STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

May 7, 2010
Revised May 28, 2010

Mr. Brad Shaver
U. S. Army Corps of Engineers
Regulatory Field Office
69 Darlington Ave.
Wilmington, NC 28403

Subject: **Application for a Section 404 Individual Permit and Section 401 Water Quality Certification,** for the proposed US 17 Improvements from the Jacksonville Bypass to Drummer Kellum Road Jacksonville, Onslow County, TIP U-4007, Debit $570 from WBS 35008.1.1

Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes to improve the existing US 17 from the Jacksonville Bypass to Drummer Kellum Road in Onslow County. This application package consists of the cover letter, ENG Form 4345, half size plan sheets, permit drawings, mailing labels, and the Hydraulic Design Concurrence meeting (4B, 4C) minutes for Sections A and B of U-4007.

Purpose and Need

The purpose and need of the project is to increase safety, provide route continuity and reduce congestion.

Summary of Impacts

Construction of the proposed project will necessitate impacts to Jurisdictional Waters of the U.S. There will be a total of 8.25 acres of permanent wetland impacts. Proposed construction will also permanently impact 3,039 feet of jurisdictional streams.

Summary of Mitigation

The proposed construction of U-4007 will impact 4.01 acres of riparian, 4.24 acres of non-riparian wetlands and 3,039 linear feet of stream that will require compensatory mitigation. NCDOT will utilize the NC Ecosystem Enhancement Program (EEP) for compensatory mitigation requirements for the unavoidable impacts to 4.24 acres of wetlands and 3,039 feet of jurisdictional stream. The remaining impacts of 4.01 acres of riparian impacts will be mitigated through a transfer of mitigation credits from NCDOT assets at the Croatan Mitigation Site in order to satisfy the federal Clean Water Act.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-431-2000
FAX: 919-431-2002
WEBSITE: WWW.NCDOT.ORG

LOCATION:
4701 ATLANTIC AVENUE
SUITE 116
RALEIGH NC 27604

Project Schedule

U-4007 has been divided into four sections, A (White Street Extension), B (Western Parkway), C (US 17 Expressway), and D (Piney Green Road Interchange). The limits and let dates (if applicable) are in Table 1 for these sections. Due to funding, section B will be constructed first with A to follow a year later. Construction for Section C (US 17 Expressway) has been delayed beyond Fiscal Year 2020 due to lack of funding. Likewise, construction for Section D (Piney Green Road Interchange) is also delayed beyond Fiscal Year 2020. The NCDOT will apply for any relevant permit modifications for U-4007 when final design is complete for sections C and /or D. Construction will not commence on either section until permit modifications have been received based on final design. The let dates, however, may advance as additional funds become available. Both the A and B sections have final design and final impacts.

Table 1. Project Sections and Scheduling

Section	Project Limits	Review Date	Scheduled Let Date
U-4007A	Begins on the east side of Bell Fork Rd. and ends at Huff Dr.	8/30/2011	10/18/2011
U-4007B	Begins from the Jacksonville Bypass north of US 17 and ends at the intersection with Western Blvd. Extension at Gateway North Drive.	8/31/2010	10/19/2010
U-4007C	Begins at the Jacksonville Bypass and end northeast of Drummer Kellum Road, at the bridge over Wolf Swamp.	Post year	Post year
U-4007D	Begins with Piney Green Rd. terminus with US 17 and terminates at Drummer Kellum Rd. Includes extension of Commerce Drive from terminus to Piney Green Rd.	Post year	Post year

NEPA Document Status

An Environmental Assessment (EA) and a Finding of No Significant Impact (FONSI) for U-4007 were approved by the Federal Highway Administration (FHWA) on October 30, 2006 and February 12, 2008 respectively and circulated to the appropriate agencies.

Independent Utility

The subject project complies with 23 CFR Part 771.111(f), which lists the FHWA characteristics of independent utility of a project:

1) The project connects logical termini and is of sufficient length to address environmental matters on a broad scope;
2) The project is usable and a reasonable expenditure, even if no additional transportation improvements are made in the area;
3) The project does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

Resource Status

Wetlands and surface waters within the U-4007 Preferred Alternative corridor were originally delineated in 2002 and re-evaluated in July 2005 and August 2007 using the field delineation method outlined in the 1987 Corps of Engineers Wetland Delineation Manual. The North Carolina Division of Water Quality's (DWQ) Identification Methods for the Origins of Intermittent and Perennial Streams was used to make stream determinations. All streams are in the White Oak River Basin, Hydrologic Unit 03030001. Jurisdictional features were verified by Dave Timpy and Jennifer Frye of the US Army Corps of Engineers (USACE) on May 9, 2006 and August 8, 2007, respectively.

Impacts to Jurisdictional Resources

Impacts to jurisdictional streams for U-4007A are summarized below in Table 2 and U-4007B in Table 3.

Table 2. Jurisdictional Streams (U-4007A)

Stream Name	Permit Site	Stream Classification	Permanent (ft.)	Temporary (ft.)
Scales Creek (SA 30)	2	Perennial	680 640	80
UT Scales Creek (SA 12)	6	Perennial	420	0
UT Scales Creek (SA 08)	10	Intermittent	0	35
		Total:	1,740	115

Table 3. Jurisdictional Streams (U-4007B)

Stream Name	Permit Site	Stream Classification	Permanent (ft.)	Temporary (ft.)
Sandy Run Branch*	1	Perennial	290	0
Deep Gully (SA 17)	4	Perennial	301	0
UT Mill Creek (SA 15)	6	Perennial	260	0
Mill Creek (SA 01)	7	Perennial	326	0
UT Deep Gully (SA 18)	9	Intermittent	122	0
		Total:	1,299	0

*The inlet extension is proposed to be on a 0.0% grade and will be at bed level.

Impacts to jurisdictional wetlands for U-4007A are summarized below in Table 4 and U-4007B in Table 5.

Table 4. Wetland Impacts (U-4007A)

Wetland Name	Permit Site	Permanent (ac.)	Temporary (ac.)	Riparian/ Non-Riparian
WTL-V	1	<0.01	0	Riparian
WTL-T	2	0.52	0	Riparian
WA 42	3	2.72	0	Non-Riparian
WA 15	4	0.10	0	Non-Riparian
WA 30	5	0.39	0	Riparian
WA 40	6	0.16	0	Riparian
WA 14	7	1.52	0	Riparian
WA 12	8	0.12	0	Non-Riparian
WA 12	9	0.01	0	Non-Riparian
Total:		**5.55**	**0**	**2.59/2.95**

Table 5. Wetland Impacts (U-4007B)

Wetland Name	Permit Site	Permanent (ac.)	Temporary (ac.)	Riparian/ Non-Riparian
WA 09	2	0.35	0	Non-Riparian
WA 17	3	0.78	0	Non-Riparian
WA 19	4	0.65	0	Riparian
WA 19	5*	<0.01	0	Riparian
WA 22	6	0.29	0	Riparian
WA 03	7	0.37	0	Riparian
WA 16	8	0.16	0	Non-Riparian
WA 20	9	0.11	0	Riparian
Total:		**2.70****	**0**	**1.42/1.29**

* Site 5 impacts are less than 0.005 acre.

** Individual site impacts numbers are rounded to the nearest 0.01. The total impact number is taken from the individual site impacts before rounding. Therefore, due to rounding, total impacts are 2.70.

Impacts to Waters of the U.S.

Permanent Impacts: Proposed permanent impacts include which 4.02 acres to riparian wetlands and 4.24 acres to non-riparian wetlands resulting from fill, excavation, and mechanized clearing. Proposed permanent impacts for streams is 3,039 feet resulting from culvert installation, extension and roadway fill.

Utility Impacts: There will be no impacts to jurisdictional resources due to utilities for U-4007.

Protected Species

The USFWS list fourteen federally protected species for Onslow County as of the January 31, 2008 listing (Table 6).

Table 6. Federally protected species of Onslow County.

Scientific Name	Common Name	Habitat Present	Status	Biological Conclusion
Puma concolor couguar	Eastern cougar	No	E	No Effect
Trichechus manatus	West Indian manatee	No	E	No Effect
Lindera melissifolia	Pond berry	Yes	E	No Effect
Charadrius melodus	Piping plover	No	T	No Effect
Picoides borealis	Red-cockaded woodpecker	No	E	No Effect
Alligator mississippiensis	American alligator	No	T(S/A)	N/A
Caratta carretta	Loggerhead sea turtle	No	T	No Effect
Chelonia mydas	Green sea turtle	No	T	No Effect
Dermochelys coriacea	Leatherback sea turtle	No	E	No Effect
Carex lutea	Golden sedge	No	E	No Effect
Acipenser brevirostrum	Shortnose sturgeon	No	E	No Effect
Thalictrum cooleyi	Cooley's meadowrue	Yes	E	No Effect
Amaranthus pumilus	Seabeach amaranth	No	T	No Effect
Lysimachia asperulaefolia	Rough leaved loosestrife	Yes	E	No Effect

Note: E – endangered T – threatened T(S/A) -threatened due to similarity of appearance

Plant re-surveys will be conducted prior to let for the species that have habitat in the study area.

Cultural Resources

Archaeology and Historic Architecture

There are no known historic resources in the project's area of potential affect. The State Historic Preservation Office (HPO) and NCDOT concurred that the project will have no effect on any known historic architectural or archaeological resources and do not recommend further architectural or archaeological surveys.

FEMA Compliance

The project has been coordinated with appropriate state and local officials and the Federal Emergency Management Agency (FEMA) to assure compliance with FEMA, state, and local floodway regulations.

Mitigation Options

The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts, and to provide full compensatory mitigation of all remaining, unavoidable jurisdictional impacts. Avoidance measures were taken during the planning and NEPA compliance stages; minimization measures were incorporated as part of the project design.

Avoidance and Minimization

All jurisdictional features were delineated, field verified and surveyed within the corridor for U-4007. Using these surveyed features, preliminary designs were adjusted to avoid and/or minimize impacts to jurisdictional areas. NCDOT employs many strategies to avoid and minimize impacts to jurisdictional areas in all of its designs. Many of these strategies have been incorporated into BMP documents that have been reviewed and approved by the resource agencies and which will be followed throughout construction. All wetland areas not affected by the project will be protected from unnecessary encroachment. Individual avoidance and minimization items are as follows:

- The project was designed to avoid or minimize disturbance to aquatic life movements.
- Crossings of jurisdictional areas were angled to cross as perpendicular as possible to minimize impacts.
- The use of 3:1 fill slopes in jurisdictional areas.
- The Western Parkway alignment will be shifted to avoid the relocation of the stormwater pond. The revised alignment will require the relocation of approximately 0.5 acre of an existing stormwater pond. The pond would be expanded at the existing site to compensate for the area taken. This revised alignment increases stream impacts by approximately 130 feet.
- Access along Western Parkway would be fully controlled with designated access points along the roadway.
- Design Standards in Sensitive Watersheds for portions of the project area that drain to Scales Creek.
- Use of pre-formed scour holes.

Compensation

The NCDOT has avoided and minimized impacts to jurisdictional resources to the greatest extent possible as described above. The unavoidable impacts to jurisdictional wetlands will be offset by compensatory mitigation provided by the NC Ecosystem Enhancement Program (EEP). A copy of the EEP acceptance letter will be forwarded upon receipt.

Indirect and Cumulative Effects

Per the U-4007, Indirect and Cumulative Effects Assessment Update, a re-examination of the data and conclusions from the 2006 document, as well as the updated analysis, both support the final determination that U-4007 has a low potential for inducing change in land use that would notably contribute to cumulative effects. No additional ICE study is recommended.

Regulatory Approvals

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

Section 401: Application is hereby made for a Section 401 Water Quality Certification from the N.C. Division of Water Quality.

A copy of this permit application will be posted on the DOT website at: http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html.

CAMA: A Consistency Certification will be submitted to the NC Division of Coastal Management under a separate cover.

If you have any questions or need additional information, please contact John Merritt at jsmerritt@ncdot.gov or (919) 431-6749.

Sincerely,

for Gregory J. Thorpe, Ph.D., Manager
Environmental Management Director, PDEA Branch

Cc:
w/attachment
Mr. Brian Wrenn, NCDWQ (5 copies)
Ms. Jennifer Derby, USEPA

w/o attachment (see website for attachments)
Dr. David Chang, P.E., Hydraulics
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. Scott McLendon, USACE, Wilmington
Mr. Steve Sollod, NCDCM
Mr. Travis Wilson, NCWRC
Mr. Gary Jordan, USFWS
Mr. Ron Sechler, NMFS
Ms. Anne Deaton, NCDMF
Mr. Brian Yamamoto, P.E., Planning Engineer
Mr. Mark Staley, Roadside Environmental
Mr. Greg Perfetti, P.E., Structure Design
Mr. Victor Barbour, P.E., Project Services Unit
Mr. H. Allen Pope, P.E., Division 3
Mr. Mason Herndon, Division 3
Ms. Beth Harmon, EEP
Mr. Phillip Ayscue, NCDOT External Audit Branch
Mr. Drew Joyner, P.E., Human Environment Unit
Mr. Clarence W. Coleman, P.E., FHWA

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT
(33 CFR 325)

OMB APPROVAL NO. 0710-003
Expires December 31, 2004

Public reporting burden for this collection of information is estimated to average 10 hours per response, although the majority of applications should require 5 hours or less. This includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302; and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003), Washington, DC 20503. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authority: Rivers and Harbors Act, Section 10, 33 USC 403: Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research and Sanctuaries Act, 33 USC 1413, Section 103. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETED

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME
North Carolina Department of Transportation
Project Development & Environmental Analysis

8. AUTHORIZED AGENT'S NAME AND TITLE (an agent is not required)

6. APPLICANT'S ADDRESS
4701 Atlantic Avenue
Suite 116
Raleigh, NC 27604

9. AGENT'S ADDRESS

7. APPLICANT'S PHONE NOs. W/AREA CODE
a. Residence
b. Business 919-431-6749

10. AGENT'S PHONE NOs. W/AREA CODE
a. Residence
b. Business

11. **STATEMENT OF AUTHORIZATION**

I hereby authorize, _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

APPLICANT'S SIGNATURE DATE

NAME, LOCATION, AND DESCRIPTION OR PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)
U-4007

13. NAME OF WATERBODY, IF KNOWN (if applicable)
Scales Creek, one UT to Scales Creek, Deep Gully Creek, one UT to Deep Gully Creek, Mill Creek and one UT to Mill Creek, and Sandy Run Branch

14. PROJECT STREET ADDRESS (if applicable)

15. LOCATION OF PROJECT
Onslow (COUNTY) NC (STATE)

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) **Section, Township, Range, Lat/Lon, and/or Accessors's Parcel Number, for example**

17. DIRECTIONS TO THE SITE
Please see attached vicinity map and cover letter.

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

Proposed US 17 Improvements from the Jacksonville Bypass to Drummer Kellum Road.

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

The purpose and need of the project is to increase safety, provide route continuity and reduce congestion.

USE BLOCKS 20-22 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

Construction of roadway.

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

Please see attached permit drawings

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

There will be a total of 4.01 acre of permanent riparian wetland impacts, 4.24 acre of permanent non-riparian impacts and 0.58 acres (3,039 linear feet) of permanent surface water impacts. There will also be 0.02 acre (115 ft) of temporary surface water impacts.

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

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

Please see sheet attached list in the permit drawing package.

25. List of Other Certifications or Approvals/Denials Received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED

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

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

E. L. Lusk 5.7.10

SIGNATURE OF APPLICANT DATE SIGNATURE OF AGENT DATE

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

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

Subject: Minutes from Interagency 4B Hydraulic Design Review Meeting
On August 20, 2008 for U-4007A in Onslow County

Team Members:

Brad Shaver-USACOE	(present)
David Wainright-NCDWQ	(present)
Travis Wilson-NCWRC	(absent)
Steve Sollod-NCDCM	(present)
Steven Lane-NCDCM	(absent)
Gary Jordan-USFWS	(present)
Kathy Matthews-EPA	(absent)
Chris Militscher-EPA	(present)
Donnie Brew-FHWA	(present)
Chris Rivenbark-NEU	(present)
John Merritt-NEU	(present)

Participants:

Marshall Clawson, NCDOT Hydraulics
Dan Duffield, NCDOT Hydraulics
Josh Dalton, Sungate Design Group
Brian Elam, Sungate Design Group
Mason Herndon, NCDOT Division 3
Timmy Zepeda, NCDOT Division 3
Brian Yamamoto, NCDOT PDEA
Jim Rerko, NCDOT Division 6
Omar Azizi, NCDOT Structures
Emily Murray, NCDOT Structures

General Comments:

Marshall Clawson started the meeting by introducing the project and stating that the purpose of the meeting was to review the 30% hydraulic designs and show that the commitments made at the 4A meeting were met. Mr. Clawson then handed the meeting over to Josh Dalton. Mr. Dalton proceeded through the project sheet by sheet explaining the proposed drainage design and fielding questions.

Plan Sheets 4:

There are no streams or wetlands on this sheet.

Plan Sheets 5:

Mr. Dalton noted that there is an existing culvert under US 17 Bypass that will be extended on both ends. Two jurisdictional streams converge just upstream of the existing culvert. The existing culvert is a double barrel 6' by 8' RCBC. The barrels of the culvert will be extended separately in the direction of the two channels.

Downstream of the existing culvert, Scales Creek will be conveyed under Loop A and Ramp A by double barrel 6' by 8' RCBC's. The culverts will be separated by approximately 220 feet of open channel. Photographs of Scales Creek and the UT to Scales were passed around and the extreme amount of garbage in the streams was noted.

A small portion of the wetland will be left in the gore area between Ramp A and Loop A. This wetland will be considered a total take.

A wetland will be impacted along Ramp B. Discussion occurred regarding the installation of an equalizer pipe to provide hydrology to the isolated wetland between Ramp B and Loop B. Chris Rivenbark will discuss with Lelani Paugh and inform us of the decision. If an equalizer pipe is installed and the wetland not considered a total take, a commitment will need to be added that this area is not mowed.

Plan Sheets 6:

Mr. Dalton noted that the road crosses the UT to Scales Creek. A 66-inch RCP buried 1-foot will be installed at this location. A small wetland will also be impacted at this location. Mr. Dalton mentioned that preformed scour holes will be used outside of the wetland areas.

Photographs of the stream were passed around and again the garbage and tires in the stream were noted.

Plan Sheet 7:

Mr. Dalton stated that a wetland exists right of stations 42+50 to 45+00 –L-. This area is currently shown as cut, but expressway gutter will be installed to remove the cut ditch from the wetland area.

Plan Sheets 8:

Mr. Dalton stated that a small wetland exists right of stations 55+00 to 58+00 –L-. This area is currently shown as cut, but the curb and gutter will be extended past the wetland to remove the cut ditch from the wetland area.

Mr. Dalton stated that there is a jurisdictional stream parallel to and north of Huff Drive. This stream enters an existing 36-inch RCP and exits the system from an existing 60-inch RCP on the west side of Western Boulevard. A portion of this system will be revised.

Additional Discussion

A layout of the culvert extension at US 17 was provided to Mr. Zepeda for constructability issues and input regarding construction phasing.

Meeting Adjourned

Subject: Minutes from Interagency 4C Permit Drawing Review Meeting
On April 15, 2009 for U-4007A in Onslow County

Team Members:

Brad Shaver-USACOE	(present)
David Wainright-NCDWQ	(present)
Travis Wilson-NCWRC	(absent)
Steve Sollod-NCDCM	(present)
Steven Lane-NCDCM	(present)
Gary Jordan-USFWS	(absent)
Kathy Matthews-EPA	(present)
Chris Militscher-EPA	(absent)
Ron Lucas-FHWA	(absent)
Chris Rivenbark-NEU	(present)
John Merritt-NEU	(present)

Participants:

Marshall Clawson, NCDOT Hydraulics
Josh Dalton, Sungate Design Group
Mason Herndon, NCDOT Division 3
Jackson Provost, NCDOT Division 3
Todd Murray, NCDOT Roadway Design
Kevin Bowen, NCDOT Construction Unit
Mark Staley, NCDOT REU

General Comments:

Marshall Clawson started the meeting by introducing the project and stating that the purpose of the meeting was to review the permit drawings. Mr. Clawson then handed the meeting over to Josh Dalton. Mr. Dalton proceeded through the project sheet by sheet explaining the proposed sites and impacts to streams and wetlands.

Site 1:

There is a small wetland impact at this site. No comments.

Site 2:

Mr. Dalton noted that there is a stream impact and wetland impact at this site. Ms.Matthews asked why the wetland between Loop A and Ramp A was hatched as 'mechanized clearing'. Mr. Dalton explained that after clearing 10 feet from the top of the proposed new channel and fill slopes there would only be a sliver of wetland left.

Site 3:

Mr. Dalton noted that there is a large wetland impacted by the proposed Ramp B. There was a discrepancy in the wetland limits. The plan sheet that contained the enlarged view of the site showed the wetland closed off adjacent to the proposed right-of-way line. The plan sheet that shows the entire interchange showed the wetland continuing away from the project limits. Mr. Rivenbark and Mr. Merritt stated they would verify the correct wetland limits. Mr. Shaver stated that if the wetland was closed off and did not continue away from the project, the remaining

wetland should be considered as a total take. If the wetland continues, then the impact was fine as depicted.

Several agency members asked if the wetland inside Ramp B would be protected. Mr. Shaver requested adding a commitment to the permit application that mowing would not occur inside the remaining wetland limits. Mr. Provost stated that current mowing guidelines are to mow 10 feet outside shoulder points and to ditch limits so this should not be an area that would be mowed. Mr. Herndon stated that blaze orange fencing would be used during construction to delineate the wetlands.

Site 4:

Mr. Dalton stated that Site 4 consisted of a small wetland impact. No comments.

Site 5:

Site 5 consists of a small wetland impact. This impact will now be included with Site 2 impacts.

Site 6:

Site 6 consists of a small temporary stream impact at the outlet of the existing box culverts. Impacts also include stream impacts to Scales Creek and UT to Scales Creek. Since these impacts are all part of Scales Creek, they will now be included with Site 2 impacts. No comments.

Site 7:

Site 7 consists of a large wetland impact. This site will now be referred to as Site 5. No comments.

Site 8:

Site 8 consists of jurisdictional stream and wetland impacts. This site will now be referred to as Site 6. Mr. Shaver requested that the small remaining portion of the wetland to the north be considered a 'take'.

Site 9:

Site 9 consists of a large wetland impact. This site will now be referred to as Site 7. Mr. Shaver requested that the small remaining portion of the wetland to the left of station 43+50 –L- be considered a 'take'. There also appears to be a stray wetland line bisecting the wetland.

Site 10:

Site 10 consists of a wetland impact right of station 56+50 –L-. There appears to be a stray wetland line that crosses the proposed roadway. Mr. Rivenbark and Mr. Merritt stated they would verify the wetland limits in this area. This site will now be referred to as Site 8.

Site 11:

Site 11 consists of a small pocket wetland impact left of station 58+50 –L-. Mr. Dalton stated that this small wetland has been included as a 'total take'. This site will now be referred to as Site 9. No comments.

Site 12:

Site 12 consists of a small temporary jurisdictional stream impact left of station 66+00 –L-. Mr. Wainright asked for an explanation of the stream path. Mr. Dalton stated that the stream flows from the east toward the west and enters an existing 36" RCP left of station 65+57 –L-. This pipe then flows to a blind junction box of which the location was unable to be determined. The flow eventually reaches the existing 60" RCP and outlets the system right of station 17+18 –Y5-. This site will now be referred to as Site 10. No comments.

Meeting adjourned.

Subject: Minutes from Interagency 4B Hydraulic Design Review Meeting
On October 15, 2008 for U-4007B in Onslow County

Team Members:

Brad Shaver-USACOE	(present)
David Wainright-NCDWQ	(present)
Travis Wilson-NCWRC	(present)
Steve Sollod-NCDCM	(present)
Steven Lane-NCDCM	(present)
Gary Jordan-USFWS	(present)
Kathy Matthews-EPA	(present)
Chris Militscher-EPA	(absent)
Donnie Brew-FHWA	(present)
Chris Rivenbark-NEU	(present)
John Merritt-NEU	(present)
David Harris-REU	(absent)
Bryan Taylor-Roadway	(absent)

Participants:

Marshall Clawson, NCDOT Hydraulics
Frank Fleming, Sungate Design Group
Brian Elam, Sungate Design Group
Kenny Smith, Stantec
Joe Blair, NCDOT Division 3
Mason Herndan, NCDOT Division 3
Brian Yamamoto, NCDOT PDEA
Omar Azizi, NCDOT Structures
Emily Murray, NCDOT Structures
Amy Simes, DENR
Todd Murray, NCDOT Roadway

General Comments:

Marshall Clawson started the meeting by introducing the project and stating that the purpose of the meeting was to review the 30% hydraulic designs and show that the commitments made at the 4A meeting were met. After introductions, Mr. Clawson then handed the meeting over to Frank Fleming. Mr. Fleming proceeded through the project sheet by sheet explaining the proposed drainage design and fielding questions.

Plan Sheets 4:

There are no streams or wetlands impacted on this sheet. Mr. Fleming noted an existing ditch will be replaced right of the project in the vicinity of Scales Creek. The proposed ditch will tie to the existing ditch before impacting Scales Creek.

Plan Sheets 5:

Mr. Fleming noted that there is an existing 2 @ 6' X 7' box culvert under US 17 Bypass that will be extended on both ends. The jurisdictional stream is Sandy Run Branch. The two extensions will use bends to line the box culvert with the channel. The extensions cannot be buried the traditional 1.0' on either end. The inlet extension is proposed to be on a 0.0% grade and will be at bed level. The outlet will be extended on 0.3% grade, the same as the existing grade, and will be buried +/-0.7'. The inlet side cannot be buried because of the existing culvert elevation and existing channel elevation. DWQ requested a note be provided for not burying the extensions in the permit application.

Mr. Fleming stated the stormwater will be handled with pre-formed scour holes and grass swales.

Plan Sheets 6:

Mr. Fleming noted the wetland system that is conveyed from the right of -NBL-Ramp at +/- 48+00 through two crossing on the future construction of Loop-1A- to an extension of an existing system that runs south parallel to Marine Blvd. Mr. Jordan of USFWS asked will the system be a total take. NCDOT PDEA and Division requested clarification on why it would be a total take. Mr. Blair stated inside the loop would not be cleared. EPA and USACOE stated there may be water quality benefit. Mr. Jordan stated the system would not support habitat. There was an agreement that two small areas would be a total take. These areas are between –L- and Loop -1A- and the area between the loop and –Y-1A- (Marine Blvd.). Many suggestions from NCDOT were offered for the area inside the loop, from photo monitoring, additional floodplain pipes, and/or reduced mitigation ratios. There was no conclusion at this time. It was agreed that a decision should be made before the field inspection.

Ms. Matthews questioned the timing of the "future loop". Mr. Smith and Mr. Blair agreed the embankment would be constructed but not paved.

Mr. Fleming stated the stormwater will be handled with pre-formed scour holes and grass swales.

Plan Sheet 7:

Mr. Fleming stated that the wetland system and jurisdictional stream at +/- station 16+00 –L- will be conveyed with a 60" RC pipe buried 1.0'. Mr. Fleming stated the stormwater will be handled with pre-formed scour holes and grass swales.

Mr. Wainwright expressed concern about the wetland boundary that appears incomplete along -Y4-. Mr. Wainwright made it clear that he cannot "sign off" on –Y4- alignment until he receives documentation that the alignment minimizes wetland impact as previously agreed upon. Mr. Fleming stated a request for clarification of the boundary had been sent to Hydraulics. (9/26/08). NEU stated they had received the request and is looking into the situation.

Mr. Fleming stated that the wetland system at +/-26+00 –L- will be conveyed with a proposed 36" RC pipe. This system is a wetland with no channel. Mr. Fleming also proposes to use standard rip rap pads at the outlet of this pipe and others that convey flow in a wetland system with no channel. He expressed concern for using scour holes and/or energy dissipaters in wetlands. He expressed that the construction of these outlet protections would disturb the system more than a standard pad to dissipate the energy. Mr. Fleming explained that this is not an equalizer pipe but it's a crosspipe with discernable drainage area. Mr. Fleming there are equalizer pipes proposed on the project and they will be flat (0.0% grade) and require no outlet protection. Mr. Fleming explained the size of the stone proposed and the length of the proposed rip rap pads (std. 876.02 of *Roadway Standard Drawings*). Mr. Wilson stated that the pads are not a detriment to wildlife passage since the pipe sizes are relatively small. Mr. Lane expressed

concern over rip rap staying in place. Mr. Fleming stated there is a problem with the type of stone available in the area being light. Mr. Blair stated granite is being used in the area and it was agreed granite would be used for outlet protection.

Plan Sheet 8:

Mr. Fleming stated that the wetland system at +/-32+00 –L- will be conveyed with 2 proposed lines of 24" RC pipe. Mr. Fleming stated that a double line is being used for a reduction of storm elevation in a wide floodplain and should help wetland hydrology connectivity. This system also does not have a defined channel and they are not equalizer pipes.

Mr. Fleming stated the stormwater will be handled with pre-formed scour holes and grass swales.

Plan Sheet 9:

Mr. Fleming stated that the wetland system and jurisdictional stream at +/-40+00 –L- will be conveyed with a proposed 72" RC pipe buried 1.0'. This crossing is just downstream of the water quality pond behind Target and Lowes. The pond will be impacted by roadway fill but no runoff from the proposed –L- alignment will be discharged into these ponds. Mr. Fleming is proposing to minimize impact to the pond by utilizing rock-plated 1.5:1 fill slopes in the pond. Mr. Fleming stated a reduction in volume of the pond has not been finalized at this time. Mr. Wainwright stated NCDOT should notify the Stormwater Section of DWQ of the proposed construction, reduction in volume, and their process and proposal to mitigate the impact to the water quality pond. Mr. Fleming asked if that was Sungate's responsibility. Mr. Clawson stated that the process will occur during the R/W stage and will be considered apart of the property settlement. Sungate will supply NCDOT with the volume reduction of the pond(s). This data will be used to compensate the pond owner in regards to their existing stormwater permit. It will be the pond's owner responsibility to satisfy their permit with DWQ. Mr. Wainwright requested this information to be included in the permit application.

Mr. Fleming stated the stormwater will be handled with pre-formed scour holes and grass swales.

Plan Sheet 10:

Mr. Fleming stated that the wetland system and jurisdictional stream at +/-57+00 –L- will be conveyed with a proposed 42" RC pipe buried 1.0'. Also a stream that intersects with the previous stream south of the proposed alignment was discussed. This stream crosses –L- at +/-60+00. This stream is called jurisdictional beginning at +/- 30' south of the centerline. Mr. Fleming stated this stream is proposed to be conveyed with a 36'RC pipe and both pipes will be buried 20%. Mr. Sollod stated the pipes need to be buried 1.0' since the project is in a CAMA county if the stream is a "blue line" on the USGS Quad. Mr. Fleming stated he was unaware of this and will bury the pipes 1', if the streams are "blue-lines".

Mr. Fleming stated the stormwater will be handled with pre-formed scour holes and grass swales.

Plan Sheet 11:

Mr. Fleming stated there are no wetlands or jurisdictional streams impacted on this sheet.

Plan Sheet 12:

Mr. Fleming stated there is a wetland left of 100+00 Y-2 that may constitute as an impact. He noted there is an existing deep roadside ditch that runs along Marine Blvd. This ditch is proposed to be replaced in-kind at about the same elevation, but will move horizontally +/-40' to 50'. Mr. Fleming noted that the dimension stated was an estimate and needs to be verified once drainage is approved by NCDOT. Mr. Wainwright stated the "Skaggs Method" could be used to estimate the impact. Mr. Fleming stated he is familiar with the method but has never implicated it. Mr. Fleming expressed concern that past uses of the methods by others seem to over estimate the impact. Mr. Fleming also suggested that the proposed ditch will be at the same elevation as the existing. Mr. Shaver stated it seemed to be reasonable to estimate the impact by the horizontal distance the ditch will be moved. There was agreement among all.

Plan Sheet 13:

Mr. Fleming reiterated the wetland delineation problem on –Y4-.

Mr. Fleming stated the jurisdictional stream that crosses –Y4- at +/- 23+00 is proposed to be conveyed by 2 lines of 36" RC pipe. The pipe in the channel will be buried 1' if it's a "blue line", therefore the pipe size may increase.

Mr. Fleming stated there is a grade revision for Moosehaven Road that is not complete at this time and that the designers have been notified to reduce impacts to water quality ponds and the jurisdictional stream. This stream previously was not going to be impacted by Moosehaven Road. A discussion commenced upon which impact, to the pond or the stream, should be minimized the most. It was agreed to attempt to not impact the pond behind Ruby Tuesdays.

Mr. Fleming stated the pond at the SECU will be impacted. Again Mr. Wainwright requested the stormwater section of DWQ be notified.

Mr. Fleming also added that along –Y4- equalizer pipes are proposed. The number of pipes and their location will be determined once a complete wetland file is received.

Plan Sheet 14:

Mr. Fleming stated there are no wetlands or jurisdictional streams impacted on this sheet. The stormwater from the retail area will be discharged into the same water quality ponds as it does now.

Meeting adjourned.

Subject: Minutes from Interagency 4C Permit Drawing Review Meeting
On April 15, 2009 for U-4007B in Onslow County

Team Members:

Brad Shaver-USACOE	(present)
David Wainright-NCDWQ	(present)
Travis Wilson-NCWRC	(absent)
Steve Sollod-NCDCM	(present)
Steven Lane-NCDCM	(present)
Gary Jordan-USFWS	(absent)
Kathy Matthews-EPA	(present)
Chris Militscher-EPA	(absent)
Ron Lucas-FHWA	(absent)
Chris Rivenbark-NEU	(present)
John Merritt-NEU	(present)
David Harris-REU	(absent)
Bryan Taylor-Roadway	(absent)

Participants:

Marshall Clawson, NCDOT Hydraulics
Frank Fleming, Sungate Design Group
Jackson Provost, NCDOT Division 3
Mason Herndan, NCDOT Division 3
Kevin Bowen, NCDOT Division 3
Mark Staley, NCDOT-REU
Todd Murray, NCDOT Roadway

General Comments:

Marshall Clawson started the meeting by introducing the project and stating that the purpose of the meeting was to review the final hydraulic design and show that the commitments made at the 4A and 4B meeting were met. After introductions, Mr. Clawson then handed the meeting over to Frank Fleming. Mr. Fleming proceeded with discussion of site numbers for the interchange. The wetland system through the interchange on sheet #6 sites will be consolidated into one site. The site will be site #3. Mr. Fleming then proceeded by going through project site by site and fielding questions and comments for each site.

Plan Sheets 5-Site #1

Mr. Shaver asked if the impacts had increased from 4B. Mr. Fleming stated the impacts have not increased. The permits now show ditches that connect to the existing stream. Mr. Fleming stated that these ditches are replacing existing ditches that are being filled by the proposed widening. Ms. Matthews asked if any of these ditches are jurisdictional. Mr. Fleming responded that none of the ditches are jurisdictional.

Plan Sheet 6-Site #2

Mr. Fleming noted the wetland system that is located Right of Y2-SBL will considered a total take and impacted. There was agreement.

Plan Sheet 6-Site #3 (Old Site #3,#4,#5,#6)

This site is the wetland system that is being crossed by –L-, Loop 1A, Ramp 1A, and widening of Y1-SBL. Site #3 is now what was Site #'s 3, 4, 5, & 6. It was discussed to revise the site numbers but retain the station breakout and quantities in the summary sheet, as is. Mr. Fleming requested on an open issue concerning how to show and calculate impacts to Site #3 through the interchange. After Mr. Shaver, Mr. Rivenbark, and Division 3, discussed impacts and mitigation, it was decided the following. The areas between Y1-SBL (Marine Blvd.) and Ramp Y1 and the area inside the loop will not be a total take. The area between –L- and Loop 1A will be a total take. These areas will not be filled or cleared and no mitigation is required. The impact from roadway fill will be documented in the summary but the area not being filled will only be documented in the remarks on the summary. The area upstream of –L- also will not be a total take.

It was discussed to change the hatching for pavement and embankment removal on Hawkside Drive. Also add a note to "Remove Embankment to Natural Ground".

Plan Sheet 7: Site #4 and #5 (OLD Site #7 & Site #8)

Mr. Fleming discussed the combining of Site #7 & #8. It was decided to leave as is.
No other comments.

Plan Sheet 8-(No Site)

Mr. Shaver asked why there wasn't a sheet #8 in the permit package. Mr. Fleming stated that Sungate Design had received a new wetland file which eliminated any impact. Upon investigation, Sungate Design received the file on 3/27/09 from Dan Duffield of Hydraulics. There was discussion between Mr. Shaver and Mr. Rivenbark concerning verification. Mr. Rivenbark stated the area was verified by a co-worker of Mr. Shavers.

Plan Sheet 9-Site #6 (Old Site #9 & #10)

Mr. Shaver reminded Mr. Fleming that the ponds called Site #10 and Site #14 (Sheet #13) are not jurisdictional. There is no need for the sites. Mr. Fleming advised that DWQ needs to see this on the permit somewhere. It was decided to explain the filling of stormwater ponds in the remarks in the summary. Mr. Wainwright asked if these ponds have been discussed with the stormwater group of DWQ. Mr. Clawson stated that the ponds have been discussed with DWQ-Stormwater.

Mr. Herndon expressed that the sliver wetland on the right of –L- at Site #6 (old Site #9) should be a total take. There was agreement. The additional area will be shown in the remarks of the summary sheet.

Plan Sheet 10-Site #7 (Old Site #11)

No comments

Plan Sheet 12-Site #8 (Old Site #12)

Mr. Fleming discussed the procedure for drawing the limits of impact to the wetland left of 100+00 Y-1A. Mr. Fleming also stated the label will be revised to "Limits of Wetland **Impact** Drawn To Potential Effects Of Replacing Roadway Ditch." There was agreement.

Plan Sheet 13: Site #9 (Old Site #13 & #14)

No comments (Site #9)

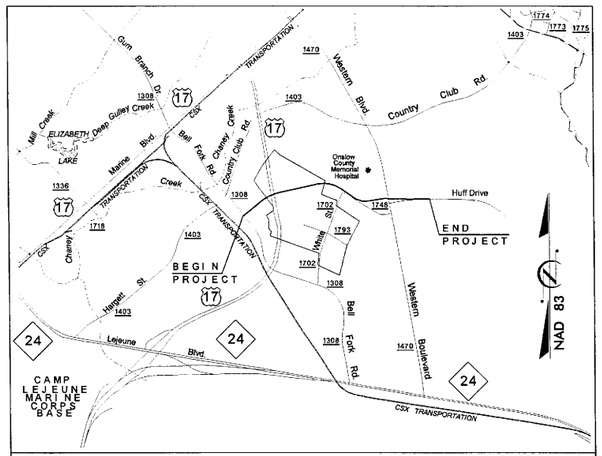
As discussed before, Site #14 will be removed. This is an impact to a stormwater pond. Mr. Clawson stated that the impact has been coordinated with Stormwater Group of DWQ. The pond impact will be documented in the remarks of the summary.

Meeting Adjoined

TIP PROJECT: U-4007A

CONTRACT:

See Sheet 1-A for Index of Sheets



VICINITY MAP

R/W PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ONSLOW COUNTY

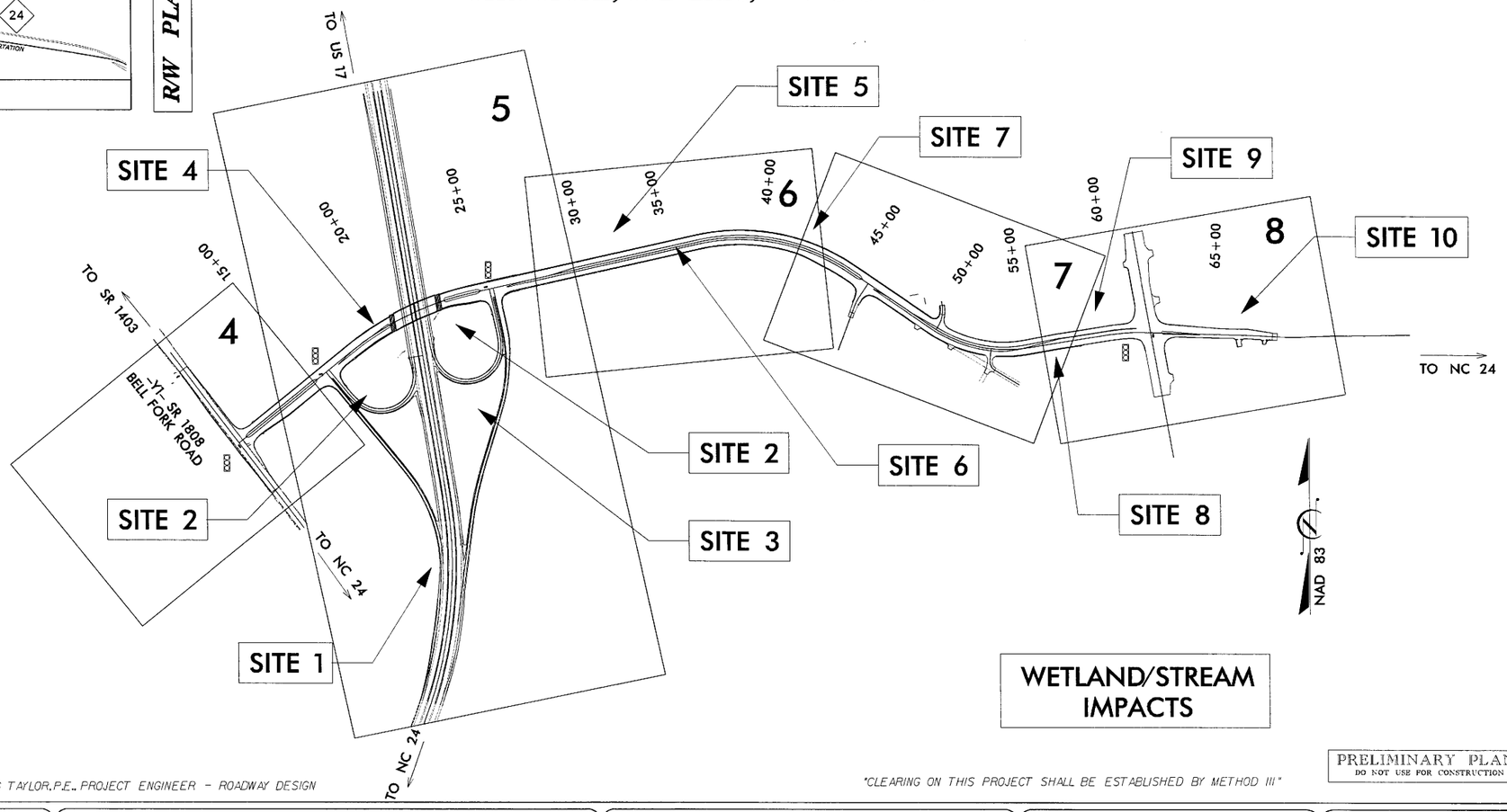
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4007A	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
35008.1.1	STPNHF-17(31)	PE
35008.3.1	STPNHF-17(63)	R/W & UTILS.

LOCATION: *SR 1702 (WHITE STREET EXTENSION) FROM SR 1808 (BELL FORK ROAD) TO SR 1470 (WESTERN BOULEVARD)*

TYPE OF WORK: *GRADING, DRAINAGE, PAVING, STRUCTURE, CULVERTS, AND SIGNALS*

ENGLISH



WETLAND/STREAM IMPACTS

THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF JACKSONVILLE.

NCDOT CONTACT: DOUG TAYLOR, P.E., PROJECT ENGINEER - ROADWAY DESIGN

"CLEARING ON THIS PROJECT SHALL BE ESTABLISHED BY METHOD III"

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

PLANS 50 25 0 50 100

PROFILE (HORIZONTAL) 50 25 0 50 100

PROFILE (VERTICAL) 10 5 0 10 20

DESIGN DATA

ADT 2011 = 14,500
ADT 2031 = 18,400
DHV = 10 %
D ≐ 65 %
T = 2 % *
V = 40 MPH

* (TTST 1 % + DUAL 1 %)
URBAN MAJOR COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-4007A	= 1.060 mi.
LENGTH STRUCTURE TIP PROJECT U-4007A	= 0.044 mi.
TOTAL LENGTH TIP PROJECT U-4007A	= 1.104 mi.

Prepared in the Office of:
WANG ENGINEERING COMPANY, INC.
CARY, N.C.
FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: FEBRUARY 20, 2009

LETTING DATE: OCTOBER 19, 2010

CLIFTON T. REGISTER, P.E.
PROJECT ENGINEER

SCOTT L. KENNEDY
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
SUNGATE DESIGN GROUP, PA

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER
WANG ENGINEERING

SIGNATURE: *P.E.*

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

Permit Drawing
Sheet 1 of 35

STATE HIGHWAY DESIGN ENGINEER *P.E.*

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-4009J	3
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

ENGLISH

SEE SHEET NO.4
MATCHLINE STA.14+00.00

MARJORIE C. TREDWELL
MATILDA R. SMITH
RAYMOND BRYANT
MELVIN BORDEN
MAJOR MODETT
ALICE L. MEARS
MABLE M. PAPER
BERTHINA GRAY PALMER
CARRIE L. MURPHY
BILLIE WILTON WHITE
LARRY E. LANGDON, et ux
CLARK JR. RELMOND
BELL FORK CHURCH OF CHRIST
DELIVERANCE EVANGELISTIC TEMPLE, INC.
NC DEPT. OF TRANSPORTATION
POPKIN BROTHERS ENTERPRISES, INC.
POPKIN AND ASSOCIATES, INC.

DENOTES FILL IN WETLAND
DENOTES EC MECHANIZED CLEARING
DENOTES EXCAVATION IN WETLAND
DENOTES IMPACTS IN SURFACE WATER

SITE 1
SITE 2
SITE 3
SITE 4
SITE 5

JURISDICTIONAL STREAM
LT TO SCALES CREEK

JURISDICTIONAL STREAM
SCALES CREEK

NAD '83

N 9°11'56.0" W

MATCHLINE STA.57+00.00 THIS SHEET

MATCHLINE STA.28+50.00
SEE SHEET NO.6

SKETCH SHOWING BRIDGE IN RELATIONSHIP TO ROADWAY

BEGIN BRIDGE
℄ POC Sta.20+10.00

END BRIDGE
℄ POC Sta.24+60.00

DETAIL #7
CHANNEL CHANGE
(NOT to Scale)

DETAIL #8
CHANNEL CHECK
(NOT to Scale)

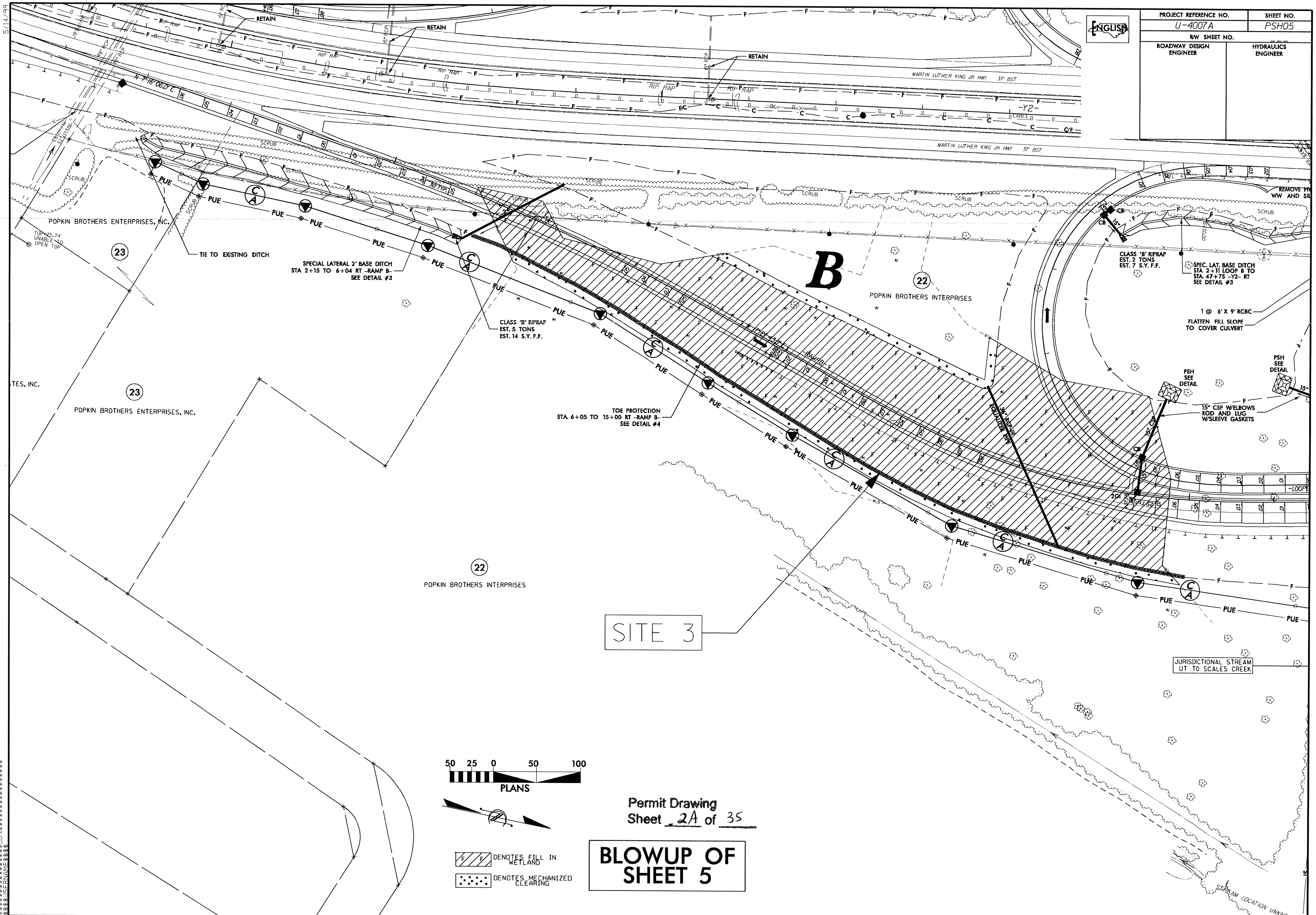
DETAIL #9
CHANNEL CHANGE
(NOT to Scale)

RAMP B LOOP B
EST. 400 CY
ADT 8000

Revised 6/3/10
Permit Drawing
Sheet 2 of 35

SEE SHEET 9 FOR -L- PROFILE
SEE SHEET 10 FOR -L- PROFILE
SEE SHEET 11 FOR -RAMP A- LOOP A- PROFILE
SEE SHEET 12 FOR -RAMP B- LOOP B- PROFILE
SEE SHEET 13 FOR -RAMP B- PROFILE

GRAPHIC SCALE
PLANS



PROJECT REFERENCE NO.
U-4007A
SHEET NO.
PSH05
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
ENGLISH
RETAIN
MARTIN LUTHER KING JR HWY 37' BST
-Y2-
B
POPKIN BROTHERS ENTERPRISES, INC.
POPKIN BROTHERS INTERPRISES
TIE TO EXISTING DITCH
SPECIAL LATERAL 2' BASE DITCH STA 2+15 TO 6+04 RT -RAMP B- SEE DETAIL #3
CLASS 'B' RIPRAP EST. 5 TONS EST. 14 S.Y. F.F.
TOE PROTECTION STA. 6+05 TO 15+00 RT -RAMP B- SEE DETAIL #4
CLASS 'B' RIPRAP EST. 2 TONS EST. 7 S.Y. F.F.
SPEC. LAT. BASE DITCH STA 2+11 LOOP B TO STA 47+75 -Y2- RT SEE DETAIL #3
1 @ 6' X 9' RCBC
FLATTEN FILL SLOPE TO COVER CULVERT
PSH SEE DETAIL
15" CSP W/ELBOWS ROD AND LUG W/SLEEVE GASKETS
REMOVE HW WW AND SIL
JURISDICTIONAL STREAM UT TO SCALES CREEK
STREAM LOCATION UNKNOWN
SITE 3
50 25 0 50 100
PLANS
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
Permit Drawing
Sheet 2A of 35
BLOWUP OF SHEET 5

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
C-4691	3
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

ENGLISH

SITE 1

SITE 2

SITE 3

SITE 4

SITE 5

A

B

NAD '83

N 21°30'00" W

MATCHLINE STA.19+10.00 THIS SHEET

MATCHLINE STA.28+50.00 SEE SHEET NO.6

SEE SHEET NO.4 MATCHLINE STA.14+50.00

DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

DENOTES EXCAVATION IN WETLAND

DENOTES IMPACTS IN SURFACE WATER

JURISDICTIONAL STREAM SCALES CREEK

JURISDICTIONAL STREAM UT TO SCALES CREEK

SKETCH SHOWING BRIDGE IN RELATIONSHIP TO ROADWAY

BEGIN BRIDGE -L- POC Sta.20+30.00

END BRIDGE -L- POC Sta.22+60.00

DETAIL #7 CHANNEL CHANGE

DETAIL #8 CHANNEL CHANGE

DETAIL #9 CHANNEL CHANGE

VARIES 7'-14'

VARIES 8'-14'

VARIES 8'-19'

CLASS 'I' RIPRAP EST 88 TONS

RAMP B/LOOP B EST. ADT 4600

revised 6/3/10

Permit Drawing

Sheet 3 of 35

SEE SHEET 9 FOR -L- PROFILE
SEE SHEET 10 FOR RAMP A & LOOP A PROFILE
SEE SHEET 11 FOR LOOP B PROFILE
SEE SHEET 12 FOR RAMP B PROFILE

GRAPHIC SCALE
50 25 0 50 100
PLANS

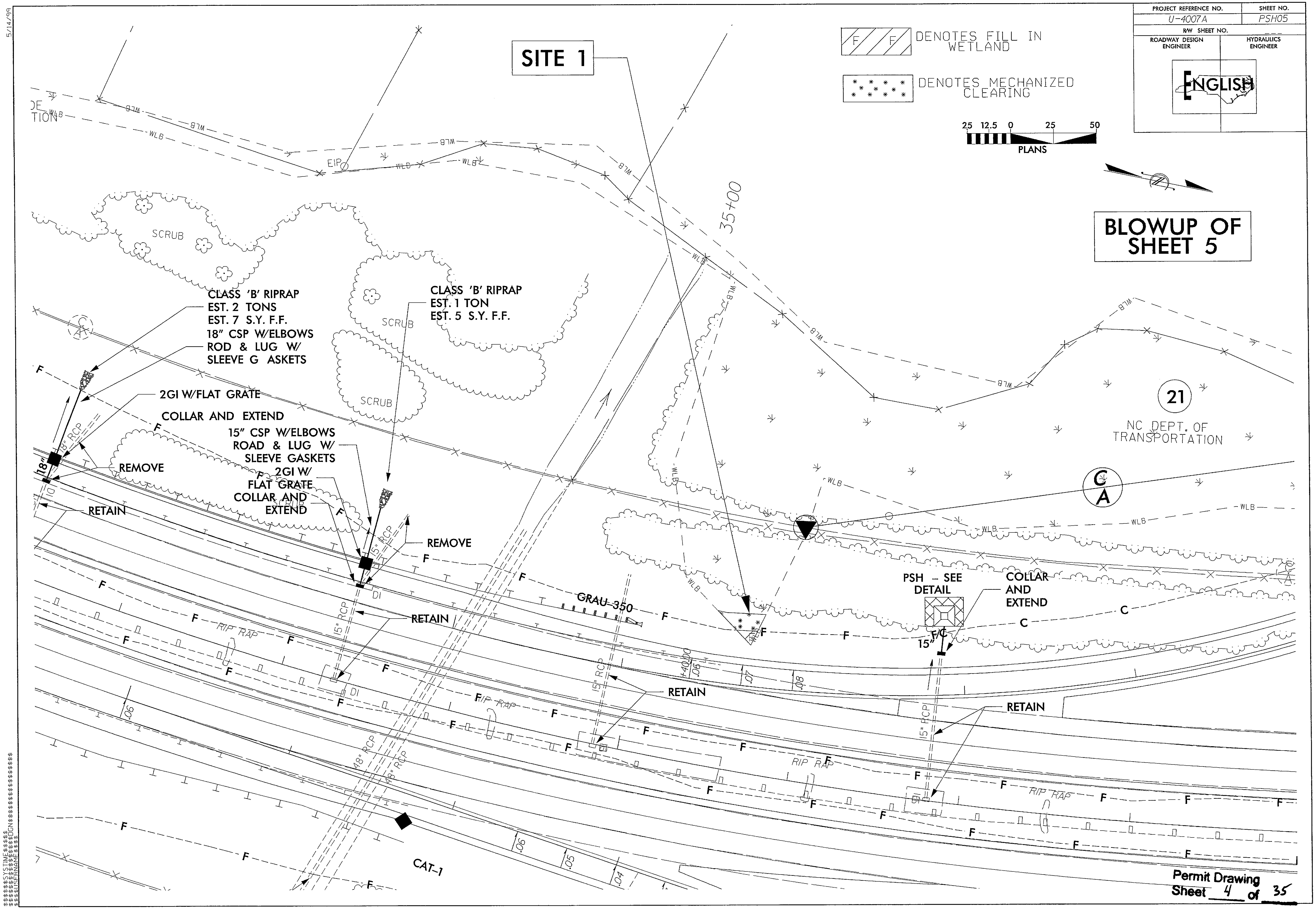
PROJECT REFERENCE NO.	SHEET NO.
U-4007A	PSH05
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Permit Drawing
Sheet 3A of 35

▨ DENOTES FILL IN WETLAND

⁙ DENOTES MECHANIZED CLEARING

BLOWUP OF SHEET 5


PROJECT REFERENCE NO.
U-4007A
SHEET NO.
PSH05
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
ENGLISH
SITE 1
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
25 12.5 0 25 50
PLANS
BLOWUP OF SHEET 5
CLASS 'B' RIPRAP
EST. 2 TONS
EST. 7 S.Y. F.F.
18" CSP W/ELBOWS
ROD & LUG W/
SLEEVE G ASKETS
2GI W/FLAT GRATE
COLLAR AND EXTEND
REMOVE
RETAIN
CLASS 'B' RIPRAP
EST. 1 TON
EST. 5 S.Y. F.F.
15" CSP W/ELBOWS
ROAD & LUG W/
SLEEVE GASKETS
2GI W/
FLAT GRATE
COLLAR AND
EXTEND
REMOVE
RETAIN
SCRUB
35+00
GRAU-350
RETAIN
PSH - SEE DETAIL
COLLAR AND EXTEND
15"
RETAIN
21
NC DEPT. OF TRANSPORTATION
RIP RAP
15" RCP
18" RCP
48" RCP
DI
EIP
WLB
CAT-1
Permit Drawing
Sheet 4 of 35
5/14/99

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	PSH05
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ENGLISH

SITE 1

F F DENOTES FILL IN WETLAND

* * * DENOTES MECHANIZED CLEARING

BLOWUP OF SHEET 5

Permit Drawing
Sheet 5 of 35

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	PSH05
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ENGLISH

REMOVE HW WW AND SILL

CB

SCRUB

15"

24"

CLASS 'B' RIPRAP
EST. 2 TONS
EST. 7 S.Y. F.F.

SPEC. LAT. BASE DITCH
STA 2+11 LOOP B TO
STA. 47+75 –Y2– RT
SEE DETAIL #3

1 @ 6' X 9' RCBC

FLATTEN FILL SLOPE
TO COVER CULVERT

SITE 3

PSH
SEE
DETAIL

PSH
SEE
DETAIL

15" CSP

15" CSP W/ELBOWS
ROD AND LUG
W/SLEEVE GASKETS

15" CSP

CB

2GI

2GI W/
FLAT
GRATE

-L00PB-

N 12° 43' 41.5" W

CAT-1

5' MONO. ISLAND

B-77

NC DEPT. OF
TRANSPORTATION

JS NEU

PUE

JURISDICTIONAL STREAM
SCALES CREEK

1 @ 6' X 9' RCBC

SITE 2

25+00

25 12.5 0 25 50
PLANS

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

S S DENOTES IMPACTS IN SURFACE WATER

15" CSP W/ELBOWS
ROD AND LUG
W/SLEEVE GASKETS

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

2GI W/
FLAT GRATE

15" CSP

PSH
SEE
DETAIL

BLOWUP OF SHEET 5

Permit Drawing
Sheet 6 of 35

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	PSH05
R/W SHEET NO.	---
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ENGLISH

▨ F	DENOTES FILL IN WETLAND
* * *	DENOTES MECHANIZED CLEARING
▨ S	DENOTES IMPACTS IN SURFACE WATER
▨ TS	DENOTES TEMPORARY IMPACTS IN SURFACE WATER

BLOWUP OF SHEET 5

Permit Drawing
Sheet 7 of 35

$$$$SYSTIME$$$$
$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	PSH05
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ENGLISH

BLOWUP OF SHEET 5

25 12.5 0 25 50
PLANS

E E DENOTES EXCAVATION IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

JURISDICTIONAL STREAM
SCALES CREEK

CLASS 'I' RIPRAP
EST. 98 TONS

CHANNEL CHANGE
SEE DETAIL #9
EST DDE =215 CY

SITE 2

SPECIAL LATERAL 2' BASE DITCH
STA. 6+90 TO 12+20 -RAMP A- LT
SEE DETAIL #3

2 @ 7' X 8' RCBC

CHANNEL CHANGE
SEE DETAIL #8
EST DDE=1412 CY

CLASS 'I' RIPRAP
EST. 19 TONS

2 @ 7' X 8' RCBC

RETAIN

RIP RAP

RIP RAP

RIP RAP

15" CSP

CB 15"

15"

CB

PSH
SEE DETAIL

PSH – SEE DETAIL

CHANNEL CHANGE
SEE DETAIL #7
EST DDE =458 CY

WILLIE MILTON WHITE

N 39° 12' 28" W

-RAMP A-

-LOOP A-

E NC DEPT. OF TRANSPORTATION

WASHINGTON CHAPEL CHURCH

MARTIN LUTHER KING JR HWY 37' BST

SCRUB

SCRUB

40+00

45+00

16 ALLEN R GOODSON et ux

18 ALLEN R GOODSON et ux

15

17

19

13

24

Permit Drawing
Sheet 8 of 35

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	PSH05
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ENGLISH

BLOWUP OF SHEET 5

5/14/99

25 12.5 0 25 50
PLANS

DENOTES EXCAVATION IN WETLAND

DENOTES IMPACTS IN SURFACE WATER

DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

JURISDICTIONAL STREAM
SCALES CREEK

SITE 2

SPECIAL LATERAL 2' BASE DITCH
STA. 6+90 TO 12+20 –RAMP A– LT
SEE DETAIL #3

CLASS 'I' RIPRAP
EST. 98 TONS

CHANNEL CHANGE
SEE DETAIL #9
EST DDE =215 CY

2 @ 7' X 8' RCBC

CHANNEL CHANGE
SEE DETAIL #8
EST DDE=1412 CY

CLASS 'I' RIPRAP
EST. 19 TONS

2 @ 7' X 8' RCBC

RETAIN

CB 15"

15"

CB

PSH
SEE DETAIL

PSH – SEE DETAIL

CHANNEL CHANGE
SEE DETAIL #7
EST DDE =458 CY

WILLIE MILTON WHITE

MARTIN LUTHER KING JR HWY 37' BST

WASHINGTON CHAPEL CHURCH ST

-RAMP A-

-LOOP A-

SCRUB

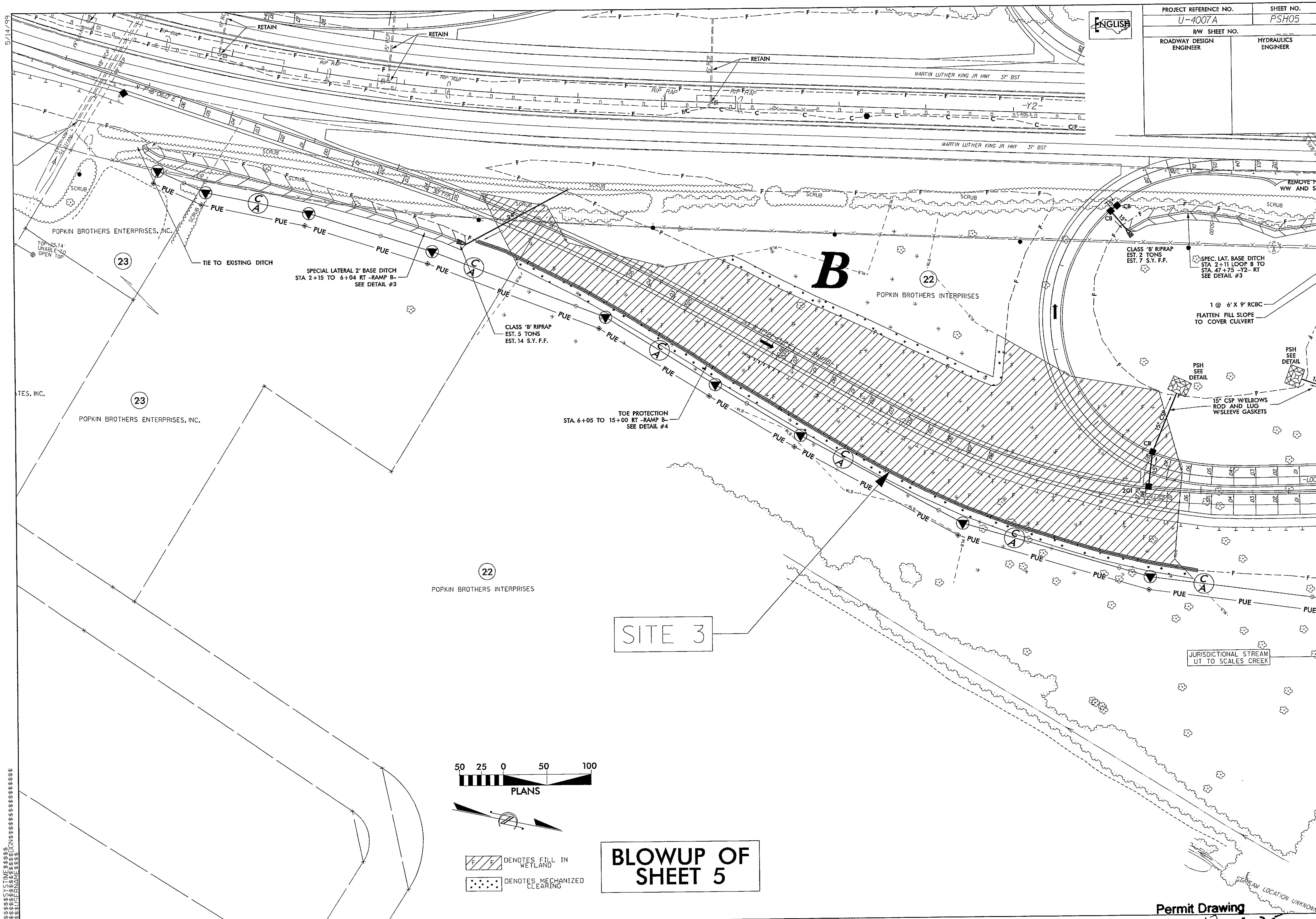
RIP RAP

15" CS

E NC DEPT. OF TRANSPORTATION

Permit Drawing

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	PSH05
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



ENGLISH
RETAIN
MARTIN LUTHER KING JR HWY 37' BST
-Y2-
POPKIN BROTHERS ENTERPRISES, INC.
TIE TO EXISTING DITCH
SPECIAL LATERAL 2' BASE DITCH
STA 2+15 TO 6+04 RT -RAMP B-
SEE DETAIL #3
CLASS 'B' RIPRAP
EST. 5 TONS
EST. 14 S.Y. F.F.
B
POPKIN BROTHERS INTERPRISES
CLASS 'B' RIPRAP
EST. 2 TONS
EST. 7 S.Y. F.F.
SPEC. LAT. BASE DITCH
STA 2+11 LOOP B TO
STA 47+75 -Y2- RT
SEE DETAIL #3
1 @ 6' X 9' RCBC
FLATTEN FILL SLOPE
TO COVER CULVERT
PSH SEE DETAIL
15" CSP W/ELBOWS
ROD AND LUG
W/SLEEVE GASKETS
TOE PROTECTION
STA. 6+05 TO 15+00 RT -RAMP B-
SEE DETAIL #4
SITE 3
JURISDICTIONAL STREAM
UT TO SCALES CREEK
STREAM LOCATION UNKNOWN
PLANS
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING

BLOWUP OF SHEET 5

Permit Drawing
Sheet 10 of 35

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	PSH05

R/W SHEET NO. ___

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

BLOWUP OF SHEET 5

Permit Drawing
Sheet 11 of 35

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	PSH05
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ENGLISH

BLOWUP OF SHEET 5

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

S S DENOTES IMPACTS IN SURFACE WATER

25 12.5 0 25 50
PLANS

SITE 4

SITE 2

15" CSP

TBDI

N 39° 42' 28.1" W

2GI W/ FLAT GRATE

15"

DI

PSH – SEE DETAIL

15" CSP W/ELBOWS ROD AND LUG W/SLEEVE GASKETS

WASHINGTON CHAPEL CHURCH

CHIPPER DEVELOPMENT GROUP, LLC.

BELL FORK CHURCH OF CHRIST

5" MONO ISLAND

2GI W/ FLAT GRATE

48" WW (SBW)

RAISE ENDWALL AND EXTEND WW'S

RETAIN

SCRUB

MTL

WLB

ECM

EIP

45+00

50+00

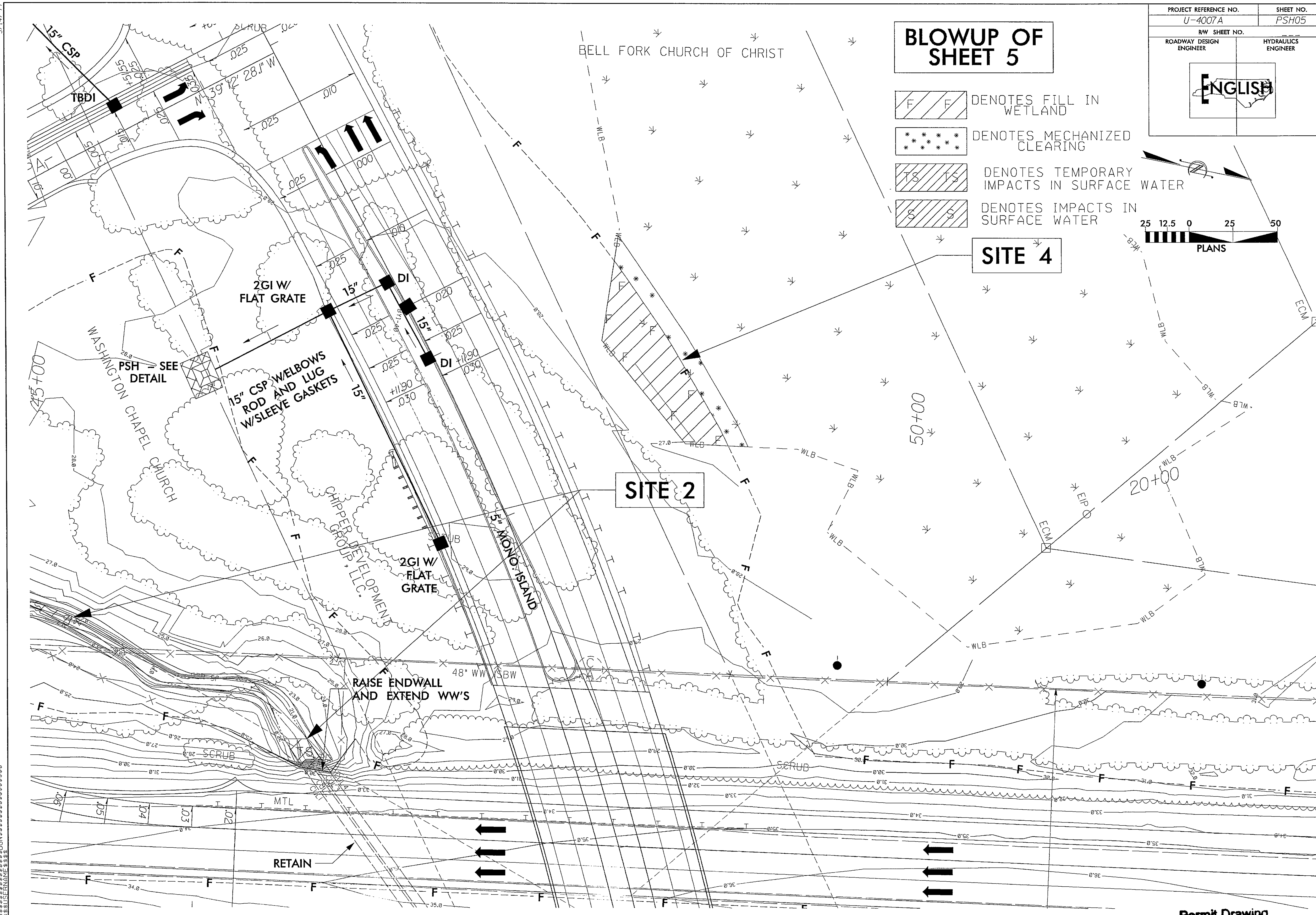
20+00

Permit Drawing
Sheet 12 of 35

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	PSH05

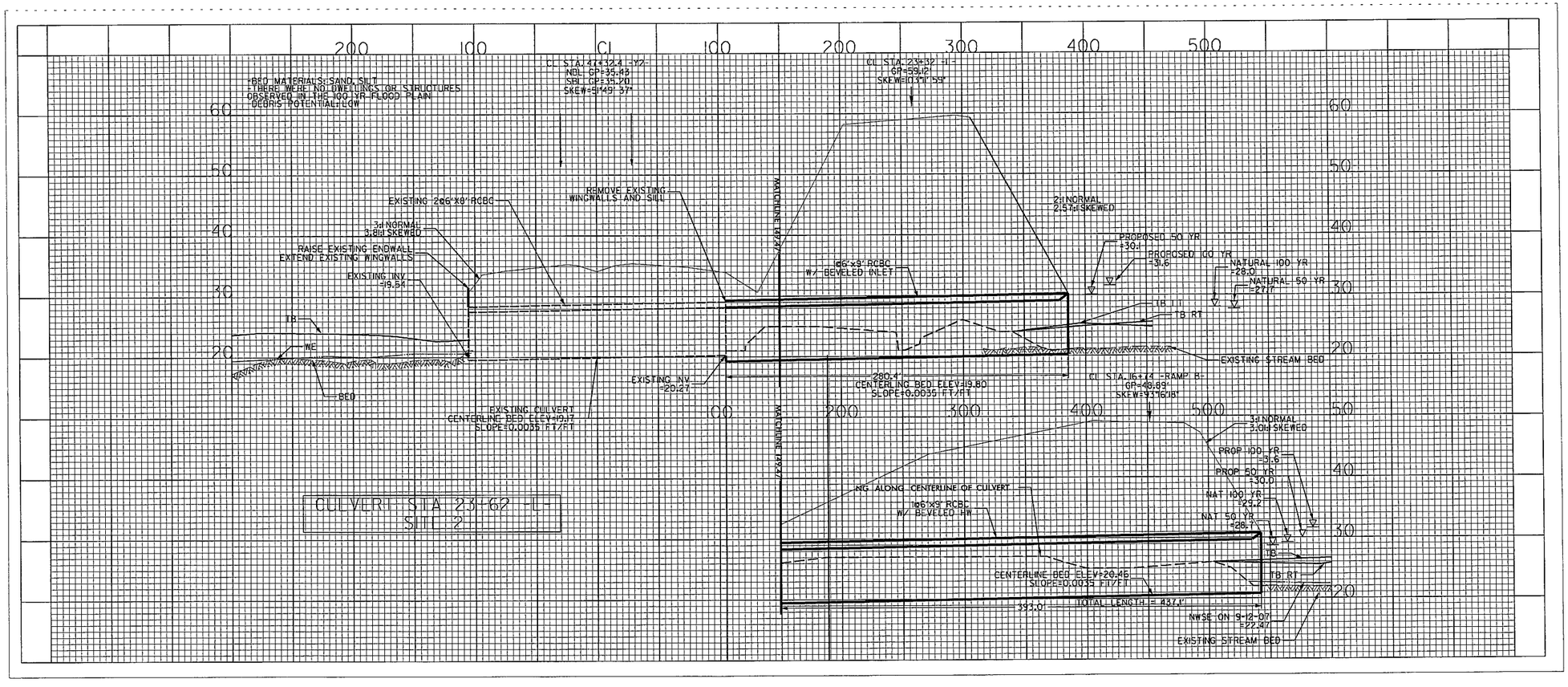
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER

BLOWUP OF SHEET 5

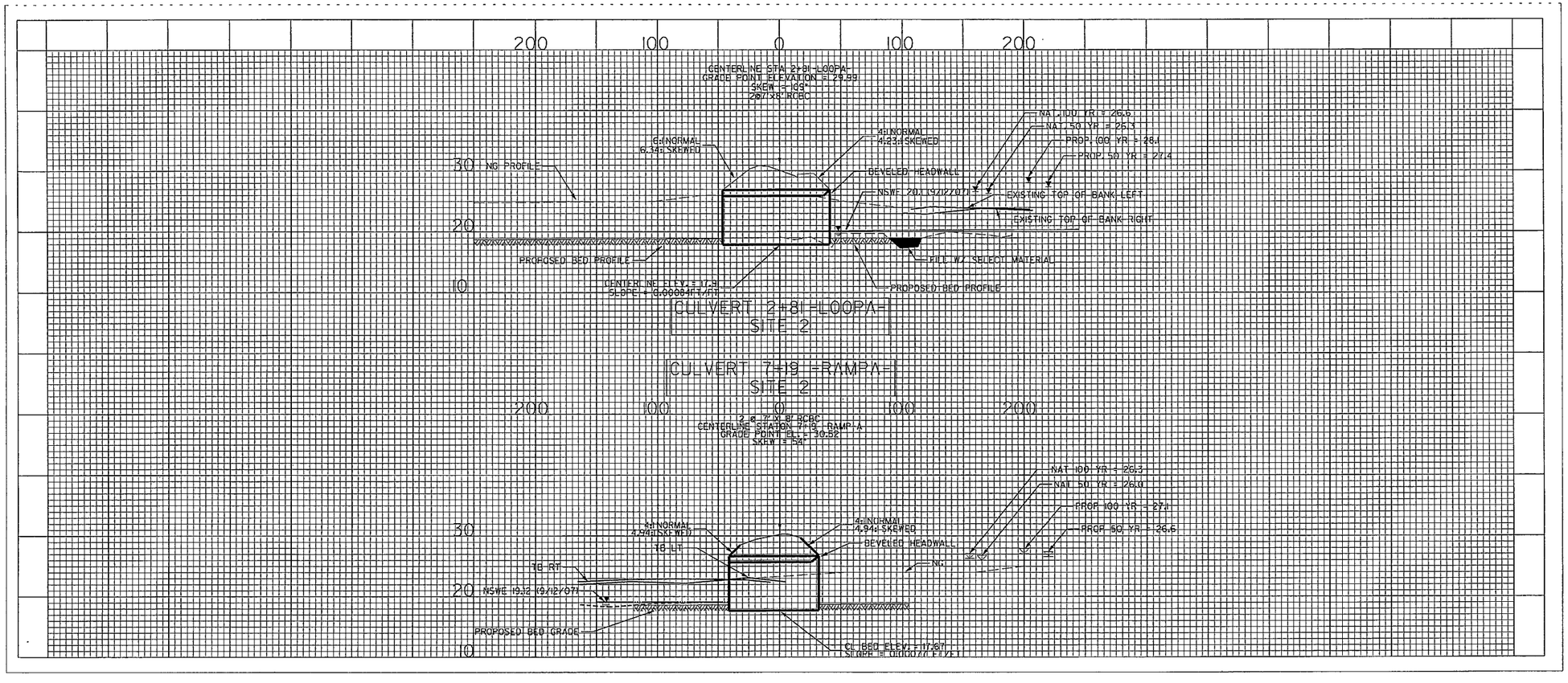


DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES IMPACTS IN SURFACE WATER
25 12.5 0 25 50
PLANS
SITE 4
SITE 2
BELL FORK CHURCH OF CHRIST
WASHINGTON CHAPEL CHURCH
CHIPPER DEVELOPMENT GROUP, LLC.
15" CSP
TBDI
2GI W/ FLAT GRATE
DI
PSH - SEE DETAIL
15" CSP W/ELBOWS ROD AND LUG W/SLEEVE GASKETS
5" MONO ISLAND
RAISE ENDWALL AND EXTEND WW'S
RETAIN
48" WW SBW
50+00
20+00
45+00

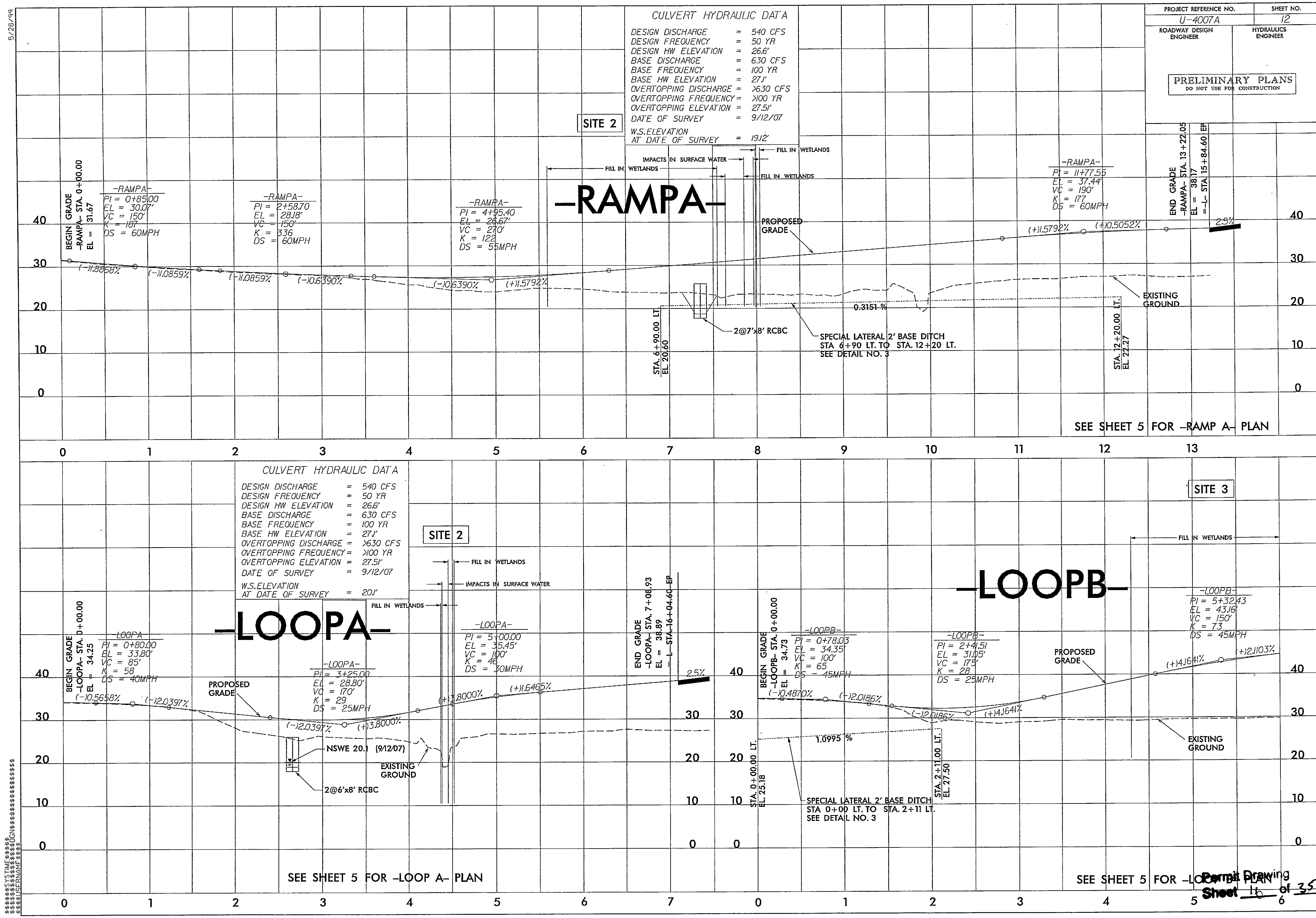
Permit Drawing
Sheet 13 of 35



Permit Drawing
Sheet 14 of 35



Permit Drawing
Sheet 15 of 35



PROJECT REFERENCE NO. U-4007A
SHEET NO. 12
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION
5/28/99
CULVERT HYDRAULIC DATA
DESIGN DISCHARGE = 540 CFS
DESIGN FREQUENCY = 50 YR
DESIGN HW ELEVATION = 26.6'
BASE DISCHARGE = 630 CFS
BASE FREQUENCY = 100 YR
BASE HW ELEVATION = 27.1'
OVERTOPPING DISCHARGE = >630 CFS
OVERTOPPING FREQUENCY = >100 YR
OVERTOPPING ELEVATION = 27.51'
DATE OF SURVEY = 9/12/07
W.S.ELEVATION AT DATE OF SURVEY = 19.12'
SITE 2
-RAMPA-
BEGIN GRADE -RAMPA- STA. 0+00.00 EL = 31.67
-RAMPA- PI = 0+85.00 EL = 30.07' VC = 150' K = 187 DS = 60MPH
-RAMPA- PI = 2+58.70 EL = 28.18' VC = 150' K = 336 DS = 60MPH
-RAMPA- PI = 4+95.40 EL = 26.67' VC = 270' K = 122 DS = 55MPH
-RAMPA- PI = 11+77.55 EL = 37.44' VC = 190' K = 177 DS = 60MPH
END GRADE -RAMPA- STA. 13+22.05 EL = 38.17 =-L- STA 15+84.60 EP
(-)1.8858% (-)1.0859% (-)1.0859% (-)0.6390% (-)0.6390% (+)1.5792% (+)1.5792% (+)0.5052% 2.5%
FILL IN WETLANDS
IMPACTS IN SURFACE WATER
PROPOSED GRADE
EXISTING GROUND
0.3151 %
2@7'x8' RCBC
SPECIAL LATERAL 2' BASE DITCH STA 6+90 LT. TO STA. 12+20 LT. SEE DETAIL NO. 3
STA. 6+90.00 LT. EL. 20.60
STA. 12+20.00 LT. EL. 22.27
SEE SHEET 5 FOR -RAMP A- PLAN
CULVERT HYDRAULIC DATA
DESIGN DISCHARGE = 540 CFS
DESIGN FREQUENCY = 50 YR
DESIGN HW ELEVATION = 26.6'
BASE DISCHARGE = 630 CFS
BASE FREQUENCY = 100 YR
BASE HW ELEVATION = 27.1'
OVERTOPPING DISCHARGE = >630 CFS
OVERTOPPING FREQUENCY = >100 YR
OVERTOPPING ELEVATION = 27.51'
DATE OF SURVEY = 9/12/07
W.S.ELEVATION AT DATE OF SURVEY = 20.1'
SITE 2
-LOOPA-
BEGIN GRADE -LOOPA- STA. 0+00.00 EL = 34.25
-LOOPA- PI = 0+80.00 EL = 33.80' VC = 85' K = 58 DS = 40MPH
-LOOPA- PI = 3+25.00 EL = 28.80' VC = 170' K = 29 DS = 25MPH
-LOOPA- PI = 5+00.00 EL = 35.45' VC = 100' K = 46 DS = 30MPH
END GRADE -LOOPA- STA. 7+08.93 EL = 38.89 = -L- STA.16+04.60 EP
(-)0.5658% (-)2.0397% (-)2.0397% (+)3.8000% (+)3.8000% (+)1.6465% 2.5%
PROPOSED GRADE
EXISTING GROUND
NSWE 20.1 (9/12/07)
2@6'x8' RCBC
SEE SHEET 5 FOR -LOOP A- PLAN
SITE 3
-LOOPB-
BEGIN GRADE -LOOPB- STA. 0+00.00 EL = 34.73
-LOOPB- PI = 0+78.03 EL = 34.35' VC = 100' K = 65 DS = 45MPH
-LOOPB- PI = 2+41.51 EL = 31.05' VC = 175' K = 28 DS = 25MPH
-LOOPB- PI = 5+32.43 EL = 43.16' VC = 150' K = 73 DS = 45MPH
(-)0.4870% (-)2.0186% (-)2.0186% (+)4.1641% (+)4.1641% (+)2.1103%
PROPOSED GRADE
EXISTING GROUND
1.0995 %
SPECIAL LATERAL 2' BASE DITCH STA 0+00 LT. TO STA. 2+11 LT. SEE DETAIL NO. 3
STA. 0+00.00 LT. EL. 25.18
STA. 2+11.00 LT. EL. 27.50
SEE SHEET 5 FOR -LOOP B- PLAN
Permit Drawing Sheet 16 of 35

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	13
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

5/28/99

PIPE HYDRAULIC DATA

DRAINAGE STRUCTURE NO. 1

DRAINAGE AREA	=	3.8 AC
DESIGN FREQUENCY	=	50 YRS
DESIGN DISCHARGE	=	14 CFS
DESIGN HW ELEVATION	=	27.0 FT
100 YEAR DISCHARGE	=	15 CFS
100 YEAR HW ELEVATION	=	27.2 FT
OVERTOPPING FREQUENCY	=	500+ YRS
OVERTOPPING DISCHARGE	=	25+ CFS
OVERTOPPING ELEVATION	=	31.7 FT

CULVERT HYDRAULIC DATA

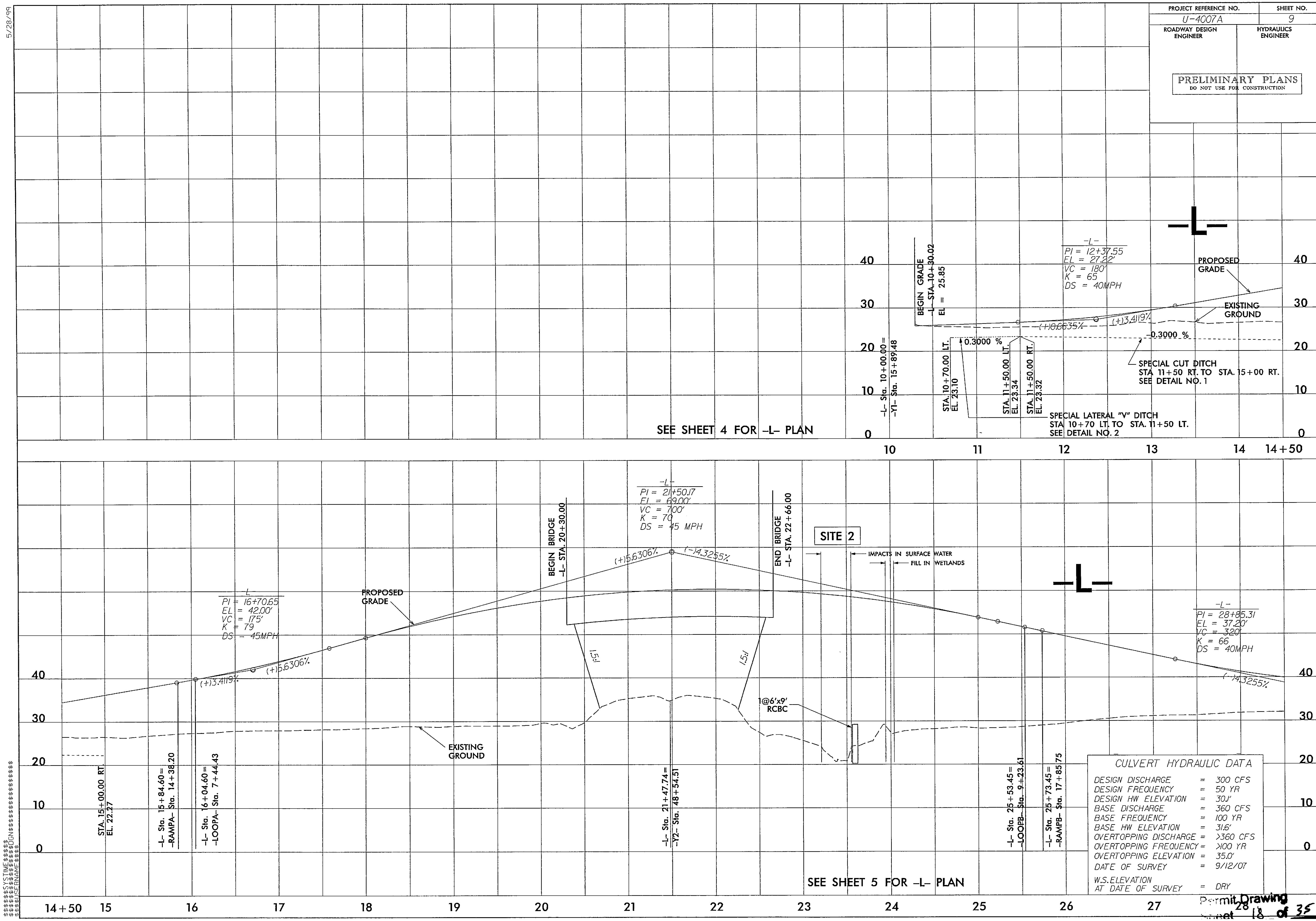
DESIGN DISCHARGE	=	320 CFS
DESIGN FREQUENCY	=	50 YR
DESIGN HW ELEVATION	=	30.0'
BASE DISCHARGE	=	390 CFS
BASE FREQUENCY	=	100 YR
BASE HW ELEVATION	=	31.6'
OVERTOPPING DISCHARGE	=	<390 CFS
OVERTOPPING FREQUENCY	=	<100 YR
OVERTOPPING ELEVATION	=	31.2'
DATE OF SURVEY	=	9/12/07
W.S. ELEVATION AT DATE OF SURVEY	=	22.47'

$$$$SYSTIME$$$$
$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

Permit Drawing
Sheet 17 of 25

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	=	300 CFS
DESIGN FREQUENCY	=	50 YR
DESIGN HW ELEVATION	=	30.1'
BASE DISCHARGE	=	360 CFS
BASE FREQUENCY	=	100 YR
BASE HW ELEVATION	=	31.6'
OVERTOPPING DISCHARGE	=	>360 CFS
OVERTOPPING FREQUENCY	=	>100 YR
OVERTOPPING ELEVATION	=	35.0'
DATE OF SURVEY	=	9/12/07
W.S. ELEVATION AT DATE OF SURVEY	=	DRY

Permit Drawing
Sheet 18 of 35

$$$$$$SYSTIME$$$$$ $$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$$$$$ $$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

ENGLISH

REVISIONS

6/17/99

DENOTES FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
DENOTES EXCAVATION IN WETLAND
DENOTES MECHANIZED CLEARING

NAD 83

22 POPKIN BROTHERS INTERPRISES

CAROLINA POWER & LIGHT COMPANY

ONSLOW MEMORIAL HOSPITAL FOUNDATION, INC.

25

27 ONSLOW COUNTY

26 HILBERT M. JONES

HILBERT M. JONES

30+00

35+00

40+00

JURISDICTIONAL STREAM UT TO SCALES CREEK

JURISDICTIONAL STREAM UT TO SCALES CREEK

SITE 5

SITE 6

SITE 7

SEE SHEET NO.5 MATCHLINE STA.28+50.00

MATCHLINE STA.42+50.00 SEE SHEET NO.7

N 77° 16' 18.5" E

CLASS 'I' RIPRAP ON BANKS ONLY EST 12.5 TONS EST 13.0 SY FF

CLASS 'B' RIPRAP EST. 11 TONS EST. 28 S.Y. F.F.

HEAD DITCH EST. DDE 29 CY SEE DETAIL #5

TOE PROTECTION STA. 31+70 TO STA. 34+50 -L- RT SEE DETAIL #4

PSH SEE DETAIL

DDE

HW

EIP

CB

SCRUB

JS

F

SEE SHEET 10 FOR -L- PROFILE

$$$$$$$SYSTIME$$$$$$
$$$$$$$SYSTIME$$$$$$
$$$$$$$SECTION$$$$$$$$$$$$$$$$$$$$
$$$$$$$USERNAME$$$$

Permit Drawing
Sheet 19 of 35

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

ENGLISH

NAD 83

REVISIONS 8/17/99

DENOTES FILL IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
DENOTES EXCAVATION IN WETLAND
DENOTES MECHANIZED CLEARING

22 POPKIN BROTHERS INTERPRISES

CAROLINA POWER & LIGHT COMPANY

ONSLOW MEMORIAL HOSPITAL FOUNDATION, INC.

25

27 ONSLOW COUNTY

30+00

35+00

40+00

JURISDICTIONAL STREAM UT TO SCALES CREEK

SITE 5

SITE 6

SITE 7

CLASS 'B' RIPRAP
EST. 11 TONS
EST. 28 S.Y. F.F.

HEAD DITCH
EST. DDE 29 CY
SEE DETAIL #5

PSH SEE DETAIL

CB

EIP

HW

RW

CL

N 77° 16' 18.5" E

SCRUB

CLASS 'I' RIPRAP
ON BANKS ONLY
EST 12.5 TONS
EST 13.0 SY FF

TOE PROTECTION
STA. 31+70 TO STA. 34+50 -L- RT
SEE DETAIL #4

JURISDICTIONAL STREAM
UT TO SCALES CREEK

26 HILBERT M. JONES

POPKIN BROTHERS INTERPRISES

HILBERT M. JONES

SEE SHEET NO.5
MATCHLINE STA.28+50.00

MATCHLINE STA.42+50.00
SEE SHEET NO.7

SEE SHEET 10 FOR -L- PROFILE

Permit Drawing
Sheet 20 of 35

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

ENGLISH

▨ F	DENOTES FILL IN WETLAND
⁘	DENOTES MECHANIZED CLEARING

8/17/99

REVISIONS

SEE SHEET 10 FOR -L- PROFILE
SEE SHEET 16 FOR -Y3- PROFILE
SEE SHEET 16 FOR -Y4- PROFILE
SEE SHEET 16 FOR -Y6- PROFILE

$$$$SYSTIME$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

Permit
Sheet 21 of 35

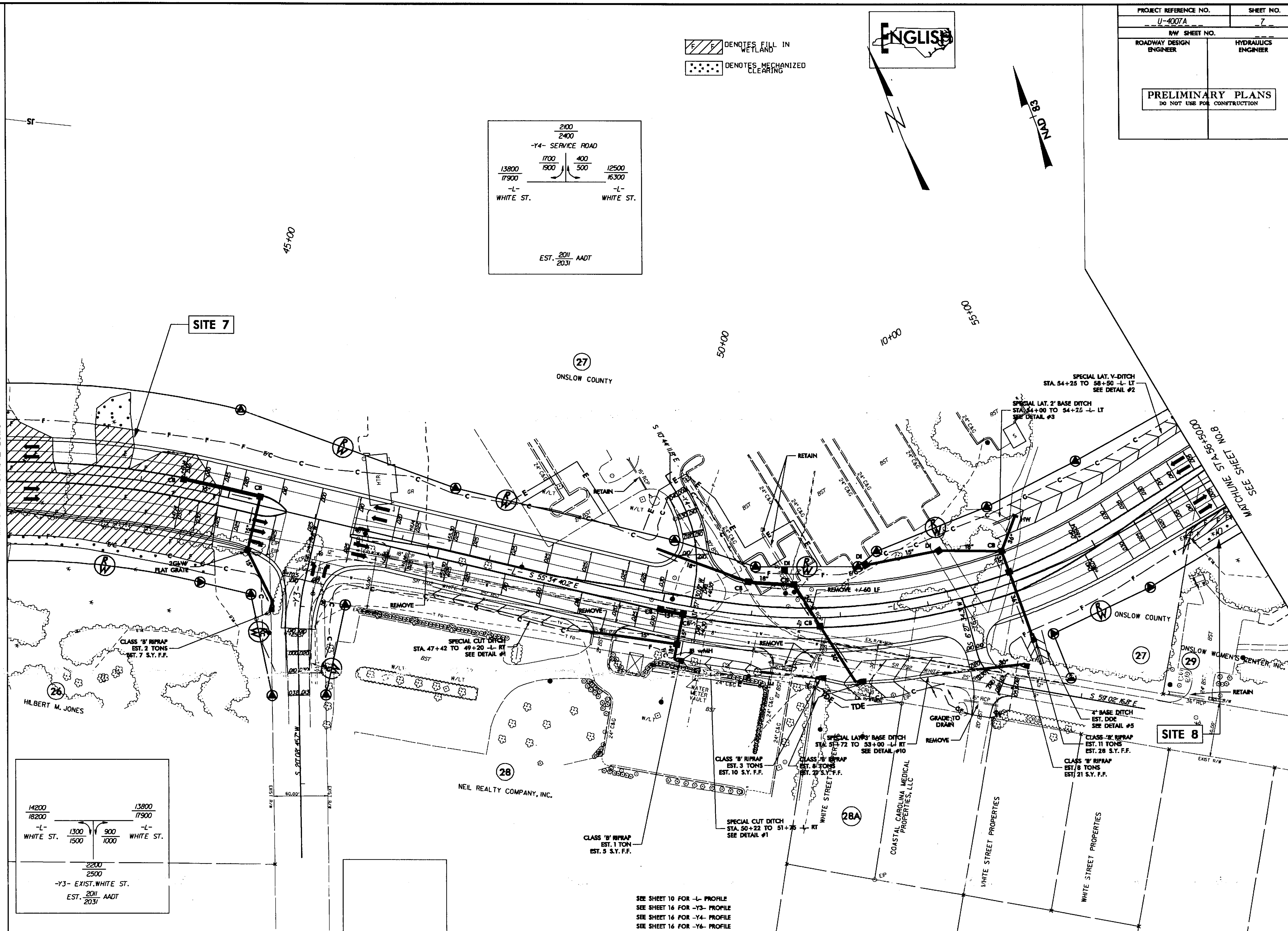
PROJECT REFERENCE NO.	SHEET NO.
U-4007A	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

ENGLISH

DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING



2100
2400
-Y4- SERVICE ROAD
13800
17900
1700
1900
400
500
12500
16300
-L-
WHITE ST.
-L-
WHITE ST.
EST. 2011/2031 AADT
SITE 7
SITE 8
SEE SHEET NO.6
MATCHLINE STA.42+50.00
MATCHLINE STA.56+50.00
SEE SHEET NO.8
NAD 83
45+00
50+00
55+00
10+00
27
ONSLOW COUNTY
26
HILBERT M. JONES
28
NEIL REALTY COMPANY, INC.
28A
COASTAL CAROLINA MEDICAL PROPERTIES, LLC
WHITE STREET PROPERTIES
29
ONSLOW WOMEN'S CENTER, INC.
CLASS 'B' RIPRAP
EST. 2 TONS
EST. 7 S.Y. F.F.
SPECIAL CUT DITCH
STA. 47+42 TO 49+20 -L- RT
SEE DETAIL #1
SPECIAL CUT DITCH
STA. 50+22 TO 51+75 -L- RT
SEE DETAIL #1
CLASS 'B' RIPRAP
EST. 1 TON
EST. 5 S.Y. F.F.
CLASS 'B' RIPRAP
EST. 3 TONS
EST. 10 S.Y. F.F.
SPECIAL LAT. V-DITCH
STA. 54+25 TO 58+50 -L- LT
SEE DETAIL #2
SPECIAL LAT. 2' BASE DITCH
STA. 54+00 TO 54+25 -L- LT
SEE DETAIL #3
4' BASE DITCH
EST. DDE
SEE DETAIL #5
CLASS 'B' RIPRAP
EST. 11 TONS
EST. 28 S.Y. F.F.
CLASS 'B' RIPRAP
EST. 8 TONS
EST. 21 S.Y. F.F.
GRADE TO DRAIN
REMOVE
RETAIN
TDE
WATER METER VAULT
-L- S 55°34'40.2"E
S 59°02'16.8"E
-Y3-
2GI-W FLAT GRATE
14200
18200
-L-
WHITE ST.
1300
1500
900
1000
13800
17900
-L-
WHITE ST.
2200
2500
-Y3- EXIST. WHITE ST.
EST. 2011/2031 AADT
SEE SHEET 10 FOR -L- PROFILE
SEE SHEET 16 FOR -Y3- PROFILE
SEE SHEET 16 FOR -Y4- PROFILE
SEE SHEET 16 FOR -Y6- PROFILE

REVISIONS

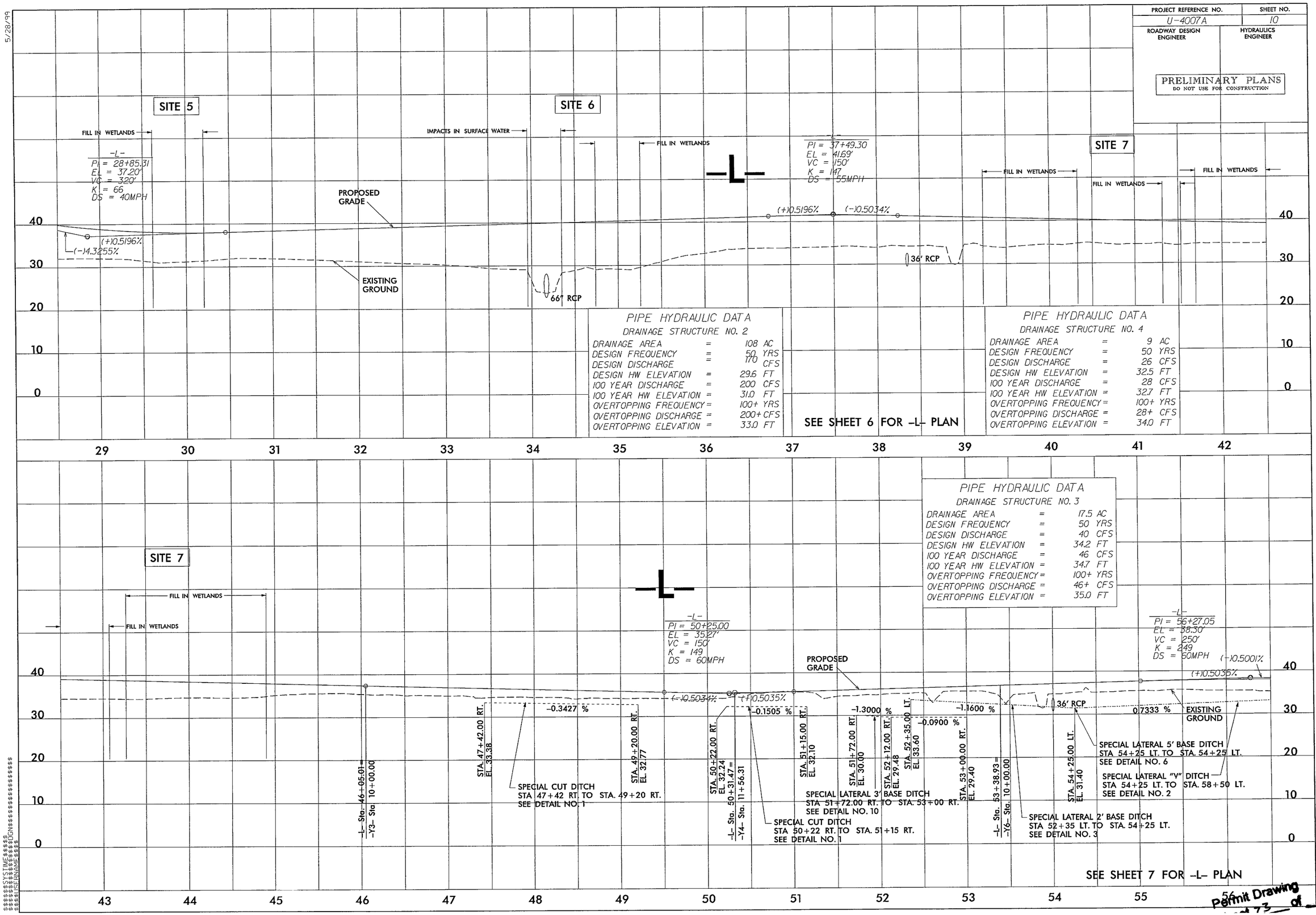
8/17/99

Permit Drawing
Sheet 22 of 35

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 2

DRAINAGE AREA	=	108 AC
DESIGN FREQUENCY	=	50 YRS
DESIGN DISCHARGE	=	170 CFS
DESIGN HW ELEVATION	=	29.6 FT
100 YEAR DISCHARGE	=	200 CFS
100 YEAR HW ELEVATION	=	31.0 FT
OVERTOPPING FREQUENCY	=	100+ YRS
OVERTOPPING DISCHARGE	=	200+ CFS
OVERTOPPING ELEVATION	=	33.0 FT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 4

DRAINAGE AREA	=	9 AC
DESIGN FREQUENCY	=	50 YRS
DESIGN DISCHARGE	=	26 CFS
DESIGN HW ELEVATION	=	32.5 FT
100 YEAR DISCHARGE	=	28 CFS
100 YEAR HW ELEVATION	=	32.7 FT
OVERTOPPING FREQUENCY	=	100+ YRS
OVERTOPPING DISCHARGE	=	28+ CFS
OVERTOPPING ELEVATION	=	34.0 FT

SEE SHEET 6 FOR -L- PLAN

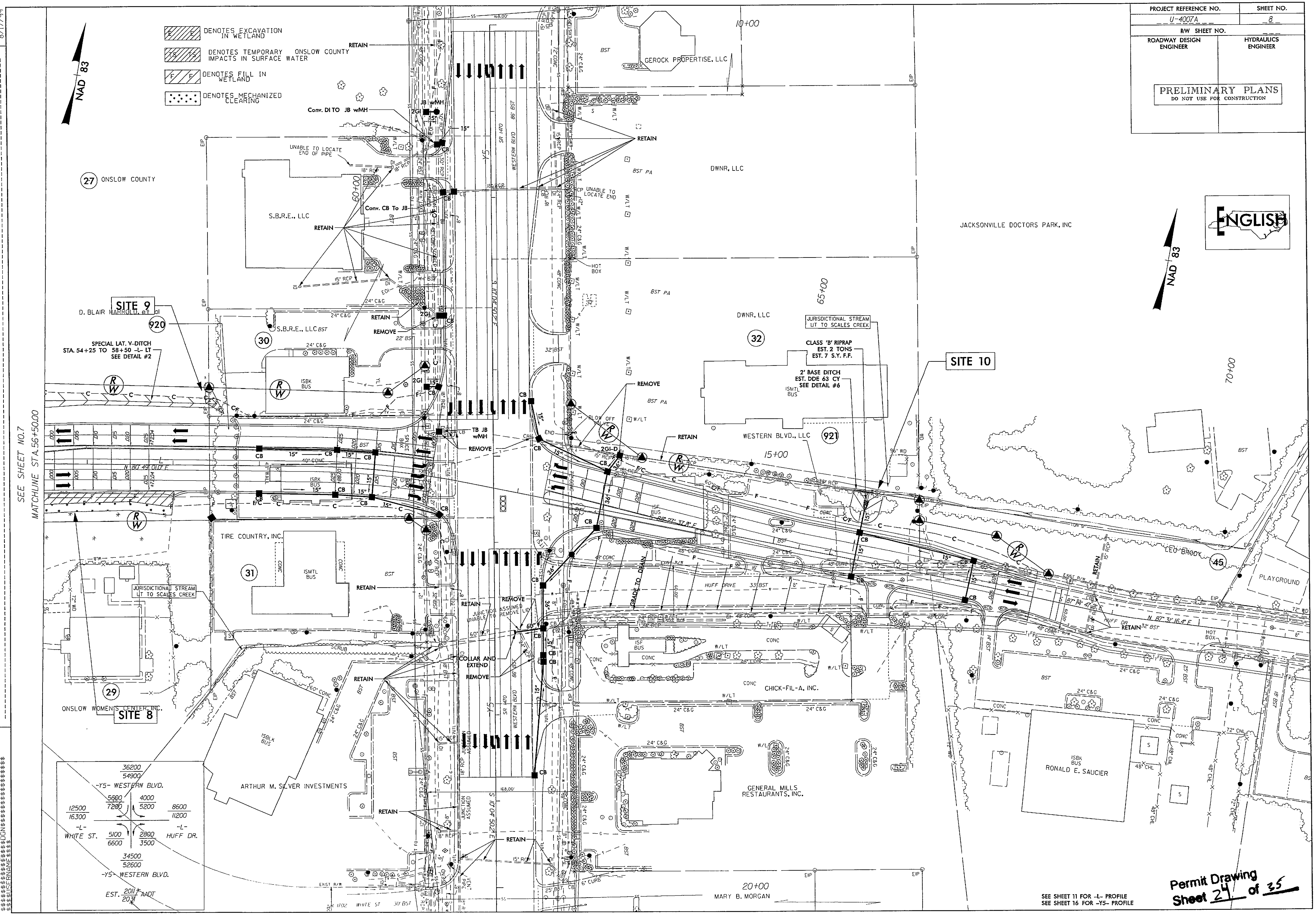
PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 3

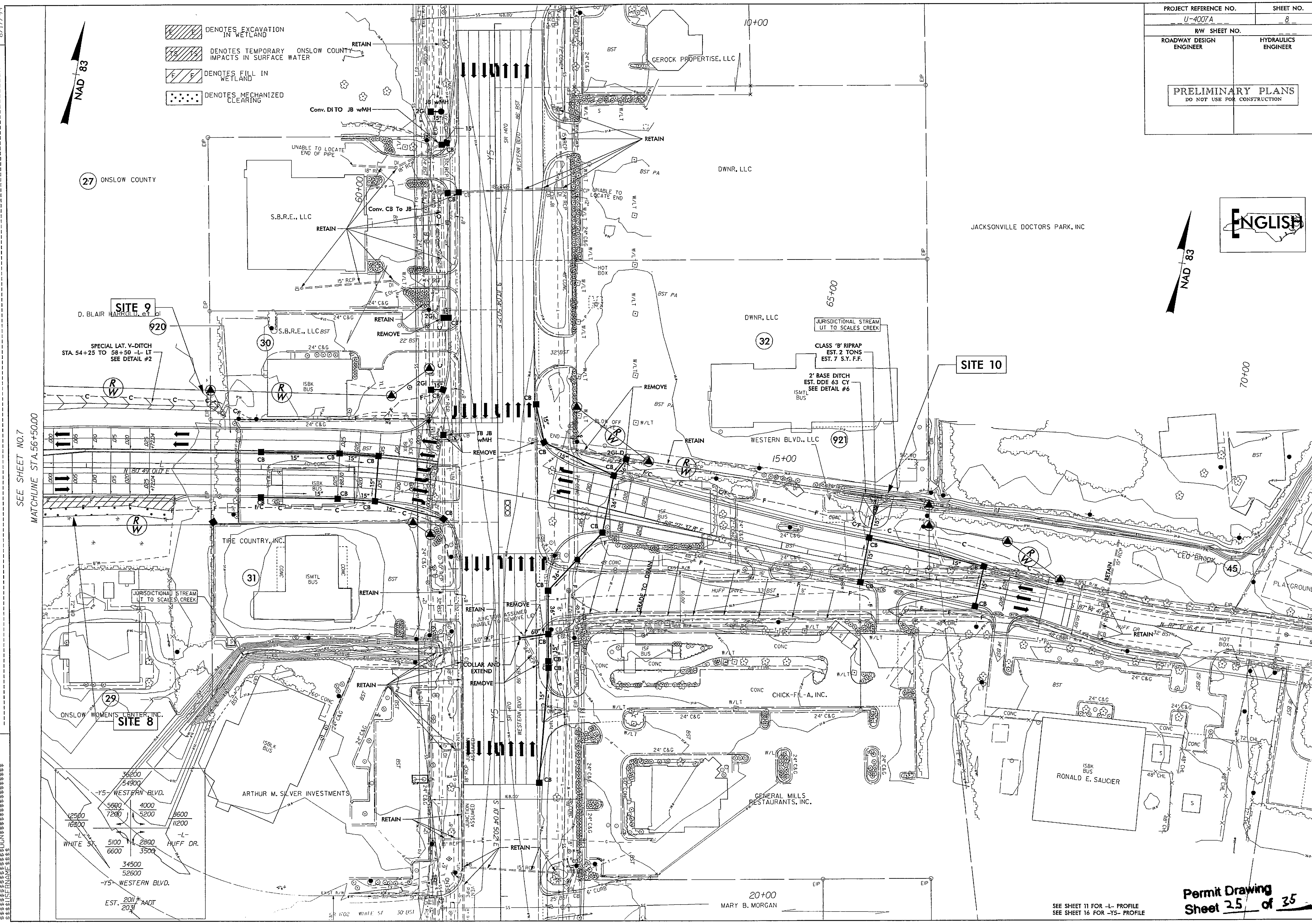
DRAINAGE AREA	=	17.5 AC
DESIGN FREQUENCY	=	50 YRS
DESIGN DISCHARGE	=	40 CFS
DESIGN HW ELEVATION	=	34.2 FT
100 YEAR DISCHARGE	=	46 CFS
100 YEAR HW ELEVATION	=	34.7 FT
OVERTOPPING FREQUENCY	=	100+ YRS
OVERTOPPING DISCHARGE	=	46+ CFS
OVERTOPPING ELEVATION	=	35.0 FT

SEE SHEET 7 FOR -L- PLAN

$$$$$$SYSTIME$$$$$
$$$$$$SYSNAME$$$$$
$$$$$$USERNAME$$$$$

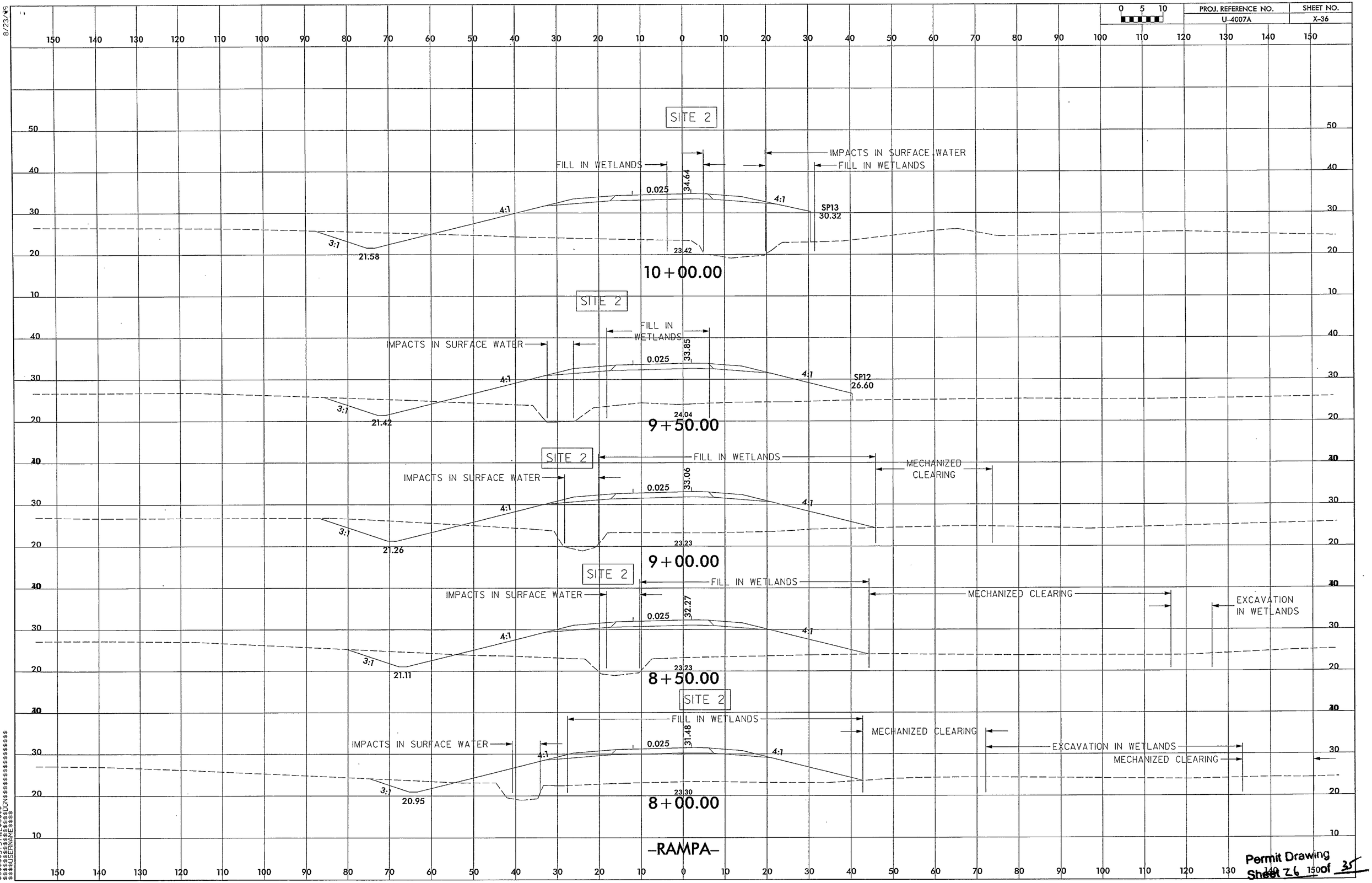
Permit Drawing
Sheet 73 of 36


PROJECT REFERENCE NO. U-4007A
SHEET NO. 8
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
DENOTES EXCAVATION IN WETLAND
DENOTES TEMPORARY ONSLOW COUNTY IMPACTS IN SURFACE WATER
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
NAD 83
ENGLISH
8/17/99
REVISIONS
SEE SHEET NO.7
MATCHLINE STA.56+50.00
SITE 8
SITE 9
SITE 10
ONSLOW COUNTY
S.B.R.E., LLC
D. BLAIR HARROLD, et al
TIRE COUNTRY, INC.
ONSLOW WOMEN'S CENTER, INC.
ARTHUR M. SILVER INVESTMENTS
GEROCK PROPERTISE, LLC
DWNR, LLC
JACKSONVILLE DOCTORS PARK, INC
WESTERN BLVD., LLC
CHICK-FIL-A, INC.
GENERAL MILLS RESTAURANTS, INC.
RONALD E. SAUCIER
MARY B. MORGAN
LEO BRODY
PLAYGROUND
JURISDICTIONAL STREAM UT TO SCALES CREEK
CLASS 'B' RIPRAP EST. 2 TONS EST. 7 S.Y. F.F.
2' BASE DITCH EST. DDE 63 CY SEE DETAIL #6
SPECIAL LAT. V-DITCH STA. 54+25 TO 58+50 -L- LT SEE DETAIL #2
-Y5- WESTERN BLVD.
-L- WHITE ST.
-L- HUFF DR.
EST. 2011 AADT
SEE SHEET 11 FOR -L- PROFILE
SEE SHEET 16 FOR -Y5- PROFILE
Permit Drawing Sheet 24 of 35



8/17/99
PROJECT REFERENCE NO. U-4007A
SHEET NO. 8
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
ENGLISH
NAD 83
DENOTES EXCAVATION IN WETLAND
DENOTES TEMPORARY IMPACTS IN SURFACE WATER
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
REVISIONS
SEE SHEET NO.7
MATCHLINE STA. 56+50.00
SITE 8
SITE 9
SITE 10
ONSLOW COUNTY
S.B.R.E., LLC
D. BLAIR HARROLD, et al
TIRE COUNTRY, INC.
ONSLOW WOMEN'S CENTER, INC.
ARTHUR M. SILVER INVESTMENTS
GEROCK PROPERTISE, LLC
DWNR, LLC
JACKSONVILLE DOCTORS PARK, INC
WESTERN BLVD., LLC
CHICK-FIL-A, INC.
GENERAL MILLS RESTAURANTS, INC.
RONALD E. SAUCIER
MARY B. MORGAN
LEO BRODY
PLAYGROUND
SPECIAL LAT. V-DITCH STA. 54+25 TO 58+50 -L- LT SEE DETAIL #2
JURISDICTIONAL STREAM UT TO SCALES CREEK
CLASS 'B' RIPRAP EST. 2 TONS EST. 7 S.Y. F.F.
2' BASE DITCH EST. DDE 63 CY SEE DETAIL #6
GRADE TO DRAIN
HUFF DRIVE
SR 1470 WESTERN BLVD.
-Y5- WESTERN BLVD.
-L- WHITE ST.
-L- HUFF DR.
EST. 2011 AADT
SEE SHEET 11 FOR -L- PROFILE
SEE SHEET 16 FOR -Y5- PROFILE
Permit Drawing Sheet 25 of 35

PROJ. REFERENCE NO.	SHEET NO.
U-4007A	X-36



Permit Drawing
Sheet 26 of 35

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
U-4007A	X-57

Permit Drawing
Sheet 27 of 35

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-4007A	X-11

SITE 2

MECHANIZED CLEARING

3:1

B

0.030

58.49

57.19

57.84

0.030

SITE 2

4:1

IMPACTS IN SURFACE WATER

27.34

24+00.00

B

0.030

60.59

58.37

59.95

0.030

SITE 2

3:1

2.5

IMPACTS IN SURFACE WATER

IMPACTS IN SURFACE WATER

20.84

23+50.00

B

0.030

61.19

58.68

60.55

0.030

2:1

2:1

SITE 2

IMPACTS IN SURFACE WATER

21.50

23+33.45

-L-

Permit Drawing
Sheet 28 of 35

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

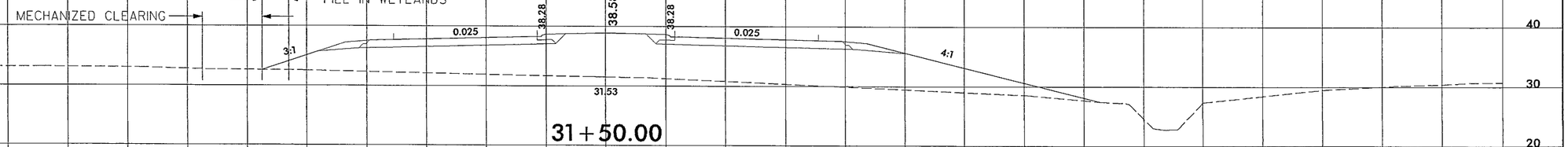
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-4007A	X-16

SITE 5

FILL IN WETLANDS

MECHANIZED CLEARING

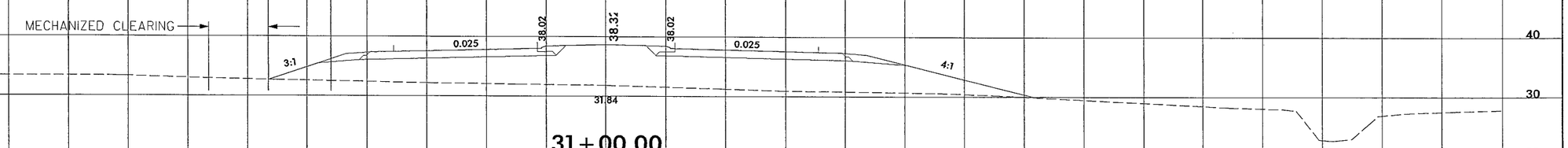


31+50.00

SITE 5

FILL IN WETLANDS

MECHANIZED CLEARING

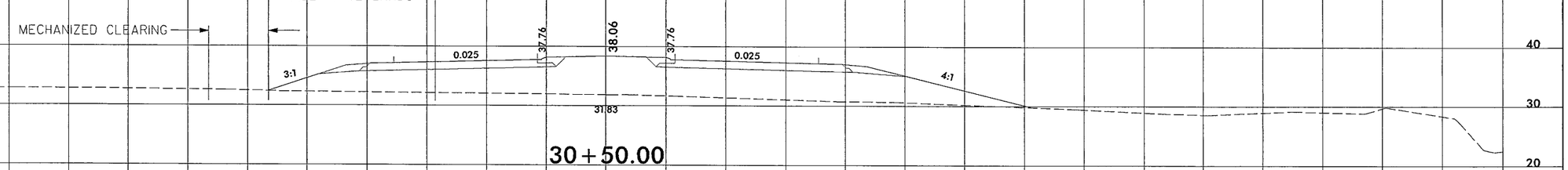


31+00.00

SITE 5

FILL IN WETLANDS

MECHANIZED CLEARING

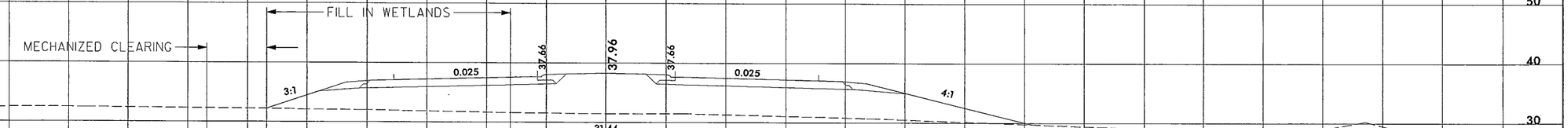


30+50.00

SITE 5

FILL IN WETLANDS

MECHANIZED CLEARING

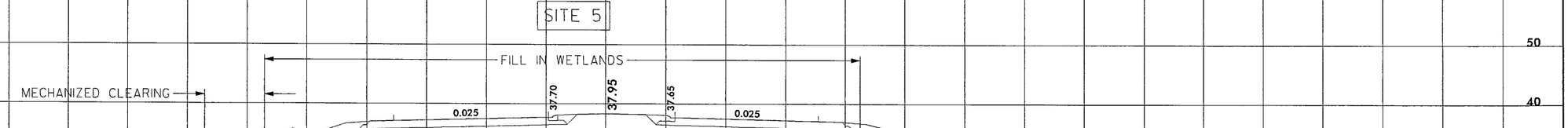


30+23.45

SITE 5

FILL IN WETLANDS

MECHANIZED CLEARING



30+00.00

-L-

Permit Drawing
Sheet 29 of 35

$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
U-4007A	X-17

0 5 10

SITE 6

IMPACTS IN SURFACE WATER

39.88 | 39.58 | 39.58

0.025 | 0.025

4:1 | 4:1

26.42

34+00.00

SITE 6

IMPACTS IN SURFACE WATER

39.62 | 39.32 | 39.32

0.025 | 0.025

4:1 | 4:1

29.42

33+50.00

SITE 6

IMPACTS IN SURFACE WATER

39.36 | 39.06 | 39.06

0.025 | 0.025

4:1 | 4:1

30.24

33+00.00

SITE 5

SITE 6

MECHANIZED CLEARING

IMPACTS IN SURFACE WATER

39.10 | 38.80 | 38.80

0.025 | 0.025

3:1 | 4:1

30.66

32+50.00

SITE 5

SITE 6

FILL IN WETLANDS

MECHANIZED CLEARING

IMPACTS IN SURFACE WATER

38.84 | 38.54 | 38.54

0.025 | 0.025

3:1 | 4:1

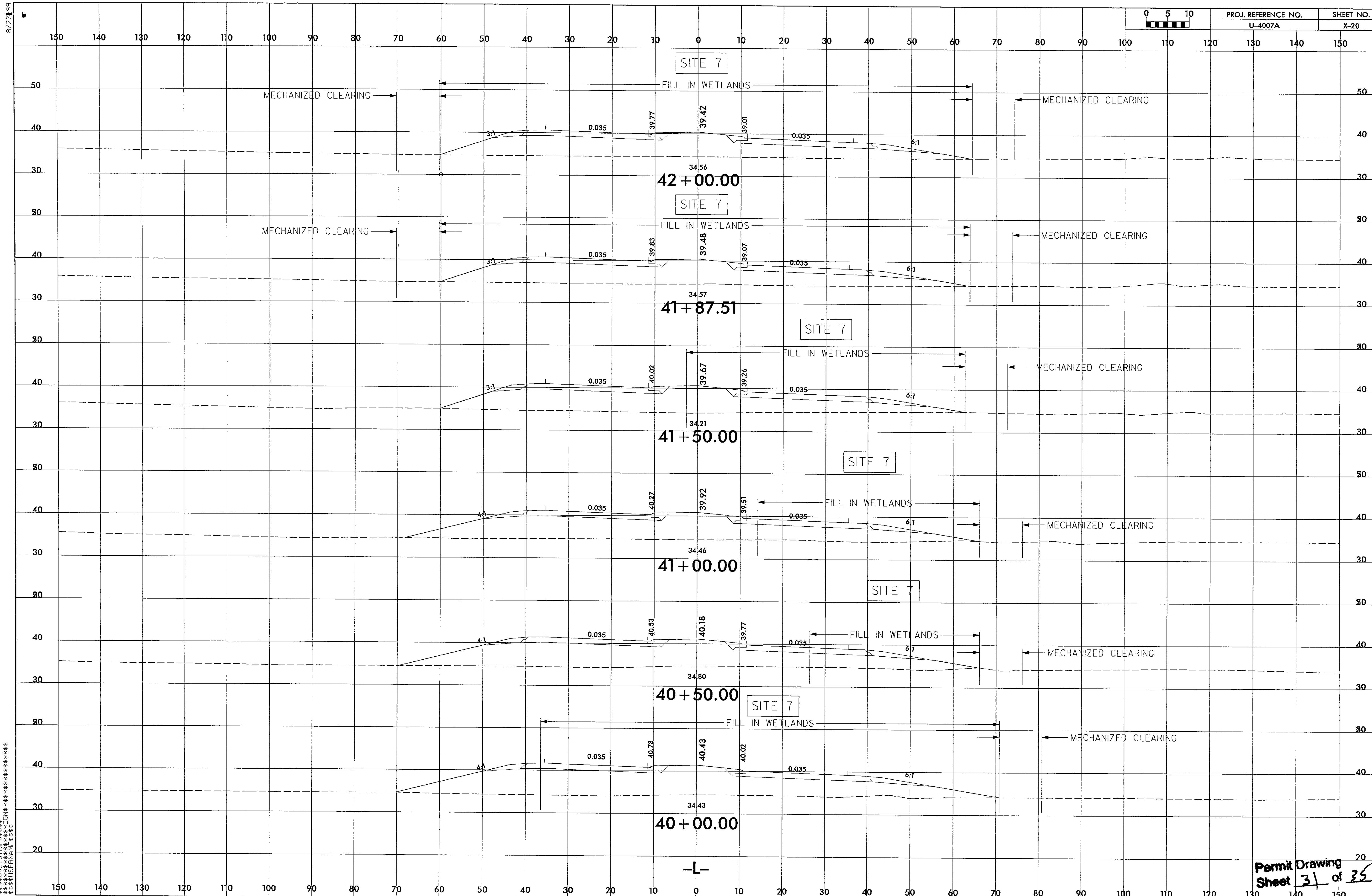
31.07

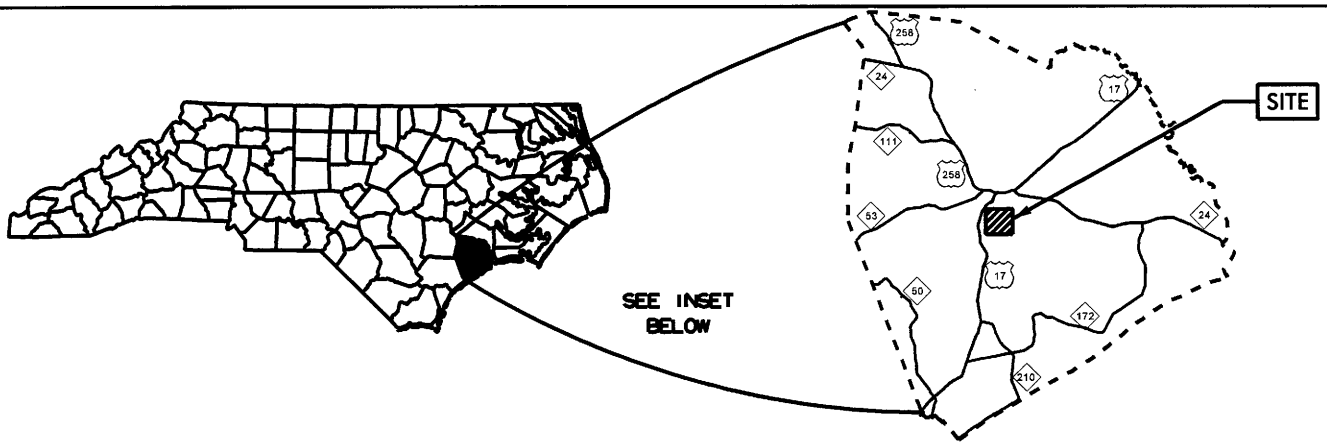
32+00.00

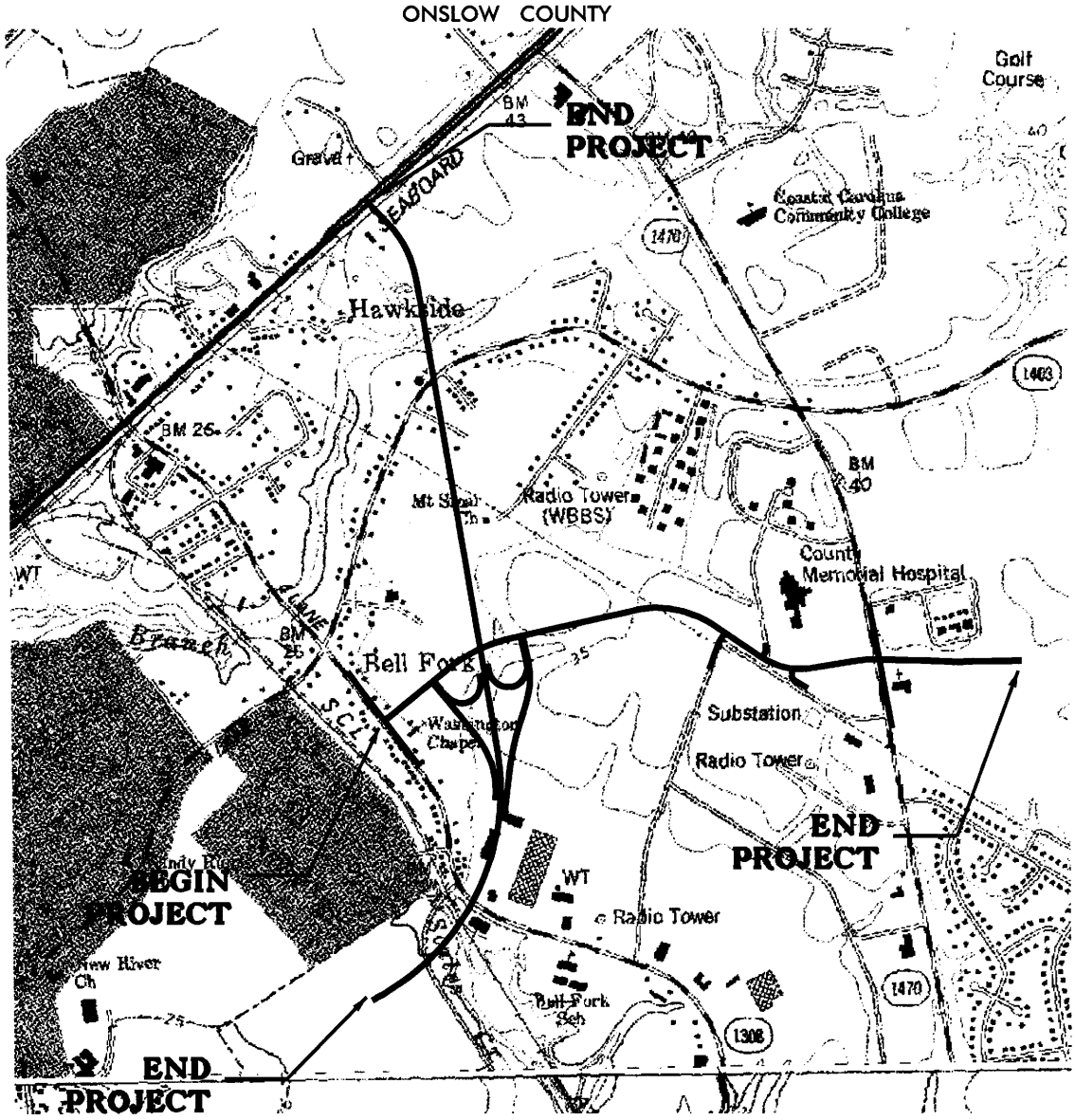
-L-

Permit Drawing
Sheet 30 of 35

$$$$$$$SYSTIME$$$$$
$$$$$$$USERNAME$$$$


PROJ. REFERENCE NO.
U-4007A
SHEET NO.
X-20
0 5 10
SITE 7
FILL IN WETLANDS
MECHANIZED CLEARING
MECHANIZED CLEARING
39.77
39.42
39.01
0.035
0.035
3:1
6:1
34.56
42+00.00
SITE 7
FILL IN WETLANDS
MECHANIZED CLEARING
MECHANIZED CLEARING
39.83
39.48
39.07
34.57
41+87.51
SITE 7
FILL IN WETLANDS
MECHANIZED CLEARING
40.02
39.67
39.26
34.21
41+50.00
SITE 7
FILL IN WETLANDS
MECHANIZED CLEARING
40.27
39.92
39.51
34.46
41+00.00
SITE 7
FILL IN WETLANDS
MECHANIZED CLEARING
40.53
40.18
39.77
34.80
40+50.00
SITE 7
FILL IN WETLANDS
MECHANIZED CLEARING
40.78
40.43
40.02
34.43
40+00.00
-L-
Permit Drawing
Sheet 31 of 35





WETLAND/STREAM
IMPACTS

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

ONSLOW COUNTY
PROJECT:35008.1.1 (U-4007A)
SR 1702 (WHITE STREET EXTENSION)
FROM SR 1808 (BELL FORK ROAD) TO
SR 1470 (WESTERN BOULEVARD)

SHEET ___ OF ___ 3-17-09

Permit Drawing
Sheet 32 of 35

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
21	N.C. DEPT OF TRANSPORTATION	306 DIVISION DR. WILMINGTON NC 28401
20	ALICE L. HEARD	312 GREENBRIAR DRIVE JACKSONVILLE NC 28540
19	BERTHINA GRAY PALMER	355 BELL FORK RD. JACKSONVILLE NC 28540
24	N.C. DEPT OF TRANSPORTATION	306 DIVISION DR. WILMINGTON NC 28401
27	WILLIE MILTON WHITE	700 WINCHESTER RD. JACKSONVILLE NC 28546
28	LARRY E. RAMBERT, ET UX	128 A ARNOLD RD. JACKSONVILLE NC 28546
5	WASHINGTON CHAPEL CHURCH	347 BELL FORK RD, JACKSONVILLE NC 28540
22	POPKIN BROTHERS INTERPRISES	625 NEW BRIDGE STREET JACKSONVILLE NC 28540

NCDOT

DIVISION OF HIGHWAYS

ONSLOW COUNTY

PROJECT: 35008.1.1 (U-4007A)

SR 1702 (WHITE STREET EXTENSION)

FROM SR 1808 TO SR 1470

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
32	HILBERT M. JONES	1409 E. HOUSTON RIVER RD. SULPHUR, LA 70663
31	ONSLOW MEMORIAL HOSPITAL FOUNDATION, INC	317 WESTERN BLVD. JACKSONVILLE NC 28546
33	ONSLOW COUNTY	ADDRESS
37	ONSLOW WOMENS CENTER, INC	PO BOX 1622 JACKSONVILLE NC 28541
38	S.B.R.E., LLC	2225 MARINE BLVD. N JACKSONVILLE NC 28540
41	DWNR, LLC	PO BOX 706 JACKSONVILLE NC 28540
?	WESTERN BLVD., LLC	4940 HILL BROOK LANE NW WASHINGTON DC 20016

NCDOT

DIVISION OF HIGHWAYS

ONSLOW COUNTY

PROJECT: 35008.1.1 (U-4007A)

SR 1702 (WHITE STREET EXTENSION)

FROM SR 1808 TO SR 1470

Permit Drawing
Sheet 34 of 35.

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	WETLAND IMPACTS: Temp. Fill In Wetlands (ac)	WETLAND IMPACTS: Excavation in Wetlands (ac)	WETLAND IMPACTS: Mechanized Clearing in Wetlands (ac)	WETLAND IMPACTS: Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	SURFACE WATER IMPACTS: Temp. SW impacts (ac)	SURFACE WATER IMPACTS: Existing Channel Impacts Permanent (ft)	SURFACE WATER IMPACTS: Existing Channel Impacts Temp. (ft)	SURFACE WATER IMPACTS: Natural Stream Design (ft)
1	1+70-RAMP A- RT	ROADWAY FILL	<0.01			<0.01						
2	6+00-10+70 -RAMP A-	ROADWAY FILL	0.28		0.08	0.16		0.11		680		
	23+62 -L-	CULVERT EXT						0.14	0.02	640	80	
	24+00 -L- LT	ROADWAY FILL	<0.01			<0.01						
3	6+00-14+95 -RAMP B-	ROADWAY FILL	2.43			0.29						
4	17+88-19+15 -L- LT	ROADWAY FILL	0.07			0.03						
5	28+13-32+61 -L- LT	ROADWAY FILL	0.28			0.11						
6	32+57-35+26 -L-	66" RCP	0.15			0.01		0.11		420		
7	39+00-45+00 -L-	ROADWAY FILL	1.32		0.01	0.19						
8	55+83-58+00 -L- RT	ROADWAY FILL	0.07			0.05						
9	58+50 -L- LT	ROADWAY FILL	0.01									
10	66+00 -L- LT	BASE DITCH							<.01		35	
TOTALS:			4.62		0.09	0.84		0.36	0.02	1740	115	

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

ONSLOW COUNTY
WBS - 35008.1.1 (U-4007A)

SHEET 1 4/8/2010

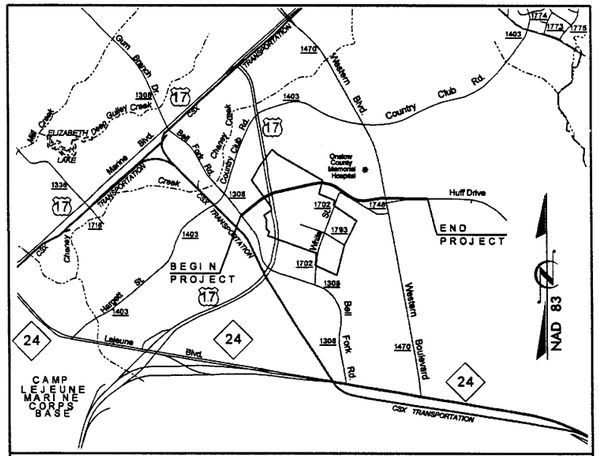
ATN Revised 3/31/05

Permit Drawing
Sheet 35 of 35

TIP PROJECT: U-4007A

CONTRACT:

See Sheet 1-A For Index of Sheets



VICINITY MAP

R/W PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

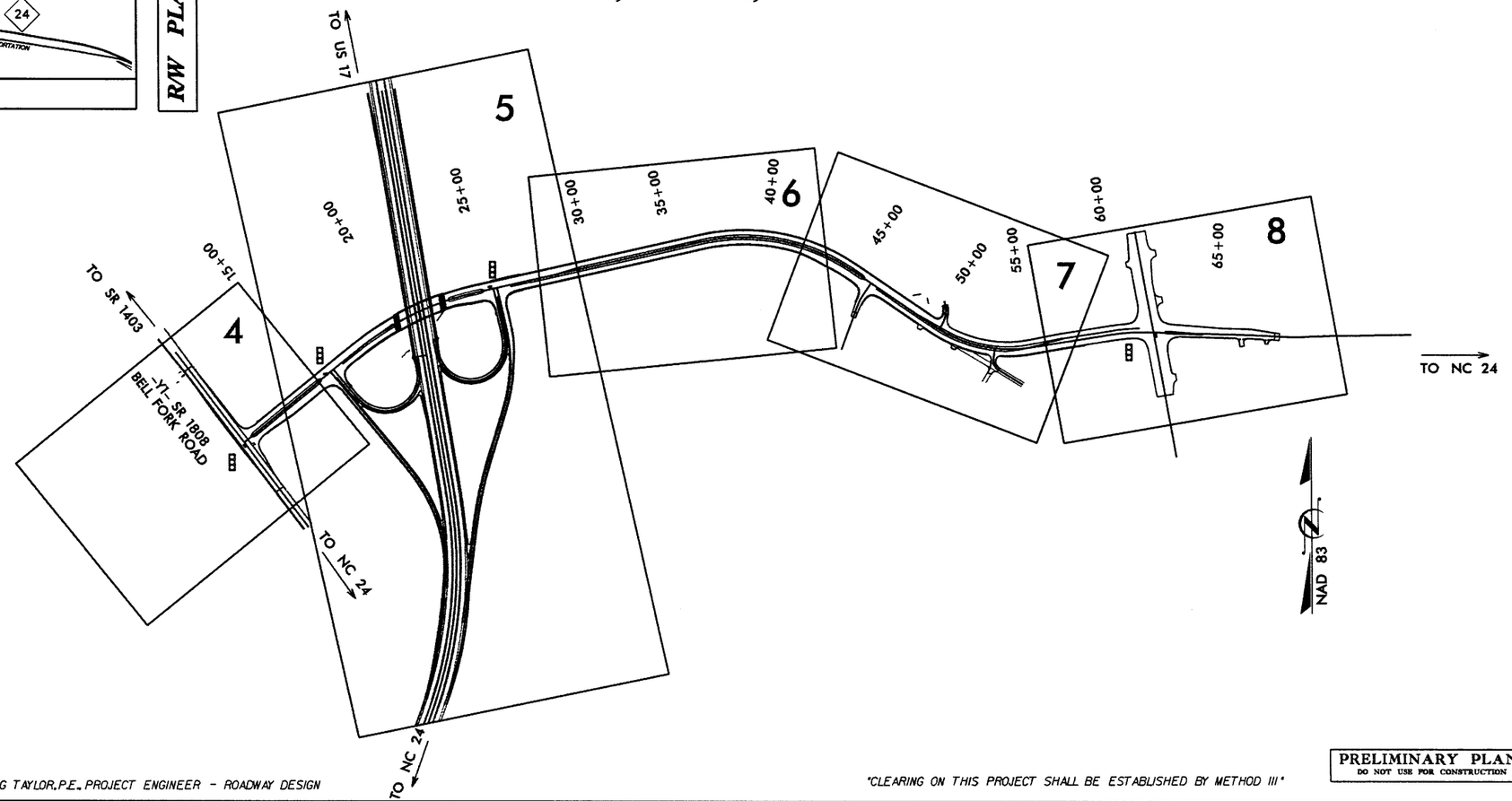
ONSLOW COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4007A	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
35008.1.1	STPNHF-17(31)	PE
35008.3.1	STPNHF-17(63)	R/W & UTILS.

LOCATION: SR 1702 (WHITE STREET EXTENSION) FROM SR 1808 (BELL FORK ROAD) TO SR 1470 (WESTERN BOULEVARD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURE, CULVERTS, AND SIGNALS



THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF JACKSONVILLE.

NCDOT CONTACT: DOUG TAYLOR, P.E. - PROJECT ENGINEER - ROADWAY DESIGN

"CLEARING ON THIS PROJECT SHALL BE ESTABLISHED BY METHOD III"

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2011 = 14,500
ADT 2031 = 18,400
DHV = 10 %
D ÷ 65 %
T = 2 % *
V = 40 MPH

* (TTST 1 % + DUAL 1 %)
URBAN MAJOR COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-4007A	= 1.060 mi.
LENGTH STRUCTURE TIP PROJECT U-4007A	= 0.044 mi.
TOTAL LENGTH TIP PROJECT U-4007A	= 1.104 mi.

Prepared In the Office of:
WANG ENGINEERING COMPANY, INC.
CARY, N.C.
FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: FEBRUARY 20, 2009

LETTING DATE: OCTOBER 19, 2010

CLIFTON T. REGISTER, P.E.
PROJECT ENGINEER

SCOTT L. KENNEDY
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
SUNGATE DESIGN GROUP, PA

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER
WANG ENGINEERING

SIGNATURE: *P.E.*

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	1-B

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 23
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line
- Proposed Right of Way Line with Iron Pin and Cap Marker
- Proposed Right of Way Line with Concrete or Granite Marker
- Existing Control of Access
- Proposed Control of Access
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Wheel Chair Ramp — WCR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole — HH
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?U/L
- U/G Tank; Water, Gas, Oil
- A/G Tank; Water, Gas, Oil
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

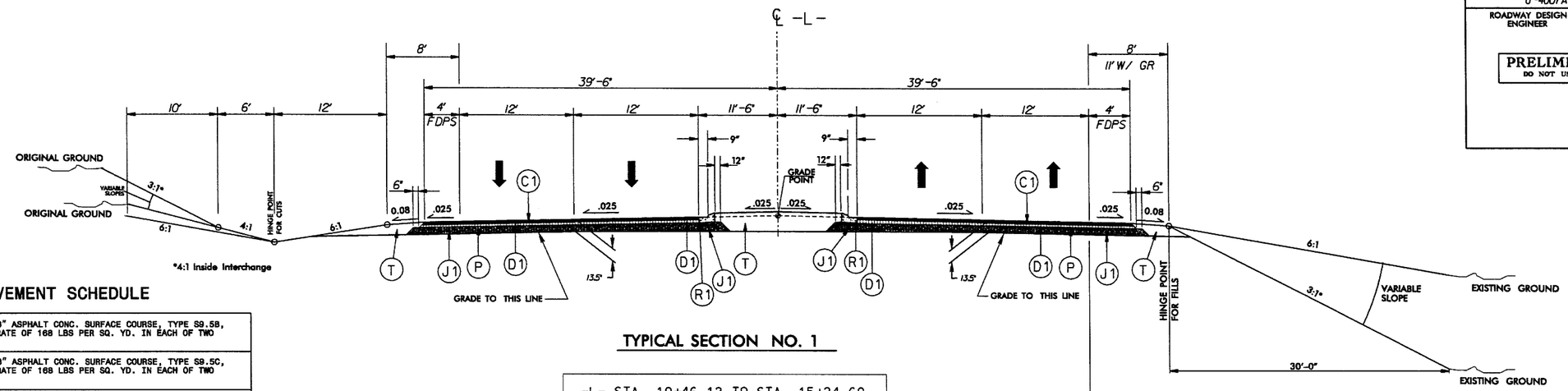
PROJECT REFERENCE NO.	SHEET NO.
U-4007A	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PAVEMENT SCHEDULE

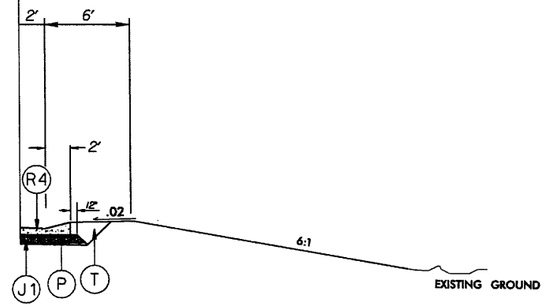
C1	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. APPROX. 3" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONC. SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.5" OR GREATER THAN 2" IN DEPTH.
C4	PROP. APPROX. 1.5" ASPHALT CONC. SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS PER SQ. YD.
D1	PROP. APPROX. 2.5" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 228 LBS PER SQ. YD.
D2	PROP. APPROX. 4" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS PER SQ. YD.
D3	PROP. APPROX. 3" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS PER SQ. YD.
D4	PROP. VAR. DEPTH ASPHALT CONC. INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS PER SQ. YD PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.25" OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS PER SQ. YD.
E2	PROP. APPROX. 3.5" ASPHALT CONC. BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 399 LBS PER SQ. YD.
E3	PROP. VAR. DEPTH ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" IN DEPTH.
E4	PROP. APPROX. 4" ASPHALT CONC. BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS PER SQ. YD.
J1	8" AGGREGATE BASE COURSE
J2	10" AGGREGATE BASE COURSE
J3	VAR. DEPTH AGGREGATE BASE COURSE
R1	1'-6" CONCRETE CURB AND GUTTER
R2	2'-6" CONCRETE CURB AND GUTTER
R3	5" MON. CONCRETE ISLAND (KEY IN)
R4	EXPRESSWAY GUTTER
P	PRIME COAT
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING (SEE DETAIL)

NOTE: ALL SLOPES 1:1 UNLESS OTHERWISE SPECIFIED
EOT = EDGE OF TRAVEL LANE



TYPICAL SECTION NO. 1

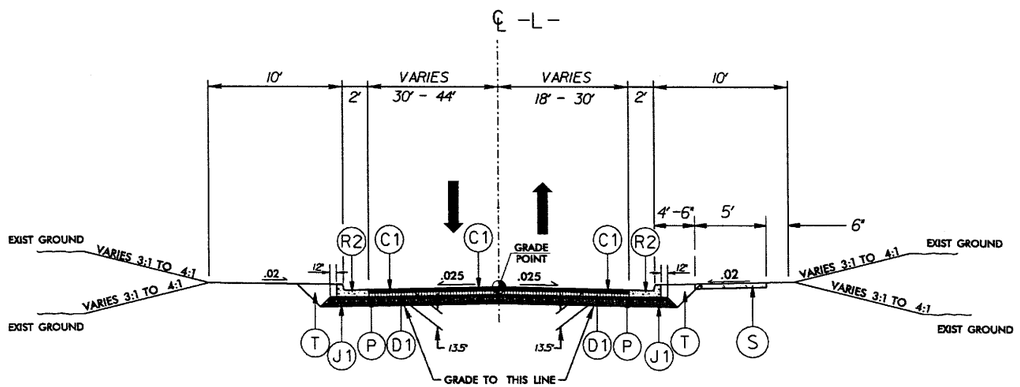
-L- STA. 10+46.12 TO STA. 15+24.60
-L- STA. 17+59.60 TO STA. 19+89.60
-L- STA. 23+10.75 TO STA. 25+08.45
-L- STA. 27+43.45 TO STA. 45+67.51
-L- STA. 47+42.51 TO STA. 56+98.70
-L- STA. 16+59.60 TO STA. 17+59.60
-L- STA. 19+89.60 TO STA. 23+10.75
-L- STA. 23+43.45 TO STA. 27+43.45
-L- STA. 46+42.51 TO STA. 47+42.51
-L- STA. 56+98.70 TO STA. 60+98.70
-L- STA. 62+30.50 TO STA. 64+29.30



TYPICAL SECTION NO. 1A

USE THIS TYPICAL IN CONJUCTION WITH TYPICAL NO. 1

-L- STA. 42+50.00 TO STA. 45+40.00

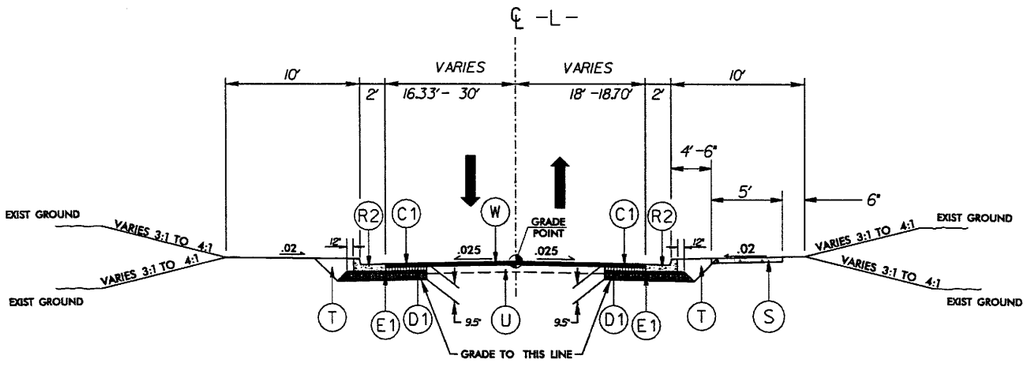


TYPICAL SECTION NO. 2

-L- STA. 58+28.70 TO STA. 61+28.95
-L- STA. 62+15.69 TO STA. 65+99.78

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	2-A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

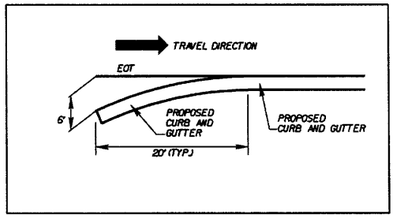
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



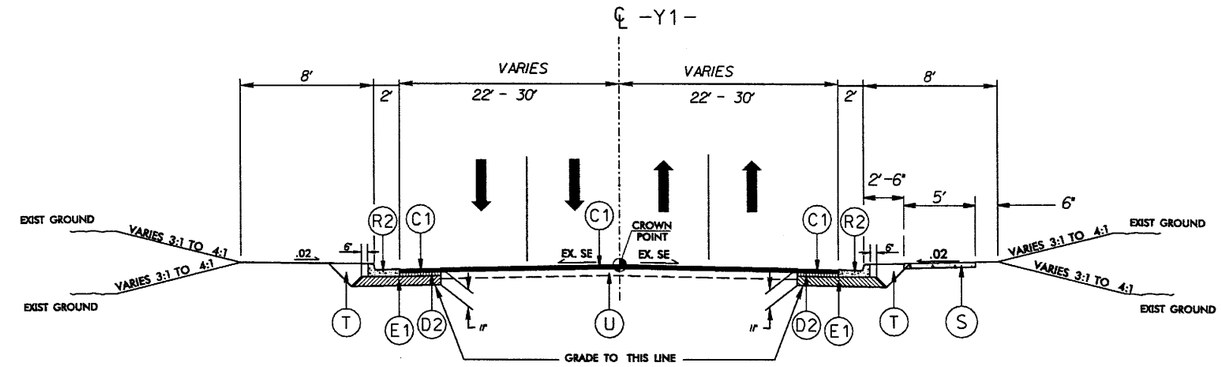
TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO.3

-L- STA. 65+99.78 TO STA. 68+30.50



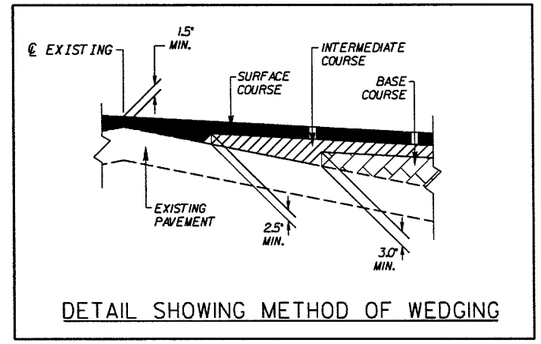
DETAIL SHOWING FLARE OF CURB AND GUTTER (APPROACH END)



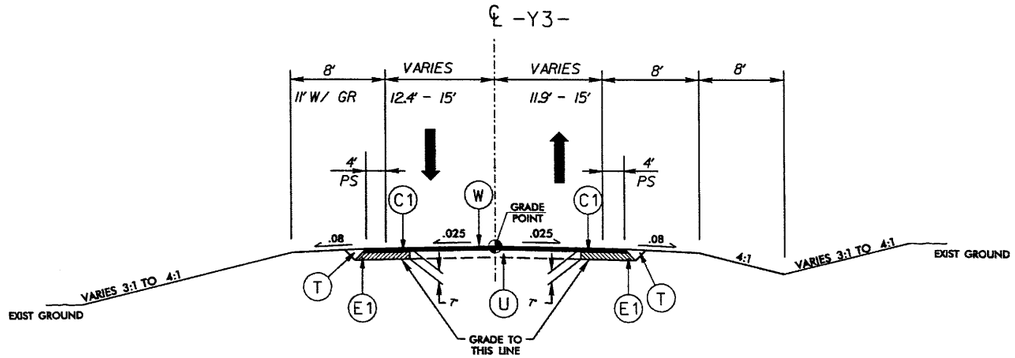
TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO.4

-Y1- STA. 11+08.82 TO STA. 18+95.01



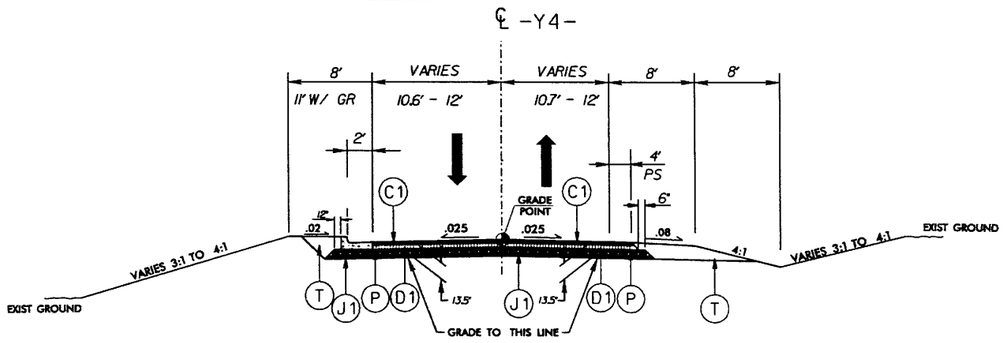
DETAIL SHOWING METHOD OF WEDGING



TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO.5

-Y3- STA. 10+35.50 TO STA. 11+75.57



TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO.6

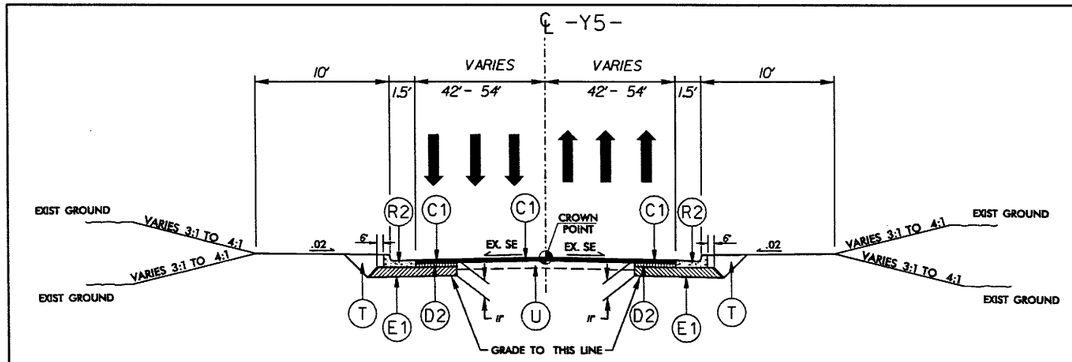
-Y4- STA. 10+21.70 TO STA. 11+20.79

PAVEMENT SCHEDULE (*)	
C1	3" A.C.S.C. TYPE S9.5B
C2	3" A.C.S.C. TYPE S9.5C
C3	VAR. DEPTH A.C.S.C. TYPE S9.5B
C4	1.5" A.C.S.C. TYPE S9.5C
D1	2.5" A.C.I.C. TYPE I19.0B
D2	4" A.C.I.C. TYPE I19.0B
D3	3" A.C.I.C. TYPE I19.0C
D4	VAR. DEPTH A.C.I.C. TYPE I19.0B
E1	4" A.C.B.C. TYPE B25.0B
E2	3.5" A.C.B.C. TYPE B25.0C
E3	VAR. DEPTH A.C.B.C. TYPE B25.0B
E4	4" A.C.B.C. TYPE B25.0B
J1	8" AGGREGATE BASE COURCE
J2	10" AGGREGATE BASE COURCE
J3	VAR. DEPTH AGGREGATE BASE COURCE
P	PRIME COAT
R1	1'-6" CONC. CURB & GUTTER
R2	2'-0" CONC. CURB & GUTTER
R3	2'-6" CONC. CURB & GUTTER
R4	EXPRESSWAY GUTTER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

(*) = REFER TO SHEET No 2 FOR FULL DESCRIPTIONS.

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	2-B
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

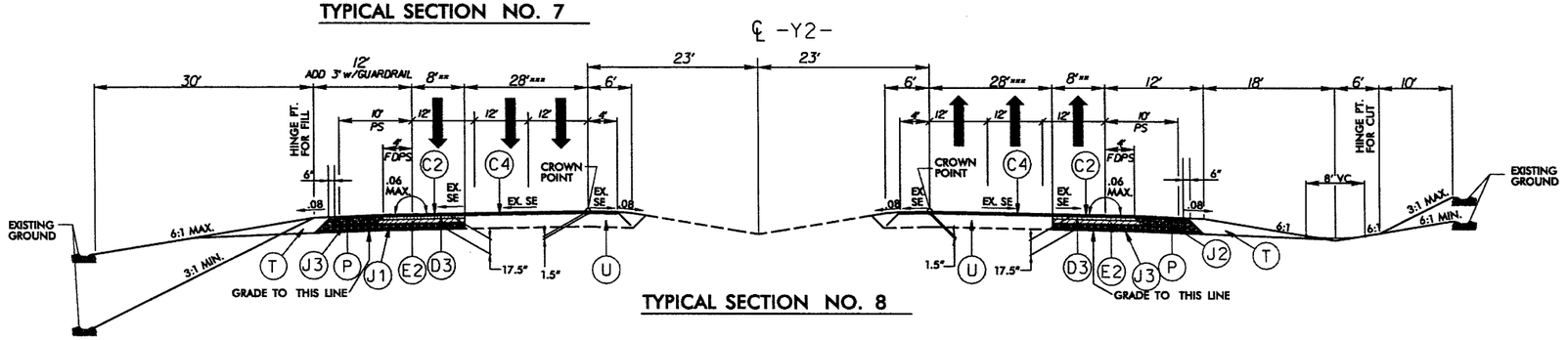
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION NO. 7

USE TYPICAL SECTION NO.7

-Y5- STA. 10+07.32 TO STA. 18+72.45



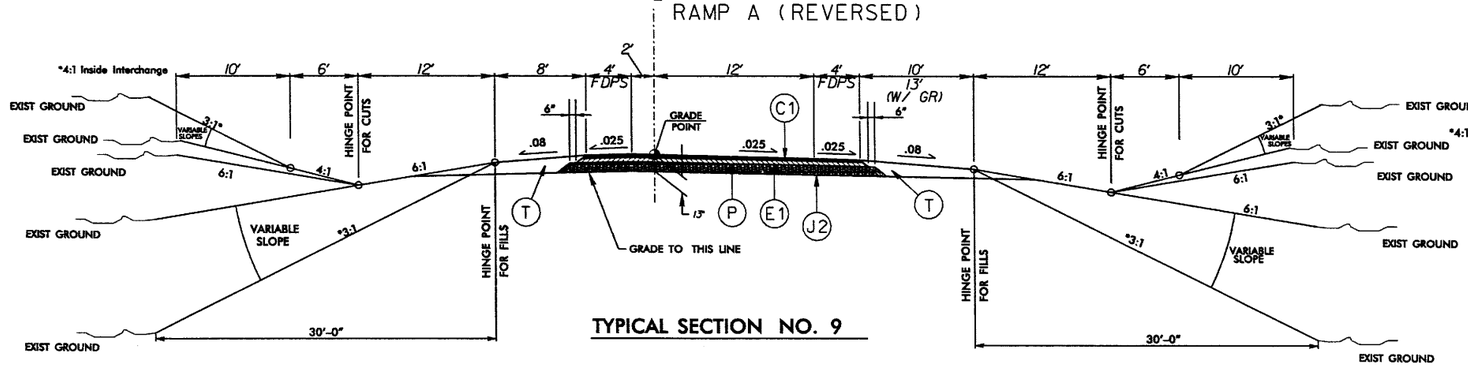
TYPICAL SECTION NO. 8

USE TYPICAL SECTION NO.8

-Y2- STA. 27+89.18 TO STA. 62+00.00

** EXISTING 6' PARTIAL-DEPTH PAVED SHOULDER TO BE REMOVED.

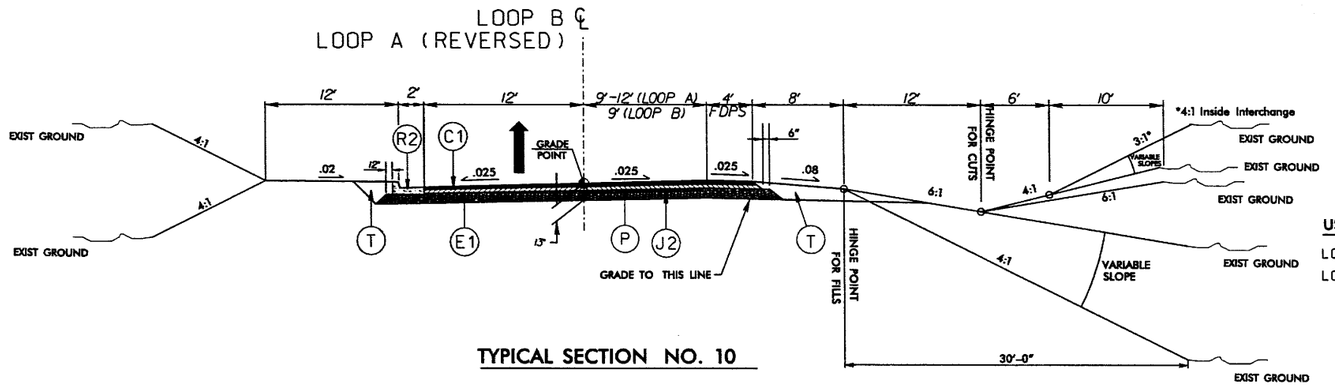
*** THIS WIDTH INCLUDES 2 EXISTING LANES PLUS 4' FULL-DEPTH PAVED SHOULDER.



TYPICAL SECTION NO. 9

USE TYPICAL SECTION NO.9

RAMP A STA. 0+00.00 TO STA. 13+22.05
RAMP B STA. 0+00.00 TO STA. 17+50.25



TYPICAL SECTION NO. 10

USE TYPICAL SECTION NO.10

LOOP A STA. 0+00.00 TO STA. 7+08.93
LOOP B STA. 0+00.00 TO STA. 8+88.11

PAVEMENT SCHEDULE (*)

C1	3" A.C.S.C. TYPE S9.5B
C2	3" A.C.S.C. TYPE S9.5C
C3	VAR. DEPTH A.C.S.C. TYPE S9.5B
C4	1.5" A.C.S.C. TYPE S9.5C
D1	2.5" A.C.I.C. TYPE I19.0B
D2	4" A.C.I.C. TYPE I19.0B
D3	3" A.C.I.C. TYPE I19.0C
D4	VAR. DEPTH A.C.I.C. TYPE I19.0B
E1	4" A.C.B.C. TYPE B25.0B
E2	3.5" A.C.B.C. TYPE B25.0C
E3	VAR. DEPTH A.C.B.C. TYPE B25.0B
E4	4" A.C.B.C. TYPE B25.0B
J1	8" AGGREGATE BASE COURCE
J2	10" AGGREGATE BASE COURCE
J3	VAR. DEPTH AGGREGATE BASE COURCE
P	PRIME COAT
R1	1'-6" CONC. CURB & GUTTER
R2	2'-0" CONC. CURB & GUTTER
R3	2'-6" CONC. CURB & GUTTER
R4	EXPRESSWAY GUTTER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

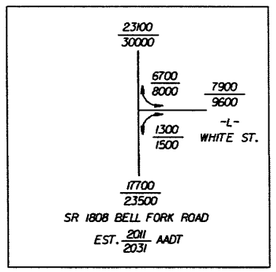
(*) = REFER TO SHEET No 2 FOR FULL DESCRIPTIONS.

8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

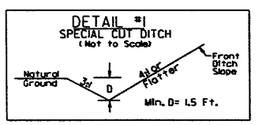
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



WARP GUTTERS
FROM 0.04 AT STA. 12+33 -Y1- LT AND RT
TO 0.12 AT STA. 12+83 -Y1- LT AND RT
TO 0.04 AT STA. 13+33 -Y1- LT AND RT
TO 0.12 AT STA. 14+10 -Y1- LT AND RT
TO 0.04 AT STA. 14+60 -Y1- LT AND RT

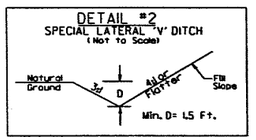
FROM 0.04 AT STA. 14+98 -Y1- RT
TO 0.12 AT STA. 15+48 -Y1- RT
TO 0.04 AT STA. 15+98 -Y1- RT

DETAIL #1
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 11+50 TO STA. 15+00 -L- RT

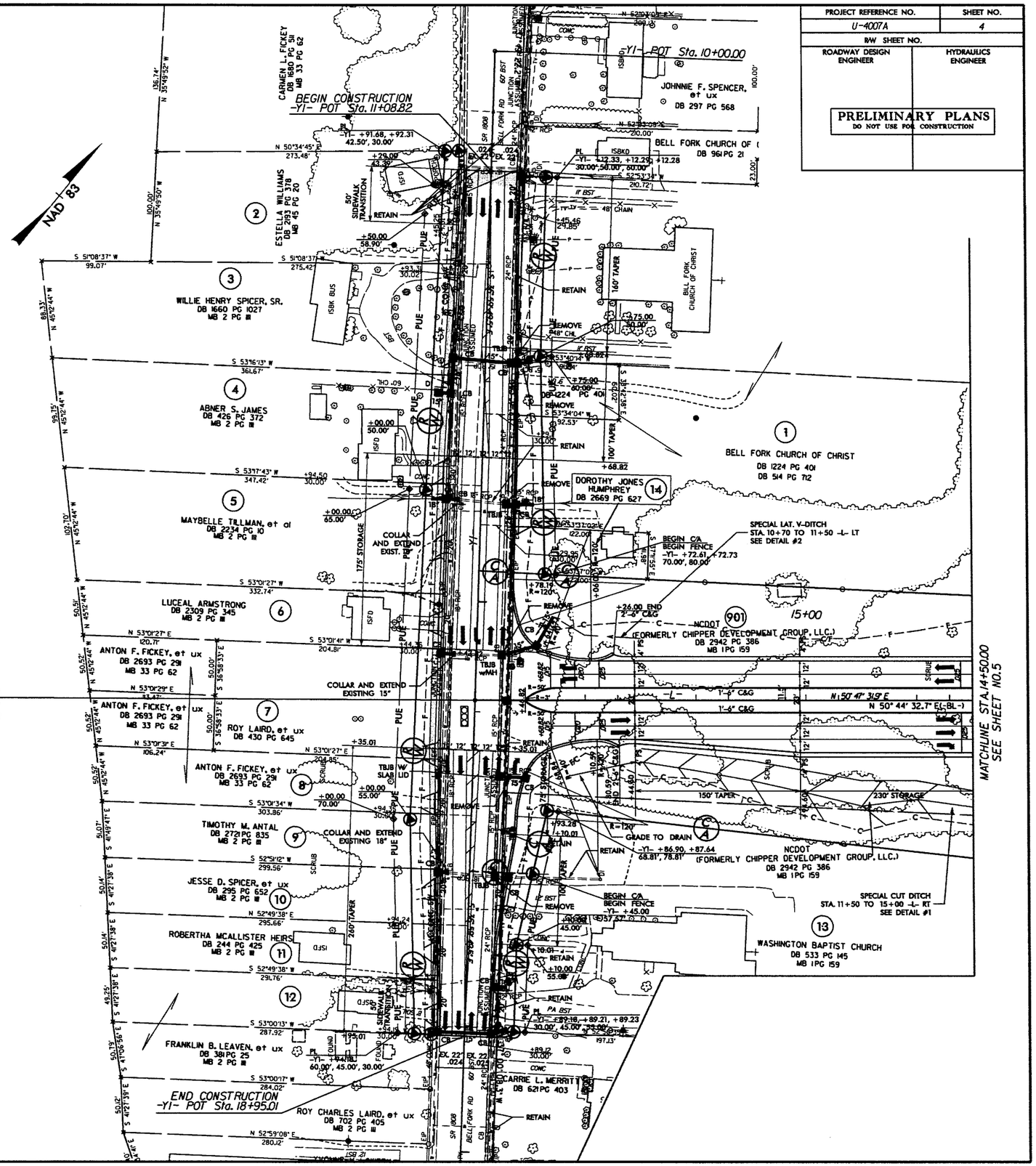
DETAIL #2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

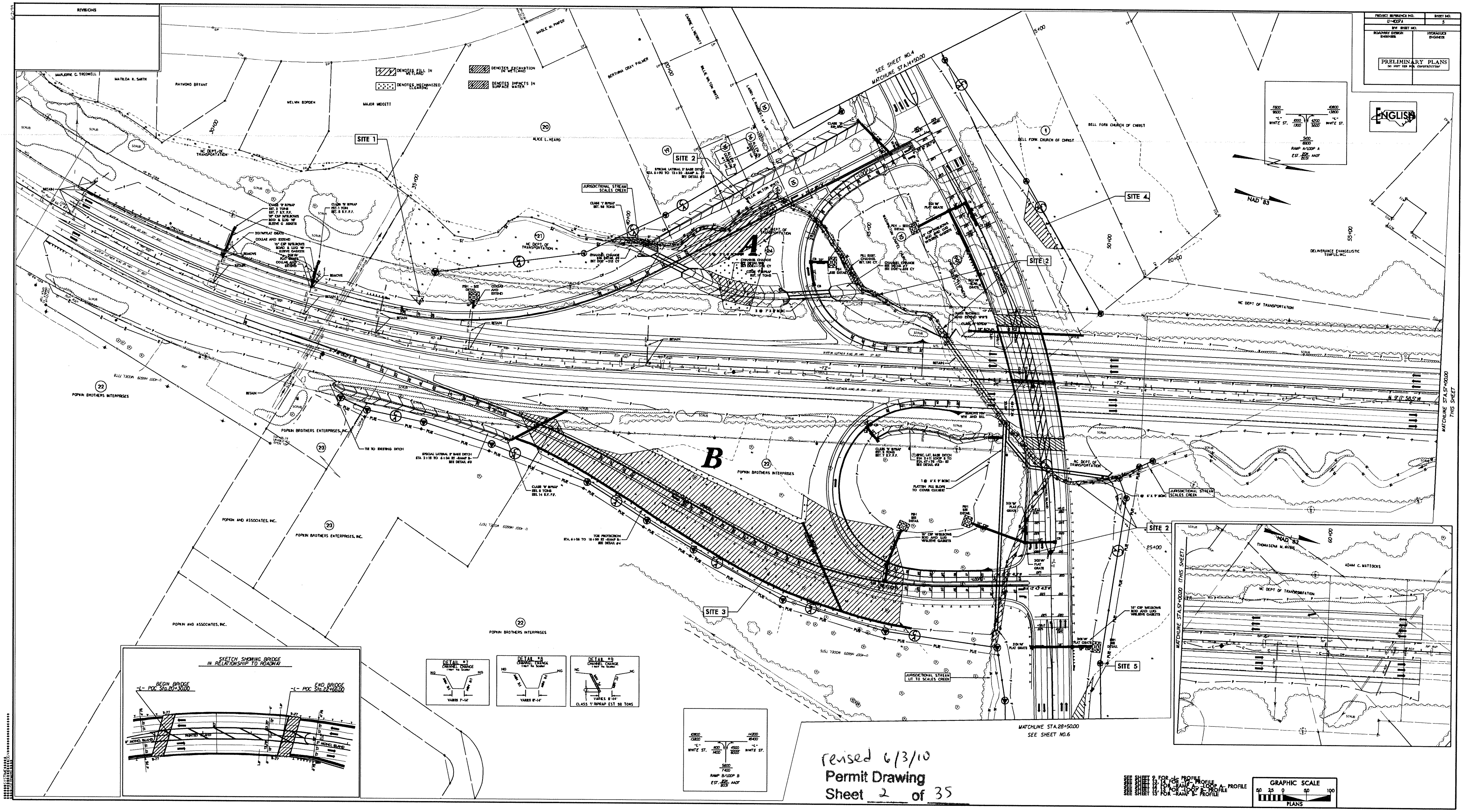


FROM STA. 10+70 TO STA. 11+50 -L- LT

BEGIN TIP PROJECT U-4007A
-L- POT Sta. 10+00.00=
-Y1- POT Sta.15+89.48

SEE SHEET 9 FOR -L- PROFILE
SEE SHEET 11 FOR -Y1- PROFILE

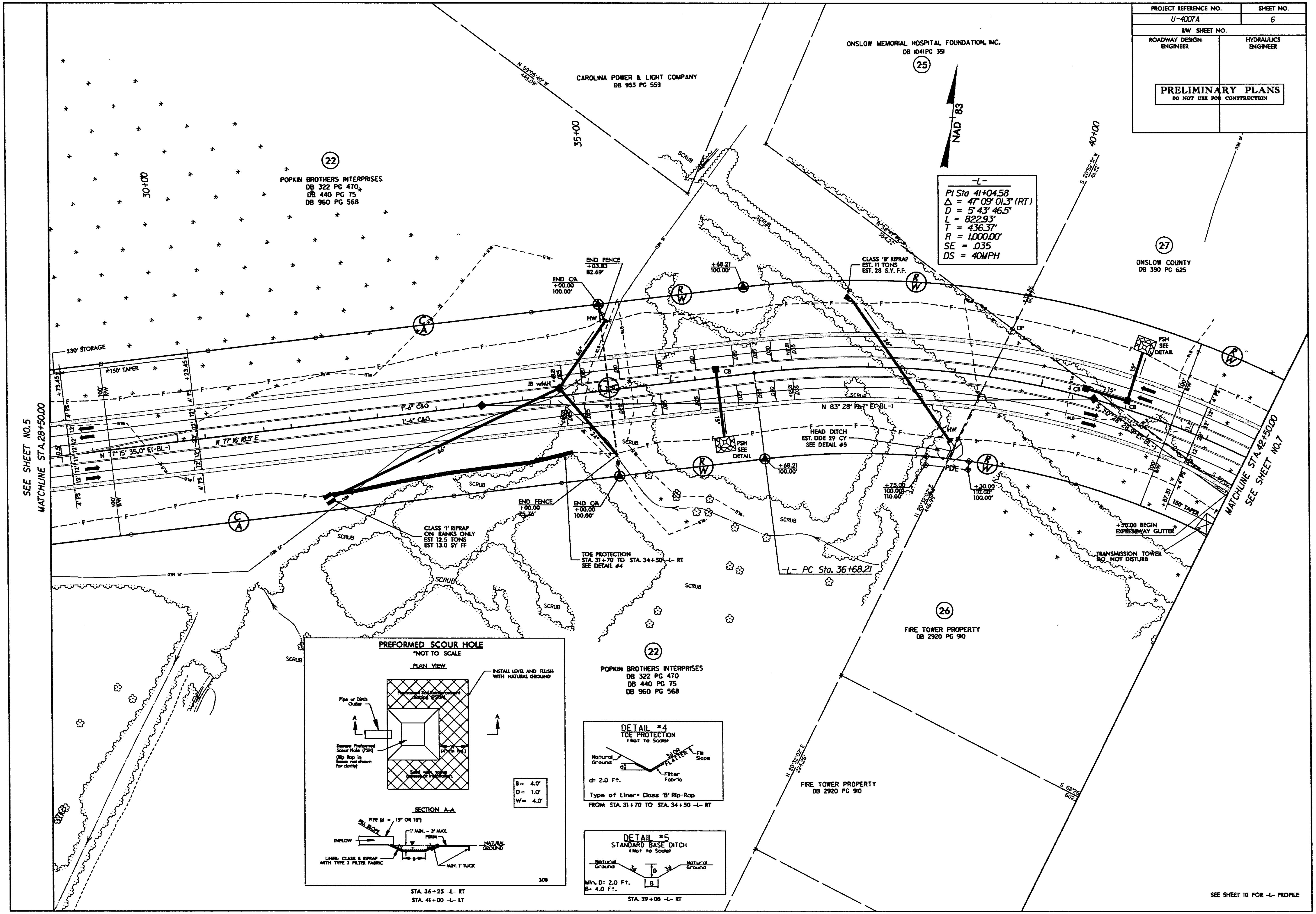




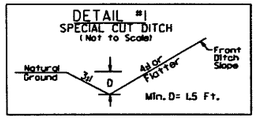
REVISIONS
PRELIMINARY PLANS
ENGLISH
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES EXCAVATION IN WETLAND
DENOTES IMPACTS IN SURFACE WATER
SITE 1
SITE 2
SITE 3
SITE 4
SITE 5
A
B
NAD 83
JURISDICTIONAL STREAM SCALES CREEK
JURISDICTIONAL STREAM UT TO SCALES CREEK
NC DEPT OF TRANSPORTATION
BELL FORK CHURCH OF CHRIST
DELIVERANCE EVANGELISTIC TEMPLE, INC.
POPKIN BROTHERS ENTERPRISES
POPKIN BROTHERS ENTERPRISES, INC.
POPKIN AND ASSOCIATES, INC.
ALICE L. HEARD
MARJORIE G. TREDWELL
MATILDA R. SMITH
RAYMOND BRYANT
MELVIN BORDEN
MAJOR MIDGETT
SEE SHEET NO.4
MATCHLINE STA.14+50.00
MATCHLINE STA.28+50.00
SEE SHEET NO.6
SKETCH SHOWING BRIDGE IN RELATIONSHIP TO ROADWAY
BEGIN BRIDGE
END BRIDGE
DETAIL #7
DETAIL #8
DETAIL #9
GRAPHIC SCALE
PLANS
revised 6/3/10
Permit Drawing
Sheet 2 of 35

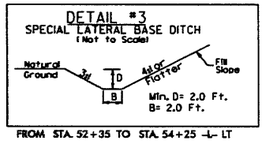
PROJECT REFERENCE NO.	SHEET NO.
U-4007A	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

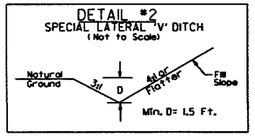
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

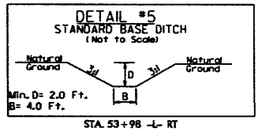


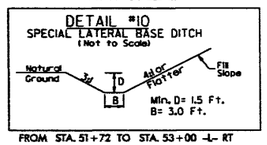
CAROLINA POWER & LIGHT COMPANY
DB 953 PG 559
ONSLOW MEMORIAL HOSPITAL FOUNDATION, INC.
DB 1041 PG 351
25
NAD 83
22
POPKIN BROTHERS INTERPRISES
DB 322 PG 470
DB 440 PG 75
DB 960 PG 568
-L-
PI Sta 41+04.58
Δ = 47° 09' 01.3" (RT)
D = 5° 43' 46.5"
L = 822.93'
T = 436.37'
R = 1,000.00'
SE = .035
DS = 40MPH
27
ONSLOW COUNTY
DB 390 PG 625
30+00
35+00
40+00
N 59°05'40" W 449.09'
230' STORAGE
150' TAPER
END FENCE
+03.83
82.69'
END C/A
+00.00
100.00'
+68.21
100.00'
CLASS 'B' RIPRAP
EST. 11 TONS
EST. 28 S.Y. F.F.
JB w/MH
CB
1'-6" C&G
N 77° 16' 18.5" E
N 77° 15' 35.0" E(-BL-)
N 83° 28' 19.7" E(-BL-)
PSH SEE DETAIL
HEAD DITCH
EST. DDE 29 CY
SEE DETAIL #5
HW
PDE
+75.00
100.00'
110.00'
+30.00
110.00'
100.00'
150' TAPER
+50.00 BEGIN EXPRESSWAY GUTTER
TRANSMISSION TOWER
DO NOT DISTURB
SEE SHEET NO.5
MATCHLINE STA. 28+50.00
MATCHLINE STA. 42+50.00
SEE SHEET NO.7
CLASS 'I' RIPRAP
ON BANKS ONLY
EST 12.5 TONS
EST 13.0 SY FF
END FENCE
+00.00
75.76'
END C/A
+00.00
100.00'
TOE PROTECTION
STA. 31+70 TO STA. 34+50 -L- RT
SEE DETAIL #4
-L- PC Sta. 36+68.21
SCRUB
26
FIRE TOWER PROPERTY
DB 2920 PG 910
N 20°13'02" E 224.26'
S 68°26' 602
PREFORMED SCOUR HOLE
*NOT TO SCALE
PLAN VIEW
INSTALL LEVEL AND FLUSH WITH NATURAL GROUND
Pipe or Ditch Outlet
Square Preformed Scour Hole (PSH)
B= 4.0'
D= 1.0'
W= 4.0'
SECTION A-A
INFLOW
FILL SLOPE
LINER: CLASS B RIPRAP WITH TYPE 2 FILTER FABRIC
1' MIN. - 3' MAX.
NATURAL GROUND
MIN. 1' TUCK
STA. 36+25 -L- RT
STA. 41+00 -L- LT
DETAIL #4
TOE PROTECTION
(Not to Scale)
Natural Ground
Filter Fabric
Fill Slope
d= 2.0 Ft.
Type of Liner= Class 'B' Rip-Rap
FROM STA. 31+70 TO STA. 34+50 -L- RT
DETAIL #5
STANDARD BASE DITCH
(Not to Scale)
Natural Ground
Min. D= 2.0 Ft.
B= 4.0 Ft.
STA. 39+00 -L- RT
SEE SHEET 10 FOR -L- PROFILE











PROJECT REFERENCE NO.	SHEET NO.
U-4007A	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DETAIL #1
SPECIAL CUT DITCH
(Not to Scale)

FROM STA. 47+42 TO STA. 49+20 -L- RT
FROM STA. 50+22 TO STA. 51+15 -L- RT

DETAIL #2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

FROM STA. 54+25 TO STA. 58+50 -L- LT

DETAIL #3
SPECIAL LATERAL BASE DITCH
(Not to Scale)

FROM STA. 52+35 TO STA. 54+25 -L- LT

DETAIL #5
STANDARD BASE DITCH
(Not to Scale)

STA. 53+98 -L- RT

DETAIL #10
SPECIAL LATERAL BASE DITCH
(Not to Scale)

FROM STA. 51+72 TO STA. 53+00 -L- RT

-L-
PI Sta 41+04.58
Δ = 47° 09' 01.3" (RT)
D = 5° 43' 46.5"
L = 822.93'
T = 436.37'
R = 1,000.00'
SE = .035
DS = 40MPH

EST. 2011/2031 AADT

-Y4-
PI Sta 10+79.82
Δ = 42° 21' 41.8" (RT)
D = 38° 11' 49.9"
L = 110.90'
T = 58.12'
R = 150.00'

-L-
PI Sta 52+77.32
Δ = 43° 36' 18.8" (LT)
D = 8° 11' 06.4"
L = 532.74'
T = 280.02'
R = 700.00'
SE .04
DS = 40MPH

-Y6-
PI Sta 10+96.57
Δ = 65° 29' 51.1" (LT)
D = 114° 35' 29.6"
L = 57.16'
T = 32.16'
R = 50.00'

EST. 2011/2031 AADT

-Y3-
PI Sta 11+05.82
Δ = 14° 16' 34.1" (LT)
D = 19° 05' 54.9"
L = 74.75'
T = 37.57'
R = 300.00'

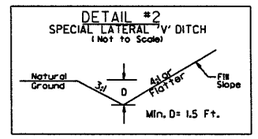
SEE SHEET 10 FOR -L- PROFILE
SEE SHEET 16 FOR -Y3- PROFILE
SEE SHEET 16 FOR -Y4- PROFILE
SEE SHEET 16 FOR -Y6- PROFILE

▨ REMOVAL OF EXISTING PAVEMENT

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

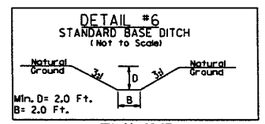
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DETAIL #2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM STA. 54+25 TO STA. 58+50 -L- LT

DETAIL #6
STANDARD BASE DITCH
(Not to Scale)



STA. 66+00 LT

BEGIN CONSTRUCTION
-Y5- POT Sta. 10+07.32

-Y5- POT Sta. 10+00.00

10+00

ONSLOW COUNTY
DB 390 PG 625

RETAIN +32.32

108 WESTERN BLVD. LLC
DB 2198 PG 820
DB 1972 PG 499

Conv. DI TO JB wMH

UNABLE TO LOCATE END OF PIPE

DWNR, LLC
DB 1674 PG 700

(27) ONSLOW COUNTY
DB 390 PG 625

-L-
PI Sta 52+77.32
Δ = 43° 36' 18.8" (LT)
D = 8° 11' 06.4"
L = 532.74'
T = 280.02'
R = 700.00'
SE = .04
DS = 40MPH

D. BLAIR HAROLD, ETAL
DB 1022 PG 645
MB 23 PG 27 RETAIN

JACKSONVILLE DOCTORS PARK, INC
DB 418 PG 311

-L-
PI Sta 69+13.39
Δ = 5° 13' 56.5" (LT)
D = 12° 47' 50.0"
L = 40.89'
T = 20.46'
R = 447.72'

NAD 83

MID ATLANTIC BBQ, LLC
DB 1749 PG 1
MB 23 PG 27 (920)

D. BLAIR HAROLD, ETAL
DB 1022 PG 645
MB 23 PG 27 (30)

-L- POT Sta.61+71.81
=-Y5- POT Sta.15+36.95

DWNR, LLC
DB 1674 PG 700 (32)

JURISDICTIONAL STREAM
UT TO SCALES CREEK

CLASS 'B' RIPRAP
EST. 7 TONS
EST. 7 S.Y. F.F.

2' BASE DITCH
EST. DDE 63 CY
SEE DETAIL #6

-L- PT Sta.69+33.82

-L- PC Sta.68+92.93

END TIP PROJECT U-4007A
-L- POT Sta.68+30.50

70+00

SPECIAL LAT. V-DITCH
STA. 54+25 TO 58+50 -L- LT
SEE DETAIL #2

65+00

60+00

SEE SHEET NO.7
MATCHLINE STA. 56+50.00

308 WESTERN BLVD., LLC
DB 2409 PG 753 (921)

15+00

LEO SHOOK
DB 1077 PG 468
MB 22 PG 185 (46)

PLAYGROUND

TIRE COUNTRY, INC.
DB 768 PG 803
MB 23 PG 27 (31)

-L- PT Sta.61+42.51

-L- PC Sta.59+55.37

ONSLOW WOMEN'S CENTER, INC.
DB 1888 PG 734
MB 43 PG 76 (29)

ARTHUR M. SILVER INVESTMENTS
DB 783 PG 490

CHICK-FIL-A, INC.
DB 849 PG 480

RONALD E. SAUCIER
DB 1707 PG 661

END CONSTRUCTION
-Y5- POT Sta. 18+72.45

GENERAL MILLS RESTAURANTS, INC.
DB 889 PG 847
MB 30 PG 49

-L- PC Sta.66+22.01

-L- PT Sta.67+49.15

-L- PC Sta.69+98.74

20+00
MARY B. MORGAN
DB 1004 PG 961

-L-
PI Sta 60+49.21
Δ = 10° 43' 21.2" (RT)
D = 5° 43' 46.5"
L = 187.14'
T = 93.85'
R = 1,000.00'
SE = NC
DS = 40MPH

-L-
PI Sta 66+85.58
Δ = 1° 12' 50.6" (RT)
D = 0° 57' 17.7"
L = 127.14'
T = 63.57'
R = 6,000.00'
SE = NC
DS = 40MPH

-L-
PI Sta 70+69.58
Δ = 1° 38' 47.8" (RT)
D = 1° 09' 44.0"
L = 141.68'
T = 70.84'
R = 4,929.89'

36200 / 54900
-Y5- WESTERN BLVD.

12500 / 16300	5600 / 7200	4000 / 5200	8600 / 11200
-L- WHITE ST.	5100 / 6600	2800 / 3500	-L- HUFF DR.

34500 / 52600
-Y5- WESTERN BLVD.

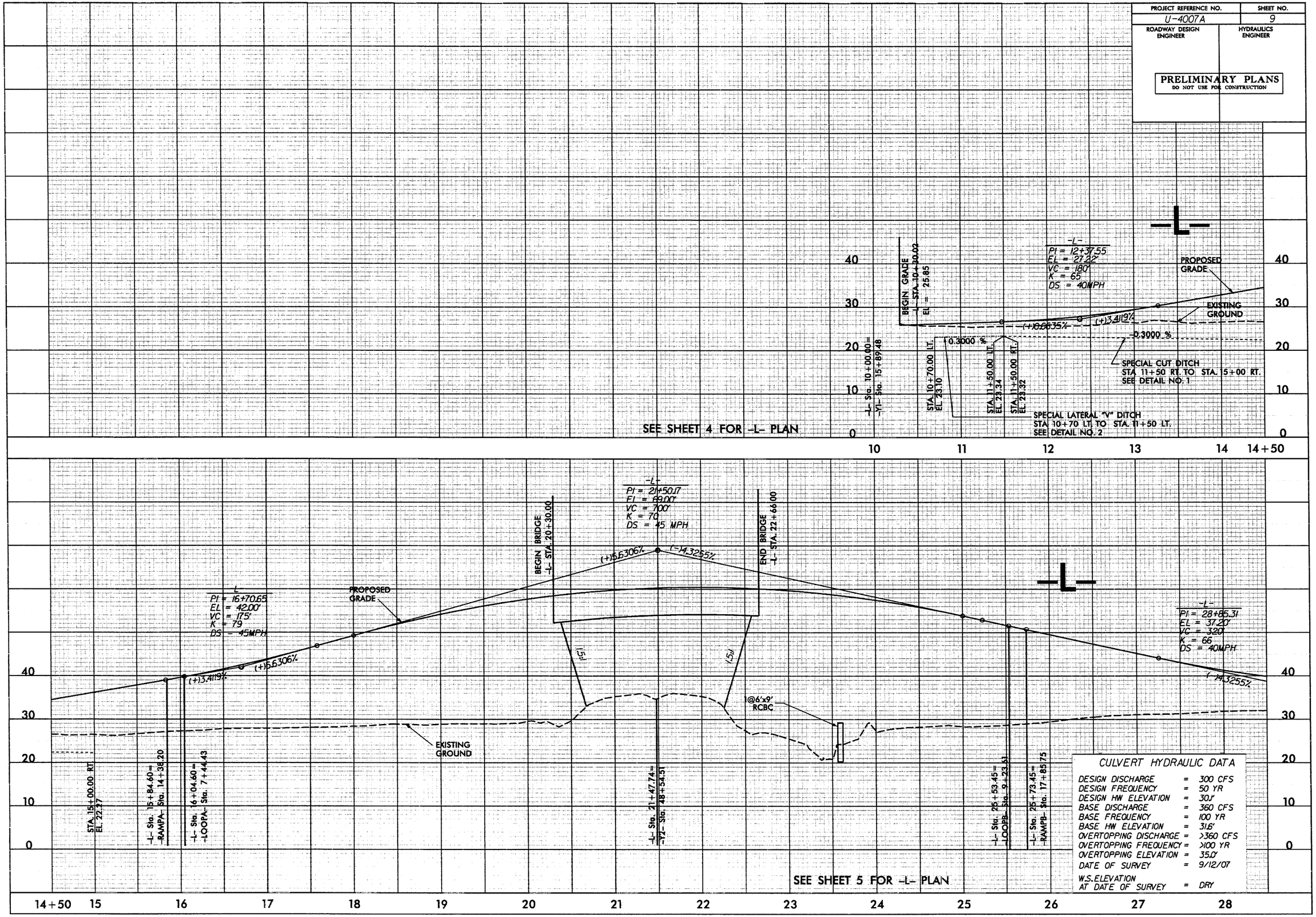
EST. 2011 / 2031 AADT

REMOVAL OF EXISTING PAVEMENT

SEE SHEET 11 FOR -L- PROFILE
SEE SHEET 16 FOR -Y5- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

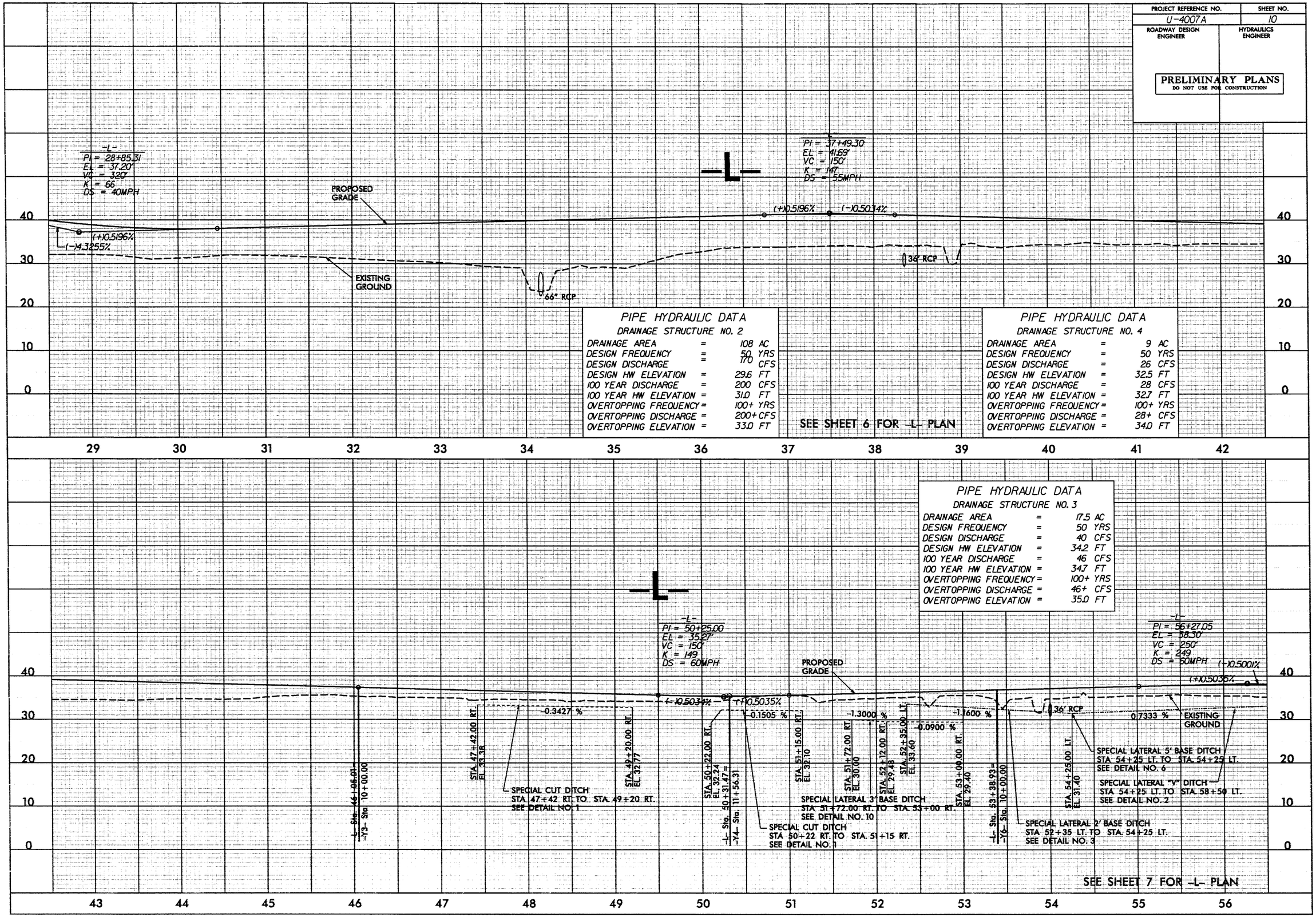


CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	=	300 CFS
DESIGN FREQUENCY	=	50 YR
DESIGN HW ELEVATION	=	30.1'
BASE DISCHARGE	=	360 CFS
BASE FREQUENCY	=	100 YR
BASE HW ELEVATION	=	31.6'
OVERTOPPING DISCHARGE	=	>360 CFS
OVERTOPPING FREQUENCY	=	>100 YR
OVERTOPPING ELEVATION	=	35.0'
DATE OF SURVEY	=	9/12/07
W.S.ELEVATION AT DATE OF SURVEY	=	DRY

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 2

DRAINAGE AREA	=	108 AC
DESIGN FREQUENCY	=	50 YRS
DESIGN DISCHARGE	=	170 CFS
DESIGN HW ELEVATION	=	29.6 FT
100 YEAR DISCHARGE	=	200 CFS
100 YEAR HW ELEVATION	=	31.0 FT
OVERTOPPING FREQUENCY	=	100+ YRS
OVERTOPPING DISCHARGE	=	200+ CFS
OVERTOPPING ELEVATION	=	33.0 FT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 4

DRAINAGE AREA	=	9 AC
DESIGN FREQUENCY	=	50 YRS
DESIGN DISCHARGE	=	26 CFS
DESIGN HW ELEVATION	=	32.5 FT
100 YEAR DISCHARGE	=	28 CFS
100 YEAR HW ELEVATION	=	32.7 FT
OVERTOPPING FREQUENCY	=	100+ YRS
OVERTOPPING DISCHARGE	=	28+ CFS
OVERTOPPING ELEVATION	=	34.0 FT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 3

DRAINAGE AREA	=	17.5 AC
DESIGN FREQUENCY	=	50 YRS
DESIGN DISCHARGE	=	40 CFS
DESIGN HW ELEVATION	=	34.2 FT
100 YEAR DISCHARGE	=	46 CFS
100 YEAR HW ELEVATION	=	34.7 FT
OVERTOPPING FREQUENCY	=	100+ YRS
OVERTOPPING DISCHARGE	=	46+ CFS
OVERTOPPING ELEVATION	=	35.0 FT

SEE SHEET 6 FOR -L- PLAN

SEE SHEET 7 FOR -L- PLAN

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	11
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L-
PI = 56+27.85
EL = 38.30'
VC = 250'
K = 249
DS = 60MPH

(-)0.5001%

0.7333 %

STA. 58+50.00 LT.
EL 34.50

SPECIAL LATERAL "V" DITCH
STA 54+25 LT. TO STA. 58+50 LT.
SEE DETAIL NO. 2

END GRADE
-L- STA. 61+28.95
EL = 35.79
-Y5- STA. 15+28.41 EP

-L- POT Sta. 61+71.81 = WESTERN BLVD.
-Y5- POT Sta. 15+36.95

BEGIN GRADE
-L- STA. 62+14.69
EL = 35.87
=-Y5- STA. 15+45.59 EP

2.2%
2.0%
(-)0.5001%
(+)0.0933%
(+)1.2600%

-L-
PI = 63+83.74
EL = 38.00'
VC = 150'
K = 77
DS = 45MPH

(+)1.2600%
(-)0.6956%

PROPOSED GRADE

EXISTING GROUND

(-)0.6956%

25' TAPER TO EXIST.

END GRADE
-L- STA. 68+05.50
EL = 35.07

END RESURFACING
-L- STA. 68+30.50
EL = 34.75

SEE SHEET 8 FOR -L- PLAN

WIDEN & RESURFACE USING EXISTING GRADE AND SUPERS

BEGIN RESURFACING & WIDENING
STA. 11+08.82
El = 26.28

-Y1-
BELL FORK ROAD

END RESURFACING & WIDENING
STA. 18+95.01
EL = 26.49

+0.3400%
+0.7200%
-0.3000%
+0.3600%
-0.2600%
+0.3600%
-0.2300%
+0.3600%
EXISTING GROUND
-0.5000%
+0.3000%

-Y1- Sta. 15+89.48 =
-L- Sta. 10+00.00

SEE SHEET 4 FOR -Y1- PLAN

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	12
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	=	540 CFS
DESIGN FREQUENCY	=	50 YR
DESIGN HW ELEVATION	=	26.6'
BASE DISCHARGE	=	630 CFS
BASE FREQUENCY	=	100 YR
BASE HW ELEVATION	=	27.1'
OVERTOPPING DISCHARGE	=	>630 CFS
OVERTOPPING FREQUENCY	=	>100 YR
OVERTOPPING ELEVATION	=	27.5'
DATE OF SURVEY	=	9/12/07
W.S.ELEVATION AT DATE OF SURVEY	=	19.2'

-RAMPA-

BEGIN GRADE -RAMPA- STA. 0+00.00 EL = 31.67

-RAMPA-
PI = 0+85.00
EL = 30.07'
VC = 150'
K = 187
DS = 60MPH

-RAMPA-
PI = 2+58.70
EL = 28.18'
VC = 150'
K = 336
DS = 60MPH

-RAMPA-
PI = 4+95.40
EL = 26.67'
VC = 270'
K = 122
DS = 55MPH

-RAMPA-
PI = 11+77.55
EL = 37.44'
VC = 190'
K = 177
DS = 60MPH

END GRADE -RAMPA- STA. 13+22.05 EL = 38.17
= -L- STA 15+84.60 EP

(-)11.8868%
(-)11.0859%
(-)11.0859%
(-)10.6390%
(-)10.6390%
(+)11.5792%
(+)10.5052%
2.5%

PROPOSED GRADE
EXISTING GROUND
0.3151 %

STA. 6+90.00 LT. EL. 20.60
2@7'x8' RCBC
SPECIAL LATERAL 2' BASE DITCH STA. 6+90 LT. TO STA. 12+20 LT. SEE DETAIL NO. 3
STA. 12+20.00 LT. EL. 22.27

SEE SHEET 5 FOR -RAMP A- PLAN

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	=	540 CFS
DESIGN FREQUENCY	=	50 YR
DESIGN HW ELEVATION	=	26.6'
BASE DISCHARGE	=	630 CFS
BASE FREQUENCY	=	100 YR
BASE HW ELEVATION	=	27.1'
OVERTOPPING DISCHARGE	=	>630 CFS
OVERTOPPING FREQUENCY	=	>100 YR
OVERTOPPING ELEVATION	=	27.5'
DATE OF SURVEY	=	9/12/07
W.S.ELEVATION AT DATE OF SURVEY	=	20.1'

-LOOPA-

BEGIN GRADE -LOOPA- STA. 0+00.00 EL = 34.25

-LOOPA-
PI = 0+80.00
EL = 33.80'
VC = 85'
K = 58
DS = 40MPH

-LOOPA-
PI = 3+25.00
EL = 28.80'
VC = 170'
K = 29
DS = 25MPH

-LOOPA-
PI = 5+00.00
EL = 35.45'
VC = 100'
K = 46
DS = 30MPH

END GRADE -LOOPA- STA. 7+06.93 EL = 38.89
= -L- STA. 14+04.60 EP

(-)10.5658%
(-)12.0397%
(-)12.0397%
(+)3.8000%
(+)3.8000%
(+)11.5466%
2.5%

PROPOSED GRADE
EXISTING GROUND
NSWE 20.1 (9/12/07)
2@6'x8' RCBC

SEE SHEET 5 FOR -LOOP A- PLAN

-LOOPB-

BEGIN GRADE -LOOPB- STA. 0+00.00 EL = 34.73

-LOOPB-
PI = 0+78.03
EL = 34.35'
VC = 100'
K = 65
DS = 15MPH

-LOOPB-
PI = 2+41.51
EL = 31.05'
VC = 175'
K = 28
DS = 25MPH

-LOOPB-
PI = 5+32.43
EL = 43.16'
VC = 150'
K = 73
DS = 45MPH

(-)10.4870%
(-)12.0186%
(-)12.0186%
(+)4.1641%
(+)4.1641%
(+)12.1103%

PROPOSED GRADE
EXISTING GROUND
1.0995 %

STA. 0+00.00 LT. EL. 25.18
SPECIAL LATERAL 2' BASE DITCH STA 0+00 LT. TO STA. 2+11 LT. SEE DETAIL NO. 3
STA. 2+11.00 LT. EL. 27.50

SEE SHEET 5 FOR -LOOP B- PLAN

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	13
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-LOOPB-

PROPOSED GRADE
(+)12.1103%
END GRADE
-LOOPB- STA. 8+88.11
EL = 50.67
=/L- STA. 25+53.45 EP
2.5%
EXISTING GROUND
SEE SHEET 5 FOR -LOOP B- PLAN

BEGIN GRADE
-RAMPB- STA. 0+00.00
EL = 38.48
-RAMPB-
PI = 2+00.15
EL = 33.97'
VC = 235'
K = 148
DS = 60MPH
(-)12.2556%
(-)10.6709%
STA. 2+15.00 RT.
EL 23.000
0.3856 %
SPECIAL LATERAL 2' BASE DITCH
STA 2+15 RT. TO STA 6+04 RT.
SEE DETAIL NO. 3

-RAMPB-

-RAMPB-
PI = 5+37.83
EL = 31.70'
VC = 245'
K = 98
DS = 50MPH
(-)10.6709%
(+)11.8322%
PROPOSED GRADE
EXISTING GROUND
24" RCP
STA. 6+04.90 RT.
EL 24.60
SEE SHEET 5 FOR -RAMP B- PLAN

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO. 1

DRAINAGE AREA	=	3.8 AC
DESIGN FREQUENCY	=	50 YRS
DESIGN DISCHARGE	=	14 CFS
DESIGN HW ELEVATION	=	27.0 FT
100 YEAR DISCHARGE	=	15 CFS
100 YEAR HW ELEVATION	=	27.2 FT
OVERTOPPING FREQUENCY	=	500+ YRS
OVERTOPPING DISCHARGE	=	25+ CFS
OVERTOPPING ELEVATION	=	31.7 FT

-RAMPB-

-RAMPB-
PI = 11+00.00
EL = 42.00'
VC = 250'
K = 395
DS = 60MPH
(+)11.8322%
(+)11.1995%
PROPOSED GRADE
END GRADE
-RAMPB- STA. 17+30.25
EL = 49.80
=/L- STA. 25+73.45 EP
2.5%
EXISTING GROUND
1@6'x9' RCBC
NWSE ON 9-12-07
=22.47
SEE SHEET 5 FOR -RAMP B- PLAN

CULVERT HYDRAULIC DATA

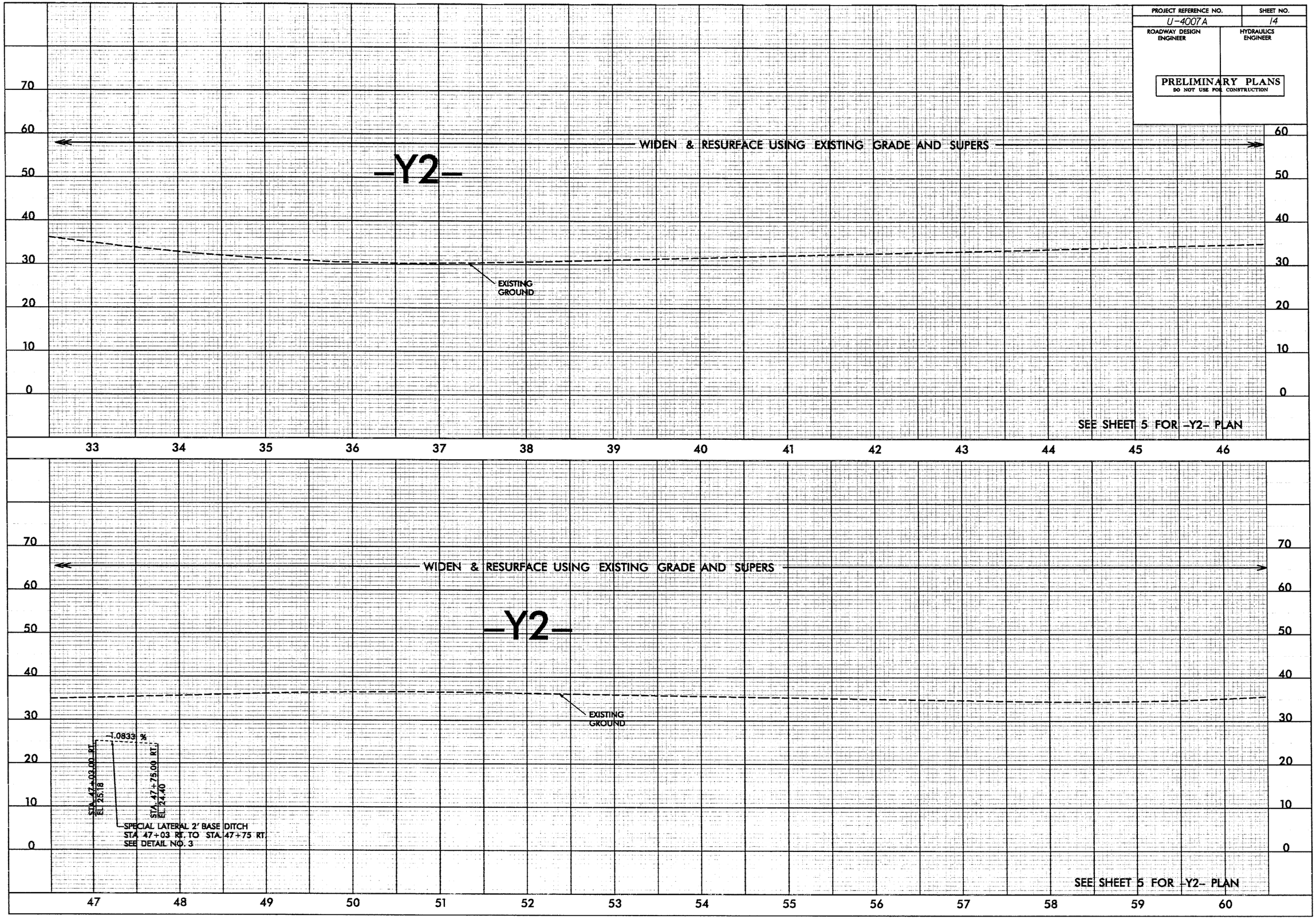
DESIGN DISCHARGE	=	320 CFS
DESIGN FREQUENCY	=	50 YR
DESIGN HW ELEVATION	=	30.0'
BASE DISCHARGE	=	390 CFS
BASE FREQUENCY	=	100 YR
BASE HW ELEVATION	=	31.6'
OVERTOPPING DISCHARGE	=	<390 CFS
OVERTOPPING FREQUENCY	=	<100 YR
OVERTOPPING ELEVATION	=	31.2'
DATE OF SURVEY	=	9/12/07
W.S. ELEVATION AT DATE OF SURVEY	=	22.47'

-Y2-

WIDEN & RESURFACE USING EXISTING GRADE AND SUPERS
BEGIN RESURFACING
STA. 27+89.18
EXISTING GROUND
SEE SHEET 5 FOR -Y2- PLAN

PROJECT REFERENCE NO.	SHEET NO.
U-4007A	14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



PROJECT REFERENCE NO.	SHEET NO.
U-4007A	15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y2-

RESURFACE USING EXISTING GRADE AND SUPERS

END RESURFACING STA. 62+00.00

EXISTING GROUND

SEE SHEET 5 FOR -Y2- PLAN

-Y3-

BEGIN GRADE -Y3- STA. 10+35.50 EL = 36.49 =L= STA. 46+05.51 EP

2.5%

(-12.7564%

-Y3-
PI = 10+97.64
EL = 35.15
VC = 90'
K = 55
DS = 35MPH

PROPOSED GRADE

(-10.5291%

END GRADE -Y3- STA. 11+75.57 EL = 34.74

25' TAPER TO EXIST.

END RESURFACING -Y3- STA. 12+00.57 EL = 34.40

EXISTING GROUND

SEE SHEET 7 FOR -Y3- PLAN

-Y4-

BEGIN GRADE -Y4- STA. 10+21.70 EL = 35.73

(-10.4432%

(-2.7600%

BEGIN GRADE -Y4- STA. 11+20.79 EL = 34.15 =L= STA. 50+30.99 EP

4.0%

(-10.3367%

EXISTING GROUND

PROPOSED GRADE

-Y4-
PI = 10+50.00
EL = 35.60'
VC = 50.00'
K = 22
DS = 30MPH

-Y4-
PI = 11+00.00
EL = 34.22'
VC = 40.00'
K = 17
DS = 20MPH

SEE SHEET 7 FOR -Y4- PLAN

-Y5-

RESURFACE USING EXISTING GRADE & SUPERS

BEGIN RESURFACING STA. 10+07.32

EXISTING GROUND

END RESURFACING STA. 18+72.45

SEE SHEET 8 FOR -Y5- PLAN

-Y6-

BEGIN GRADE -Y6- STA. 10+35.50 EL = 38.27 =L= STA. 53+38.93 EP

END GRADE -Y6- STA. 11+22.94 EL = 35.30

4.0%

(+1.5919%

(-7.0228%

(+1.0328%

(+0.0000%

EXISTING GROUND

PROPOSED GRADE

-Y6-
PI = 10+56.00
EL = 38.60'
VC = 40'
K = 5
DS = 15MPH

-Y6-
PI = 11+02.94
EL = 35.30'
VC = 40'
K = 6

SEE SHEET 7 FOR -Y6- PLAN

09/08/99

TIP PROJECT: U-4007B

CONTRACT

$$$$SYSTIME$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols

VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ONSLOW COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4007B	1	

WBS NO.	F.A.PROJ.NO.	DESCRIPTION
35008.1.1	STPNHF-17(31)	PE
35008.3.4	NHF-0017(77)	ROW & UTILS.

ENGLISH

LOCATION: WESTERN PARKWAY FROM APPROXIMATELY 1300' SOUTH OF COUNTRY CLUB RD. TO WESTERN BLVD.

TYPE OF WORK: GRADING, PAVING, DRAINAGE, SIGNALS CURB, GUTTER, STRUCTURES, & CULVERTS.

- THIS PROJECT IS WITHIN THE JACKSONVILLE CITY LIMITS.
- THIS PROJECT IS A FULLY CONTROLLED ACCESS BEING LIMITED TO AN INTERCHANGE.
- CLEARING FOR THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

Permit Drawing
Sheet 1 **of** 56

WETLAND/STREAM IMPACTS

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2011 = 36,300
ADT 2031 = 57,600
DHV = 10 %
D = 60 %
T = 8 % *
V = 50 MPH
(* TTST 3% + DUAL 5%)
FUNC. CLASS: FWY./EXPWY.

PROJECT LENGTH

LENGTH OF ROADWAY T.I.P. PROJECT U-4007B = 1.177 MI.
LENGTH OF STRUCTURE T.I.P. PROJECT U-4007B = 0.857 MI
TOTAL LENGTH OF T.I.P. PROJECT U-4007B = 2.034 MI

PREPARED IN THE OFFICE OF:

Stantec

Stantec Consulting Inc.
Suite 300, 801 Jones Franklin Road
Raleigh, NC U.S.A.
27606

Tel. 919.851.6866
Fax. 919.851.7024
www.stantec.com

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
FEB 20, 2009

LETTING DATE:
OCT. 19, 2010

KENNETH W. SMITH, PE
PROJECT ENGINEER

ROBERT A. WILLIAMS, PE
PROJECT DESIGN ENGINEER

KEITH F. HUDSON, PE
PROJECT DESIGN ENGINEER

NCDOT CONTACT:
B. DOUG TAYLOR, PE
PROJECT ENGINEER - ROADWAY DESIGN

HYDRAULICS ENGINEER

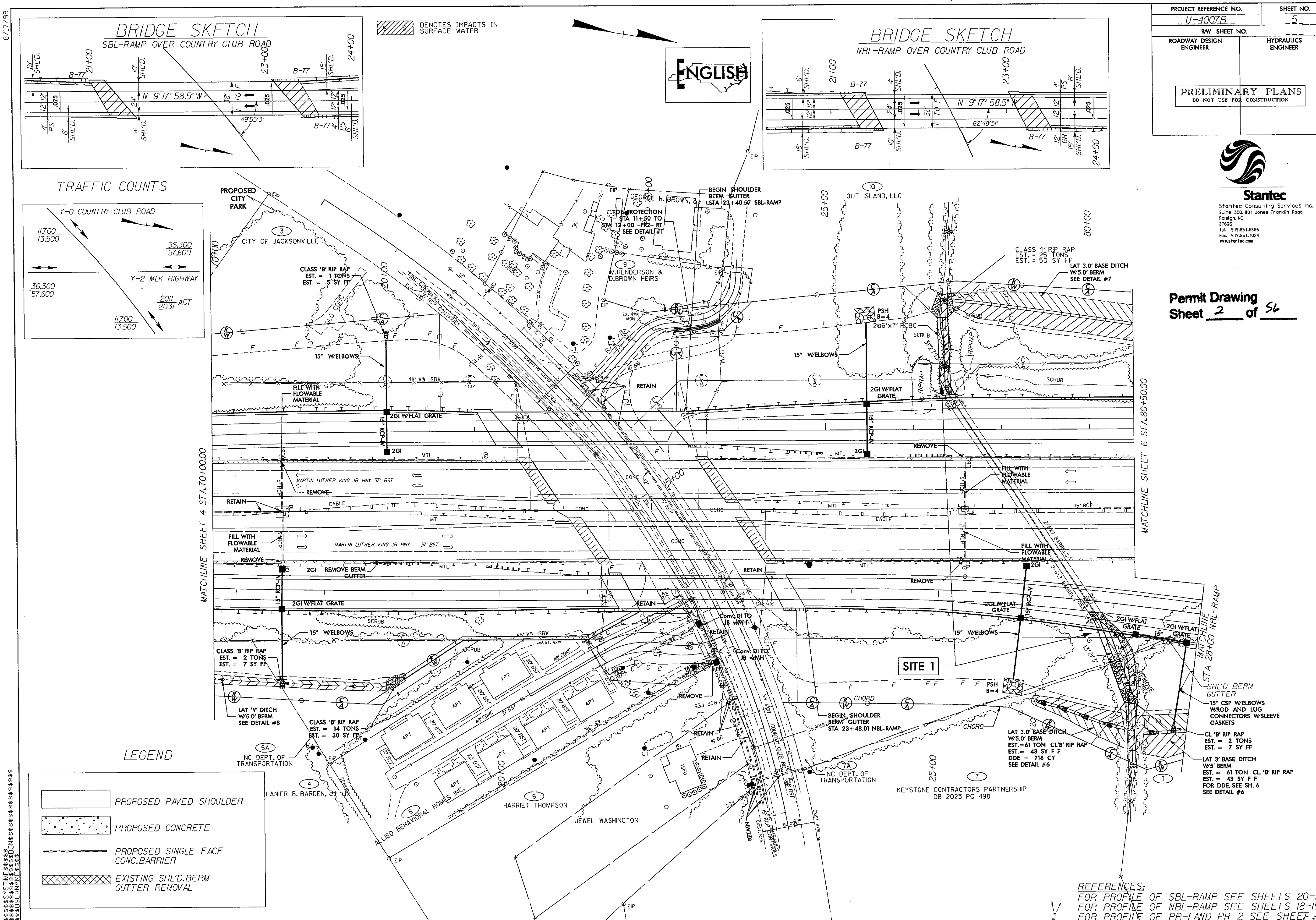
P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

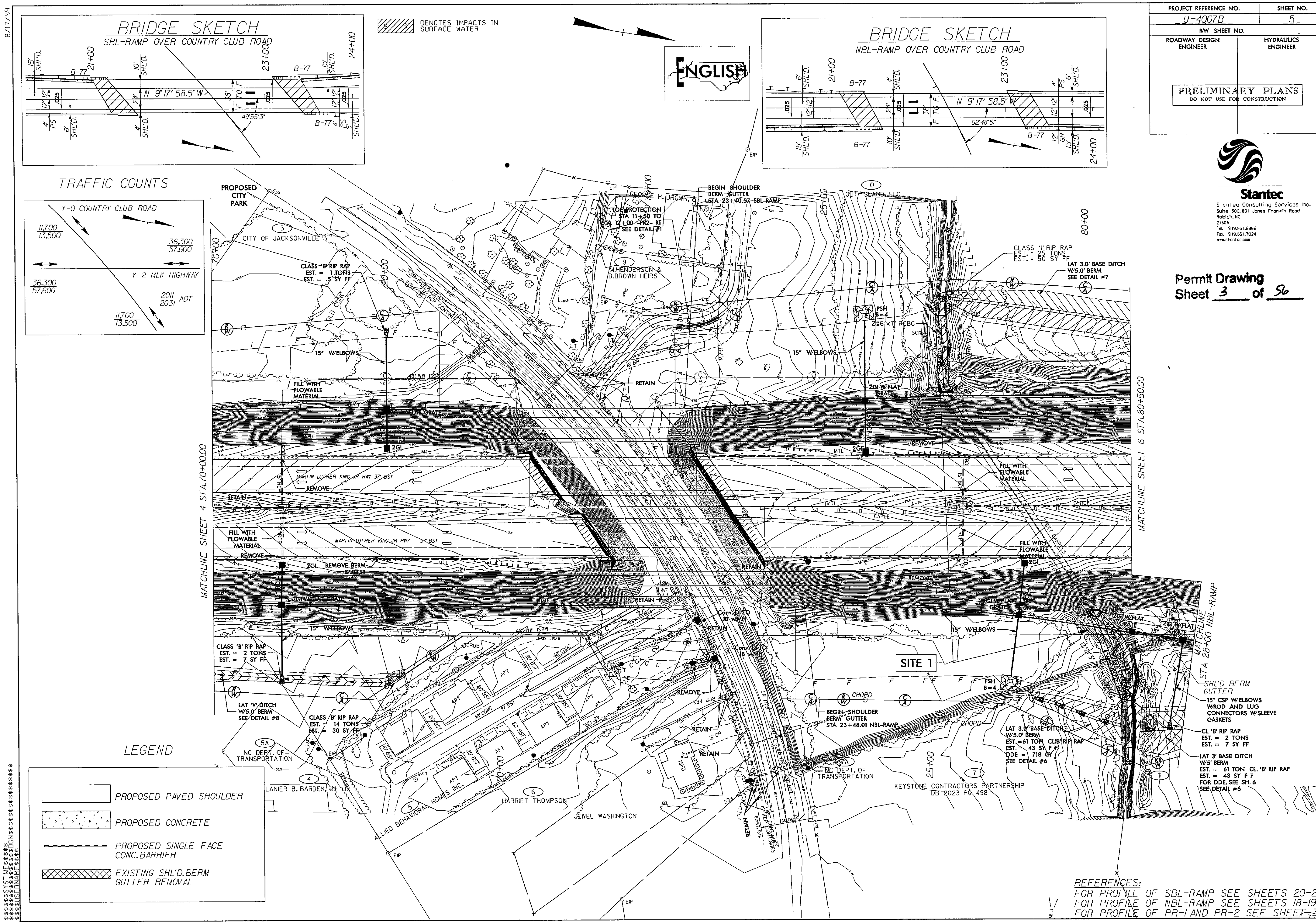
P.E.
SIGNATURE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER



PROJECT REFERENCE NO. U-4007B
SHEET NO. 5
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Stantec
Stantec Consulting Services Inc.
Suite 300, 801 Jones Franklin Road
Raleigh, NC 27606
Permit Drawing Sheet 2 of 56
BRIDGE SKETCH
SBL-RAMP OVER COUNTRY CLUB ROAD
BRIDGE SKETCH
NBL-RAMP OVER COUNTRY CLUB ROAD
DENOTES IMPACTS IN SURFACE WATER
ENGLISH
TRAFFIC COUNTS
Y-0 COUNTRY CLUB ROAD
Y-2 MLK HIGHWAY
2011 / 2031 ADT
PROPOSED CITY PARK
CITY OF JACKSONVILLE
GEORGE H. BROWN, et ux
M.HENDERSON & D.BROWN HEIRS
OUT ISLAND, LLC
BEGIN SHOULDER BERM GUTTER STA 23+40.57 SBL-RAMP
TOE PROTECTION STA 11+50 TO STA 12+00 -PR2- RT SEE DETAIL #1
CLASS 'I' RIP RAP EST. = 25 TONS EST. = 50 SY FF
LAT 3.0' BASE DITCH W/5.0' BERM SEE DETAIL #7
PSH B=4
2@6'x7' RCBC
MARTIN LUTHER KING JR HWY 37' BST
MATCHLINE SHEET 4 STA.70+00.00
MATCHLINE SHEET 6 STA.80+50.00
MATCHLINE STA 28+00 NBL-RAMP
SITE 1
CLASS 'B' RIP RAP EST. = 2 TONS EST. = 7 SY FF
LAT 'V' DITCH W/5.0' BERM SEE DETAIL #8
CLASS 'B' RIP RAP EST. = 14 TONS EST. = 30 SY FF
NC DEPT. OF TRANSPORTATION
LANIER B. BARDEN, et
ALLIED BEHAVIORAL HOMES INC.
HARRIET THOMPSON
JEWEL WASHINGTON
BEGIN SHOULDER BERM GUTTER STA 23+48.01 NBL-RAMP
LAT 3.0' BASE DITCH W/5.0' BERM EST.=61 TON CL'B' RIP RAP EST.= 43 SY F F DDE = 718 CY SEE DETAIL #6
KEYSTONE CONTRACTORS PARTNERSHIP DB 2023 PG 498
SHL'D BERM GUTTER
15" CSP W/ELBOWS W/ROD AND LUG CONNECTORS W/SLEEVE GASKETS
CL 'B' RIP RAP EST. = 2 TONS EST. = 7 SY FF
LAT 3' BASE DITCH W/5' BERM EST. = 61 TON CL 'B' RIP RAP EST. = 43 SY F F FOR DDE, SEE SH. 6 SEE DETAIL #6
LEGEND
PROPOSED PAVED SHOULDER
PROPOSED CONCRETE
PROPOSED SINGLE FACE CONC.BARRIER
EXISTING SHL'D.BERM GUTTER REMOVAL
REFERENCES:
FOR PROFILE OF SBL-RAMP SEE SHEETS 20-21
FOR PROFILE OF NBL-RAMP SEE SHEETS 18-19
FOR PROFILE OF PR-1 AND PR-2 SEE SHEET 30
8/17/99



PROJECT REFERENCE NO.
U-4007B
SHEET NO.
5
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Stantec
Stantec Consulting Services Inc.
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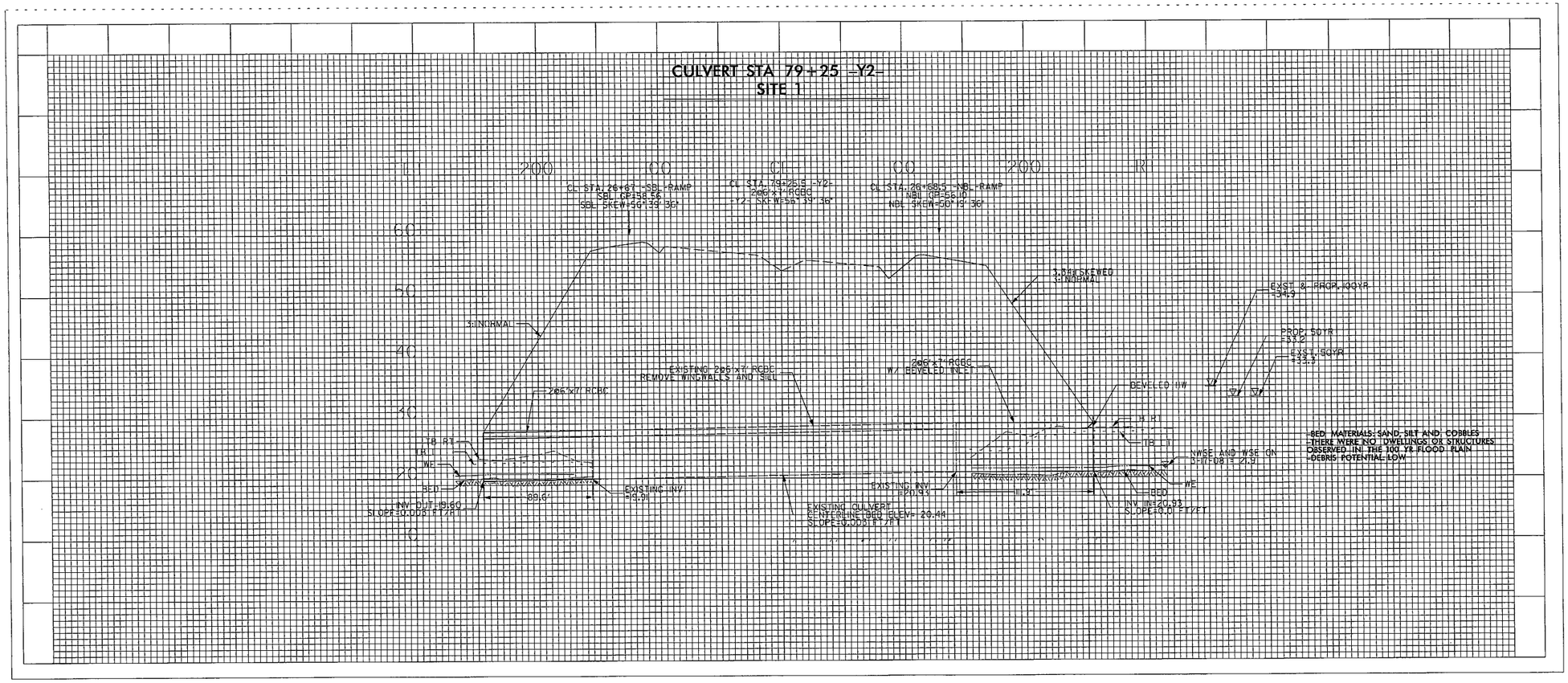
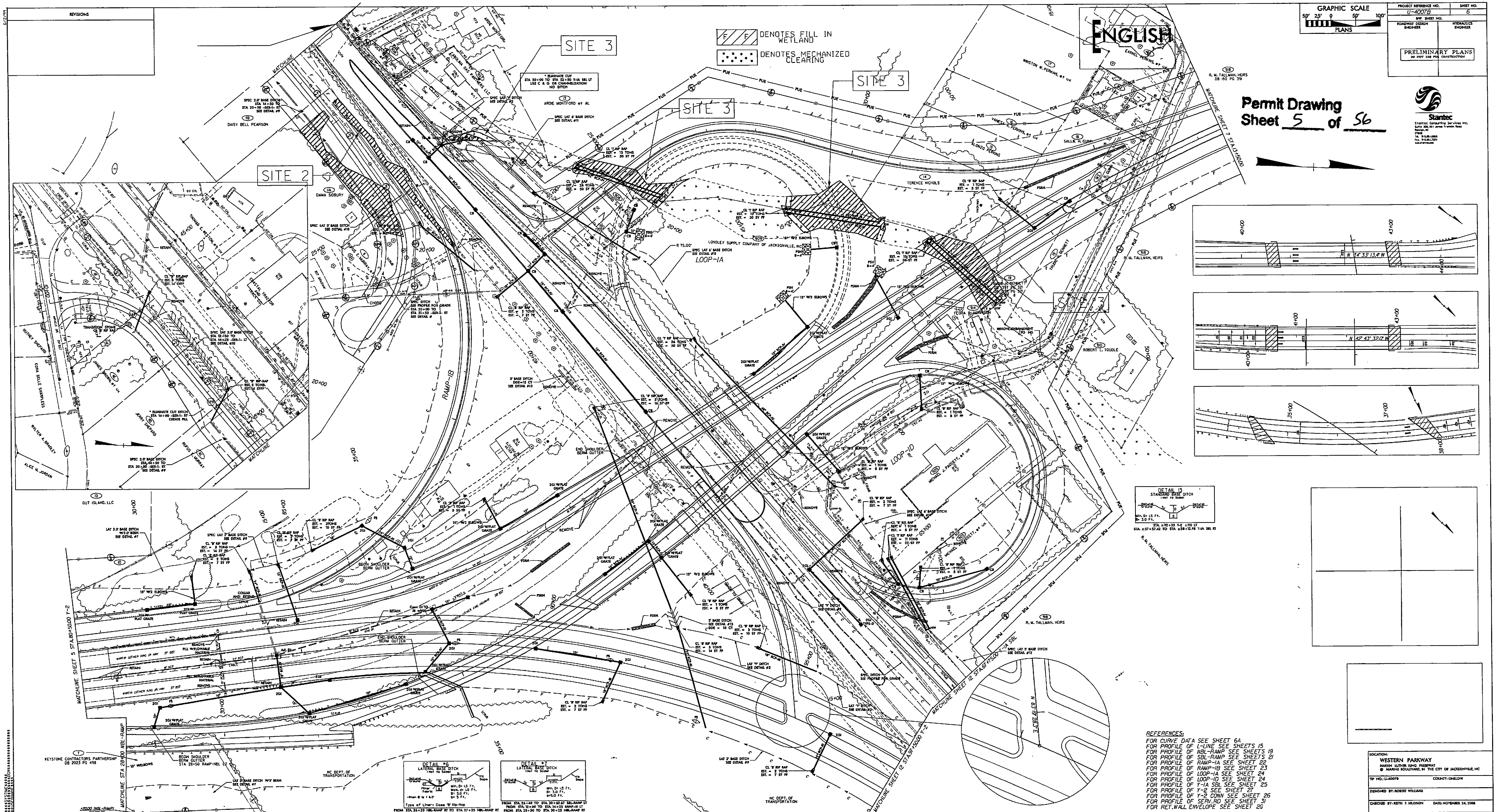
Tel. 919.851.6866
Fax. 919.851.7024
www.stantec.com
Permit Drawing
Sheet 3 of 56
8/17/99
BRIDGE SKETCH
SBL-RAMP OVER COUNTRY CLUB ROAD
N 9°17' 58.5" W
49°55'3"
BRIDGE SKETCH
NBL-RAMP OVER COUNTRY CLUB ROAD
N 9°17' 58.5" W
62°48'51"
DENOTES IMPACTS IN SURFACE WATER
ENGLISH
TRAFFIC COUNTS
Y-0 COUNTRY CLUB ROAD
Y-2 MLK HIGHWAY
11,700
13,500
36,300
57,600
2011
2031 ADT
PROPOSED CITY PARK
CITY OF JACKSONVILLE
GEORGE H. BROWN, ET
M.HENDERSON & D.BROWN HEIRS
ODT ISLAND, LLC
TOE PROTECTION STA 11+50 TO STA 12+00 -PR2- RT SEE DETAIL #1
BEGIN SHOULDER BERM GUTTER STA 23+40.57-SBL-RAMP
CLASS 'I' RIP RAP EST. = 25 TONS EST. = 50 SY FF
LAT 3.0' BASE DITCH W/5.0' BERM SEE DETAIL #7
CLASS 'B' RIP RAP EST. = 1 TONS EST. = 5 SY FF
2@6' x 7' RCBC
MARTIN LUTHER KING JR HWY
MATCHLINE SHEET 4 STA.70+00.00
MATCHLINE SHEET 6 STA.80+50.00
MATCHLINE STA 28+00 NBL-RAMP
FILL WITH FLOWABLE MATERIAL
2GI W/FLAT GRATE
REMOVE BERM GUTTER
CLASS 'B' RIP RAP EST. = 2 TONS EST. = 7 SY FF
LAT 'V' DITCH W/5.0' BERM SEE DETAIL #8
CLASS 'B' RIP RAP EST. = 14 TONS EST. = 30 SY FF
SITE 1
BEGIN SHOULDER BERM GUTTER STA 23+48.01 NBL-RAMP
LAT 3.0' BASE DITCH W/5.0' BERM EST.=61 TON CL.'B' RIP RAP EST. = 43 SY F F DDE = 718 CY SEE DETAIL #6
SHL'D BERM GUTTER
15" CSP W/ELBOWS W/ROD AND LUG CONNECTORS W/SLEEVE GASKETS
CL 'B' RIP RAP EST. = 2 TONS EST. = 7 SY FF
LAT 3' BASE DITCH W/5' BERM EST. = 61 TON CL. 'B' RIP RAP EST. = 43 SY F F FOR DDE, SEE SH. 6 SEE DETAIL #6
NC DEPT. OF TRANSPORTATION
LANIER B. BARDEN, ET
ALLIED BEHAVIORAL HOMES INC.
HARRIET THOMPSON
JEWEL WASHINGTON
KEYSTONE CONTRACTORS PARTNERSHIP DB 2023 PG 498
LEGEND
PROPOSED PAVED SHOULDER
PROPOSED CONCRETE
PROPOSED SINGLE FACE CONC.BARRIER
EXISTING SHL'D.BERM GUTTER REMOVAL
REFERENCES:
FOR PROFILE OF SBL-RAMP SEE SHEETS 20-21
FOR PROFILE OF NBL-RAMP SEE SHEETS 18-19
FOR PROFILE OF PR-1 AND PR-2 SEE SHEET 30

Permit Drawing
Sheet 4 of 56

CULVERT STA 79+25 -Y2-
SITE 1



-BED MATERIALS: SAND, SILT AND, COBBLES
-THERE WERE NO DWELLINGS OR STRUCTURES OBSERVED IN THE 100 YR FLOOD PLAIN
-DEBRIS POTENTIAL: LOW



Permit Drawing
Sheet 5 of 56

GRAPHIC SCALE
50' 25' 0 50' 100'
PLANS

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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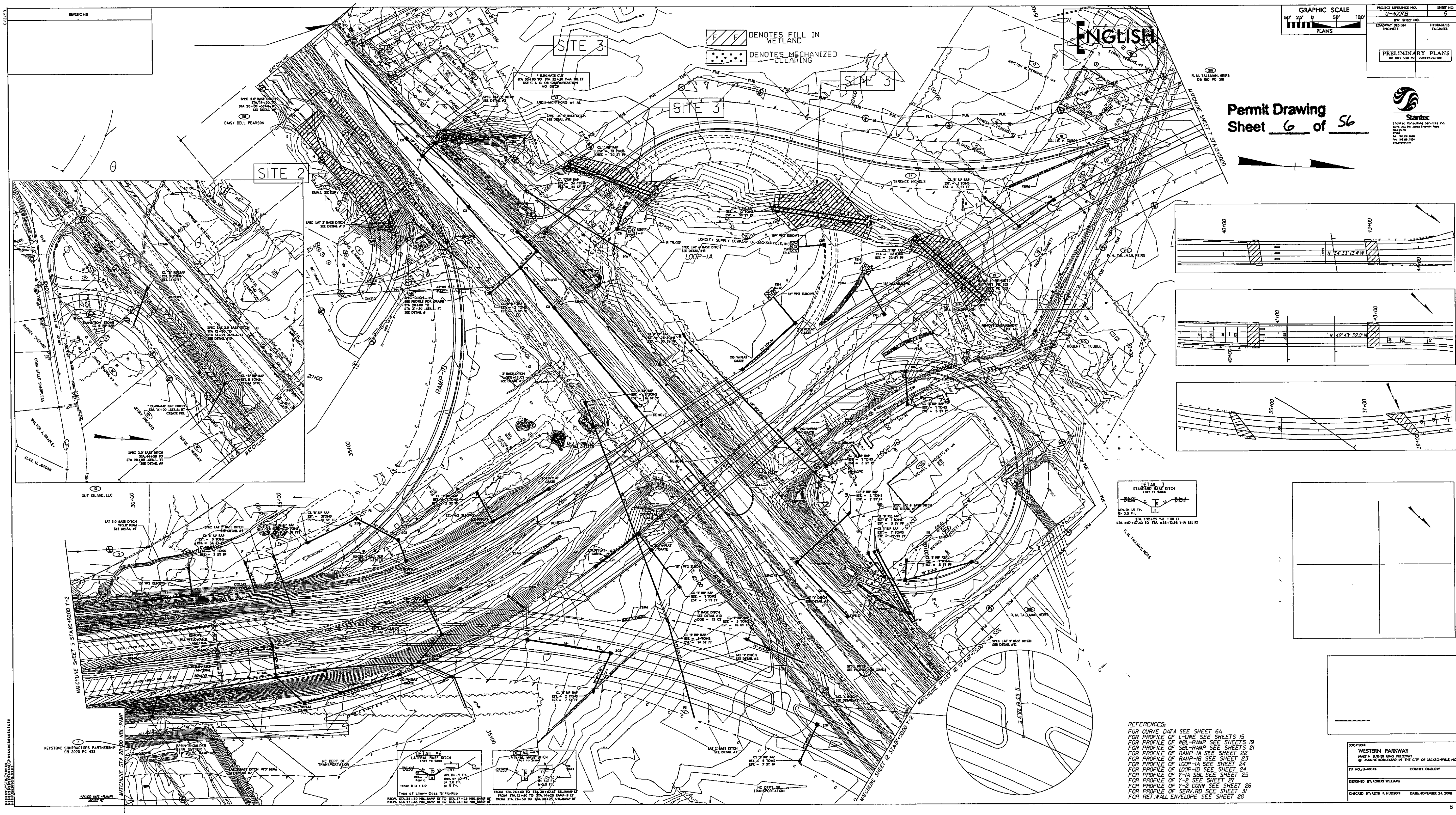
REFERENCES:
FOR CURVE DATA SEE SHEET 6A
FOR PROFILE OF L-LINE SEE SHEETS 15
FOR PROFILE OF NBL-RAMP SEE SHEETS 19
FOR PROFILE OF SBL-RAMP SEE SHEETS 21
FOR PROFILE OF RAMP-1A SEE SHEET 22
FOR PROFILE OF RAMP-1B SEE SHEET 23
FOR PROFILE OF LOOP-1A SEE SHEET 24
FOR PROFILE OF LOOP-1D SEE SHEET 24
FOR PROFILE OF Y-1A SBL SEE SHEET 25
FOR PROFILE OF Y-2 SEE SHEET 27
FOR PROFILE OF Y-2 CONN SEE SHEET 26
FOR PROFILE OF SERV.RD SEE SHEET 31
FOR RET.WALL ENVELOPE SEE SHEET 2G

LOCATION:
WESTERN PARKWAY
MARTIN LUTHER KING FREEWAY
@ MARINE BOULEVARD, IN THE CITY OF JACKSONVILLE, NC

TIP NO.: U-4007B	COUNTY: ONSLOW
DESIGNED BY: ROBERT WILLIAMS	
CHECKED BY: KEITH F. HUDSON	DATE: NOVEMBER 24, 2008



REVISIONS
SITE 3
SITE 3
SITE 3
SITE 2
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
ENGLISH
GRAPHIC SCALE
50' 25' 0 50' 100'
PLANS
PROJECT REFERENCE NO.
U-4007B
SHEET NO.
6
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
R. M. TALLMAN, HEIRS
DB 150 PG 391
MATCHLINE SHEET 7 STA.13+50.00
Permit Drawing
Sheet 6 of 56
Stantec
Stantec Consulting Services Inc.
LOOP-1A
LOOP-1D
RAMP-1B
LONGLEY SUPPLY COMPANY OF JACKSONVILLE, INC.
DAISY BELL PEARSON
TERENCE NICHOLS
ROBERT L. TOUDLE
KEYSTONE CONTRACTORS PARTNERSHIP
DB 2023 PG 498
OUT ISLAND, LLC
NC DEPT. OF TRANSPORTATION
REFERENCES:
FOR CURVE DATA SEE SHEET 6A
FOR PROFILE OF L-LINE SEE SHEETS 15
FOR PROFILE OF NBL-RAMP SEE SHEETS 19
FOR PROFILE OF SBL-RAMP SEE SHEETS 21
FOR PROFILE OF RAMP-1A SEE SHEET 22
FOR PROFILE OF RAMP-1B SEE SHEET 23
FOR PROFILE OF LOOP-1A SEE SHEET 24
FOR PROFILE OF LOOP-1D SEE SHEET 24
FOR PROFILE OF Y-1A SBL SEE SHEET 25
FOR PROFILE OF Y-2 SEE SHEET 27
FOR PROFILE OF Y-2 CONN SEE SHEET 26
FOR PROFILE OF SERV.RD SEE SHEET 31
FOR RET.WALL ENVELOPE SEE SHEET 2G
LOCATION:
WESTERN PARKWAY
MARTIN LUTHER KING FREEWAY
@ MARINE BOULEVARD, IN THE CITY OF JACKSONVILLE, NC
TIP NO.: U-4007B
COUNTY: ONSLOW
DESIGNED BY: ROBERT WILLIAMS
CHECKED BY: KEITH F. HUDSON
DATE: NOVEMBER 24, 2008

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	23
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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PRELIMINARY PLANS
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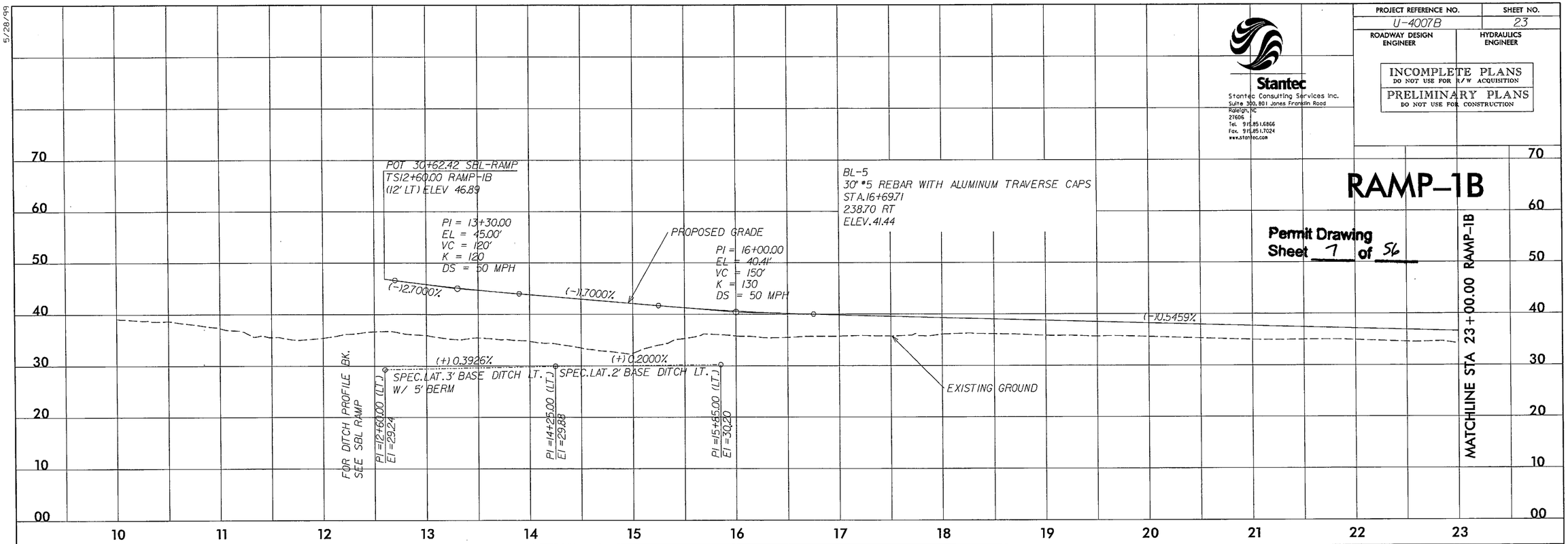
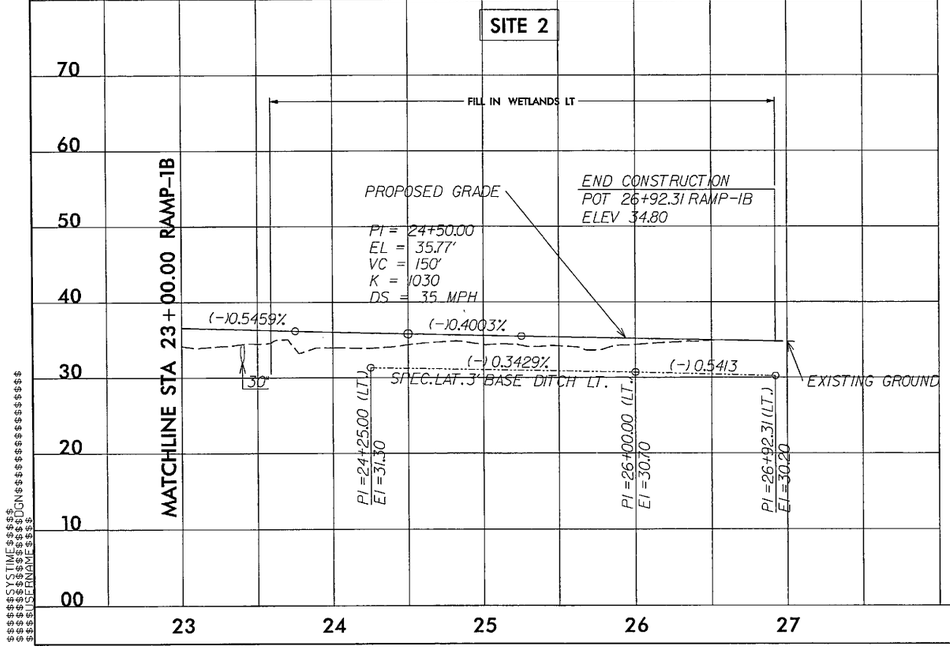
RAMP-1B

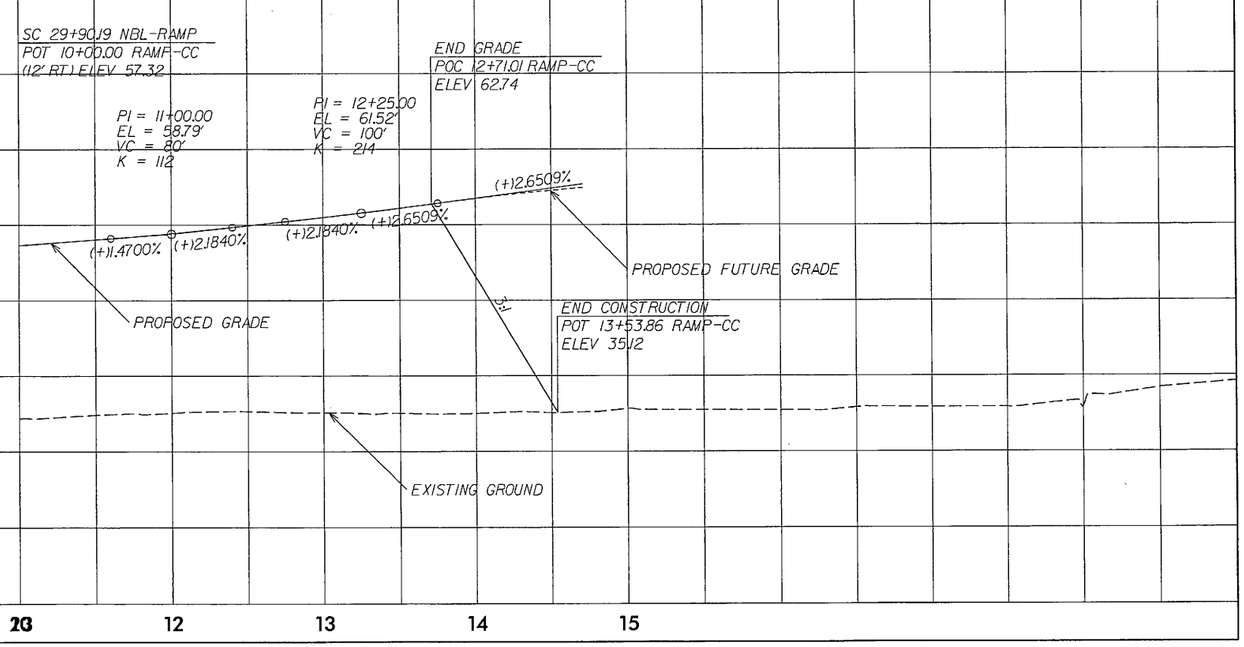
Permit Drawing
Sheet 7 of 56



RAMP-1B



RAMP-CC



$$$$$$SYSTIME$$$$$$
$$$$$$USERNAME$$$$$$

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	31
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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SERVICE ROAD

BY11-12
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.10+86.00
293.23 LT
ELEV.33.24

BY11-13
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.17+02.57
147.54 LT
ELEV.34.62

BY4-17
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.21+07.25
596.04 LT
ELEV.36.75

SITE 2

BEGIN CONSTRUCTION
TIE MIRACLE DRIVE
POT 10+10.06 SER-1
ELEV 33.13

PI = 12+50.00
EL = 32.41'
VC = 100'
K = 153
DS = 30MPH

END CONSTRUCTION
POT 22+35.00 SER-1

END GRADE
POT 22+08.41 SER-1
ELEV 35.81

FILL IN WETLAND

FILL IN WETLAND

FILL IN WETLAND

PROPOSED GRADE

EXISTING GROUND

(-)0.3000%

(+)0.5365%

(+)0.1250%

(+)2.0000%

(+)0.1000%

(+)0.3544%

(+)0.9000%

(+)1.2500%

24"

24"

PI =12+30.00 (LT.)
EL = 26.15

PI =14+25.00 (LT.)
EL = 27.20

PI =14+50.00 (RT.)
EL = 27.40

PI =16+50.00 (RT.)
EL = 27.65

PI =17+00.00 (RT.)
EL = 28.65

PI =18+50.00 (RT.)
EL = 28.80

PI =19+50.00 (RT.)
EL = 29.10

PI =21+50.00 (RT.)
EL = 32.20

10 11 12 13 14 15 16 17 18 19 20 21 22 23

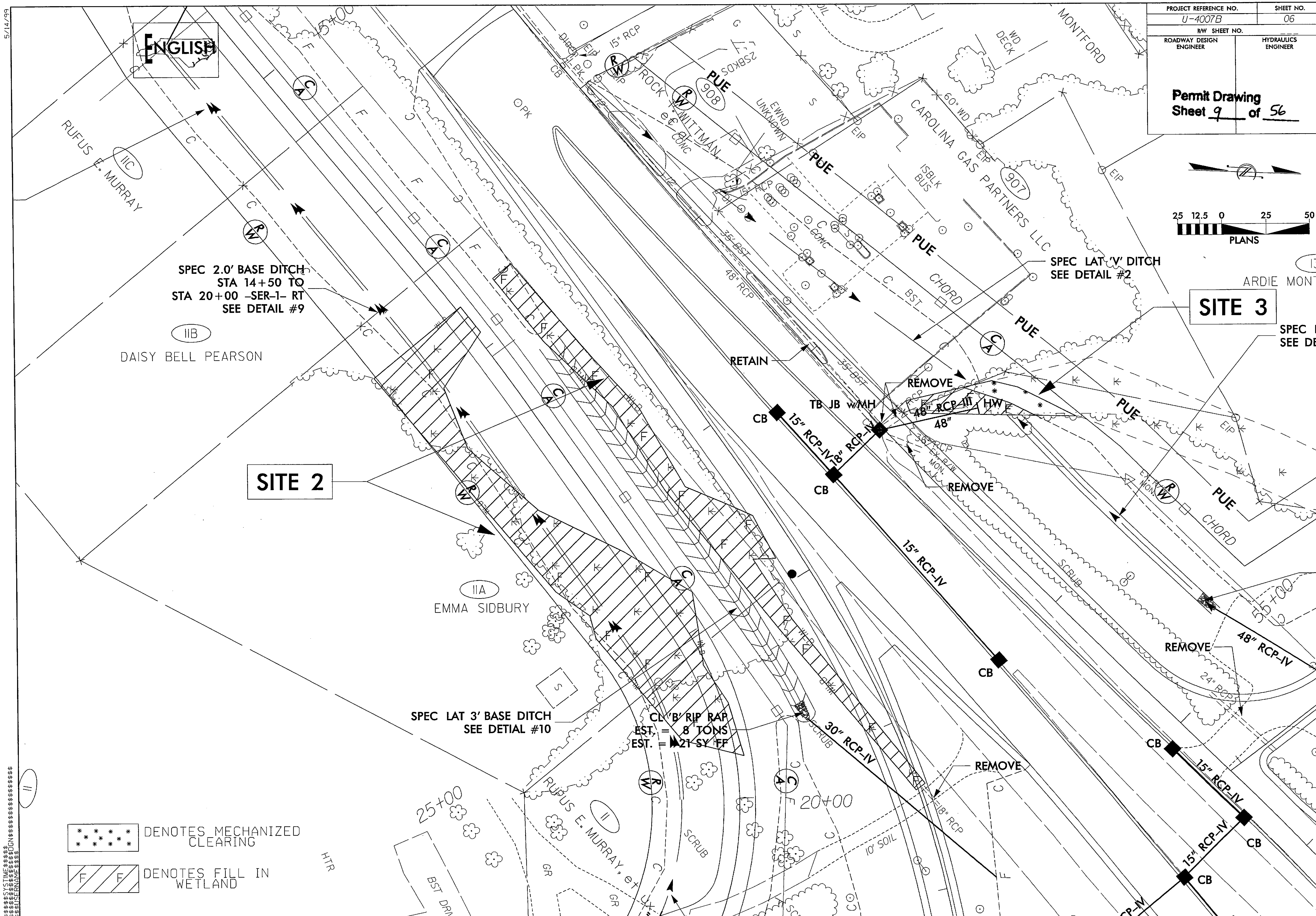
00 10 20 30 40 50 60 70

Permit Drawing
Sheet 8 of 56

$$$$$$$$$$SYSTIME$$$$$$$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$$$$$$$FINAME$$$$$$$$$$

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	06
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Permit Drawing
Sheet 9 of 56



DENOTES MECHANIZED CLEARING

DENOTES FILL IN WETLAND

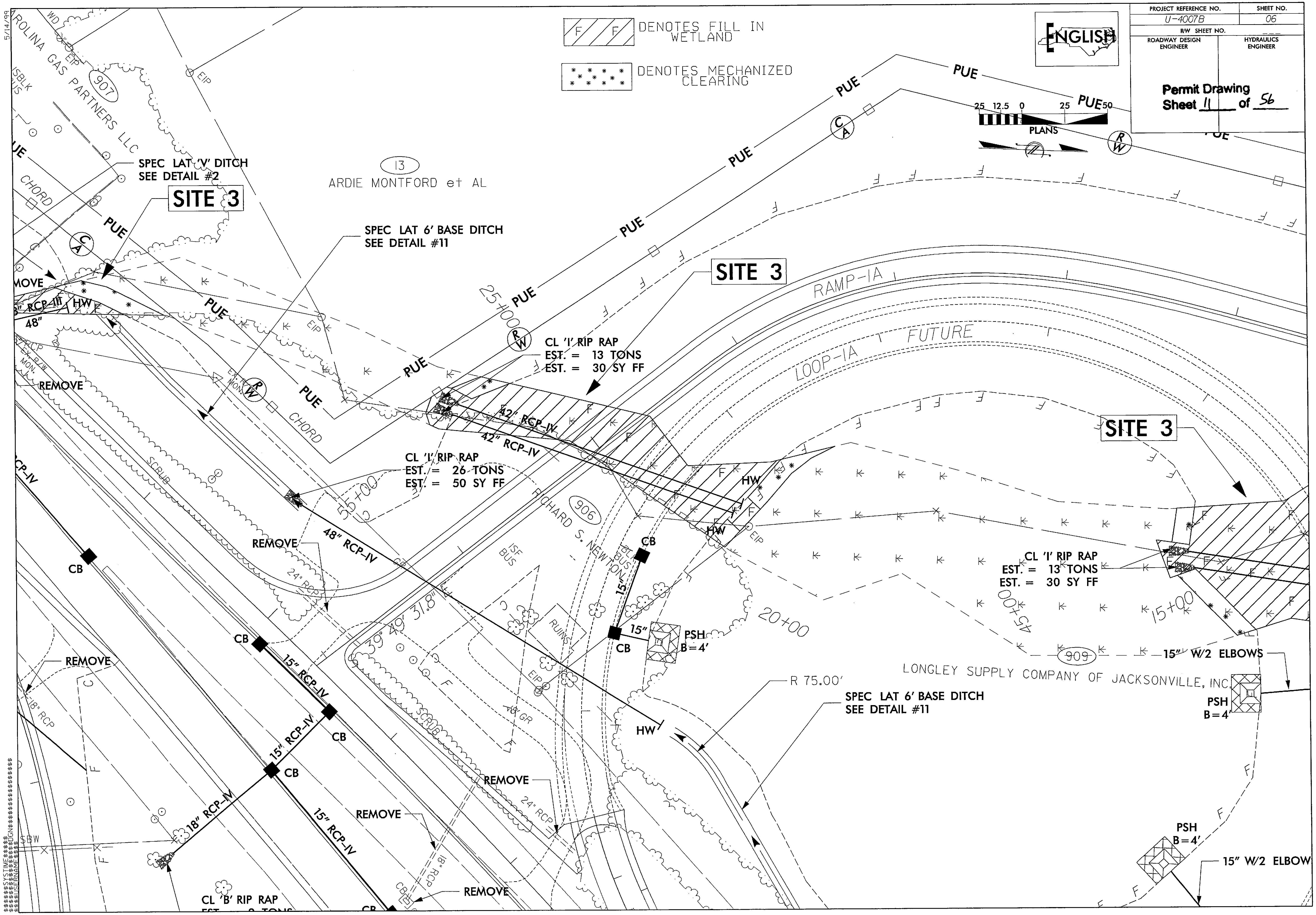
5/14/99

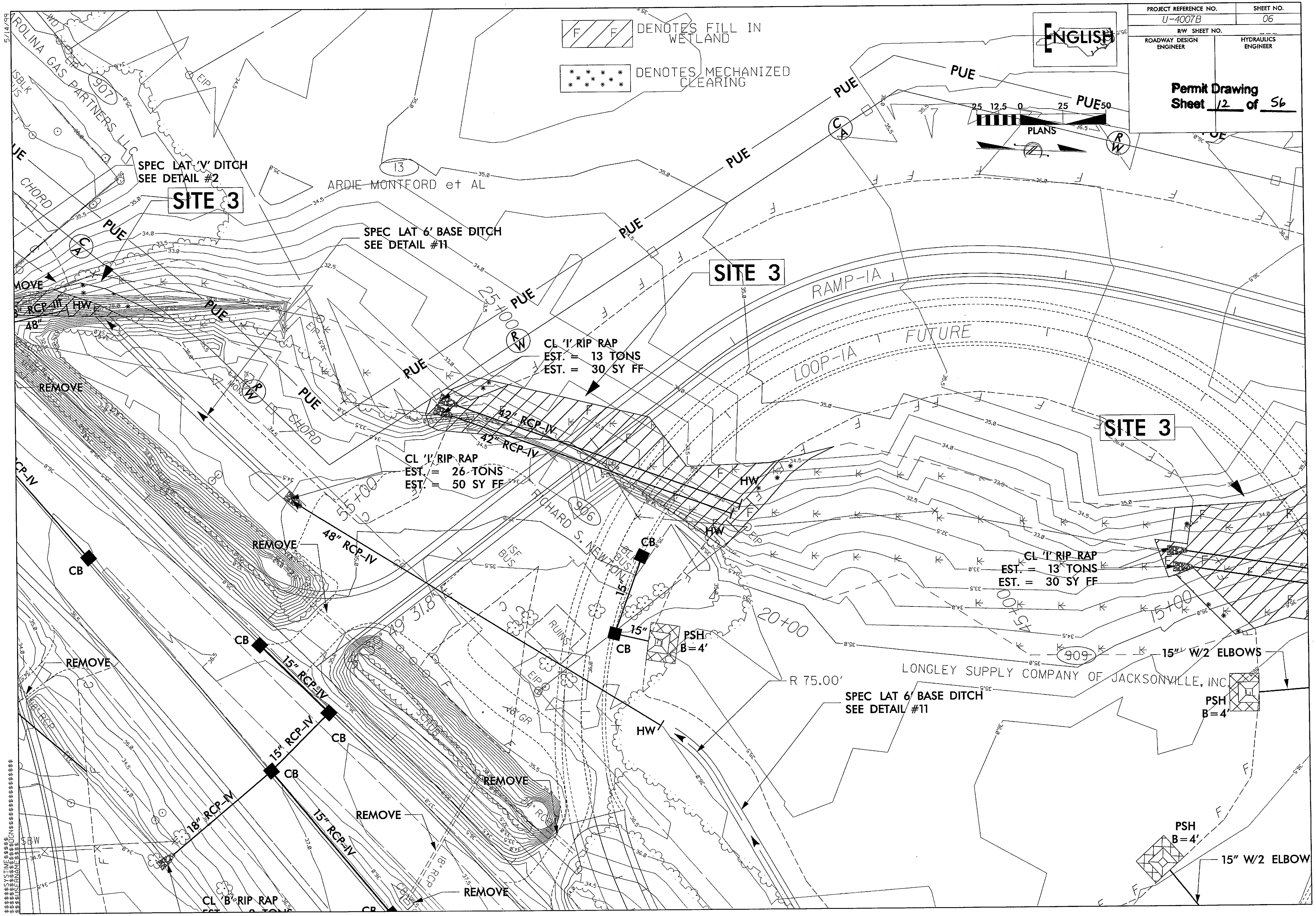
PROJECT REFERENCE NO.	SHEET NO.
U-4007B	06
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Permit Drawing
Sheet 10 of 56

- * * * DENOTES MECHANIZED CLEARING
- F / F DENOTES FILL IN WETLAND

$$$$$$SYSTIME$$$$$$ $$$$$$DGN$$$$$$ $$$$$$USERNAME$$$$$$


PROJECT REFERENCE NO.
U-4007B
SHEET NO.
06
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
Permit Drawing
Sheet 11 of 56
ENGLISH
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
25 12.5 0 25 50
PLANS
SITE 3
SITE 3
SITE 3
CAROLINA GAS PARTNERS LLC
907
13
ARDIE MONTFORD et AL
906
RICHARD S. NEWTON
909
LONGLEY SUPPLY COMPANY OF JACKSONVILLE, INC.
SPEC LAT 'V' DITCH
SEE DETAIL #2
SPEC LAT 6' BASE DITCH
SEE DETAIL #11
SPEC LAT 6' BASE DITCH
SEE DETAIL #11
CL 'I' RIP RAP
EST. = 13 TONS
EST. = 30 SY FF
CL 'I' RIP RAP
EST. = 26 TONS
EST. = 50 SY FF
CL 'I' RIP RAP
EST. = 13 TONS
EST. = 30 SY FF
CL 'B' RIP RAP
RAMP-1A
FUTURE
LOOP-1A
PUE
42" RCP-IV
42" RCP-IV
48" RCP-IV
48"
15" RCP-IV
15" RCP-IV
15" RCP-IV
18" RCP-IV
24" RCP
24" RCP
18" RCP
15"
15"
HW
CB
PSH
B=4'
15" W/2 ELBOWS
15" W/2 ELBOW
R 75.00'
REMOVE
CHORD
SCRUB
RUINS
EIP
25+00
55+00
20+00
15+00
45+00
39° 49' 31.8"
5/14/99



PROJECT REFERENCE NO.
U-4007B
SHEET NO.
06
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
Permit Drawing
Sheet 12 of 56
ENGLISH
DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
PLANS
SITE 3
SPEC LAT 'V' DITCH
SEE DETAIL #2
SPEC LAT 6' BASE DITCH
SEE DETAIL #11
ARDIE MONTFORD et AL
CAROLINA GAS PARTNERS LLC
CL 'I' RIP RAP
EST. = 13 TONS
EST. = 30 SY FF
CL 'I' RIP RAP
EST. = 26 TONS
EST. = 50 SY FF
42" RCP-IV
48" RCP-IV
15" RCP-IV
18" RCP-IV
RAMP-IA
FUTURE
LOOP-IA
RICHARD S. NEWTON
LONGLEY SUPPLY COMPANY OF JACKSONVILLE, INC.
R 75.00'
15" W/2 ELBOWS
15" W/2 ELBOW
PSH
B=4'
REMOVE
CB
HW
PUE
RUINS
CL 'B' RIP RAP
5/14/99

5/14/99

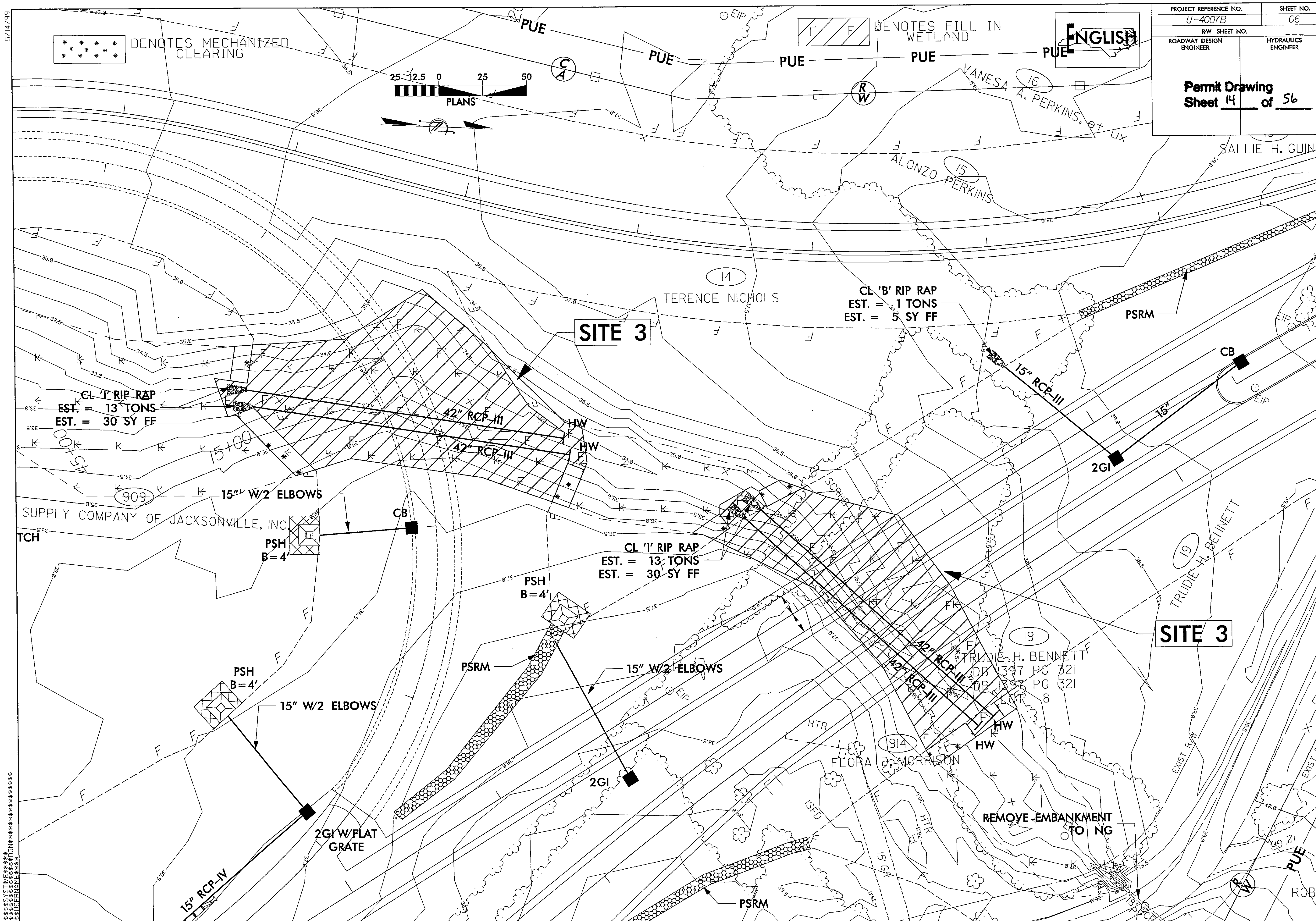
PROJECT REFERENCE NO.	SHEET NO.
U-4007B	06
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Permit Drawing
Sheet 13 of 56

$$$$$$SYSTIME$$$$$$
$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	06
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Permit Drawing
Sheet 14 of 56



5/14/99
DENOTES MECHANIZED CLEARING
DENOTES FILL IN WETLAND
ENGLISH
25 12.5 0 25 50
PLANS
PUE
VANESA A. PERKINS, et ux
SALLIE H. GUINN
ALONZO PERKINS
TERENCE NICHOLS
SITE 3
CL 'B' RIP RAP
EST. = 1 TONS
EST. = 5 SY FF
PSRM
CB
15" RCP-III
15"
2GI
CL 'I' RIP RAP
EST. = 13 TONS
EST. = 30 SY FF
42" RCP-III
HW
15+00
15" W/2 ELBOWS
SUPPLY COMPANY OF JACKSONVILLE, INC
PSH
B=4'
TRUDIE H. BENNETT
DB 1397 PG 321
LOT 8
FLORA D. MORRISON
REMOVE EMBANKMENT TO NG
2GI W/FLAT GRATE
15" RCP-IV
EXIST R/W
ROBER

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	19

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

Permit Drawing
Sheet 15 **of** 56

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$$$$SYSTIME$$$$
$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	21

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

Permit Drawing
Sheet 16 of 56

PRELIMINARY PLANS
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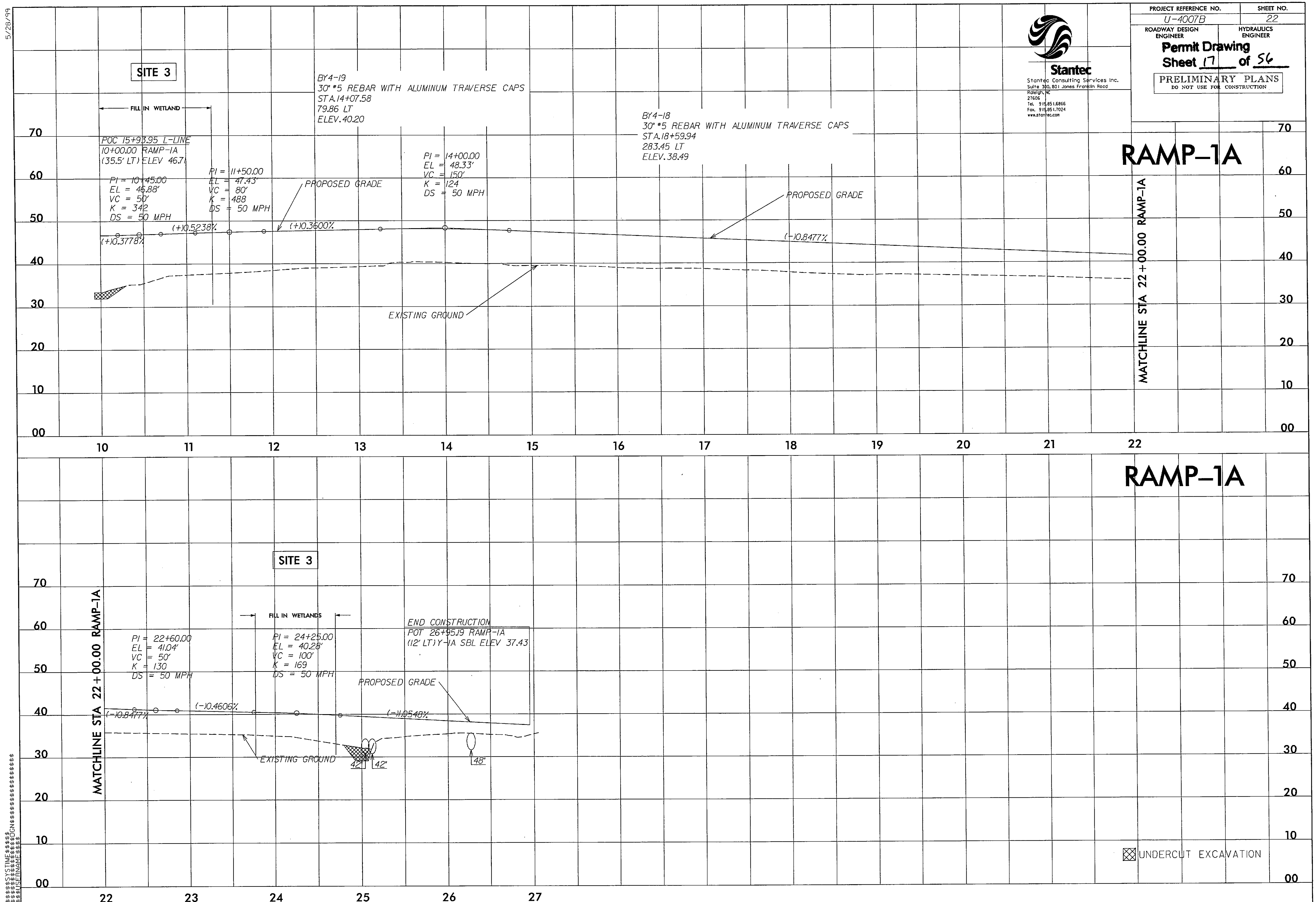
SBL–RAMP

SBL–RAMP

$$$$$$SYSTIME$$$$$$
$$$$$$DGN$$$$$$
$$$$$$USERNAME$$$$$$



PROJECT REFERENCE NO. U-4007B
SHEET NO. 22
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
Permit Drawing Sheet 17 of 56
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION
Stantec
Stantec Consulting Services Inc.
5/28/99
RAMP-1A
SITE 3
FILL IN WETLAND
POC 15+93.95 L-LINE
10+00.00 RAMP-1A
(35.5' LT) ELEV 46.71
PI = 10+45.00
EL = 46.88'
VC = 50'
K = 342
DS = 50 MPH
PI = 11+50.00
EL = 47.43'
VC = 80'
K = 488
DS = 50 MPH
PROPOSED GRADE
BY4-19
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.14+07.58
79.86 LT
ELEV.40.20
PI = 14+00.00
EL = 48.33'
VC = 150'
K = 124
DS = 50 MPH
BY4-18
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.18+59.94
283.45 LT
ELEV.38.49
(+)0.3778%
(+)0.5238%
(+)0.3600%
(-)0.8477%
EXISTING GROUND
MATCHLINE STA 22+00.00 RAMP-1A
RAMP-1A
SITE 3
FILL IN WETLANDS
PI = 22+60.00
EL = 41.04'
VC = 50'
K = 130
DS = 50 MPH
PI = 24+25.00
EL = 40.28'
VC = 100'
K = 169
DS = 50 MPH
END CONSTRUCTION
POT 26+95.19 RAMP-1A
(12' LT) Y-1A SBL ELEV 37.43
PROPOSED GRADE
(-)0.8477%
(-)0.4606%
(-)1.0548%
EXISTING GROUND
42"
42"
48"
MATCHLINE STA 22+00.00 RAMP-1A
UNDERCUT EXCAVATION

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
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Permit Drawing
Sheet 18 of 56

ENGLISH

SHERWOOD PARK, SECTION ONE
MB 18 PG 41

15+00

20+00

25+00

MATCHLINE SHEET 6 STA.13+50.00

MATCHLINE SHEET 8 STA.26+50.00

MATCHLINE SHEET 13 STA.16+75.00

15+00

JURISDICTIONAL STREAM

CL 'A' RIP RAP
(BANKS ONLY)
EST. = 50 TONS
EST. = 70 SY FF

SITE 4

TOE PROTECTION
EST. = 47 TONS
EST. = 36X SY FF
SEE DETAIL #1

SITE 5

SPECIAL LAT 'V' DITCH
SEE DETAIL #2

CL 'B' RIP RAP
EST.=3 TONS
EST.=11 SY FF

CL 'B' RIP RAP
EST. = 7 TONS
EST. = 22 SY FF

TOE PROTECTION
EST. = 90 TONS
EST. = 67 SY FF
SEE DETAIL #1

EQUALIZER PIPE

R. M. TALLMAN, HEIRS (918)

PSH B=4'

CB

15" RCP-IV

16" 15" RCP-IV

18" RCP-IV

24" RCP-III

HWP

CHORD

WLB

STM

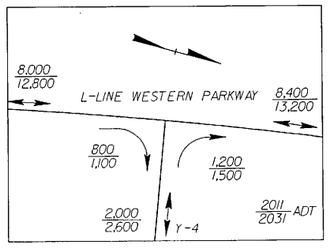
ST

DENOTES IMPACTS IN SURFACE WATER

DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

TRAFFIC COUNTS



LEGEND

PROPOSED PAVED SHOULDER

PROPOSED CONCRETE ISLAND

REFERENCES:
FOR PROFILE OF L-LINE, SEE SHEET 15
FOR PROFILE OF Y-4, SEE SHEET 29
FOR PREFORMED SCOUR HOLE, SEE DETAIL SHEET 26

8/17/99

$$$$USERNAME$$$$
$$$$DATE$$$$
$$$$TIME$$$$
$$$$SYSTIME$$$$

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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Permit Drawing Sheet 19 of 56

ENGLISH

SHERWOOD PARK, SECTION ONE
MB 18 PG 41

JURISDICTIONAL STREAM

CL 'B' RIP RAP (BANKS ONLY)
EST. = 50 TONS
EST. = 70 SY FF

SITE 4

TOE PROTECTION
EST. = 47 TONS
EST. = 360 SY FF
SEE DETAIL #1

R. M. TALLMAN, HEIRS

MATCHLINE SHEET 6 STA.13+50.00

SPECIAL LAT 'V' DITCH
SEE DETAIL #2

SITE 5

CL 'B' RIP RAP
EST.=3 TONS
EST.=11 SY FF

EQUALIZER PIPE

MATCHLINE SHEET 13 STA.16+75.00

DENOTES IMPACTS IN SURFACE WATER

DENOTES FILL IN WETLAND

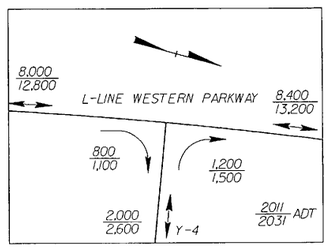
DENOTES MECHANIZED CLEARING

CL 'B' RIP RAP
EST. = 7 TONS
EST. = 22 SY FF

TOE PROTECTION
EST. = 90 TONS
EST. = 67 SY FF
SEE DETAIL #1

MATCHLINE SHEET 8 STA.26+50.00

TRAFFIC COUNTS



LEGEND

PROPOSED PAVED SHOULDER

PROPOSED CONCRETE ISLAND

REFERENCES:
FOR PROFILE OF L-LINE, SEE SHEET 15
FOR PROFILE OF Y-4, SEE SHEET 29
FOR PREFORMED SCOUR HOLE, SEE DETAIL SHEET 26

$$$$USERNAME$$$$ $$$$SYSTIME$$$$ $$$$DGN$$$$

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PROJECT REFERENCE NO.	SHEET NO.
U-4007B	15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Permit Drawing
Sheet 20 of 56

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L-LINE

BY4-19
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 11+82.83
16.39 RT
ELEV. 40.20

POC 50+52.88 NBL-RAMP BK
POC 50+81.29 SBL-RAMP BK
POC 10+00.00 L-LINE AH'D
ELEV 46.27

PI = 12+00.00
EL = 46.87'
VC = 150'
K = 214
DS = 50 MPH

(+)0.3000%

(−)0.4022%

MATCHLINE STA 13+50.00 L-LINE

70 60 50 40 30 20 10 00

10 11 12 13

L-LINE

BY4-20
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 16+07.24
17.09 RT
ELEV. 35.15

POC 15+93.95 L-LINE
POT 10+00.00 RAMP-1A
(35.5' LT) ELEV. 45.29

POC 14+59.48 L-LINE
POT 10+00.00 Y-4

SITE 4

PI = 16+50.00
EL = 45.06'
VC = 150'
K = 214
DS = 50 MPH

BY4-21
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 18+22.50
9.39 LT
ELEV. 39.82

BY4-22
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 22+98.08
3.12 RT
ELEV. 41.45

PI = 22+00.00
EL = 46.71'
VC = 150'
K = 250
DS = 50 MPH

PI = 26+00.00
EL = 45.51'
VC = 150'
K = 250
DS = 50 MPH

PROPOSED GRADE

(−)0.4022%

FILL IN WETLAND

FILL IN WETLAND

IMPACTS IN SURFACE WATER

(+)0.3000%

(−)0.3000%

(−)0.3000%

EXISTING GROUND

60"

36"

MATCHLINE STA 13+50.00 L-LINE

MATCHLINE STA 26+50.00 L-LINE

UNDERCUT EXCAVATION

70 60 50 40 30 20 10 00

14 15 16 17 18 19 20 21 22 23 24 25 26

$$$$SYSTIME$$$$
$$$$SYSNAME$$$$
$$$$USERNAME$$$$

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	16
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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Sheet 21 **of** 56

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L-LINE

L-LINE

▨ UNDERCUT EXCAVATION

$$$$$$SYSTIME$$$$
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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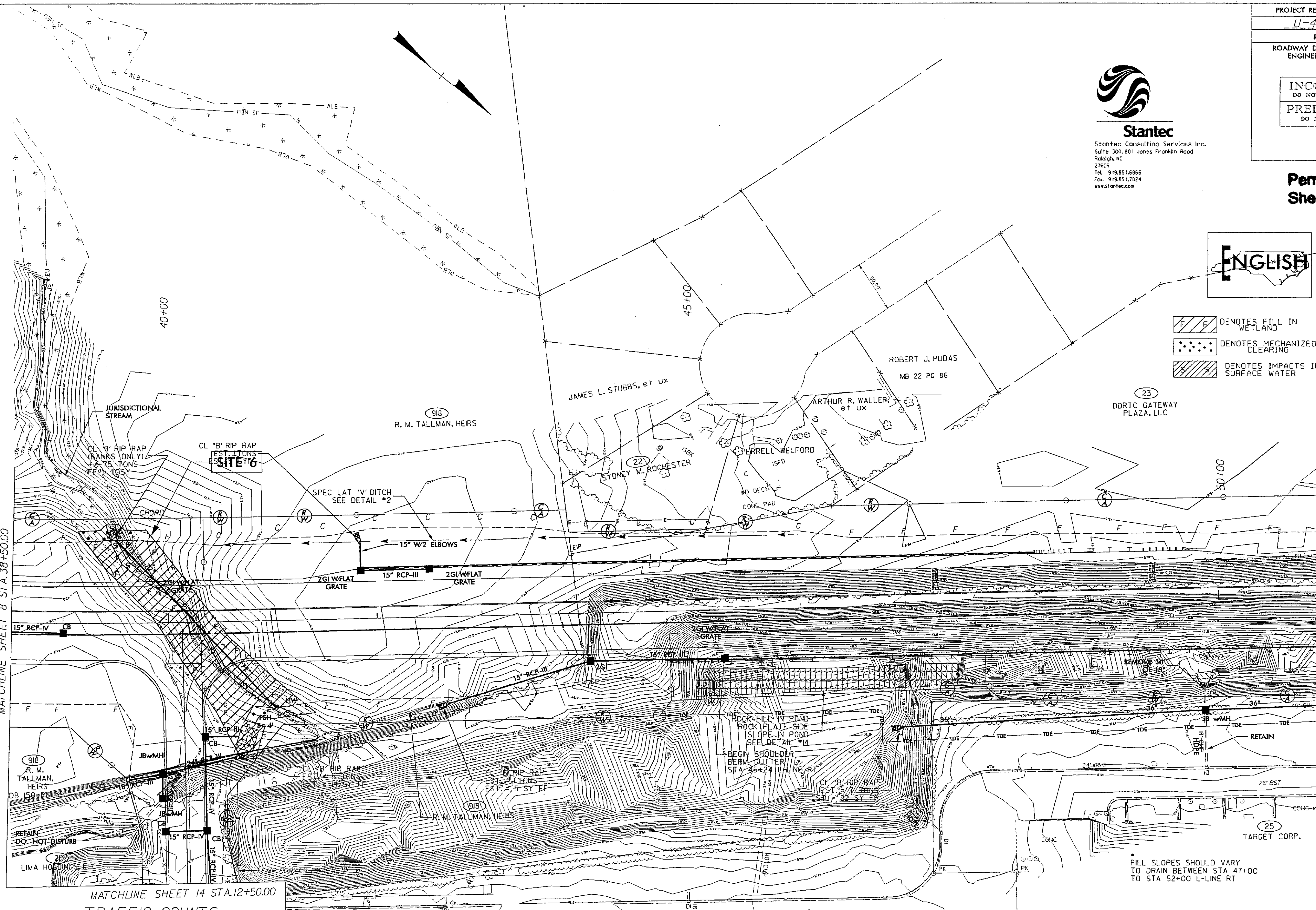
Sheet 22 of 56

ENGLISH

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



MATCHLINE SHEET 14 STA.12+50.00

TRAFFIC COUNTS

L-LINE WESTERN PARKWAY: 7,000 / 11,200 — 7,400 / 11,800

600 / 800 — 1,000 / 1,400

1,600 / 2,200 — Y-5

2011 / 2031 ADT

23
DDRTC GATEWAY PLAZA, LLC

LEGEND

PROPOSED PAVED SHOULDER

PROPOSED CONCRETE ISLAND

PROPOSED BARRIER WALL

REFERENCES:
FOR PROFILE OF L-LINE SEE SHEET 16
FOR PROFILE OF Y-5 SEE SHEET 30
FOR POND PROTECTION DETAIL SEE SHEET 2

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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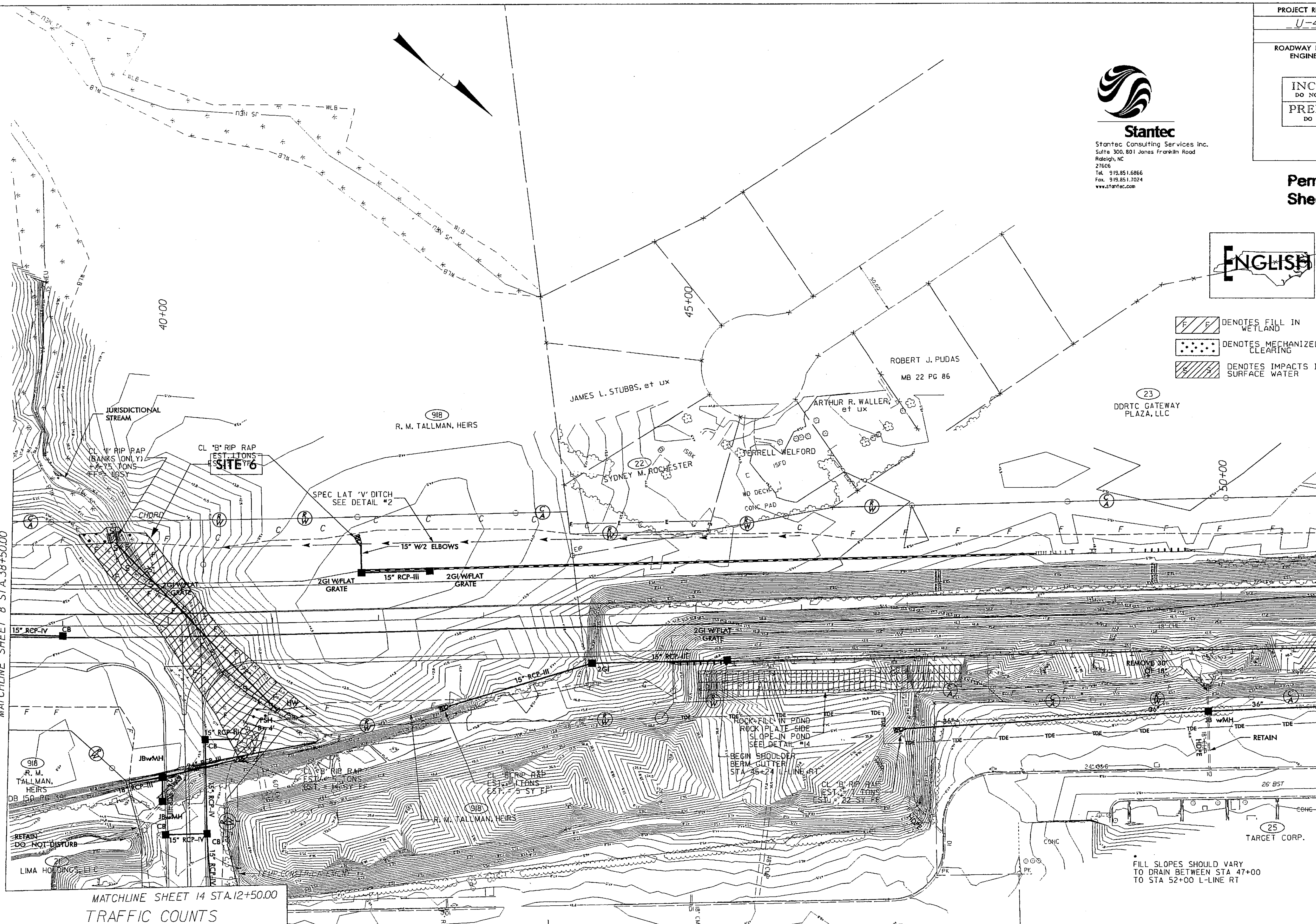
Sheet 23 of 56

ENGLISH


DENOTES FILL IN WETLAND
DENOTES MECHANIZED CLEARING
DENOTES IMPACTS IN SURFACE WATER
JURISDICTIONAL STREAM
SITE 6
R. M. TALLMAN, HEIRS
JAMES L. STUBBS, et ux
ROBERT J. PUDAS
MB 22 PG 86
ARTHUR R. WALLER, et ux
SYDNEY M. ROCHESTER
TERRELL WELFORD
DDRTC GATEWAY PLAZA, LLC
TARGET CORP.
LIMA HOLDINGS, LLC
SPEC LAT 'V' DITCH SEE DETAIL #2
15" W/2 ELBOWS
2GI W/FLAT GRATE
15" RCP-III
ROCK FILL IN POND ROCK PLATE SIDE SLOPE IN POND SEE DETAIL #14
BEGIN SHOULDER BERM GUTTER STA 45+24 L-LINE RT
REMOVE 30' OF 18"
RETAIN
RETAIN DO NOT DISTURB
FILL SLOPES SHOULD VARY TO DRAIN BETWEEN STA 47+00 TO STA 52+00 L-LINE RT
MATCHLINE SHEET 8 STA.38+50.00
MATCHLINE SHEET 10 STA.51+00.00
MATCHLINE SHEET 14 STA.12+50.00

TRAFFIC COUNTS

L-LINE WESTERN PARKWAY: 7,000 / 11,200; 7,400 / 11,800
600 / 800; 1,000 / 1,400; 1,600 / 2,200
2011 / 2031 ADT
Y-5

LEGEND

- PROPOSED PAVED SHOULDER
- PROPOSED CONCRETE ISLAND
- PROPOSED BARRIER WALL

REFERENCES:
FOR PROFILE OF L-LINE SEE SHEET 16
FOR PROFILE OF Y-5 SEE SHEET 30
FOR POND PROTECTION DETAIL SEE SHEET 2

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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REVISIONS
8/17/99

23
DDRTC GATEWAY PLAZA, LLC

26
KENNITH P. WHICHARD, JR.

MATCHLINE SHEET 9 STA.51+00.00

55+00

CL 'B' RIP RAP
+/-2 TONS
FF=+/-7.0 SY

CL 'I' RIP RAP
(BANKS ONLY)
20 TONS
39 SY FF

2GF W/FLAT GRATE

15" W/2 ELBOWS

REMOVE 24' OF 36"

36"

JB w/MH

TDE

RETAIN

CL 'B' RIP RAP
EST. = 2 TONS
EST. = 1 SY FF

END SHOULDER BERM GUTTER
STA 52+50 L-LINE RT

60.00'

SPEC LAT 'V' DITCH
SEE DETAIL #2

CL 'B' RIP RAP
+/- 2 TONS
FF=+/-7.0 SY

26
KENNITH P. WHICHARD, JR.

50' BST

50' BST

34' BST

FILL SLOPES SHOULD VARY TO DRAIN BETWEEN STA 47+00 TO STA 52+00 L-LINE RT

25
TARGET CORP.

2' BASE TAIL DITCH
DDE = 55 CY
0.0% GRADE
SEE DETAIL #5

JURISDICTIONAL STREAM

CL 'I' RIP RAP
(BANKS ONLY)
15 TONS
30 SY FF

60+00

SITE 7

JURISDICTIONAL STREAM

CHORD

LAT 2' BASE DITCH
W/5' BERM
SEE DETAIL #3

SPEC LAT 'V' DITCH
SEE DETAIL #2

GRADE TO DRAIN

36" RCP-III

15" RCP-IV

CB

HW

PSH
B=4'

TOE PROTECTION
EST. = 65 TONS
EST. = 48 SY FF
SEE DETAIL #1

TOE PROTECTION
EST. = 24 TONS
EST. = 18 SY FF
SEE DETAIL #1

MATCHLINE SHEET 11 STA.64+50.00

26
KENNITH P. WHICHARD, JR.

ENGLISH

DENOTES FILL IN WETLAND

DENOTES IMPACTS IN SURFACE WATER (POND)

DENOTES IMPACTS IN SURFACE WATER

DENOTES MECHANIZED CLEARING

LEGEND

PROPOSED PAVED SHOULDER

PROPOSED CONCRETE ISLAND

PROPOSED SINGLE FACE CONCRETE BARRIER

REFERENCES:

FOR PROFILE OF L-LINE SEE SHEET 17
FOR NOISE WALL DETAILS, SEE SHEET 2-

$$$$USERNAME$$$$
$$$$SYSTIME$$$$

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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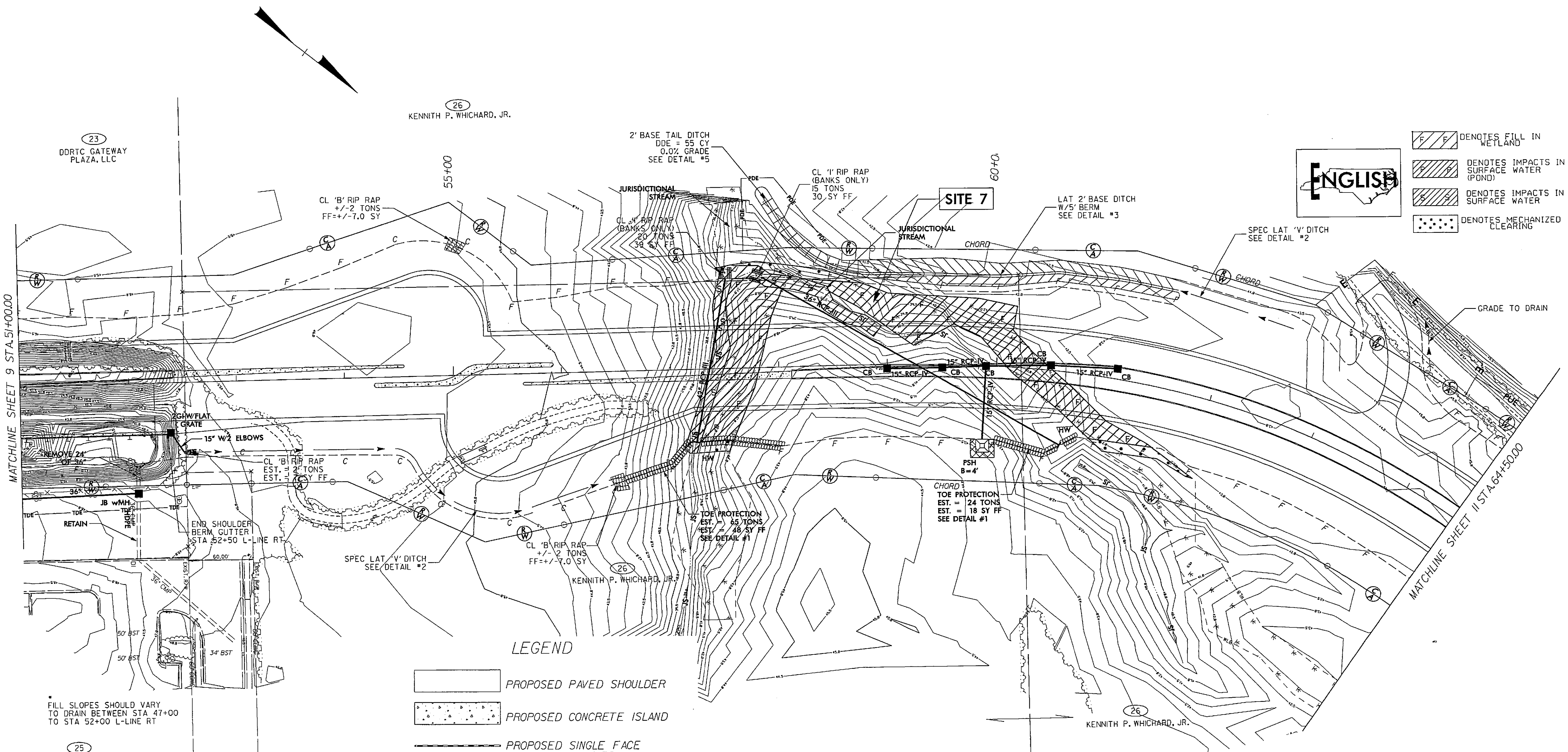
REVISIONS



LEGEND

- PROPOSED PAVED SHOULDER
- PROPOSED CONCRETE ISLAND
- PROPOSED SINGLE FACE CONCRETE BARRIER

REFERENCES:

FOR PROFILE OF L-LINE SEE SHEET 17
FOR NOISE WALL DETAILS.SEE SHEET 2-

$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	17

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

Permit Drawing
Sheet 26 of 56

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SITE 7

$$$$SYSTIME$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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PRELIMINARY PLANS
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Permit Drawing
Sheet 27 of 56

ENGLISH

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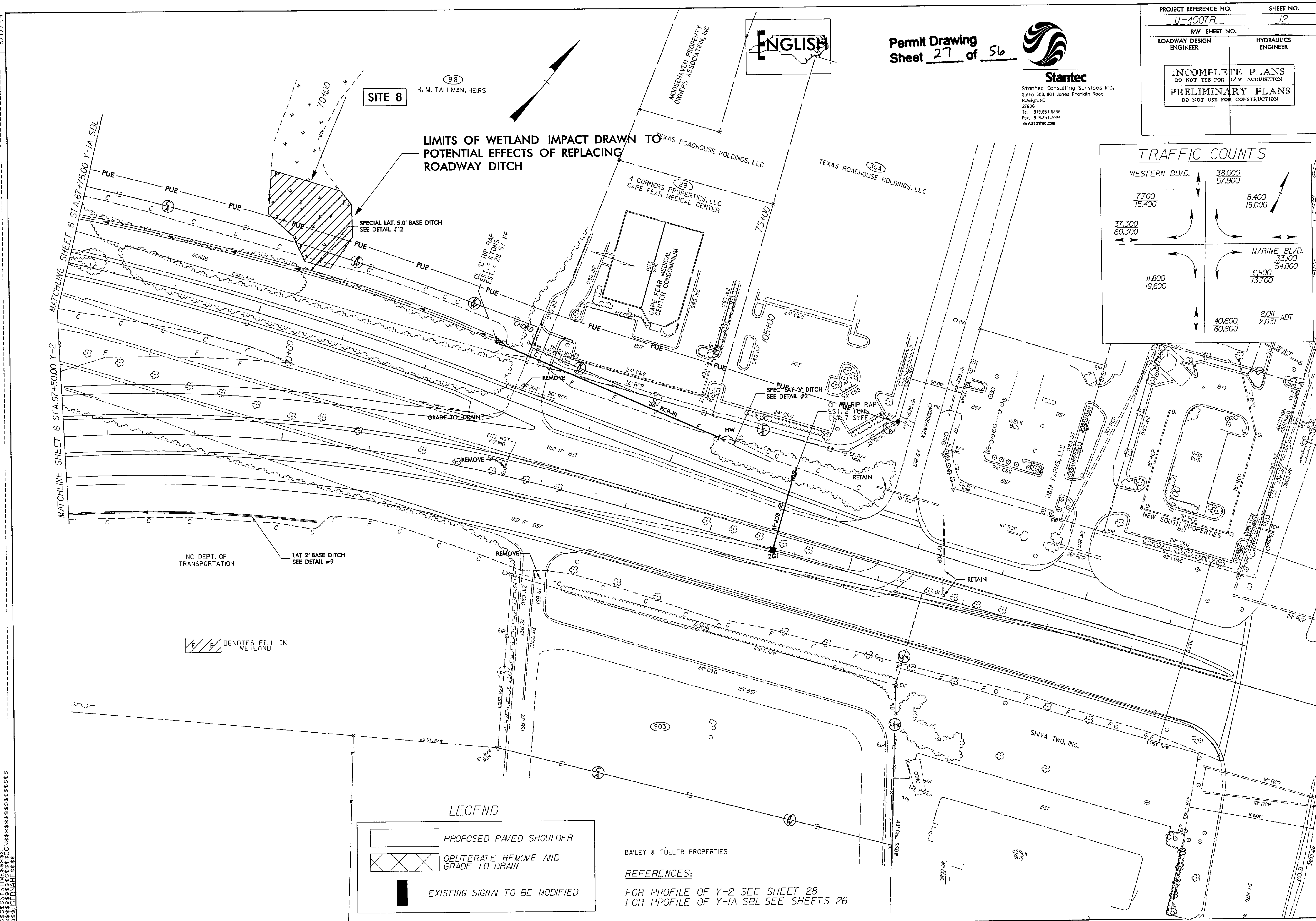

SITE 8
R. M. TALLMAN, HEIRS
LIMITS OF WETLAND IMPACT DRAWN TO POTENTIAL EFFECTS OF REPLACING ROADWAY DITCH
SPECIAL LAT. 5.0' BASE DITCH SEE DETAIL #12
CL 'B' RIP RAP EST. = 11 TONS EST. = 28 SY FF
MOOSEHAVEN PROPERTY OWNERS ASSOCIATION, INC
TEXAS ROADHOUSE HOLDINGS, LLC
4 CORNERS PROPERTIES, LLC CAPE FEAR MEDICAL CENTER
CAPE FEAR MEDICAL CENTER CONDOMINIUM
MATCHLINE SHEET 6 STA.67+75.00 Y-1A SBL
MATCHLINE SHEET 6 STA.97+50.00 Y-2
SPEC. LAT 'V' DITCH SEE DETAIL #2
CL 'B' RIP RAP EST. 2 TONS EST. 7 SYFF
H&M FARMS, LLC
NEW SOUTH PROPERTIES
NC DEPT. OF TRANSPORTATION
LAT 2' BASE DITCH SEE DETAIL #9
SHIVA TWO, INC.
DENOTES FILL IN WETLAND
GRADE TO DRAIN
REMOVE
RETAIN
TRAFFIC COUNTS
WESTERN BLVD.
MARINE BLVD.
38,000 / 57,900
7,700 / 15,400
8,400 / 15,000
37,300 / 60,300
33,100 / 54,000
6,900 / 13,700
11,800 / 19,600
40,600 / 60,800
2,011 / 2,031 ADT

REVISIONS

LEGEND

- PROPOSED PAVED SHOULDER
- OBLITERATE REMOVE AND GRADE TO DRAIN
- EXISTING SIGNAL TO BE MODIFIED

BAILEY & FULLER PROPERTIES

REFERENCES:

FOR PROFILE OF Y-2 SEE SHEET 28
FOR PROFILE OF Y-1A SBL SEE SHEETS 26

$$$$SYSTIME$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 28 of 56

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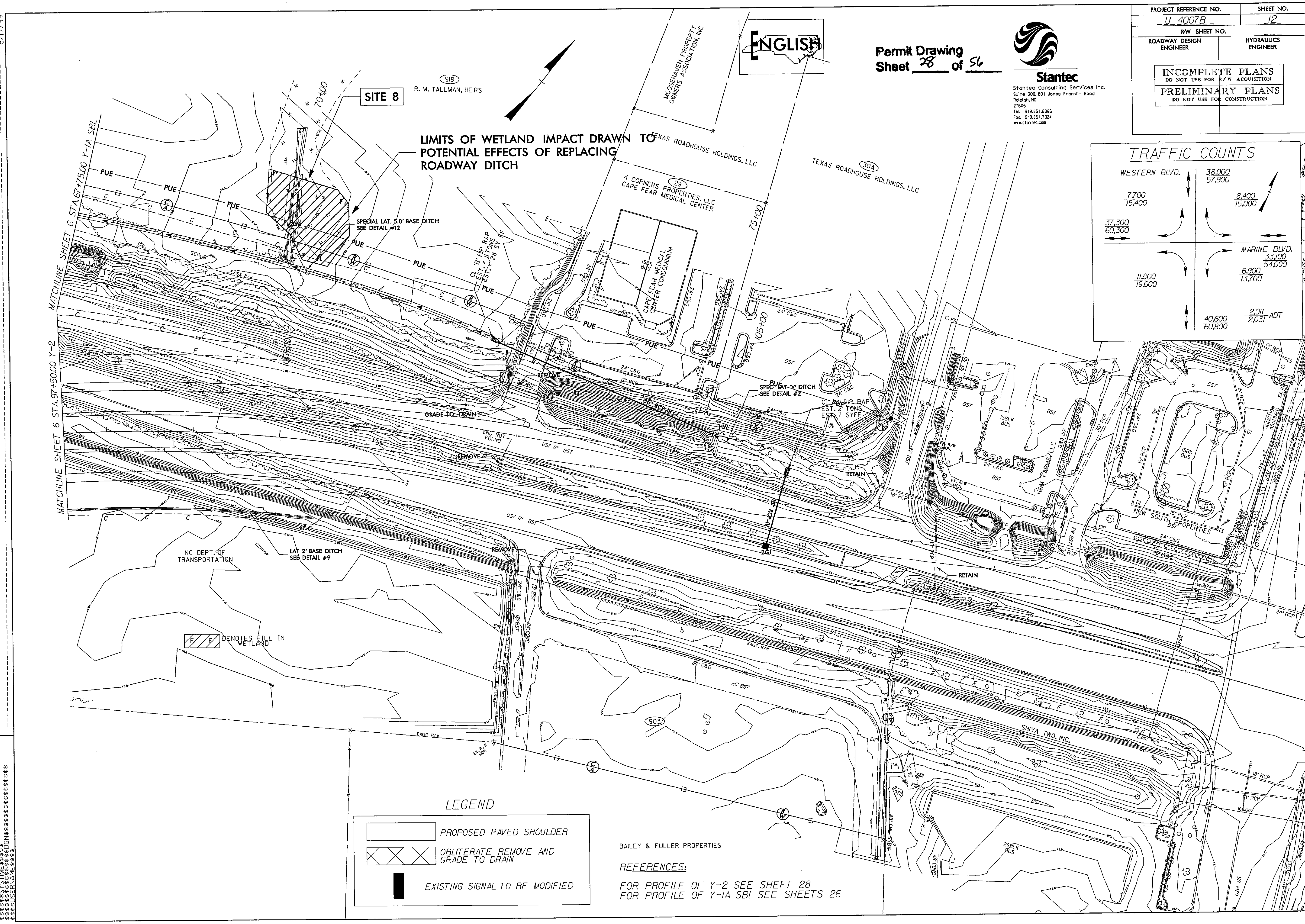
ENGLISH
SITE 8
LIMITS OF WETLAND IMPACT DRAWN TO POTENTIAL EFFECTS OF REPLACING ROADWAY DITCH
R. M. TALLMAN, HEIRS
MOOSEHAVEN PROPERTY OWNERS ASSOCIATION, INC
TEXAS ROADHOUSE HOLDINGS, LLC
4 CORNERS PROPERTIES, LLC
CAPE FEAR MEDICAL CENTER
CAPE FEAR MEDICAL CENTER CONDOMINIUM
SPECIAL LAT. 5.0' BASE DITCH SEE DETAIL #12
SPEC. LAT. 'V' DITCH SEE DETAIL #2
LAT 2' BASE DITCH SEE DETAIL #9
CL 'B' RIP RAP
GRADE TO DRAIN
REMOVE
RETAIN
END NOT FOUND
MATCHLINE SHEET 6 STA.67+75.00 Y-1A SBL
MATCHLINE SHEET 6 STA.97+50.00 Y-2
NC DEPT. OF TRANSPORTATION
H&M FARMS, LLC
NEW SOUTH PROPERTIES
SHIVA TWO, INC.
BAILEY & FULLER PROPERTIES
DENOTES FILL IN WETLAND
TRAFFIC COUNTS
WESTERN BLVD.
MARINE BLVD.
38,000 / 57,900
7,700 / 15,400
8,400 / 15,000
37,300 / 60,300
33,100 / 54,000
11,800 / 19,600
6,900 / 13,700
40,600 / 60,800
2,011 / 2,031 ADT
LEGEND
PROPOSED PAVED SHOULDER
OBLITERATE REMOVE AND GRADE TO DRAIN
EXISTING SIGNAL TO BE MODIFIED

REFERENCES:
FOR PROFILE OF Y-2 SEE SHEET 28
FOR PROFILE OF Y-1A SBL SEE SHEETS 26

REVISIONS

8/17/99

$$$$SYSTIME$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

▨ F F DENOTES FILL IN WETLAND

⁘ DENOTES MECHANIZED CLEARING

▨ S S DENOTES IMPACTS IN SURFACE WATER

▨ P P DENOTES IMPACTS IN SURFACE WATER (POND)

Permit Drawing
Sheet 29 of 56

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LEGEND

PROPOSED PAVED SHOULDER

OBLITERATE

EXISTING SIGNAL TO BE MODIFIED

REFERENCES:
FOR PROFILE OF Y-4 SEE SHEET 29
FOR PROFILE OF Y-4A SEE SHEET 30
FOR ROADWAY GEOMETRY SEE SHEET 2H

$$$$SYSTIME$$$$$
$$$$$$DGN$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

8/17/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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▨ F	DENOTES FILL IN WETLAND
⁘	DENOTES MECHANIZED CLEARING
▨ S	DENOTES IMPACTS IN SURFACE WATER
▨ P	DENOTES IMPACTS IN SURFACE WATER (POND)

REFERENCES:
FOR PROFILE OF Y-4 SEE SHEET 29
FOR PROFILE OF Y-4A SEE SHEET 30
FOR ROADWAY GEOMETRY SEE SHEET 2H

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$
$$$USERNAME$$$$

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PROJECT REFERENCE NO.	SHEET NO.
U-4007B	29

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

Permit Drawing
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$$$$SYSTIME$$$$
$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$
$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
U-4007B	X-35

Permit Drawing
Sheet 32 of 56

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-4007B	X-92

Permit Drawing
Sheet 33 of 56

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

50 40 30 20

SITE 2

SEE SER-1 FOR SER-1 CROSS SECTIONS BK.

S.S. 31.96 3:1 29.89 4:1 0.025 24.95 0.025 VAR STA. 19+65.58 SERV. RD. 6:1 31.361 0.080 0.080 35.94 6:1 33.91

24+20.45

FILL IN WETLAND

S.S. 33.827 6:1 6:1 31.466 0.080 0.080 36.05 6:1 33.99

24+00.00

S.S. 33.454 6:1 6:1 31.736 0.080 0.080 36.3 6:1 35.08 6:1 33.817 S.S. 35.347 6:1

23+50.00

S.S. 33.678 6:1 6:1 32.009 0.080 0.080 36.59 4:1 33.98 S.S. 32.879

23+00.00

S.S. 34.362 6:1 6:1 32.282 0.080 0.080 36.86 4:1 34.47 S.S. 34.384

22+50.00

S.S. 34.698 6:1 6:1 32.555 0.080 0.080 37.13 6:1 34.78 S.S. 34.833 34.635

22+00.00

-RAMP-IB-

$$$$$$SYSTIME$$$$$$
$$$$$$FILENAME$$$$$$
$$$$$$LEVEL$$$$$$
$$$$$$SCALE$$$$$$
$$$$$$DRAWING$$$$$$
$$$$$$USER$$$$$$
$$$$$$PLOTDATE$$$$$$

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-4007B	X-93

Permit Drawing
Sheet 34 of 56

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

50 40 30 20

S.S. 30.91
3:1
28.71
4:1
0.025 34.22 0.025
VAR
6:1
30.515
0.025 0.025 34.97
34.95
STA. 17+60.33 SERV. RD.

26+50.00

S.S. 31.23
3:1
28.73
4:1
0.025 34.32 0.025
VAR
6:1
30.561
0.025 0.025 35.09
34.80
STA. 17+89.88 SERV. RD.

26+20.45

S.S. 30.33
3:1
28.76
4:1
0.025 34.40 0.025
VAR
6:1
30.700
0.031 0.031 35.17
34.56
STA. 18+10.19 SERV. RD.

26+00.00

SITE 2

FILL IN WETLAND

S.S. 31.99
3:1
28.88
4:1
0.025 34.57 0.001
VAR
6:1
30.871
0.044 0.044 35.37
33.91
STA. 18+59.04 SERV. RD.

25+50.00

S.S. 30.32
3:1
29.29
4:1
0.025 34.73 0.025
VAR
6:1
31.043
0.058 0.058 35.57
34.21
STA. 19+04.47 SERV. RD.

25+00.00

S.S. 31.34
3:1
29.64
4:1
0.025 34.87 0.025
VAR
6:1
31.214
0.072 0.072 35.80
34.40
STA. 19+43.88 SERV. RD.

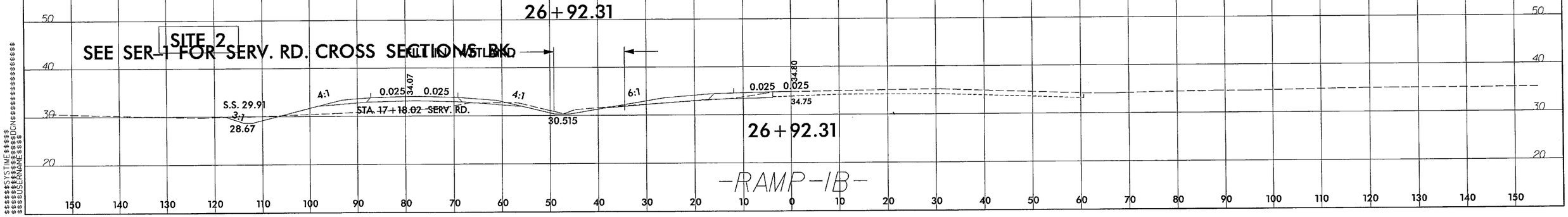
24+50.00

BEGIN SPEC. LAT. 3' BASE DITCH

24+25.00

-RAMP-1B-

$$$$SYSTIME$$$$
$$$$FILENAME$$$$



8/23/99

PROJ. REFERENCE NO.	SHEET NO.
U-4007B	X-94

Permit Drawing
Sheet 35 of 56

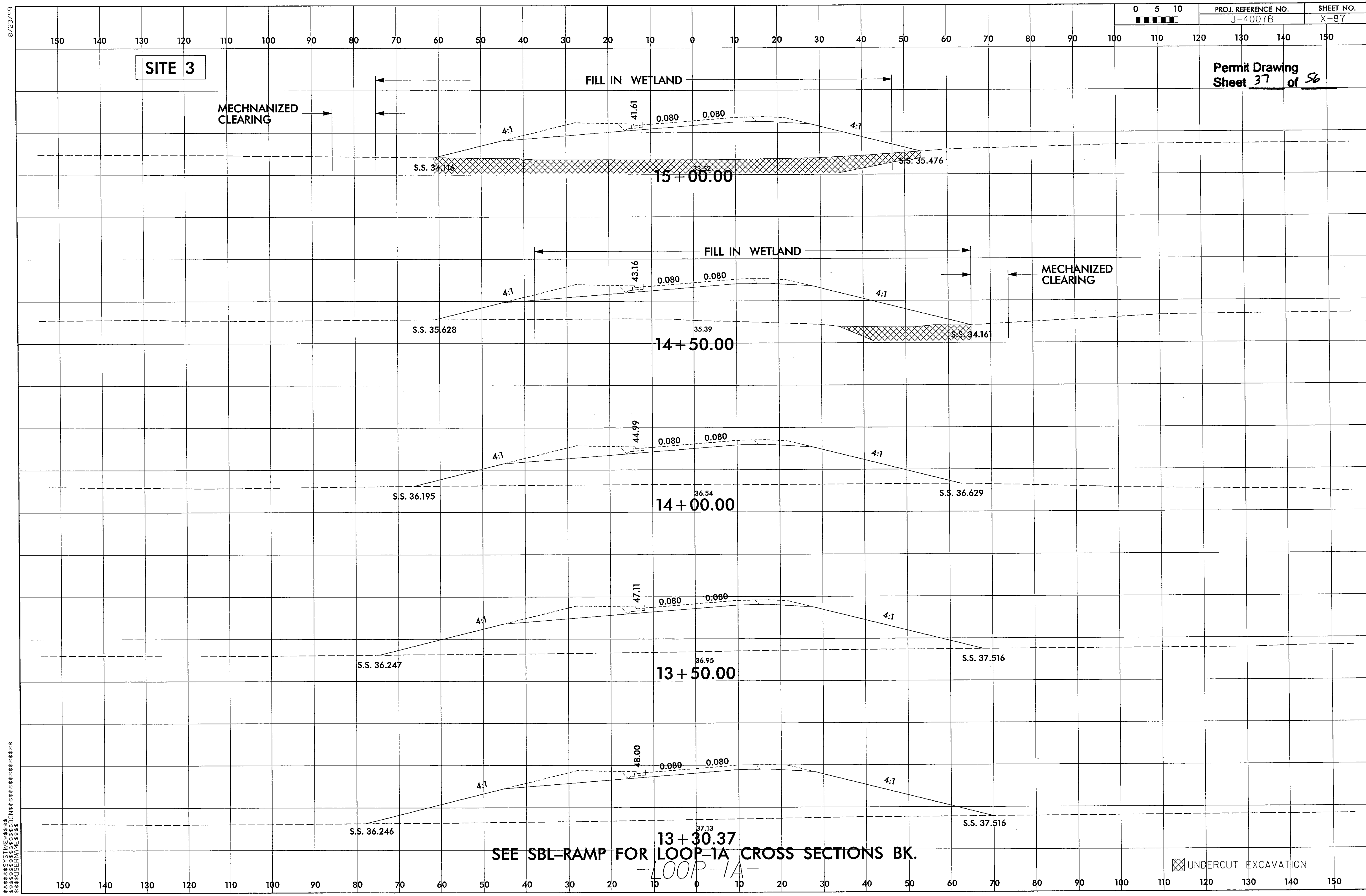
$$$$$$SYSTIME$$$$
$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
U-4007B	X-155

Permit Drawing
Sheet 36 of 56

$$$$SYSTIME$$$$
$$$$DGN$$$$
$$$$USERNAME$$$$


PROJ. REFERENCE NO. U-4007B
SHEET NO. X-87
SITE 3
Permit Drawing Sheet 37 of 56
FILL IN WETLAND
MECHNANIZED CLEARING
41.61
0.080
0.080
4:1
4:1
S.S. 34.116
S.S. 35.476
15+00.00
FILL IN WETLAND
MECHANIZED CLEARING
43.16
0.080
0.080
4:1
4:1
S.S. 35.628
35.39
S.S. 34.161
14+50.00
44.99
0.080
0.080
4:1
4:1
S.S. 36.195
36.54
S.S. 36.629
14+00.00
47.11
0.080
0.080
4:1
4:1
S.S. 36.247
36.95
S.S. 37.516
13+50.00
48.00
0.080
0.080
4:1
4:1
S.S. 36.246
37.13
S.S. 37.516
13+30.37
SEE SBL-RAMP FOR LOOP-1A CROSS SECTIONS BK.
-LOOP-1A-
UNDERCUT EXCAVATION
8/23/99

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-4007B	X-99

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

Permit Drawing
Sheet 38 of 56

S.S. 34.109 | 6.0 | 3:1 | 29.500 | 6:1 | 0.022 | 0.022 | 35.00 | 36.10

54 + 00.00

S.S. 34.538 | 6.0 | 3:1 | 29.140 | 6:1 | 0.035 | 0.035 | 34.97 | 35.99

53 + 63.53

S.S. 34.551 | 6.0 | 3:1 | 29.000 | 6:1 | 0.035 | 0.035 | 34.92 | 35.90

53 + 50.00

SITE 3

MECHANIZED CLEARING

FILL IN WETLAND

S.S. 31.871 | 6.0 | 3:1 | 28.500 | 6:1 | 0.035 | 0.035 | 34.47 | 35.62

53 + 00.00

BEGIN SPEC. LAT. 6' BASE DITCH

STA. 53 + 00.00

S.S. 34.983 | 3:1 | 29.130 | 6:1 | 0.035 | 0.035 | 35.00 | 35.37

52 + 50.00

S.S. 35.033 | 3:1 | 30.170 | 6:1 | 0.035 | 0.035 | 34.83 | 35.19

52 + 00.00

-Y-1A SBL-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

$$$$$$$SYSTIME$$$$$$$
$$$$$$$USERNAME$$$$$$$
$$$$$$$DATE$$$$$$$

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
U-4007B	X-56

Permit Drawing
Sheet 39 of 56

SITE 3

SEE LOOP-1D FOR CROSS SECTIONS AHD.

-NBL-RAMP-

☒ UNDERCUT EXCAVATION

$$$$SYSTIME$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
U-4007B	X-80

Permit Drawing
Sheet 40 of 56

$$$$SYSTIME$$$$
$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

8/23/99

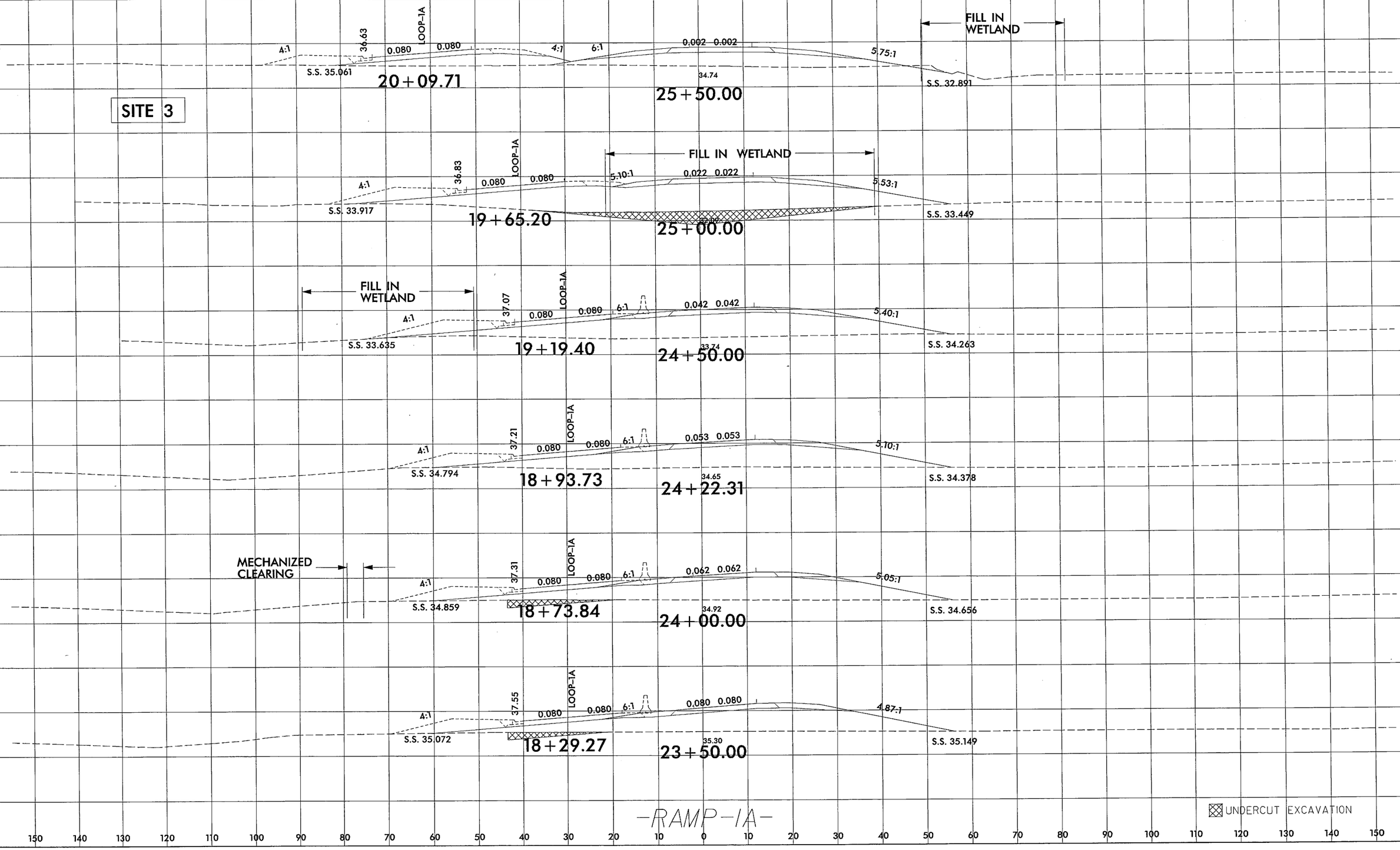
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-4007B	X-85

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

Permit Drawing
Sheet 41 of 56

SEE LOOP-1A FOR CROSS SECTIONS AHD.

SITE 3



-RAMP-1A-

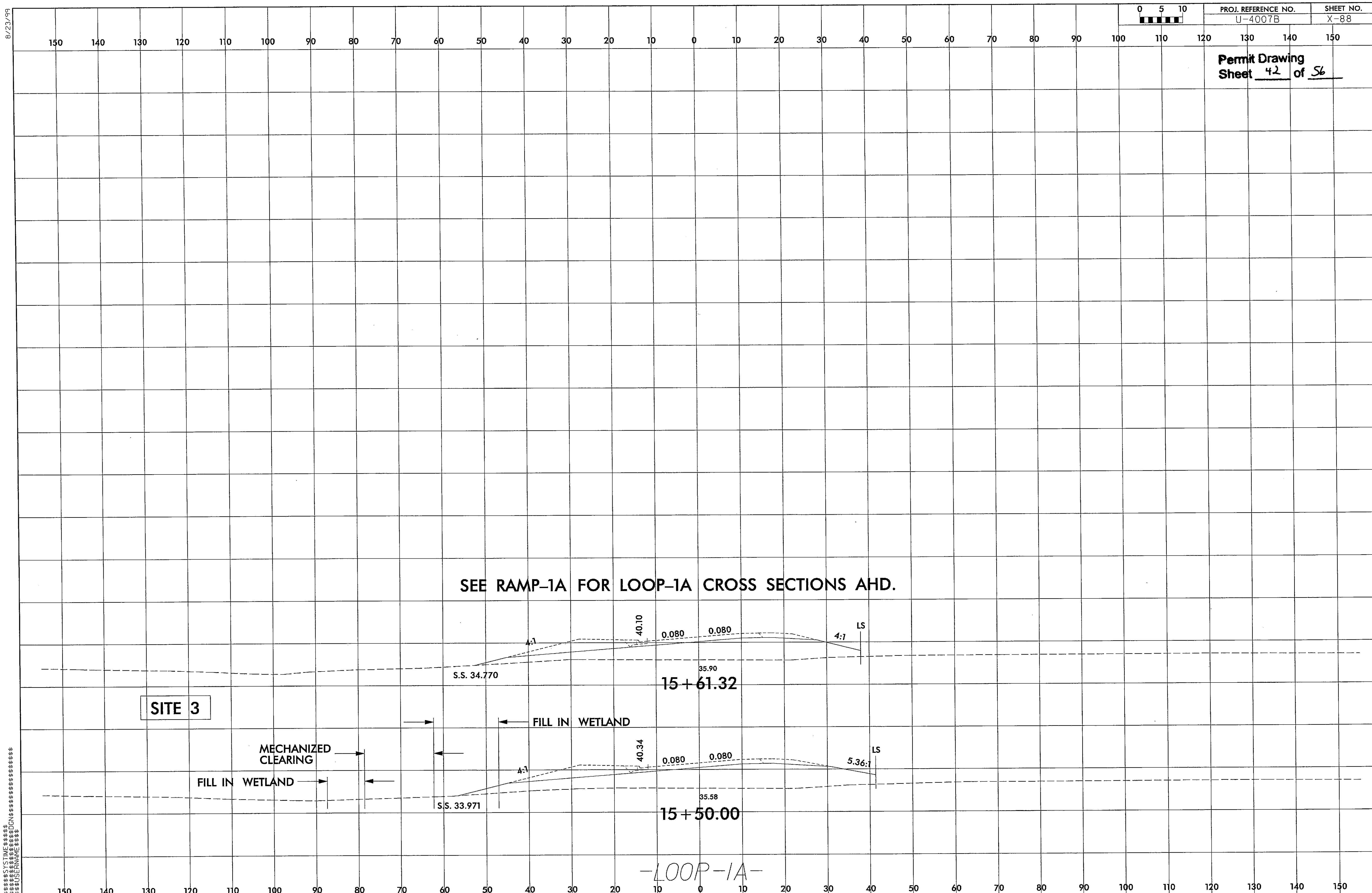
UNDERCUT EXCAVATION

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

$$$$$$SYSTIME$$$$$$
$$$$$$SYSDATE$$$$$$
$$$$$$USERNAME$$$$$$

PROJ. REFERENCE NO.	SHEET NO.
U-4007B	X-88

Permit Drawing
Sheet 42 of 56



8/23/99

PROJ. REFERENCE NO.	SHEET NO.
U-4007B	X-3

Permit Drawing
Sheet 43 of 56

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

SITE 4

MECHANIZED CLEARING

FILL IN WETLAND

IMPACTS IN SURFACE WATER

FILL IN WETLAND

S.S. 34.362

3:1

0.040 0.040 0.040

45.68

44.81

0.040 0.040

3:1

S.S. 36.138

34.60

16+00.00

BEGIN RAMP-1A
STA. 10+00.00

RAMP-1A

0.040 0.040 0.040

45.86

44.99

0.040 0.040

3:1

6:1

S.S. 33.462

S.S. 38.267

10+44.47

36.80

15+50.00

RAMP-1A

0.040 0.040 0.040

45.97

45.10

LS BK

0.040 0.040

3:1

6:1

S.S. 34.233

S.S. 39.323

10+71.50

38.11

15+23.30

SITE 4

FILL IN WETLAND

MECHANIZED CLEARING

RAMP-1A

0.040 0.040 0.040

46.06

45.20

LS

0.040 0.040

SEE Y-4 CROSS SECTIONS

3:1

S.S. 34.922

10+95.09

38.36

15+00.00

RAMP-1A

0.028 0.028 0.040 0.040

46.26

45.40

LS

0.040 0.040

SEE Y-4 CROSS SECTIONS

3:1

S.S. 36.179

11+45.67

38.70

14+50.00

-L-LINE-

UNDERCUT EXCAVATION

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

$$$$$SYSTIME$$$$$
$$$$$DATE$$$$$
$$$$$DGN$$$$$
$$$$$FRAME$$$$$
$$$$$USER$$$$$

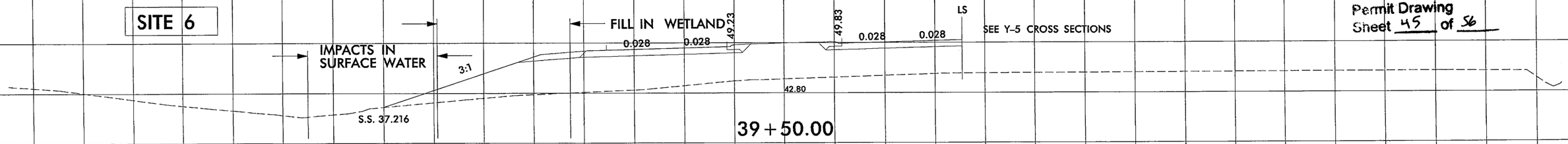
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-4007B	X-4

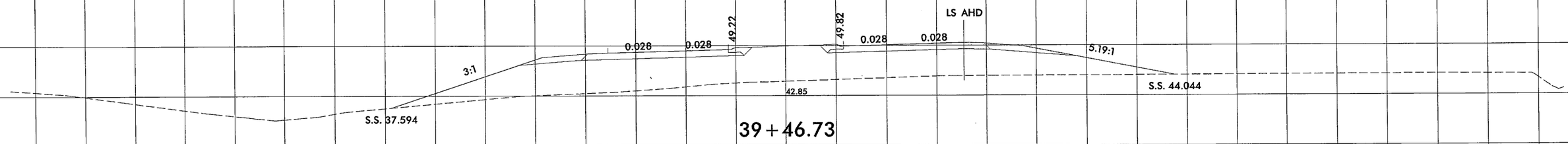
Permit Drawing
Sheet 44 of 56

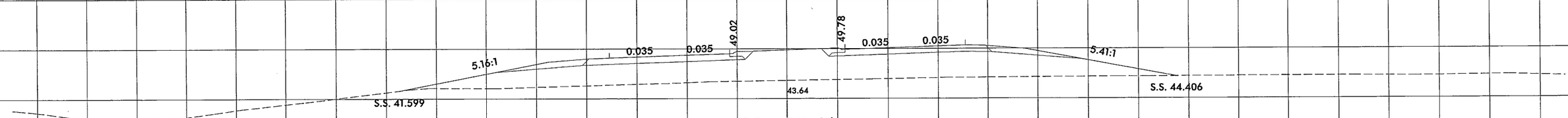
8/23/99

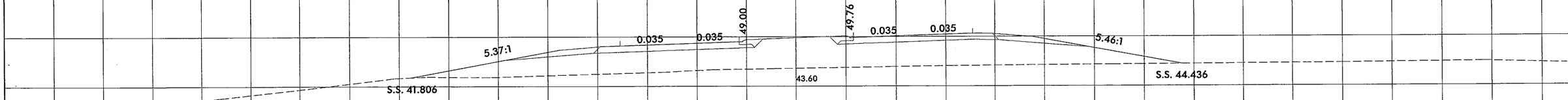
▨ UNDERCUT EXCAVATION

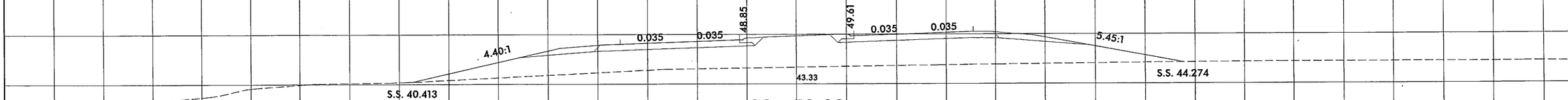
$$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$
$$$USERNAME$$$$









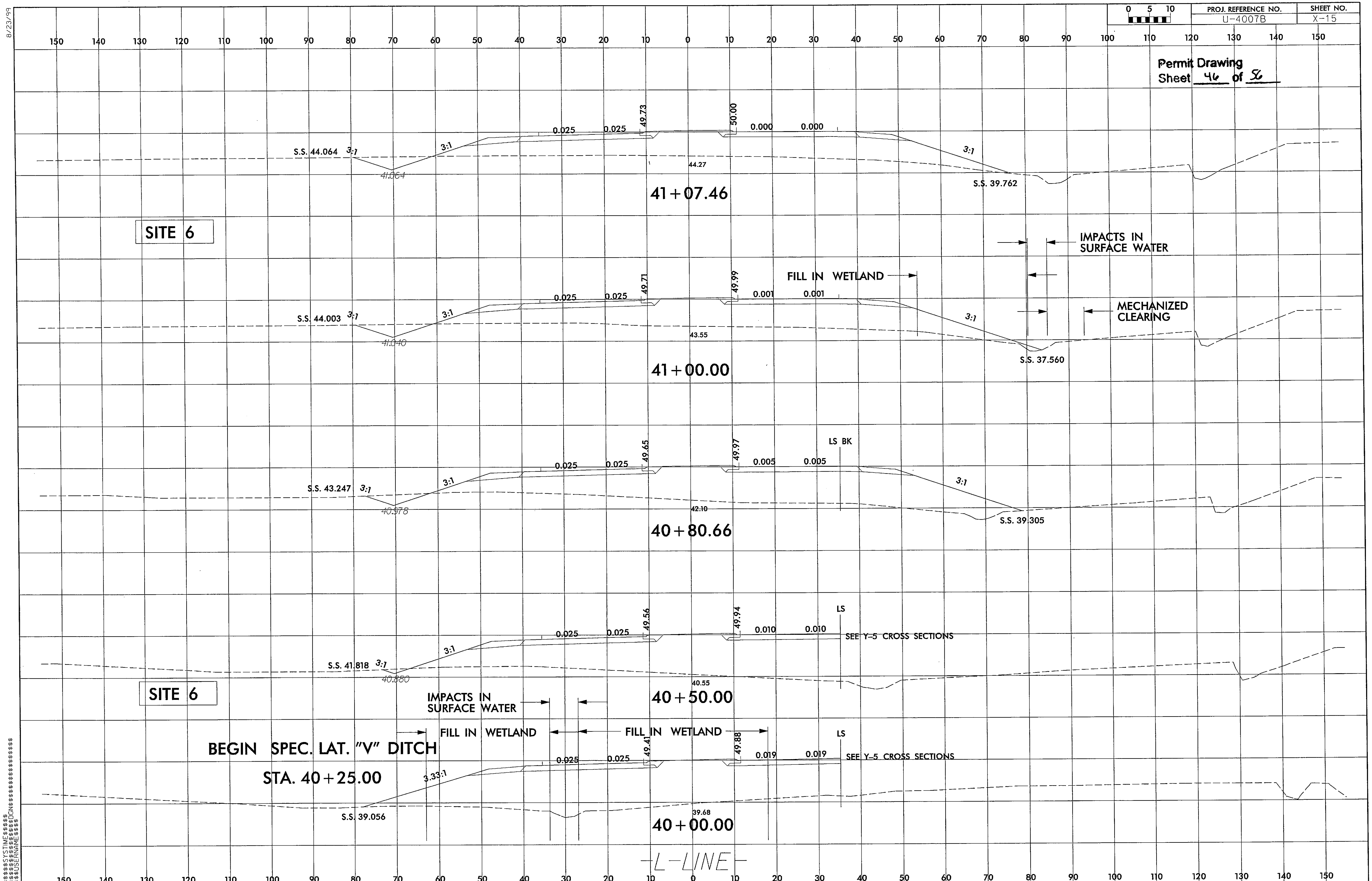


8/23/99

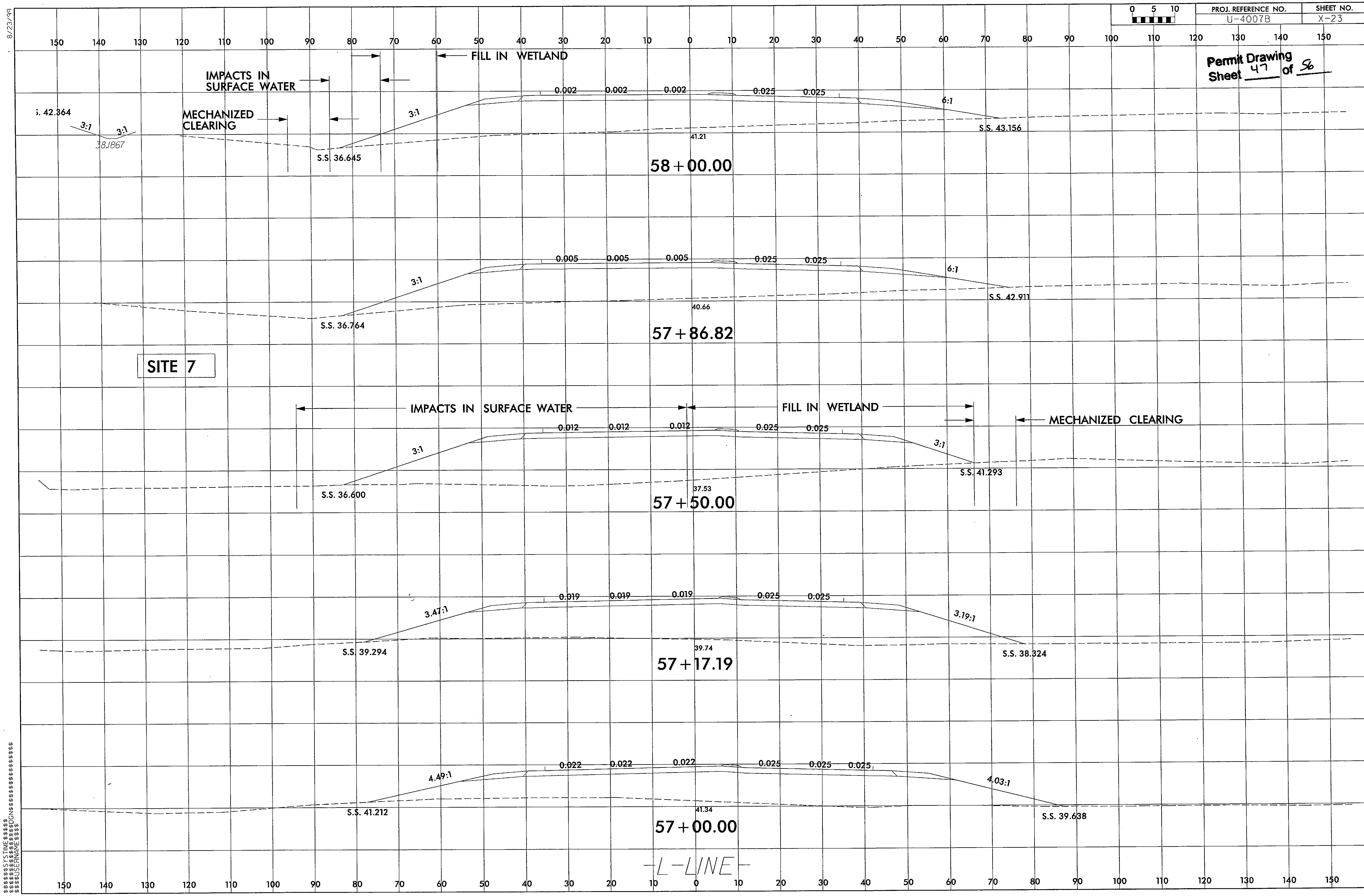
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-4007B	X-14

Permit Drawing
Sheet 45 of 56

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$



8/23/99
0 5 10
PROJ. REFERENCE NO.
U-4007B
SHEET NO.
X-15
Permit Drawing
Sheet 46 of 56
SITE 6
0.025
0.025
49.73
50.00
0.000
0.000
S.S. 44.064
3:1
3:1
3:1
41.064
44.27
S.S. 39.762
41+07.46
IMPACTS IN SURFACE WATER
FILL IN WETLAND
MECHANIZED CLEARING
0.025
0.025
49.71
49.99
0.001
0.001
S.S. 44.003
41.040
43.55
S.S. 37.560
41+00.00
LS BK
0.025
0.025
49.65
49.97
0.005
0.005
S.S. 43.247
40.978
42.10
S.S. 39.305
40+80.66
LS
0.025
0.025
49.56
49.94
0.010
0.010
SEE Y-5 CROSS SECTIONS
S.S. 41.818
40.860
40.55
SITE 6
40+50.00
IMPACTS IN SURFACE WATER
FILL IN WETLAND
FILL IN WETLAND
BEGIN SPEC. LAT. "V" DITCH
STA. 40+25.00
3.33:1
0.025
0.025
49.41
49.88
0.019
0.019
LS
SEE Y-5 CROSS SECTIONS
S.S. 39.056
39.68
40+00.00
-L-LINE-
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



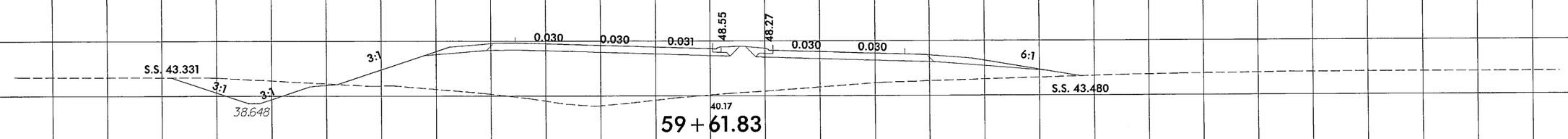
PROJ. REFERENCE NO.
U-4007B
SHEET NO.
X-23
0 5 10
Permit Drawing
Sheet 47 of 56
8/23/99
FILL IN WETLAND
IMPACTS IN SURFACE WATER
MECHANIZED CLEARING
S.S. 42.364
381867
S.S. 36.645
41.21
S.S. 43.156
58+00.00
S.S. 36.764
40.66
S.S. 42.911
57+86.82
SITE 7
IMPACTS IN SURFACE WATER
FILL IN WETLAND
MECHANIZED CLEARING
S.S. 36.600
37.53
S.S. 41.293
57+50.00
3.47:1
3.19:1
S.S. 39.294
39.74
S.S. 38.324
57+17.19
4.49:1
4.03:1
S.S. 41.212
41.34
S.S. 39.638
57+00.00
-L-LINE-

8/23/99

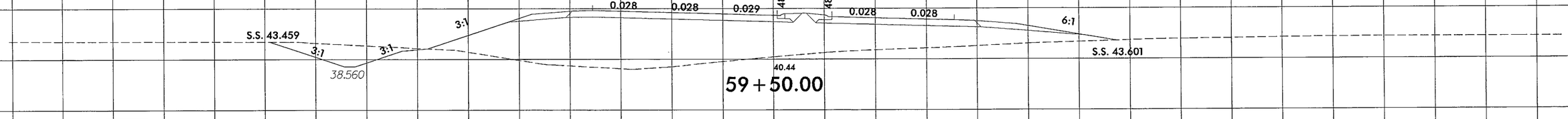
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-4007B	X-24

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

Permit Drawing
Sheet 48 of 56

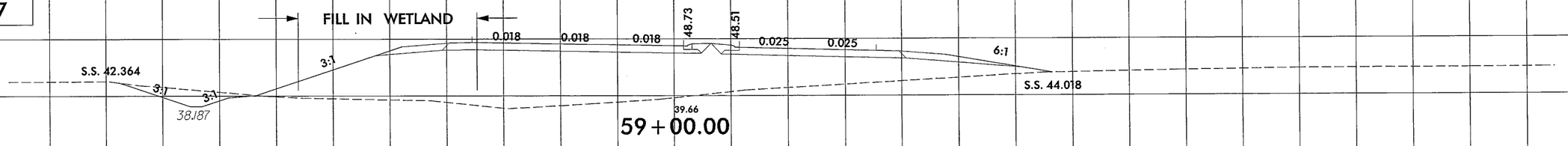


59 + 61.83



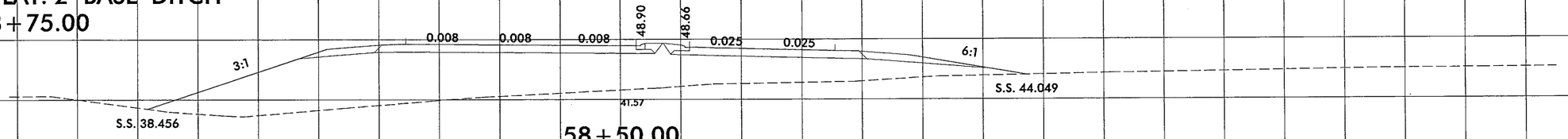
59 + 50.00

SITE 7

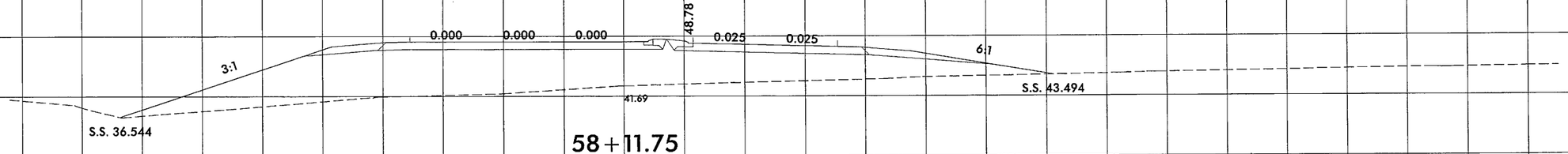


59 + 00.00

BEGIN SPEC. LAT. 2' BASE DITCH
58 + 75.00



58 + 50.00



58 + 11.75

-L-LINE-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

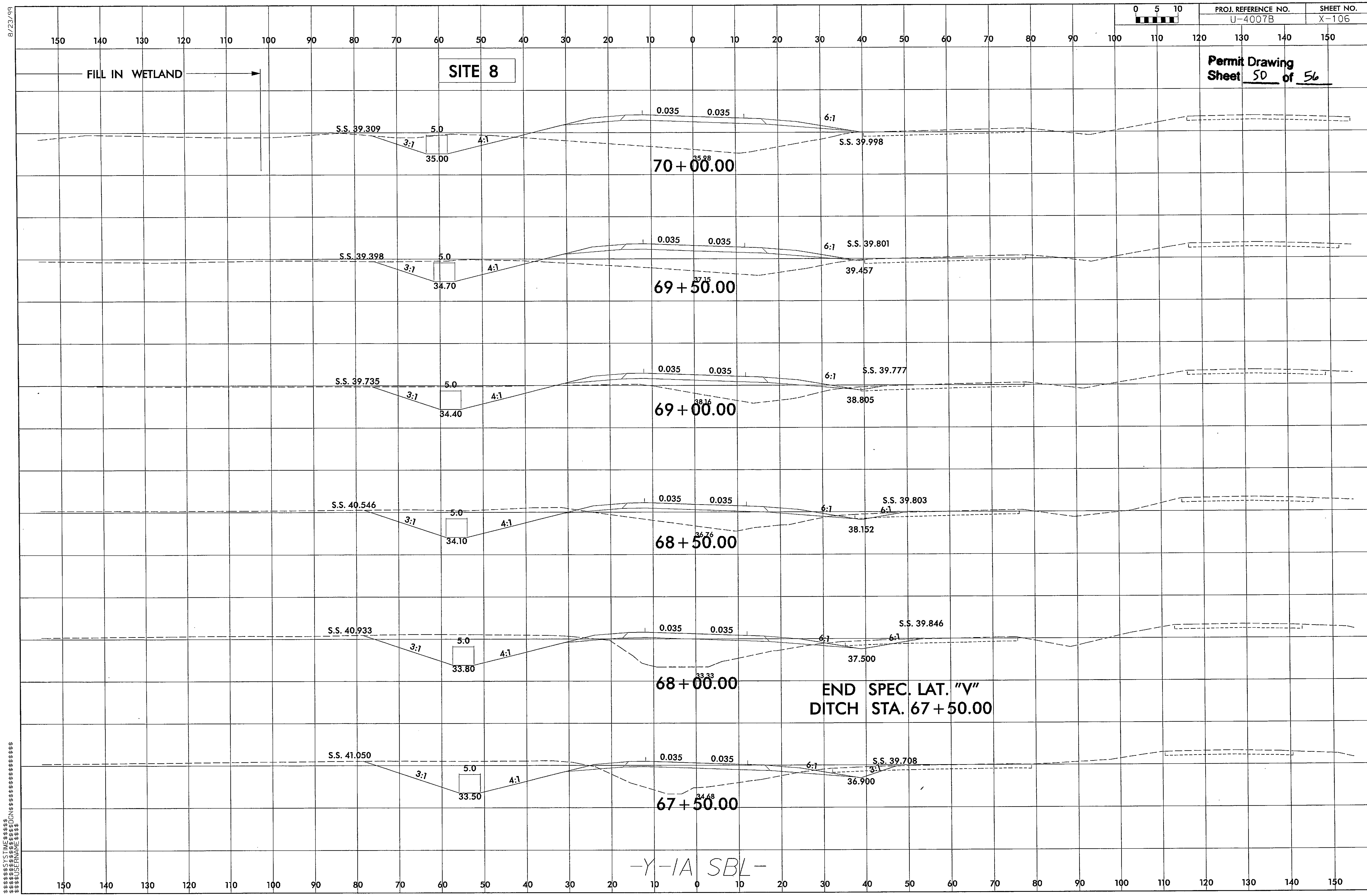
$$$$$$$$SYSTIME$$$$$$$$
$$$$$$$$FILEDIR$$$$$$$$
$$$$$$$$USERNAME$$$$$$$$

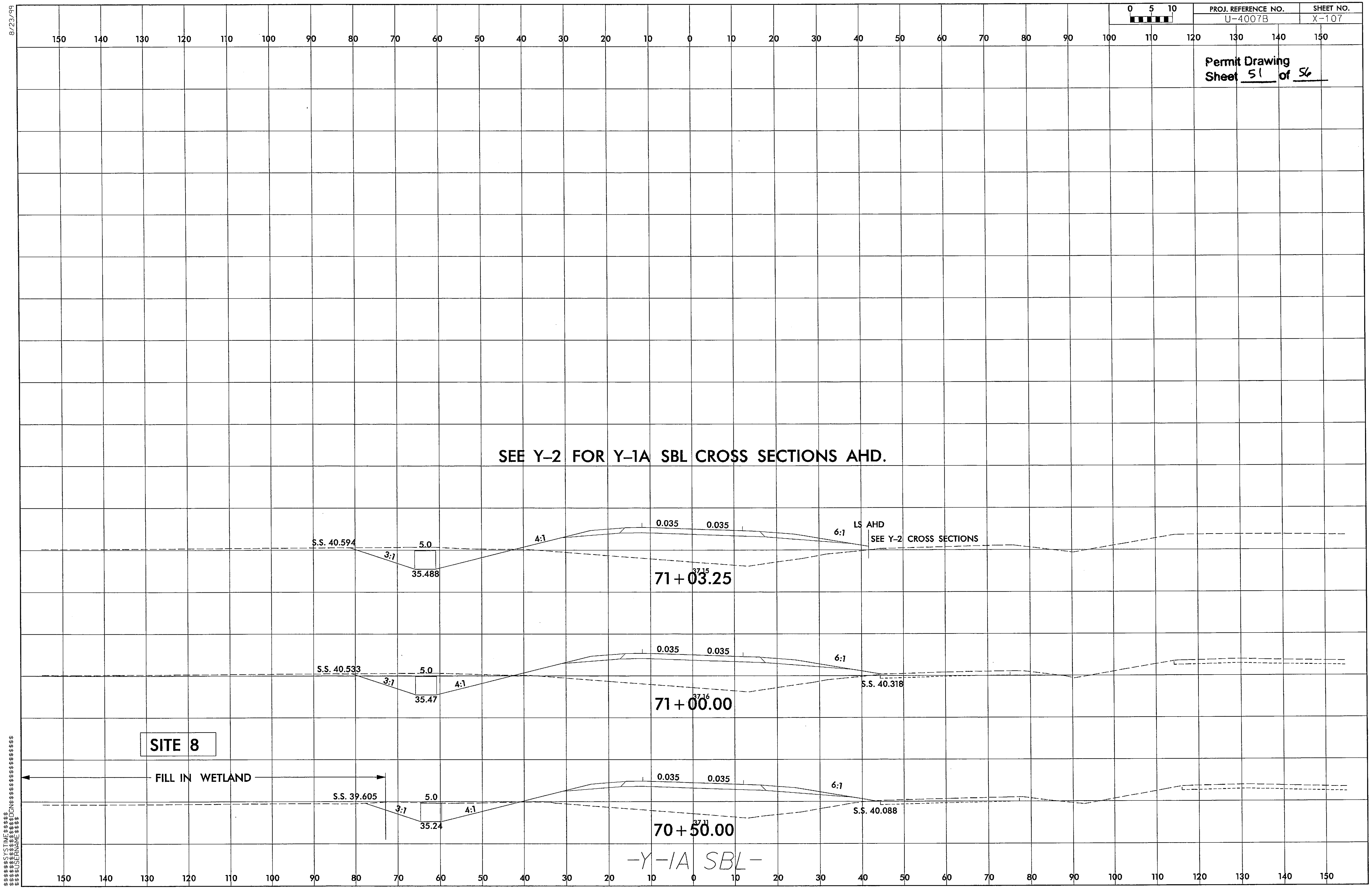
8/23/99

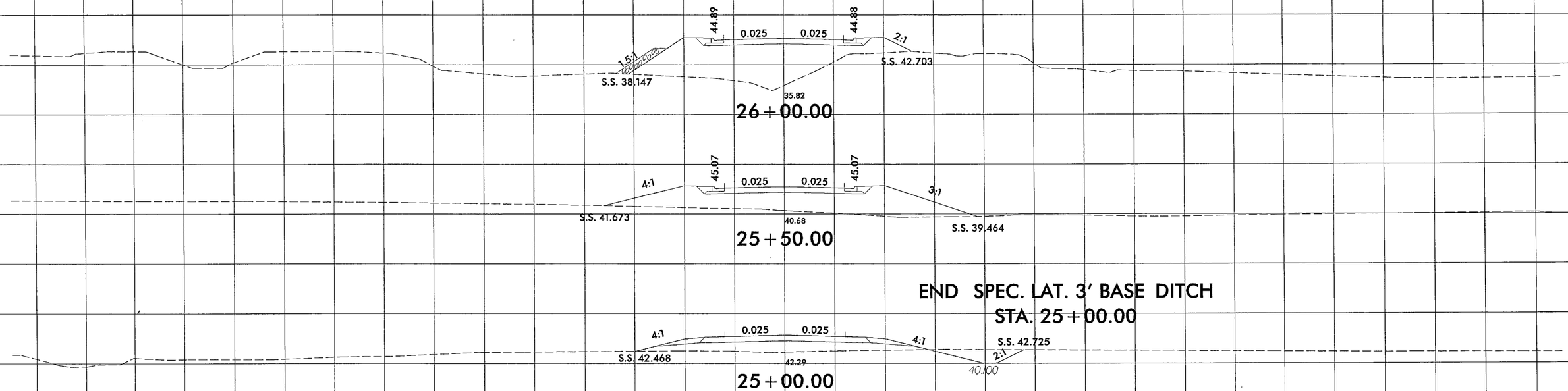
PROJ. REFERENCE NO.	SHEET NO.
U-4007B	X-25

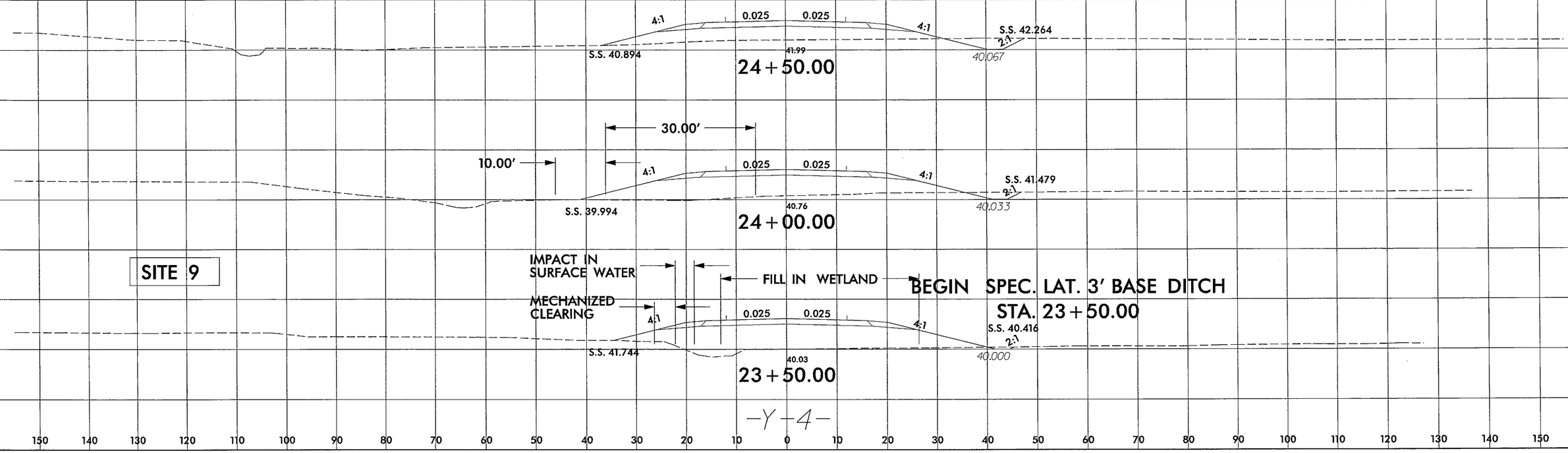
Permit Drawing
Sheet 49 of 56

$$$$$$$$SYSTIME$$$$ $$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$ $$$$USERNAME$$$$


PROJ. REFERENCE NO.
U-4007B
SHEET NO.
X-106
0 5 10
Permit Drawing
Sheet 50 of 56
SITE 8
FILL IN WETLAND
8/23/99
S.S. 39.309
5.0
3:1
4:1
35.00
0.035
0.035
6:1
S.S. 39.998
35.98
70+00.00
S.S. 39.398
34.70
S.S. 39.801
39.457
37.15
69+50.00
S.S. 39.735
34.40
S.S. 39.777
38.805
38.16
69+00.00
S.S. 40.546
34.10
S.S. 39.803
38.152
36.76
68+50.00
S.S. 40.933
33.80
S.S. 39.846
37.500
33.33
68+00.00
END SPEC. LAT. "V"
DITCH STA. 67+50.00
S.S. 41.050
33.50
S.S. 39.708
36.900
34.68
67+50.00
-Y-1A SBL-
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
$$$$$$SYSTIME$$$$$$
$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$


PROJ. REFERENCE NO. U-4007B
SHEET NO. X-107
Permit Drawing Sheet 51 of 56
SEE Y-2 FOR Y-1A SBL CROSS SECTIONS AHD.
LS AHD
SEE Y-2 CROSS SECTIONS
S.S. 40.594
5.0
3:1
4:1
0.035
0.035
6:1
35.488
37.15
71+03.25
S.S. 40.533
35.47
37.16
S.S. 40.318
71+00.00
SITE 8
FILL IN WETLAND
S.S. 39.605
35.24
37.11
S.S. 40.088
70+50.00
-Y-1A SBL-

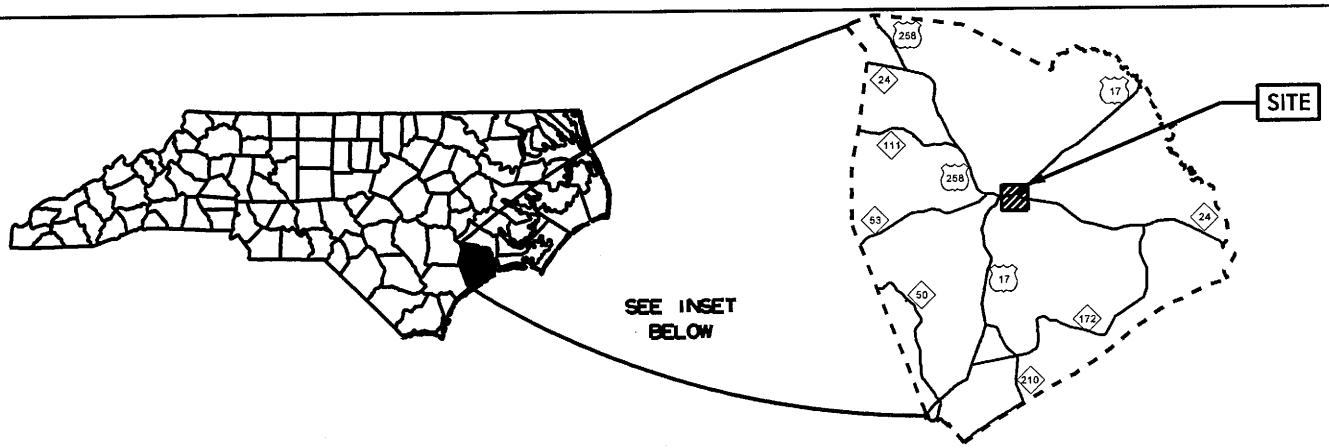


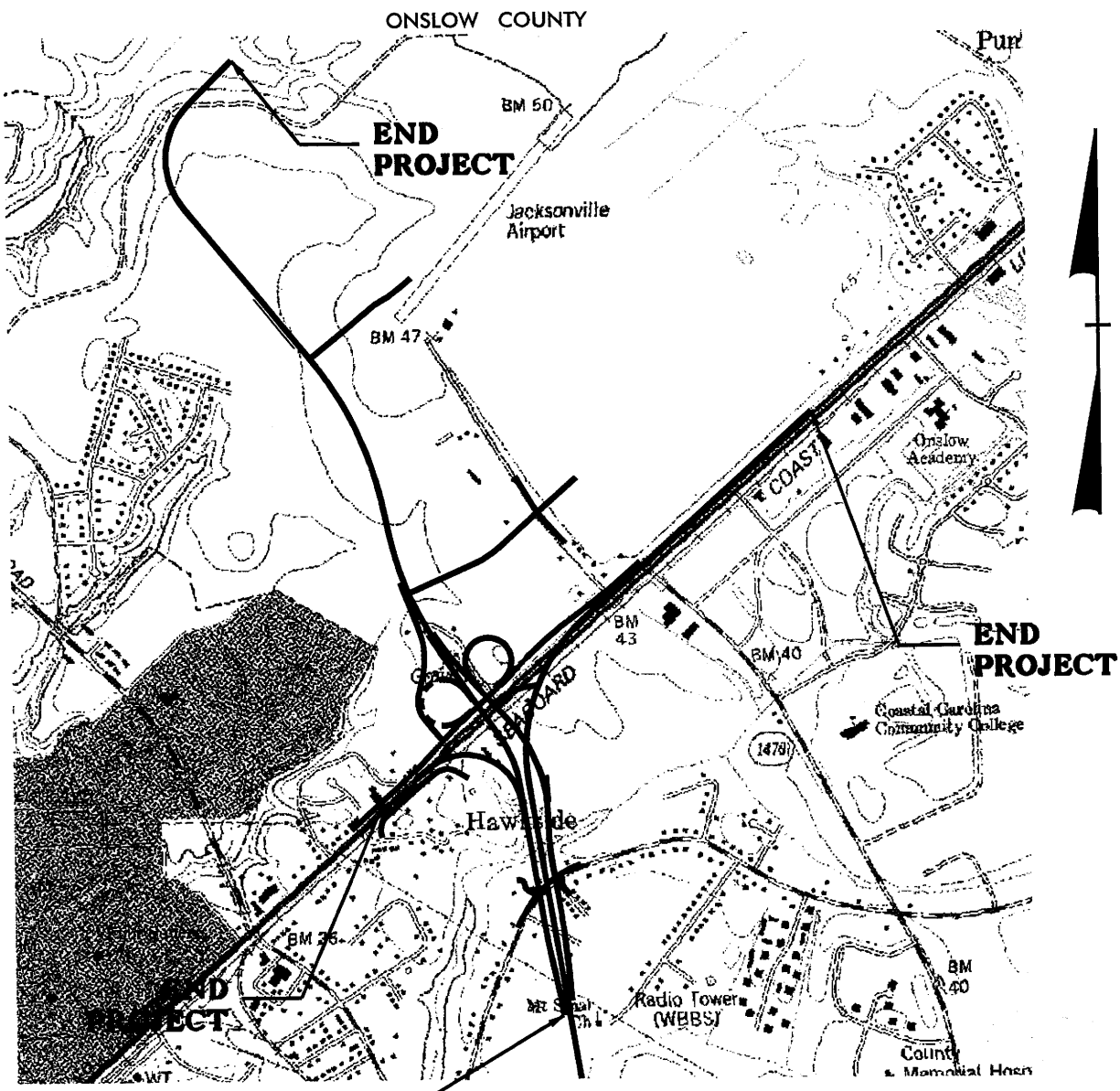


8/23/99

PROJ. REFERENCE NO.	SHEET NO.
U-4007B	X-136

Permit Drawing
Sheet 52 of 56





WETLAND/STREAM IMPACTS

Permit Drawing
Sheet 53 of 56

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

ONSLOW COUNTY
PROJECT:35008.1.1 (U-4007B)
WESTERN PARKWAY FROM
APPROXIMATELY 1300' SOUTH
OF COUNTRY CLUB RD.
TO WESTERN BLVD.

SHEET ___ OF ___ 2-12-10

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
7	KEYSTONE CONTRACTORS PARTNERS	PO BOX 1237 JACKSONVILLE NC 28540
10	OUT ISLAND, LLC	ADDRESS
12	SEABOARD COSTLINE RAILROAD (DISMANTLED)	ADDRESS
907	CAROLINA GAS PARTNERS, LLC	1841 PEELER RD., SUITE D. ATLANTA GA 30338
906	RICHARD S. NEWTON	310 PRESTON RD JACKSONVILLE NC 28540
13	ARDIE MONTFORD	302 MONTFORD LN. JACKSONVILLE NC 28546
909	LONGLEY SUPPLY COMPANY OF JACKSONVILLE, INC	PO BOX 5318 JACKSONVILLE NC 28540
14	TERENCE NICHOLS	2414 CHESTNUT HILL DRIVE CINAMINSON NJ 08077
19	TRUDIE H. BENNETT	127 HAWKSIDE ROAD JACKSONVILLE NC 28546
914	FLORA D. MORRISON	113 HAWKSIDE RD. JACKSONVILLE NC 28540
24	DDRTC GATEWAY PLAZA, LLC	ADDRESS

Permit Drawing
Sheet 54 of 56

NCDOT

DIVISION OF HIGHWAYS
ONSLOW COUNTY
PROJECT: 35008.1.1 (U-4007B)
WESTERN PARKWAY
FROM APPROX. 1300' SOUTH OF
COUNTRY CLUB RD TO
WESTERN BLVD.

SHEET 1 OF 2 2/12/10

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
26	KENNITH P. WHICHARD, JR.	125 EDGEBROOK DR. GREENVILLE NC 27858
31	CONRAD HAUGEN	129 MOOSEHAVEN RD. JACKSONVILLE NC 28546
32	JAMES BROWN, ET AL	235 MARINE PLAZA JACKSONVILLE NC 28546
918	R. M. TALLMAN, HEIRS	321 PELICAN WALK HAMPSTEAD NC 28443
25	DAYTON HUDSON CORP.	ADDRESS
33	STATE EMPLOYEES CREDIT UNION	PO BOX 26807 RALEIGH NC 27611

Permit Drawing
Sheet 55 of 56

NCDOT

DIVISION OF HIGHWAYS
ONSLOW COUNTY
PROJECT: 35008.1.1 (U-4007B)
WESTERN PARKWAY
FROM APPROX. 1300' S OF
COUNTRY CLUB RD TO
WESTERN BLVD.

SHEET 2 OF 2 2/12/10

Permit Drawing
Sheet 56 of 56

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND 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)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	29+25 -Y2-	2 AT 6'x7' RCBC						0.05		290		
2	23+60-27+59 -RAMP1B- LT	ROADWAY FILL	0.11									
	16+30-19+76 -SER-1	ROADWAY FILL	0.24									
3	52+58-53+32 -Y1A SBL- LT	48" RCP	0.02			0.01						
	23+85-25+70 -RAMP 1A-	2 AT 42" RCP	0.14			0.02						
	14+00-15+50 -LOOP 1A-	2 AT 42" RCP	0.30			0.03						
	47+73-48+82 -SBL RAMP-	2 AT 42" RCP	0.24			0.02						
4	14+72-18+45 -L-	60" RCP	0.57			0.08		0.04		301		
5	12+43 -Y4- LT	ROADWAY FILL	<.01			<.01						
6	39+14-41+39 -L-	72" RCP	0.26			0.03		0.03		260		
7	57+11-62+05 -L-	42" RCP	0.33			0.04		0.09		326		
		ROADWAY FILL										
8	69+71-70+78 -Y1A SBL- LT	DITCH EFFECT	0.16									
9	23+00-24+41 -Y4-	2 AT 36" RCP	0.09			0.02		0.01		122		
TOTALS:			2.45	0.00	0.00	0.25	0.00	0.22	0	1299		

ATN Revised 3/31/05

REMARKS: SITE 1)THE EXISTING SILLS TO BE REMOVED TO SATISFY FEMA REGULATIONS FOR THE CULVERT EXTENSION.

SITE 2) SITE 2 IS A TOTAL TAKE.

SITE 3) THE AREA BETWEEN -L- AND LOOP 1A WILL BE A TOTAL TAKE. ADDITIONAL TOTAL TAKE (NO IMPACT) = 0.09 AC

SITE 6) THE SLIVER WETLAND TO THE RIGHT OF -L- WILL BE A TOTAL TAKE. ADDITIONAL TOTAL TAKE (NO IMPACT SW = <0.01AC CHANNEL = 45 ft WETLANDS = 0.02AC

Note: FILL IN STORMWATER PONDS STA. 45+OO TO 52+23 -L- RT (PSH 09)* AND 25+88 TO 26+27 -Y4- LT (PSH 13)** HAVE BEEN COORDINATED WITH DWQ-STORMWATER SECTION.

* THE FILL IN THE STORMWATER POND ON PLAN SHEET (PSH) #9 IS 0.51 AC. AND THE VOL. REDUCTION IS 0.59 AC-FT

** THE FILL IN THE STORMWATER POND ON PLAN SHEET (PSH) #13 IS 0.03 AC. AND THE VOL. REDUCTION IS 0.1 AC-FT

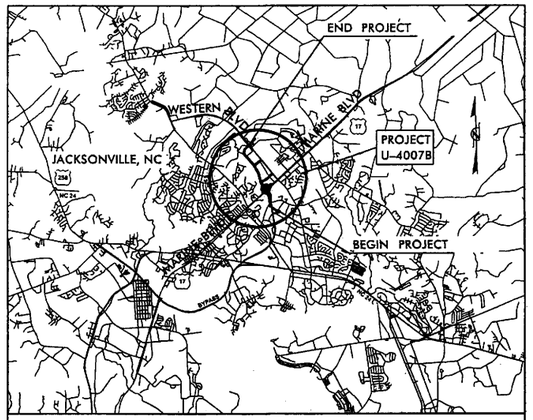
NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

ONSLOW COUNTY
WBS - 35008.1.1 (U-4007B)

SHEET 1 REV 3/04/2010

09/08/95

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ONSLOW COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4007B	1	

WBS NO.	F. A. PROJ. NO.	DESCRIPTION
35008.1.1	STPNHF-17(31)	PE
35008.3.4	NHF-0017(77)	ROW & UTILS.

LOCATION: WESTERN PARKWAY FROM APPROXIMATELY 1300' SOUTH OF COUNTRY CLUB RD. TO WESTERN BLVD.

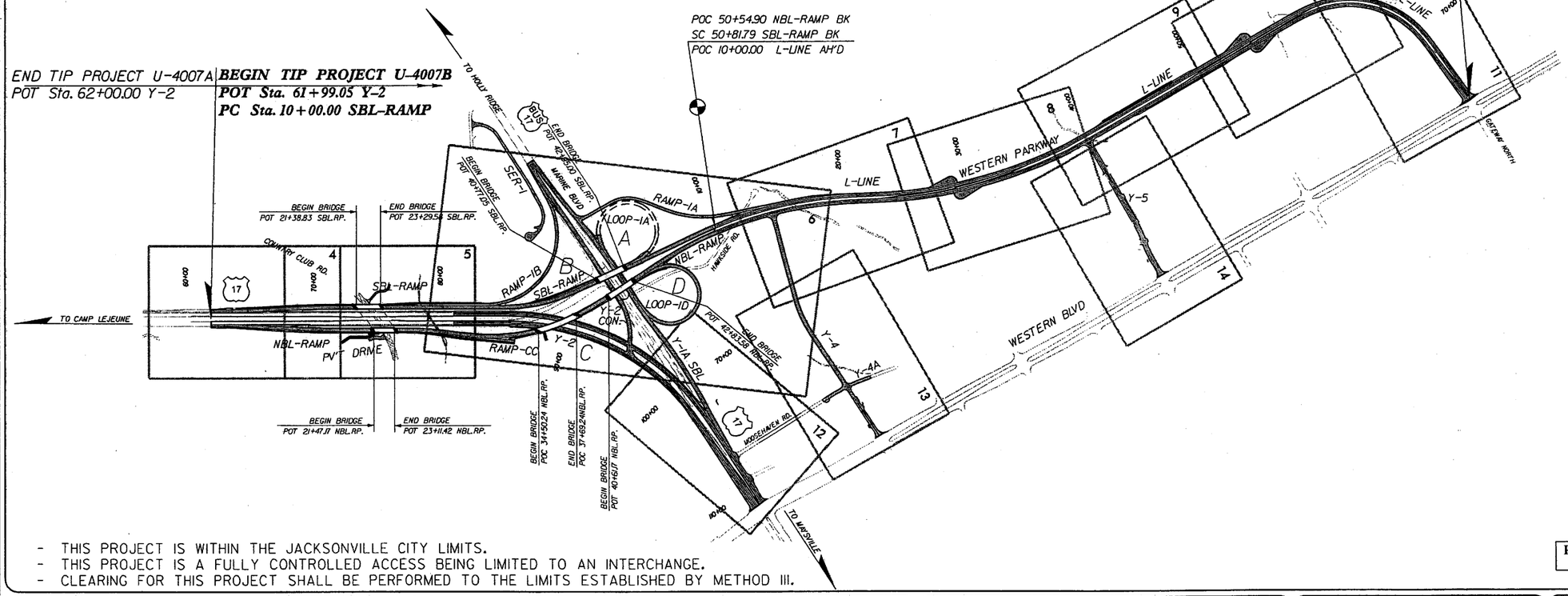
TYPE OF WORK: GRADING, PAVING, DRAINAGE, SIGNALS CURB, GUTTER, STRUCTURES, & CULVERTS.

END TIP PROJECT U-4007B
POT Sta. 76+58.49 L-LINE

NC GRID NAD 83

END TIP PROJECT U-4007A
POT Sta. 62+00.00 Y-2

BEGIN TIP PROJECT U-4007B
POT Sta. 61+99.05 Y-2
PC Sta. 10+00.00 SBL-RAMP



- THIS PROJECT IS WITHIN THE JACKSONVILLE CITY LIMITS.
- THIS PROJECT IS A FULLY CONTROLLED ACCESS BEING LIMITED TO AN INTERCHANGE.
- CLEARING FOR THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

TIP PROJECT: U-4007B

CONTRACT C202558

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2011 = 36,300
ADT 2031 = 57,600
DHV = 10 %
D = 60 %
T = 8 % *
V = 50 MPH
(* TTST 3% + DUAL 5%)
FUNC. CLASS: FWY./EXPWY.

PROJECT LENGTH

LENGTH OF ROADWAY T.I.P. PROJECT U-4007B	=	1.177 MI.
LENGTH OF STRUCTURE T.I.P. PROJECT U-4007B	=	0.857 MI
TOTAL LENGTH OF T.I.P. PROJECT U-4007B	=	2.034 MI

PREPARED IN THE OFFICE OF:
Stantec
Stantec Consulting Inc.
Suite 300, 801 Jones Franklin Road
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27606
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Fax. 919.85 1.7024
www.stantec.com

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: FEB 20, 2009

LETTING DATE: OCT. 19, 2010

ROBERT A. WILLIAMS, PE
PROJECT ENGINEER

KEITH F. HUDSON, PE
PROJECT DESIGN ENGINEER

NCDOT CONTACT: B. DOUG TAYLOR, PE
PROJECT ENGINEER - ROADWAY DESIGN

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

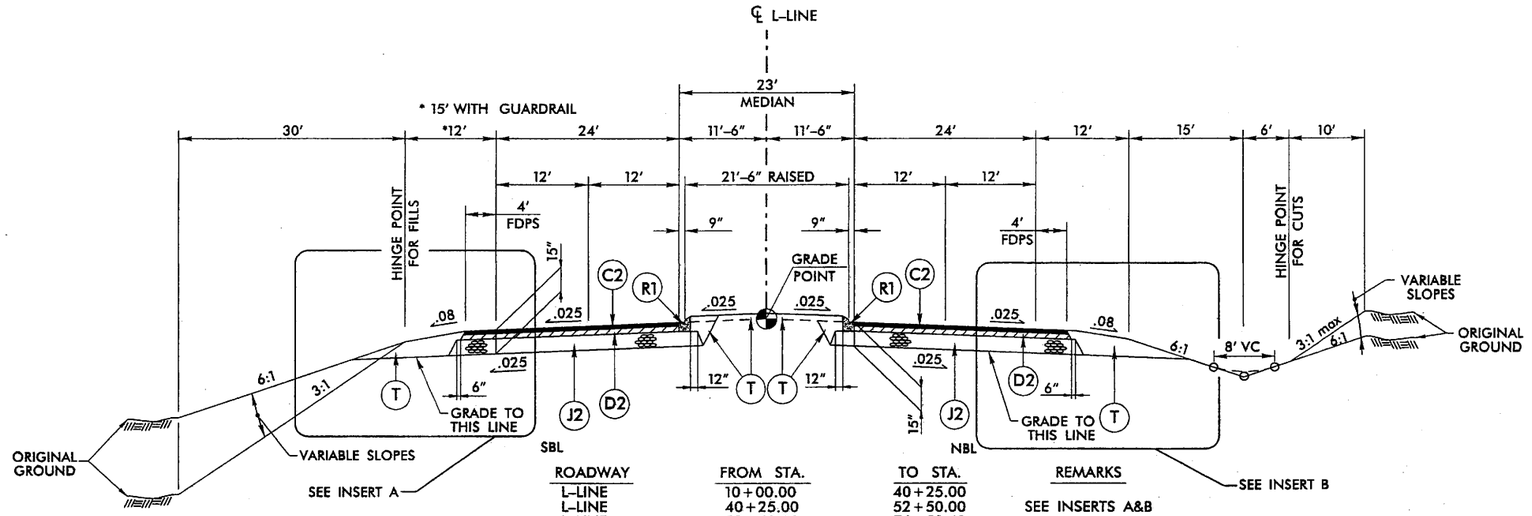
SIGNATURE: P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

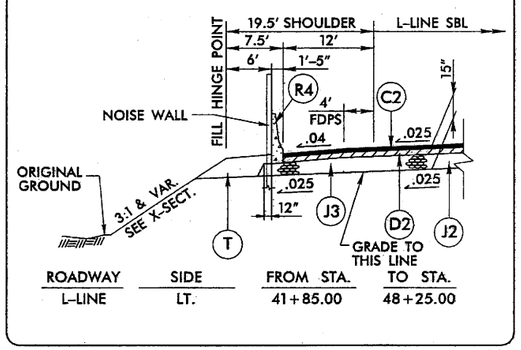
2/18/2010
U:\Roadway\Proj\u-4007b_rdy_tsh.dgn
rawilliams

6/2/09

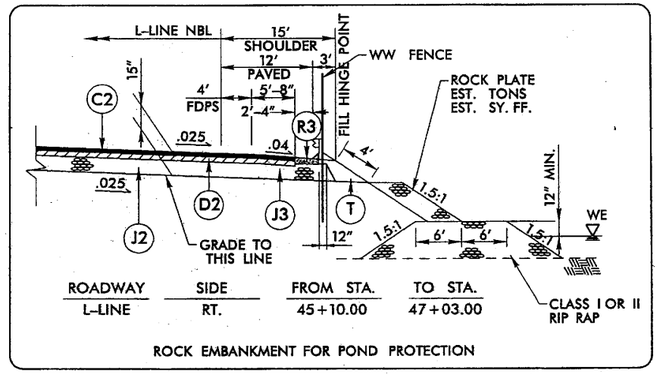


ROADWAY	FROM STA.	TO STA.	REMARKS
L-LINE	10+00.00	40+25.00	SEE INSERTS A&B
L-LINE	40+25.00	52+50.00	
L-LINE	52+50.00	76+58.49	

TYPICAL SECTION NO 1



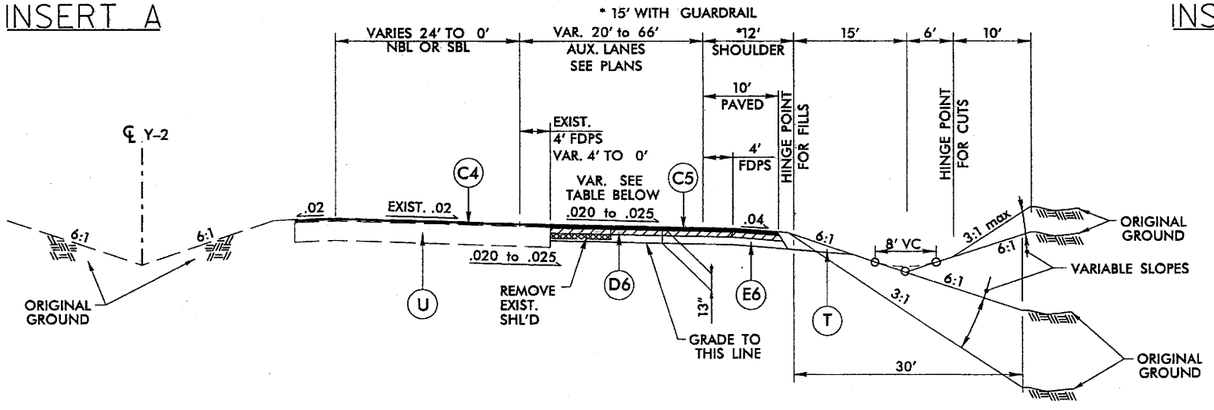
ROADWAY	SIDE	FROM STA.	TO STA.
L-LINE	LT.	41+85.00	48+25.00



ROADWAY	SIDE	FROM STA.	TO STA.
L-LINE	RT.	45+10.00	47+03.00

ROCK EMBANKMENT FOR POND PROTECTION

INSERT A



INSERT B

ROADWAY	FROM STA.	TO STA.	CROSS SLOPE	REMARKS
Y-2 NBL	61+99.05	63+25.00	.020	AUX. LINE
NBL-RAMP	10+00.00	12+21.71	.020	
NBL-RAMP	12+21.71	12+46.78	VAR. .020 to .025	
NBL-RAMP	12+46.78	16+27.75	.025	
SBL-RAMP	10+00.00	12+49.67	.020	MIRROR IMAGE
SBL-RAMP	12+49.67	12+74.64	VAR. .020 to .025	MIRROR IMAGE
SBL-RAMP	12+74.64	17+13.55	.025	MIRROR IMAGE

TYPICAL SECTION NO 2

2/18/2010
G:\Roadway\Proj\u-4007b_rdy_typ.dgn
cwilliams

Stantec

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www.stantec.com

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3.0" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE. TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER. SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1.5" OR GREATER THAN 2.0"
C4	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C5	PROP. APPROX. 3.0" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C6	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE. TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER. SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1.5" OR GREATER THAN 2.0"
D1	PROP. APPROX. 3.0" ASPHALT CONCRETE INTERMEDIATE COURSE. TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER. SQ. YD.
D2	PROP. APPROX. 4.0" ASPHALT CONCRETE INTERMEDIATE COURSE. TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER. SQ. YD.
D3	PROP. VAR DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE. TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER. SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4.0"
D4	PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE. TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER. SQ. YD.
D5	PROP. APPROX. 3.0" ASPHALT CONCRETE INTERMEDIATE COURSE. TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER. SQ. YD.
D6	PROP. APPROX 4.0" ASPHALT CONCRETE INTERMEDIATE COURSE. TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER. SQ. YD.
D7	PROP. VAR DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE. TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER. SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4.0"
E1	PROP. APPROX. 4.0" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER. SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE. TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER. SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5".
E3	PROP. APPROX. 3.0" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
E4	PROP. APPROX. 3.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD.
E5	PROP. APPROX. 4.5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
E6	PROP. APPROX. 8.0" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E7	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE. TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER. SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5"
J1	PROP. 6" AGGREGATE BASE COURSE
J2	PROP. 8" AGGREGATE BASE COURSE
J3	PROP. VAR DEPTH AGGREGATE BASE COURSE
P	PRIME COAT AT THE RATE OF .35 GAL. PER SQ. YARD.
R1	1'-6" CONCRETE CURB AND GUTTER
R2	2'-6" CONCRETE CURB AND GUTTER
R3	3'-0" CONCRETE SHOULDER BERM GUTTER
R4	SINGLE FACE CONCRETE BARRIER WALL
R5	CONCRETE COVER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	RETAINING WALL
V2	CONCRETE COPING
W	WEDGING

NOTE:
PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

TYPICAL SECTIONS & PAVEMENT SCHEDULE

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	2A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

Stantec
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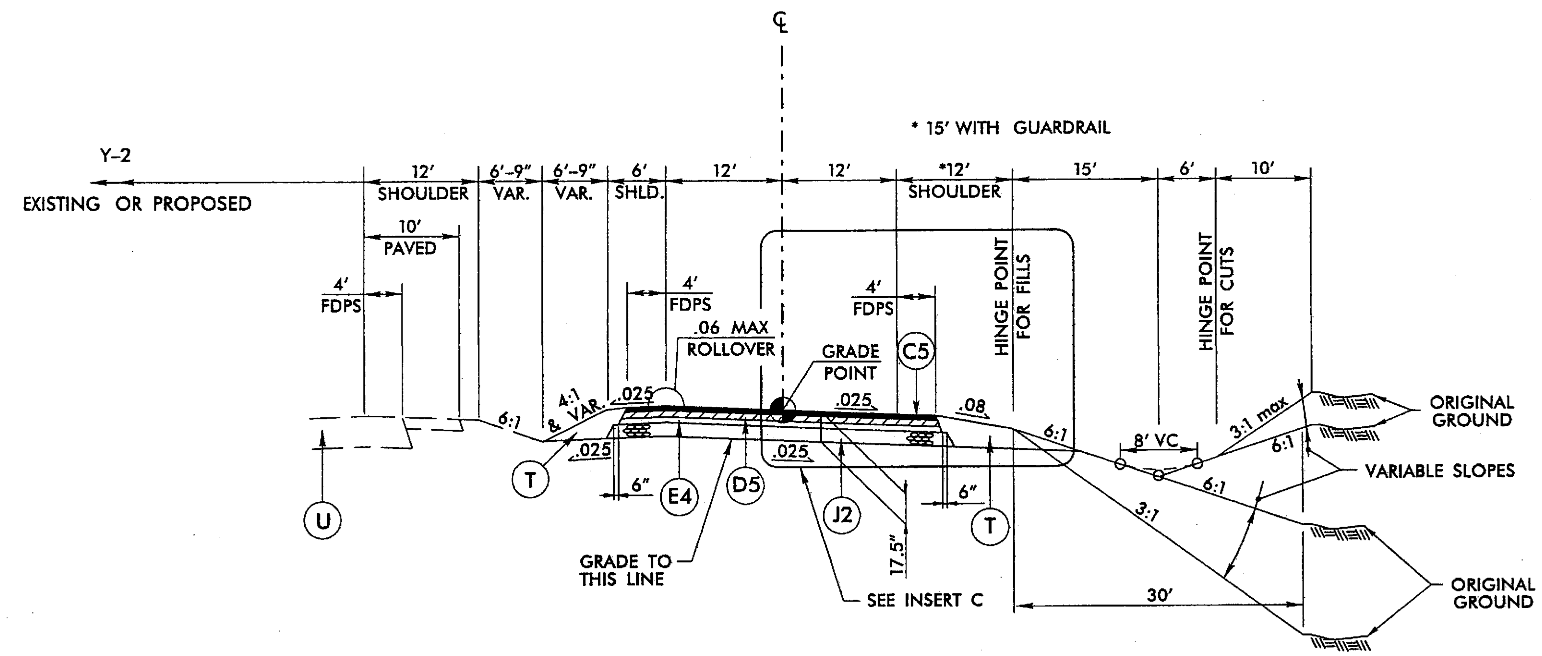
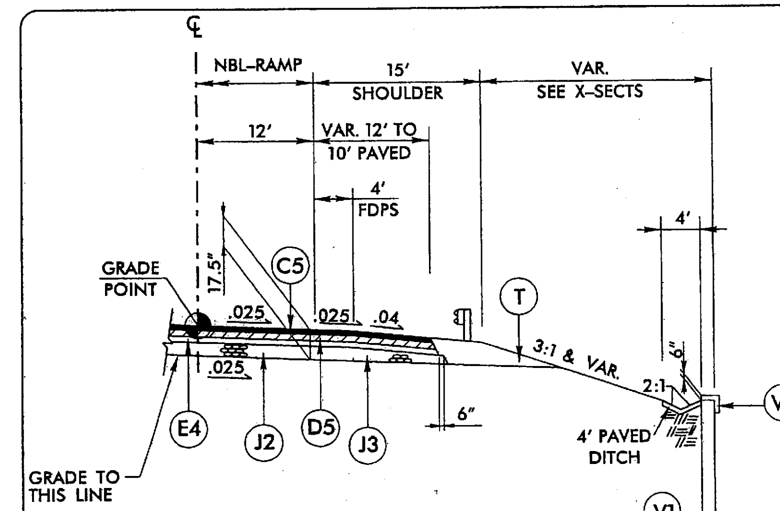
www.stantec.com

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



ROADWAY	FROM STA.	TO STA.	REMARKS
NBL-RAMP	16+27.75	21+47.17 BEGIN BR.	SEE INSERT C
NBL-RAMP	23+11.42 END BR.	27+45.00	
SBL-RAMP	17+13.55	21+38.83 BEGIN BR.	MIRROR IMAGE
SBL-RAMP	23+29.58 END BR.	32+24.00	MIRROR IMAGE

TYPICAL SECTION NO 3

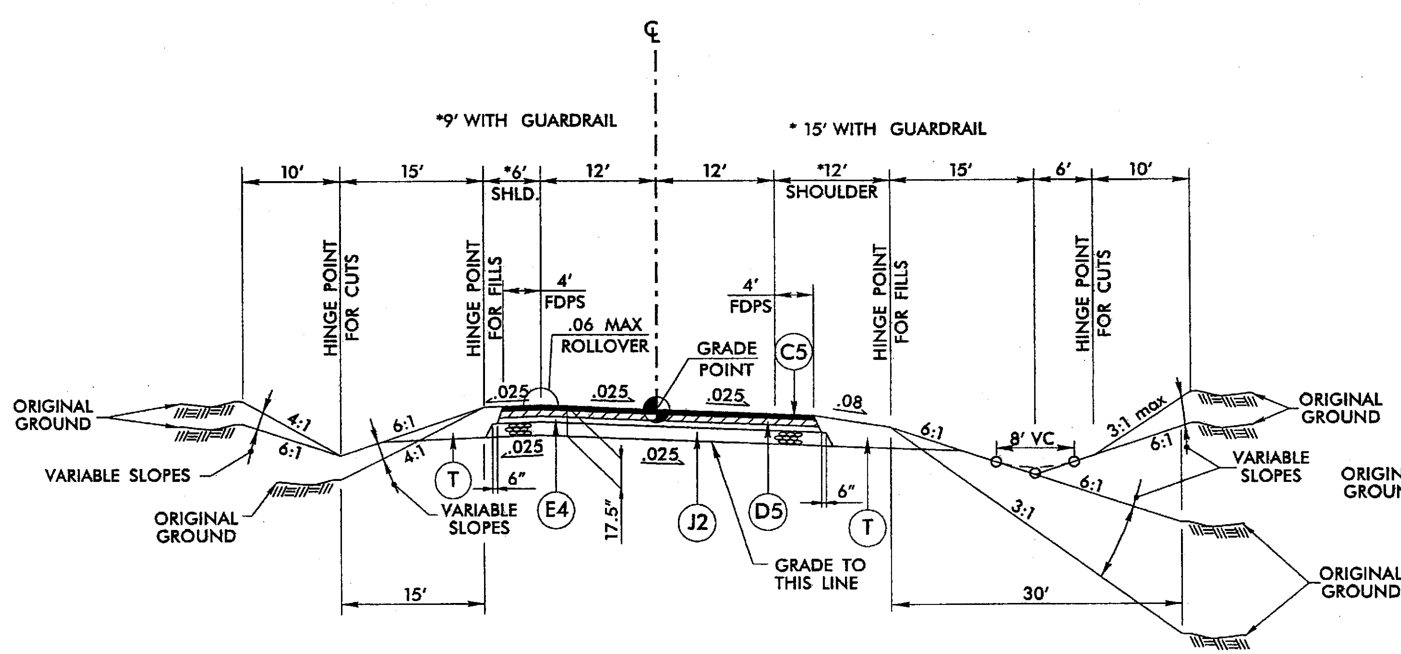


ROADWAY	SIDE	FROM STA.	TO STA.
NBL-RAMP	RIGHT	19+75.00	22+00.00

INSERT C

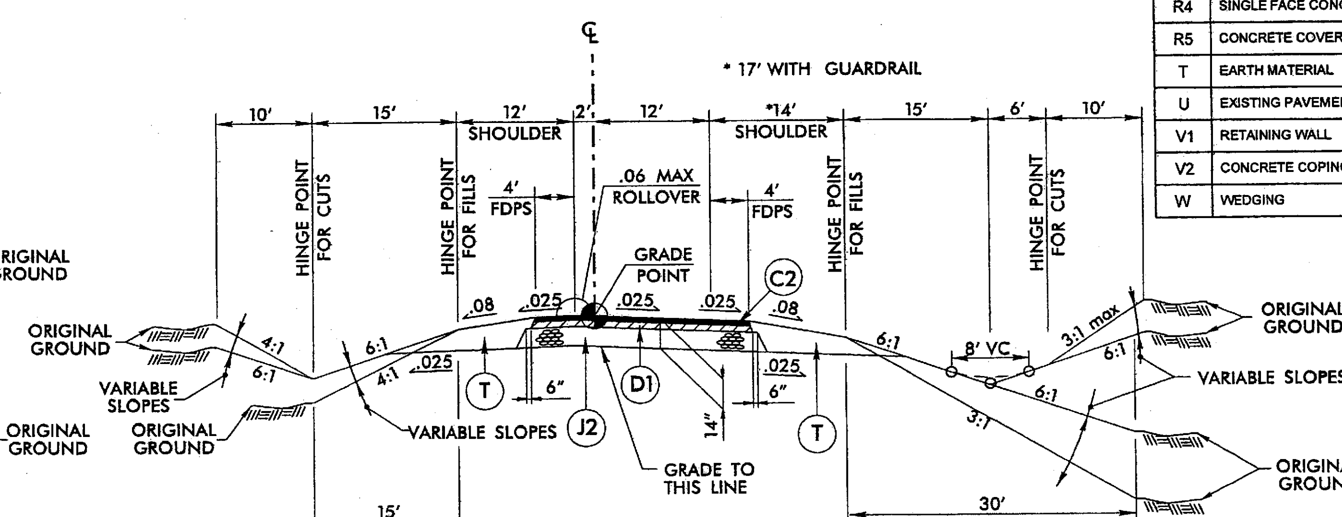
PAVEMENT SCHEDULE

C1	1.5" TYPE S9.5B
C2	3.0" TYPE S9.5B
C3	VARIABLE DEPTH TYPE S9.5B
C4	1.5" TYPE S9.5C
C5	3.0" TYPE S9.5C
C6	VARIABLE DEPTH TYPE S9.5C
D1	3.0" TYPE I19.0B
D2	4.0" TYPE I19.0B
D3	VARIABLE DEPTH TYPE I19.0B
D4	2.5" TYPE I19.0C
D5	3.0" TYPE I19.0C
D6	4.0" TYPE I19.0C
D7	VARIABLE DEPTH TYPE I19.0C
E1	4.0" TYPE B25.0B
E2	VARIABLE DEPTH TYPE B25.0B
E3	3.0" TYPE B25.0C
E4	3.5" TYPE B25.0C
E5	4.5" TYPE B25.0B
E6	6.0" TYPE B25.0C
E7	VARIABLE DEPTH TYPE B25.0C
J1	6" ABC
J2	8" ABC
J3	VAR DEPTH ABC
P	PRIME COAT
R1	1'-6" CONCRETE CURB AND GUTTER
R2	2'-6" CONCRETE CURB AND GUTTER
R3	3'-0" CONCRETE SHOULDER BERM GUTTER
R4	SINGLE FACE CONCRETE BARRIER WALL
R5	CONCRETE COVER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	RETAINING WALL
V2	CONCRETE COPING
W	WEDGING



ROADWAY	FROM STA.	TO STA.	REMARKS
NBL-RAMP	27+45.00	34+50.24 BEGIN BR.	
NBL-RAMP	37+69.24 END BR.	40+61.17 BEGIN BR.	
NBL-RAMP	42+83.58 END BR.	50+54.94	
SBL-RAMP	32+24.00	40+77.05 BEGIN BR.	MIRROR IMAGE
SBL-RAMP	42+95.00 END BR.	50+81.29	MIRROR IMAGE

TYPICAL SECTION NO 4



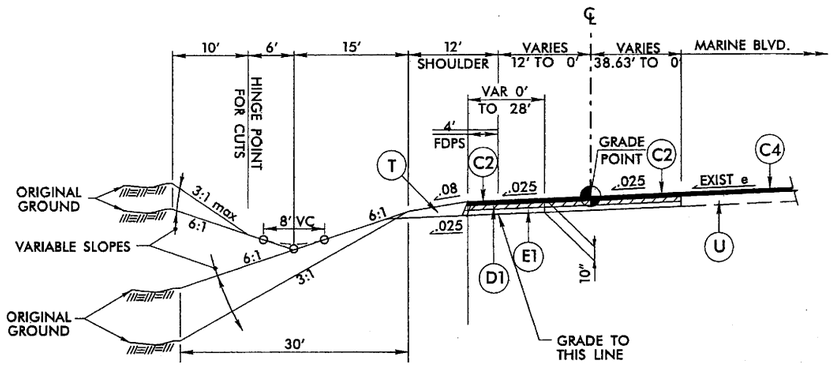
ROADWAY	FROM STA.	TO STA.	REMARKS
RAMP-1A	14+37.14	26+31 ±	
RAMP-1B	15+09.29	24+36.38	MIRROR IMAGE

TYPICAL SECTION NO 5

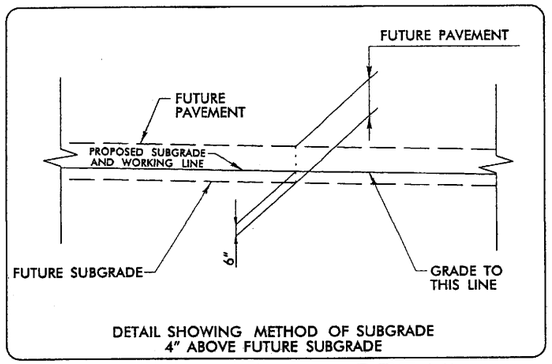
NOTES:
1. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
2. FOR COMPLETE PAVEMENT SCHEDULE, SEE SHEET NO. 2.

TYPICAL SECTIONS
RAMPS

2/18/2010
U:\Roadway\Proj\u-4007b_rdy_typ.dgn



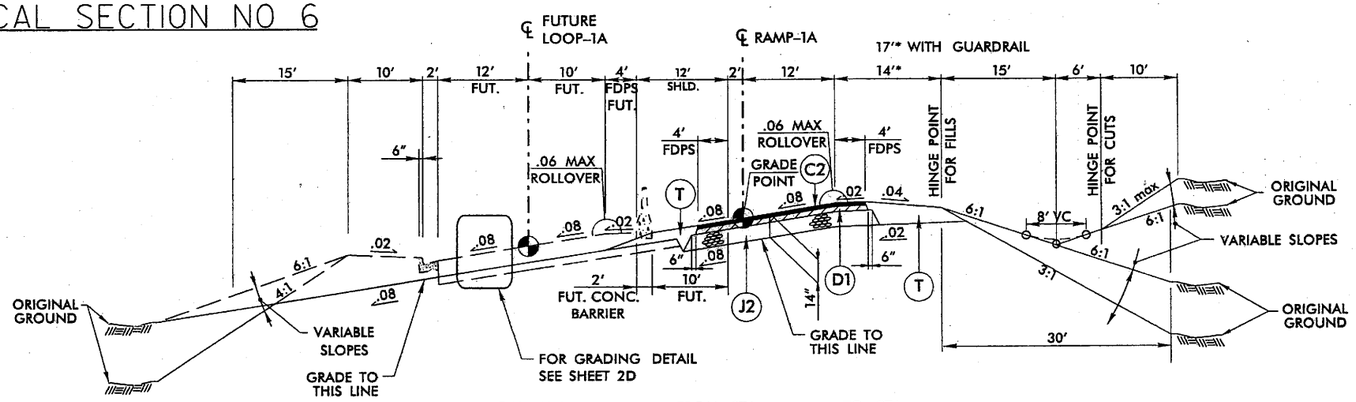
ROADWAY	FROM STA.	TO STA.	REMARKS
RAMP 1B	24+36.38	26+92.31	



DETAIL SHOWING METHOD OF SUBGRADE
4" ABOVE FUTURE SUBGRADE

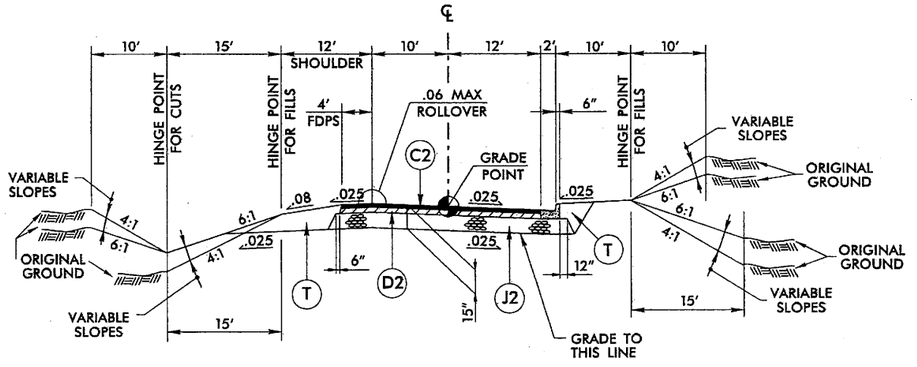
GRADING ONLY DETAIL

TYPICAL SECTION NO 6



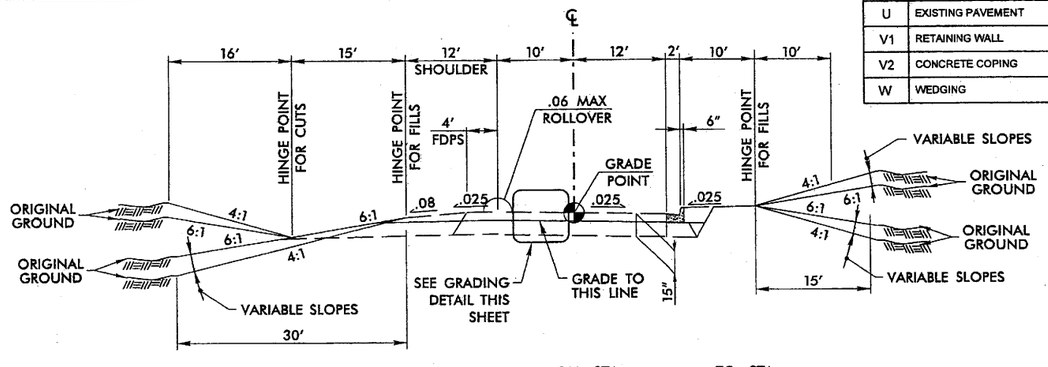
ROADWAY	FROM STA.	TO STA.
RAMP-1A	21+38.50	24+77.00
FUTURE LOOP-1A	16+38.80	19+44.50

TYPICAL SECTION NO 7



ROADWAY	FROM STA.	TO STA.
LOOP-1D	12+66.26	21+38.46

TYPICAL SECTION NO 8



ROADWAY	FROM STA.	TO STA.
LOOP-1A	12+29.75	21+62.50

TYPICAL SECTION NO 9

NOTES:
1. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
2. FOR COMPLETE PAVEMENT SCHEDULE, SEE SHEET NO. 2.

TYPICAL SECTIONS RAMPS CON'T

Stantec
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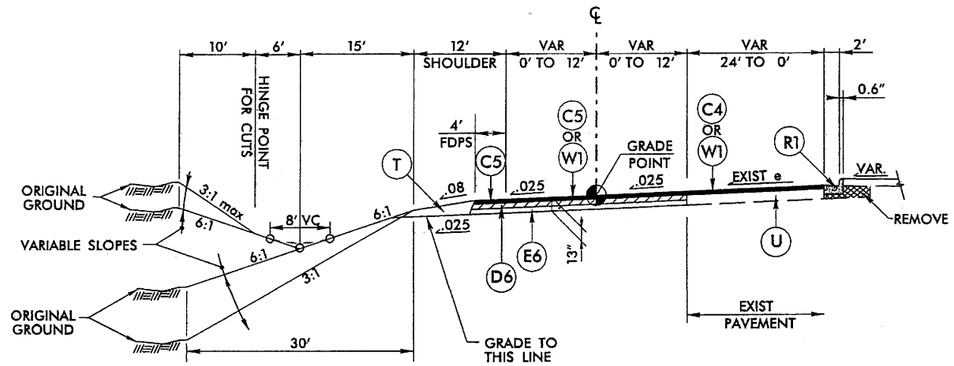
www.stantec.com

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	2B
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

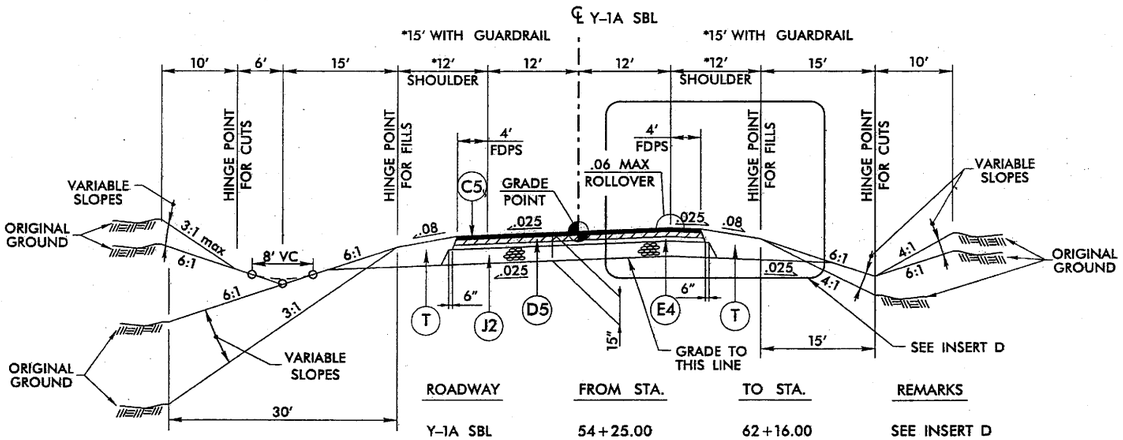
PAVEMENT SCHEDULE

C1	1.5" TYPE S9.5B
C2	3.0" TYPE S9.5B
C3	VARIABLE DEPTH TYPE S9.5B
C4	1.5" TYPE S9.5C
C5	3.0" TYPE S9.5C
C6	VARIABLE DEPTH TYPE S9.5C
D1	3.0" TYPE I19.0B
D2	4.0" TYPE I19.0B
D3	VARIABLE DEPTH TYPE I19.0B
D4	2.5" TYPE I19.0C
D5	3.0" TYPE I19.0C
D6	4.0" TYPE I19.0C
D7	VARIABLE DEPTH TYPE I19.0C
E1	4.0" TYPE B25.0B
E2	VARIABLE DEPTH TYPE B25.0B
E3	3.0" TYPE B25.0C
E4	3.5" TYPE B25.0C
E5	4.5" TYPE B25.0B
E6	6.0" TYPE B25.0C
E7	VARIABLE DEPTH TYPE B25.0C
J1	6" ABC
J2	8" ABC
J3	VAR DEPTH ABC
P	PRIME COAT
R1	1'-6" CONCRETE CURB AND GUTTER
R2	2'-6" CONCRETE CURB AND GUTTER
R3	3'-0" CONCRETE SHOULDER BERM GUTTER
R4	SINGLE FACE CONCRETE BARRIER WALL
R5	CONCRETE COVER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	RETAINING WALL
V2	CONCRETE COPING
W	WEDGING



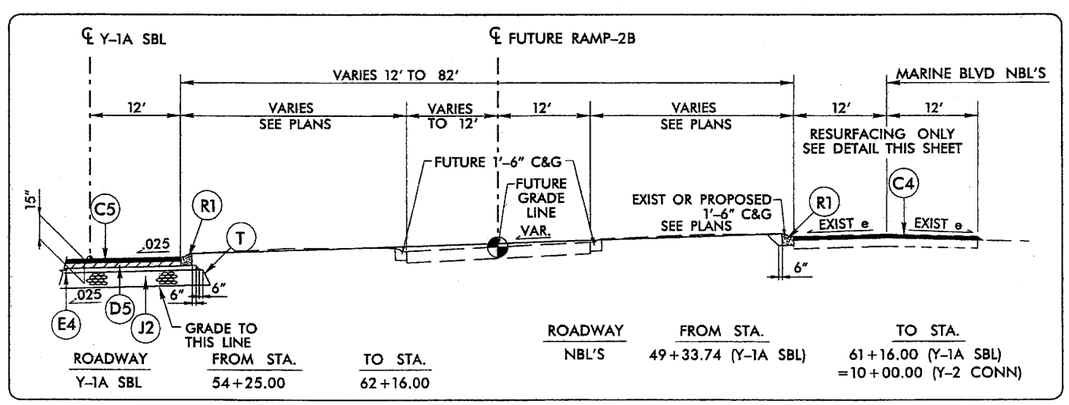
ROADWAY	FROM STA.	TO STA.	REMARKS
Y-1A SBL	49+33.74	50+07.00	RESURFACING ONLY
Y-1A SBL	50+07.00	54+25.00	

TYPICAL SECTION NO 10



ROADWAY	FROM STA.	TO STA.	REMARKS
Y-1A SBL	54+25.00	62+16.00	SEE INSERT D
Y-1A SBL	62+16.00	73+41.10	
Y-1A SBL	73+41.10	77+30.50	SEE TYP. SECTION NO. 12

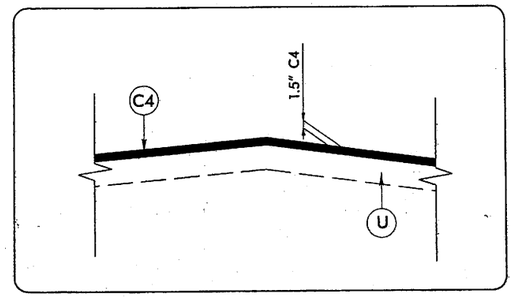
TYPICAL SECTION NO 11



ROADWAY	FROM STA.	TO STA.
Y-1A SBL	54+25.00	62+16.00

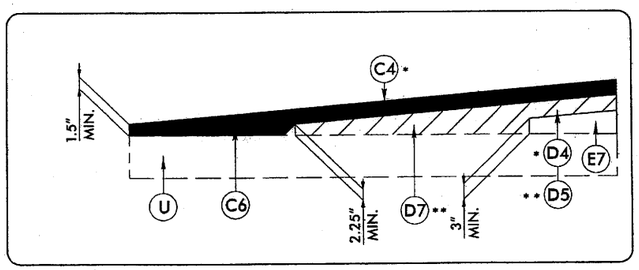
ROADWAY	FROM STA.	TO STA.
NBL'S	49+33.74 (Y-1A SBL)	61+16.00 (Y-1A SBL) =10+00.00 (Y-2 CONN)

INSERT D



RESURFACING ONLY DETAIL

ROADWAY	FROM STA.	TO STA.
Y-2 (SBL)	61+99.05	73+63.00
Y-2 (SBL)	75+83.00	81+10.00
Y-2 (NBL)	61+99.05	74+22.00
Y-2 (NBL)	76+29.00	81+10.00
Y-2 (NBL)	105+00.00	111+30.27
Y-2 (SBL)	106+05.00	111+30.27
Y-1A SBL (NBL)	49+33.02	61+16.00



ROADWAY	FROM STA.	TO STA.	REMARKS
* Y-2	81+10.00	83+50.00	LT SIDE
* Y-2	81+10.00	87+00.00	RT SIDE
* Y-2 CONN	10+00.00	12+93.00	

WEDGING DETAIL NO 1

NOTES:
1. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
2. FOR COMPLETE PAVEMENT SCHEDULE, SEE SHEET NO. 2.

Stantec
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Suite 300, 801 Jones Franklin Road
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27606
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Fax. 919.85 1.7024
www.stantec.com

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	2C
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PAVEMENT SCHEDULE

C1	1.5" TYPE S9.5B
C2	3.0" TYPE S9.5B
C3	VARIABLE DEPTH TYPE S9.5B
C4	1.5" TYPE S9.5C
C5	3.0" TYPE S9.5C
C6	VARIABLE DEPTH TYPE S9.5C
D1	3.0" TYPE I19.0B
D2	4.0" TYPE I19.0B
D3	VARIABLE DEPTH TYPE I19.0B
D4	2.5" TYPE I19.0C
D5	3.0" TYPE I19.0C
D6	4.0" TYPE I19.0C
D7	VARIABLE DEPTH TYPE I19.0C
E1	4.0" TYPE B25.0B
E2	VARIABLE DEPTH TYPE B25.0B
E3	3.0" TYPE B25.0C
E4	3.5" TYPE B25.0C
E5	4.5" TYPE B25.0B
E6	6.0" TYPE B25.0C
E7	VARIABLE DEPTH TYPE B25.0C
J1	6" ABC
J2	8" ABC
J3	VAR DEPTH ABC
P	PRIME COAT
R1	1'-6" CONCRETE CURB AND GUTTER
R2	2'-6" CONCRETE CURB AND GUTTER
R3	3'-0" CONCRETE SHOULDER BERM GUTTER
R4	SINGLE FACE CONCRETE BARRIER WALL
R5	CONCRETE COVER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	RETAINING WALL
V2	CONCRETE COPING
W	WEDGING

TYPICAL SECTIONS
Y-LINES

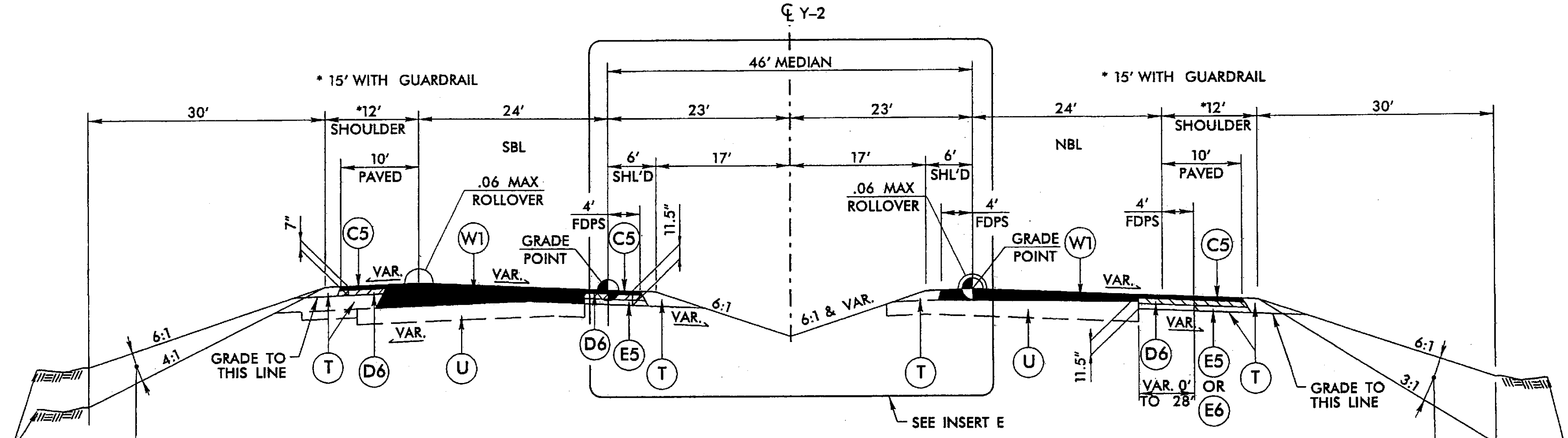
6/2/9

2/18/2010
D:\Roadway\Proj\u-4007b_rdy_typ.dgn
rawilliams

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	2D
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

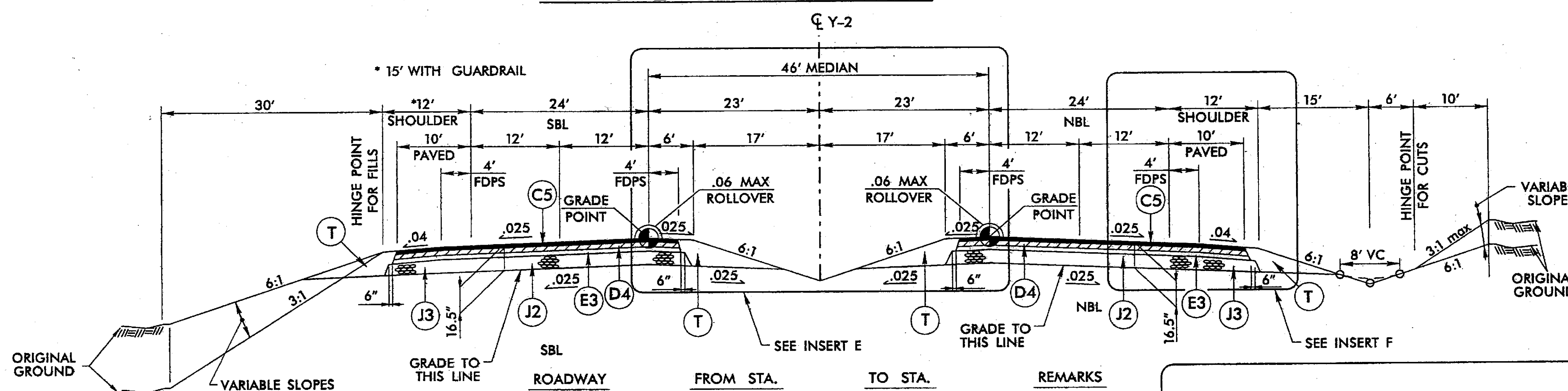
Stantec
Stantec Consulting Services Inc.
Suite 300, 801 Jones Franklin Road
Raleigh, NC
27606
Tel. 919.851.6866
Fax. 919.851.7024
www.stantec.com

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



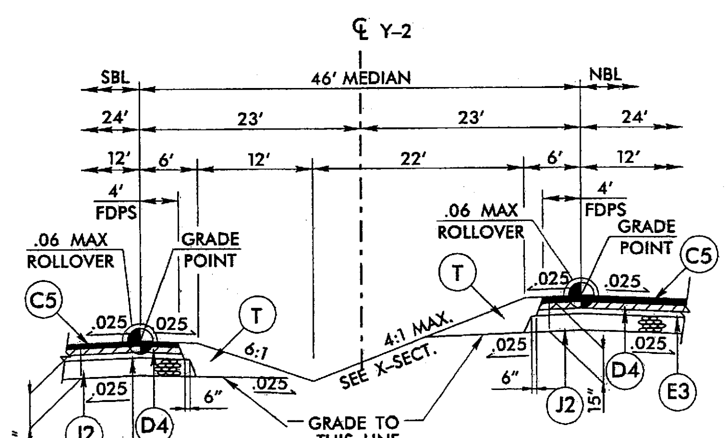
ROADWAY	FROM STA.	TO STA.	REMARKS
Y-2 SBL	81+10.00	87+15.00	
Y-2 NBL	81+10.00	87+50.00	SEE INSERT F
Y-2 SBL	103+50.00	105+43.44	SEE INSERT E
Y-2 NBL	99+70.00	104+52.53	SEE INSERT E
Y-2 SBL	105+43.44	111+30.27	RESURFACING ONLY
Y-2 NBL	104+52.53	111+30.27	RESURFACING ONLY
Y-1A SBL (LT. SIDE)	73+41.10	77+30.50	USE E-6 BASE COURSE

TYPICAL SECTION NO 12



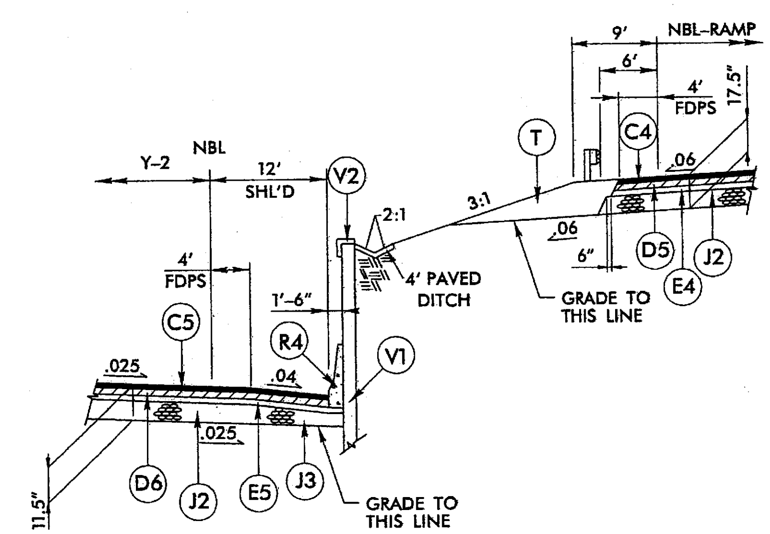
ROADWAY	FROM STA.	TO STA.	REMARKS
Y-2 SBL	87+15.00	103+50.00	
Y-2 NBL	87+50.00	99+70.00	SEE INSERT E

TYPICAL SECTION NO 13



FROM STA.	TO STA.
97+25.00	105+43.44

INSERT E



ROADWAY	SIDE	FROM STA.	TO STA.
Y-2	RIGHT	85+00.00	87+50.00

INSERT F

PAVEMENT SCHEDULE

C1	1.5" TYPE S9.5B
C2	3.0" TYPE S9.5B
C3	VARIABLE DEPTH TYPE S9.5B
C4	1.5" TYPE S9.5C
C5	3.0" TYPE S9.5C
C6	VARIABLE DEPTH TYPE S9.5C
D1	3.0" TYPE I19.0B
D2	4.0" TYPE I19.0B
D3	VARIABLE DEPTH TYPE I19.0B
D4	2.5" TYPE I19.0C
D5	3.0" TYPE I19.0C
D6	4.0" TYPE I19.0C
D7	VARIABLE DEPTH TYPE I19.0C
E1	4.0" TYPE B25.0B
E2	VARIABLE DEPTH TYPE B25.0B
E3	3.0" TYPE B25.0C
E4	3.5" TYPE B25.0C
E5	4.5" TYPE B25.0B
E6	6.0" TYPE B25.0C
E7	VARIABLE DEPTH TYPE B25.0C
J1	6" ABC
J2	8" ABC
J3	VAR DEPTH ABC
P	PRIME COAT
R1	1'-6" CONCRETE CURB AND GUTTER
R2	2'-6" CONCRETE CURB AND GUTTER
R3	3'-0" CONCRETE SHOULDER BERM GUTTER
R4	SINGLE FACE CONCRETE BARRIER WALL
R5	CONCRETE COVER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	RETAINING WALL
V2	CONCRETE COPING
W	WEDGING

NOTES:
1. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
2. FOR COMPLETE PAVEMENT SCHEDULE, SEE SHEET NO. 2.
3. FOR WEDGING DETAIL NO. 2, SEE SHEET NO. 2C.

TYPICAL SECTIONS
Y-LINES CON'T

6/2/99

2/18/2010
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PROJECT REFERENCE NO.	SHEET NO.
U-4007B	2E
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Stantec
Stantec Consulting Services Inc.
Suite 300, 801 Jones Franklin Road
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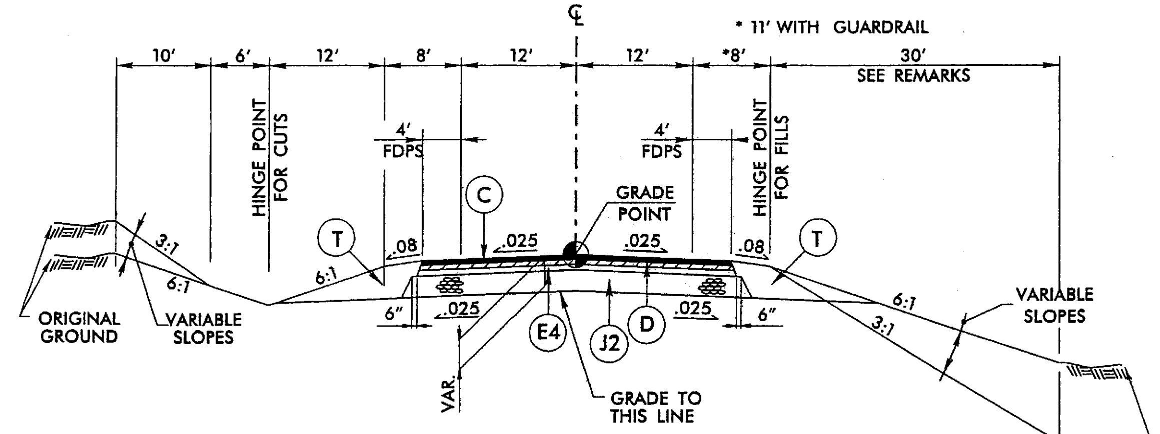
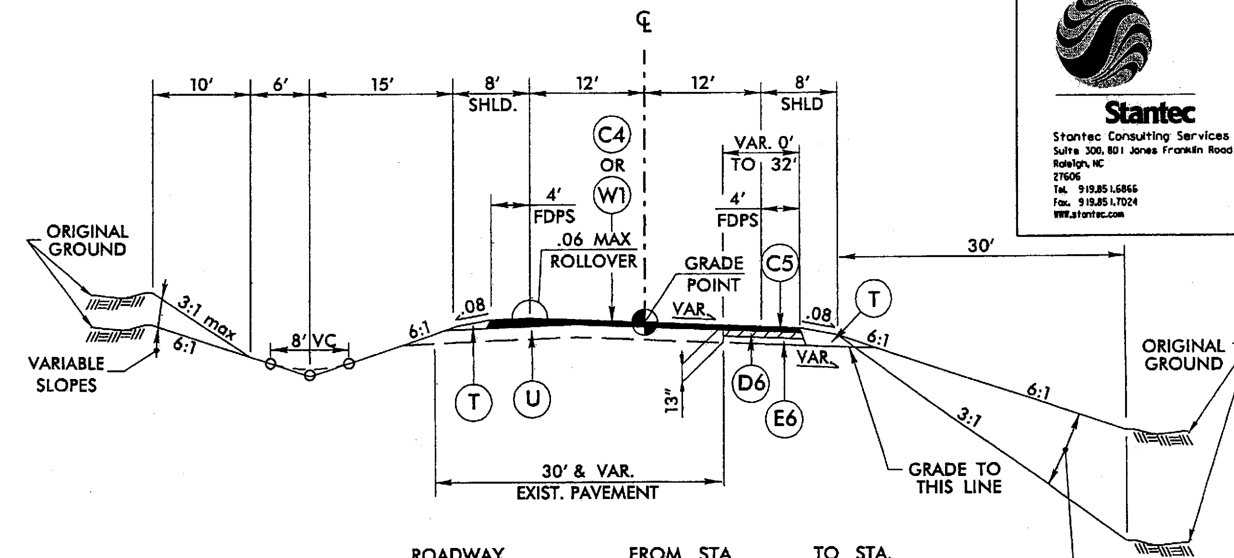
Fax. 919.851.7024
www.stantec.com



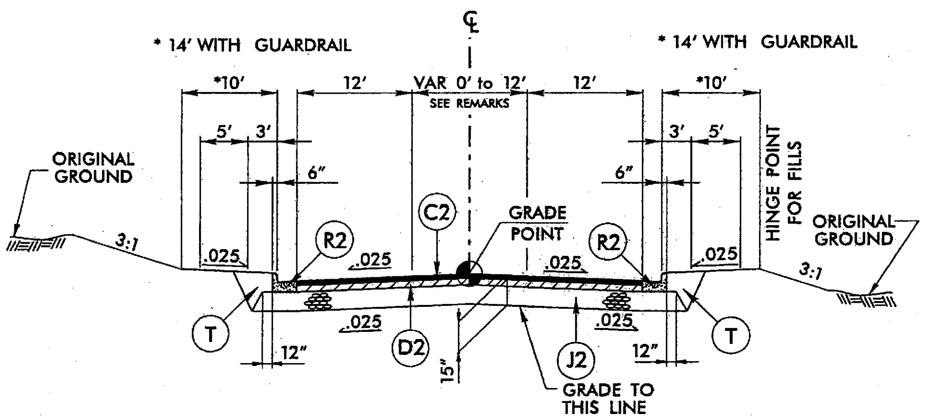
PAVEMENT SCHEDULE								
ROADWAY	FROM STA.	TO STA.	C	D	E	J	DEPTH	REMARKS
Y-2 CONNECTOR	12+93.00	13+80.00	C5	D5	E4	J2	17.5"	
Y-4	10+85.50	25+12.00	C2	D2	–	J2	15"	HOLD 4:1 FILL SLOPES

TYPICAL SECTION NO 14



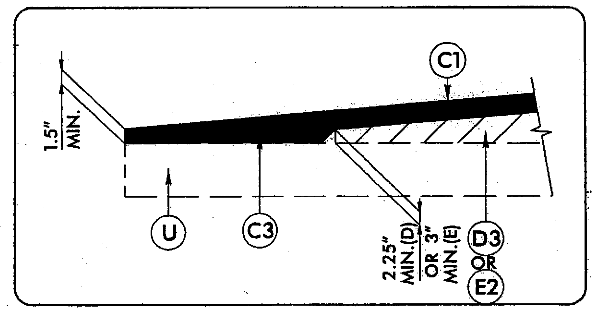
ROADWAY	FROM STA.	TO STA.
Y-2 CONNECTOR	10+00.00	12+93.00

TYPICAL SECTION NO 15

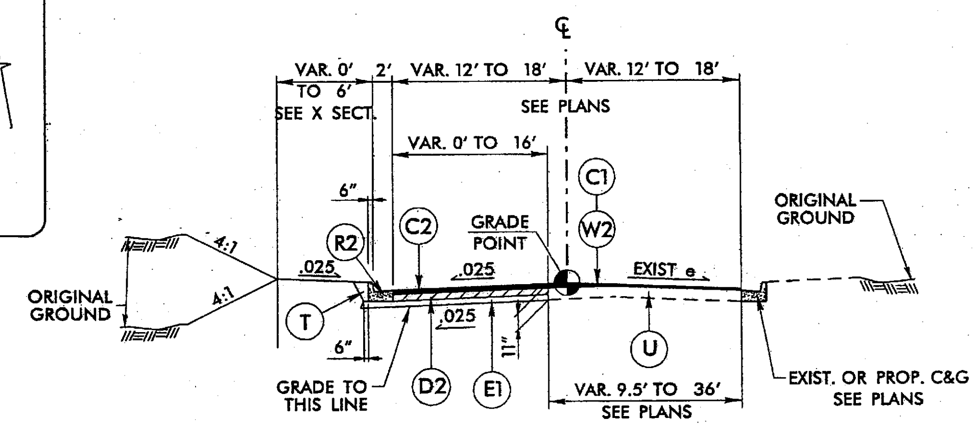


ROADWAY	FROM STA.	TO STA.	REMARKS
Y-4	25+40.00	26+42.71	0'
Y-5	10+85.50	22+41.44	12'

TYPICAL SECTION NO 16

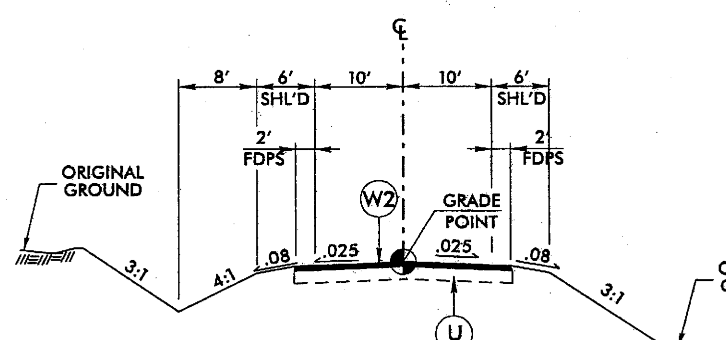


WEDGING DETAIL NO 2



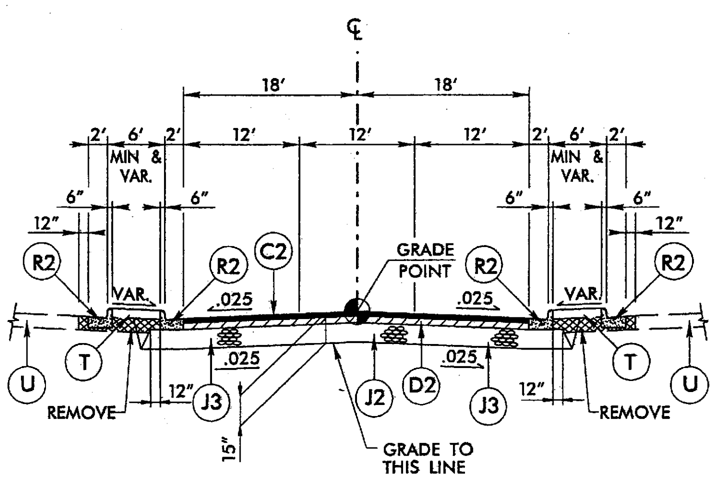
ROADWAY	FROM STA.	TO STA.	SIDE	REMARKS
Y-4	26+83.23	29+70.00	LEFT	
Y-4	26+42.71	27+40.90	RIGHT	MIRROR IMAGE
Y-5	17+70.00	21+14.38	LEFT	
Y-5	17+70.00	20+77.04	RIGHT	MIRROR IMAGE
Y-5	21+14.38	22+41.44	LEFT & RIGHT	

TYPICAL SECTION NO 17



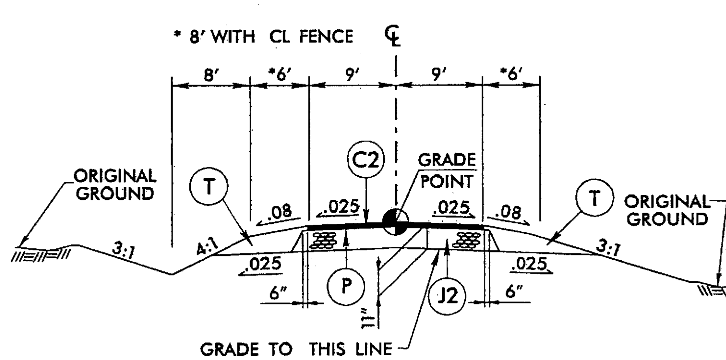
ROADWAY	FROM STA.	TO STA.
Y-4A	12+25.00	16+43.50

TYPICAL SECTION NO 19



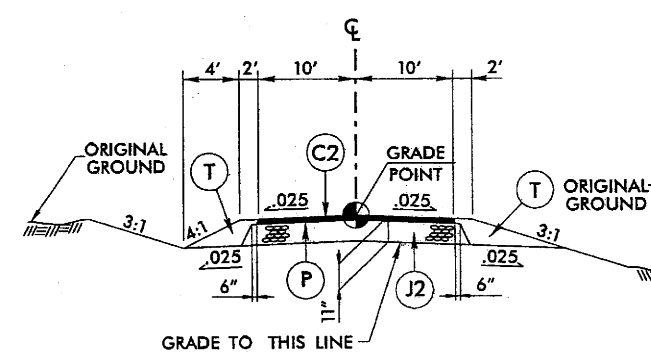
ROADWAY	FROM STA.	TO STA.	SIDE
Y-5	12+74.5 ±	17+70.00	LEFT
Y-5	13+20.0 ±	17+70.00	RIGHT

TYPICAL SECTION NO 18



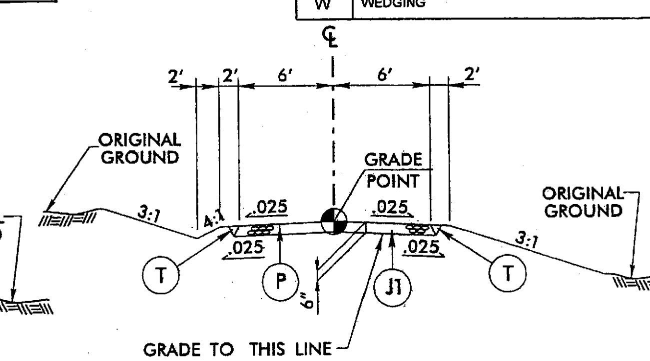
ROADWAY	FROM STA.	TO STA.
SERVICE ROAD	10+10.06	22+08.41

TYPICAL SECTION NO 22



ROADWAY	FROM STA.	TO STA.
PVT DR. NO 1	10+86.84	12+27.20

TYPICAL SECTION NO 20



ROADWAY	FROM STA.	TO STA.
PVT DR. NO 2	10+19.55	12+55.00

TYPICAL SECTION NO 21

PAVEMENT SCHEDULE	
C1	1.5" TYPE S9.5B
C2	3.0" TYPE S9.5B
C3	VARIABLE DEPTH TYPE S9.5B
C4	1.5" TYPE S9.5C
C5	3.0" TYPE S9.5C
C6	VARIABLE DEPTH TYPE S9.5C
D1	3.0" TYPE I19.0B
D2	4.0" TYPE I19.0B
D3	VARIABLE DEPTH TYPE I19.0B
D4	2.5" TYPE I19.0C
D5	3.0" TYPE I19.0C
D6	4.0" TYPE I19.0C
D7	VARIABLE DEPTH TYPE I19.0C
E1	4.0" TYPE B25.0B
E2	VARIABLE DEPTH TYPE B25.0B
E3	3.0" TYPE B25.0C
E4	3.5" TYPE B25.0C
E5	4.5" TYPE B25.0B
E6	6.0" TYPE B25.0C
E7	VARIABLE DEPTH TYPE B25.0C
J1	6" ABC
J2	8" ABC
J3	VAR DEPTH ABC
P	PRIME COAT
R1	1'-6" CONCRETE CURB AND GUTTER
R2	2'-6" CONCRETE CURB AND GUTTER
R3	3'-0" CONCRETE SHOULDER BERM GUTTER
R4	SINGLE FACE CONCRETE BARRIER WALL
R5	CONCRETE COVER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	RETAINING WALL
V2	CONCRETE COPING
W	WEDGING

NOTES:
1. PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.
2. FOR COMPLETE PAVEMENT SCHEDULE, SEE SHEET NO. 2.
3. FOR WEDGING DETAIL NO 1, SEE SHEET NO. 2C.

TYPICAL SECTIONS Y-LINES CON'T

2/18/2010
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PROJECT REFERENCE NO.	SHEET NO.
U-4007B	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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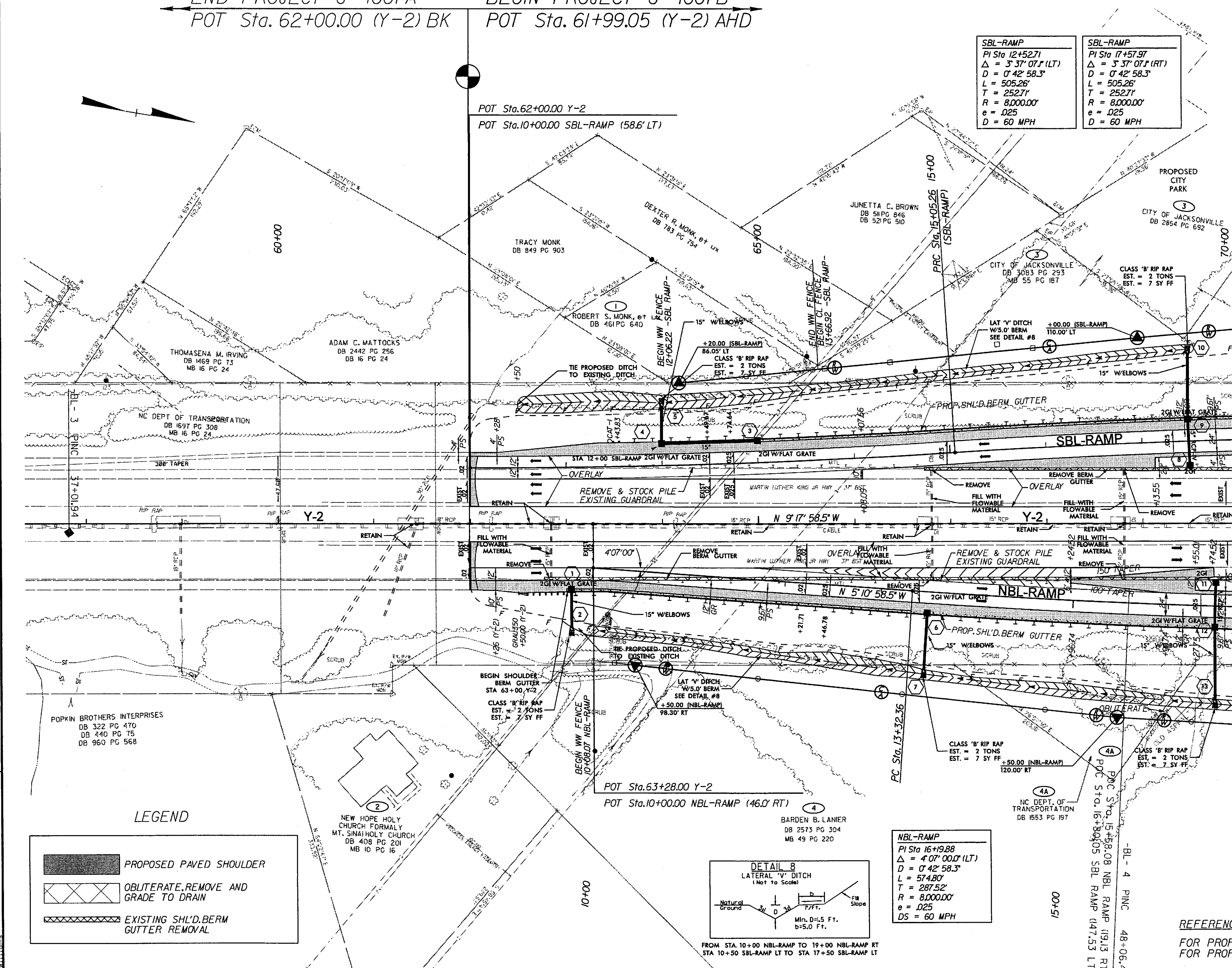
Raleigh, NC
27606
Tel. 919.851.6866
Fax. 919.851.7024
www.stantec.com

END PROJECT U-4007A — POT Sta. 62+00.00 (Y-2) BK

BEGIN PROJECT U-4007B — POT Sta. 61+99.05 (Y-2) AHD



POT Sta.62+00.00 Y-2
POT Sta.10+00.00 SBL-RAMP (58.6' LT)
POT Sta.63+28.00 Y-2
POT Sta.10+00.00 NBL-RAMP (46.0' RT)
TRACY MONK
DB 849 PG 903
DEXTER R. MONK, et ux
DB 783 PG 754
JUNETTA C. BROWN
DB 58 PG 846
DB 521 PG 510
PROPOSED CITY PARK
CITY OF JACKSONVILLE
DB 2854 PG 692
CITY OF JACKSONVILLE
DB 3083 PG 293
MB 55 PG 187
ROBERT S. MONK, et
DB 461 PG 640
ADAM C. MATTOCKS
DB 2442 PG 256
DB 16 PG 24
THOMASENA M. IRVING
DB 1469 PG 73
MB 16 PG 24
NC DEPT OF TRANSPORTATION
DB 1697 PG 308
MB 16 PG 24
POPKIN BROTHERS INTERPRISES
DB 322 PG 470
DB 440 PG 75
DB 960 PG 568
NEW HOPE HOLY CHURCH FORMALY
MT. SINAI HOLY CHURCH
DB 408 PG 201
MB 10 PG 16
BARDEN B. LANIER
DB 2573 PG 304
MB 49 PG 220
NC DEPT. OF TRANSPORTATION
DB 1553 PG 197
SBL-RAMP
NBL-RAMP
Y-2
MARTIN LUTHER KING JR HWY
N 9°17' 58.5" W
N 5°10' 58.5" W
REMOVE & STOCK PILE EXISTING GUARDRAIL
PROP. SHL'D. BERM GUTTER
OVERLAY
BEGIN SHOULDER BERM GUTTER STA 63+00 Y-2
TIE PROPOSED DITCH TO EXISTING DITCH
LAT 'V' DITCH W/5.0' BERM SEE DETAIL #8
CLASS 'B' RIP RAP EST. = 2 TONS EST. = 7 SY FF
PRC Sta. 15+05.26 (SBL-RAMP)
PC Sta. 13+32.36
POC Sta. 15+58.08 NBL RAMP (19.13 RT)
POC Sta. 16+80.05 SBL RAMP (147.53 LT)
-BL- 4 PINC 48+06.45
-BL- 3 PINC 37+01.94
MATCHLINE SHEET 5 STA.70+00.00

SBL-RAMP
PI Sta 12+52.71
Δ = 3° 37' 07.1" (LT)
D = 0° 42' 58.3"
L = 505.26'
T = 252.71'
R = 8,000.00'
e = .025
D = 60 MPH

SBL-RAMP
PI Sta 17+57.97
Δ = 3° 37' 07.1" (RT)
D = 0° 42' 58.3"
L = 505.26'
T = 252.71'
R = 8,000.00'
e = .025
D = 60 MPH

NBL-RAMP
PI Sta 16+19.88
Δ = 4° 07' 00.0" (LT)
D = 0° 42' 58.3"
L = 574.80'
T = 287.52'
R = 8,000.00'
e = .025
DS = 60 MPH

LEGEND

- PROPOSED PAVED SHOULDER
- OBLITERATE, REMOVE AND GRADE TO DRAIN
- EXISTING SHL'D. BERM GUTTER REMOVAL

DETAIL 8
LATERAL 'V' DITCH
(Not to Scale)
Min. D=1.5 Ft.
b=5.0 Ft.

FROM STA. 10+00 NBL-RAMP TO 19+00 NBL-RAMP RT
STA 10+50 SBL-RAMP LT TO STA 17+50 SBL-RAMP LT

REFERENCES:

FOR PROFILE OF SBL-RAMP SEE SHEET 20
FOR PROFILE OF NBL-RAMP SEE SHEET 18

8/17/99

REVISIONS

3/4/2010
U:\Roadway\Proj\u-4007b_rdy_psh 04.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Stantec
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27606
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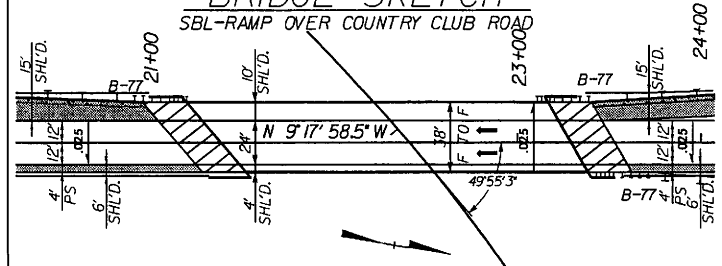
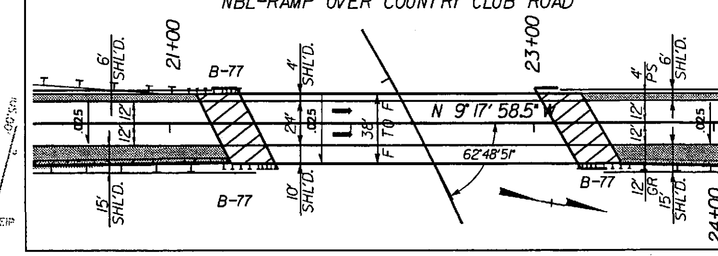
www.stantec.com

BRIDGE SKETCH
SBL-RAMP OVER COUNTRY CLUB ROAD



BRIDGE SKETCH
NBL-RAMP OVER COUNTRY CLUB ROAD



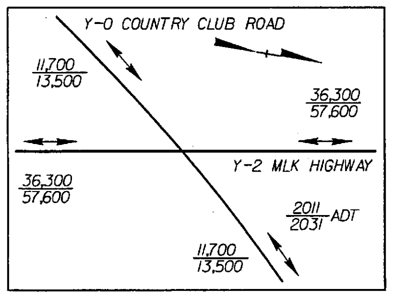
Ⓔ POC Sta.13+75.89 Y-O = POT Sta.10+00.00 PR-2

SBL-RAMP
PI Sta 17+57.97
Δ = 3° 37' 07.1" (RT)
D = 0° 42' 58.3"
L = 505.26'
T = 252.71'
R = 8,000.00'
e = .025
D=60 MPH

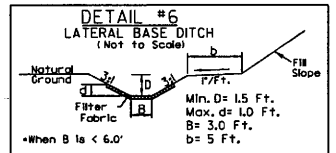
Y-O
PI Sta 11+98.62
Δ = 12° 52' 56.8" (RT)
D = 4° 05' 40.2"
L = 314.63'
T = 157.98'
R = 1,399.33'
e = .071

Y-O
PI Sta 16+46.26
Δ = 33° 28' 04.2" (RT)
D = 5° 55' 11.7"
L = 565.34'
T = 290.99'
R = 967.85'
e = .071

TRAFFIC COUNTS



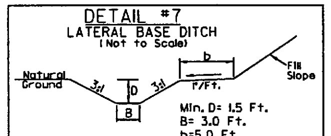
DETAIL #6
LATERAL BASE DITCH
(Not to Scale)



Type of Liner= Class 'B' Rip-Rap

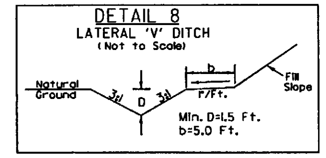
FROM STA. 26+20 NBL-RAMP RT TO STA. 27+25 NBL-RAMP RT
FROM STA. 27+45 NBL-RAMP RT TO STA. 28+50 NBL-RAMP RT

DETAIL #7
LATERAL BASE DITCH
(Not to Scale)



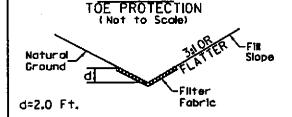
FROM STA. 26+40 SBL-RAMP LT TO STA. 84+20 Y-2 LT
FROM STA. 28+50 TO STA. 30+25 NBL-RAMP RT

DETAIL 8
LATERAL 'V' DITCH
(Not to Scale)



FROM STA. 10+00 NBL-RAMP TO 19+00 NBL-RAMP RT
STA 10+50 SBL-RAMP LT TO STA 17+50 SBL-RAMP LT

DETAIL I
TOE PROTECTION
(Not to Scale)

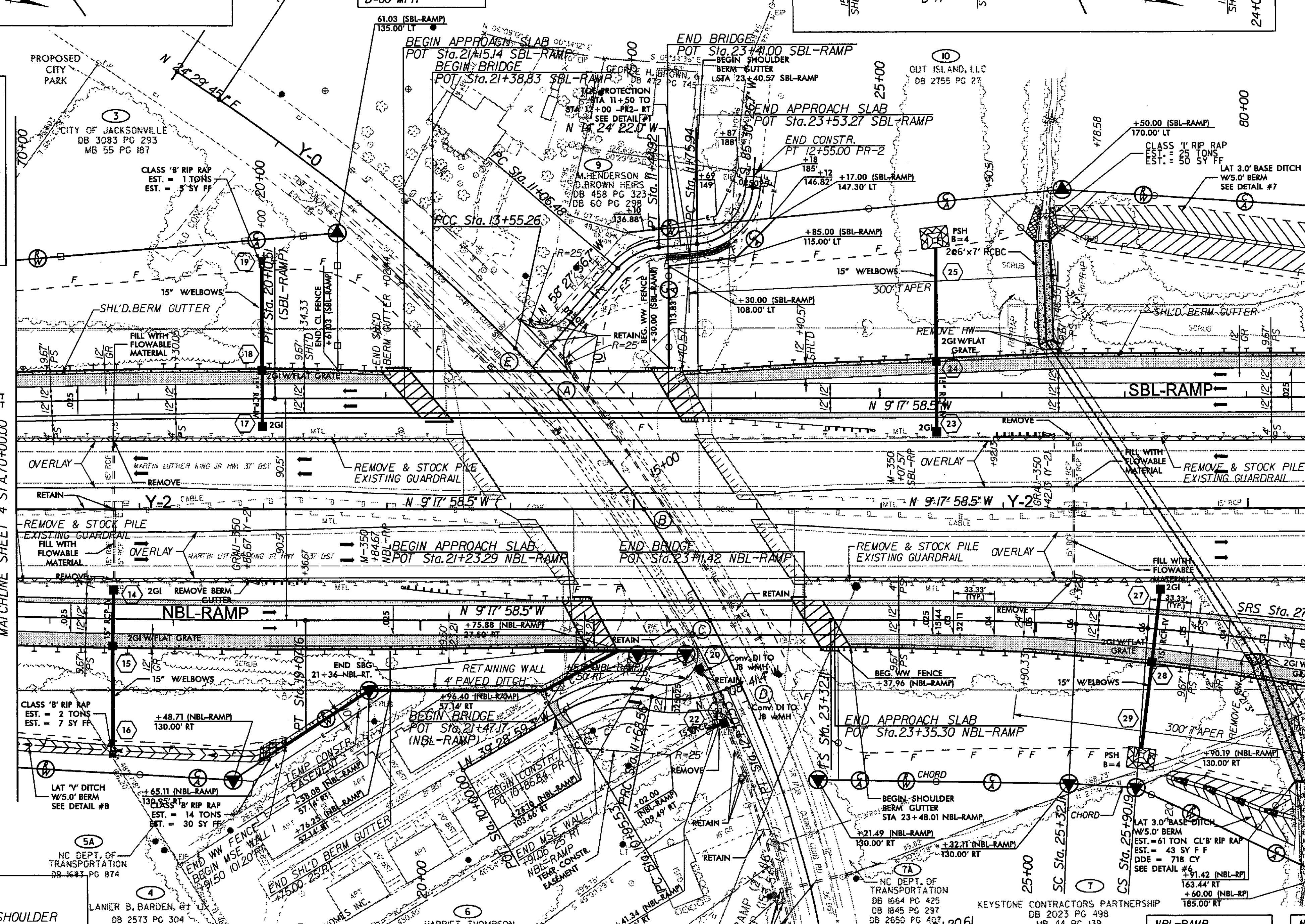


Type of Liner=Class 'B' Rip-Rap

FROM STA. 11+50 TO STA. 12+00 -PR-2- RT

LEGEND

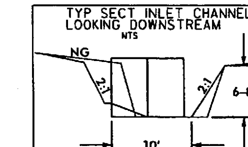
- PROPOSED PAVED SHOULDER
- PROPOSED CONCRETE
- PROPOSED SINGLE FACE CONC.BARRIER
- EXISTING SHL'D.BERM GUTTER REMOVAL



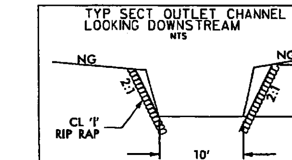
PR-2
PI Sta 11+26.70
Δ = 44° 03' 14.8" (RT)
D = 114° 35' 29.6"
L = 38.44'
T = 20.23'
R = 50.00'
e = .025 (NC)
DS = 25 MPH

PR-2
PI Sta 12+17.96
Δ = 80° 05' 11.4" (LT)
D = 114° 35' 29.6"
L = 69.89'
T = 42.02'
R = 50.00'
e = .025 (NC)
DS = 25 MPH

TYP SECT INLET CHANNEL
LOOKING DOWNSTREAM
NTS



TYP SECT OUTLET CHANNEL
LOOKING DOWNSTREAM
NTS



NBL-RAMP
PI Sta 16+19.88
Δ = 4° 07' 00.0" (LT)
D = 0° 42' 58.3"
L = 574.80'
T = 287.52'
R = 8,000.00'
e = .025 (RC)
DS = 60 MPH

PR-1
PI Sta 11+33.76
Δ = 41° 50' 30.7" (RT)
D = 57° 17' 44.8"
L = 73.03'
T = 38.23'
R = 100.00'
e = .025 (NC)
DS = 25 MPH

PR-1
PI Sta 12+00.57
Δ = 35° 30' 12.7" (LT)
D = 57° 17' 44.8"
L = 61.97'
T = 32.01'
R = 100.00'
e = .025 (NC)
DS = 25 MPH

Ⓐ POC Sta. 14+09.99 Y-O = POT Sta.22+41.58 SBL-RAMP

Ⓑ POC Sta. 15+22.98 Y-O = POT Sta.75+08.45 Y-2

Ⓒ POC Sta. 16+27.84 Y-O = POT Sta.22+34.67 NBL-RAMP

Ⓓ POC Sta.16+84.27 Y-O = POT Sta.12+42.53 PR-1

NBL-RAMP
PIs Sta 24+65.46
Θs = 2° 51' 53.2"
Ls = 200.00'
LT = 133.35'
ST = 66.68'

NBL-RAMP
PI Sta 25+61.15
Δ = 1° 39' 50.8" (RT)
D = 2° 51' 53.2"
L = 58.09'
T = 29.05'
R = 2,000.00'
e = .06
D = 60 MPH

NBL-RAMP
PIs Sta 26+56.88
Θs = 2° 51' 53.2"
Ls = 200.00'
LT = 133.35'
ST = 66.68'

REFERENCES:
FOR PROFILE OF SBL-RAMP SEE SHEETS 20-21
FOR PROFILE OF NBL-RAMP SEE SHEETS 18-19
FOR PROFILE OF PR-1 AND PR-2 SEE SHEET 30

REVISIONS

8/17/99

3/4/2010
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cwilliams

REVISIONS

BRIDGE SKETCH

SBL-RAMP OVER MARINE BLVD.

BRIDGE SKETCH

NBL-RAMP OVER MARINE BLVD.

BRIDGE SKETCH

NBL-RAMP OVER Y-2

TRAFFIC COUNTS

LEGEND

- ▨ PROPOSED PAVED SHOULDER
- ☒ OBLITERATE REMOVE & GRADE TO DRAIN
- ▩ EXISTING SHL'D.BERM GUTTER REMOVAL
- ▦ PROPOSED PSRM (PERMANENT SOIL REINFORCEMENT MATTING)
- — PROPOSED SINGLE FACED CONC.BARRIER

Ⓐ POT Sta. 42+27.41 SBL-RAMP= POC Sta. 60+35.83 Y-1A SBL

Ⓑ POT Sta. 41+19.38 NBL-RAMP= POT Sta. 10+42.83 Y-2 CONN

Ⓒ POT Sta. 42+15.92 NBL-RAMP= POC Sta. 61+59.28 Y-1A SBL

REFERENCES:

FOR CURVE DATA SEE SHEET 6A
FOR PROFILE OF L-LINE SEE SHEETS 15
FOR PROFILE OF NBL-RAMP SEE SHEETS 19
FOR PROFILE OF SBL-RAMP SEE SHEETS 21
FOR PROFILE OF RAMP-1A SEE SHEET 22
FOR PROFILE OF RAMP-1B SEE SHEET 23
FOR PROFILE OF LOOP-1A SEE SHEET 24
FOR PROFILE OF LOOP-1D SEE SHEET 24
FOR PROFILE OF Y-1A SBL SEE SHEET 25
FOR PROFILE OF Y-2 SEE SHEET 27
FOR PROFILE OF Y-2 CONN SEE SHEET 26
FOR PROFILE OF SERV.RD SEE SHEET 31
FOR RET.WALL ENVELOPE SEE SHEET 2G

GRAPHIC SCALE
50' 25' 0 50' 100'
PLANS

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Stantec
Stantec Consulting Services Inc.
Suite 300, 801 Jones Franklin Road
Raleigh, NC
27606
Tel. 919.851.6866
Fax. 919.851.7024
www.stantec.com

LOCATION:
WESTERN PARKWAY
MARTIN LUTHER KING FREEEWAY
@ MARINE BOULEVARD, IN THE CITY OF JACKSONVILLE, NC

TIP NO.: U-4007B	COUNTY: ONSLOW
DESIGNED BY: ROBERT WILLIAMS	
CHECKED BY: KEITH F. HUDSON	DATE: NOVEMBER 24, 2008

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	6A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

8/17/99

L-LINE
PI Sta 15+10.06
Δ = 19° 17' 54.5" (RT)
D = 1° 54' 35.5"
L = 1,010.47'
T = 510.06'
R = 3,000.00'
e = .04
DS = 50 MPH

NBL-RAMP
PIs Sta 26+56.88
θs = 2° 51' 53.2"
Ls = 200.00'
LT = 133.35'
ST = 66.68'

NBL-RAMP
PIs Sta 29+23.56
θs = 4° 01' 14.7"
Ls = 200.00'
LT = 133.37'
ST = 66.70'

NBL-RAMP
PI Sta 34+09.30
Δ = 32° 46' 41.2" (LT)
D = 4° 01' 14.7"
L = 815.22'
T = 419.10'
R = 1,425.00'
e = .06
DS = 50 MPH

NBL-RAMP
PIs Sta 38+72.11
θs = 4° 01' 14.7"
Ls = 200.00'
LT = 133.37'
ST = 66.70'

NBL-RAMP
PIs Sta 45+65.31
θs = 1° 55' 29.8"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

NBL-RAMP
PI Sta 48+43.81
Δ = 8° 08' 30.9" (RT)
D = 1° 55' 29.8"
L = 422.97'
T = 211.84'
R = 2,976.50'
e = .040
DS = 60 MPH

SBL-RAMP
PIs Sta 33+57.48
θs = 4° 46' 28.7"
Ls = 200.00'
LT = 133.38'
ST = 66.71'

SBL-RAMP
PI Sta 35+89.59
Δ = 15° 42' 17.4" (LT)
D = 4° 46' 28.7"
L = 328.92'
T = 165.50'
R = 1,200.00'
e = .08
DS = 45 MPH

SBL-RAMP
PIs Sta 38+19.73
θs = 4° 46' 28.7"
Ls = 200.00'
LT = 133.38'
ST = 66.71'

SBL-RAMP
PIs Sta 50+14.63
θs = 1° 53' 42.1"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

RAMP-1A
PIs Sta 15+33.44
θs = 1° 09' 43.1"
Ls = 200.00'
LT = 133.44'
ST = 66.77'

RAMP-1A
PI Sta 17+43.07
Δ = 20° 16' 42.9" (RT)
D = 1° 09' 43.1"
L = 283.14'
T = 143.07'
R = 800.00'
e = .075
DS = 45 MPH

RAMP-1A
PIs Sta 19+49.91
θs = 1° 09' 43.1"
Ls = 200.00'
LT = 133.44'
ST = 66.77'

RAMP-1A
PIs Sta 22+17.54
θs = 22° 12' 27.6"
Ls = 200.00'
LT = 134.40'
ST = 67.64'

RAMP-1A
PI Sta 23+54.46
Δ = 30° 54' 18.8" (LT)
D = 22° 12' 27.6"
L = 139.16'
T = 71.32'
R = 258.00'
e = .08
DS = 45 MPH

LOOP-1A
PIs Sta 12+04.65
θs = 37° 22' 00.5"
Ls = 300.00'
LT = 204.65'
ST = 104.24'

LOOP-1A
PI Sta 23+80.49
Δ = 204° 02' 02.6" (LT)
D = 24° 54' 40.4"
L = 819.05'
T = 1,080.49'
R = 230.00'
e = .08
DS = 30 MPH

LOOP-1A
PIs Sta 22+23.28
θs = 37° 22' 00.5"
Ls = 300.00'
LT = 204.65'
ST = 104.24'

RAMP-1B
PIs Sta 13+95.55
θs = 10° 13' 53.0"
Ls = 200.00'
LT = 133.56'
ST = 66.87'

RAMP-1B
PI Sta 21+06.92
Δ = 98° 03' 47.1" (LT)
D = 10° 13' 53.0"
L = 958.45'
T = 644.92'
R = 560.00'
e = .08
DS = 45 MPH

RAMP-1B
PIs Sta 24+87.32
θs = 10° 13' 53.0"
Ls = 200.00'
LT = 133.56'
ST = 66.87'

LOOP-1D
PIs Sta 12+04.65
θs = 37° 22' 00.5"
Ls = 300.00'
LT = 204.65'
ST = 104.24'

LOOP-1D
PI Sta 29+89.33
Δ = 195° 30' 22.2" (RT)
D = 24° 54' 40.4"
L = 784.81'
T = 1,689.33'
R = 230.00'
e = .075
DS = 30 MPH

LOOP-1D
PIs Sta 21+89.05
θs = 37° 22' 00.5"
Ls = 300.00'
LT = 204.65'
ST = 104.24'

Y-1A SBL
PIs Sta 50+66.67
θs = 0° 49' 06.6"
Ls = 100.00'
LT = 66.67'
ST = 33.33'

Y-1A SBL
PI Sta 52+31.83
Δ = 4° 18' 50.6" (LT)
D = 1° 38' 13.3"
L = 263.53'
T = 131.83'
R = 3,500.00'
e = .035
DS = 50 MPH

Y-1A SBL
PIs Sta 53+96.87
θs = 0° 49' 06.6"
Ls = 100.00'
LT = 66.67'
ST = 33.33'

Y-1A SBL
PIs Sta 55+30.20
θs = 0° 49' 06.6"
Ls = 100.00'
LT = 66.67'
ST = 33.33'

Y-1A SBL
PI Sta 56+52.60
Δ = 2° 54' 55.7" (RT)
D = 1° 38' 13.3"
L = 178.10'
T = 89.07'
R = 3,500.00'
e = .035
DS = 50 MPH

Y-1A SBL
PIs Sta 57+79.22
θs = 0° 07' 11.6"
Fs = 0° 49' 06.7"
Ls = 100.00'
LT = 62.41'
ST = 37.59'

Y-1A SBL
PI Sta 60+50.46
Δ = 1° 00' 05.6" (RT)
D = 0° 14' 23.3"
L = 417.65'
T = 208.83'
R = 23,892.78'
e = NC LT
DS = 50 MPH

Y-1A SBL
PIs Sta 63+25.94
θs = 0° 49' 47.6"
Ls = 100.00'
LT = 66.67'
ST = 33.33'

Y-1A SBL
PI Sta 64+38.21
Δ = 2° 37' 10.6" (LT)
D = 1° 39' 35.2"
L = 157.83'
T = 78.93'
R = 3,452.00'
e = .035
DS = 50 MPH

Y-1A SBL
PIs Sta 65+50.44
θs = 0° 49' 47.6"
Ls = 100.00'
LT = 66.67'
ST = 33.33'

Y-1A SBL
PIs Sta 66+83.77
θs = 0° 49' 06.6"
Ls = 100.00'
LT = 66.67'
ST = 33.33'

Y-1A SBL
PI Sta 69+61.09
D = 1° 38' 13.3"
L = 487.18'
T = 243.98'
R = 3,500.00'
e = .035
DS = 50 MPH

Y-2
PIs Sta 85+83.81
θs = 3° 10' 59.2"
Ls = 200.00'
LT = 133.35'
ST = 66.69'

Y-2
PI Sta 95+08.92
Δ = 50° 59' 44.2" (RT)
D = 3° 10' 59.2"
L = 1,602.07'
T = 858.47'
R = 1,800.00'
e = .055
DS = 50 MPH

Y-2 CONN
PI Sta 12+74.83
Δ = 35° 15' 59.9" (RT)
D = 10° 25' 02.7"
L = 338.54'
T = 174.82'
R = 550.00'
e = .04
DS = 35 MPH

SER-1
PI Sta 11+51.42
Δ = 60° 37' 17.2" (RT)
D = 30° 09' 20.4"
L = 201.03'
T = 111.07'
R = 190.00'
e = .025
DS = 30 MPH

SER-1
PI Sta 16+94.01
Δ = 4° 25' 23.1" (RT)
D = 4° 46' 28.7"
L = 92.64'
T = 46.34'
R = 1,200.00'
e = .025
DS = 30 MPH

SER-1
PI Sta 20+17.66
Δ = 68° 05' 52.8" (RT)
D = 30° 09' 20.4"
L = 225.82'
T = 128.39'
R = 190.00'
e = .025
DS = 30 MPH

2/18/2010
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cwilliams

INTERCHANGE CURVE DATA

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	7

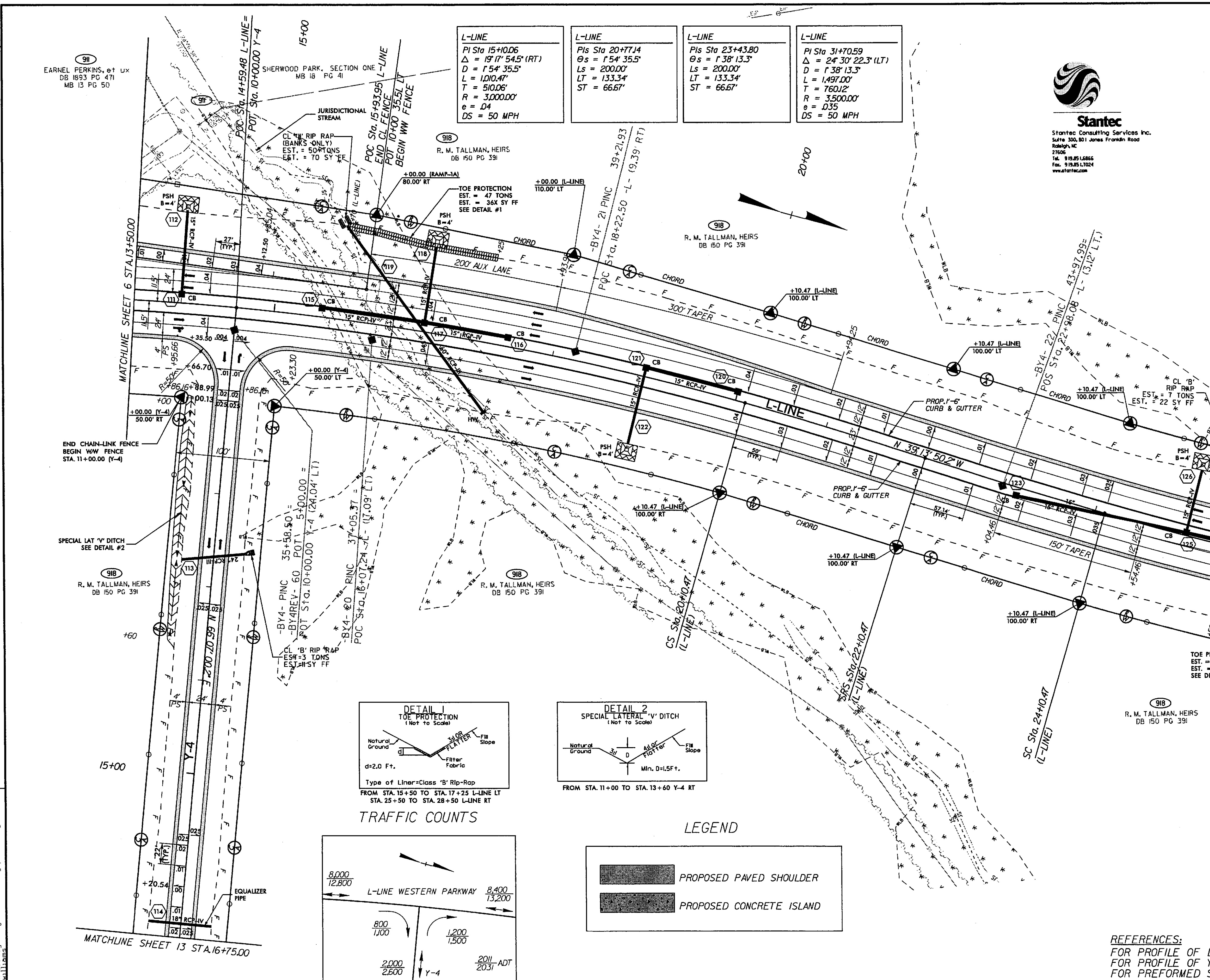
R/W SHEET NO.

ROADWAY DESIGN ENGINEER — HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Stantec
Stantec Consulting Services Inc.
Suite 300, 801 Jones Franklin Road
Raleigh, NC
27606
Tel. 919.851.6866
Fax. 919.851.7024
www.stantec.com

L-LINE	L-LINE	L-LINE	L-LINE
PI Sta 15+10.06	PIs Sta 20+77.14	PIs Sta 23+43.80	PI Sta 31+70.59
Δ = 19°17' 54.5" (RT)	θs = 1°54' 35.5"	θs = 1°38' 13.3"	Δ = 24°30' 22.3" (LT)
D = 1°54' 35.5"	Ls = 200.00'	Ls = 200.00'	D = 1°38' 13.3"
L = 1,010.47'	LT = 133.34'	LT = 133.34'	L = 1,497.00'
T = 510.06'	ST = 66.67'	ST = 66.67'	T = 760.12'
R = 3,000.00'			R = 3,500.00'
e = .04			e = .035
DS = 50 MPH			DS = 50 MPH


EARNEL PERKINS, et ux
DB 1893 PG 471
MB 13 PG 50
SHERWOOD PARK, SECTION ONE
MB 18 PG 41
JURISDICTIONAL STREAM
R. M. TALLMAN, HEIRS
DB 150 PG 391
TOE PROTECTION
EST. = 47 TONS
EST. = 36X SY FF
SEE DETAIL #1
200' AUX LANE
300' TAPER
150' TAPER
L-LINE
N 39°13' 50.2" W
PROP. 1'-6" CURB & GUTTER
60' ACCESS POINT
END FENCE & C/A
MATCHLINE SHEET 6 STA.13+50.00
MATCHLINE SHEET 8 STA.26+50.00
MATCHLINE SHEET 13 STA.16+75.00
END CHAIN-LINK FENCE
BEGIN WW FENCE
STA. 11+00.00 (Y-4)
SPECIAL LAT 'V' DITCH
SEE DETAIL #2
EQUALIZER PIPE
TOE PROTECTION
EST. = 90 TONS
EST. = 67 SY FF
SEE DETAIL #1
Y-4
DETAIL 1
TOE PROTECTION
(Not to Scale)
Natural Ground
3:1 OR FLATTER
Fill Slope
Filter Fabric
d=2.0 Ft.
Type of Liner=Class 'B' Rip-Rap
FROM STA. 15+50 TO STA. 17+25 L-LINE LT
STA. 25+50 TO STA. 28+50 L-LINE RT
DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
4:1 or Flatter
Fill Slope
Min. D=1.5Ft.
FROM STA. 11+00 TO STA. 13+60 Y-4 RT

TRAFFIC COUNTS

L-LINE WESTERN PARKWAY: 8,000/12,800; 8,400/13,200
800/1,100; 1,200/1,500
Y-4: 2,000/2,500
2011/2031 ADT

LEGEND

PROPOSED PAVED SHOULDER
PROPOSED CONCRETE ISLAND

REFERENCES:

FOR PROFILE OF L-LINE, SEE SHEET 15
FOR PROFILE OF Y-4, SEE SHEET 29
FOR PREFORMED SCOUR HOLE, SEE DETAIL SHEET 2G

REVISIONS

8/17/99
3/4/2010
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PROJECT REFERENCE NO.	SHEET NO.
U-4007B	8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Stantec
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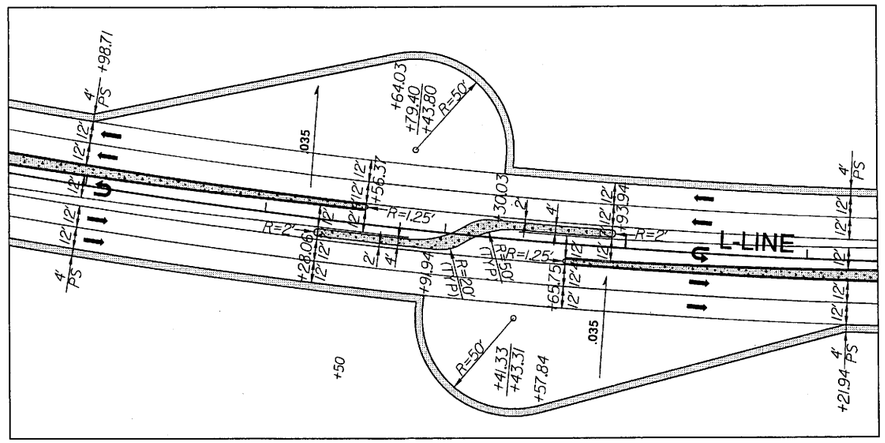
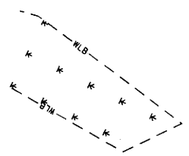
Suite 300, 801 Jones Franklin Road
Raleigh, NC
27606
Tel. 919.85 1.6856
Fax. 919.85 1.7024
www.stantec.com

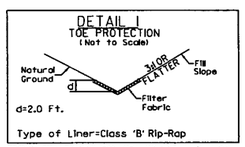
8/17/99

REVISIONS





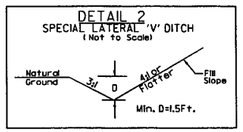
DETAIL 1
TOE PROTECTION
(Not to Scale)



FROM STA. 25+50 TO STA. 28+50 L-LINE RT

(918)
R. M. TALLMAN, HEIRS
DB 150 PG 391

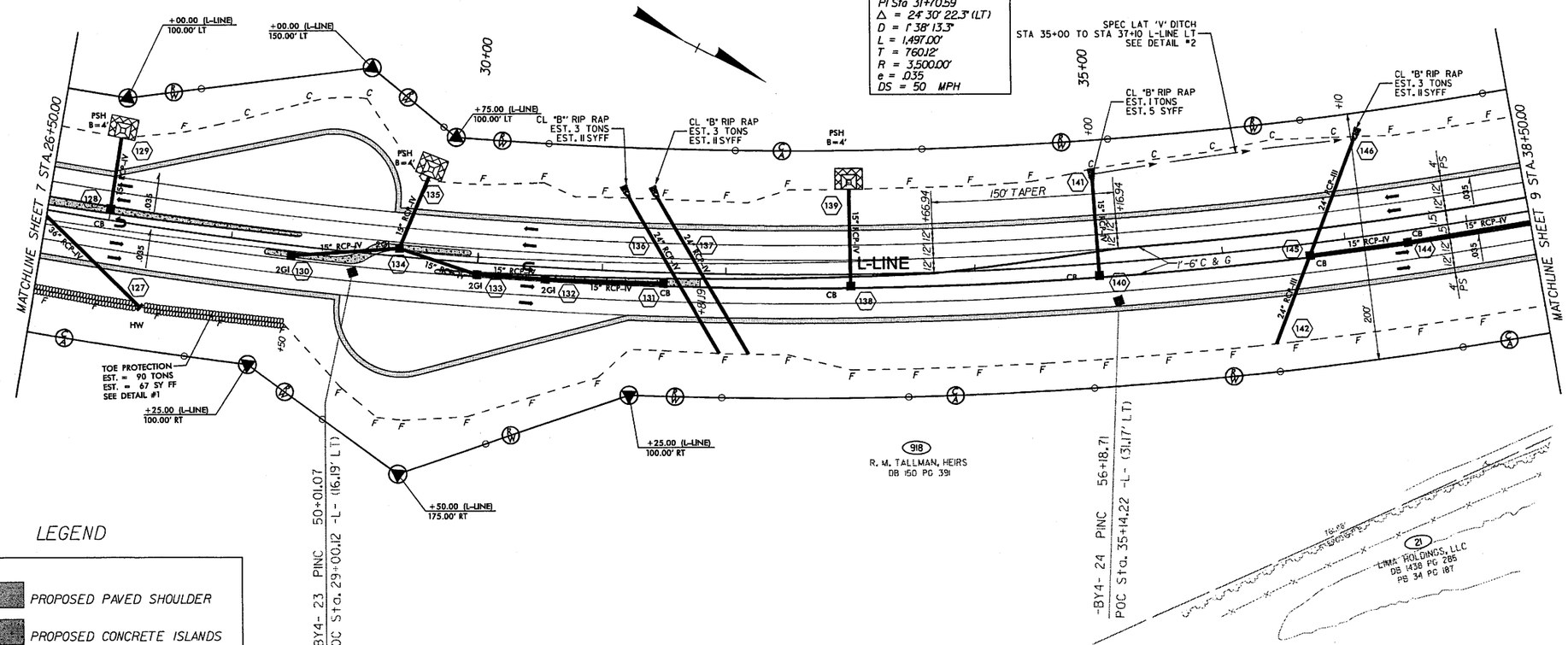
DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM STA. 35+00 TO STA. 37+10 L-LINE LT

L-LINE
PI Sta 31+70.59
Δ = 24° 30' 22.3" (LT)
D = 1° 38' 13.3"
L = 1,497.00'
T = 760.12'
R = 3,500.00'
e = .035
DS = 50 MPH

SPEC LAT 'V' DITCH
STA 35+00 TO STA 37+10 L-LINE LT
SEE DETAIL #2



LEGEND

PROPOSED PAVED SHOULDER

PROPOSED CONCRETE ISLANDS

REFERENCES:

FOR PROFILE OF L-LINE SEE SHEET 16

3/4/2010
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cwilliams

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Stantec
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27606
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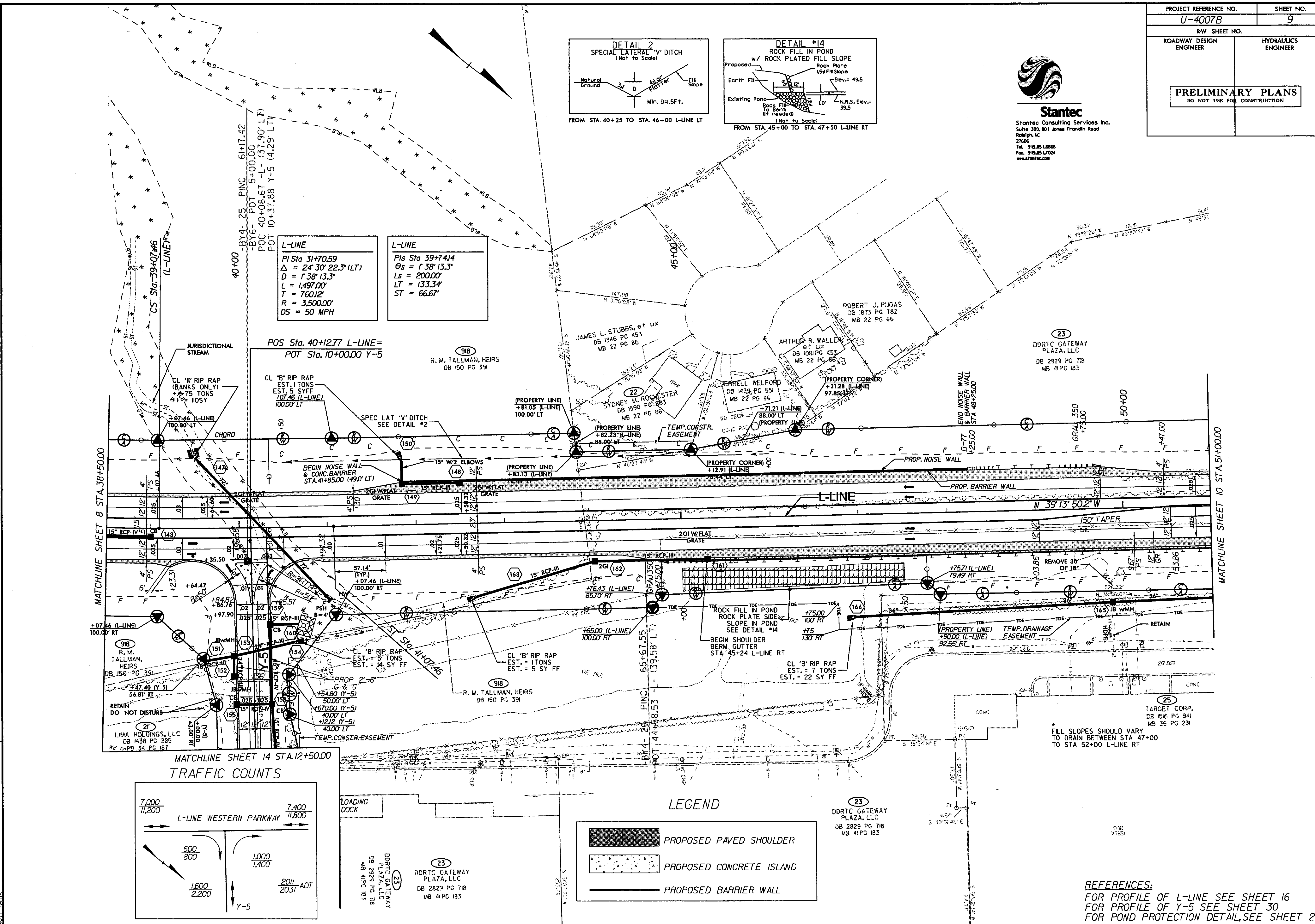
Fax. 919.851.7024
www.stantec.com

DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground · 3:1 · D · 4:1 or Flatter · Fill Slope · Min. D=1.5Ft.
FROM STA. 40+25 TO STA. 46+00 L-LINE LT

DETAIL #14
ROCK FILL IN POND
w/ ROCK PLATED FILL SLOPE
(Not to Scale)
FROM STA. 45+00 TO STA. 47+50 L-LINE RT



TRAFFIC COUNTS

L-LINE WESTERN PARKWAY
7,000 / 11,200
7,400 / 11,800
600 / 800
1,000 / 1,400
1,600 / 2,200
2011 / 2031 ADT
Y-5

LEGEND

- PROPOSED PAVED SHOULDER
- PROPOSED CONCRETE ISLAND
- PROPOSED BARRIER WALL

REFERENCES:
FOR PROFILE OF L-LINE SEE SHEET 16
FOR PROFILE OF Y-5 SEE SHEET 30
FOR POND PROTECTION DETAIL,SEE SHEET 2

REVISIONS

8/17/99

3/4/2010
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PROJECT REFERENCE NO.	SHEET NO.
U-4007B	10

R/W SHEET NO.

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Stantec
Stantec Consulting Services Inc.
Suite 300, 801 Jones Franklin Road
Raleigh, NC
27606
Tel. 919.851.6866
Fax. 919.851.7024
www.stantec.com

8/17/99

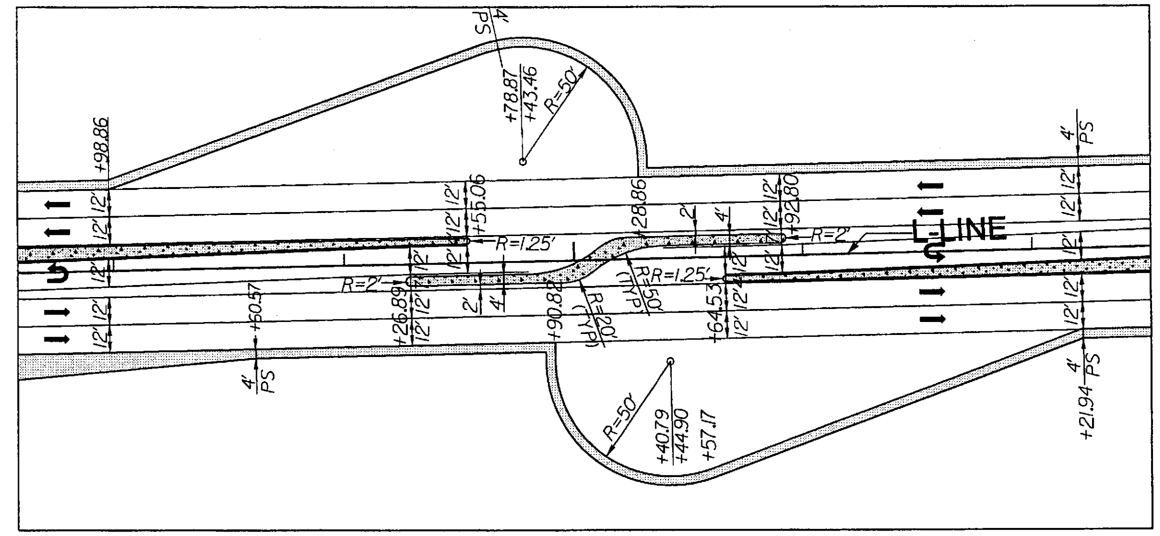
REVISIONS

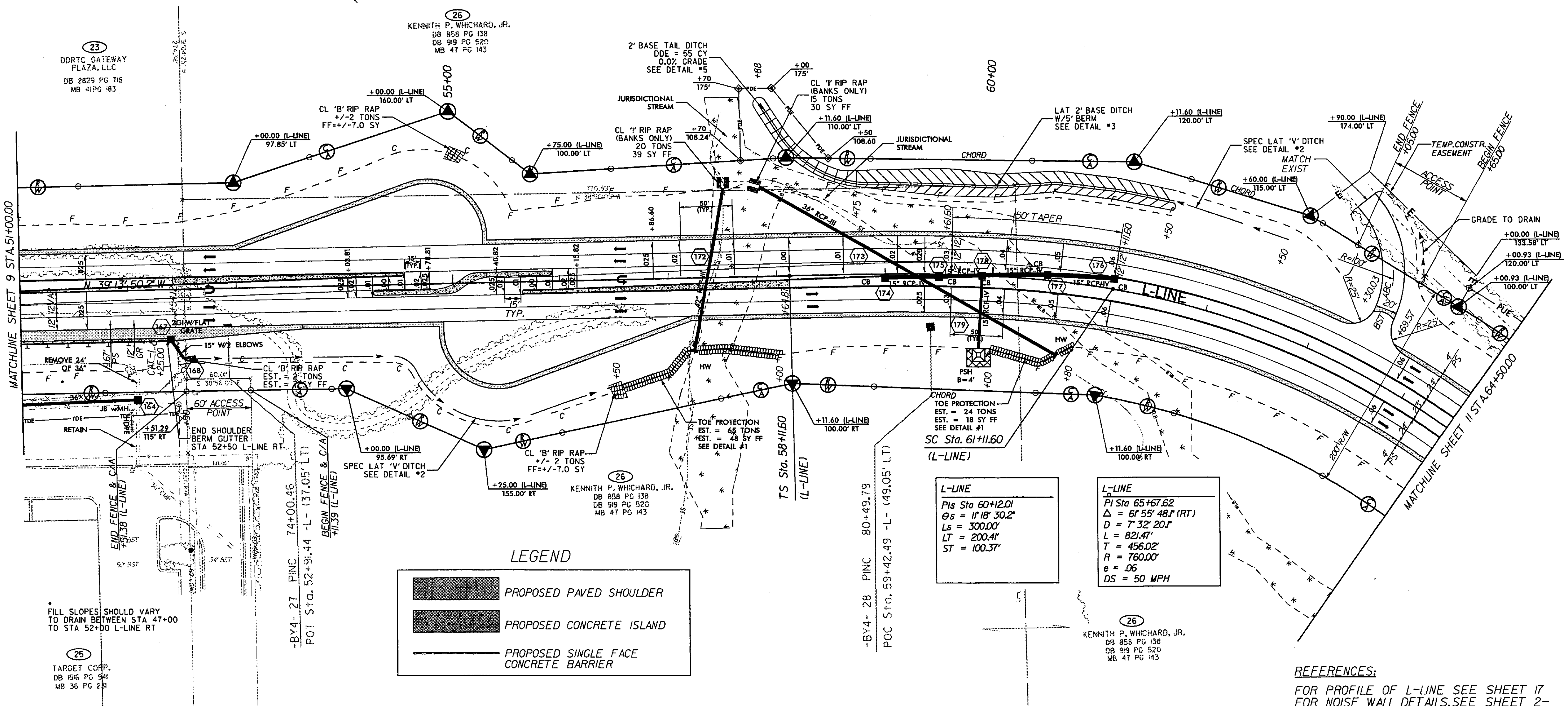
DETAIL 1
TOE PROTECTION
(Not to Scale)
Natural Ground
3:1 OR FLATTER
Fill Slope
Filter Fabric
d=2.0 Ft.
Type of Liner=Class 'B' Rip-Rap
FROM STA. 56+50 TO STA. 58+00 L-LINE RT
FROM STA. 60+00 TO STA. 60+80 L-LINE RT

DETAIL 3
LATERAL BASE DITCH
(Not to Scale)
Natural Ground
Fill Slope
Min. D=1.5 Ft.
B=2.0 Ft.
b=5.0 Ft.
FROM STA. 58+75 TO STA. 61+50 L-LINE LT

DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
4:1 or Flatter
Fill Slope
Min. D=1.5Ft.
FROM STA. 52+50 TO STA. 56+50 L-LINE RT
FROM STA. 61+50 TO STA. 62+50 L-LINE LT

DETAIL 5
STANDARD BASE DITCH
(Not to Scale)
Natural Ground
Min. D=2.0 Ft.
B=2.0 Ft.
FROM STA. 57+88 TO STA. 58+75 L-LINE LT





L-LINE
PIs Sta 60+12.01
Θs = 11° 18' 30.2"
Ls = 300.00'
LT = 200.41'
ST = 100.37'

L-LINE
PI Sta 65+67.62
Δ = 61° 55' 48.1" (RT)
D = 7° 32' 20.1"
L = 821.47'
T = 456.02'
R = 760.00'
e = .06
DS = 50 MPH

* FILL SLOPES SHOULD VARY TO DRAIN BETWEEN STA 47+00 TO STA 52+00 L-LINE RT

LEGEND

(shaded)	PROPOSED PAVED SHOULDER
(shaded)	PROPOSED CONCRETE ISLAND
(line)	PROPOSED SINGLE FACE CONCRETE BARRIER

REFERENCES:
FOR PROFILE OF L-LINE SEE SHEET 17
FOR NOISE WALL DETAILS, SEE SHEET 2-

3/4/2010
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PROJECT REFERENCE NO.	SHEET NO.
U-4007B	11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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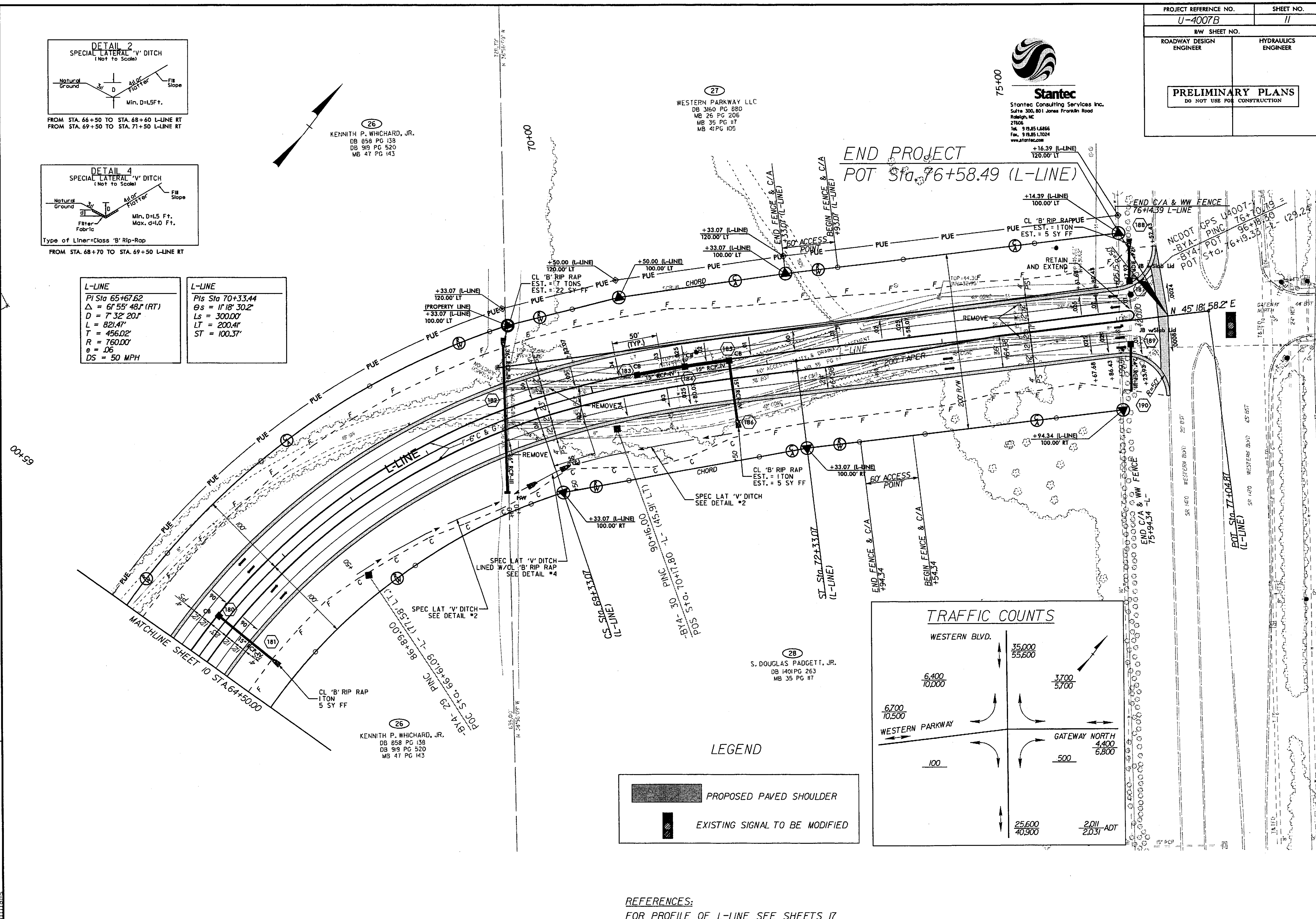
DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
Fill Slope
Min. D=1.5Ft.
FROM STA. 66+50 TO STA. 68+60 L-LINE RT
FROM STA. 69+50 TO STA. 71+50 L-LINE RT
DETAIL 4
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
Fill Slope
Filter Fabric
Min. D=1.5 Ft.
Max. d=1.0 Ft.
Type of Liner=Class 'B' Rip-Rap
FROM STA. 68+70 TO STA. 69+50 L-LINE RT
KENNITH P. WHICHARD, JR.
DB 858 PG 138
DB 919 PG 520
MB 47 PG 143
WESTERN PARKWAY LLC
DB 3160 PG 880
MB 26 PG 206
MB 35 PG 117
MB 41 PG 105
END PROJECT
POT Sta. 76+58.49 (L-LINE)
END C/A & WW FENCE
76+14.39 L-LINE
NCDOT GPS U4007-7
-BYA- PINC 76+10.79 =
-BYA- POT 96+18.30
POT Sta. 76+19.33 -L-
N 45° 18' 58.2" E
L-LINE
MATCHLINE SHEET 10 STA. 64+50.00
S. DOUGLAS PADGETT, JR.
DB 1401 PG 263
MB 35 PG 117
CS Sta. 69+33.07 (L-LINE)
ST Sta. 72+33.07 (L-LINE)
POT Sta. 77+04.87 (L-LINE)
CL 'B' RIP RAP
EST. = 1 TON
EST. = 5 SY FF
SPEC LAT 'V' DITCH
SEE DETAIL #2
SPEC LAT 'V' DITCH LINED W/CL 'B' RIP RAP
SEE DETAIL #4
60' ACCESS POINT
RETAIN AND EXTEND
REMOVE
200' TAPER
WESTERN BLVD.
GATEWAY NORTH

L-LINE	
PI Sta 65+67.62	
Δ = 61° 55' 48.1" (RT)	
D = 7° 32' 20.1"	
L = 821.47'	
T = 456.02'	
R = 760.00'	
e = .06	
DS = 50 MPH	

L-LINE	
PIs Sta 70+33.44	
θs = 11° 18' 30.2"	
Ls = 300.00'	
LT = 200.41'	
ST = 100.37'	

TRAFFIC COUNTS

WESTERN BLVD.: 35,000 / 55,600; 6,400 / 10,000; 3,700 / 5,700
WESTERN PARKWAY: 6,700 / 10,500; 100
GATEWAY NORTH: 4,400 / 6,800; 500
25,600 / 40,900; 2,011 / 2,031 ADT

LEGEND

PROPOSED PAVED SHOULDER

EXISTING SIGNAL TO BE MODIFIED

REFERENCES:
FOR PROFILE OF L-LINE SEE SHEETS 17

REVISIONS

3/4/2010
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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
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Fax. 919.851.7024
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REVISIONS

6/17/99

DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not To Scale)

FROM STA. 104+80 TO STA. 105+50 Y-2 LT

DETAIL 9
SPECIAL LATERAL BASE DITCH
(Not To Scale)

FROM STA. 93+65 TO STA. 100+50 Y-2 RT

DETAIL 12
SPECIAL LATERAL BASE DITCH
(Not To Scale)

FROM STA. 66+50 TO STA. 72+75 Y-1A SBL LT

TRAFFIC COUNTS

Y-1A SBL
PI Sta 72+37.62
θs = 0° 49' 06.6"
Ls = 100.00'
LT = 66.67'
ST = 33.33'

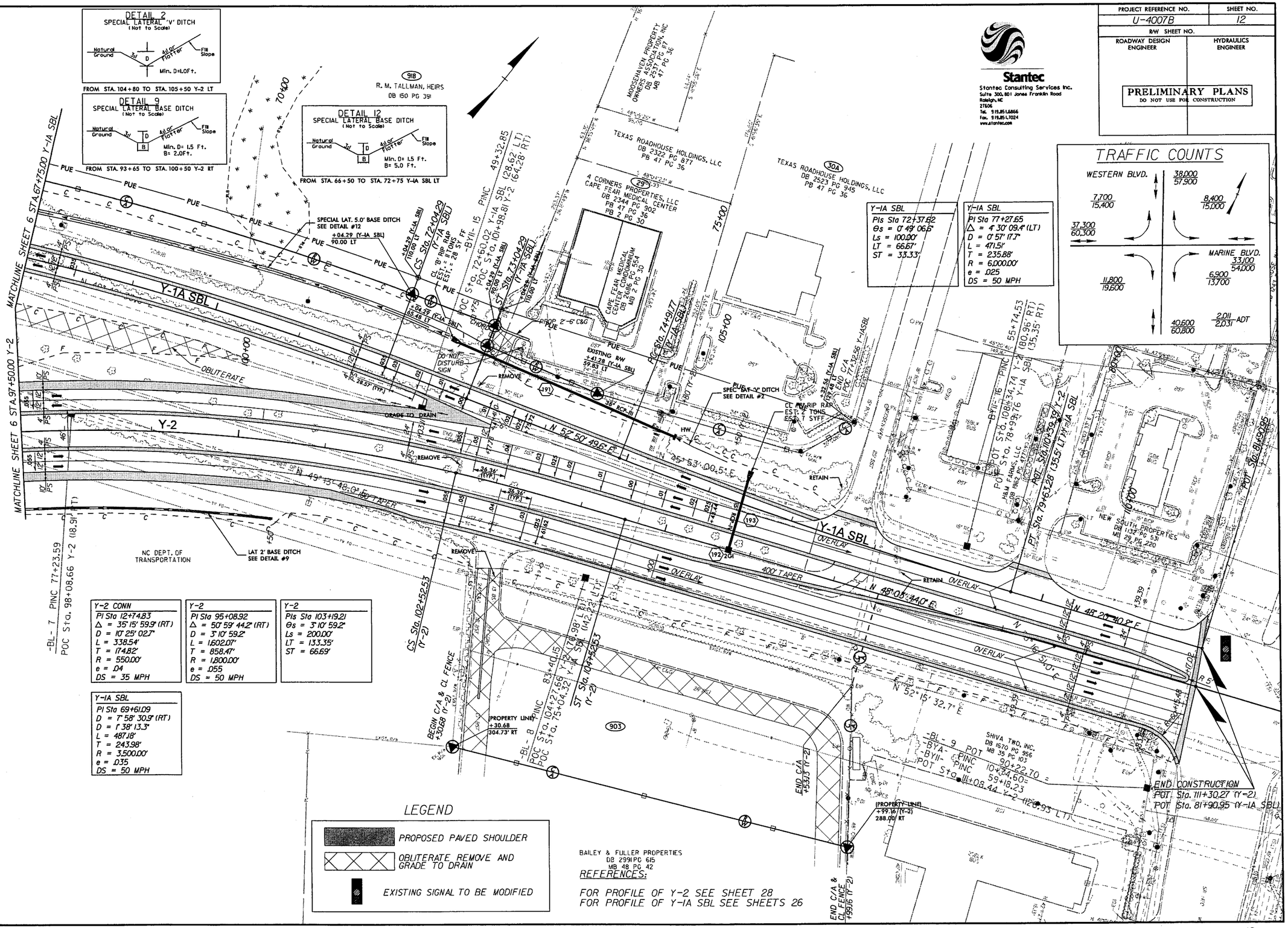
Y-1A SBL
PI Sta 77+27.65
Δ = 4° 30' 09.4" (LT)
D = 0° 57' 17.7"
L = 471.51'
T = 235.88'
R = 6,000.00'
e = .025
DS = 50 MPH

Y-2 CONN
PI Sta 12+74.83
Δ = 35° 15' 59.9" (RT)
D = 10° 25' 02.7"
L = 338.54'
T = 174.82'
R = 550.00'
e = .04
DS = 35 MPH

Y-2
PI Sta 95+08.92
Δ = 50° 59' 44.2" (RT)
D = 3° 10' 59.2"
L = 1602.07'
T = 858.47'
R = 1,800.00'
e = .055
DS = 50 MPH

Y-2
PIs Sta 103+19.21
θs = 3° 10' 59.2"
Ls = 200.00'
LT = 133.35'
ST = 66.69'

Y-1A SBL
PI Sta 69+61.09
D = 1° 58' 30.9" (RT)
D = 1° 38' 13.3"
L = 487.18'
T = 243.98'
R = 3,500.00'
e = .035
DS = 50 MPH



LEGEND

- PROPOSED PAVED SHOULDER
- OBLITERATE REMOVE AND GRADE TO DRAIN
- EXISTING SIGNAL TO BE MODIFIED

REFERENCES:

FOR PROFILE OF Y-2 SEE SHEET 28
FOR PROFILE OF Y-1A SBL SEE SHEETS 26

3/4/2010
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PROJECT REFERENCE NO.	SHEET NO.
U-4007B	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Stantec
Stantec Consulting Services Inc.
Suite 300, 801 Jones Franklin Road
Raleigh, NC
27606
Tel. 919.85 1.6866
Fax. 919.85 1.7024
www.stantec.com

REVISIONS
8/17/99

INSERT 1

Y-4
PI Sta 18+69.42
Δ = 18° 12' 13.1" (LT)
D = 5° 43' 46.5"
L = 317.71'
T = 160.21'
R = 1,000.00'
e = .06
DS = 45 MPH

Y-4A
PI Sta 14+42.65
Δ = 11° 18' 36.3" (LT)
D = 4° 46' 28.7"
L = 236.88'
T = 118.83'
R = 1,200.00'
e = .06
DS = 45 MPH

DETAIL 1
TOE PROTECTION
(Not to Scale)
Natural Ground, d, 3:1 OR FLATTER, Fill Slope, Filter Fabric
d=2.0 Ft.
Type of Liner=Class 'B' Rip-Rap
FROM STA. 23+00 TO STA. 24+00 Y-4 LT
FROM STA. 12+95 TO STA. 13+85 Y-4A LT
FROM STA. 14+70 TO STA. 16+25 Y-4A LT

DETAIL #8
SPECIAL LATERAL BASE DITCH
(Not to Scale)
Natural Ground, 3:1, D, B, 4:1 or Flatter, Fill Slope
Min. D=1.0 Ft.
B= 3.0 Ft.
FROM STA. 23+50 TO STA. 25+00 Y-4 RT

LEGEND
PROPOSED PAVED SHOULDER
OBLITERATE
EXISTING SIGNAL TO BE MODIFIED

TRAFFIC COUNTS
WESTERN BLVD.
800 / 1,700
30,900 / 48,300
3,800 / 6,100
8,000 / 10,500
Y-4
SHOPPING ENT.
12,500 / 16,700
6,600 / 9,600
5,100 / 7,800
38,000 / 57,900
2,011 / 2,031 ADT

REFERENCES:
FOR PROFILE OF Y-4 SEE SHEET 29
FOR PROFILE OF Y-4A SEE SHEET 30
FOR ROADWAY GEOMETRY SEE SHEET 2H

3/14/2000
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cwilliams

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
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Raleigh, NC
27606
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Fax. 919.85 1.7024
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REVISIONS

MATCHLINE SHEET 9 STA.12+50.00

END C/A & WW FENCE +65.47'

END C/A & WW FENCE +01.42

23 DDRTC GATEWAY PLAZA, LLC DB 2829 PG 718 MB 41PG 183

21 LIMA HOLDINGS, LLC DB 1438 PG 285 PB 34 PG 187

WYATT INVESTMENTS, LLC DB 1763 PG 364 MB 38 PG 150

35 JEAN S. CORPENING TRUSTEE, et DB 1644 PG 464 DB 3201PG 141 MB 38 PG 150

-BY6- 3 PINC 9+87.98 POT Sta. 15+25.85 42.11' LT

-BY6- 32 PCT 16+77.20 = -BY4- PINC 48+50.92 POT Sta. 22+16.81 Y-5 (34.77' RT)

15+00

20+00

LOADING DOCK

TEMP. CONSTR. EASEMENT

PROP 2'-6" C&G

PROP 2'-6" C & G

REMOVE

RETAIN

DO NOT DISTURB AERIAL LIGHT

CONVERT DI TO TB JB W/MH

Conv. DI TO TB JB wMH

100' STORAGE

N 50°57'05.3" E

ADJUST TOP OF CBs

END CURB & GUTTER 22+01.93 Y-5

END CURB & GUTTER 22+00.77 -Y5-

END CONSTRUCTION POT Sta. 22+41.44 (Y-5)

PC Sta. 17+64.88 (Y-5)

PRC Sta. 19+40.51 (Y-5)

PT Sta. 21+14.88 (Y-5)

POT Sta. 22+99.88 (Y-5)

Y-5
PI Sta 18+52.92
Δ = 10° 03' 45.5" (RT)
D = 5° 43' 46.5"
L = 175.63'
T = 88.04'
R = 1,000.00'
e = .025
DS = 45 MPH

Y-5
PI Sta 20+27.91
Δ = 9° 59' 25.5" (LT)
D = 5° 43' 46.5"
L = 174.37'
T = 87.40'
R = 1,000.00'
e = .025
DS = 45 MPH

TRAFFIC COUNTS

WESTERN BLVD.

1,900 / 2,100	26,400 / 42,100	
7,000 / 9,300		2,900 / 3,200
Y-5		
3,800 / 4,500	SHOPPING ENT.	6,900 / 9,000
	2,700 / 3,200	
28,100 / 44,500		2,011 / 2,031 - ADT

LEGEND

PROPOSED PAVED SHOULDER

EXISTING SIGNAL TO BE MODIFIED

REFERENCES:
FOR PROFILE OF Y-5 SEE SHEET 30

3/4/2010
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U-4007B	15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
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3011 Jones Franklin Road
Raleigh, NC
27606
Tel. 919.851.6866
Fax. 919.851.7024
www.stantec.com

L-LINE

BY4-19
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 11+82.83
16.39 RT
ELEV. 40.20

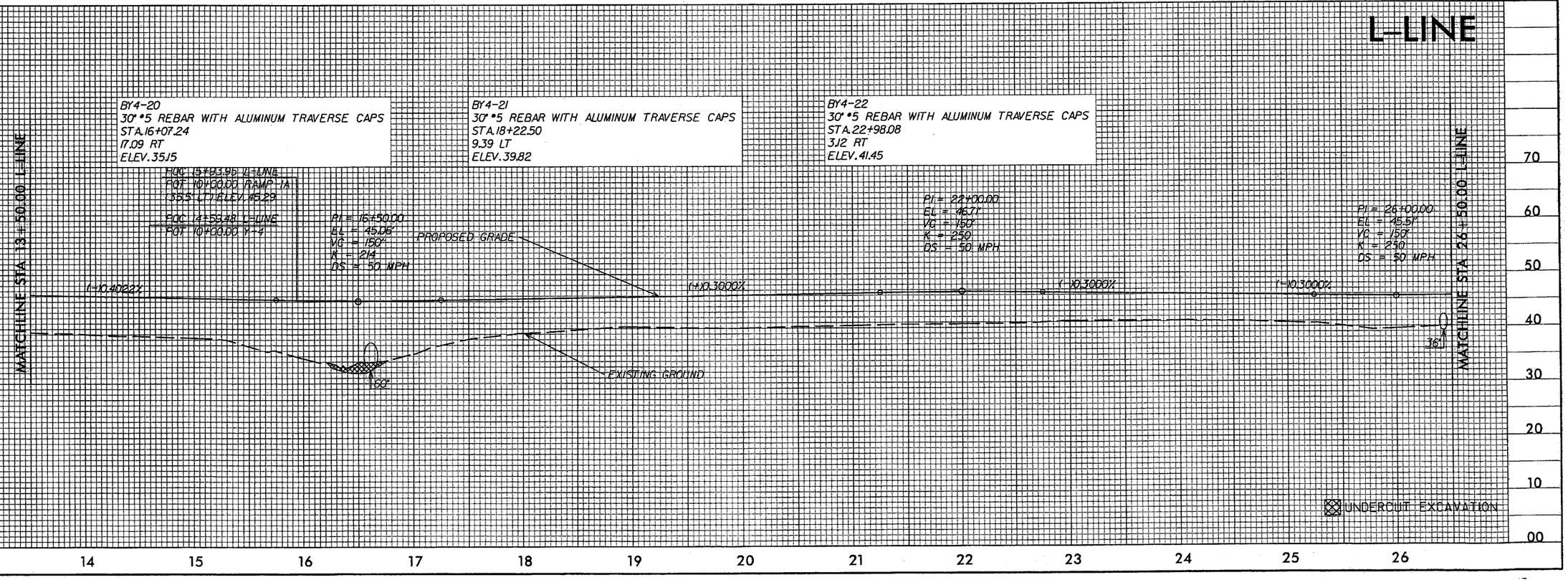
POC 50+52.98 WBL-RAMP BK
POC 50+61.29 SBL RAMP BK
POC 10+00.00 L-LINE AHD
ELEV. 46.27

PI = 12+00.00
EL = 45.81'
VC = 150'
K = 21.4
DS = 50 MPH

(-)0.3000%

(-)0.40222%

MATCHLINE STA 13+50.00 L-LINE



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U-4007B	16
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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Stantec Consulting Services Inc.
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Raleigh, NC
27606
tel. 919.851.6866
fax 919.851.7866
www.stantec.com

L-LINE

BY4-23
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 29+00.12
16.19 RT
ELEV. 41.86

BY4-24
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 35+14.22
31.17 RT
ELEV. 41.12

MATCHLINE STA. 26+50 L-LINE

MATCHLINE STA. 38+50 L-LINE

PROPOSED GRADE

EXISTING GROUND

(+)0.3000%

22"

24"

SPEC. LAT. "V" DITCH LT.

(-)0.6250%

(-)1.2000%

PI = 35+00.00 (LT.)
ET = 40.00

PI = 36+56.00 (LT.)
ET = 39.00

PI = 37+10.00 (LT.)
ET = 38.00

L-LINE

BY4-25
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 40+08.67
37.90 RT
ELEV. 41.48

POS. 40+12.17 L-LINE
POT. 10+00.00 Y-5

BY4-26
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 44+58.53
39.58 RT
ELEV. 50.62

MATCHLINE STA. 38+50 L-LINE

PROPOSED GRADE

(+)0.3000%

(+)0.3200%

72" RCP

EXISTING GROUND

SPEC. LAT. "V" DITCH LT.

(+)0.7500%

(-)0.3000%

PI = 40+25.00 (LT.)
ET = 40.86

PI = 41+00.00 (LT.)
ET = 42.00

PI = 46+00.00 (LT.)
ET = 43.50

PI = 48+00.00
EL = 52.11
VC = 150'
K = 250
DS = 50 MPH

MATCHLINE STA. 51+00 L-LINE

UNDERCUT EXCAVATION

2/18/2010
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mwilkins

5/28/99

U-4007B	17
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
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Stantec
Stantec Consulting Services Inc.
Suite 300, 801 Corporate Pointe
Easton, MD
21601
Tel. 315.881.1000
Fax. 315.881.1004
www.stantec.com

L-LINE

BY4-27
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 52+91.44
37.05 RT
ELEV. 45.74

BY4-28
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 59+42.49
49.05 RT
ELEV. 43.43

MATCHLINE STA. 51+00 L-LINE

PI = 52+50.00 (RT.)
EL = 44.66

PI = 54+50.00 (RT.)
EL = 43.80

PI = 56+50.00 (RT.)
EL = 41.30

PI = 58+75.00 (LT.)
EL = 38.00

PI = 60+50.00
EL = 42.36
VC = 150'
K = 250
DS = 50 MPH

PI = 62+50.00 (LT.)
EL = 40.00

PI = 64+50.00 (LT.)
EL = 41.05

(-)0.3000%

(-)1.2500%

SPEC. LAT. V" DITCH RT.

(+)0.3000%

SPEC. LAT. 2' BASE DITCH LT.

(+)1.7467%

36"

SPEC. LAT. V" DITCH LT.

(+)0.7467%

PROPOSED GRADE

EXISTING GROUND

MATCHLINE STA. 64+00 L-LINE

UNDERCUT EXCAVATION

51 52 53 54 55 56 57 58 59 60 61 62 63 64

00 10 20 30 40 50 60 70

L-LINE

PS U4007-1
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 76+19.35
29.24 LT
ELEV. 46.84

BY4-29
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 66+61.09
77.58 RT
ELEV. 43.43

BY4-30
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 70+17.80
45.91 RT
ELEV. 43.09

END PROJECT
POT 76+58.49 L-LINE
ELEV. 48.63

MATCHLINE STA. 64+00 L-LINE

PI = 69+00.00
EL = 50.91
VC = 150'
K = 250
DS = 50 MPH

PROPOSED GRADE

(+)0.3000%

(+)0.3006%

SPEC. LAT. V" DITCH RT.

(-)1.7667%

(+)0.0000%

(+)3.8750%

(+)0.3000%

36"

EXISTING GROUND

PI = 66+50.00 (RT.)
EL = 41.99

PI = 68+60.00 (RT.)
EL = 38.40

PI = 69+70.00 (RT.)
EL = 38.40

PI = 71+50.00 (RT.)
EL = 41.50

PI = 74+50.00 (RT.)
EL = 42.0

64 65 66 67 68 69 70 71 72 73 74 75 76 77

00 10 20 30 40 50 60 70

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Pam Williams

5/28/99

PROJECT REFERENCE NO. U-4007B | SHEET NO. 18

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

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www.stantec.com

NBL-RAMP

BL-4
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.15+57.56
19.13 LT
ELEV.53.55

POT 65+28.00 Y=2
POT 10+00.00 NBL-RAMP
(46.00 (RT) EL 40.60

PI = 111+90.00
EL = 14.72'
NO CURVE

PROPOSED GRADE

(+)2.2380%

(+)2.2889%

EXISTING GROUND

SPEC. LAT. "V" DITCH RT.
(+) 0.5000%

(+) 0.1250%

PI =104+00.96 (RT.)
EL = 28.80

PI =141+00.00 (RT.)
EL = 29.30

MATCHLINE STA. 117+00.00 NBL-RAMP

NBL-RAMP

GPS U4007-4
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.23+52.77
27.46 LT
ELEV.60.33

BEGIN BRIDGE
POT 21+47.17 NBL-RAMP

PI = 21+06.00
EL = 65.31'
VC = 85.0'
K = 21.5
DS = 60 MPH

POT 22+34.57 NBL-RAMP
POC 16+27.84 Y=0

END BRIDGE
POT 23+11.42 NBL-RAMP

PI = 29+25.00
EL = 51.16'
VC = 60.0'
K = 16.1
DS = 55 MPH

PROPOSED GRADE

(+)2.2380%

(-)1.7229%

(-)1.7229%

EXISTING GROUND

SPEC. LAT. "V" DITCH RT.
(+) 0.5000%

5.0% W= 5' RECHN

SPEC. LAT. BASE DITCH RT.

2' STILL

PI =190+00.00 (RT.)
EL = 31.00

PI = 266+06.00 (RT.)
EL = 28.70

PI = 266+26.00 (RT.)
EL = 28.70

EXISTING 2 @
5'x 7' RCBC

400
EL = 22.83

MATCHLINE STA. 27+00.00 NBL-RAMP

2/18/2010
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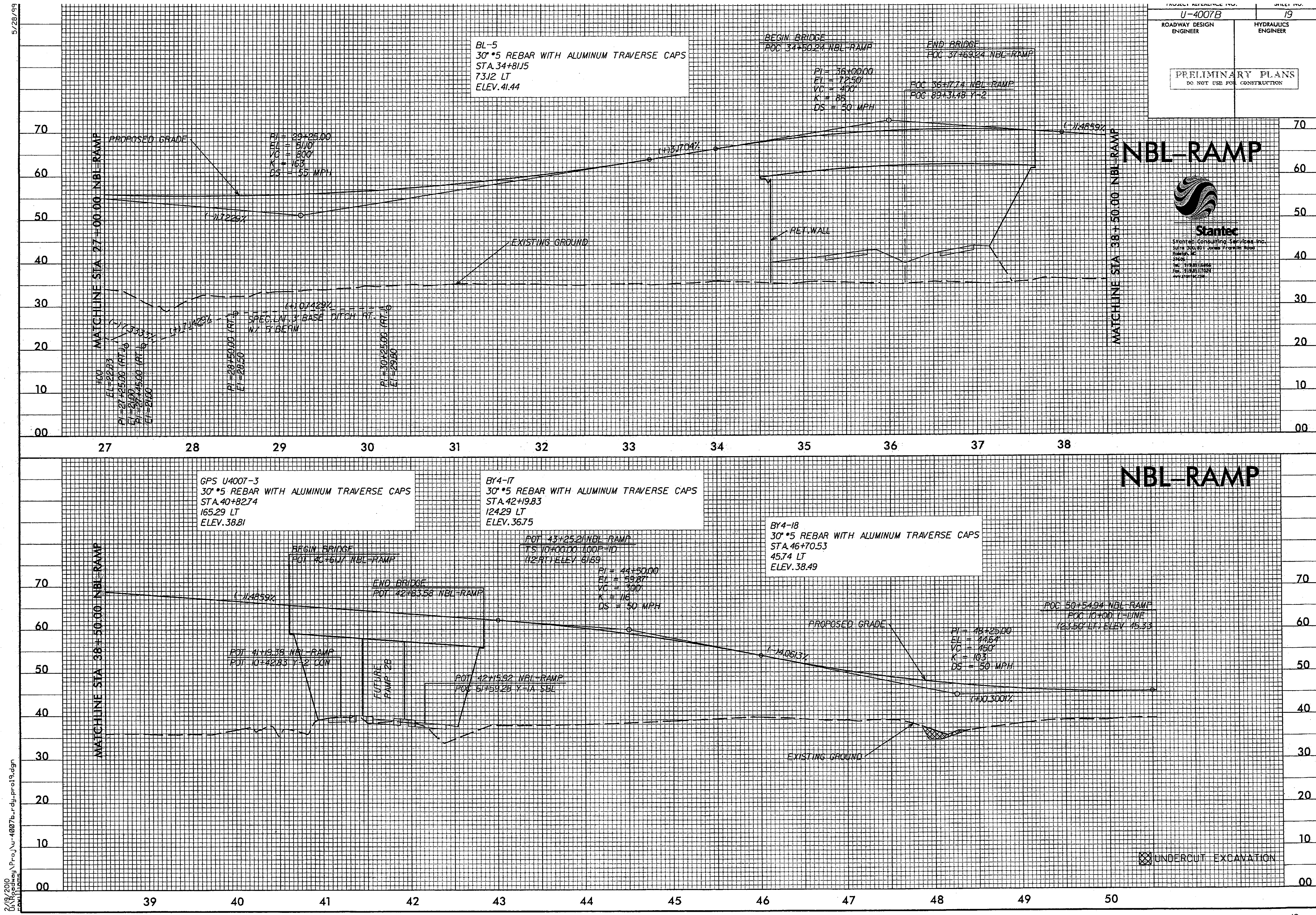
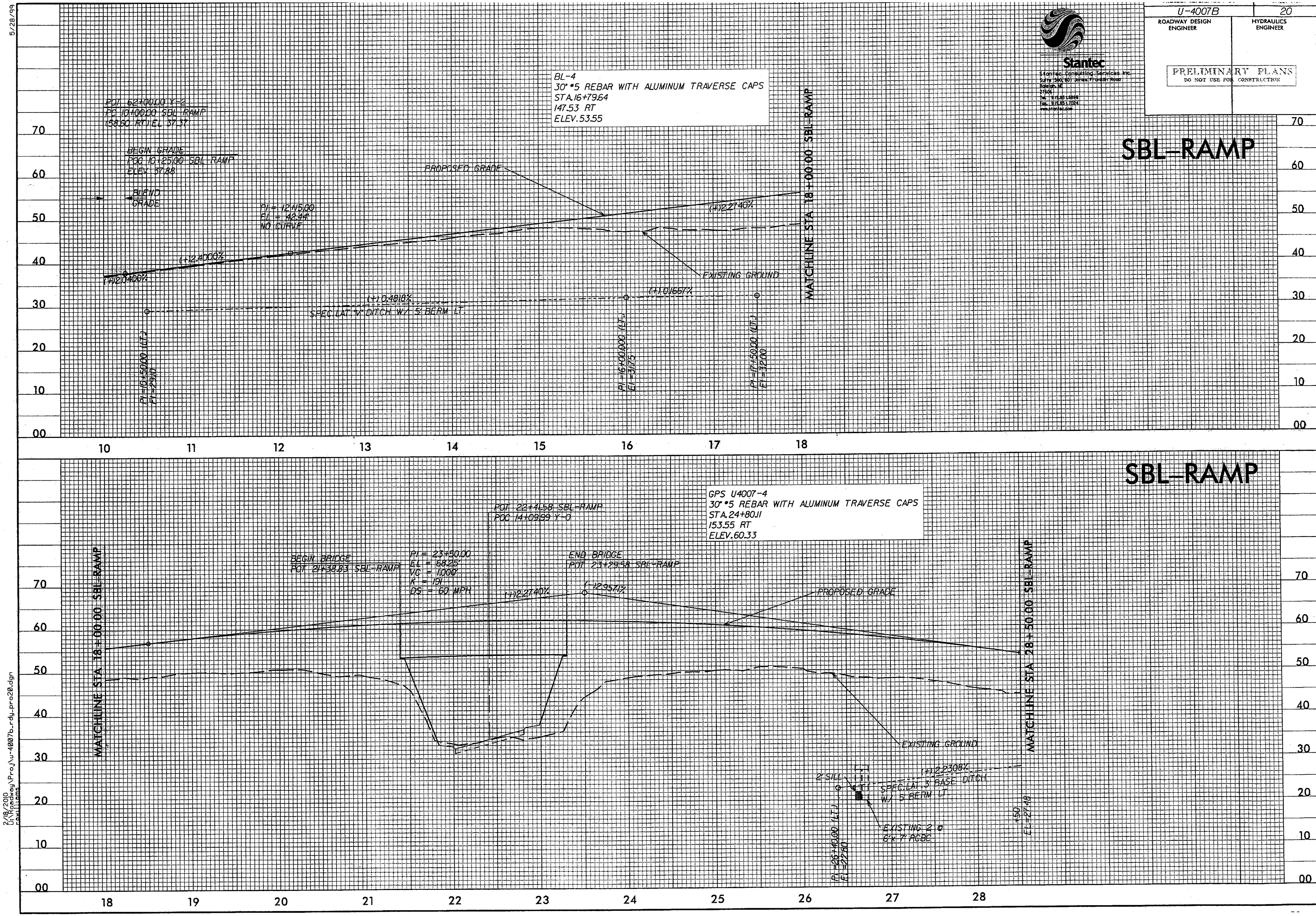
cwilliams



U-4007B
19
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
NBL-RAMP
Stantec
BL-5
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.34+81.15
73.12 LT
ELEV.41.44
BEGIN BRIDGE
POC 34+50.24 NBL-RAMP
END BRIDGE
POC 37+69.24 NBL-RAMP
PI = 36+00.00
EL = 72.50'
VC = 400'
K = 86
DS = 50 MPH
POC 36+17.74 NBL-RAMP
POC 89+31.48 Y-2
(-)1.4859%
PROPOSED GRADE
PI = 29+25.00
EL = 51.10'
VC = 800'
K = 163
DS = 55 MPH
(+)3.1704%
(-)1.7229%
RET. WALL
EXISTING GROUND
(+)0.7429%
SPEC.LAT. 3' BASE DITCH RT.
W/ 5' BERM
MATCHLINE STA. 27+00.00 NBL-RAMP
MATCHLINE STA. 38+50.00 NBL-RAMP
GPS U4007-3
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.40+82.74
165.29 LT
ELEV.38.81
BY4-17
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.42+19.83
124.29 LT
ELEV.36.75
BY4-18
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.46+70.53
45.74 LT
ELEV.38.49
BEGIN BRIDGE
POT 40+61.17 NBL-RAMP
END BRIDGE
POT 42+83.58 NBL-RAMP
POT 43+25.21 NBL-RAMP
TS 10+00.00 LOOP-ID
(112' RT) ELEV. 61.69
PI = 44+50.00
EL = 59.87'
VC = 300'
K = 116
DS = 50 MPH
(-)1.4859%
(-)4.0613%
PROPOSED GRADE
PI = 48+25.00
EL = 44.64'
VC = 450'
K = 103
DS = 50 MPH
POC 50+54.94 NBL-RAMP
POC 10+00 L-LINE
(23.50' LT) ELEV. 45.33
(+)0.3001%
POT 41+19.38 NBL-RAMP
POT 10+42.83 Y-2 CON
FUTURE RAMP 2B
POT 42+15.92 NBL-RAMP
POC 61+59.26 Y-1A SBL
EXISTING GROUND
UNDERCUT EXCAVATION
MATCHLINE STA. 38+50.00 NBL-RAMP
5/28/99
2/19/2010


5/28/99
U-4007B
20
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
Stantec
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
SBL-RAMP
BL-4
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.16+79.64
147.53 RT
ELEV.53.55
POT 62+00.00 Y-2
PC 10+00.00 SBL RAMP
(58.50 RT) EL 37.37
BEGIN GRADE
POC 10+25.00 SBL RAMP
ELEV. 37.88
BLEND GRADE
PI = 12+15.00
EL = 42.44
NO CURVE
PROPOSED GRADE
(+)2.2740%
(+)2.4000%
(+)2.0400%
EXISTING GROUND
(+) 0.4818%
(+) 0.1667%
SPEC.LAT. V DITCH W/ 5' BERM LT.
PI=10+50.00 (LT.)
EL=29.10
PI=16+00.000 (LT.)
EL=31.75
PI=17+50.00 (LT.)
EL=32.00
MATCHLINE STA 18+00.00 SBL-RAMP
SBL-RAMP
GPS U4007-4
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.24+80.11
153.55 RT
ELEV.60.33
POT 22+41.58 SBL-RAMP
POC 14+09.99 Y-0
BEGIN BRIDGE
POT 21+38.83 SBL-RAMP
PI = 23+50.00
EL = 68.25
VC = 1,000'
K = 191
DS = 60 MPH
END BRIDGE
POT 23+29.58 SBL-RAMP
(+)2.2740%
(-)1.2957%
PROPOSED GRADE
EXISTING GROUND
MATCHLINE STA 18+00.00 SBL-RAMP
MATCHLINE STA 28+50.00 SBL-RAMP
2' SILL
(+)2.2308%
SPEC.LAT. 3' BASE DITCH
W/ 5' BERM LT.
EXISTING 2 @
6'x 7' RCBC
PI=26+40.00 (LT.)
EL=22.60
+50
EL=27.48
2/18/2010
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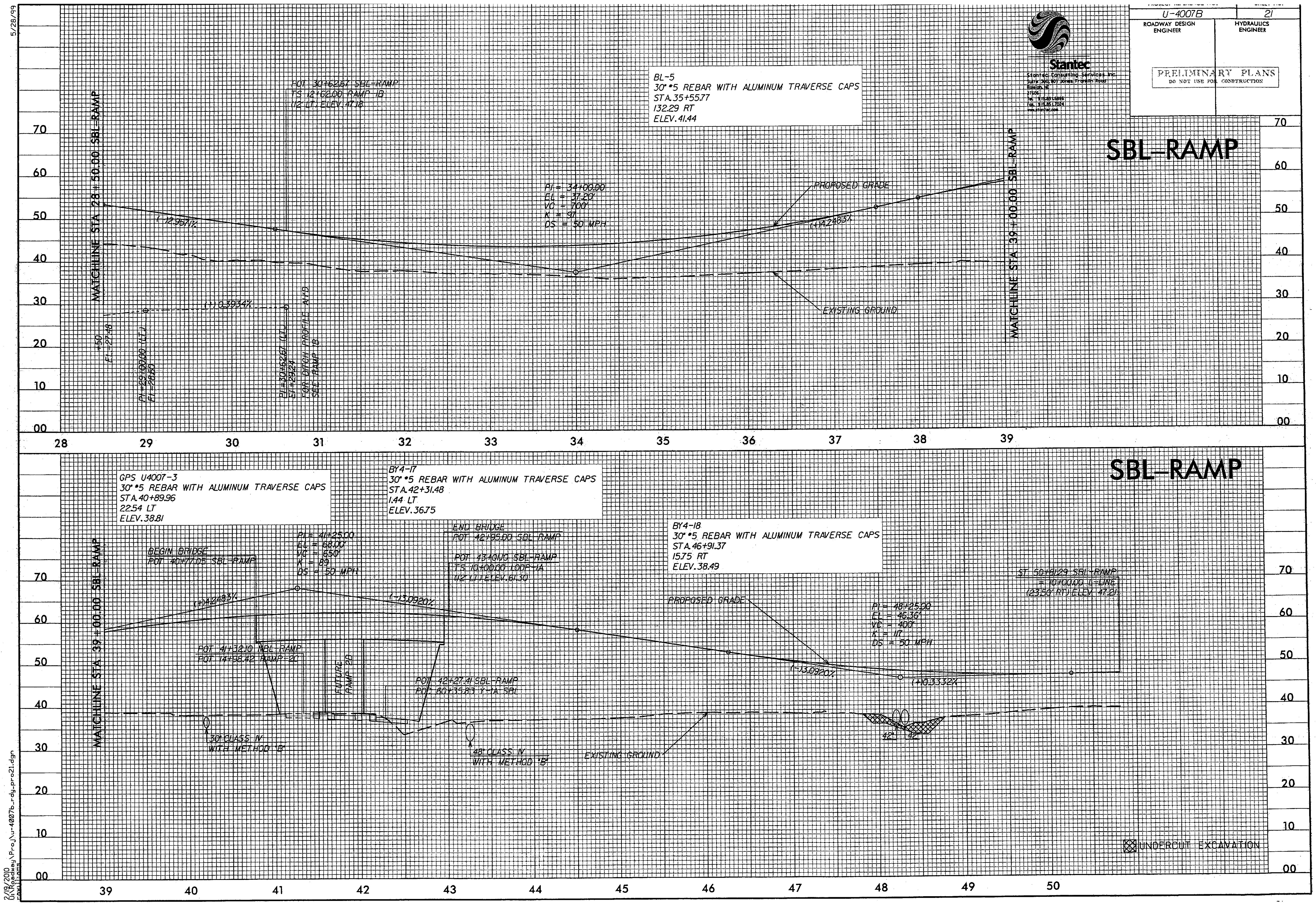

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21
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
Stantec
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
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SBL-RAMP
MATCHLINE STA. 28 + 50.00 SBL-RAMP
MATCHLINE STA. 39 + 00.00 SBL-RAMP
POT 30+62.67 SBL-RAMP
TS 12+62.00 RAMP -1B
112' LT ELEV. 47.18
BL-5
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 35+55.77
132.29 RT
ELEV. 41.44
PI = 34+00.00
EL = 37.20'
VC = 700'
K = 97
DS = 50 MPH
(-)2.9571%
(+)4.2485%
(+) 0.3934%
PROPOSED GRADE
EXISTING GROUND
FOR DITCH PROFILE A1/D
SEE RAMP 1B
SBL-RAMP
MATCHLINE STA. 39 + 00.00 SBL-RAMP
GPS U4007-3
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 40+89.96
22.54 LT
ELEV. 38.81
BY4-17
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 42+31.48
1.44 LT
ELEV. 36.75
BY4-18
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 46+91.37
15.75 RT
ELEV. 38.49
BEGIN BRIDGE
POT 40+77.05 SBL-RAMP
PI = 41+25.00
EL = 68.00'
VC = 650'
K = 89
DS = 50 MPH
END BRIDGE
POT 42+95.00 SBL-RAMP
POT 43+01.JG SBL-RAMP
TS 10+00.00 LOOP-1A
112' LT ELEV. 61.30
(+)4.2483%
(-)3.0920%
POT 41+32.10 NBL-RAMP
POT 14+98.42 RAMP-2C
FUTURE RAMP 2D
POT 42+27.41 SBL-RAMP
POT 60+35.83 Y-1A SBL
PROPOSED GRADE
PI = 48+25.00
EL = 46.36'
VC = 400'
K = 117
DS = 50 MPH
(-)3.0920%
(+)0.3332%
ST 50+81.29 SBL-RAMP
= 10+00.00 L-LINE
(23.50' RT) ELEV. 47.21
30" CLASS IV WITH METHOD 'B'
48" CLASS IV WITH METHOD 'B'
EXISTING GROUND
42"
UNDERCUT EXCAVATION
2/19/2010

5/28/99

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ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
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27606
Tel. 919.851.6866
Fax 919.851.7024
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RAMP-1A

BY4-19
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 14+07.58
79.86 LT
ELEV. 40.20

BY4-18
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 18+59.94
283.45 LT
ELEV. 38.49

POC 16+93.95 L-LINE
10+00.00 RAMP-1A
(35.5' LT.) ELEV. 46.11

PI = 10+45.00
EL = 46.88'
VC = 50'
K = 342
DS = 50 MPH

PI = 11+50.00
EL = 47.43'
VC = 80'
K = 488
DS = 50 MPH

PI = 14+00.00
EL = 48.33'
VC = 150'
K = 124
DS = 50 MPH

(+)0.3717%
(+)0.5238%
(+)0.3600%
(-)0.8477%
PROPOSED GRADE
EXISTING GROUND

MATCHLINE STA. 22+00.00 RAMP-1A

RAMP-1A

PI = 20+60.00
EL = 41.04'
VC = 50'
K = 130
DS = 50 MPH

PI = 21+25.00
EL = 40.28'
VC = 100'
K = 169
DS = 50 MPH

END CONSTRUCTION
POT 26+95.00 RAMP-1A
(12' LT.) Y-1A SBL ELEV. 37.43

(-)0.4606%
(-)0.8477%
(-)1.0548%
PROPOSED GRADE
EXISTING GROUND
22'
42"
48"

MATCHLINE STA. 22+00.00 RAMP-1A

UNDERCUT EXCAVATION

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paul.lams

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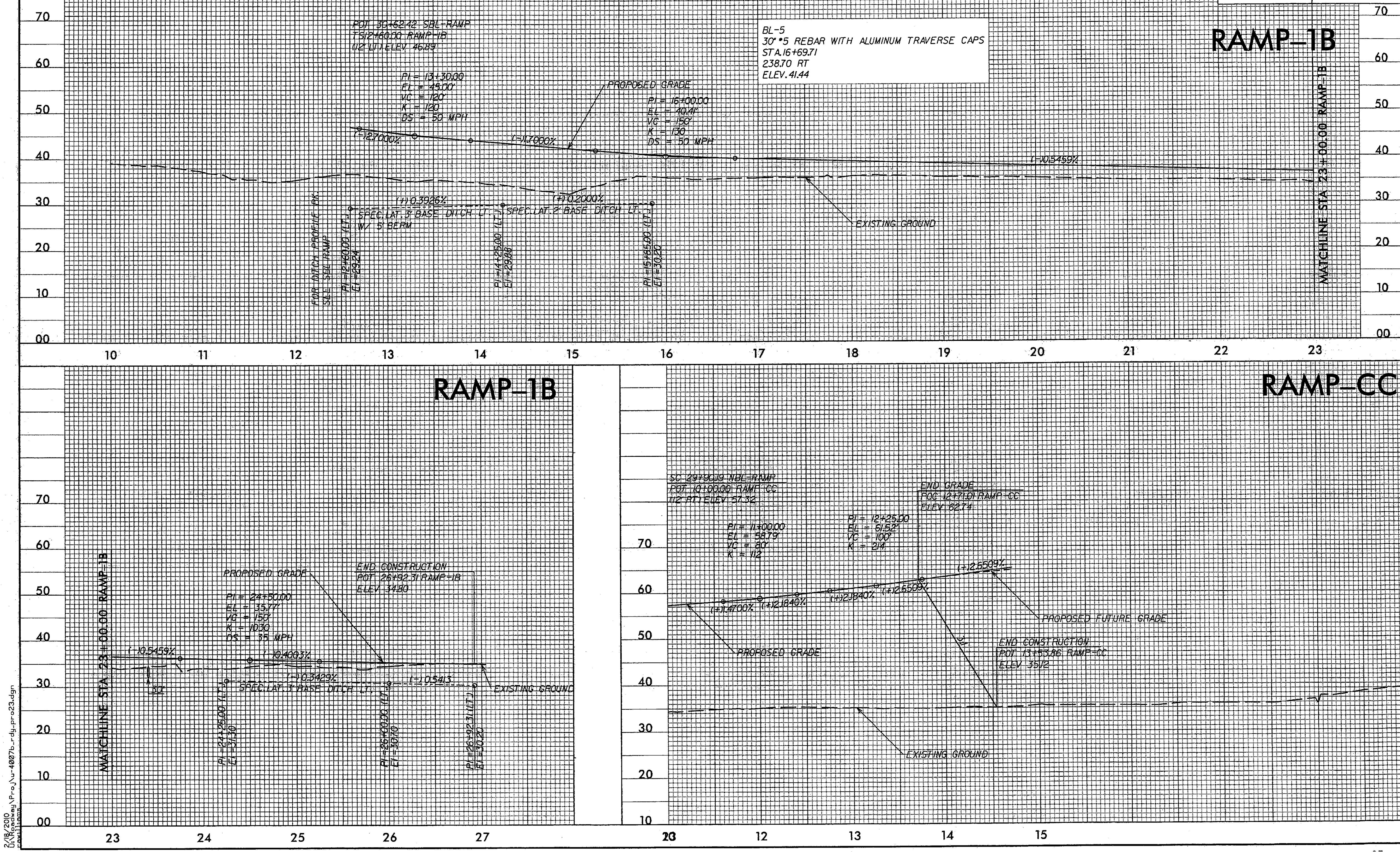
ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



RAMP-1B
POT 30+62.42 SBL-RAMP
TS 12+60.00 RAMP-1B
(112' LT) ELEV. 46.89
PI = 13+30.00
EL = 45.00'
VC = 120'
K = 120
DS = 50 MPH
PROPOSED GRADE
PI = 16+00.00
EL = 40.41'
VC = 150'
K = 130
DS = 50 MPH
BL-5
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.16+69.71
238.70 RT
ELEV. 41.44
(-)2.7000%
(-)1.7000%
(-)0.5459%
(+)0.3926%
(+)0.2000%
SPEC.LAT. 3' BASE DITCH LT.
W/ 5' BERM
SPEC.LAT. 2' BASE DITCH LT.
EXISTING GROUND
FOR DITCH PROFILE BK. SEE SBL RAMP
PI=12+60.00 (LT.) EL=29.24
PI=14+25.00 (LT.) EL=29.88
PI=15+85.00 (LT.) EL=30.20
MATCHLINE STA 23+00.00 RAMP-1B
RAMP-1B
PROPOSED GRADE
PI = 24+50.00
EL = 35.77'
VC = 150'
K = 1030
DS = 35 MPH
END CONSTRUCTION
POT 26+92.31 RAMP-1B
ELEV 34.80
(-)0.5459%
(-)0.4003%
(-)0.3429%
(-)0.5413
SPEC.LAT. 3' BASE DITCH LT.
EXISTING GROUND
MATCHLINE STA 23+00.00 RAMP-1B
PI=24+25.00 (LT.) EL=31.30
PI=26+00.00 (LT.) EL=30.70
PI=26+92.31 (LT.) EL=30.20
RAMP-CC
SC 29+90.19 NBL-RAMP
POT 10+00.00 RAMP-CC
112' RT ELEV 57.32
PI = 11+00.00
EL = 58.79
VC = 80'
K = 112
PI = 12+25.00
EL = 61.52'
VC = 100'
K = 214
END GRADE
POC 12+71.01 RAMP-CC
ELEV 62.74
(+)1.4700%
(+)2.1840%
(+)2.6509%
PROPOSED FUTURE GRADE
PROPOSED GRADE
END CONSTRUCTION
POT 13+53.86 RAMP-CC
ELEV 35.12
EXISTING GROUND

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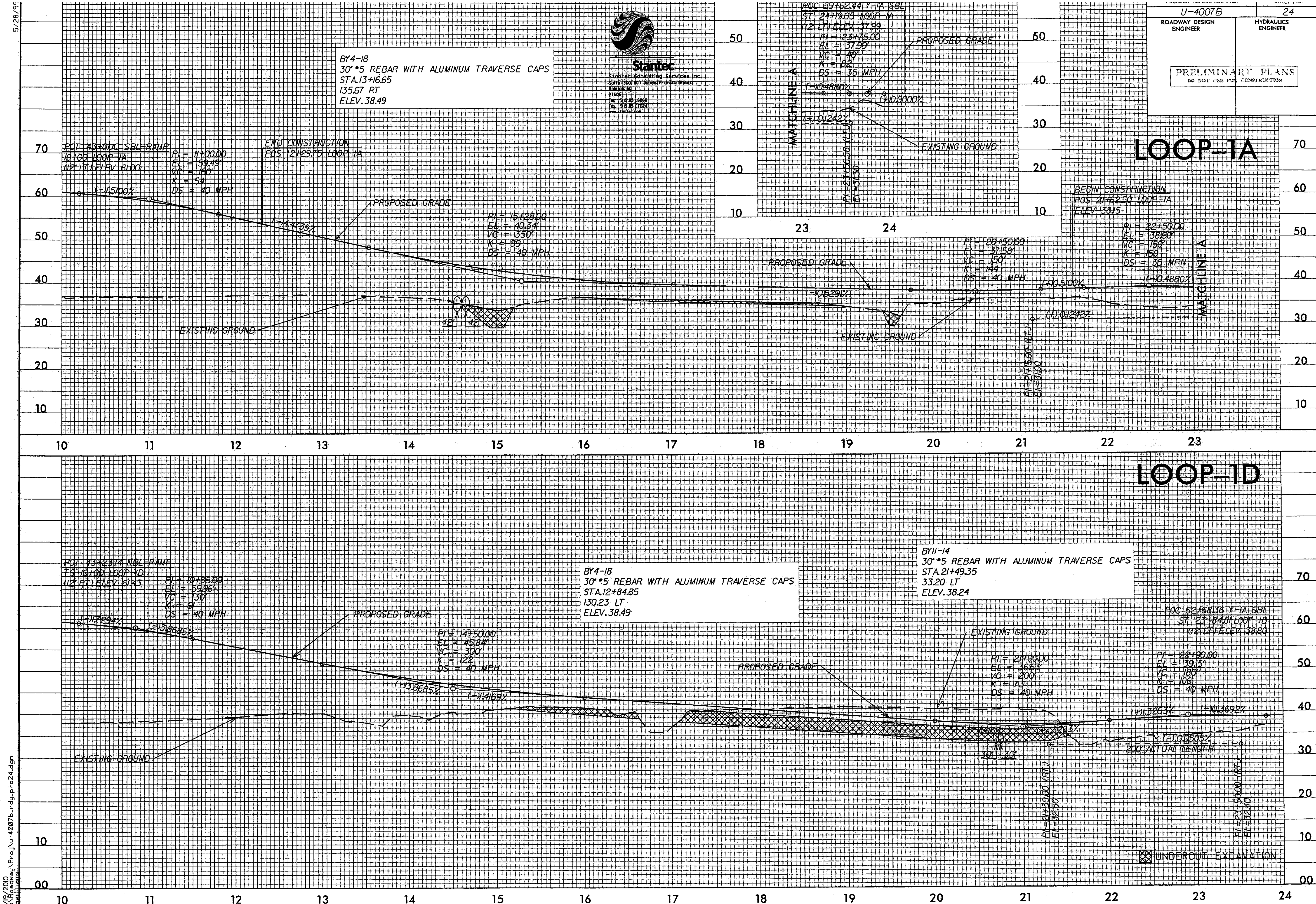

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24
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Stantec
LOOP-1A
BY4-18
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.13+16.65
135.67 RT
ELEV. 38.49
POT 43+01.00 SBL-RAMP
10+00 LOOP-1A
(12' LT) ELEV. 61.00
PI = 11+00.00
EL = 59.49'
VC = 160'
K = 54
DS = 40 MPH
END CONSTRUCTION
POS 12+29.75 LOOP-1A
(-)1.5100%
(-)3.4739%
PROPOSED GRADE
PI = 15+28.00
EL = 40.34'
VC = 350'
K = 89
DS = 40 MPH
EXISTING GROUND
42"
42"
POC 59+62.44 Y-1A SBL
ST 24+19.05 LOOP-1A
(12' LT) ELEV. 37.99
PI = 23+75.00
EL = 37.99'
VC = 40'
K = 82
DS = 35 MPH
(-)0.4880%
(+)0.0000%
(+)0.1242%
MATCHLINE A
PI = 23+56.58 (LT)
EL = 31.00
BEGIN CONSTRUCTION
POS 21+62.50 LOOP-1A
ELEV. 38.15
PI = 22+50.00
EL = 38.60'
VC = 150'
K = 150
DS = 35 MPH
PI = 20+50.00
EL = 37.58'
VC = 150'
K = 144
DS = 40 MPH
(-)0.5291%
(+)0.5100%
(-)0.4880%
(+)0.1242%
PI = 21+15.00 (LT)
EL = 31.00
LOOP-1D
POT 43+23.14 NBL-RAMP
TS 10+00 LOOP-1D
(12' RT) ELEV. 61.43
PI = 10+85.00
EL = 59.96'
VC = 130'
K = 61
DS = 40 MPH
(-)1.7294%
(-)5.8685%
PROPOSED GRADE
PI = 14+50.00
EL = 45.84'
VC = 300'
K = 122
DS = 40 MPH
(-)3.8685%
(-)1.4169%
BY4-18
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.12+84.85
130.23 LT
ELEV. 38.49
BY11-14
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.21+49.35
33.20 LT
ELEV. 38.24
POC 62+68.36 Y-1A SBL
ST 23+84.81 LOOP-1D
(12' LT) ELEV. 38.80
EXISTING GROUND
PI = 21+00.00
EL = 36.63'
VC = 200'
K = 73
DS = 40 MPH
PI = 22+90.00
EL = 39.15'
VC = 180'
K = 106
DS = 40 MPH
(+)1.3263%
(-)0.3692%
(-)0.0505%
200' ACTUAL LENGTH
30"
30"
PI = 21+30.00 (RT)
EL = 32.50
PI = 23+50.00 (RT)
EL = 32.40
UNDERCUT EXCAVATION
2/19/2010
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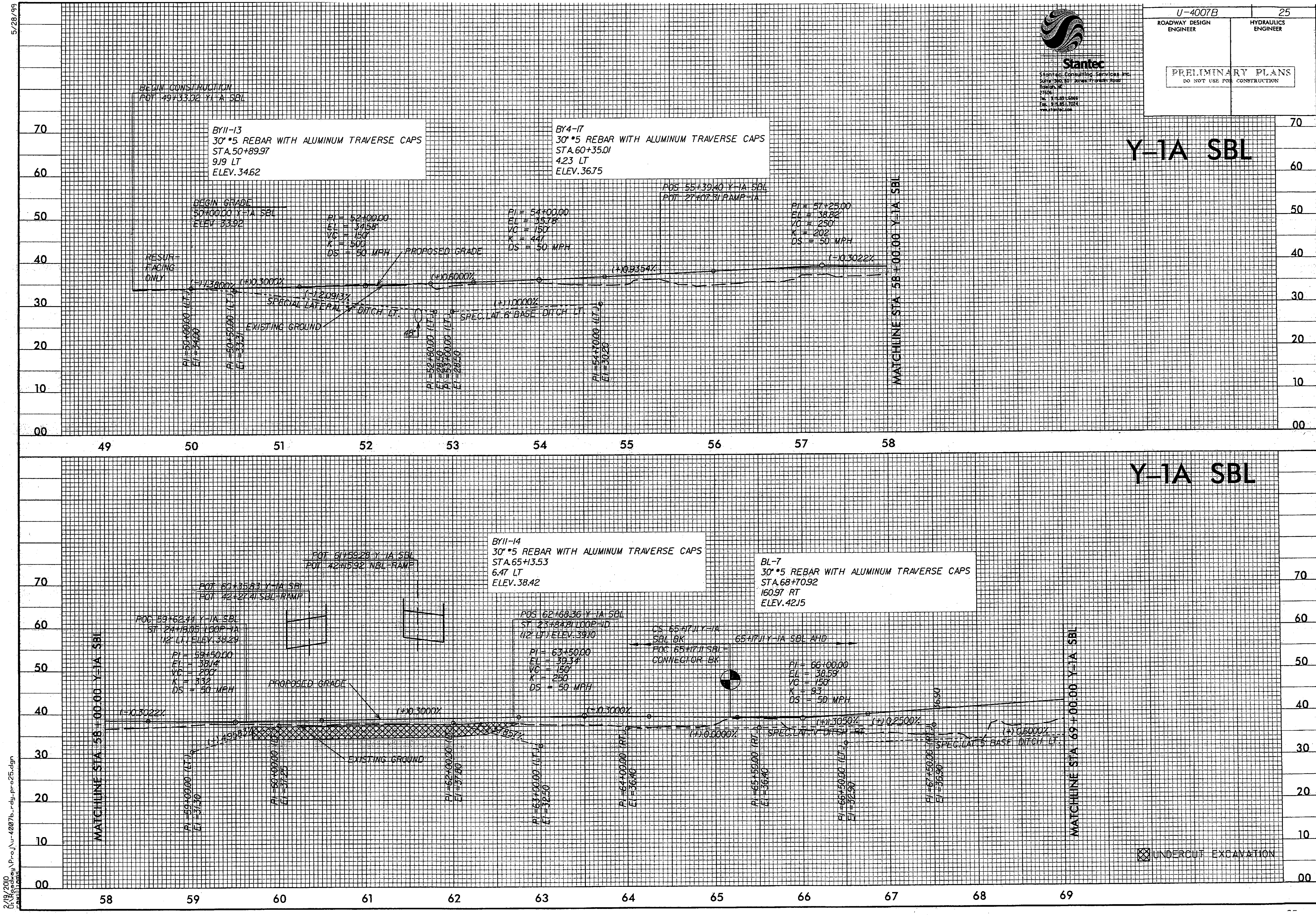
5/28/99



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25
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
Stantec
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
5/28/99
Y-1A SBL
BEGIN CONSTRUCTION
POT 49+33.92 Y1-A SBL
BY11-13
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.50+89.97
9.19 LT
ELEV. 34.62
BY4-17
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.60+35.01
4.23 LT
ELEV. 36.75
POS 55+39.40 Y-1A SBL
POT 27+07.31 RAMP-1A
BEGIN GRADE
50+00.00 Y-1A SBL
ELEV. 33.92
PI = 52+00.00
EL = 34.58'
VC = 150'
K = 500
DS = 50 MPH
PI = 54+00.00
EL = 35.78'
VC = 150'
K = 447
DS = 50 MPH
PI = 57+25.00
EL = 38.82'
VC = 250'
K = 202
DS = 50 MPH
RESURFACING ONLY
PROPOSED GRADE
EXISTING GROUND
SPECIAL LATERAL V DITCH LT.
SPEC. LAT. 6' BASE DITCH LT.
48"
(+)0.3000%
(+)0.6000%
(+)0.9354%
(-)0.3022%
(-)1.3800%
(-)2.0913%
(+)1.0000%
MATCHLINE STA. 58+00.00 Y-1A SBL
MATCHLINE STA. 69+00.00 Y-1A SBL
BY11-14
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.65+13.53
6.47 LT
ELEV. 38.42
BL-7
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.68+70.92
160.97 RT
ELEV. 42.15
POT 61+59.28 Y-1A SBL
POT 42+15.92 NBL-RAMP
POT 60+35.83 Y-1A SBL
POT 42+27.41 SBL-RAMP
POC 59+62.41 Y-1A SBL
ST. 24+18.05 LOOP-1A
(12' LT) ELEV. 38.29
PI = 59+50.00
EL = 38.14'
VC = 200'
K = 332
DS = 50 MPH
POS 62+68.36 Y-1A SBL
ST. 23+84.81 LOOP-1D
(12' LT) ELEV. 39.10
PI = 63+50.00
EL = 39.34'
VC = 150'
K = 250
DS = 50 MPH
CS 65+17.11 Y-1A SBL BK
POC 65+17.11 SBL-CONNECTOR BK
65+17.11 Y-1A SBL AHD
PI = 66+00.00
EL = 38.59'
VC = 150'
K = 93
DS = 50 MPH
PROPOSED GRADE
EXISTING GROUND
(-)0.3022%
(+)0.3000%
(+)0.0000%
(+)1.3050%
(+)0.2500%
(+)0.6000%
SPEC. LAT. V DITCH RT.
SPEC. LAT. 5' BASE DITCH LT.
UNDERCUT EXCAVATION
49 50 51 52 53 54 55 56 57 58
58 59 60 61 62 63 64 65 66 67 68 69
2/19/2010

5/28/99

U-4007B	26
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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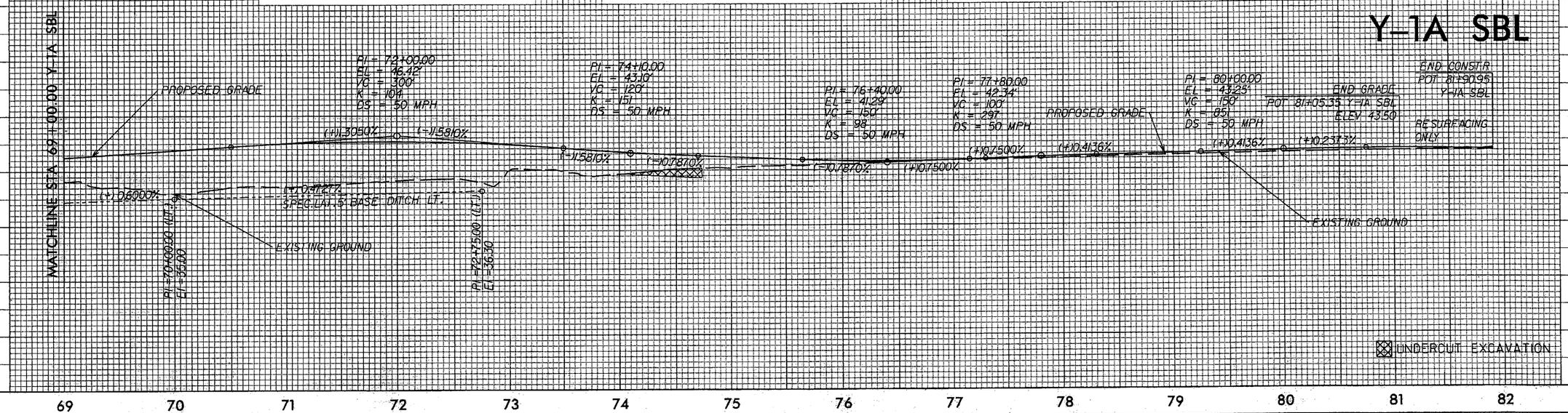
Y-1A SBL

BY11-15
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.72+60.02
28.62 RT
ELEV.39.93

BL-8
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.75+04.62
142.20 RT
ELEV.42.14

BY11-16
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.78+99.22
41.94 LT
ELEV.41.42

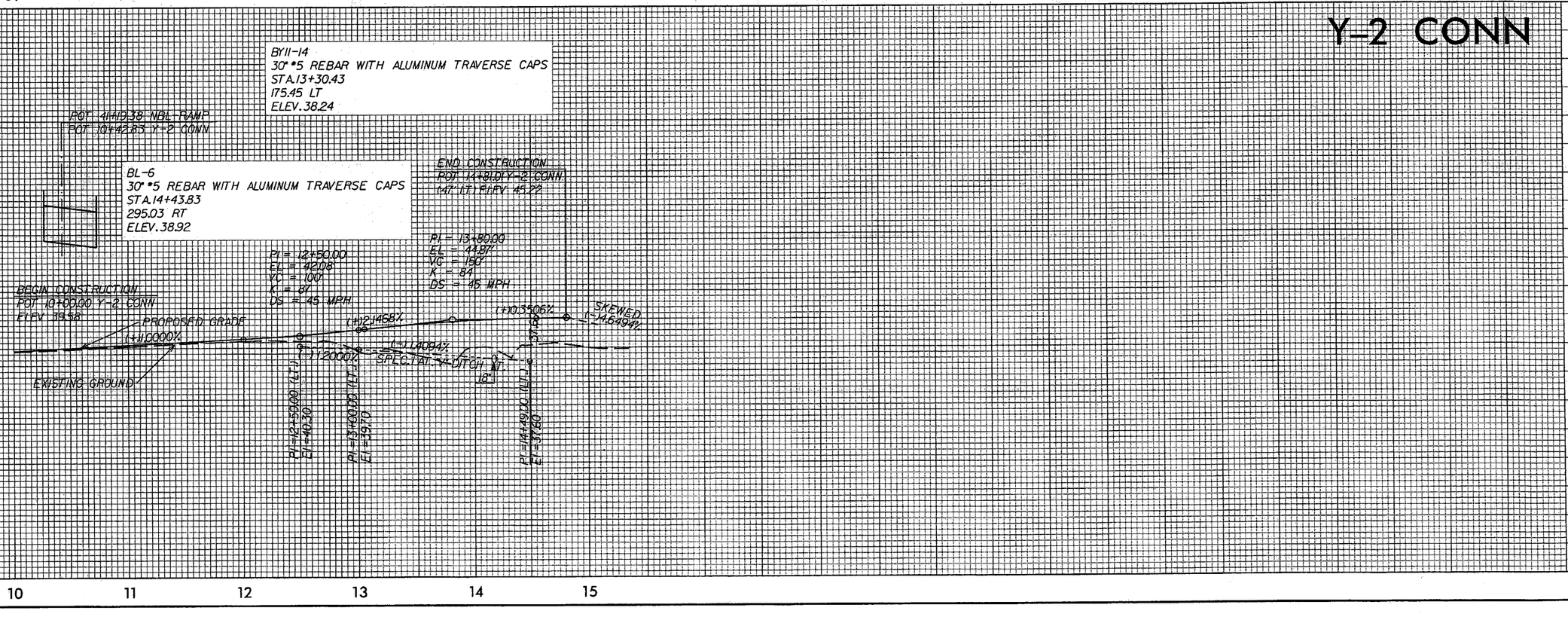


Y-2 CONN

BY11-14
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.13+30.43
175.45 LT
ELEV.38.24

POT 4HHD.38 NBL RAMP
POT 101+43.85 Y-2 CONN

BL-6
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.14+43.83
295.03 RT
ELEV.38.92



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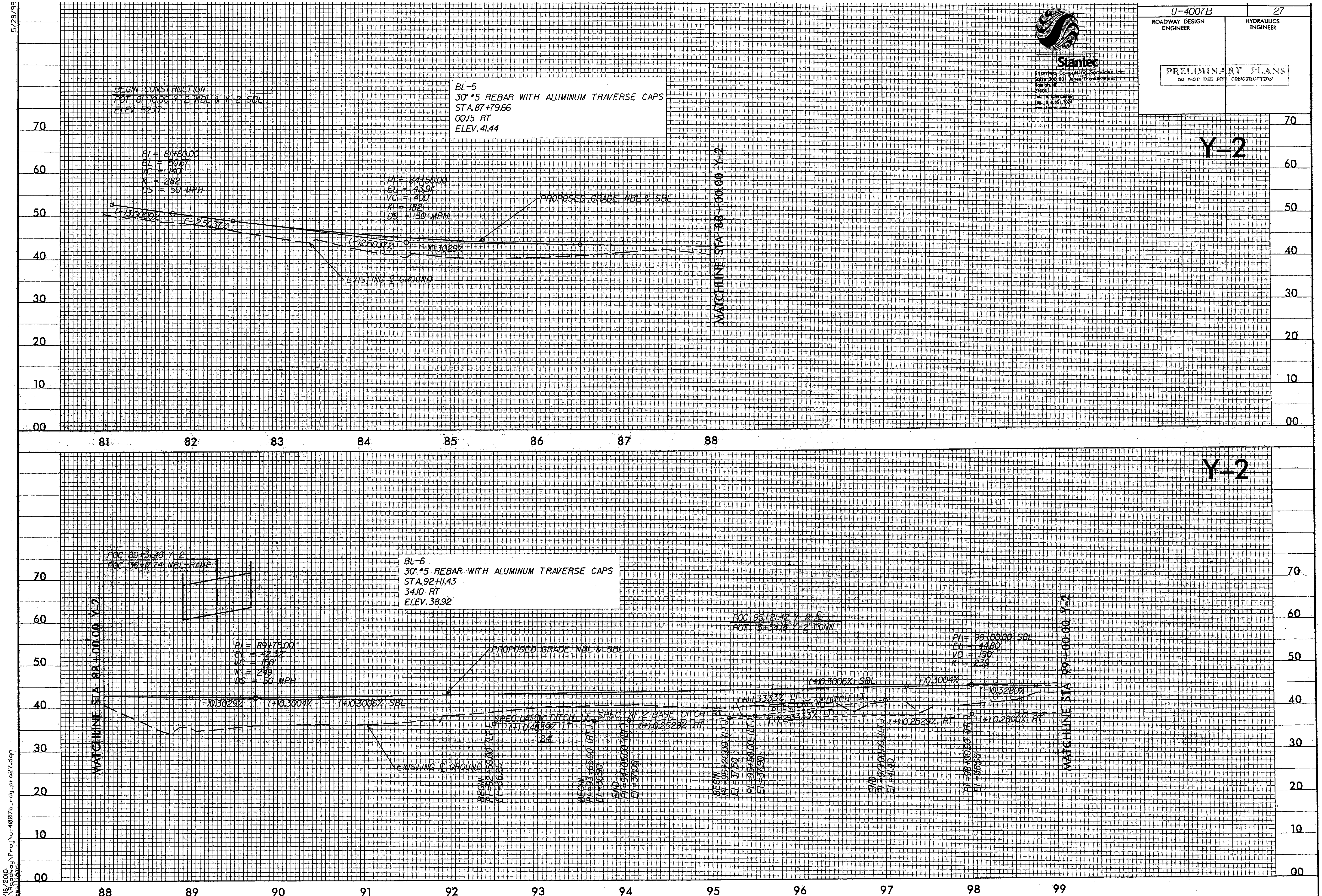
cwilliams



U-4007B
27
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Stantec
Stantec Consulting Services Inc.
Y-2
BEGIN CONSTRUCTION
POT 81+10.00 Y-2 NBL & Y-2 SBL
ELEV 52.77
BL-5
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA 87+79.66
00.15 RT
ELEV. 41.44
PI = 81+80.00
EL = 50.67
VC = 140'
K = 282
DS = 50 MPH
PI = 84+50.00
EL = 43.91'
VC = 400'
K = 182
DS = 50 MPH
(-)3.0000%
(-)2.5037%
(-)0.3029%
PROPOSED GRADE NBL & SBL
EXISTING ℄ GROUND
MATCHLINE STA 88+00.00 Y-2
81
82
83
84
85
86
87
88
Y-2
POC 89+31.48 Y-2
POC 36+17.74 NBL-RAMP
BL-6
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA 92+11.43
34.10 RT
ELEV. 38.92
PI = 89+75.00
EL = 42.32
VC = 150'
K = 249
DS = 50 MPH
(-)0.3029%
(+)0.3004%
(+)0.3006% SBL
PROPOSED GRADE NBL & SBL
EXISTING ℄ GROUND
SPEC LAT. V DITCH LT.
SPEC LAT. Z BASE DITCH RT.
(+)0.4839% LT
(+)0.2529% RT
POC 95+21.42 Y-2 ℄
POT 15+34.18 Y-2 CONN
(+)1.3333% LT
(+)2.3333% LT
(+)0.3006% SBL
(+)0.3004%
(-)0.3280%
(+)0.2529% RT
(+)0.2800% RT
PI = 98+00.00 SBL
EL = 44.80
VC = 150
K = 259
BEGIN PI = 92+50.00 (LT) El = 36.25
BEGIN PI = 93+65.00 (RT) El = 36.90
END PI = 94+05.00 (LT) El = 37.00
BEGIN PI = 95+20.00 (LT) El = 37.50
PI = 95+50.00 (LT) El = 37.90
END PI = 97+00.00 (LT) El = 41.40
PI = 98+00.00 (RT) El = 38.00
MATCHLINE STA 88+00.00 Y-2
MATCHLINE STA 99+00.00 Y-2
88
89
90
91
92
93
94
95
96
97
98
99
00
10
20
30
40
50
60
70
5/28/99
2/18/2010
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U-4007B	28
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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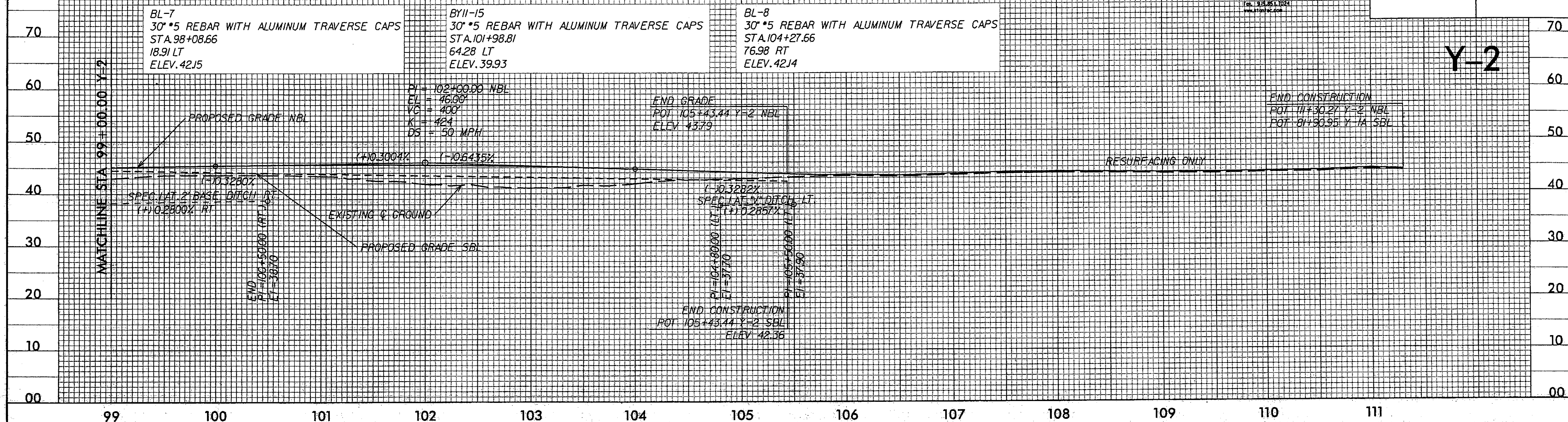
Y-2



BL-7
30" *5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.98+08.66
18.91 LT
ELEV.42.15
BY11-15
30" *5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.101+98.81
64.28 LT
ELEV.39.93
BL-8
30" *5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.104+27.66
76.98 RT
ELEV.42.14
MATCHLINE STA 99+00.00 Y-2
PROPOSED GRADE NBL
PI = 102+00.00 NBL
EL = 46.00'
VC = 400'
K = 424
DS = 50 MPH
(+)0.3004%
(-)0.6435%
(-)0.3280%
SPEC.LAT.2' BASE DITCH RT
(+)0.2800% RT
END
PI =100+50.00 (RT.)
EL =38.70
EXISTING ℄ GROUND
PROPOSED GRADE SBL
END GRADE
POT 105+43.44 Y-2 NBL
ELEV 43.79
(-)0.3282%
SPEC.LAT."V" DITCH LT.
(+)0.2857%
PI =104+80.00 (LT.)
EL =37.70
PI =105+50.00 (LT.)
EL =37.90
END CONSTRUCTION
POT 105+43.44 Y-2 SBL
ELEV 42.36
RESURFACING ONLY
END CONSTRUCTION
POT 111+30.27 Y-2 NBL
POT 81+90.95 Y-1A SBL
70
60
50
40
30
20
10
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99
100
101
102
103
104
105
106
107
108
109
110
111

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5/28/09

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	29
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Stantec
Stantec Consulting Services Inc.
3011 (300, 801) Jones Franklin Road
Raleigh, NC
27604
Tel. 919.881.6869
Fax. 919.881.7004
www.stantec.com

Y-4

BY5-33
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 15+69.55
716.35 LT
ELEV. 42.09

BY4-20
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 10+20.70
146.86 LT
ELEV. 35.15

BY5-34
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 18+58.37
375.75 LT
ELEV. 41.64

BEGIN CONSTRUCTION
POC 14+59.48 L-LINE
POT 10+35.50 Y-4
(39.50 RT) ELEV. 44.27

PI = 13+00.00
EL = 42.95'
VC = 150'
K = 185
DS = 40MPH

PROPOSED GRADE
EXISTING GROUND
(-)0.4990%
(+)0.3124%
(-)0.4000%
(-)0.5714%
SPEC LAT. 3' DITCH RT.
(+)0.2353%
24"
18"
PI=14+00.00 (RT)
EL=38.50
PI=12+75.00 (RT)
EL=37.50
PI=13+60.00 (RT)
EL=37.70
MATCHLINE STA 18+00.00 Y-4

BY5-35
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 21+71.02
188.29 LT
ELEV. 42.08

BY5-36
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 23+13.29
33.23 LT
ELEV. 42.89

BY5-37
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 25+63.21
6.79 RT
ELEV. 42.50

BY5-38
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA. 29+88.35
65.12 RT
ELEV. 45.22

MATCHLINE STA 18+00.00 Y-4

PROPOSED GRADE
EXISTING GROUND
(+)0.3124%
(-)0.3660%
SPEC LAT. 3' BASE DITCH RT.
(+)0.0667%
24"
36"
36"
PI=23+50.00 (RT)
EL=40.00
PI=25+00.00 (RT)
EL=40.10
MOOSEHAVEN RD

PI = 23+50.00
EL = 46.23'
VC = 150'
K = 221
DS = 40MPH

PI = 28+50.00
EL = 44.40'
VC = 200'
K = 129
DS = 40 MPH

END CONSTRUCTION
POT 30+00.00 Y-4
ELEV. 46.19

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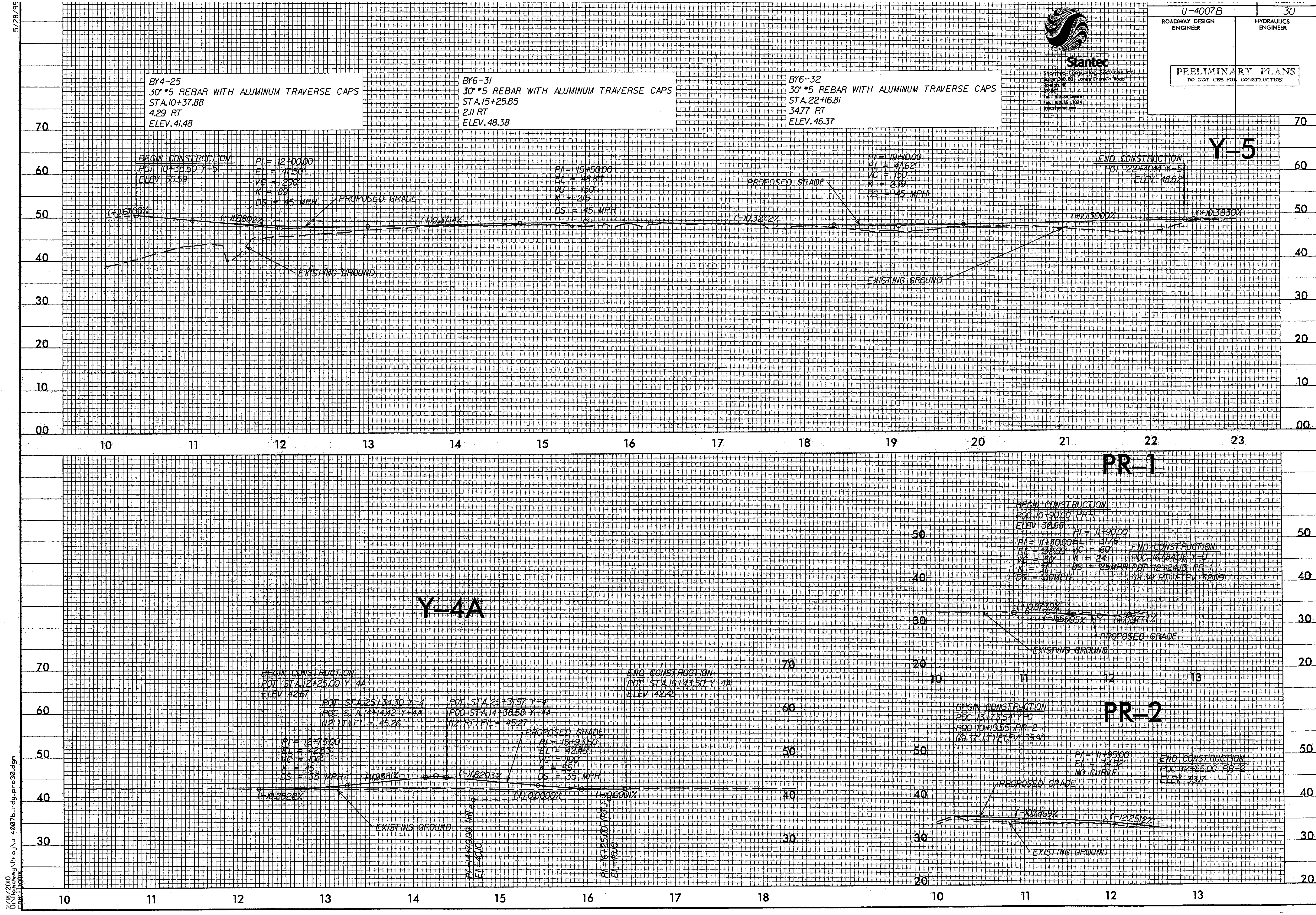
cwilliams



U-4007B
30
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
Stantec
Stantec Consulting Services Inc.
BY4-25
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.10+37.88
4.29 RT
ELEV. 41.48
BY6-31
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.15+25.85
2.11 RT
ELEV. 48.38
BY6-32
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.22+16.81
34.77 RT
ELEV. 46.37
Y-5
BEGIN CONSTRUCTION
POT 10+35.50 Y-5
ELEV 50.59
PI = 12+00.00
EL = 47.50
VC = 200'
K = 89
DS = 45 MPH
PROPOSED GRADE
PI = 15+50.00
EL = 48.80
VC = 150'
K = 216
DS = 45 MPH
PI = 19+10.00
EL = 47.62
VC = 150'
K = 239
DS = 45 MPH
PROPOSED GRADE
END CONSTRUCTION
POT 22+41.44 Y-5
ELEV 48.62
(+)1.6700%
(-)1.8802%
(+)0.3714%
(-)0.3272%
(+)0.3000%
(+)0.3830%
EXISTING GROUND
EXISTING GROUND
PR-1
BEGIN CONSTRUCTION
POC 10+90.00 PR-1
ELEV 32.66
PI = 11+30.00
EL = 32.63
VC = 50'
K = 31
DS = 30MPH
PI = 11+90.00
EL = 31.76
VC = 60'
K = 24
DS = 25MPH
END CONSTRUCTION
POC 16+84.06 Y-0
POT 12+24.13 PR-1
(18.39' RT) ELEV 32.09
(+)0.0739%
(-)1.5505%
(+)0.9777%
PROPOSED GRADE
EXISTING GROUND
Y-4A
BEGIN CONSTRUCTION
POT STA.12+25.00 Y-4A
ELEV 42.67
POT STA.25+34.30 Y-4
POC STA.14+14.42 Y-4A
(12' LT) EL = 45.26
POT STA.25+31.57 Y-4
POC STA.14+38.58 Y-4A
(12' RT) EL = 45.27
PROPOSED GRADE
PI = 12+75.00
EL = 42.53
VC = 100'
K = 45
DS = 35 MPH
PI = 15+93.50
EL = 42.45
VC = 100'
K = 55
DS = 35 MPH
END CONSTRUCTION
POT STA.16+43.50 Y-4A
ELEV 42.45
(-)0.2822%
(+)1.9581%
(-)1.8203%
(+)0.0000%
(-)0.0001%
EXISTING GROUND
PI = 14+70.00 (RT)
EL = 40.10
PI = 16+25.00 (RT)
EL = 40.10
PR-2
BEGIN CONSTRUCTION
POC 13+73.54 Y-0
POC 10+19.55 PR-2
(19.37' LT) ELEV 35.90
PI = 11+95.00
EL = 34.52
NO CURVE
END CONSTRUCTION
POC 12+55.00 PR-2
ELEV 33.17
PROPOSED GRADE
(-)0.7869%
(-)2.2512%
EXISTING GROUND
5/28/99
2/18/2010
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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-4007B	31
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Stantec
Stantec Consulting Services Inc.
Suite 200, 801 Jones Franklin Road
Raleigh, NC
27606
Tel. 919.851.6866
Fax. 919.851.7024
www.stantec.com

SERVICE ROAD

BY11=12
36" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.10+86.00
283.23' LT
ELEV. 33.24

BY11=13
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.17+02.57
141.54' LT
ELEV. 34.62

BY14=17
30" #5 REBAR WITH ALUMINUM TRAVERSE CAPS
STA.21+07.25
596.04' LT
ELEV. 36.75

BEGIN CONSTRUCTION
TIE MIRACLE DRIVE
POT 10+10.06 SER-1
ELEV. 33.13

PI = 12+50.00
EL = 32.91
VC = 100'
K = 159
DS = 30MPH

END CONSTRUCTION
POT 22+35.00 SER-1

END GRADE
POT 22+08.41 SER-1
ELEV. 35.81

PROPOSED GRADE
EXISTING GROUND
24"
(-)0.3000%
(+)0.5385%
(+)0.1250%
(+)2.0000%
(+)0.1000%
(+)0.3544%
(+)0.9000%
(+)1.2500%

PI=12+30.00 (LT)
EL= 26.35

PI=14+25.00 (LT)
EL= 27.20

PI=14+50.00 (RT)
EL= 27.40

PI=16+50.00 (RT)
EL= 27.65

PI=17+00.00 (RT)
EL= 27.65

PI=18+50.00 (RT)
EL= 28.80

PI=19+50.00 (RT)
EL= 29.70

PI=21+50.00 (RT)
EL= 32.20

10 11 12 13 14 15 16 17 18 19 20 21 22 23

00 10 20 30 40 50 60 70

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