

**PROJECT SPECIAL PROVISION**

(10-18-95)

Z-1

**PERMITS**

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

**PERMIT**

**AUTHORITY GRANTING THE PERMIT**

Dredge and Fill and/or  
Work in Navigable Waters (404)  
Water Quality (401)

U. S. Army Corps of Engineers  
  
Division of Environmental Management, DENR  
State of North Carolina

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

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

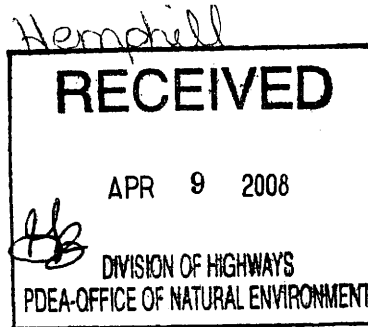
The Contractor's attention is also directed to Articles 107-10 and 107-14 of the *Standard Specifications* and the following:

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

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

200

DEPARTMENT OF THE ARMY  
WILMINGTON DISTRICT, CORPS OF ENGINEERS  
151 PATTON AVENUE  
ROOM 208  
ASHEVILLE, NORTH CAROLINA 28801-5006



REPLY TO  
ATTENTION OF:

April 1, 2008

Regulatory Division

Action ID. SAW-2007-2197-357/300, TIP No's. R-2518A, R-2518B, and R-2519A

Gregory J. Thorpe, Ph.D., Director  
Project Development and Environmental Analysis Branch  
North Carolina Department of Transportation  
1598 Mail Service Center  
Raleigh, North Carolina 27699-1598

Dear Dr. Thorpe:

In accordance with your written request of June 26, 2007, subsequent submittals of October 1, 2007, March 5, 2008 and the ensuing administrative record, enclosed are two copies of a permit to discharge dredged or fill material into 0.94 acres of wetland, and 14,766 linear feet of stream channel within the Little Ivy Creek, Cane River, and South Toe River drainages associated with the widening of approximately 21 miles of US Highway 19/19E in Madison and Yancey Counties, North Carolina. (TIP No's. R-2518 A/B and R-2519A).

You should acknowledge that you accept the terms and conditions of the enclosed permit by signing and dating each copy in the spaces provided ("Permittee" on page 3). Your signature, as permittee, indicates that, as consideration for the issuance of this permit, you voluntarily accept and agree to comply with all of the terms and conditions of this permit. All pages of both copies of the signed permit with drawings should then be returned to this office for final authorization. A self-addressed envelope is enclosed for your convenience.

As you are aware, the US Fish and Wildlife Service (Service) issued a Biological Opinion (BO) on March 14, 2008 regarding the impacts of this project as well as those associated with the construction of R-2519B on the Appalachian elktoe mussel. It is our understanding that R-2519 B is not scheduled to be let until 2009 and you intend to seek a separate Department of the Army permit for its construction. In the BO and the associated mandatory terms and conditions, the Service has stipulated that, for R-2519B, a bridge will be constructed over Big Crabtree Creek. If and until the BO is revised or supplemented, you will be obligated to construct a bridge, in accordance with the BO, over Big Crabtree Creek as well as to implement the other requirements contained in the BO.

This correspondence contains an initial proffered permit for the above described activity. If you object to this decision or the enclosed special conditions you may request that the District Commander reconsider his decision. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this decision you must submit a completed RFA form to the District Commander, Wilmington District Corps of Engineers at the following address:

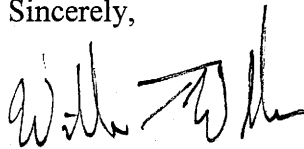
Col. John E. Pulliam, Jr., District Commander  
US Army Corps of Engineers, Wilmington District  
Post Office Box 1890  
Wilmington, NC 28402-1890

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, and that it has been received by the District Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by May 28, 2008.

\*\* It is not necessary to submit an RFA form to the District Office if you do not object to the decision contained in this correspondence.\*\*

After the permit is authorized in this office, the original copy will be returned to you; the duplicate copy will be permanently retained in this office. Should you have questions, contact Mr. David Baker, Regulatory Division, Asheville Regulatory Field Office, telephone (828) 271-7980 extension 225.

Sincerely,

A handwritten signature in black ink, appearing to read 'William T. Walker', with a stylized flourish at the end.

William T. Walker  
Chief, Asheville Field Office

Enclosures

DEPARTMENT OF THE ARMY PERMIT

Permittee **North Carolina Department of Transportation**

Permit No. **2007-2197-357/300**

Issuing Office **CESAW-RG-A**

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

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

Project Description: **to discharge dredged or fill material into 0.94 acres of wetland, and 14,766 linear feet of stream channel within the Little Ivy Creek, Cane River, and South Toe River drainages associated with the widening of approximately 21 miles of US Highway 19/19E. (TIP No's. R-2518 A/B and R-2519A).**

Project Location: **in Madison and Yancey Counties, North Carolina**

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **April 1, 2013**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit,

Special Conditions:

**SEE ATTACHED SPECIAL CONDITIONS**

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:
  - Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
  - Section 404 of the Clean Water Act (33 U.S.C. 1344).
  - Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).
2. Limits of this authorization.
  - a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
  - b. This permit does not grant any property rights or exclusive privileges.
  - c. This permit does not authorize any injury to the property or rights of others.
  - d. This permit does not authorize interference with any existing or proposed Federal project.
3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
  - a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
  - b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
  - c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
  - d. Design or construction deficiencies associated with the permitted work.

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


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

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

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

 \_\_\_\_\_ 4/10/08  
 (PERMITEE) NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (DATE)

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

 \_\_\_\_\_ 18 April 2008  
 (DISTRICT COMMANDER) JOHN E. PULLIAM, JR, COLONEL (DATE)

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

\_\_\_\_\_  
 (TRANSFEEE) (DATE)

## Special Conditions

1. All work must be performed in strict compliance with the attached plans, which are a part of this permit. Any modifications to the permit plans must be approved by the Corps of Engineers prior to implementation.
2. Failure to institute and carry out the details of the following special conditions will result in a directive to cease all ongoing and permitted work within waters and/or wetlands associated with the permitted project or such other remedies and/or fines as the District Engineer or his authorized representatives may seek.
3. The permittee will ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Written verification shall be provided that the final construction drawings comply with the attached permit drawings prior to any active construction in waters of the United States, including wetlands. Any deviation in the construction design plans will be brought to the attention of the Corps of Engineers, Asheville Regulatory Field Office prior to any active construction in waters and wetlands.
4. The permittee shall schedule a pre-construction meeting between their representatives, the contractor and the Corps of Engineers, Asheville Regulatory Field Office, NCDOT Regulatory Project Manager prior to any work in jurisdictional waters and wetlands to ensure that there is a mutual understanding of all terms and conditions contained in this DA permit. The permittee shall provide the NCDOT Regulatory Project Manager with a copy of the final plans at least two weeks prior to the pre-construction meeting along with a description of any changes that have been made to the project's design, construction methodology or construction timeframe. The permittee shall schedule the pre-construction meeting for a time when the Corps of Engineers and North Carolina Division of Water Quality (NCDWQ) Project Managers can attend. The permittee shall notify the Corps of Engineers and NCDWQ Project Managers a minimum of thirty (30) days in advance of the meeting.
5. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit, and any authorized modifications. A copy of this permit and any authorized modifications, including all conditions, shall be available at the project site during construction and maintenance of this project.
6. Except as authorized by this permit or any Corps of Engineers approved modification to this permit, no excavation, fill or mechanized land clearing activities shall take place at any time in the construction or maintenance of this project within waters or wetlands nor shall any activities take place that cause the

degradation of waters or wetlands. In addition, except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project in such a manner as to impair normal flows and circulation patterns within, into or out of waters and wetlands or to reduce the reach of waters and wetlands.

7. To ensure that all borrow and waste activities occur on uplands and do not result in the degradation of adjacent waters and wetlands, except as authorized by this permit, the permittee shall require its contractors and/or agents to identify all areas to be used to borrow material or to dispose of dredged, fill or waste material. The permittee shall provide the Corps of Engineers with appropriate maps indicating the locations of proposed borrow or waste sites as soon as such information is available. The permittee will coordinate with the Corps of Engineers before approving any borrow or waste sites that are within 400 feet of any stream or wetland. All jurisdictional wetland delineations on borrow and waste areas shall be verified by the Corps of Engineers and shown on the approved reclamation plans. The permittee shall ensure that all such areas comply with the preceding condition of this permit and shall require and maintain documentation of the location and characteristics of all borrow and disposal sites associated with this project. This documentation will include data regarding soils, vegetation and hydrology sufficient to clearly demonstrate compliance with the preceding condition. All information will be available to the Corps of Engineers upon request. The permittee shall require its contractors to complete and execute reclamation plans for each waste and borrow site and provide written documentation that the reclamation plans have been implemented and all work is completed. This documentation will be provided to the Corps of Engineers within 30 days of the completion of the reclamation work.
8. Adequate sedimentation and erosion control measures must be implemented prior to any ground disturbing activities to minimize impacts to downstream aquatic resources. These measures must be inspected and maintained regularly, especially following rainfall events. All fill material must be adequately stabilized at the earliest practicable date to prevent sediment from entering into adjacent waters or wetlands.
9. The permittee shall remove all sediment and erosion control measures placed in waters or wetlands, and shall restore natural grades in those areas prior to project completion.
10. The permittee shall take measures to prevent live or fresh concrete from coming into contact with any surface waters until the concrete has hardened and cured.
11. During the clearing phase of the project, heavy equipment must not be operated in surface waters or stream channels. Temporary stream crossings will be used to access the opposite sides of stream channels. All temporary diversion channels and stream crossings will be constructed of nonerodable materials. Grubbing of riparian vegetation will not occur until immediately before construction begins on

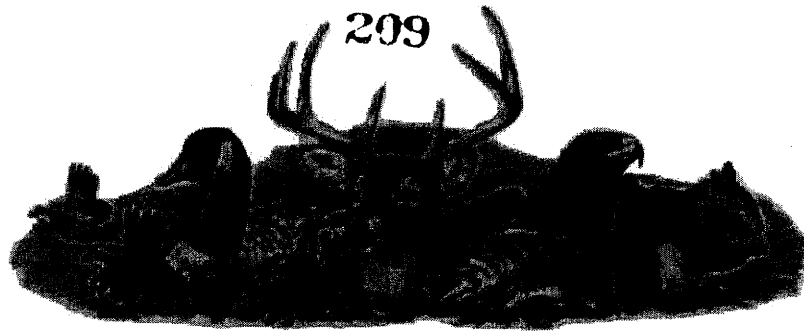


a given segment of stream channel.

12. All authorized culverts will be installed to allow the passage of low stream flows and the continued movement of fish and other aquatic life as well as to prevent head-cutting of the streambed. For all box culverts and for pipes greater than 48 inches in diameter, the bottom of the culvert will be buried one foot below the bed of the stream unless such burial would be impractical and the Corps of Engineers has waived this requirement. For culverts 48 inches in diameter or smaller, the bottom of the pipe will be buried below the bed of the stream to a depth equal to or greater than 20 percent of the diameter of the culvert. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in the disequilibrium of wetlands, streambeds or stream banks adjacent to, upstream of or downstream of the structures. In order to allow for the continued movement of bed load and aquatic organisms, existing channel widths and depths will be maintained at the inlet and outlet ends of culverts. Riprap armoring of streams at culvert inlets and outlets shall be minimized above ordinary high water elevation in favor of bioengineering techniques such as bank sloping, erosion control matting and revegetation with deep-rooted native woody plants.
13. Unless authorized by this permit, all fill material placed in waters or wetlands shall be generated from an upland source and will be clean and free of any pollutants except in trace quantities. Metal products, organic materials (including debris from land clearing activities) or unsightly debris will not be used.
14. All mechanized equipment operating near surface waters shall be regularly inspected to prevent contamination of streams from leakage of fuels, lubricants, hydraulic fluids or other toxic materials. No equipment staging or storage of construction material will occur in wetlands. Hydro-seeding equipment will not be discharged or washed out into any surface waters or wetlands. In the event of a spill of petroleum products or any other hazardous waste, the permittee shall immediately report it to the NC Division of Water Quality at (919) 733-5083 or (800) 662-7956 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.
- \*15. Compensatory mitigation for unavoidable impacts to 0.26 acre of riparian wetlands and 0.16 acre of non-riparian wetlands (HUC 06010105) and 0.37 acre of riparian wetlands, 0.15 acre of non-riparian wetlands, and 1,547 linear feet of cold-water stream channel (HUC 06010108) associated with the proposed project shall be provided by the Ecosystem Enhancement Program (EEP) as outlined in the October 22, 2007 letter from William D. Gilmore, P.E., EEP Director. Pursuant to Section X of the EEP Memorandum of Agreement (MOA) and as revised on March 8, 2007, between the State of North Carolina and the US Army Corps of Engineers, Wilmington District, signed on July 22, 2003, the EEP will provide 0.63 acre of restoration equivalent riparian wetlands, 0.31 acre of restoration equivalent non-riparian wetlands and 1,547 linear feet of cold water stream restoration in the French Broad River Basin, Hydrologic Cataloging Units

06010105 and 06010108. For wetlands, a minimum of 1:1 (impact to mitigation) must be in the form of wetland restoration. The remainder of the required compensatory mitigation for the unavoidable impacts associated with the R2518 and R2519A TIP Projects will be accomplished in accordance with the two mitigation plans titled "STREAM MITIGATION PLAN, US19, R-2518A, ON-SITE MITIGATION, MADISON COUNTY, NORTH CAROLINA" dated August 2006; and "STREAM MITIGATION PLAN, US HIGHWAY 19, R-2518B, ON-SITE MITIGATION, YANCEY COUNTY, NORTH CAROLINA" dated February 2007.

16. The permittee shall implement the work moratoria for fishery resources in specific bodies of water as outlined in the attached July 19, 2007 letter from the North Carolina Wildlife Resources Commission.
17. The permittee will report any violation of the above conditions and any violations of Section 404 of the Clean Water Act from unauthorized work in writing to the Wilmington District, US Army Corps of Engineers within 24 hours of the permittee's discovery of the violation.
18. This Corps permit does not authorize you to take an endangered species, in particular the Appalachian elktoe mussel. In order to legally take a listed species, you must have separate authorization under the ESA. (e.g., an ESA Section 10 permit, or a BO under the ESA Section 7, with "incidental take" provisions with which you must comply). The enclosed USFWS Biological Opinion, dated March 14, 2008, contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BO. Your authorization under this Corps permit is conditional upon your compliance with all the mandatory terms and conditions associated with incidental take of the attached BO, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BO, where a take of the listed species occurs, would constitute non-compliance with your Corps permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its BO, and the ESA.
19. All conditions of the North Carolina Division of Water Quality's Section 401 Water Quality Certification No. 3427, original dated October 11, 2007 and modification dated March 17, 2008, are hereby incorporated as special conditions of this permit.



## ☒ North Carolina Wildlife Resources Commission ☒

Richard B. Hamilton, Executive Director

TO: Jeff Hemphill, Natural Environment Unit  
N. C. Department of Transportation

FROM: Marla Chambers, Western NCDOT Permit Coordinator *Marla Chambers*  
Habitat Conservation Program, NCWRC

DATE: July 19, 2007

SUBJECT: Moratoria for the US 19E widening project from I-26 in Madison County to the existing multilane section west of Spruce Pine in Mitchell County. TIP Nos. R-2518, R-2519A, and R-2519B.

As requested, this is to provide a list of moratoria recommended for the portion of the US 19 E widening project from Madison County to Mitchell County, specifically TIP Nos. R-2518, R-2519A, and R-2519B. These recommendations were originally made in our comment letters and communications at earlier stages of the project planning process for specific segments of the project. Recent fish sampling by NCDOT (May 2006 and May 2007) and NCWRC (August 2006) has provided information that allows the appropriate moratoria to be determined for specific bodies of water. They are provided below for your convenience.

Our comments dated May 23, 2003 and November 21, 2005 for R-2519B and February 24, 2005 for R-2518 and R-2519A, as well as email comments dated February 6, 2007, which referred to all three project segments, provided moratoria recommendations. A clarification should be noted regarding the two comment letters for R-2519B; Big Crabtree Creek was erroneously referred to as Cranberry Creek in both letters. This correction was also announced at a recent Concurrence meeting (April 17, 2007).

On the western end, we are not requesting a moratorium for Middle Fork Creek or its unnamed tributaries. An in-water work moratorium from April 1 to June 30 will apply to Cane River and South Toe River to protect federal and state listed species, including the federally Endangered Appalachian elktoe (*Alasmidonta raveneliana*). Smallmouth bass, an important game fish, will also receive some reproduction protection with this moratorium.

The remaining perennial streams within the project will need to adhere to a trout moratorium prohibiting in-stream work and land disturbance within the 25-foot trout buffer from October 15 to April 15 for streams containing brook or brown trout or from January 1 to April 15 for streams in which the only trout species occurring is rainbow trout. Current data lead us to recommend the October 15 to April 15 trout moratorium for Big Crabtree Creek and the January 1 to April 15 trout moratorium for California Creek, Bald Creek, Little Crabtree Creek, Prices Creek, Brushy Creek, and Long Branch. Unnamed tributaries should use the moratorium appropriate for the named stream they flow to, unless survey data indicate otherwise.

To summarize, we recommend the following work moratoria for waters within the R-2518, R-2519A, and R-2519B projects:

April 1 to June 30 in-water work moratorium: Cane River and South Toe River

October 15 to April 15 trout moratorium: Big Crabtree Creek

January 1 to April 15 trout moratorium: California Creek, Bald Creek, Little Crabtree Creek, Prices Creek, Brushy Creek, and Long Branch

We hope this information clarifies the moratoria needed for the subject project segments. These recommendations are subject to change if new information is presented. If you have any questions, please contact me at (704) 984-1070.

cc: David Baker, USACE  
Brian Wenn, NCDWQ  
Marella Buncick, USFWS  
Christopher Militscher, USEPA



Michael F. Easley, Governor  
William G. Ross Jr., Secretary  
North Carolina Department of Environment and Natural Resources

211

Coleen H. Sullins, Director  
Division of Water Quality

*Hemphill*

*R-2518A  
401*

October 11, 2007

RECEIVED

OCT 16 2007

DIVISION OF HIGHWAYS  
PDEA-OFFICE OF NATURAL ENVIRONMENT

Dr. Greg Thorpe, PhD., Manager  
Planning and Environmental Branch  
North Carolina Department of Transportation  
1548 Mail Service Center  
Raleigh, North Carolina, 27699-1548

Subject: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with ADDITIONAL CONDITIONS Proposed Improvements of US 19/US 19E from future I-26 (existing US 19-23) to SR 1186 in Madison and Yancey Counties, State Project Nos. 6.869005T and 6.909001T, TIP Project Nos. R-2518A, R-2518B and R-2519A. DWQ Project No. 20071134, Individual Certification No. 3706

Dear Dr. Thorpe:

Attached hereto is a copy of Certification No. 3706 issued to The North Carolina Department of Transportation dated October 11, 2007.

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

Sincerely,

Coleen H. Sullins,  
Director

Attachments

cc: David Baker, US Army Corps of Engineers, Asheville Field Office  
Chris Militscher, Environmental Protection Agency  
Kathy Matthews, Environmental Protection Agency  
Marla Chambers, NC Wildlife Resources Commission  
Marella Buncick, US Fish and Wildlife Service  
Mike Parker, DWQ Fayetteville Regional Office  
File Copy



**401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act with  
ADDITIONAL CONDITIONS**

**THIS CERTIFICATION** is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality (DWQ) Regulations in 15 NCAC 2H .0500. This certification authorizes the NCDOT to impact 0.42 acres of jurisdictional wetlands and 7,059 linear feet of jurisdictional streams in Madison and Yancey Counties. The project shall be constructed pursuant to the application dated received June 26, 2007. The authorized impacts are as described below:

**Table 1 - Stream Impacts for R-2518A in the French Broad River Basin**

Site	Permanent Fill in Intermittent Stream (linear ft)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
<b>R-2518A</b>						
1	0	0	13	10	23	0
1A	0	0	144	0	144	0
2	0	0	213	20	233	213
3	0	0	148	20	168	148
3A	0	0	0	36	36	0
4	0	0	85	10	95	85
5	0	0	171	10	181	171
6	0	0	148	20	168	148
7	0	0	1,168	20	1,188	1,168
7A	0	0	151	10	161	151
8	0	0	154	10	164	154
9	0	0	89	10	99	0
10	0	0	39	20	59	0
11	0	0	1,071	10	1,081	1,071
13	0	0	79	20	99	0
13A	194	0	0	0	0	0
14	0	0	171	10	181	171
15	0	0	476	20	496	476
16	0	0	95	10	105	0
17	0	0	305	20	325	305
18	0	0	637	20	657	637
19	0	0	128	20	148	0
20	0	0	111	20	131	0
21	0	0	325	62	387	325
22	0	0	148	20	168	0
23	0	0	98	20	118	0
24	0	0	230	20	250	230
<b>Total</b>	<b>194</b>	<b>0</b>	<b>6,397</b>	<b>468</b>	<b>7,059</b>	<b>5,453</b>

**Total Stream Impact for R-2518A: 7,059 linear feet**

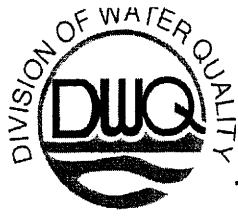


**Table 2 - Estimated Stream Impacts for R-2518B in the French Broad River Basin\***

Site	Permanent Fill (linear ft)	Temporary Fill (linear ft)	Total Stream Impact (linear ft)
<b>R-2518B</b>			
1	43	10	53
2	102	20	122
3	49	10	59
4	56	49	105
5	76	20	96
6	79	30	109
7	496	20	516
8	118	13	131
9	204	16	220
10	69	10	79
11	36	0	36
12	76	10	86
13	95	16	111
14	135	36	171
14A	10	0	10
15	82	10	92
16	112	10	122
17	66	10	76
18	66	10	76
20	16	233	249
20A	36	10	46
21	33	0	33
22	154	10	164
23	36	56	92
24	16	10	26
25	135	20	155
26	39	10	49
27	302	56	358
28		82	82
2A	131	20	151
<b>Total</b>	<b>2,868</b>	<b>807</b>	<b>3,675</b>

**Total Stream Impact for R-2518B: 3,675 linear feet\***

\*Estimates based on preliminary information at time of application. Impact numbers will be based on final hydraulic designs submitted with required modification.



**Table 3 - Estimated Stream Impacts for R-2519A in the French Broad River Basin\***

Site	Permanent Fill (linear ft)	Temporary Fill (linear ft)	Total Stream Impact (linear ft)
<b>R-2519A</b>			
1	68	16	84
2	85	18	103
3	54	8	62
4	46	12	58
5	94	13	107
6	81	11	92
8	19	9	28
9	35	19	54
9A	25	0	25
10	714	47	761
11	32	10	42
12	132	20	152
13	82	15	97
14	129	153	282
15	82	64	146
16	41	10	51
18	69	40	109
21	66	35	101
22	251	19	270
23	132	9	141
24	535	0	535
25	186	34	220
26	583	11	594
27	143	11	154
28	175	58	233
29	294	14	308
30	200	7	207
31	50	24	74
32	217	10	227
33	325	26	351
34	208	20	228
35	73	20	93
36	24	12	36
37	59	10	69
<b>Total</b>	<b>5,309</b>	<b>785</b>	<b>6,092</b>

**Total Stream Impact for R-2519A: 6,092 linear feet\***

\*Estimates based on preliminary information at time of application. Impact numbers will be based on final hydraulic designs submitted with required modification.





**Table 4 - Wetland Impacts for R-2518A in the French Broad River Basin**

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Area under Bridge (ac)	Total Wetland Impact (ac)
<b>R-2518A</b>							
7A	0.01	0	0	0	0	0	0.01
9	0.17	0	0	0.02	0	0	0.19
12	0.16	0	0	0	0	0	0.16
19	0.06	0	0	0	0	0	0.06
<b>Total</b>	<b>0.40</b>	<b>0</b>	<b>0</b>	<b>0.02</b>	<b>0</b>	<b>0</b>	<b>0.42</b>

**Total Wetland Impact for R-2518A: 0.42 acres.**

**Table 5 - Estimated Wetland Impacts for R-2518B in the French Broad River Basin\***

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)
<b>R-2518B</b>						
1A	0.07	0	0	0.04	0	0.11
2A	0.11	0	0.01	0	0	0.12
<b>Total</b>	<b>0.18</b>	<b>0</b>	<b>0.01</b>	<b>0.04</b>	<b>0</b>	<b>0.23</b>

**Total Wetland Impact for R-2518B: 0.23 acres.\***

**Table 6 - Estimated Wetland Impacts for R-2519A in the French Broad River Basin\***

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)	Total Wetland Impact (ac)
<b>R-2519A</b>						
17	0.02	0	0	0.02	0	0
19	0.15	0	0	0.08	0	0
20	0.01	0	0	0.01	0	0
<b>Total</b>	<b>0.18</b>	<b>0</b>	<b>0</b>	<b>0.11</b>	<b>0</b>	<b>0.29</b>

**Total Wetland Impact for R-2519A: 0.29 acres.\***

\*Estimates based on preliminary information at the time of application. Impact numbers will be based on final hydraulic designs submitted with required modification.

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



This approval is only valid for the purpose and design that you submitted in your application dated received June 26, 2007. Should your project change, you are required to notify the DWQ and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding US Army Corps of Engineers Permit.

**Condition(s) of Certification:**

Project Specific Condition(s)

1. This certification authorizes impacts to streams and wetlands for Section R-2518A from Station No. 8+00.000 –L- to Station No. 115+06.547 –L- only. When final design plans are completed for R-2518B and R-2519A, a modification to the 401 Water Quality Certification shall be submitted with five copies and fees to the NC Division of Water Quality. Final designs shall reflect all appropriate avoidance, minimization, and mitigation for impacts to wetlands, streams, and other surface waters. No construction activities that impact any wetlands, streams, or surface waters located in R-2518B and R-2519A shall begin until after the permittee applies for, and receives a written modification of the 401 Water Quality Certification from the NC Division of Water Quality.
2. Compensatory mitigation for impacts to 5,453 linear feet of streams at a replacement ratio of 1:1 is required. Compensatory mitigation for impacts to jurisdictional streams shall be provided by a combination of onsite stream restoration, enhancement, and preservation. The mitigation sites shall be constructed in accordance with the mitigation plans provided in the June 26, 2007 application. The mitigation shall be provided as detailed in the table below:

Table 7 - Mitigation Credits for R-2518A.

Mitigation Method	Stream Length (lf)	Ratio	Credits
Restoration	4,078*	1:1	4,078*
Enhancement	640	2:1	320
Preservation	15,335	4:1	3,834
<b>Total</b>	<b>20,053</b>		<b>8,232</b>

\*Prior to providing restoration credit for Site D (262 lf of restoration), NCDOT shall provide design plans showing the site is within NCDOT right-of-way or under a conservation easement.

Additional mitigation credits may be available on R-2518B and R-2519A. Final mitigation plans with design lengths shall be submitted with the modification application for R-2518A and R-2519A.

3. The onsite stream mitigation shall be constructed in accordance with the design submitted in your June 26, 2007 application. Please be reminded that as-builts for the completed streams



shall be submitted to the North Carolina Division of Water Quality 401 Wetlands Unit with the as-builts for the rest of the project. If the parameters of this condition are not met, then the permittee shall supply additional stream mitigation for the 5,453 linear feet of impacts. All channel relocations shall be constructed in a dry work area, shall be completed and stabilized, and must be approved on site by DWQ staff, prior to diverting water into the new channel. Whenever possible, channel relocations shall be allowed to stabilize for an entire growing season. All stream relocations shall have buffers in accordance with the Biological Assessment prepared for this project. A transitional phase incorporating rolled erosion control product (RECP) and appropriate temporary ground cover is allowable.

4. The permittee shall monitor the restoration and enhancement mitigation sites following the Level 1 protocols outlined in the "Stream Mitigation Guidelines," dated April 2003 with the following exceptions:
  1. Pebble counts shall not be conducted.
  2. Two cross sections shall be conducted for streams less than 500 linear and five (5) cross sections shall be conducted for streams greater than 500 linear feet.
  3. Riparian success shall be by visual inspection of plant survival. Photos will be taken and comments noted on plant survival.

The permittee shall monitor the preservation sites by visual inspection. Photos will be taken and comments noted on plant survival. The monitoring shall be conducted annually for a minimum of five (5) years after final planting. The monitoring results shall be submitted to DWQ in a final report within sixty (60) days after completing monitoring. After 5 years the NCDOT shall contact the DWQ to schedule a site visit to "close out" the mitigation site.

5. NC DOT shall adhere to all appropriate in-water work moratoriums (including the use of pile driving) prescribed by the US Fish and Wildlife Service and the NC Wildlife Resources Commission. No in-water work is permitted on Bald Creek between January 1 and April 15 of any year, without prior approval from the NC Division of Water Quality and the NC Wildlife Resources Commission.
6. For projects impacting waters classified by the NC Environmental Management Commission as High Quality Waters (HQW), or Water Supply I or II (WSI, WSII) stormwater shall be directed to vegetated buffer areas, grass-lined ditches or other means appropriate to the site for the purpose of pre-treating storm water runoff prior to discharging directly into streams. Mowing of existing vegetated buffers is strongly discouraged.
7. For all construction activities occurring in high quality water (HQW) watersheds, NC DOT shall use *Design Standards in Sensitive Watersheds* [15A NCAC 4B .0124(a)-(e)]. However, due to the size of the project, NC DOT shall not be required to meet 15A NCAC 4B .0124(a) regarding the maximum amount of uncovered acres.
8. The post-construction removal of any temporary bridge structures must return the project site to its preconstruction contours and elevations. The impacted areas shall be re-vegetated with appropriate native species.



9. Bridge deck drains shall not discharge directly into streams. Stormwater should be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of *Stormwater Best Management Practices*. Stormwater shall be managed in accordance with your State Stormwater Permit issued by DWQ.
10. Placement of culverts and other structures in waters, streams, and wetlands shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by DWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NC DWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.
11. Riprap should not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage.

#### General Condition(s)

12. If concrete is used during construction, a dry work area should be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete should not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.
13. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers.
14. The dimension, pattern and profile of the stream above and below the crossing should not be modified. Disturbed floodplains and streams should be restored to natural geomorphic conditions.
15. The use of rip-rap above the Normal High Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage.
16. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.
17. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream.



18. Heavy equipment may be operated within the stream channels however, its usage shall be minimized.
19. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.
20. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification.
21. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.
22. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If DWQ determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, DWQ may reevaluate and modify this certification.
23. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification.
24. A copy of this Water Quality Certification shall be posted on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager.
25. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification.
- \* 26. Upon completion of the project, the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify DWQ when all work included in the 401 Certification has been completed.
27. Native riparian vegetation (ex., river birch, green ash, water tupelo, blackgum, redbay, sycamore, swamp chestnut oak, tag alder, common pawpaw, ironwood, sweet pepperbush, titi, Virginai willow, doghobble) must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.
28. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities.



29. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards.
30. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
  - a. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
  - b. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
  - c. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.
31. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, they shall be removed and the natural grade restored upon completion of the project.

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

If this Certification is unacceptable to you have the right to an adjudicatory hearing upon written request within sixty (60) days following receipt of this Certification. This request must be in the form of a written petition conforming to Chapter 150B of the North Carolina General Statutes and filed with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699-6714. If modifications are made to an original Certification, you have the right to an adjudicatory hearing on the modifications upon written request within sixty (60) days following receipt of the Certification. Unless such demands are made, this Certification shall be final and binding.

This the 11th day of October 2007

DIVISION OF WATER QUALITY

Coleen H. Sullins  
Director

WQC No. 3706



DWQ Project No.: \_\_\_\_\_ County: \_\_\_\_\_

Applicant: \_\_\_\_\_

Project Name: \_\_\_\_\_

Date of Issuance of 401 Water Quality Certification: \_\_\_\_\_

**\*Certificate of Completion**

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401/Wetlands Unit, North Carolina Division of Water Quality, 1621 Mail Service Center, Raleigh, NC, 27699-1621. This form may be returned to DWQ by the applicant, the applicant's authorized agent, or the project engineer. It is not necessary to send certificates from all of these.

**Applicant's Certification**

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

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Agent's Certification**

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

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Engineer's Certification**

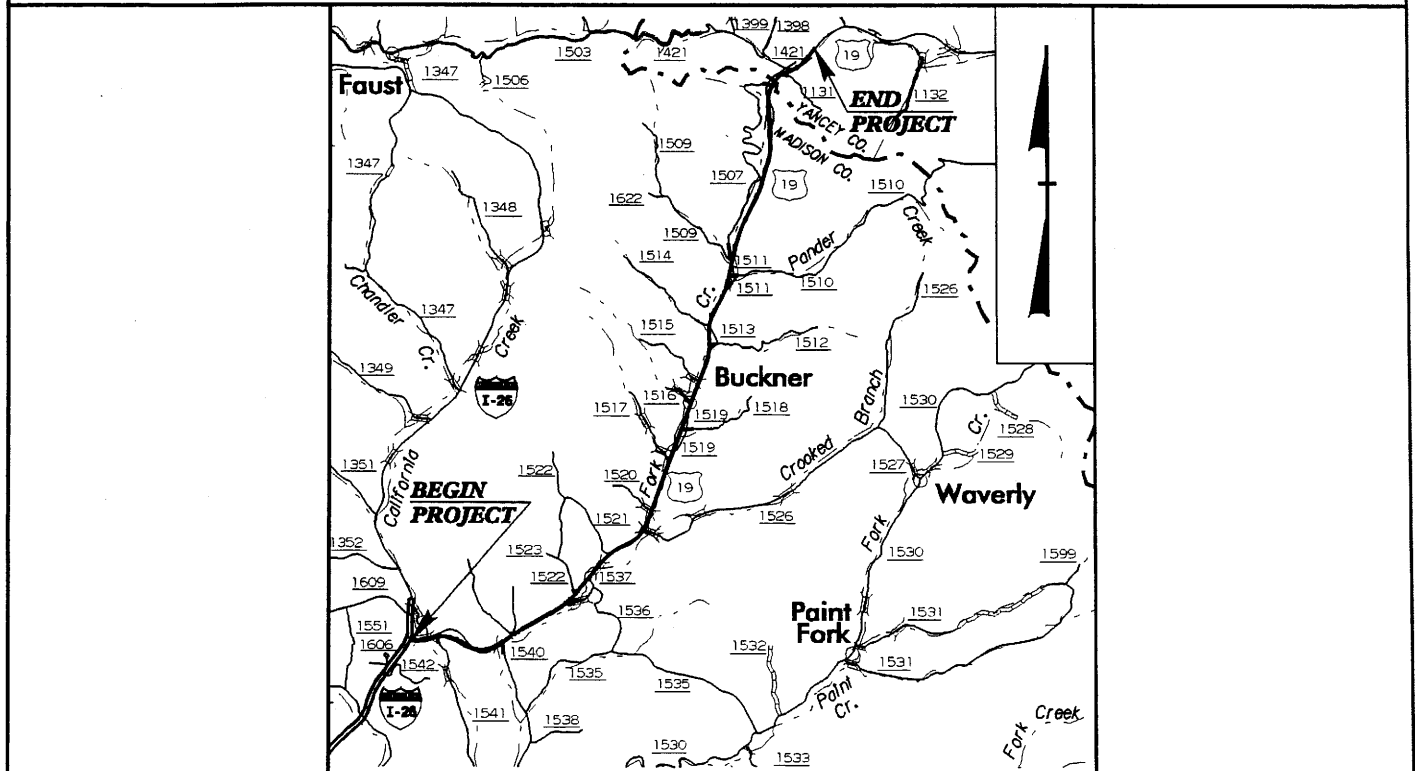
\_\_\_\_\_ Partial \_\_\_\_\_ Final

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

Signature \_\_\_\_\_ Registration No. \_\_\_\_\_

Date \_\_\_\_\_

# NORTH CAROLINA



## VICINITY MAPS

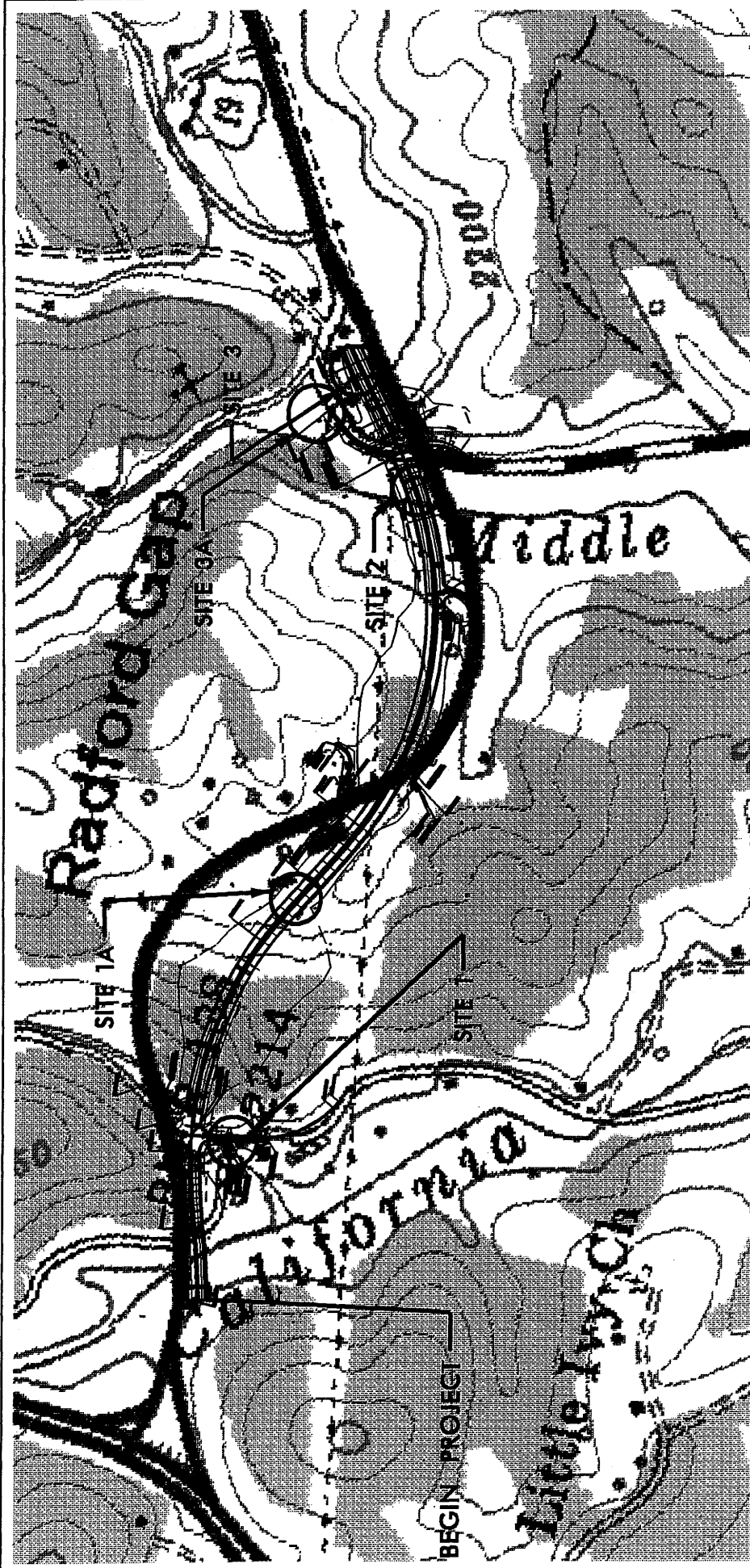
### NCDOT

DIVISION OF HIGHWAYS  
 MADISON / YANCEY COUNTIES  
 PROJECT NO.: WBS 34445.1.1 (R-2518A)

US 19 FROM I-26 TO 0.8 KM EAST  
 OF THE YANCEY CO. LINE

Permit Drawing  
 Sheet 1 of 6





# NCDOT

DIVISION OF HIGHWAYS

MADISON / YANCEY COUNTIES

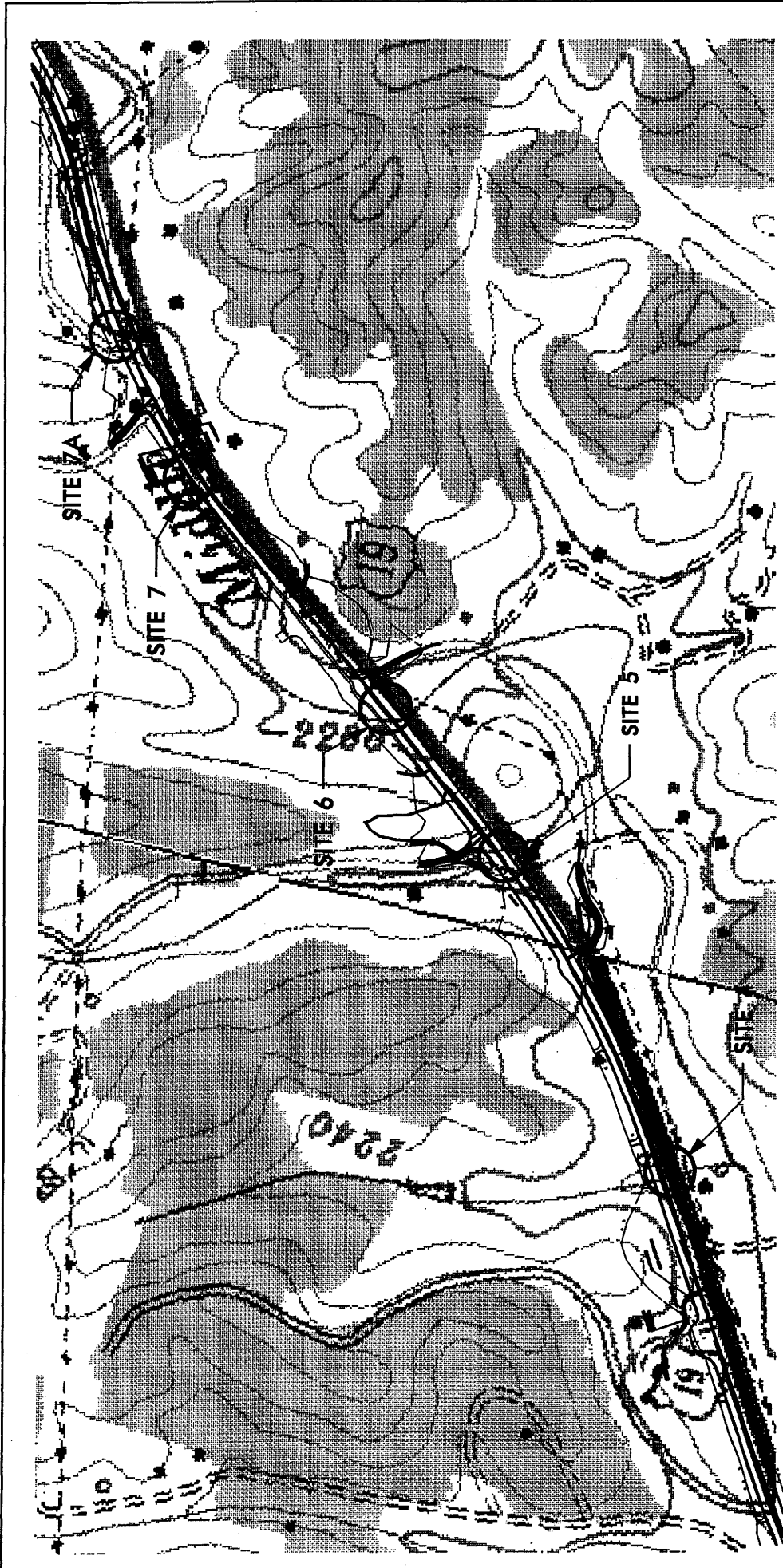
PROJECT: 6.869005T (R-2518A)

US 19 FROM 1-26 TO 0.8KM EAST

OF THE YANCEY CO. LINE

SHEET OF /

## SITE MAP



NCDOT

DIVISION OF HIGHWAYS

MADISON / YANCEY COUNTIES

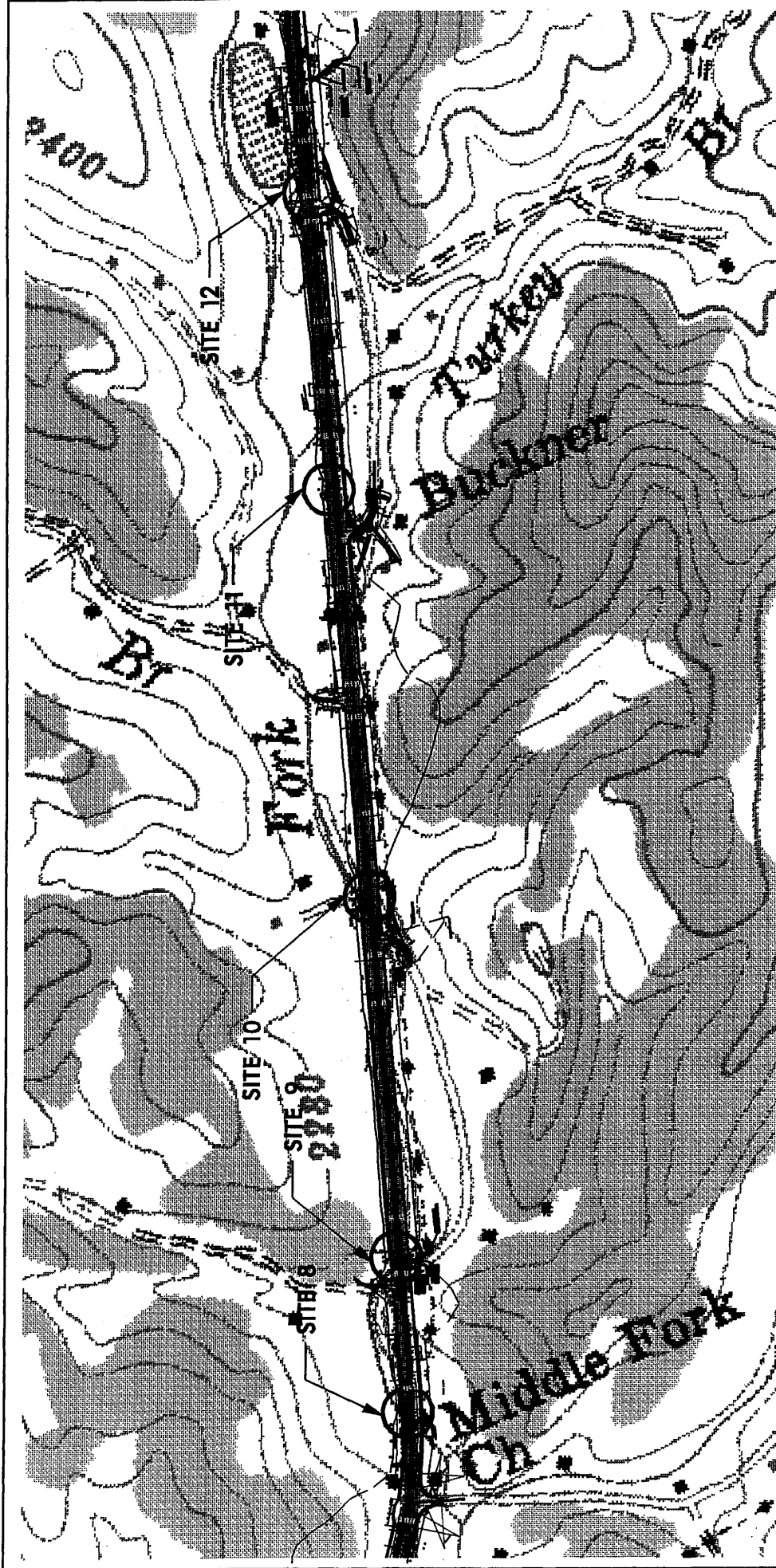
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US 19 FROM 1-26 TO 0.8KM EAST

OF THE YANCEY CO. LINE

SHEET OF /

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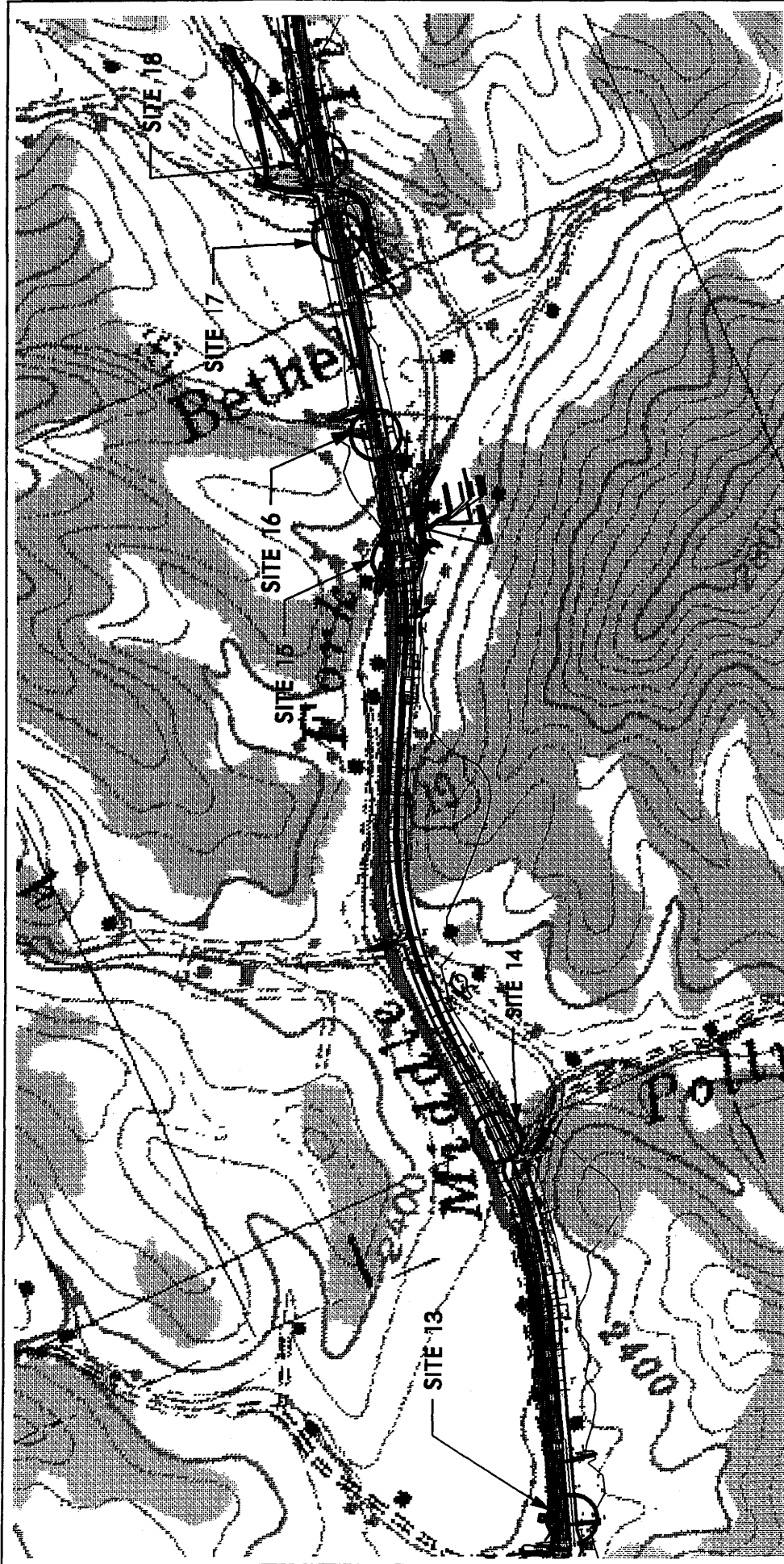


NCDOT

DIVISION OF HIGHWAYS  
 MADISON / YANCEY COUNTIES  
 PROJECT: 6.869005T (R-2518A)  
 US 19 FROM 1-26 TO 0.8KM EAST  
 OF THE YANCEY CO.LINE

SHEET      OF      /      /

SITE MAP



# NCDOT

DIVISION OF HIGHWAYS

MADISON / YANCEY COUNTIES

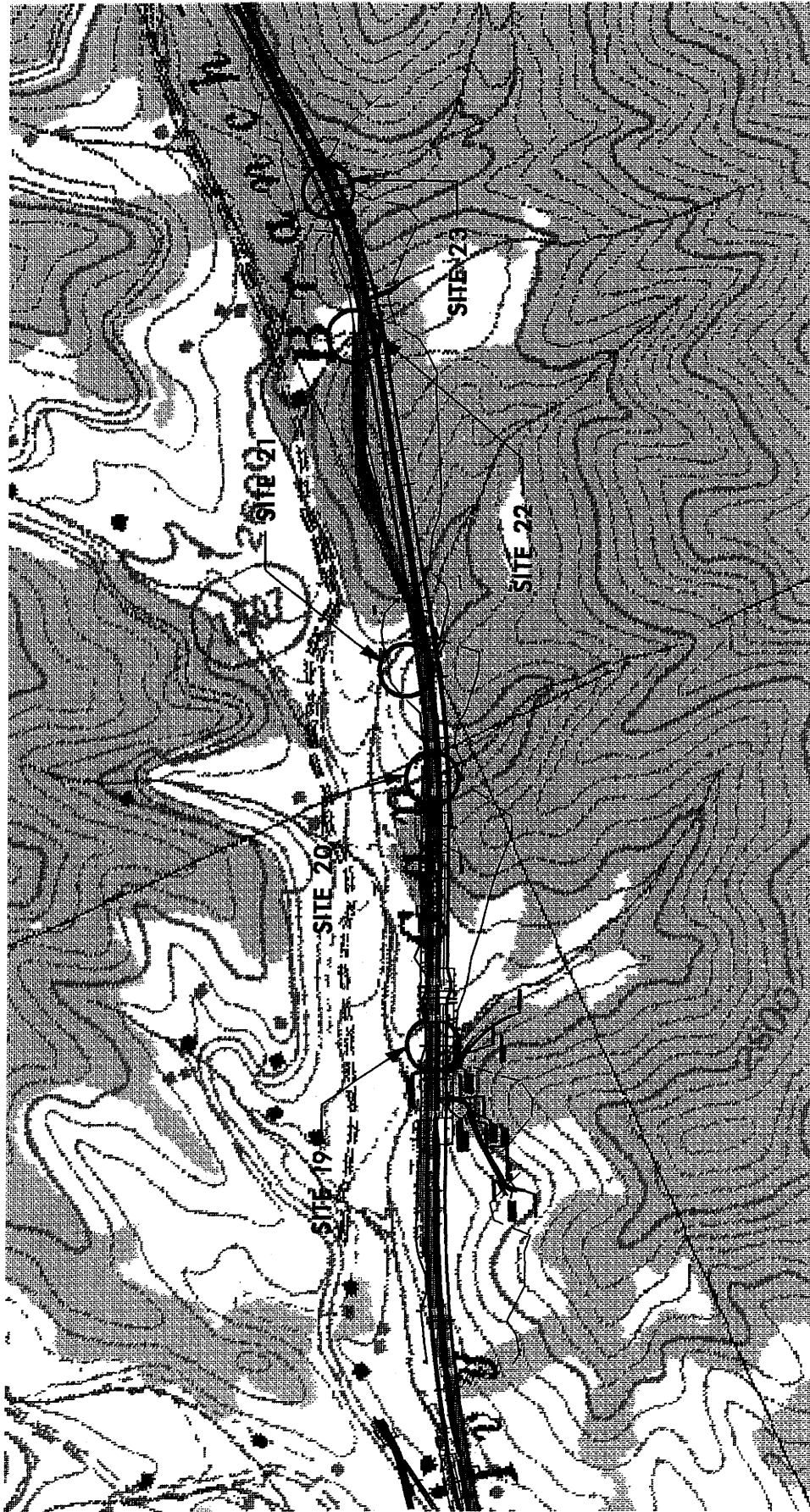
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US 19 FROM 1-26 TO 0.8KM EAST

OF THE YANCEY CO. LINE

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## SITE MAP



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DIVISION OF HIGHWAYS

MADISON / YANCEY COUNTIES

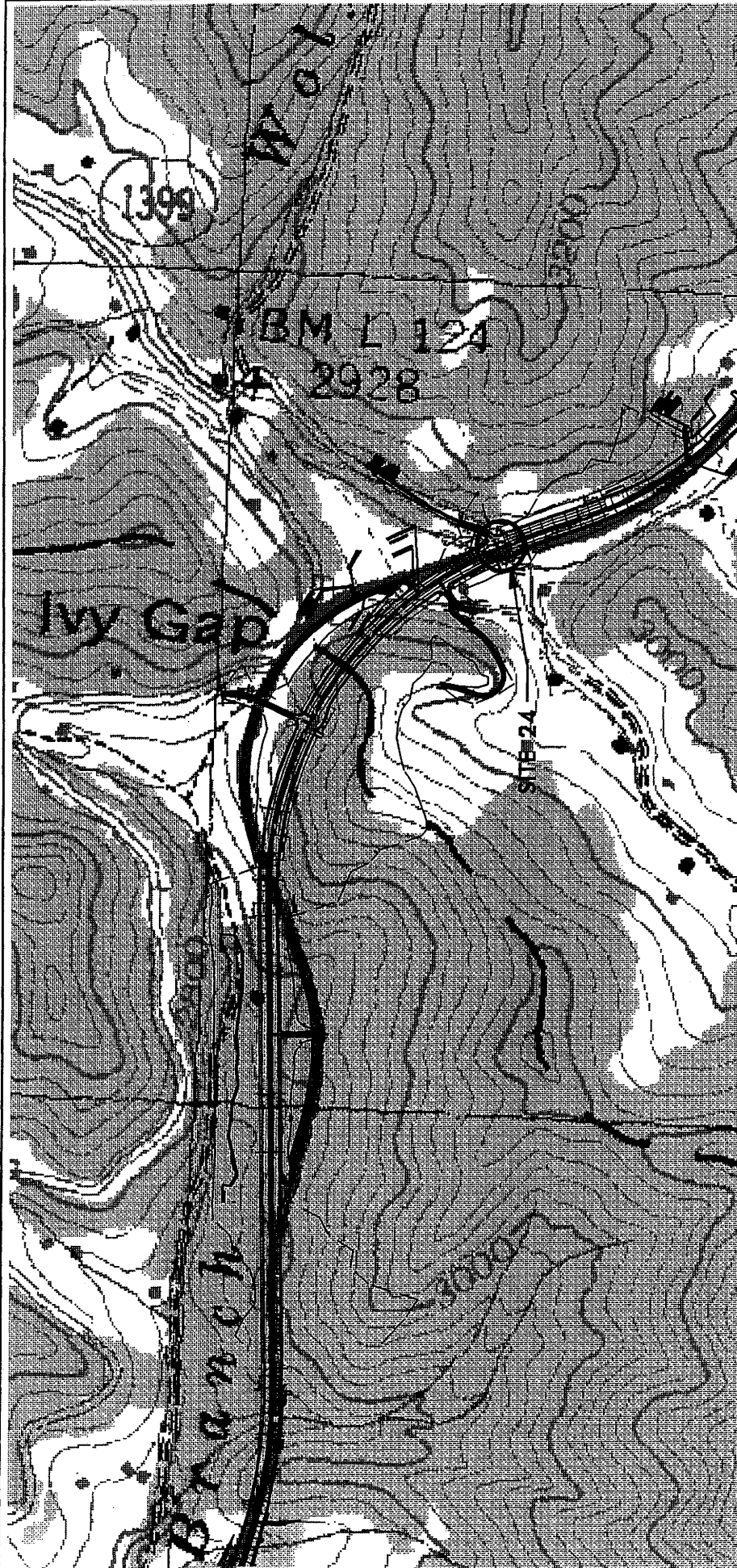
PROJECT: 6.869005T (R-2518A)

US 19 FROM 1-26 TO 0.8KM EAST

OF THE YANCEY CO. LINE

SHEET OF /

SITE MAP



NCDOT

DIVISION OF HIGHWAYS

MADISON / YANCEY COUNTIES

PROJECT: 6.869005T (R-2518A)

US 19 FROM 1-26 TO 0.8KM EAST

OF THE YANCEY CO. LINE

SHEET OF /

SITE MAP

## PROPERTY OWNERS

## NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
2	HERSHEL METCALF	ROUTE 3 MARS HILL, NC 28754
10	ROBERT EATMON	ROUTE 2 MARS HILL, NC 28754
14	DAVID PARKER	226 FOREST STREET MARS HILL, NC 28754
15	BRYAN ANDERS	1504 BIRTHRIGHT STREET CHARLESTION, SC 29407
25	DAVID D. DOAN	90 OLD MILL BRIDGE MARS HILL, NC 28754
33	DEWEY ROBINSON	ROUTE 2, BOX 188 MARS HILL, NC 28754
34	PAUL P. BRIGGS, JR.	70 BRIGGS BRANCH ROAD MARS HILL, NC 28754
35	DONALD P. RICE	P.O. BOX 295 MARS HILL, NC 28754
36	PAUL P. BRIGGS, JR.	70 BRIGGS BRANCH ROAD MARS HILL, NC 28754
38	LEVI HUNTER	ROUTE 2 MARS HILL, NC 28754
39	J.C. YOUNG	425 HWY. 19 MARS HILL, NC 28754
40	LEVI HUNTER	ROUTE 2 MARS HILL, NC 28754
47	J.C. YOUNG	425 HWY. 19 MARS HILL, NC 28754
54	OLLIE RAY	111 CROOKED CREEK ROAD MARS HILL, NC 28754
56	ROY GUS BALLARD	2860 US HWY 19 MARS HILL, NC 28754
57	RONNIE L. RAY	2851 US HWY 19 MARS HILL, NC 28754
60	BRAWDUS HILL	421 HAZELMILL ROAD ASHVILLE, NC 28806
61	BACCHUS F. MCPETERS	180 OLD BUCKNER ROAD MARS HILL, NC 28754
64	RALPH REAVIS	ROUTE 2 MARS HILL, NC 28754
68	HERSHEL BUCKNER	132 BUCKNER BRANCH MARS HILL, NC 28754
70	WILLIE CLINE GOSNELL	P.O. BOX 1146 MARS HILL, NC 28754
73	LOT RANDOLPH	301 JORDON BRANCH ROAD MARS HILL, NC 28754
81	RANDALL D. FERGUSON	P.O. BOX 508 MARS HILL, NC 28754

NCDOT

DIVISION OF HIGHWAYS

MADISON / YANCEY COUNTIES

PROJECT: 6.869005T (R-2518A)

US 19 FROM I-26 TO 0.8 KM EAST

OF THE YANCEY CO LINE

Permit Drawing  
Sheet 8 of 64

# PROPERTY OWNERS

## NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
84	RALPH LEE FERGUSON	62 BETHEL CIRCLE MARS HILL, NC 28754
85	R. PAUL PONDER	4581 US HWY 19 MARS HILL, NC 28754
86	BETHEL BAPTIST CHURCH	100 BETHEL CIRCLE MARS HILL, NC 28754
87	MORRIS REAVIS, RALPH REAVIS	195 MELROSE DRIVE WAUKLE, IA 50263
88	DALLAS BUCKNER, JR.	4605 US HWY 19 MARS HILL, NC 28754
89	VESSIE REAVIS	ROUTE 2, BOX 294 MARS HILL, NC 28754
93	CLYDE CHANDLER, JR.	305 HOLCOMBE BRANCH WEAVERVILLE, NC 28787
98	ERNEST H. MCKINNEY	1527 US HWY 19 MARS HILL, NC 28754
99	MELVIN J. BEASLEY	5172 US HWY 19 MARS HILL, NC 28754
100	JAMES B. RAY	46 ROLLIN HILL ESTATE BURNSVILLE, NC 28714
101	DAVID M. THOMAS	5684 US HWY 19 MARS HILL, NC 28754
102	LARRY S. MCCALL	2222 MADRONE DR. FAIRFIELD, CA 94533
111	MARGIE REVIS CHANDLER	ROUTE 2, BOX 238 MARS HILL, NC 28754
112	VICTOR SHEPHERD	ROUTE 2, BOX 238 MARS HILL, NC 28754
113	JAY CHANDLER	ROUTE 3 BOX 452 BURNSVILLE, NC 28714

# NCDOT

DIVISION OF HIGHWAYS

MADISON / YANCEY COUNTIES

PROJECT: 6.869005T (R-2518A)

US 19 FROM I-26 TO 0.8 KM EAST

OF THE YANCEY CO. LINE

Permit Drawing

Sheet 9 of 64



January 12, 2005

County: Madison/Yancey  
State Project: WBS No. 34445.1.1 ( R-2518A)  
Description: US 29 from I-26 to 0.8 Km East of the Yancey Co. Line  
  
Subject: Stormwater Management Plan

## ROADWAY DESCRIPTION

The purpose of R-2518A project is to add traffic capacity to US 19/US 19E. Other factors contributing to the need of the project are system linkage and safety. The project begins at an interchange on US 19/23 (future I-26) north of Mars Hill in Madison County and ends at SR 1186 west of Micaville in Yancey County.

## ENVIRONMENTAL DESCRIPTION

This project is located in the French Broad River Basin. The streams on this project have been assigned a best usage classification by the North Carolina Division of Water Quality. Surface waters located within the project area have been given classification WS-II. Classification WS-II waters are protected as water supplies which are generally in predominantly undeveloped watersheds. Stringent stormwater management measures may be required on a case-by-case basis where it is determined that additional measures are required to protect water quality and maintain existing and anticipated uses of these waters. Point source discharges of treated wastewater are permitted pursuant of applicable rules and regulations. Class C waters are freshwaters protected for secondary recreation, agriculture, fishing, aquatic life including propagation and survival, wildlife. Impacts to the natural and human environments are minimal.

## BEST MANAGEMENT PRACTICES AND MAJOR STRUCTURES

Best Management Practices (BMP) used on the project to reduce the stormwater impacts are as follows;

1. Creating grass swales.
2. The use of preformed scour holes
3. Minimize the ditch grades to lower the velocities in the ditches.
4. Installation of retaining walls to avoid impacting the existing stream.
5. Maintaining separation of off site drainage and roadway drainage.
6. The addition of buried inverts on culvert extensions.
7. Use of sills in proposed culverts to create low flow channels.
8. Retrofit exiting culverts with sills to decrease velocities.
9. Utilized energy dissipaters at pipe outlets to lower outlet velocities.
10. Mitigation plan is being developed to improve existing stream conditions through out this project.
11. North Carolina Department of Transportation has maintained a minimum of 8 meters (25 feet) of undisturbed vegetated area next to the stream banks to the extent practicable along the project limits.

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS				SURFACE WATER IMPACTS				Natural Stream Design (m)
			Fill In Wetlands Permanent (ha)	Fill In Wetlands Temporary (ha)	Excavation In Wetlands (ha)	Mechanized Clearing (Method III) (ha)	Permanent SW impacts (ha)	Temp. SW impacts (ha)	Existing Channel Impacts Permanent (m)	Existing Channel Impacts Temporary (m)	
1	11+47 -Y1-	EXIST. 1350 & 800 CSP					0.001	0.001	4	3	
1A	14+60 -L-	EXIST. 600 & 400 CSP					0.004	44	44		
2	19+70 -L-	RCBC					0.035	0.004	65	6	
3	21+26 -L-	RCBC					0.023	0.003	45	6	
3A	11+30 -Y2-	BRIDGE					0.009	0.009	11	11	
4	27+18 -L-	1350 CSP					0.001	0.010	26	3	
5	31+61 -L-	RCBC					0.010	0.001	52	3	
6	33+78 -L-	RCBC					0.016	0.004	45	6	
7	37+00 -L-	RCBC & CHANNEL RELOC.					0.094	0.002	356	6	
7A	39+01 -L-	1200 RCP	0.004				0.004	0.001	46	3	
8	45+38 -L-	RCBC					0.017	0.001	47	3	
9	47+20 -L-	1200 CSP	0.067			0.007	0.003	0.001	27	3	
10	51+55 -L-	1200 CSP					0.002	0.001	12	6	
11	56+39 -L-	RCBC & CHANNEL RELOC.					0.055	0.001	326	3	
12	60+00 -L-	600 RCP	0.064								
SHEET TOTALS:			0.135			0.007	0.265	0.039	1095	62	

Note: Natural Stream Design length is included in Mitigation Plan.

NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 MADISON / YANCEY COUNTY  
 PROJECT # - WBS 34445.1.1 (R-2518A)  
 US 19 FROM I-26 TO 0.8 Km EAST OF YANCEY CO. LINE  
 Rev'd 6/21/07

SHEET OF

WETLAND PERMIT IMPACT SUMMARY											
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS				SURFACE WATER IMPACTS				
			Fill In Wetlands Permanent (ha)	Fill In Wetlands Temporary (ha)	Excavation In Wetlands (ha)	Mechanized Clearing (Method III) (ha)	Permanent SW impacts (ha)	Temp. SW impacts (ha)	Existing Channel Impacts Permanent (m)	Existing Channel Impacts Temporary (m)	Natural Stream Design (m)
13	65+71 -L-	900 RCP					0.002	0.001	24	6	
13A	67+40 -L-	450 CSP					0.011	0.001	59	3	
14	70+10 -L-	RCBC					0.036	0.002	145	6	
15	78+00 -L-	RCBC					0.003	0.001	29	3	
16	79+29 -L-	900 RCP					0.015	0.001	93	6	
17	81+52 -L-	RCBC					0.033	0.001	194	6	
18	82+69 -L-	RCBC & CHANNEL RELOC.					0.003	0.001	39	6	
19	88+14 -L-	1200 RCP	0.023				0.002	0.001	34	6	
20	91+26 -L-	900 RCP					0.009	0.001	99	19	
21	92+89 -L-	1000 CSP					0.004	0.001	45	6	
22	96+48 -L-	800 CSP					0.003	0.001	30	6	
23	98+00 -L-	1200 CSP					0.014	0.001	70	6	
24	109+33 -L-	RCBC	0.023				0.136	0.013	913	79	
SHEET TOTALS:			0.023				0.007	0.052	2008	141	
PROJECT TOTALS			0.158								

NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 MADISON / YANCEY COUNTY  
 PROJECT # - WBS 34445.1.1 (R-2518A)  
 S 19 FROM I-26 TO 0.8 Km EAST OF YANCEY CO. LIN  
 Rev.'d 6/21/07

Note: Natural Stream Design length is included in Mitigation Plan.

**WETLAND PERMIT IMPACT SUMMARY**

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS				SURFACE WATER IMPACTS				
			Fill In Wetlands Permanent (ac)	Fill In Wetlands Temporary (ac)	Excavation In Wetlands (ac)	Mechanized Clearing (Method III) (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temporary (ft)	Natural Stream Design (ft)
1	11+47 -Y1-	EXIST. 1350 & 600 CSP					0.002	0.002	13	10	
1A	14+60 -L-	EXIST. 600 & 400 CSP					0.010		144		
2	19+70 -L-	RCBC					0.09	0.010	213	20	
3	21+26 -L-	RCBC					0.06	0.007	148	20	
3A	11+30 -Y2-	BRIDGE					0.022			36	
4	27+18 -L-	1350 CSP					0.002	0.025	85	10	
5	31+61 -L-	RCBC					0.02	0.002	171	10	
6	33+78 -L-	RCBC					0.04	0.010	148	20	
7	37+00 -L-	RCBC & CHANNEL RELOC.					0.23	0.005	1168	20	
7A	39+01 -L-	1200 RCP	0.01				0.01	0.002	151	10	
8	45+38 -L-	RCBC					0.04	0.002	154	10	
9	47+20 -L-	1200 CSP	0.17			0.02	0.007	0.002	89	10	
10	51+55 -L-	1200 CSP					0.005	0.002	39	20	
11	56+39 -L-	RCBC & CHANNEL RELOC.					0.135	0.002	1071	10	
12	60+00 -L-	600 RCP	0.16								
SHEET TOTALS:			0.34			0.02	0.651	0.093	3594	206	

Note: Natural Stream Design length is included in Mitigation Plan.

NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 MADISON / YANCEY COUNTY  
 PROJECT # - WBS 34445.1.1 (R-2518A)  
 US 19 FROM I-26 TO 0.8 Km EAST OF YANCEY CO. LINE  
 Rev. d 6/21/07

SHEET OF

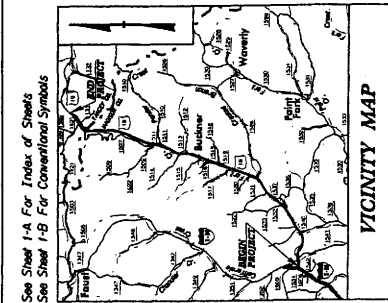
WETLAND PERMIT IMPACT SUMMARY											
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS				SURFACE WATER IMPACTS				
			Fill In Wetlands Permanent (ac)	Fill In Wetlands Temporary (ac)	Excavation In Wetlands (ac)	Mechanized Clearing (Method III) (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temporary (ft)	Natural Stream Design (ft)
13	65+71 -L-	900 RCP					0.005	0.002	59	20	
13A	67+40 -L-	450 CSP							194		
14	70+10 -L-	RCBC					0.03	0.002	171	10	
15	78+00 -L-	RCBC					0.09	0.005	476	20	
16	79+29 -L-	900 RCP					0.01	0.002	95	10	
17	81+52 -L-	RCBC					0.04	0.002	305	20	279
18	82+69 -L-	RCBC & CHANNEL RELOC.					0.08	0.002	637	20	571
19	88+14 -L-	1200 RCP	0.06				0.01	0.002	128	20	
20	91+26 -L-	900 RCP					0.007	0.002	115	20	
21	92+89 -L-	1000 CSP					0.02	0.002	289	46	
22	96+48 -L-	800 CSP					0.010	0.002	148	72	
23	98+00 -L-	1200 CSP					0.007	0.002	98	20	
24	109+33 -L-	RCBC					0.03	0.002	230	20	
SHEET TOTALS:			0.06				0.33	0.032	2945	298	850
<b>PROJECT TOTALS</b>			<b>0.40</b>				<b>0.97</b>	<b>0.13</b>	<b>6280</b>	<b>524</b>	<b>2715</b>

Note: Natural Stream Design length is included in Mitigation Plan.

NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 MADISON / YANCEY COUNTY  
 PROJECT # - WBS 34445.1.1 (R-2518A)  
 US 19 FROM I-26 TO 0.8 Km EAST OF YANCEY CO. LINE  
 Rev'd 1/30/07  
 SHEET OF

**TIP PROJECT: R-2518A**

**CONTRACT: C201372**



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

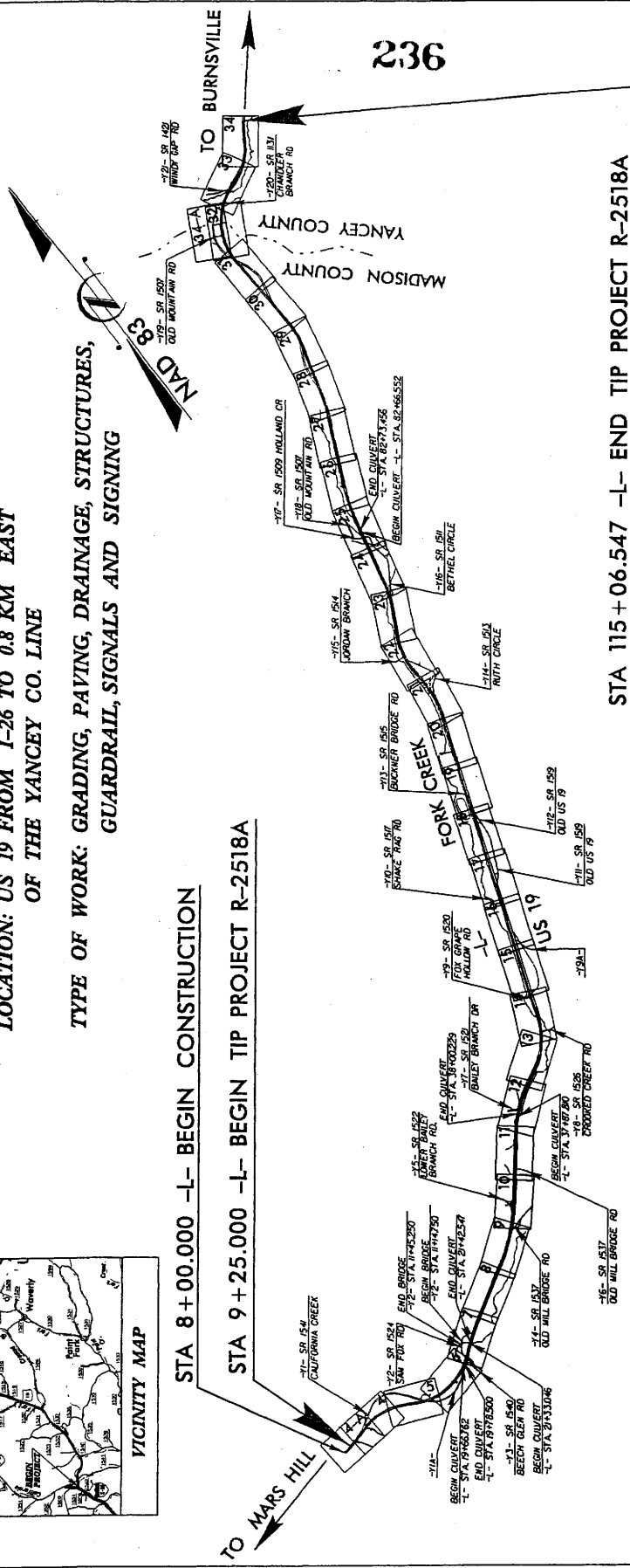
# MADISON / YANCEY COUNTIES

LOCATION: US 19 FROM 1-26 TO 0.8 KM EAST OF THE YANCEY CO. LINE

TYPE OF WORK: GRADING, PAVING, DRAINAGE, STRUCTURES, GUARDRAIL, SIGNALS AND SIGNING

STATE	N.C.	STATE PROJECT NUMBER	R-2518A
DISTRICT	I	DATE	3/4/05
DESIGNER	FE	ROW, UTIL	CONST.
DATE	3/4/05	DATE	3/4/05
DATE	3/4/05	DATE	3/4/05

ALL DIMENSIONS IN THESE PLANS ARE IN METERS UNLESS OTHERWISE SHOWN



THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.

<b>GRAPHIC SCALES</b> PLANS: 1" = 100' PROFILE (HORIZONTAL): 1" = 100' PROFILE (VERTICAL): 1" = 100'	<b>DESIGN DATA</b> ADT 2008 = 10,840 - 12,080 ADT 2038 = 16,440 - 18,220 DHV = 10 % D = 65 % T = 10 % V = 100 km/h * (TST 6% + DUAL 4%)	<b>PROJECT LENGTH</b> LENGTH ROADWAY TIP PROJECT R-2518A = 10.551 KM LENGTH STRUCTURE TIP PROJECT R-2518A = 0.031 KM TOTAL LENGTH STATE TIP PROJECT R-2518A = 10.582 KM	DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA PROJECT NUMBER: 2518A STATE DESIGN ENGINEER: [Signature] ROADWAY DESIGN ENGINEER: [Signature]	HYDRAULICS ENGINEER: [Signature]
			PREPARED IN THE OFFICE OF: DIVISION OF HIGHWAYS 1000 Brick Plaza Dr., Raleigh, NC 27610 RIGHT OF WAY DATE: MARCH 31, 2005 LETTING DATE: DECEMBER 18, 2007	PROJECT MANAGER: [Signature] PROJECT DESIGN ENGINEER: [Signature]

**METRIC**

PROJECT REFERENCE NO. **5** SHEET NO. **5**

R/W DESIGN ENGINEER **R-25/8A**

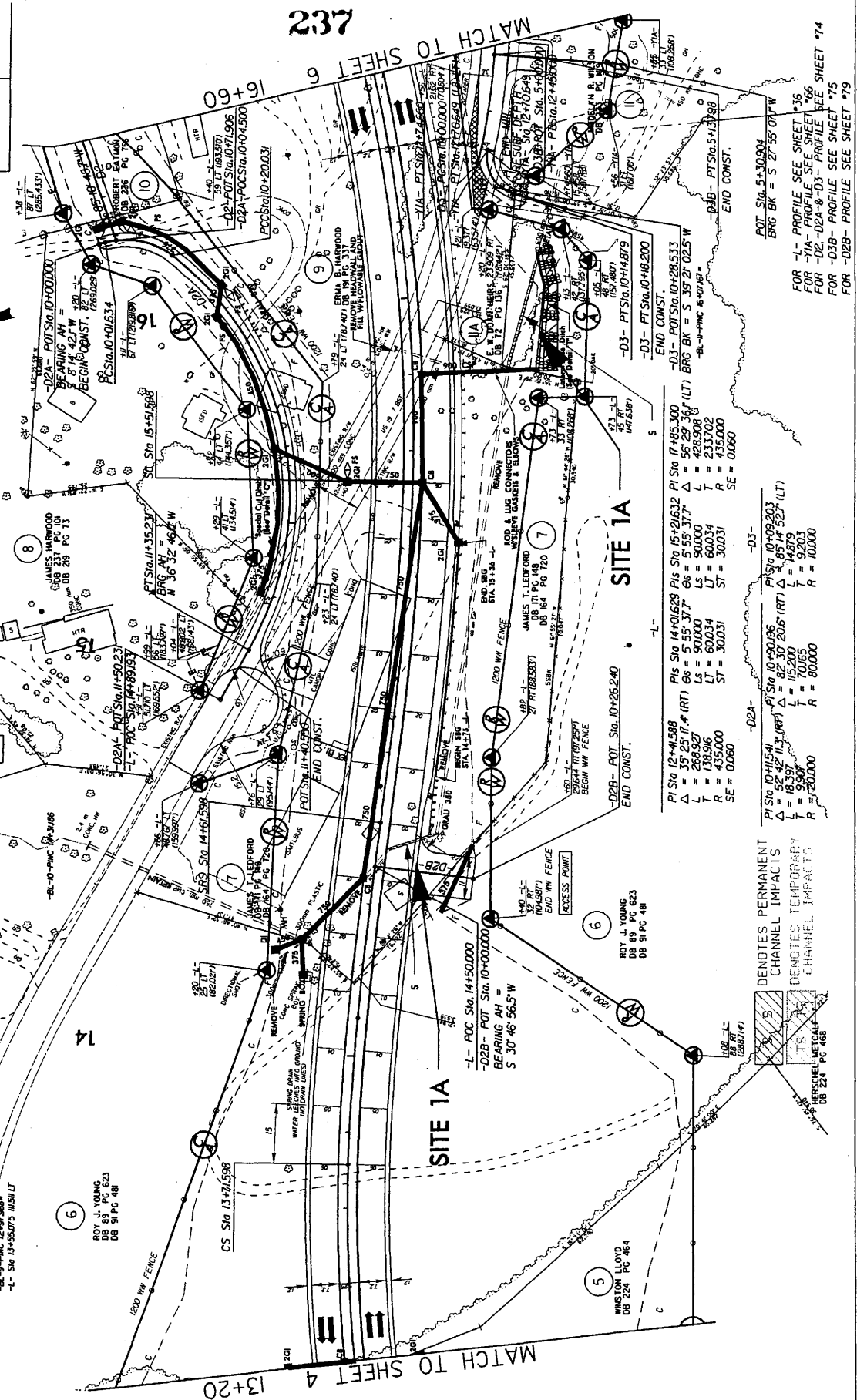
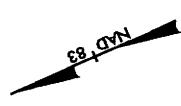
ROADWAY DESIGN ENGINEER **R-25/8A**

HYDRAULICS ENGINEER **R-25/8A**

PRELIMINARY PLANS

COUNTRY: **U.S.A.**

S/W REV.



PI Sta 12+41.588	PI Sta 14+01.229	PI Sta 15+21.632	PI Sta 17+495.300	PI Sta 10+109.203
L = 35.25 (7.7 RT)	L = 55.37 (7.7)	L = 56.28 (7.7 LT)	L = 428.908	L = 82.30 (20.6 RT)
T = 268.927	T = 90.000	T = 233.702	T = 233.702	T = 152.200
R = 138.916	R = 600.34	R = 435.000	R = 435.000	R = 70.665
SE = 0.060	SE = 0.060	SE = 0.060	SE = 0.060	SE = 0.060

DENOTES PERMANENT CHANNEL IMPACTS

DENOTES TEMPORARY CHANNEL IMPACTS



ROY J. YOUNG  
DB 83 PC 62.3  
DB 91 PC 481

Winston Lloyd  
DB 224 PC 464

JAMES T. EDWARDS  
DB 151 PC 728

ERMA B. HARMWOOD  
DB 198 PC 317

ROBERT S. ROBERTS  
DB 236 PC 74

HERSCHEL METCALF  
DB 224 PC 464


POT Sta. 10+14.875  
END CONST.

POT Sta. 10+26.240  
END CONST.

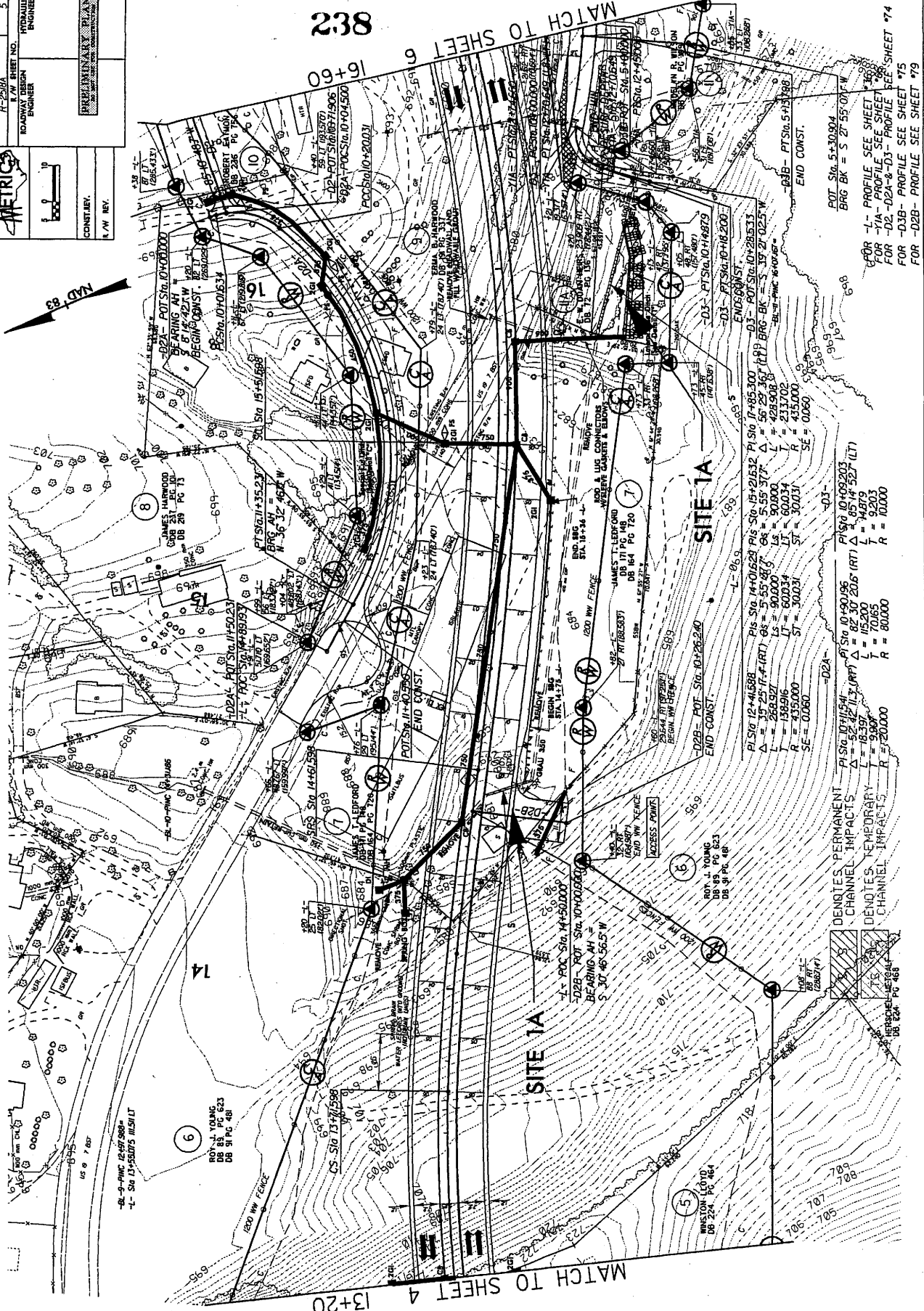
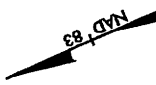
POT Sta. 10+40.196  
END CONST.

POT Sta. 10+54.308  
END CONST.

FOR -1A- PROFILE SEE SHEET #36  
FOR -2A- PROFILE SEE SHEET #66  
FOR -2B- PROFILE SEE SHEET #75  
FOR -2C- PROFILE SEE SHEET #79


**5**  
 R-258A  
 K.W. BHEET NO.  
 HYDRAULIC  
 ENGINEER  
 ROADWAY DESIGN  
 ENGINEER  
 CONSULTING  
 ENGINEERS  
 P.C. BOX 100  
 1000 W. 10TH ST.  
 DENVER, CO 80202  
 (303) 733-1100  
 FAX (303) 733-1101  
 WWW.MERIC-INC.COM

COUNTY: \_\_\_\_\_  
 I.V. REV. \_\_\_\_\_



POT Sta. 5+30.004  
 BRG BK = S 27° 55' 07" W  
 FOR -L- PROFILE SEE SHEET \*68\*  
 FOR -7A- PROFILE SEE SHEET \*68\*  
 FOR -D2A-&-D2B- PROFILE SEE SHEET \*74\*  
 FOR -D2B- PROFILE SEE SHEET \*75\*  
 FOR -D2B- PROFILE SEE SHEET \*79\*

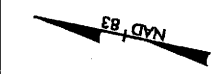
Permit Drawing  
 Sheet 11 of 14

DENOTES PERMANENT CHANNEL IMPACTS  
 DENOTES TEMPORARY CHANNEL IMPACTS  
 R = 20000  
 T = 9.907  
 L = 18.307  
 P.I. Sta. 10+10.000  
 P.C. Sta. 10+00.000  
 P.T. Sta. 10+20.000  
 Δ = 62.000 (RT) Δ = 4.879  
 R = 80000  
 T = 17.065  
 L = 30.000  
 P.I. Sta. 10+40.000  
 P.C. Sta. 10+20.000  
 P.T. Sta. 10+60.000  
 Δ = 62.000 (RT) Δ = 4.879  
 R = 80000  
 T = 9.907  
 L = 18.307

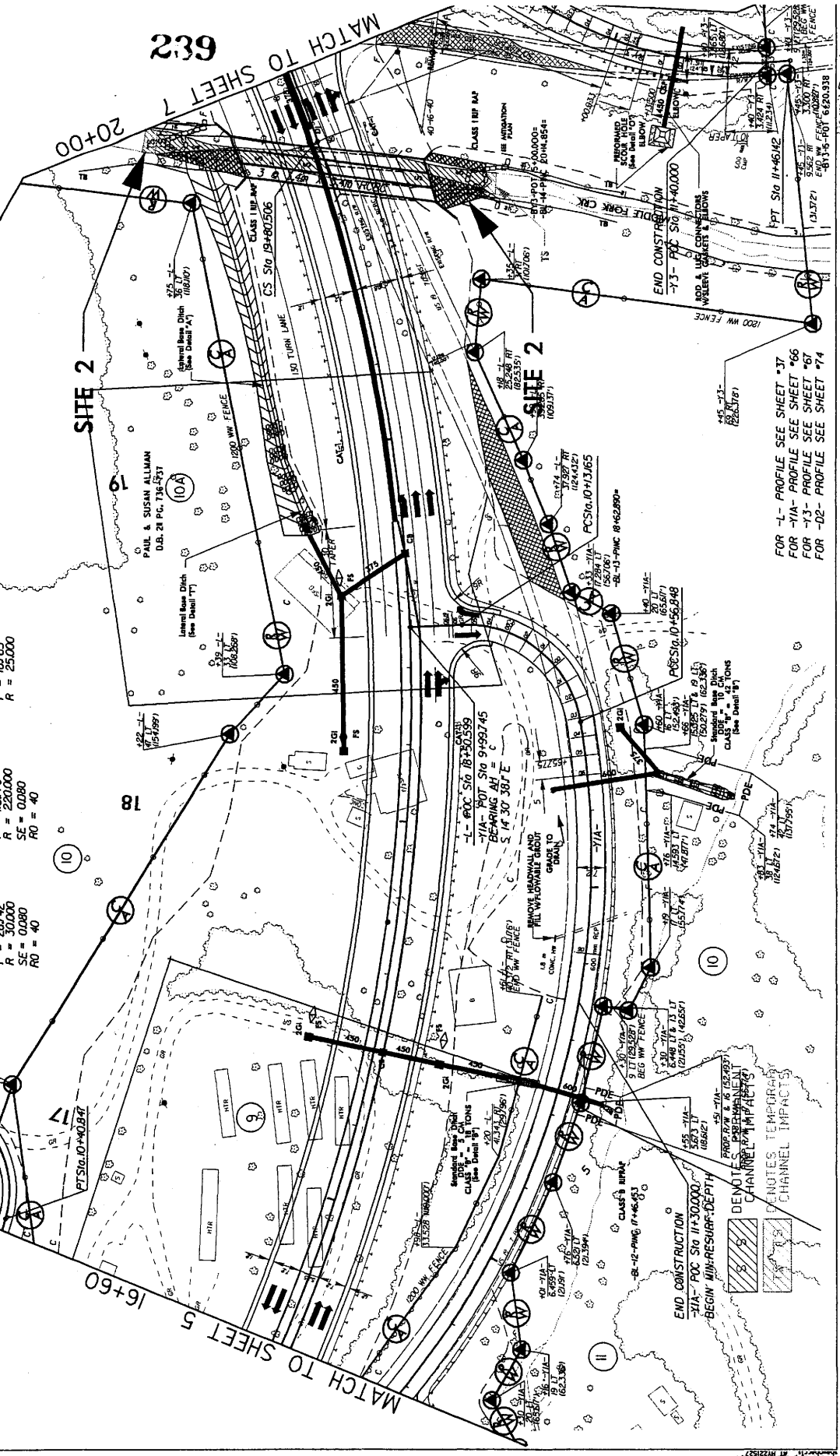
P.I. Sta. 12+41.888  
 P.C. Sta. 11+01.628  
 P.T. Sta. 15+21.632  
 Δ = 35.25 (RT) Δ = 5.55 (RT)  
 L = 288.927  
 R = 15896  
 T = 17.065  
 L = 30.000  
 P.I. Sta. 14+16.240  
 P.C. Sta. 11+41.888  
 P.T. Sta. 18+51.280  
 Δ = 56.29 (RT) Δ = 8.89  
 L = 429.503  
 R = 213702  
 T = 30.000  
 L = 30.000  
 P.I. Sta. 16+16.240  
 P.C. Sta. 14+16.240  
 P.T. Sta. 18+16.240  
 Δ = 20.000 (RT) Δ = 3.000  
 L = 600.34  
 R = 435000  
 T = 30.000  
 L = 30.000



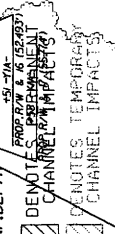
PROJECT REFERENCE NO. R-256/A  
 SHEET NO. 6  
 R/W SHEET NO. 6  
 HYDRAULICS ENGINEER  
 ROADWAY DESIGN ENGINEER  
 PRELIMINARY PLANS  
 CONTRACTOR  
 A/W REV.



-L- PI Sta 17+85.300 Δ = 56.29 L = 429.908 R = 233.702 SE = 0.060	-D2- POT Sta 10+00.000 BEGINNING AH = S 27° 07' 38.5" W BEGIN CONST.	-L- PI Sta 20+05.377 Δ = 42.16 L = 73.770 R = 38.654 SE = 0.080	-D2- PI Sta 10+28.076 Δ = 67.41 L = 23.536 R = 167.65 RO = 40
-L- PI Sta 10+39.907 Δ = 83.25 L = 43.683 R = 267.42 SE = 0.080	-Y1A- PI Sta 10+00.000 BEGINNING AH = S 27° 07' 38.5" W BEGIN CONST.	-L- PI Sta 11+75.618 Δ = 56.43 L = 217.913 R = 195.710 SE = 0.080	-D2- PI Sta 11+46.412 Δ = 67.41 L = 23.536 R = 167.65 RO = 40



FOR -L- PROFILE SEE SHEET #37  
 FOR -Y1A- PROFILE SEE SHEET #66  
 FOR -Y3- PROFILE SEE SHEET #57  
 FOR -D2- PROFILE SEE SHEET #74



PROJECT REFERENCE NO. EHE  
 R-256A  
 K.W. BISHOP NO.  
 ROADWAY DESIGN  
 ENGINEER

CONST. BY  
 K.W. REV.

THREE STAR ENGINEERING, INC.  
 1000 W. 10th St., Suite 100  
 Lincoln, NE 68502

SCALE  
 1" = 40'

DATE  
 11/11/11

PROJECT NO.  
 11-0000

CONTRACT NO.  
 11-0000

DATE  
 11/11/11

PROJECT NO.  
 11-0000

CONTRACT NO.  
 11-0000

DATE  
 11/11/11

PROJECT NO.  
 11-0000

CONTRACT NO.  
 11-0000

DATE  
 11/11/11

PROJECT NO.  
 11-0000

CONTRACT NO.  
 11-0000

DATE  
 11/11/11

PROJECT NO.  
 11-0000

CONTRACT NO.  
 11-0000

DATE  
 11/11/11

PROJECT NO.  
 11-0000

CONTRACT NO.  
 11-0000

DATE  
 11/11/11

PROJECT NO.  
 11-0000

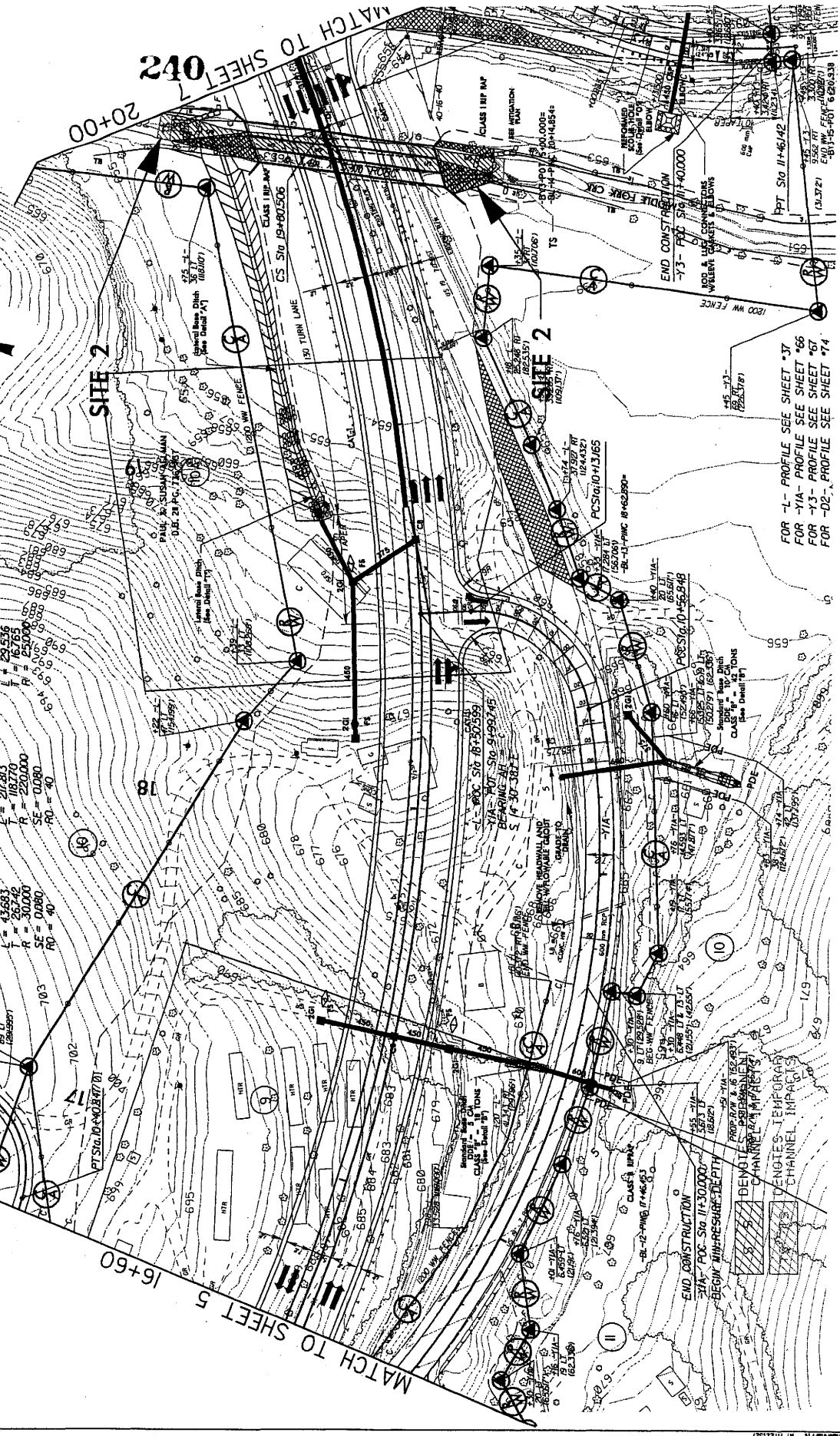
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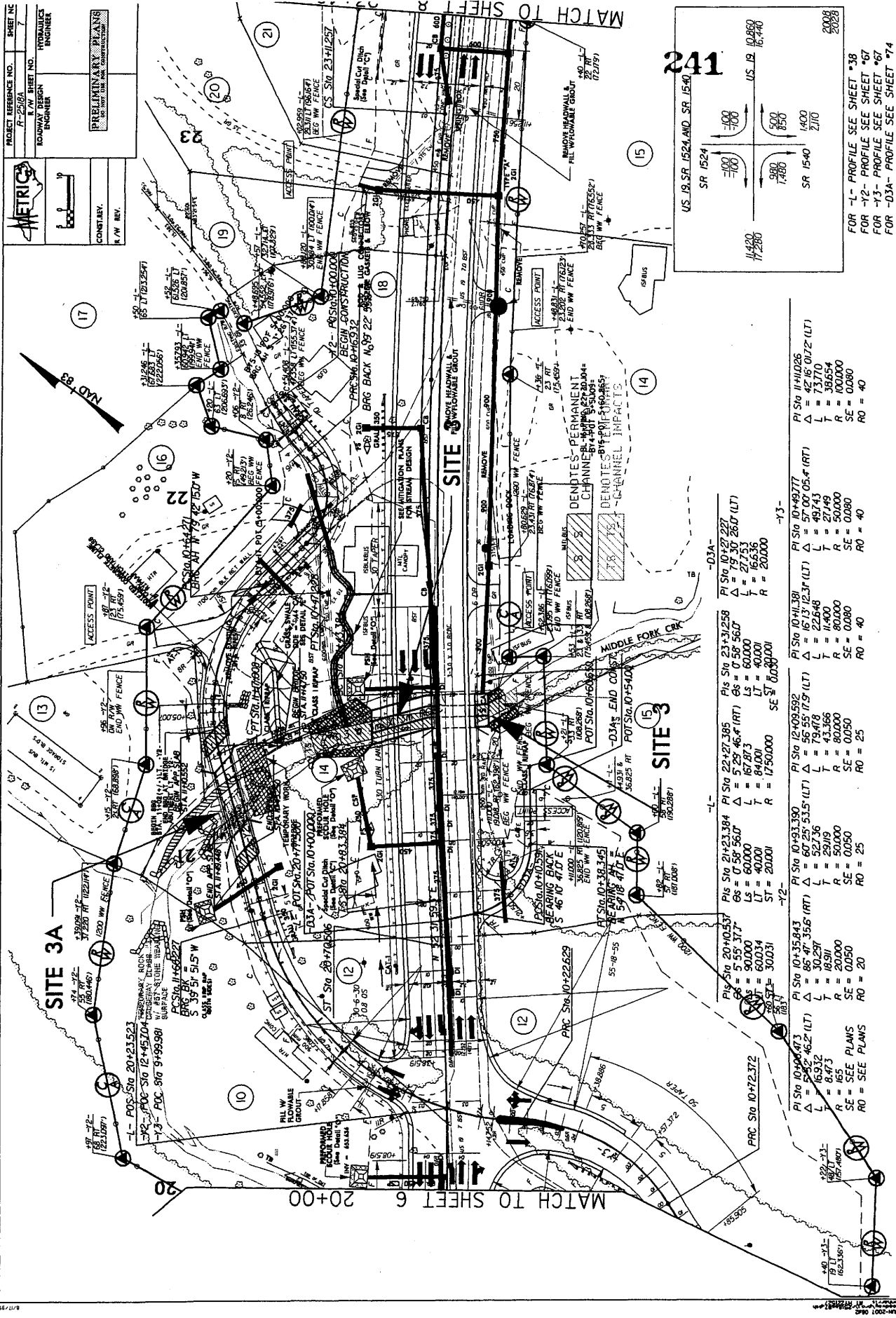
DATE  
 11/11/11

PROJECT NO.  
 11-0000

CONTRACT NO.  
 11-0000

DATE  
 11/11/11





**241**



US 19, SR 1524, SR 1540  
 SR 1524  
 US 19 10,860  
 SR 1540 16,440  
 SR 1540 1,400  
 SR 1540 2,110  
 SR 1540 1,400  
 SR 1540 2,110  
 SR 1540 1,400  
 SR 1540 2,110  
 SR 1540 1,400  
 SR 1540 2,110

FOR -1- PROFILE SEE SHEET #18  
 FOR -12- PROFILE SEE SHEET #67  
 FOR -13- PROFILE SEE SHEET #74  
 FOR -D3A- PROFILE SEE SHEET #74

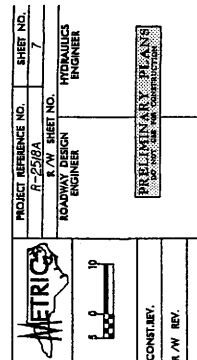
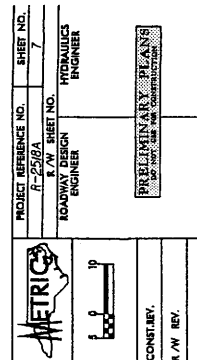
**PERMITS**

Station	PI Sta	PI Sta	PI Sta	PI Sta	PI Sta	PI Sta	PI Sta	PI Sta
10+400.00	10+493.390	10+93.390	12+09.592	10+41.381	10+497.777	10+10.006	11+008.000	11+008.000
L = 59.20	L = 60.25	L = 60.25	L = 56.55	L = 16.13	L = 57.00	L = 42.16	L = 42.16	L = 42.16
T = 18.91	T = 52.73	T = 52.73	T = 79.47	T = 11.40	T = 49.74	T = 73.77	T = 73.77	T = 73.77
R = 65	R = 50,000	R = 50,000	R = 43,366	R = 80,000	R = 50,000	R = 39,654	R = 39,654	R = 39,654
SE = 0.050	SE = 0.050	SE = 0.050	SE = 0.050	SE = 0.080	SE = 0.080	SE = 0.080	SE = 0.080	SE = 0.080
RO = 20	RO = 25	RO = 25	RO = 25	RO = 40	RO = 40	RO = 40	RO = 40	RO = 40

**241**

PROJECT REFERENCE NO. 7  
 R.A.V. SHEET NO. 7  
 ROADWAY DESIGN ENGINEER  
 METRICS  
 CONTRACTOR  
 L.W. REY

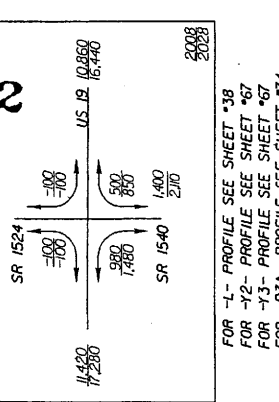
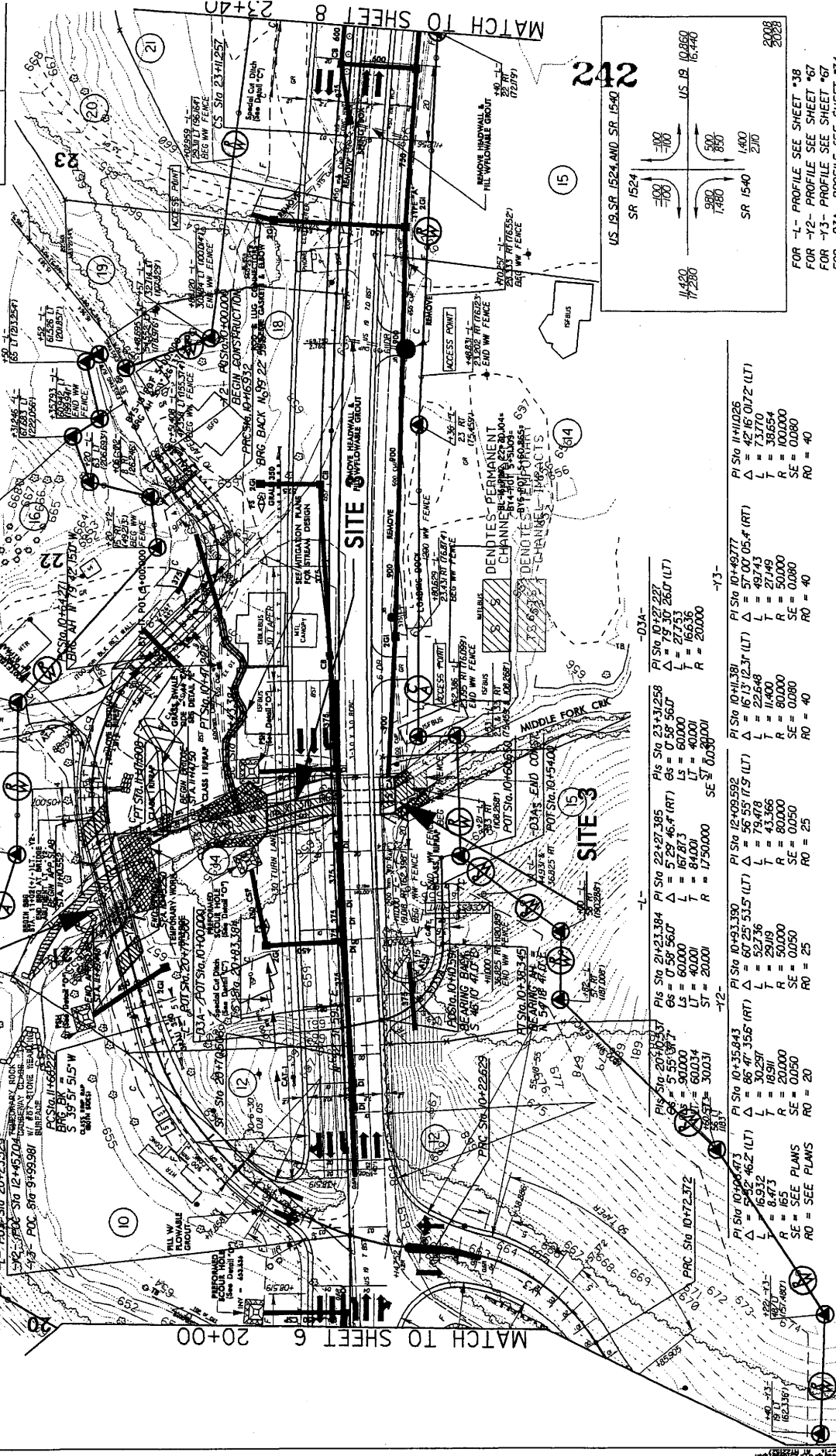
PROFESSIONAL SEAL  
 L.W. REY  
 REGISTERED PROFESSIONAL ENGINEER  
 STATE OF MISSISSIPPI



CONTRACT NO. 1524.4ND SR 1540  
 2008  
 2028

FOR -L- PROFILE SEE SHEET \*38  
 FOR -Y2- PROFILE SEE SHEET \*67  
 FOR -Y3- PROFILE SEE SHEET \*67  
 FOR -D3A- PROFILE SEE SHEET \*74

Permit Drawing



-Y2-

PI Sta 10+35.843	PI Sta 10+49.777	PI Sta 10+110.226
Δ = 86.47' 35.6 (RT)	Δ = 57.00' 05.4 (RT)	Δ = 42.16' 01.2 (LT)
L = 30.297	L = 22.648	L = 7.3170
R = 18.911	R = 27.149	R = 38.654
SE = 0.050	SE = 0.080	SE = 0.080
RO = 20	RO = 40	RO = 40

-Y3-

PI Sta 10+49.777	PI Sta 10+110.226	PI Sta 10+49.777
Δ = 16.13' 12.3 (LT)	Δ = 57.00' 05.4 (RT)	Δ = 42.16' 01.2 (LT)
L = 11.400	L = 27.149	L = 7.3170
R = 80.000	R = 50.000	R = 38.654
SE = 0.050	SE = 0.080	SE = 0.080
RO = 25	RO = 40	RO = 40

-D3A-

PI Sta 10+49.777	PI Sta 10+110.226	PI Sta 10+49.777
Δ = 56.55' 17.9 (LT)	Δ = 57.00' 05.4 (RT)	Δ = 42.16' 01.2 (LT)
L = 79.478	L = 27.149	L = 7.3170
R = 43.366	R = 50.000	R = 38.654
SE = 0.050	SE = 0.080	SE = 0.080
RO = 25	RO = 40	RO = 40

-D3A- END CONTS

PI Sta 10+49.777	PI Sta 10+110.226	PI Sta 10+49.777
Δ = 60.25' 53.5 (LT)	Δ = 57.00' 05.4 (RT)	Δ = 42.16' 01.2 (LT)
L = 52.736	L = 27.149	L = 7.3170
R = 29.919	R = 50.000	R = 38.654
SE = 0.050	SE = 0.080	SE = 0.080
RO = 25	RO = 40	RO = 40

R/W REV: REVISING DRAINWAY AND ACCESS POINT AND REVISING NAME AND DEED BOOK NUMBER ON PARCEL IS (BRYAN AND JORCE E. ANDERS REVOCABLE TRUST), 06/11/2007. NNH

**METRICS**

PROJECT REFERENCE NO. R-23/0A  
 ROADWAY DESIGN ENGINEER  
 SHEET NO. 9  
 HYDRAULICS ENGINEER

CONTRACT NO. 1000000000  
 P.W. REV.

**PRELIMINARY PLANS**  
 NO. 1000000000



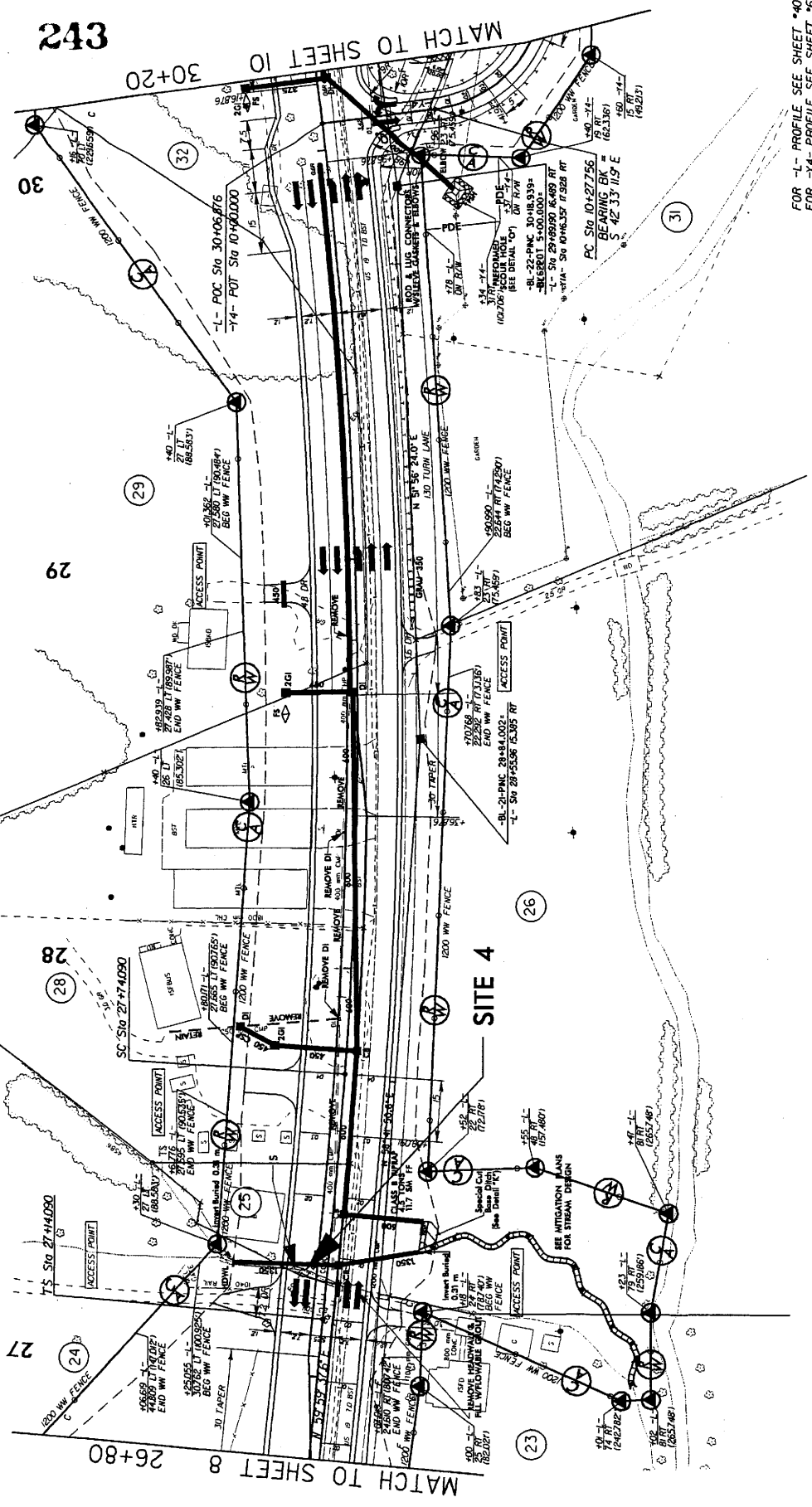
DENOTES PERMANENT CHANNEL IMPACTS  
 DENOTES TEMPORARY CHANNEL IMPACTS

**-Y4-**

PI Sta 10+62.692  
 $\Delta = 98.41' 39.0" (LT)$   
 $L = 31.676$   
 $R = 30.000$   
 $SE = 0.080$   
 $RO = 40$

**-L-**

PI Sta 27+54.091  
 $\Delta = 17' 15" 54.2" (LT)$   
 $L = 361.999$   
 $R = 162.000$   
 $SE = 0.040$



FOR -L- PROFILE SEE SHEET \*40  
 FOR -Y4- PROFILE SEE SHEET \*67

Permit Drawing



PROJECT REFERENCE NO. SHEET N  
R-252A R/W SHEET NO. 9  
ROADWAY DESIGN HYDRAULICS  
ENGINEER  
PRELIMINARY PLANS  
CONTRAV. R/W REV.

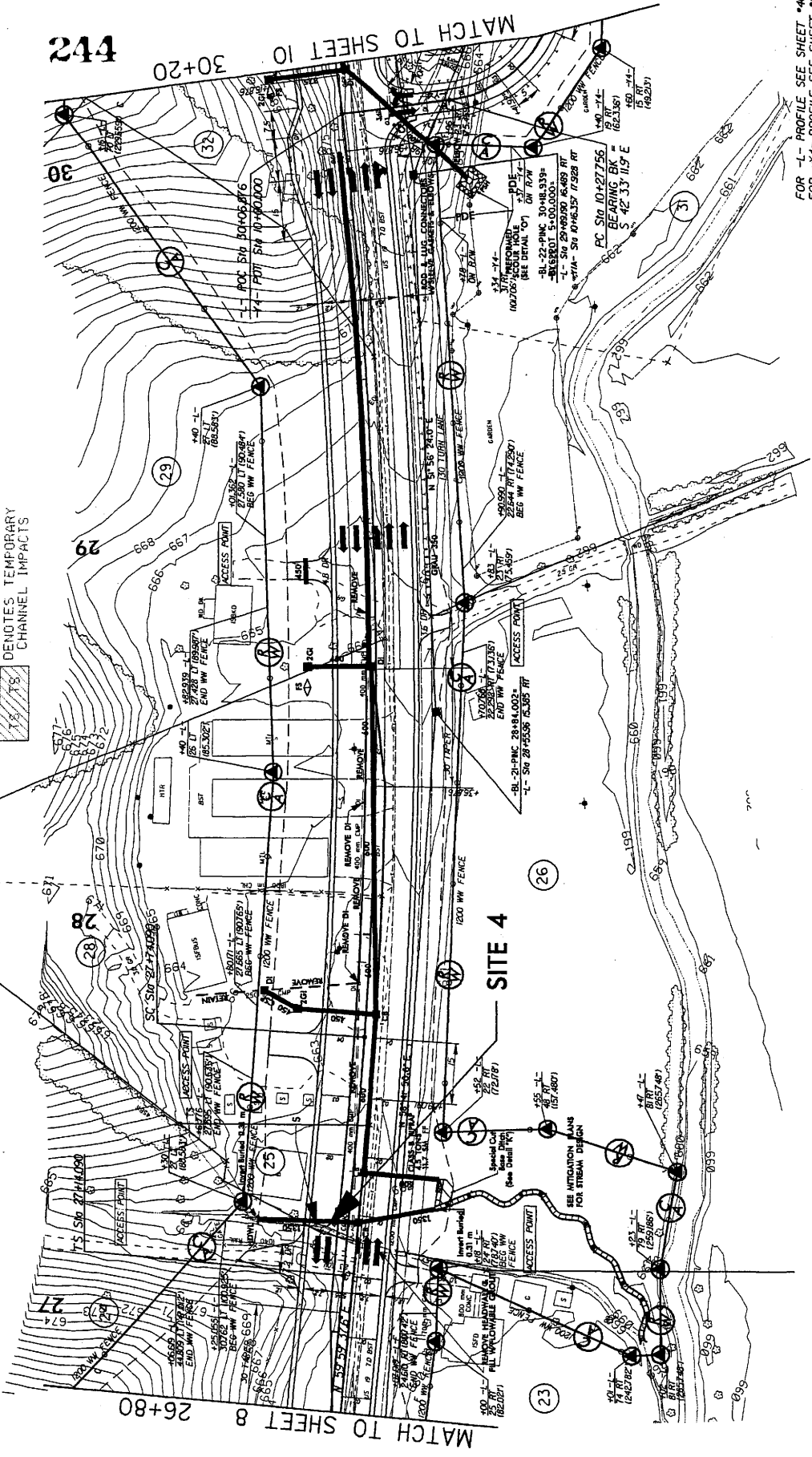


DENOTES PERMANENT CHANNEL IMPACTS  
DENOTES TEMPORARY CHANNEL IMPACTS

-1-  
PI Sta 10+62.892  
 $\Delta = 86.47$  39D (LT)  
L = 376.99  
R = 30000  
SE = 0.080  
RO = 40

-1-  
PI Sta 29+56.270  
 $\Delta = 17.15$  342 (LT)  
L = 361.99  
R = 19200  
SE = 0.090

-1-  
PI Sta 27+55.091  
68 = 125.566  
L3 = 60000  
L = 10000  
S1 = 20000  
SE = 0.000



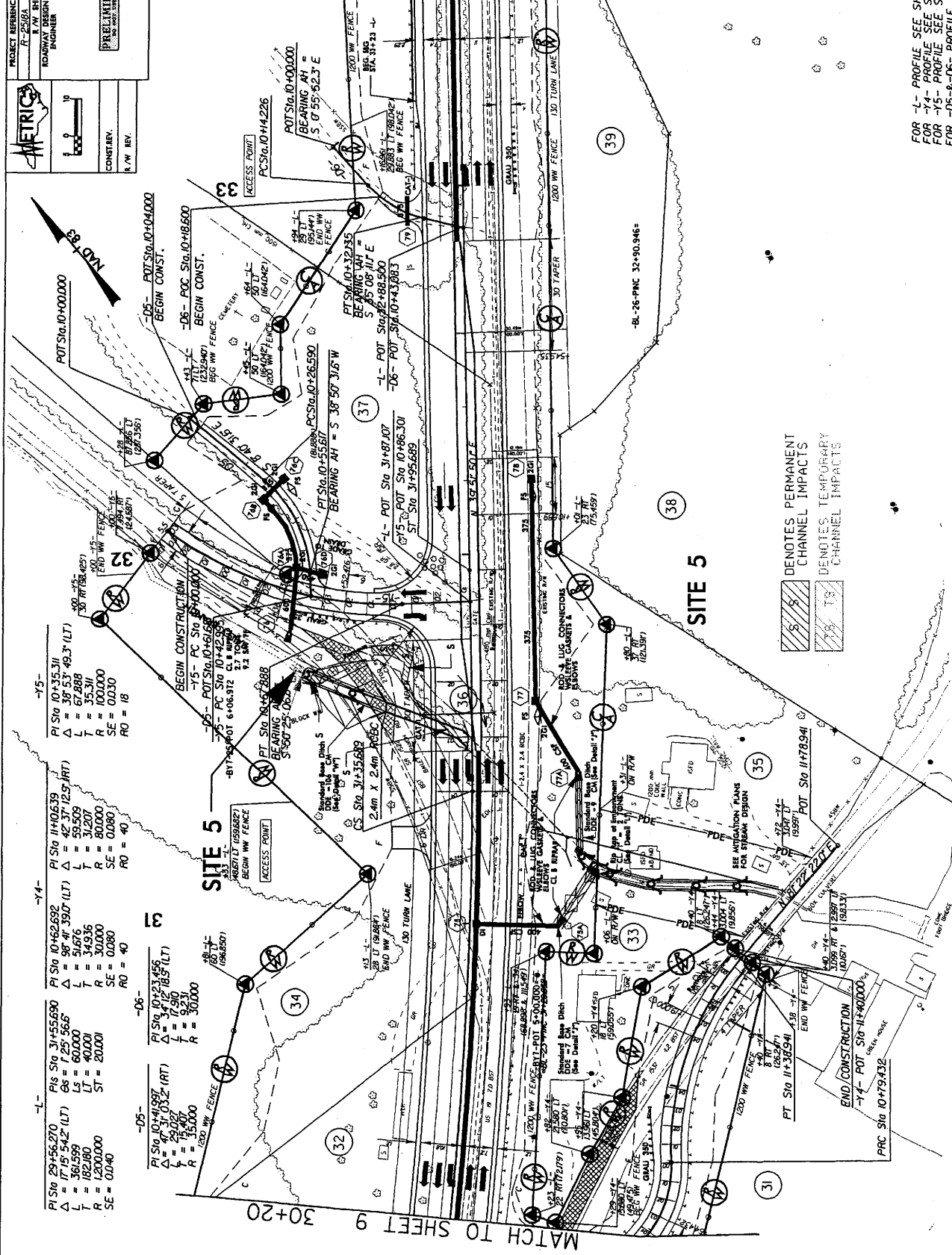
FOR -1- PROFILE SEE SHEET \*40  
FOR -14- PROFILE SEE SHEET \*6

PROJECT REFERENCE NO. R-2303A  
 SHEET NO. 10  
 ROADWAY DESIGN ENGINEER  
 PRELIMINARY PLANS  
 COUNTY, N.W. BRV.

-L-	PI Sta 10+56.270 Δ = 17.15 L = 361.599 T = 182.180 R = 1,200.000 SE = 0.040	PI Sta 10+62.692 Δ = 58.41 L = 516.76 T = 319.36 R = 300.000 SE = 0.080 RO = 40	PI Sta 10+73.456 Δ = 29.02 L = 15.407 T = 9.231 R = 35.000	PI Sta 10+23.456 Δ = 17.50 L = 17.50 T = 9.231 R = 300.000
-Y4-	PI Sta 10+35.311 Δ = 38.53 L = 67.888 T = 35.311 R = 100.000 SE = 0.030 RO = 18	PI Sta 10+42.912 Δ = 42.37 L = 59.509 T = 31.207 R = 80.000 SE = 0.080 RO = 40	PI Sta 10+45.288 Δ = 30.23 L = 14.819 T = 9.231 R = 300.000	PI Sta 10+46.168 Δ = 37.12 L = 67.888 T = 35.311 R = 100.000 SE = 0.030 RO = 18

245 MATCH TO SHEET 33+60

MATCH TO SHEET 9 30+20



DENOTES PERMANENT CHANNEL IMPACTS  
 DENOTES TEMPORARY CHANNEL IMPACTS

FOR -L- PROFILE SEE SHEET \*41  
 FOR -Y4- PROFILE SEE SHEET \*67  
 FOR -Y5- PROFILE SEE SHEET \*67  
 FOR -D5- & -D6- PROFILE SEE SHEET \*75

PARTIAL DRAWING

**PAGE 246 thru 254**

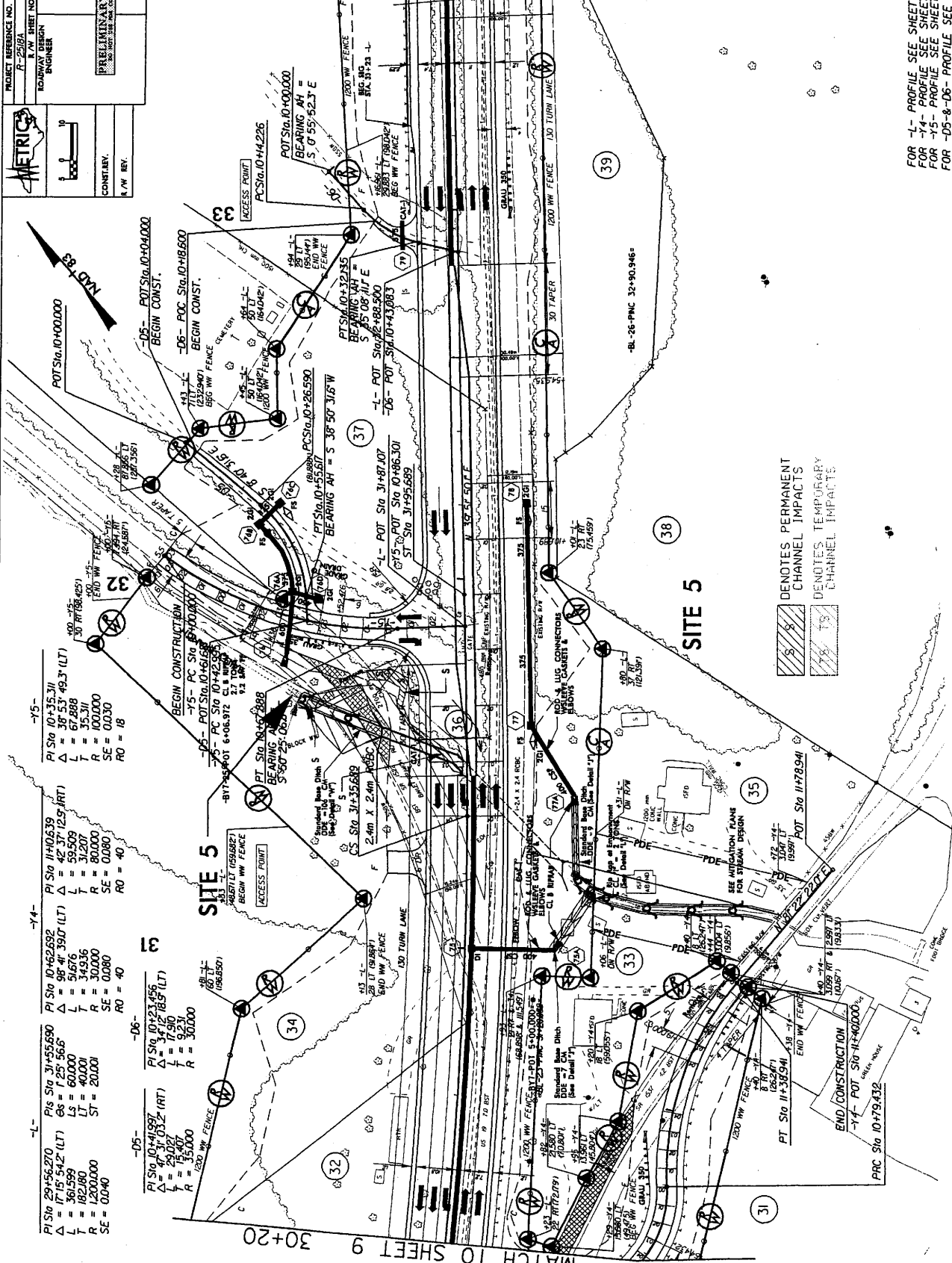
**INTENTIONALLY**

**OMITTED**



PROJECT REFERENCE NO.	SHEET NO.
R-2318A	10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>METRIX</b>	
CONTRACT NO.	DATE
PRELIMINARY PLANS	NO COPY TO BE MADE
DATE	BY

MATCH TO SHEET # 33+60 255



Match to Sheet 9 30+20

-L-	PI Sta 29+56.270	Δ = 17.15	L = 342.0	R = 100.000	SE = 0.040
	PI Sta 31+55.690	Δ = 1.25	L = 60.000	R = 20.000	SE = 0.040
	PI Sta 10+62.692	Δ = 96.4'	L = 39.0'	R = 30.000	SE = 0.080
-Y4-	PI Sta 10+35.311	Δ = 42.37'	L = 25.9'	R = 35.311	SE = 0.030
	PI Sta 10+42.353	Δ = 36.53'	L = 49.3'	R = 100.000	RO = 18
-D6-	PI Sta 10+23.456	Δ = 3.72'	L = 18.5'	R = 30.000	SE = 0.080
	PI Sta 10+44.197	Δ = 4.31'	L = 17.9'	R = 15.000	SE = 0.040
	PI Sta 10+55.690	Δ = 3.72'	L = 18.5'	R = 30.000	SE = 0.080

DENOTES PERMANENT CHANNEL IMPACTS  
 DENOTES TEMPORARY CHANNEL IMPACTS

FOR -L- PROFILE SEE SHEET #4  
 FOR -Y4- PROFILE SEE SHEET #67  
 FOR -Y5- PROFILE SEE SHEET #67  
 FOR -D5- -D6- PROFILE SEE SHEET #75

Permit Drawing  
 9 M

PROJECT REFERENCE NO. **11-2510A**  
 SHEET NO. **10**  
 ROADWAY DESIGN  
 DRAWING

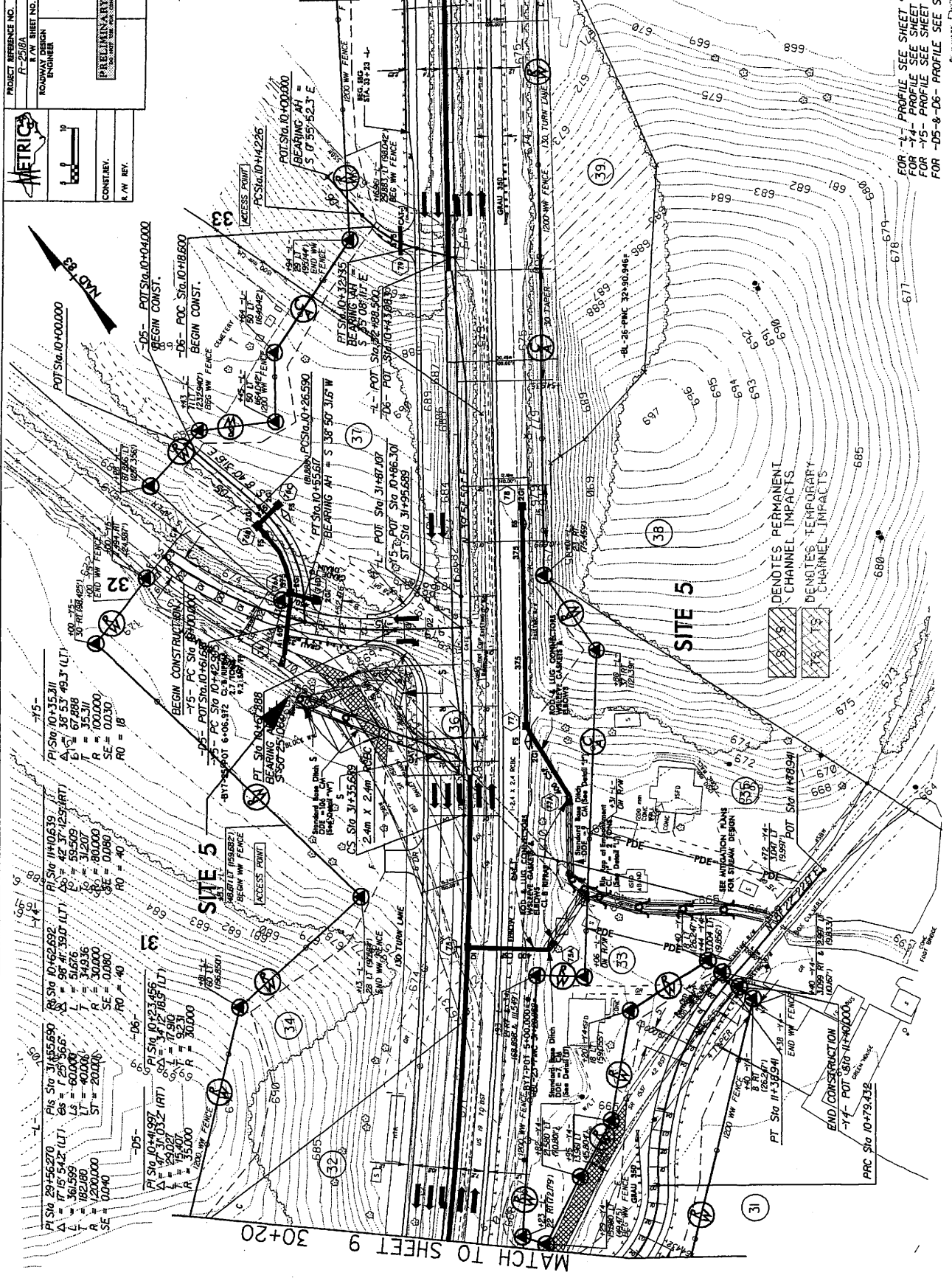
**METRICS**

1" = 40'

CONTRARY  
 1" = 40'

PRELIMINARY PLANS  
 (DO NOT BE USED FOR CONSTRUCTION)

MATCH TO SHEET 11 33+60  
 256



FOR -1- PROFILE SEE SHEET #4  
 FOR -3-4- PROFILE SEE SHEET #7  
 FOR -7-5- PROFILE SEE SHEET #7  
 FOR -D5-8-06- PROFILE SEE SHEET #75

2510A-10-01 09/25

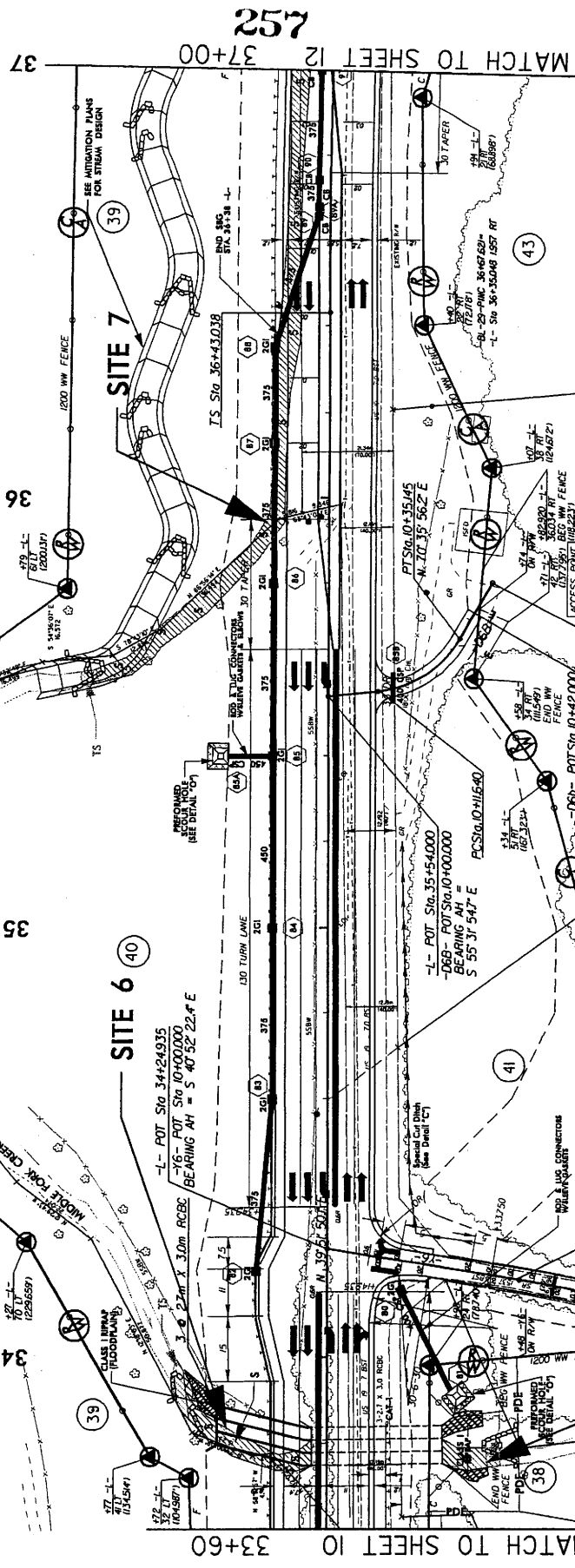
PROJECT REFERENCE NO. R-258A  
 SHEET NO. II  
 HYDRAULICS ENGINEER  
 ROADWAY DESIGN ENGINEER  
 METRICS  
 PRELIMINARY PLANS  
 FOR THE PROPOSED  
 CONSTRUCTION



**-L-**  
 Pts Sta 36+93.043  
 Δ = 2° 23' 14.4"  
 Ls = 75.000  
 Lt = 30.005  
 SE = 0.080  
 ST = 25.004

**-Y6-**  
 PI Sta 10+69.669  
 Δ = 12° 04' 14.6" (RT)  
 L = 48.455  
 T = 24.318  
 R = 250.000  
 SE = 0.080  
 RO = 40

**-D6B-**  
 PI Sta 10+24.342  
 Δ = 31° 56' 09.1" (LT)  
 L = 127.702  
 T = 25.000



MATCH TO SHEET 10 33+60

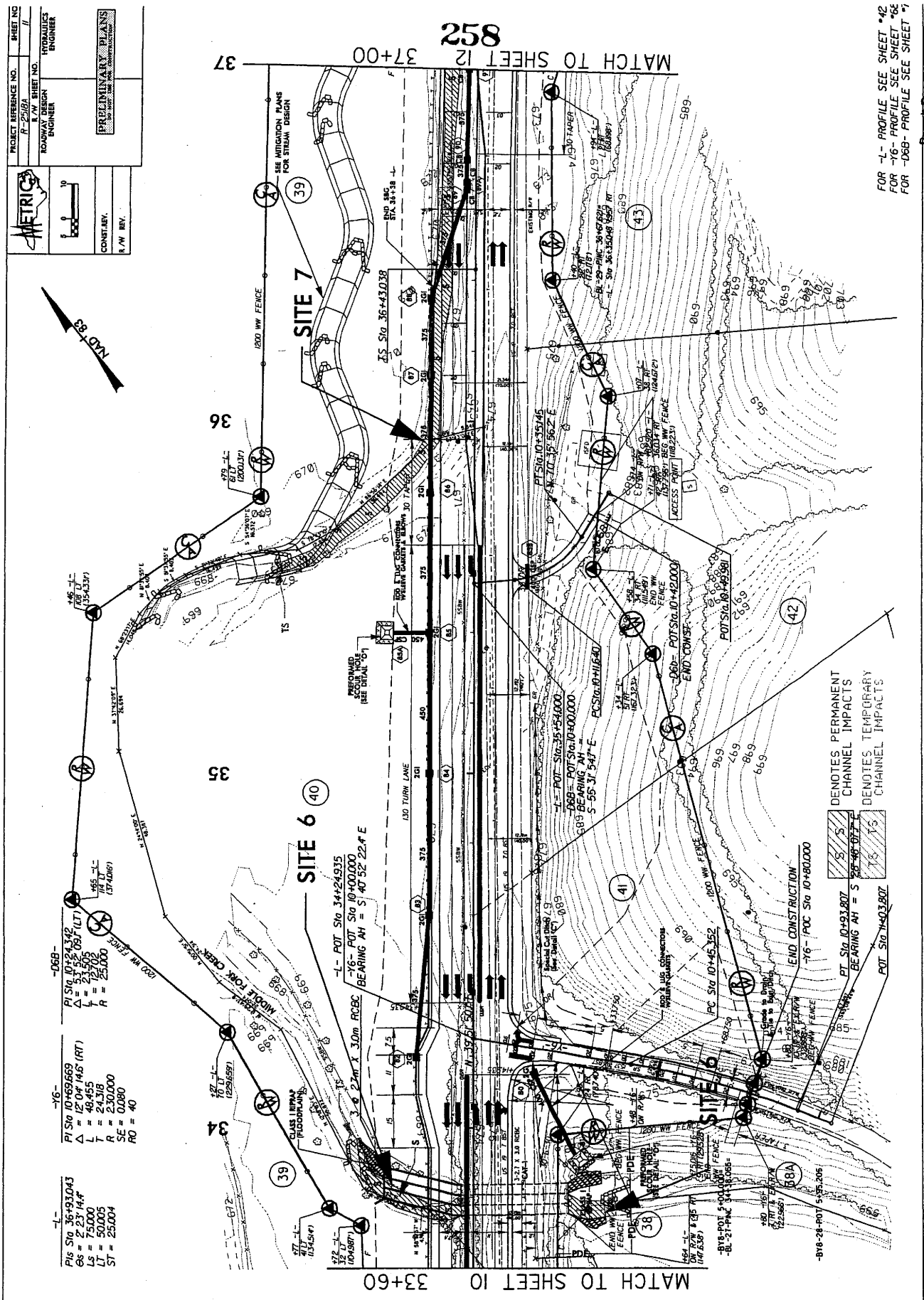
MATCH TO SHEET 12 37+00

257

SS S DENOTES PERMANENT CHANNEL IMPACTS  
 TS S DENOTES TEMPORARY CHANNEL IMPACTS

FOR -L- PROFILE SEE SHEET \*42  
 FOR -Y6- PROFILE SEE SHEET \*6  
 FOR -D6B- PROFILE SEE SHEET \*

PROJECT REFERENCE NO. R-2318A  
 SHEET NO. 11  
 R/W SHEET NO. HYDRAULICS ENGINEER  
 ROADWAY DESIGN ENGINEER  
 METRICS  
 PRELIMINARY PLANS  
 COUNTY, I/W REV.



-L-  
 P16 Sta 36+93.043  
 Δ = 2° 23' 14.4"  
 LS = 75.000  
 LT = 50.005  
 ST = 25.004

-Y6-  
 P1 Sta 10+69.669  
 Δ = 12° 04' 14.5" (RT)  
 L = 48.455  
 T = 24.318  
 R = 230.000  
 SE = 0.080  
 RO = 40

-D6B-  
 P1 Sta 10+24.342  
 Δ = 51° 52' 08.7" (LT)  
 L = 23.909  
 T = 25.000  
 R = 174.061

SITE 6  
 -L- POT Sta 34+24935  
 -Y6- POT Sta 10+00000  
 BEARING AH = S 40° 52' 22.4" E

END CONSTRUCTION  
 -Y6- POC Sta 10+80000  
 PT Sta 10+91.807  
 BEARING AH = S 52° 40' 07.7"  
 POT Sta 10+03.807

DENOTES PERMANENT CHANNEL IMPACTS  
 DENOTES TEMPORARY CHANNEL IMPACTS

MATCH TO SHEET 10 33+60

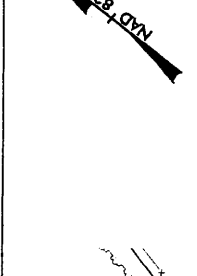
MATCH TO SHEET 12 37+00

852

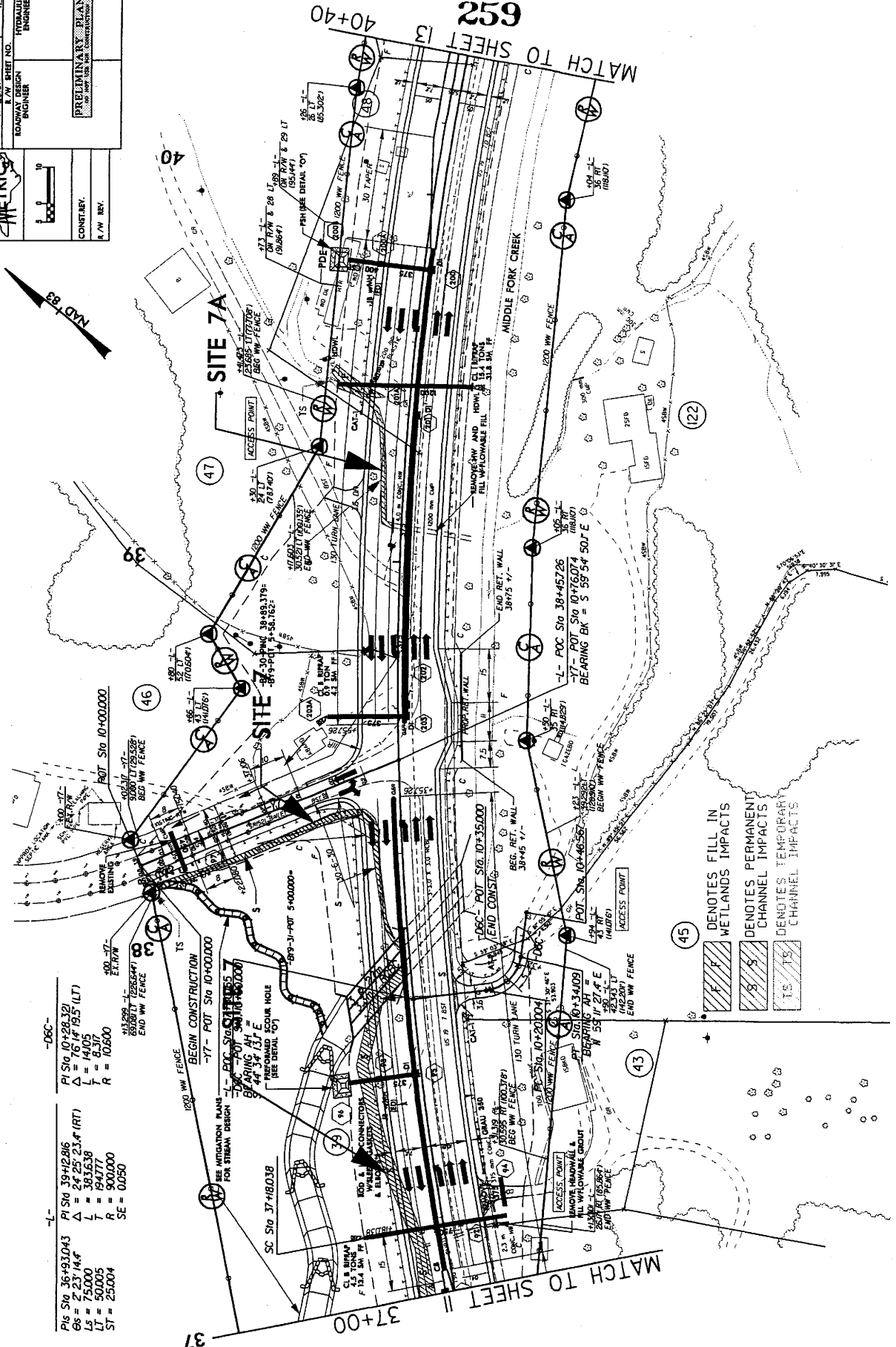
FOR -L- PROFILE SEE SHEET 42  
 FOR -Y6- PROFILE SEE SHEET 46  
 FOR -D6B- PROFILE SEE SHEET 7

Permit Drawing

PROJECT REFERENCE NO. **659** SHEET NO. **43**  
 R/W SHEET NO. **43**  
 ROADWAY DESIGN **HYDRAULICS ENGINEER**  
**METRIX** PRELIMINARY PLANS  
 CONTRACTOR: [Blank] DATE: [Blank]  
 R/W REV. [Blank]



- L-**
- PI Sta 36+43.043
  - CS = 2.23' 14.4"
  - LS = 75.000'
  - LT = 50.005'
  - ST = 25.004'
- DEC-**
- PI Sta 10+28.321
  - CS = 2.4' 25.23.4" (RT)
  - LS = 14.05'
  - T = 8.317'
  - R = 10.600'
  - SE = 0.050'



- (45)**
- DENOTES FILL IN WETLANDS IMPACTS
  - DENOTES PERMANENT CHANNEL IMPACTS
  - DENOTES TEMPORARY CHANNEL IMPACTS

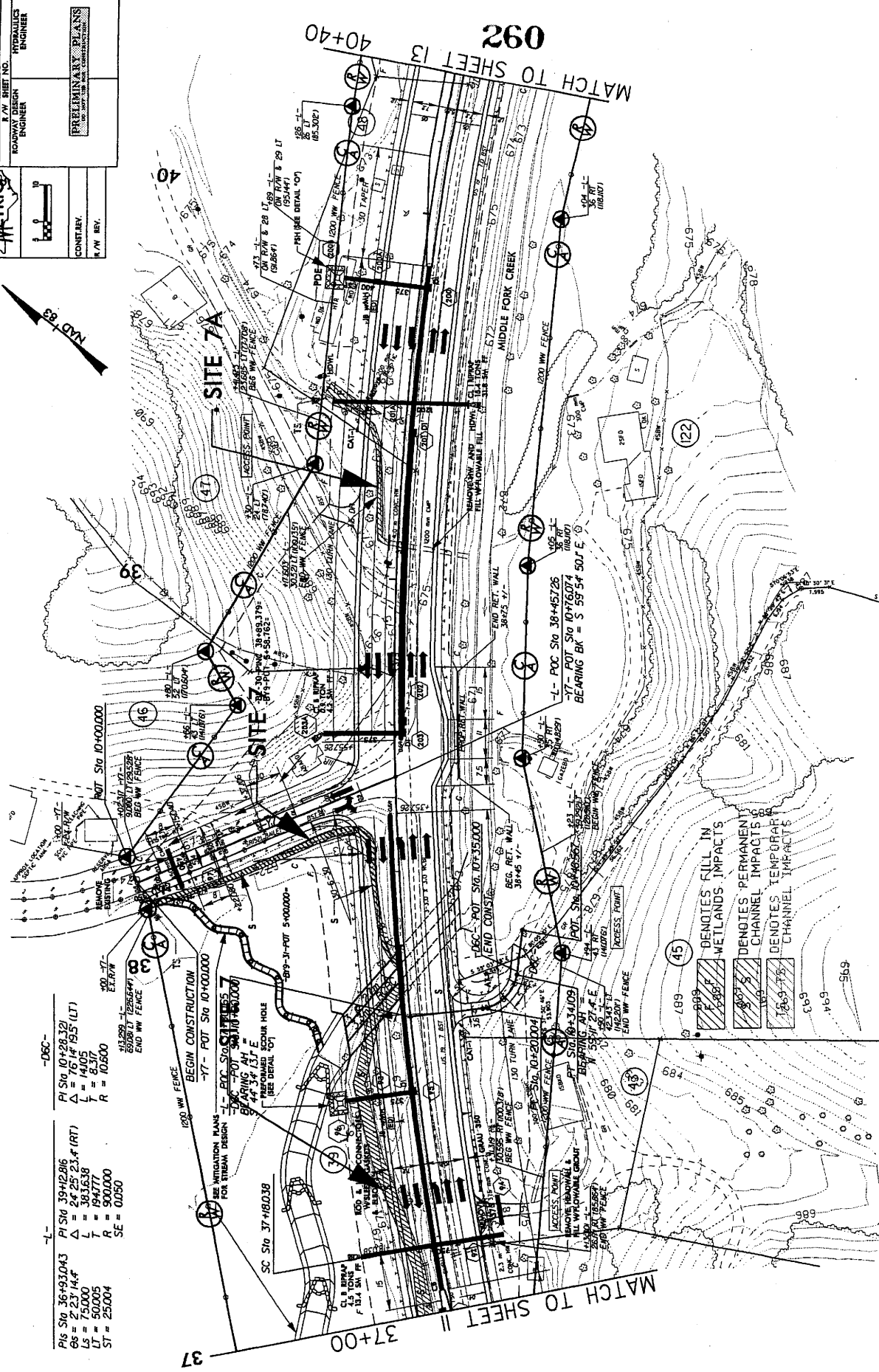
FOR -L- PROFILE SEE SHEET #43  
 FOR -77- PROFILE SEE SHEET #66  
 FOR -DEC- PROFILE SEE SHEET #4  
 6/11/2007 NWH

PROJECT REFERENCE NO. SHEET NO.  
 R-2518A 12  
 ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

**METRIX**

CONTRARY  
 R/W REV.

PRELIMINARY PLANS  
 10/10/07 (REV. 06/11/2007)



-060-  
 PI STA 36+93.043  
 Δ = 2' 23" 14.4"  
 LS = 75.000  
 LT = 50.005  
 ST = 25.004

-060-  
 PI STA 39+12.816  
 Δ = 24' 25" 23.4" (RT)  
 L = 363.638  
 T = 194.777  
 R = 500.000  
 SE = 0.050

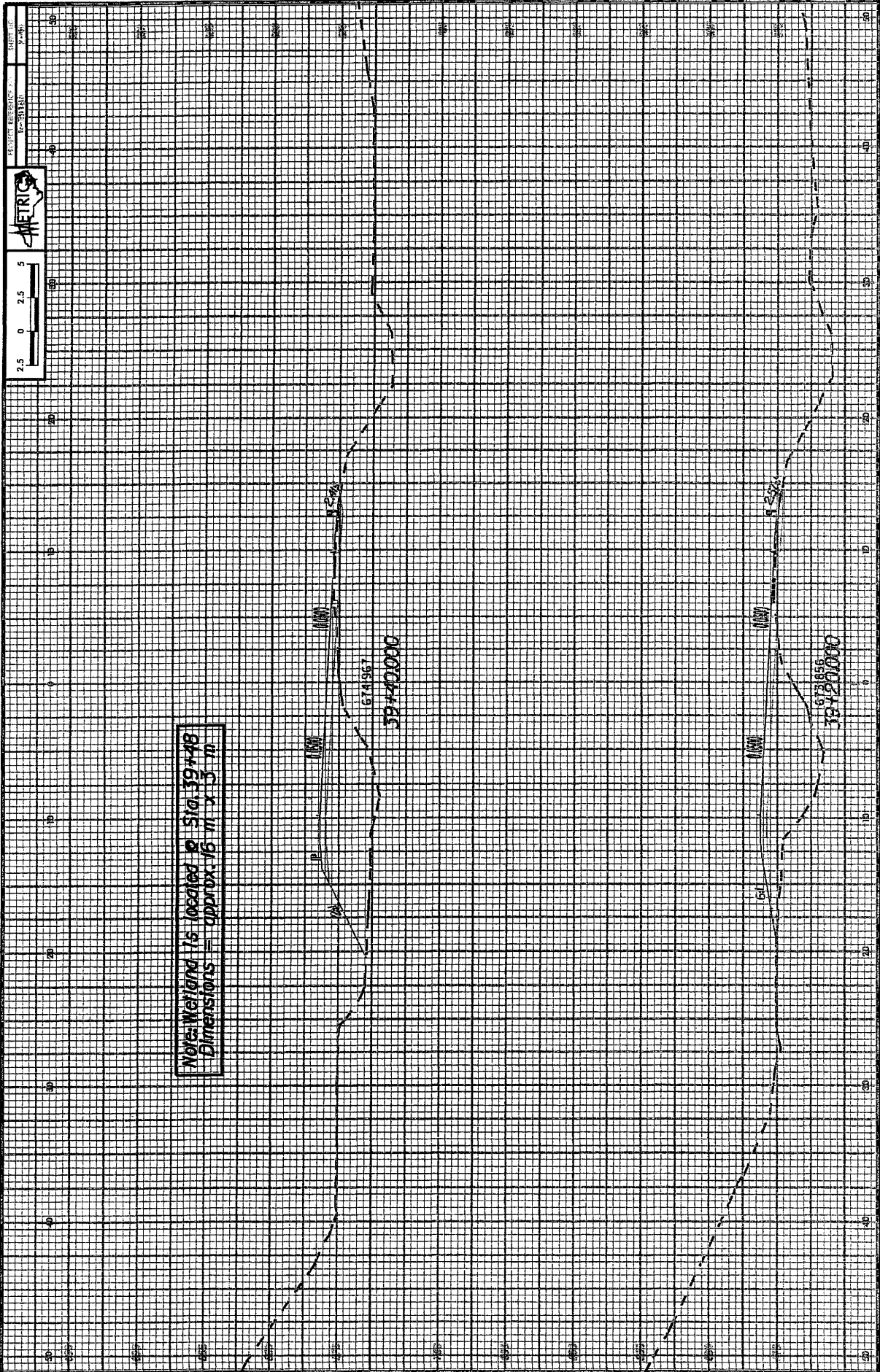
-060-  
 PI STA 10+28.32  
 Δ = 76' 14" 19.5" (LT)  
 L = 14.005  
 T = 83.37  
 R = 10.800

LEGEND:  
 DENOTES CULL IN WETLANDS IMPACTS  
 DENOTES PERMANENT CHANNEL IMPACTS  
 DENOTES TEMPORARY CHANNEL IMPACTS

MATCH TO SHEET 13 40+40  
 092

MATCH TO SHEET 37+00

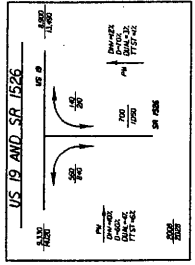
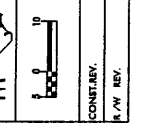
FOR -L- PROFILE SEE SHEET #43  
 FOR -T- PROFILE SEE SHEET #68  
 FOR -060- PROFILE SEE SHEET #7  
 Permit Drawings



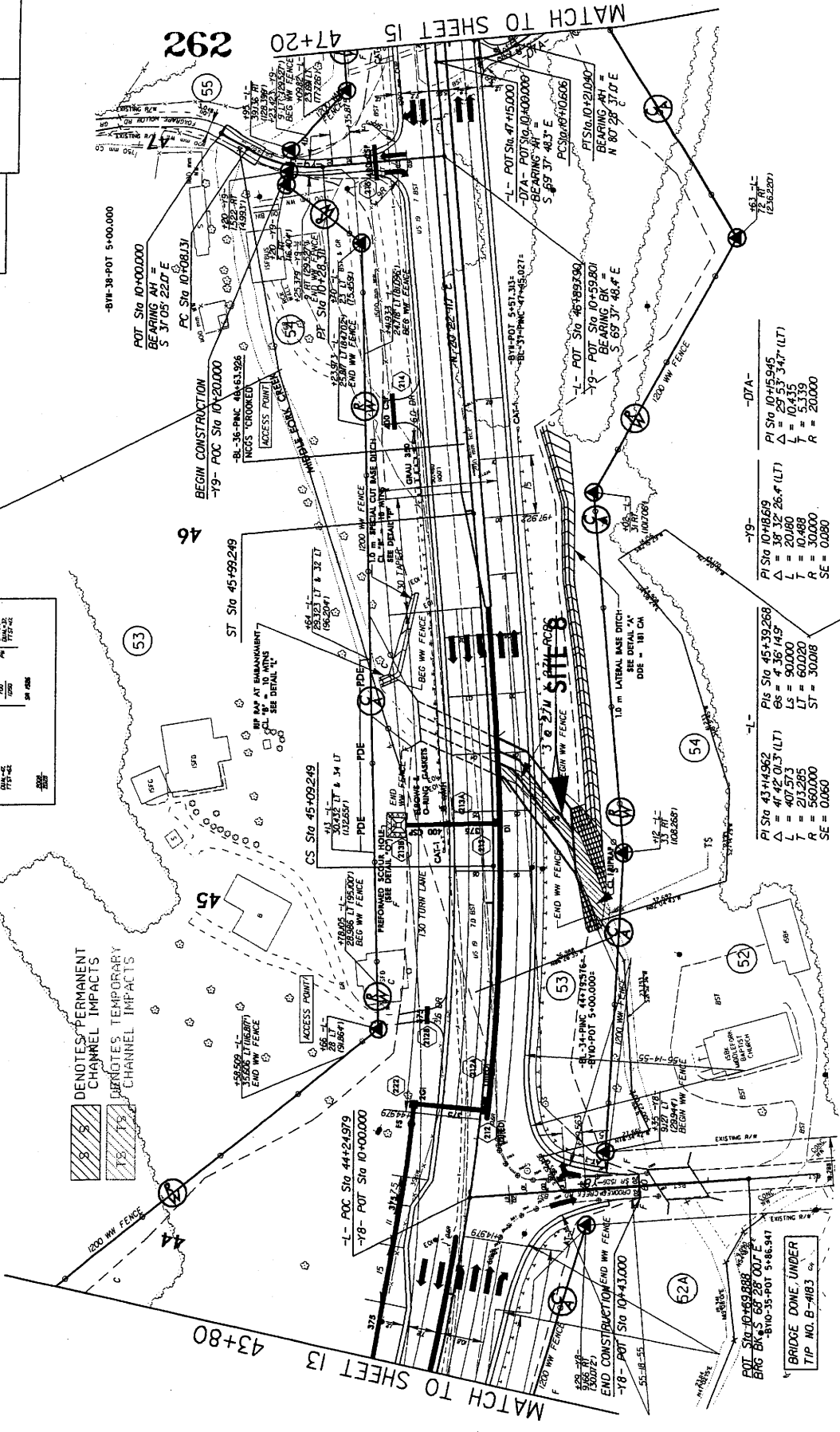
Note: Wetland is located @ Sta. 39+48  
 Dimensions = approx. 16 m x 3 m

2.5 0 2.5 5  
 METRIS

PROJECT REFERENCE NO. R-2516A  
 SHEET NO. 14  
 HYDRAULICS ENGINEER  
 METRICS  
 PRELIMINARY PLANS  
 CONTRACTOR: P/W REV.



DENOTES PERMANENT CHANNEL IMPACTS  
 DENOTES TEMPORARY CHANNEL IMPACTS



-L- PI Sta 43+4962 Δ = 47' 42" 0.2' (LT) L = 203.25 R = 500.00 SE = 0.080	-L- PI Sta 45+39268 Δ = 4' 36" 14.5" LS = 500.00 LT = 600.20 ST = 300.08	-Y9- PI Sta 10+18669 Δ = 38' 32" 26.4' (LT) L = 20.60 R = 10.488 SE = 0.080	-DTA- PI Sta 10+15945 Δ = 29' 53" 34.7' (LT) L = 10.435 R = 200.00
--	---	--	--

FOR -L- PROFILE SEE SHEET #45  
 FOR -Y8- PROFILE SEE SHEET #6  
 FOR -Y9- PROFILE SEE SHEET #6  
 FOR -DTA- PROFILE SEE SHEET #

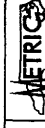
Permit No. \_\_\_\_\_

MATCH TO SHEET 13 43+80

MATCH TO SHEET 15 47+20 292

POT Sta 10+59888  
 BRG BK'S 68' 28' 00" E  
 BRIDGE DONE UNDER  
 TIP NO. B-4183





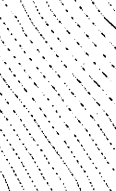
CONST. REV.  
R.W. REV.

PROJECT REFERENCE NO. SHEET NO.  
R-25/6A 14

ROADWAY DESIGN ENGINEER  
HYDRAULIC ENGINEER

PRELIMINARY PLANS  
FOR THE  
CONSTRUCTION OF  
THE  
NEW  
BRIDGE  
OVER  
THE  
RIVER

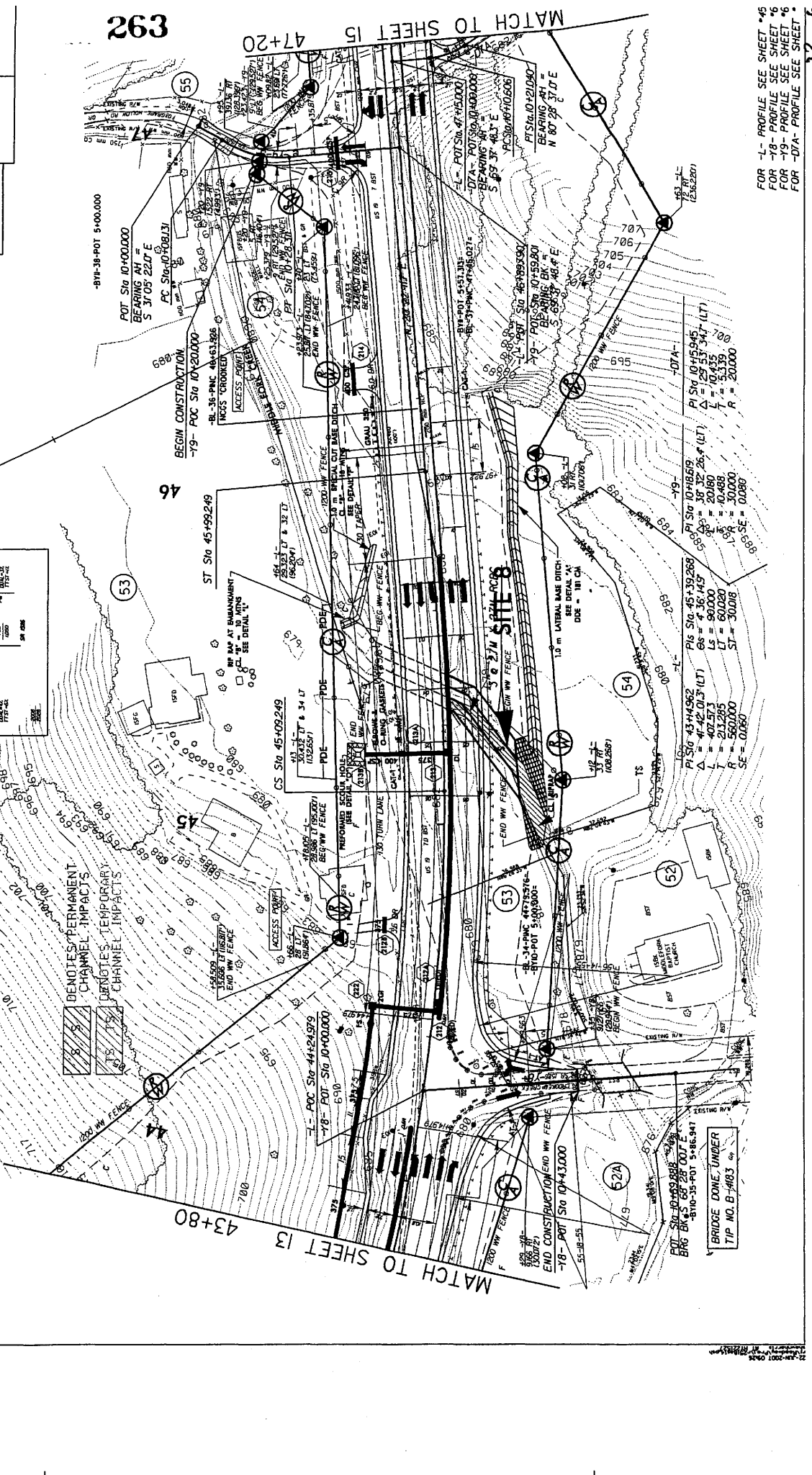
US 19 AND SR 1526



DEMOTES PERMANENT CHANNEL IMPACTS  
DEMOTES TEMPORARY CHANNEL IMPACTS

BRIDGE DONE UNDER  
TIP NO. B-463

FOR -L- PROFILE SEE SHEET \*46  
FOR -Y8- PROFILE SEE SHEET \*46  
FOR -Y9- PROFILE SEE SHEET \*46  
FOR -DVA- PROFILE SEE SHEET \*46



263

47+20

43+80

MATCH TO SHEET 15

46

45

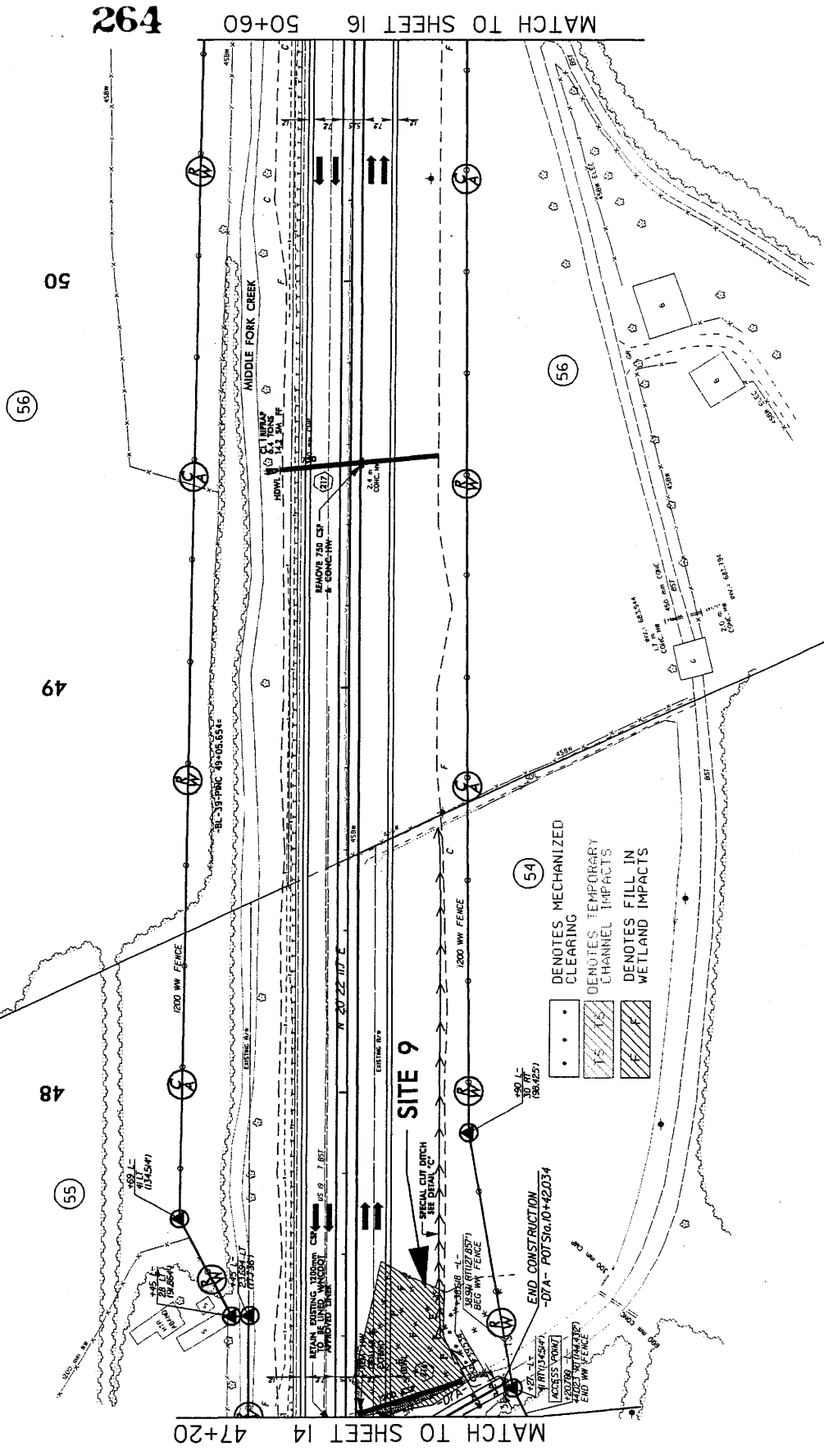
44

MATCH TO SHEET 13

43+80



PROJECT REFERENCE NO. R-258A	SHEET NO. 15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS FOR THE PROJECT, THE JOB CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS ON THE FIELD.	
CONST. REV.	
P.A.V. REV.	



264

MATCH TO SHEET 16 50+60

MATCH TO SHEET 14 47+20

FOR -L- PROFILE SEE SHEET #46  
FOR -D7A- PROFILE SEE SHEET #...

Permit Drawing  
Sheet 15 of 15



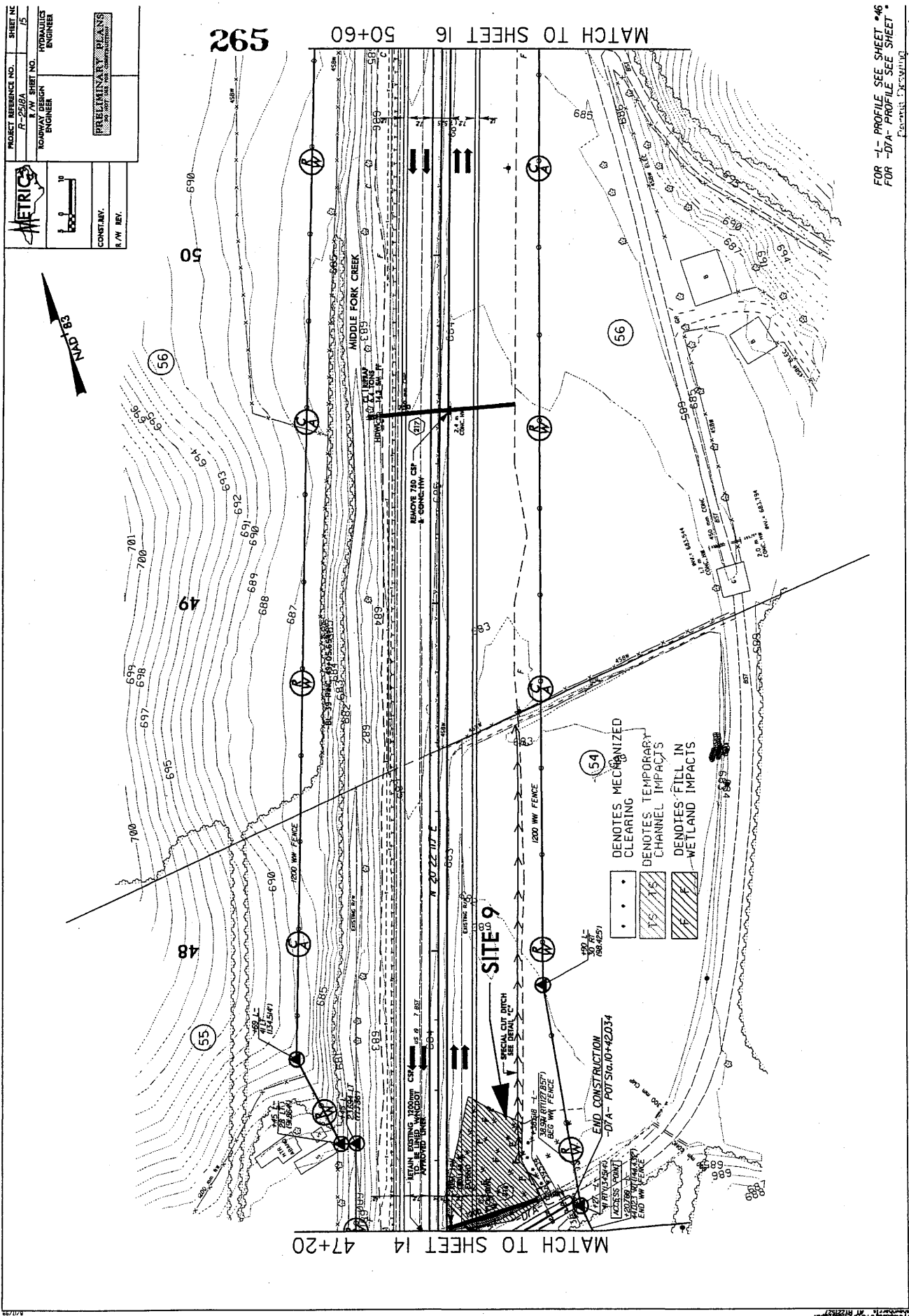
PROJECT REFERENCE NO.	SHEET NO.
R-250A	15
R/W SHEET NO.	
HYDRAULIC ENGINEER	
ROADWAY DESIGN ENGINEER	
PRELIMINARY PLANS	
NO DATE FOR THIS DOCUMENT	
CONSTANT	
R/W REV.	



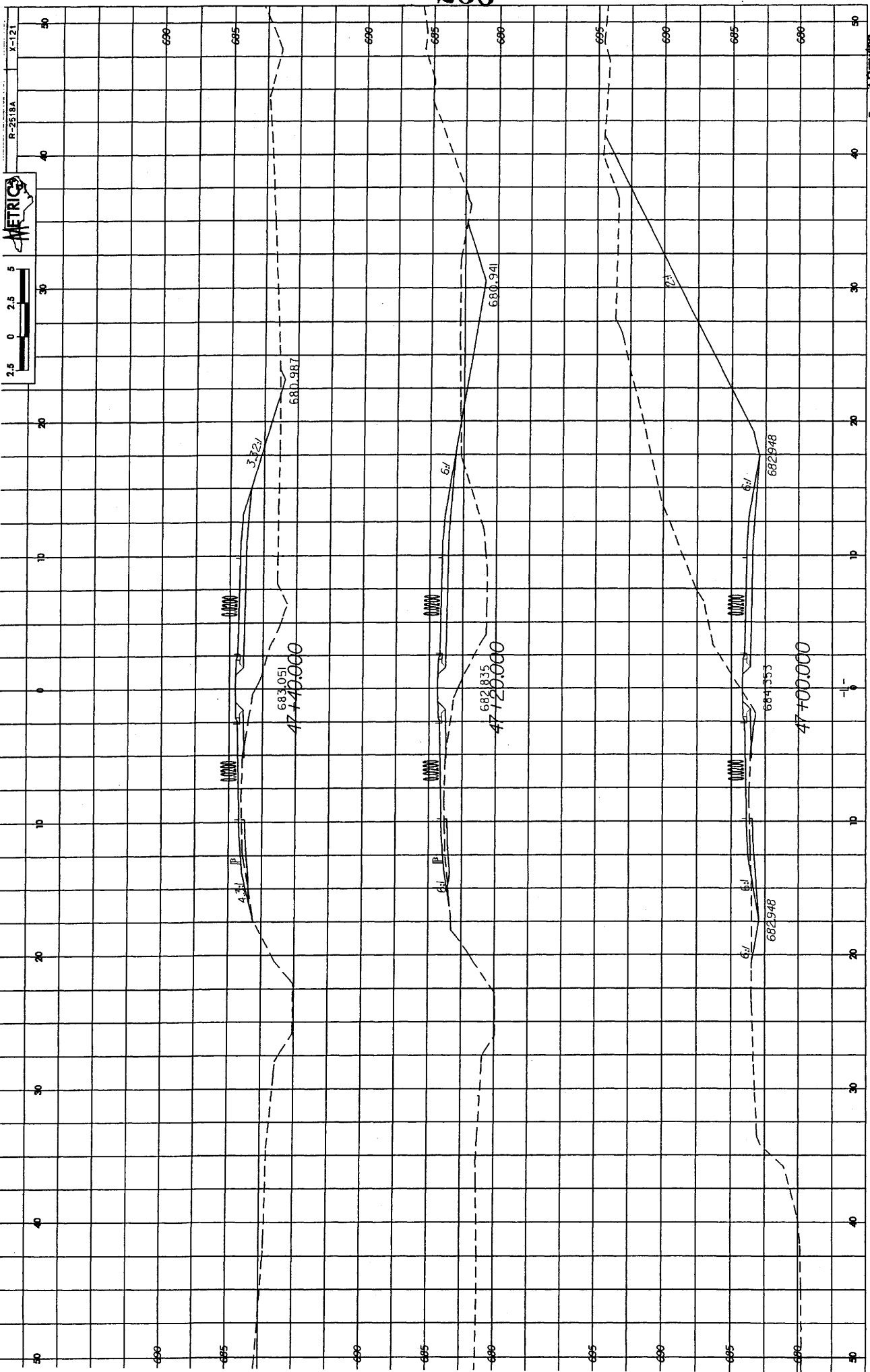
265

MATCH TO SHEET 16 50+60

MATCH TO SHEET 14 47+20



FOR -I- PROFILE SEE SHEET 046  
 FOR -D/A- PROFILE SEE SHEET 047



**METRICS**

PROJECT REFERENCE NO. R-2526A  
 SHEET NO. 56

ROADWAY DESIGN ENGINEER  
 R/W SHEET NO. 56

HYDRAULICS ENGINEER

PRELIMINARY PLANS  
 30% MAX. USE FOR CONSTRUCTION

CONTRACTOR:  
 R/W REV.



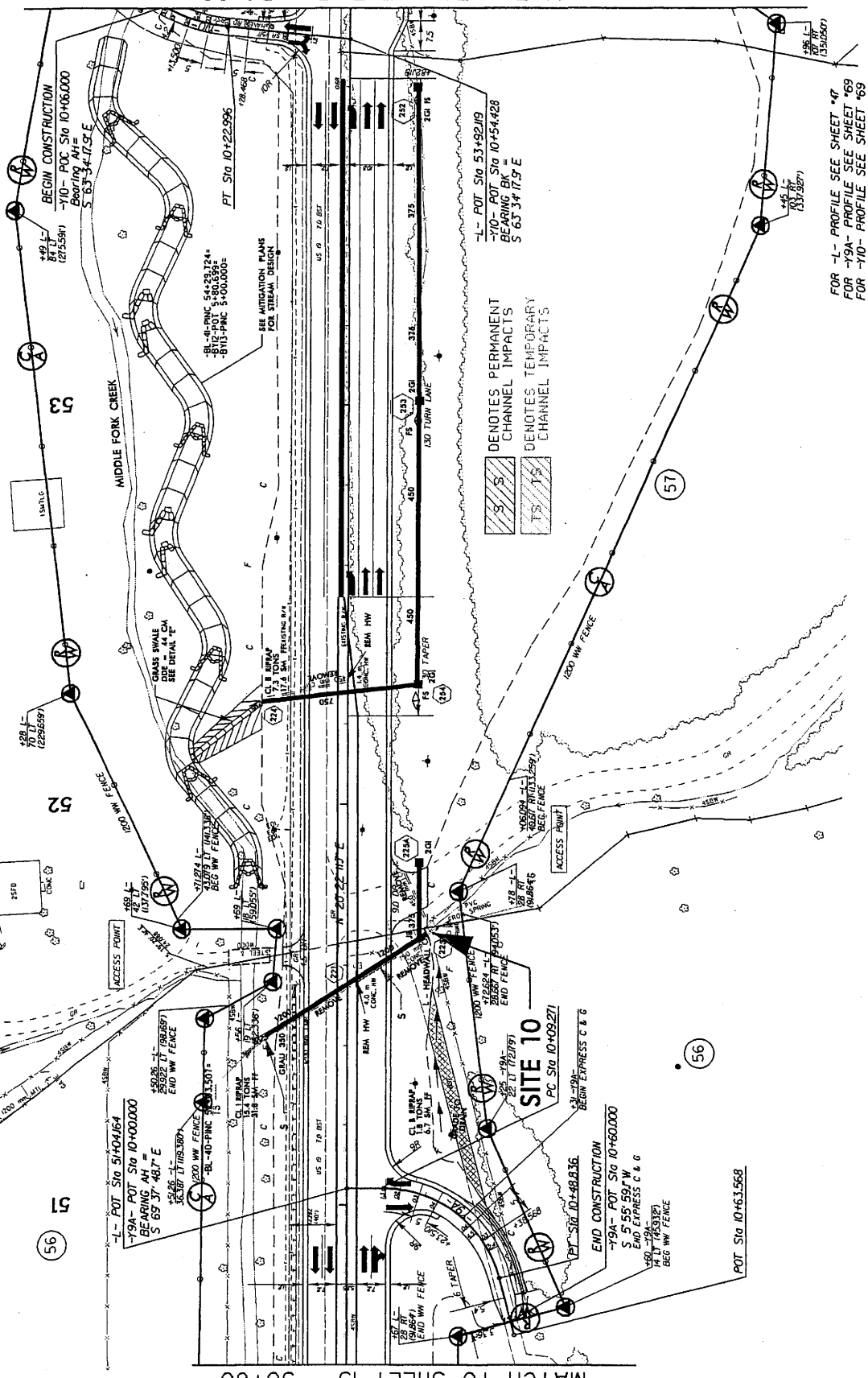
**-Y10-**  
 PI Sta 10+117.55  
 Δ = 29.16 47.6' (LT)  
 L = 22.956  
 T = 17.55  
 R = 45.000  
 SE = 0.070  
 RO = 35

**-Y9A-**  
 PI Sta 10+32.526  
 Δ = 75.33 47.8' (RT)  
 L = 39.565  
 T = 23.255  
 R = 30.000  
 SE = 0.080  
 RO = 40

262

MATCH TO SHEET 17 54+00

MATCH TO SHEET 15 50+60



DENOTES PERMANENT CHANNEL IMPACTS  
 DENOTES TEMPORARY CHANNEL IMPACTS

FOR -Y10- PROFILE SEE SHEET 47  
 FOR -Y9A- PROFILE SEE SHEET 69  
 FOR -Y10- PROFILE SEE SHEET 69

DATE: 06/11/2007  
 SHEET: 56 OF 57



CONTR. REV.  
 R/W REV.

PRELIMINARY PLANS  
 DO NOT USE FOR CONSTRUCTION



25' 20' 15' 10' 5' 0' 5' 10' 15' 20' 25'

10+12.55  
 Δ = 29.16 47.5 (LT)  
 L = 22.596  
 T = 17.755  
 E = 40.000  
 SE = 0.070  
 RO = 35

10+32.526  
 Δ = 75.33 47.5 (RT)  
 L = 39.565  
 T = 23.255  
 E = 30.000  
 SE = 0.080  
 RO = 40

10+41.64  
 Δ = 67.37 48.7 E  
 L = 31.101  
 T = 19.871  
 E = 20.000  
 SE = 0.070  
 RO = 35

10+48.836  
 Δ = 55.52 48.8  
 L = 29.912  
 T = 17.755  
 E = 20.000  
 SE = 0.070  
 RO = 35

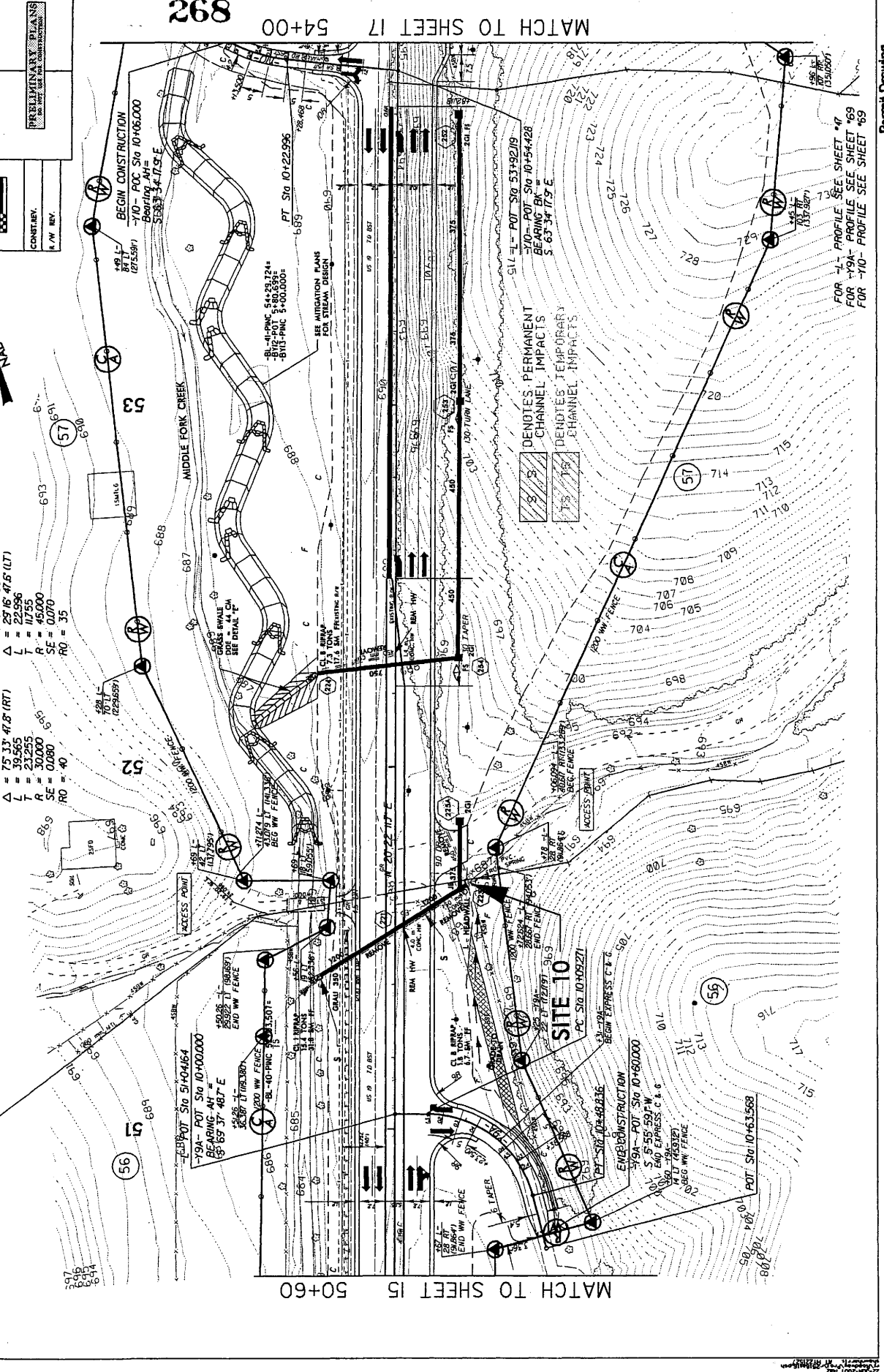
10+54.428  
 Δ = 63.34 47.9 E  
 L = 31.101  
 T = 19.871  
 E = 20.000  
 SE = 0.070  
 RO = 35

10+59.271  
 Δ = 50.00 0.0  
 L = 20.000  
 T = 0.000  
 E = 0.000  
 SE = 0.000  
 RO = 35

10+63.568  
 Δ = 50.00 0.0  
 L = 20.000  
 T = 0.000  
 E = 0.000  
 SE = 0.000  
 RO = 35

10+68.316  
 Δ = 50.00 0.0  
 L = 20.000  
 T = 0.000  
 E = 0.000  
 SE = 0.000  
 RO = 35

10+72.977  
 Δ = 50.00 0.0  
 L = 20.000  
 T = 0.000  
 E = 0.000  
 SE = 0.000  
 RO = 35



MATCH TO SHEET 15 50+60

MATCH TO SHEET 17 54+00

25' 20' 15' 10' 5' 0' 5' 10' 15' 20' 25'

PROJECT REFERENCE NO.	R-25/81A
SHEET NO.	17
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

METRICS	
CONTRARY	
R/W REV.	

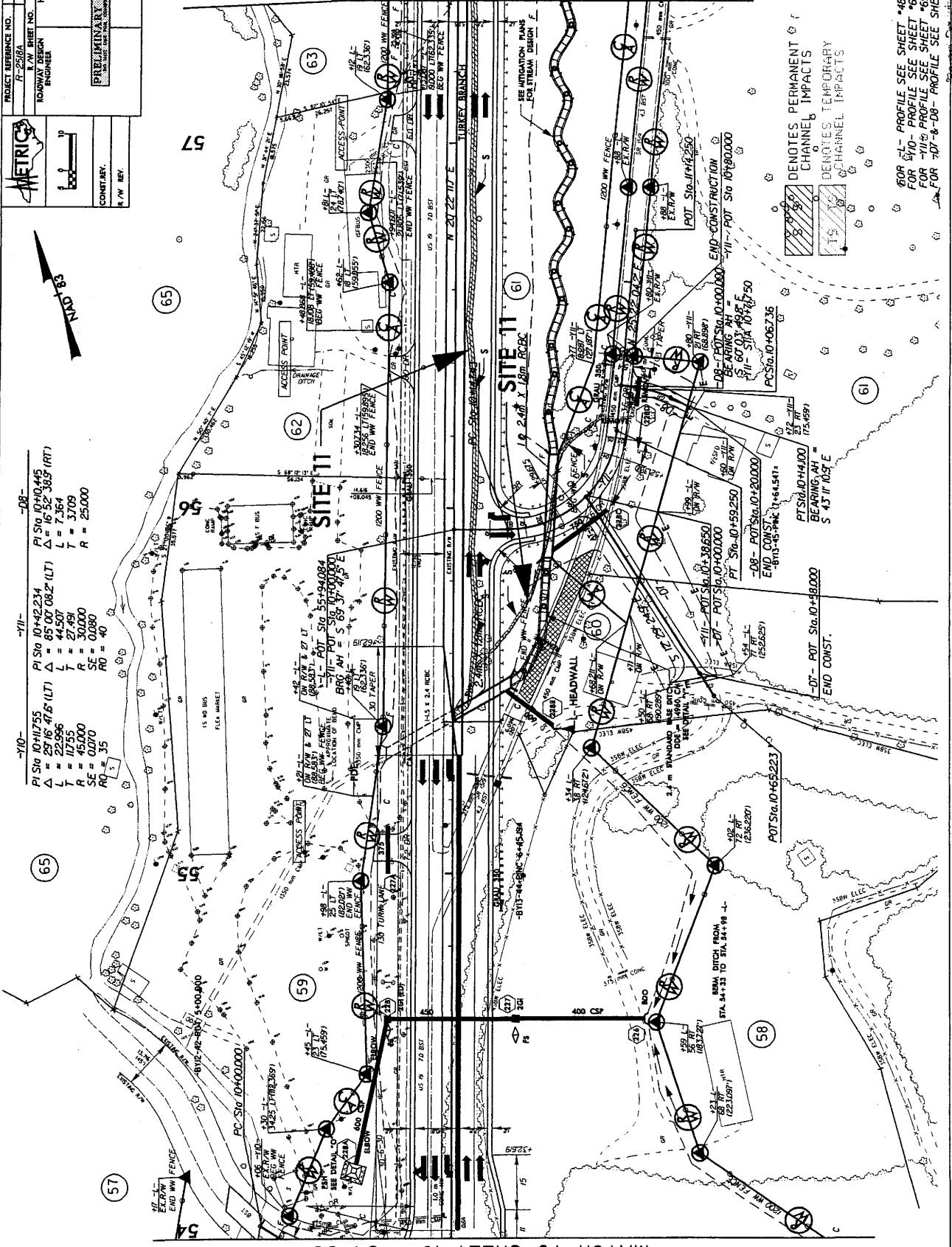
  

PRELIMINARY PLANS

-Y10-  
 PI Sta 10+42.234  
 $\Delta = 25.16$  (47.8' LT)  
 $L = 22.996$   
 $R = 44.507$   
 $SE = 0.070$   
 $R0 = 35$

-Y11-  
 PI Sta 10+44.445  
 $\Delta = 85.00$  (88.2' LT)  
 $L = 44.507$   
 $R = 27.491$   
 $SE = 0.000$   
 $R0 = 40$

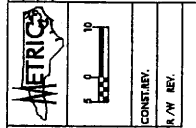
-Y12-  
 PI Sta 10+47.55  
 $\Delta = 16.32$  (36.5' RT)  
 $L = 7.364$   
 $R = 3.709$   
 $R = 25.000$



DENOTES PERMANENT CHANNEL IMPACTS  
 DENOTES TEMPORARY CHANNEL IMPACTS

FOR PROFILE SEE SHEET \*48  
 FOR 4/10 PROFILE SEE SHEET \*69  
 FOR 7/12 PROFILE SEE SHEET \*69  
 FOR 7/17 & D8 PROFILE SEE SHEET \*76

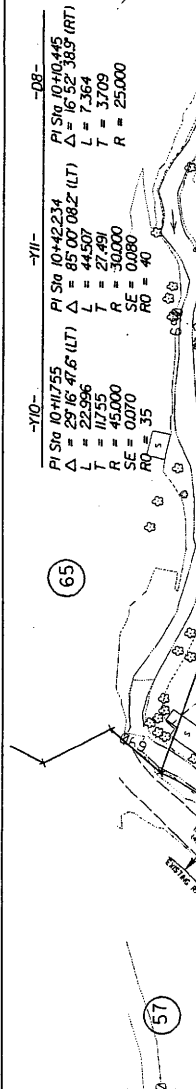
PROJECT REFERENCE NO.	R-256A	SHEET NO.	7
R/W SHEET NO.	HYDRAULICS		
ROADWAY DESIGN	ENGINEER		
PRELIMINARY PLANS			
CONSTRY.			
S/W REV.			



-10-  
 PI Sta 10+117.55  
 $\Delta = 29.86$   
 $T = 17.55$   
 $R = 45.000$   
 $SE = 0.070$   
 $RD = 35$

-11-  
 PI Sta 10+42.34  
 $\Delta = 65.00$   
 $T = 27.49$   
 $R = 30.000$   
 $SE = 0.080$   
 $RD = 40$

-08-  
 PI Sta 10+20.45  
 $\Delta = 16.22$   
 $T = 3.69$   
 $R = 25.000$



MATCH TO SHEET 16 54+00  
 MATCH TO SHEET 18 57+40

DENOTES PERMANENT CHANNEL IMPACTS  
 DENOTES TEMPORARY CHANNEL IMPACTS

FOR L- PROFILE SEE SHEET \*48  
 FOR S-10- PROFILE SEE SHEET \*69  
 FOR S-11- PROFILE SEE SHEET \*69  
 FOR S-12- PROFILE SEE SHEET \*76

Permit Drawing  
 Sheet 29 of 54



PROJECT REFERENCE NO. R-2568A  
 SHEET NO. 18  
 R/W SHEET NO. HYDRAULICS ENGINEER  
 ROADWAY DESIGN ENGINEER

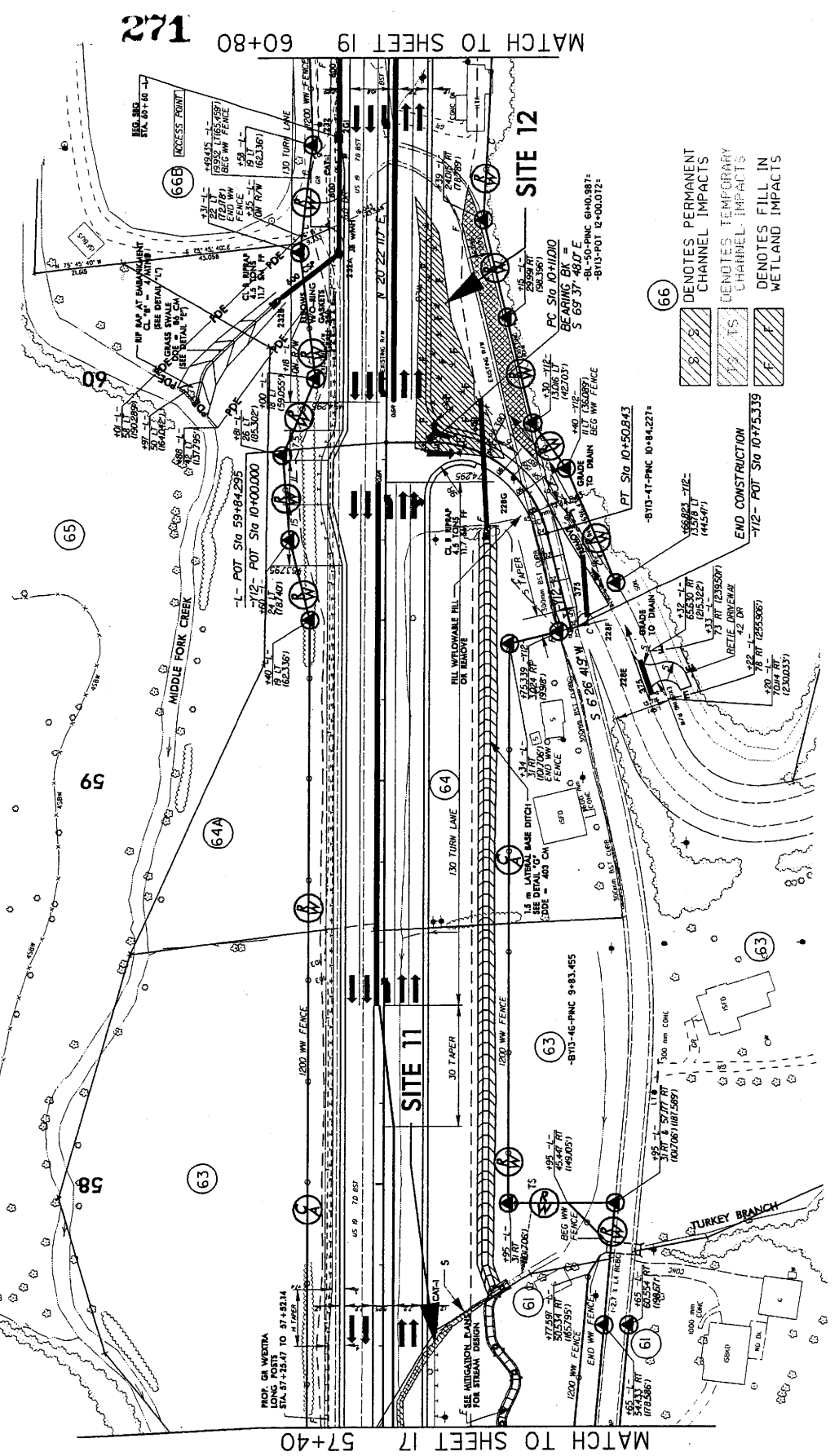
**AFRICA**

CONTRACT NO. R/W REV.

**PRELIMINARY PLANS**  
 FOR THE STATE OF MISSISSIPPI  
 FOR THE PROJECT OF THE MISSISSIPPI TURNPIKE



-Y12-  
 PI STA 10+34.480  
 L = 70.000  
 Δ = 39.833  
 T = 23.470  
 R = 30.000  
 SE = 0.080  
 RO = 48



- 66 DENOTES PERMANENT CHANNEL IMPACTS
- 66 DENOTES TEMPORARY CHANNEL IMPACTS
- 66 DENOTES FILL IN WETLAND IMPACTS

END CONSTRUCTION  
 -Y12- POT STA 10+75.339

MATCH TO SHEET 19 60+80

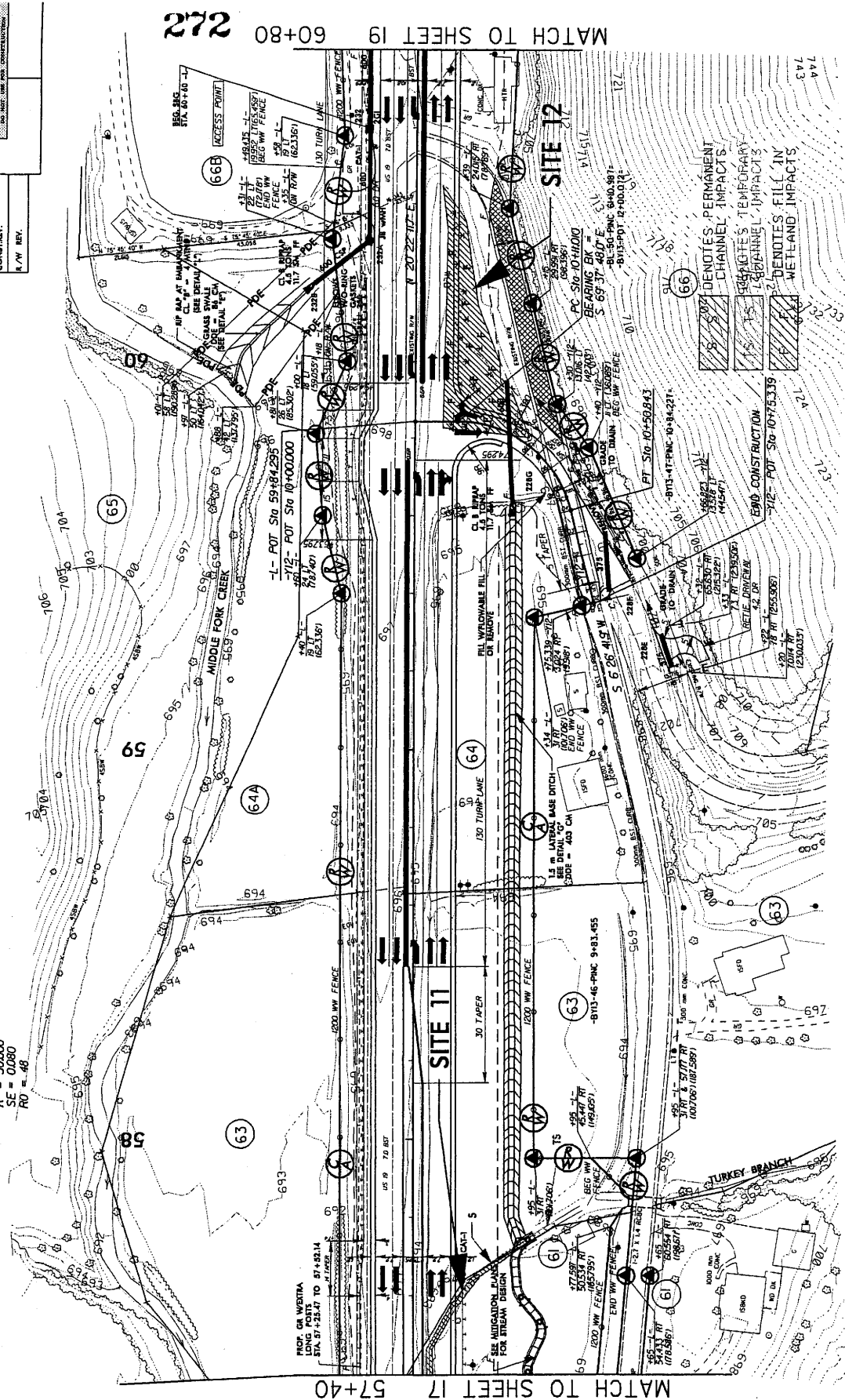
MATCH TO SHEET 17 57+40

FOR -L- PROFILE SEE SHEET 49  
 FOR -Y12- PROFILE SEE SHEET 66  
 Permit Drawing

	PROJECT REFERENCE NO.	SHEET N
	P-23/2A	18
	DRAWN BY ENGINEER	CHECKED BY ENGINEER
COUNTY, KY S.W. REV.	PRELIMINARY PLANS NOT TO BE USED FOR CONSTRUCTION	



-Y12-  
 PI Sta 10+34.480  
 Δ = 76.04 29.8 (RT)  
 L = 39.833  
 T = 23.470  
 R = 30.000  
 SE = 0.080  
 RO = .48

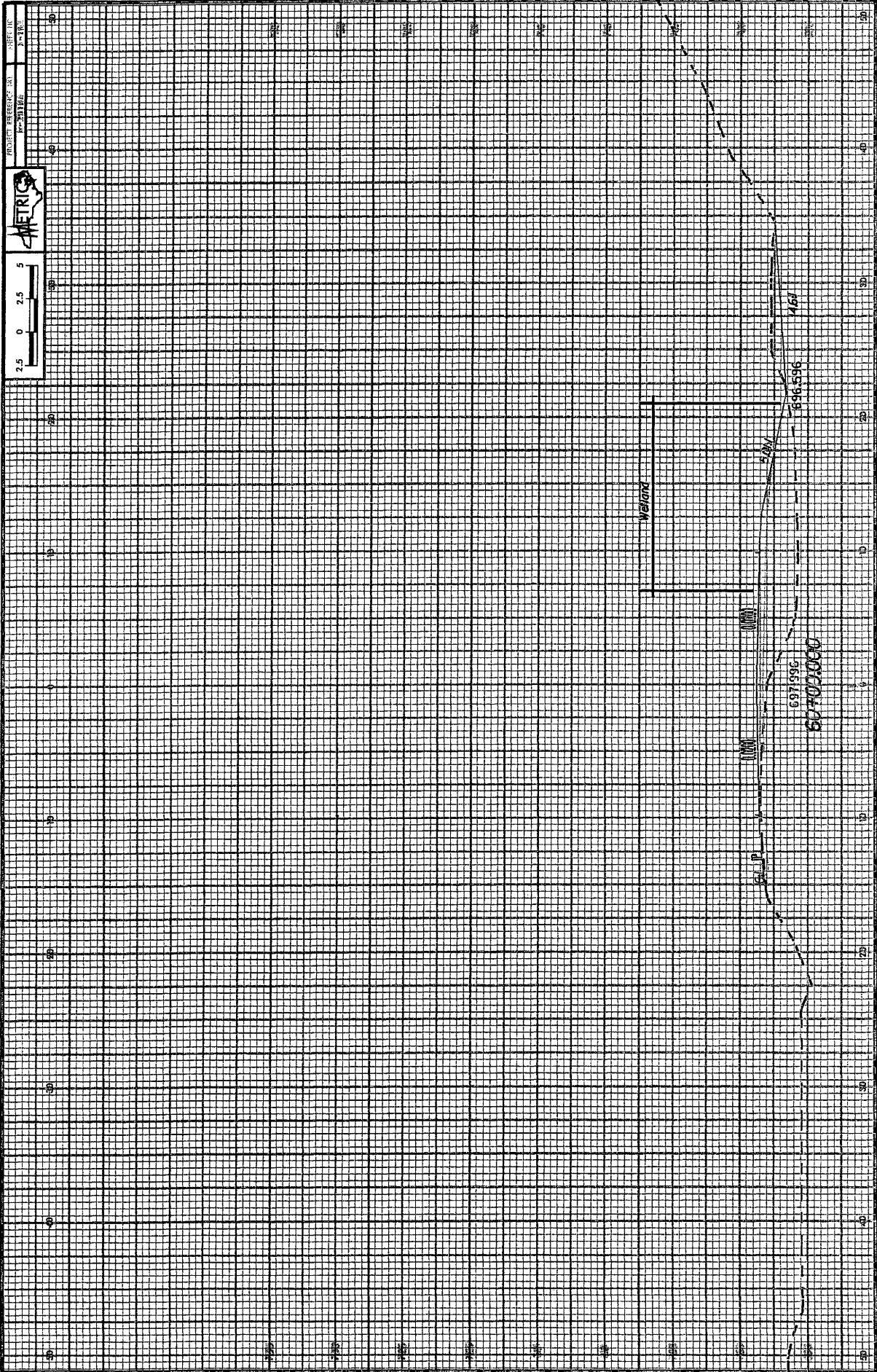


MATCH TO SHEET 17 57+40

MATCH TO SHEET 19 60+80

272

FOR -Y1- PROFILE SEE SHEET \*49  
 FOR -Y12- PROFILE SEE SHEET \*6  
 PERMITS DRAWING



Permit Drawing  
Sheet 1 of 4

PROJECT REFERENCE NO.	SHEET NO.
P-22/DA	20
MONITORING ENGINEER	PRELIMINARY PLANS
ENGINEER	NO. 1000 FOR THE UNIVERSITY
CONSTARY.	
E/W BR.	



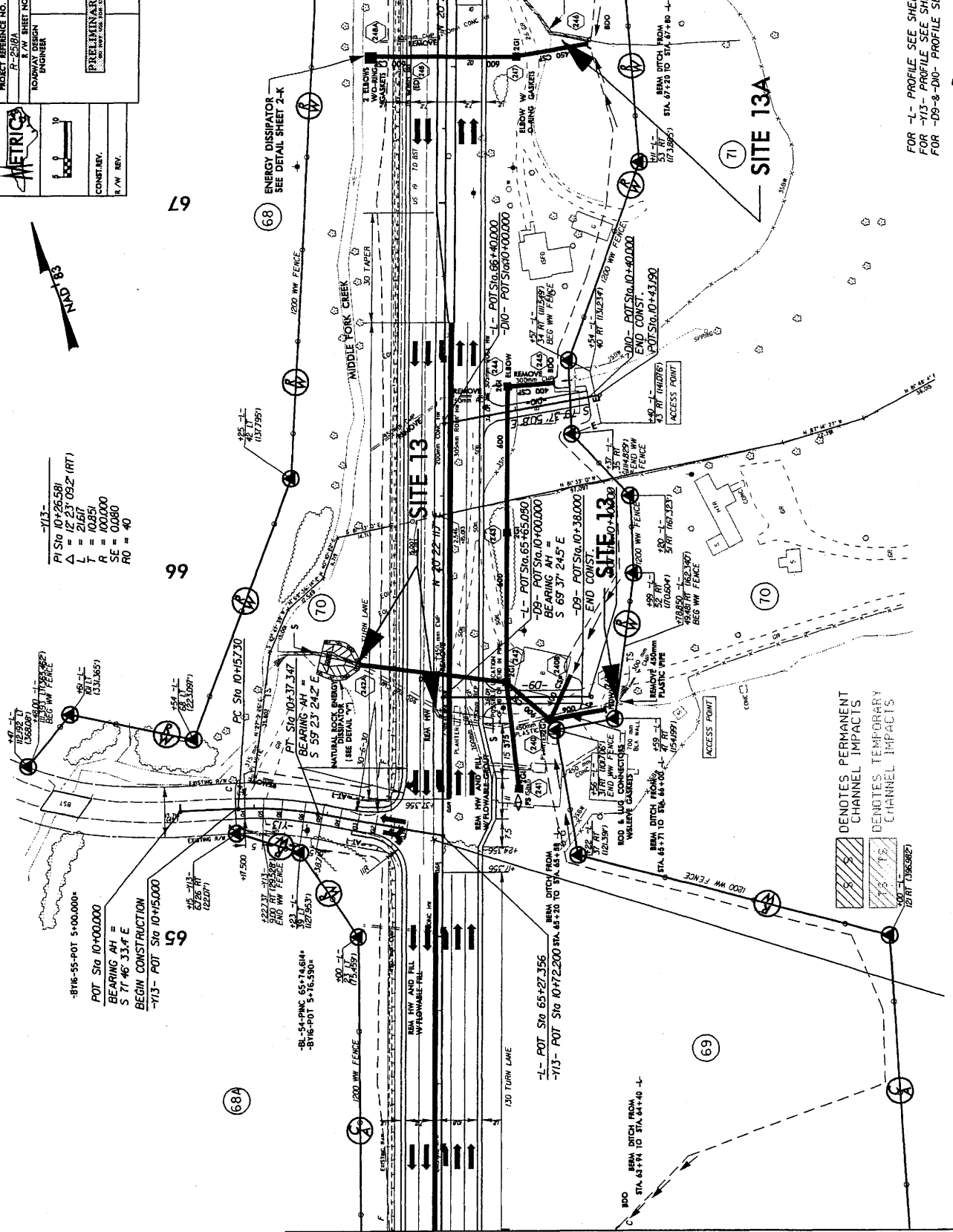
-Y13-  
 P1 Sta 10+26.581  
 L = 23.082 (RT)  
 T = 21.617  
 R = 10.851  
 SE = 100.000  
 RO = 40

67

69

MATCH TO SHEET 21 67+60 274

MATCH TO SHEET 19 64+20

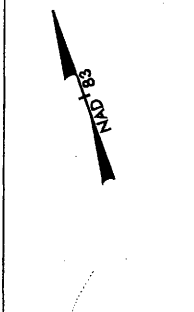


DENOTES PERMANENT CHANNEL IMPACTS  
 DENOTES TEMPORARY CHANNEL IMPACTS

FOR -L- PROFILE SEE SHEET \*51  
 FOR -Y13- PROFILE SEE SHEET \*70  
 FOR -D9-8-D10- PROFILE SEE SHEET \*

PAINTED LATER

PROJECT REFERENCE NO.	SHEET NO.
R-2508A	20
ROADWAY DESIGN ENGINEER	TRANSPORTATION ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
CONSTRICTION R/W REV.	



-Y13-  
PI STA 10+26.681  
L = 21.67  
T = 10.851  
R = 100.000  
SE = 0.080  
RO = 40

-Y13-  
PT STA 10+37.347  
BEARING AH = S 59° 23' 24.2" E  
MIDDLE YORK CREEK  
DRAINAGE

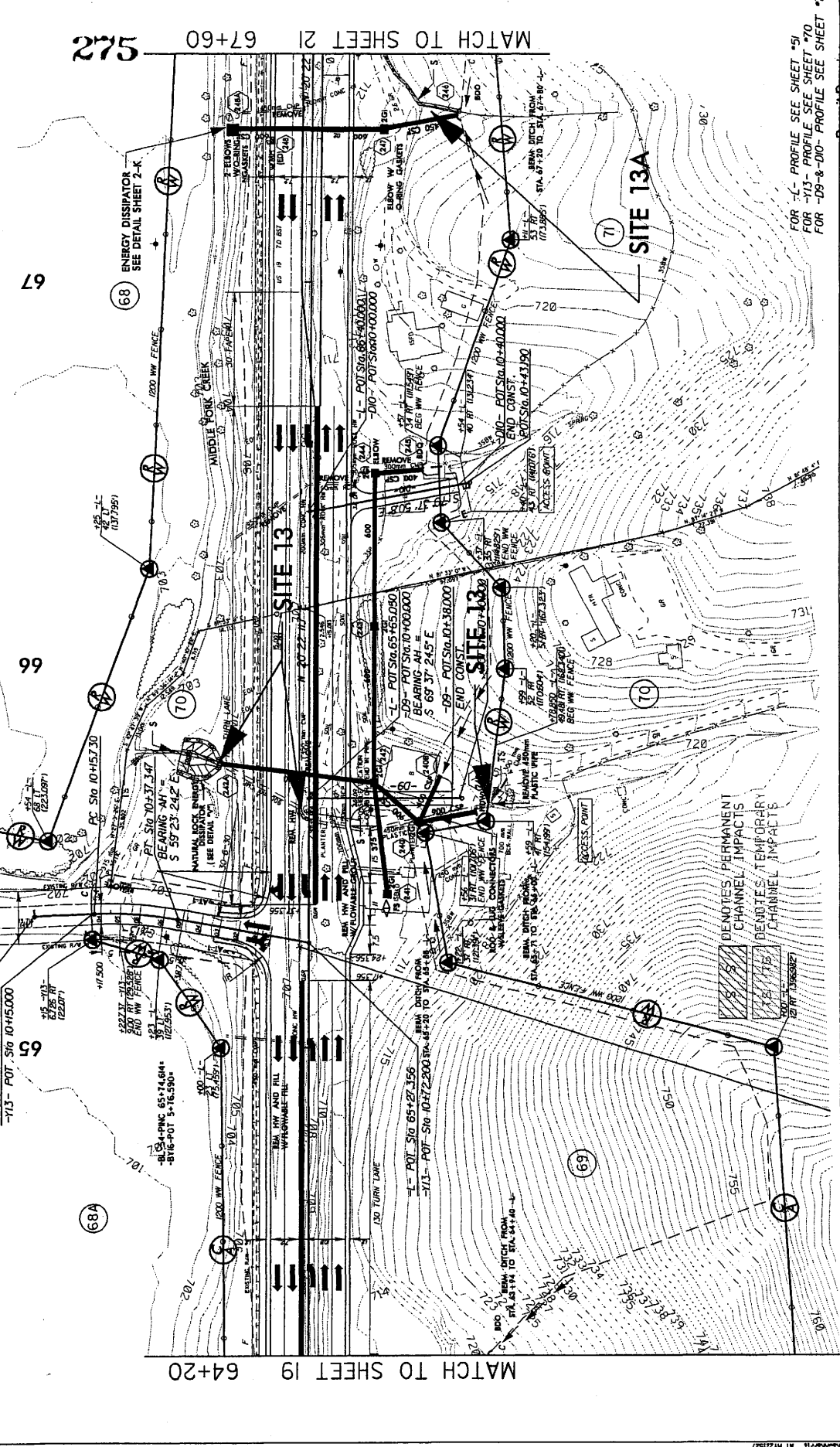
-Y13-  
PT STA 10+45.000  
BEARING AH = S 71° 46' 33.4" E  
BEGIN CONSTRUCTION  
-Y13- POT STA 10+45.000

-BY16-55-POT 5+00.000+  
POT STA 10+00.000  
BEARING AH = S 71° 46' 33.4" E  
-Y13- POT STA 10+45.000

-BY16-55-POT 5+00.000+  
POT STA 10+00.000  
BEARING AH = S 71° 46' 33.4" E  
-Y13- POT STA 10+45.000

-BY16-55-POT 5+00.000+  
POT STA 10+00.000  
BEARING AH = S 71° 46' 33.4" E  
-Y13- POT STA 10+45.000

-BY16-55-POT 5+00.000+  
POT STA 10+00.000  
BEARING AH = S 71° 46' 33.4" E  
-Y13- POT STA 10+45.000



PERMIT DRAWING

FOR -L- PROFILE SEE SHEET \*51  
FOR -Y13- PROFILE SEE SHEET \*70  
FOR -D9-&-D10- PROFILE SEE SHEET \*

**METRIC**

PROJECT REFERENCE NO. **21** SHEET NO. **21**  
 ROADWAY DESIGN ENGINEER  
 HYDRAULICS ENGINEER

CONTRACT NO. **100-1000-1000**  
 PRELIMINARY PLANS  
 1/4" = 100'

DATE: **1/11/11**

BY: **W. REV.**

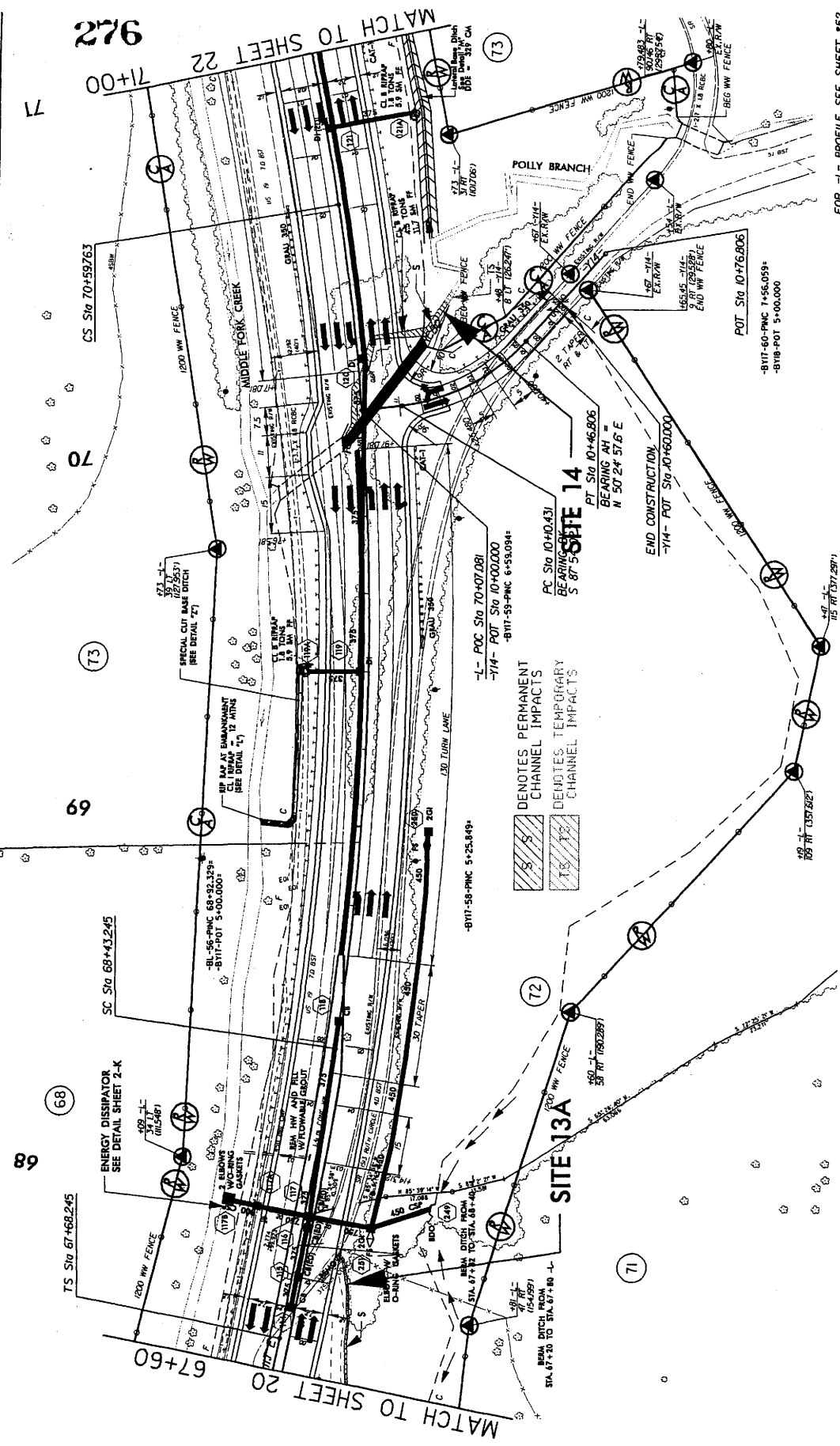


-114-  
 PI Sta 10+29.466  
 Δ = 47.40  
 L = 36.376  
 T = 19.035  
 R = 50.000  
 SE = 0.080  
 RO = 40

-L-  
 PI Sta 68+18.253  
 Δ = 37.04  
 L = 246.517  
 T = 109.130  
 R = 700.000  
 SE = 0.050

PI Sta 69+52.375  
 Δ = 17.43  
 L = 192.87  
 T = 216.517  
 R = 109.130  
 SE = 0.050

PI Sta 70+94.769  
 Δ = 37.04  
 L = 246.517  
 T = 109.130  
 R = 700.000  
 SE = 0.050



276

71+00

70

69

68

69

67+60

MATCH TO SHEET 22

MATCH TO SHEET 20

SITE 13A

SITE 14

[Hatched Box] DENOTES PERMANENT CHANNEL IMPACTS  
 [Hatched Box] DENOTES TEMPORARY CHANNEL IMPACTS

-L- POC Sta 70+07.081  
 -114- POT Sta 10+00.000  
 -B111-58-PNC 5+25.849+  
 -B111-59-PNC 6+58.094+  
 -B111-60-PNC 1+56.059+  
 -B118-POT 5+00.000

PT Sta 10+46.806  
 BEARING AT =  
 N 50 24 51.6 E

END CONSTRUCTION  
 -114- POT Sta 10+60.000

FOR -L- PROFILE SEE SHEET \*52  
 FOR -114- PROFILE SEE SHEET \*70

Permit Drawing  
 Sheet 13 of 64



PROJECT REFERENCE NO.	R-256A	SHEET N°	21
ROADWAY DESIGN	HYDRAULICS	SHEET NO.	21
DESIGNER	ENGINEER		
PRELIMINARY PLANS			
CONTRACT NO.			
DATE			
SCALE			
BY			
CHECKED			
APPROVED			

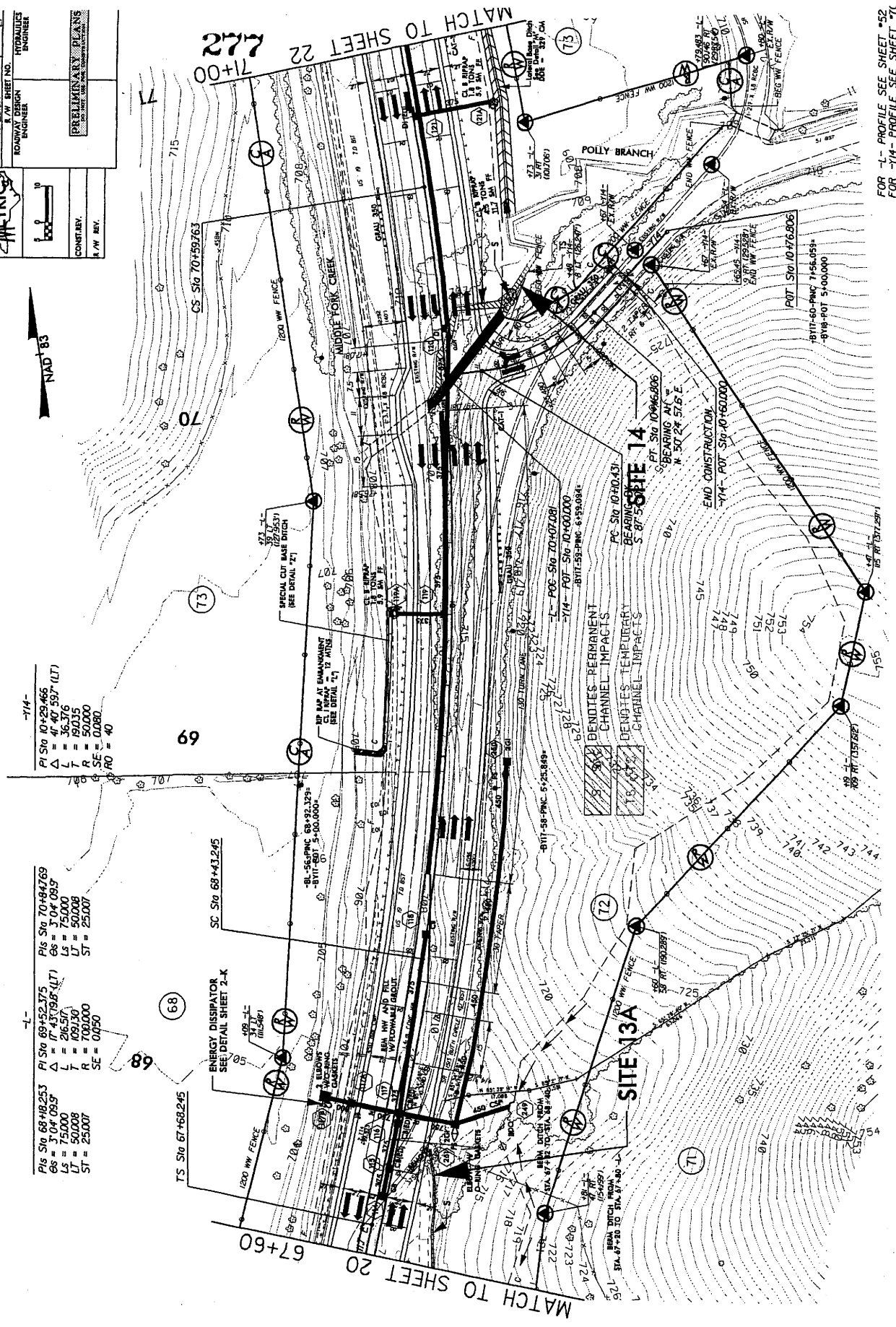


-14-  
 PI Sta 10+29.466  
 $\Delta = 41.40$  597 (LT)  
 $L = 36.376$   
 $R = 190.35$   
 $E = 502.00$   
 $SE = 0.0280$   
 $AO = 40$

-L-  
 PI Sta 68+18.253  
 $\Delta = 3.04$  095  
 $L = 216.517$   
 $R = 691.30$   
 $E = 502.08$   
 $SE = 25.007$   
 PI Sta 69+52.375  
 $\Delta = 17.43$  798 (LT)  
 $L = 216.517$   
 $R = 691.30$   
 $E = 502.08$   
 $SE = 25.007$   
 PI Sta 70+84.769  
 $\Delta = 3.04$  095  
 $L = 216.517$   
 $R = 691.30$   
 $E = 502.08$   
 $SE = 25.007$

MATCH TO SHEET 22 71+00

MATCH TO SHEET 20 67+60



FOR 1- PROFILE SEE SHEET 52  
 FOR 14- PROFILE SEE SHEET 71  
 Permit Drawing 11.2.2

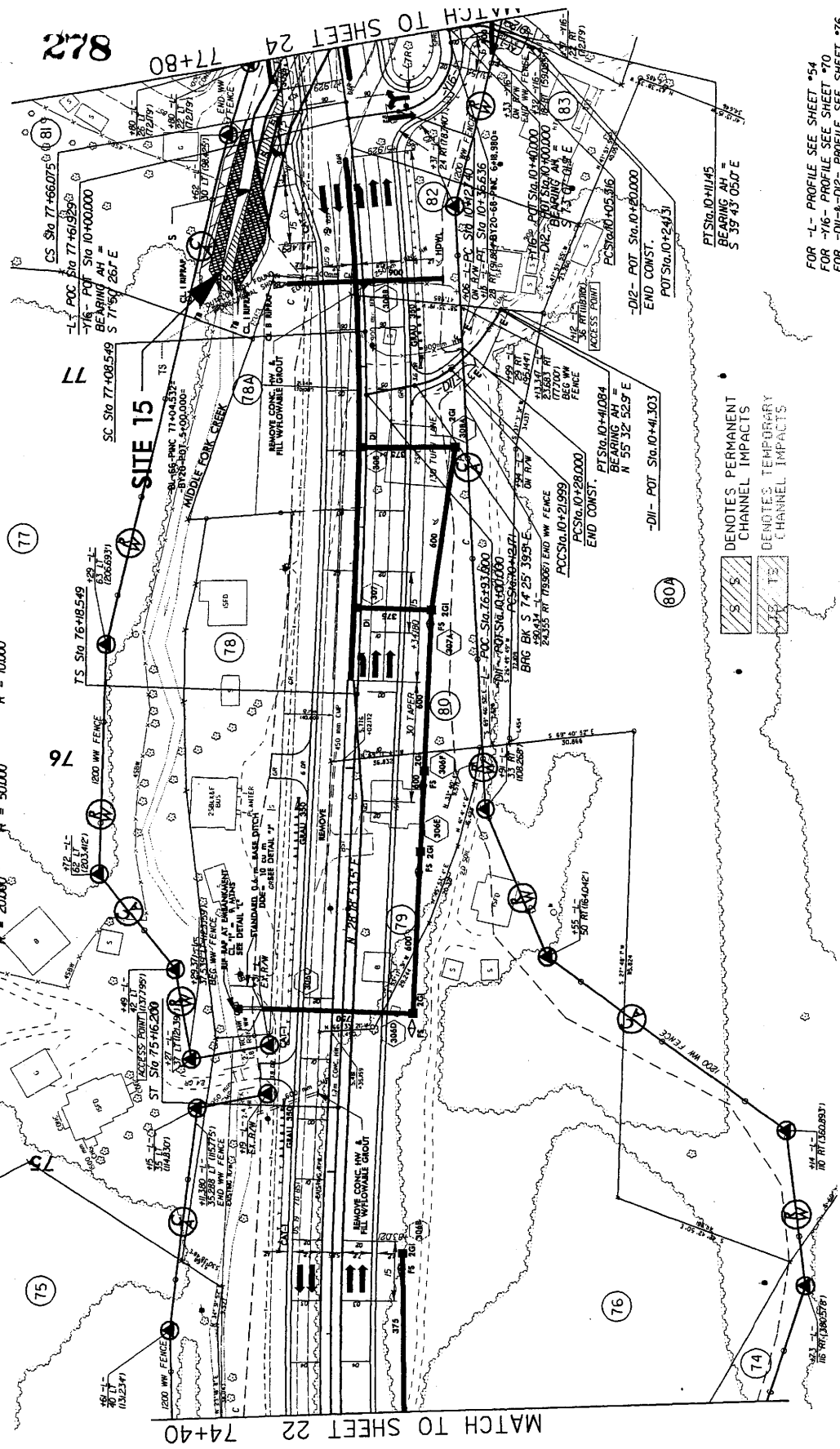
PROJECT REFERENCE NO. SHEET N  
R-258A 23

ROADWAY DESIGNER: METRICS  
ENGINEER: FRANCIS B. BROWN

CONTRACT NO. PRELIMINARY PLANS  
N.W. REV.



Station	PI	Δ	LS	L	R	SE	RO
74+56.22	74+37.37	18.85 (LT)	500.00	57.528	28.789	355.000	0.060
74+56.22	74+37.37	18.85 (LT)	500.00	57.528	28.789	355.000	0.060
76+78.569	77+37.37	58.80 (RT)	800.00	195.5 (LT)	57.528	600.00	300.09
76+78.569	77+37.37	58.80 (RT)	800.00	195.5 (LT)	57.528	600.00	300.09
77+96.093	77+37.37	58.72 (RT)	800.00	195.5 (LT)	57.528	600.00	300.09
77+96.093	77+37.37	58.72 (RT)	800.00	195.5 (LT)	57.528	600.00	300.09
77+96.093	77+37.37	58.72 (RT)	800.00	195.5 (LT)	57.528	600.00	300.09
77+96.093	77+37.37	58.72 (RT)	800.00	195.5 (LT)	57.528	600.00	300.09



FOR -L- PROFILE SEE SHEET \*54  
FOR -Y16- PROFILE SEE SHEET \*70  
FOR -DI1- & -DI2- PROFILE SEE SHEET \*76

Permit Drawing





PROJECT REFERENCE NO. SHEET  
 R-2512 23  
 ROADWAY DESIGN ENGINEER HYDRAULIC ENGINEER  
 PRELIMINARY PLAN  
 IN PART FOR PARCEL 80A, 80B, 80C, 80D, 80E, 80F, 80G, 80H, 80I, 80J, 80K, 80L, 80M, 80N, 80O, 80P, 80Q, 80R, 80S, 80T, 80U, 80V, 80W, 80X, 80Y, 80Z



**-116-**  
 PI Sta 10+28.073  
 Δ = 91.66 32.7 (LT)  
 L = 23.896  
 T = 15.338  
 R = 15.000  
 SE = 0.070  
 RO = 42

**-D12-**  
 PI Sta 10+108.549  
 Δ = 33.27 56.8 (RT)  
 L = 32.29  
 T = 10.000  
 R = 10.000

**-D11-**  
 PI Sta 10+316.316  
 Δ = 31.27 56.8 (RT)  
 L = 32.29  
 T = 10.000  
 R = 10.000

**-L-**  
 PI Sta 74+56.221  
 Δ = 4.54 39.8  
 L = 90.000  
 LT = 60.023  
 ST = 30.021

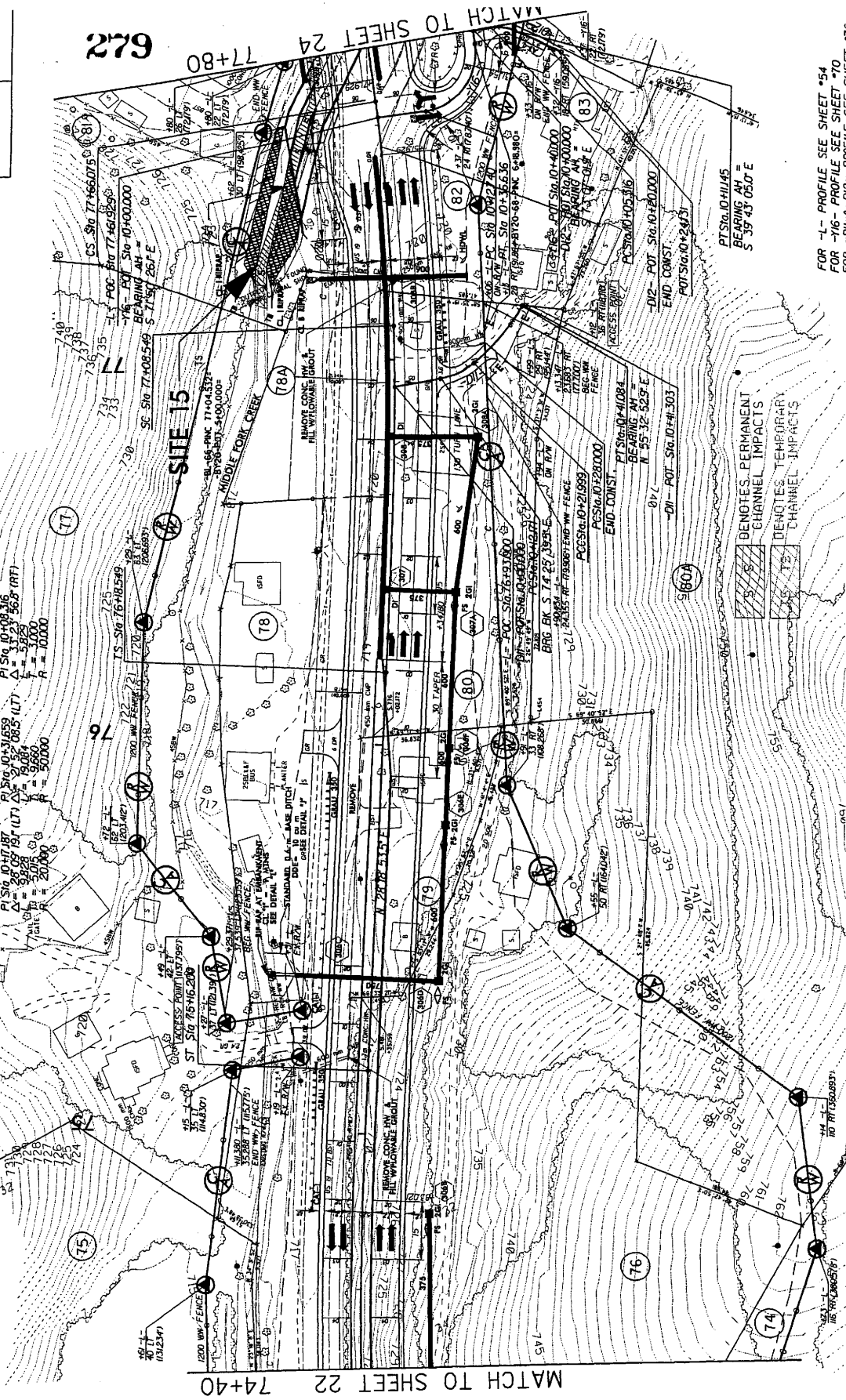
PI Sta 76+78.569  
 Δ = 4.38 44.2  
 L = 90.000  
 LT = 60.021  
 ST = 30.019

PI Sta 77+37.337  
 Δ = 5.56 19.5 (LT)  
 L = 57.526  
 T = 28.789  
 R = 55.500  
 SE = 0.060

PI Sta 10+163.659  
 Δ = 31.27 56.8 (RT)  
 L = 32.29  
 T = 10.000  
 R = 10.000

PI Sta 10+197.197 (LT)  
 Δ = 28.09 19.7 (LT)  
 L = 57.526  
 T = 28.789  
 R = 55.500  
 SE = 0.060

PI Sta 10+316.316  
 Δ = 31.27 56.8 (RT)  
 L = 32.29  
 T = 10.000  
 R = 10.000



DENOTES PERMANENT CHANNEL IMPACTS  
 DENOTES TEMPORARY CHANNEL IMPACTS

FOR -11- PROFILE SEE SHEET \*64  
 FOR -116- PROFILE SEE SHEET \*70  
 FOR -D11 & D12- PROFILE SEE SHEET \*76  
 Permit Draw...

**METRICS**  
 PROJECT REFERENCE NO. R-2516A  
 SHEET NO. 24  
 R/W DESIGN ENGINEER  
 HYDRAULICS ENGINEER  
 CONTRACTOR: M.W. REV.  
 PROJECT: ...  
 DATE: ...



**-D12A-**  
 PI Sta. 10+104.717  
 $\Delta = 17.02$  (RT)  
 $\Delta = 15.76$  (LT)  
 $L = 15.76$   
 $R = 15.000$

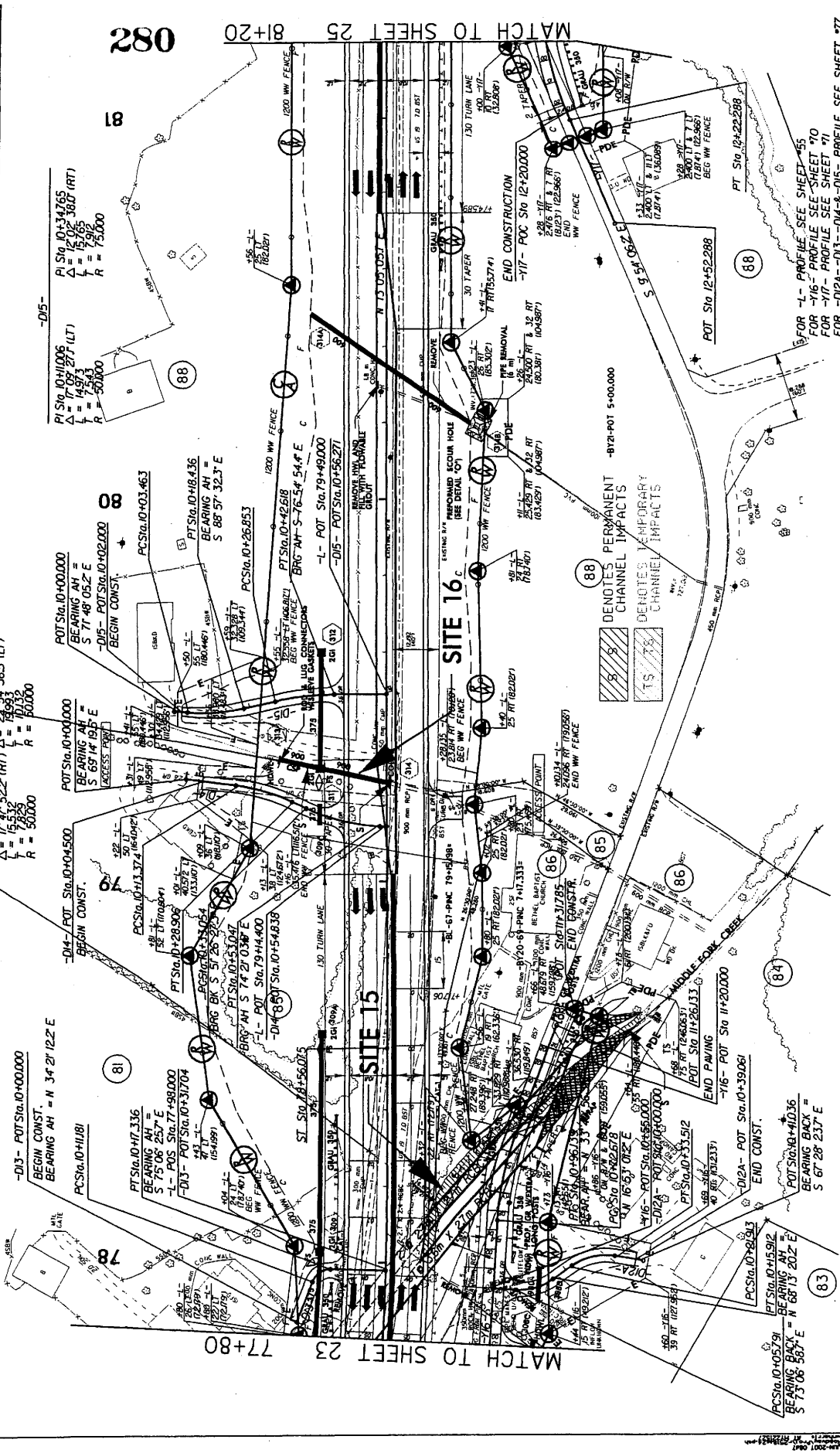
**-D12B-**  
 PI Sta. 10+109.533  
 $\Delta = 10.23$  (LT)  
 $\Delta = 11.59$  (RT)  
 $L = 6.07$   
 $R = 15.000$

**-D14-**  
 PI Sta. 10+121.203  
 $\Delta = 15.51$  (LT)  
 $\Delta = 13.99$  (RT)  
 $L = 10.32$   
 $R = 50.000$

**-D14-**  
 PI Sta. 10+131.374  
 $\Delta = 16.44$  (LT)  
 $\Delta = 11.22$  (RT)  
 $L = 6.07$   
 $R = 15.000$

**-D16-**  
 PI Sta. 10+194.800  
 $\Delta = 23.45$  (RT)  
 $\Delta = 23.45$  (LT)  
 $L = 18.12$   
 $R = 80.000$

**-D13-**  
 PI Sta. 10+171.316  
 $\Delta = 17.02$  (RT)  
 $\Delta = 15.76$  (LT)  
 $L = 15.76$   
 $R = 15.000$



**-D15-**  
 PI Sta. 10+110.006  
 $\Delta = 17.02$  (LT)  
 $\Delta = 15.76$  (RT)  
 $L = 15.76$   
 $R = 15.000$

**-D15-**  
 PI Sta. 10+100.000  
 $\Delta = 17.02$  (LT)  
 $\Delta = 15.76$  (RT)  
 $L = 15.76$   
 $R = 15.000$

**-D15-**  
 PI Sta. 10+102.000  
 $\Delta = 17.02$  (LT)  
 $\Delta = 15.76$  (RT)  
 $L = 15.76$   
 $R = 15.000$

**-D15-**  
 PI Sta. 10+100.000  
 $\Delta = 17.02$  (LT)  
 $\Delta = 15.76$  (RT)  
 $L = 15.76$   
 $R = 15.000$

**-D15-**  
 PI Sta. 10+100.000  
 $\Delta = 17.02$  (LT)  
 $\Delta = 15.76$  (RT)  
 $L = 15.76$   
 $R = 15.000$

**-D15-**  
 PI Sta. 10+100.000  
 $\Delta = 17.02$  (LT)  
 $\Delta = 15.76$  (RT)  
 $L = 15.76$   
 $R = 15.000$

**-D15-**  
 PI Sta. 10+100.000  
 $\Delta = 17.02$  (LT)  
 $\Delta = 15.76$  (RT)  
 $L = 15.76$   
 $R = 15.000$

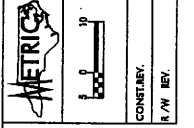
**-D15-**  
 PI Sta. 10+100.000  
 $\Delta = 17.02$  (LT)  
 $\Delta = 15.76$  (RT)  
 $L = 15.76$   
 $R = 15.000$

**-D15-**  
 PI Sta. 10+100.000  
 $\Delta = 17.02$  (LT)  
 $\Delta = 15.76$  (RT)  
 $L = 15.76$   
 $R = 15.000$

MATCH TO SHEET 25 81+20

MATCH TO SHEET 23 77+80

FOR "L" PROFILE SEE SHEET "55"  
 FOR "Y16" PROFILE SEE SHEET "70"  
 FOR "Y17" PROFILE SEE SHEET "71"  
 FOR "D12A", "D13", "D14" & "D15" PROFILE SEE SHEET "77"



PROJECT REFERENCE NO. R-258A  
 SHEET NO. 24  
 ROADWAY DESIGN ENGINEER  
 PRELIMINARY PLANS  
 COUNTY: ILLINOIS  
 S.W. 85



-D13-  
 PI Sta. 10+494.490  
 $\Delta = 4^{\circ}38'44.2''$   
 $L = 90.000$   
 $T = 60.021$   
 $R = 80.000$   
 $SE = 0.080$   
 $RO = 42$

-Y16-  
 PI Sta. 10+84.490  
 $\Delta = 15^{\circ}47'55.2''$  (RT)  
 $L = 21.455$   
 $T = 11.812$   
 $R = 80.000$   
 $SE = 0.080$   
 $RO = 42$

-Y17-  
 PI Sta. 10+00.604  
 $\Delta = 25^{\circ}15'52.4''$  (LT)  
 $L = 44.095$   
 $T = 22.412$   
 $R = 100.000$   
 $SE = 0.080$   
 $RO = 48$

-D12A-  
 PI Sta. 10+105.3  
 $\Delta = 35^{\circ}39'41.7''$  (LT)  
 $L = 107.22$   
 $T = 5.262$   
 $R = 15.000$

-D14-  
 PI Sta. 10+21.203  
 $\Delta = 17^{\circ}47'52.2''$  (RT)  
 $L = 15.532$   
 $T = 7.825$   
 $R = 50.000$

-D12B-  
 PI Sta. 10+28.020  
 $\Delta = 4^{\circ}18'16.6''$  (RT)  
 $L = 11.599$   
 $T = 6.107$   
 $R = 15.000$

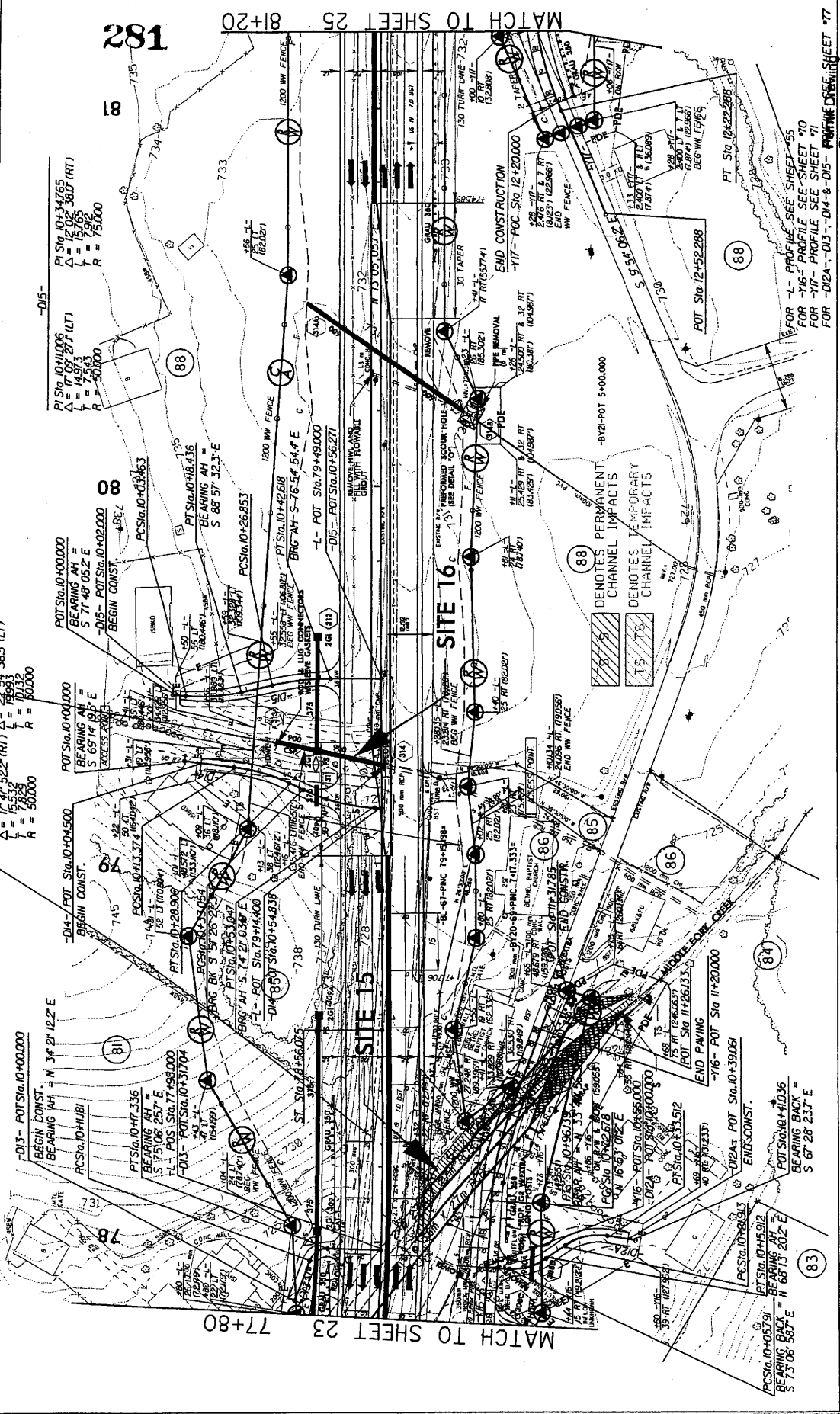
-D15-  
 PI Sta. 10+43.865  
 $\Delta = 17^{\circ}47'52.2''$  (RT)  
 $L = 15.532$   
 $T = 7.825$   
 $R = 50.000$

-D15-  
 PI Sta. 10+47.377 (LT)  
 $\Delta = 14^{\circ}09'27.7''$  (LT)  
 $L = 9.954$   
 $T = 5.000$   
 $R = 75.000$

-D15-  
 PI Sta. 10+03.000  
 BEARING AH =  $71^{\circ}48'05.2''$  E  
 $S 71^{\circ}48'05.2''$  E  
 $R = 5.000$

-D15-  
 PI Sta. 10+03.963  
 BEARING AH =  $88^{\circ}57'32.3''$  E  
 $S 88^{\circ}57'32.3''$  E  
 $R = 5.000$

-D15-  
 PI Sta. 10+42.618  
 BEARING AH =  $76^{\circ}54'54.4''$  E  
 $S 76^{\circ}54'54.4''$  E  
 $R = 5.000$



FOR -L- PROFILE SEE SHEET 55  
 FOR -Y16- PROFILE SEE SHEET 90  
 FOR -Y17- PROFILE SEE SHEET 91  
 FOR -D12A-, -D13-, -D14- & -D15- PROFILE SEE SHEET 97

R/W REV. REVISION NAME AND DEED BOOK NUMBER ON PARCEL 85. (SHAARON PONDER BUCKNER) 06/11/2007 N/M

**METRIC**

PROJECT REFERENCE NO. **AT-2207A** SHEET NO. **25**

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

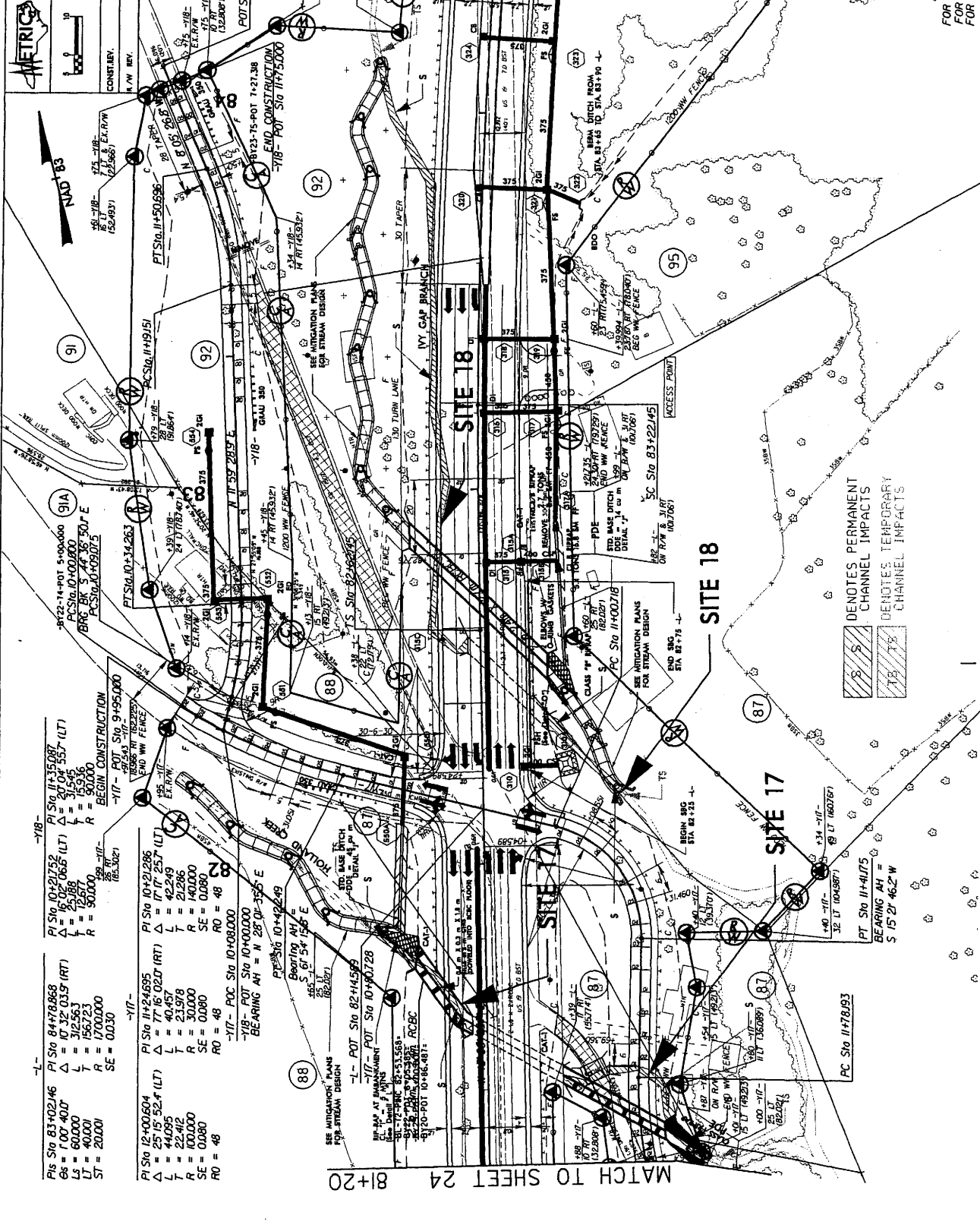
**PRELIMINARY PLANS**  
NOT FOR CONSTRUCTION

CONTINUED

NAD 83

SCALE: 1" = 40'

315' PER INCH



R/W REV: REVISING NAME ON PARCEL 87 SHEET 25 ONLY. (DALLAS BUCKNER, JR.), 06/11/2007 NHH.

R/W REV: REVISING NAME ON PARCEL 87 SHEET 25 ONLY. (LAWRENCE AND VESSIE REAVIS HEIRS), 06/11/2007 NHH.

R/W REV: CHANGING PARCEL 89 TO PARCEL 87 AND REVISING PROPERTY OWNER NAME (LAWRENCE AND VESSIE REAVIS HEIRS) 06/11/2007 NHH.

06/11/2007 NHH.

FOR -L- PROFILE SEE SHEET 26  
 FOR -17- PROFILE SEE SHEET 27  
 FOR -18- PROFILE SEE SHEET 27

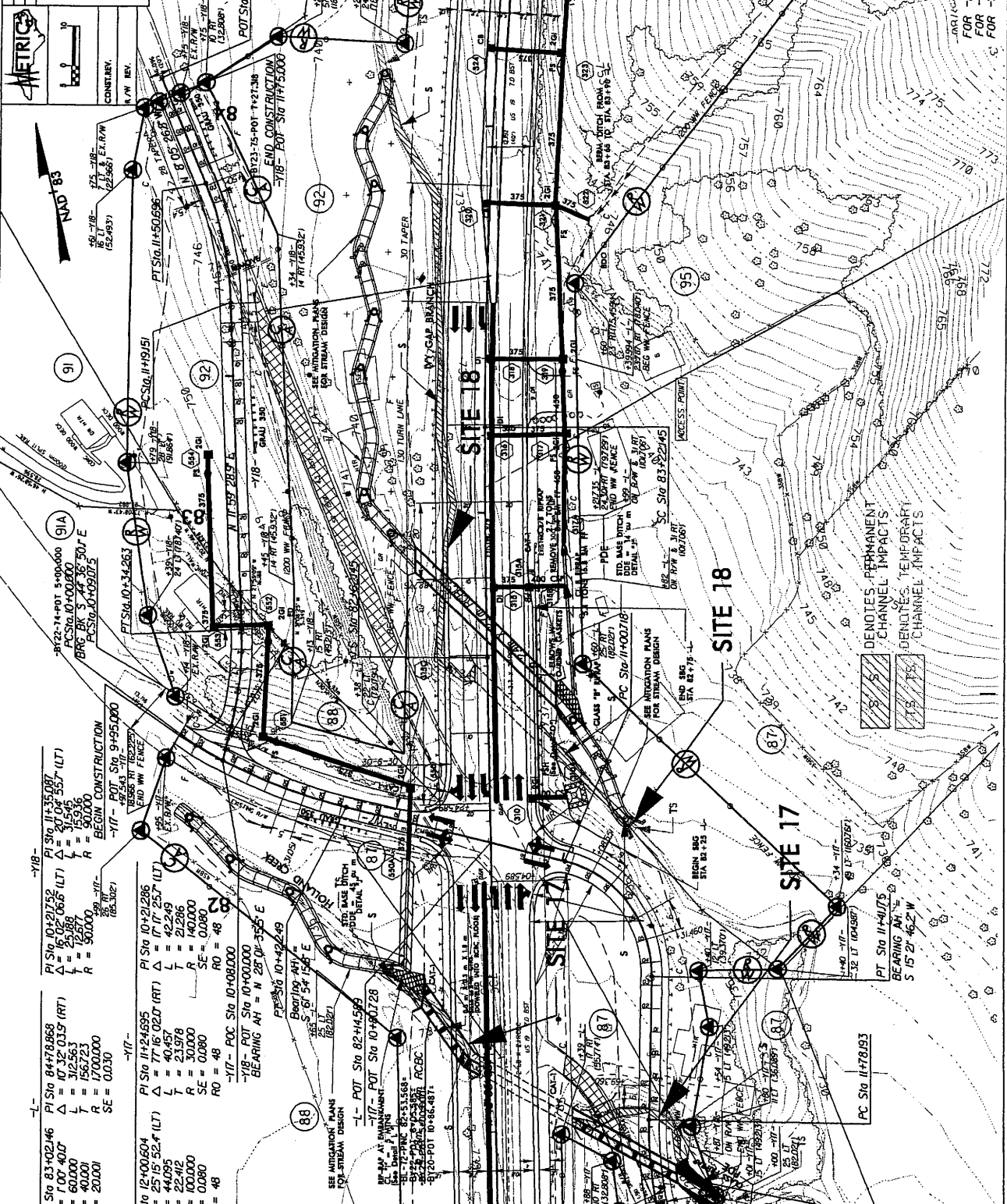
**Perma Drawing**

PROJECT REFERENCE NO. SHEET 25  
 R-250A R/W SHEET NO. HYDRAULIC ENGINEER  
 ROADWAY DESIGN ENGINEER  
 PRELIMINARY PLANS  
 METRICS  
 CONVENTIONAL  
 NAD 83  
 1" = 40'

MATCH TO SHEET 26 84+60

382

L- PROFILE SEE SHEET \*56  
 FOR -Y17- PROFILE SEE SHEET \*7  
 FOR -Y18- PROFILE SEE SHEET \*7  
 Permit Drawing  
 Sheet 22 of 24



<p>PI Sta 83+02.146  <math>\Delta = 40.0'</math>  <math>L = 60.000'</math>  <math>T = 40.000'</math>  <math>ST = 20.000'</math></p>	<p>PI Sta 84+78.863  <math>\Delta = 30.25'</math>  <math>L = 156.273'</math>  <math>R = 170.000'</math>  <math>SE = 0.030'</math></p>	<p>PI Sta 10+21.752  <math>\Delta = 25.166'</math>  <math>L = 15.677'</math>  <math>R = 90.000'</math></p>	<p>PI Sta 11+35.087  <math>\Delta = 20.04'</math>  <math>L = 31.535'</math>  <math>R = 50.000'</math></p>	<p>PI Sta 10+95.000  <math>\Delta = 17.17'</math>  <math>L = 25.7'</math>  <math>R = 42.249'</math>  <math>RO = 48'</math></p>	<p>PI Sta 10+21.286  <math>\Delta = 77.16'</math>  <math>L = 40.457'</math>  <math>R = 23.978'</math>  <math>SE = 0.080'</math>  <math>RO = 48'</math></p>	<p>PI Sta 10+08.000  <math>\Delta = 44.095'</math>  <math>L = 22.412'</math>  <math>R = 100.000'</math>  <math>SE = 0.080'</math>  <math>RO = 48'</math></p>	<p>PI Sta 10+24.695  <math>\Delta = 77.16'</math>  <math>L = 40.457'</math>  <math>R = 23.978'</math>  <math>SE = 0.080'</math>  <math>RO = 48'</math></p>	<p>PI Sta 10+08.000  <math>\Delta = 77.16'</math>  <math>L = 40.457'</math>  <math>R = 23.978'</math>  <math>SE = 0.080'</math>  <math>RO = 48'</math></p>
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MATCH TO SHEET 24 81+20

R/W REV: REVISING NAME ON PARCEL 88 SHEET 25 ONLY. (LAWRENCE AND VESSIE REAVIS HEIRS), 06/11/2007 NHH.  
 R/W REV: REVISING NAME AND DEED BOOK NUMBER ON PARCEL 87 SHEET 25 ONLY. (DALLAS BUCKNER, JR.), 06/11/2007 NHH.  
 R/W REV: CHANGING PARCEL 89 TO PARCEL 87 AND REVISING PROPERTY OWNER NAME (LAWRENCE AND VESSIE REAVIS HEIRS), 06/11/2007 NHH.

PROJECT REFERENCE NO.	R-250/A
SHEET NO.	26
R/W DESIGN ENGINEER	ROADWAYS
PRELIMINARY PLANS	NO FIELD VERIFICATION
CONTRACTOR	
R/W REV.	



**-D159-**  
 PI Sta. 10+17.540  
 Δ = 53° 55' 49.0" (LT)  
 L = 14.93  
 T = 15.000  
 R = 15.000

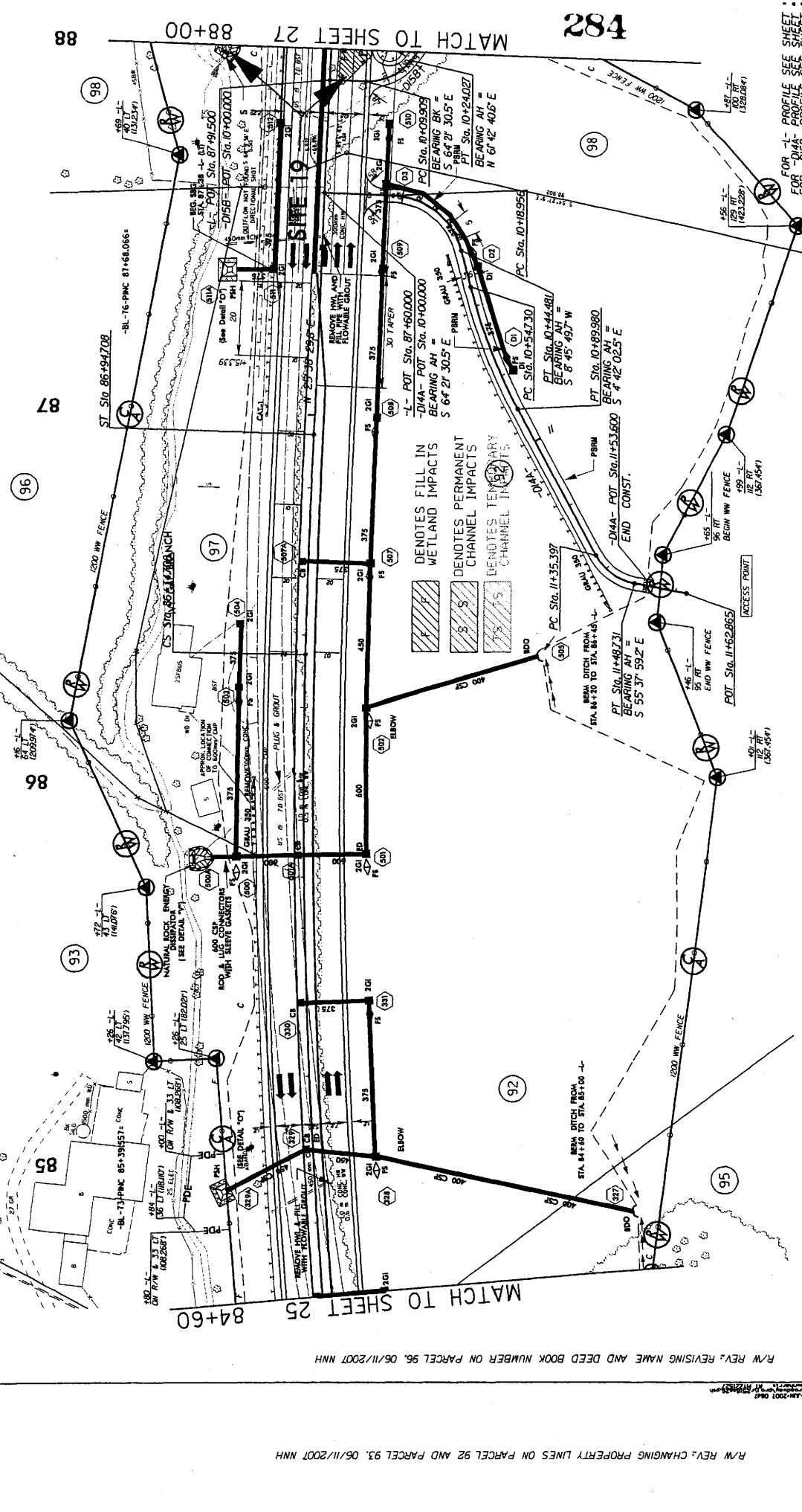
**-D144-**  
 PI Sta. 11+42.540  
 Δ = 50° 55' 56.7" (LT)  
 L = 13.334  
 T = 7.144  
 R = 15.000

**-D144-**  
 PI Sta. 10+24.37  
 Δ = 13° 27' 52.3" (LT)  
 L = 35.250  
 T = 17.707  
 R = 15.000

**-L-**  
 PI Sta. 86+57.008  
 Δ = 10° 32' 03.9" (RT)  
 L = 100.400  
 T = 40.000  
 R = 146.723  
 SE = 1700.000  
 SE = 0.030

**-D159-**  
 PI Sta. 10+17.540  
 Δ = 53° 55' 49.0" (LT)  
 L = 14.93  
 T = 15.000  
 R = 15.000

**-D144-**  
 PI Sta. 11+42.540  
 Δ = 50° 55' 56.7" (LT)  
 L = 13.334  
 T = 7.144  
 R = 15.000



DENOTES FILL IN WETLAND IMPACTS  
 DENOTES PERMANENT CHANNEL IMPACTS  
 DENOTES TEMPORARY CHANNEL IMPACTS

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96

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R/W REV: CHANGING PROPERTY LINES ON PARCEL 92 AND PARCEL 93, 06/11/2007 NNH

R/W REV: REVISING NAME AND DEED BOOK NUMBER ON PARCEL 96, 06/11/2007 NNH

MATCH TO SHEET 25 84+60

MATCH TO SHEET 27 88+00

284

FOR -L- PROFILE SEE SHEET 27  
 FOR -D144- PROFILE SEE SHEET 26  
 FOR -D159- PROFILE SEE SHEET 25

Point Drawing 2-4



PROJECT REFERENCE NO. SHEET NO.  
 R-25/6A 25  
 ROADWAY DESIGN ENGINEER  
 PROJECT ENGINEER  
 PROJECT NUMBER  
 CONTRACTOR  
 R/W REF.



-D15B-  
 PI Sta. 0+472.540  
 $\Delta = 317.5$  450 (LT)  
 $L = 71.9$   
 $T = 7.63$   
 $R = 15,000$

-D14A-  
 PI Sta. 10+472.437  
 $\Delta = 13.27$  52.3 (LT)  
 $L = 15.34$   
 $T = 39.29$   
 $R = 15,000$

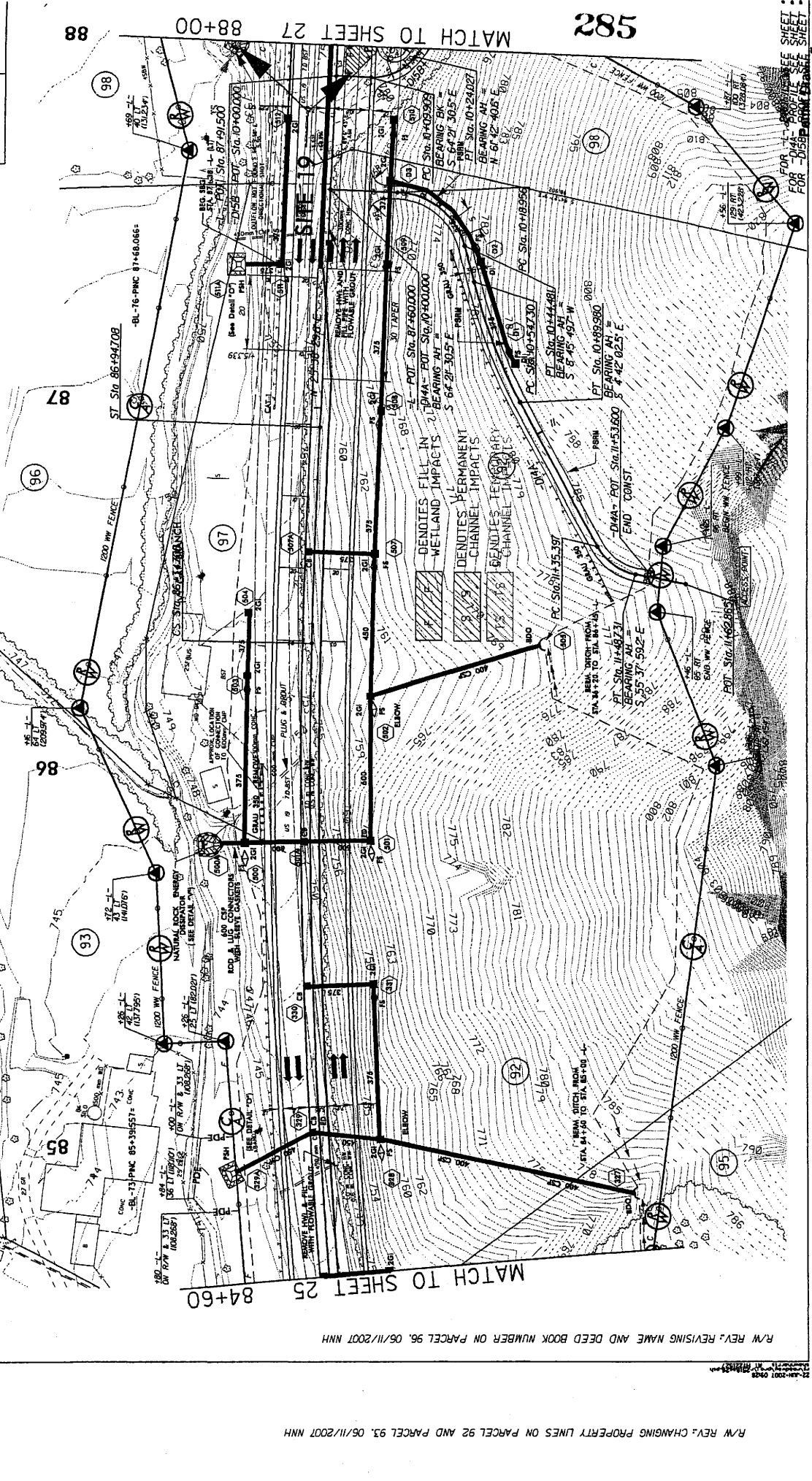
-D14A-  
 PI Sta. 10+337.99  
 $\Delta = 25.94$  202 (RT)  
 $L = 14.82$   
 $T = 20.00$   
 $R = 15,000$

-L-  
 PI Sta. 84+78.868  
 $\Delta = 312.03$  (RT)  
 $L = 312.56$   
 $T = 155.23$   
 $R = 17,000.00$   
 $SE = 0.030$

-D14A-  
 PI Sta. 85+54.708  
 $\Delta = 1.00$  40.0  
 $L = 40.00$   
 $T = 40.00$   
 $R = 20,000$

-D14A-  
 PI Sta. 10+472.437  
 $\Delta = 13.27$  52.3 (LT)  
 $L = 15.34$   
 $T = 39.29$   
 $R = 15,000$

-D15B-  
 PI Sta. 0+472.540  
 $\Delta = 317.5$  450 (LT)  
 $L = 71.9$   
 $T = 7.63$   
 $R = 15,000$

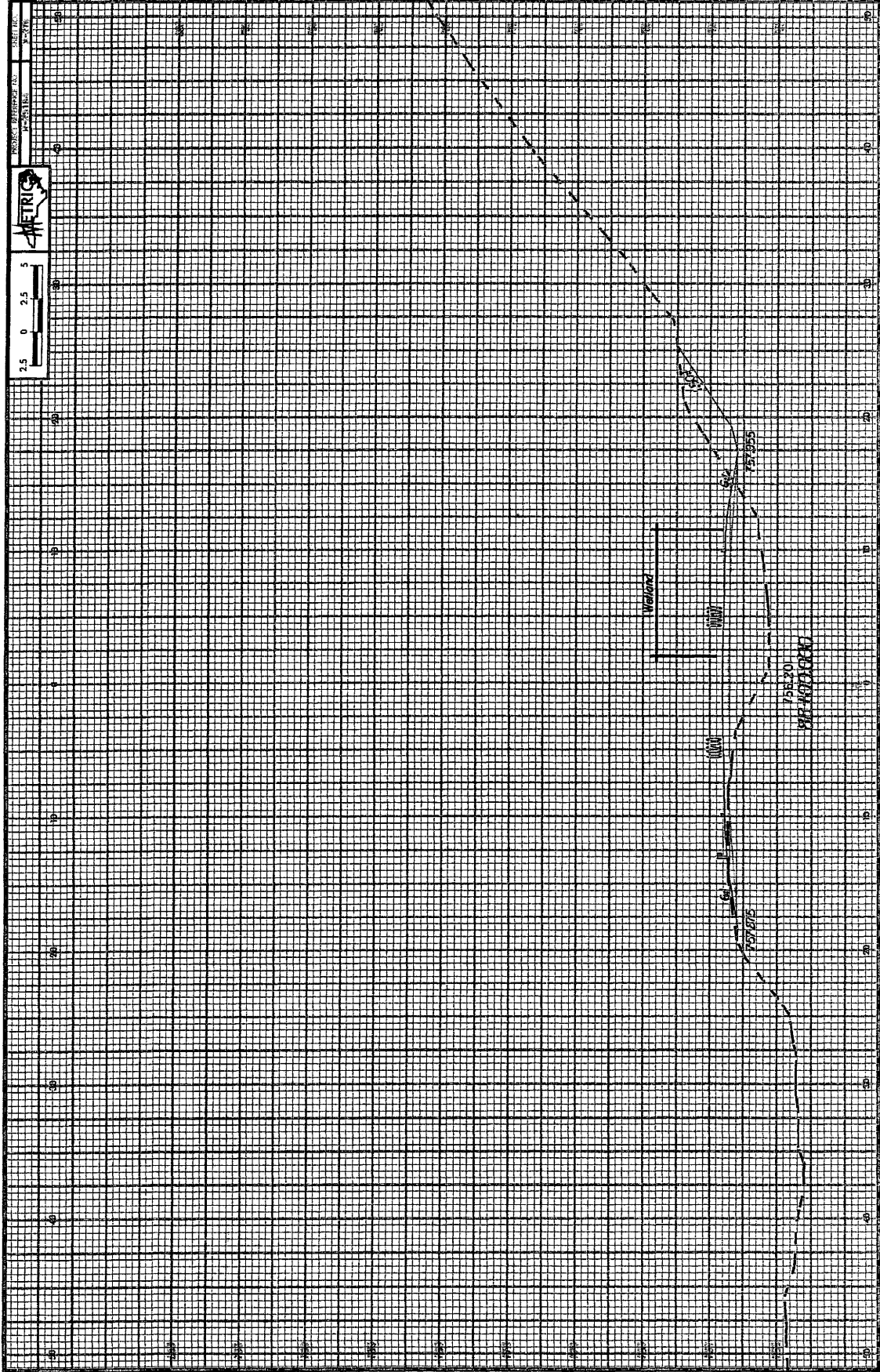


R/W REV. CHANGING PROPERTY LINES ON PARCEL 92 AND PARCEL 93, 06/11/2007 NNH

R/W REV. REVISING NAME AND DEED BOOK NUMBER ON PARCEL 96, 06/11/2007 NNH

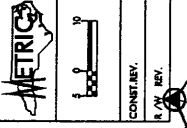
FOR - SEE SHEET 25  
 FOR - SEE SHEET 27  
 FOR - SEE SHEET 28  
 FOR - SEE SHEET 29  
 FOR - SEE SHEET 30  
 FOR - SEE SHEET 31  
 FOR - SEE SHEET 32  
 FOR - SEE SHEET 33  
 FOR - SEE SHEET 34  
 FOR - SEE SHEET 35  
 FOR - SEE SHEET 36  
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 FOR - SEE SHEET 88  
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 FOR - SEE SHEET 90  
 FOR - SEE SHEET 91  
 FOR - SEE SHEET 92  
 FOR - SEE SHEET 93  
 FOR - SEE SHEET 94  
 FOR - SEE SHEET 95  
 FOR - SEE SHEET 96  
 FOR - SEE SHEET 97  
 FOR - SEE SHEET 98  
 FOR - SEE SHEET 99  
 FOR - SEE SHEET 100

Sheet 25 of 64





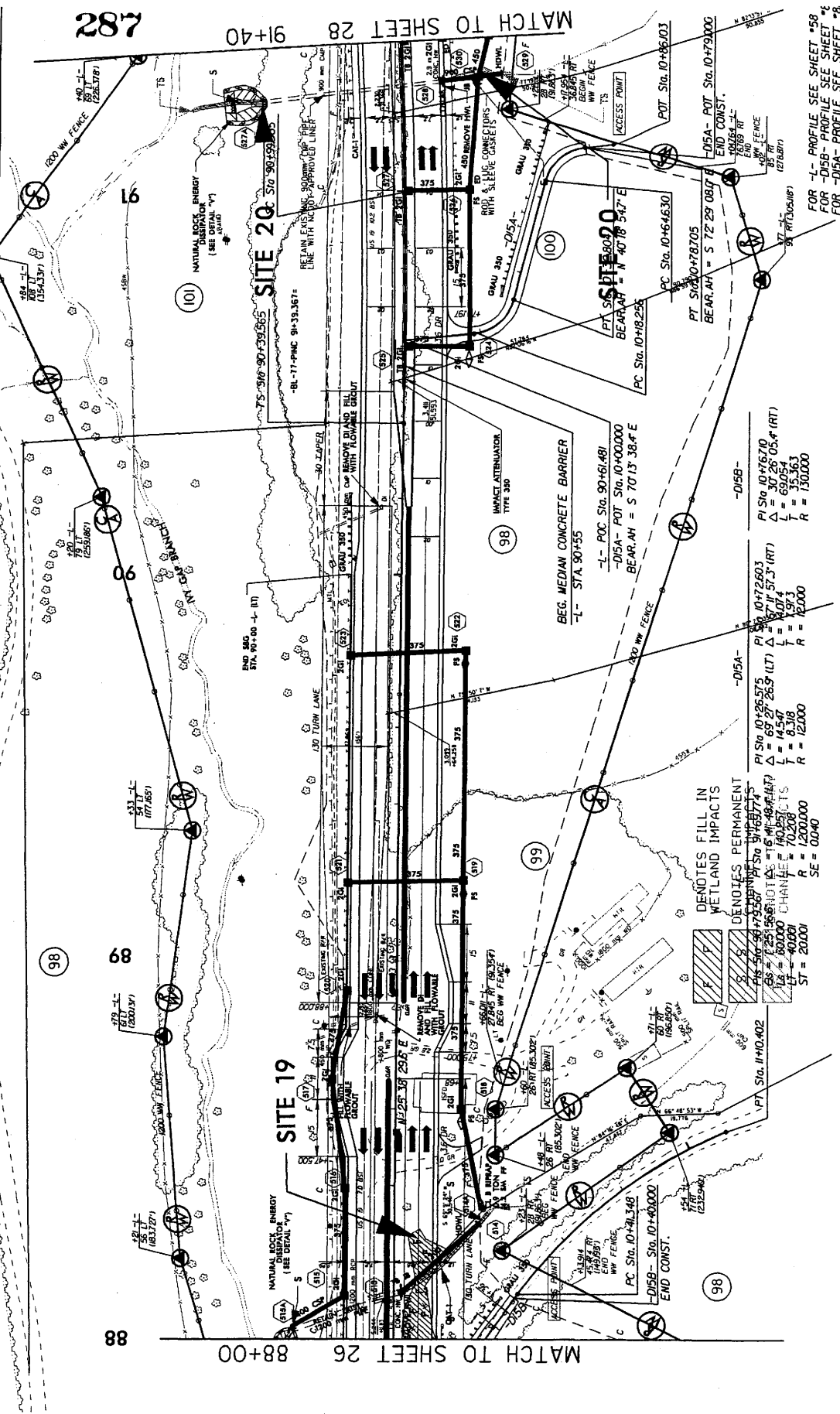
PROJECT REFERENCE NO. SHEET NO.  
 27-2578 27  
 ROADWAY DESIGN ENGINEER  
 HYDRAULICS ENGINEER



PRELIMINARY PLANS  
 CONTRACT NO. 07-0000000000000000  
 COUNTY, KY.  
 R. W. REV.

782

MATCH TO SHEET 28 91+40



SITE 19

SITE 20

SITE 90

DENOTES FILL IN  
 WETLAND IMPACTS  
 DENOTES PERMANENT  
 WETLAND IMPACTS  
 PI STA 10+73.567 TO STA 10+73.567  
 Δ = 25.567  
 L = 40.000  
 T = 70.208  
 R = 120000  
 SE = 0040

PI STA 10+26.575 TO STA 10+26.575  
 Δ = 69.27  
 L = 14.547  
 T = 8.308  
 R = 12000

PI STA 10+76.710 TO STA 10+76.710  
 Δ = 30.26  
 L = 69.054  
 T = 35.363  
 R = 130000

FOR -L- PROFILE SEE SHEET #68  
 FOR -DISE- PROFILE SEE SHEET #8  
 FOR -D5A- PROFILE SEE SHEET #8

Permit Drawing  
 Sheet 51 of 64

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MATCH TO SHEET 26 88+00

PROJECT REFERENCE NO. SHEET NO.  
 R-2910A 27  
 ROADWAY DESIGN HYDRAULICS  
 ENGINEER

CONST. REV.  
 M. W. REY

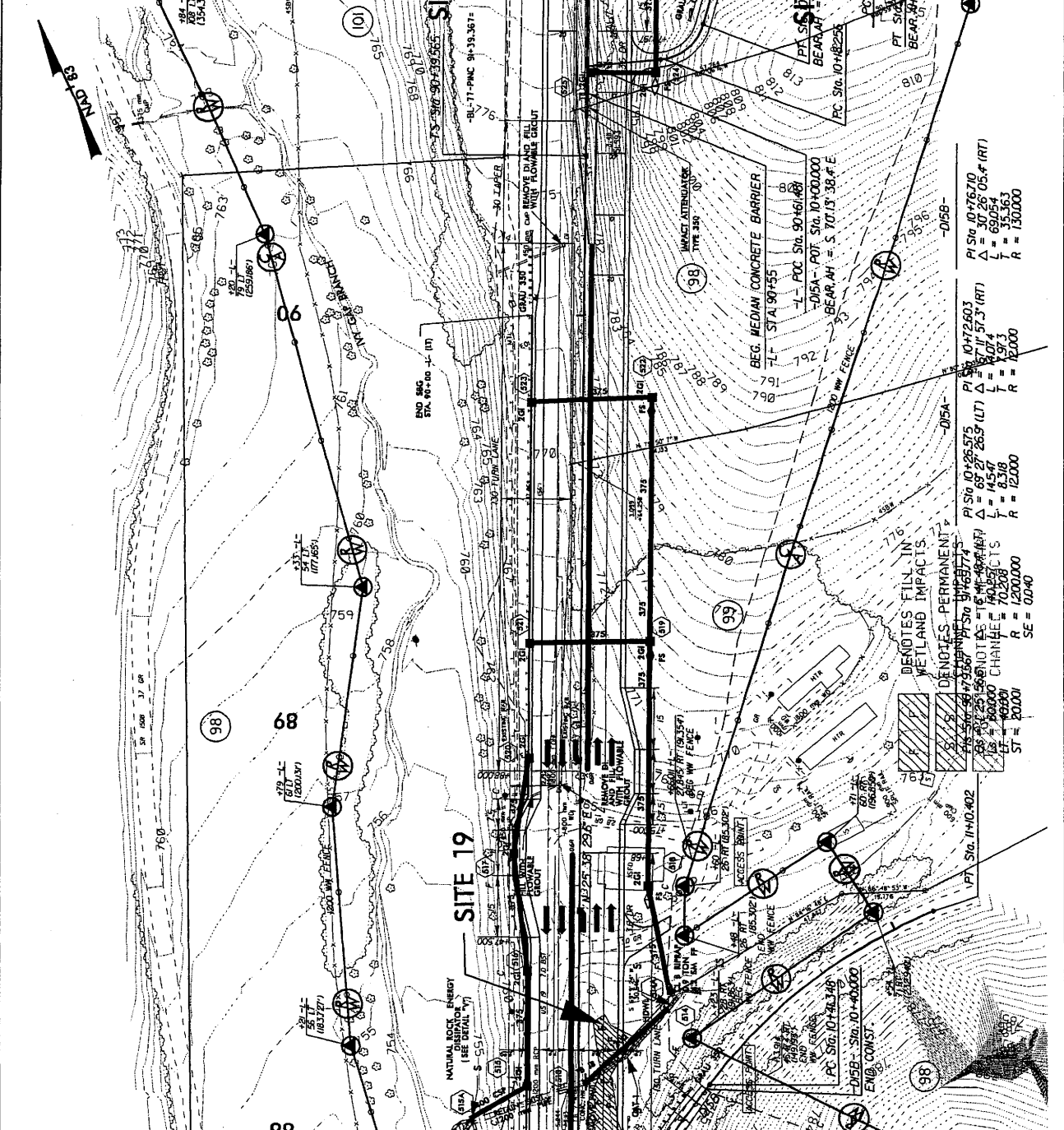
PRELIMINARY PLANS  
 300 WEST 10TH AVE. SUITE 200  
 DENVER, CO 80202

SCALE: 1" = 40'

63.00M

882

MATCH TO SHEET 28 91+40



88

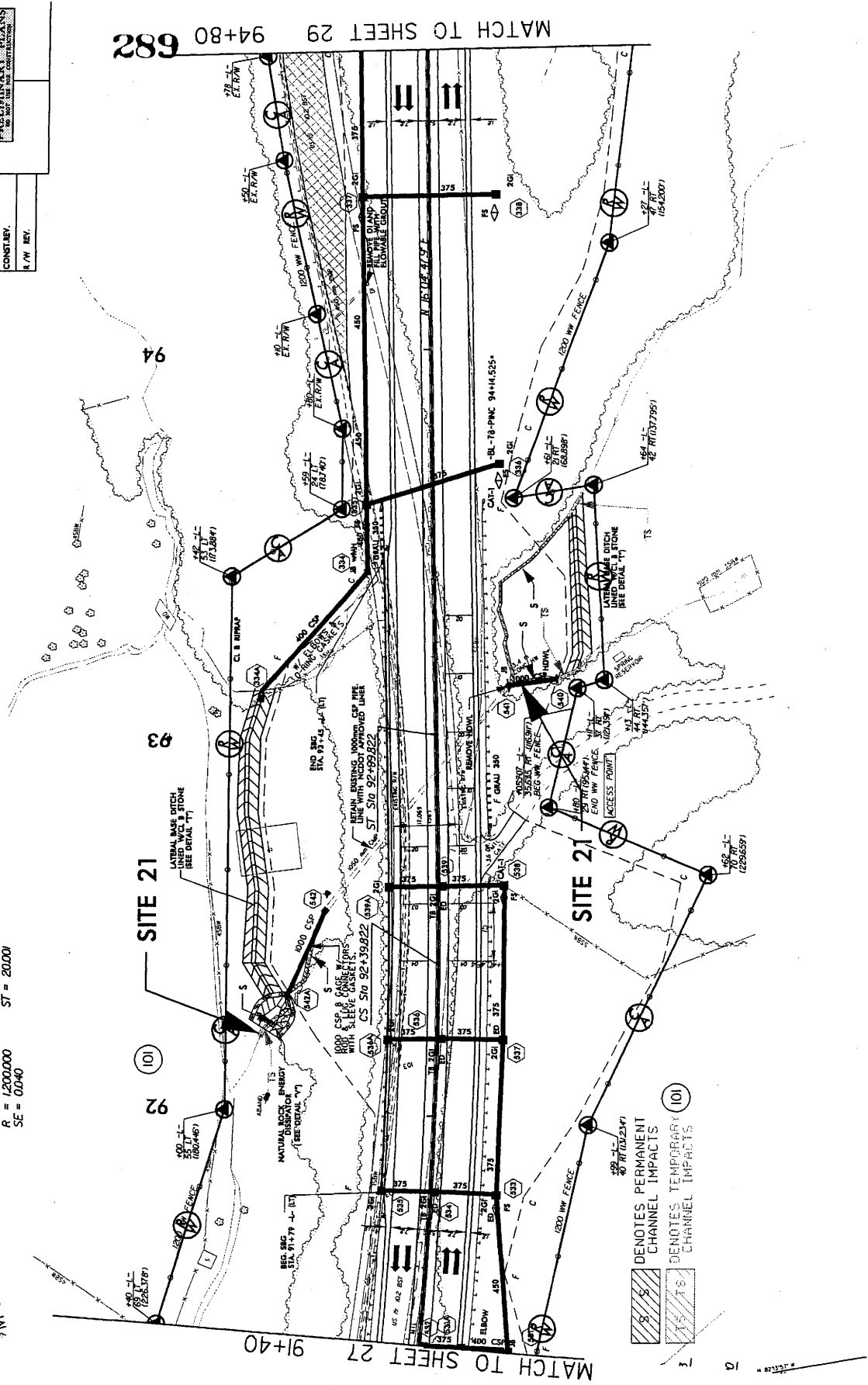
MATCH TO SHEET 26 88+00

FOR -L- PROFILE SEE SHEET \*58  
 FOR -D5B- PROFILE SEE SHEET \*9C  
 FOR -D5A- PROFILE SEE SHEET \*9I  
 Permit Drawing

PROJECT REFERENCE NO.	SHEET NO.
A-2202A	28
ROADWAY DESIGN ENGINEER	NORMALIZES ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
CONSTREY, S/W, INC.	



PI STA 91+63.774  
 $\Delta = 6' 41'' 48.4'' (LT)$   
 $L = 140.257'$   
 $T = 70.208'$   
 $R = 1200.000'$   
 $SE = 0.040'$   
  
 PI STA 92+59.824  
 $\Delta = 1' 25' 56.6''$   
 $L = 60.000'$   
 $LT = 40.000'$   
 $ST = 20.000'$



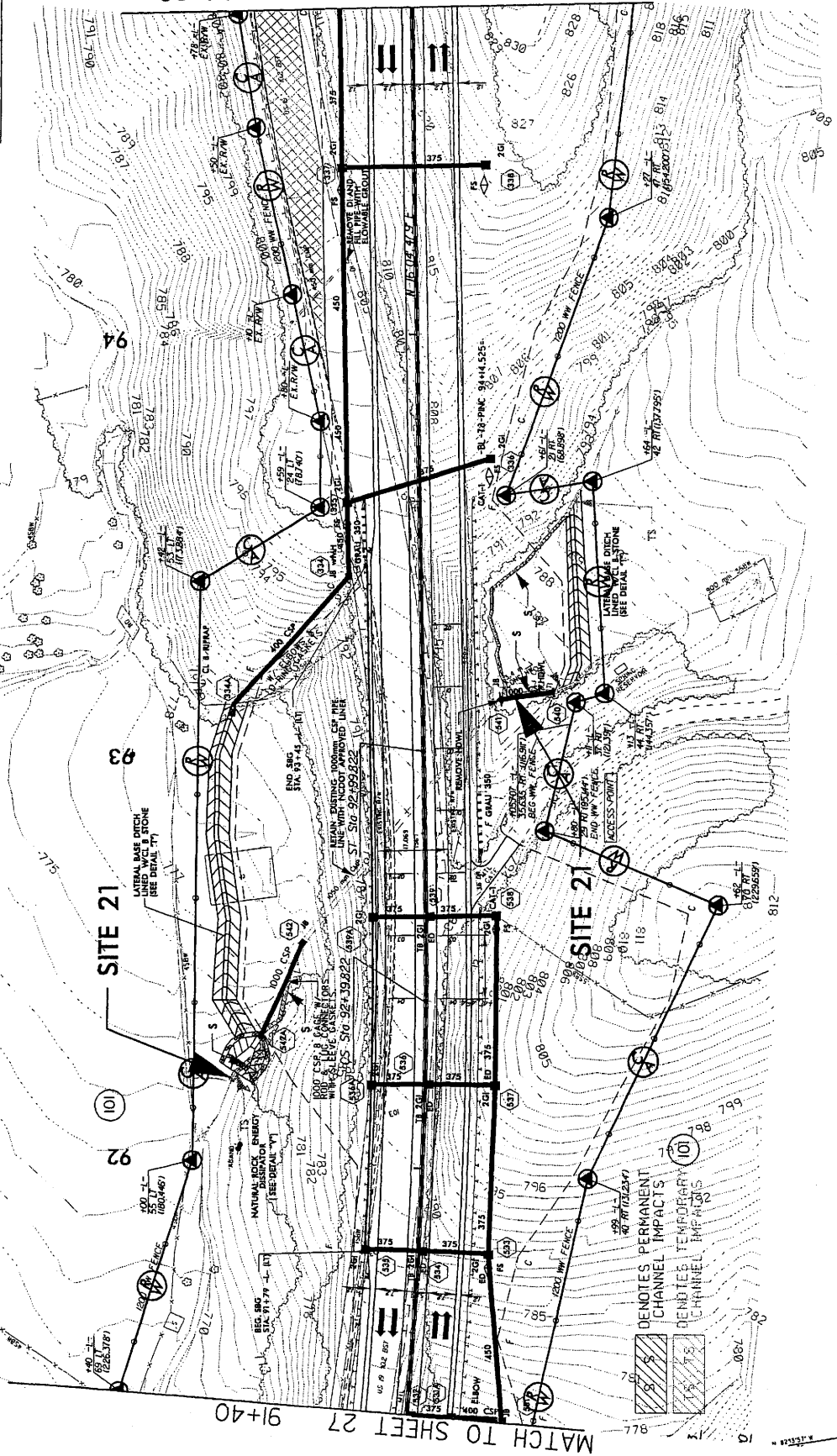
DENOTES PERMANENT CHANNEL IMPACTS  
 DENOTES TEMPORARY CHANNEL IMPACTS

PROJECT REFERENCE NO. SHEET NO.  
 F-230A 22  
 ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER  
 PRELIMINARY PLANS  
 MAY BE USED FOR CONSTRUCTION  
 CONTRACT NO. 11/11/11  
 A.W. BEY.



-L-  
 PI Sta 91+69.774 PIS Sta 92+59.824  
 Δ = 6' 41" 48.4" (LT) Gs = 1' 25" 56.6"  
 L = 140.257 LS = 60.000  
 T = 70.208 LT = 40.000  
 R = 1200.000 ST = 20.000  
 SE = 0.040

290  
 MATCH TO SHEET 29 94+80

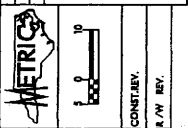


MATCH TO SHEET 27 91+40

DENOTES PERMANENT CHANNEL IMPACTS  
 DENOTES TEMPORARY CHANNEL IMPACTS

FOR -L- PROFILE SEE SHEET \*59  
 Permit Drawing  
 Sheet 59 of 64

PROJECT REFERENCE NO.	SHEET NO.
R-25183	29
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
PRELIMINARY PLANS	
CONTRACT NO.	
R/W REV.	

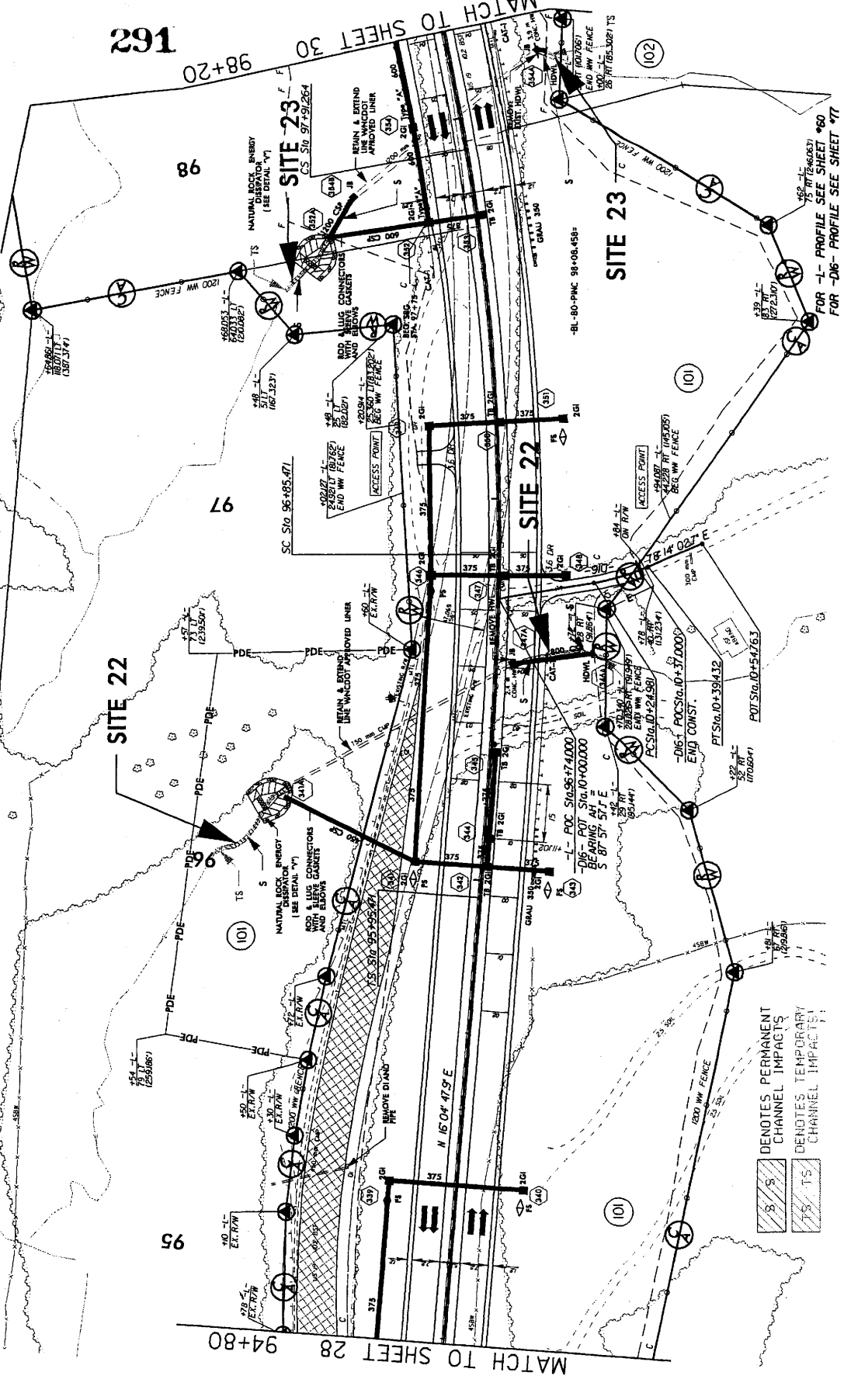


**-D6-**  
 PI Sta 10+322.42  
 $\Delta = 15.48^\circ 00' 2" (LT)$   
 $L = 14.25'$   
 $R = 60.000'$

**-L-**  
 PI Sta 96+55.488  
 $\Delta = 41^\circ 49' 59"$   
 $L = 107.06'$   
 $LS = 90.000'$   
 $LI = 105.793'$   
 $RS = 90.000'$   
 $RI = 105.793'$   
 $SE = 0.066'$

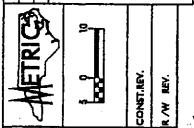
**-L-**  
 PI Sta 97+38.505  
 $\Delta = 107.06^\circ 09' 17" (LT)$   
 $LS = 90.000'$   
 $LI = 105.793'$   
 $RS = 90.000'$   
 $RI = 105.793'$   
 $SE = 0.066'$

**-D6-**  
 PI Sta 10+322.42  
 $\Delta = 15.48^\circ 00' 2" (LT)$   
 $L = 14.25'$   
 $R = 60.000'$



DENOTES PERMANENT CHANNEL IMPACT  
 DENOTES TEMPORARY CHANNEL IMPACT

PROJECT REFERENCE NO.	SHEET NO.
R-230	29
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS	
CONTR. REV.	
R/W REV.	

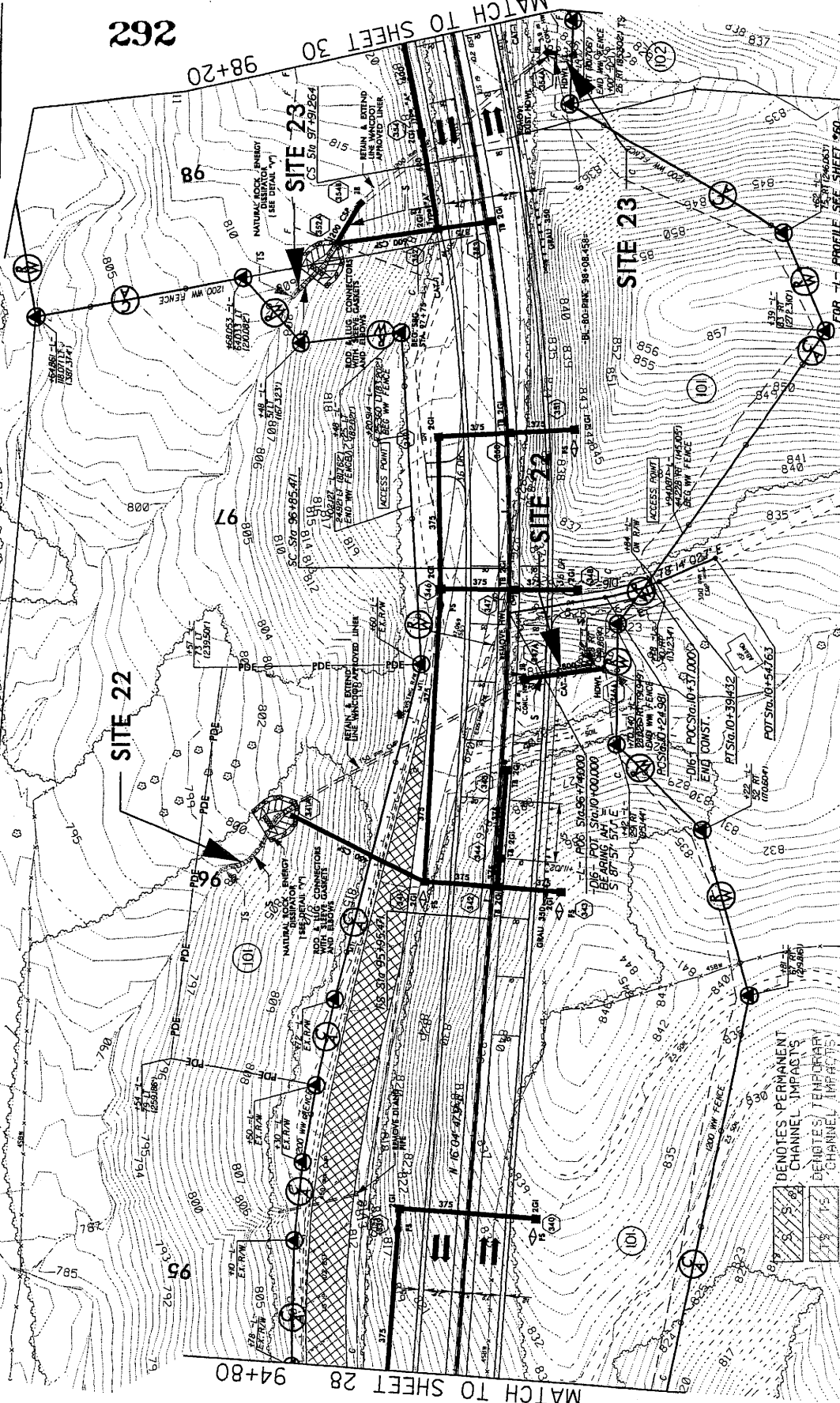


-D6-

PI Sta 96+55.488  
 GS = 47' 49.5"  
 Δ = 107.06' 09.7" (LT)  
 LS = 90.000  
 LT = 60.018  
 R = 600.000  
 SE = 0.060

PI Sta 97+38.505  
 GS = 47' 49.5"  
 Δ = 107.06' 09.7" (LT)  
 LS = 90.000  
 LT = 60.018  
 R = 600.000  
 SE = 0.060

PI Sta 98+85.471  
 GS = 47' 49.5"  
 Δ = 107.06' 09.7" (LT)  
 LS = 90.000  
 LT = 60.018  
 R = 600.000  
 SE = 0.060



DENOTES PERMANENT CHANNEL IMPACTS  
 DENOTES TEMPORARY CHANNEL IMPACTS

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MATCH TO SHEET 28 94+80

MATCH TO SHEET 30 98+20

FOR "L" PROFILE SEE SHEET #60  
 FOR "D6" PROFILE SEE SHEET #77

Permit Drawing

**METRIC**

PROJECT REFERENCE NO. R-25182  
 R/W SHEET NO. 33  
 R/W SHEET NO. 33  
 HYDRAULICS ENGINEER

PRELIMINARY PLANS  
 (FOR INFORMATION ONLY)

CONTRACT NO. R/W REV.

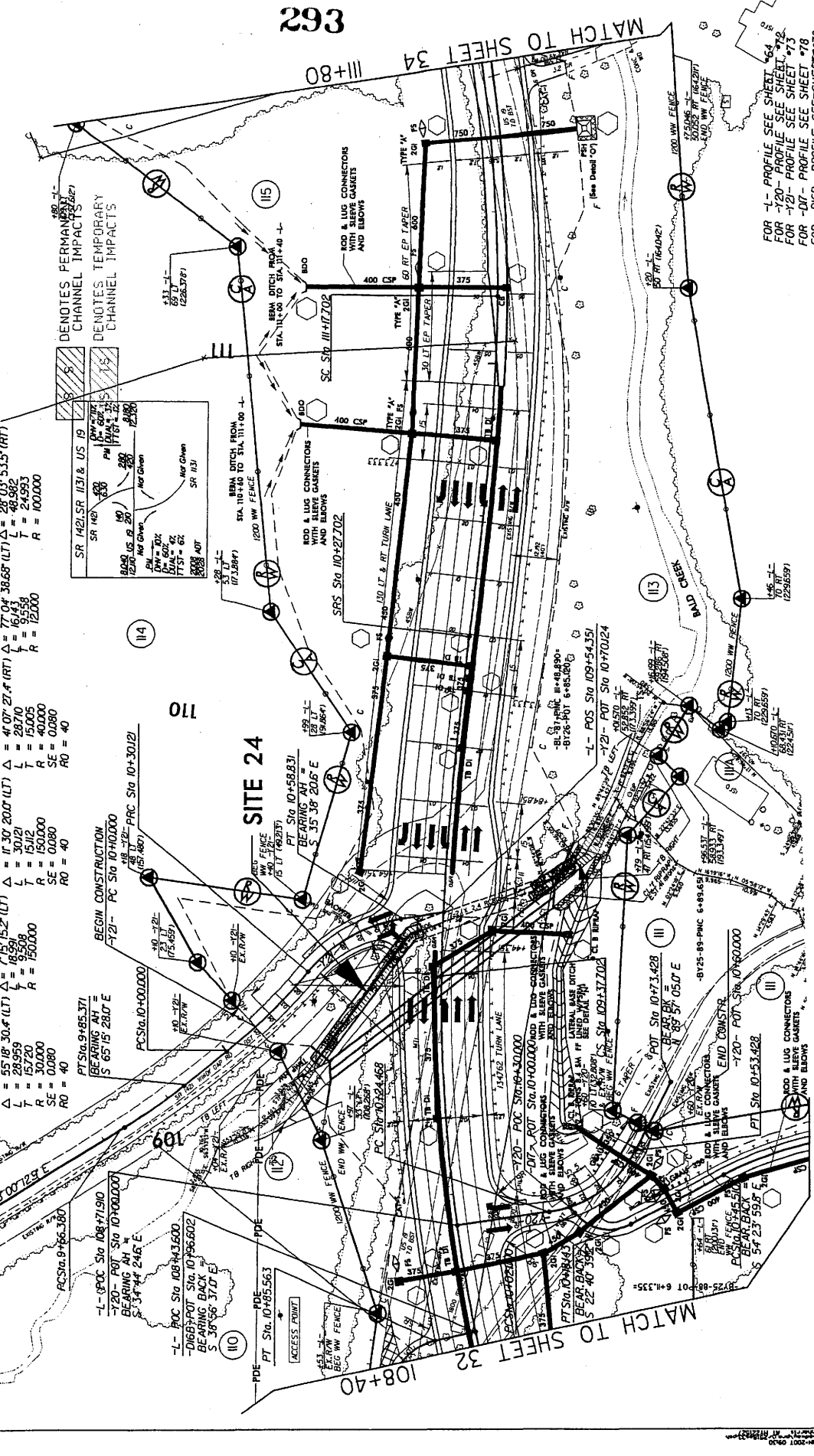


**-D16B-**

PI Sta 107+31772	PI Sta 109+67732	PI Sta 110+87741	PI Sta 112+45145	PI Sta 10+77283
Δ = 60'36" 53.6 (RT)	Δ = 5'55" 37.7	Δ = 6'28" 44.5	Δ = 246'75.3	Δ = 69'21" 08.6 (RT)
L = 460'99	Ls = 90'000	Ls = 90'000	L = 246'75.3	L = 181.56
T = 254'289	T = 60'034	T = 60'040	T = 127.444	T = 103.777
R = 435'000	R = 30'031	R = 300'36	R = 400'000	R = 15'000
SE = 0.080	SE = 0.080	SE = 0.080	SE = 0.060	SE = 0.060

**-Y21-**

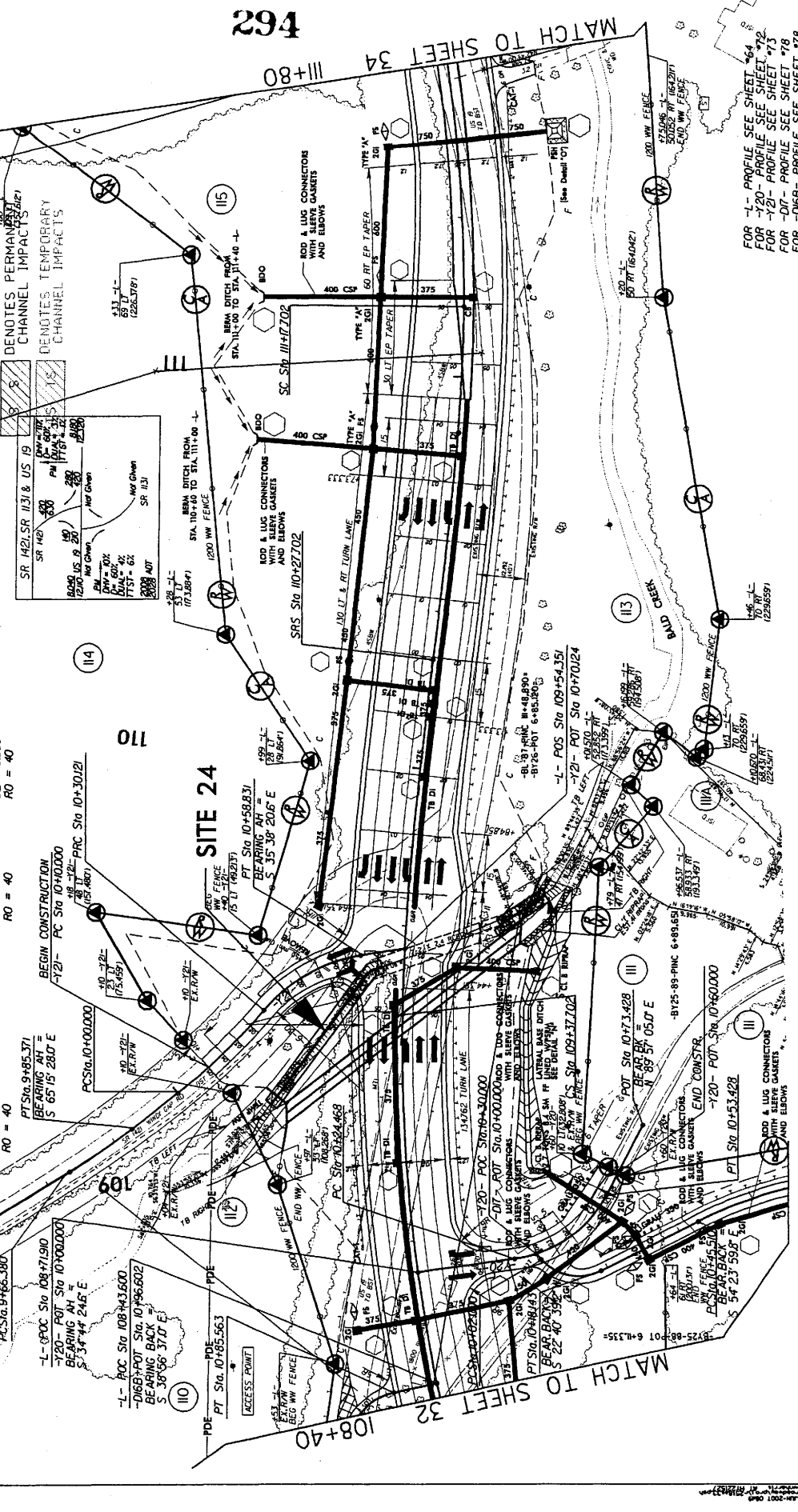
PI Sta 104+40188	PI Sta 104+4126	PI Sta 104+4126	PI Sta 104+4126	PI Sta 104+4126
Δ = 55'18" 30.4 (LT)	Δ = 7'15" 15.2 (LT)	Δ = 4'07" 27.4 (RT)	Δ = 7'04" 38.6 (LT)	Δ = 28'03" 53.5 (RT)
L = 28'95.9	L = 18'59.1	L = 28'71.0	L = 16'14.1	L = 48'98.2
T = 15'72.0	T = 9'50.8	T = 15'12.1	T = 9'55.8	T = 24'99.3
R = 30'000	R = 15'000	R = 40'000	R = 12'000	R = 100'000
SE = 0.080	SE = 0.080	SE = 0.080	SE = 0.080	SE = 0.080
RO = 40	RO = 40	RO = 40	RO = 40	RO = 40



FOR -L- PROFILE SEE SHEET 664  
 FOR -Y20- PROFILE SEE SHEET 772  
 FOR -Y21- PROFILE SEE SHEET 772  
 FOR -D16B- PROFILE SEE SHEET 778  
 FOR -D66B- PROFILE SEE SHEET 778



PROJECT REFERENCE NO.	R/SHEET NO.
R1-2502A	33
ROADWAY	DESIGNER
F. W. WILSON	ROADWAY ENGINEER
CONVENTRY	R/W REV.
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



**-D6B-**

PI Sta 107+317.72	PI Sta 107+72.83
Δ = 60.36	Δ = 68.27
LS = 460.99	LS = 18.56
L = 254.269	L = 10.377
R = 435.000	R = 15.000
SE = 0.060	

**-Y20-**

PI Sta 10+40.68	PI Sta 10+45.126
Δ = 55.18	Δ = 6.07
L = 28.959	L = 28.710
R = 157.20	R = 15.005
SE = 0.080	SE = 0.080
RO = 40	RO = 40

**-DIT-**

PI Sta 10+45.126	PI Sta 10+70.503
Δ = 17.15	Δ = 28.03
L = 18.99	L = 16.443
R = 150.000	R = 12.000
SE = 0.080	SE = 0.000
RO = 40	RO = 40

**-Y21-**

PI Sta 10+45.126	PI Sta 10+70.503
Δ = 17.15	Δ = 28.03
L = 18.99	L = 16.443
R = 150.000	R = 12.000
SE = 0.080	SE = 0.000
RO = 40	RO = 40

**-Y22-**

PI Sta 10+45.126	PI Sta 10+70.503
Δ = 17.15	Δ = 28.03
L = 18.99	L = 16.443
R = 150.000	R = 12.000
SE = 0.080	SE = 0.000
RO = 40	RO = 40

**-Y23-**

PI Sta 10+45.126	PI Sta 10+70.503
Δ = 17.15	Δ = 28.03
L = 18.99	L = 16.443
R = 150.000	R = 12.000
SE = 0.080	SE = 0.000
RO = 40	RO = 40

R/W REV: REVISING PROPERTY LINE BOUNDARIES AND REVISING DEED BOOK INFORMATION ON PARCEL IIIA, 06/11/2007 NNH

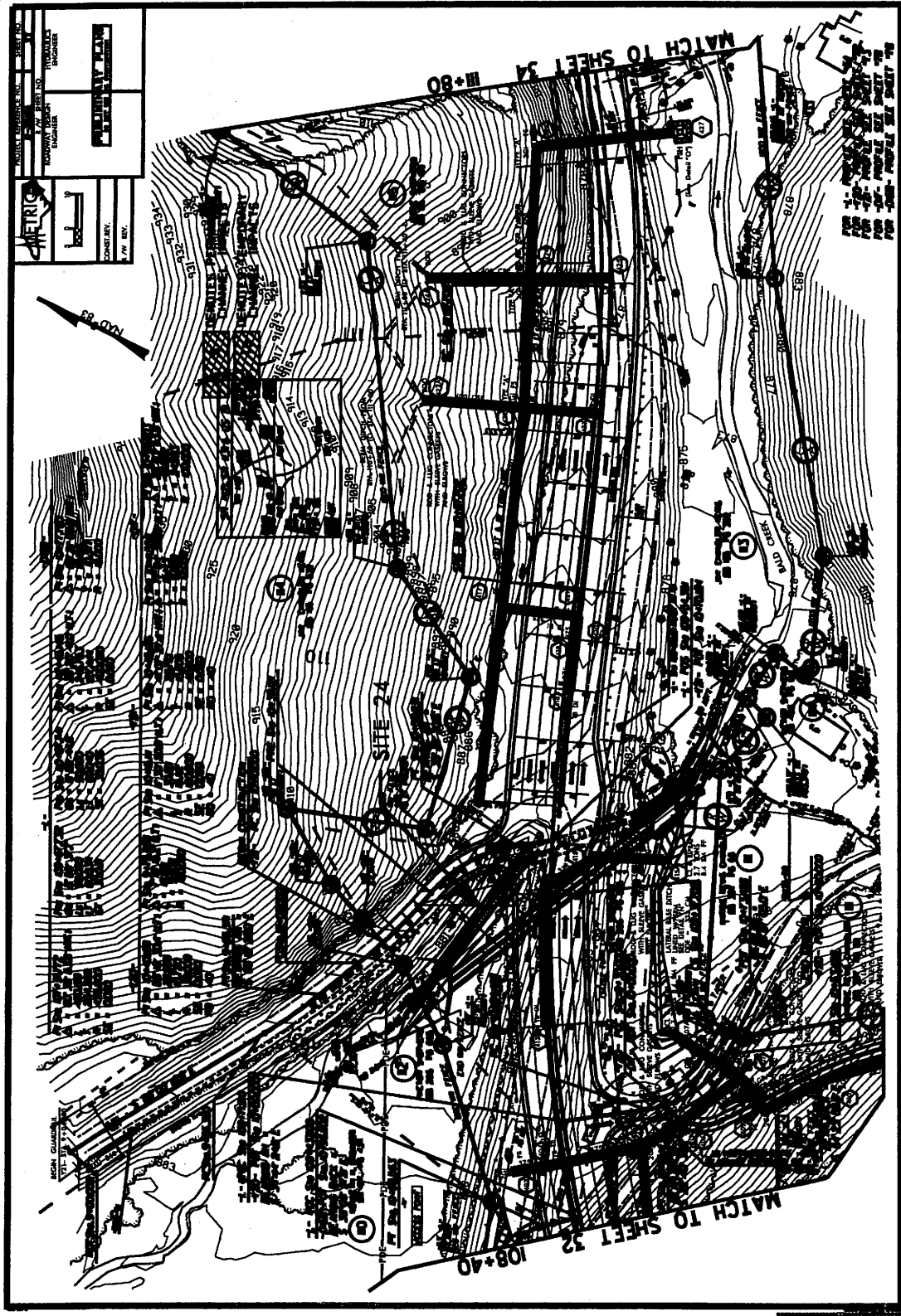
MATCH TO SHEET 34 III+80

MATCH TO SHEET 32 108+40

FOR -L- PROFILE SEE SHEET #64  
 FOR -Y20- PROFILE SEE SHEET #72  
 FOR -Y21- PROFILE SEE SHEET #73  
 FOR -DIT- PROFILE SEE SHEET #78  
 FOR -D6B- PROFILE SEE SHEET #78

Paint Drawing





FOR REVISION PROPERTY LINE BOUNDARIES AND REVISION FIELD BOOK INFORMATION ON PANEL NO. 08/10/07