officer, CESAD-PDO, 60 Forsyth Street, Room 10M15, Atlanta, Georgia 30303-8801  
 Phone: (404) 562-5137**



## North Carolina Department of Environment and Natural Resources

Pat McCrory  
Governor

Division of Water Quality  
Thomas A. Reeder  
Acting Director

John E. Skvarla, III  
Secretary

July 2, 2013

Dr. Greg Thorpe, PhD., Manager  
Project Development and Environmental Analysis  
North Carolina Department of Transportation  
1598 Mail Service Center  
Raleigh, North Carolina, 27699-1598

Subject: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with  
ADDITIONAL CONDITIONS for Proposed Greensboro Urban Loop from SR 2176 (Bryan Blvd.) to SR  
2303 (Lawndale Dr.) in Guilford County, Federal Aid Project No. STP-NHF-124(1), State Project No.  
34820.1.2, TIP U2524C and D.  
NCDWQ Project No. 20130223.

Dear Dr. Thorpe:

Attached hereto is a copy of Certification No. 3965 issued to The North Carolina Department of Transportation  
(NCDOT) dated July 2, 2013.

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

Sincerely,

Thomas A. Reeder  
Acting Director

Attachments

cc: Andy Williams, US Army Corps of Engineers, Raleigh Field Office (electronic copy only)  
Jerry Parker, Division 7 Environmental Officer (electronic copy only)  
Chris Militscher, Environmental Protection Agency (electronic copy only)  
Travis Wilson, NC Wildlife Resources Commission (electronic copy only)  
Beth Harmon, Ecosystem Enhancement Program (electronic copy only)  
DWQ WSRO Amy Euliss

Transportation and Permitting Unit  
1650 Mail Service Center, Raleigh, North Carolina 27699-1617  
Location: 612 N. Salisbury St. Raleigh, North Carolina 27604  
Phone: 919-807-6300 \ FAX: 919-807-6488  
Internet: [www.ncwaterquality.org](http://www.ncwaterquality.org)

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**401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act 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 Quality (NCDWQ) Regulations in 15 NCAC 2H. This certification authorizes the NCDOT to impact 6.13 acres of jurisdictional wetlands in the C section and 0 acres of jurisdictional wetlands in the D section, and 3471 linear feet of jurisdictional streams in the C section and 4684 linear feet of jurisdictional streams in the D section in Guilford County. The project shall be constructed pursuant to the application dated received March 3, 2013 with additional information dated received April 12, 2013 and May 29, 2013. The authorized impacts are as described below:

**U-2524C: Stream Impacts in the Cape Fear River Basin**

Site (stream id-jd packet)	Permanent Fill in Intermittent Stream (linear ft)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
1 (SA)			396	13	409	396
2 (SA)			32	14	46	32
2 (SB)			24		24	0
3 (SC)			348	20	368	348
3A (SD)			30		30	0
4 (SE)			361	46	407	361
5 (SF)			725	40	765	725
5A (SG)			115		115	0
6 (SH)	60	15			75	0
7 (SI)			238	10	248	238
7A (SJ)			57		57	0
8 (SL)			425	20	445	425
10 (SM)			16	0	16	0
13 (SP)			264	20	284	264
13 (SO)			22		22	0
HC1 (SO)				40	40	0
HC2 (SO)				20	20	0
HC3 (SO)				20	20	0
HC4 (SO)				20	20	0
HC5 (SO)				20	20	0
II		40			40	0
<b>TOTAL</b>	<b>60</b>	<b>55</b>	<b>3053</b>	<b>303</b>	<b>3471</b>	<b>2789</b>

Total Stream Impact for U2524C Project: 3471 linear feet

## U2524D: Stream Impacts in the Cape Fear River Basin

Site (Stream Id)	Permanent Fill in Intermittent Stream (linear ft)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
1 (16S)			393	10	403	393
2 (17S)			919	10	929	919
3 (17S)			1488	10	1498	1488
4 (17S)			35		35	35
4 (19S)			1218	20	1238	1218
5 (20S)			141	10	151	0
6 (21S)			311	10	321	311
7 (not id'ed)			99	10	109	0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>4604</b>	<b>80</b>	<b>4684</b>	<b>4364</b>

Total Stream Impact for U-2524D Project: 4684 linear feet

## U-2524C: Wetland Impacts in the Cape Fear River Basin

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)	Impacts Requiring Mitigation (ac)
1	0.10			0.02		0.12	0.12
7	0.01					0.01	0.01
9				0.02		0.02	0.02
10A		0.01		0.01		0.02	0.01
11				0.19		0.19	0.19
12	2.57			0.36		2.93	2.93
13	1.24		0.34	0.64		2.22	2.22
14	0.11					0.11	0.11
W1				0.20		0.20	0.20
W2		0.79				0.79	0.00
W3				0.12		0.12	0.12
W4				0.01		0.01	0.01
U1*				0.14		0.14	0.14
U2*				0.04		0.04	0.04
U3*				0.01		0.01	0.01
<b>Total</b>	<b>4.03</b>	<b>0.80</b>	<b>0.34</b>	<b>1.76</b>	<b>0.00</b>	<b>6.93</b>	<b>6.13</b>

\*U1, U2 and U3 are utility impacts

Total Wetland Impact for U-2524C Project: 6.93 acres.

The application provides adequate assurance that the discharge of fill material into the waters of the Cape Fear 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 application dated received March 3, 2013 with additional information dated received April 12, 2013 and May 29, 2013. Should your project change, you are required to notify the NCDWQ 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). 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.

**Condition(s) of Certification:**

**Project Specific Conditions**

1. When final design plans are completed for U2524 Section D, a modification to the 401 Water Quality Certification shall be submitted with two copies and fees to the NC Division of Water Quality. Final designs shall reflect all appropriate avoidance, minimization, and mitigation for impacts to wetlands, streams, and other surface waters, and buffers. No construction activities that impact any wetlands, streams, surface waters, or buffers located in U2524 Section D shall begin until after the permittee applies for, and receives a written modification of the 401 Water Quality Certification from the NC Division of Water Quality.
2. Any modifications to this 401 Water Quality Certification that propose additional stream impacts or increased impervious surface requiring additional stormwater management may be subject to the Jordan Water Supply Nutrient Strategy [15A NCAC02B .0267]. NCDOT shall coordinate with NCDWQ prior to submitting a modification request to determine the applicability of the Jordan Water Supply Nutrient Strategy. This condition does not apply to major modifications for additional sections of the project that were covered under the Finding of No Significant Impact or approved in the Avoidance and Minimization stage of the project.
3. NCDOT shall design, construct, and operate and maintain hazardous spill catch basins (HSCBs) at stream crossings within the WS III; CA watershed. The HSCBs shall be located at Station numbers -L-380+38, -L-387+14, -L-398+53, -L-408+98, and -L-412+09. At sta. no. -L- 419+61, a hazardous spill basin is not required due to the need for blasting in close proximity to the Colonial Gas Pipeline.
- \* 4. Compensatory mitigation for 7153 linear feet of impact to streams, including 2739 linear feet for U2524C and 4364 linear feet for U2524D, is required. We understand that you have chosen to perform compensatory mitigation for impacts to streams through the North Carolina Ecosystem Enhancement Program (EEP), and that the EEP has agreed to implement the mitigation for the project. EEP has indicated in a letter dated May 17, 2013 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the EEP Mitigation Banking Instrument signed July 28, 2010.
- \* 5. Compensatory mitigation for impacts to 6.13 acres riparian wetlands is required. We understand that you have chosen to perform compensatory mitigation for impacts to wetlands through the North Carolina Ecosystem Enhancement Program (EEP), and that the EEP has agreed to implement the mitigation for the project. EEP has indicated in a letter dated May 17, 2013 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with EEP's Mitigation Banking Instrument signed July 28, 2010.
6. NCDOT shall be in compliance with the NCS00250 issued to the NCDOT, including the applicable requirements of the NCG01000. Please note the extra protections for the sensitive watersheds.
7. The NCDOT Division Environmental Officer or Environmental Assistant will conduct a pre-construction meeting with all appropriate staff to ensure that the project supervisor and essential staff understand the potential issues with stream and pipe alignment at the permitted site. NCDWQ staff shall be invited to the pre-construction meeting.
8. A turbidity curtain will be installed in the stream for the crossing of Horsepen Creek if driving or drilling activities occur within the stream channel, on the stream bank, or within 5 feet of the top of bank. This condition can be waived with prior approval from DWQ.
- \* 9. Two copies of the final construction drawings shall be furnished to NCDWQ Central Office prior to the pre-construction meeting. The permittee shall provide written verification that the final construction drawings comply with the permit drawings contained in the application dated March 3, 2013 with additional information dated received April 12, 2013 and May 29, 2013. Any deviations from the approved drawings are not authorized unless approved by the NC Division of Water Quality.
10. Channel relocations shall be completed and stabilized, and approved on site by NCDOT Environmental staff or DWQ, prior to diverting water into the new channel. Stream banks shall be matted with coir-fiber matting, unless rip rap is approved with this certification. Vegetation used for bank stabilization shall be limited to native riparian vegetation, and should include establishment of a vegetated buffer on both sides of the relocated channel to the maximum extent practical. Also, additional rip-rap may be allowed if it is necessary to maintain the physical integrity of the stream, but the applicant must provide written justification and any calculations used to determine the extent of rip-rap coverage requested. Once the stream has been turned into the new channel, it may be necessary to relocate stranded fish to the new channel to prevent fish kills.
11. The post-construction removal of any temporary bridge structures must return the project site to its preconstruction contours and elevations. The impacted areas shall be revegetated with appropriate native species.

12. Strict adherence to the most recent version of NCDOT's Best Management Practices For Bridge Demolition and Removal approved by the US Army Corps of Engineers is a condition of the 401 Water Quality Certification.
13. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of *Stormwater Best Management Practices*.
14. Bridge piles and bents shall be constructed using driven piles (hammer or vibratory) or drilled shaft construction methods. More specifically, jetting or other methods of pile driving are prohibited without prior written approval from NCDWQ first.
15. No drill slurry or water that has been in contact with uncured concrete shall be allowed to enter surface waters. This water shall be captured, treated, and disposed of properly.
16. All bridge construction shall be performed from the existing bridge, temporary work bridges, temporary causeways, or floating or sunken barges. If work conditions require barges, they shall be floated into position and then sunk. The barges shall not be sunk and then dragged into position. Under no circumstances should barges be dragged along the bottom of the surface water.
17. 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.
18. 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.
19. For the 438 linear feet of streams being impacted due to site dewatering activities, the site shall be graded to its preconstruction contours and revegetated with appropriate native species.
20. 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.
21. 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.

**General Project Conditions:**

22. 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 NCDWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact NCDWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.
23. 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.
24. 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.
25. 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.
26. 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.
- \* 27. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval.
28. Prior to commencing ground disturbing activities, an acceptable monitoring and mitigation plan for the presence of sulfide-bearing rock must be approved by DWQ.
29. 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.
30. 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.
  31. 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.
  32. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification.
  33. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.
  34. 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 NCDWQ 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, NCDWQ may reevaluate and modify this certification.
  35. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification..
  36. 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.
  37. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization 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.
  38. 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.
  39. The Permittee shall report any violations of this certification to the Division of Water Quality within 24 hours of discovery.
  - \* 40. 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 NCDWQ when all work included in the 401 Certification has been completed.
  41. Native riparian vegetation 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.
  42. 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.
  43. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification.
  44. 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:
    - 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.

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 DENR as follows:

Mr. Lacy Presnell, General Counsel  
Department of Environment and Natural Resources  
1601 Mail Service Center

This the 2nd day of July 2013

DIVISION OF WATER QUALITY



Thomas A. Reeder  
Acting Director

STATE PROJECT NUMBER	U-2524C
PROJECT TITLE	GREENSBORO-WESTERN LOOP FROM NORTH OF SR 2176 (BRYAN BOULEVARD) TO US 220 (BATTLEGROUND AVENUE), Rev Sheet 1 of 39
DATE	5/29/13
DESIGNER	PARSONS
PROJECT ENGINEER	EDWARD S. ROBBINS, P.E.
PROJECT MANAGER	DAVID GARRETT

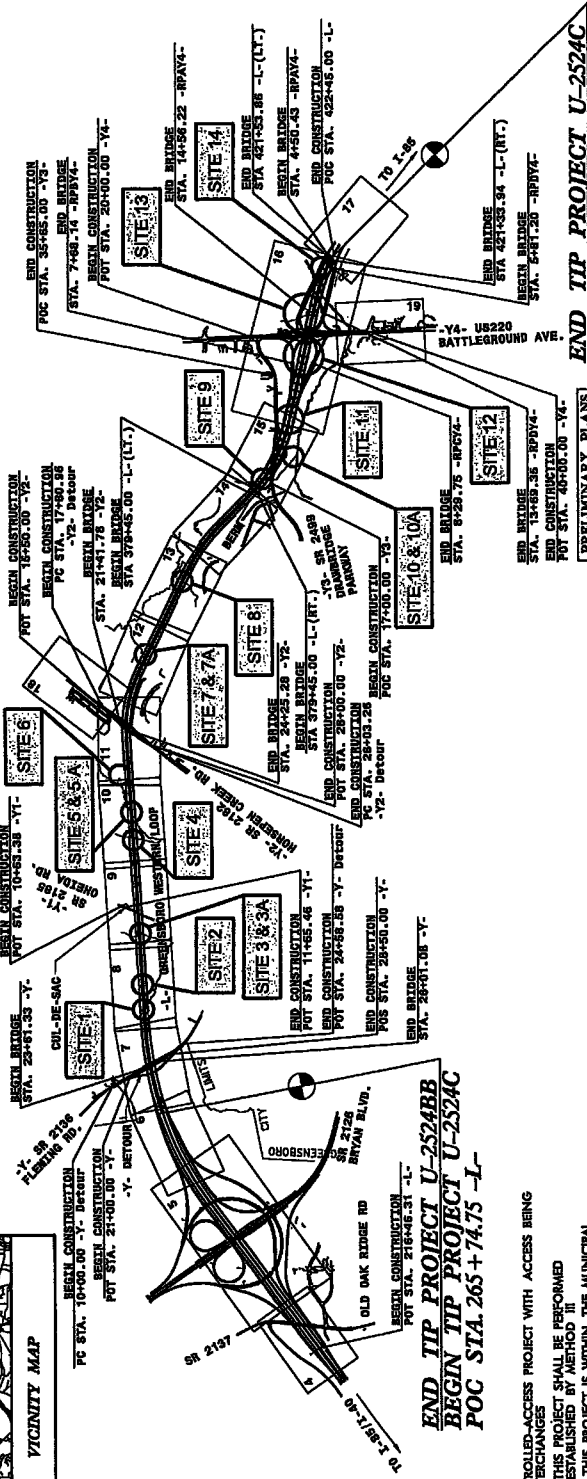
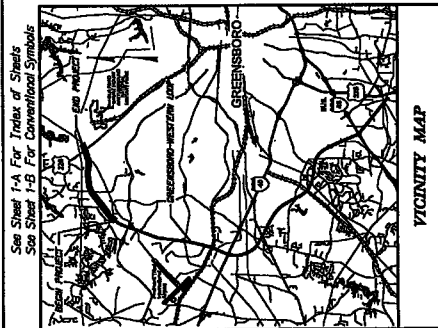
Permit Drawing  
 of 39  
 5/29/13

STATE OF NORTH CAROLINA  
 DIVISION OF HIGHWAYS  
**GUILFORD COUNTY**

LOCATION: GREENSBORO-WESTERN LOOP FROM NORTH OF SR 2176 (BRYAN BOULEVARD) TO US 220 (BATTLEGROUND AVENUE), Rev Sheet 1 of 39

TYPE OF WORK: GRADING, PAVING, CULVERTS, DRAINAGE, STRUCTURES, SIGNING, ITS, TRAFFIC SIGNAL AND RETAINING WALLS.

**WETLAND & STREAM IMPACTS**



**END TIP PROJECT U-2524BB**  
**BEGIN TIP PROJECT U-2524C**  
**POC STA. 265+74.75 -L-**

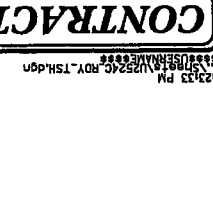
NOTE: THIS IS A CONTROLLER ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES. THIS PROJECT SHALL BE PERFORMED USING OPEN CHANNEL DRAINAGE. THE PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF GREENSBORO.

PRELIMINARY PLANS	HYDRAULICS ENGINEER
ROADWAY DESIGN	ENGINEER
STRUCTURES	ENGINEER

PROJECT ENGINEER	EDWARD S. ROBBINS, P.E.
PROJECT MANAGER	DAVID GARRETT
DATE	SEPTEMBER 23, 2011
DATE	SEPTEMBER 17, 2013

PROJECT LENGTH	LENGTH ROADWAY TIP PROJECT U-2524C = 2.158 MILES
	LENGTH STRUCTURES TIP PROJECT U-2524C = 0.795 MILES
	TOTAL LENGTH OF TIP PROJECT U-2524C = 2.953 MILES

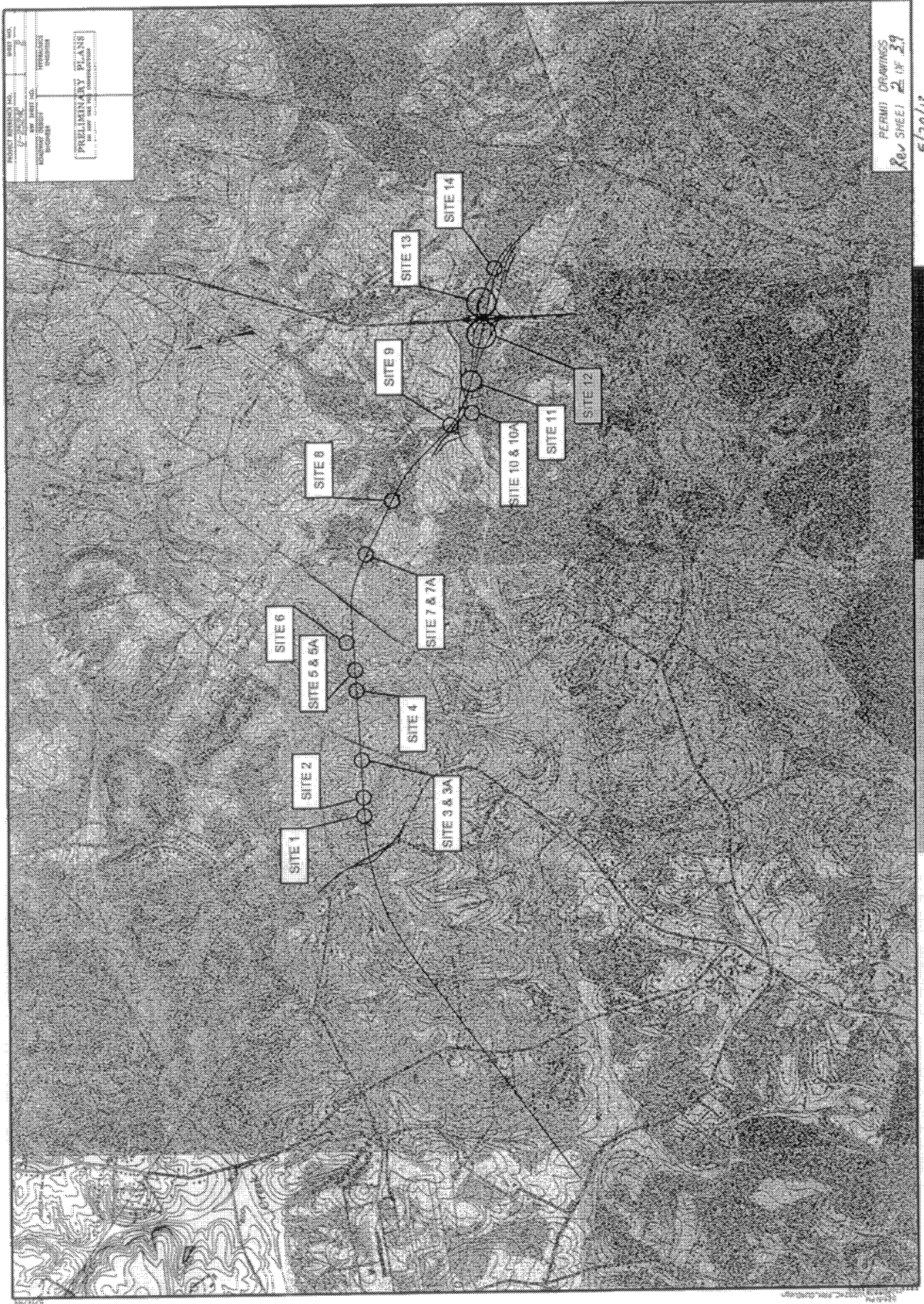
DESIGN DATA	ADT 2013 = 35,113
	ADT 2035 = 46,200
	DRY = 11 %
	D = 55 %
	T = 9 %
	V = 70 MPH
	CLASSIFICATION: FREEWAY
	4% TEST DUAL 5%



TIP PROJECT: U-2524C

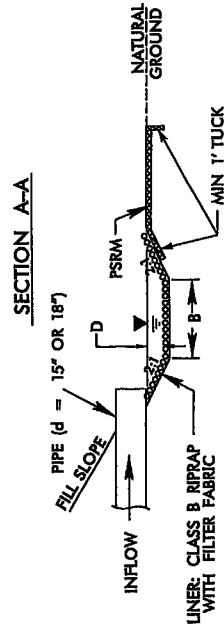
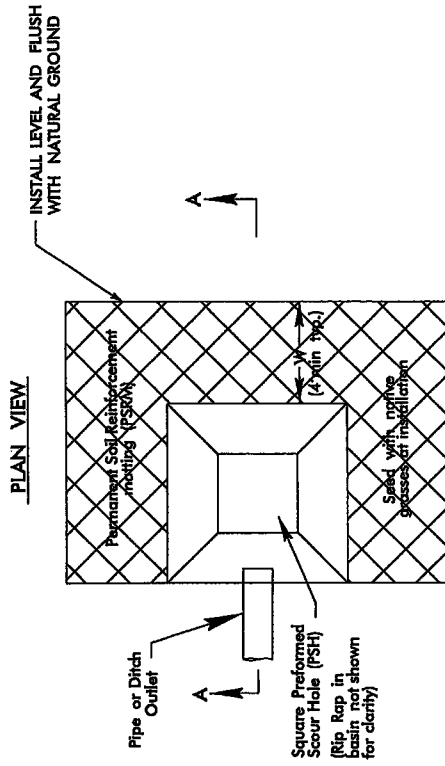
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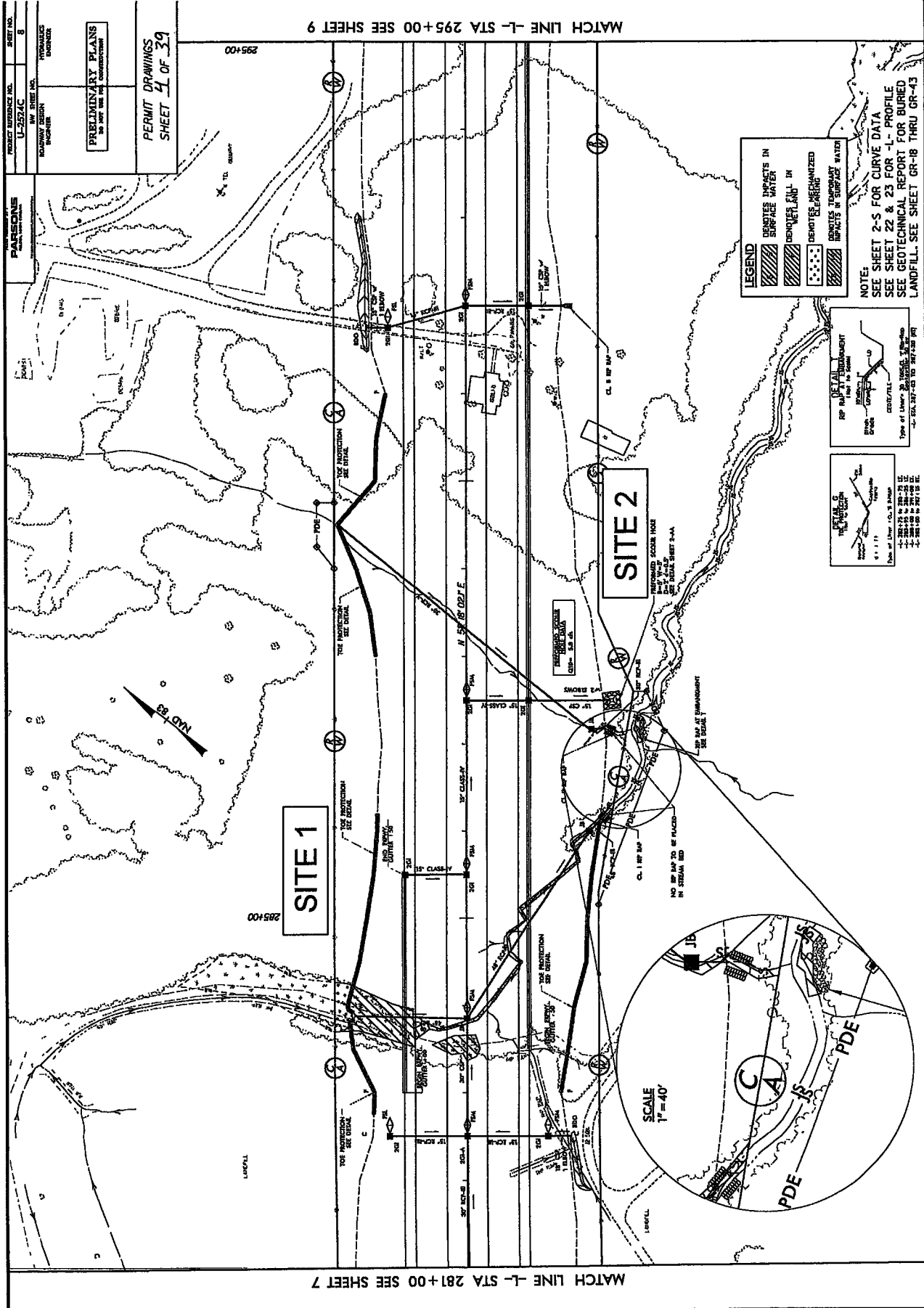
9/28/13

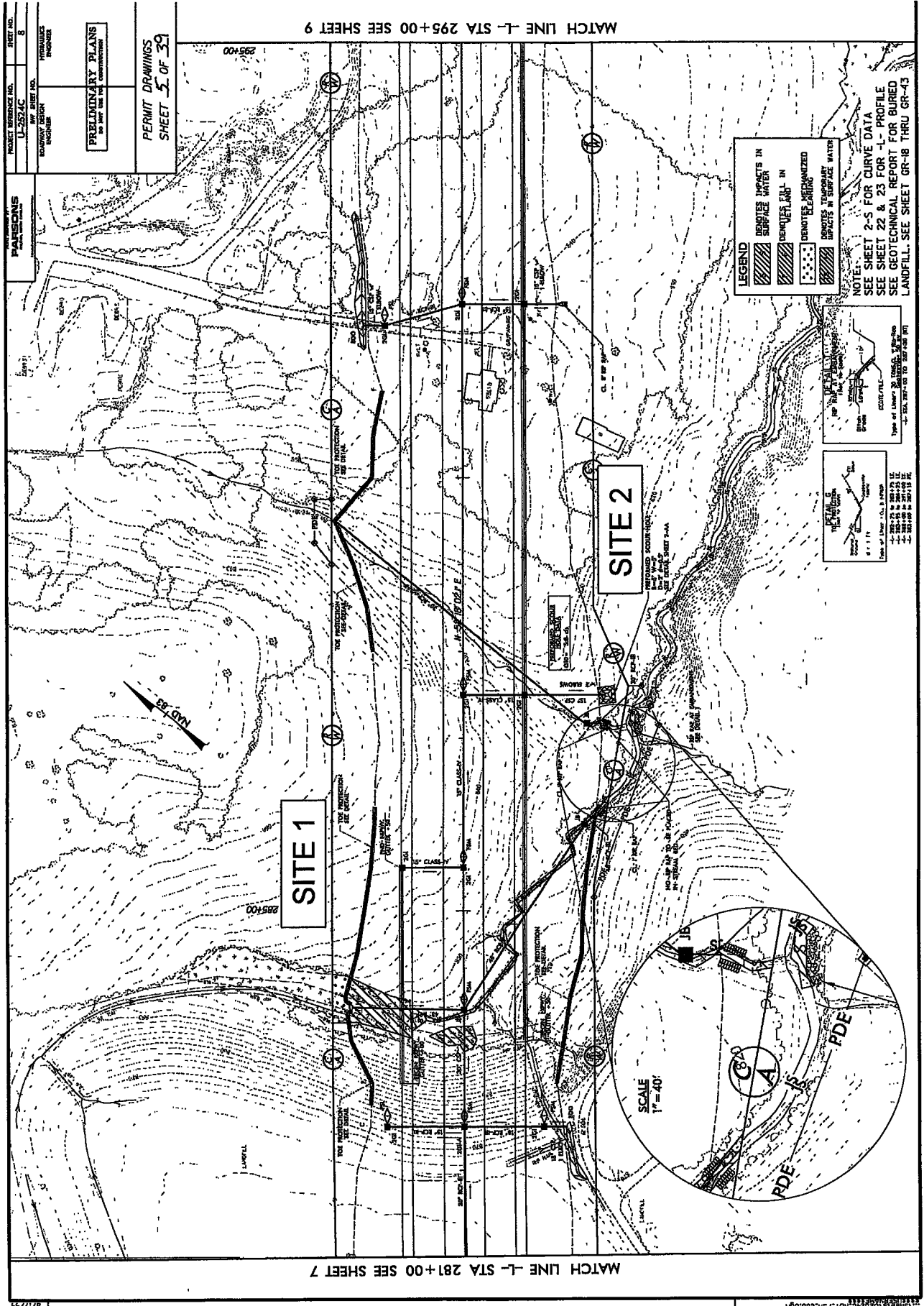


PROJECT REFERENCE NO. U-2224C	SHEET NO. 2-AA
RAW SHEET NO.	ITERATIONS NUMBER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
PERMIT DRAWINGS SHEET 3 OF 39	

**PREFORMED SCOUR HOLE**  
\*NOT TO SCALE







PROJECT REFERENCE NO.	11-2574C
SHEET NO.	8
DATE	11/11/11
DESIGNED BY	HYDRAULICS ENGINEER
CHECKED BY	REGISTERED PROFESSIONAL ENGINEER

**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

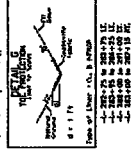
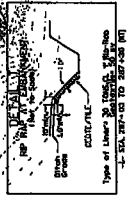
**PERMIT DRAWINGS**  
SHEET **5** OF **39**

**PARSONS**

**LEGEND**

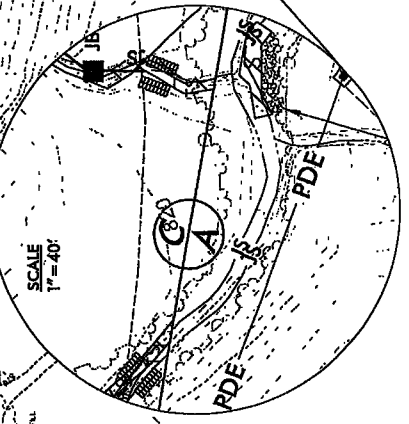
- DEMOTES IMPACTS IN SURFACE WATER
- DEMOTES FILL IN SURFACE WATER
- DEMOTES MECHANIZED TEMPORARY CLEARING
- DEMOTES IMPACTS IN SURFACE WATER

**NOTE:**  
SEE SHEET 2-5 FOR CURVE DATA  
SEE SHEET 22 & 23 FOR 'L'-PROFILE  
SEE GEOTECHNICAL REPORT FOR BURIED LANDFILL. SEE SHEET GR-18 THRU GR-43



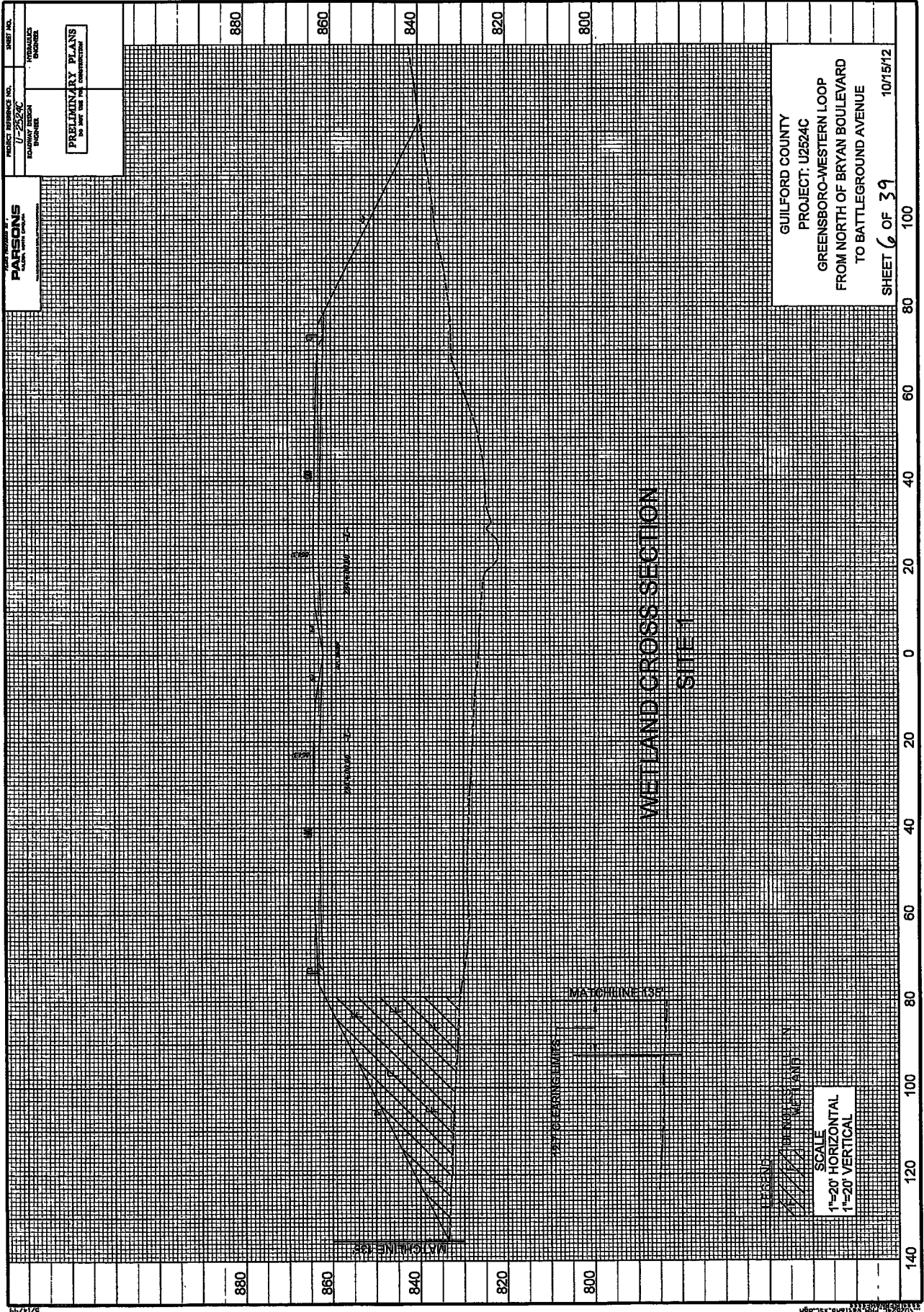
**SITE 1**

**SITE 2**

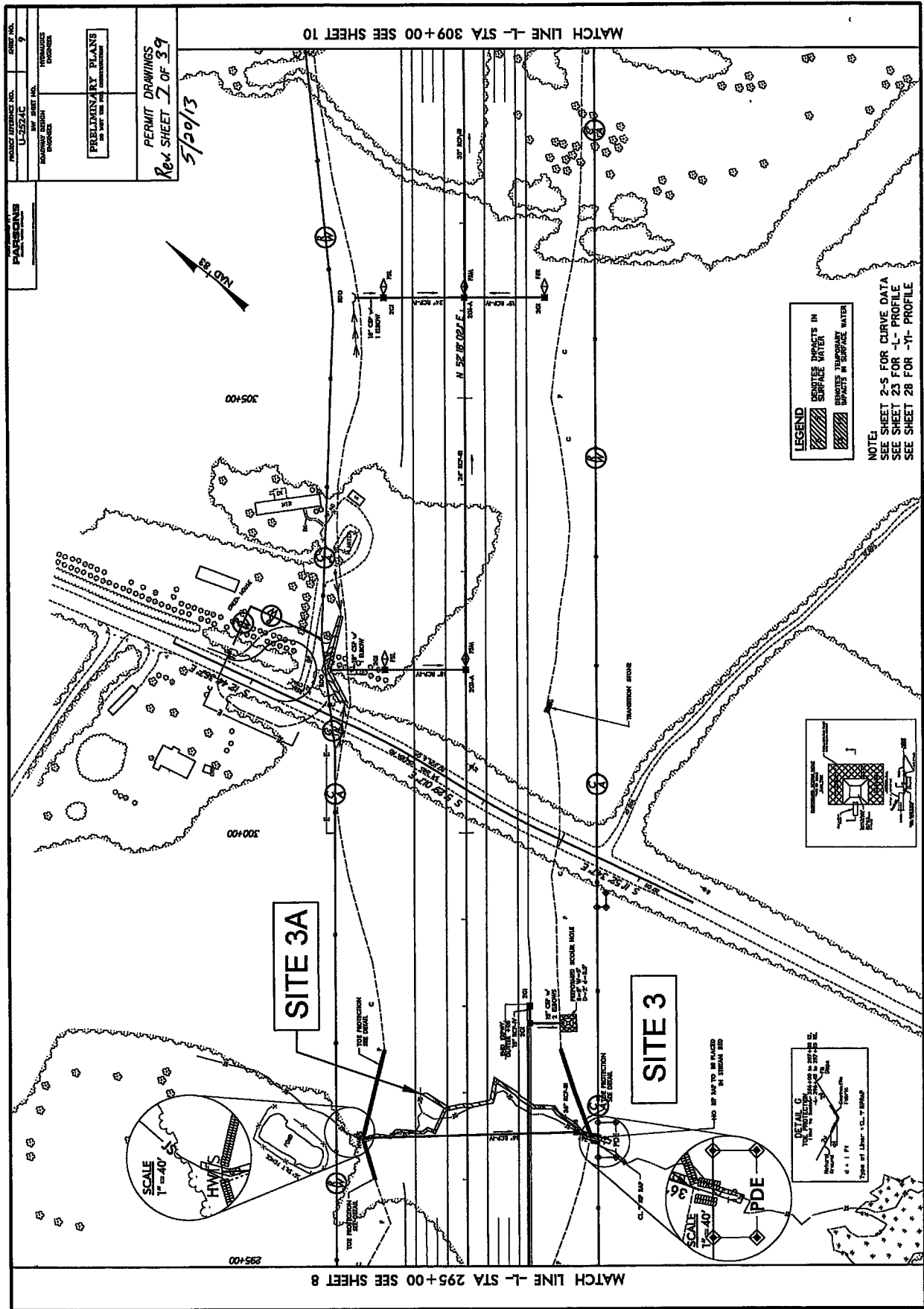


MATCH LINE L- STA 295+00 SEE SHEET 9

MATCH LINE L- STA 281+00 SEE SHEET 7

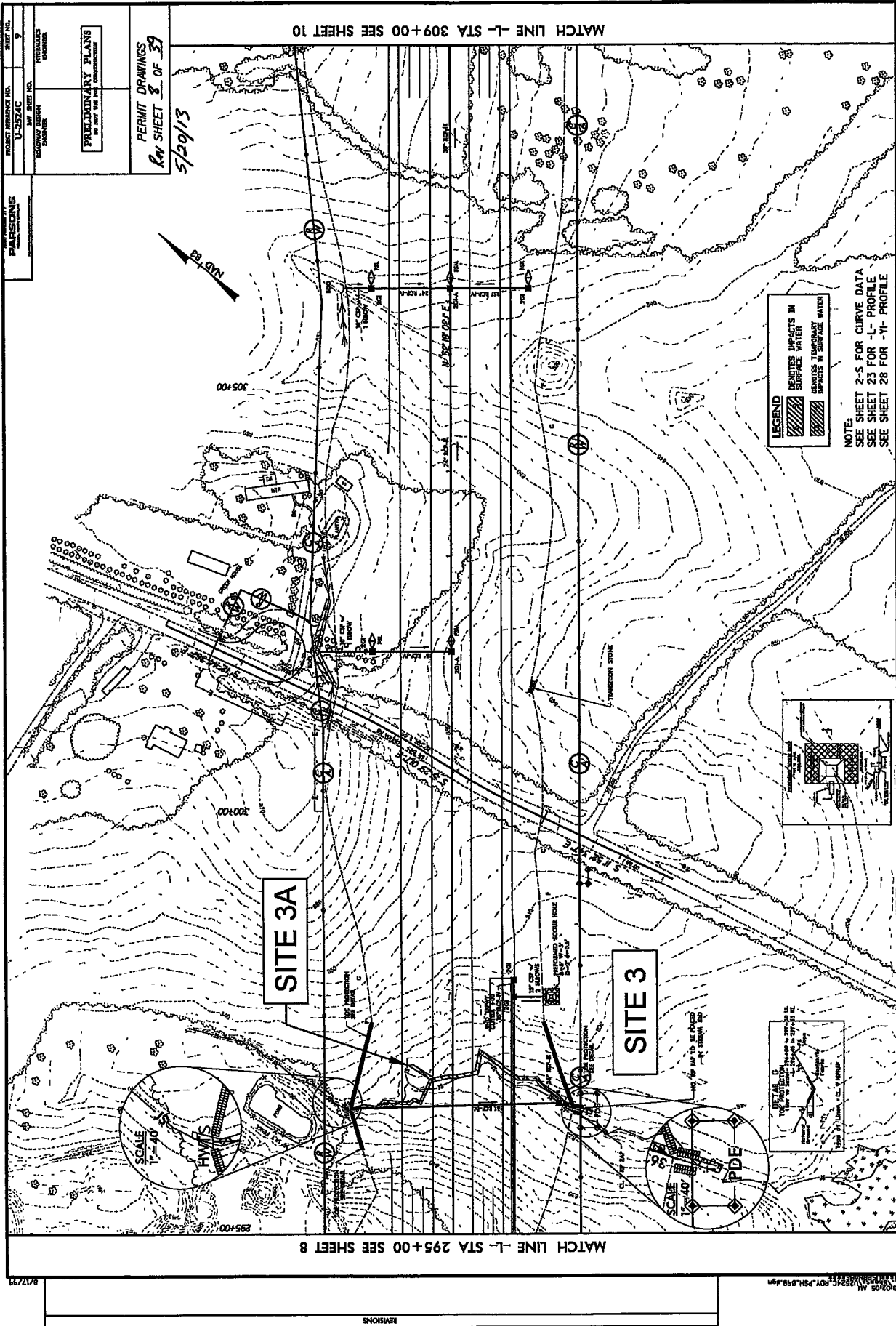






REVISIONS

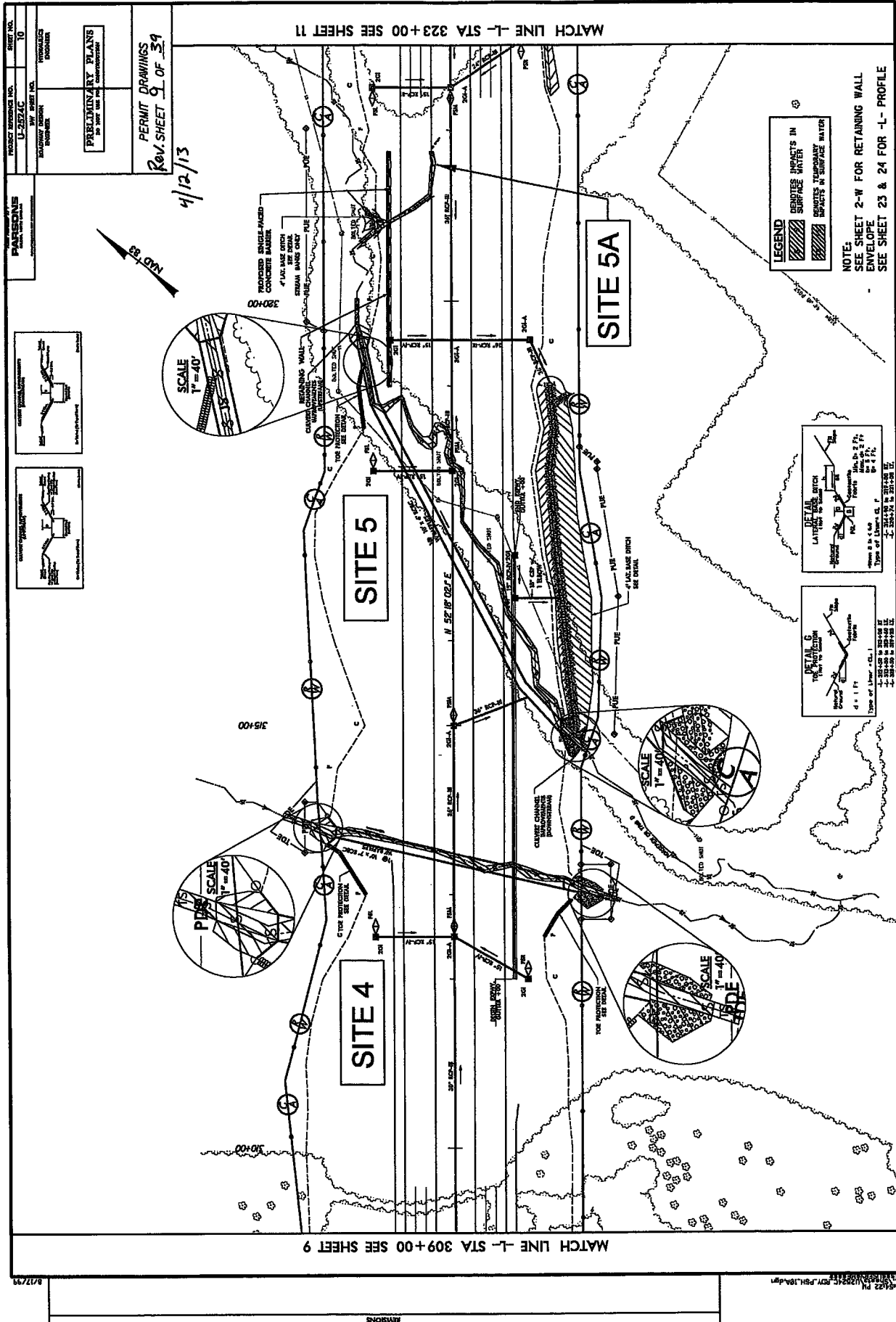
DATE: 8/15/13 BY: JSH, BJA



8/17/13

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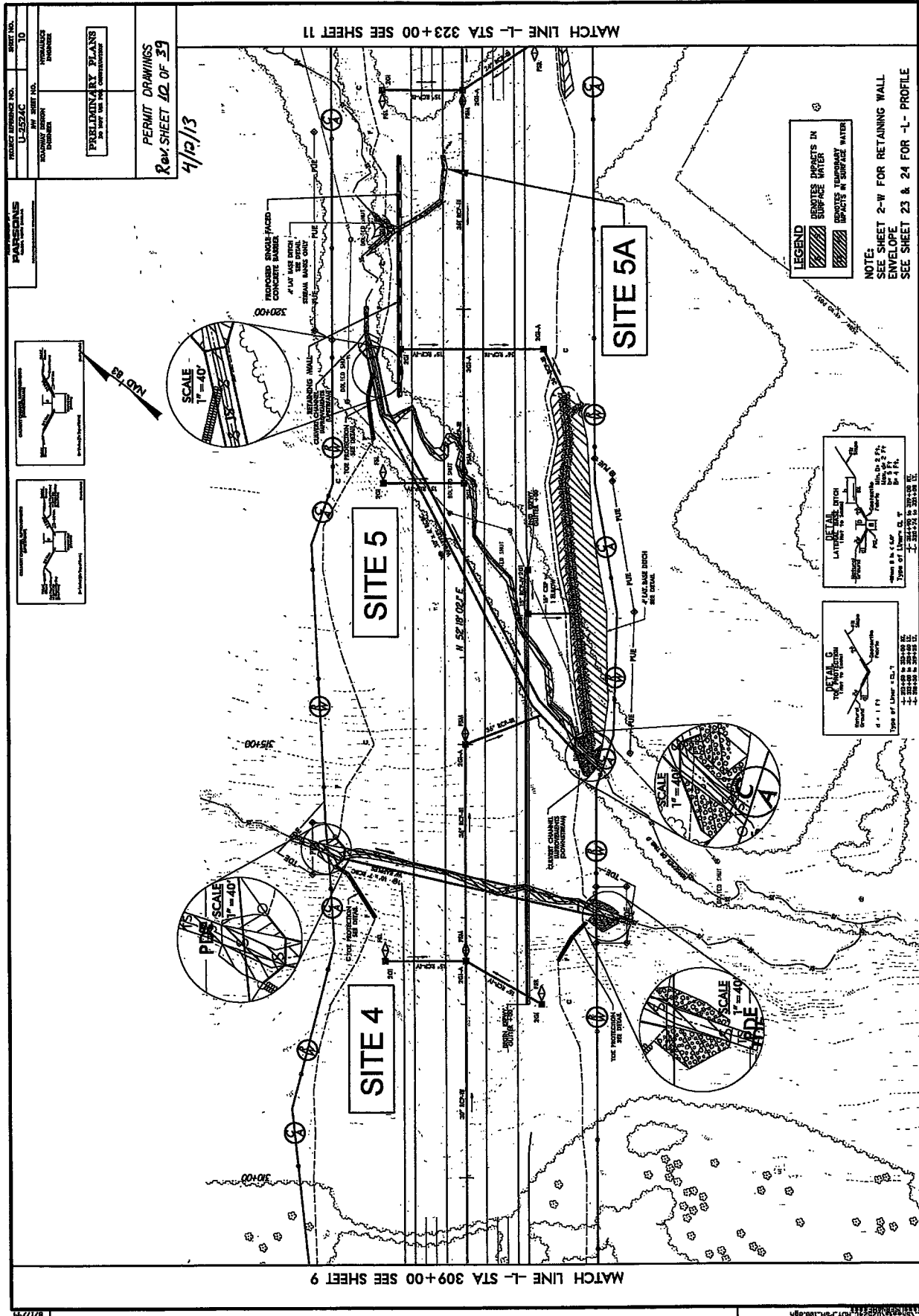
SHOWN



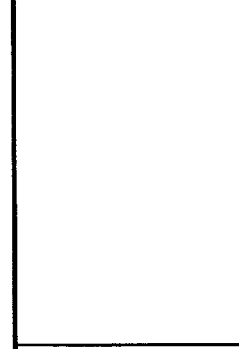
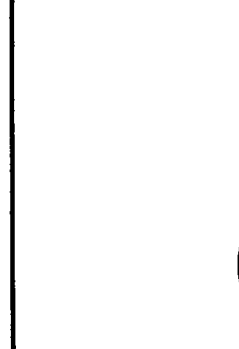
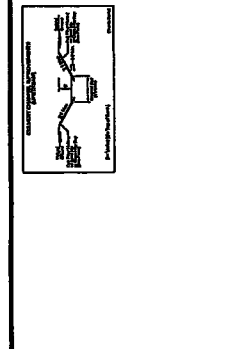
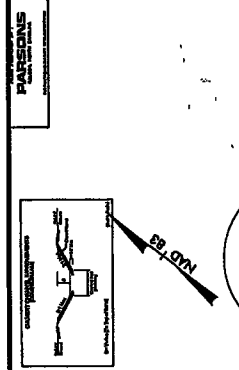
REVISIONS

54502 P1 11/28/13 11:41 AM 11/28/13 11:41 AM

6/17/13



PROJECT NO.	10
DATE	12/13
DESIGNER	PARSONS
CHECKER	...
APPROVER	...
DATE	4/12/13
<b>PERMIT DRAWINGS</b> Rev. SHEET 10 OF 39	

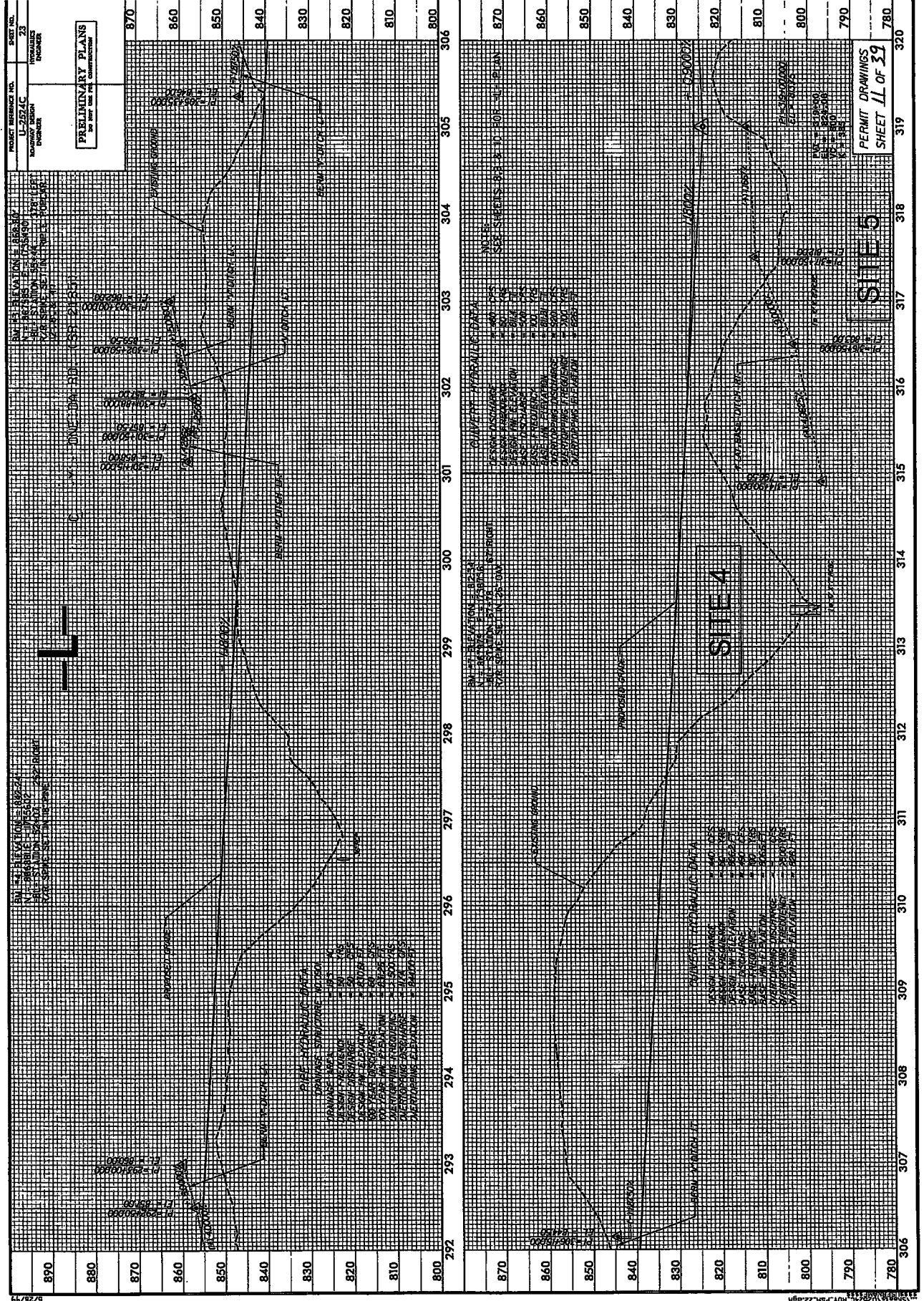


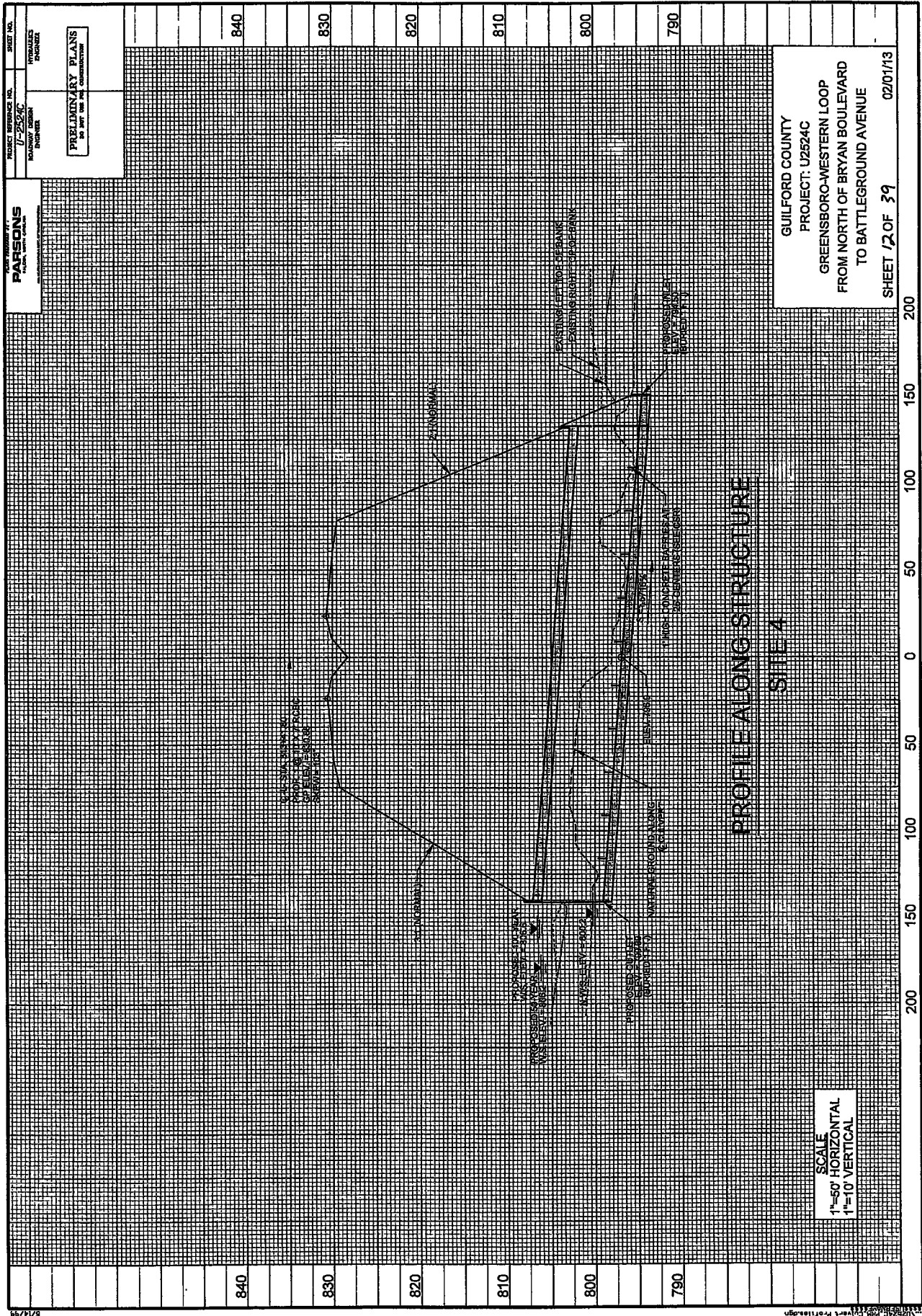
MATCH LINE -L- STA 323+00 SEE SHEET 11

MATCH LINE -L- STA 309+00 SEE SHEET 9

REVISIONS

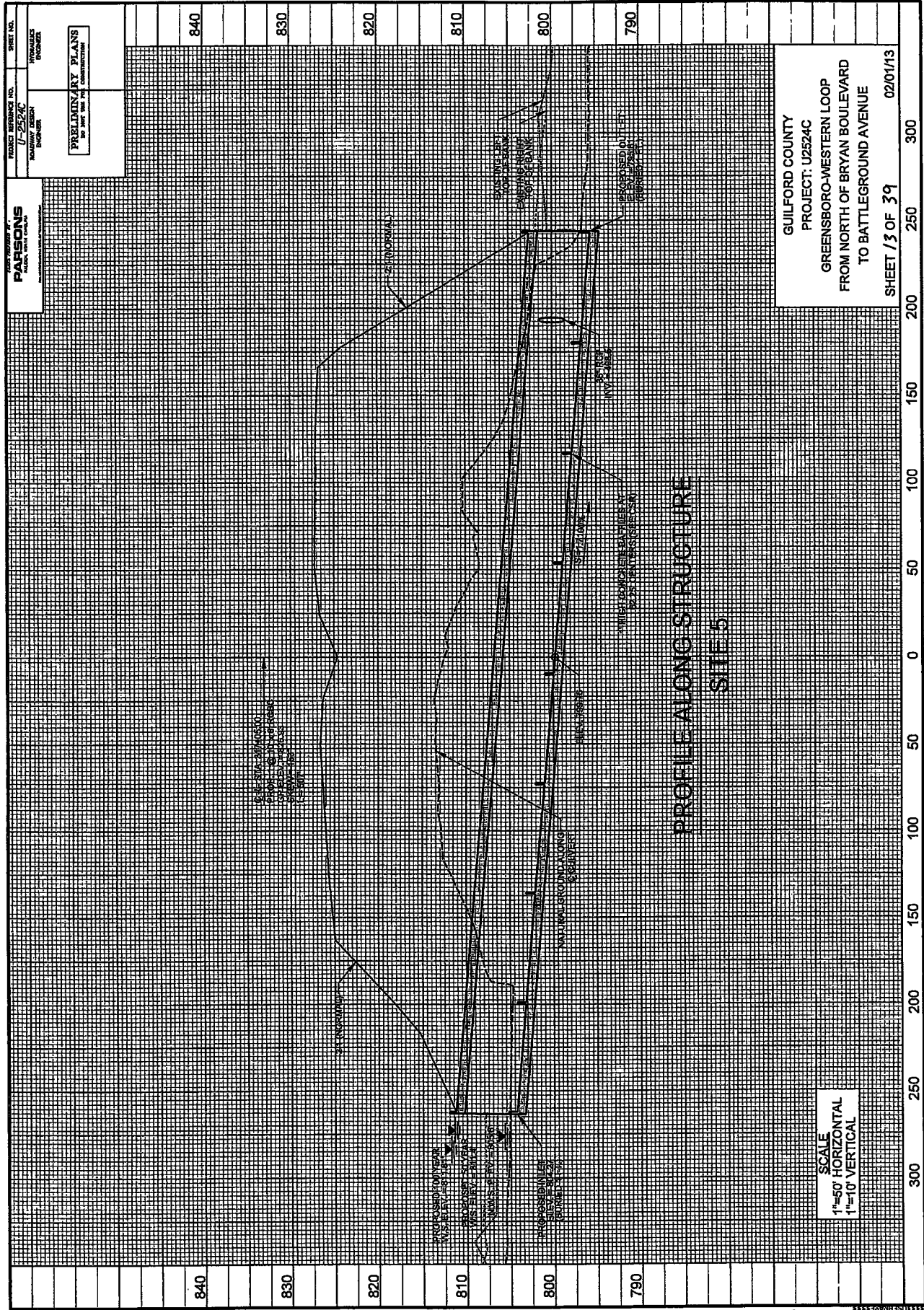
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B/14/99

8/23/13



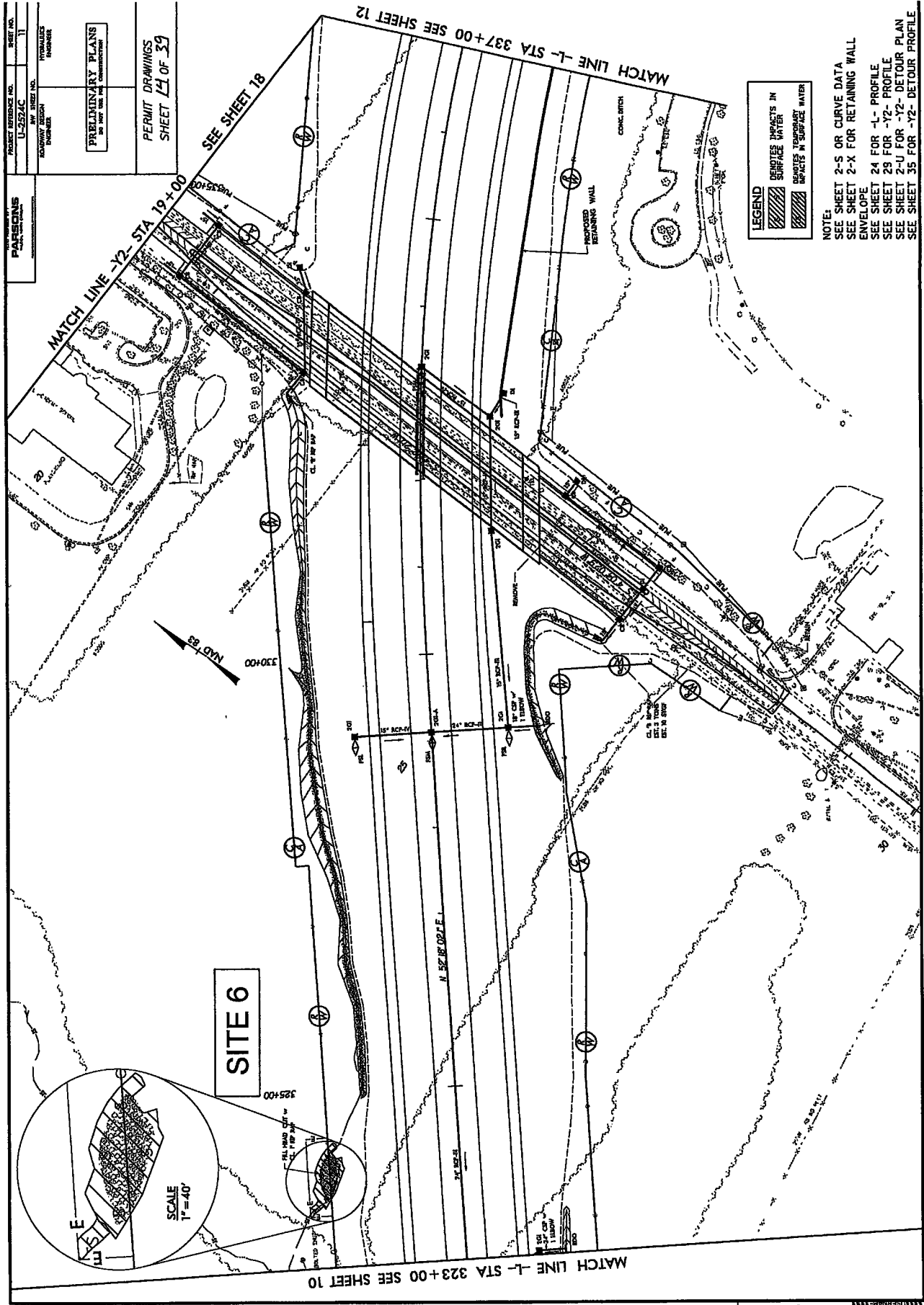
PAERSONS

PROJECT REFERENCE NO.  
 U-2524C  
 PRELIMINARY DESIGN  
 ENGINEER

PRELIMINARY PLANS  
 BY THE STATE OF NORTH CAROLINA

5/14/99

PAERSONS PROFESSIONAL ENGINEERS

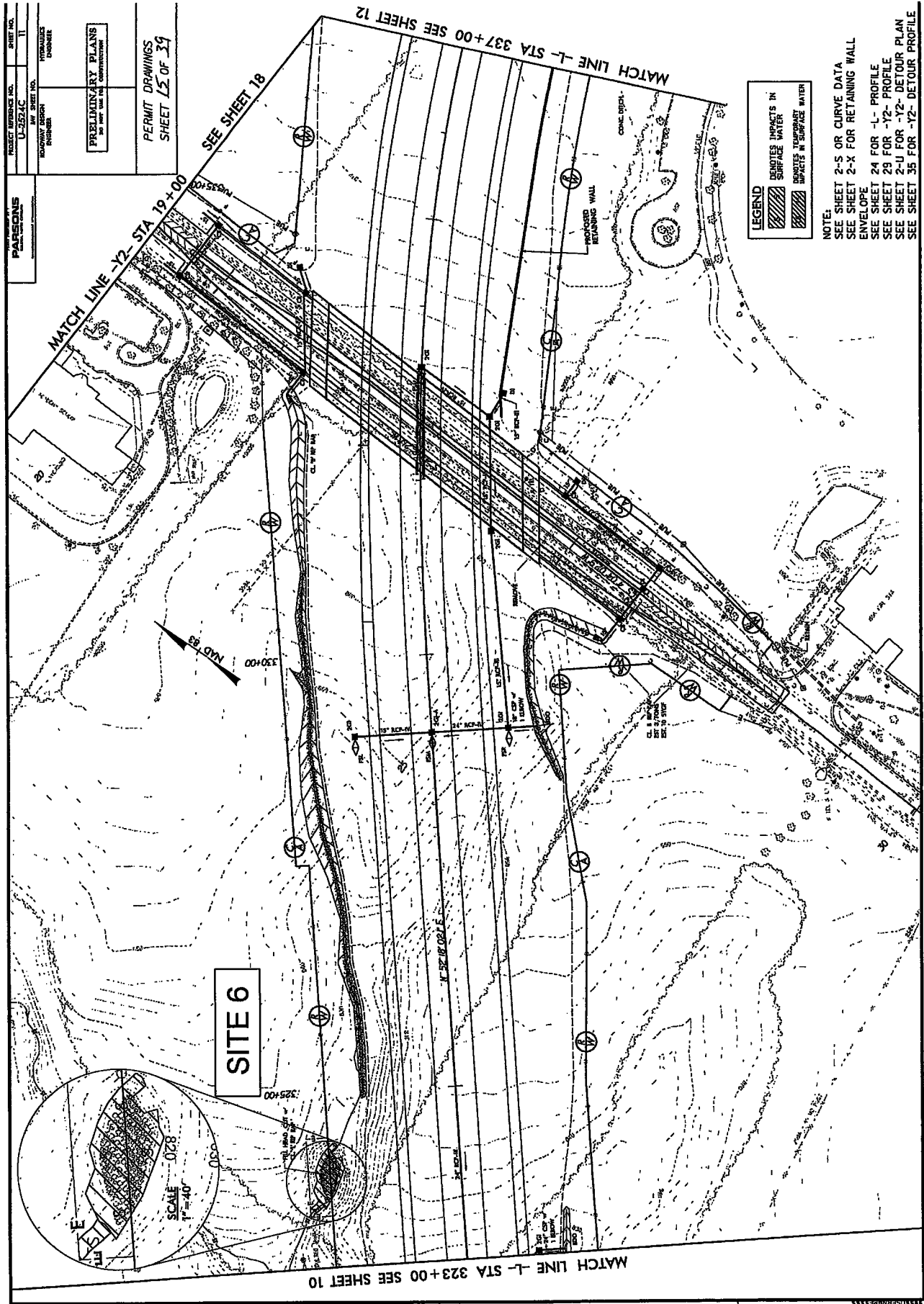


PROJECT REFERENCE NO.	U-2572C	SHEET NO.	11
PROJECT NO.	U-2572C	DATE	11/11/13
DESIGNED BY	PARSONS	CHECKED BY	PARSONS
DRAWN BY	PARSONS	APPROVED BY	PARSONS
PRELIMINARY PLANS FOR PERMIT AND CONSTRUCTION			
PERMIT DRAWINGS SHEET 14 OF 39			

REVISIONS	DATE	BY	DESCRIPTION



PROJECT NUMBER U-3214C	SHEET NO. 11
ROADWAY REPORT NUMBER	HYDRAULICS NUMBER
PRELIMINARY PLANS DO NOT BE USED FOR CONSTRUCTION	
PERMIT DRAWINGS SHEET 15 OF 39	



**LEGEND**

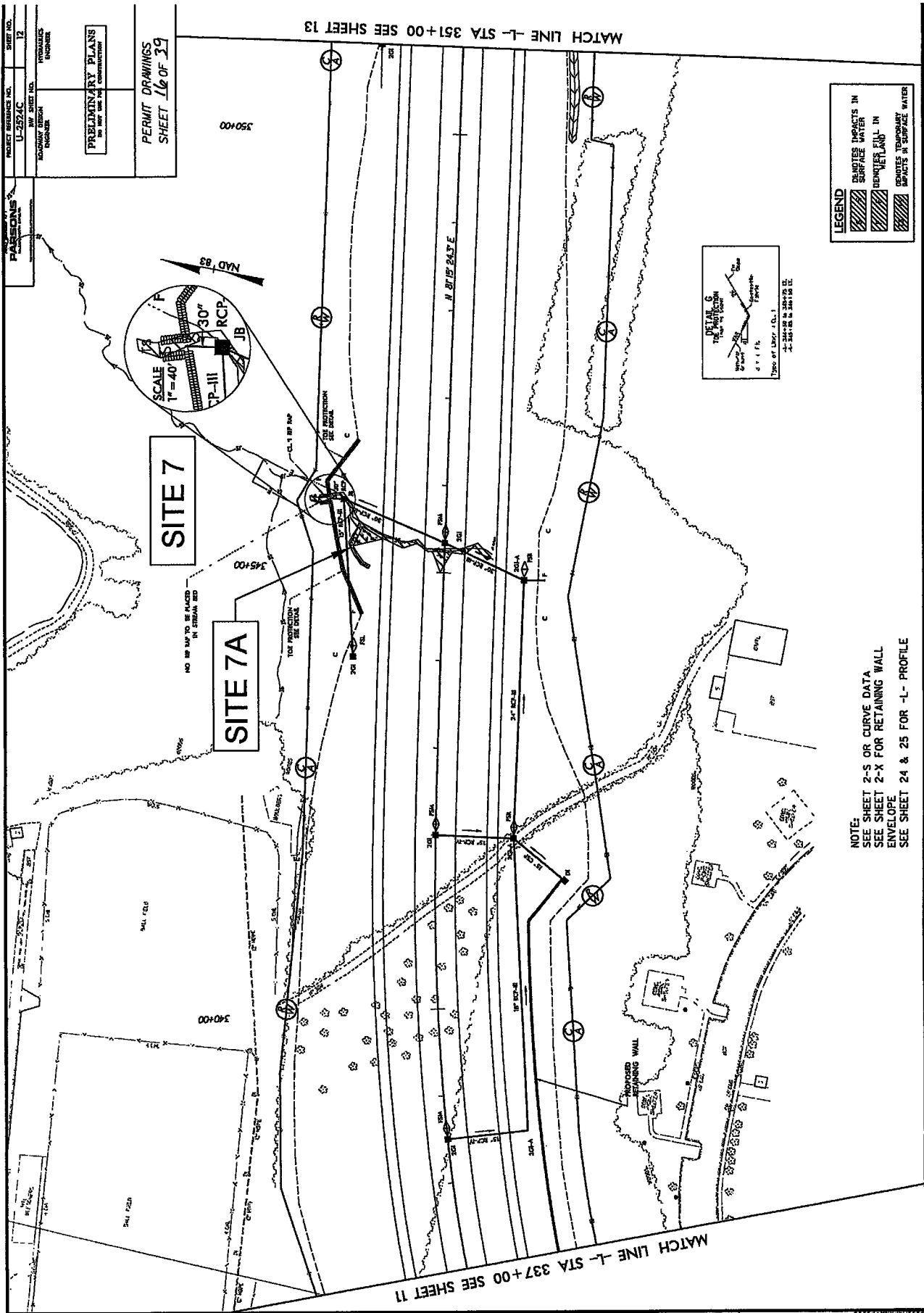
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[Symbol]	IMPACTS IN SURFACE WATER

**NOTE:**  
 SEE SHEET 2-S OR CURVE DATA  
 SEE SHEET 2-X FOR RETAINING WALL ENVELOPE  
 SEE SHEET 24 FOR -1- PROFILE  
 SEE SHEET 29 FOR -12- PROFILE  
 SEE SHEET 2-U FOR -12- DETOUR PLAN  
 SEE SHEET 35 FOR -12- DETOUR PROFILE

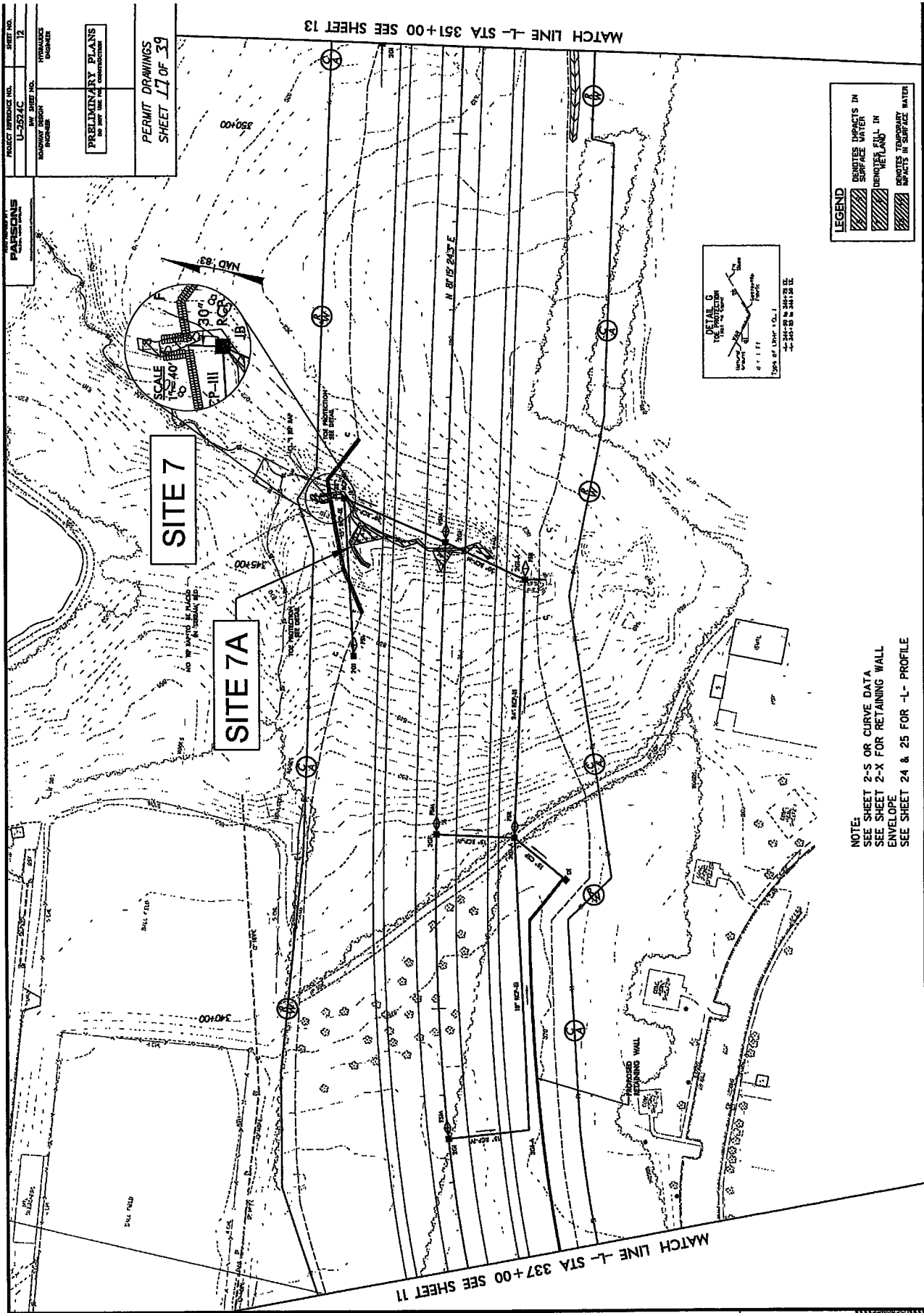
8/17/13

REVISIONS
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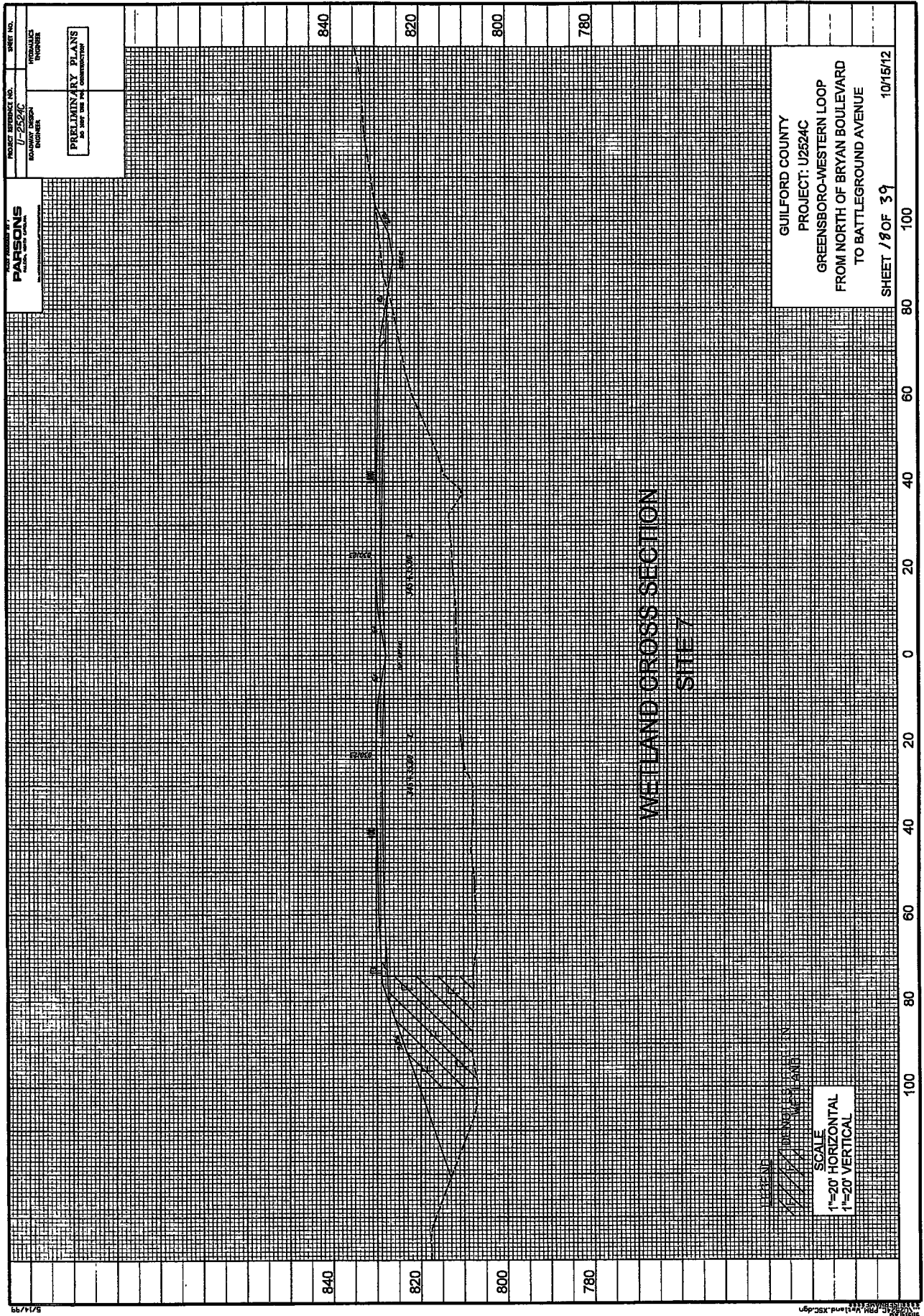
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 REVISIONS



8/17/99  
 2:04:06 PM  
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 LEVITONS



**PARSONS**  
 CONSULTANTS  
 1000 WEST 10TH AVENUE  
 SUITE 1000  
 DENVER, CO 80202

PROJECT REFERENCE NO.  
 U-2524C  
 ROADWAY DESIGN  
 ENGINEER

SHEET NO.  
 39

PRELIMINARY PLANS  
 AS SHOWN AND AS NOTED

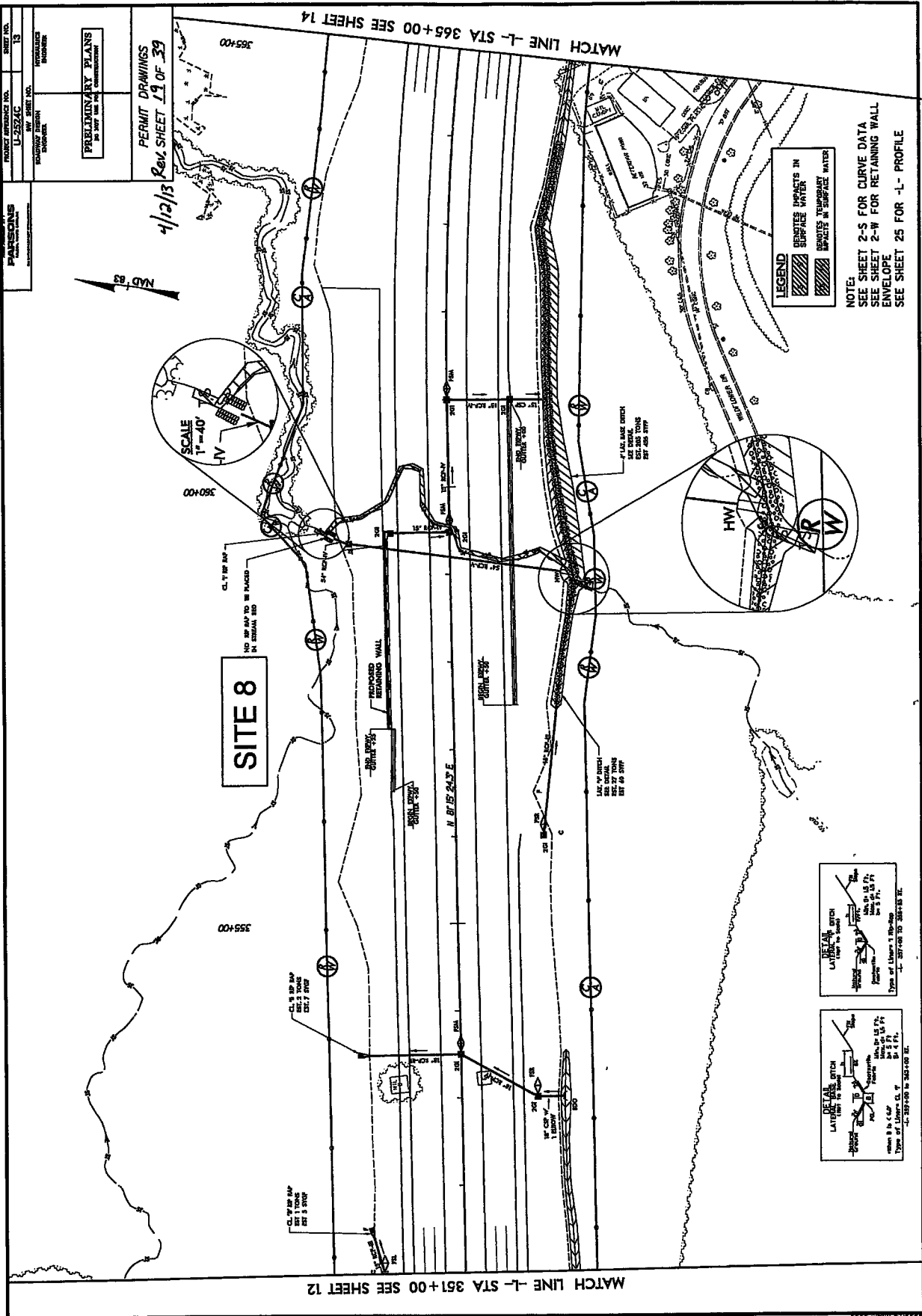
GUILFORD COUNTY  
 PROJECT: U2524C  
 GREENSBORO-WESTERN LOOP  
 FROM NORTH OF BRYAN BOULEVARD  
 TO BATTLEGROUND AVENUE

SHEET 39 OF 39  
 10/15/12

WETLAND CROSS SECTION  
 SITE 7

LEGEND  
 WETLAND

SCALE  
 1"=20' HORIZONTAL  
 1"=20' VERTICAL



PARSONS PROJECT NUMBER U-2524C SHEET NO. 13  
 PROJECTIONS BY PLANS BY DATE 11/13/13  
 PERMIT DRAWINGS PERMIT SHEET 19 OF 39



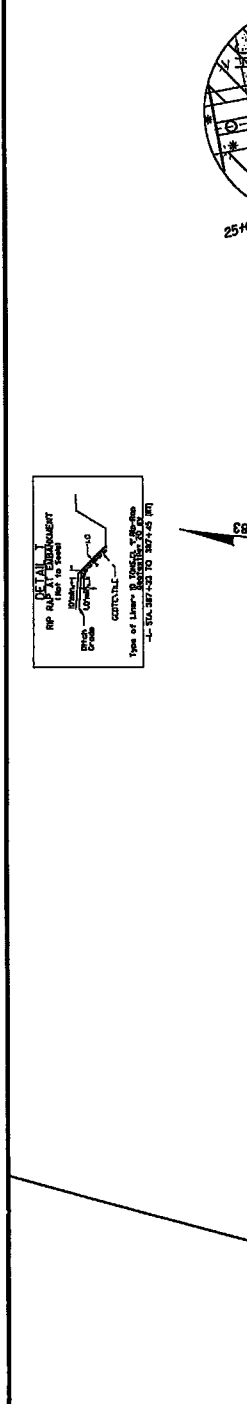
PROJECT REFERENCE NO. U-2324C SHEET NO. 15

DESIGNED BY: [Name] ENGINEER

CHECKED BY: [Name] ENGINEER

PRELIMINARY PLANS  
FOR THE [Project Name]

PERMIT DRAWINGS  
SHEET 21 OF 34

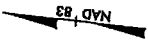
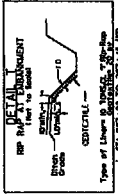
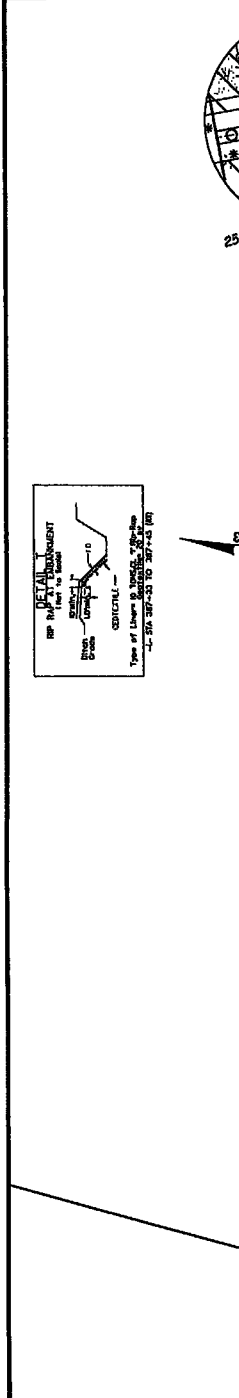


REVISIONS

NO.	DATE	DESCRIPTION

PARSONS  
13330 E. 10TH AVE., SUITE 100  
DENVER, CO 80231  
TEL: 303.733.1000  
WWW.PARSONS.COM

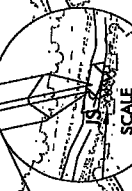
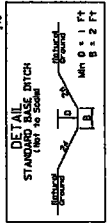
PROJECT REFERENCE NO. L-2524C	SHEET NO. 15
ROADWAY DESIGN ENGINEER	PRELIMINARY PLANS NOT FOR CONSTRUCTION
HYDRAULICS ENGINEER	PERMIT DRAWINGS SHEET 22 OF 39



**LEGEND**

- REMOVE MATS IN SURFACE WATER
- DELETED AND
- UNAPPROVED

**NOTE:**  
SEE SHEET 2-S FOR CURVE DATA  
SEE SHEET 26 FOR 'L'-PROFILE  
SEE SHEET 30 FOR 'Y3'-PROFILE  
SEE SHEET 16 FOR BRIDGE SKETCH

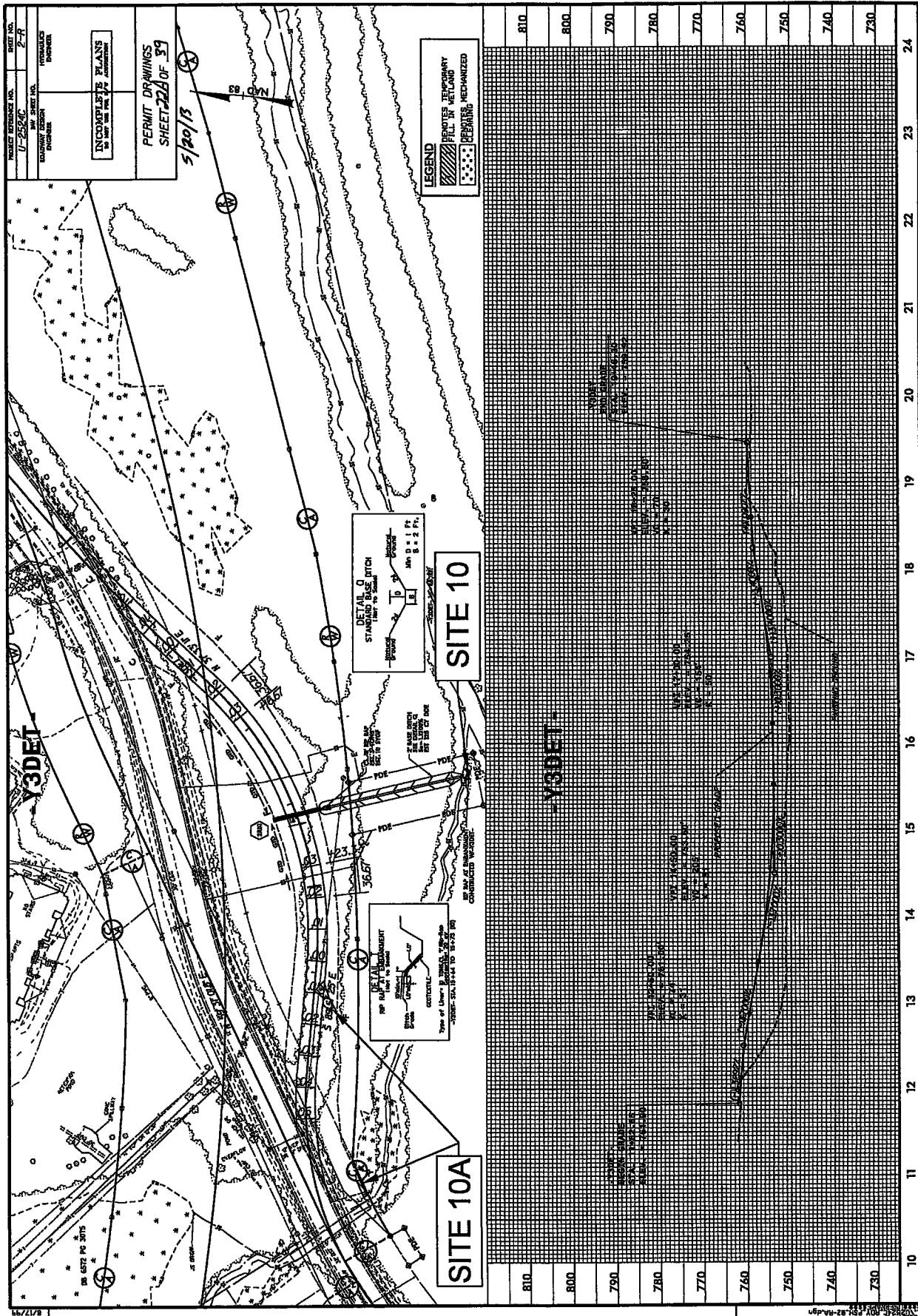


PROPOSED SCOUR HOLES  
BY THE  
SPECIALIST  
SCALE 1"=40'

PROPOSED SCOUR HOLES  
BY THE  
SPECIALIST  
SCALE 1"=40'

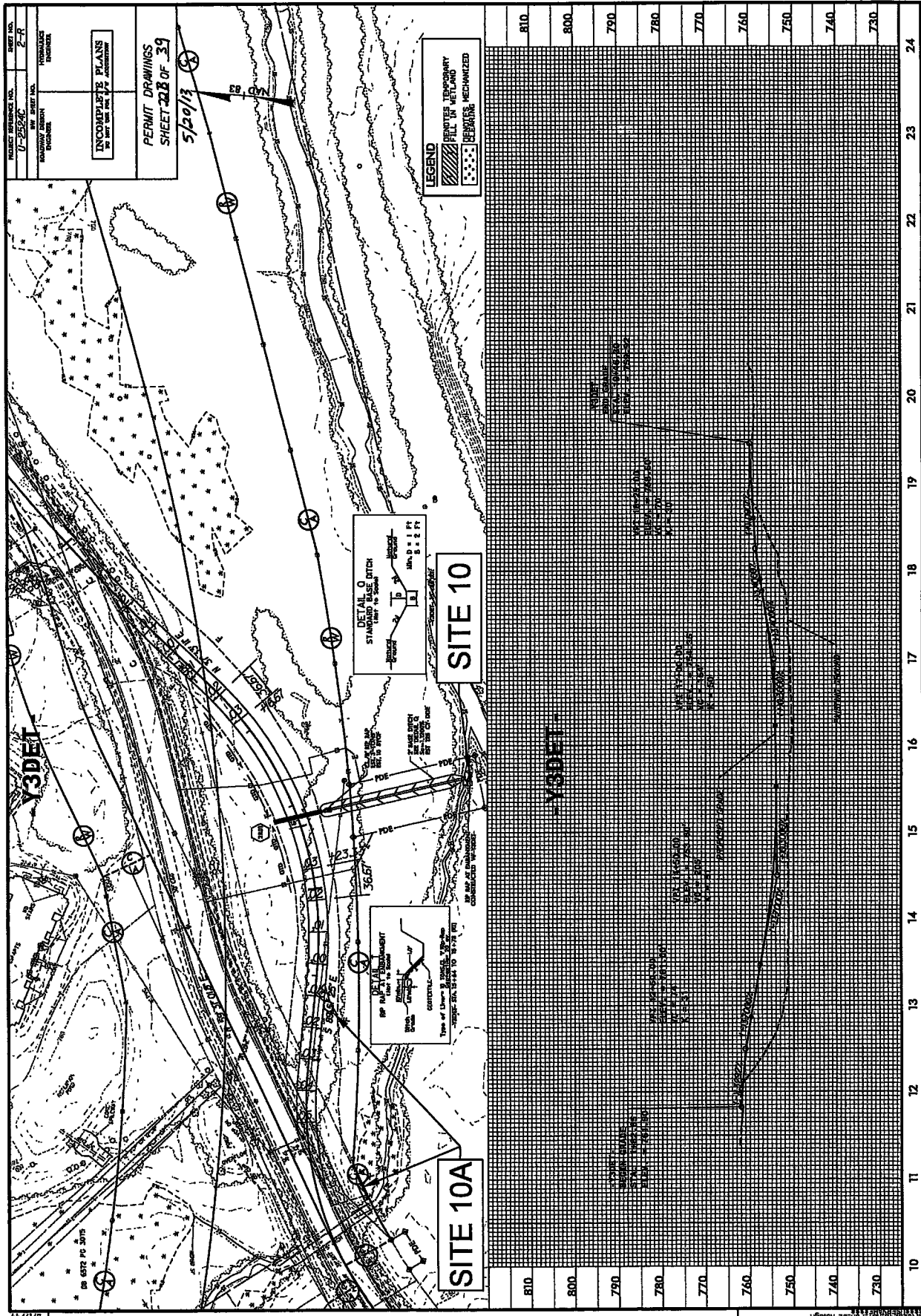
REVISIONS



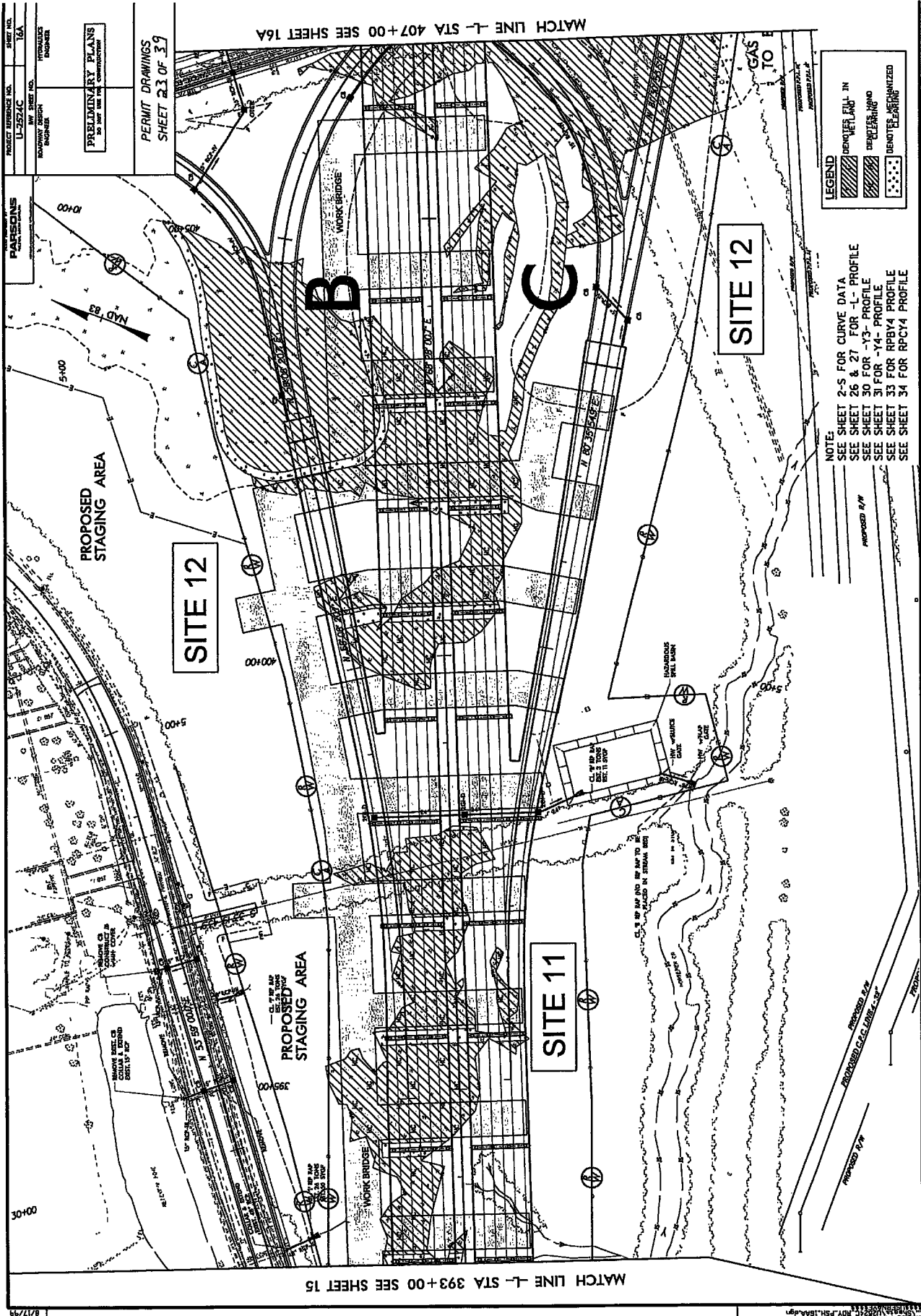


REVISIONS

DATE: 08/23/13 BY: [Signature]



ENVIRONICS



PROJECT REFERENCE NO.	U-2524C
PROJECT SHEET NO.	16A
PROJECT TITLE	BRIDGE
PROJECT LOCATION	BRIDGE

PRELIMINARY PLANS  
FOR THE USE OF THE CONTRACTOR

PERMIT DRAWINGS  
SHEET 23 OF 39

LEGEND

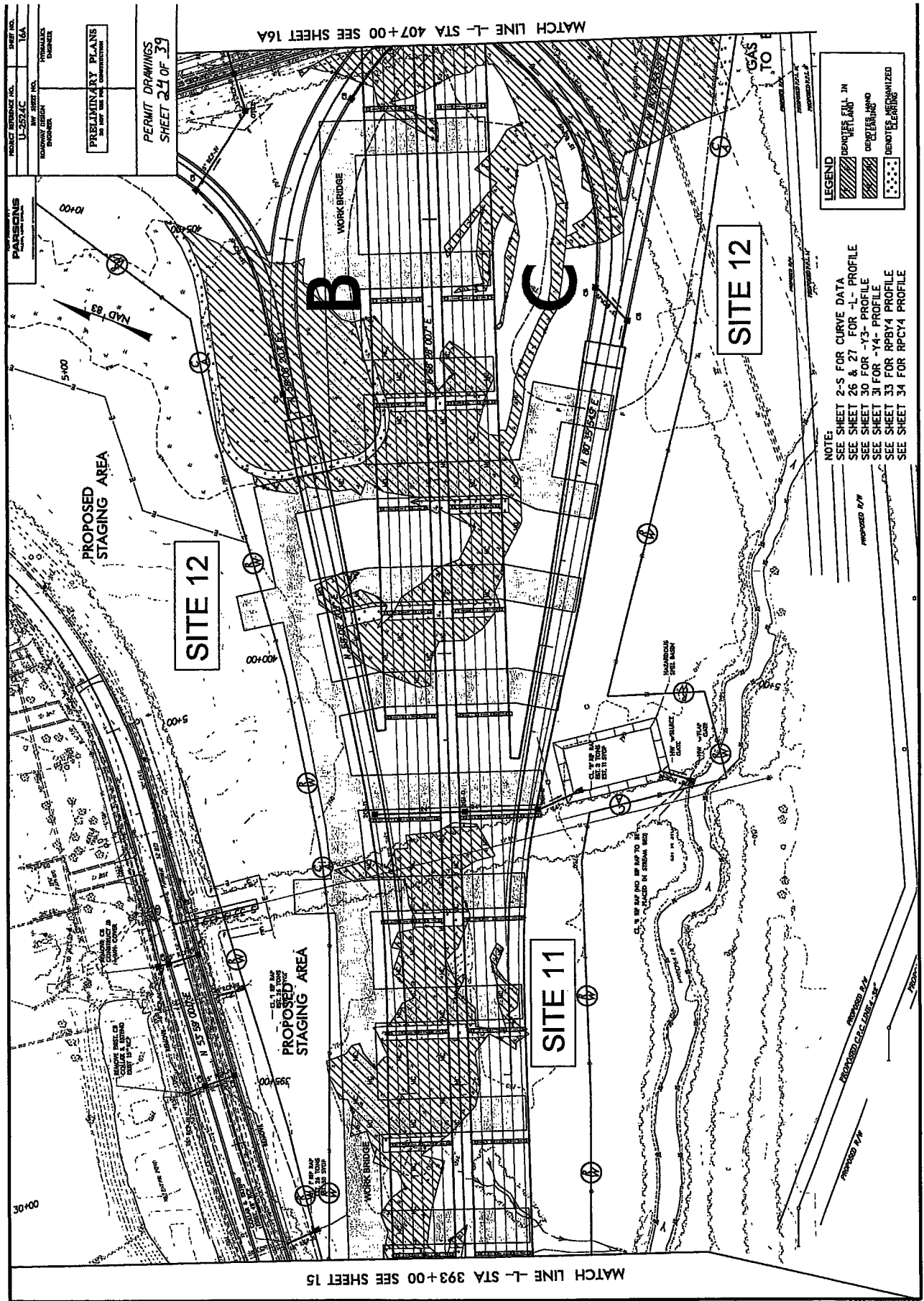
[Hatched Pattern]	REMOTES FILL-IN
[Hatched Pattern]	REMOTES HANG
[Hatched Pattern]	REMOTES CLEARING

NOTE:  
SEE SHEET 2-S FOR CURVE DATA  
SEE SHEET 26 & 27 FOR -L- PROFILE  
SEE SHEET 30 FOR -Y3- PROFILE  
SEE SHEET 31 FOR -Y4- PROFILE  
SEE SHEET 33 FOR RPBV4 PROFILE  
SEE SHEET 34 FOR RPCV4 PROFILE

8/17/93

REVISIONS

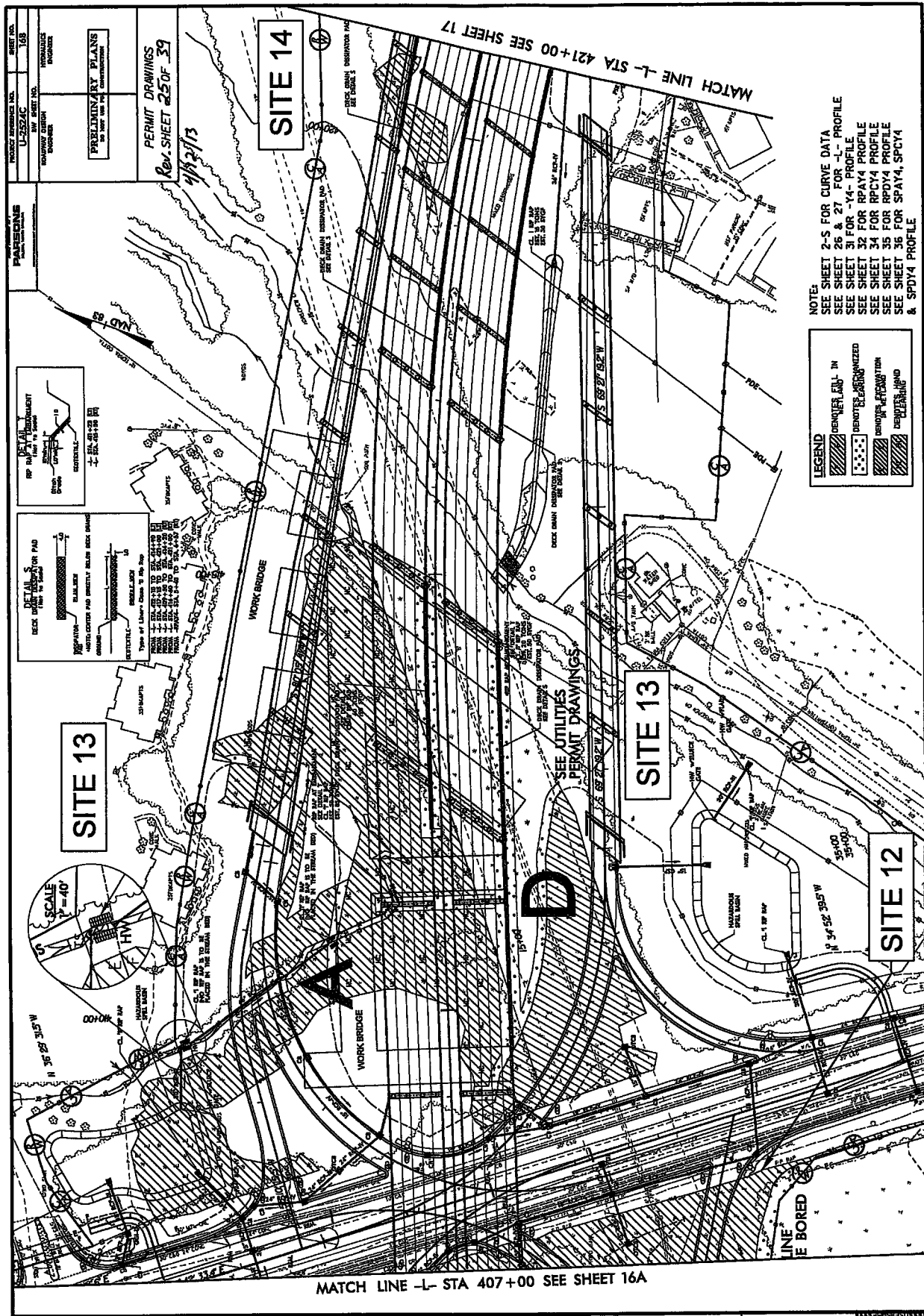
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REVISIONS

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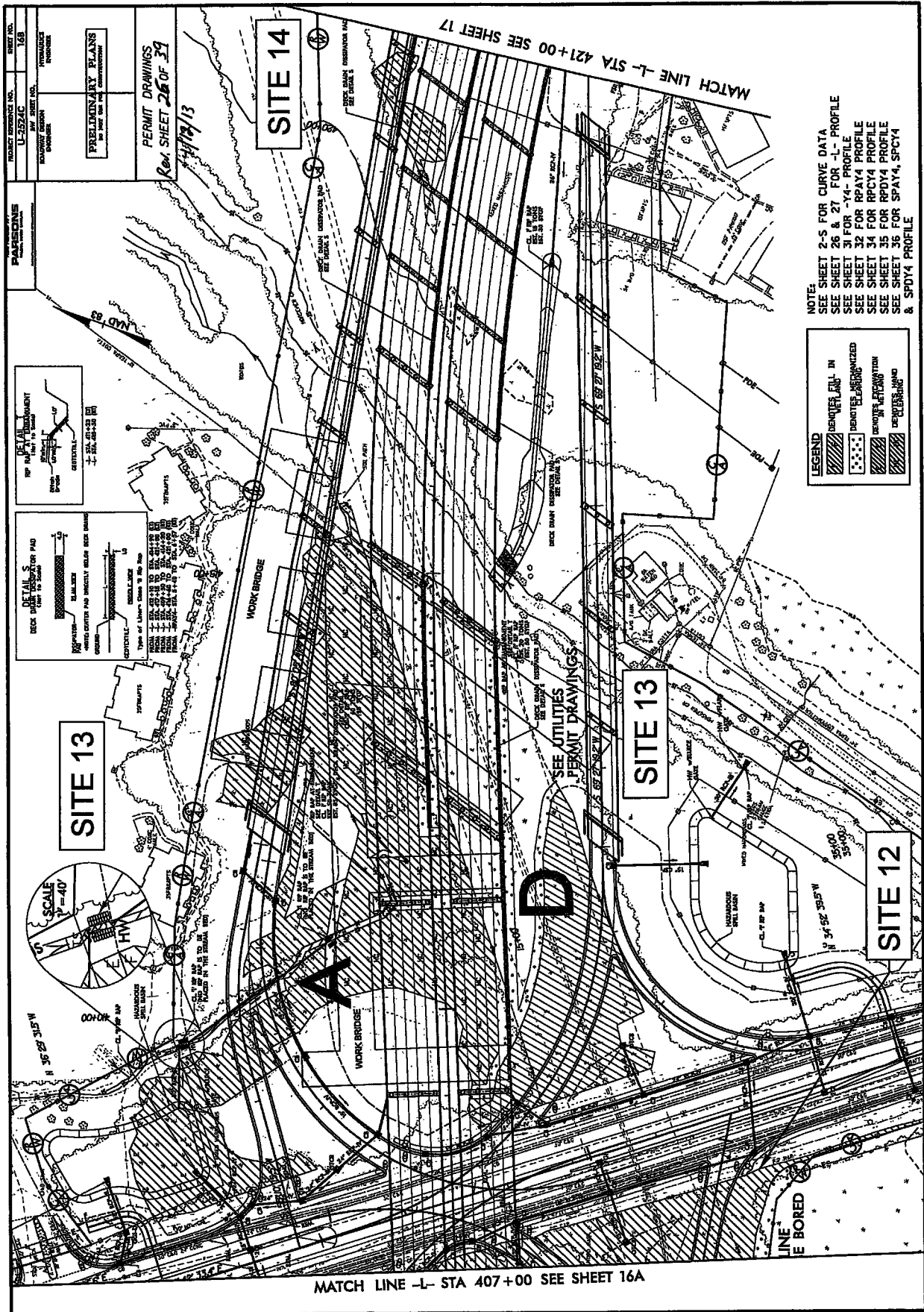
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11/23/13

REVISIONS



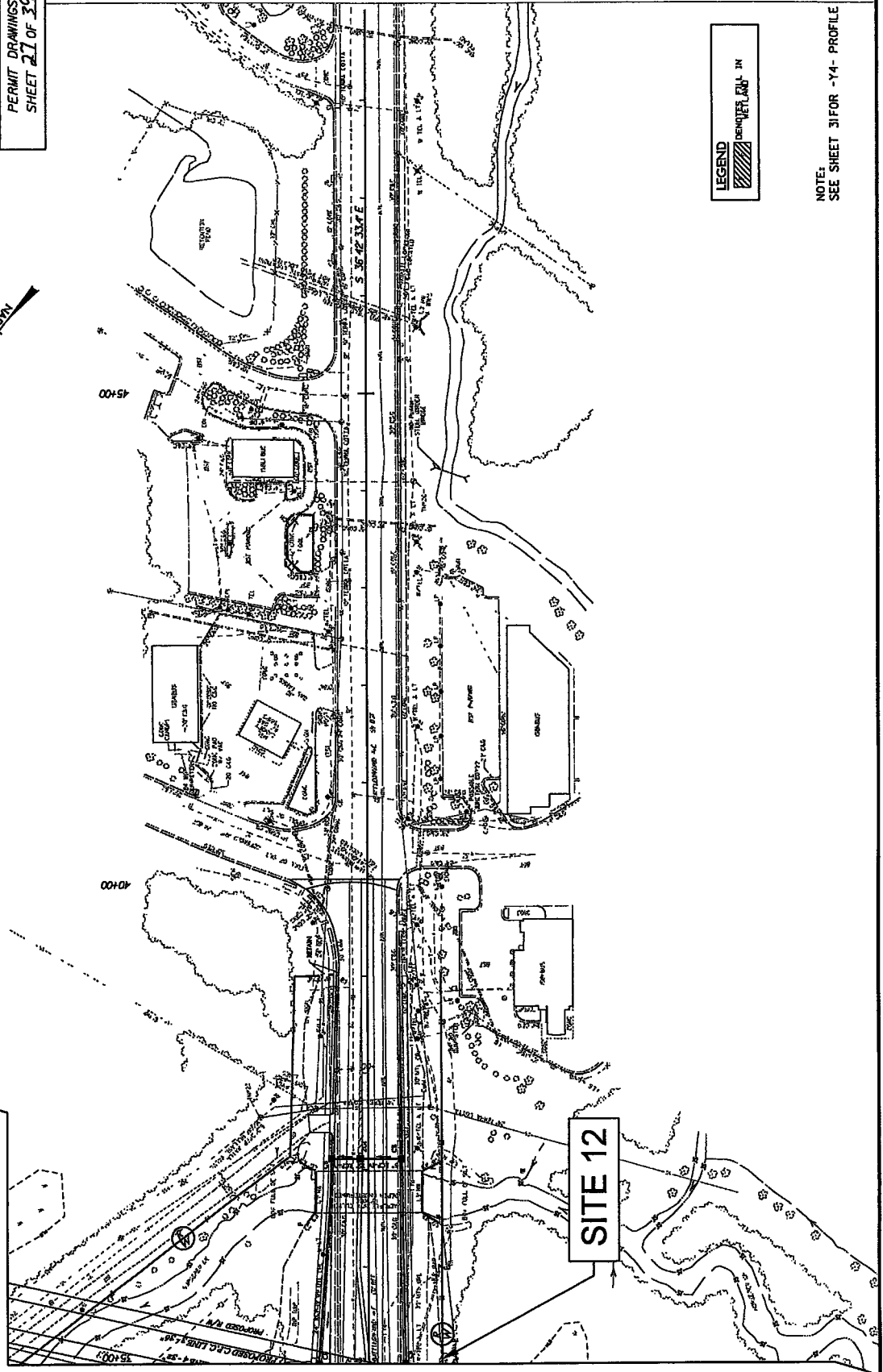
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PROJECT NUMBER LL-2524C	SHEET NO. 19
DATE 08/23/13	BY HYDRAULICS ENGINEER
DESIGNED BY HYDRAULICS ENGINEER	CHECKED BY HYDRAULICS ENGINEER
PRELIMINARY PLANS FOR THE CONSTRUCTION OF THE PROJECT	
PERMIT DRAWINGS SHEET 27 OF 39	

PARSONS  
BRINCKERHOFF



LEGEND

Bus Lane

NOTE:  
SEE SHEET 31 FOR -Y4- PROFILE

MATCH LINE -Y4- STA 35+00 SEE SHEET 16

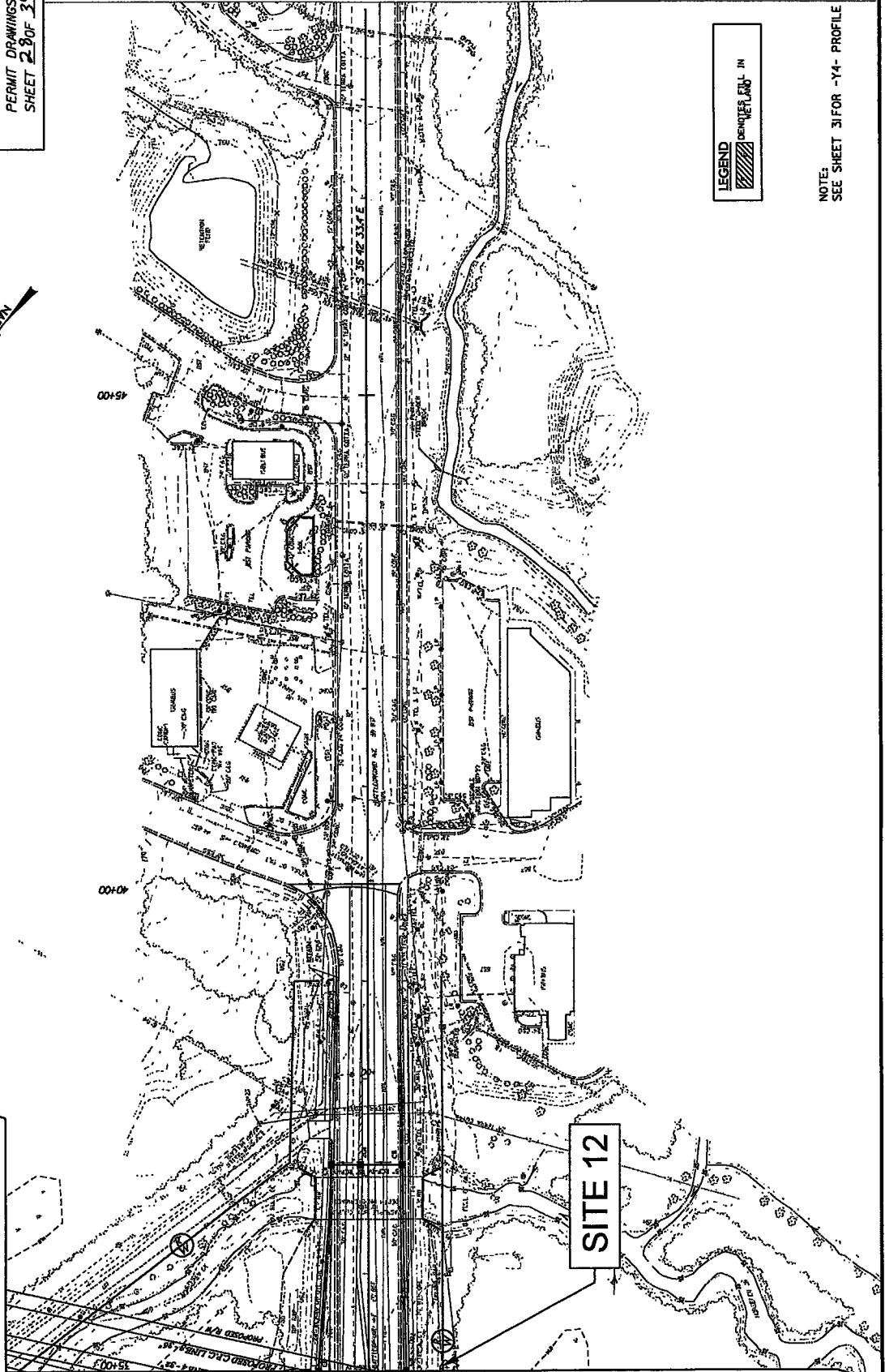
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REVISIONS

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PROJECT REFERENCE NO. U-2574C	SHEET NO. 19
ROADWAY DESIGNER PARSONS	PREPARED BY DUNN
PRELIMINARY PLANS FOR THE CONSTRUCTION	
PERMIT DRAWINGS SHEET 2 OF 39	

PARSONS  
BRINCKERHOFF



LEGEND  
DEMURELAW IN

NOTE:  
SEE SHEET 31 FOR -Y4- PROFILE

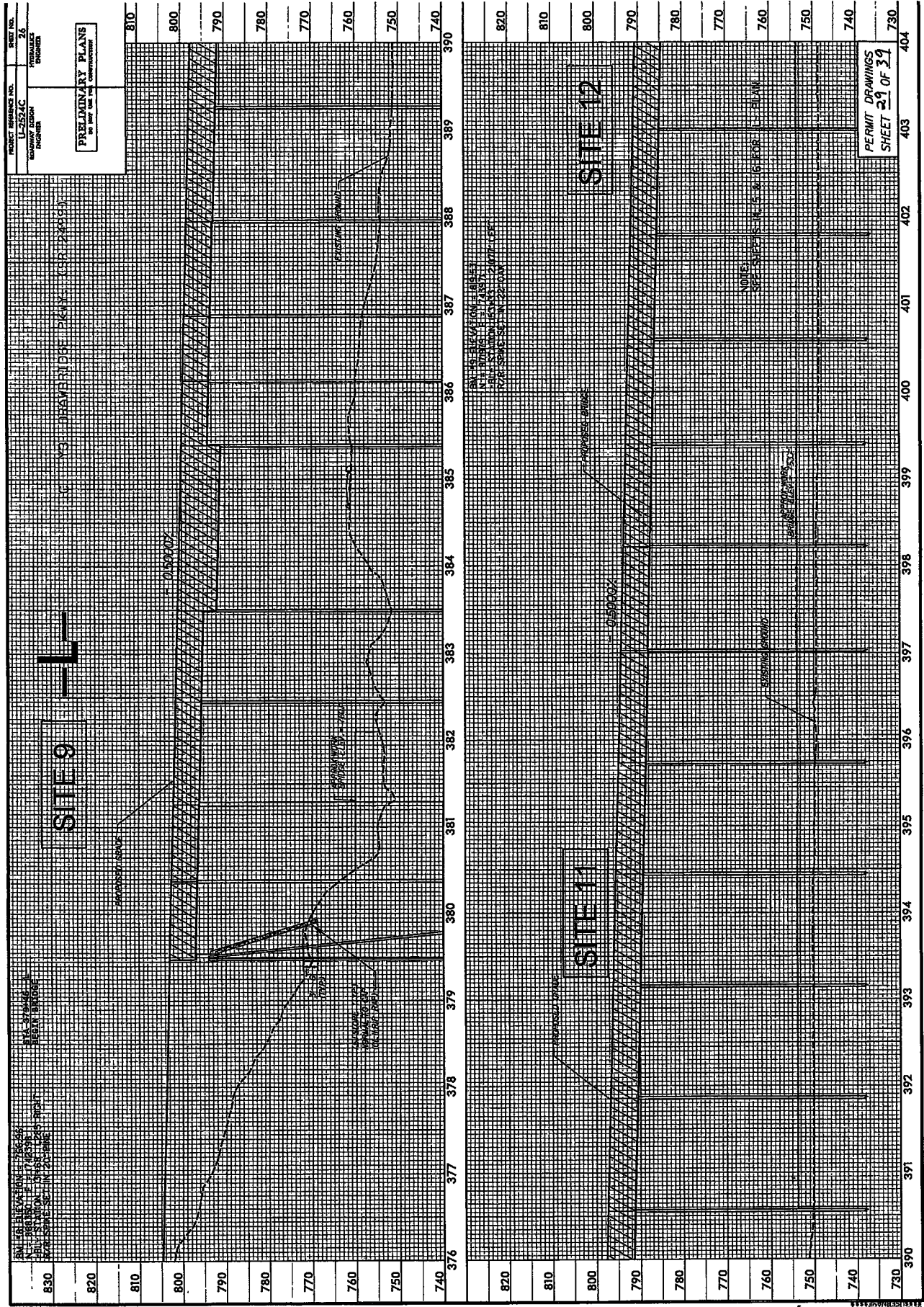
MATCH LINE -Y4- STA 35+00 SEE SHEET 16

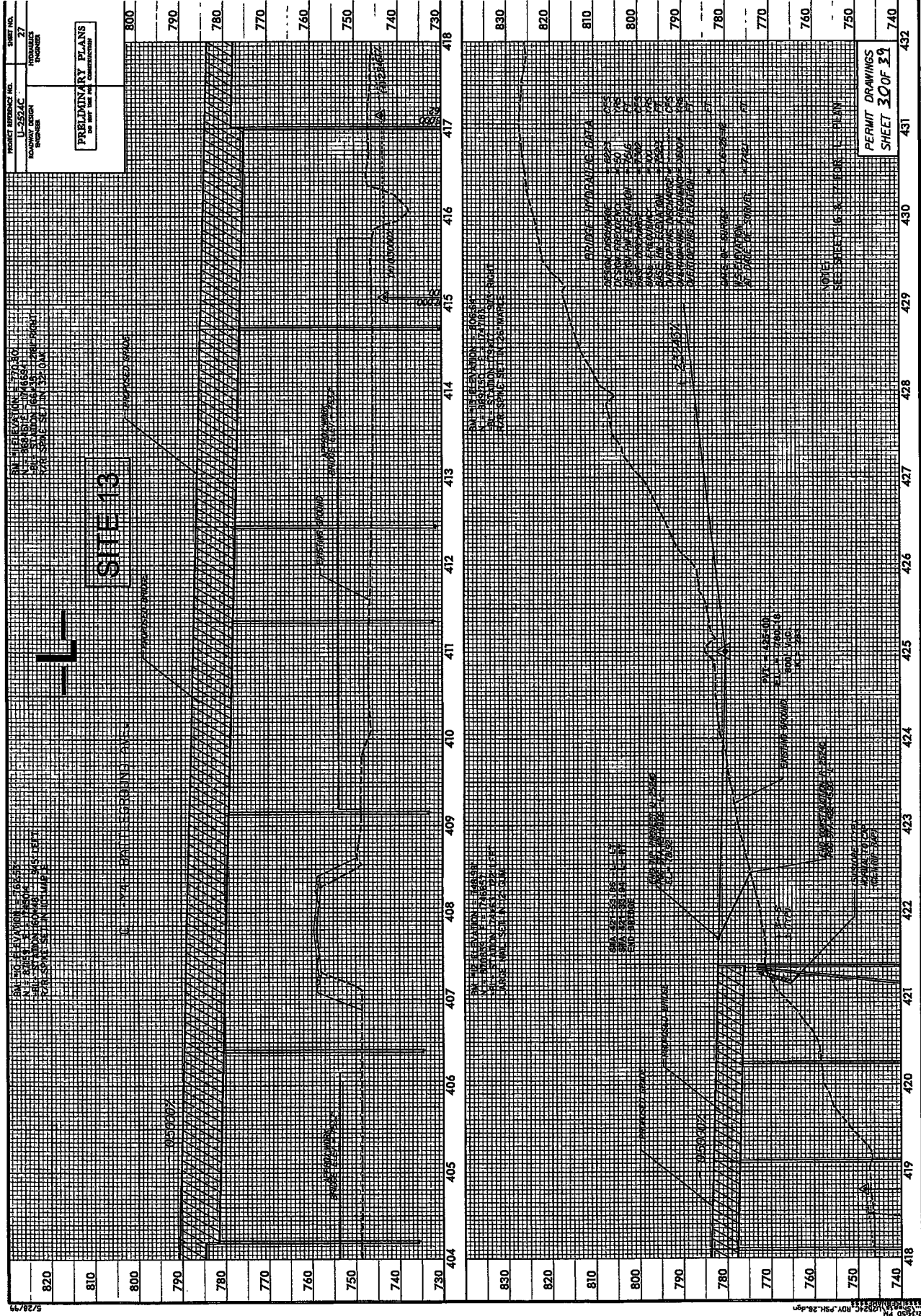
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24624 P1 10824C REV 25H 198.dwg

REVISIONS







PROJECT REFERENCE NO. U-2524C  
 ROADWAY DESIGN  
 ENGINEER

SHEET NO. 27  
 HYDRAULIC  
 ENGINEER

PRELIMINARY PLANS  
 FOR THE  
 CONSTRUCTION

PERMIT DRAWINGS  
 SHEET 30 OF 39

NOTE: ALL ELEVATIONS ARE IN FEET  
 UNLESS OTHERWISE SPECIFIED  
 TOTAL STATION SURVEY

**SITE 13**

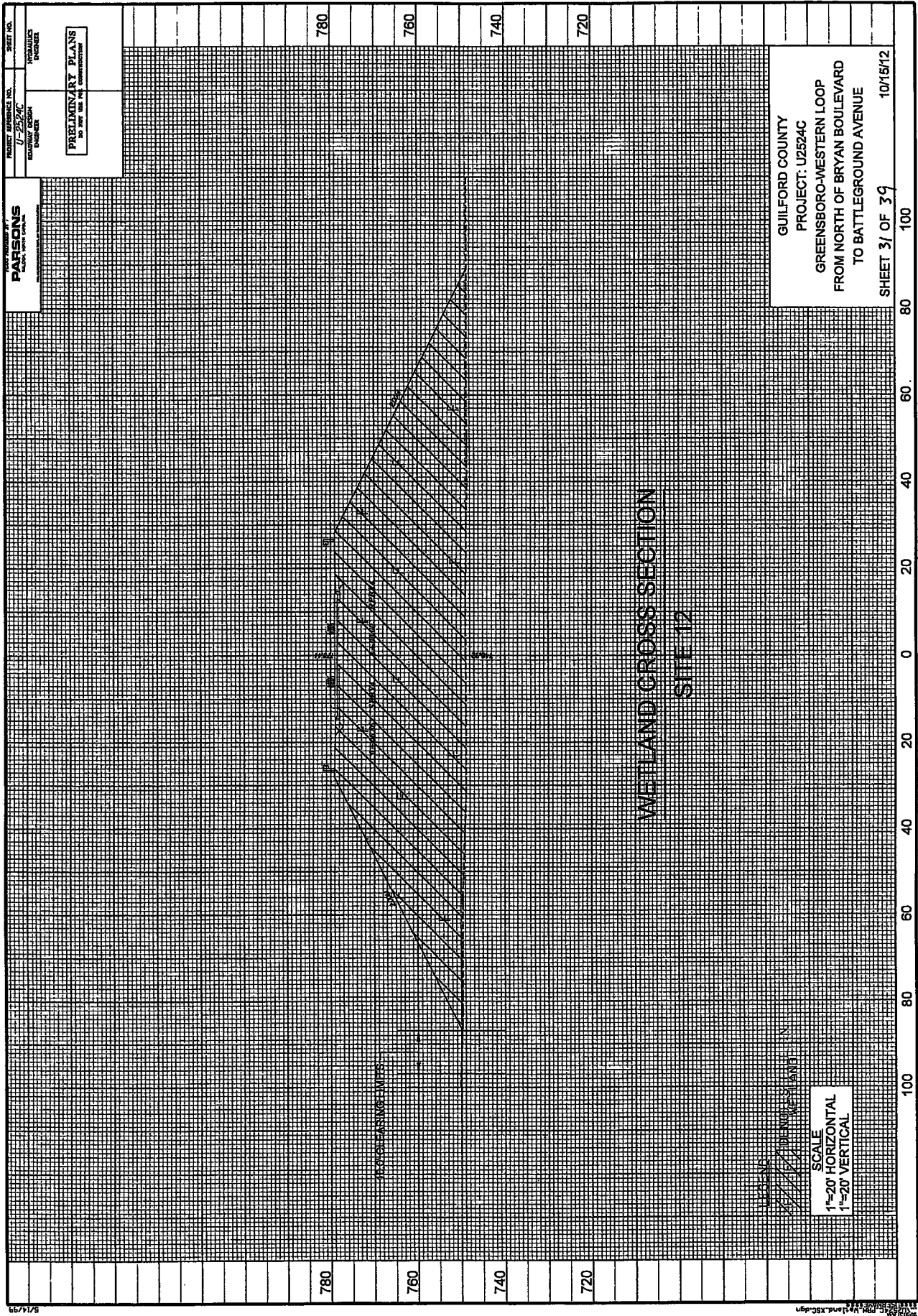
PROPOSED ROAD

EXISTING ROAD

EXISTING STRUCTURE

EXISTING UTILITY

DATE: 8/23/13  
 BY: JSH, JTB, DGN



PROJECT REFERENCE NO.  
U-2524C  
ENGINEER

PROJECT NO.  
SHEET NO.

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

GUILFORD COUNTY  
PROJECT: U2524C  
GREENSBORO-WESTERN LOOP  
FROM NORTH OF BRYAN BOULEVARD  
TO BATTLEGROUND AVENUE

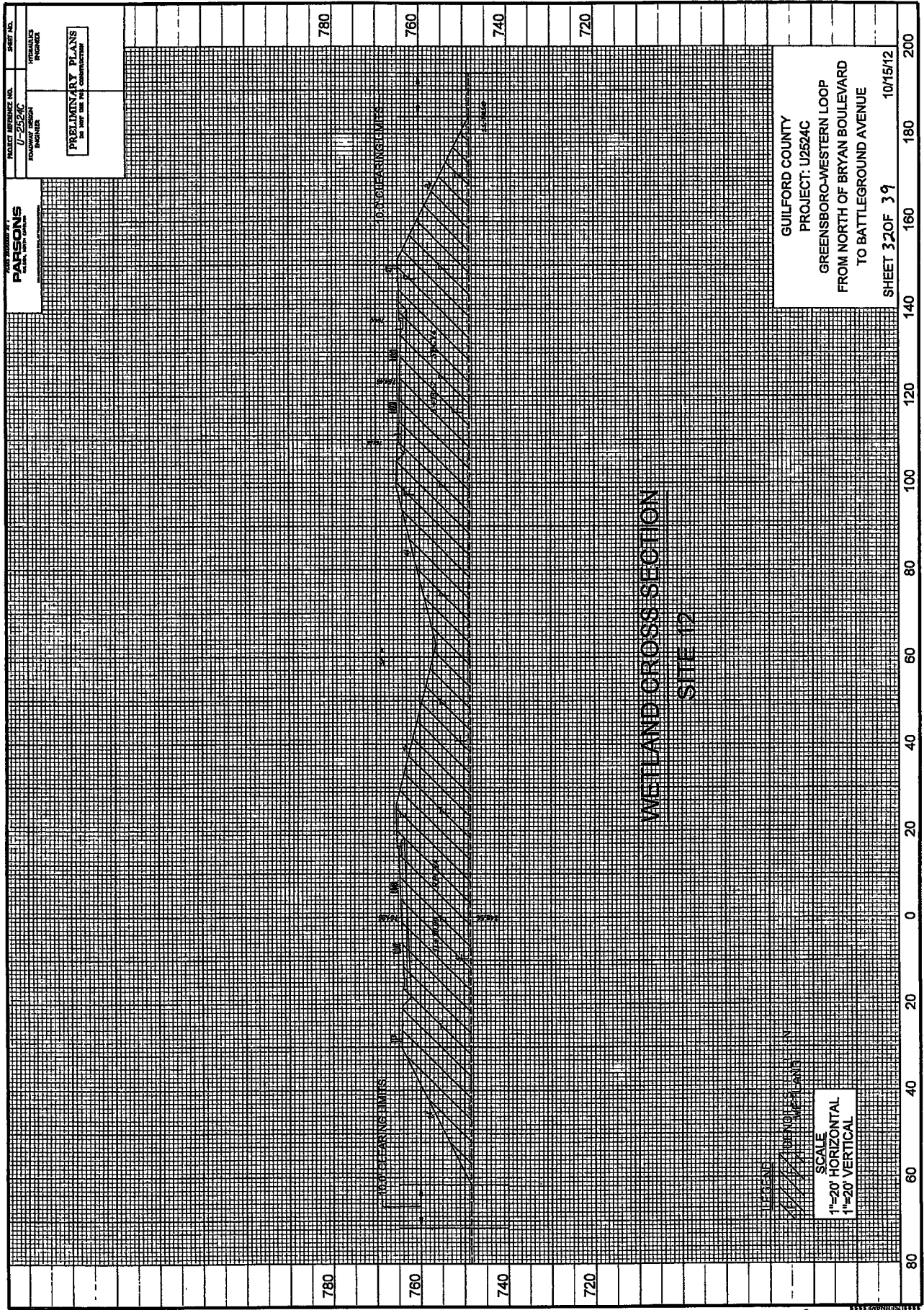
SCALE  
1"=20' HORIZONTAL  
1"=20' VERTICAL

WETLAND

10/15/12

SHEET 31 OF 39

8/14/99



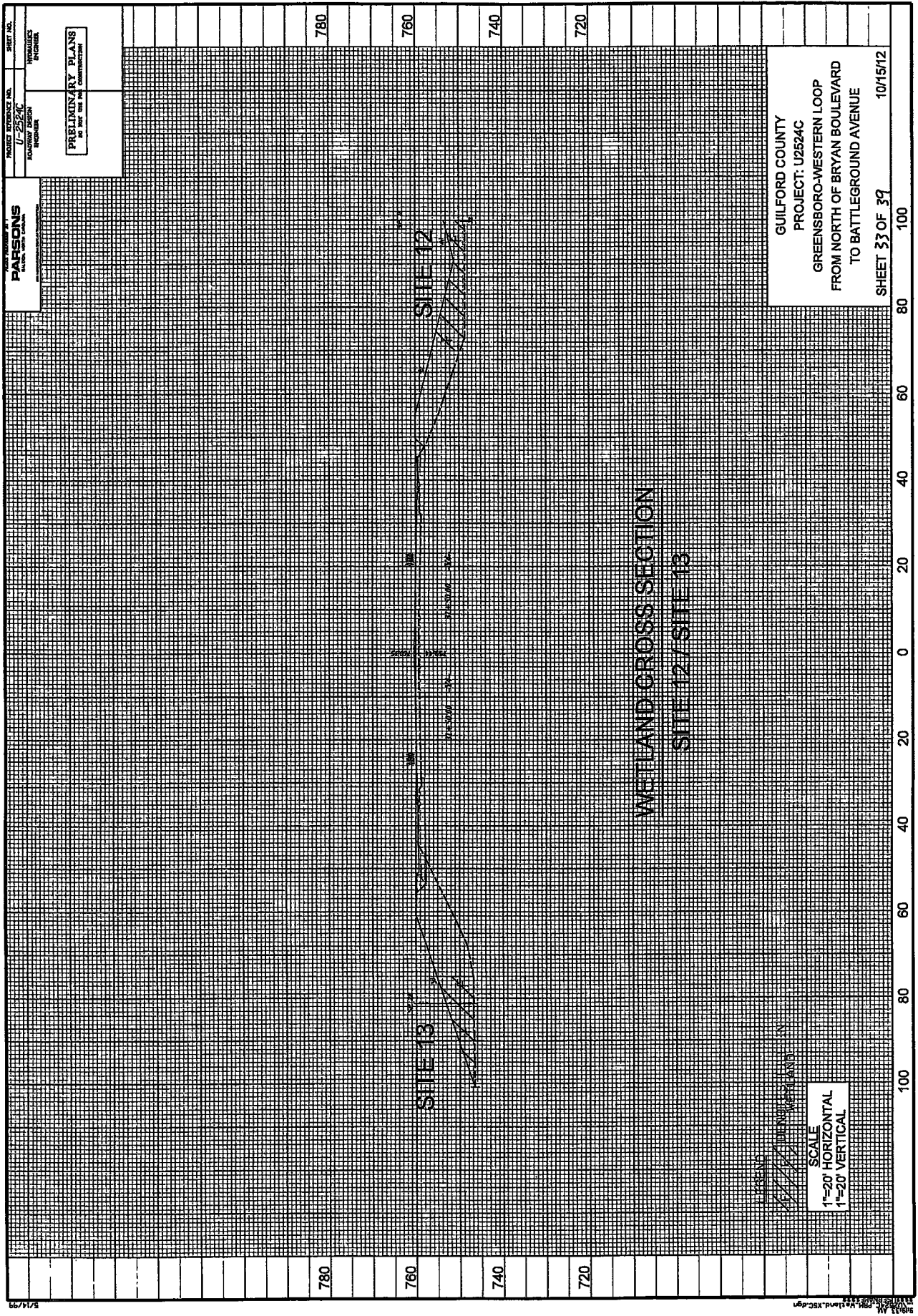
PROJECT NUMBER NO. 11-2524C  
 PROJECT ENGINEER  
 HYDRAULICS ENGINEER

**PAFSONS**  
 CONSULTING ENGINEERS

PRELIMINARY PLANS  
 for use in the construction

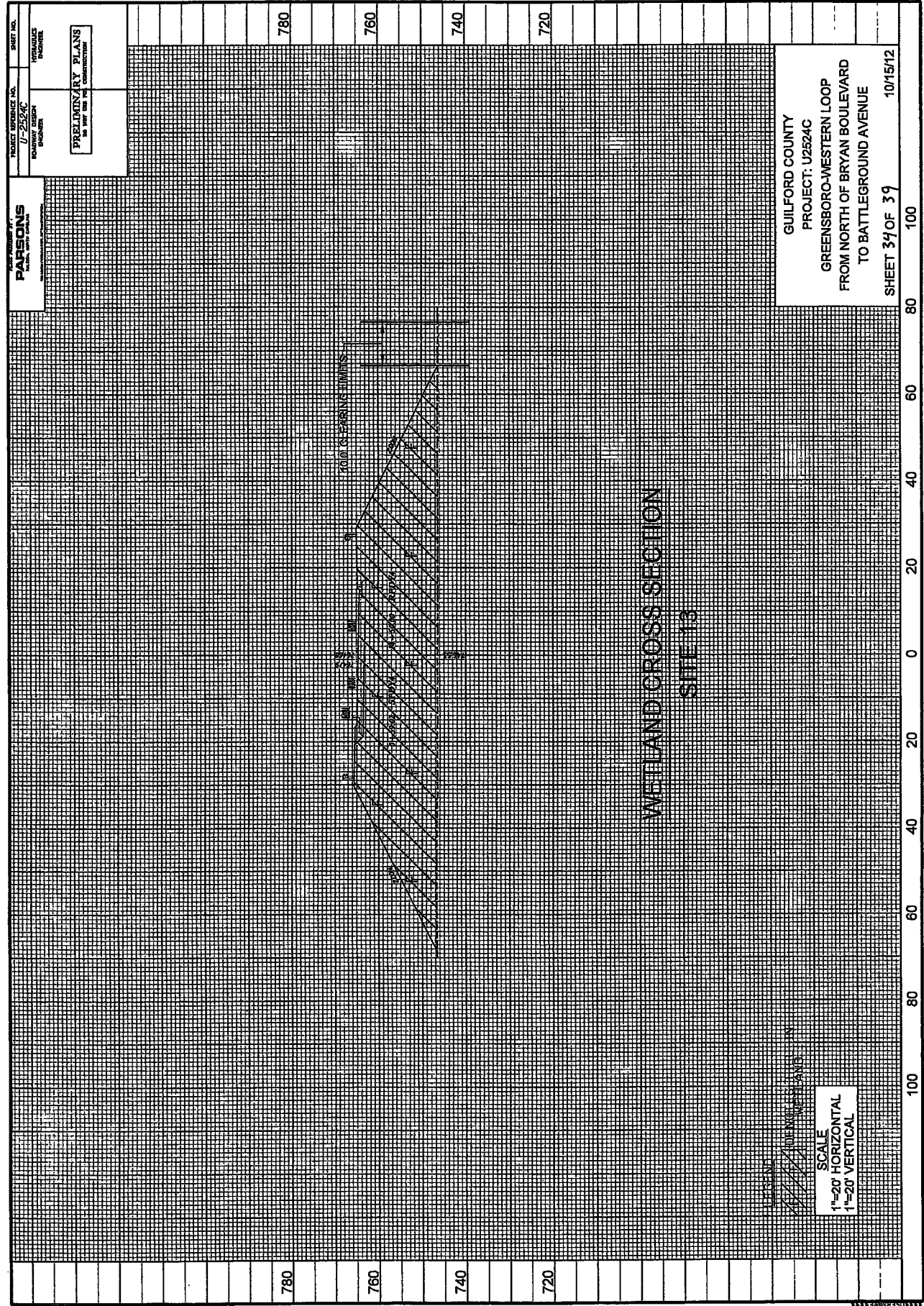
GUILFORD COUNTY  
 PROJECT: U2524C  
 GREENSBORO-WESTERN LOOP  
 FROM NORTH OF BRYAN BOULEVARD  
 TO BATTLEGROUND AVENUE  
 SHEET 32 OF 39  
 10/15/12

LEGEND  
 WETLAND  
 SCALE  
 1"=20' HORIZONTAL  
 1"=20' VERTICAL



8/14/99

10/13/12 10:00 AM Wetland.MXD.dwg



PARSONS  
BRINCKERHOFF

PROJECT REFERENCE NO.  
**U-2524C**  
ROADWAY DESIGN  
ENGINEER

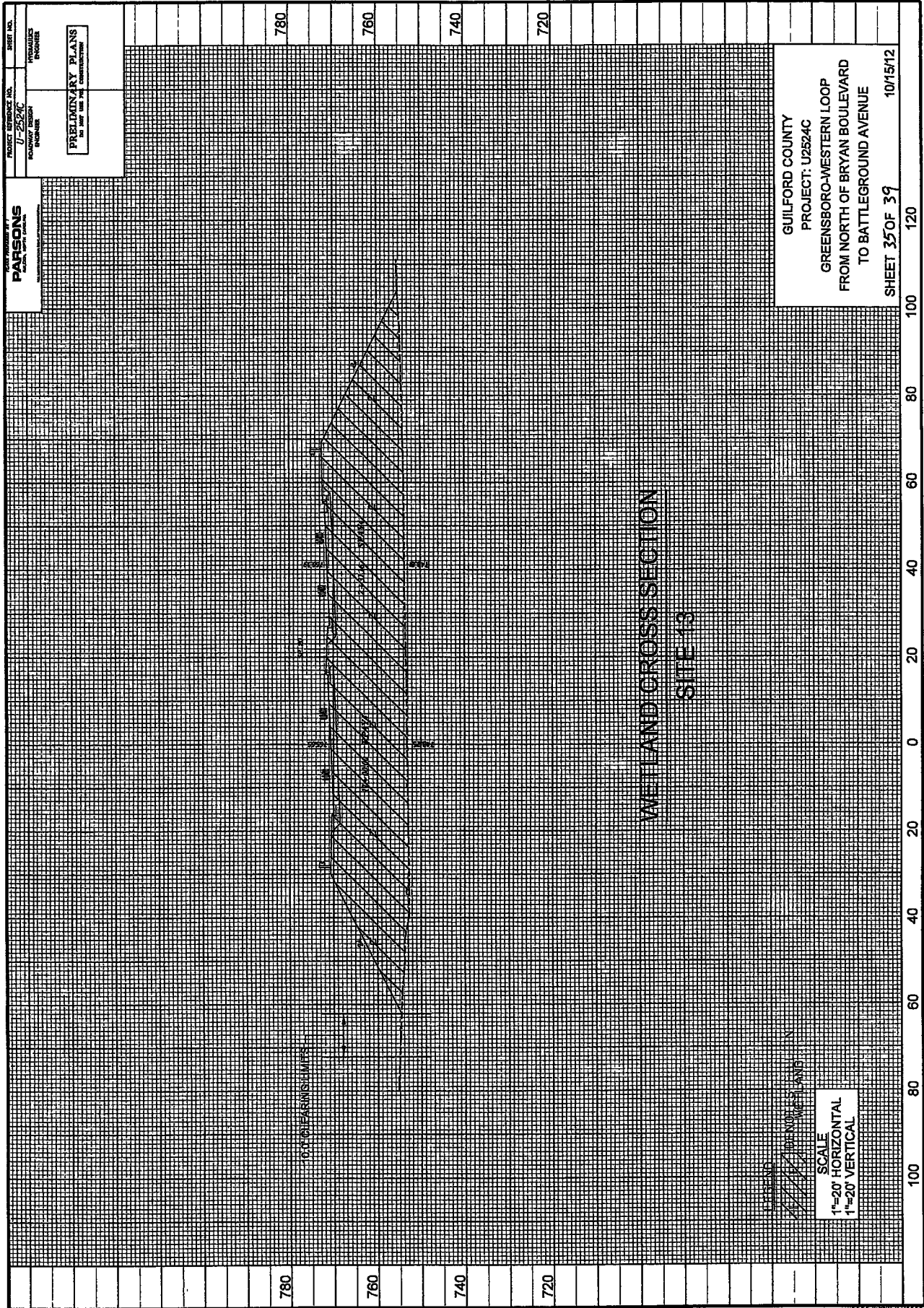
SHEET NO.

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

GUILFORD COUNTY  
PROJECT: U2524C  
GREENSBORO-WESTERN LOOP  
FROM NORTH OF BRYAN BOULEVARD  
TO BATTLEGROUND AVENUE  
SHEET 39 of 39 10/15/12

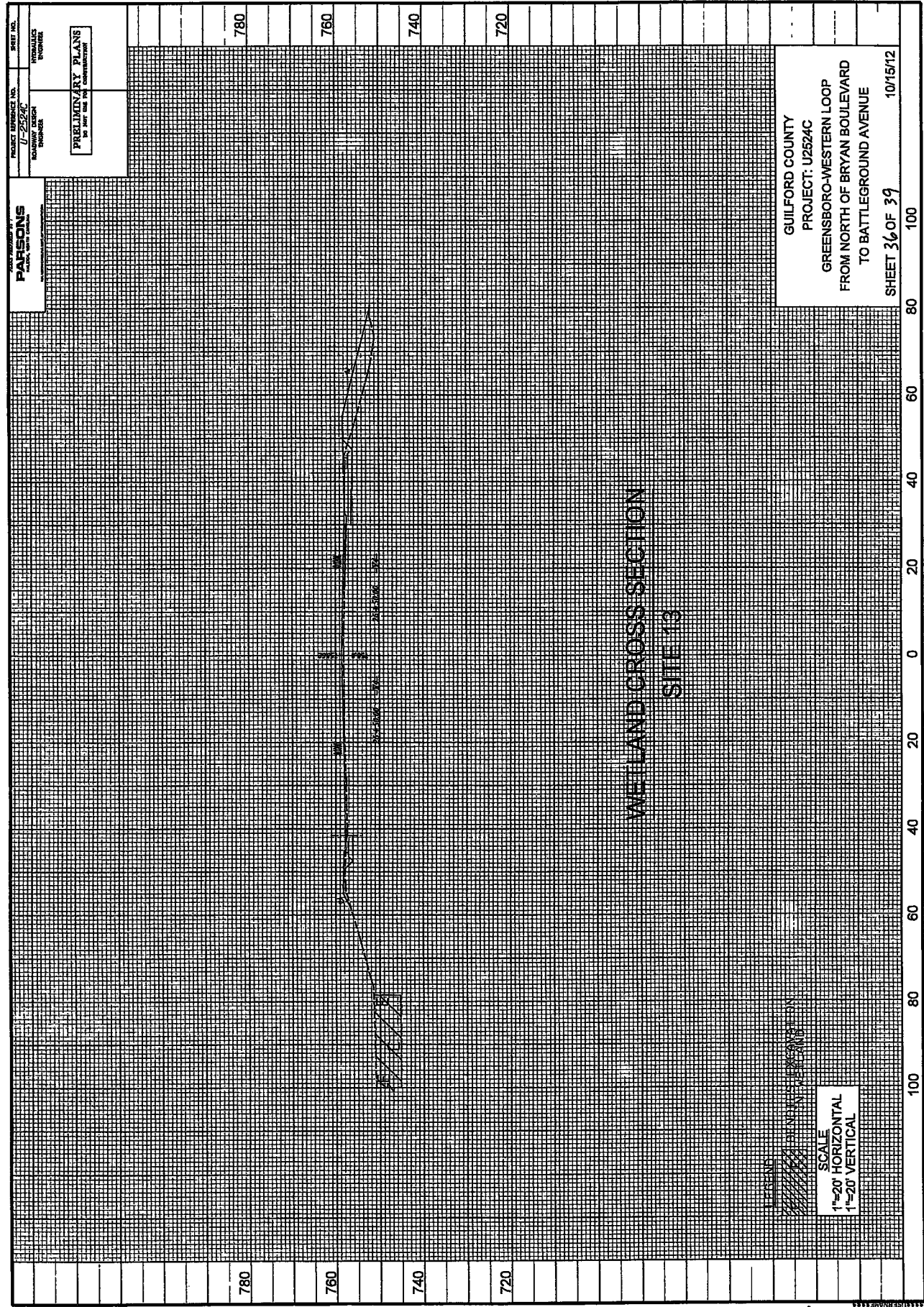
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11:03 AM  
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5/14/99

Sheet 35 of 39 Wetland.ksc.dgn



PROJECT REFERENCE NO. U-2524C  
 DRAWING DESIGN: [blank]  
 DATE: [blank]

PRELIMINARY PLANS  
 FOR THE [blank]

PROJECT NO. [blank]  
 DRAWING NO. [blank]

PARSONS  
 CONSULTANTS

GUILFORD COUNTY  
 PROJECT: U2524C  
 GREENSBORO-WESTERN LOOP  
 FROM NORTH OF BRYAN BOULEVARD  
 TO BATTLEGROUND AVENUE  
 SHEET 36 OF 39 10/15/12

780  
760  
740  
720

0 20 40 60 80 100

WETLAND CROSS SECTION  
 SITE 13

LEGEND  
 SCALE  
 1"=20' HORIZONTAL  
 1"=20' VERTICAL

780  
760  
740  
720

0 20 40 60 80 100

WETLAND CROSS SECTION  
 SITE 13

LEGEND  
 SCALE  
 1"=20' HORIZONTAL  
 1"=20' VERTICAL

780  
760  
740  
720

0 20 40 60 80 100

GUILFORD COUNTY  
 PROJECT: U2524C  
 GREENSBORO-WESTERN LOOP  
 FROM NORTH OF BRYAN BOULEVARD  
 TO BATTLEGROUND AVENUE  
 SHEET 36 OF 39 10/15/12

780  
760  
740  
720

0 20 40 60 80 100

WETLAND CROSS SECTION  
 SITE 13



# PROPERTY OWNERS

## NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
7	LONELL MITCHELL	3528 LEWISTON RD. GREENSBORO, NC 27410
8	HUGH THOMAS MITCHELL, JR	4518 HAVENWOOD DR. GREENSBORO, NC 27407
9	WILLIAM H. SMITH	2011 KARLINGDALE DR. GREENSBORO, NC 27455
10	DAVID H. GRIFFIN, SR.	2022 SHIMMER DR. JAMESTOWN, NC 27282
12	THELMA S. BURRITT	1412 FLEMING RD. GREENSBORO, NC 27410
13	CORAL JAMES JUDD	5525 DOBSON RD. GREENSBORO, NC 27410
18	RUTH P. JESSUP	3600 LEWISTON RD. GREENSBORO, NC 27410
19	GERALD C. PARKER	212 W. FRIENDLY AVE. GREENSBORO, NC 27401
20	JEROME MORRISON CAIN	PO BOX 1057 LINCOLN, MT 59639
21	C.A.P. STANLEY	2855 HORSE PEN CREEK RD. GREENSBORO, NC 27410
30	JEAN LINDSAY BERRY	C/O FRED BERRY GREENSBORO, NC 27402
31	NCDOT	PO BOX 14996 GREENSBORO, NC 27415
34	MISSION BATTLEGROUND PARK DST	433 E. LAS COLINAS BLVD SUITE 980 IRVING, TX 75039
35	CITY OF GREENSBORO	PO BOX 3136 GREENSBORO, NC 27402
37	NCDOT	PO BOX 14996 GREENSBORO, NC 27415
38	CITY OF GREENSBORO	PO BOX 3136 GREENSBORO, NC 27402
39	BVF KENSINGTON LIMITED PARTNERSHIP	ONE BEACON ST. BOSTON, MA 02108
41	CITY OF GREENSBORO	PO BOX 3136 GREENSBORO, NC 27402

GUILFORD COUNTY  
PROJECT: U2524C  
GREENSBORO-WESTERN LOOP  
FROM NORTH OF BRYAN BOULEVARD  
TO BATTLEGROUND AVENUE

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS HIGHWAY BLDG - PO BOX 26201 RALEIGH, NORTH CAROLINA 27811	Subject:	Bridge Impacts		Project:	U-2524C
	Prepared by:	DSS	Date: 8/28/12	Station:	Guilford County 407+73.35
	Checked by:	WKF	Date: 10/4/2012	Str. #:	1
	Printed On: 10/4/2012				

**Proposed Bridges**

(New Location, there are no existing bridges)

The new structure is unsmilar dual structures with 30 spans each. Total Length is 4,194' Right Lane and 4,204' Left Lane. The superstructure is 72" and 74" prestressed girders, and steel plate girders with 108" webs. The substructure is end bents on piles with post and beam bents on 4'-0" and 5'-0" drilled shafts. Ramp "A" is 9 spans with Total Length of 1,006' using 72" prestressed girder superstructure, end bents on piles and post and beam bents on 4'-0" drilled shafts. Ramp "B" is 3 spans with Total Length of 332'-10" using 72" prestressed girders, end bent on piles and post and beam bents on 3'-6" drilled shafts. Ramp "C" is 4 spans with Total Length of 413' using 72" prestressed girders, end bent on piles and post and beam bents on 3'-6" drilled shafts. Ramp "D" is 8 spans with Total Length of 844'-3" using 54" and 72" prestressed girders, end bents on piles and post and beam bents on 3'-6" drilled shafts.

**Impact of Bents:**

**Left Lane:**

# of Shafts 95 @ Shaft Diam. = 48 in.  
 # of Shafts 41 @ Shaft Diam. = 60 in.

Area = #Bents \* # Shafts \*  $\pi(\text{Diam./2})^2 = 287833 \text{ in}^2$  0.05 acres

Permit Drawing  
 Sheet 38 of 39

**Right Lane:**

# of Shafts 87 @ Shaft Diam. = 48 in.  
 # of Shafts 41 @ Shaft Diam. = 60 in.

Area = #Bents \* # Shafts \*  $\pi(\text{Diam./2})^2 = 273356 \text{ in}^2$  0.04 acres

**Ramp "A"**

# of Shafts 26 @ Shaft Diam. = 48 in.

Area = #Bents \* # Shafts \*  $\pi(\text{Diam./2})^2 = 47048 \text{ in}^2$  < 0.01 acres

**Ramp "B"**

# of Shafts 9 @ Shaft Diam. = 42 in.

Area = #Bents \* # Shafts \*  $\pi(\text{Diam./2})^2 = 12469 \text{ in}^2$  < 0.01 acres

**Ramp "C"**

# of Shafts 12 @ Shaft Diam. = 42 in.

Area = #Bents \* # Shafts \*  $\pi(\text{Diam./2})^2 = 16625 \text{ in}^2$  < 0.01 acres

**Ramp "D"**

# of Shafts 26 @ Shaft Diam. = 42 in.

Area = #Bents \* # Shafts \*  $\pi(\text{Diam./2})^2 = 36022 \text{ in}^2$  < 0.01 acres

---

**Total Area = 673353 in<sup>2</sup> 0.11 acres for all permanent bents.**

A temporary workbridge is needed to construct the middle span of the proposed structure. See the attached general drawing for location.

Impact of Temporary Workbridge over Wetlands:

Temp. Bridge Length 7250 ft.  
 # Bents 241 Pile Diam. 30 in.  
 # of Piles/Bent 5

Area = #Bents \* # Piles \*  $\pi * \text{Pile Dia.}^2/4 = 851764 \text{ in}^2$  0.14 acres for all temporary bents.

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- 283+88 TO 286+64	48" RCP	0.10	-	-	0.02	-	-	-	0.01	0.01	385	13	-
	-L- 286+11 TO 286+22	Bank Stabilization	-	-	-	-	-	-	-	-	-	11	-	-
2	-L- 287+08 TO 287+21	30" RCP	-	-	-	-	-	-	0.01	0.01	13	14	-	-
	-L- 287+00 TO 287+30	Bank Stabilization	-	-	-	-	-	-	-	-	11	-	-	-
	-L- 287+11 TO 287+17	Bank Stabilization	-	-	-	-	-	-	-	-	32	-	-	-
3	-L- 288+40 TO 287+18	36" RCP	-	-	-	-	-	-	0.03	0.01	338	20	-	-
	-L- 288+44 TO 286+52	Bank Stabilization	-	-	-	-	-	-	-	-	10	-	-	-
3A	-L- 288+82 TO 287+00	Roadway	-	-	-	-	-	-	0.01	-	30	-	-	-
4	-L- 312+90 TO 313+91	1 @ 10' x 7' RCBC	-	-	-	-	-	-	0.06	0.01	331	46	-	-
	-L- 312+85 TO 313+13	Bank Stabilization	-	-	-	-	-	-	-	-	30	-	-	-
5	-L- 314+67 TO 321+11	1 @ 10' x 8' RCBC	-	-	-	-	-	-	0.10	0.01	688	40	-	-
	-L- 314+72 TO 315+05	Bank Stabilization	-	-	-	-	-	-	-	-	37	-	-	-
5A	-L- 320+88 TO 321+85	Roadway	-	-	-	-	-	-	0.01	-	90	-	-	-
	-L- 320+78 TO 321+04	Bank Stabilization	-	-	-	-	-	-	-	-	25	-	-	-
6	-L- 323+80 TO 324+44	-	-	-	-	-	-	-	0.04	0.01	60	15	-	-
	-L- 345+01 TO 345+88	30" RCP	0.01	-	-	-	-	-	0.03	0.01	227	10	-	-
7	-L- 346+74 TO 346+85	Bank Stabilization	-	-	-	-	-	-	-	-	11	-	-	-
	-L- 345+02 TO 345+48	Roadway	-	-	-	-	-	-	-	-	57	-	-	-
7A	-L- 358+77 TO 380+28	54" RCP	-	-	-	-	-	-	0.01	-	412	20	-	-
8	-L- 359+46 TO 359+57	Bank Stabilization	-	-	-	-	-	-	0.05	0.01	412	20	-	-
9	-L- 380+47 TO 382+85	Bridge	-	-	-	-	-	-	-	-	13	-	-	-
10	-L- 387+81 TO 387+46	Bank Stabilization	-	-	-	-	-	-	0.40	-	-	-	-	-
10A	-Y30DET- 11+23 TO 13+82	Temporary Detour	-	0.01	-	-	-	-	-	-	16	-	-	-
11	-L- 389+85 TO 388+04	Bridge	-	-	-	-	-	-	0.01	-	-	-	-	-
	-L- 389+62 TO 408+51	Bridge & Roadway	2.57	-	-	0.19	1.44	-	-	-	-	-	-	-
12	-L- 409+67 TO 409+73	Bank Stabilization	-	-	-	-	-	-	0.36	-	-	-	-	-
13	-L- 407+72 TO 415+79	Hamorous Spill Basin, Bridge, Roadway & 60" RCP	1.24	-	0.34	0.64	1.58	-	-	0.03	0.01	204	20	-
	-L- 409+67 TO 409+73	Bank Stabilization	-	-	-	-	-	-	-	-	12	-	-	-
	-L- 410+77 TO 410+88	Bank Stabilization	-	-	-	-	-	-	-	-	12	-	-	-
	-L- 411+08 TO 411+42	Bank Stabilization	-	-	-	-	-	-	-	-	36	-	-	-
	-L- 414+83 TO 415+16	Bank Stabilization	-	-	-	-	-	-	-	-	22	-	-	-
14	-L- 419+08 TO 420+79	Bridge	0.11	-	-	-	-	-	-	-	-	-	-	-
TOTALS:			4.03	0.01	0.34	1.24	4.38	-	0.42	0.09	3113	198	-	-

Notes:  
 Permanent Wetland Impacts from bridge construction = 0.11 acres  
 Temporary Wetland Impacts from work bridge construction = 0.14 acres  
 See Sheet 39 of 39 for a detailed breakdown of the proposed bridge construction impacts

NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 GUILFORD COUNTY  
 U-2524C

Rev SHEET 39 OF 39

5/30/13

5/15/2013

Figure 2  
Detailed Site Drawing  
WBC Project No. 02-041901

Wetland & Ecological Consultants, LLC  
Woodstock, Georgia

Colonial Pipeline Company  
Lines 3 and 4 Relocation  
Western Urban Loop  
Gulford County, NC



Base Map: NCDOT July 25, 2012 Site Meeting

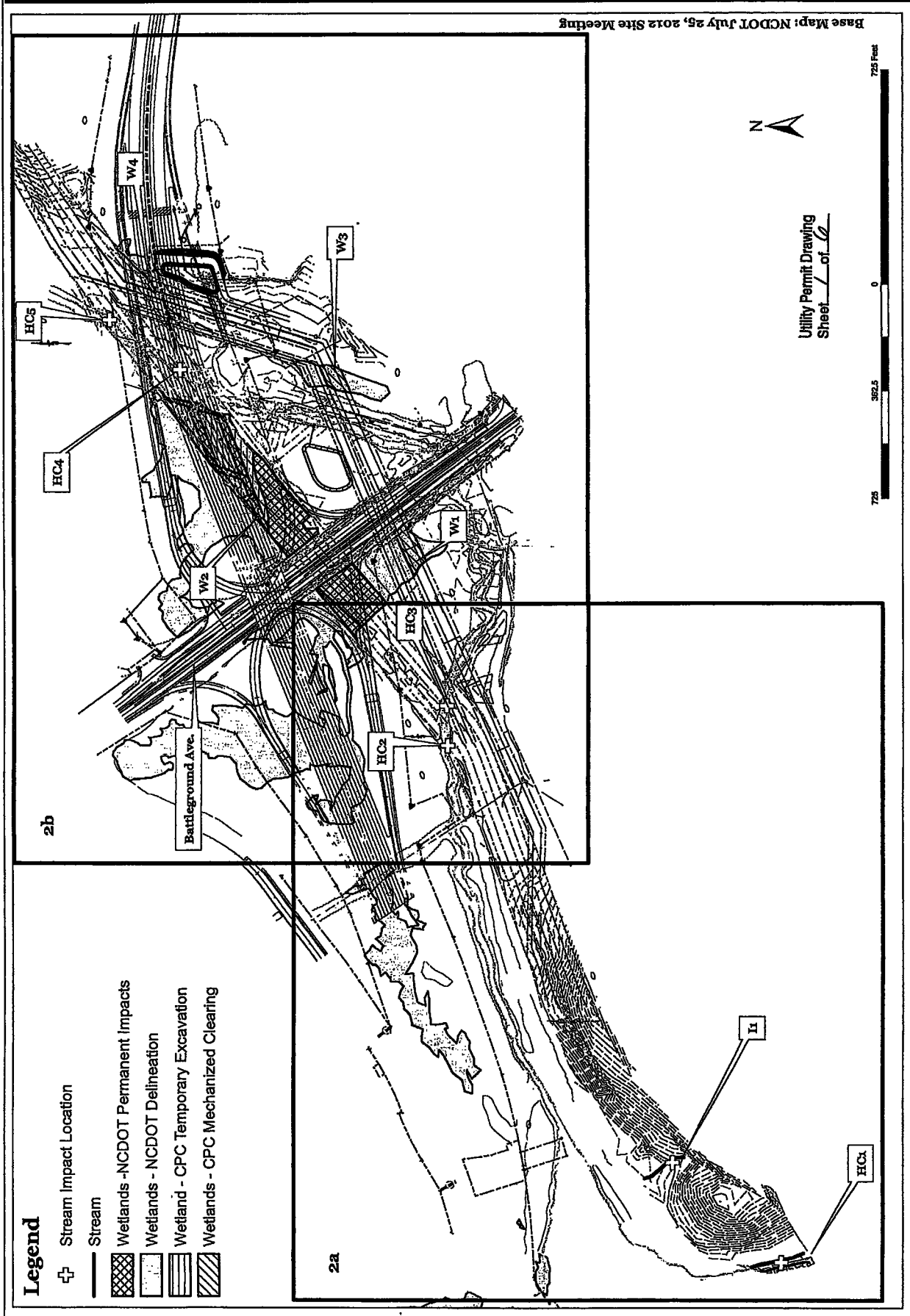


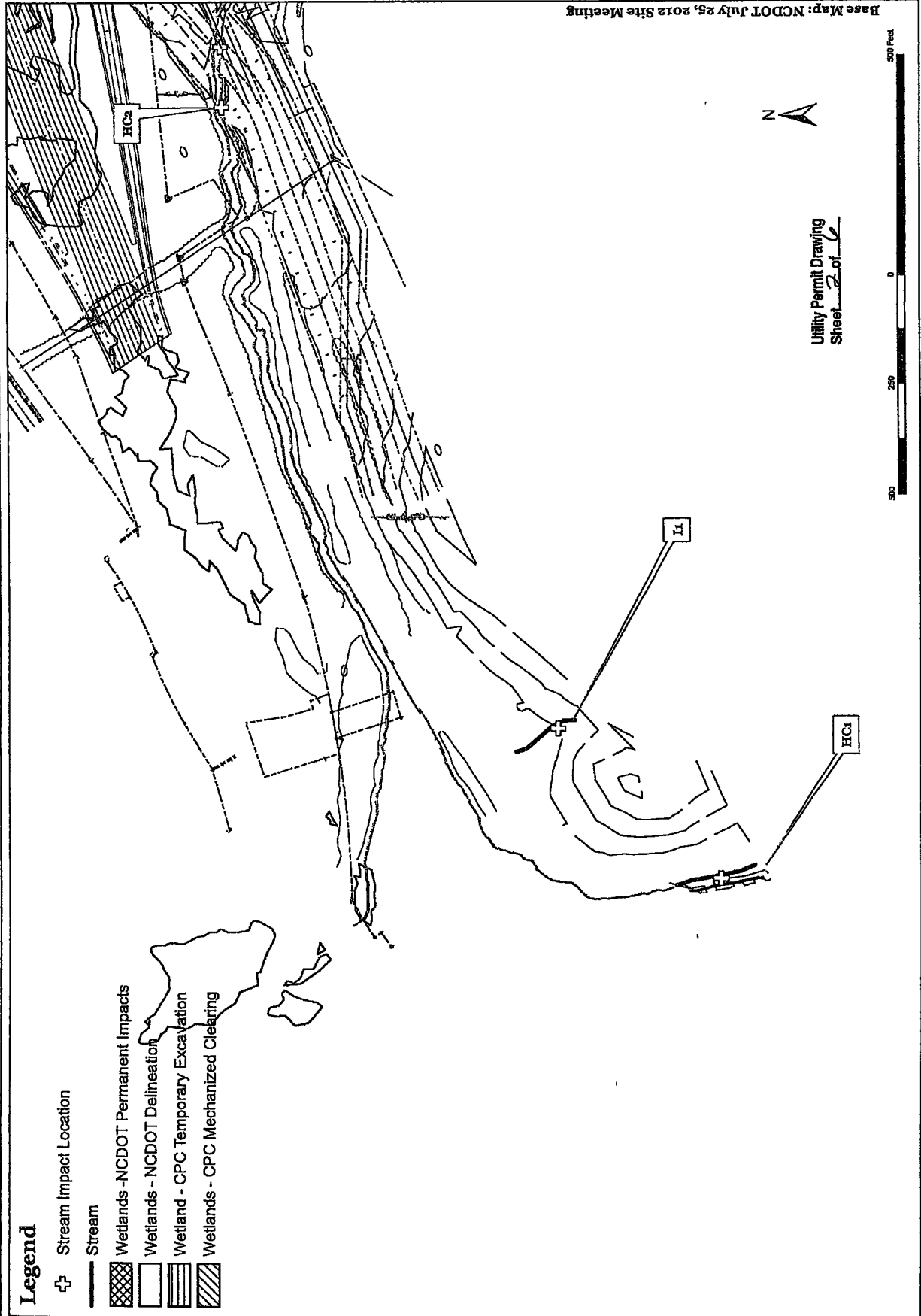
Figure 2a  
Detailed Site Drawing  
WRC Project No. 02-041901

Wetland & Ecological Consultants, LLC  
Woodstock, Georgia



Colonial Pipeline Company  
Lines 3 and 4 Relocation  
Western Urban Loop  
Guilford County, NC

Base Map: NCDOT July 25, 2012 Site Meeting



**Legend**

- Stream Impact Location
- Stream
- Wetlands - NCDOT Permanent Impacts
- Wetlands - NCDOT Delineation
- Wetland - CPC Temporary Excavation
- Wetlands - CPC Mechanized Clearing

Utility Permit Drawing  
Sheet 2 of 6

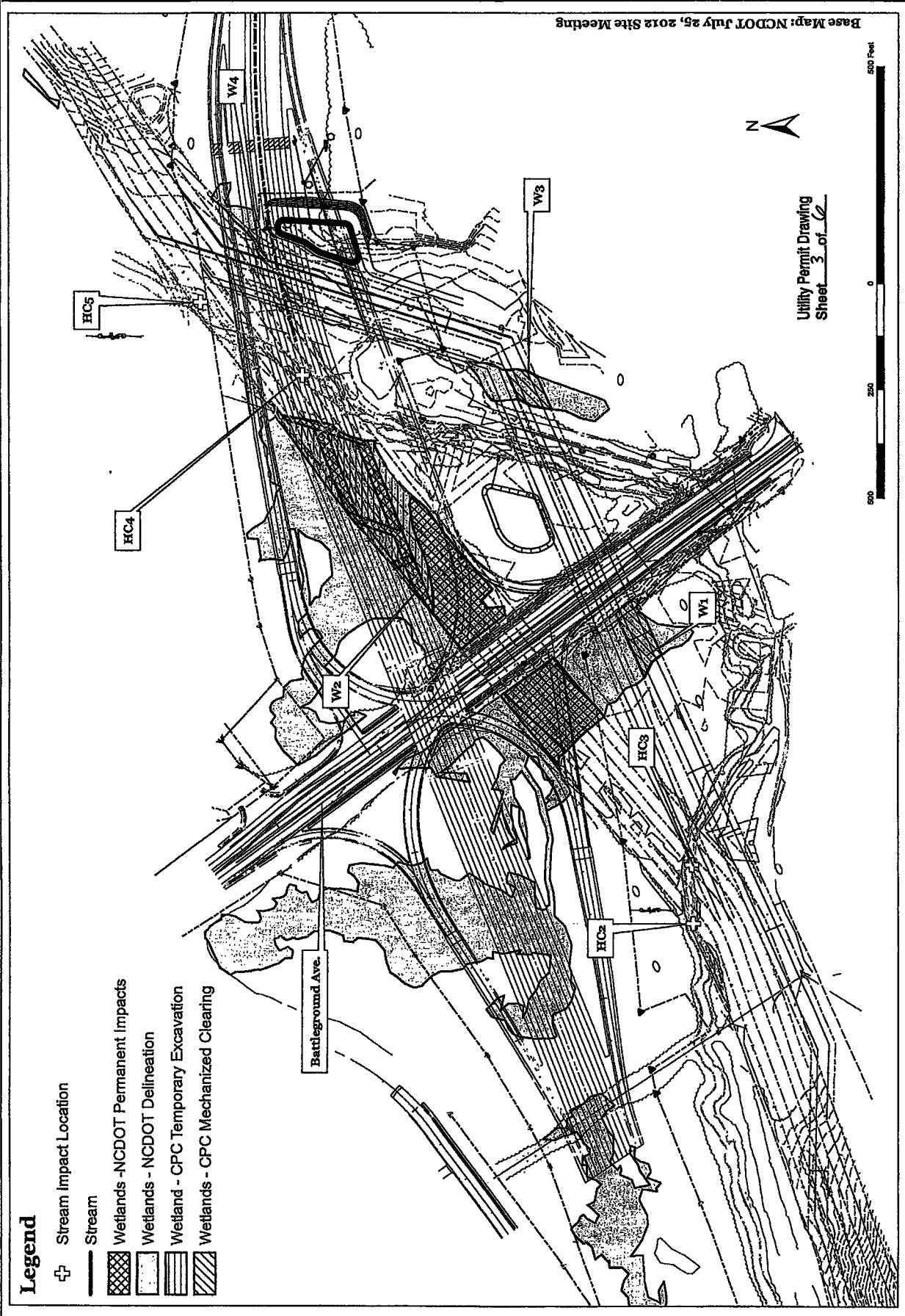
Figure 2b  
Detailed Site Drawing  
WEC Project No. 02-041901

Wetland & Ecological Consultants, LLC  
Woodstock, Georgia

Colonial Pipeline Company  
Lines 3 and 4 Relocation  
Western Urban Loop  
Guilford County, NC



Base Map: NCDOT July 25, 2012 Site Meeting



2013/08/23 10:58:31 AM Eastern Daylight Time

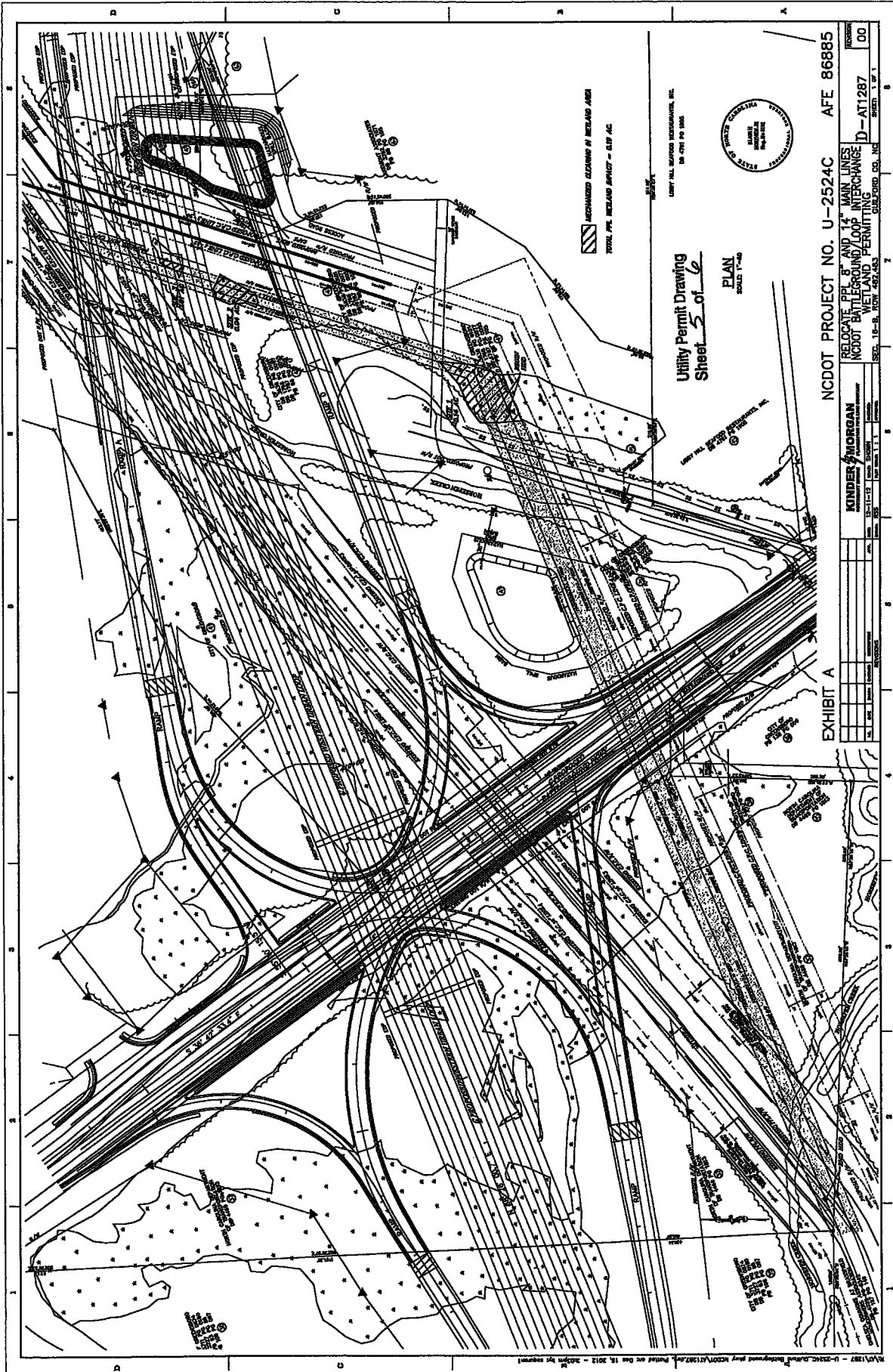
Site No.	CPC Lines 3 and 4	Structure Size / Type	SURFACE WATER AND WETLAND PERMIT IMPACT SUMMARY						SURFACE WATER IMPACTS										
			WETLAND IMPACTS			Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)								
			Permanent Fill in Wetlands (ac)	Temp. Fill in Wetlands (ac)	Temp. Excavation in Wetlands (ac)							Mechanized Clearing in Wetlands (ac)							
HC1	36" and 32"	60" flume with temp fill																	
HC2	36" and 32"																		
HC3	36" and 32"																		
HC4	36" and 32"																		
HC5	36" and 32"																		
I1	36" and 32"	60" flume with temp fill																	
W1	36" and 32"					0.20													
W2	36" and 32"					0.79													
W3	36" and 32"					0.12													
W4	36" and 32"					0.01													
TOTALS.			0.00	0.00	0.79	0.33	0.00	0.00	0.00	0.00	0.00	0	160	0					

NOTE: Temporary impacts to streams HC1 and I1 are for access, temporary impacts to HC2, HC3, HC4 and HC5 are for excavation for pipelines 3 and 4 removal. Mechanized clearing in wetlands W1, W3 and W4 are for the new ROW and pipelines.

COLONIAL PIPE LINE COMPANY  
for RCDOT Project U2524-C  
Gaulford County, N.C.

Utility Permit Drawing  
Sheet 7 of 6

ATN Revised 3/2/05



NCDOT PROJECT NO. U-2524C AFE 86885

PROJECT	00
DRAWING NO.	AT1287
SHEET NO.	1 OF 1

RELOCATE 16" AND 14" MAIN LINES  
NCDOT BATTS LANDING LOOP INTERCHANGE  
NCDOT WETLAND PERMITTING ID - AT1287  
REV. 10-18-10 (REV. 09-27-08)  
GILES FORD, CO. INC.

DATE	DESIGNER	CHECKED	APPROVED
	KINDER MORGAN		
10/18/10	10/18/10		
10/18/10			

KINDER MORGAN  
10000 N. WEST PARKWAY  
SUITE 1100  
DURHAM, NC 27717  
919.286.7000  
www.km.com

10/18/10 - U-2524C.dwg  
08/15/10  
10/18/10  
10/18/10



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- 413+82 TO 415+18	PPL Petro. ROW & WS	-	-	-	0.14	-	-	-	-	-	-	-	-	-
2	-L- 416+90 TO 417+53	PPL Petro. ROW	-	-	-	0.04	-	-	-	-	-	-	-	-	-
3	-L- 417+65 TO 418+01	PPL Petro. ROW	-	-	-	0.01	-	-	-	-	-	-	-	-	-
TOTALS:			0	0	0	0.19	0	0	0	0	0	0	0	0	0

Notes:

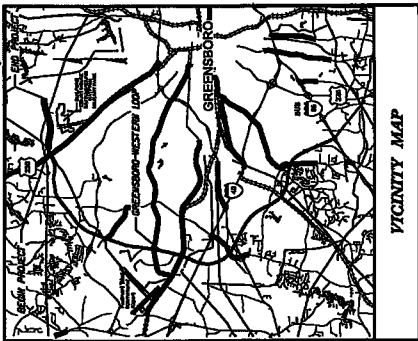
Utility Permit Drawing  
Sheet 6 of 6

PLANTATION PIPE LINE COMPANY  
14' and 8" Liquid Petroleum Pipeline Relocation  
for NCDOT Project U2524-C  
Gauford County, N.C.

BHN

12/17/2012

See Sheet 1-4 For Index of Sheets  
See Sheet 1-9 For Conventional Symbols

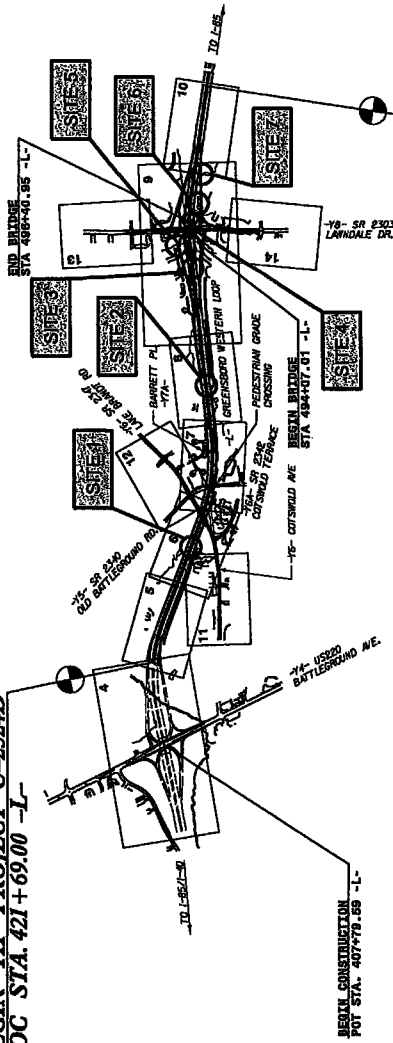
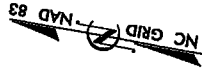


STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**GUILFORD COUNTY**

LOCATION: GREENSBORO-WESTERN LOOP FROM US 220 (BATTLEGROUND AVENUE) TO SR 2303 (LAWDALE DRIVE).  
TYPE OF WORK: GRADING, PAVING, CULVERTS, DRAINAGE, STRUCTURES, SIGNING, ITS, TRAFFIC SIGNAL AND RETAINING WALLS.

**PRELIMINARY WETLAND & STREAM IMPACTS**

BEGIN TIP PROJECT U-2524D  
POC STA. 421+69.00 -L-



END TIP PROJECT U-2524D  
POT STA 519+00.00 -L-

NOTES:  
THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III  
THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF GREENSBORO.

PRELIMINARY PLANS  
DO NOT BE FOR CONSTRUCTION

**CONTRACT:**

**GRAPHIC SCALES**

PLANS: 1" = 50'

PROFILE (HORIZONTAL): 1" = 50'

PROFILE (VERTICAL): 1" = 20'

**DESIGN DATA**

ADT 2008 = 41,985  
ADT 2028 = 71,908  
DHV = 10 %  
D = 60 %  
T = 15 %  
V = 70 MPH  
5% TIST DUAL 10%

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT U-2524D = 1.799 MILES  
LENGTH STRUCTURES TIP PROJECT U-2524D = 0.044 MILES  
TOTAL LENGTH OF TIP PROJECT U-2524D = 1.843 MILES

**PARSONS**  
EDWARD S. ROBBINS, P.E.  
PROJECT MANAGER  
DAVID GARRETT  
PROJECT DESIGN MANAGER

**HYDRAULICS ENGINEER**

**ROADWAY DESIGN ENGINEER**

**STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS**

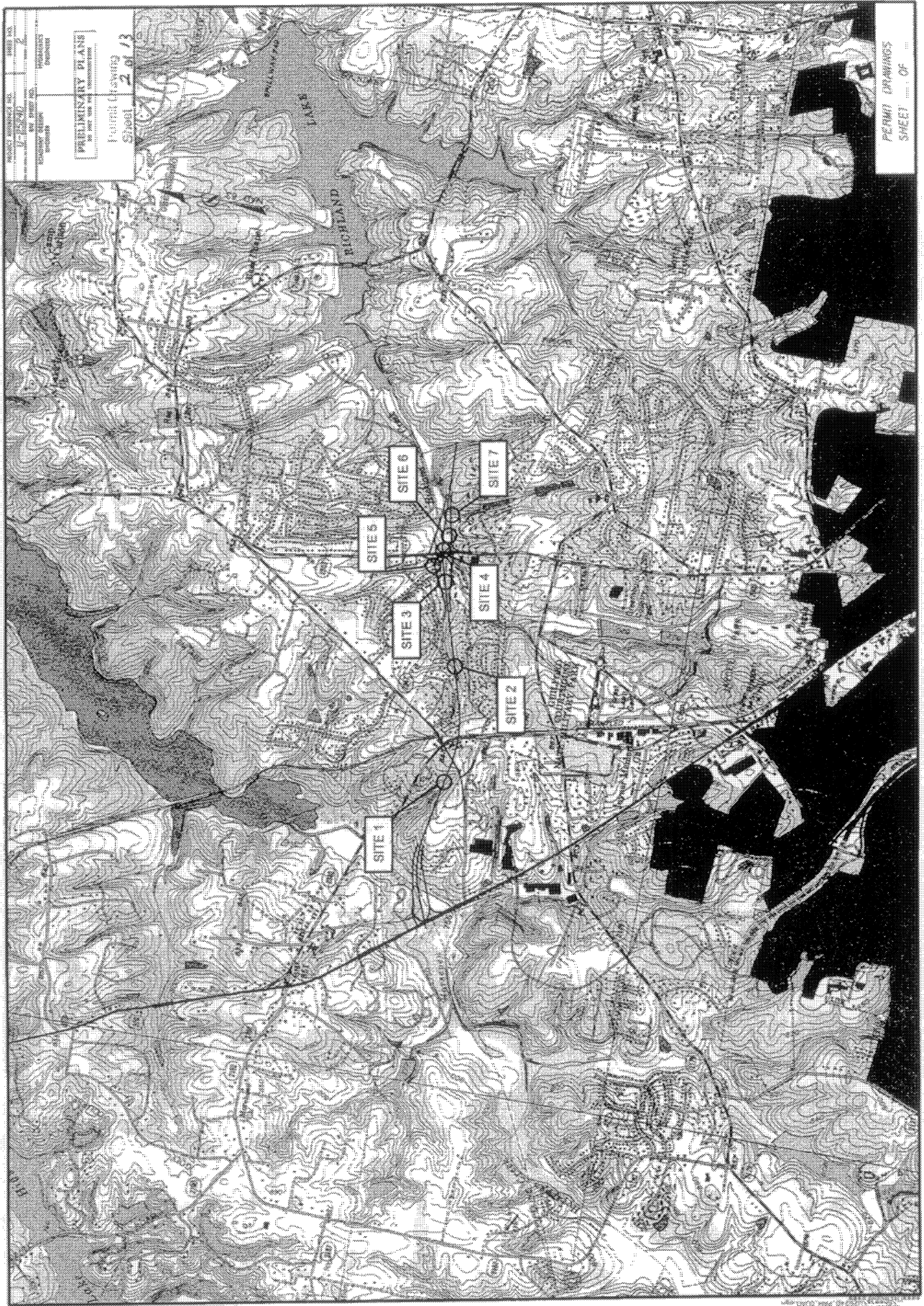
**THE UNIVERSITY OF NORTH CAROLINA**

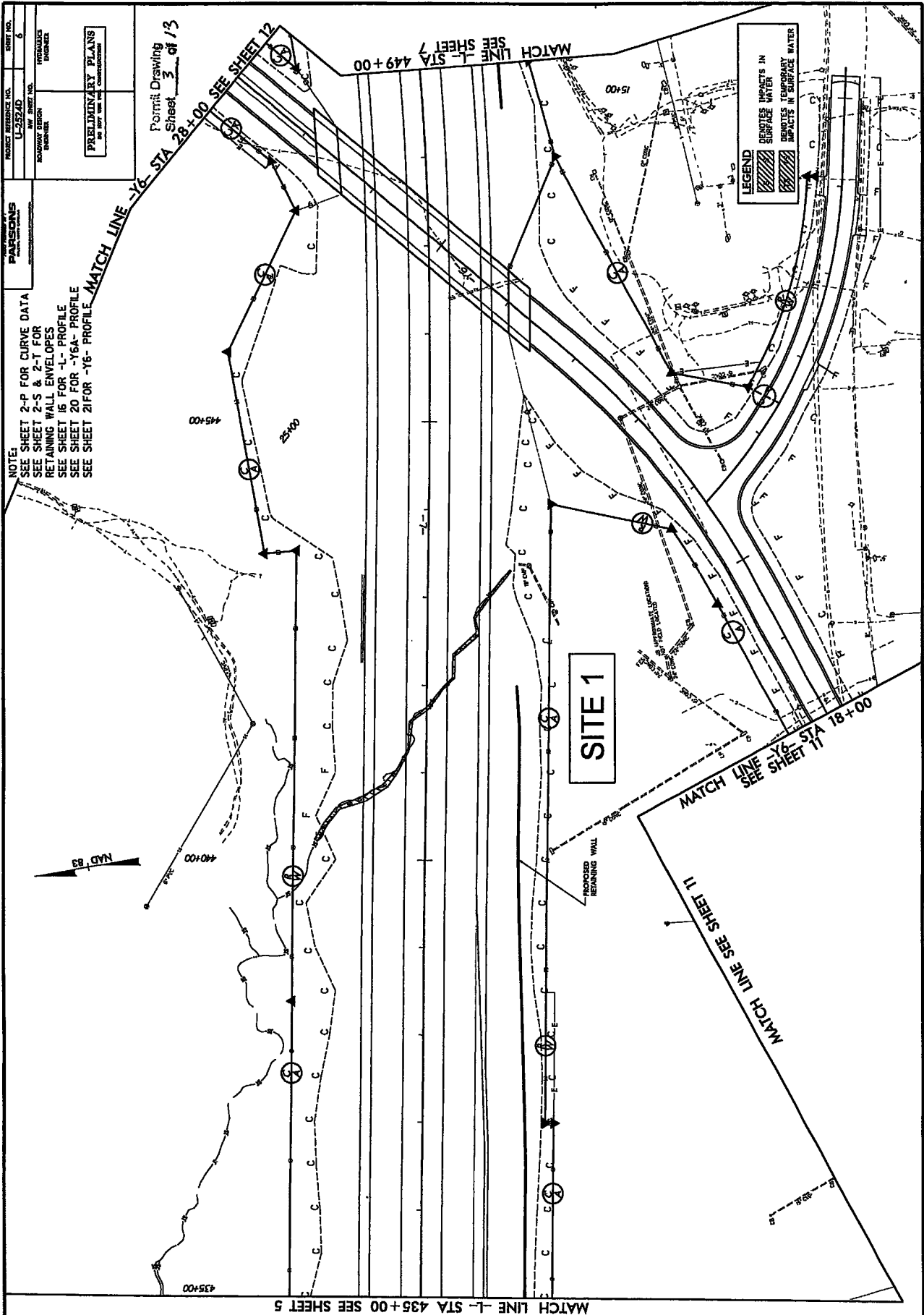
STATE	N.C.	PROJECT NUMBER	U-2524D	SHEET	1
COUNTY		DATE			
DISTRICT		DESIGNER			
CITY		DATE			
PROJECT NAME	34820.2.19 NHF-0708(5) P.E.				
PROJECT NO.	34820.2.19 NHF-0708(5) P.O.W./UTILITY				
DATE					
SCALE					

Permit Drawing  
Sheet 1 of 13

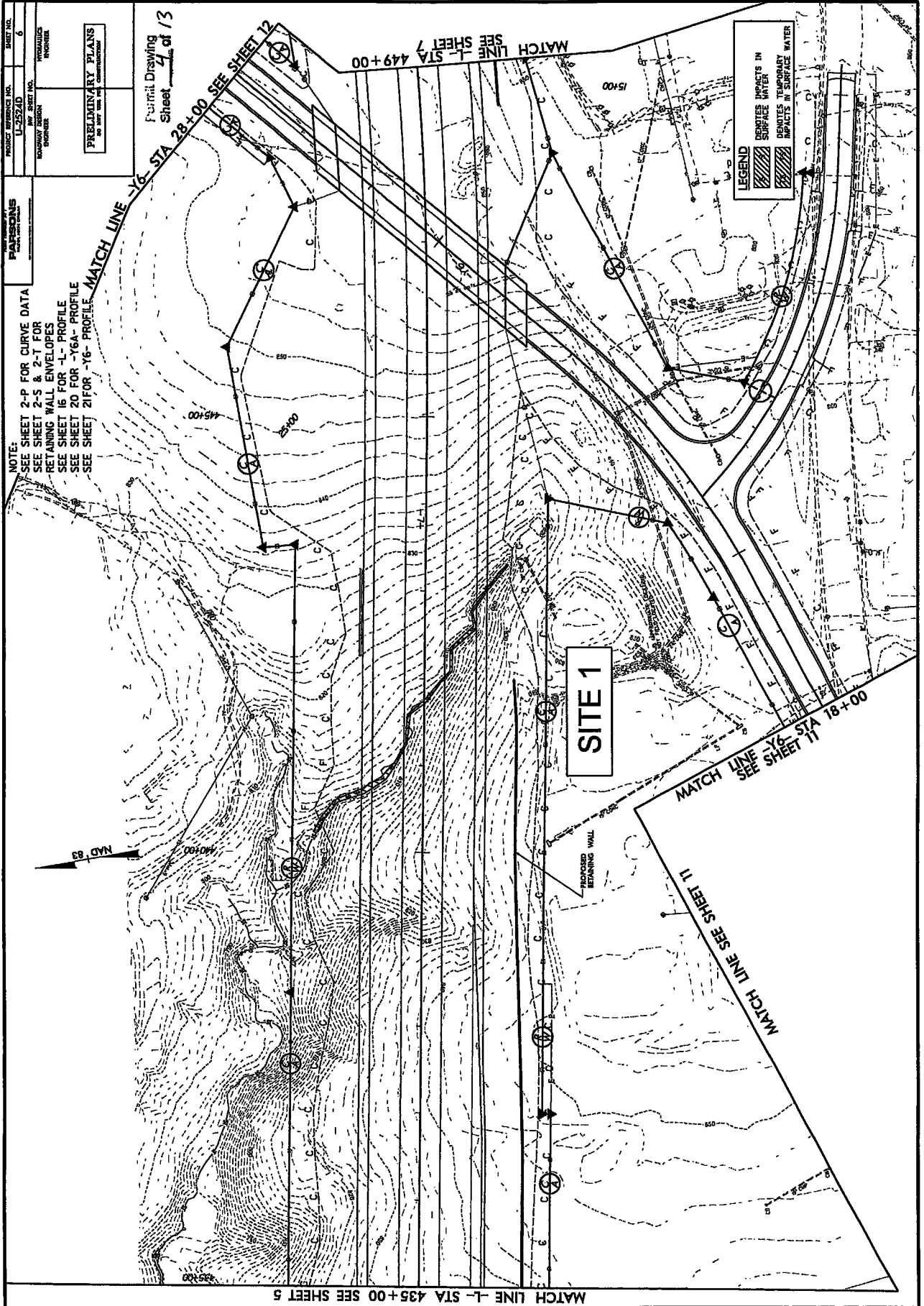
TIP PROJECT: U-2524D

CONTRACT:

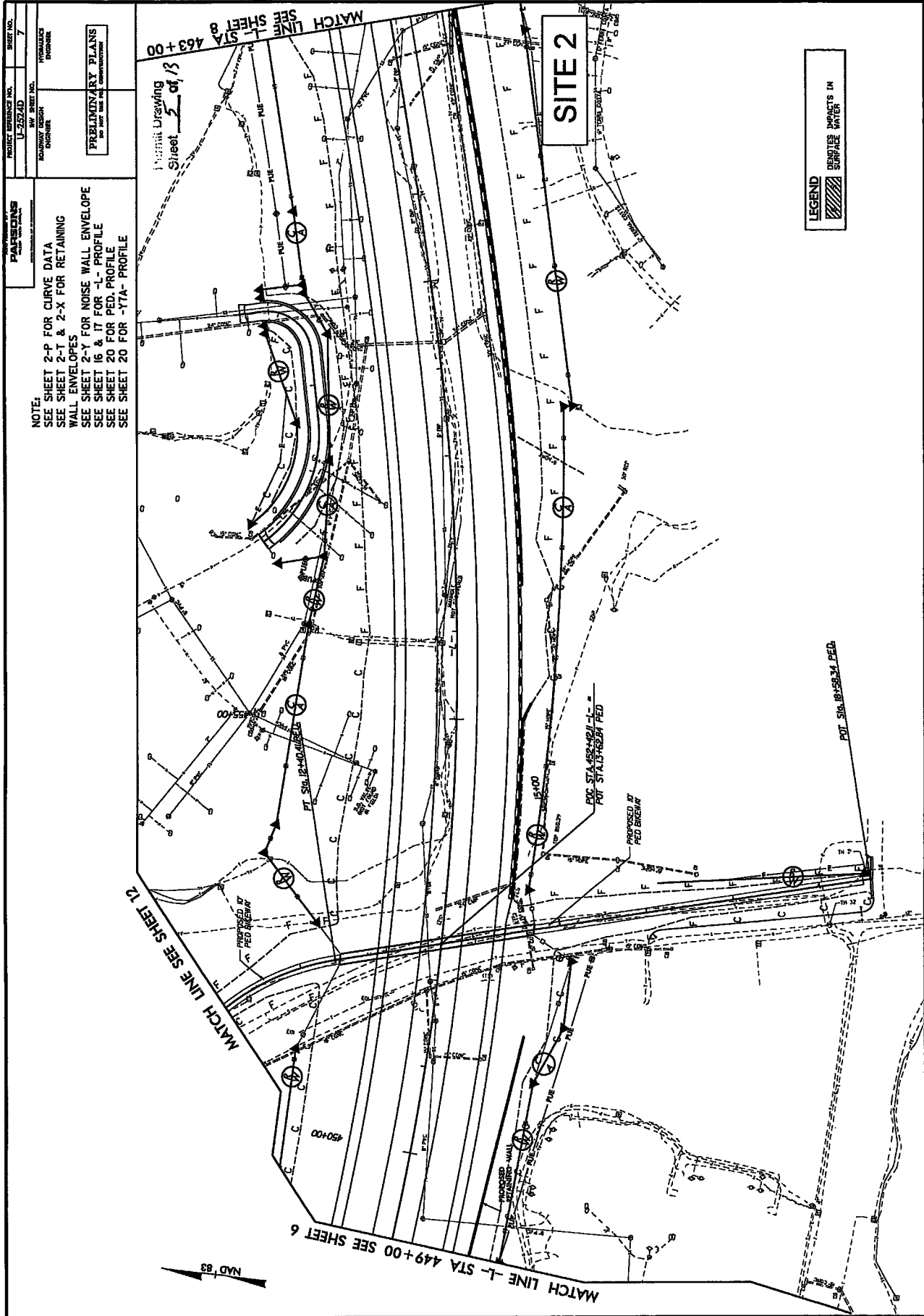




NO.	DATE	DESCRIPTION
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NO.	DESCRIPTION	DATE



PROJECT REFERENCE NO. 1-2524D  
 SHEET NO. 7

PARSONS  
 CONSULTING ENGINEERS

DATE: 8/17/13  
 DRAWN BY: J. SMITH  
 CHECKED BY: J. SMITH  
 APPROVED BY: J. SMITH

PRELIMINARY PLANS  
 FOR THE STATE OF CALIFORNIA

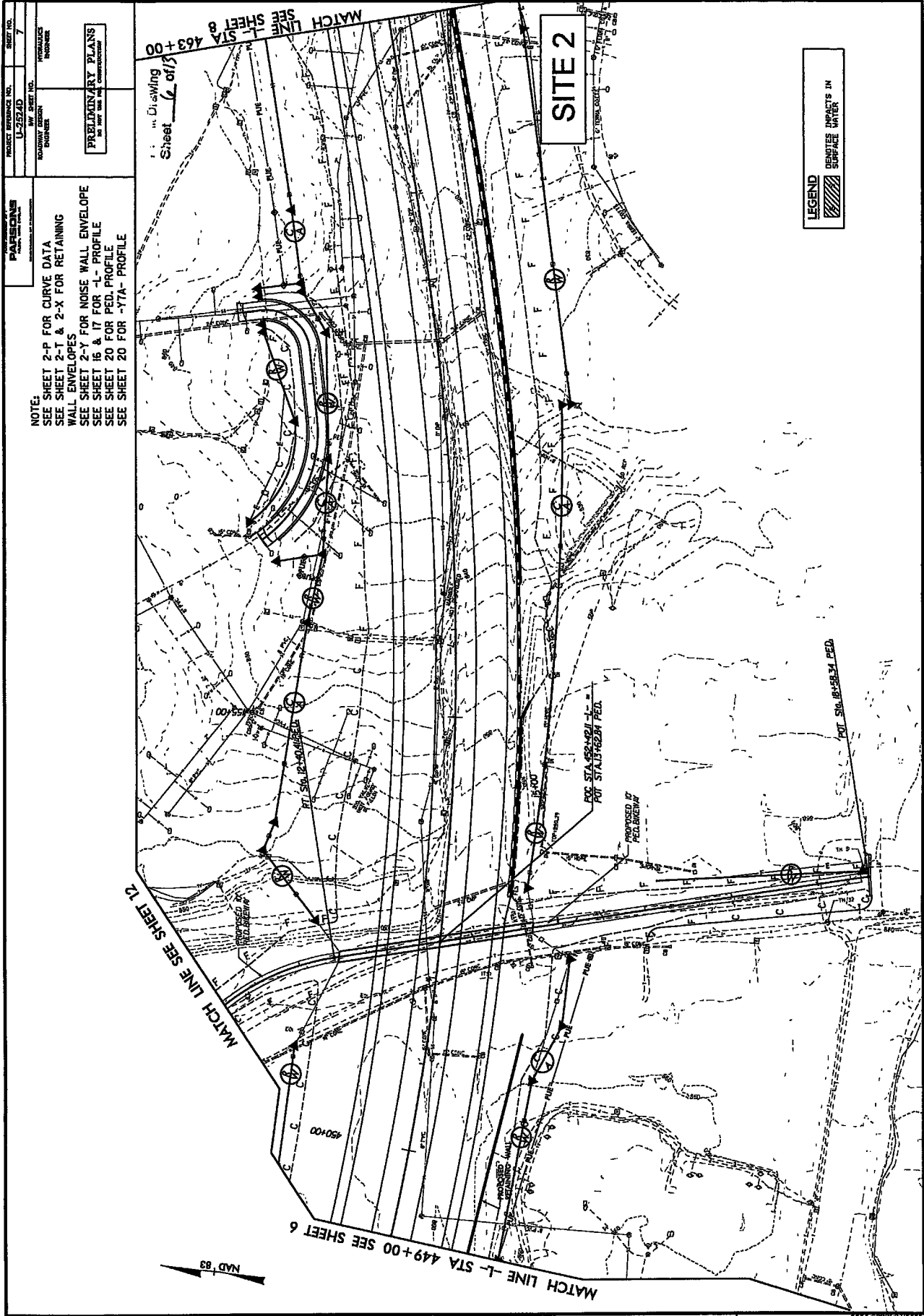
NOTE:  
 SEE SHEET 2-P FOR CURVE DATA  
 SEE SHEET 2-T & 2-X FOR RETAINING WALL ENVELOPES  
 SEE SHEET 2-Y FOR NOISE WALL ENVELOPE  
 SEE SHEET 16 & 17 FOR 'A' PROFILE  
 SEE SHEET 20 FOR PED. PROFILE  
 SEE SHEET 20 FOR 'TTA' PROFILE

8/17/13

REVISIONS

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20405 PH 08/23/13 10:47:58 J. SMITH, J. SMITH, J. SMITH



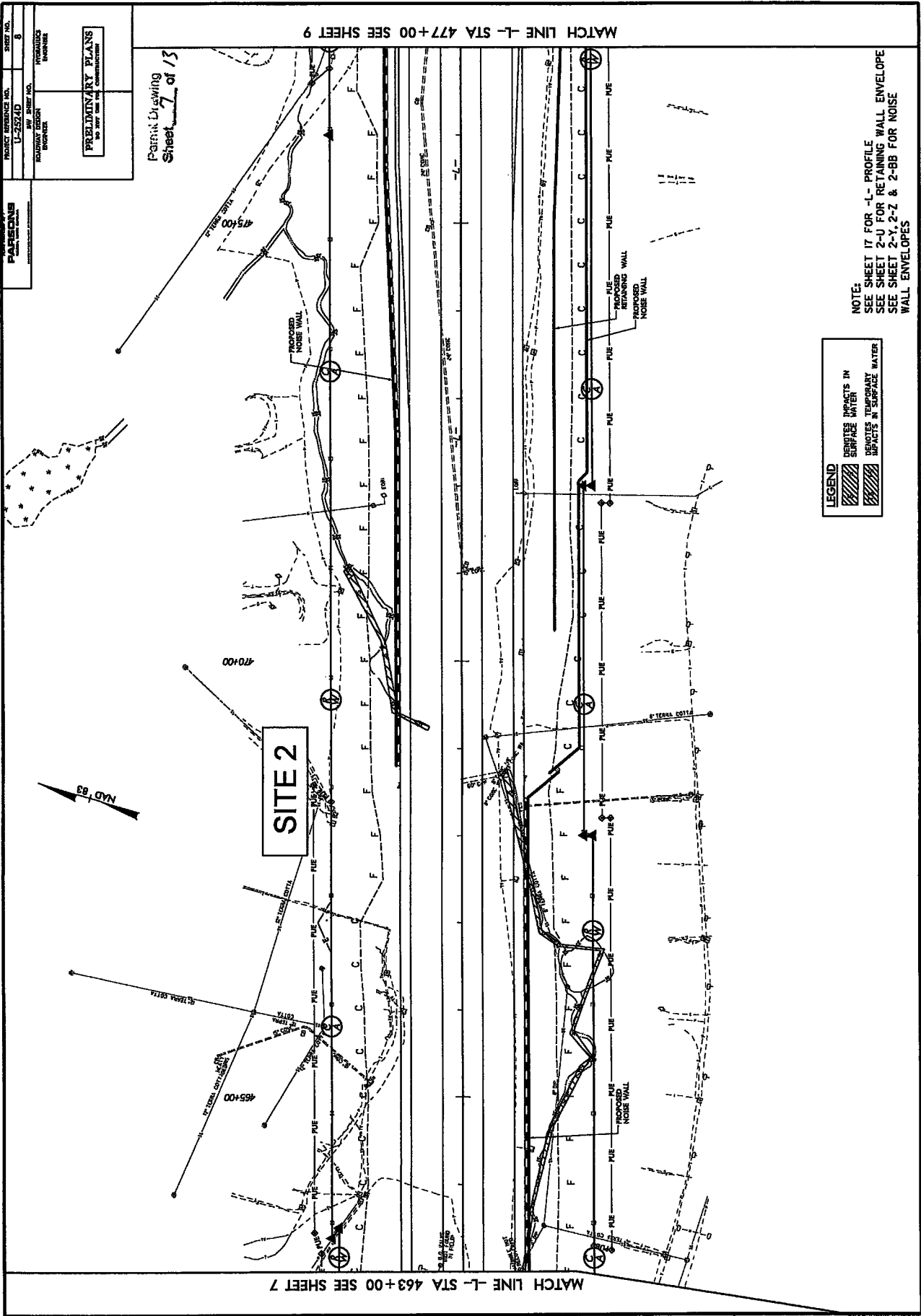
PROJECT REFERENCE NO. L-2524D	SHEET NO. 7
DATE 11/25/10	BY C. J. [unreadable]
DESIGNED BY C. J. [unreadable]	CHECKED BY [unreadable]
PRELIMINARY PLANS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROADWAY CONSTRUCTION	

**PROFESSIONAL ENGINEER**  
 STATE OF CALIFORNIA  
 LICENSE NO. [unreadable]

8/17/29

REVISIONS

2015 PM 11/25/10 11:22:10 RDV.PSL.B7B.dgn



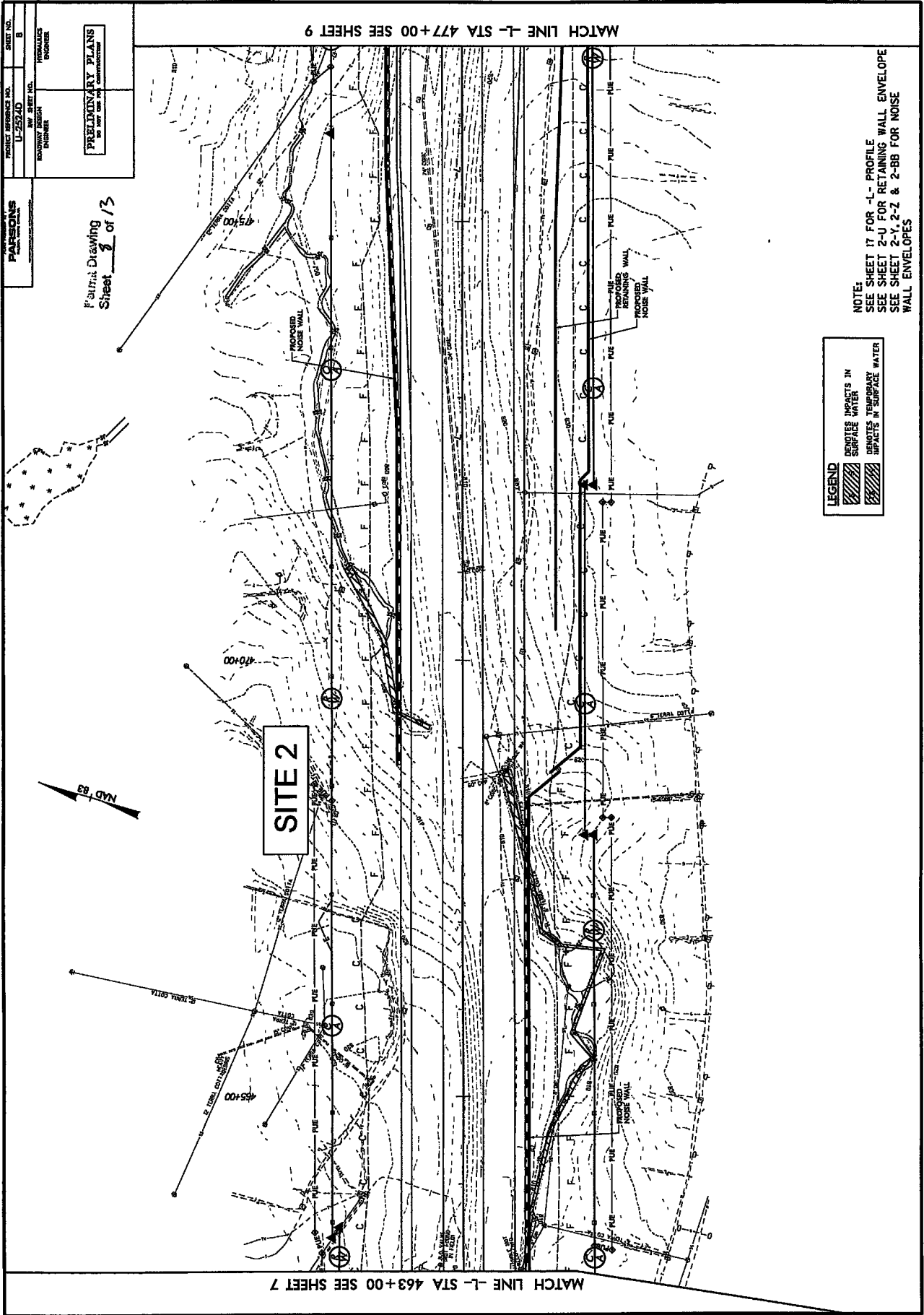
20427 PM 11/15/13 11:22:40 AM REV. JPH, BBA/ghm

NO.	DATE	DESCRIPTION

REVISIONS

8/17/13





PROJECT NUMBER: U-2524D  
 SHEET NO. 5  
 PRELIMINARY PLANS  
 CIVIL ENGINEER

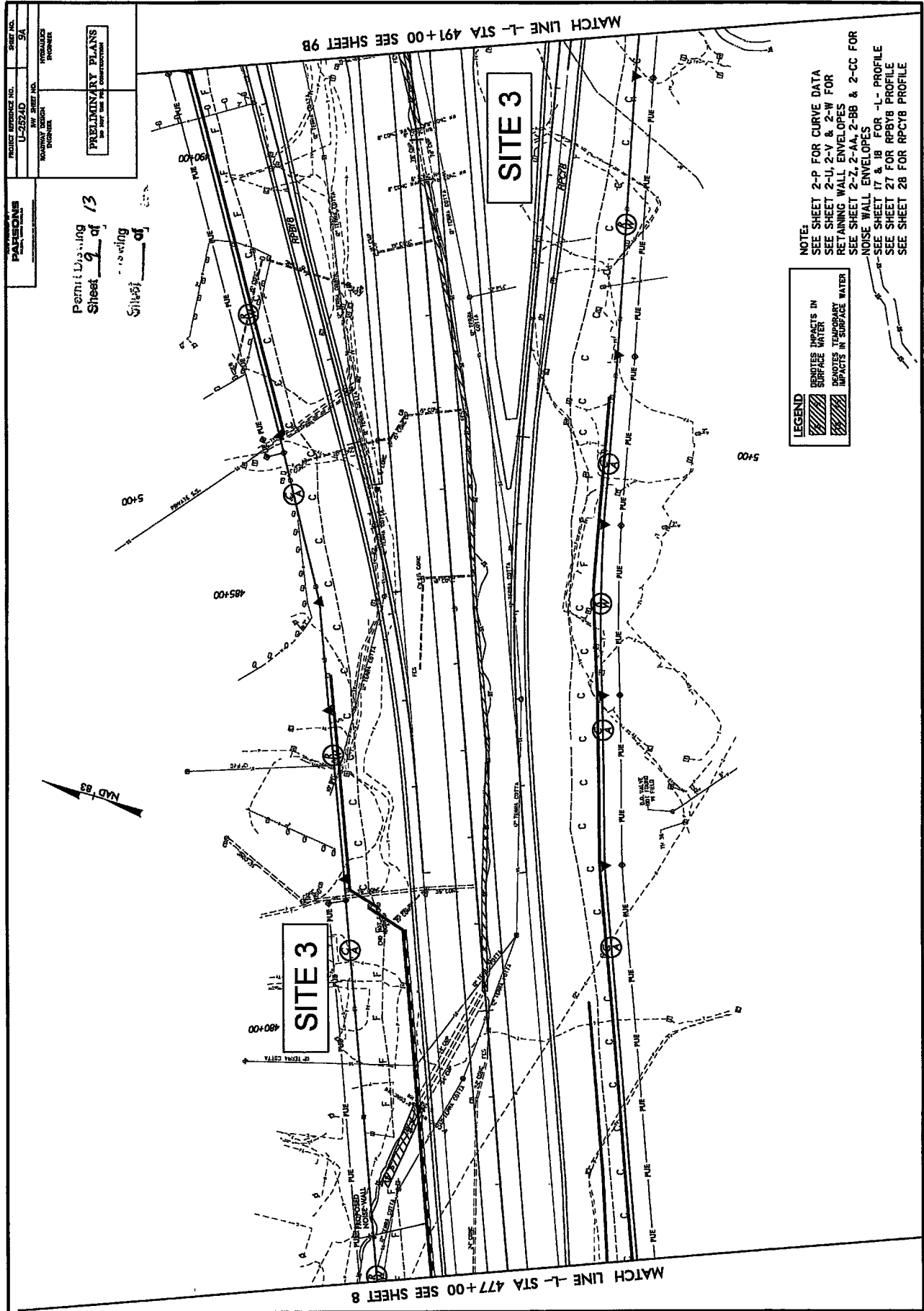
Final Drawing  
 Sheet 5 of 13

PARSONS  
 ENGINEERS  
 ARCHITECTS

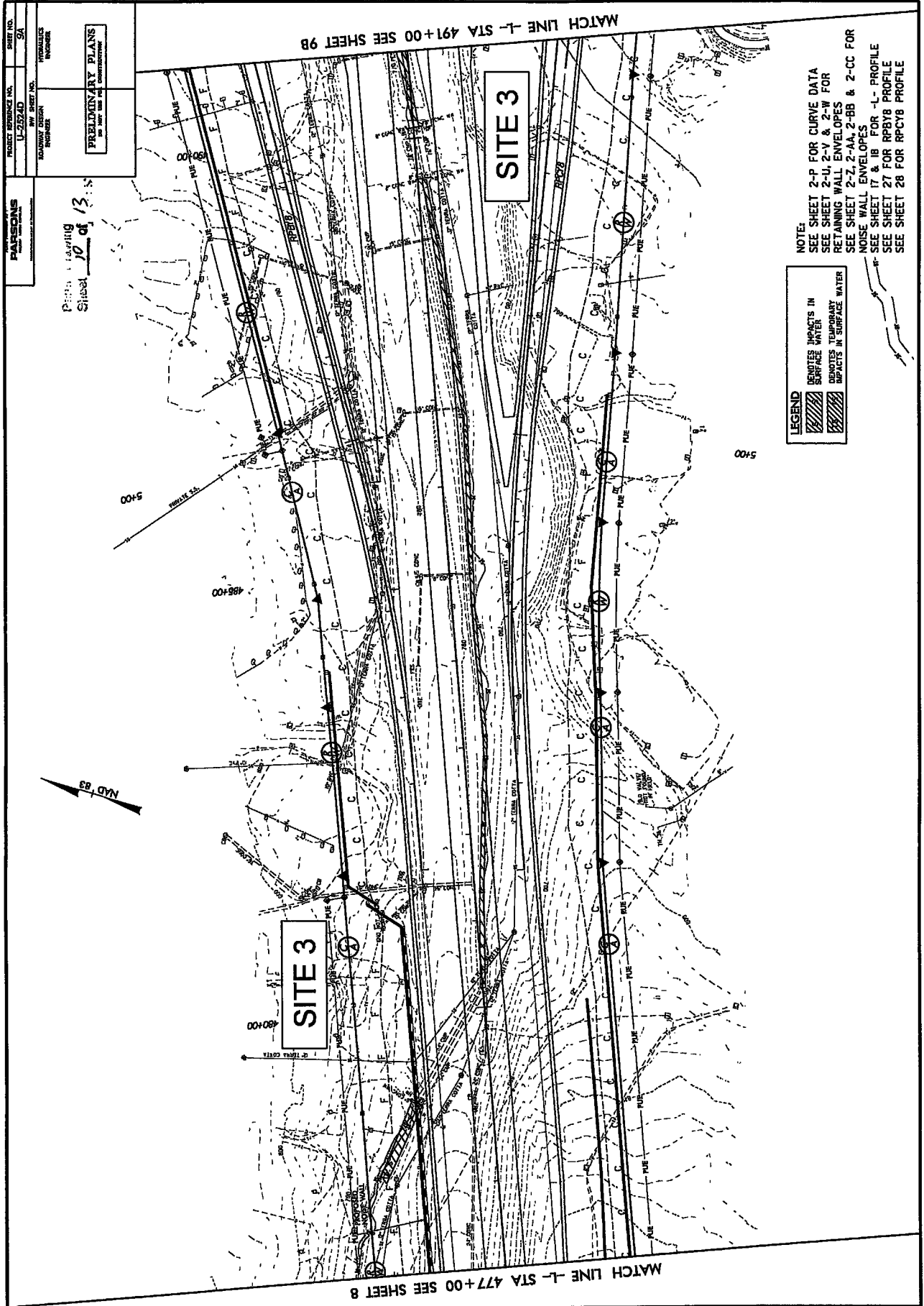
LEGEND  
 DENOTES IMPACTS IN SURFACE WATER  
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

NOTES:  
 SEE SHEET 17 FOR "L" PROFILE  
 SEE SHEET 2-U FOR RETAINING WALL ENVELOPE  
 SEE SHEET 2-Y, 2-Z & 2-BB FOR NOISE WALL ENVELOPES

REVISIONS  
 2013/08/23 PM 02:24:00 RCV PSL/888/djn  
 8/17/13



REVISIONS  
 2/17/13

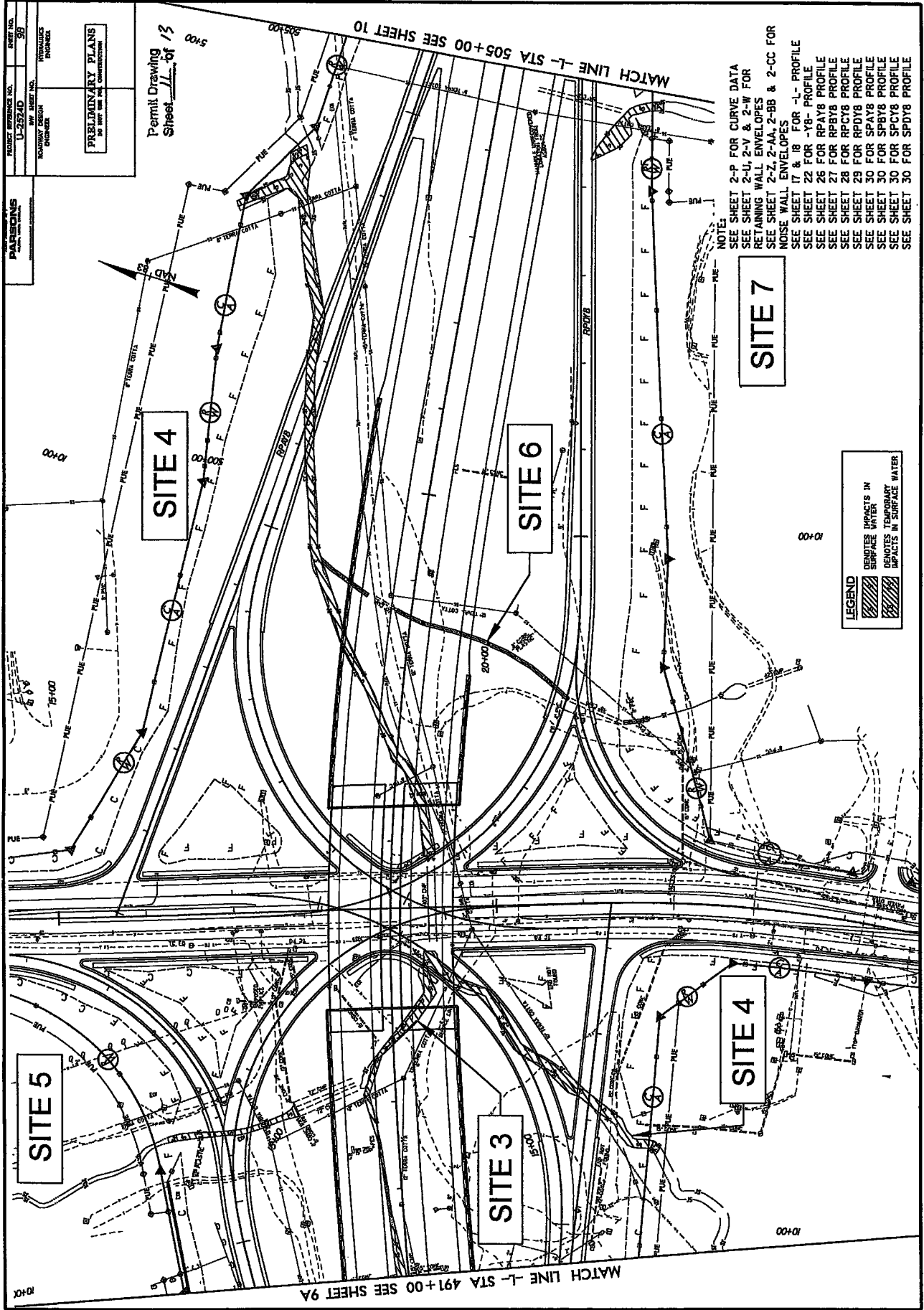


PROJECT REFERENCE NO. U-2324D	SHEET NO. 9A
ROADWAY DESIGN NUMBER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT BE USED FOR CONSTRUCTION	

Revised 10 of 13

NOTE:  
SEE SHEET 2-P FOR CURVE DATA  
SEE SHEET 2-U, 2-V & 2-W FOR  
RETAINING WALL ENVELOPES  
SEE SHEET 2-7, 2-AA, 2-BB & 2-CC FOR  
NOISE WALL ENVELOPES  
SEE SHEET 17 & 18 FOR 1-L PROFILE  
SEE SHEET 27 FOR RPB18 PROFILE  
SEE SHEET 28 FOR RPB18 PROFILE

	DEBRIS IMPACTS IN SURFACE WATER
	TEMPORARY IMPACTS IN SURFACE WATER



PROJECT REFERENCE NO. **U-3574D**  
 SHEET NO. **58**  
 DRAWING TITLE  
 PERMIT NO. **11-01**

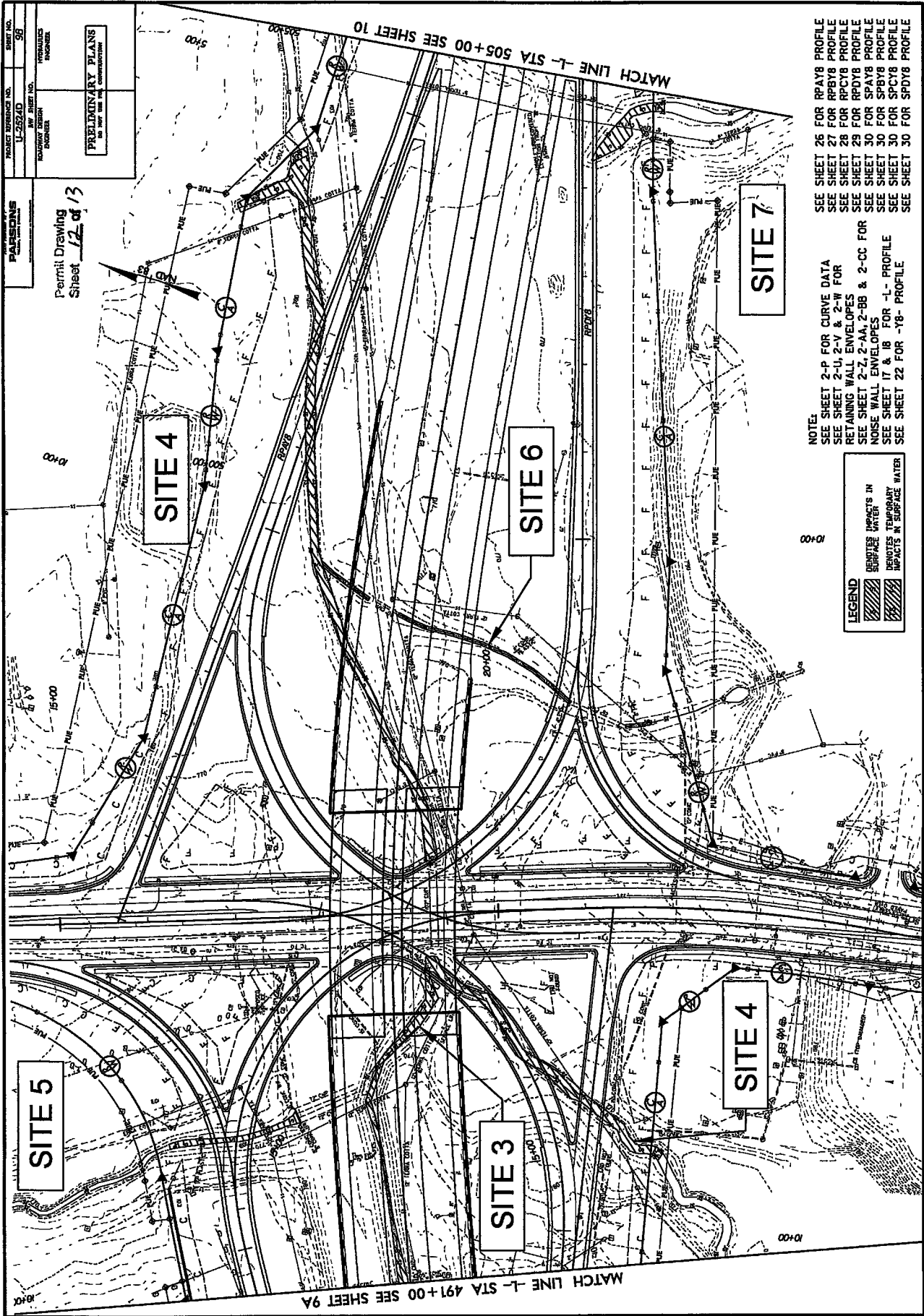
PRELIMINARY PLANS  
 DO NOT USE FOR CONSTRUCTION

PARSONS  
 CONSULTANTS INC.

8/17/13

REVISIONS


10:52 PM 8/17/13



PROJECT REFERENCE NO. U-2524D  
 SHEET NO. 39  
 PRELIMINARY PLANS  
 FOR THE PROPOSED  
 IMPROVEMENTS  
 TO THE  
 ROADWAY  
 CROSSING  
 THE  
 RAILROAD  
 TRACKS  
 AT  
 STA. 491+00 TO 505+00

Permit Drawing  
 Sheet 12 of 13

NOTE:  
 SEE SHEET 2-P FOR CURVE DATA  
 SEE SHEET 2-U, 2-V & 2-W FOR  
 RETAINING WALL ENVELOPES  
 SEE SHEET 2-Z, 2-AA, 2-BB & 2-CC FOR  
 NOISE WALL ENVELOPES  
 SEE SHEET 17 & 18 FOR -L- PROFILE  
 SEE SHEET 22 FOR -Y8- PROFILE  
 SEE SHEET 26 FOR RPA18 PROFILE  
 SEE SHEET 27 FOR RPB18 PROFILE  
 SEE SHEET 28 FOR RPY18 PROFILE  
 SEE SHEET 29 FOR RPB18 PROFILE  
 SEE SHEET 30 FOR RPA18 PROFILE  
 SEE SHEET 30 FOR SPB18 PROFILE  
 SEE SHEET 30 FOR SPC18 PROFILE  
 SEE SHEET 30 FOR SPD18 PROFILE

LEGEND  
 SURFACE IMPACTS IN  
 SURFACE WATER  
 IMPACTS IN SURFACE WATER  
 IMPACTS IN SURFACE WATER

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- 440+21 TO 443+32	Pipe Culvert / Roadway	-	-	-	-	-	-	0.03	0.01	393	10	-
2	-L- 462+50 TO 471+08	Pipe Culvert / Roadway	-	-	-	-	-	0.09	0.01	919	10	-	
3	-L- 478+07 TO 484+57	Box Culvert / Roadway	-	-	-	-	-	0.19	0.01	1488	10	-	
4	-L- 492+19 TO 503+69	Box Culvert / Roadway	-	-	-	-	-	0.30	0.01	1253	20	-	
5	-L- 492+69 TO 493+02	Box Culvert / Roadway	-	-	-	-	-	0.02	0.01	141	10	-	
6	-L- 487+67 TO 499+12	Pipe Culvert / Roadway	-	-	-	-	-	0.03	0.01	311	10	-	
7	-L- 504+11 TO 504+90	Box Culvert / Roadway	-	-	-	-	-	0.03	0.01	99	10	-	
TOTALS:			-	-	-	-	-	0.69	0.07	4604	80	-	

PRELIMINARY

NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 GUILFORD COUNTY  
 U-2524D

SHEET 13 OF 13 10/18/2012