



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

BEVERLY PERDUE  
GOVERNOR

EUGENE CONTI  
SECRETARY

August 11, 2009

MEMORANDUM TO: Mr. Terry R Gibson, PE  
Division Six Engineer

FROM: Philip S. Harris, III, P.E., Unit Head  
Natural Environment Unit  
Project Development and Environmental Analysis Branch

SUBJECT: Cumberland County, NC 210 (Murchison Road) Improvements in Fayetteville;  
T.I.P. Number U-4444; Federal Aid Project STB-210(11); WBS No. 36492.1.2

Attached are the U.S. Army Corps of Engineers Section 404 Individual Permit and N.C. Division of Water Quality Section 401 Individual Water Quality Certification for the above referenced project. All environmental permits have been received for the construction of this project.

A copy of this permit package will be posted on the NCDOT website at:  
<http://www.ncdot.gov/doh/preconstruct/pe/neu/permit.html>

PSH/gyb

Attachment

Cc: W/attachment  
Mr. Randy Garris, P.E. State Contract Officer  
Mr. James J. Rerko, Division Environmental Officer  
Ms. Beth Harmon, EEP

Cc: W/o attachment (see website for attachments)  
Mr. Majed Alghandour, P. E., Programming and TIP  
Mr. Jay Bennett, P.E., Roadway Design  
Dr. David Chang, P.E., Hydraulics  
Mr. Art McMillan, P.E., Highway Design  
Mr. Tom Koch, P.E., Structure Design  
Mr. Mark Staley, Roadside Environmental  
Mr. John F. Sullivan, FHWA  
Mr. Ron Hancock, P.E., State Roadway Construction Engineer  
Mr. Mike Robinson, P.E., State Bridge Construction Engineer  
Mr. Rob Hanson, P.E., PDEA Eastern Region Unit Head

## PROJECT COMMITMENTS

Cumberland County  
NC 210 (Murchison Road) Improvements in Fayetteville  
Federal Aid Project STP-210(11)  
WBS No. 36492.1.2  
TIP No. U-4444

### **Commitments Developed Through Planning**

#### **Roadway Design Unit/Traffic Engineering Branch**

Traffic signal preemption for emergency vehicles and an emergency vehicle crossover on Bragg Boulevard at Spring Avenue will be investigated during final design in order to improve response time for emergency vehicles between downtown Spring Lake and the eastern side of Bragg Boulevard.

#### **Hydraulics Unit**

Drainage for the southbound lanes of Murchison Road between the railroad grade separation and Gruber Road will be discharged into a grassed ditch or natural swales on the west side of Murchison Road. The ditch or swale will provide treatment for stormwater before it flows into Little Cross Creek.

### **Commitments Developed Through Permitting**

#### **Natural Environment Unit**

Compensatory mitigation for the unavoidable impacts to 7.33 acres of riparian wetlands, 0.06 acre of non-riparian wetlands and 991 linear feet of warm water streams associated with the proposed project shall be provided by the North Carolina Ecosystem Enhancement Program (NCEEP) within the Cape Fear River Basin (Cataloging Unit 03030004). The EEP will provide 14.66 acres of riparian wetland credits, 0.12 acre of non-riparian wetland credits and 1,982 warm water stream credits, pursuant to Section X of Amendment Number 2 to the Memorandum of Agreement (MOA) signed 8 March 2007.

#### **Division Construction/Roadside Environmental**

The permittee shall install barrier fencing or other acceptable forms of barrier around all wetlands that are not to be disturbed to make them readily visible and prevent construction equipment from inadvertently entering and disturbing the wetland areas that are to remain undisturbed.

All portions of the proposed project draining to 303(d) listed watersheds that are impaired due to biological criteria exceedances shall not discharge stormwater directly to surface waters. Stormwater shall be treated using appropriate best management practices (e.g., vegetated conveyances, constructed wetlands, detention ponds, etc.) prior to discharging to surface waters.

The permittee shall use appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" to assure compliance with the appropriate turbidity water quality standard. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such

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



REPLY TO  
ATTENTION OF:

**DEPARTMENT OF THE ARMY**  
WILMINGTON DISTRICT, CORPS OF ENGINEERS  
69 DARLINGTON AVENUE  
WILMINGTON, NORTH CAROLINA 28403-1343

August 6, 2009

Regulatory Division

Action ID Number 2009-00654, NC 24-87-210 (Murchison Road) Widening, Transportation Improvements Project U-4444, State Project Number 3.6492.1.2, Cumberland County, North Carolina.

Dr. Gregory J. Thorpe, PhD, Manager  
Project Development and Environmental Analysis Branch  
North Carolina Department of Transportation  
Division of Highways  
1598 Mail Service Center  
Raleigh, North Carolina 27699-1598

Dear Dr. Thorpe:

In accordance with your written request of March 31, 2009 and the ensuing administrative record, enclosed are two copies of a Department of the Army permit to directly discharge dredged and/or fill material into jurisdictional wetlands to facilitate the widening of NC 24-87-210 (Murchison Road), Transportation Improvements Project U-4444, State Project Number 3.6492.1.2, in Cumberland County, North Carolina. The proposed 5.5 mile NC 210 highway improvement project (Figure 1) begins at the proposed intersection location of the Fayetteville Outer Loop and extends along the existing facility to the NC 24/87 (Bragg Boulevard) intersection in Spring Lake, Cumberland County, North Carolina. The proposed project is located in adjacent wetlands and tributaries that are hydrologically connected to the Cape Fear River. The project is more specifically located starting at Latitude 35.1305 N, Longitude 78.9467 W and ending at Latitude 35.1627, Longitude 78.9720.

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.

This correspondence contains a preoffered permit for the above described site. If you object to this decision, you may request an administrative appeal under Corps regulations at 33 CFR part 331.

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:

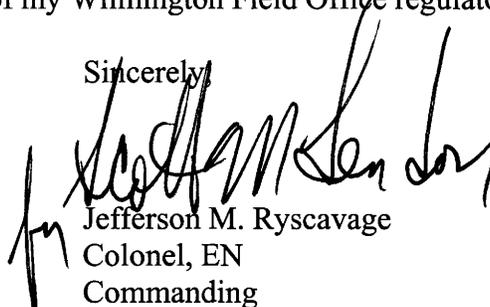
Colonel Jefferson M. Ryscavage, District Commander  
U.S. Army Corps of Engineers, Wilmington District  
69 Darlington Avenue  
Wilmington, North Carolina 28403-1343

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete; that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the Division 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 October 5, 2009.

It is not necessary to submit an RFA form to the Division 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 Ms. Kimberly Garvey of my Wilmington Field Office regulatory staff at telephone (910) 251-4482.

Sincerely,



Jefferson M. Ryscavage  
Colonel, EN  
Commanding

Enclosures

## DEPARTMENT OF THE ARMY PERMIT

Permittee North Carolina Department of Transportation

Permit No. SAW-2009-000654

Issuing Office USAED, WILMINGTON

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of 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 :** Directly discharge dredged and/or fill material into tributaries and associated wetlands to facilitate the widening of NC 24-87-210 (Murchison Road) Widening, Transportation Improvements Project U-4444, State Project Number 3.6492.1.2, in Cumberland County, North Carolina.

**Project Location:** In the Cape Fear River, Hydrologic Cataloging Unit 03030004. The project is more specifically located starting at Latitude 35.1305 N, Longitude 78.9467 W and ending at Latitude 35.1627, Longitude 78.9720.

### Permit Conditions:

#### General Conditions:

1. The time limit for completing the work authorized ends on **December 31, 2014**. 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.

ENG FORM 1721, Nov 86

EDITION OF SEP 82 IS OBSOLETE.

(33 CFR 325 (Appendix A))

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

Special Conditions:

## **SEE ATTACHED SPECIAL CONDITIONS**

Further Information:

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

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

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 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.

E. L. Lusk for Gregory J. Thayer, PhD      8-7-09  
 (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.

G. Kenneth Kelly      8/21/09  
 (DISTRICT ENGINEER) JEFFERSON M. BYSCAVAGE, 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.

\_\_\_\_\_  
 (TRANSFEE)      (DATE)

**SPECIAL CONDITIONS (Action ID. 2009-00654, NC 24-87-210 (Murchison Road)  
Widening, Transportation Improvements Project U-4444, State Project Number 3.6492.1.2.)**

1. Failure to institute and carry out the details of the following special conditions below will result in a directive to cease all ongoing and permitted work within waters of the United States, including wetlands, associated with the permitted project, or such other remedies and/or fines as the U.S. Army Corps of Engineers District Commander or his authorized representatives may seek.
2. All work authorized by this permit must be preformed in strict compliance with the attached plans, which are a part of this permit.
3. The permittee shall schedule a preconstruction meeting between its representatives, the contractor's representatives, and the Corps of Engineers, Ms. Kimberly Garvey, Wilmington Regulatory Field Office, prior to any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all of the terms and conditions contained within this Department of the Army Permit. The permittee shall notify the Corps of Engineers Project Manager a minimum of thirty (30) days in advance of the scheduled meetings in order to provide that individual with ample opportunity to schedule and participate in the required meetings. One copy of the final half-size construction drawings shall be furnished to the Corps of Engineers, Ms. Kimberly Garvey, Wilmington Regulatory Field Office prior to the pre-construction meeting.
4. The permittee shall 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, Ms. Kimberly Garvey, Wilmington Regulatory Field Office prior to any active construction in waters or wetlands.
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. Copies of this permit and any modifications authorized by the USACE shall be available for review at the construction site at all times. All violations, including non-compliance of these conditions, of the authorized permit shall be reported to the District Engineer within 24 hours of the violation.
6. Compensatory mitigation for the unavoidable impacts to 7.33 acres of riparian wetlands, 0.06 acre of non-riparian wetlands and 991 linear feet of warm water streams associated with the proposed project shall be provided by the North Carolina Ecosystem Enhancement Program (NCEEP) within the Cape Fear River Basin (Cataloging Unit 03030004). The EEP will provide 14.66 acres of riparian wetland credits, 0.12 acre of non-riparian wetland credits and 1,982 warm water stream credits, pursuant to Section X of Amendment Number 2 to the Memorandum of Agreement (MOA) signed 8 March 2007.

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

8. This permit does not authorize temporary placement or double handling of excavated or fill material within waters or wetlands outside the permitted area.

9. To ensure that all borrow and waste activities occur on high ground and do not result in loss or the degradation of adjacent wetlands and streams, except as authorized by this permit, the permittee shall require its contractors and/or agents to identify all areas to be used to borrow material, or to dispose of dredged, fill, or waste material. The permittee shall ensure that all such areas comply with the preceding condition (#7) 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 information will include data regarding soils, vegetation and hydrology sufficient to clearly demonstrate compliance with the preceding condition (#7). All information will be available to the Corps of Engineers upon request. NCDOT 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.

10. The permittee shall comply with the conditions specified in the water quality certification, No. 3805, issued by the North Carolina Division of Water Quality on 20 July 2009.

11. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in disequilibrium of wetlands or streambeds or banks, adjacent to, upstream or downstream of the structures. Culverts shall be placed so that the openings match the natural stream channel wherever possible. Riprap armoring of streams at culvert outlets shall be minimized, including riprap placed above the ordinary high water elevation, in favor of bioengineering techniques such as bank sloping, erosion control matting and revegetation with deep-rooted, woody plants.

12. The permittee shall use appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" to assure compliance with the appropriate turbidity water quality standard. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to assure compliance with the appropriate turbidity water quality standards. This shall include, but is not limited to, the immediate installation of silt fencing

or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4). Adequate sedimentation and erosion control measures must be implemented prior to any ground disturbing activities to minimize impacts to downstream aquatic resources. These measures must be inspected and maintained regularly, especially following rainfall events. All fill material must be adequately stabilized at the earliest practicable date to prevent sediment from entering into adjacent waters or wetlands.

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

14. The permittee shall take measures to prevent live or fresh concrete from coming into contact with any surface waters until the concrete has hardened.

15. The permittee shall install barrier fencing or other acceptable forms of barrier around all wetlands that are not to be disturbed to make them readily visible and prevent construction equipment from inadvertently entering and disturbing the wetland areas that are to remain undisturbed.

16. All mechanized equipment will be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic materials. 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 N.C. 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.

17. If the permittee discovers any previously unknown historic or archeological sites while accomplishing the authorized work, he shall immediately stop work and notify the Wilmington District Engineer who will initiate the required State/Federal coordination.

18. The permittee shall maintain the authorized work in good condition and in conformance with the terms and conditions of this permit. The permittee is not relieved of this requirement if he abandons the permitted activity without transferring it to a third party.

19. Unless otherwise authorized by this permit, all fill material placed in waters or wetlands shall be generated from an upland source and will be clean and free of any pollutants except in trace quantities. Metal products, organic materials (including debris from land clearing activities), or unsightly debris will not be used.

20. This Department of the Army permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.

21. In issuing this permit, the Federal Government does not assume any liability for:

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 Federal activities initiated on behalf of the general public.

c. Damages to other permitted or un-permitted activities or structures caused by the authorized activity.

d. Design and construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.



North Carolina Department of Environment and Natural Resources

Division of Water Quality  
Coleen H. Sullins  
Director

Beverly Eaves Perdue  
Governor

Dee Freeman  
Secretary

July 20, 2009

RECEIVED  
Division of Highways

JUL 23 2009

Preconstruction  
Project Development and  
Environmental Analysis Branch

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 for Proposed improvements to NC 210 (Murchison Road) in Cumberland  
County, Federal Aid Project No. STP 210(11), State Project No. 36492.1.2, TIP No. U-4444,  
NCDWQ Project No. 20090372.

Dear Dr. Thorpe:

Attached hereto is a copy of Certification No. 3805 issued to The North Carolina Department of Transportation  
(NCDOT) dated July 20, 2009.

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

Sincerely,

*B. H.*  
for Coleen H. Sullins  
Director

*Underwood*  
RECEIVED  
JUL 24 2009  
DIVISION OF HIGHWAYS  
PDEA-OFFICE OF NATURAL ENVIRONMENT

Attachments

- cc: Richard Spencer, US Army Corps of Engineers, Wilmington Field Office
- Jim Rerko, Division 6 Environmental Officer
- Chris Underwood, NCDOT NEU
- Travis Wilson, NC Wildlife Resources Commission
- Ecosystem Enhancement Program
- Ken Averitte, NCDWQ 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 (NCDWQ) Regulations in 15 NCAC 2H .0500. This certification authorizes the NCDOT to impact 7.39 acres of jurisdictional wetlands, and 1,100 linear feet of jurisdictional streams in Cumberland County. The project shall be constructed pursuant to the application dated received April 7, 2009. The authorized impacts are as described below:

**Stream Impacts in the Cape Fear River Basin**

Site	Permanent Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
2	0	310	310	310
3	0	681	681	681
4	109	0	109	0
<b>Total</b>	<b>109</b>	<b>991</b>	<b>1100</b>	<b>991</b>

**Total Stream Impact for Project: 1,100 linear feet**

**Wetland Impacts in the Cape Fear River Basin**

Site	Permanent Fill (ac)	Excavation (ac)	Mechanized Clearing (ac)	Drained (ac)	Total Wetland Impact (ac)	Wetland Impacts Requiring Mitigation (ac)
1	0	0	0.01	0	0.01	0.01
2	1.00	0	0.08	0	1.08	1.08
3	4.53	0.22	0.29	0.95	5.99	5.99
4	0.26	0	0	0	0.26	0.26
5	0.05	0	0	0	0.05	0.05
<b>Total</b>	<b>5.84</b>	<b>0.22</b>	<b>0.38</b>	<b>0.95</b>	<b>7.39</b>	<b>7.39</b>

**Total Wetland Impact for Project: 7.39 acres.**

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

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

**Conditions of Certification:**

1. Compensatory mitigation for 991 linear feet of impact to perennial streams is required. We understand that you have chosen to perform compensatory mitigation for impacts to streams through the North Carolina Ecosystem Enhancement Program (EEP), and that the EEP has agreed to implement the mitigation for the project. EEP has indicated in a letter dated March 23, 2009 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the Tri-Party MOA signed on July 22, 2003 and the Dual-Party MOA signed on April 12, 2004.

2. Compensatory mitigation for impacts to 7.33 acres of riparian wetlands and 0.06 acres of non-riparian wetlands is required. We understand that you have chosen to perform compensatory mitigation for impacts to wetlands through the North Carolina Ecosystem Enhancement Program (EEP), and that the EEP has agreed to implement the mitigation for the project. EEP has indicated in a letter dated March 23, 2009 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the Tri-Party MOA signed on July 22, 2003 and the Dual-Party MOA signed on April 12, 2004

3. All portions of the proposed project draining to 303(d) listed watersheds that are impaired due to biological criteria exceedances shall not discharge stormwater directly to surface waters. Stormwater shall be treated using appropriate best management practices (e.g., vegetated conveyances, constructed wetlands, detention ponds, etc.) prior to discharging to surface waters.

4. Unless otherwise approved in this certification, 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 NCDWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact NCDWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.

5. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.

6. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.

7. For any streams being impacted due to site dewatering activities, the site shall be graded to its preconstruction contours and revegetated with appropriate native species.

8. A copy of the final construction drawings shall be furnished to NCDWQ Central Office prior to the pre-construction meeting. The permittee shall provide written verification that the final construction drawings comply with the permit drawings contained in the application dated received April 7, 2009. Any deviations from the approved drawings are not authorized unless approved by the NC Division of Water Quality.

9. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.

10. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S.

11. The dimension, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions.

12. 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.

13. 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.

14. 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.

15. 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.

16. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification.
17. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.
18. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If NCDWQ determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, NCDWQ may reevaluate and modify this certification.
19. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification..
20. A copy of this Water Quality Certification shall be maintained on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager.
21. The outside 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.
22. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.
23. The Permittee shall report any violations of this certification to the Division of Water Quality within 24 hours of discovery.
24. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify NCDWQ when all work included in the 401 Certification has been completed.
25. Native riparian vegetation (i.e., trees and shrubs native to your geographic region) must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.
26. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities.
27. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards:
  - a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
  - b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
  - c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
  - d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.

28. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification.

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 20th day of July 2009

DIVISION OF WATER QUALITY



for Coleen H. Sullins  
Director

WQC No. 3805

NCDWQ Project No.: \_\_\_\_\_ County: \_\_\_\_\_  
Applicant: \_\_\_\_\_  
Project Name: \_\_\_\_\_  
Date of Issuance of 401 Water Quality Certification: \_\_\_\_\_

**Certificate of Completion**

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401 Transportation Permitting Unit, North Carolina Division of Water Quality, 1650 Mail Service Center, Raleigh, NC, 27699-1650. This form may be returned to NCDWQ 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 \_\_\_\_\_



# PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
------------	-------	-----------

1	FORT BRAGG MILITARY RESERVATION	
---	------------------------------------	--

2	STATE OF NC VETERAN AFFAIRS	
---	--------------------------------	--

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

PROJECT: 36492.1.2 (U-4444A)

NC 210 (MURCHISON ROAD) FROM  
FAYETTEVILLE OUTER LOOP  
TO BUTNER ROAD

SHEET OF 01 / 20 / 09

Permit Drawing  
Sheet 2 of 51



**WETLAND PERMIT IMPACT SUMMARY**

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS						SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)	
3	-L- 130+00 to 138+00 RT.	54" RCP	4.53	0.00	0.22	0.29	0.00	0.00	0.08	0.00	681	0	0
4	-Y3RPA- 26+00 to 23+10	3 @ 36" RCP	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	109	0	0
5	-Y3RPA- 14+84 to 12+89	N/A	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
<b>TOTALS:</b>			<b>4.84</b>	<b>0.00</b>	<b>0.22</b>	<b>0.29</b>	<b>0.00</b>	<b>0.00</b>	<b>0.08</b>	<b>0.00</b>	<b>790</b>	<b>0</b>	<b>0</b>

**U-4444AB**

SITE 3: ADDITIONAL IMPACTS INSIDE-Y3LPD-0.808 ACRES

SITE 3: ADDITIONAL IMPACTS OUTSIDE -Y3RPD-0.138 ACRES

NC DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY  
WBS - 36492.1.2 (U-4444AB)

SHEET

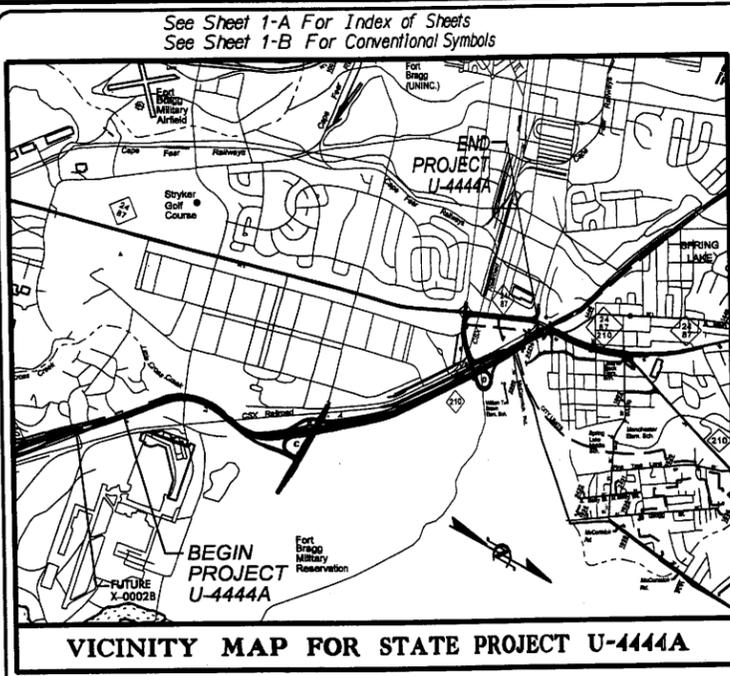
2/26/2009

Permit Drawing  
Sheet 4 of 51

09/08/09  
 7:38:23 AM  
 E:\31008\083339.09 U-4444\Hydraulics\Permits-Environmental\Drawings\U-4444\_hyd\_tsh.dgn  
 2/20/2009

**TIP PROJECT: U-4444A**

**CONTRACT:**



**R/W PLANS**

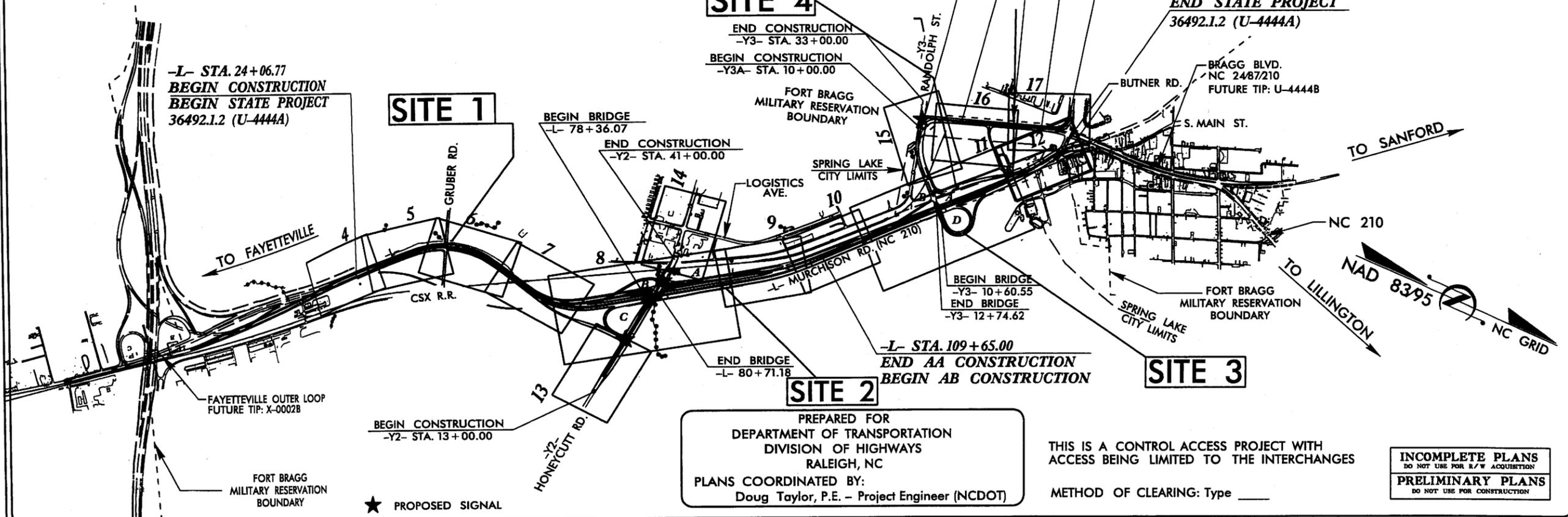
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**CUMBERLAND COUNTY**

**LOCATION: NC 210 (MURCHISON ROAD) FROM FAYETTEVILLE OUTER LOOP TO BUTNER RD.**

**TYPE OF WORK: GRADING, DRAINAGE, PAVING, SIGNALS, AND STRUCTURES**

**WETLAND/STREAM IMPACTS**



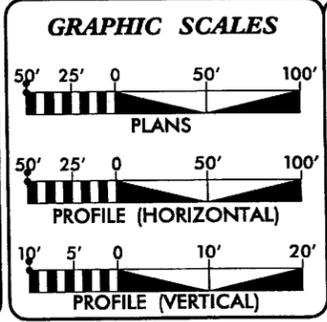
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4444A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
36492.1.2	STP-210(11)	PE	

Permit Drawing  
Sheet 5 of 51

PREPARED FOR  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, NC  
PLANS COORDINATED BY:  
Doug Taylor, P.E. - Project Engineer (NCDOT)

THIS IS A CONTROL ACCESS PROJECT WITH  
ACCESS BEING LIMITED TO THE INTERCHANGES  
METHOD OF CLEARING: Type \_\_\_\_\_

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



**DESIGN DATA**

ADT 2005 =	45,400
ADT 2035 =	77,000
DHV =	11 %
D =	55 %
T =	6 % *
V =	60 MPH
* TTST 2% DUAL 4% FUNC. CLASS. =	URBAN FREEWAY

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT U-4444A =	2.530 Miles
LENGTH STRUCTURES TIP PROJECT U-4444A =	0.044 Miles
TOTAL LENGTH STATE TIP PROJECT U-4444A =	2.574 Miles

Prepared In the Office of:  
**LOCHNER**  
H. W. LOCHNER, INC.  
2840 PLAZA PLACE, SUITE 202  
RALEIGH, NC 27612

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: March 20, 2009	<b>BRIAN K. EASON, PE</b> PROJECT ENGINEER
LETTING DATE: September 15, 2009	<b>DAVID W. MARTIN</b> PROJECT DESIGN ENGINEER

**HYDRAULICS ENGINEER**

SIGNATURE: \_\_\_\_\_ P.E.

**ROADWAY DESIGN ENGINEER**

SIGNATURE: \_\_\_\_\_ P.E.

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.

# SITE 1

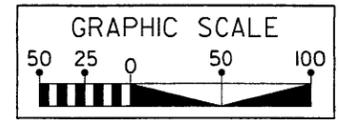
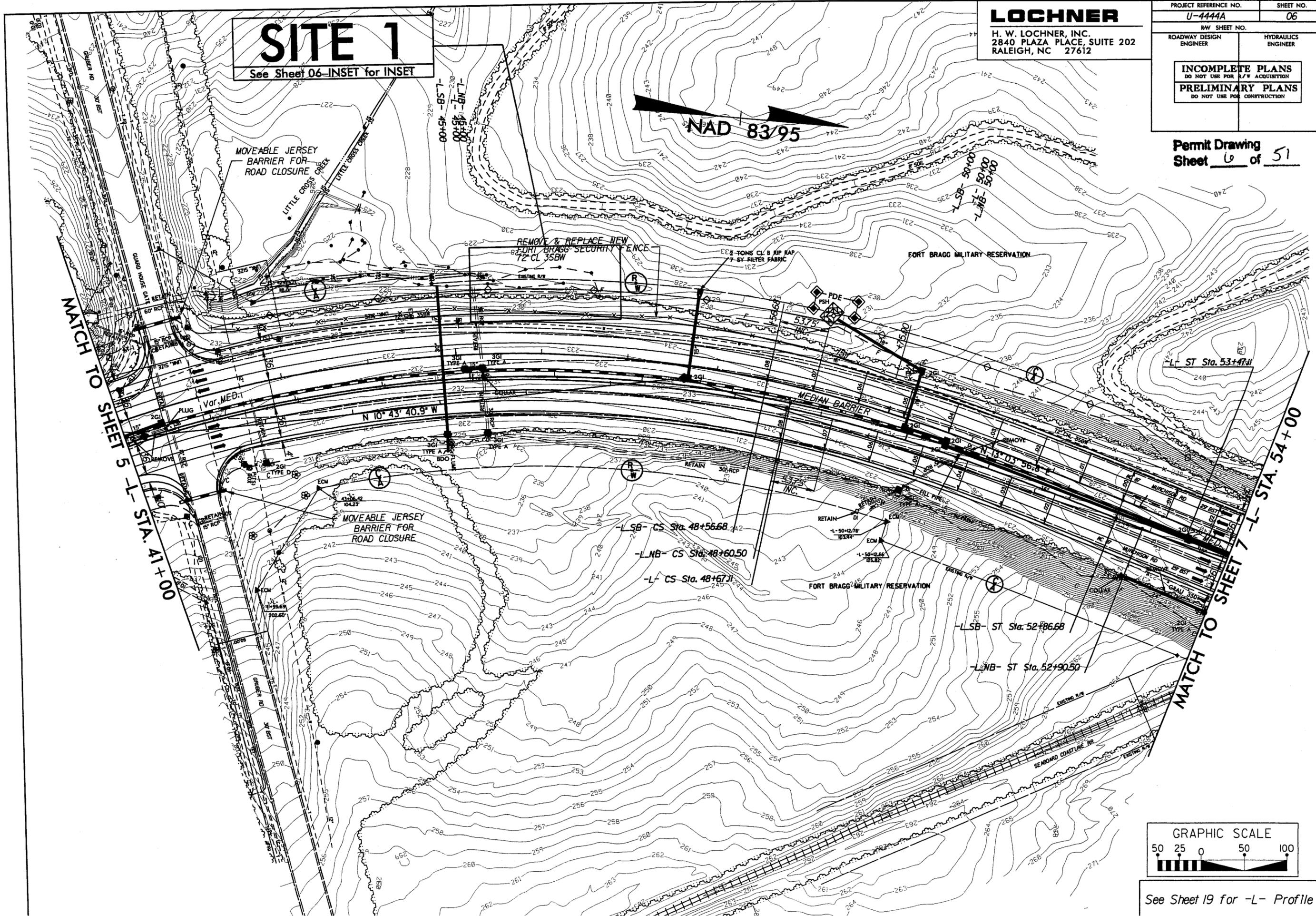
See Sheet 06-INSET for INSET

## LOCHNER

H. W. LOCHNER, INC.  
2840 PLAZA PLACE, SUITE 202  
RALEIGH, NC 27612

PROJECT REFERENCE NO. U-4444A	SHEET NO. 06
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

Permit Drawing  
Sheet 6 of 51

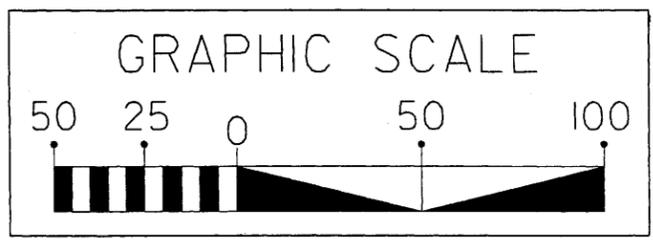
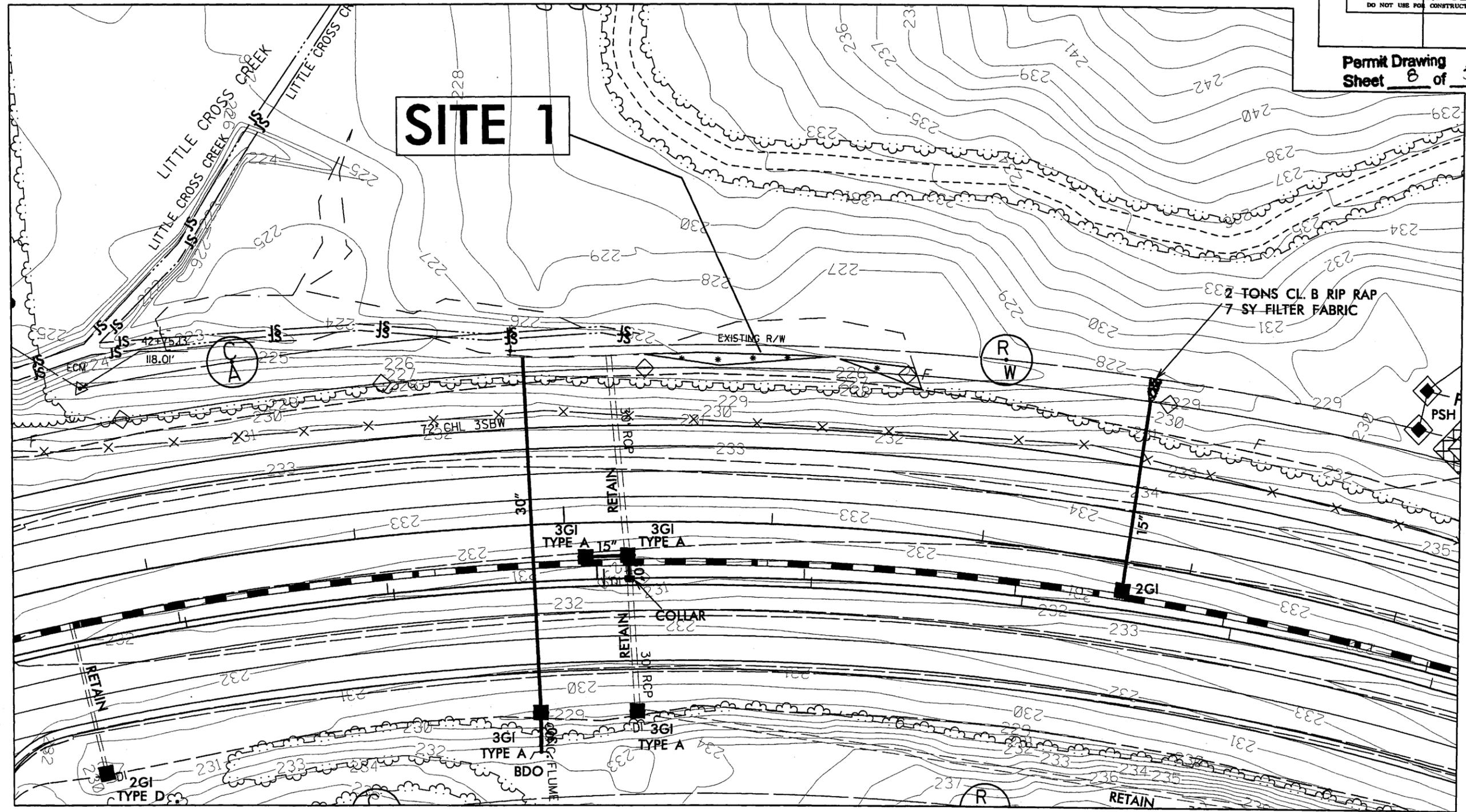
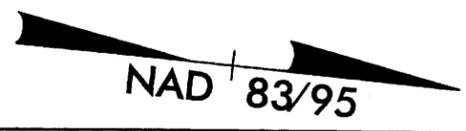


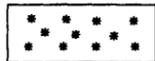
See Sheet 19 for -L- Profile



PROJECT REFERENCE NO. U-4444A	SHEET NO. 06-INSET
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

Permit Drawing  
Sheet 8 of 15

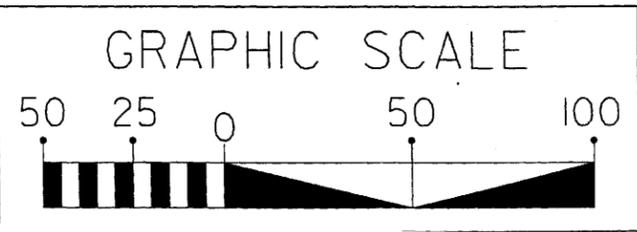
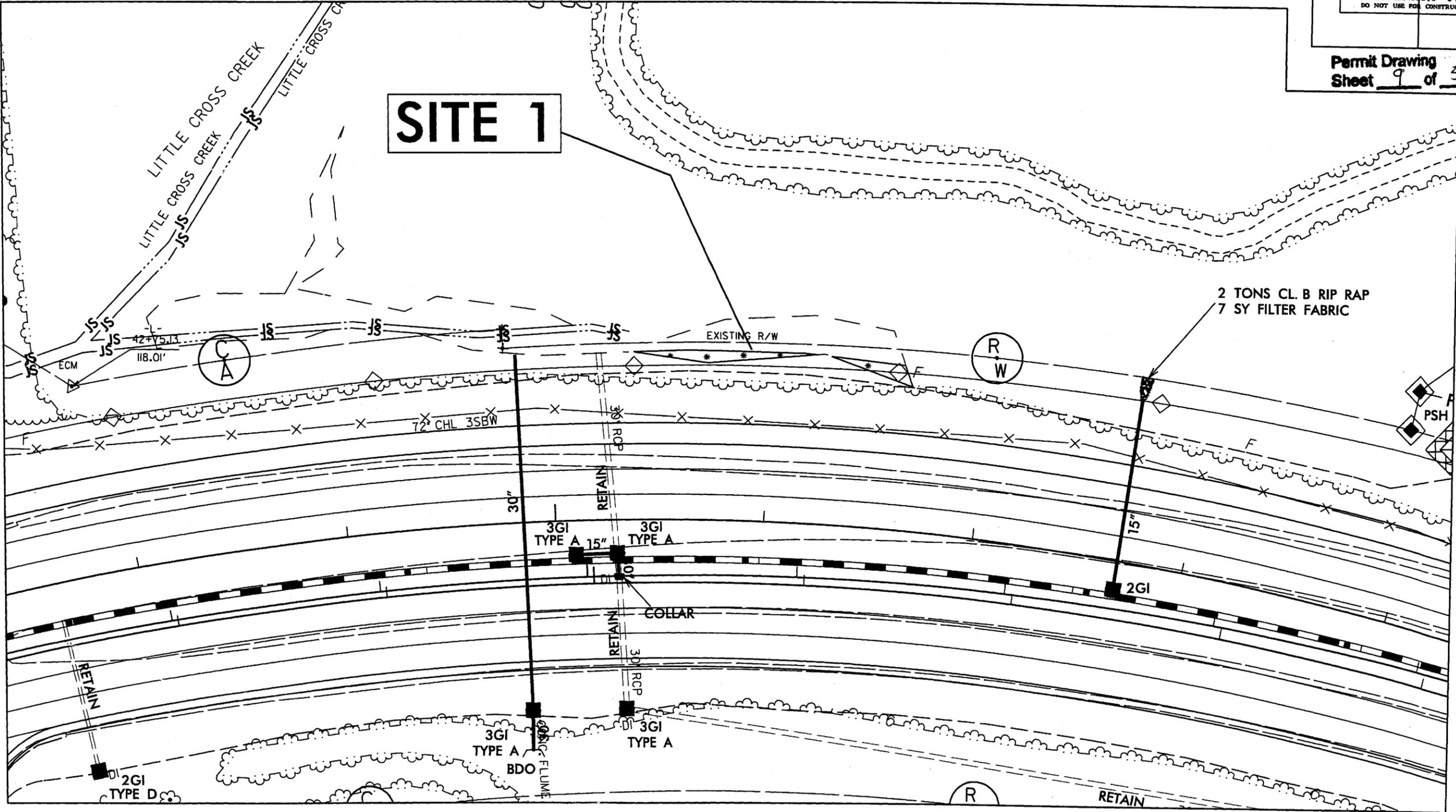
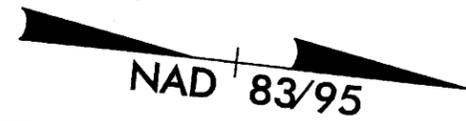


 DENOTES MECHANIZED CLEARING

PROJECT: 36492.1.2 (U-4444AA)  
 SITE I  
 (STREAM IER)  
 (WETLAND IER)

PROJECT REFERENCE NO. U-4444A	SHEET NO. 06-INSET
R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	
<b>INCOMPLETE PLANS</b> <small>DO NOT USE FOR R/W ACQUISITION</small>	
<b>PRELIMINARY PLANS</b> <small>DO NOT USE FOR CONSTRUCTION</small>	

Permit Drawing  
Sheet 9 of 51



DENOTES MECHANIZED CLEARING

PROJECT: 36492.1.2 (U-4444AA)  
**SITE 1**  
 (STREAM IER)  
 (WETLAND IER)

**LOCHNER**  
 H. W. LOCHNER, INC.  
 2840 PLAZA PLACE, SUITE 202  
 RALEIGH, NC 27612

PROJECT REFERENCE NO.	U-444A
SHEET NO.	10
DESIGNED BY	H.W. LOCHNER, INC.
CHECKED BY	H.W. LOCHNER, INC.
DATE	
INCOMPLETE PLANS DO NOT USE FOR CONSTRUCTION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

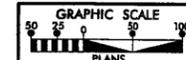
Permit Drawing  
 Sheet 10 of 14



**SITE 2**  
 See Sheet 08-INSET for INSET

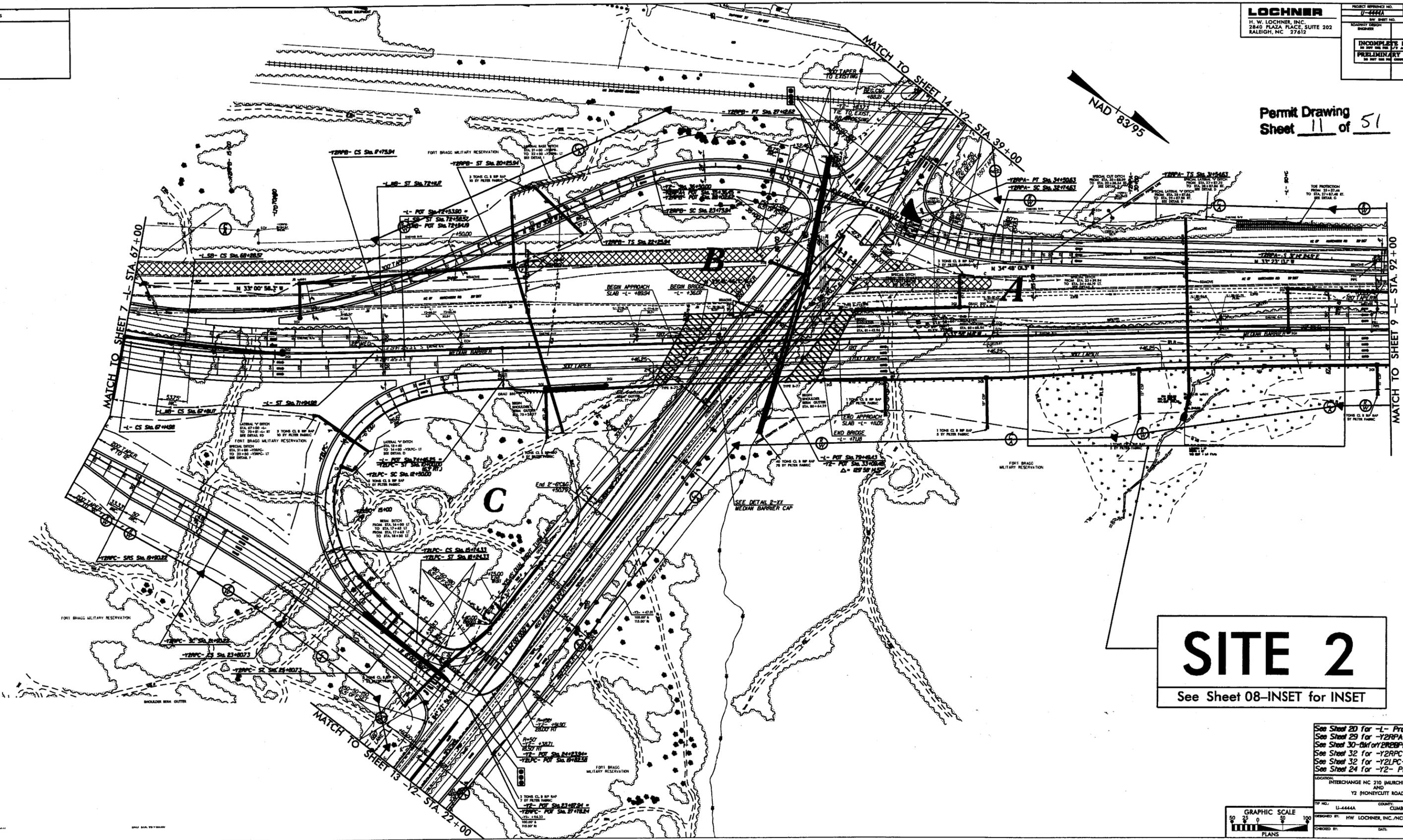
See Sheet 20 for -L- Profile  
 See Sheet 29 for -Y2RPA- Profile  
 See Sheet 30 for -Y2RPA- Profile  
 See Sheet 32 for -Y2LPC- Profile  
 See Sheet 32 for -Y2LPC- Profile  
 See Sheet 24 for -Y2- Profile

LOCATION	INTERCHANGE NC 210 (MURCHISON ROAD) AND Y2 (HONEYCUTT ROAD)
PROJECT NO.	U-444A
COUNTY	CUMBERLAND CO.
DESIGNED BY	H.W. LOCHNER, INC./NCDOT
CHECKED BY	
DATE	



REVISIONS

Permit Drawing  
 Sheet **11** of **51**



# SITE 2

See Sheet 08-INSET for INSET

See Sheet 20 for -L- Profile  
 See Sheet 29 for -Y2RPA- Profile  
 See Sheet 30-31 for -Y2RBPB- Profile  
 See Sheet 32 for -Y2RPC- Profile  
 See Sheet 32 for -Y2LPC- Profile  
 See Sheet 24 for -Y2- Profile

LOCATION:  
 INTERCHANGE NC 210 (MURCHISON ROAD)  
 AND  
 Y2 (HONEYCLIFF ROAD)

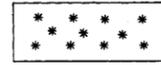
TP NO.: U-444A COUNTY: CUMBERLAND CO.  
 DESIGNED BY: HW LOCHNER, INC./MCDOT  
 CHECKED BY: DATE:



REVISIONS



DENOTES FILL IN WETLAND



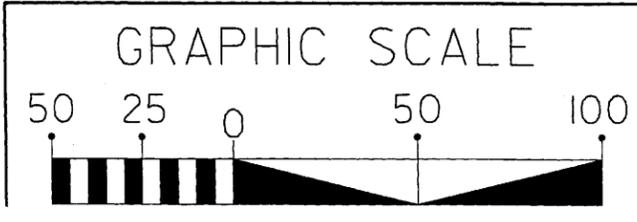
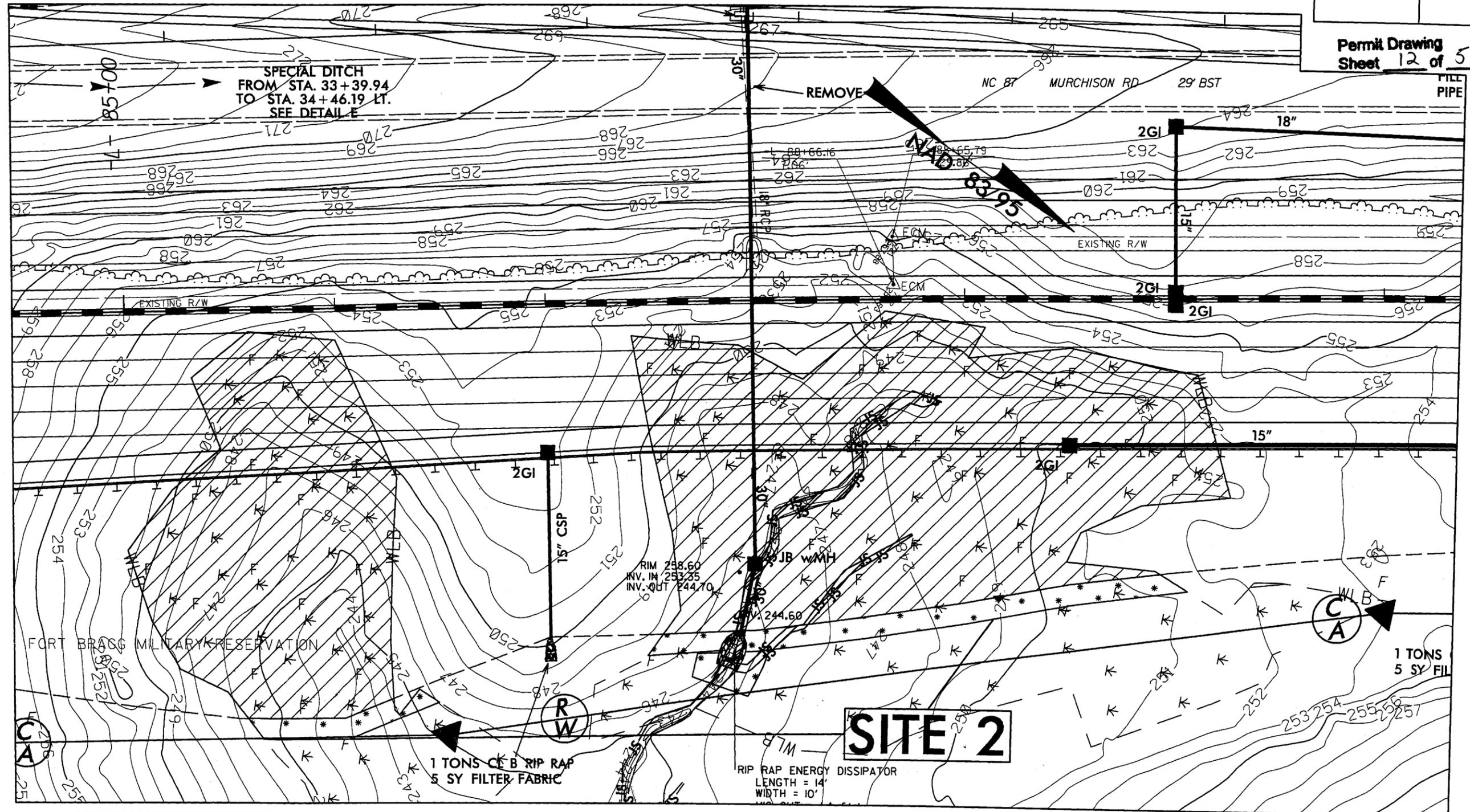
DENOTES MECHANIZED CLEARING



DENOTES IMPACTS IN SURFACE WATER

PROJECT REFERENCE NO. U-4444A		SHEET NO. 08-INSET	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION			

Permit Drawing Sheet 12 of 51



PROJECT: 36492.1.2 (U-4444AA)  
 SITE 2  
 (STREAM 3ER, IER)  
 (WETLANDS BER, CER)



MATCH TO SHEET 115 - Y3 - STA. 188+270

# SITE 4

See Sheet 11-INSET2 for INSET

**LOCHNER**  
 H. W. LOCHNER, INC.  
 2840 PLAZA PLACE, SUITE 202  
 RALEIGH, NC 27612

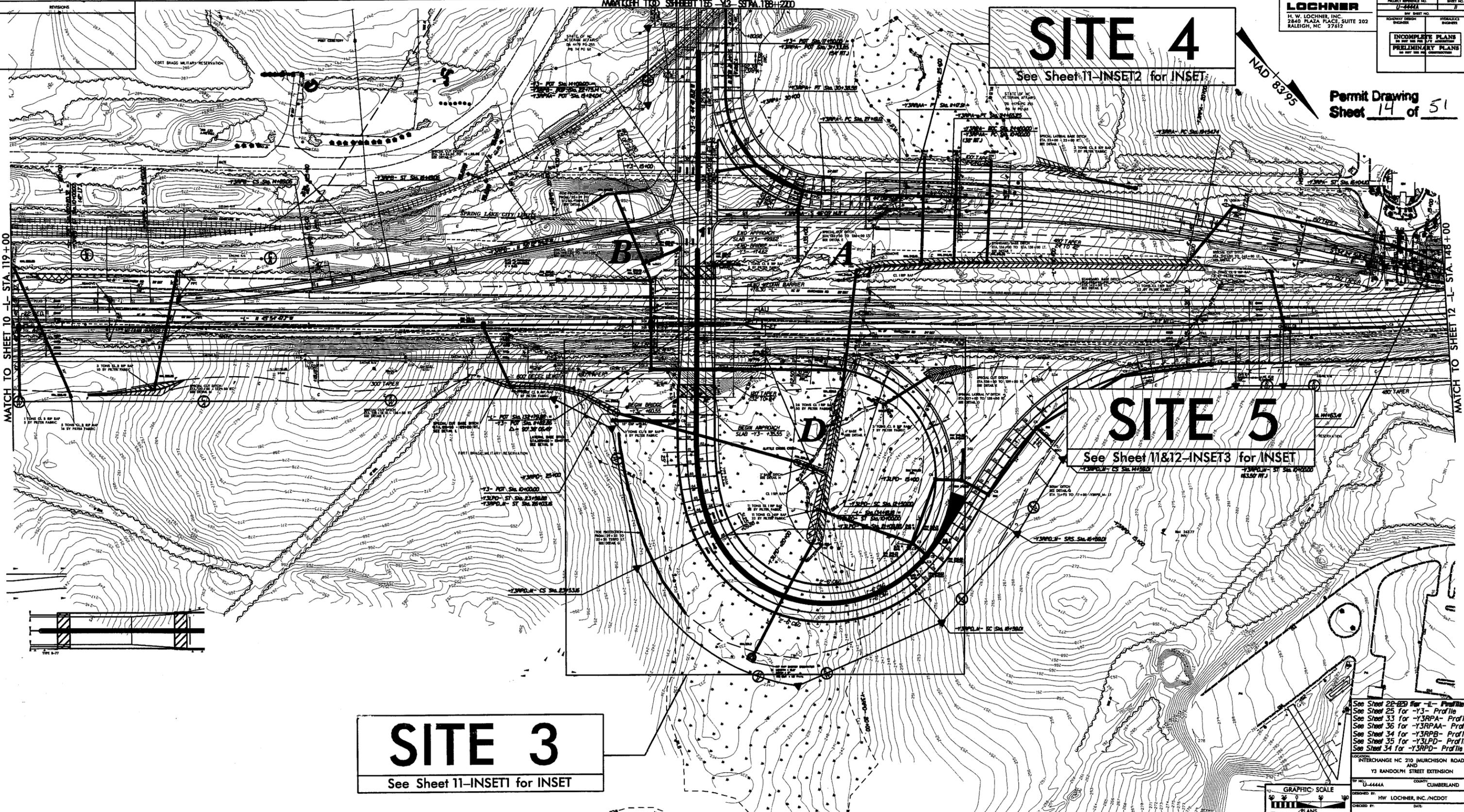
PROJECT REFERENCE NO. U-4444  
 SHEET NO. 11

ROADWAY DESIGN ENGINEER  
 CIVIL ENGINEER

INCOMPLETE PLANS  
 PRELIMINARY PLANS



Permit Drawing Sheet 14 of 51



MATCH TO SHEET 10 - L - STA. 119+00

MATCH TO SHEET 12 - L - STA. 148+00

# SITE 3

See Sheet 11-INSET1 for INSET

# SITE 5

See Sheet 11&12-INSET3 for INSET

See Sheet 22-23 for -L- Profile  
 See Sheet 25 for -Y3- Profile  
 See Sheet 33 for -Y3RPA- Profile  
 See Sheet 36 for -Y3RPA- Profile  
 See Sheet 34 for -Y3RPA- Profile  
 See Sheet 35 for -Y3RPA- Profile  
 See Sheet 34 for -Y3RPA- Profile

LOCATION:  
 INTERCHANGE NC 210 (MARCHION ROAD)  
 AND  
 Y3 RANDOLPH STREET EXTENSION

PROJECT NO. U-4444 COUNTY CUMBERLAND  
 DESIGNED BY: HW LOCHNER, INC./NCDOT  
 CHECKED BY: DATE:



NO.	DESCRIPTION

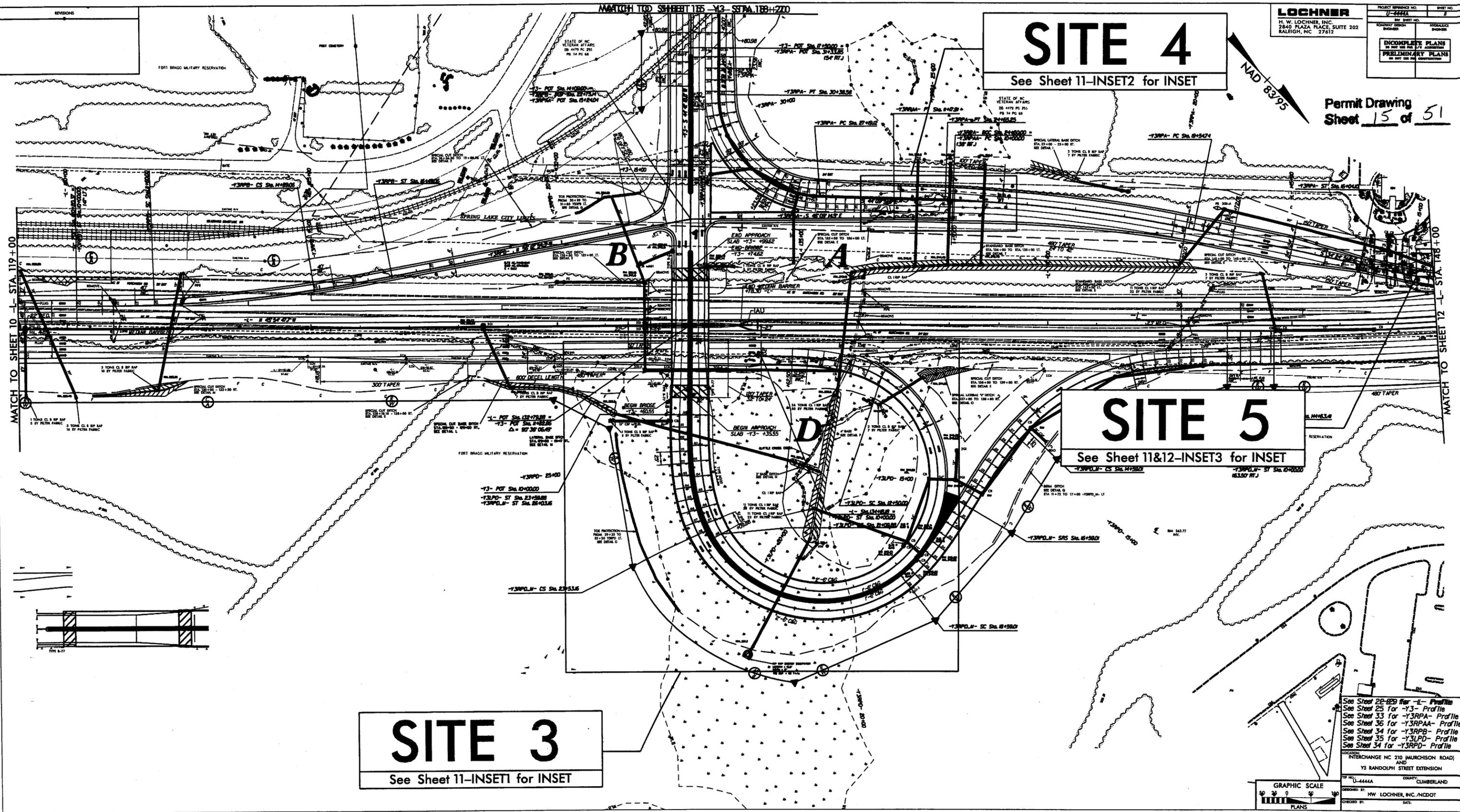
**LOCHNER**  
 H. W. LOCHNER, INC.  
 2840 PLAZA PLACE SUITE 202  
 RALEIGH, NC 27612

PROJECT REFERENCE NO. U-4444A	SHEET NO. 11
DATE 	SCALE 
DESIGNED BY 	CHECKED BY 
<b>INCOMPLETE PLANS</b> DO NOT USE FOR CONSTRUCTION	

**SITE 4**  
 See Sheet 11-INSET2 for INSET

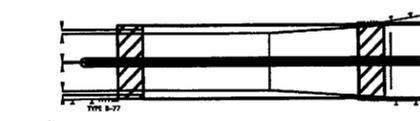
NAD 83/95

Permit Drawing  
 Sheet 15 of 51



**SITE 5**  
 See Sheet 11&12-INSET3 for INSET

**SITE 3**  
 See Sheet 11-INSET1 for INSET



See Sheet 20-220 for -L- Profile  
 See Sheet 25 for -Y3- Profile  
 See Sheet 33 for -Y3RPA- Profile  
 See Sheet 36 for -Y3RPA- Profile  
 See Sheet 34 for -Y3RPA- Profile  
 See Sheet 35 for -Y3RPA- Profile  
 See Sheet 34 for -Y3RPA- Profile

LOCATION:  
 INTERCHANGE NC 210 (MURCHISON ROAD)  
 AND  
 Y3 RANDOLPH STREET EXTENSION

PROJECT NO. U-4444A COUNTY: CUMBERLAND  
 DESIGNED BY: HW LOCHNER, INC./NCDOT  
 CHECKED BY: DATE:  

GRAPHIC SCALE  
 1" = 100'  
 PLANS

**LOCHNER**  
 H. W. LOCHNER, INC.  
 2840 PLAZA PLACE, SUITE 202  
 RALEIGH, NC 27612

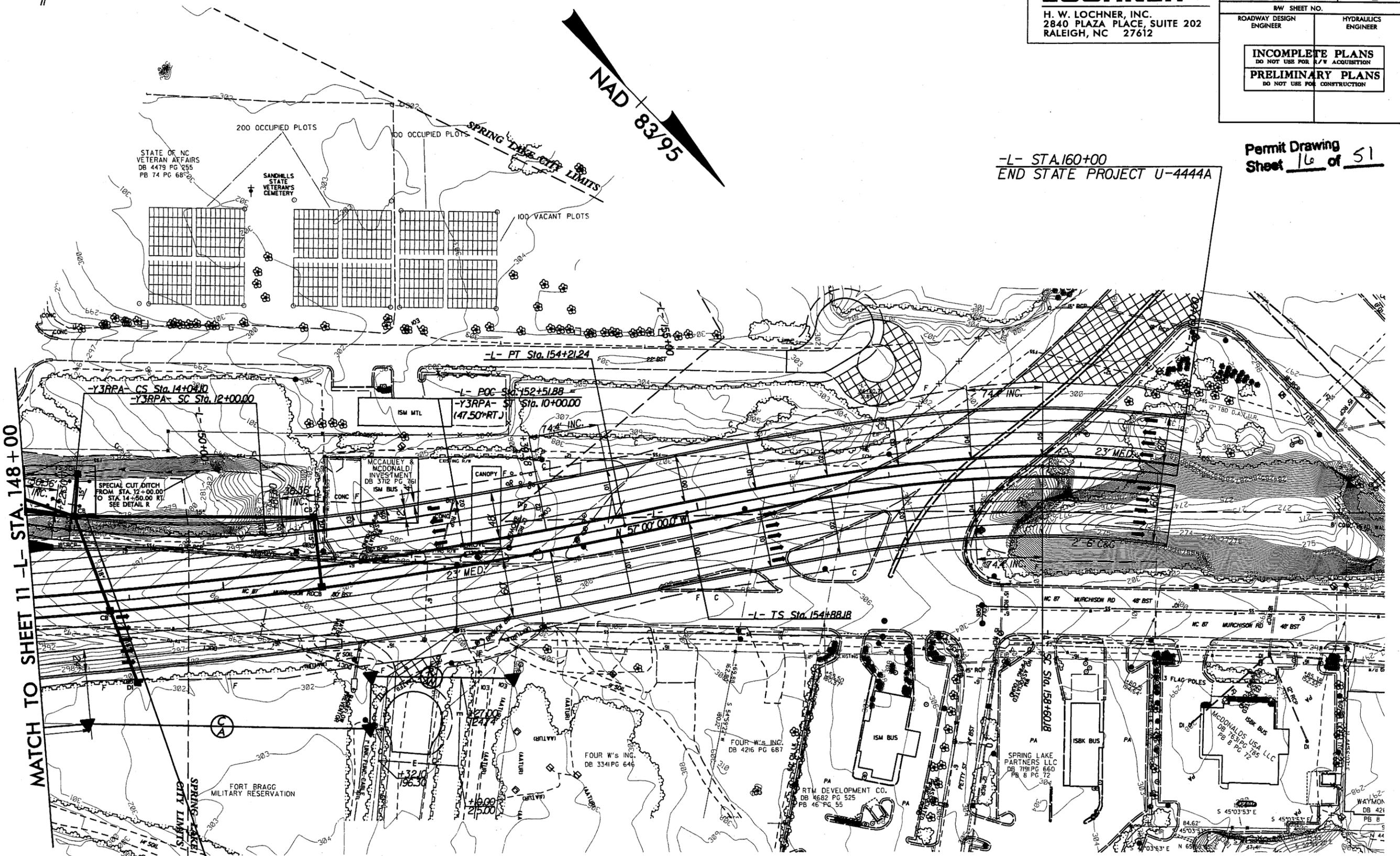
PROJECT REFERENCE NO. U-4444A	SHEET NO. 12
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	



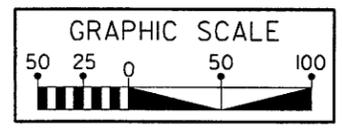
-L- STA.160+00  
 END STATE PROJECT U-4444A

Permit Drawing  
 Sheet 16 of 51

MATCH TO SHEET 11 -L- STA. 148+00



**SITE 5**  
 See Sheet 11&12-INSET3 for INSET



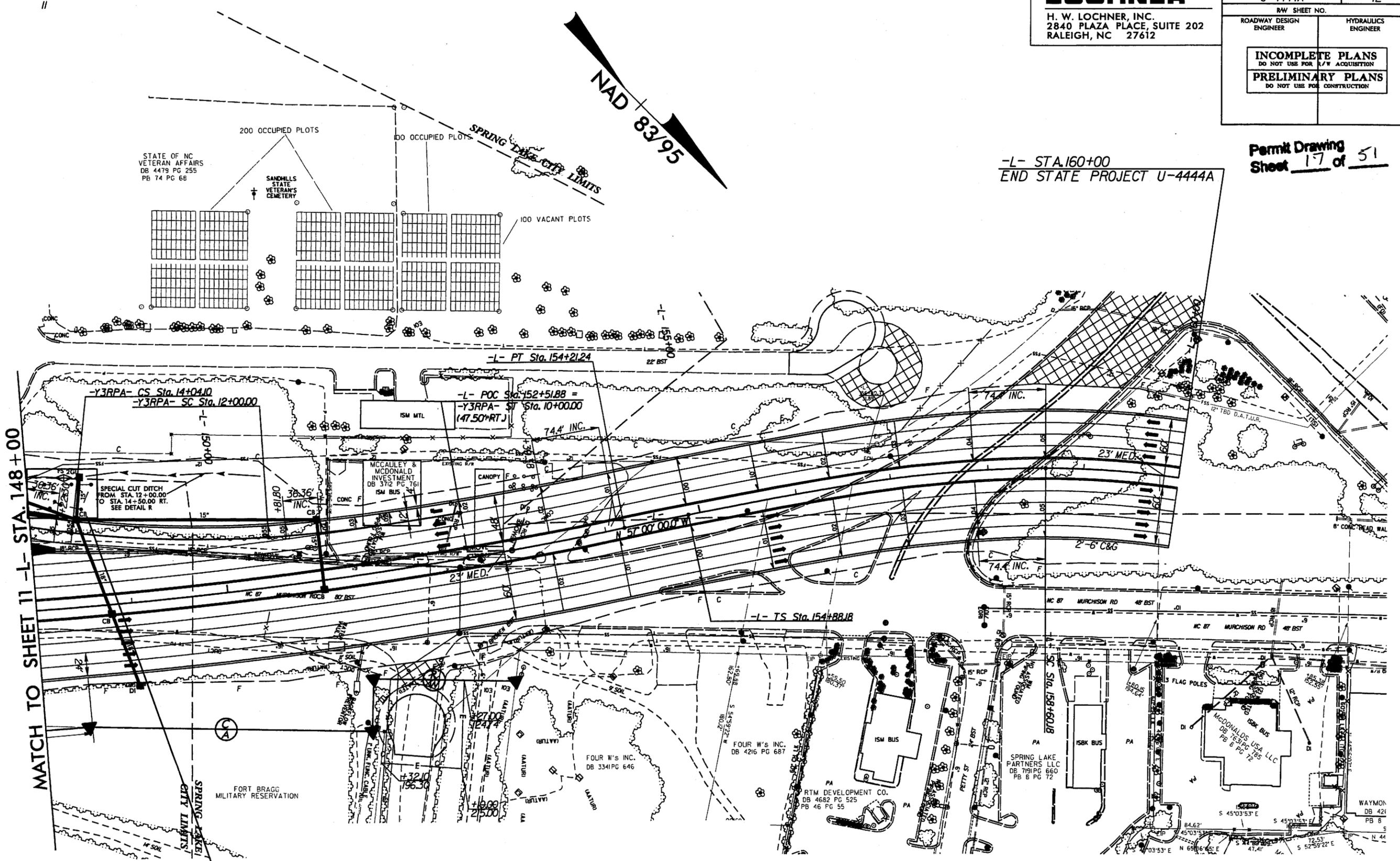
See Sheet 23 for -L- Profile  
 See Sheet 33 for -Y3RPA- Profile

**LOCHNER**  
 H. W. LOCHNER, INC.  
 2840 PLAZA PLACE, SUITE 202  
 RALEIGH, NC 27612

PROJECT REFERENCE NO. U-4444A	SHEET NO. 12
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

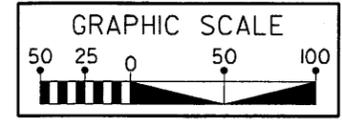
Permit Drawing  
 Sheet 17 of 51

-L- STA.160+00  
 END STATE PROJECT U-4444A



MATCH TO SHEET 11 -L- STA. 148+00

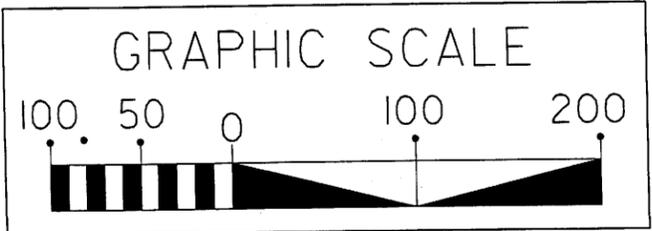
**SITE 5**  
 See Sheet 11&12-INSET3 for INSET



See Sheet 23 for -L- Profile  
 See Sheet 33 for -Y3RPA- Profile



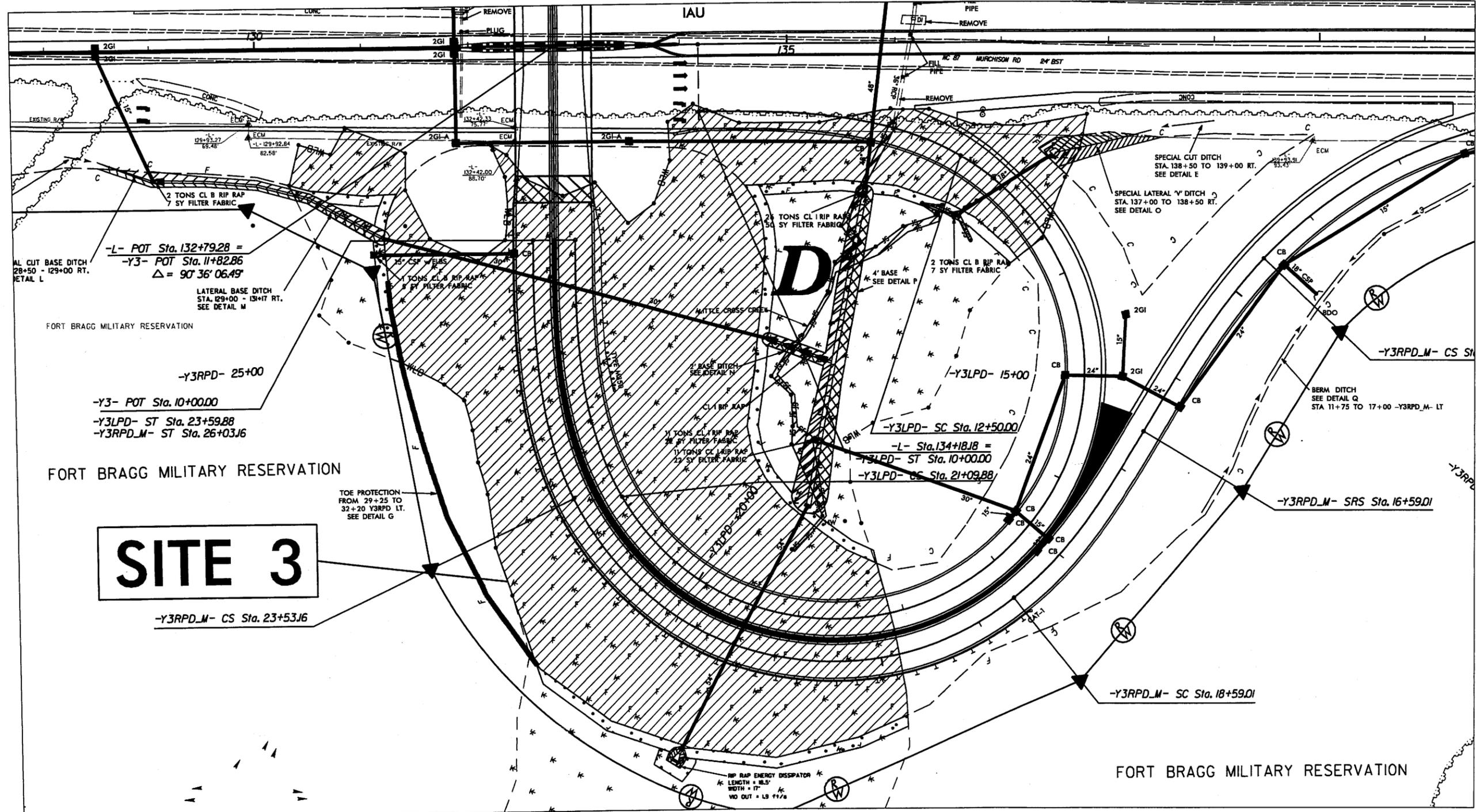
PROJECT REFERENCE NO. U-4444A	SHEET NO. 11-INSET 1
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/V ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	



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



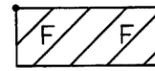
Permit Drawing  
Sheet 19 of 51

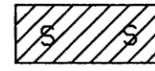


**SITE 3**

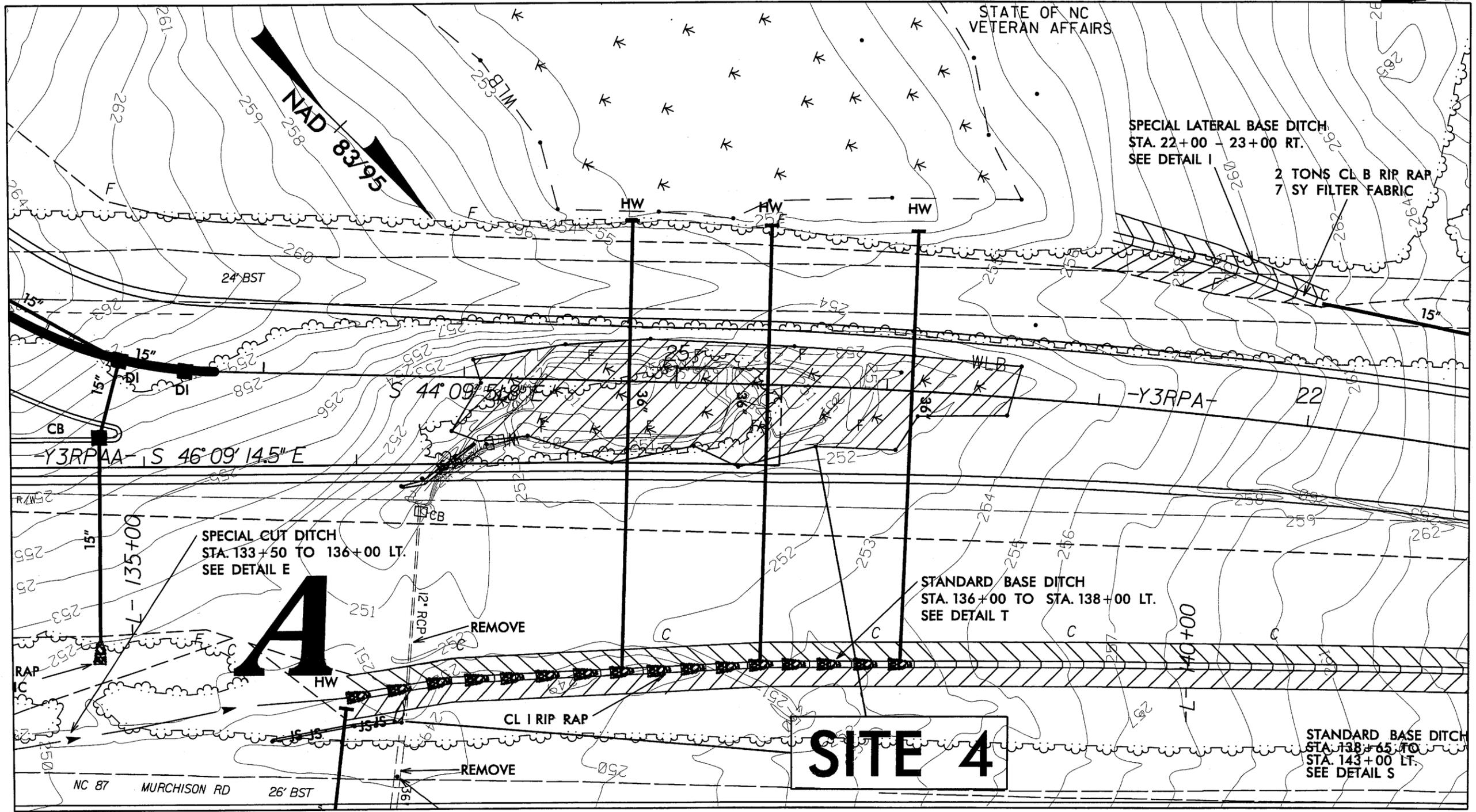
PROJECT: 36492.1.2 (U-4444AB) (STREAM 6ER, 8ER, 9ER, 10ER)  
 SITE 3 (WETLAND EER)

PROJECT REFERENCE NO. U-4444A	SHEET NO. 11-INSET 2
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR P/V ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

 DENOTES FILL IN WETLAND

 DENOTES IMPACTS IN SURFACE WATER

Permit Drawing  
Sheet 20 of 51



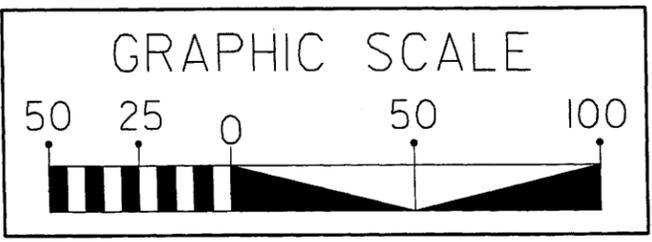
PROJECT: 36492.1.2 (U-4444AB)  
SITE 4

(STREAM 6TB, 7TB)  
(WETLAND FTB)

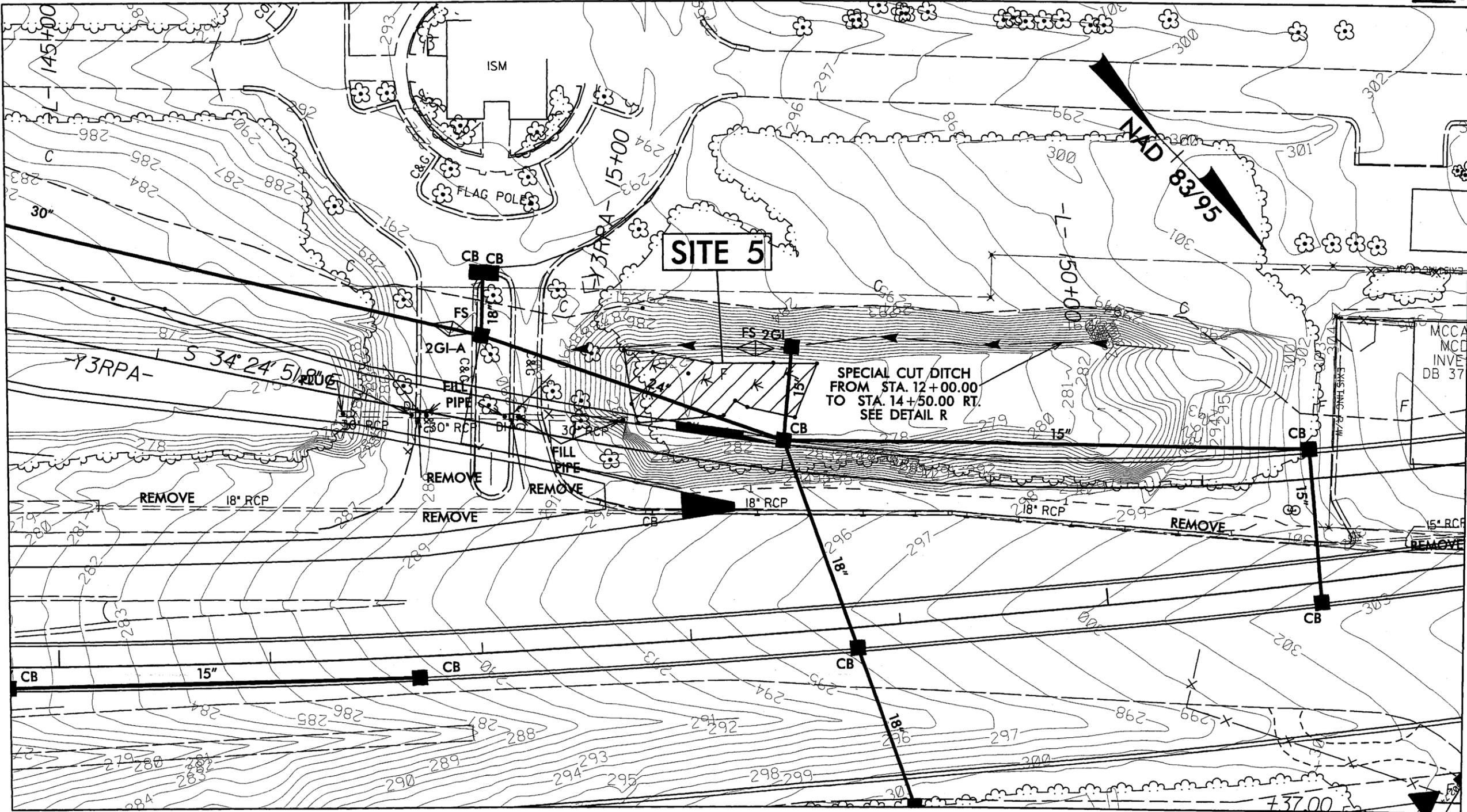


PROJECT REFERENCE NO. U-4444A	SHEET NO. 11&12-INSET 3
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

Permit Drawing  
Sheet 22 of 51



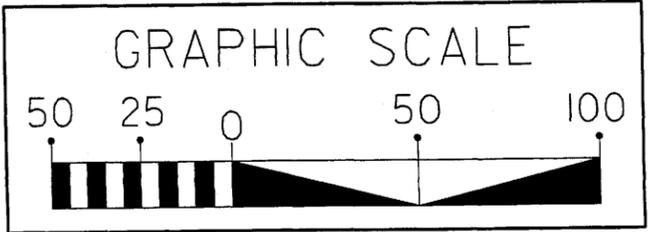
DENOTES FILL IN WETLAND



PROJECT: 36492.1.2 (U-4444AB)  
SITE 5

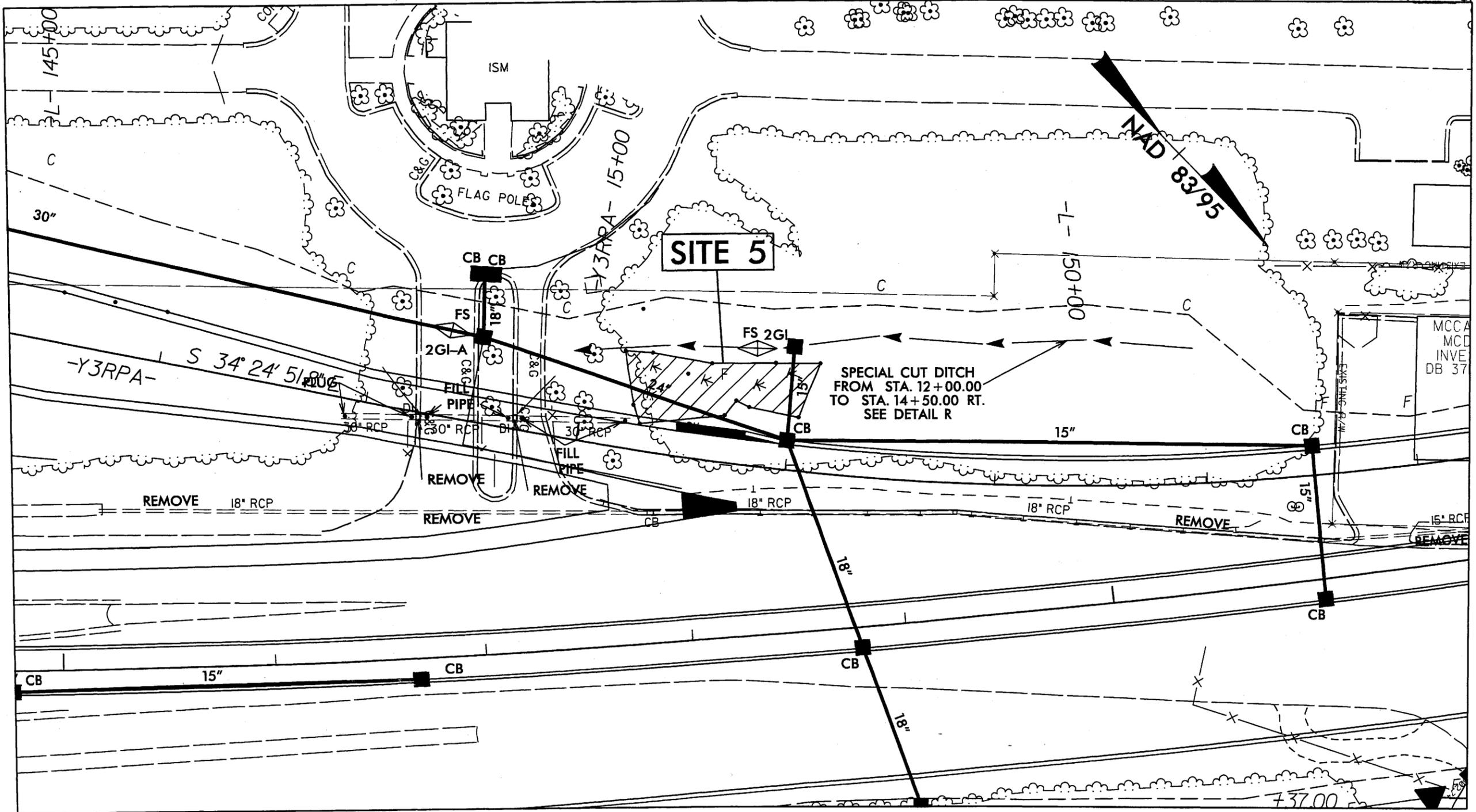
(WETLAND HER)

PROJECT REFERENCE NO. U-4444A	SHEET NO. 11&12-INSET 3
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/V ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	



DENOTES FILL IN WETLAND

Permit Drawing  
Sheet 23 of 51



PROJECT: 36492.1.2 (U-4444AB)  
SITE 5

(WETLAND HER)

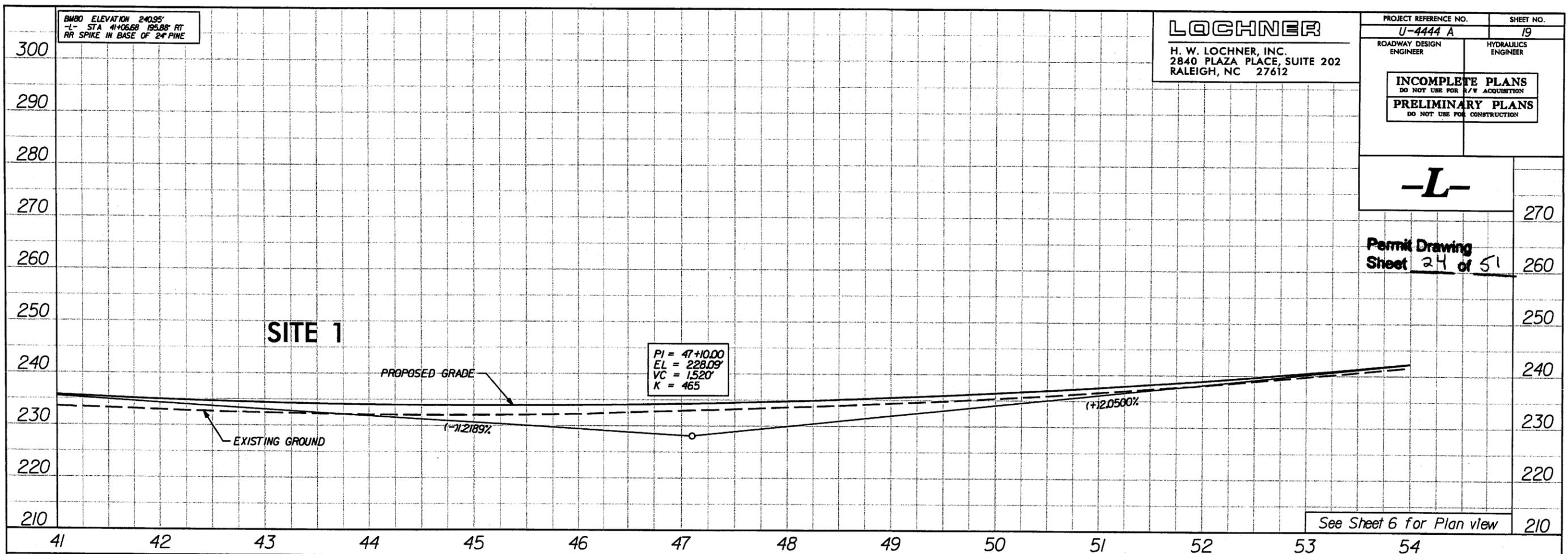
BMBD ELEVATION 240.95'  
-L- STA 41+06.68 195.88' RT  
RR SPIKE IN BASE OF 2" PINE

**LOCHNER**  
H. W. LOCHNER, INC.  
2840 PLAZA PLACE, SUITE 202  
RALEIGH, NC 27612

PROJECT REFERENCE NO. U-4444 A	SHEET NO. 19
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

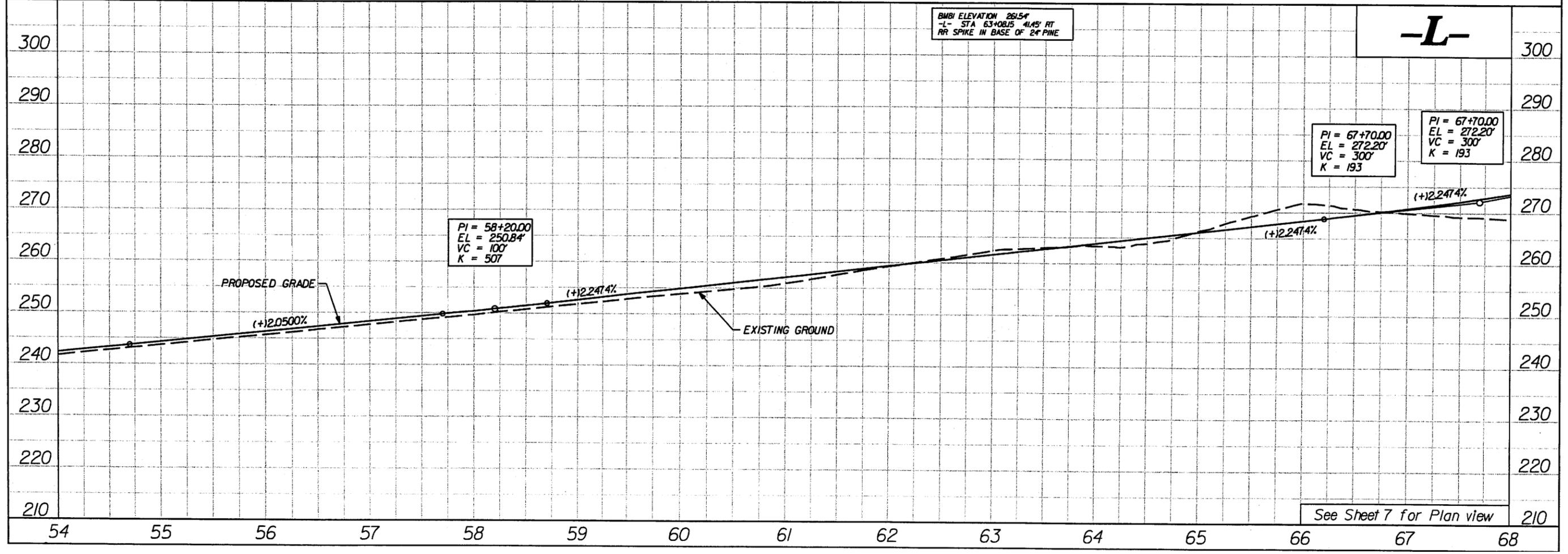
**-L-**

Permit Drawing  
Sheet 24 of 51



BMBD ELEVATION 2615.4'  
-L- STA 63+08.15 41.45' RT  
RR SPIKE IN BASE OF 2" PINE

**-L-**



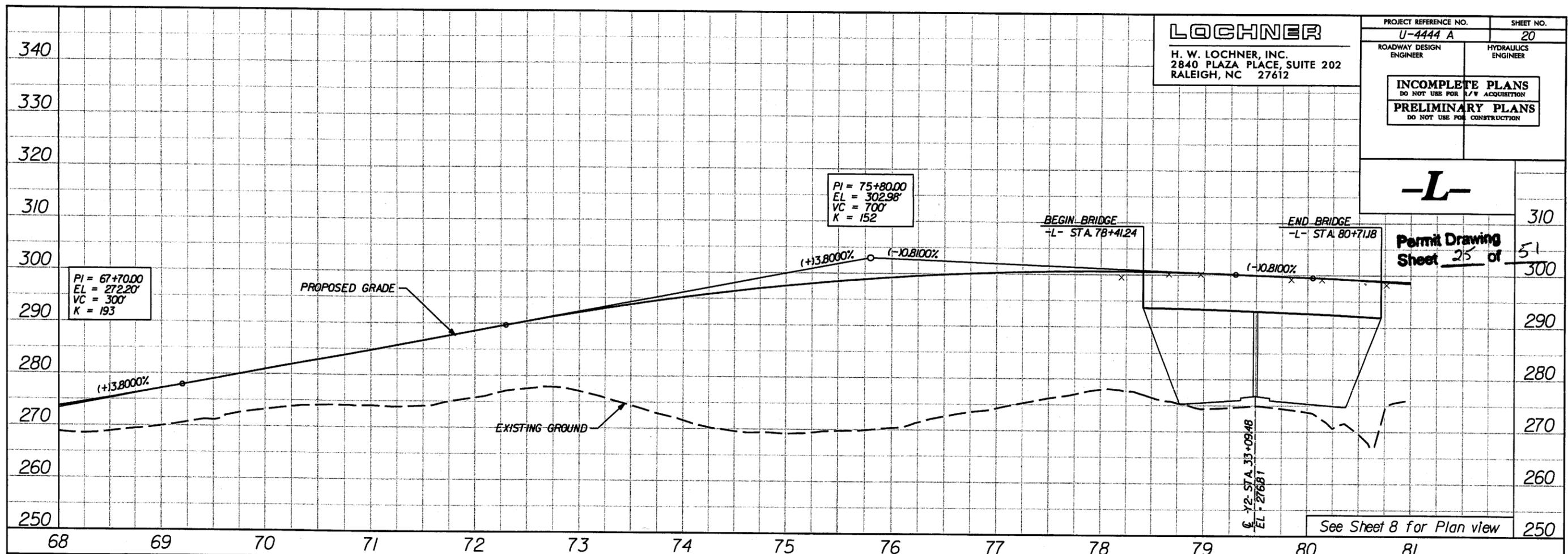
**LOCHNER**

H. W. LOCHNER, INC.  
2840 PLAZA PLACE, SUITE 202  
RALEIGH, NC 27612

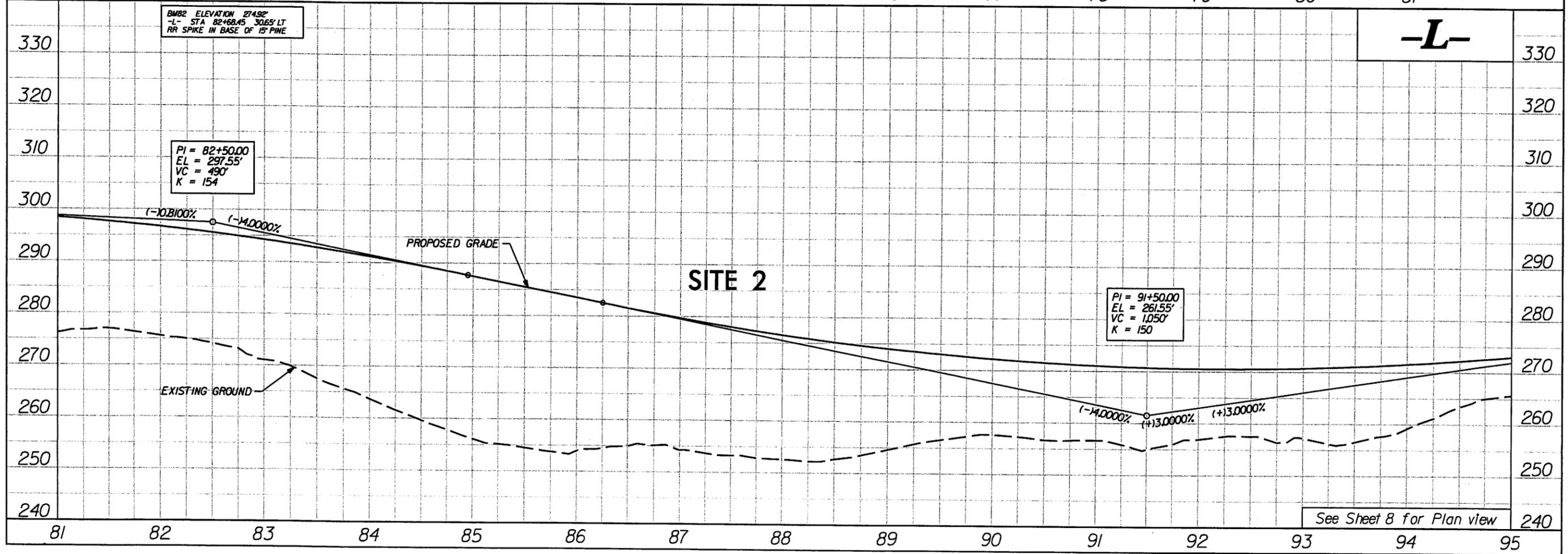
PROJECT REFERENCE NO. U-4444 A	SHEET NO. 20
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

**-L-**

Permit Drawing  
Sheet 25 of 51



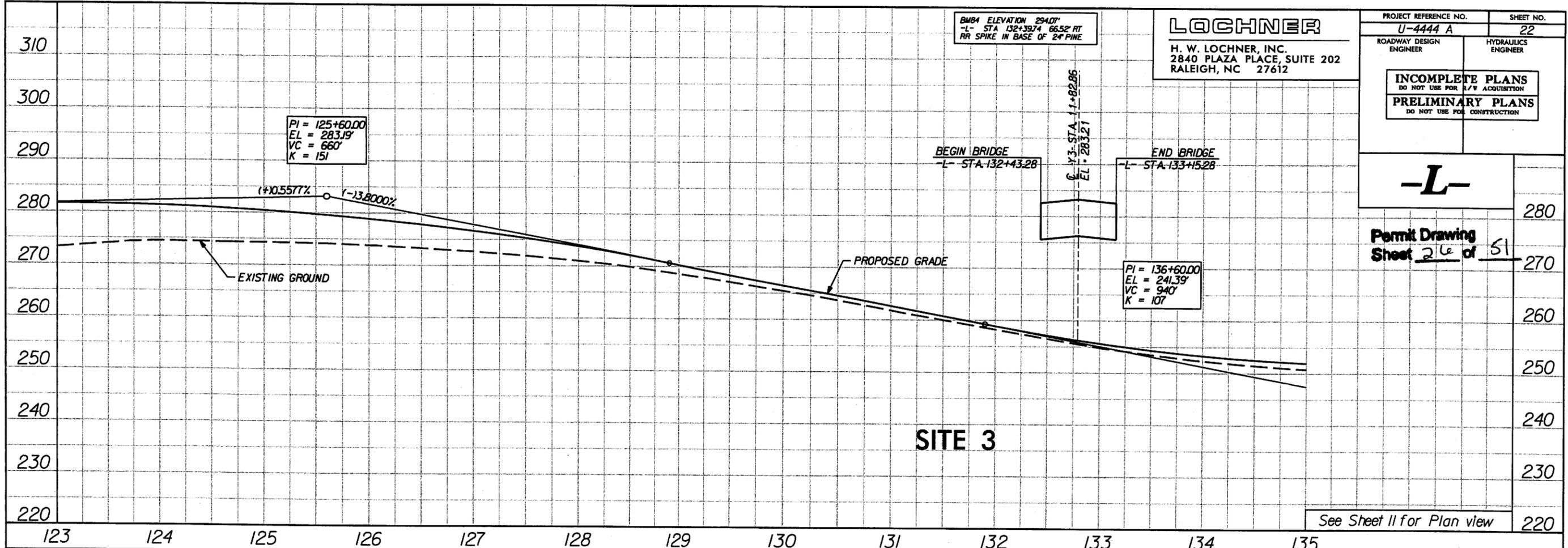
**-L-**



BMB4 ELEVATION 294.07'  
-L- STA 132+33.74 66.52' RT  
RR SPIKE IN BASE OF 24" PINE

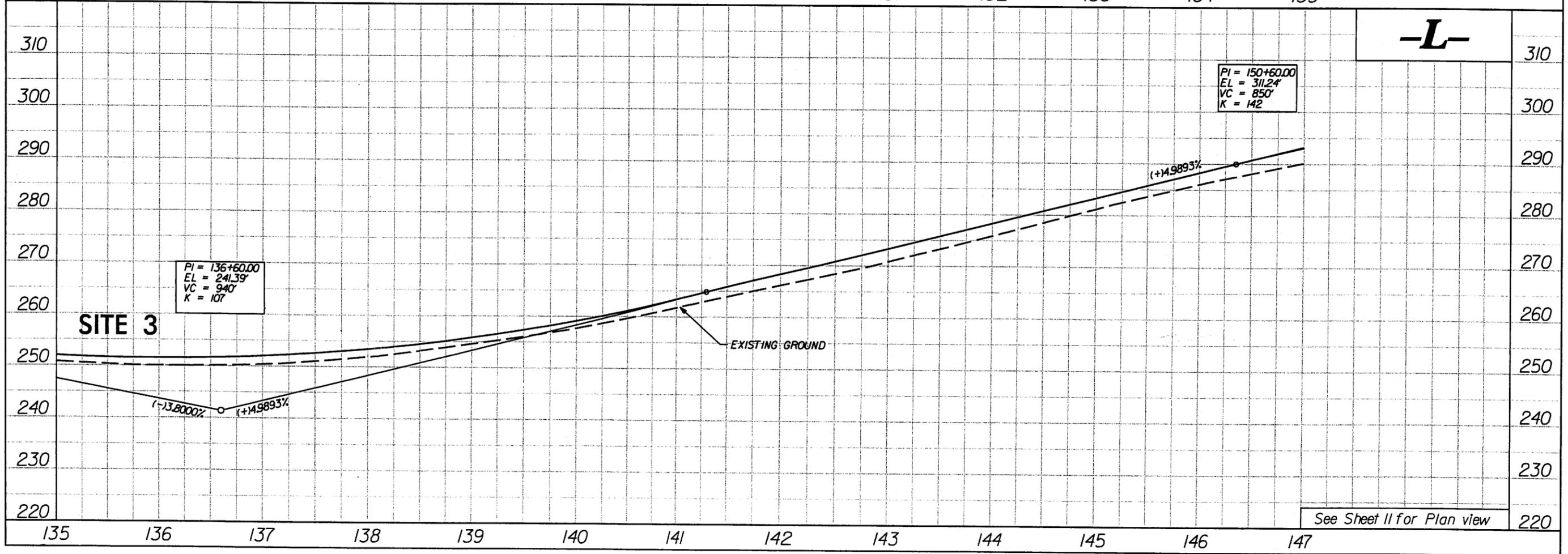
**LOCHNER**  
H. W. LOCHNER, INC.  
2840 PLAZA PLACE, SUITE 202  
RALEIGH, NC 27612

PROJECT REFERENCE NO. U-4444 A	SHEET NO. 22
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

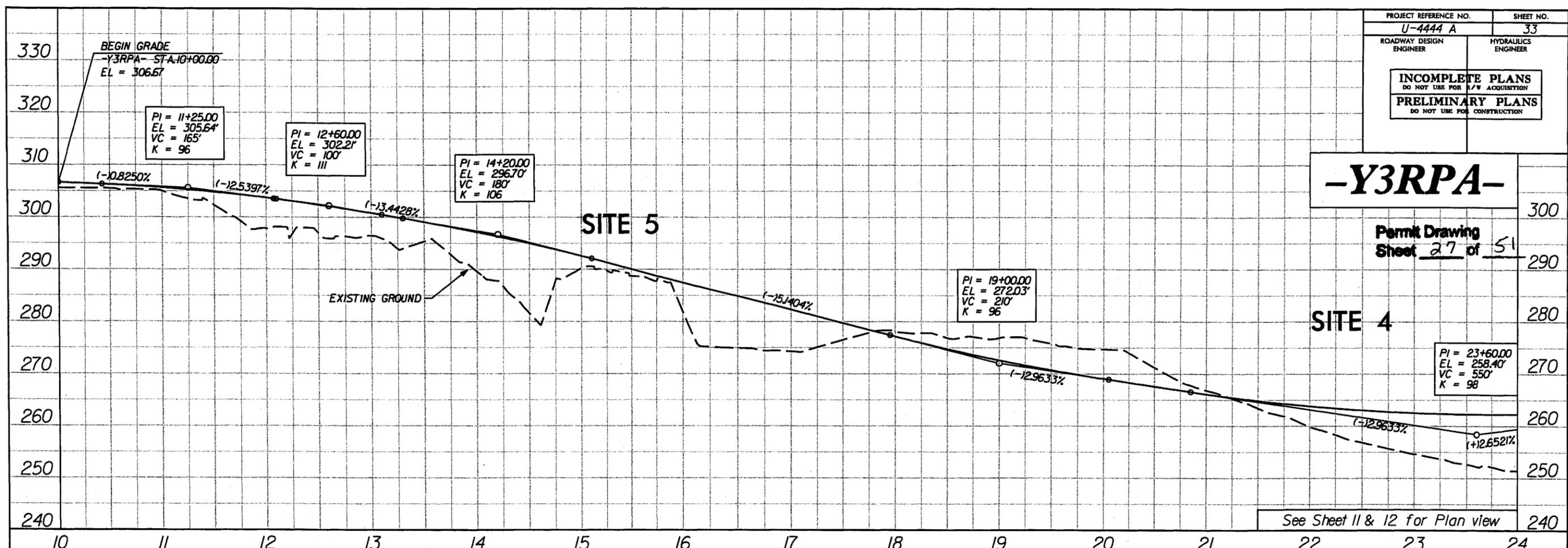


**-L-**

Permit Drawing  
Sheet 26 of 51



**-L-**

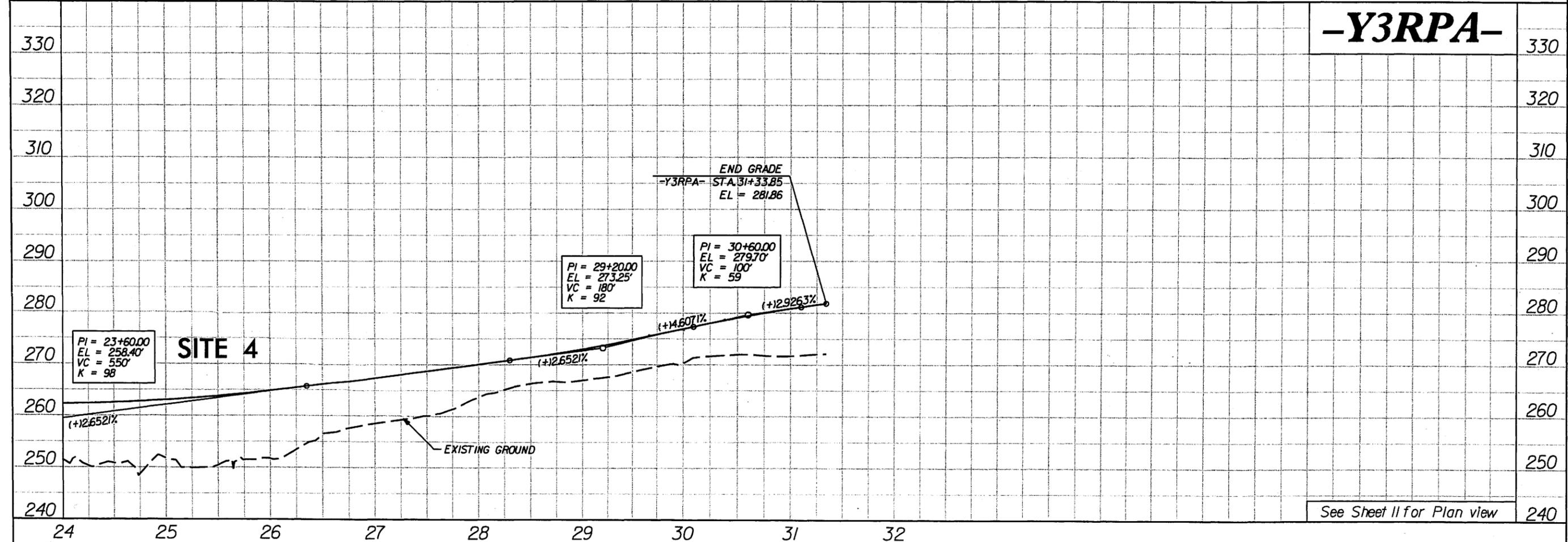


**-Y3RPA-**

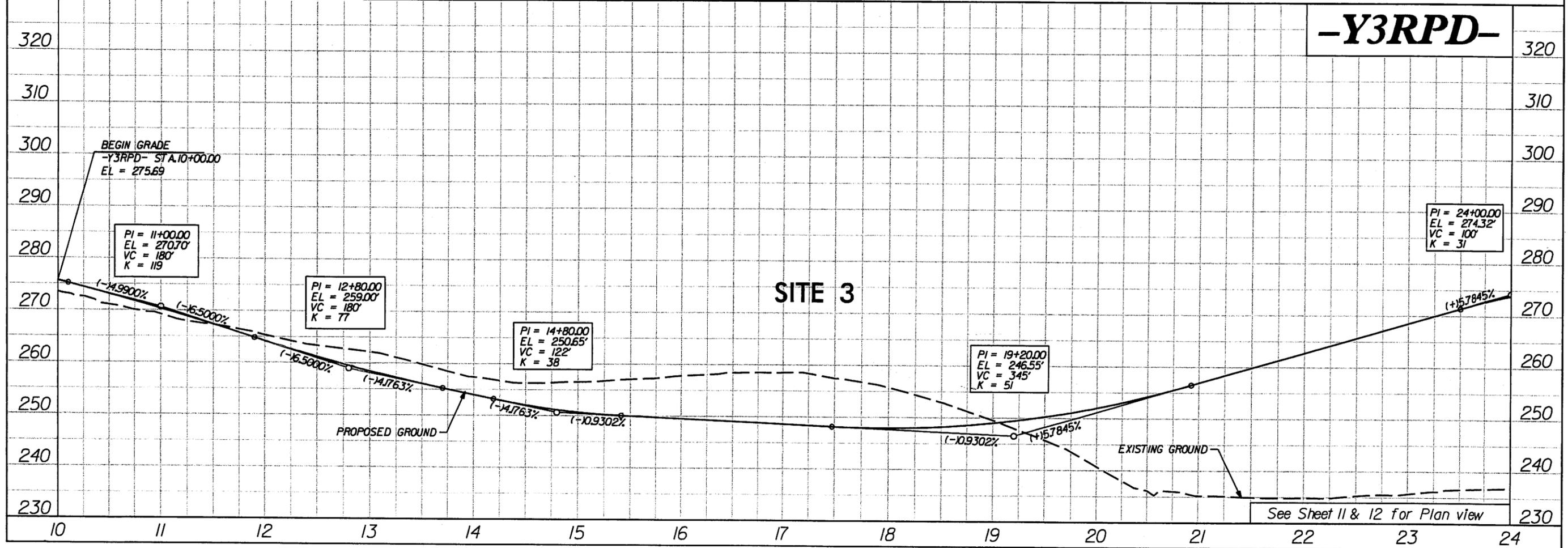
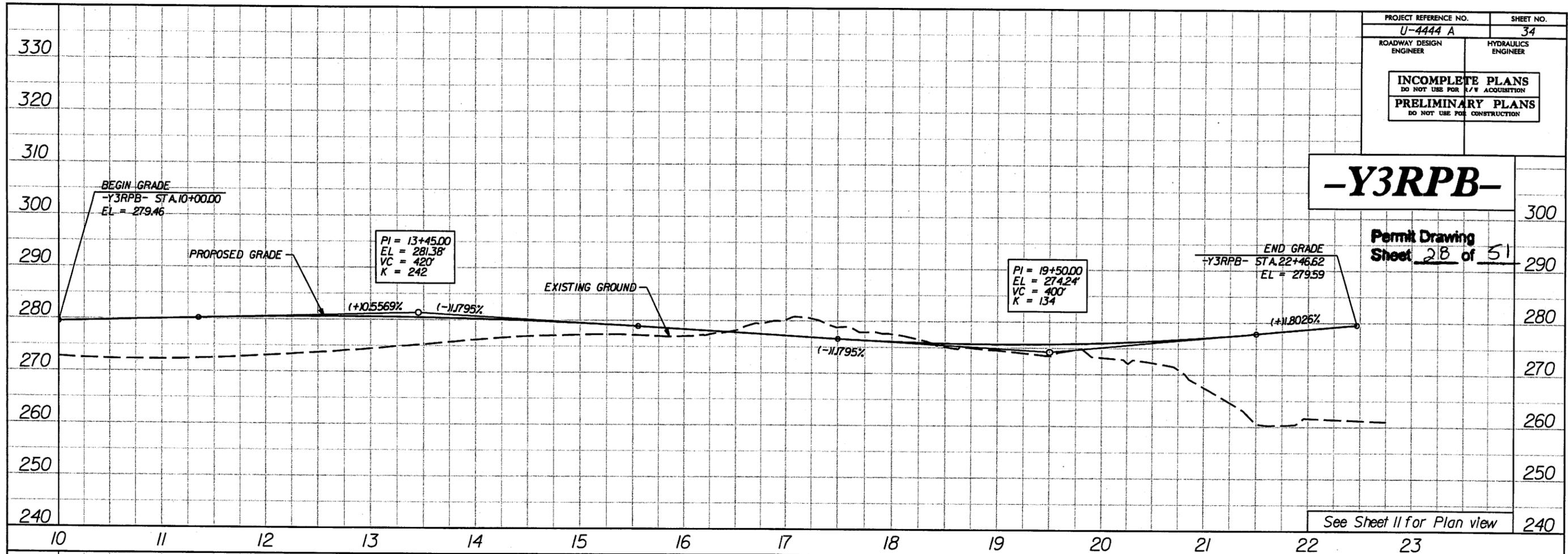
Permit Drawing  
Sheet 27 of 51

**SITE 4**

**-Y3RPA-**

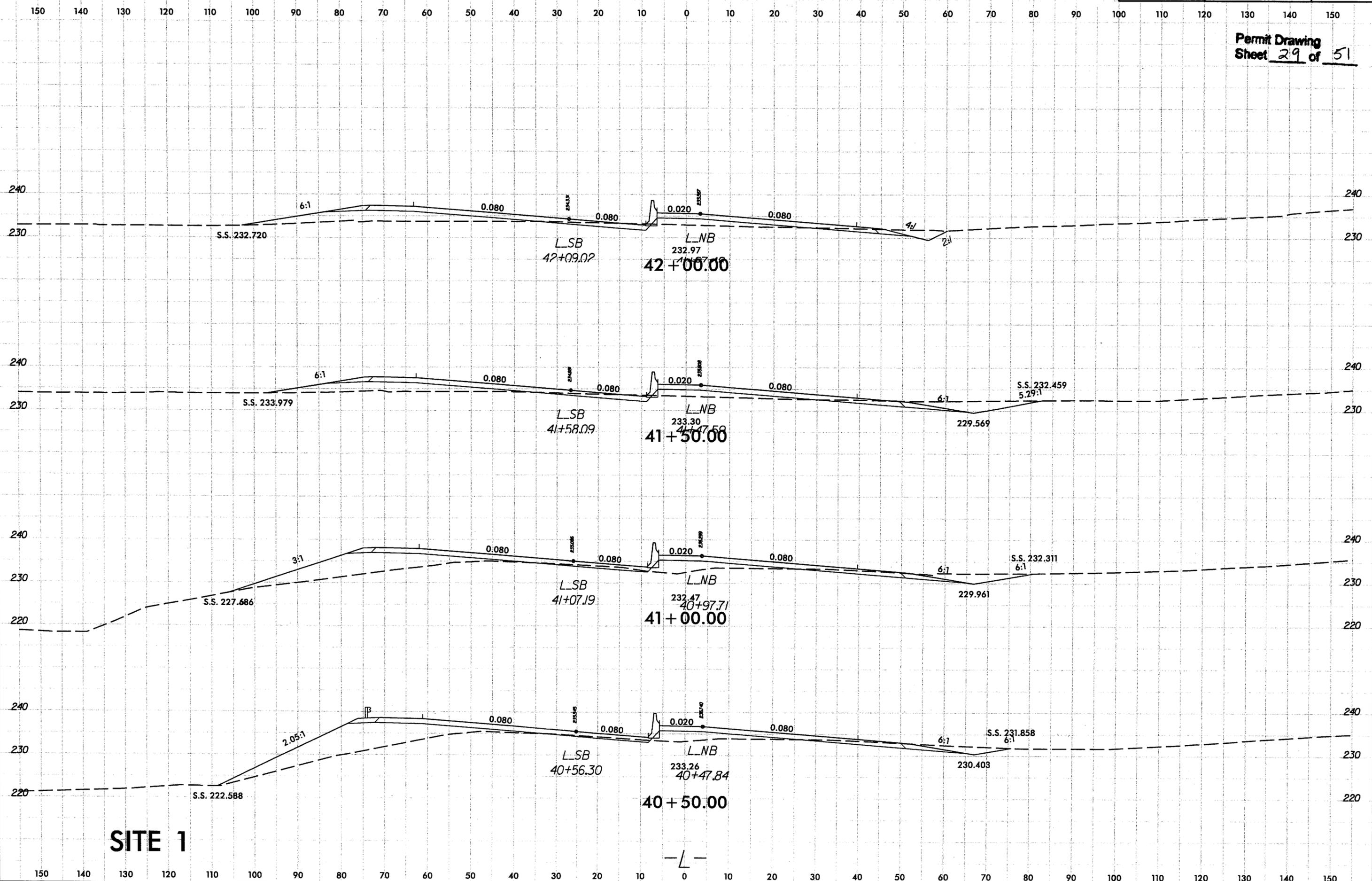


PROJECT REFERENCE NO. U-4444 A	SHEET NO. 34
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR E/V ACQUISITION <b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	



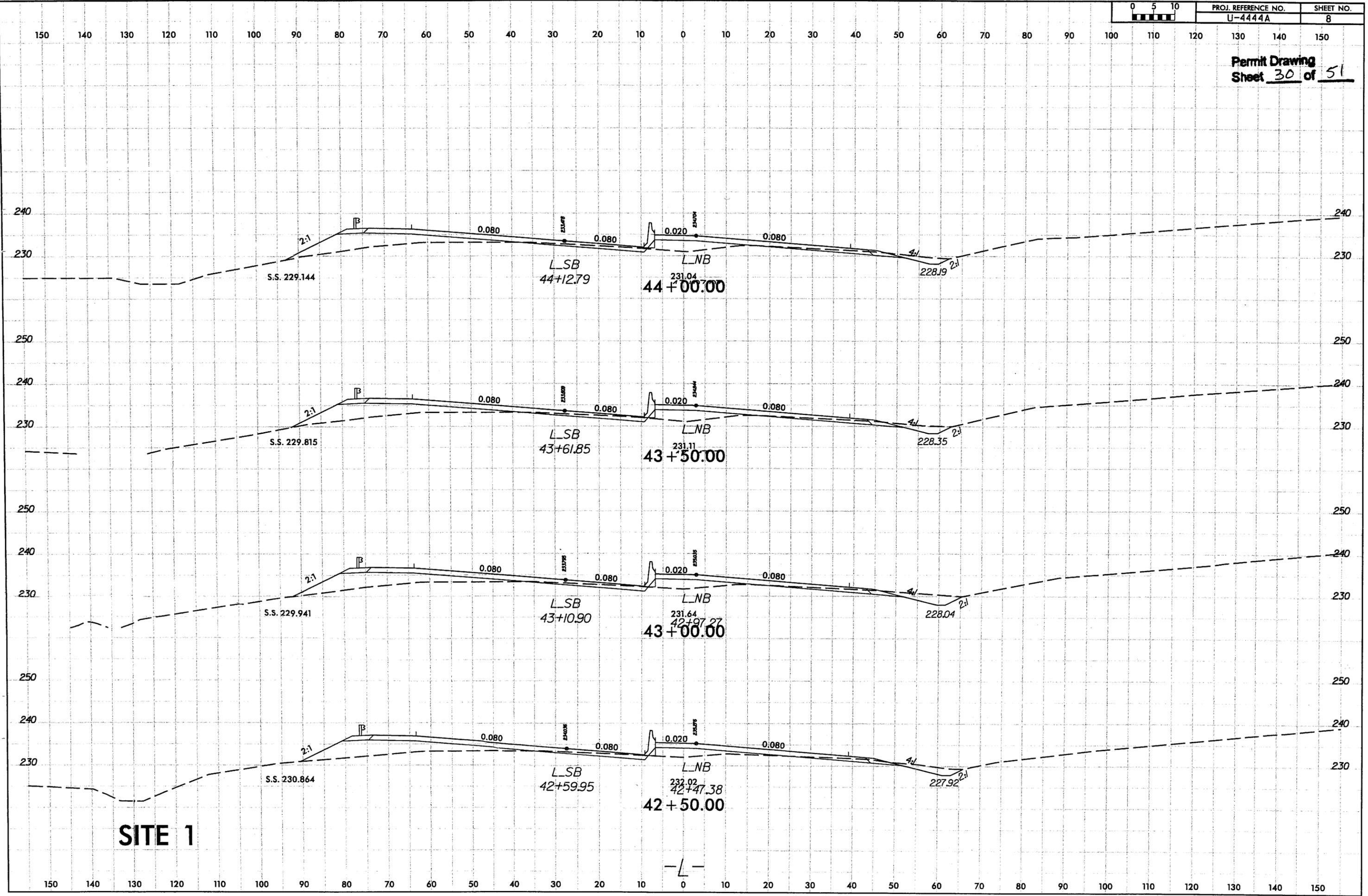
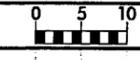


Permit Drawing  
Sheet 29 of 51



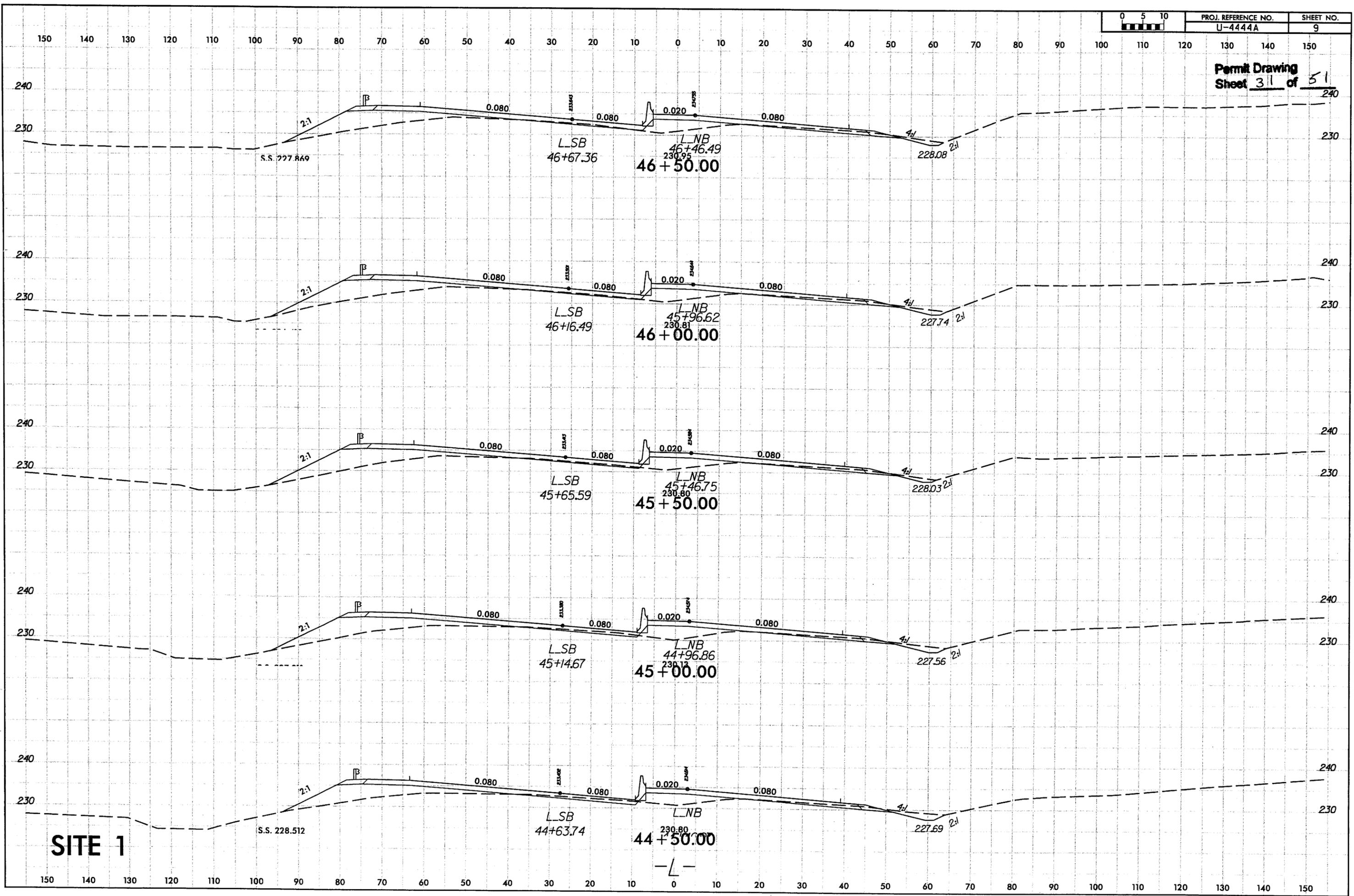
**SITE 1**





SITE 1





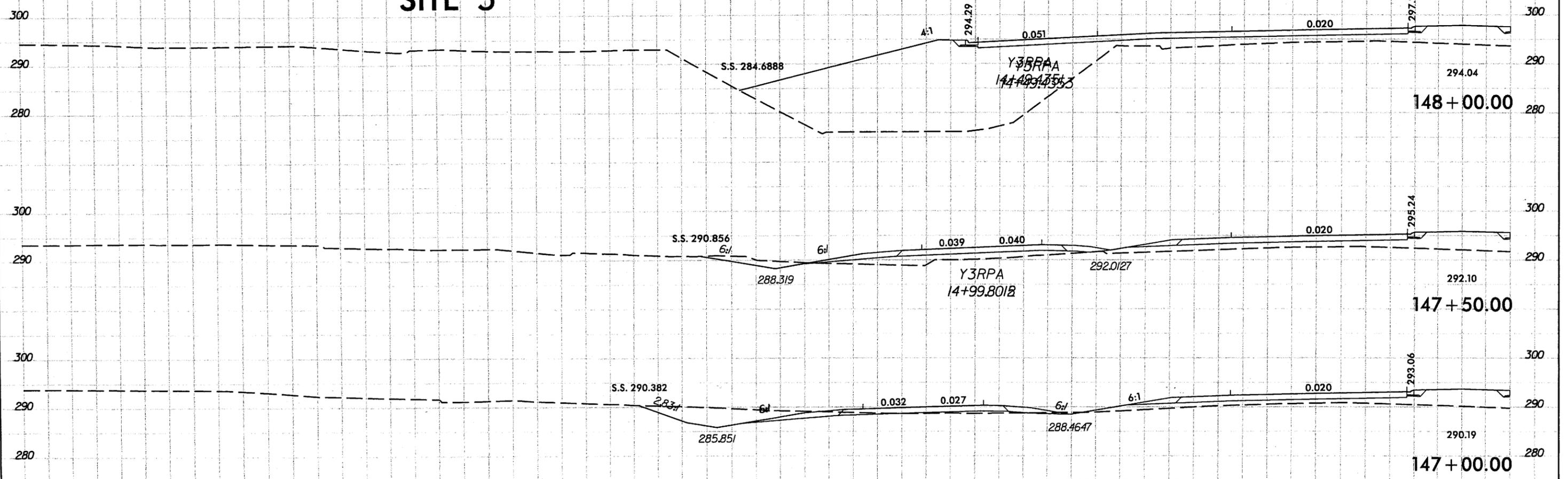


PROJ. REFERENCE NO.	SHEET NO.
U-4444A	58

Permit Drawing  
Sheet 32 of 51

290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10

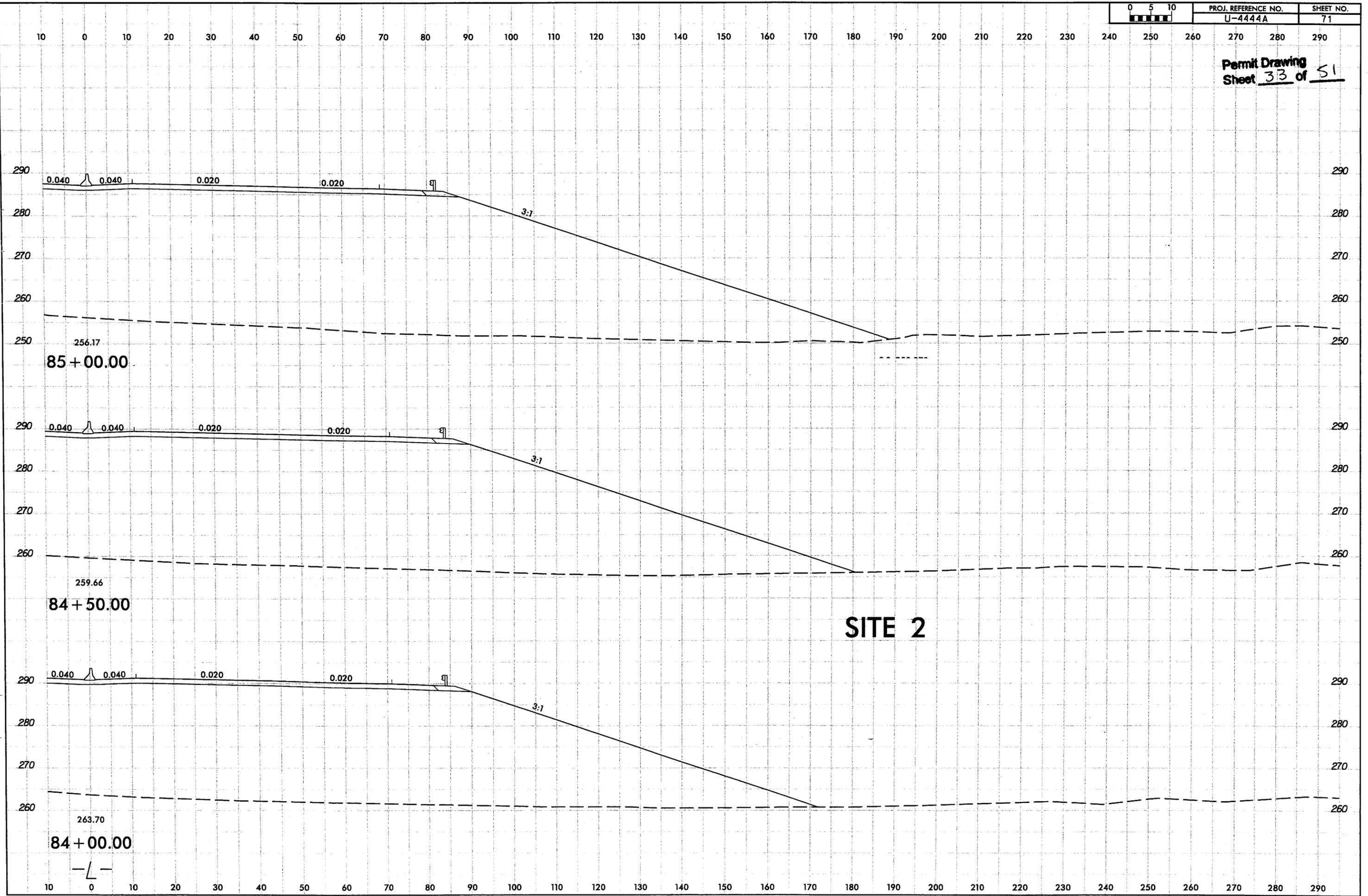
# SITE 5

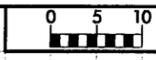


290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10



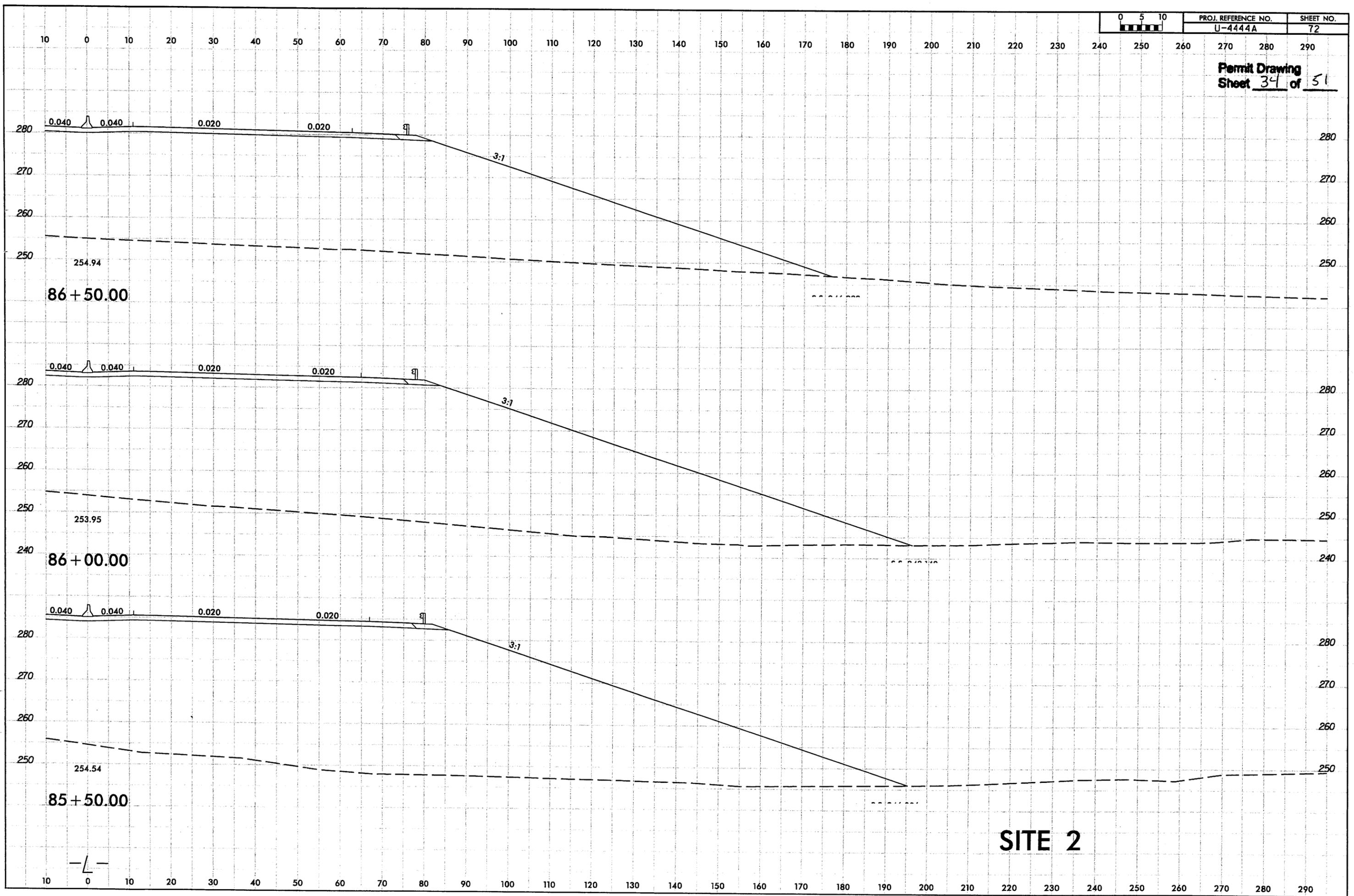
Permit Drawing  
Sheet 33 of 51





PROJ. REFERENCE NO. U-4444A	SHEET NO. 72
--------------------------------	-----------------

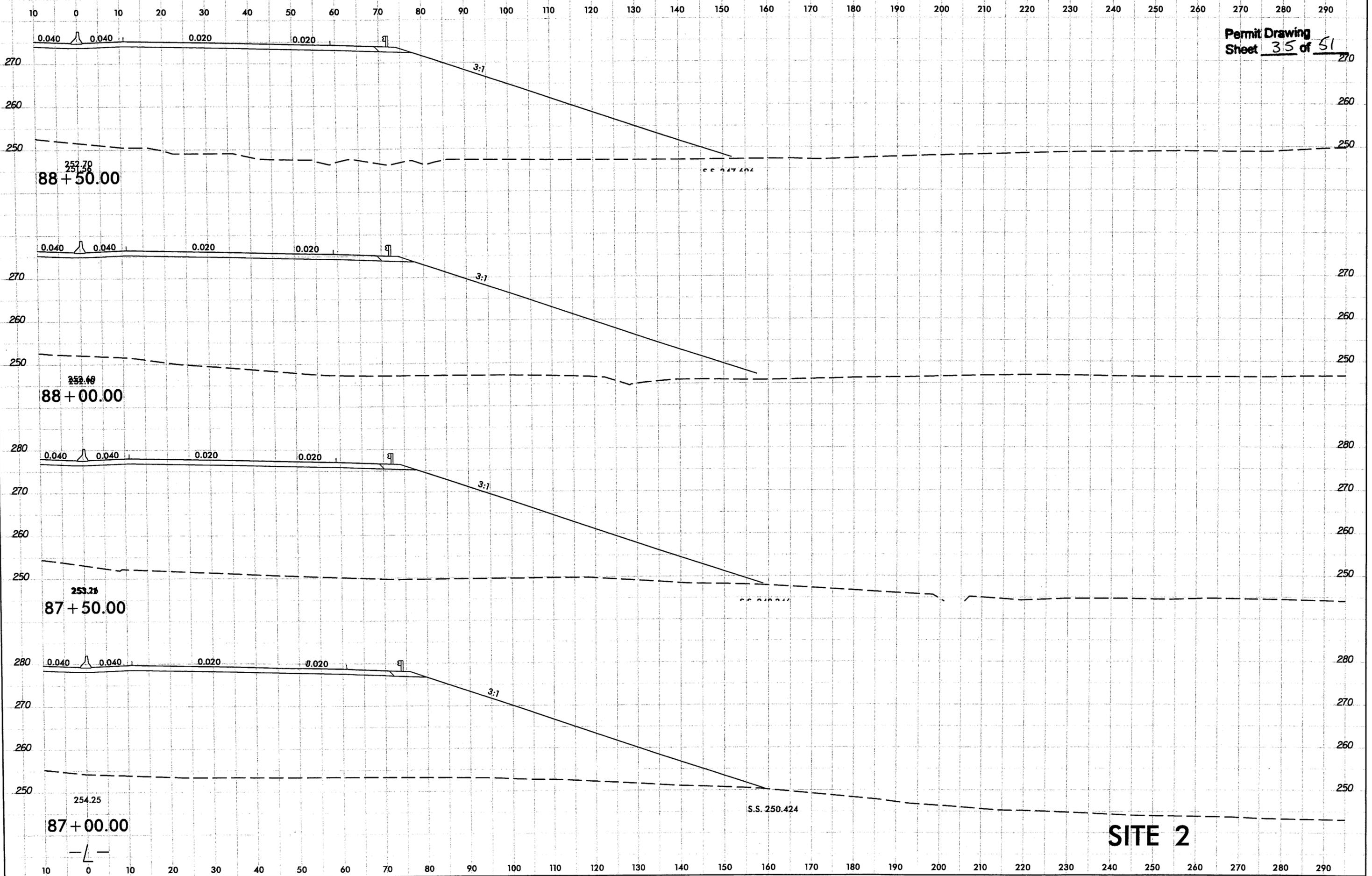
Permit Drawing  
Sheet 34 of 51



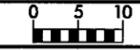
**SITE 2**



Permit Drawing  
Sheet 35 of 51

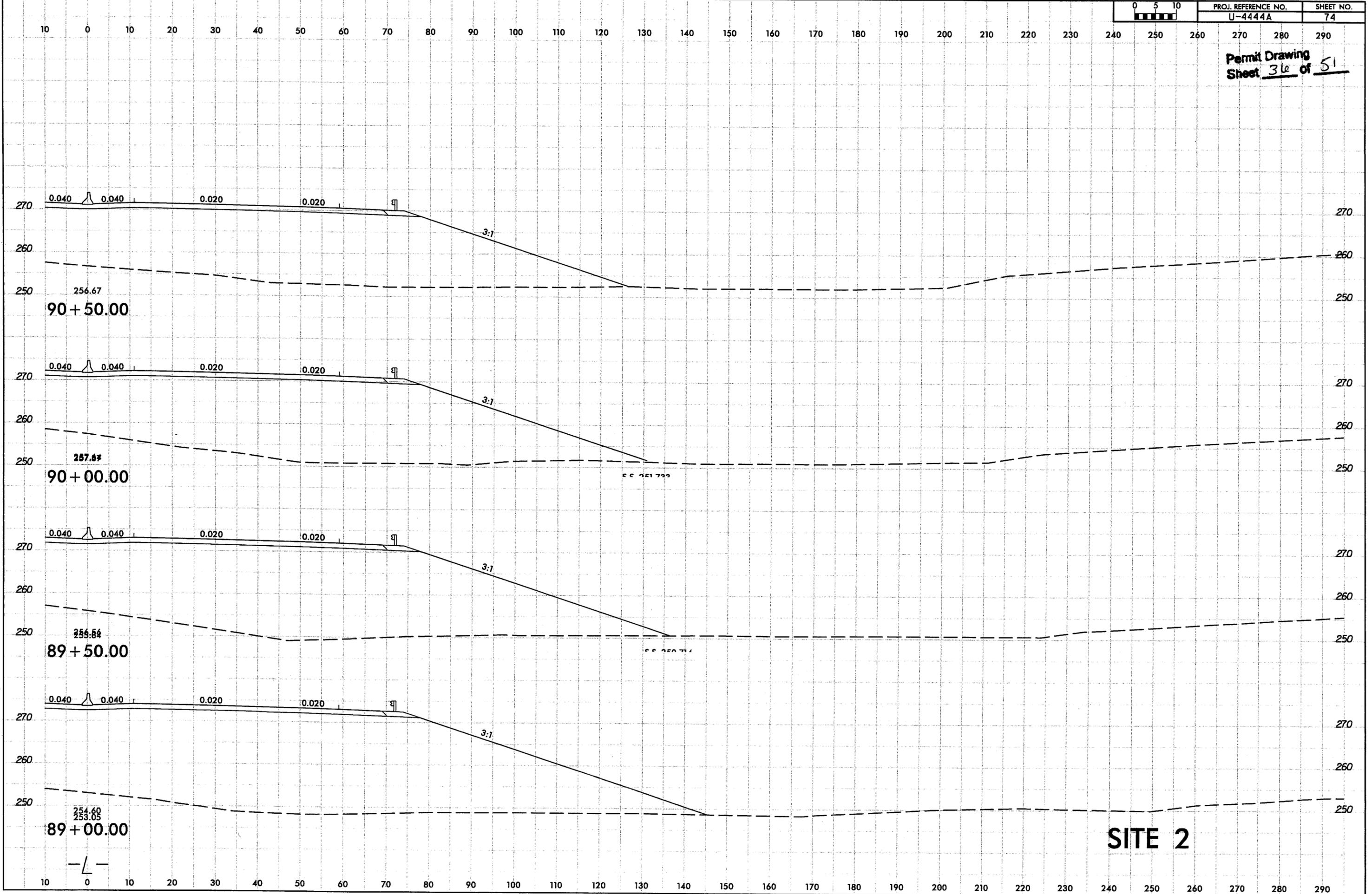


**SITE 2**



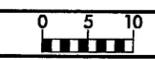
PROJ. REFERENCE NO.	SHEET NO.
U-4444A	74

Permit Drawing  
Sheet 36 of 51



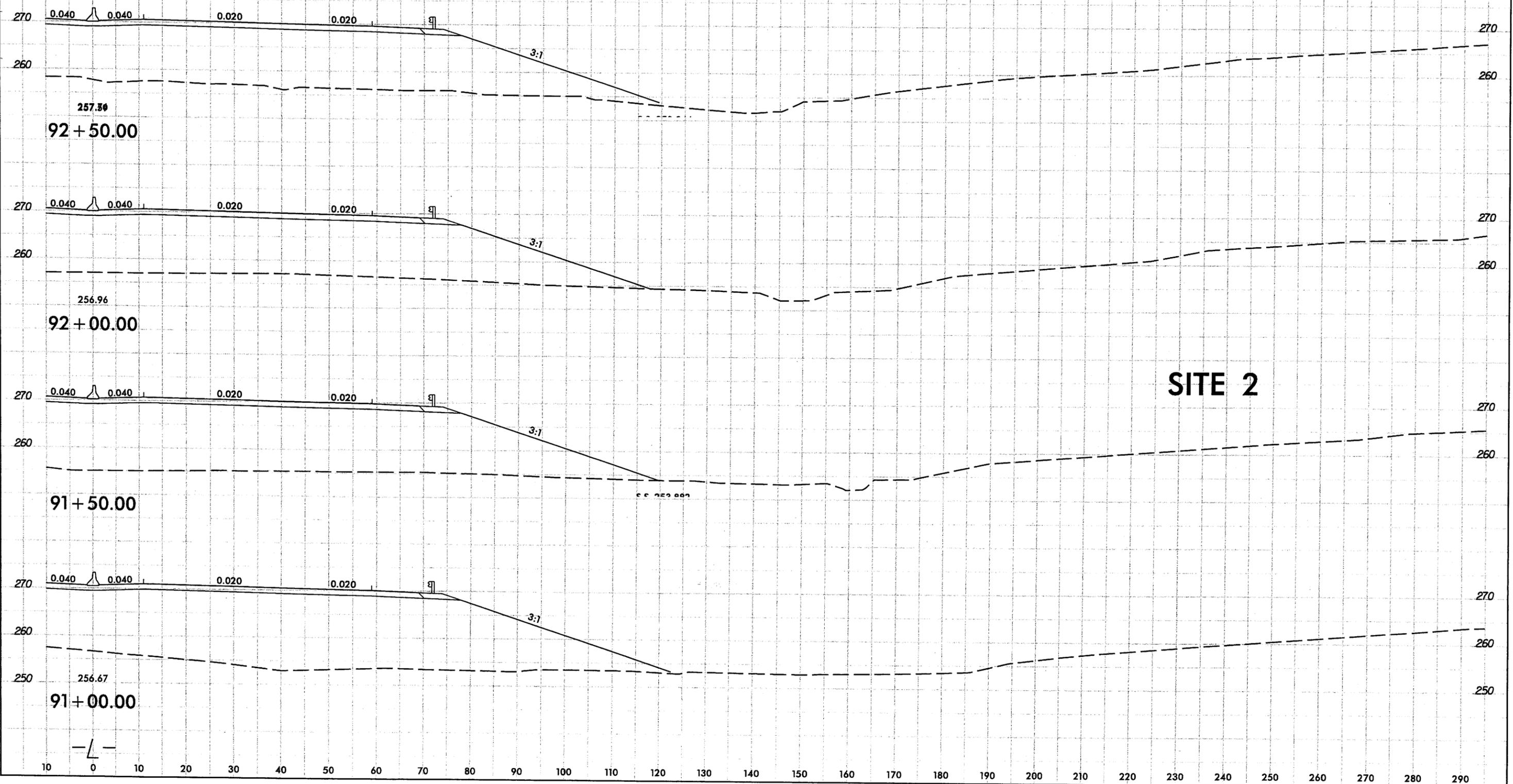
**SITE 2**

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290



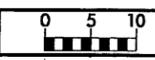
PROJ. REFERENCE NO.	SHEET NO.
U-4444A	75

Permit Drawing  
Sheet 37 of 51



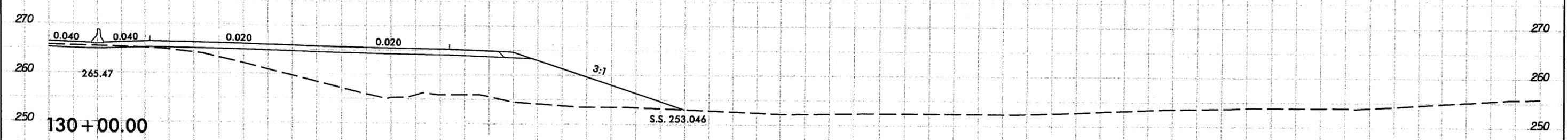
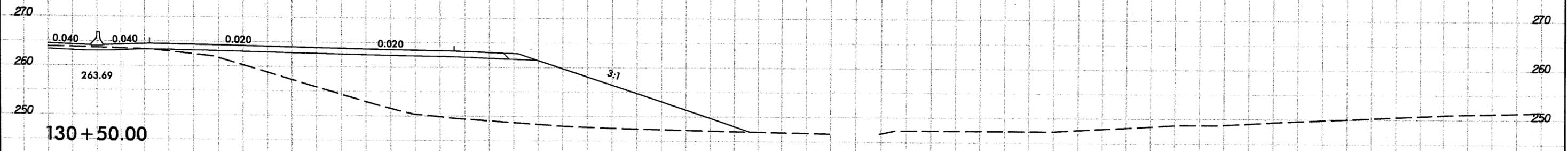
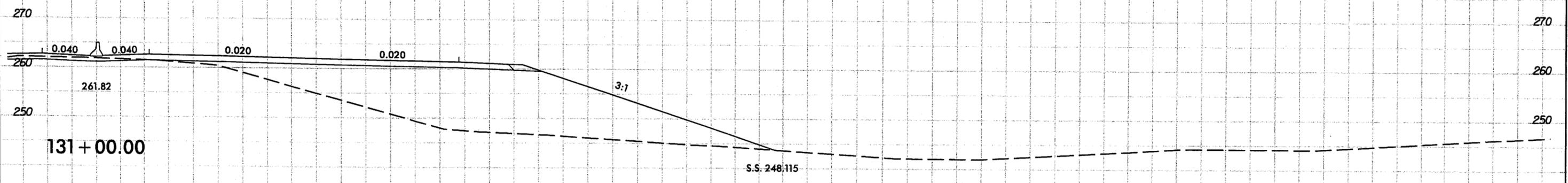
SITE 2

10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

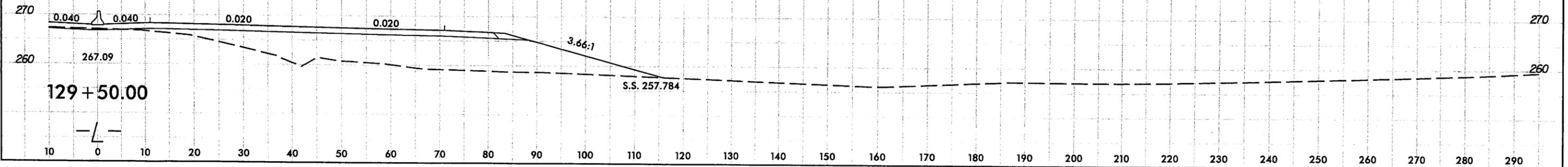


PROJ. REFERENCE NO.	SHEET NO.
U-4444A	91

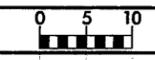
Permit Drawing  
Sheet 38 of 51



**SITE 3**

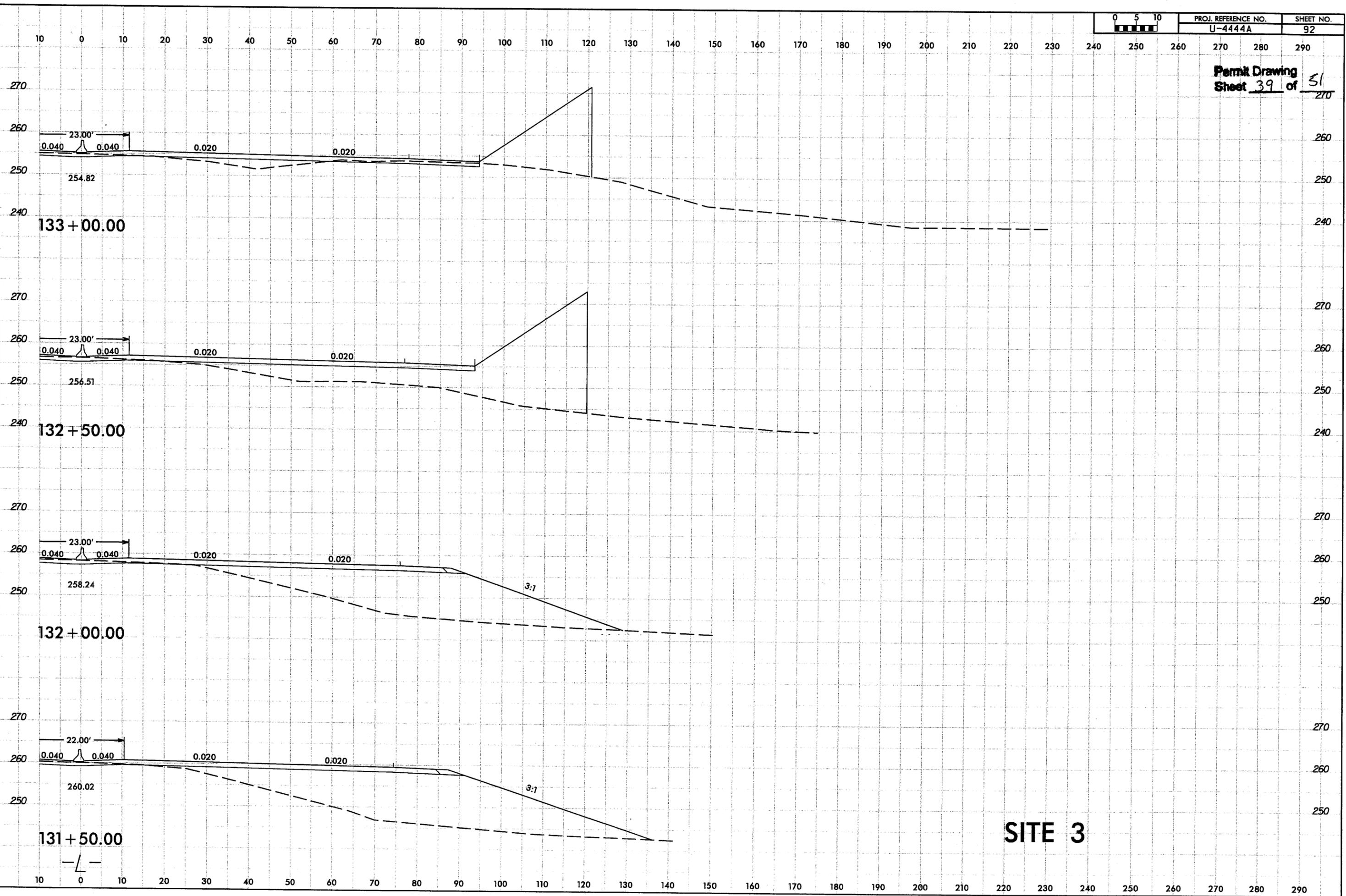


10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290

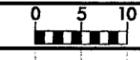


PROJ. REFERENCE NO.	SHEET NO.
U-4444A	92

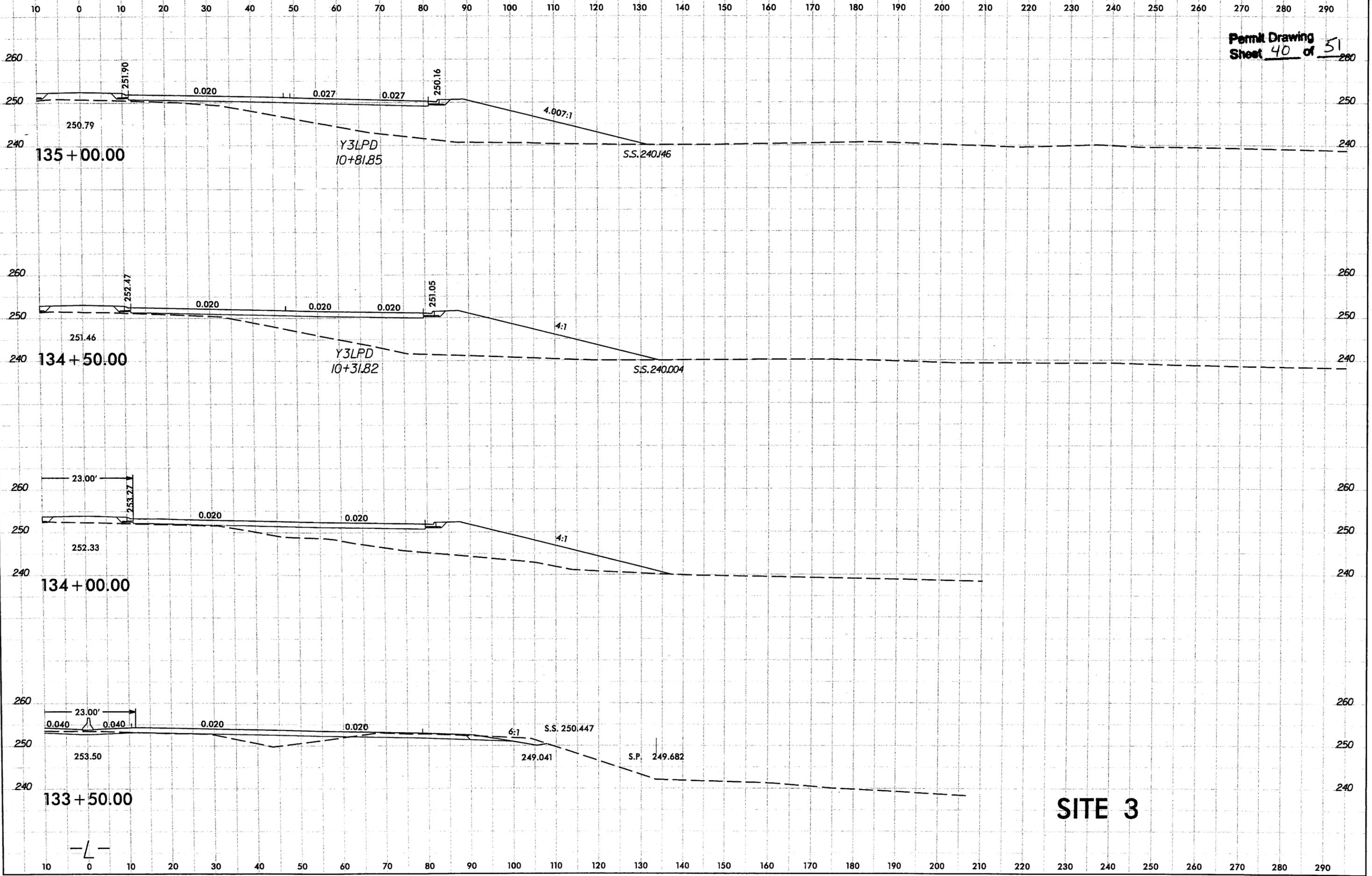
Permit Drawing  
Sheet 39 of 51



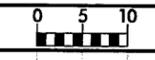
SITE 3



Permit Drawing  
Sheet 40 of 51

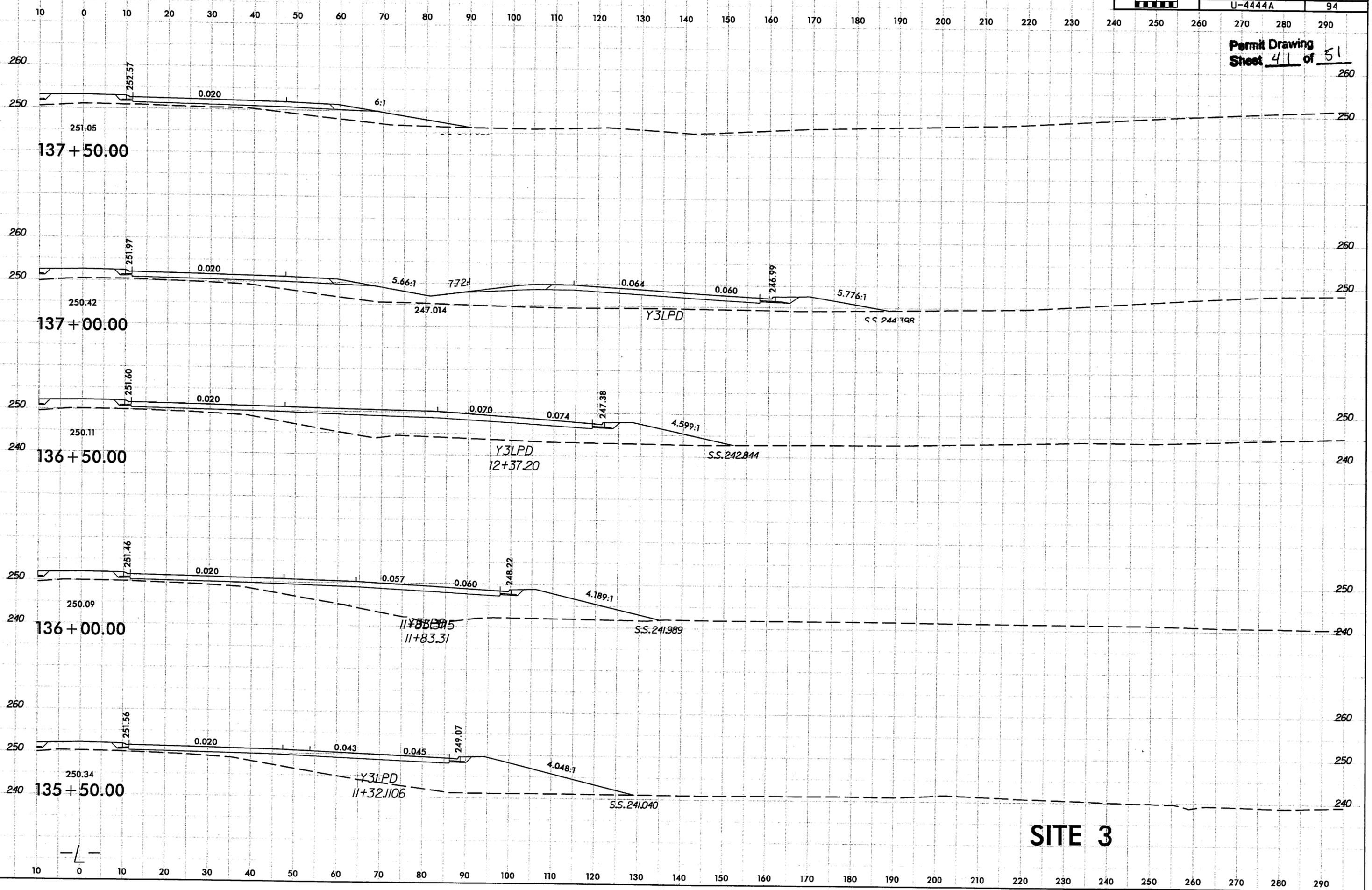


**SITE 3**



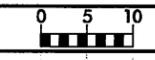
PROJ. REFERENCE NO. U-4444A	SHEET NO. 94
--------------------------------	-----------------

Permit Drawing  
Sheet 41 of 51

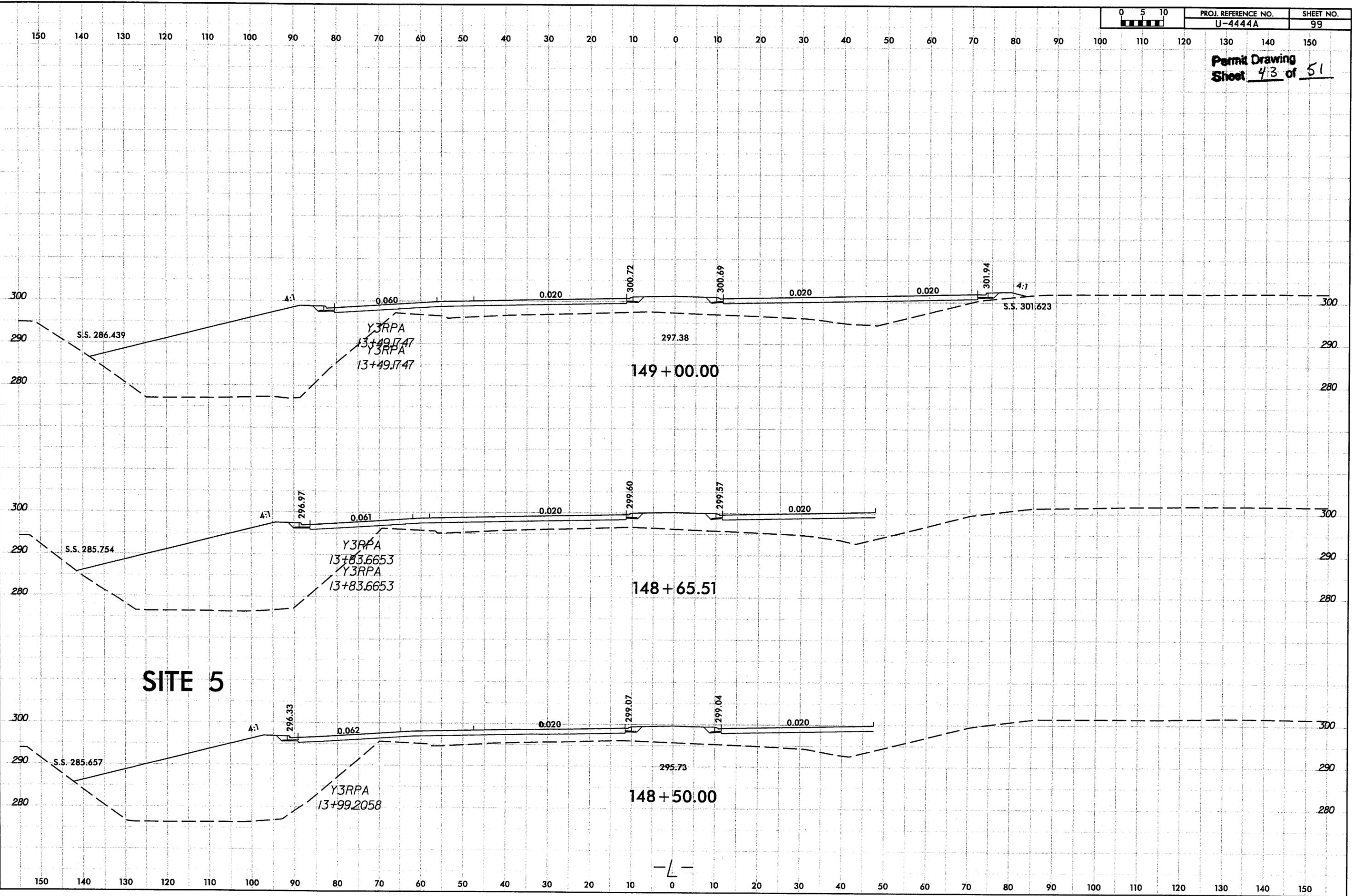


**SITE 3**

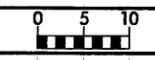




Permit Drawing  
Sheet 43 of 51

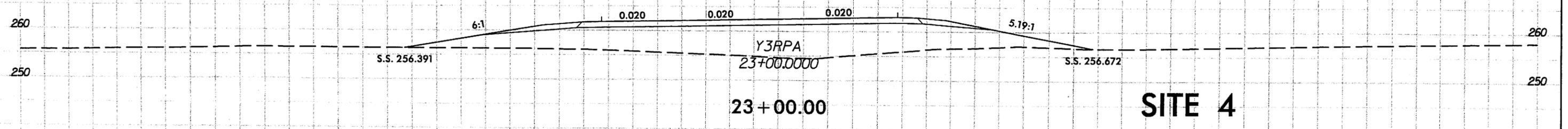
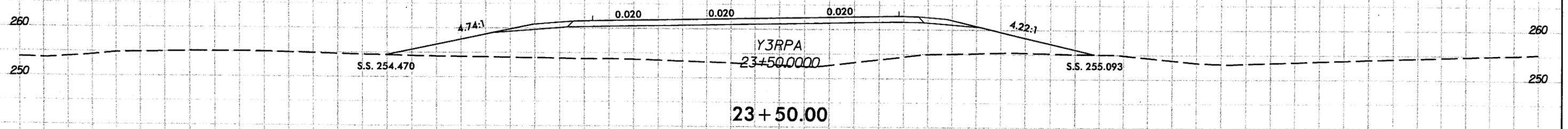
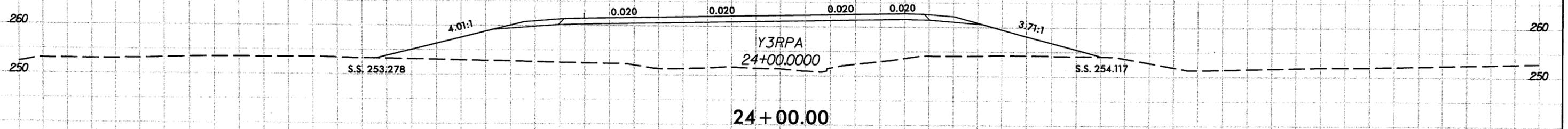


150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

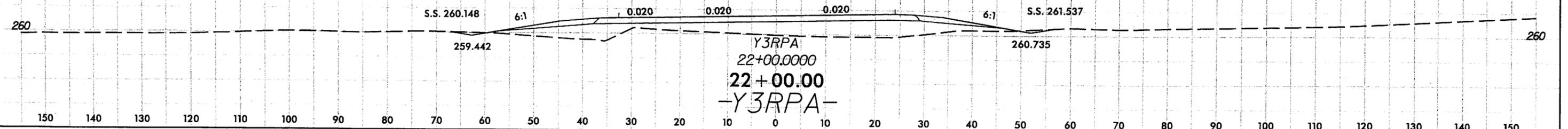
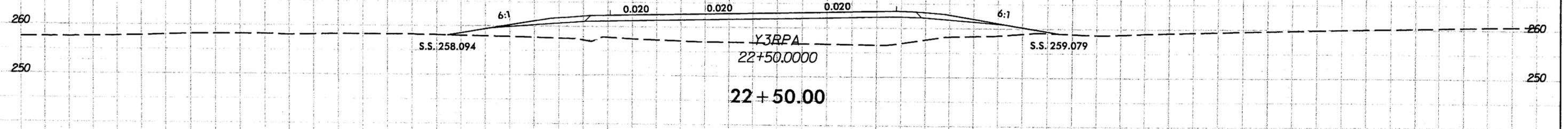


PROJ. REFERENCE NO.	SHEET NO.
U-4444A	140

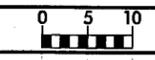
Permit Drawing  
Sheet 44 of 51



**SITE 4**

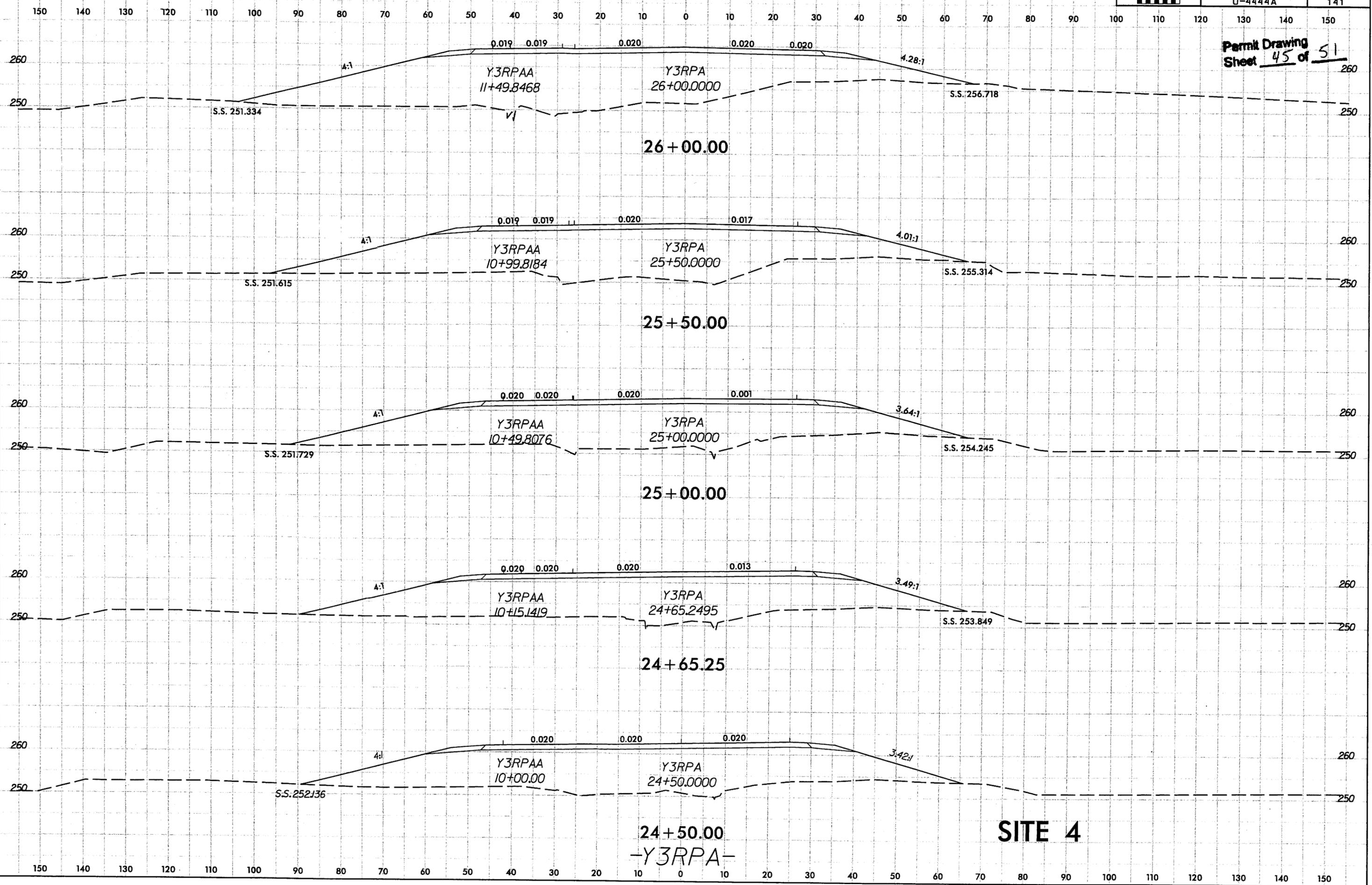


150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



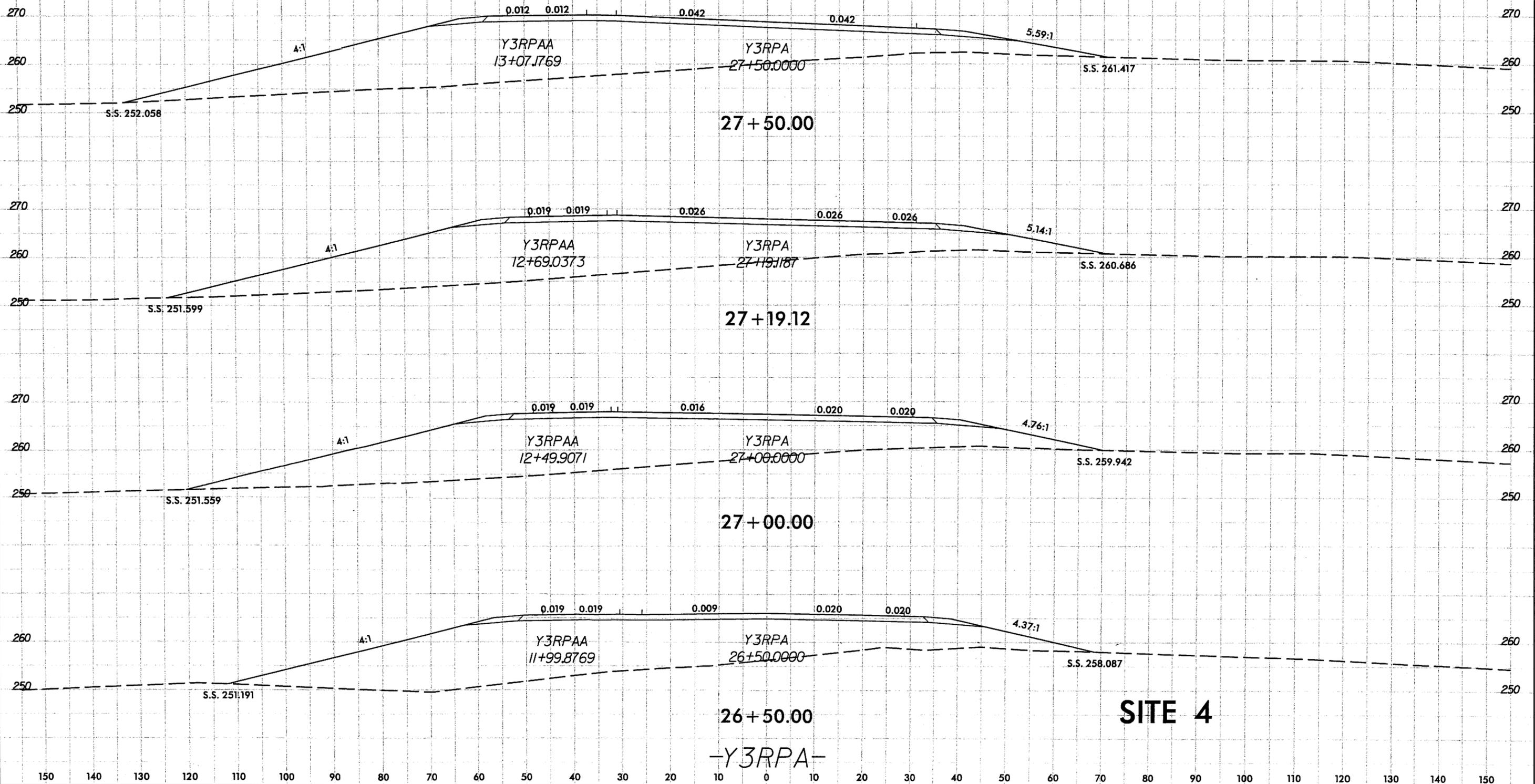
PROJ. REFERENCE NO.	SHEET NO.
U-4444A	141

Permit Drawing  
Sheet 45 of 51



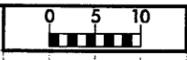
**SITE 4**

24 + 50.00  
-Y3RPA-

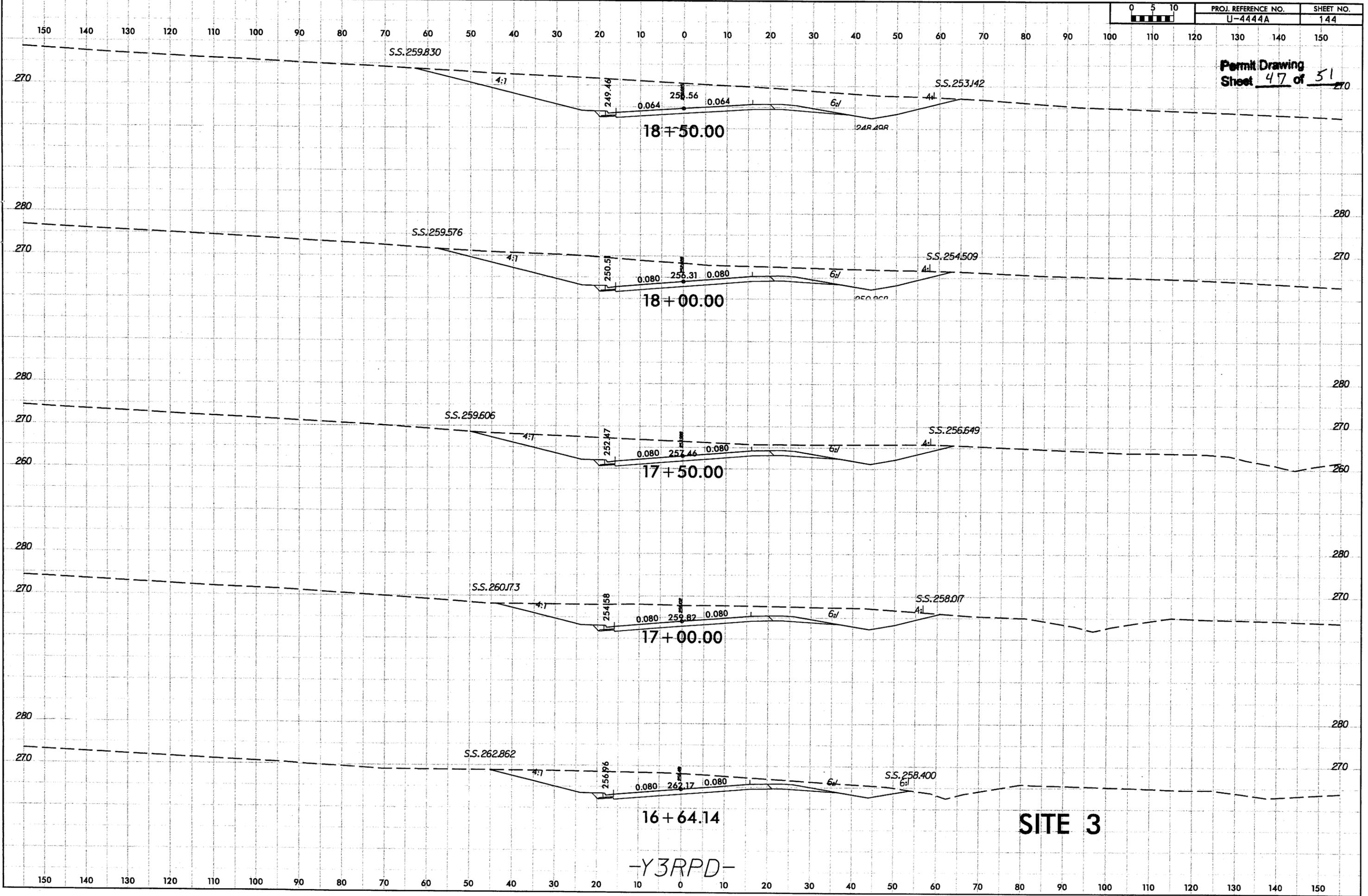


**SITE 4**

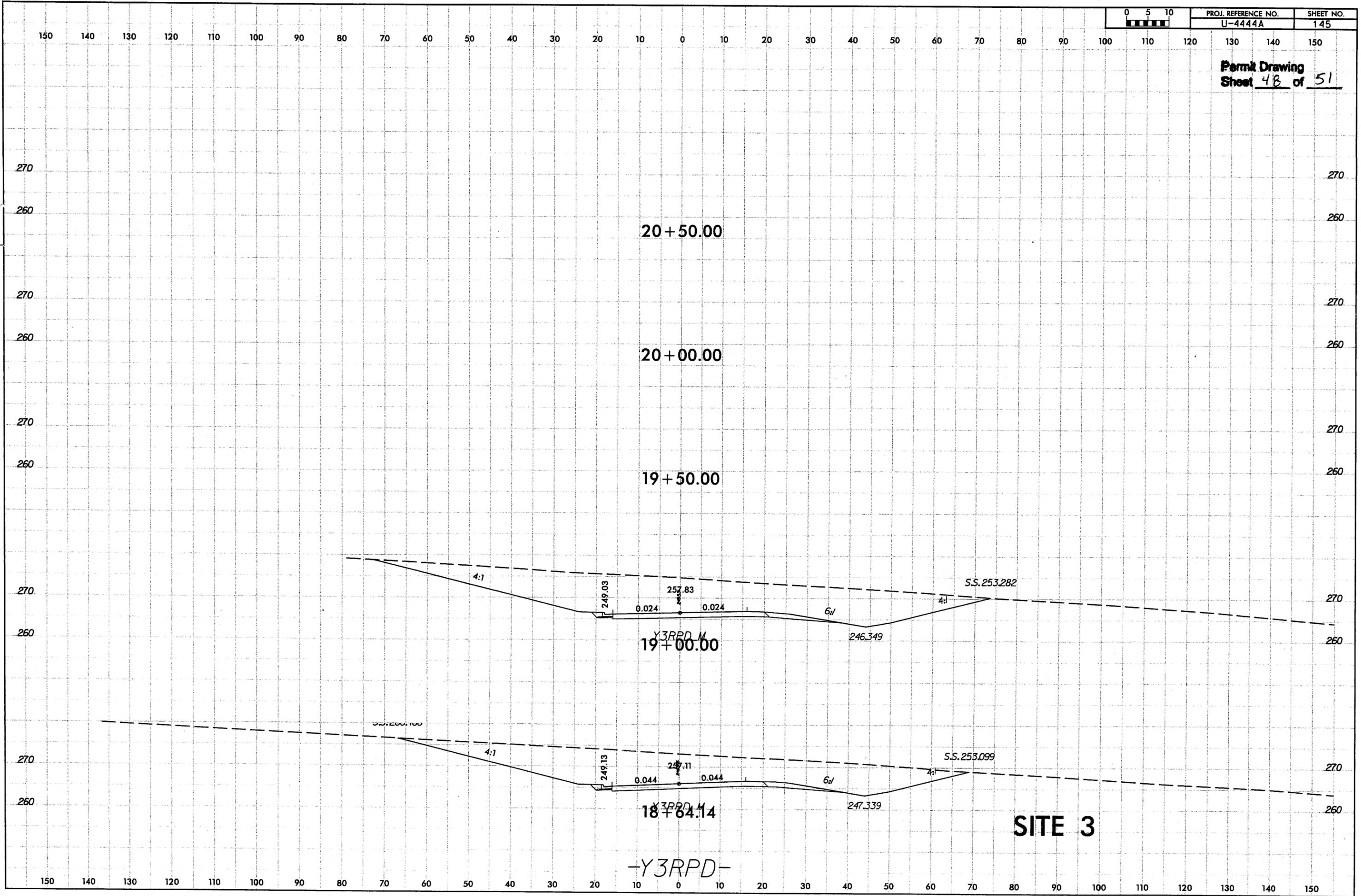
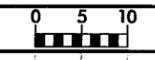
-Y3RPA-



PROJ. REFERENCE NO.	SHEET NO.
U-4444A	144



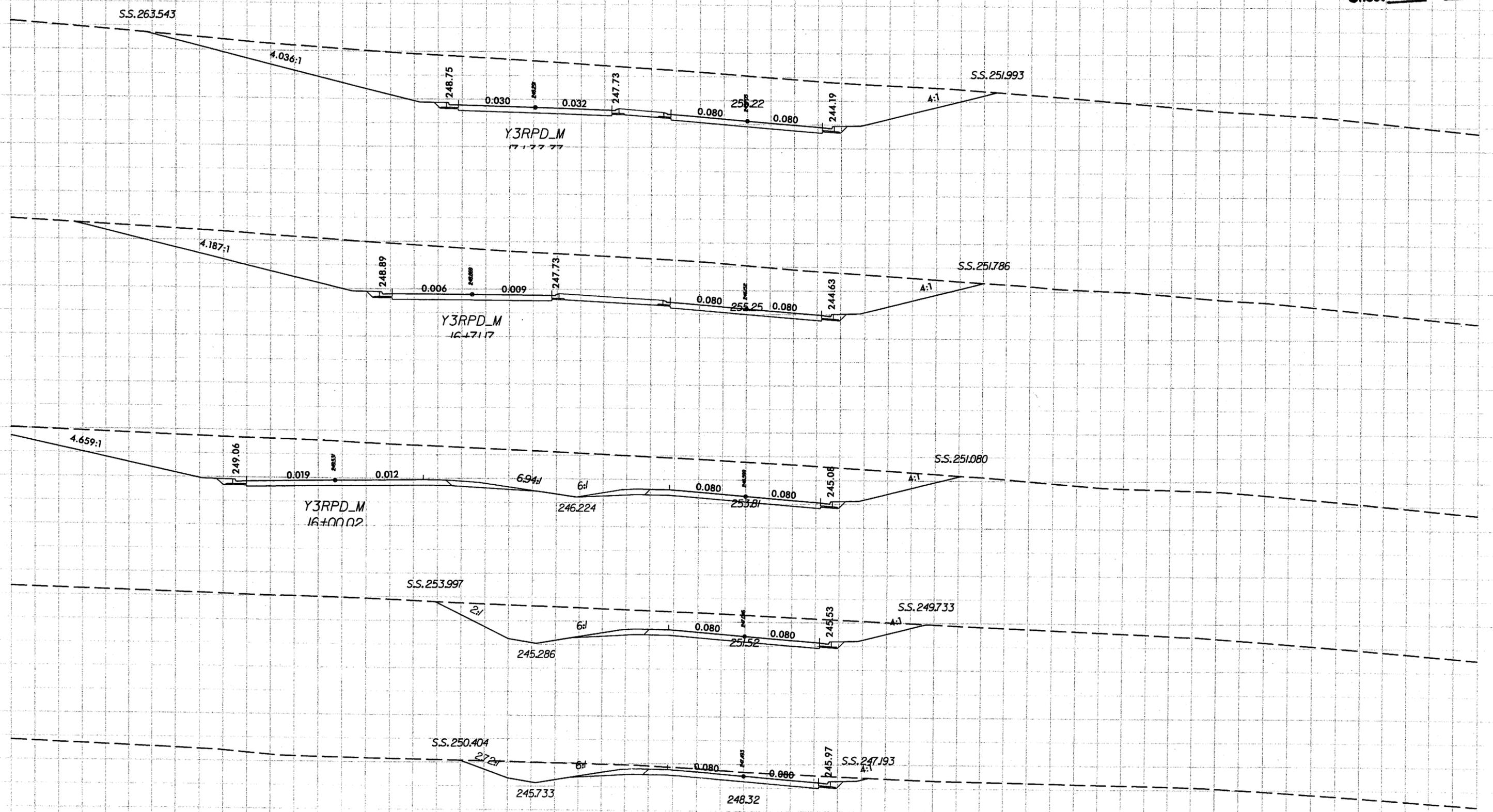
Permit Drawing  
Sheet 47 of 51



**SITE 3**

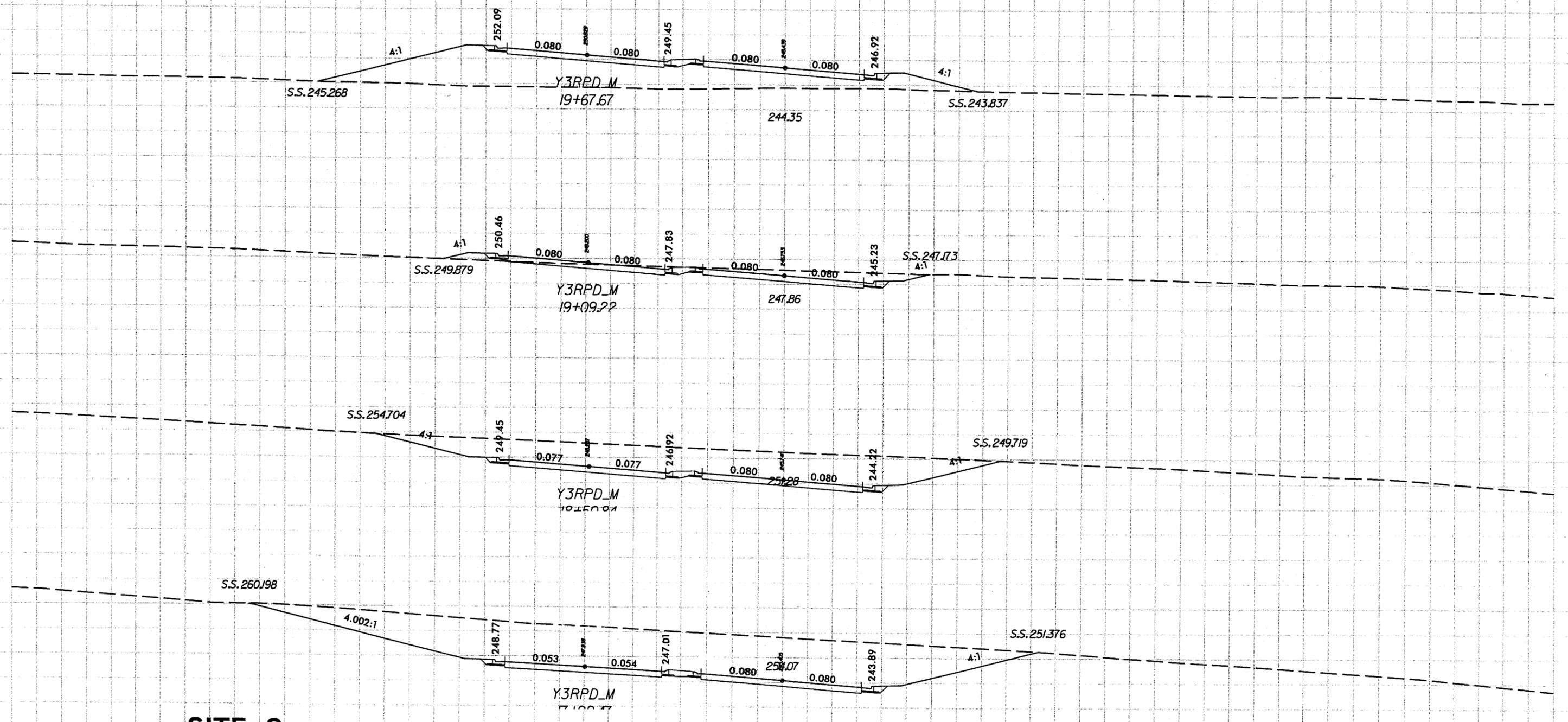
*-Y3RPD-*

Permit Drawing  
Sheet 49 of 51



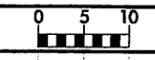
**SITE 3**

-Y3LPD-

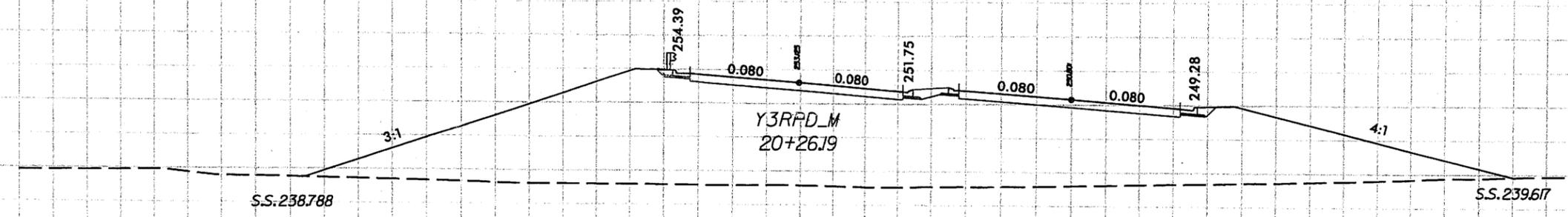


SITE 3

-Y3LPD-



Permit Drawing  
Sheet 51 of 51



**SITE 3**

-Y3LPD-