STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR
SECRETARY

May 9, 2011

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

ATTN: Mr. Monte Matthews
NCDOT Coordinator

Subject: **Application for Individual Section 404 Permit and Individual Section 401 Certification** for Improvements to the NC 88 (West Main Street) from NC 194 to US 221 Business (South Main Street), Ashe County, NC (TIP No. U-3812, State Project No. 81711501, Federal Aid Project No. STP-0088(6)) Debit $570.00 from WBS Element 34977.1.1
T.I.P. Project U-3812

Dear Mr. Matthews:

The North Carolina Department of Transportation (NCDOT) proposes improvements to NC 88 (West Main Street) from NC 194 to US 221 Business (South Main Street) in Jefferson, NC including widening, grading, paving, resurfacing, drainage, signals, sidewalks and retaining wall. The total project length is approximately 1.5 miles. This application package consists of: the cover letter, ENG Form 4345, EEP mitigation acceptance letter, SHPO historical architecture concurrence letter, SHPO archaeology concurrence letter, interagency hydraulic design review (4b) meeting minutes, interagency permit drawing review (4c) meeting minutes, Indirect and Cumulative Effects update memo, Stormwater Management Plan, permit (hydraulic) drawings and half-size roadway plan sheets.

Purpose and Need
The purpose of this project is to improve safety on NC 88 to a multilane facility from NC 194 to US 221 Business in the Town of Jefferson.

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

TELEPHONE: 919-707-6100
FAX: 919-212-5785

WEBSITE: NCDOT.GOV

LOCATION:
1020 BIRCH RIDGE DRIVE
RALEIGH, NC 27610-4328

Project Schedule
The project is currently scheduled to let December 20, 2011 with a Review date of November 1, 2011.

Summary of Impacts
Construction of the proposed project will necessitate impacts to jurisdictional waters. Table 1 shows the impacts associated with this project.

Table 1– U-3812 Summary of Impacts

	Permanent Wetland (ac)	Temporary Wetland (ac)	Permanent Surface Water (lf)	Temporary Surface Water (ac)
Totals	**0.19**	**0.0**	**623**	**0.01**

Summary of Utility Impacts:
There are no impacts to jurisdictional resources due to utility relocations on U-3812.

Summary of Mitigation:
This project has been designed to avoid and minimize impacts to jurisdictional areas throughout the National Environmental Policy Act (NEPA) and design processes. However, project impacts will necessitate compensatory mitigation for the unavoidable impacts. Detailed descriptions of these actions are presented in the mitigation portion of this application. The EEP will provide compensatory mitigation for 623 feet of stream and 0.19 acre of wetland impacts.

NEPA DOCUMENT STATUS

An Environmental Assessment (EA) was completed by the NCDOT in compliance with the NEPA. The EA explains the purpose and need for the project, provides a description of the alternatives considered and characterizes the social, economic, and environmental effects. After the approval of the EA (August 8, 2007) and Finding of No Significant Impact (FONSI) (August 20, 2008) a Right of Way Consultation was completed on September 11, 2009. Copies of approved documents were provided to regulatory review agencies involved in the approval process. Additional copies will be provided upon request.

INDEPENDENT UTILITY

The subject project is in compliance with 23 CFR Section 771.111(f) which lists the Federal Highway Administration (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; and
(3) The project does not restrict consideration of alternatives for other reasonable

foreseeable transportation improvements.

ALTERNATIVES CONSIDERED

NCDOT considered four build alternatives. Those four build alternatives are listed below

Alternative 1: 3-lane shoulder section widening (entire project)
Alternative 2: 3-lane shoulder section (rural portion) and 3 lane curb and gutter section widening (urban project)
Alternative 3: 3-lane shoulder section (rural portion) and 5-lane curb and gutter section widening (urban portion)
Alternative 4: Safety improvements alternative

The NCDOT selected Alternative 4 as the preferred alternative. Alternative 4 impacts fewer residences and businesses, causes less disruption to the community, impacts fewer jurisdictional areas, and has the least impact to the Section 4(f) resource, the Benjamin Neal House.

RESOURCE STATUS

The proposed project is in the New River Basin, Hydrologic Unit 05050001. In August 2002 biologist from Stantec conducted wetland and stream determinations within U-3812 using the field delineation method outlined in the 1987 Corps of Engineers Wetland Delineation Manual. Jean Manuele of the USACE verified the delineations August 27, 2002. An updated verification was issued by Monte Matthews of the USACE on May 13, 2008. No designated Outstanding Resource Waters (ORW), High Quality Waters (HQW), Water Supply I (WS-I), Water Supply II (WS-II) or 303(d) waters occur within 1.0 mile of the project study area. No waters classified as trout waters by the NC Wildlife Resources Commission will be impacted by this project.

IMPACTS TO WATERS OF THE US

Wetlands:
There will be a total of 0.19 acre of impacts to wetlands from the subject project.

Table 2- U-3812 Wetland Impacts

Site	Permanent Fill in Wetlands (ac)	Excavation in Wetlands	Mechanized Clearing (ac)	Temporary Fill (ac)	Mitigation Required (ac)
3	0.04	0.01	0.01	-	0.12
4	0.09	0.04	-	-	0.26
Total	**0.13**	**0.05**	**0.01**	**0**	**0.38**

Streams:
Stream impacts occur at 3 sites on this project and total 623 feet. Table 3 lists surface water impacts including stream name, type of structure, amount of impacts, mitigation required, DWQ stream index number, and DWQ classification.

Table 3 – U-3812 Surface Water Impacts

Site	Stream Name and Intermittent (I), Perennial (P), or Both (B)	Structure/ Size Type	Permanent Impacts (feet)	Mitigation Required (feet)	Temporary Impacts (acres)	DWQ Index number	DWQ Class
1	UTA and UTA-1 to Little Buffalo Creek (P)	24"/36" RCP	86	86	<0.01	10-2-20-1	C; Tr: +
2	UTB to Little Buffalo Creek (P)	2 @ 60" CSP	67	67	<0.01	10-2-20-1	C; Tr: +
4	UTA and UTB to Naked Creek (P)	10'x6' RCBC	470	470	0.01	10-1-32	C: +
Total			**623**	**623**	0.01		

Site 1: The shoulder will be widened and require the extension of the existing 36" CMP with a 36" RCP. The pipe extension will result in 74 feet of permanent stream impacts and less than 0.01 acre of temporary impacts to UTA-1 to Little Buffalo Creek and 12 feet of permanent impacts to UTA to Little Buffalo Creek.

Site 2: NC 88 will be shifted to the south slightly requiring the existing two 60" CMP's to be replaced with two 60" CSP's. The pipe replacement will result in 67 feet of permanent impacts and less than 0.01 acre of temporary impacts to UT-B to Little Buffalo Creek.

Site 3: An existing 24" concrete pipe will be extended with a 24" CSP and a preformed scour hole will be constructed at the pipe outlet. The pipe extension and the preformed scour hole will result in a complete take of the riparian wetland. Wetland impacts will consist of 0.04 acre of fill, 0.01 acre of excavation, and 0.01 acre of mechanized clearing for a total of 0.06 acre.

Site 4: A turn lane will be added in this portion of the project and will result in the widening of the road footprint. The stream designated as Naked Creek UT-A is currently located at the base of the existing shoulder and will need to be relocated parallel to the proposed slope stake line. The stream relocation will be planted with willow stakes or a suitable alternative. Impacts to UT-A are composed of 443 feet of permanent impacts and less than 0.01 acre of temporary impacts. The existing 60" and 30" dual pipes on Naked Creek UT-B will be replaced with a single barrel 10'x6' RCBC. The proposed 10'x6' RCBC will be buried 1 foot and include three concrete sills and four-foot long notches will alternate between the sills creating a low flow channel inside the culvert. Impacts to UT-B consist of 27 feet of permanent impacts and less than 0.01 of permanent impacts.

FEDERALLY PROTECTED SPECIES

Plants and animals with federal classifications of Endangered (E), Threatened (T), Proposed Endangered (PE), Proposed Threatened (PT), are protected under provisions of

Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. As of September 22, 2010, the United States Fish and Wildlife Service lists a total of seven federally protected species for Ashe County. Conclusions for all species listed below are "No Effect" (Table 4). Marginal habitat for swamp pink and Virginia spiraea may exists along the edges of streams and wetlands in the project area. Surveys were updated June 10, 2009 and no specimens were found. Updated surveys will be conducted in 2011 during the appropriate survey window.

Table 4- Federally protected species listed for Ashe County.

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
Glyptemys muhlenbergii	Bog turtle	T(S/A)	No	Not Required
Liatris helleri	Heller's blazing star	T	No	No Effect
Hedyotis purpurea var. *Montana*	Roan Mountain bluet	E	No	No Effect
Geum radiatum	Spreading avens	E	No	No Effect
Helonias bullata	Swamp pink	T	Yes	No Effect
Spiraea virginiana	Virginia spiraea	T	Yes	No Effect
Gymnoderma lineare	Rock gnome lichen	E	No	No Effect

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

TROUT WATERS AND MORATORIUMS

During the Concurrence Point 2 meeting, Marla Chambers of the North Carolina Wildlife Resources Commission (NCWRC) stated that a trout moratorium would not be required for this project. By copy of this letter and attachments, NCDOT hereby requests NCWRC's review. NCDOT requests that NCWRC forward their comments to the Corps of Engineers within 30 days of receipt of this application.

CULTURAL RESOURCES

Archaeology

An archaeological survey was conducted to locate existing archaeological resources in the vicinity of the project area and to determine if any of these sites were potentially affected by the project. One site (31 Ah224/224**) was discovered during the course of the investigation but it did not yield archeological deposits eligible for listing on the National Register of Historic Places. The NCDOT concluded that no further archeological investigations are warranted prior to construction and a finding of "no historic properties affected" is appropriate for this project. The State Historic Preservation Office (SHPO) concurred with the findings and the recommendations from the Archeological Survey Report. A copy of the letter from SHPO is included in the Environmental Assessment. *A copy of this letter is attached with this application package.*

Historic Architecture

The Joseph Benjamin Neal House is eligible for the National Register of Historic Places. The proposed National Register Boundary includes the entire property parcel. Based on the Historical Effects Meeting held on July 14, 2009 and an additional NCDOT meeting on August 20, 2009, the project plans showed one potential area where construction activities or additional permanent easements will extend outside the of the proposed right-of-way on the Neal Property. The portion of the project that may extend onto the Neal property is in the area of the stream relocation where a temporary construction easement is needed and a 30 foot wide conservation easement for mitigation credits may be acquired. The SHPO agreed that this would result in no adverse effect assessment. A copy of the SHPO concurrence form is included with this application.

UTILITY IMPACTS

No utility relocations will result in additional impacts to streams on U-3812.

FEMA COMPLIANCE

This project will have no impacts on the 100-year floodplain.

INDIRECT AND CUMULATIVE EFFECTS ANALYSIS

The Indirect and Cumulative Effects analysis was updated May 21, 2008. Potential indirect and cumulative impacts within the Growth Impact Study Area (GISA) can be found in the attached memorandum.

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:

Avoidance has been employed to the maximum extent practical. All wetland areas not affected by the project will be protected from unnecessary encroachment.

General avoidance measures incorporated into the project design

- No staging of construction equipment or storage of construction supplies will be allowed in wetlands or near surface waters.
- No borrow or waste areas will be located in wetland areas without a permit from the USACE.
- The project has been designed to avoid all impacts to Little Buffalo Creek.
- All impacts to the pond located at Station 58+75 will be avoided

Minimization:
Minimization has been employed in the project area to the maximum extent practical. Unnecessary wetland impacts were reduced by the selection of alternatives that minimized stream and wetland impacts.

Project Wide Minimization Measures

- The selection of Build Alternative 4
- Use of 2:1 side slopes in jurisdictional areas.
- Strict adherence to the procedures contained in Best Management Practices for Protection of Surface Waters, as well as NC Department of Environment and Natural Resources (NCDENR), Division of Land Resources, Land Quality Section's *North Carolina Erosion and Sediment Control Planning and Design Manual* will aid in avoiding and minimizing impacts to water resources and aquatic communities.
- No Erosion control structures will be placed in waters of the U.S.
- Clearing and grubbing activities will be minimized to reduce impacts to riparian buffers.

Site specific minimization efforts that have been employed on U-3812 include:

- Site 2: The invert of one of the 60" CMPs will be buried to accommodate low water flow and fish passage.
- Site 3: A preformed scour hole will be constructed at the outlet of the 24" pipe, upstream of the pond. Best Management Practices will also be used during construction to protect the pond during construction.
- Site 4: The 10'x6' RCBC will include three concrete sills and four-foot long notches will alternate between the sills creating a low flow channel inside the culvert. The stream that will be relocated into a lateral base ditch will be replanted with willows to stabilize the banks and re-establish current conditions.

Compensatory Mitigation:
The construction of the U-3812 will result in 623 feet of stream impacts and 0.19 acre of permanent wetland impacts that will require mitigation within the New River Basin.

The NCDOT evaluated all streams on the project, including the three streams recommended during the 4A concurrence meeting, for onsite mitigation following the selection of the Least Environmentally Damaging Practical Alternative (LEDPA). The NCDOT attempted to carry out mitigation to the stream located between Stations 81+53 and 86+20 that runs parallel to the widening and will need to be relocated. The NCDOT was unable to acquire a 30 foot conservation easement from the landowner, therefore onsite mitigation cannot be conducted at this stream.

The mitigation for 623 feet of permanent impacts to cold water streams, and 0.19 acre of permanent impacts to wetlands within HUC 05050001 will be provided by EEP (See attached letter).

REGULATORY APPROVALS SUMMARY

Section 404 Permit: Application is hereby made for a Department of the Army Section 404 Individual Permit for the above-described activities for the proposed TIP project R-2233A.

Section 401 Permit: Application is hereby made for a 401 Water Quality Certification to the DWQ for the above-described activities. In compliance with Section 143-215.3D(e) of the NCAC, we will provide $570 to act as payment for the processing of the Section 401 Permit. We are providing five copies of this application to the NCDWQ.

If you have any questions or need additional information please call Mr. Brett Feulner, at (919) 707-6116. A copy of this permit application and its distribution list will be posted on the NCDOT website at http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html

Sincerely,

E. L. Luck

fcv Gregory J. Thorpe, Ph.D., Branch Manager
Project Development and Environmental Analysis Branch

cc.
NCDOT Permit Application Standard Distribution List

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT (33 CFR 325)	OMB APPROVAL NO. 071-0003 Expires December 31, 2004

The 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 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

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413. 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 processed 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. APPLICANTS NAME Gregory J. Thorpe, Ph.D., Branch Manager Project Development and Environmental Analysis North Carolina Department of Transportation	8. AUTHORIZED AGENTS NAME AND TITLE (an agent is not required) Not applicable
6.APPLICANTS ADDRESS 1598 Mail Service Center Raleigh, North Carolina 27699-1548	9. AGENTS ADDRESS
7 APPLICANTS PHONE NOS. WITH AREA CODE a. Residence b. Business (919) 707-6116	10. AGENTS PHONE NOS. WITH 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 OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE(*see instructions*)
U-3812-Safety improvements to NC 88

13. NAME OF WATERBODY, IF KNOWN (*if applicable*) Tributaries to the New River	14. PROJECT STREET ADDRESS (*if applicable*) NA
LOCATION OF PROJECT **Ashe** COUNTIES **NC** STATE	

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (*see instructions*)
Too many to list here, please see attached cover letter

17 DIRECTIONS TO THE SITE
See the attached permit drawings and half size plan sheets.

18. Nature of Activity (*Description of project, include all features*)
Safety Improvements to NC 88

19. Project Purpose (*Describe the reason or purpose of the project, see instructions*)
The purpose of the project is to improve safety along NC 88

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

20. Reason(s) for Discharge
Widening of new highway that impacts several jurisdictional waters of the US

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

22. Surface Area in Acres of Wetlands or Other Waters Filled (*see instructions*)
See impact summary table in the attached permit drawings.

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 affected adjacent landowner table in the attached permit drawings.

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 is 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 for Gregory J. Thorpe, PhD / May 9, 2011

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 manor 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 of entry, shall be fines not more than $10,000 or imprisoned not more than five years or both.

Ecosystem Enhancement PROGRAM

April 21, 2011

Mr. Gregory J. Thorpe, Ph.D.
Manager, Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

U-3812, Jefferson – NC 88 Widening from NC 194 to US 221 Business, Ashe County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream and riparian wetland mitigation for the subject project. Based on the information supplied by you on April 20, 2011, the impacts are located in CU 05050001 of the New River Basin in the Northern Mountains (NM) Eco-Region, and are as follows:

New 05050001 NM	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	623	0	0	0.13	0.06	0	0	0
Mitigation Units (Credits-up to 2:1)	1,246	0	0	0.38	0	0	0	0

This mitigation acceptance letter replaces the mitigation acceptance letter issued on March 1, 2011. In accordance with the directive from the February 8, 2011 IRT meeting, non-riparian wetland impacts located in the mountains and piedmont areas of North Carolina will be accepted as requested but mitigated utilizing riparian wetland mitigation credits. EEP commits to implementing sufficient compensatory stream and riparian wetland mitigation credits to offset the impacts associated with this project in accordance with the N.C. Department of Environment and Natural Resources' Ecosystem Enhancement Program In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-715-1929.

Sincerely,

James B Stanfill for

William D. Gilmore, P.E.
EEP Director

cc: Mr. Monte Matthews, USACE – Raleigh Regulatory Field Office
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit
File: U-3812 Revised

Restoring... Enhancing... Protecting Our State

NCDENR

North Carolina Department of Cultural Resources
State Historic Preservation Office
David L. S. Brook, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary

Division of Archives and History
Jeffrey J. Crow, Director

July 10, 2001

MEMORANDUM

To: Thomas Padgett
NCDOT

From: David Brook
Deputy State Historic Preservation Officer

Re: NC 88 from US 221 Business to NC 194, U-3812, Ashe County, ER 01-7665

Thank you for your letter of May 21, 2001, transmitting the archaeological survey report by Paul Mohler, Megan O'Connel, and Brian Overton concerning the above project.

During the course of the survey one archaeological site 31AH224/224**, was located within the project area. The authors recommend additional testing at the site, if construction staging is to take place outside of the proposed area of potential effect.

Within the current project area no significant cultural deposits were located, and no additional archaeological work is recommended. We concur with these recommendations, since the project will not affect significant archaeological resources.

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

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, Environmental Review Coordinator, at 919/733-4763.

DB:kgc

cc: William Gilmore, NCDOT
John Wadsworth, FHwA

bc: Claggett/Hall (2)
County
Reading

Federal Aid #: **STP- 88(2)** *TIP#:* **U-3812** *County:* **Ashe**

CONCURRENCE FORM FOR ASSESSMENT OF EFFECTS

Project Description: **Widen NC 88 from US 221 Business to NC 194**

On June 27, 2006 representatives of the

X North Carolina Department of Transportation (NCDOT)
X Federal Highway Administration (FHWA)
X North Carolina State Historic Preservation Office (HPO)
☐ Other

Reviewed the subject project and agreed

☐ There are no effects on the National Register-listed property/properties located within the project's area of potential effect and listed on the reverse.

☐ There are no effects on the National Register-eligible property/properties located within the project's area of potential effect and listed on the reverse.

☐ There is an effect on the National Register-listed property/properties located within the project's area of potential effect. The property/properties and the effect(s) are listed on the reverse.

☒ There is an effect on the National Register-eligible property/properties located within the project's area of potential effect. The property/properties and effect(s) are listed on the reverse.

Signed:

Vanessa E. Patrick VEP 7-14-09 6-27-06
Representative, NCDOT Date

DB 7-14-09
Donald E Brew 7-11-06
FHWA, for the Division Administrator, or other Federal Agency Date

Representative, HPO 7/11/06 Date

Renee Gledhill-Earley RGE 7/14/09 6-27-06
State Historic Preservation Officer Date

Federal Aid #: **STP- 88(2)** *TIP#:* **U-3812** *County:* **Ashe**

Properties within the area of potential effect for which there is no effect. Indicate if property is National Register-listed (NR) or determined eligible (DE).

Properties within the area of potential effect for which there is an effect. Indicate property status (NR or DE) and describe the effect.

Alt. 10 — no adverse effect
Joseph Neal House (DOE)

Reason(s) why the effect is not adverse (if applicable).

- minimal impact on property - realignment of driveway to maintain existing
no sig. reduction of historic vegetation (largely shrub)
permanent utility easement must conform to proposed ROW
no construction west of new drainage ditch outside of proposed ROW DB 7-14-09 amended 7-14-09 VEP

Initialed: NCDOT VEP FHWA DB HPO RGG

DB - 7-14-09

FHWA intends to use SHPO's concurrence as a basis of a "de minimis" finding for the following properties. pursuant to Section 4(f): DB 7-21-08 Joseph Benjamin Neal House

Subject: **FINAL** Minutes of the Interagency Hydraulic Design Review (4b) Meeting on January 14, 2009 for U-3812, Ashe County

Participants:

Team Members:
Randy Henegar, NCDOT Hydraulics (present)
Monte Matthews, USACE (present)
Amy Euliss, NCDWQ (present)
Marla Chambers, NCWRC (present)
Marella Buncick, USFWS (present)
Kathy Matthews, EPA (not present)
Jimmy Goodnight, NCDOT Roadway (present)
Donnie Brew, FHWA (present)
Mack Bailey, NCDOT Structures (not present)
Rachelle Beauregard, NCDOT NEU (not present)
Trent Beaver, NCDOT Division 11 (speaker phone)
David Harris, NCDOT REU (not present)
Linwood Stone, NCDOT PDEA (not present)

Other Attendees
Chris Militscher, EPA
Tom Burns, NCDOT Roadway
Amy Simes, DENR
Andre Davenport, NCDOT Structures
Paul Fisher, NCDOT Hydraulics
Carla Dagnino, NCDOT PDEA
Brett Feulner, NCDOT NEU
Shawn Harris, NCDOT Hydraulics
Eugene Tarascio, NCDOT PDEA

Randy Henegar opened with a brief description of the project. He commented that throughout the project every effort will be made to protect water quality through Best Management Practices. Mr. Henegar then proceeded to go through the plans sheet by sheet addressing the impacted streams and wetland sites. Mr. Trent Beaver was on the speaker phone during the entire length of this meeting.

Items discussed are summarized as follows:

1. Plan Sheet 4 There are four (4) jurisdictional streams on this sheet. Little Buffalo Creek is a perennial trout stream. This project avoids any impacts on Little Buffalo Creek. Little Buffalo UT-B is a perennial stream that crosses the –L- line with 2- 60" CMP's. The proposed road alignment will be shifted slightly and NCDOT proposes dual RCP's to replace these pipes. The inverts will be offset vertically to accommodate low flows through a single pipe. The lower pipe will also be buried for fish passage. The existing 36" CMP draining Little Buffalo UT-A and UT-A1 will be extended to meet the wider shoulder. The NCDOT Hydraulics Unit will look at the best way for the flow from Little Buffalo UT-A1 to make the sharp turn into the 36" pipe.

2. Plan Sheets 4-7: The portion of the project between –L- Sta. 15+00 to 49+50 is designated as re-surfacing only There will be no impacts to any streams or wetlands between these stations.

3 Plan Sheet 7 The wetlands near –L- Sta. 59+00 (Right) will be a complete take. NCDOT proposes adding a junction box to the outlet of the existing 24" RCP and extending the pipe to the proposed toe of fill. The

pipe outlet will be protected with rip rap. The pond will not be a surface water impact. NCDOT will use Best Management Practices to protect the pond during construction.

4. Plan Sheet 8 There are no jurisdictional streams or wetlands impacted by the project on this sheet.

5 Plan Sheet 9: The stream designated as Naked Creek UT-A will be relocated parallel to the slope stake line. The ditch will not be rip rap lined. This design minimizes the disturbance to the historical property This area can be planted with willow stakes or a suitable alternative. The adjoining wetlands will be a complete take. The existing 60" and 30" dual pipes near –L- Sta. 86+15 and on Naked Creek UT-B will be replaced with dual concrete pipes. The pipes will be offset vertically to channel low flows through a single pipe. The lower pipe will be buried accordingly

6. Plan Sheet 9: Geotech will locate and remove any existing underground gas tanks near –L- Sta. 88+00 (left) according to their standard procedures.

Subject: **FINAL** Minutes of the Interagency Hydraulic Design Review (4c) Meeting on September 22, 2010 for U-3812, Ashe County

Participants:

Team Members:
Randy Henegar, NCDOT Hydraulics (present)
Monte Matthews, USACE (present)
Amy Euliss, NCDWQ (present)
Marla Chambers, NCWRC (present)
Marella Buncick, USFWS (speaker phone)
Chris Militscher, EPA (not present)
Jimmy Goodnight, NCDOT Roadway (present)
Donnie Brew, FHWA (present)
Mack Bailey, NCDOT Structures (not present)
Rachelle Beauregard, NCDOT NEU (not present)
Trent Beaver, NCDOT Division 11 (not present)
David Harris, NCDOT REU (not present)
Linwood Stone, NCDOT PDEA (not present)

Other Attendees
Andre Davenport, NCDOT Structures
Brett Feulner, NCDOT NEU
Michael Turchey, NCDOT NEU
Paul Fisher, NCDOT Hydraulics
Shawn Harris, NCDOT Hydraulics
Jeremy Goodwin, NCDOT REU

Randy Henegar opened with a brief description of the project. Mr. Henegar then proceeded to go through the permit plans site by site addressing the impacted streams and wetlands. Ms. Marella Buncick was on the speaker phone during the entire length of this meeting.

Items discussed are summarized as follows:

1. **Site 1:** There were no comments on this site which would trigger any changes to the permit drawings.

2. **Site 2:** Marla Chambers commented that it might be possible to remove some length of the existing 2 @ 60" CMP's at the outlet end to obtain some stream mitigation credit. Randy Henegar responded that there might be some issues in doing so, but that Hydraulics would take another look at the possibility **Follow-Up:** Hydraulics looked at the depth of cut and found that the excavation would take out the adjacent driveway Relocating the driveway would be expensive because a new driveway bridge would also be required.

3 **Site 3:** The wetlands at this site will be a complete take, as decided in the 4b Meeting. The preformed scour hole was added after the decision to do a take on the wetlands. The pond will not be a surface water impact. NCDOT will use Best Management Practices to protect the pond during construction.

4. **Site 4:** Marella Buncick was concerned that the 1' of bury material in the box culvert would be in jeopardy from scour where the storm drainage tied into the culvert. Andre Davenport and the Hydraulics representatives agreed that a concrete sill should be installed at the downstream end of the culvert beyond the point where the storm drainage ties to the box culvert. Discussion ensued as to whether alternating

baffles would be appropriate inside the box culvert.
Follow-Up: Structures has agreed to install a total of three (3) concrete sills. One sill will be at the inlet, one at the outlet and one halfway through the culvert. Four-foot long notches will alternate between the sills creating a low flow channel inside the culvert.

5 **Site 4:** Amy Euliss commented that it would be better to discharge the storm drainage from the roadway into a ditch instead of discharging directly into the culvert, if possible. Paul Fisher responded that this was done on the north side of the project, but that there were no appropriate discharge points on the south side of the road.

6. **Site 4:** Randy Henegar pointed out that NCDOT had plans to plant willows in the lateral base ditch on the historical property This would help stabilize the banks and help re-establish current conditions. Monte Matthews will check to see if stream mitigation credit can be obtained by doing this.

To: Gene Tarascio, PE, PDEA

From: Steve Gurganus, AICP, HEU

Re: Memo update of ICE analysis for U-3812 Ashe

Date: 21 May 2008

Executive Summary

This memo is an update of the Indirect and Cumulative Effects analysis for U-3812 Ashe which was previously submitted as part of the Community Impact Assessment prepared by Parsons Brinckerhoff for the project in May 2002.

It will evaluate the scope of the project, change in accessibility, population and growth trends, water and sewer service, public policy, development regulations, market conditions and notable natural environmental features.

In summary, the scope of this project is limited mostly to existing location with a purpose and need relating to safety improvements and system linkage. There will be no change in accessibility, and no access to areas that do not have existing access. Travel time savings will be minimal.

While retirement and second home development is increasing in Ashe County, forecasted population growth is very low and forecasted job growth is low to moderate.

The area just northwest of downtown Jefferson is identified as an area for industrial growth by Jefferson officials, but that area is already easily accessed via Northwest Drive, off of NC 88. Land supply is relatively abundant, but the mountainous terrain would constrain large scale projects outside of this area to some extent. Water and sewer availability is available along NC 88 west of Jefferson to McFarland Publishing, as well as in the Town of West Jefferson, slightly less than one mile south of NC 88 and accessible via NC 94 and also Doggett Road. The West Jefferson wastewater treatment facility is located on Clearwater Drive off of Doggett Road south of the project.

The overall market for development is moderate, mostly represented by increased second home and retirement developments . Other recent growth includes stores and services associated with home construction and improvement. The preferred alternative will greatly limit relocations; nonetheless market pressures are not sufficient to result in wholesale redevelopment, whether commercially or residentially, along the NC 88 corridor in the foreseeable future.

Public policy is less stringent in general, with an absence of land use or comprehensive plans in Jefferson or West Jefferson. West Jefferson reported that the town had initiated a process to develop a land use plan, but the draft is in the preliminary stages.

Notable natural features in the area include the 303(d) impaired stream listing for Little Buffalo Creek and the popular Mount Jefferson State Park.

Findings & Conclusions

Indirect Effects

In conclusion, there are some upward growth trends in the ICE study area for U-3812, primarily in the form of second home development and a limited amount of increased industrial development in Jefferson. Jefferson and West Jefferson encourage new development due to recent plant closings and job losses with a lenient public policy environment. There is a moderate supply of developable land adjacent to the project, but terrain serves as a constraint in this mountainous community. A 303(d) listed impaired Trout stream is adjacent to the project. Job growth is forecast to be moderate. However, population growth is forecast to be quite low. Most importantly, the limited scope of this project which is primarily restricted to existing location, and very limited travel time savings, will greatly inhibit change in land use effects associated with this project. Therefore, indirect effects will be very minor such that the threat to downstream water quality will be minimal.

Cumulative Effects

Cumulatively, direct project impacts associated with this project are being avoided, minimized, or mitigated, consistent with programmatic agreements with natural resource and permitting agencies. Indirect effects in the form of change in land use or new growth will be minimal. Therefore, cumulative effects associated with this project will be very low.

Indirect & Cumulative Effects Analysis & Update

Project Scope

The project will widen approximately 1.6 miles of NC 88 from NC 194 to US 221 in the town of Jefferson. The widening is limited to adding a shoulder section on mostly existing location from NC 194 to Lawson Lane just outside of downtown Jefferson, NC (rural portion), and incorporating a 3-lane curb and gutter section from Lawson Lane to East Main Street in downtown Jefferson (urban section). At the request of the Town of Jefferson, NCDOT is currently evaluating extending the 3-lane section a few hundred feet further away from the center of town. The minor realignment of the intersection of NC 88 and NC 94 will be on new location, as will be the straightening of an "S" curve on the project,

Purpose & Need

The purpose and need of the project is to improve safety on NC 88, and improve system linkage from NC 194 to the existing multilane section in the Town of Jefferson.

ICE & Demographic Study Area
The ICE & Demographic Study Area (DSA) for this project is comprised of US Census Tract (CT) 9704, Block Group (BG) 3, and Census Tract 9705, Block Group 2. CT 9704, BG 3 encompasses the western terminus of the project at NC 194 south of NC 88, and the eastern half of West Jefferson. CT 9705, BG 2 encompasses the area north of NC 88 from NC 194 and east to include the western half of Jefferson.

Other Transportation and Infrastructure Projects in the Area
R-2915 is the only other notable transportation project programmed and foreseeable in the area. R-2915 is the widening of US 221 from US 421 in Watauga County, to NC 88 in Jefferson. The two southern-most sections of the project from US 421 to north of the South Fork of the New River -- south of West Jefferson -- are funded for construction starting in 2013. The more northern sections are unfunded, but environmental studies are underway. The funding and construction of the northern portions are not sufficiently foreseeable to be considered in this analysis.

Neither West Jefferson nor Jefferson appear to have any municipal infrastructure projects such as water and sewer underway or planned.

Time Horizon
The time horizon for the project extends to 2030, based on population projections for the area by the NC State Data Center at the Office of State Budget and Management.

Transportation Impact Causing Activity
Limited travel time savings of less than one minute is the transportation impact causing activity for this project. A transportation causing activity is the factor associated with a project that can result in a transportation related indirect effect in the form of change in land use. Travel time savings of less than five minutes are generally considered much less likely to result in an indirect effect.

Population & Housing

US Census ID	1990 population	2000 population	Change	% Change
CT 9704, BG 3	615	709	94	
CT 9705, BG 2	1063	974	-89	
DSA	**1678**	**1683**	**5**	**.003%**

While US Census data indicates virtually no growth in the more focused study area for this report as compared to the larger DSA as reported in the 2002 CIA,

housing data nonetheless indicated a 15% increase in new dwellings. This anomaly may relate to an increase in seasonal housing but could not be confirmed by local planners.

The county population for Ashe increased by 3569 persons between 1990 and July, 2006, for a growth rate of 1% -- compared to a growth rate for the state of North Carolina of 21.3%. The county is projected to grow from 25,778 in July 2006 to 29,684 in July 2029, for a total of 5,207 persons, for a growth rate of 0.8%.

Economic Growth Trends
North Carolina Comprehensive Economic Data (CEDs) studies indicate job growth forecast at 1.6% for the period 2006 to 2016 for the northwest region of North Carolina. The reports set goals for improving water and sewer infrastructure in West Jefferson and Jefferson, but local planners reported no specific expansion plans at the time of this report.

Water & Sewer
Water and sewer is available along NC 88 west of Jefferson to McFarland Publishing, as well as in the Town of West Jefferson, slightly less than one mile south of NC 88, and accessible via NC 94 and Doggett Road. The West Jefferson wastewater treatment facility is located on Clearwater Drive off of Doggett Road south of the project. West Jefferson's water source is individual and municipal wells. Jefferson's water source is unknown at the time of this memo, but is also thought to be wells. Both Jefferson and West Jefferson reported limited water distribution facilities. According to CEDs reports, West Jefferson has 25% or more remaining capacity. Jefferson is currently at 92% capacity. Expansion plans could not be determined at the time of this report. Sewer service is limited to only 1152 of the county's almost 26,000 residents.

Notable Features
Notable natural features in the area include the NC Division of Water Quality 303(d) impaired stream listing for Little Buffalo Creek, a Class C Trout stream which parallels NC 88 from NC 194 to Doggett Road. According to GIS data, however, the stream may be delisted if new regulatory controls are successful. The popular Mount Jefferson State Park is located east of West Jefferson and south of Jefferson, just east of US 221 bypass.

Development Regulations
According to local planners, neither Jefferson, West Jefferson, nor Ashe County have comprehensive or current land use planning in place. However, both Jefferson and West Jefferson reported having zoning. West Jefferson planners indicated that a draft comprehensive plan was being developed. Neither Jefferson nor West Jefferson have Extra-Territorial Jurisdictions. Jefferson's town limits on the west side of town extend to near Ashley Farm Road, just east of Hickory Hills Road.

Market for Development
Land is abundant in this area, but mountainous terrain can limit location and project scope. An area in northwest Jefferson has been identified for increased industrial development, but no new projects are being planned at present. The preferred alternative will greatly limit relocations; nonetheless market pressures are not sufficient to result in wholesale redevelopment, whether commercially or residentially, along the NC 88 corridor in the foreseeable future.

The Jefferson town manager referenced the new Hickory Hills subdivision being developed west of Jefferson off of NC 88. She indicated that Jefferson would likely extend water and sewer to service this development.

Development pressures are otherwise low, although second home development continues in various locations in the county. Existing and new development has resulted in support services, stores, and shopping centers, such as the new Lowe's Home Improvement and Wal-Mart stores on US 221 bypass between West Jefferson and Jefferson

Findings & Conclusions
Indirect Effects
In conclusion, there are some upward growth trends, primarily in the form of second home development and a limited amount of increased industrial development in Jefferson which are encouraged by a lenient public policy environment. There is a moderate supply of developable land adjacent to the project, but terrain serves as a constraint in this mountainous community. A 303(d) listed impaired Trout stream is adjacent to the project. Job growth is forecast to be moderate. However, population growth is forecast to be quite low. Most importantly, the limited scope of this project which is primarily restricted to existing location, and very limited travel time savings, will greatly inhibit change in land use effects associated with this project. Therefore, indirect effects will be very minor such that the threat to downstream water quality will be very limited.

Cumulative Effects
Cumulatively, direct project impacts associated with this project are being avoided, minimized, or mitigated, consistent with programmatic agreements with natural resource and permitting agencies. Indirect effects in the form of change in land use, or new growth, will be very minimal. Therefore, cumulative effects associated with this project will be very low.

STORMWATER MANAGEMENT PLAN

Project: 34977.2.2.1
TIP No. U-3812
County: Ashe
Date: 11/17/2010

Hydraulics Project Manager: Randy Henegar, P.E.

ROADWAY DESCRIPTION

The U-3812 project consists of roadway improvements to NC 88 (West Main Street) in Ashe County The total project length is 1.477 miles. The project creates impacts to Little Buffalo Creek UT and Naked Creek UT, which are located in the New River Basin. The project drainage systems consist of grated inlets with associated pipe systems, and preformed scour holes at the pipe outlets where possible.

Jurisdiction Streams: Little Buffalo Creek UT and Naked Creek UT

ENVIRONMENTAL DESCRIPTION

The project is located within the New River Basin in Ashe County There are four wetland or surface water sites that will be impacted by the proposed project. Impacts have been minimized by using preformed scour holes at the pipe outlets and reducing the roadway approach work to minimize fill slopes encroachment into the wetlands.

BEST MANAGEMENT PRACTICES AND MAJOR STRUCTURES

The primary goal of Best Management Practices (BMP's) is to prevent degradation of the states surface waters by the location, construction and operation of the highway system. The BMPs are activities, practices and procedures taken to prevent or reduce stormwater pollution. The BMP measures used on this project to reduce stormwater impacts are:

- Project scope was revised during the Merger Process to minimize footprint and impacts.
- Rip rap preformed scour hole placed at pipe outlets, where possible.
- Box Culvert will be buried 1' for natural bottom.
- NCDOT has agreed to plant willows in the lateral base ditch on the historical property

09/08/99

TIP PROJECT: U-3812

CONTRACT: 34977.2.2.1

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

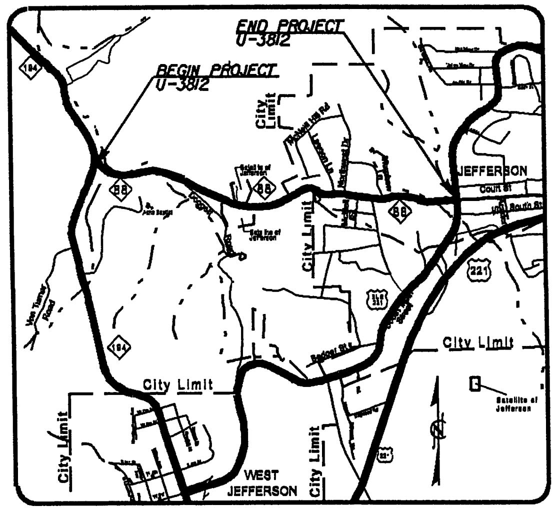
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3812	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

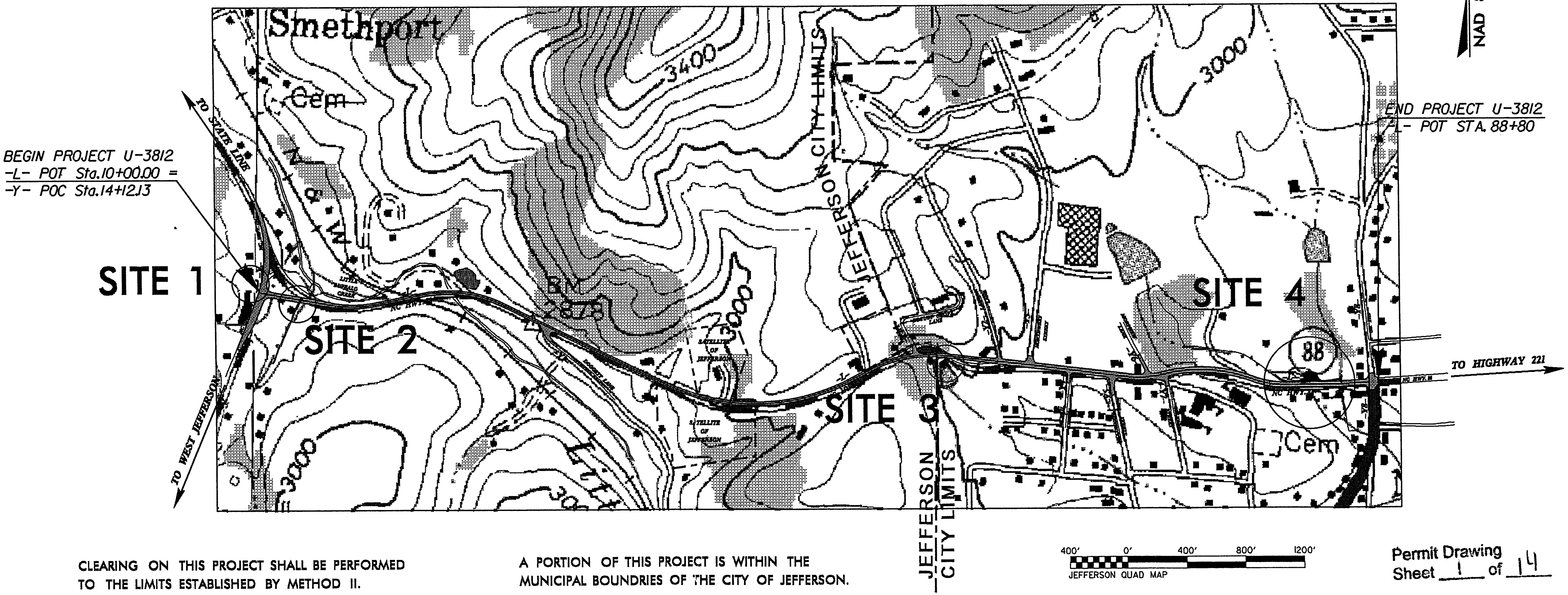
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ASHE COUNTY

WETLAND AND STREAM IMPACTS



VICINITY MAP



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDRIES OF THE CITY OF JEFFERSON.

Permit Drawing
Sheet 1 of 14

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 2009 = 8,700
ADT 2030 = 13,300
DHV = 12 %
D = 60 %
T = 6 % *
V = 50 MPH (Rural)
V = 35 MPH (Urban)
* TTST 1% DUAL 5%

PROJECT LENGTH

LENGTH ROADWAY STATE PROJECT U-3812 = 1.492 MILES
LENGTH ROADWAY F. A. PROJECT STP-88 (2) = 1.492 MILES
TOTAL ROADWAY LENGTH STATE PROJECT U-3812=1.492 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr, Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
November 12, 2009

J. S. GOODNIGHT, PE
PROJECT ENGINEER

LETTING DATE:
December 20, 2011

S. D. KENDALL, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3812	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83

SEE SHEET No. 2-C FOR DRAINAGE DETAILS

SEE SHEET No. 10 FOR -L- PROFILE
SEE SHEET No. 13 FOR -Y- PROFILE

★ PROPOSED SIGNAL (NEW)

PROPOSED PAVEMENT REMOVAL

PROPOSED SHOULDER BERM GUTTER
-L- Sta. 10+68 TO Sta. 12+55 LT.

MATCHLINE SHEET No. 5
-L- Sta. 21+50

LETTER DATED JUNE 08, 2010 BY: S. MEADOWS

R/W REVISION:

1. Removed abandoned building from Parcel No. 002.
2. Changed name from Glenn & Ilene Poe, to Glenn Poe Estate on Parcel No. 003.
3. Changed name from Talmadge S. Shepherd, to Talmadge S. Shepherd on Parcel No. 007
4. Changed 2SBK BUS to 1SBKD and Changed 2SF BUS to 1SF BUS on Parcel No. 007.
5. Changed name and DB/PG info from Gladys Yvonne P. Hayes, DB 188 PG 570 to Gladys Yvonne P. Hayes and Gentry Dolinger, Jr. DB 308 PG 361 Parcel No. 017.

SITE 1

SITE 2

DALE & THELMA J. HALL (1)
GALE & GENEVA WALKER (6)
NORMAN REEVES MCNEILL (8)
JAMES F. ROTEN (2)
RICKIE B. WOODIE (11)
HELEN SHATLEY BARE (12)
CECIL & MARGARETA SHEPHERD (21)
PADDY MOUNTAIN LUMBER, INC (4)
GLADYS YVONNE P. HAYES AND GENTRY DOLINGER, JR. (17)
DANIEL P. & MARY CAROLYN SHATLEY (20)
MYRTLE D. & JOE R. SHATLEY (18)
LAVERN WATSON (19)

300' TANGENT L.T. & RT.

BM#1
-BY- STA 12+71.39
270.77' RT
ELEV= 2880.08'

REMOVE 10' OF EXIST 12" WD WALL (TYP) @Str. No 7

REMOVE DI

2SBK BUS ABAND

ISMTL BUS ABAND

RUINS

OVERHEAD SUPPLY LINES

AREA OBSCURED

ROD & LUG W/O-RING GASKETS & 2 ELBOWS

PREFORMED SCOUR HOLE SEE DETAIL SHEET No 2-C

COLLAR AND EXTEND

RETAIN

SHOP CURVE

PROP. GUARDRAIL

PROP. SHOULDER BERM GUTTER

4' PAVED DITCH TO OLD TIMBER RD

AREA UNDER CONSTRUCTION

LITTLE BUFFALO CREEK

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

Permit Drawing
Sheet 2 of 14

PROPERTY OWNERS			
3	GLENN POE ESTATE	10	BERNARD & IRENE WOODIE
4	PADDY MOUNTAIN LUMBER, INC	13	STEPHEN & MARGARET JARVIS
6	GALE & GENEVA WALKER	18	MYRTLE D. & JOE R. SHATLEY
7	TELMADGE S. SHEPHERD		
9	TERRY R. WOODIE	27	VENCION DALLAS & DOROTHY W. STURGILL

#####SYSTIME#####
#####DGN#####
#####USERNAME#####

PROJECT REFERENCE NO.	SHEET NO.
U-3812	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83

SEE SHEET No. 2-C FOR DRAINAGE DETAILS

SEE SHEET No. 10 FOR -L- PROFILE
SEE SHEET No. 13 FOR -Y- PROFILE

★ PROPOSED SIGNAL (NEW)

PROPOSED PAVEMENT REMOVAL

PROPOSED SHOULDER BERM GUTTER
-L- Sta. 10+68 TO Sta. 12+55 LT.

8/17/99

R/W REVISION:

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LETTER DATED JUNE 08, 2010 BY: S. MEADOWS

MATCHLINE SHEET No. 5 -L- Sta. 21+50

SITE 1

SITE 2

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

Permit Drawing Sheet 3 of 14

PROPERTY OWNERS			
3	GLENN POE ESTATE	10	BERNARD & IRENE WOODIE
4	PADDY MOUNTAIN LUMBER, INC	13	STEPHEN & MARGARET JARVIS
6	GALE & GENEVA WALKER	18	MYRTLE D. & JOE R. SHATLEY
7	TELMADGE S. SHEPHERD		
9	TERRY R. WOODIE	27	VENCION DALLAS & DOROTHY W. STURGILL

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3812	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

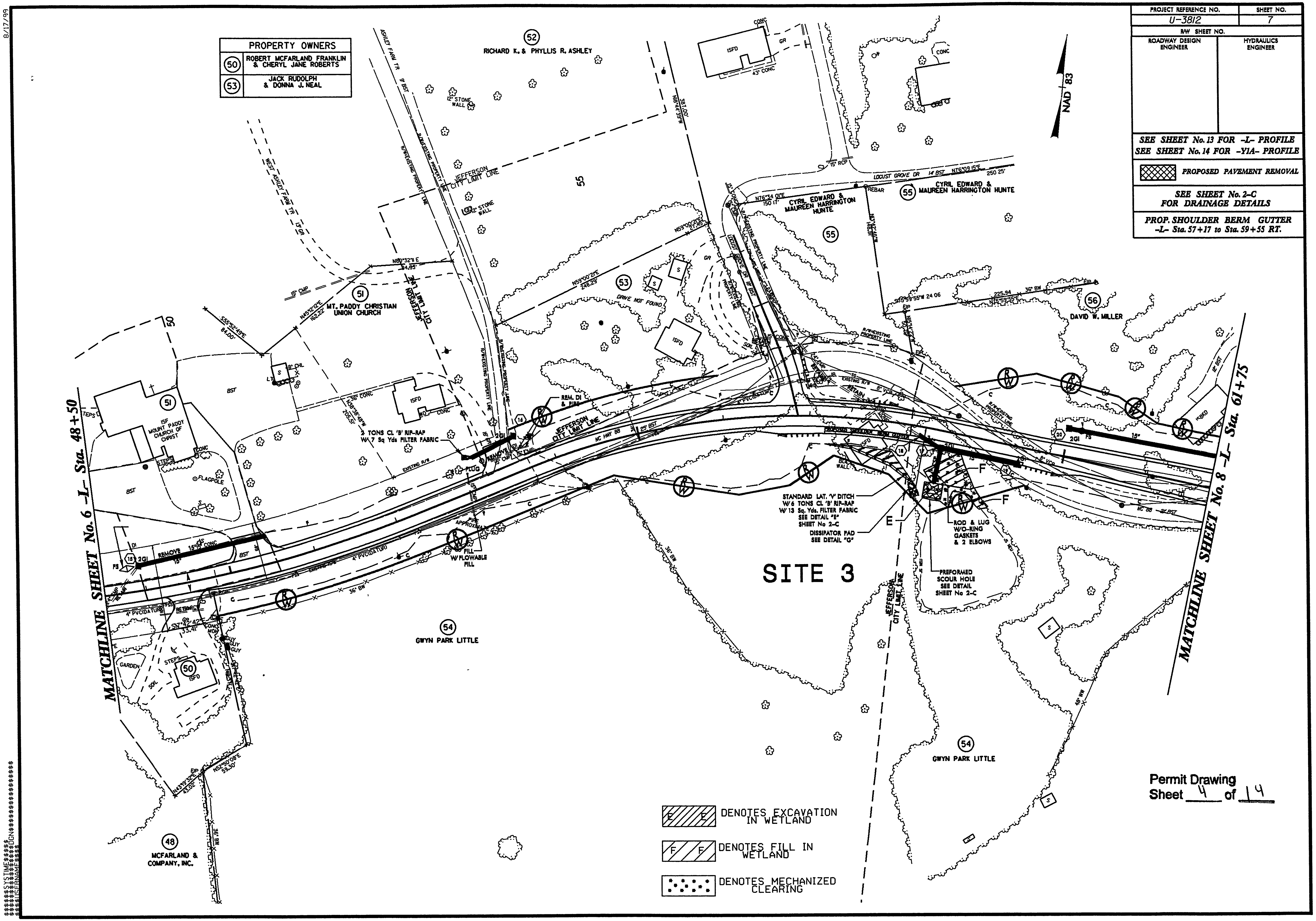
SEE SHEET No. 13 FOR -L- PROFILE
SEE SHEET No. 14 FOR -Y1A- PROFILE

▨ *PROPOSED PAVEMENT REMOVAL*

SEE SHEET No. 2-C
FOR DRAINAGE DETAILS

PROP. SHOULDER BERM GUTTER
-L- Sta. 57+17 to Sta. 59+55 RT.

PROPERTY OWNERS	
(50)	ROBERT MCFARLAND FRANKLIN & CHERYL JANE ROBERTS
(53)	JACK RUDOLPH & DONNA J. NEAL



▨ DENOTES EXCAVATION IN WETLAND

▨ DENOTES FILL IN WETLAND

⁘ DENOTES MECHANIZED CLEARING

Permit Drawing
Sheet 4 of 14

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3812	7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SEE SHEET No. 13 FOR -L- PROFILE
SEE SHEET No. 14 FOR -Y1A- PROFILE

PROPOSED PAVEMENT REMOVAL

SEE SHEET No. 2-C FOR DRAINAGE DETAILS

PROP. SHOULDER BERM GUTTER -L- Sta. 57+17 to Sta. 59+55 RT.

PROPERTY OWNERS	
(50)	ROBERT MCFARLAND FRANKLIN & CHERYL JANE ROBERTS
(53)	JACK RUDOLPH & DONNA J. NEAL

NAD 83

MATCHLINE SHEET No. 6 -L- Sta. 48+50

MATCHLINE SHEET No. 8 -L- Sta. 61+75

SITE 3

(52) RICHARD K. & PHYLLIS R. ASHLEY

(55) CYRIL EDWARD & MAUREEN HARRINGTON HUNTE

(56) DAVID W. MILLER

(51) MT. PADDY CHRISTIAN UNION CHURCH

(53) DRIVE NOT FOUND

(54) GWYN PARK LITTLE

(50) ROBERT MCFARLAND FRANKLIN & CHERYL JANE ROBERTS

(48) MCFARLAND & COMPANY, INC.

ISFD MOUNT PADDY CHURCH OF CHRIST

ASHLEY FARM TR

WEST ASHLEY FARM TR

JEFFERSON CITY LIMIT LINE

MC HWY 88

STANDARD LAT. 'V' DITCH W/ 6 TONS CL 'B' RIP-RAP W/ 13 Sq. Yds. FILTER FABRIC SEE DETAIL "F" SHEET No 2-C

DISSIPATOR PAD SEE DETAIL "G"

ROD & LUG W/O-RING GASKETS & 2 ELBOWS

PREFORMED SCOUR HOLE SEE DETAIL SHEET No 2-C

REMOVE 15" CMP & FILL W/ FLOWABLE FILL

REMOVE 15" CONC

6 TONS CL 'B' RIP-RAP W/ 7 Sq Yds. FILTER FABRIC

E E DENOTES EXCAVATION IN WETLAND

F F DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

Permit Drawing
Sheet 5 of 14

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

8/17/99

R/W REVISION:	LETTER DATED JUNE 08, 2010 BY: S. MEADOWS
1.	Changed name and DB/PG info from John Christopher Barr, DB 297 PG 2281, and DB 254 PG 1250 to John Christopher Barr, et.al, DB 405 PG 1039, Parcel No. 092.

PROJECT REFERENCE NO.	SHEET NO.
U-3812	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SEE SHEET No 12 FOR -L- PROFILE

PROPOSED CONC SIDEWALK

PROPERTY OWNERS			
91	THOMAS D. & VICTORIA HERMAN	99	DARREL & DARLENE POE, RICHARD & MICHELLE HAMBY
92	JOHN CHRISTOPHER BARR ET AL	105	GEORGE TIMOTHY & SANDRA W SHATLEY
93	E. TRUETT JR & MAREA B WEAVER	103	JEFFERSON UNITED METHODIST CHURCH TRUSTEES

(85) JOSEPH R. NEAL

TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

E E DENOTES EXCAVATION IN WETLAND

S S DENOTES IMPACTS IN SURFACE WATER

DENOTES MECHANIZED CLEARING

MATCHLINE SHEET No. 8 -L- Sta. 75+75

(87) SARAH GORDON NEAL

PROPERTY DETERMINED ELIGIBLE FOR THE NATIONAL REGISTER

NAD 83

F. KENNETH & BONNIE J LANE

(96)

SITE 4

(97) JERROLD W ASHLEY

(98) BARKER BROTHERS

(99)

(102) GALE S & JUANITA D ROARK

(103)

(105)

(106) JOSEPH R NEAL

(91)

(92)

(93)

(94) JOSEPH H GWYN

(89) DAVID S & TERIS KNAPP

(90) JOAN ROAN

(88) TOWN OF JEFFERSON

(86) NEW RIVER BEHAVIORAL HEALTHCARE PREVENTION FOUNDATION

(112) JEFFERSON SUPERMARKET C/O WILDA GREEN, ET AL

-L- POT Sta. 89+00

-L- POT Sta. 88+80

Permit Drawing Sheet 6 of 14

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

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3812	9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SEE SHEET No.12 FOR -L- PROFILE

PROPOSED CONC. SIDEWALK

PROPERTY OWNERS			
91	THOMAS D. & VICTORIA HERMAN	99	DARREL & DARLENE POE, RICHARD & MICHELLE HAMBY
92	JOHN CHRISTOPHER BARR ET AL	105	GEORGE TIMOTHY & SANDRA W. SHATLEY
93	E. TRUETT JR. & MAREA B. WEAVER	103	JEFFERSON UNITED METHODIST CHURCH TRUSTEES

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES EXCAVATION IN WETLAND

DENOTES IMPACTS IN SURFACE WATER

DENOTES MECHANIZED CLEARING

PROPERTY DETERMINED ELIGIBLE FOR THE NATIONAL REGISTER

SITE 4

NAD 83

MATCHLINE SHEET No. 8 -L- Sta. 75+75

-L- POT Sta. 89+00

-L- POT Sta. 88+80

Permit Drawing Sheet 7 of 14

LETTER DATED JUNE 08, 2010 BY: S. MEADOWS

R/W REVISION:

1. Changed name and DB/PG info from John Christopher Barr, et.al, DB 405 PG 1039, Parcel No. 092. to John Christopher Barr, et.al, DB 297 PG 2281, and DB 254 PG 1250

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

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3812	2-C

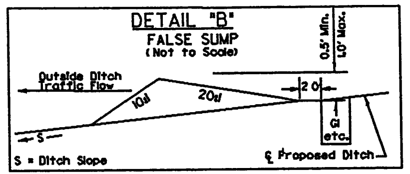
HYDRAULIC
ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

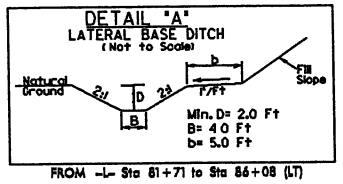
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

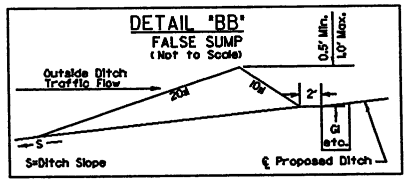
DRAINAGE DITCH DETAILS



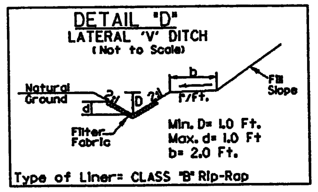
-L- Sta 48+93 (LT)



FROM -L- Sta 81+71 to Sta 86+08 (LT)

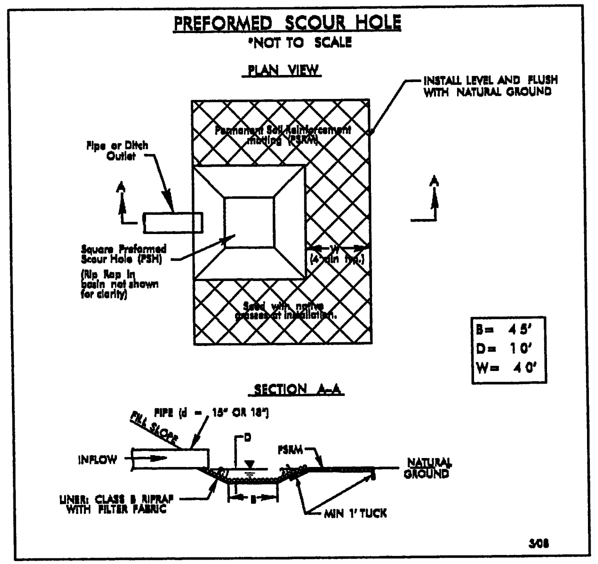


-L- Sta 60+03 (LT)

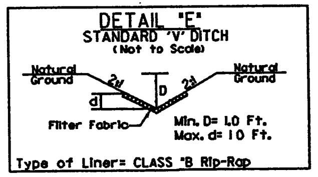


Type of Liner= CLASS "B" Rip-Rap

FROM -L- Sta 57+18.23 to Sta 58+00 (RT)

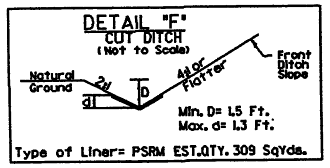


-L- Sta 12+50 (LT.)
-L- Sta 58+58 (RT)



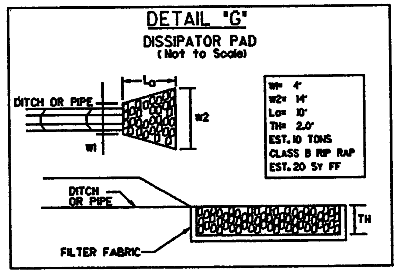
Type of Liner= CLASS "B Rip-Rap

FROM -L- Sta 58+00 to Sta 58+28 (RT)



Type of Liner= PSRM EST.QTY. 309 SqYds.

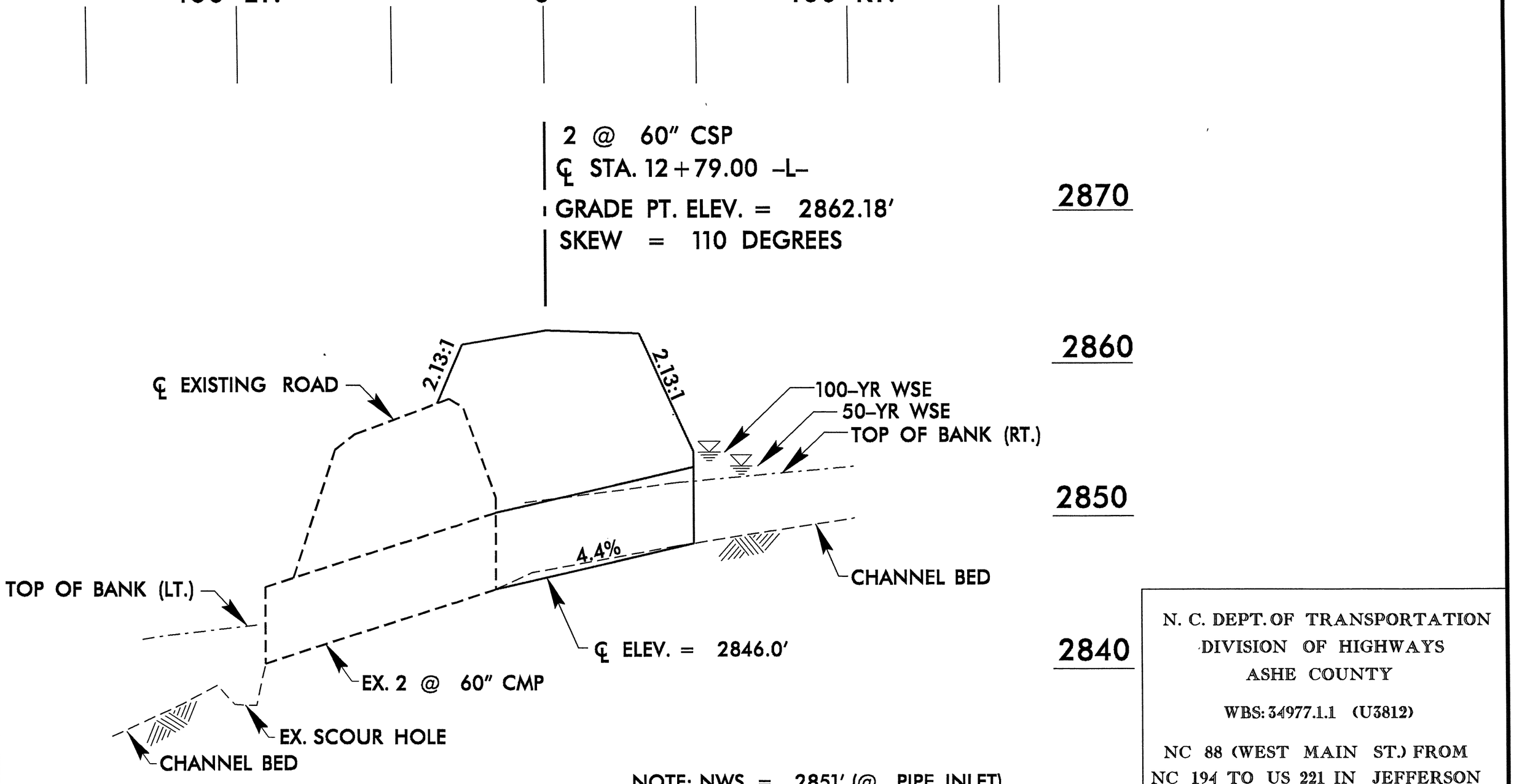
FROM -Y- Sta 11+42 to Sta 14+10 (LT)



-L- Sta 58+37 (RT)

Permit Drawing
Sheet 8 of 14

PROFILE ALONG THE STRUCTURE



NOTE: NWS = 2851' (@ PIPE INLET)

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
ASHE COUNTY

WBS: 34977.1.1 (U3812)

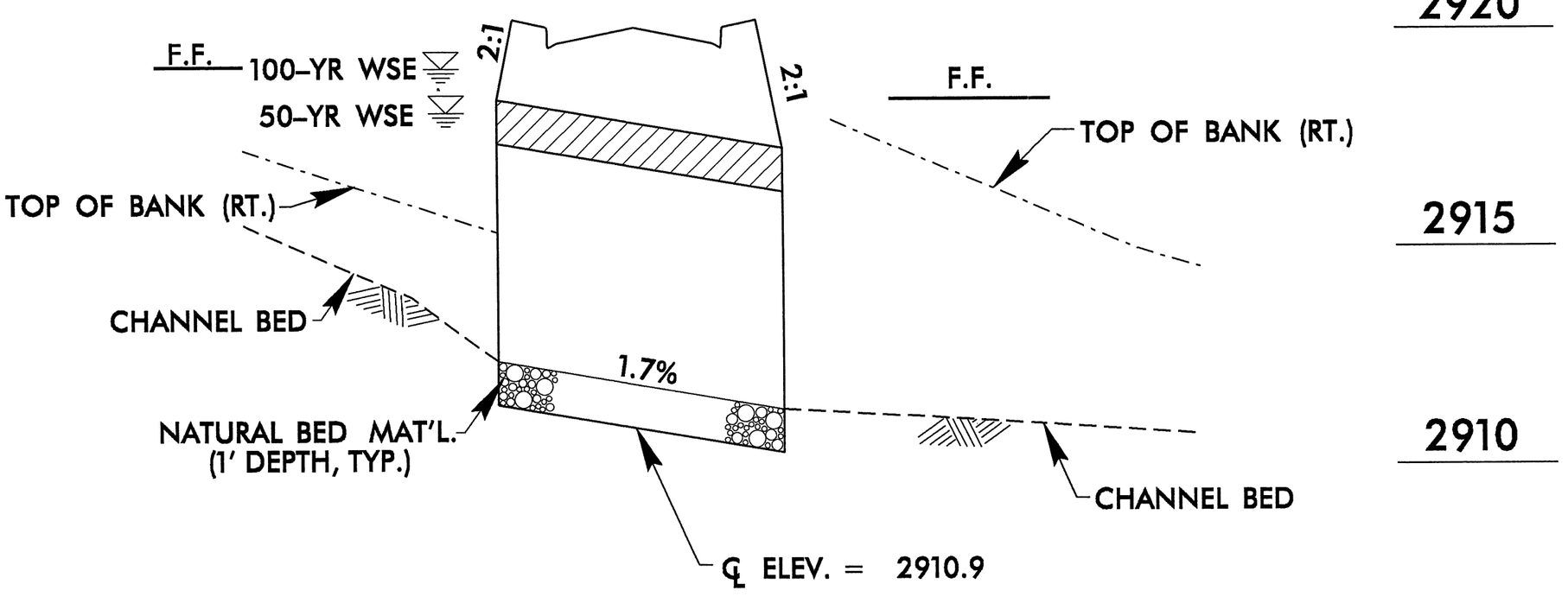
NC 88 (WEST MAIN ST.) FROM NC 194 TO US 221 IN JEFFERSON

SHEET 9 OF 14

PROFILE ALONG THE STRUCTURE

100′ LT. 0′ 100′ RT.

1 @ 10′ x 6′ RCBC (1′ BURY)
℄ STA. 86+21.00 –L–
GRADE PT. ELEV. = 2920.04
SKEW = 87–30′ DEGREES



NOTE: NWS = 2918′ (@ BOX INLET)

N. C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
ASHE COUNTY

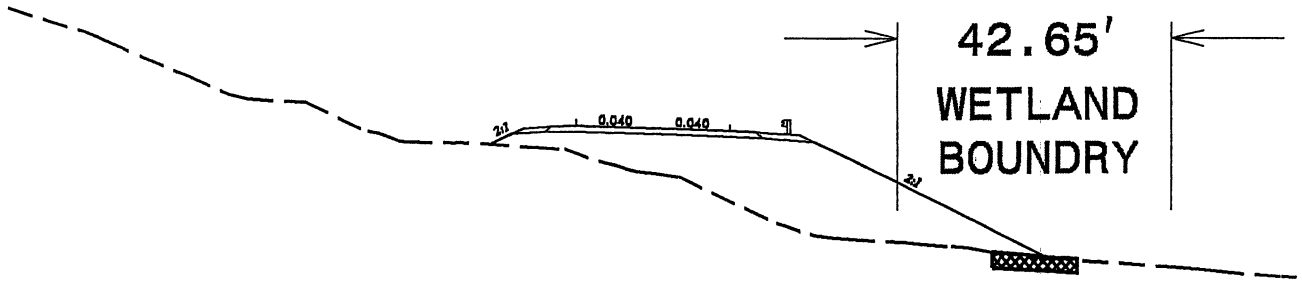
WBS: 34977.1.1 (U3812)

NC 88 (WEST MAIN ST.) FROM
NC 194 TO US 221 IN JEFFERSON

SHEET 10 OF 14

STA. 58+58.12 -L- (RT)

SITE 3



N C DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
ASHE COUNTY

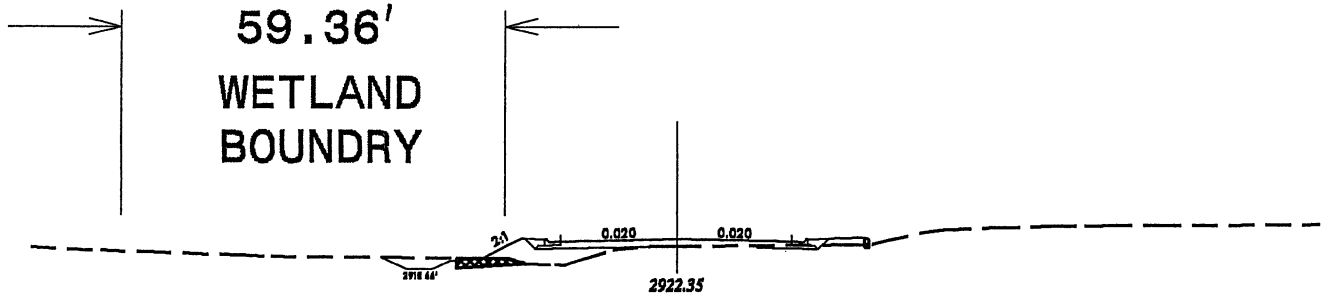
WBS: 34977 1.1 (U3812)

NC 88 (WEST MAIN ST) FROM
NC 194 TO US 221 IN JEFFERSON

SHEET 11 OF 14

STA. 84+00 -L- (LT)

SITE 4



N C DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
ASHE COUNTY

WBS: 34977.1.1 (U3812)

NC 88 (WEST MAIN ST) FROM
NC 194 TO US 221 IN JEFFERSON

SHEET 12 OF 14

PROPERTY OWNERS

Site	Last Name	First Name	Address	City/Town	State	Zip Code
1	Poe	Glenn & Ilene	PO Box 254	West Jefferson	NC	28694
1	Paddy Mountain Lumber, INC		PO Box 708	Jefferson	NC	28640
2	Jarvis	Stephen & Margaret	255 Azalea Lane	Wilkesboro	NC	28697
3	Little	Gwyn Park	14635 Hearthstone Meadows Drive	Houston	TX	77095
4	Neal	Sarah Gordon	PO Box 1441	Jefferson	NC	28640
4	Hamby	Darrel & Darlene Poe, Richard & Michelle	PO Box 790	Jefferson	NC	28640
4	Barr	John Christopher	362 Ridge Road	West Jefferson	NC	28694
4	Weaver	E Truiett Jr. & Marea B	PO Box 428	Jefferson	NC	28640

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp (ft)	Natural Stream Design (ft)
1	14+12 to 14+89 -Y-	24"/36" RCP						<0.01	<0.01	86	15	
2	12+78 -L- (RT)	2 @ 60" CSP						0.01	<0.01	67	15	
3	58+75 -L- (RT)	PSH *	0.04		0.01	0.01						
4	81+53 to 86+20 -L-	** 10' x 6" RCBC	0.09		0.04			0.06	0.01	470	80	
TOTALS:			0.13		0.05	0.01		0.07	0.01	623	110	

* PREFORMED SCOUR HOLE

** RELOCATE CHANNEL AND REPLACE 30" AND 60" CMP'S
WETLANDS CONSIDERED A COMPLETE TAKE FOR BOTH SITE 3 & SITE 4
AREA OUSIDE OF RIGHT-OF-WAY CONSIDERED "PERMANENT FILL IN WETLANDS" FOR BOTH SITE 3 & SITE 4

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

ASHE COUNTY
WBS - 34977 1 1 (U-3812)

SHEET 14 of 14 10/1/2010

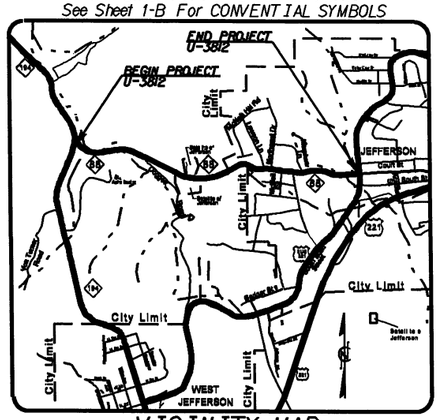
ATN Revised 3/31/05

09/08/99

TIP PROJECT: U-3812

CONTRACT: 34977.2.2.1

See Sheet 1-A For Index of Sheets
See Sheet 1-B For CONVENTIAL SYMBOLS



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ASHE COUNTY

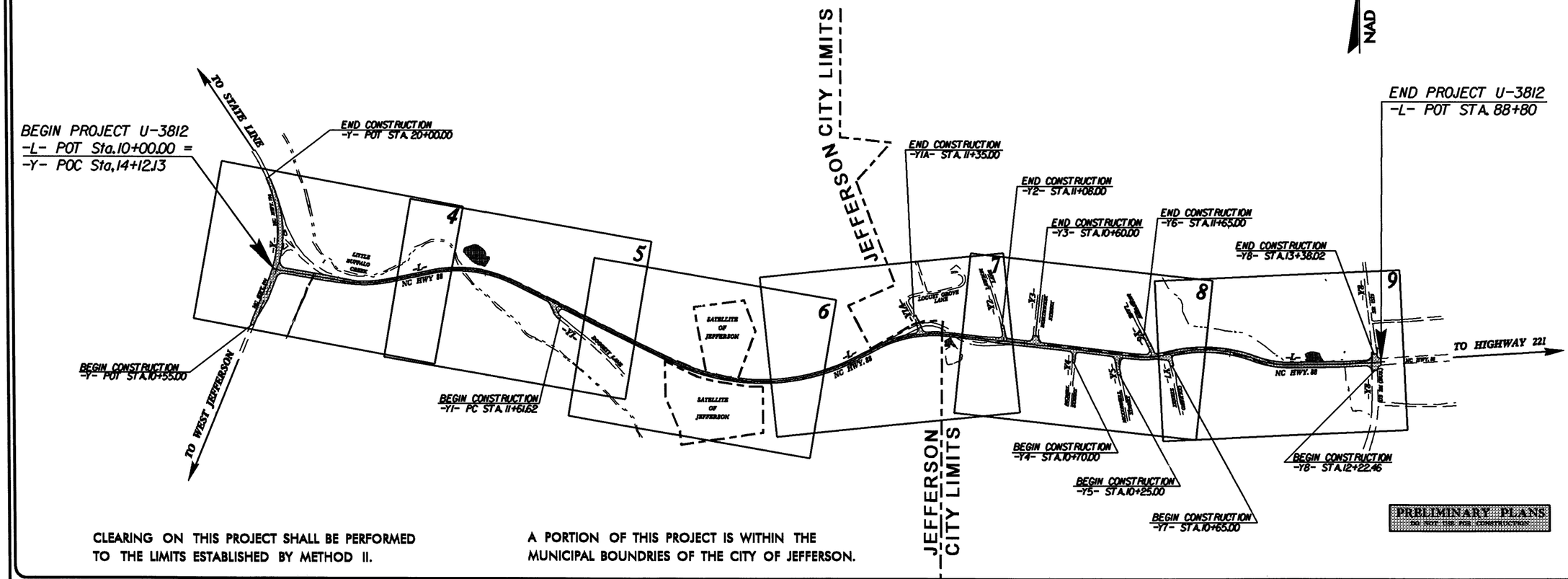
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3812	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34977.2.1	STP-88(2)	P.E.
34977.2.2.1	STP-88(2)	R /W, UTILITIES

LOCATION: *NC 88 (WEST MAIN ST.) FROM NC 194 TO US 221 BUSINESS (SOUTH MAIN ST.)*

TYPE OF WORK: *GRADING, PAVING, RESURFACING, WIDENING, DRAINAGE, SIGNALS, SIDEWALK, AND RETAINING WALL*

NAD 83



PRELIMINARY PLANS
NOT TO BE USED FOR CONSTRUCTION

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDRIES OF THE CITY OF JEFFERSON.

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 2009 = 8,700
ADT 2030 = 13,300
DHV = 12 %
D = 60 %
T = 6 % *
V = 50 MPH (Rural)
V = 35 MPH (Urban)
* TTST 1% DUAL 5%

PROJECT LENGTH

LENGTH ROADWAY STATE PROJECT U-3812 = 1.492 MILES

LENGTH ROADWAY F. A. PROJECT STP-88 (2) = 1.492 MILES

TOTAL ROADWAY LENGTH STATE PROJECT U-3812 = 1.492 MILES

Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: November 12, 2009

LETTING DATE: December 20, 2011

J. S. GOODNIGHT, PE
PROJECT ENGINEER

S. D. KENDALL, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.

14-DEC-2010 14:45
R:\Roadway\Projects\u3812_rdy_tsh.dgn
$$$$USERNAME$$$$

3/15/06

PROJECT REFERENCE NO.	SHEET NO.
U-3812	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 — 123
- 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 — FDX
- 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 Permanent Utility Esm't 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 — T
- 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 — ?UTL
- 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.

6/2/99

PAVEMENT SCHEDULE

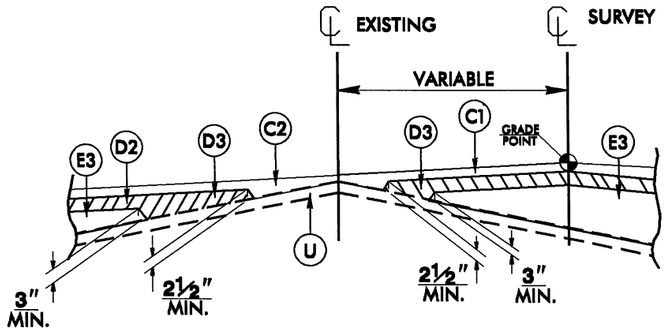
(PRELIMINARY PAVEMENT DESIGN)

C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS PER SQ YD IN EACH OF TWO LAYERS.	E3	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25 OB, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
C2	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 TO EXCEED 2" IN DEPTH.	R1	2'-6" CONCRETE CURB & GUTTER
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19 OB, AT AN AVERAGE RATE OF 285 LBS PER SQ YD	S1	4" CONCRETE SIDEWALK
D2	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	T	EARTH MATERIAL
D3	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0X, AT AN AVERAGE RATE OF 114 LBS. PER SQ YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.	U	EXISTING PAVEMENT
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25 OB, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD	W1 W2 W3	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAILS).
E2	PROP. APPROX. 5½" ASPHALT CONCRETE BASE COURSE, TYPE B25 OB, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.		

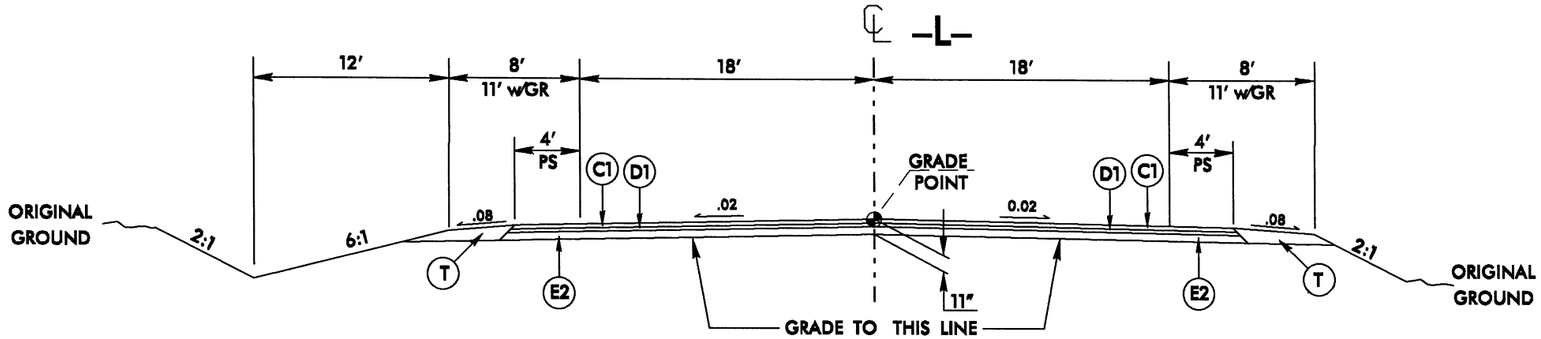
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE

PROJECT REFERENCE NO.	SHEET NO.
U-3812	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



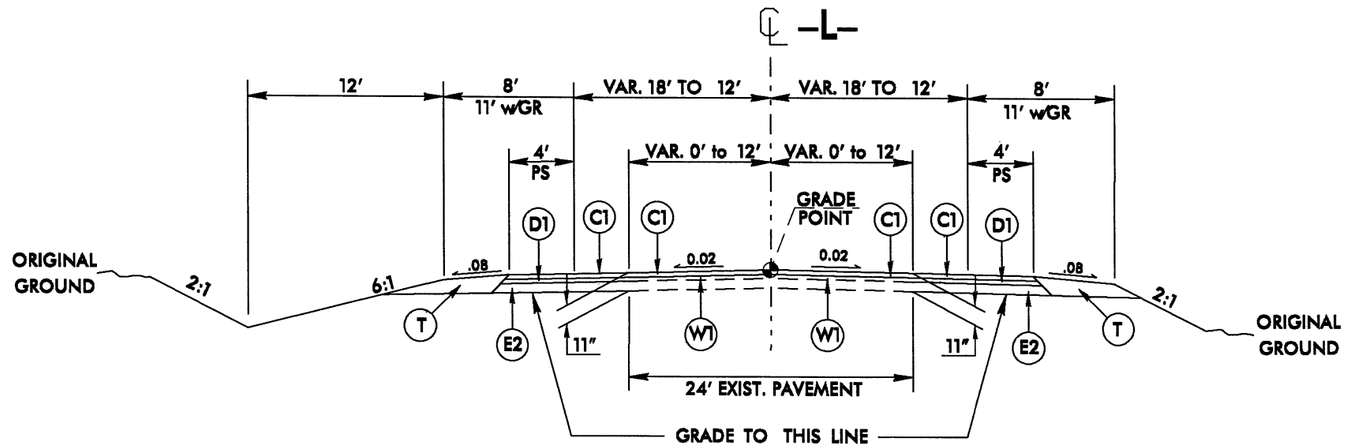
Detail Showing Method of Wedging –W1–



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

–L– Sta. 10+24 to Sta. 13+40
–L– Sta. 55+30 to Sta. 62+58



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

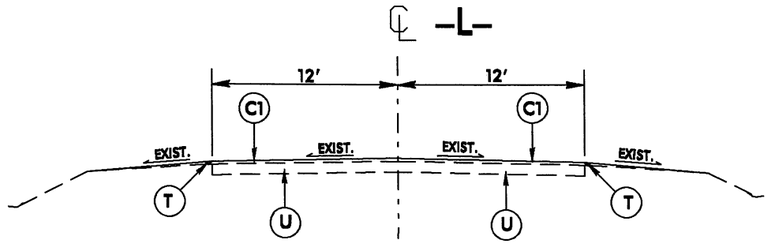
–L– Sta. 13+40 to Sta. 14+04
–L– Sta. 49+50 to Sta. 62+34

14-DEC-2010 14:46
R:\Roadway\Proj\u3812_rdy_typ.dgn
$$$$USERNAME$$$$

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
U-3812	2-A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

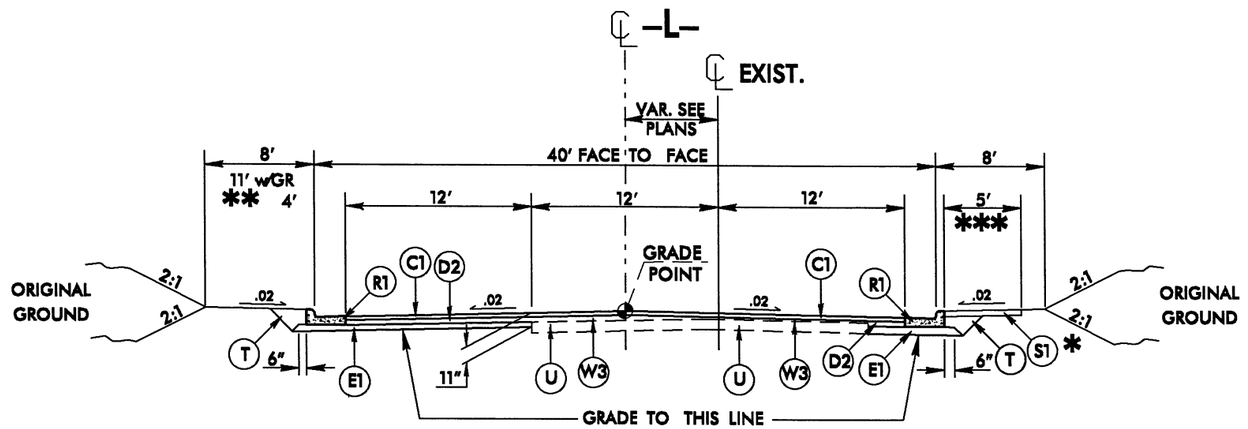
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

-L- Sta. 14+04 to Sta. 49+50

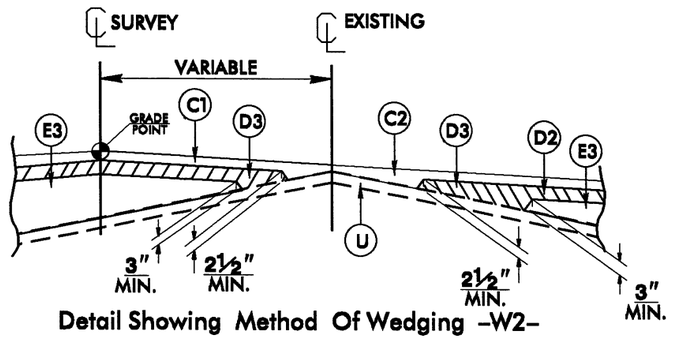


TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4

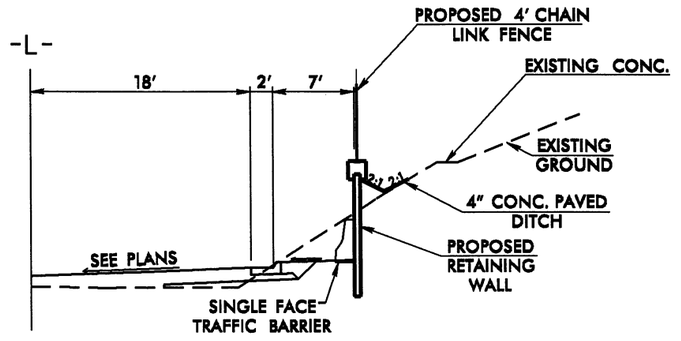
-L- Sta. 62+34 to Sta. 88+80
* -L- Sta. 74+20 to Sta. 88+80 RT.
** -L- Sta. 79+50 to Sta. 86+25 LT.
*** -L- Sta. 74+20 to Sta. 88+80 RT.

C1	3" S9.5B
D1	2½" B25.0B
D2	4" I19.0B
E1	4" B25.0B
E3	VAR. B25.0B
R1	2'-6" C & G
S1	4" SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W2	WEDGING



Detail Showing Method Of Wedging -W2-

TYPICAL SECTION AT RETAINING WALL

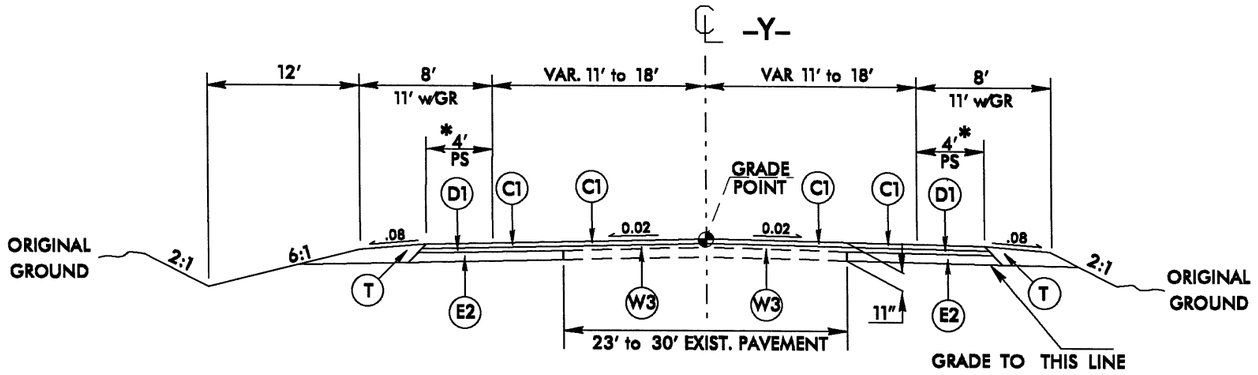


USE IN CONJUNCTION WITH TYPICAL SECTION NO. 4

-L- Sta. 77+00 TO Sta. 81+30

14-DEC-2010 14:46
R:\Roadway\Proj\u3812_rdy_typ.dgn
$$$$$$USERNAME$$$$

6/2/99

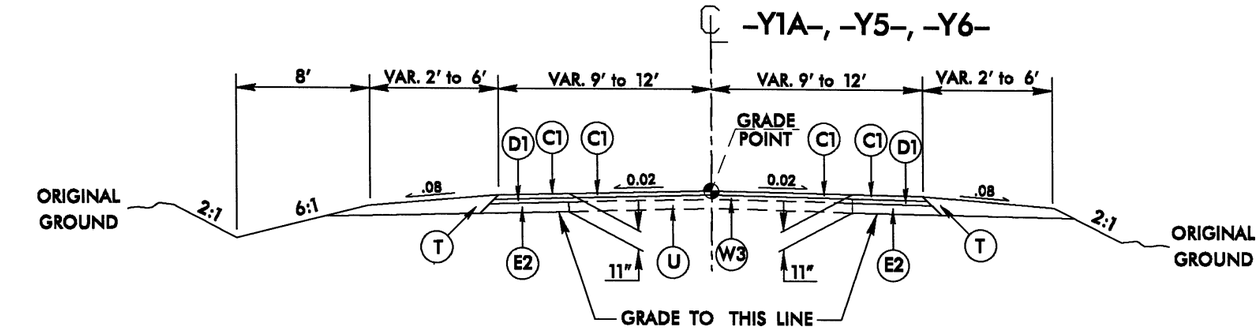


TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5

–Y– Sta. 10+55 to –L– Sta. 20+00

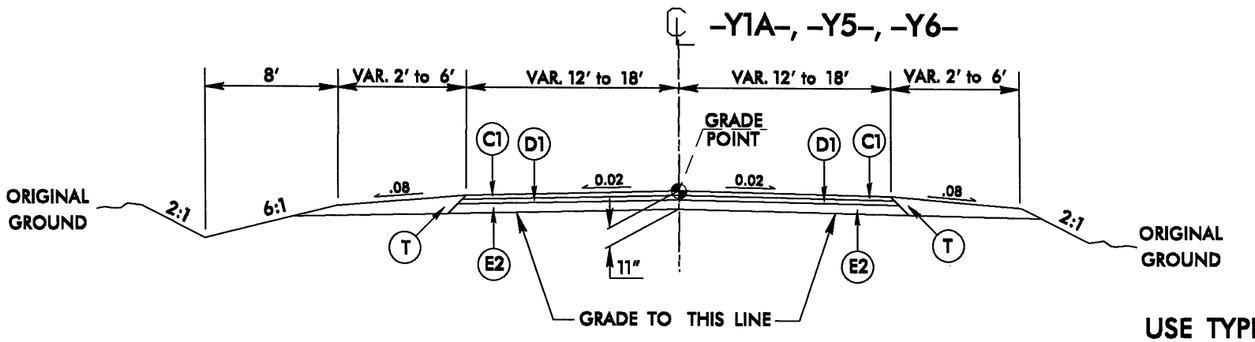
* –Y– Sta. 10+55 to Sta. 15+71.78 LT.
* –Y– Sta 10+55 to Sta. 16+41.36 RT.



TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6

–Y1A– Sta. 10+70.00 to Sta. 11+35.00
–Y2– Sta. 10+18.00 to Sta. 11+08.00
–Y5– Sta. 10+25.00 to Sta. 10+75.00
–Y6– Sta. 11+25.00 to Sta. 11+65.00
–Y7– Sta. 11+00.00 to Sta. 11+32.09



TYPICAL SECTION NO. 7

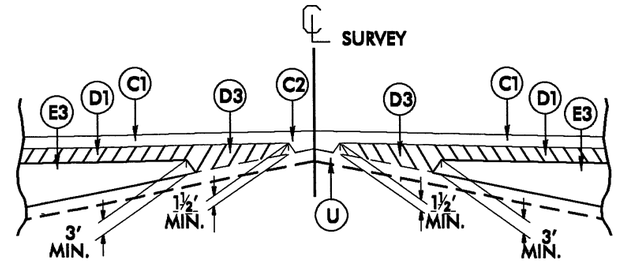
USE TYPICAL SECTION NO. 7

–Y1A– Sta. 10+12.30 to Sta. 10+70.00
–Y5– Sta. 10+75.00 to Sta. 10+82.00
–Y6– Sta. 10+19.34 to Sta. 11+25.00
–Y7– Sta. 11+00.00 to Sta. 11+32.09

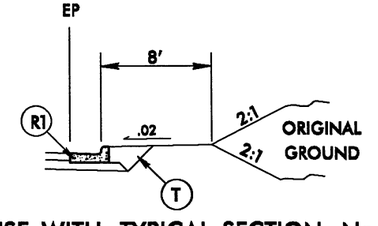
PROJECT REFERENCE NO.	SHEET NO.
U-3812	2-B
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

C1	3″ S9.5B
D1	2½″ B25.0B
D3	VAR. I19.0B
E2	5½″ B25.0B
E3	VAR. B25.0B
R1	2′-6″ C & G
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W3	WEDGING



Detail Showing Method of Wedging –W3–



USE WITH TYPICAL SECTION No. 7
–Y5– Sta. 10+82.00 to Sta. 11+46.71

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8/17/99

Gladys Yvonne P. Hayes and Gentry Dolinger, Jr. DB 308 PG 361 Parcel No. 017.

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$$USER:[DESIGN]

-L-

PI Sta 16+44.46
Δ = 21° 21' 32" (LT)
D = 6° 52' 41.7"
L = 310.53'
T = 157.09'
R = 833.0'

PI Sta 23+98.84
Δ = 31° 43' 11.0" (RT)
D = 6° 35' 08.6"
L = 572.75'
T = 297.19'
R = 870.00'

-Y-

PI Sta 17+05.77
Δ = 45° 55' 09.0" (LT)
D = 6° 32' 53.1"
L = 701.26'
T = 370.69'
R = 875.00'

NAD 83

NC194/NC88 ADT. 2008 / ADT 2030
13,216 / 20,960
NC 194
3,304 / 5,240
NC 88
7,864 / 12,440
628 / 980
7,864 / 12,440
NC194

PROJECT REFERENCE NO.	SHEET NO.
U-3812	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

SEE SHEET No. 2-C FOR DRAINAGE DETAILS

SEE SHEET No. 10 FOR -L- PROFILE
SEE SHEET No. 13 FOR -Y- PROFILE

★ PROPOSED SIGNAL (NEW)

PROPOSED PAVEMENT REMOVAL

PROPOSED SHOULDER BERM GUTTER
-L- Sta. 10+68 TO Sta. 12+55 LT.

END CONSTRUCTION
-Y- POC STA. 20+00

-BL- GPS U3812-2 5+00.00=
-BY- PINC Sta.13+95.85=
-Y- POC Sta.15+76.96 (40.16RT)

BM#1
-BY- STA 12+71.39
270.77' RT
ELEV= 2886.08

BEGIN PROJECT U-3812
-L- POT Sta.10+00=
-Y- POC Sta.14+12.13

-Y- PC STA.13+35.08

-L- PC Sta. 14+87.37

-L- PT Sta. 17+97.90

-BL-7 PINC Sta. 13+61.69 =
-L- POT Sta. 19+31 (21.40 LT)

-L- PC Sta. 21+01.65

BEGIN CONSTRUCTION
-Y- POT Sta. 10+85.00

MATCHLINE SHEET No. 5
-L- Sta. 21+50

DALE & THELMA J. HALL
DB 199 PG 1207

GALE & GENEVA WALKER
DB K-4 PG 495

NORMAN REEVES MCNEILL
DB 182 PG 804

RICKIE B. WOODIE
DB 203 PG 1599

JAMES F. ROTEN
DB 286 PG 2031

HELEN SHATLEY BARE
DB D-6 PG 175

CECIL & MARGARETA SHEPHERD
DB D-5 PG 477
TRACT 1

PADDY MOUNTAIN LUMBER, INC
DB 288 PG 196
TRACT 1

PADDY MOUNTAIN LUMBER, INC
DB 288 PG 196
TRACT 2

GLADYS YVONNE P. HAYES AND GENTRY DOLINGER, JR.
DB 308 PG 361

DANIEL P. & MARY CAROLYN SHATLEY
DB 126 PG 1627
DB C-6 PG 246
DB D-6 PG 535
DB 89 PG 640

MYRTLE D. & JOE R. SHATLEY
DB 145 PG 686

LAVERN WATSON
DB 145 PG 684
DB 253 PG 1352
DB 254 PG 1067

PROPERTY OWNERS			
3	GLENN POE ESTATE DB S-3 PG 71	10	BERNARD & IRENE WOODIE DB K-5 PG 314 DB 179 PG 806
4	PADDY MOUNTAIN LUMBER, INC DB 288 PG 196 TRACT 2	13	STEPHEN & MARGARET JARVIS DB 233 PG 47
6	GALE & GENEVA WALKER DB K-4 PG 495	18	MYRTLE D. & JOE R. SHATLEY DB M-4 PG 306 DB L-4 PG 483 DB I-4 PG 99
7	TELMADGE S. SHEPHERD DB 197 PG 834 DB 153 PG 2044		
9	TERRY R. WOODIE DB 203 PG 1591 DB 153 PG 2044	27	VENCION DALLAS & DOROTHY W. STURGILL DB 248 PG 256

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3812	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

SEE SHEET No. 12 FOR -L- PROFILE
SEE SHEET No. FOR -Y- PROFILE

-L-
PI Sta 23+98.84
Δ = 37° 43' 11.0" (RT)
D = 6° 35' 08.6"
L = 572.75'
T = 297.19'
R = 870.00'

-Y1-
PI Sta 12+06.00
Δ = 70° 08' 14.0" (RT)
D = 110° 11' 03.1"
L = 63.7'
T = 36.5'
R = 52.00'

ADT 2008
ADT 2030

7,864 / 12,440 — -L- — NC 88 — 7,664 / 12,240
364 / 540 — -Y1- — 264 / 440
DORSETT RD.
1,256 / 1,950

NAD 83

-BL-8 PINC Sta. 19+53.27 =
-L- POC Sta.25+21.35 (16.77 LT)

-L- PC Sta. 26+74.40

-BL-9 PINC Sta. 23+94.56=
-BY1- POT Sta. 5+00.00 =
-L- POT Sta.29+59.87 (20.49 RT)

-Y1- POT Sta. 12+62.45
-L- POT Sta. 30+17.78

-Y1- POT Sta. 12+33.15

-Y1- PC Sta. 11+69.50

BEGIN CONSTRUCTION
-Y1- POT Sta. 11+61.62

MATCHLINE SHEET No. 4 -L- Sta. 21+50

MATCHLINE SHEET No. 6 -L- Sta. 35+00

(27) VENCION DALLAS & DOROTHY W. STURGILL DB 248 PG 255

(30) ARTHUR STURGILL DB Z-4 PG 400

(31) VENCION DALLAS & DOROTHY W. STURGILL DB 248 PG 255 AREA BEING CLEARED

(32) JOHNNY ARVIL & DEBORAH M. STURGILL DB 144 PG 253

(33) JOHN R. BARKER DB O-5 PG 152 PB 2 PG 73

(22) HOWARD & EDITH ROSE DB O-4 PG 26 DB L-5 PG 201

(20) DANIEL P. & MARY CAROLYN SHATLEY DB 126 PG 1527 DB C-3 PG 246 DB D-3 PG 635 DB 113 PG 640

(23) CURTIS & SHARON SHEPHERD DB 207 PG 37 DB 240 PG 1959

(24) HAROLD & DELLA STANSBERRY DB 207 PG 40

(25) EMMETT R. & ANNIE LEWIS DB 206 PG 2080 DB W-4 PG 567

(26) E. HESTER & FAYE T. LEWIS DB 142 PG 1837 DB W-4 PG 566 DB E-5 PG 105 DB U-4 PG 408

(28) BLUE RIDGE ELECTRIC MEMBERSHIP CORPORATION DEED NOT FOUND

(29) JAMES F. & ALLSYA M. ROTEN DB 273 PG 2397

(34) LEROY S. MEAD DB 178 PG 2288

(42) UNKNOWN OWNER

(43) JAMES & BULAH HAM DB 624 PG 1950 PB 7 PG 74

BM#2
-BL- STA 18+70.90
180 55' RT
ELEV= 2859.20'

TREE FARM

LITTLE BUFFALO CREEK

DORSETT RD.

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PROPERTY OWNERS			
(35)	ROBERT L. & CAROL M. HOUCK DB X-4 PG 119	(45)	FRANCISCO LEDEZMA BARRIENTOS & AUSENCIA ABUNDIZ DELEDEZMA DB 256 PG 1425 DB 127 PG 1206 PB 2 PG 74
(39)	MCFARLAND & COMPANY, INC DB 142 PG 1328		
(42)	UNKNOWN OWNER	(50)	ROBERT MCFARLAND FRANKLIN & CHERYL JANE ROBERTS DB 234 PG 1270
(48)	MCFARLAND & COMPANY, INC. DB 270 PG 1443		

-L-
PI Sta 45+96.20
Δ = 53° 47' 39.0" (LT)
D = 3° 58' 14.2"
L = 1354.81'
T = 731.98'
R = 1443.00'

PROJECT REFERENCE NO.	SHEET NO.
U-3812	6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
NOT FOR BID OR CONSTRUCTION

SEE SHEET No. 12 FOR -L- PROFILE

NAD 83

MATCHLINE SHEET No. 5 -L- Sta. 35+00

MATCHLINE SHEET No. 7 -L- Sta. 48+50

RICHARD K. & PHYLLIS R. ASHLEY DB 229 PG 229 PB 3 PG 74 (37)

MCFARLAND & COMPANY, INC DB 225 PG 1558 (39)

MARC C. & SHELBY M. WADDELL DB 221 PG 2240 (40)

LEROY S. MEAD DB 178 PG 2288 (34)

MYRTLE RUTH HALSEY DB Z-4 PG 491 (36)

MCFARLAND & COMPANY, INC DB 278 PG 1992 (39)

BAXTER & MARE GRUBB DB M-5 PG 290 (41)

MT. PADDY CHRISTIAN UNION CHURCH DB 126 PG 18 PB 4 PG 296-B (51)

PC Sta. 38+64.21

SATELLITE OF JEFFERSON LINE

S 63° 21' 53.0" E

S 89° 48' 43.0" E

S 44° 45' 20.4" E

JAMES & BEULAH HAM DB 122 PG 1050 PB 2 PG 74 (43)

SERAFIN RUIZ & ROCIO ALEJANDRA LARA HERNANDEZ DB 255 PG 1535 DB 127 PG 1206 PB 2 PG 74 (44)

GLENN & RUTH TRIVETTE DB G-4 PG 409 (46)

-BL- 10 PINC Sta. 36+18.89 =
-L- POC Sta. 41+81.30 (22.97RT)

-BYI- 25
POT Sta. 13+85.05

JAMES F. & ALLSYA M. ROTEN DB 273 PG 2597 (29)

ROBERT MCFARLAND FRANKLIN & CHERYL JANE ROBERTS DB 232 PG 783 DB 238 PG 377 DB 238 PG 379 (47)

CLAUDE & VIRGINIA ASHLEY DB 152 PG 233 DB P-5 PG 467 DB E-5 PG 53 (49)

-BL- II PINC Sta. 42+79.73 =
-L- POC Sta. 48+38.34 (18.87RT)

BM#3
-BL- STA 39+55.44
153.91' RT
ELEV= 2996.46'

MCFARLAND & COMPANY, INC. DB 153 PG 455 (48)

SAND PLAYGROUND

PLAYGROUND

SATELLITE OF JEFFERSON LINE

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-3812	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

SEE SHEET No. 13 FOR -L- PROFILE
SEE SHEET No. 14 FOR -YIA- PROFILE

PROPOSED PAVEMENT REMOVAL

SEE SHEET No. 2-C FOR DRAINAGE DETAILS

PROP. SHOULDER BERM GUTTER -L- Sta. 57+17 to Sta. 59+55 RT.

PROPERTY OWNERS	
(50)	ROBERT MCFARLAND FRANKLIN & CHERYL JANE ROBERTS DB 234 PG 1270
(53)	JACK RUDOLPH & DONNA J. NEAL DB 150 PG 1806

NAD 83

MATCHLINE SHEET No. 6 -L- Sta. 48+50

MATCHLINE SHEET No. 8 -L- Sta. 61+75

(52) RICHARD K. & PHYLLIS R. ASHLEY DB 156 PG 281

(51) MT. PADDY CHRISTIAN UNION CHURCH DB 126 PG 18, PB 4 PG 296-8, DB 152 PG 179, PB 4 PG 296-8

(50) ISFD

(53) DRIVE NOT FOUND

(55) CYRIL EDWARD & MAUREEN HARRINGTON HUNTE DB 267 PG 1060 TRACT 1 / TRACT 2

(56) DAVID W. MILLER DB 259 PG 87

(54) GWYN PARK LITTLE DB 1-3 PG 258

(48) MCFARLAND & COMPANY, INC. DB 153 PG 455

ASHLEY FARM TR 9' BST — RW/EXISTING PROPERTY LINE

JEFFERSON CITY LIMIT LINE

END CONSTRUCTION.
-YIA- POT STA. 11+35.00
-YIA- PT Sta. 10+87.56

-L- PT Sta. 52+19.02

-L- POC Sta. 53+65.02

-L- PCC Sta. 56+86.13 = -YIA- POT Sta. 10+00

-L- PT Sta. 58+58.12

-BL-13 PINC Sta. 51+30.35 = -L- POC Sta. 56+78.37 (41.73LT) -YIA- POC Sta. 10+42.42 (1.48RT)

-YIA- PC Sta. 10+30.00

-BL-12 PINC Sta. 48+22.38 = -L- POC Sta. 53+78.67 (15.30RT)

-BL-14 PINC Sta. 56+01.66 = -BY2- POT Sta. 7+47.20 = -L- POT Sta. 61+35.57 (56.99RT)

240' TRANS. LT. & RT.

SEE DETAIL "BB" SHEET No 2-C

DETAIL "BB"
FALSE SUMP
(Not To Scale)

S = Ditch Slope

℄ Proposed Ditch

AT STA 60+02 -L- (LT)

-L-	
PI Sta 45+96.20	PI Sta 56+19.01
Δ = 53° 47' 39.0" (LT)	Δ = 33° 52' 32.0" (RT)
D = 3° 58' 14.2"	D = 6° 52' 12.0"
L = 1,354.81'	L = 493.09'
T = 731.98'	T = 253.99'
R = 1,443.00'	R = 834.00'

-YIA-
PI Sta 10+58.84
Δ = 9° 00' 00.0" (LT)
D = 15° 38' 10.8"
L = 57.56'
T = 28.84'
R = 366.43'

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PROJECT REFERENCE NO.	SHEET NO.
U-3812	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SEE SHEET No. 13 FOR -L- PROFILE
SEE SHEET No. 14 FOR -Y1A- PROFILE
SEE SHEET No. 14 FOR -Y2- PROFILE
SEE SHEET No. 14 FOR -Y5- PROFILE
SEE SHEET No. 14 FOR -Y6- PROFILE
SEE SHEET No. 14 FOR -Y7- PROFILE

PROPERTY OWNERS

No.	Owner	No.	Owner
㉖2			

No.	Owner	No.	Owner
(62)	JEFFERY E. MAYNOR TERRI B. MAYNOR DB 323 PG 2124 PB 1 PG 56	(72)	SAMUEL GUTIERREZ & ELIDA GUTIERREZ DB 356 PG 1940 PB 2 PG 83
(63)	NELSE L. & INA HIMELRIGHT OSBORNE DB 245 PG 981 PB 1 PG 56	(73)	ERNIE CARPENTER & DAVID BARR DB 277 PG 1491 PB 2 PG 83
(68)	JOHN WILLIAM & MARY ELIZABETH ROTEN, ETAL DB 279 PG 41 PB 2 PG 83	(75)	BETTY C. CROWDER DB 148 PG 473 PB 3 PG 140
(69)	CONLEY W. SHEPHERD & MICHAEL L. SHEPHERD DB 399 PG 1758 PB 2 PG 83	(81)	AMANDA K. BARKER L/E DB 254 PG 1050 PB 1 PG 16
(70)	ROBERT G. & DEBRA E. POE, ET AL DB 197 PG 2459 PB 2 PG 83	(82)	PHYLLIS JANET NEAVES ESTATE DB 167 PG 2169 PB 1 PG 16 07 E 287
(71)	PRISCILLA L. NORRIS & CLAYTON E. NORRIS DB 378 PG 1503 PB 2 PG 83	(86)	NEW RIVER BEHAVIORAL HEALTHCARE PREVENTION FOUNDATION DB 270 PG 135 PB 1 PG 16

-L-

PI Sta 65+59.12
Δ = 0° 36′ 20.0″ (RT)
D = 1° 08′ 45.3″
L = 52.84′
T = 26.42′
R = 5,000.00′

PI Sta 72+74.91
Δ = 20° 47′ 00.0″ (LT)
D = 8° 11′ 06.4″
L = 253.92′
T = 128.37′
R = 700.00′

PI Sta 77+09.24
Δ = 34° 19′ 10.0″ (RT)
D = 5° 43′ 46.5″
L = 598.99′
T = 308.78′
R = 1,000.00′

-Y2-

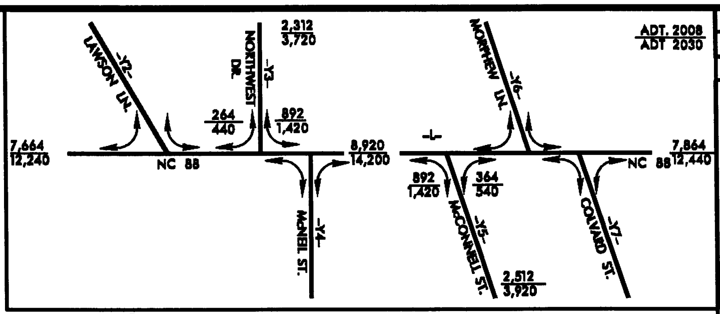
PI Sta 11+56.12
Δ = 4° 40′ 00.0″ (LT)
D = 3° 49′ 11.0″
L = 122.17′
T = 61.12′
R = 1,500.00′

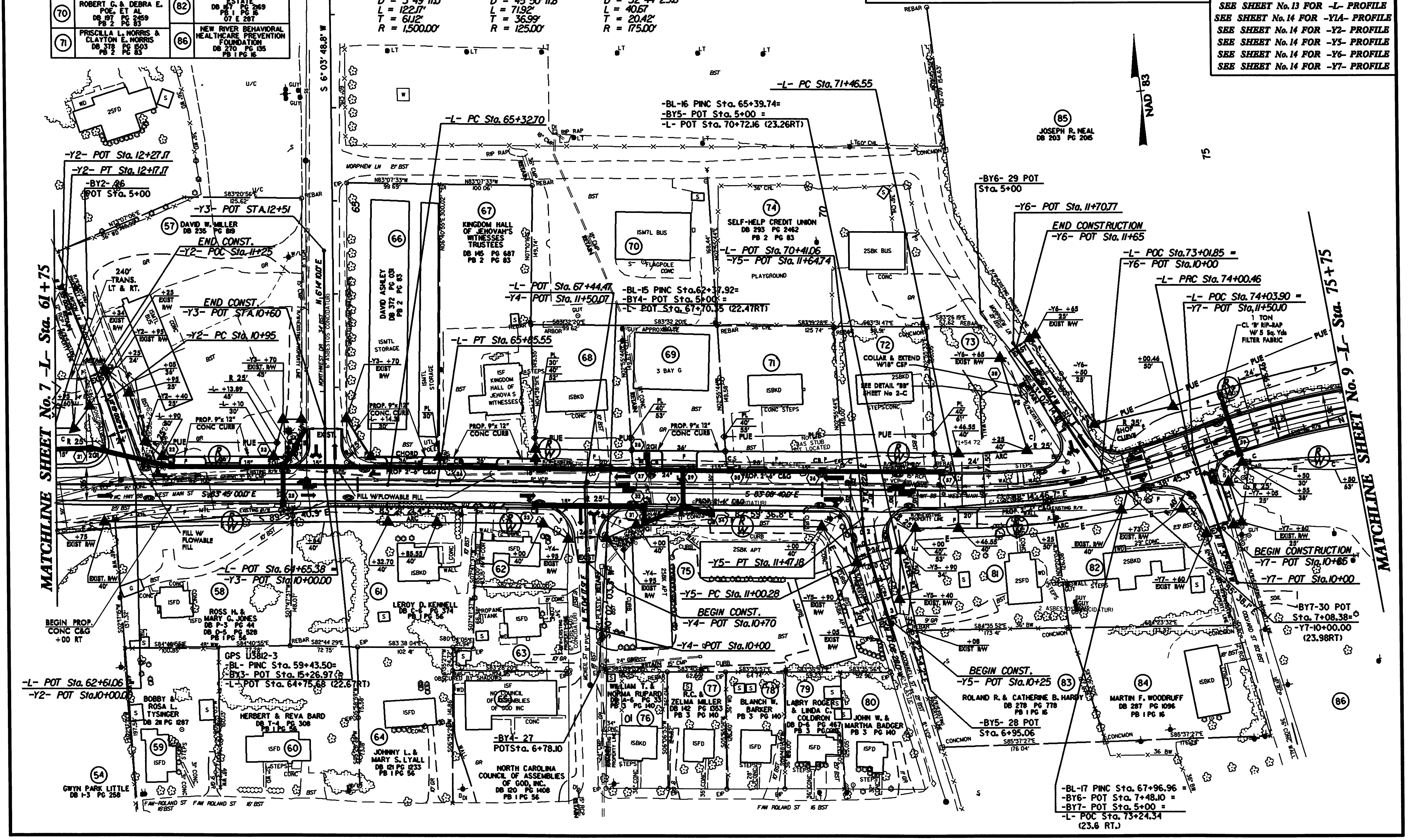
-Y3-

PI Sta 10+61.47
Δ = 32° 57′ 53.9″ (RT)
D = 45° 50′ 11.8″
L = 71.92′
T = 36.99′
R = 125.00′

-Y5-

PI Sta 11+20.70
Δ = 13° 18′ 50″ (RT)
D = 32° 44′ 25.6″
L = 40.67
T = 20.42′
R = 175.00′





1. Deleted PUE Easement on Parcels No. 066, 067, 069, & 073.
2. Changed Name from Phyllis Osborne Estate to Phyllis Janet Neaves Estate & added number 07E 284 Parcel No. 082.
3. Added 20′ Driveway on Parcel No. 81.

8/17/99

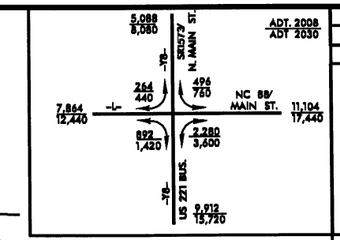
PROPERTY OWNERS			
(91)	THOMAS D. & VICTORIA HERMAN DB 196 PG 2499 DB 159 PG 469	(99)	DARREL & DARLENE POE, RICHARD & MICHELLE HAMBY DB 256 PG 1517
(92)	JOHN CHRISTOPHER BARR ET AL DB 406 PG 1039	(105)	GEORGE TIMOTHY & SANDRA W. SHATLEY DB 251 PG 1259
(93)	E. TRUETT JR. & MAREA B. WEAVER DB K-5 PG 254	(103)	JEFFERSON UNITED METHODIST CHURCH TRUSTEES DB 283 PG 435 DB 84 PG 292 DB 163 PG 29 DB 84 PG 248

-L-

PI Sta 77+09.24
Δ = 34° 19' 10.0" (RT)
D = 5° 43' 46.5"
L = 598.99'
T = 308.78'
R = 1,000.00'

PI Sta 81+31.29
Δ = 21° 20' 00.0" (LT)
D = 8° 11' 06.4"
L = 260.64'
T = 131.84'
R = 700.00'

PI Sta 85+88.52
Δ = 2° 13' 36.0" (LT)
D = 5° 43' 46.5"
L = 38.86'
T = 19.43'
R = 1,000.00'



PROJECT REFERENCE NO.	SHEET NO.
U-3812	9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SEE SHEET No.12 FOR -L- PROFILE

PROPOSED CONC. SIDEWALK

MATCHLINE SHEET No. 8 -L- Sta. 75+75

(85) JOSEPH R. NEAL DB 203 PG 205

-BL-18 PINC Sta. 71+29.60 =
-L- POC Sta. 76+54.81 (9.83LT)

(87) SARAH GORDON NEAL DB 203 PG 2006

PROPERTY DETERMINED ELIGIBLE FOR THE NATIONAL REGISTER

-BL-19 PINC Sta. 76+81.06 =
-L- POC Sta. 82+07.73 (5.49LT)

-L- PRC Sta. 79+99.45

BM#6
-BL- STA 79+10.51
22128 LT
ELEV= 2925.53'

NAD 83

F. KENNETH & BONNIE J. LANE DB 213 PG 2214 (96)

JERROLD W. ASHLEY DB 143 PG 1676 (97)

BARKER BROTHERS DB 295 PG 34 (98)

GALE S. & JUANITA D. ROARK DB 219 PG 265 (102)

(103)

-Y8- POT Sta. 16+18.02

END RESURFACI

-Y8- PT Sta. 13+38.1

-L- PT Sta. 82+60.09

-L- PT Sta. 86+07.95

-L- PC Sta. 85+69.09

LOCATION OF PIPES UNKNOWN

(99)

PROPERTY OWNER RICHARD HA OWNER OF OLD GAS STATION NC 88 WITH 4 TANKS, STATES TH THERE WAS A U/G GAS TANK

-L- POT Sta. 89+00

END CONSTRUCTION
-L- POT Sta. 88+80

-L- POT Sta. 88+27.35
-Y8- PC Sta. 12+79.94

-Y8- POT Sta. 10+00.00

BEGIN RESURFACING
-Y8- PC Sta. 12+22.46

-BL-20 PINC Sta. 82+65.21 =
-BY8- POT Sta. 10+73.81 =
-BY9- POT Sta. 5+00.00 =
-L- POT Sta. 87+90.42
(31.58RT)

-BY9-32 POT Sta. 8+88.20

BEGIN 4' PAVED DITCH, & PRECAST REINFORCED CONC. BARRIER, (SINGLE FACED) -L- Sta 76+72

BEGIN RETAINING WALL, & CHAIN LINK FENCE, -L- Sta 77+02.50

END PROP. RETAINING WALL & CHAIN LINK FENCE -L- Sta 81+25.75

END PRECAST REINFORCED CONC BARRIER, (SINGLE FACED) & 4' PAVED DITCH -L- Sta. 81+52

NOTE: PROP 9"x 12" CONC. CURB
-L- Sta 83+56 +/- to Sta 87+94 +/- RT
-L- Sta 86+29 +/- to Sta 88+14 +/- LT

(86) NEW RIVER BEHAVIORAL HEALTHCARE PREVENTION FOUNDATION DB 270 PG 135 PB 1 PG 16

(88) TOWN OF JEFFERSON DB 245 PG 1680

(89) DAVID S. & TERI S. KNAPP DB 202 PG 1566

(90) JOAN ROAN DB 154 PG 746

(91) (92) (93) (94) JOSEPH H. GWYN DB 270 PG 2179

(105)

(106) JOSEPH R. NEAL DB 203 PG 205 DB 84 PG 269

(112) JEFFERSON SUPERMARKET C/O WILDA GREER, ET AL DB A-4 PG 575

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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3812	10

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

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

SEE SHEET 4 & 5 FOR -L- DESIGN

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO's. 11 AND 12

DRAINAGE AREA	=	322	AC
DESIGN FREQUENCY	=	50	YRS
DESIGN DISCHARGE	=	280	CFS
DESIGN HW ELEVATION	=	2,853.3	FT
100 YEAR DISCHARGE	=	340	CFS
100 YEAR HW ELEVATION	=	2,854.2	FT
OVERTOPPING FREQUENCY	=	500+	YRS
OVERTOPPING DISCHARGE	=	470	CFS
OVERTOPPING ELEVATION	=	2,856.8	FT

-L-

BEGIN GRADE
PI = 10+24.20
EL = 2,869.66'

PI = 11+00.00
EL = 2,869.81'
VC = 150'
K = 26

PI = 12+85.00
EL = 2,859.30'
VC = 220'
K = 55

END GRADE /
BEGIN RESURFACING
-L- STA = 14+04.00
EL = 2,857.30'

(+)5.20%

(+)0.19%

(-)5.64%

(-)3.66%

(-)1.68%

2 @ 60" CSP

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

2,880 2,870 2,860 2,850 2,840

-L-

22 23 24 25 26 27 28 29 30 31 32 33 34 35

2,930 2,920 2,910 2,900 2,890 2,880 2,870 2,860 2,850

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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3812	11
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR RIGHT-OF-WAY ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SEE SHEET 5,6,& 7 FOR -L- DESIGN

-L-

3,010
3,000
2,990
2,980
2,970
2,960

2,970
2,960
2,950
2,940
2,930
2,920

35 36 37 38 39 40 41 42 43 44 45 46

-L-

END RESURFACING / BEGIN GRADE
-L- Sta. 50+00
ELEV.= 3,028.97'

PI = 54+70.71
EL = 3,043.08'
VC = 265'
K = 29

(+)2.96%
(-)2.60%
(+)2.96%
(+)1.79%
-3.00%
-3.00%
LAT. 'V' DITCH RT.
BEGIN GRADE
PI = 57+16.33
EL = 3,028.50'
PI = 57+50
EL = 3,027.48'
END GRADE
PI = 58+00
EL = 3,026.98'

3,050
3,040
3,030
3,020
3,010

3,030
3,020
3,010
3,000

46 47 48 49 50 51 52 53 54 55 56 57 58

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-3812	12

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SEE SHEET 8 & 9 FOR -L- DESIGN

-L-

3,030
3,020
3,010
3,000
2,990
2,980
2,970
2,960

3024.23

(-)6.02%

PI = 68+00.00
EL = 2,963.00'
VC = 510'
K = 50

(-)6.02%

(+)4.61%

2970.53

59 60 61 62 63 64 65 66 67 68 69 70 71

2,990
2,980
2,970
2,960
2,950
2,940
2,930
2,920
2,910

2977.59

(+)4.68%

(-)6.45%

PI = 73+42.00
EL = 2,985.59'
VC = 330'
K = 31

PI = 82+90.00
EL = 2,924.43'
VC = 420'
K = 84

(-)6.45%

(-)4.28%

(-)2.20%

2923.45

2906.75

BEGIN GRADE
PI = 2917+00
EL = 2933.57'

LAT. BASE DITCH LT.

72 73 74 75 76 77 78 79 80 81 82 83 84

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PROJECT REFERENCE NO.	SHEET NO.
U-3812	13

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR CONSTRUCTION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SEE SHEET 9 FOR -L- DESIGN

-L-

END GRADE
-L- Sta.88+00
EL = 2,920.61'

PI = 86+70.00
EL = 2,919.00'
VC = 260'
K = 97

2,930
2,920
2,910

(-)1.428%
(-)2.207%
(-)2.422%
(+)2.385%

LAT. BASE DITCH LT.

PI = 85+90.00
EL = 2,921.03'

END GRADE
-L- Sta.85+63
EL = 2,941.18'

84 85 86 87 88 89

SEE SHEET 4 FOR -Y- DESIGN

-Y-

BEGIN GRADE
-Y- Sta.10+55
EL = 2,893.27'

PI = 13+11.00
EL = 2,874.60'
VC = 180'
K = 138

PI = 16+25.00
EL = 2,855.80'
VC = 440'
K = 111

END GRADE
-Y- Sta.19+85
ELEV. = 2,848.53'

2,900
2,890
2,880
2,870
2,860
2,850
2,840
2,830
2,820

CUT DITCH LT.

10 11 12 13 14 15 16 17 18 19 20

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PROJECT REFERENCE NO.	SHEET NO.
U-3812	14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

-Y1A-

BEGIN GRADE
PI = 10+12.30
EL = 3,050.84'

PI = 10+97.49
EL = 3,031.69'
VC = 60'
K = 6.3

END GRADE
PI = 11+35.00
EL = 3,055.67'

(+)10.000%
(+)6.000%
(+)5.584%

3,050
3,040
3,030
3,020

SEE SHEET No. 7 FOR -Y1A- DESIGN

-Y2-

BEGIN GRADE
PI = 10+18.98
EL = 2,995.45'

PI = 10+90.00
EL = 3,001.52'
VC = 40'
K = 5.9

END GRADE
PI = 11+35.00
EL = 3,035.67'

(-)8.000%
(-)12.0%
(+)2.0%
(+)3.846%
(+)5.160%

3,050
3,040
3,030
3,020
3,010
3,000
2,990

PI = 10+36.00
EL = 2,995.79'
VC = 34'
K = 3.9

SEE SHEET No. 8 FOR -Y2- DESIGN

-Y5-

BEGIN GRADE
PI = 10+22.00
EL = 2,982.79'

PI = 11+25.00
EL = 2,971.34'
VC = 40'
K = 16

END GRADE
PI = 11+46.11
EL = 2,976.75'

(-)10.938%
(+)7.512%
(+)6.5%
(+)6.554%

3,010
3,000
2,990
2,980
2,970
2,960
2,950

PI = 10+43.16
EL = 2,963.98'
VC = 36'
K = 14.7

SEE SHEET No. 8 FOR -Y5- DESIGN

-Y6-

BEGIN GRADE
PI = 10+19.92
EL = 2,990.67'

PI = 10+38.63
EL = 2,979.95'
VC = 38'
K = 4.5

END GRADE
PI = 11+00.00
EL = 2,986.03'

(-)23.156%
(+)10.800%

2,990
2,980
2,970
2,960

SEE SHEET No. 8 FOR -Y6- DESIGN

-Y7-

BEGIN GRADE
PI = 11+00
EL = 2,980.23'

END GRADE
PI = 11+32.09
EL = 2,979.97'

(-)30.224%
(+)30.419%

2,980
2,970
2,960

SEE SHEET No. 8 FOR -Y7- DESIGN

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