

PROJECT SPECIAL PROVISION

(10-18-95)

Z-1a

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.

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

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

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

The Contractor's attention is also directed to Articles 107-10 and 107-14 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.

New 6-10-11

220

DEPARTMENT OF THE ARMY PERMIT

Permittee **North Carolina Department of Transportation**

Permit No. **SAW-2010-00726**

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 directly discharge dredged and/or fill material into jurisdictional wetlands and streams in order to facilitate the widening of existing NC-49 State Transportation Improvement Project R-2533CC from east of NC 73 to east of SR 2630 (Cline Road) in Cabarrus County, North Carolina. The proposed project is located in adjacent wetlands and tributaries that are hydrologically connected to the Yadkin River. More specifically, the proposed project begins at 35.38490 degrees north latitude and 80.51714 degrees west longitude and ends at 35.407668 degrees north and 80.450118 degrees west longitude. Permanent authorized impacts to jurisdictional wetlands total 0.31 acres and 3,058 linear feet of stream in order to facilitate construction of the project. Temporary impacts total 480 linear feet of stream.

Project Location: NC-49 from east of NC 73 to east of SR 2630 (Cline Road) in Cabarrus County, North Carolina

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **December 31, 2016**. 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).

(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.

Mary Alice Parr _____ *5/27/11* _____
 (PERMITTEE) 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.

 (DISTRICT COMMANDER) JEFFERSON M. RYSCAVAGE (DATE)
 COLONEL

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)

223
U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

Action I.D.: 2010-00726

County: Cabarrus

NOTIFICATION OF JURISDICTIONAL DETERMINATION

Property Owner/Agent: North Carolina Department of Transportation
Address: 1598 Mail Service Center
Raleigh, North Carolina 27699

Property description:

Size (acres): NC 49 Right of Way

Nearest Town: Mount Pleasant

Nearest Waterway: Adams Creek and McAllister Creek

Coordinates: 35.38490 N and -80.51714 W

River Basin: Rocky River-Upper Pee Dee

Hydrologic Unit Code: 03040105

Location Description: The project site is located within jurisdictional waters of the U.S. along NC 49, near Mount Pleasant, in Cabarrus County, North Carolina.

Indicate Which of the Following Apply:

A. Preliminary Determination

- Based on preliminary information, there may be waters and wetlands on the above described property. We strongly suggest you have this property inspected to determine the extent of Department of the Army (DA) jurisdiction. To be considered final, a jurisdictional determination must be verified by the Corps. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331).

B. Approved Determination

- There are Navigable Waters of the United States within the above described property subject to the permit requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

- There are waters and wetlands on the above described property subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.**

- We strongly suggest you have the waters and wetlands on your property delineated. Due to the size of your property and/or our present workload, the Corps may not be able to accomplish this wetland delineation in a timely manner. For a more timely delineation, you may wish to obtain a consultant. To be considered final, any delineation must be verified by the Corps.

- The waters and wetlands on your property have been delineated and the delineation has been verified by the Corps. We strongly suggest you have this delineation surveyed. Upon completion, this survey should be reviewed and verified by the Corps. Once verified, this survey will provide an accurate depiction of all areas subject to CWA jurisdiction on your property which, provided there is no change in the law or our published regulations, may be relied upon for a period not to exceed five years.

The waters and wetlands have been delineated and surveyed and are accurately depicted on the maps and data forms dated February 2, 2010, June 18, 2010 and September 7, 2010. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

- There are no waters of the U.S., to include wetlands, present on the above described property which are subject to the permit requirements of Section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.

Action Id.: 2010-00726

Placement of dredged or fill material within waters of the US and/or wetlands without a Department of the Army permit may constitute a violation of Section 301 of the Clean Water Act (33 USC § 1311). If you have any questions regarding this determination and/or the Corps regulatory program, please contact Liz Hair at 828-271-7980.

C. Basis For Determination

The site contains: wetlands as determined by the USACE 1987 Wetland Delineation Manual and is adjacent to stream channels located on the property that exhibit indicators of ordinary high water marks. The stream channels on the property are Adams Creek, McAllisterCreek, and their unnamed tributaries, which flow into the Rocky River, a TNW, to the Atlantic Ocean through Winyah Bay.

D. Remarks

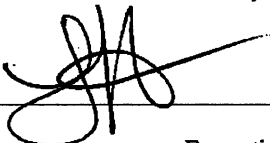
E. Appeals Information (This information applies only to approved jurisdictional determinations as indicated in B. above)

Attached to this verification is an approved jurisdictional determination. If you are not in agreement with that approved jurisdictional determination, you can make an administrative appeal under 33 CFR 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 determination you must submit a completed RFA form to the following address:

District Engineer, Wilmington Regulatory Program
Attn: Liz Hair, Project Manager
151 Patton Avenue, Room 208
Asheville, North Carolina 28801

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 July 25, 2011.

****It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this correspondence.****

Corps Regulatory Official: Liz Hair 

Issue Date: May 25, 2011

Expiration Date: May 25, 2016

SURVEY PLATS, FIELD SKETCH, WETLAND DELINEATION FORMS, PROJECT PLANS, ETC., MUST BE ATTACHED TO THE FILE COPY OF THIS FORM, IF REQUIRED OR AVAILABLE.

SPECIAL CONDITIONS
2010-00726

Failure to institute and carry out the details of the following special conditions below (listed as a-u) 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.

Work Limits

a) All work authorized by this permit must be performed in strict compliance with the attached plans, which are a part of this permit and attached as Exhibit A. Any modification to these plans must be approved by the US Army Corps of Engineers (USACE) prior to implementation.

*

b) The permittee shall schedule a preconstruction meeting between its representatives, the contractor's representatives, and the Corps of Engineers, Asheville Regulatory Field Office, NCDOT Regulatory Project Manager, prior to any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all of the terms and conditions contained within this Department of the Army Permit. The permittee shall provide the USACE, Asheville Regulatory Field Office, NCDOT Regulatory Project Manager, with a copy of the final plans at least two weeks prior to the preconstruction meeting along with a description of any changes that have been made to the project's design, construction methodology or construction timeframe. The permittee shall schedule the preconstruction meeting for a time when the USACE and North Carolina Division of Water Quality (NCDWQ) Project Managers can attend. The permittee shall invite the Corps and NCDWQ Project Managers a minimum of thirty (30) days in advance of the scheduled meeting in order to provide those individuals with ample opportunity to schedule and participate in the required meeting.

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

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

Related Laws

e) The North Carolina Division of Water Quality has issued a conditioned Water Quality Certification for your project; the conditions of that certification are hereby incorporated as special conditions of this permit. For your convenience, a copy of the certification is attached as Exhibit B. These referenced conditions are hereby incorporated as special conditions of this permit.

f) All mechanized equipment will be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic materials. In the event of a spill of petroleum products or any other hazardous waste, the permittee shall immediately report it to the N.C. Division of Water Quality at (919) 733-5083, Ext. 526 or (800) 662-7956 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.

Project Maintenance

- * g) The permittee shall advise the Corps in writing prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.
- h) 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.
- i) The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit. A copy of this permit, including all conditions, shall be available at the project site during construction and maintenance of this project.
- j) The permittee shall employ all sedimentation and erosion control measures necessary to prevent an increase in sedimentation or turbidity within waters and wetlands outside the permit area. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4).
- k) 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.
- l) During the clearing phase of the project, heavy equipment must not be operated in surface waters or stream channels. Temporary stream crossings will be used to access the opposite sides of stream channels. All temporary diversion channels and stream crossings will be constructed of non-erodable materials. Grubbing of riparian vegetation will not occur until immediately before construction begins on a given segment of stream channel.
- m) No fill or excavation for the purposes of sedimentation and erosion control shall occur within jurisdictional waters, including wetlands, unless it is included on the plan drawings and specifically authorized by this permit.

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

Enforcement

o) Violations of these conditions or violations of Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act must be reported in writing to the Wilmington District U.S. Army Corps of Engineers within 24 hours of the permittee's discovery of the violation.

* p) 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 or wetlands.

* q) Prior to commencing construction within jurisdictional waters of the United States for any portion of the proposed project, the permittee shall forward the latest version of project construction drawings to the Corps of Engineers, Asheville Regulatory Field Office NCDOT Regulatory Project Manager. Half-size drawings will be acceptable.

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

s) Culverts greater than 48 inches in diameter will be buried at least one foot below the bed of the stream. Culverts 48 inches in diameter or less shall be buried or placed on the stream bed as practicable and appropriate to maintain aquatic passage, and every effort shall be made to maintain the existing channel slope. The bottom of the culvert must be placed at a depth below the natural stream bottom to provide for passage during drought or low flow conditions. Destabilizing the channel and head cutting upstream should be considered in the placement of the culvert. A waiver from the depth specifications in this condition may be requested in writing. The waiver will be issued if it can be demonstrated that the proposal would result in the least impacts to the aquatic environment. The culvert crossing at Adams Creek is exempt from this condition.

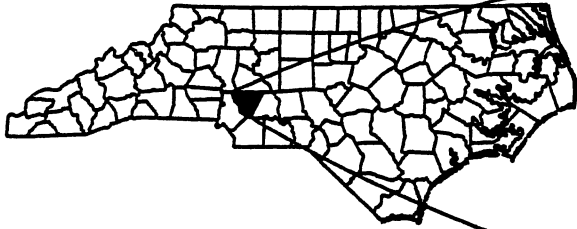
t) To ensure that all borrow and waste activities occur on high ground and do not result in the degradation of adjacent wetlands and streams, except as authorized by this permit, the permittee shall require its contractors and/or agents to identify all areas to be used to borrow material, or to dispose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

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

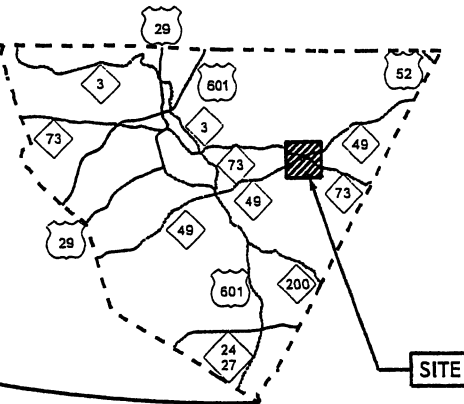
Mitigation

- * v) Compensatory mitigation for the unavoidable impacts to 0.31 acres of non riparian wetlands and 3,011 linear feet of stream associated with the proposed project shall be provided by the Ecosystem Enhancement Program (EEP), as outlined in the letter dated August 16, 2010 from William D. Gilmore, EEP Director. Pursuant to the In-Lieu-Fee Instrument signed July 28, 2010 between the State of North Carolina, Ecosystem Enhancement Program and the US Army Corps of Engineers the EEP will provide 0.62 acres of restoration equivalent riparian wetlands and 6,022 linear feet of restoration equivalent warm water stream channel in the Yadkin River Basin (Hydrologic Cataloging Unit 03040105 in accordance with Section F of the instrument. For wetlands, a minimum of 1:1 (impact to mitigation) must be in the form of wetland restoration.

229

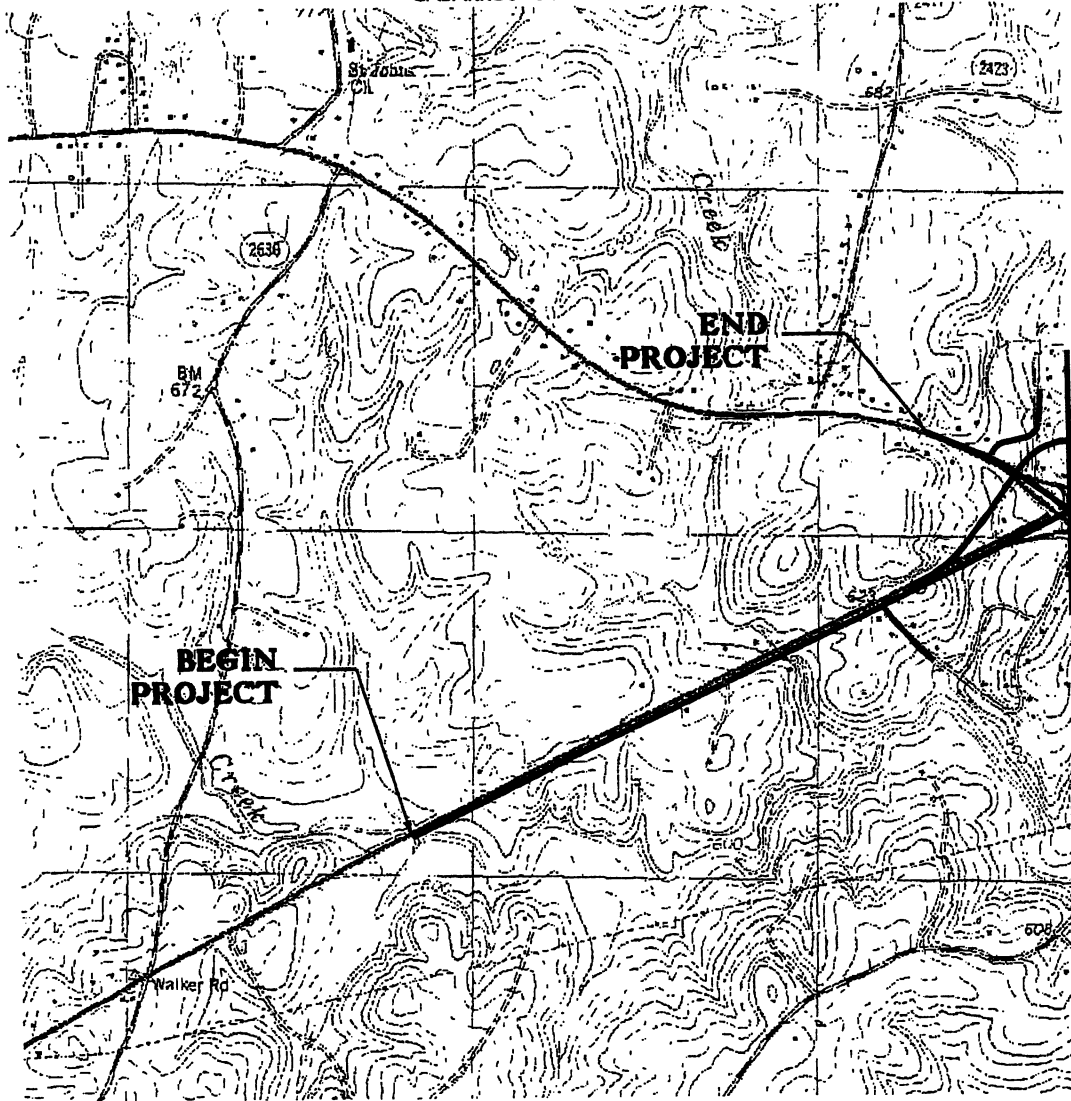


SEE INSET BELOW



SITE

CABARRUS COUNTY



SEE SHEET 2 OF 2

WETLAND/STREAM
IMPACTS
(1 OF 2)

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

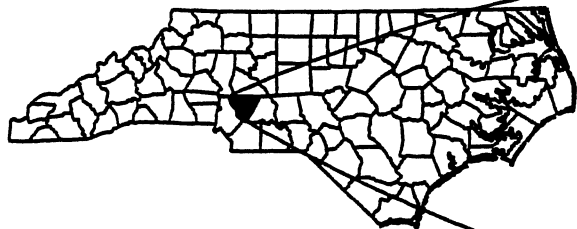
PROJECT: 34448.1.1 (R-2533CC)
NC 49 FROM EAST OF SR 2630
TO EAST OF SR 2421

Permit Drawing
Sheet 1 of 2

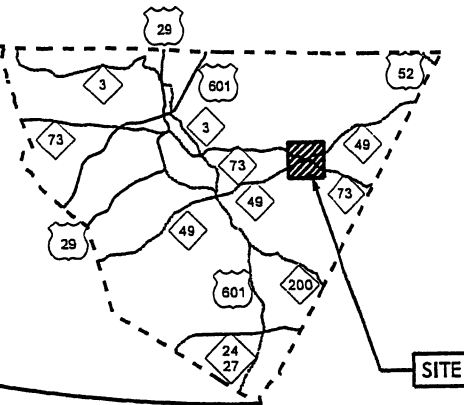
SHEET ___ OF ___

8-24-09

230



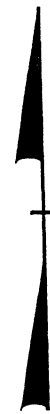
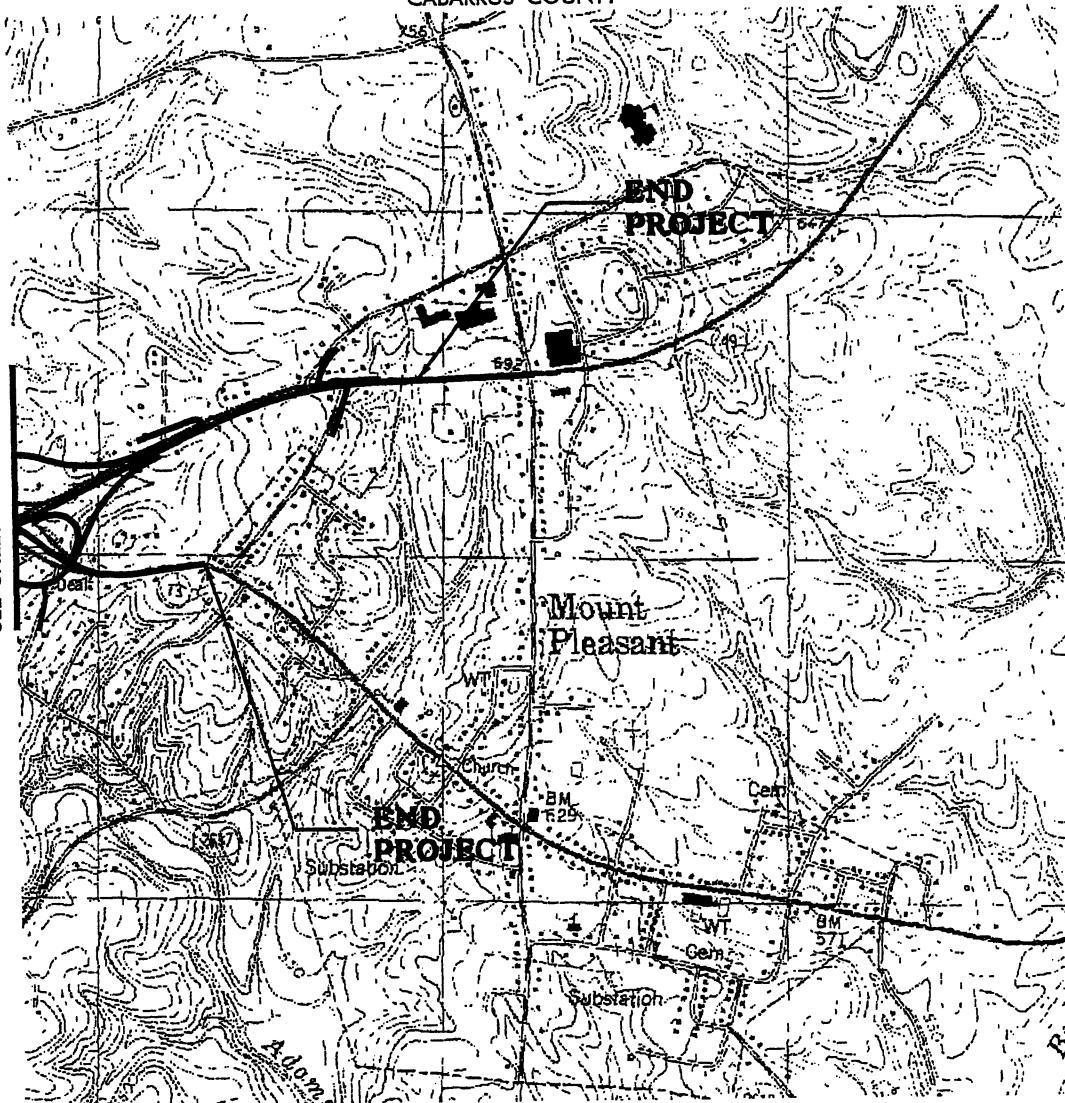
SEE INSET BELOW



SITE

CABARRUS COUNTY

SEE SHEET 1 OF 2



WETLAND/STREAM
IMPACTS
(2 OF 2)

Permit Drawing
Sheet 2 of 51

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

PROJECT:34448.1.1 (R-2533CC)
NC 49 FROM EAST OF SR 2630
TO EAST OF SR 2421

SHEET ___ OF ___

8-24-09

²³²
PROPERTY OWNERS
NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	NED C. REESE	1103 ROGERS LK RD KANNAPLOIS, NC 28081
2	CLARENCE A. & HILDA R. ALLMAN	ADDRESSES
11	STEVEN B. COCHRANE	6851 HWY 49 MT. PLEASANT, NC 28124
12	ECB, LLC	ADDRESSES
16	LOUIS M. HELMS, JR	6910 HWY 49 NORTH MT. PLEASANT, NC 28124
13	JOHN RAY NOBLES, JR	577 COVINGTON MILL POND RD BENNETSVILLE, NC 29512
22	H. KENNETH WILLIS & DIANE M. WILLIS J.O. WILLIS & LLAGE HOYLE WILLIS	751 BRAFFORD DR CONCORD, NC 28025
26	GATHA G. AUSTIN	P.O. BOX 307 LOCUST, NC 28097
28	MARSHALL POPLIN	P.O. BOX 818 MT. PLEASANT, NC 28124
43	WILLIAM F. PULLIUM	116 11TH AVE NEW LONDON, NC 28127

WETLAND/ STREAM
IMPACTS

Permit Drawing
Sheet 4 of 51

NCDOT
DIVISION OF HIGHWAYS
CABARRUS COUNTY

PROJECT: 34448.1.1 (R-2533CC)
 NC 49 FROM EAST OF SR 2630
 TO EAST OF SR 2421

SHEET 1 OF 2 7/23/10

233
PROPERTY OWNERS
NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
44	FRANCES B. MEDLIN	43 UNION ST SOUTH CONCORD, NC 28025
46	PATRICIA P. HARRINGTON	3852 LAKE AIRE DR NASHVILLE, TN 37217

WETLAND/ STREAM
IMPACTS

Permit Drawing
Sheet 5 of 51

NCDOT
DIVISION OF HIGHWAYS
CABARRUS COUNTY
PROJECT: 34448.1.1 (R-2533CC)
NC 49 FROM EAST OF SR 2630
TO EAST OF SR 2421
SHEET 2 OF 2
7/23/10

WETLAND PERMIT IMPACT SUMMARY

Site No	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS					
			Permanent Fill In Wetlands (ac)	Temp Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp (ft)	Natural Stream Design (ft)	
1*	200+17/201+21-L-REV	3@3.7 x 3.7 RCBC Bank Stabilization	0.025						0.11	0.07	108	125	
		UT Channel Relocation							0.01		36		
2	212+13/212+79 -L-REV	1@11 0 x 2.7 BOTTOMLESS RCBC							0.01	0.12	46	184	
		Bank Stabilization									39		
3*	213+52/214+02 -L-REV	Roadway Fill	0.200										
									0.09	0.01	361	39	
4	218+26/219+34 -L-REV	2@2.7 x 2.7 RCBC											
	Shopping Center Access	2@2.7 x 2.7 RCBC									46		
		Bank Stabilization							0.06		837		
5*	9+90/12+47 -Y1-REV RT	1050mm RCP	0.089								10		
		Bank Stabilization							0.09	0.02	371	89	
6	11+87/12+70 -Y1-REV	2@2.7 x 2.7 RCBC											
	12+11.6 -Y16-REV	2@2.7 x 2.7 RCBC											
		Bank Stabilization							0.13	0.01	902	43	
7	219+45/219+59 -L-REV	1 @ 1650mm RCP											
		1 @ 1800mm RCP											
									<0.01		10		
8	11+06-Y16REV-RT	600 RCP									10		
		Bank Stabilization											
9	220+00/220+28 -L-REV LT	450mm RCP							0.02		118		
TOTALS			0.31						0.52	0.23	3058	480	

ENGLISH IMPACTS

* WETLAND CONSIDERED TOTAL TAKE

Permit Drawing
Sheet 6 of 57
Revised 12/13/10

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
CABARRUS COUNTY
WBS - 34448 1 1 (R-2533CC)

SHEET #####

WETLAND PERMIT IMPACT SUMMARY

Site No	Station (From/To)	Structure Size / Type	WETLAND IMPACTS						SURFACE WATER IMPACTS					
			Permanent Fill In Wetlands (ha)	Temp Fill In Wetlands (ha)	Excavation in Wetlands (ha)	Mechanized Clearing in Wetlands (ha)	Hand Clearing in Wetlands (ha)	Permanent SW impacts (ha)	Temp SW impacts (ha)	Existing Channel Impacts Permanent (m)	Existing Channel Impacts Temp (m)	Natural Stream Design (m)		
1 *	200+17/201+21-L-REV	3@3.7 x 3.7 RCBC Bank Stabilization	0.010						0.046	0.026	33	38		
		UT Channel Relocation						0.003			11			
2	212+13/212+79 -L-REV	1@11.0 x 2.7 BOTTOMLESS RCBC						0.007	0.048	14	56			
3 *	213+52/214+02 -L-REV	Bank Stabilization Roadway Fill	0.081							12				
4	218+26/219+34 -L-REV	2@2.7 x 2.7 RCBC						0.037	0.006	110	12			
	Shopping Center Access	2@2.7 x 2.7 RCBC								14				
5 *	9+90/12+47 -Y1-REV RT	Bank Stabilization 1050mm RCP	0.036					0.026		255	3			
6	11+87/12+70 -Y1-REV 12+11.6 -Y16-REV	Bank Stabilization 2@2.7 x 2.7 RCBC 2@2.7 x 2.7 RCBC						0.035	0.009	113	27			
7	219+45/219+59 -L-REV	Bank Stabilization 1 @ 1650mm RCP 1 @ 1800mm RCP						0.053	0.005	275	13			
8	11+06-Y16REV-RT	600 RCP Bank Stabilization						<0.001		3				
9	220+00/220+28 -L-REV LT	450mm RCP						0.008		36				
TOTALS.			0.127					0.215	0.094	932	146			

METRIC IMPACTS

* WETLAND CONSIDERED A TOTAL TAKE

Permit Drawing
Sheet 7 of 51

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
CABARRUS COUNTY
WBS - 34448 1 1 (R-2533CC)

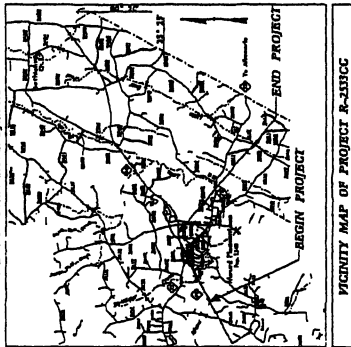
SHEET

8/11/2010

TIP: R-2533CC

CONTRACT:

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



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
CABARRUS COUNTY

LOCATION: NC 49 FROM EAST OF SR 2630 TO EAST OF SR 2421

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

STATE	N.C.	PROJECT NUMBER	R-2533CC
DATE	3/4/00	PROJECT TYPE	PE
DESIGNER	34448.1.1	CONTRACT NO.	NHE-28-109
DRAWN	34448.3.9	CONTRACT NO.	NHE-064926
CHECKED		CONTRACT NO.	
APPROVED		CONTRACT NO.	

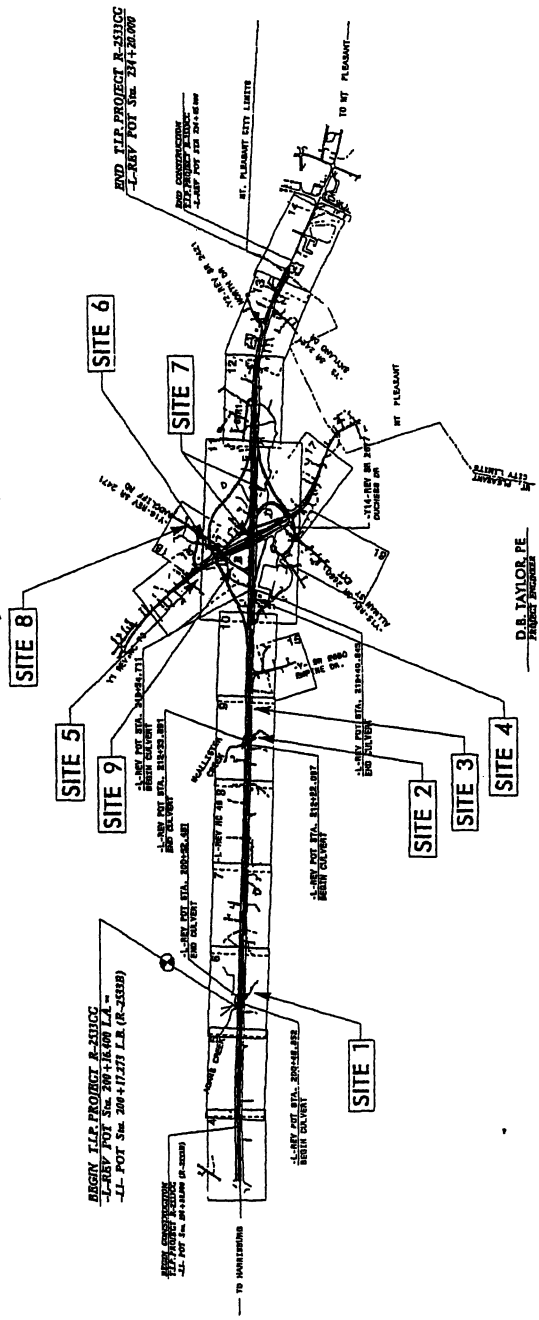
ALL DIMENSIONS IN THESE PLANS ARE TO BE AS SHOWN UNLESS OTHERWISE NOTED

Permit Drawing
Sheet 8 of 51



WETLAND/STREAM
IMPACTS

236



CONTROL OF ACCESS IS SHOWN ON PLANS
AT THE NC 49 - NC 13 INTERCHANGE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HYDROLOGICAL ENGINEER
ROADWAY DESIGN
PRELIMINARY PLANS

PROJECT NO. 008-4
NC FIRM LICENSE NO: F-0342
701 Corporate Center Dr
Suite 475
Raleigh, N.C. 27607
(919) 854-6200
FAX (919) 854-6259

PLANS PREPARED FOR NCDOT
DIVISION OF HIGHWAYS

K. M. HAUGHEY, PE
TAKER FROM PROJECT NUMBER
N. J. DEAN, PE
PROJECT DESIGN NUMBER

RIGHT OF WAY DATE:
October 18, 2002
LETTING DATE:
April 12, 2011

PROJECT LENGTH

LENGTH ROADWAY PROJECT R-2533CC = 3.279 Km
LENGTH STRUCTURES PROJECT R-2533CC = 0.024 Km
TOTAL LENGTH STATE PROJECT R-2533CC = 3.404 Km

DESIGN DATA

ADT 2011 = 10 685
ADT 2031 = 13 551
DRV = 11 %
D = 60 %
T = 13 %
(TST 7% + DUALS 6%)
REV HBL V = 100 Km/h
REV HBL V = 100 Km/h
PRR DESIGN GUIDELINES
FUNCT. CLASS. - ARTERIAL

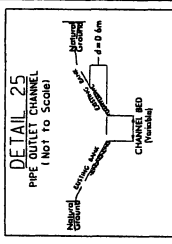
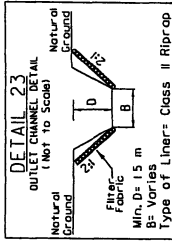
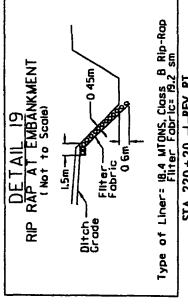
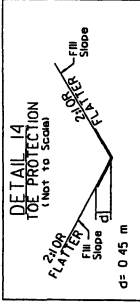
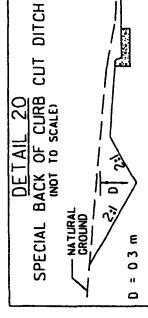
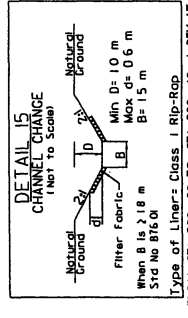
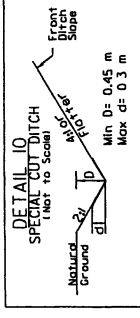
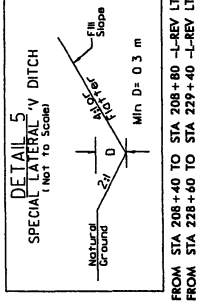
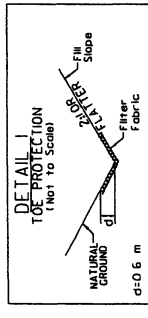
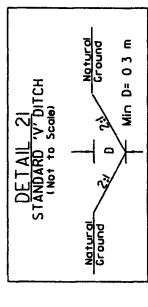
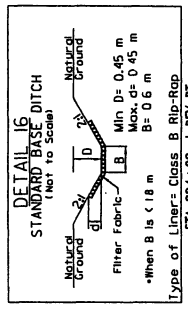
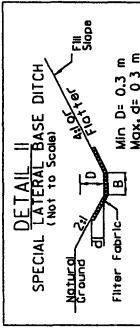
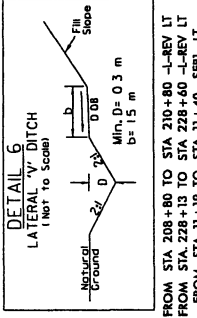
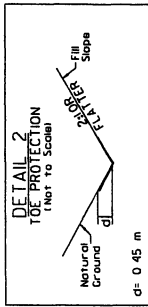
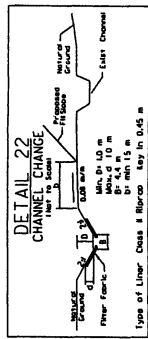
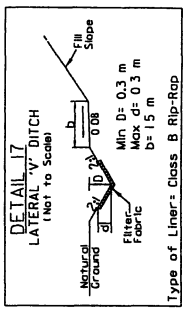
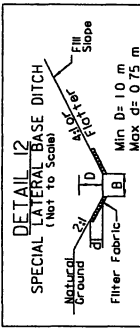
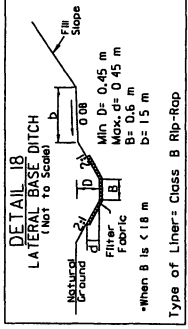
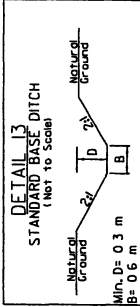
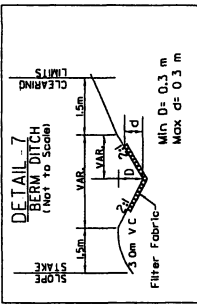
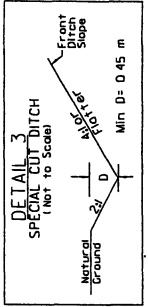
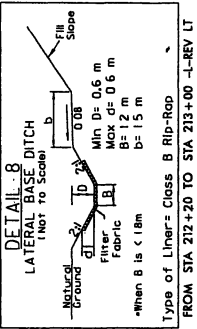
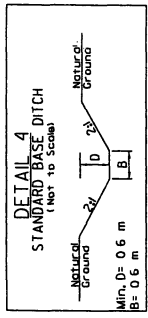
GRAPHIC RATIO

PLANS
PROFILE (HORIZONTAL)
PROFILE (VERTICAL)

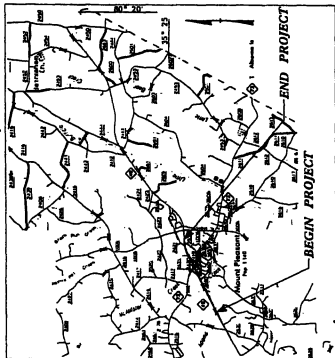
PROJ. REFERENCE NO. **R-2533C** SHEET NO. **2-J**
 HYDRAULICS ENGINEER
 PRELIMINARY PLANS
 DO NOT USE FOR CONSTRUCTION

Approved on the Office of the **ASCOM** INCORPORATED, 1000 W. 10th St., # 415 URBANA, ILL. 61801-1000
 CONTRACT NO. **110-1-1-11**
 DATE REV. **12/13/15**

Permit Drawing
 Sheet 9 of 11
 Revised 12/13/15



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

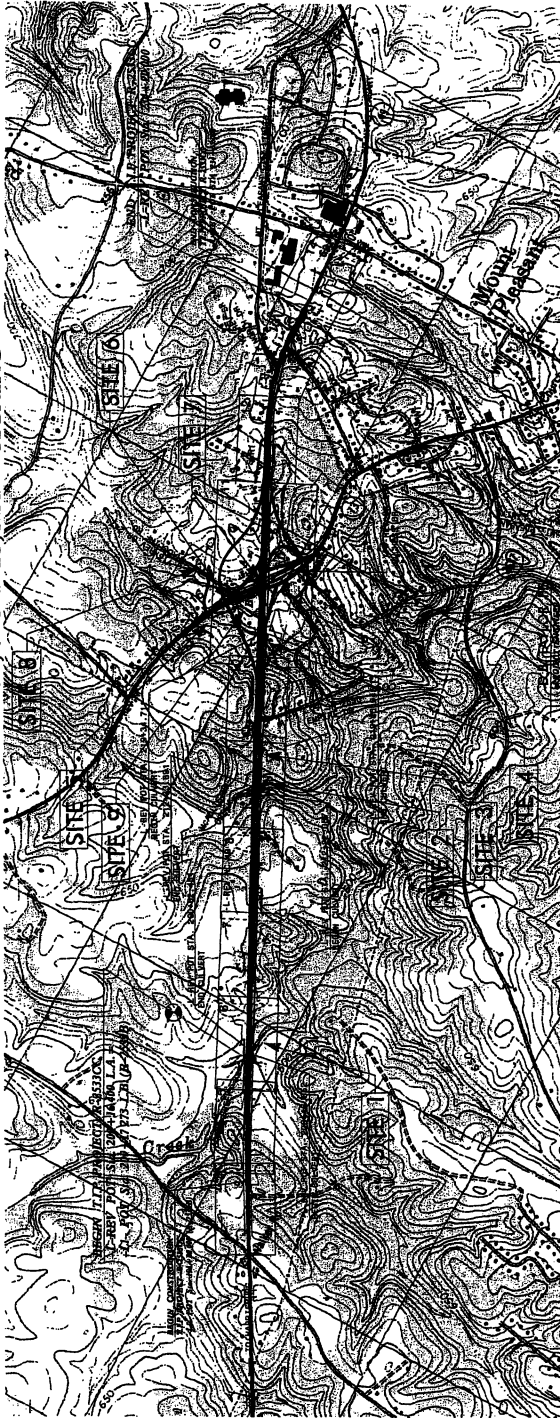


VICINITY MAP OF PROJECT R-2533CC

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
CABARRUS COUNTY

LOCATION: NC 49 FROM EAST OF SR 2630 TO EAST OF SR 2421

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



WETLAND/STREAM
IMPACTS

238

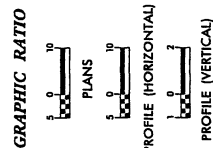
CONTROL OF ACCESS IS SHOWN ON PLANS
AT THE NC 49 - NC 73 INTERCHANGE

STATE	N.C.	PROJECT NUMBER	R-2533CC	SHEET	1	TOTAL SHEETS	1
CITY/TOWN	3444B.1.1	DATE	NHE-2B-106	DESIGNER	PE		
COUNTY	3444B.3.9		NHE-004926A	CONTRACTOR	RAW UTIL		
					CONST		

Permit Drawing
Sheet 10 of 51



ALL DIMENSIONS IN THESE
PLANS ARE IN METERS AND
/OR MILLIMETERS UNLESS
OTHERWISE NOTED



DESIGN DATA

ADT 2011	= 10,685
ADT 2031	= 13,531
DHV	= 11 %
D	= 60 %
T	= 13 %
(TTST 7% + DUALS 6%)	
L-REV NBL V	= 100 km/h
L-REV SBL V	= 90 km/h
RRR	= DESIGN GUIDELINES
FUNCT. CLASS.	= ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY PROJECT R-2533CC	= 3.370 Km
LENGTH STRUCTURES PROJECT R-2533CC	= 0.034 Km
TOTAL LENGTH STATE PROJECT R-2533CC	= 3.404 Km

**PLANS PREPARED FOR NCDOT
DIVISION OF HIGHWAYS**

RIGHT OF WAY DATE:	October 18, 2002
LETTING DATE:	April 19, 2011

NC FIRM LICENSE No: F-0342
701 Corporate Center Dr
Suite 475
Raleigh, N.C. 27607
(919)-854-6200
FAX (919)-854-6259

HYDRAULICS ENGINEER
ROADWAY DESIGN
P. J. ...
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS



STATE HIGHWAY DESIGN ENGINEER
P.E.

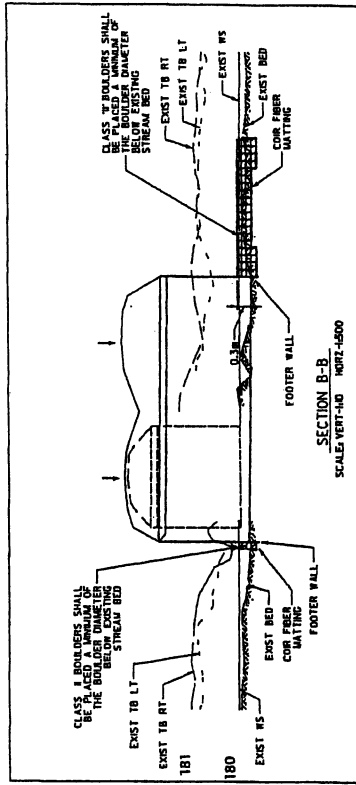
TIP: R-2533CC

CONTRACT:

CHANNEL BENCH DETAIL SHEET

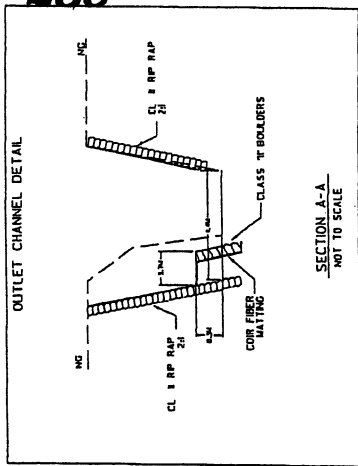
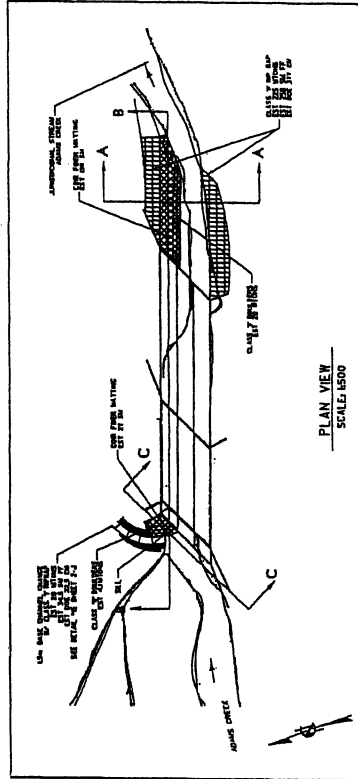
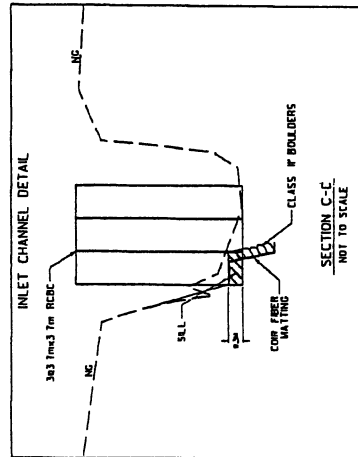
Permit Drawing
Sheet 11 of 51
Revised 12/18/80

PROJ. APPROVAL NO. A-23310C	SHEET NO. 2-7
PROJ. NAME METRICS	PROJ. NO. 2-7
PROJ. LOCATION METRICS	PROJ. DATE 12/18/80
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
DRAWN BY: ASOM CHECKED BY: ASOM IN CHARGE: ASOM	



NOTES:

1. A BENCH 0.3M ABOVE THE BED SHALL BE ARMORED WITH BOULDERS AS SHOWN ON THIS SHEET. THE BENCH SHALL BE 0.3M WIDE AND SHOULD EXTEND 0.3M BELOW THE STREAM BED AND LINED WITH COR FIBER MATTING.
2. DIMENSIONS AND SLOPES MAY BE ADJUSTED TO FIT BY THE ENGINEER.
3. EDGE ARMOR CAN BE NATURAL STONE OR SHOT ROCK MATERIAL AND CAN BE CURVED OR RECTANGULAR IN SHAPE.
4. ACCEPTABLE BOULDERS FOR THE EDGE ARMOR SHOULD BE THE FOLLOWING SIZE: (1) UNDESIRABLE EDGE ARMOR MATERIAL THAT REMAINS IN PLACE SHALL BE REMOVED. (2) BOULDERS MAY BE USED IN BACK FILL OF THE OVER BANK AREA OR DISCARDED.
5. COR FIBER MATTING SHALL EXTEND FROM THE BOTTOM OF THE FOOTER BOULDERS AND ACROSS THE ENTIRE CHANNEL BED TO PREVENT ABOUT OF SEDIMENT THROUGH BOULDER CAPS.



STA. 200+37 TO STA. 200+98 -L-REV

PROJ REFERENCE NO. R-2533CC
SHEET NO. 6
HYDRAULIC DESIGN
SURVEILLANCE

METRIC

PERMIT DRAWING
FOR THE
CONSTRUCTION OF
A
CULVERT

Checked in the
Office of the
ASCOM
100 S. W. 10th Ave., Suite 475
Fort Lauderdale, FL 33304
CONSTR. DIV.
RAV REV.

Permit Drawing
Sheet 12 of 51
Revised 12/19/16

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES FILL IN WETLAND



MATCH LINE -L-REV STA 202+80 SEE SHEET 7

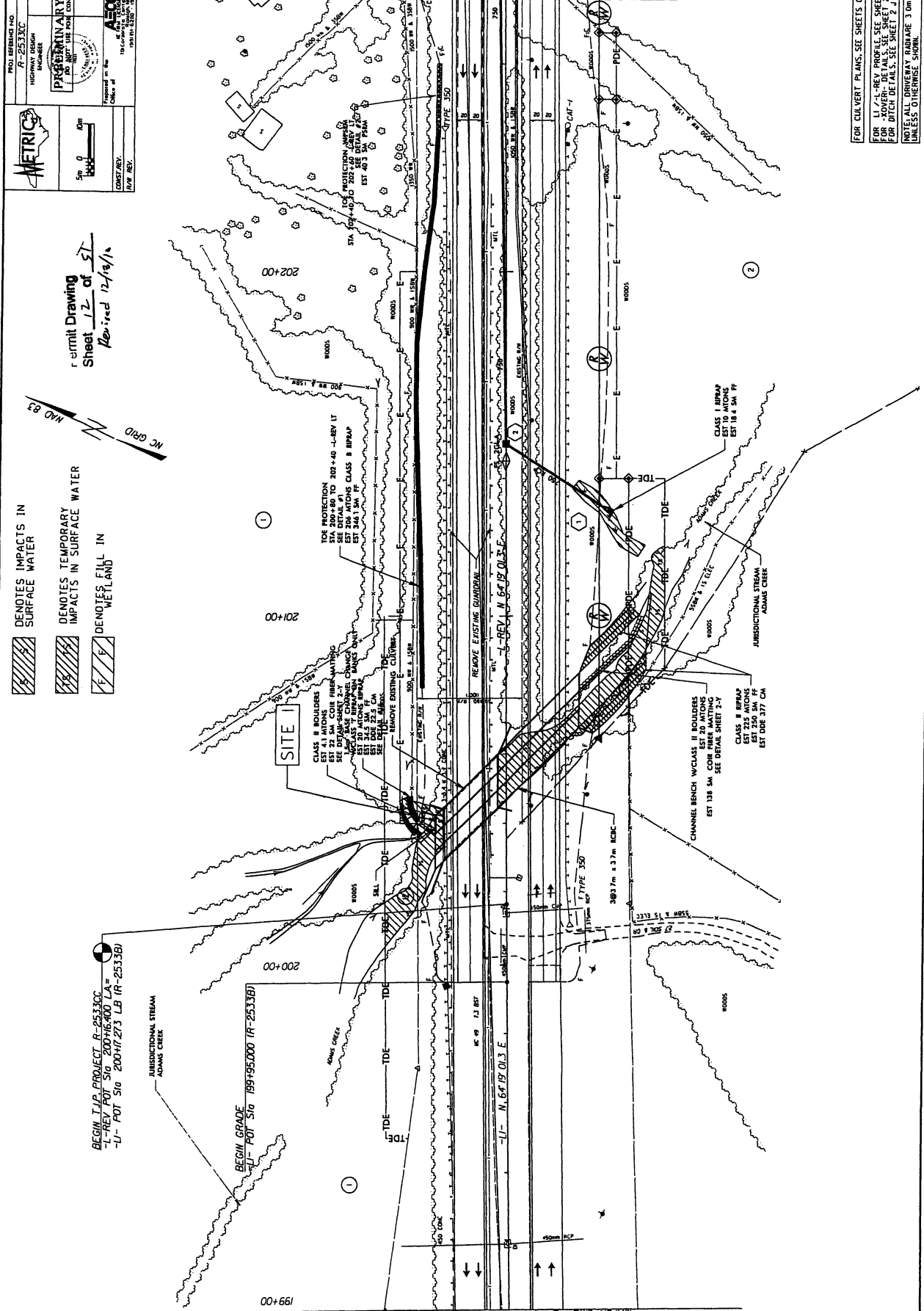
BEGIN T.I.P. PROJECT R-2533CC
-L-REV POT. Sta 200+16.400 LA= 200+16.400
-U- POT. Sta 200+17.273 LB (R-2533CB)

JURISDICTIONAL STREAM
ADAMS CREEK

BENCH GRADE
-L-REV POT. Sta 199+95.000 (R-2533BB)

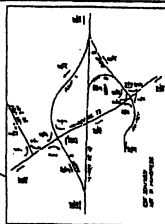
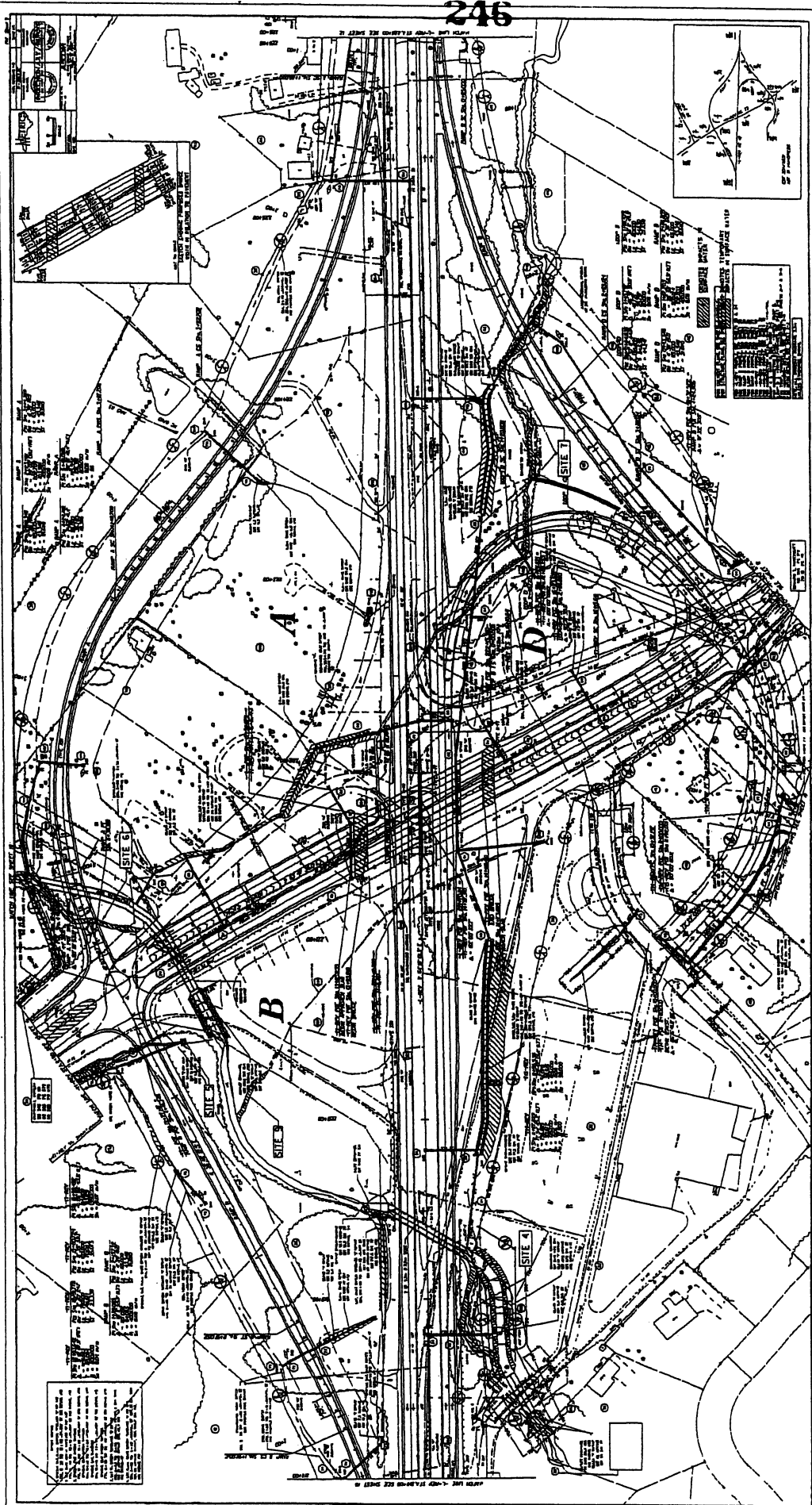
MATCH LINE -U- STA 199+00.000 SEE SHEET 5

31 ADDED PDE TO PARCEL FROM DRAINAGE REV. 05/07/09
32 REVISED TDE ON PARCEL 1 TO ELIMINATE
ON PDE AND TDE ON PARCEL 2. AND 04/10/10
33 REVISED PDE & ADDED TDE TO PARCEL 1
FOR EROSION CONTROL. CHAN. 07/09/09
34 REVISED PDE & ADDED TDE TO PARCEL 1
FOR EROSION CONTROL. CHAN. 07/09/09
35 REVISED PDE & ADDED TDE TO PARCEL 1
FOR EROSION CONTROL. CHAN. 07/09/09



FOR CULVERT PLANS, SEE SHEETS C.1 THRU C.3
FOR L-REV PROFILES, SEE SHEETS 20 & 21
FOR U-REV PROFILES, SEE SHEETS 22 & 23
FOR DITCH DETAILS, SEE SHEET 24
NOTE: ALL DRIVEWAY BANKS ARE 3.0m
UNLESS OTHERWISE SHOWN.

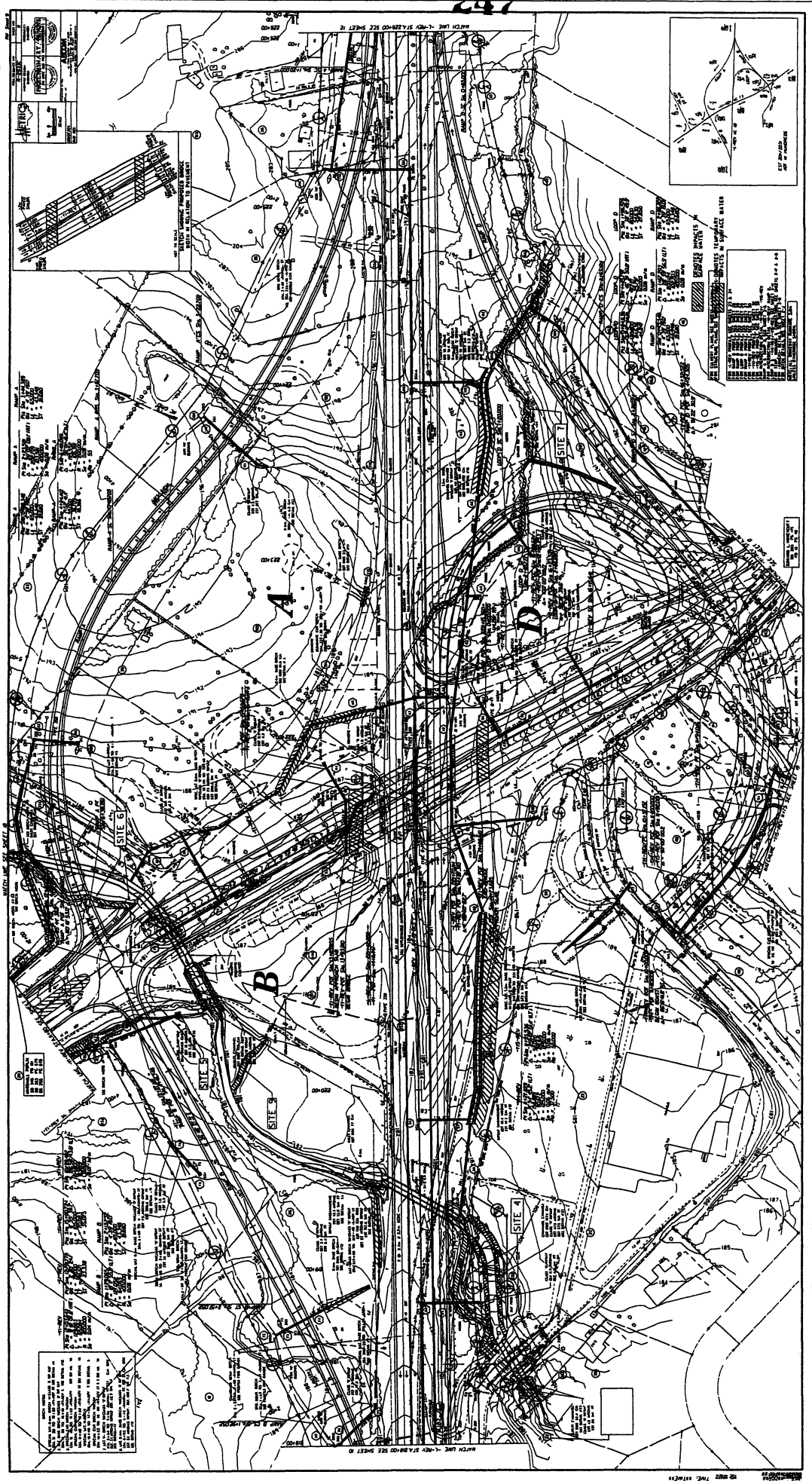
Permit Drawing
Sheet 18 of 21
Revised 12/18/70



NOT TO SCALE
 ALL DIMENSIONS ARE IN FEET
 UNLESS OTHERWISE SPECIFIED
 ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, AS APPLICABLE TO THE STATE OF TEXAS, AND THE LATEST EDITIONS OF THE STANDARD SPECIFICATIONS FOR BRIDGE CONSTRUCTION, AS APPLICABLE TO THE STATE OF TEXAS.
 ALL UTILITIES SHOWN ARE BASED ON RECORD DRAWINGS AND FIELD SURVEY.
 ALL UTILITIES SHALL BE DELETED OR PROTECTED AS SHOWN ON THIS DRAWING.
 ALL UTILITIES SHALL BE DELETED OR PROTECTED AS SHOWN ON THIS DRAWING.
 ALL UTILITIES SHALL BE DELETED OR PROTECTED AS SHOWN ON THIS DRAWING.

DATE: 12/18/70
 DRAWN BY: [Name]
 CHECKED BY: [Name]
 APPROVED BY: [Name]




Permit Drawing
Sheet 19 of 51
Revised 12/13/80

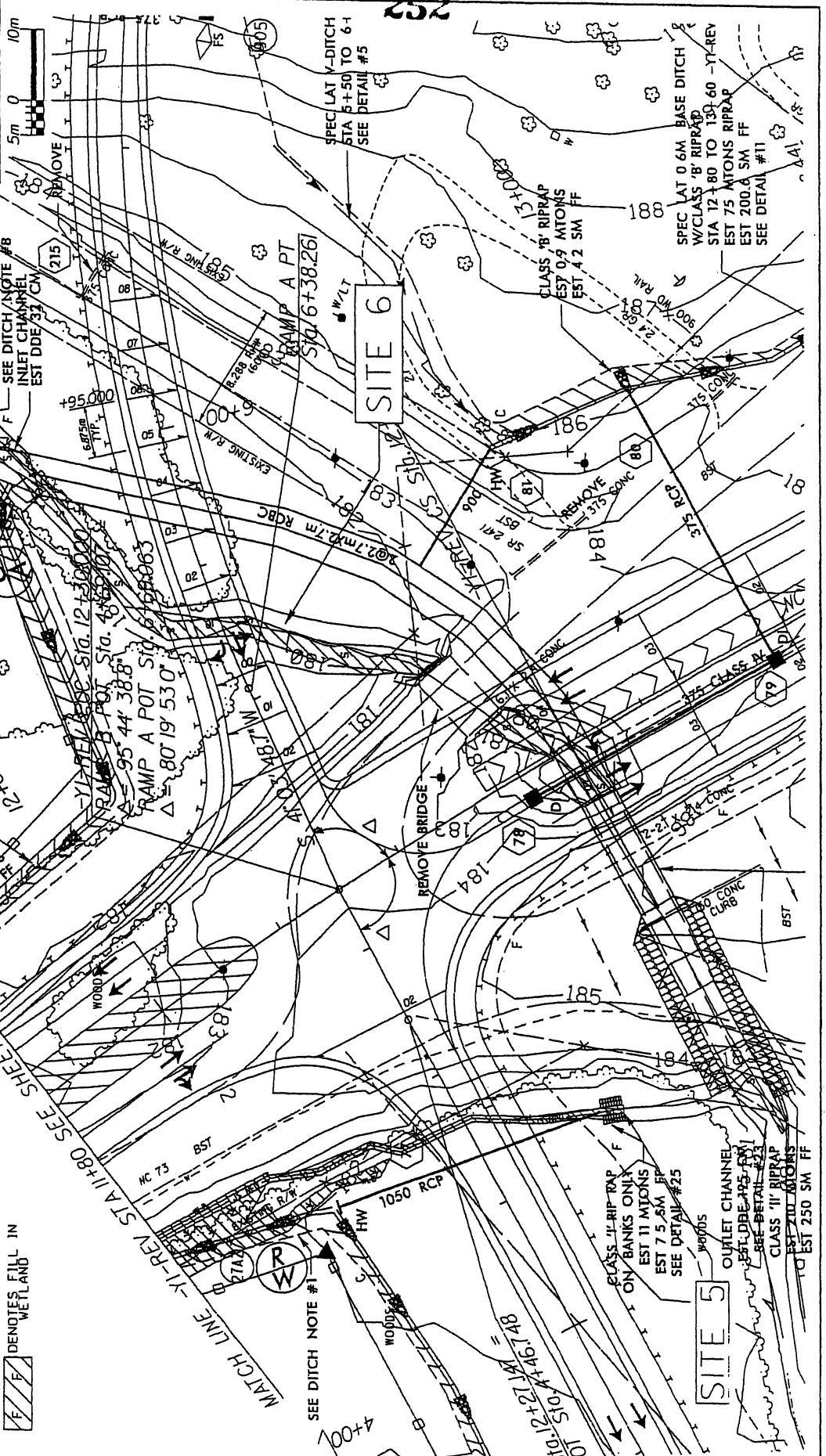


NOTES:
1. ALL DIMENSIONS ARE IN FEET AND DECIMALS THEREOF.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, AS APPLICABLE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
4. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AT ALL TIMES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND STRUCTURES.
6. THE CONTRACTOR SHALL MAINTAIN ADEQUATE DRAINAGE AND EROSION CONTROL MEASURES THROUGHOUT THE CONSTRUCTION PERIOD.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RESTORATION OF ALL AREAS DAMAGED DURING CONSTRUCTION.
8. THE CONTRACTOR SHALL MAINTAIN ADEQUATE RECORDS OF ALL CONSTRUCTION ACTIVITIES.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL ENVIRONMENTAL RESOURCES.
10. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SAFETY MEASURES THROUGHOUT THE CONSTRUCTION PERIOD.

DATE: 12/13/80
DRAWN BY: [Name]
CHECKED BY: [Name]
SCALE: AS SHOWN

Permit Drawing
 Sheet 2.1 of 2.1
 MATCH LINE SEE SHEET 10
 MATCH LINE SEE SHEET 12

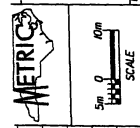
-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER
-  DENOTES FILL IN WETLAND



SITE 5

SITE 6

252



Prepared to the Order of
AECOM
 10000 Wilshire Blvd., Suite 1000
 Los Angeles, CA 90024
 DATE: 08/15/2007 BY: JAC/CP/PAAT

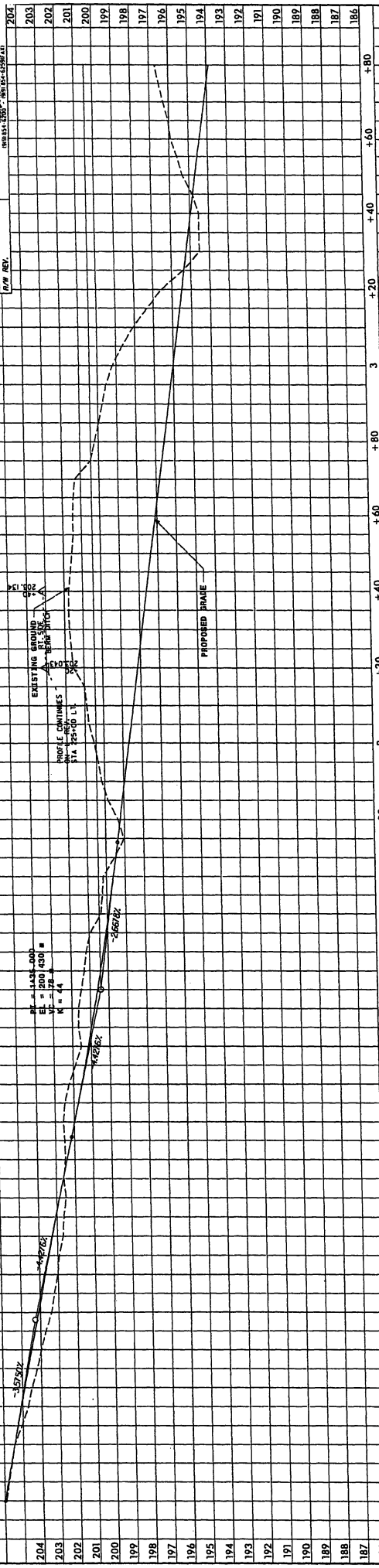
Permit Drawing
 Sheet 25 of 31

RAMP A @ Y1-REV

L-1-REV STA. 228+30.000 TO 242+12.171
 BEGIN GRADE ELEV. 200.500

PI = 0+48+000
 EL = 204.282
 C = 113
 K = 113

PI = 1+45+000
 EL = 200.430
 C = 78
 K = 44



253

RAMP A @ Y1-REV

SITE 6

IMPACTS IN SURFACE WATER

BAMP A STA. 1+48+000
 END GRADE ELEV. 198.481
 ELEV. 198.382 M

BAMP A STA. 1+57+490
 END GRADE ELEV. 198.411

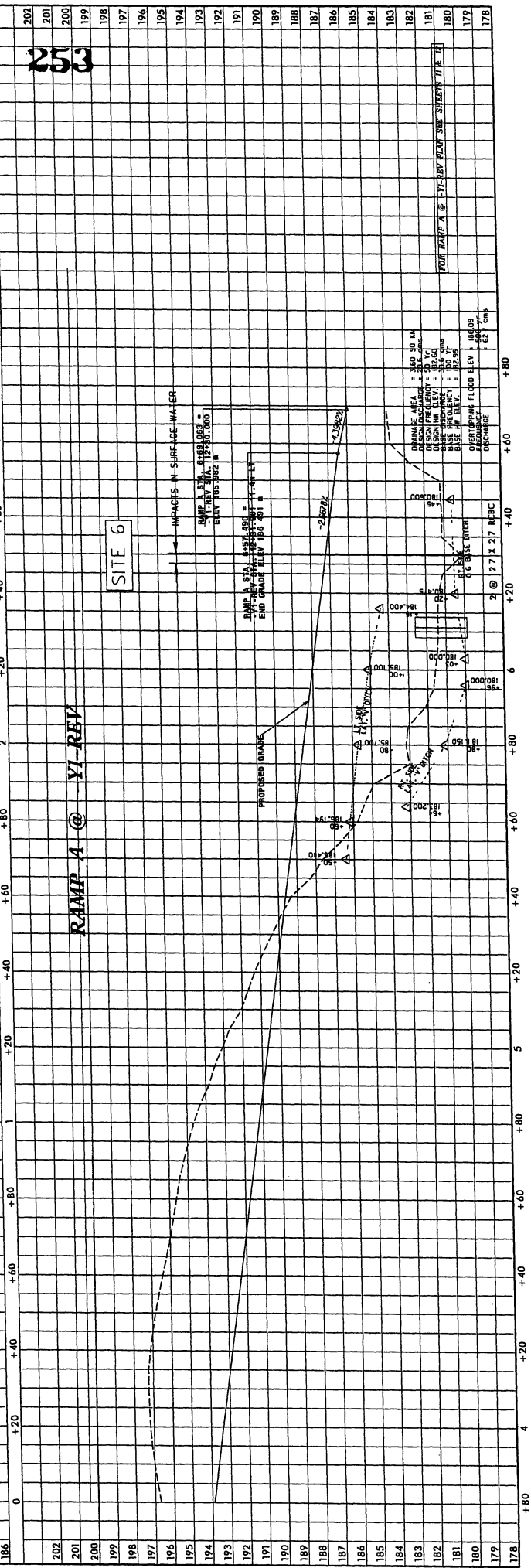
PROPOSED BRANE

PROPOSED BRANE

CHANNEL AREA = 30.00 SQ. FT.
 DESIGN FREQUENCY = 0.1
 DESIGN VELOCITY = 3.00 FPS
 DESIGN DISCHARGE = 38.00 CFS
 DESIGN CHANNEL WIDTH = 10.00 FT.
 DESIGN CHANNEL DEPTH = 1.00 FT.
 DESIGN CHANNEL SLOPE = 0.06
 DESIGN CHANNEL BOTTOM ELEV. = 197.00
 DESIGN CHANNEL TOP ELEV. = 198.00
 DESIGN CHANNEL CENTERLINE ELEV. = 197.50
 DESIGN CHANNEL CENTERLINE DISCHARGE = 62.7 CFS

2 @ 2.7 X 2.7 R/C

0.6 DRAIN WITH

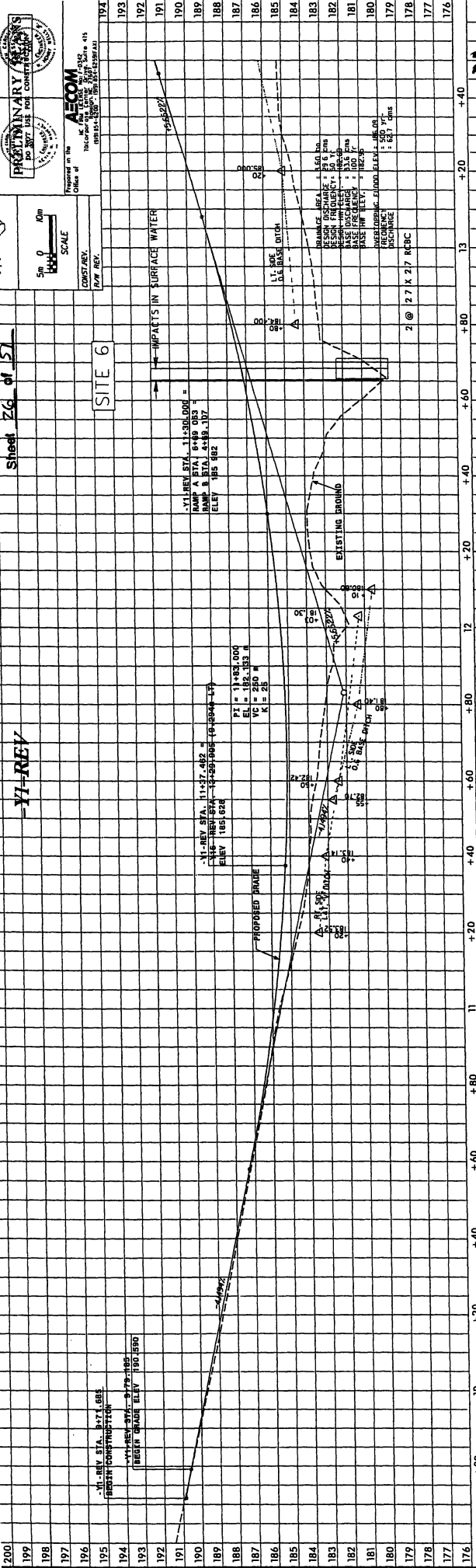


FOR RAMP A @ Y1-REV PLAN SEE SHEETS 216 & 217

Permit Drawing
 Sheet ZG of S1

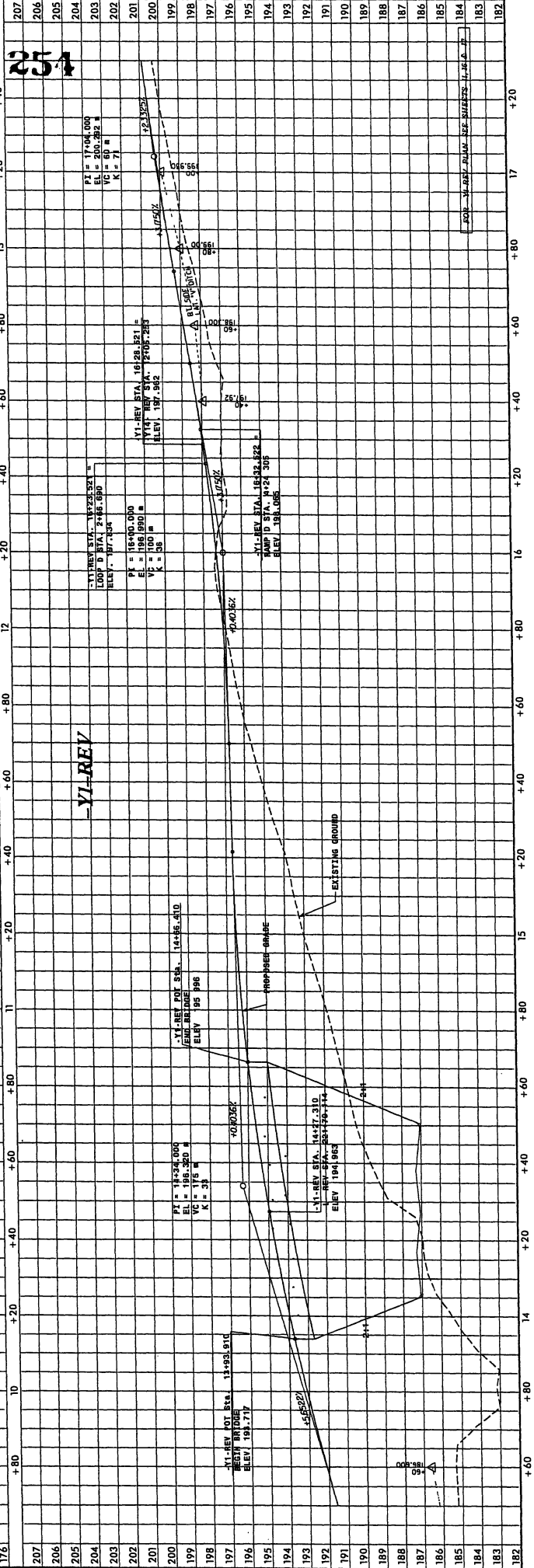
-Y1-REV

SITE 6



2 @ 2.7 x 2.7 REBC

-Y1-REV



2 @ 2.7 x 2.7 REBC

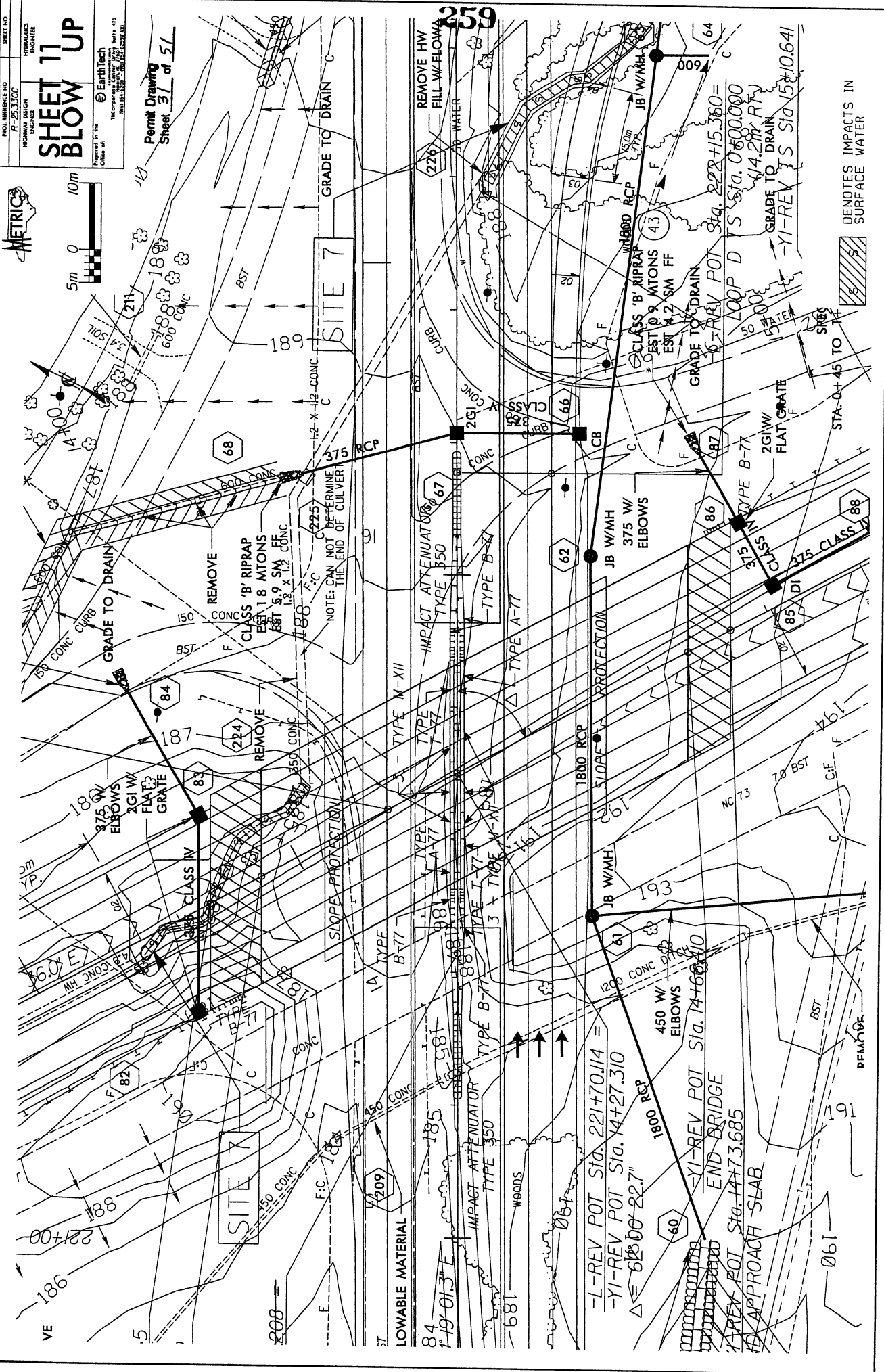
254

DO NOT USE FOR CONSTRUCTION

SHEET 11 UP

BLOW

Permit Drawing
 Sheet 31 of 51



DENOTES IMPACTS IN SURFACE WATER

STA. 0+45 TO 1

375 W/WH ELBOWS

1800 RCP PROTECTION

375 W/WH ELBOWS

1800 RCP

PROJ. REFERENCE NO. R-25.3.7CC
 HIGHWAY REGION ENGINEER
 HYDRAULICS ENGINEER

PROVISIONARY
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA
 NO. 40877

Prepared in the
AECON
 CONSULTING ENGINEERS
 1045 W. 14th Street, Suite 1114
 San Francisco, CA 94115
 (415) 774-1100

Sheet No. 29

METRIC

SCALE
 1" = 40'

CONSTRY. N.W. REV.

Plan Drawing
 Sheet 52 of 51

RAMP D @ -Y1-REV

SITE 7

RAMP D STA. 2200+00 TO 2200+100
 -Y1-REV STA. 2200+100 TO 2200+140

EL. = 202.452 M
 UC = 0.84 M
 K = 276

EL. = 204.000 M
 UC = 0.84 M
 K = 276

IMPACTS IN SURFACE WATER

PROPOSED GRADE

EXISTING GROUND

PI = 227.500 M
 EL. = 195.194 M
 VC = 1.00 M
 K = 12

PI = 227.500 M
 EL. = 195.194 M
 VC = 1.00 M
 K = 12

IMPACTS IN SURFACE WATER

PROPOSED GRADE

EXISTING GROUND

DRAINAGE AREA = 2.80 Ha
 DESIGN DISCHARGE = 5.70 Cms
 0.100 M DISCHARGE = 5.70 Cms
 0.100 M ELEV. = 187.00 M
 OVERFLOWING GROUND ELEV. = 186.50 M
 DISCHARGE = 4.80 Cms

PI = 198.000 M
 EL. = 185.700 M
 VC = 1.00 M
 K = 12

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 EL. = 185.700 M
 VC = 1.00 M
 K = 12

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 EL. = 185.700 M
 VC = 1.00 M
 K = 12

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 EL. = 185.700 M
 VC = 1.00 M
 K = 12

IMPACTS IN SURFACE WATER

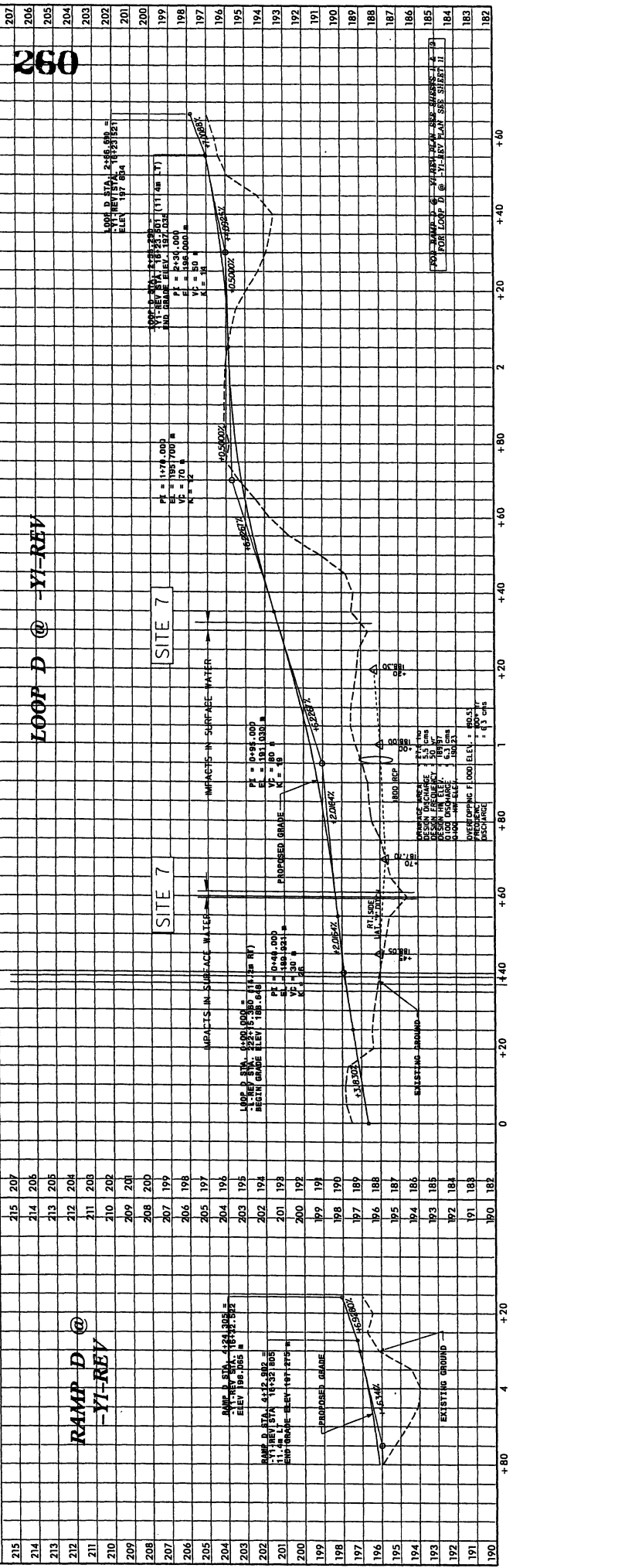
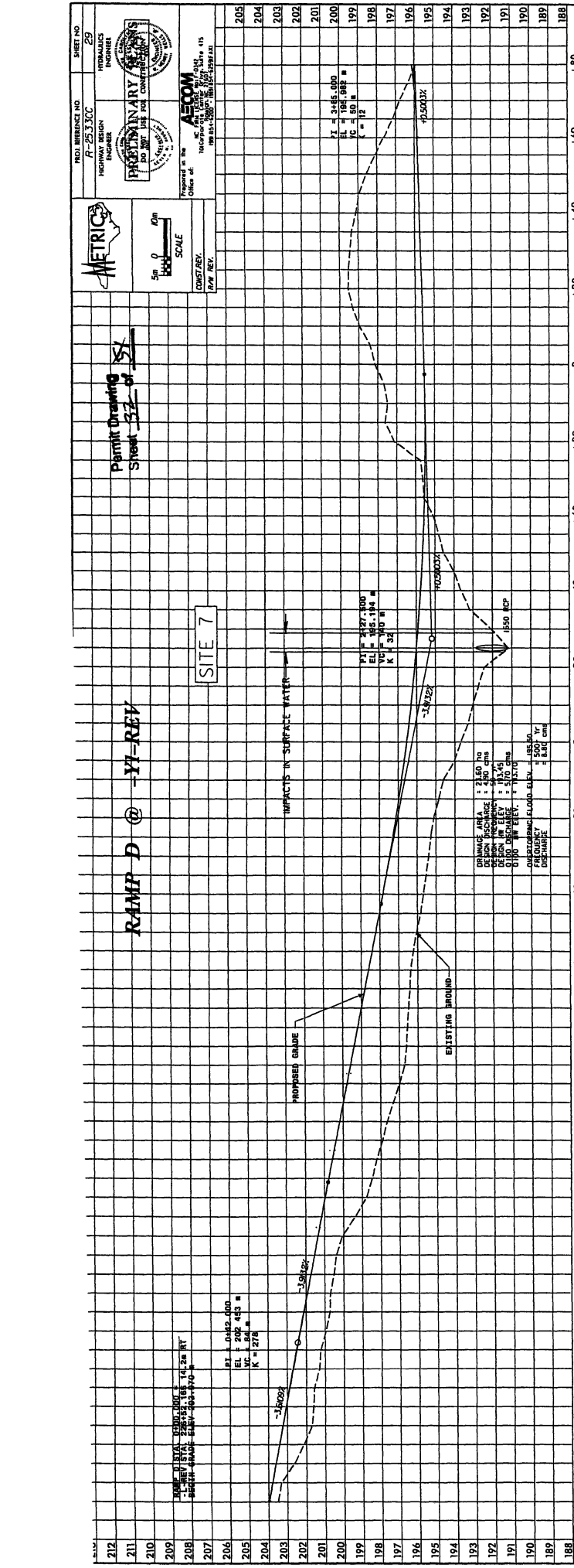
PROPOSED GRADE

EXISTING GROUND

DRAINAGE AREA = 2.80 Ha
 DESIGN DISCHARGE = 5.70 Cms
 0.100 M DISCHARGE = 5.70 Cms
 0.100 M ELEV. = 187.00 M
 OVERFLOWING GROUND ELEV. = 186.50 M
 DISCHARGE = 4.80 Cms

PI = 198.000 M
 EL. = 185.700 M
 VC = 1.00 M
 K = 12

PI = 198.000 M
 EL. = 185.700 M
 VC = 1.00 M
 K = 12



260

LOOP D @ -Y1-REV

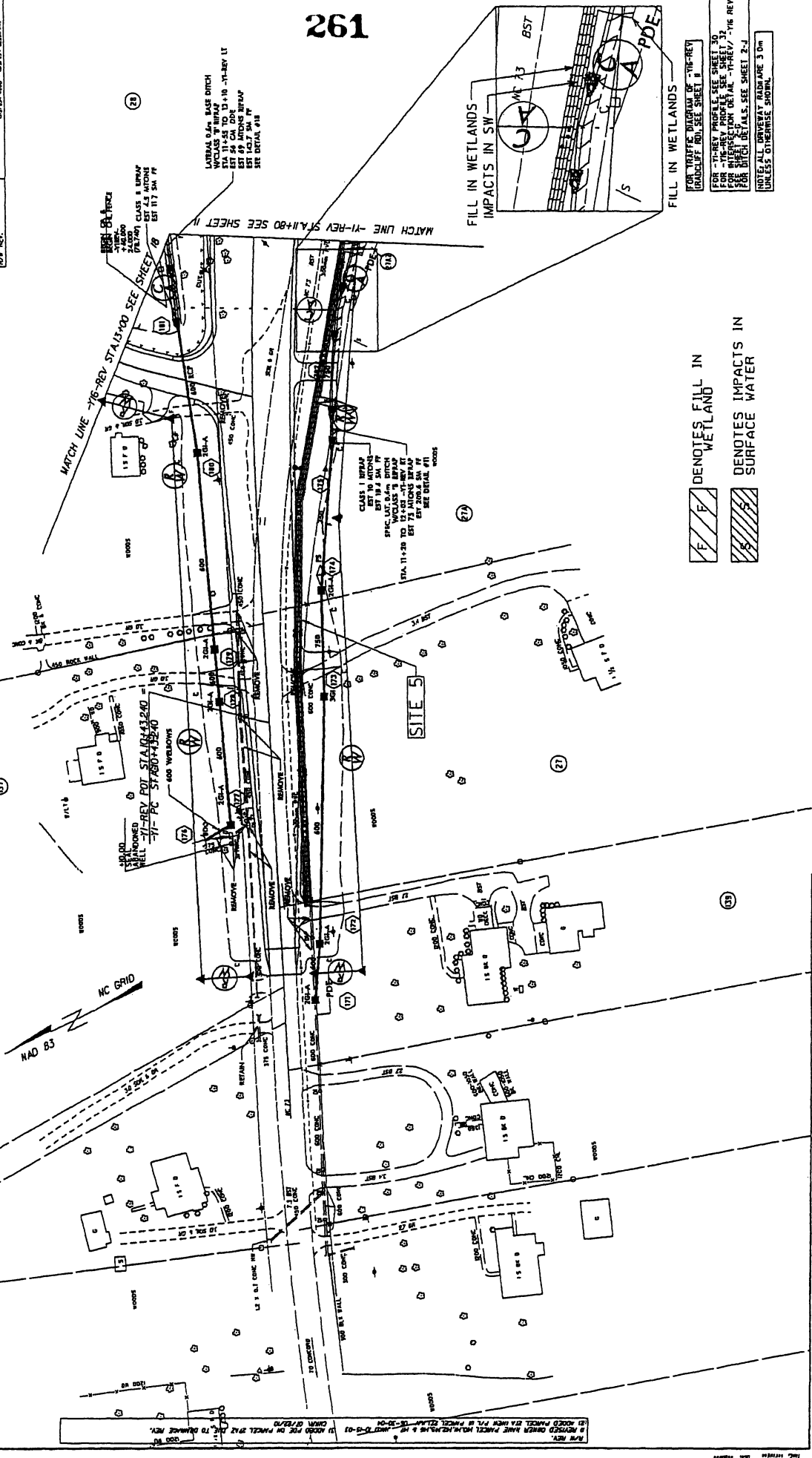
RAMP D @ -Y1-REV

FOR LOOP D @ -Y1-REV PLAN SEE SHEET II

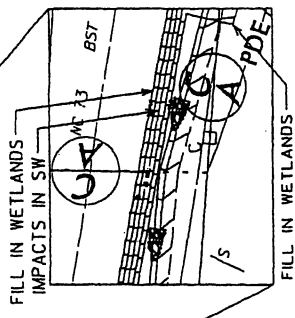
PERMIT NO. 16
 PROJECT NO. A-2537CC
 CONTRACTOR: METRIC ENGINEERING, INC.
 PROJECT: PROVISIONAL PERMIT FOR ROADWAY IMPROVEMENTS
 SHEET NO. 261 OF 261
 DATE: 11/15/11
 DRAWN BY: J. J. [unreadable]
 CHECKED BY: [unreadable]

Permit Drawing
 Sheet 261 of 261

-YI-
 PI STA 10+89.294
 $\Delta = 12' 10" \text{ (L.O. (RT))}$
 LC = 97.68
 R = 432.000
 T = 46.054



261



FILL IN WETLANDS
 IMPACTS IN SW
 FILL IN WETLANDS
 IMPACTS IN SW

DENOTES FILL IN WETLAND
 DENOTES IMPACTS IN SURFACE WATER

FOR TRAFFIC CONTROL OF THE REV
 ROADCLIFF RD, SEE SHEET 262
 FOR TRAFFIC CONTROL OF THE REV
 FOR -YI- REV PROJECT, SEE SHEET 262
 FOR INTERSECTION DETAIL, -YI-REV/-YI-REV
 FOR DITCH DETAILS, SEE SHEET 2-J
 NOTES: ALL DIMENSIONS SHOWN ARE 3' ON
 UNLESS OTHERWISE SHOWN.

MATCH LINE -YI-REV STA 11+80 SEE SHEET 262

MATCH LINE -YI-REV STA 11+00 SEE SHEET 262

LATERAL V.A. BASE DITCH
 STA 11+35 TO 13+10 -YI-REV LT
 EST 44' CAN DDE
 EST 43' 7" CAN DDE
 EST 42' 7" CAN DDE
 EST 41' 7" CAN DDE
 SEE DETAIL #11

CLASS 1 WRAP
 EST 118.2' SW 70'
 SPEC. L.A.T. 8.4' DITCH
 EST 118.2' SW 70'
 STA 11+25 TO 13+10 -YI-REV LT
 EST 73' ALONG BRKAY
 EST 73' ALONG BRKAY
 SEE DETAIL #11

SITE 5

NAD 83

N/A REV. 11/15/11
 1" = 40' HORIZONTAL SCALE
 1" = 40' VERTICAL SCALE
 1" = 40' HORIZONTAL SCALE
 1" = 40' VERTICAL SCALE
 1" = 40' HORIZONTAL SCALE
 1" = 40' VERTICAL SCALE

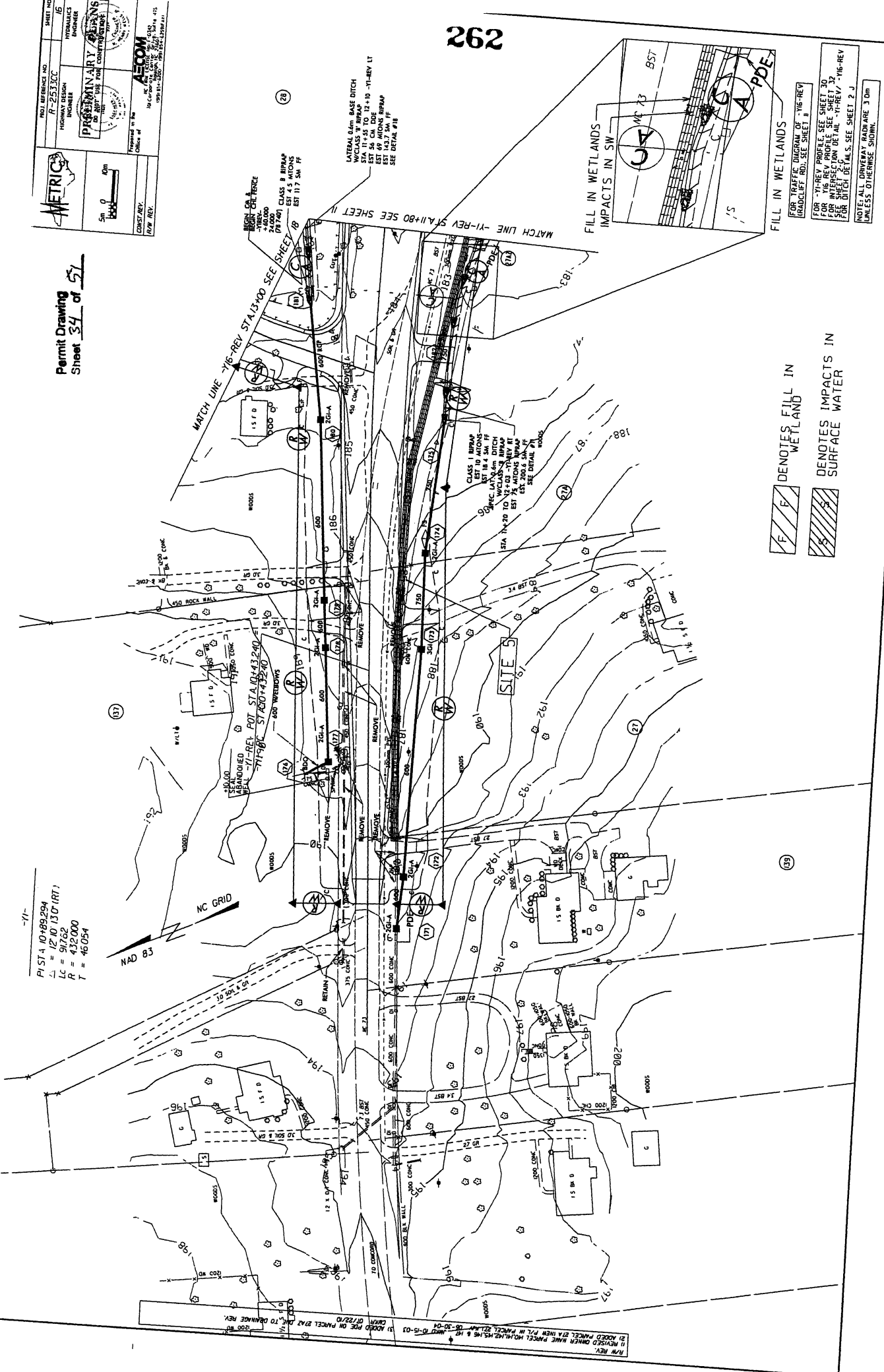
METRICS
 5m 0 50m
 CONTRACTOR: [BLANK]
 R/W REV: [BLANK]

PROJECT NO. R-2533CC
 HIGHWAY DESIGN ENGINEER
 PROVISIONARY LICENSE FOR CONSULTING ENGINEER
 OFFICE OF THE CHIEF ENGINEER
 STATE OF CALIFORNIA
 100 CALIFORNIA STREET, SUITE 2042, OAKLAND, CA 94612
 (916) 831-4300 FAX: (916) 831-4301
 WWW.METRICS.COM

Permit Drawing
 Sheet 34 of 57

-11-
 PI STA 10+89.294
 L = 12.10 (30' RT)
 LC = 507.62
 R = 432.000
 T = 46.054

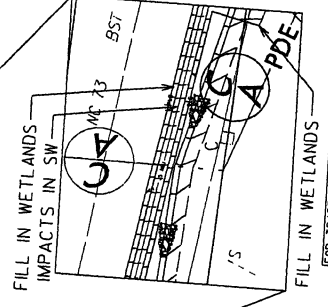
NAD 83



MATCH LINE -16-REV STA 13+00 SEE SHEET II
 MATCH LINE -11-REV STA 11+80 SEE SHEET II

LATERAL 0.4m BASE DITCH
 W/C CLASS 10 BIRAP
 EST 54.33 TO 12+10 -11-REV LT
 EST 49.40 TO 91.77 -11-REV RT
 EST 37.37 SM FF
 SEE DETAIL #18

CLASS 1 BIRAP
 EST 10.10 TO 18.14
 W/C CLASS 10 BIRAP
 EST 18.14 TO 20.10
 W/C CLASS 10 BIRAP
 EST 20.10 TO 22.10
 W/C CLASS 10 BIRAP
 EST 22.10 TO 24.10
 W/C CLASS 10 BIRAP
 EST 24.10 TO 26.10
 W/C CLASS 10 BIRAP
 EST 26.10 TO 28.10
 W/C CLASS 10 BIRAP
 EST 28.10 TO 30.10
 W/C CLASS 10 BIRAP
 EST 30.10 TO 32.10
 W/C CLASS 10 BIRAP
 EST 32.10 TO 34.10
 W/C CLASS 10 BIRAP
 EST 34.10 TO 36.10
 W/C CLASS 10 BIRAP
 EST 36.10 TO 38.10
 W/C CLASS 10 BIRAP
 EST 38.10 TO 40.10
 W/C CLASS 10 BIRAP
 EST 40.10 TO 42.10
 W/C CLASS 10 BIRAP
 EST 42.10 TO 44.10
 W/C CLASS 10 BIRAP
 EST 44.10 TO 46.10
 W/C CLASS 10 BIRAP
 EST 46.10 TO 48.10
 W/C CLASS 10 BIRAP
 EST 48.10 TO 50.10
 W/C CLASS 10 BIRAP
 EST 50.10 TO 52.10
 W/C CLASS 10 BIRAP
 EST 52.10 TO 54.10
 W/C CLASS 10 BIRAP
 EST 54.10 TO 56.10
 W/C CLASS 10 BIRAP
 EST 56.10 TO 58.10
 W/C CLASS 10 BIRAP
 EST 58.10 TO 60.10
 W/C CLASS 10 BIRAP
 EST 60.10 TO 62.10
 W/C CLASS 10 BIRAP
 EST 62.10 TO 64.10
 W/C CLASS 10 BIRAP
 EST 64.10 TO 66.10
 W/C CLASS 10 BIRAP
 EST 66.10 TO 68.10
 W/C CLASS 10 BIRAP
 EST 68.10 TO 70.10
 W/C CLASS 10 BIRAP
 EST 70.10 TO 72.10
 W/C CLASS 10 BIRAP
 EST 72.10 TO 74.10
 W/C CLASS 10 BIRAP
 EST 74.10 TO 76.10
 W/C CLASS 10 BIRAP
 EST 76.10 TO 78.10
 W/C CLASS 10 BIRAP
 EST 78.10 TO 80.10
 W/C CLASS 10 BIRAP
 EST 80.10 TO 82.10
 W/C CLASS 10 BIRAP
 EST 82.10 TO 84.10
 W/C CLASS 10 BIRAP
 EST 84.10 TO 86.10
 W/C CLASS 10 BIRAP
 EST 86.10 TO 88.10
 W/C CLASS 10 BIRAP
 EST 88.10 TO 90.10
 W/C CLASS 10 BIRAP
 EST 90.10 TO 92.10
 W/C CLASS 10 BIRAP
 EST 92.10 TO 94.10
 W/C CLASS 10 BIRAP
 EST 94.10 TO 96.10
 W/C CLASS 10 BIRAP
 EST 96.10 TO 98.10
 W/C CLASS 10 BIRAP
 EST 98.10 TO 100.10



F F' DENOTES FILL IN WETLAND
 S S' DENOTES IMPACTS IN SURFACE WATER

FOR TRAFFIC OVERLOAD OR VIB-REV (ROADCLIFF R/O), SEE SHEET I
 FOR -11-REV PROFILE, SEE SHEET 30
 FOR -16-REV PROFILE, SEE SHEET 32
 FOR INTERSECTION DETAIL, SEE SHEET 17
 FOR BUTCH DETAIL, SEE SHEET 2 J
 NOTE: ALL HIGHWAY RADII ARE 3.0m UNLESS OTHERWISE SHOWN

R/W REV: [BLANK]
 11) REVISOR OWNER NAME PARCEL 21A THEN P/L IN PARCEL 22A AND 16
 12) ADD'D PER ON PARCEL 21A2 D/L TO DRAINAGE REV.

PROVISIONAL
 CONTRACT NO. 10-455-024
 DATE: 05/01/10
 PROJECT: I-77/286
 SHEET: 10-455-024-1000

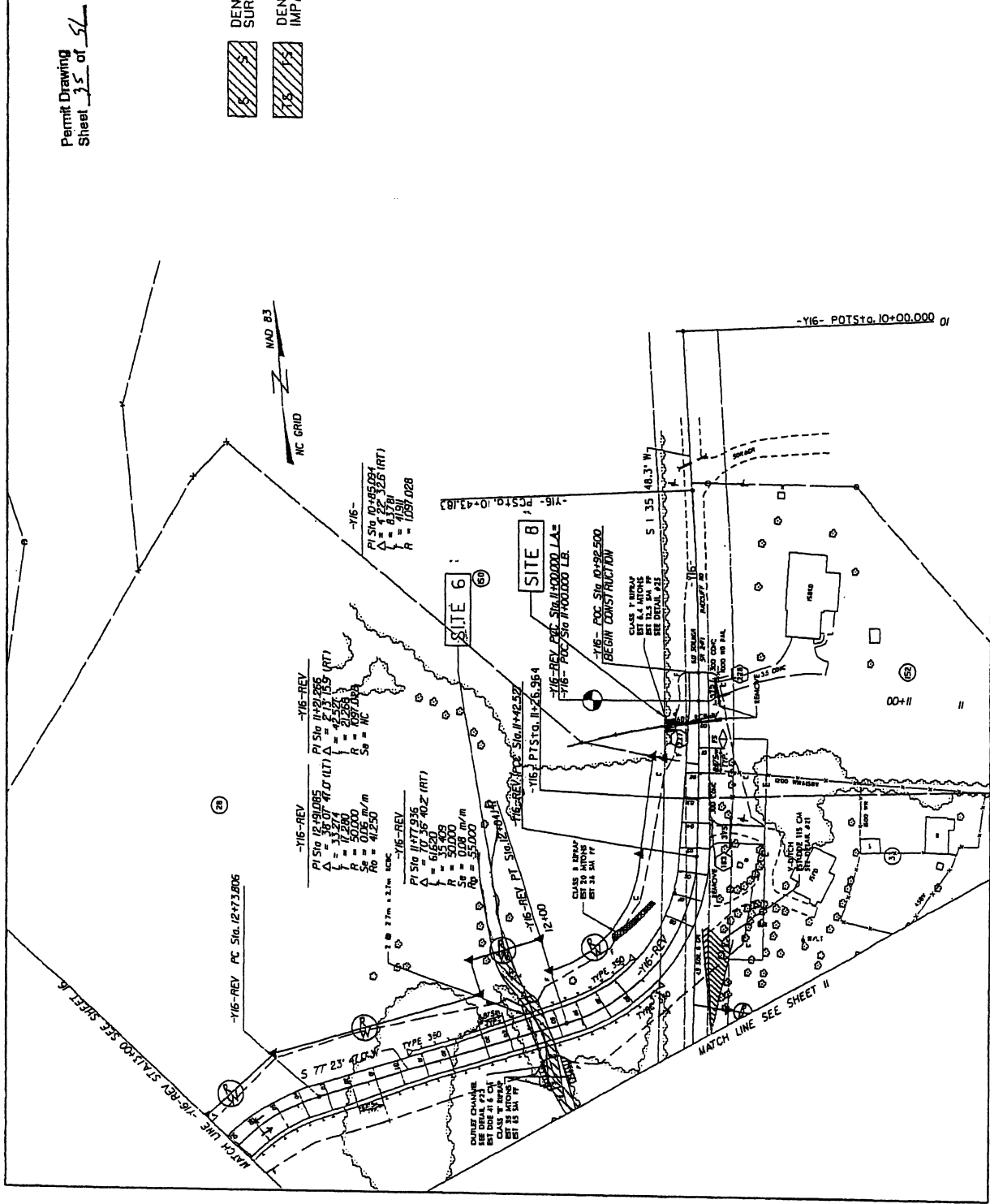
DATE: 05/01/10
 DRAWN BY: J. H. HARRIS
 CHECKED BY: J. H. HARRIS
 REV. NO. 1

PERMIT DRAWING
 SHEET 35 OF 51

DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER



FOR CULVERT PLANS, SEE SHEETS C-1 THRU C-10
 FOR -Y16-REV PROFILE, SEE SHEET 32
 FOR PATCH DETAILS, SEE SHEET 3-J
 NOTES: ALL DRIVEWAY RAINW ARE 3' DIA UNLESS OTHERWISE SHOWN.



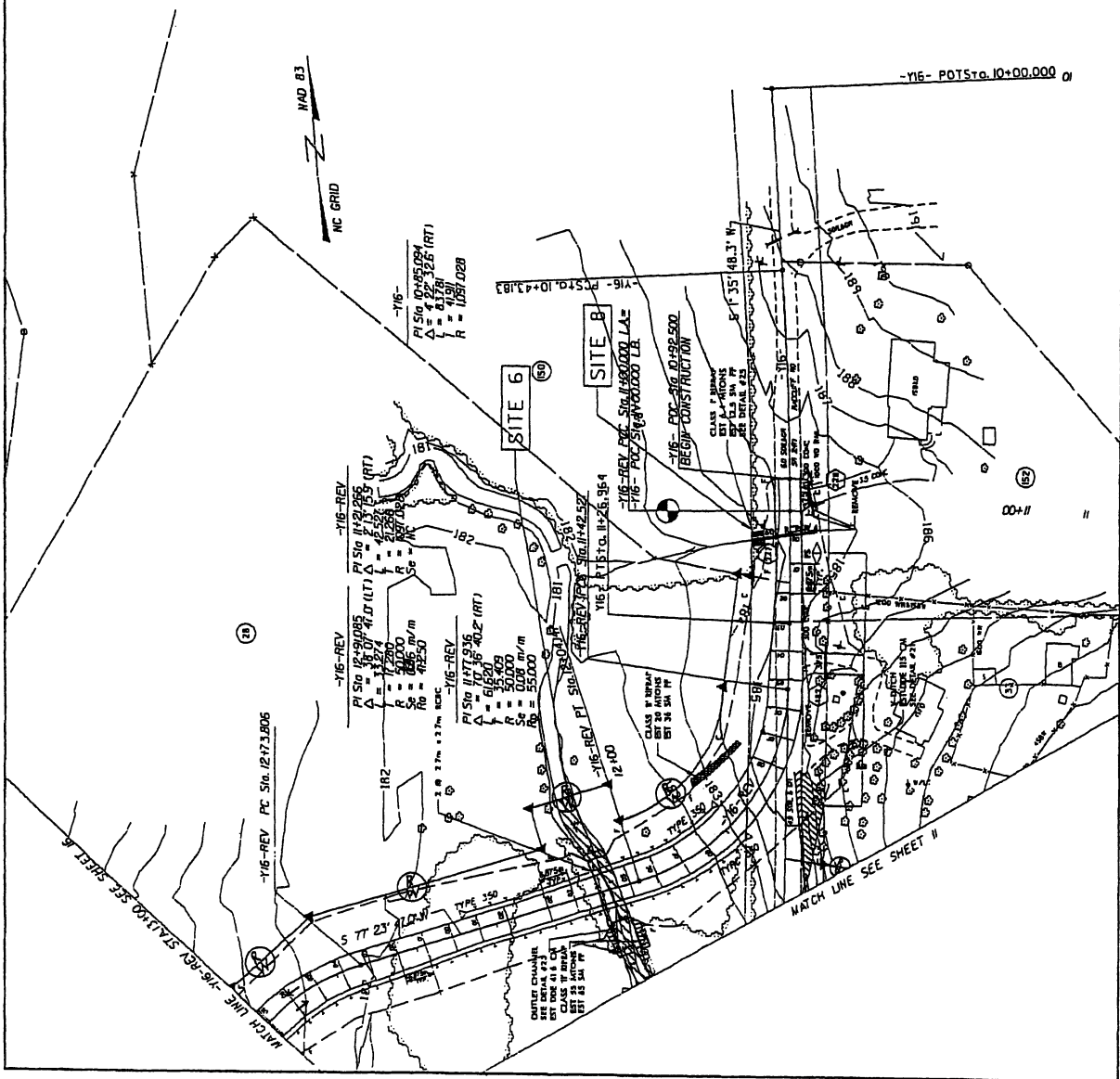
RW Sheet 16
 PERMIT NO. 17
 PROJECT NO. 17-2533EC
 PROJECT NAME: METRIC
 DRAWING NO. 17-2533EC-01
 DATE: 11/11/11
 SCALE: 1" = 40.00'
 CONTRACT NO. 17-2533EC
 CONTRACT DATE: 11/11/11
 CONTRACT VALUE: \$1,000,000.00
 CONTRACTOR: METRIC
 ENGINEER: METRIC
 PROJECT LOCATION: 17-2533EC
 SHEET NO. 16 OF 16

264

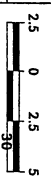
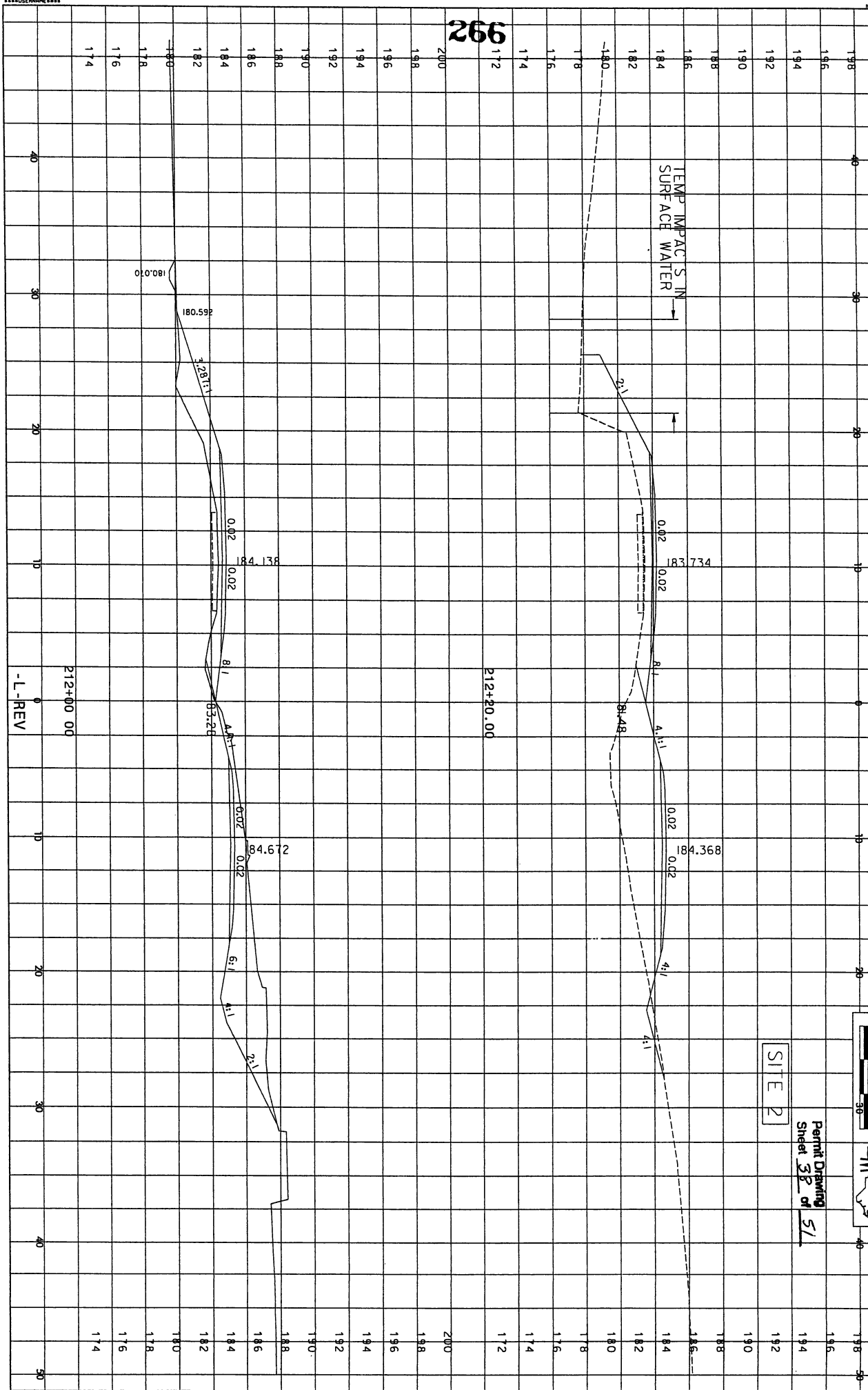
Permit Drawing
Sheet 36 of 51

-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER

FOR CULVERT PLANS, SEE SHEETS C-THRU C
 FOR -Y16-REV PROFILE, SEE SHEET 32
 FOR DITCH DETAILS, SEE SHEET 2-J
 NOTE ALL DRAINAGE ROADWAY 3.0M
 UNLESS OTHERWISE SHOWN



17-2533EC-01



Permit Drawing
Sheet 32 of 51

SITE 2

PROJECT REFERENCE NO.	SHEET NO.
07-25130C	X-48
	178
	50

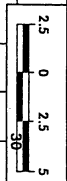
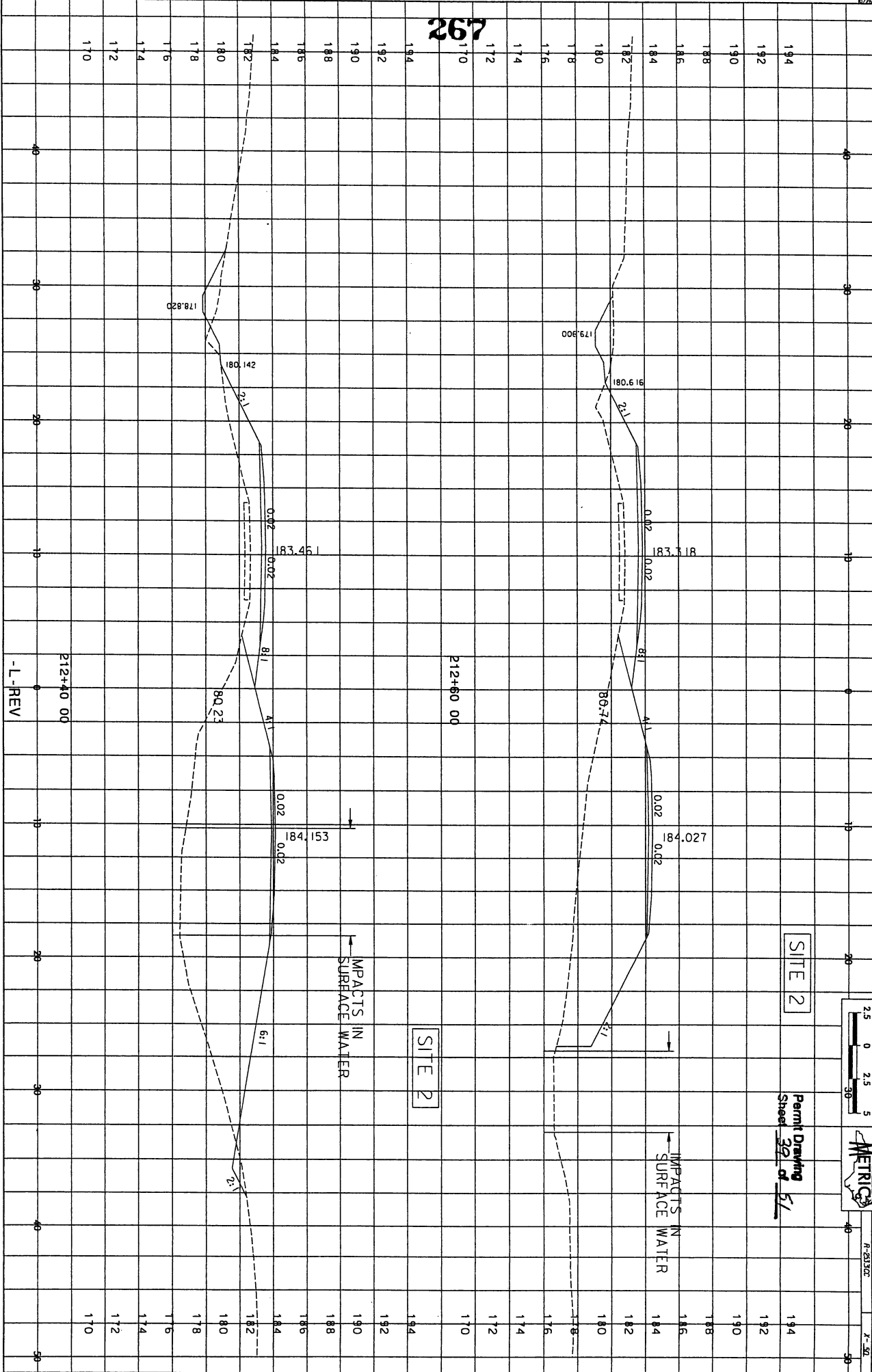
266

-L-REV

212+00.00

212+20.00

07/25/23



SITE 2

Permit Drawing
Sheet 32 of 51

IMPACTS IN SURFACE WATER

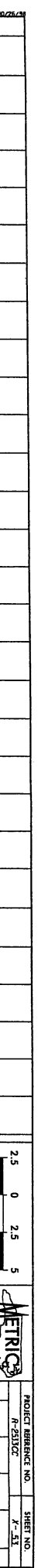
IMPACTS IN SURFACE WATER

SITE 2

212+40.00
-L-REV

212+60.00

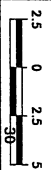
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186	186
184	184
182	182
180	180
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174	174
172	172
170	170



SITE 3

MECHANIZED CLEARING

FILL IN WETLAND



Permit Drawing
Sheet 42 of 51

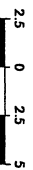
268

SITE 3

FILL IN WETLAND

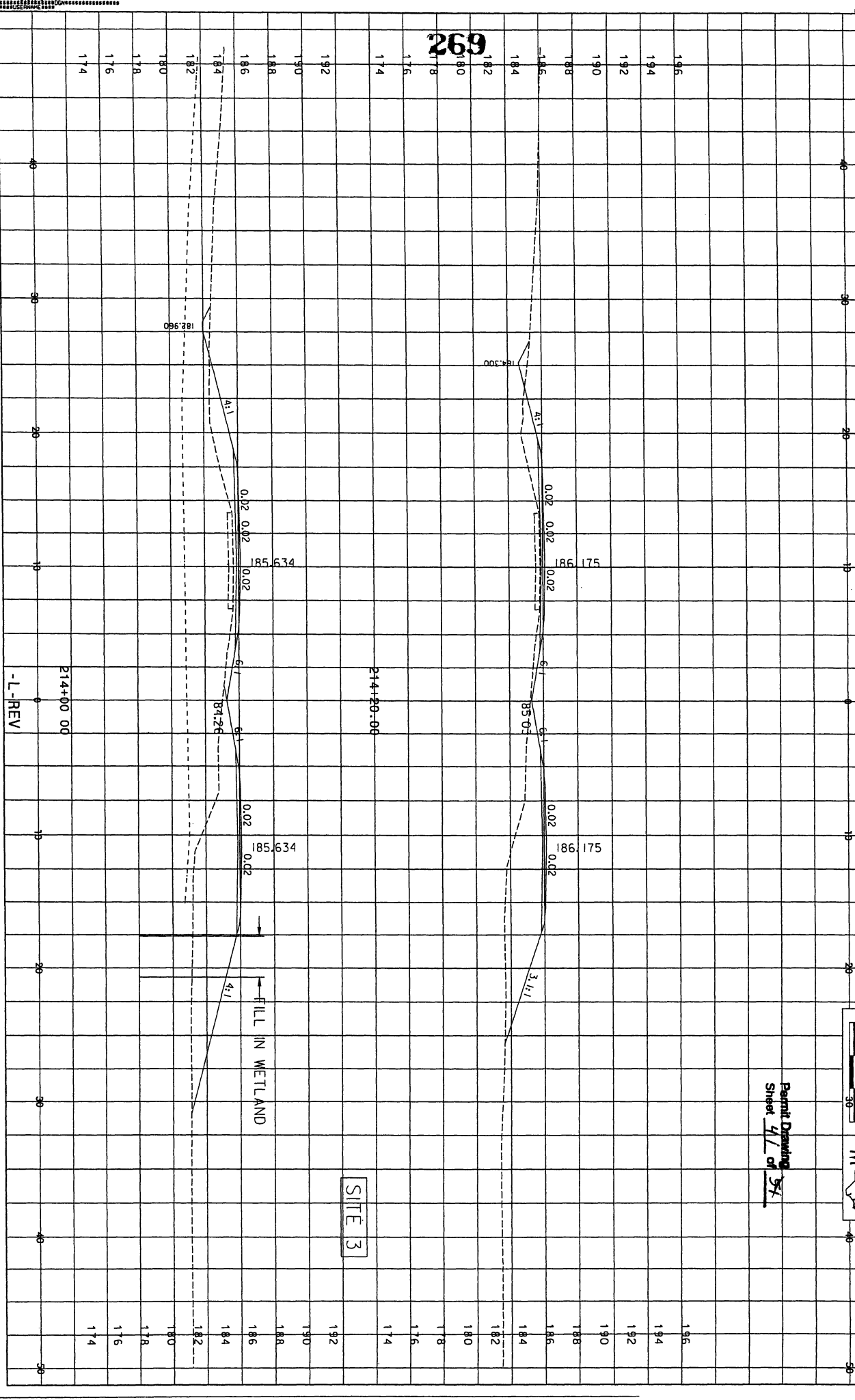
213+60.00
-L-REV

UNRECORDED PLAN



Permit Drawing
Sheet 4 of 54

PROJECT REFERENCE NO. F-2313C
SHEET NO. F-54



SITE 3

-L-REV

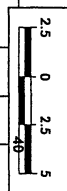
214+00.00

214+50.00

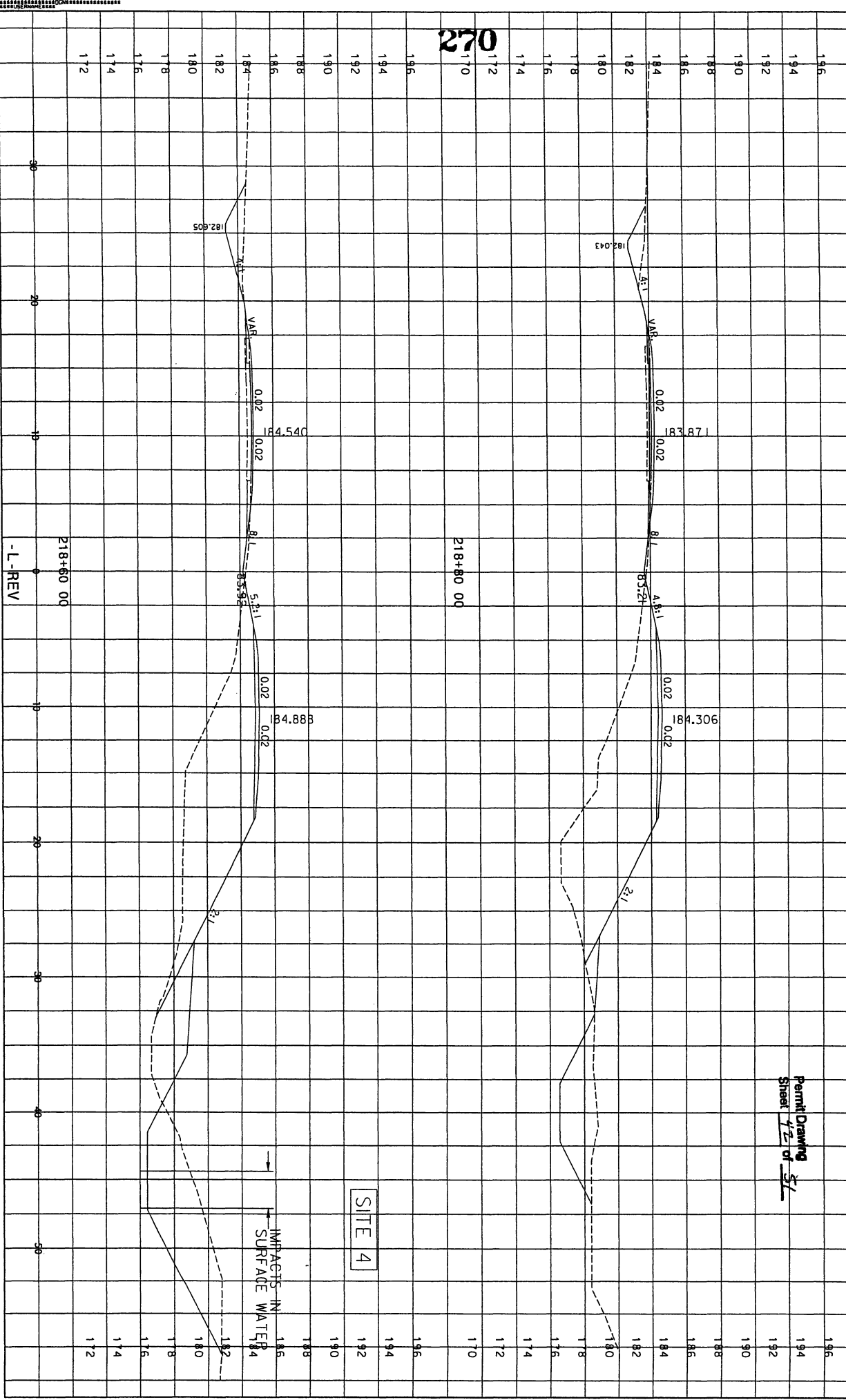
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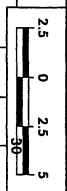
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269



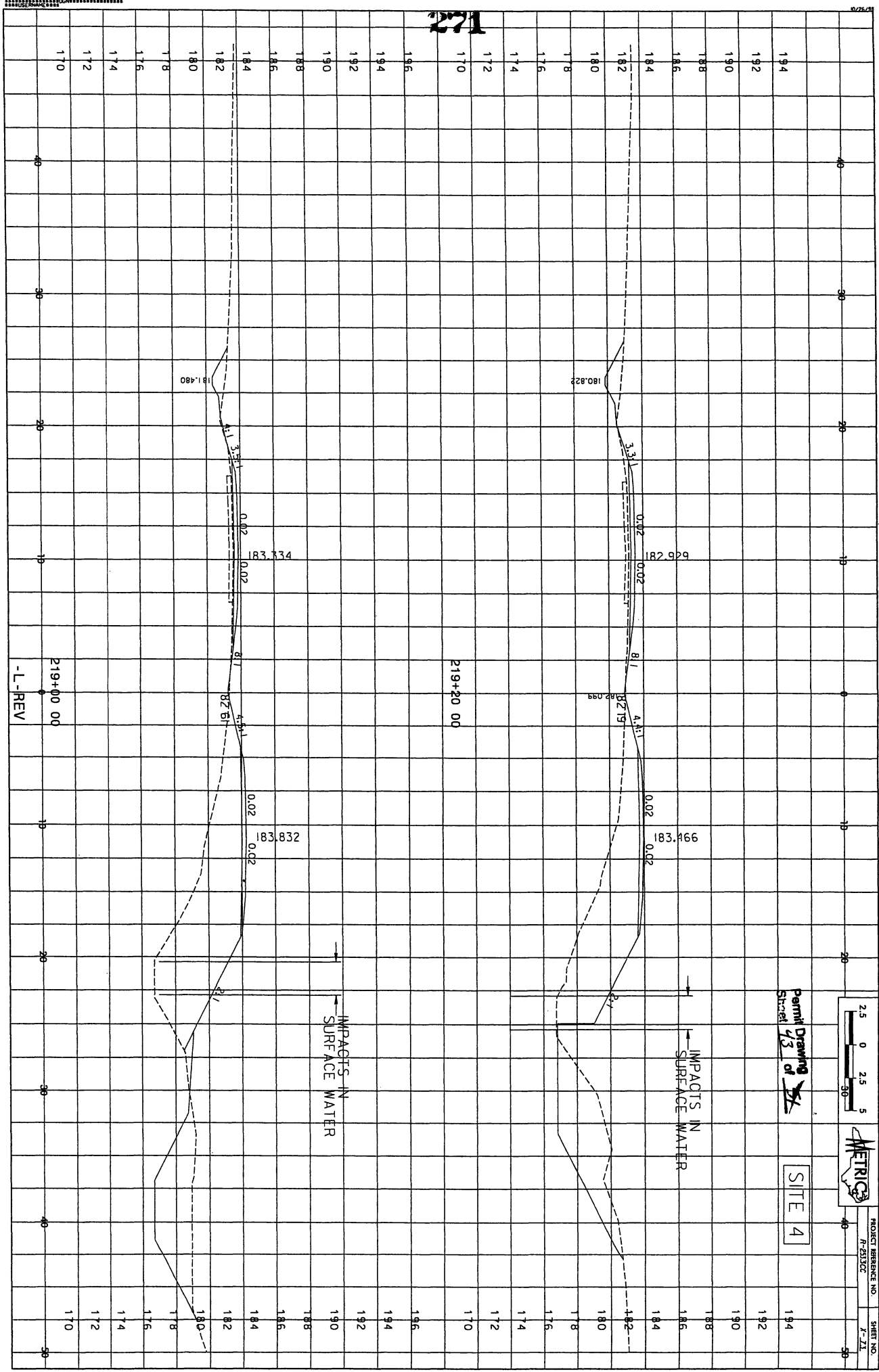
Permit Drawing
Sheet 12 of 51





Part of Drawing of Sheet 7/3 of

SITE 4



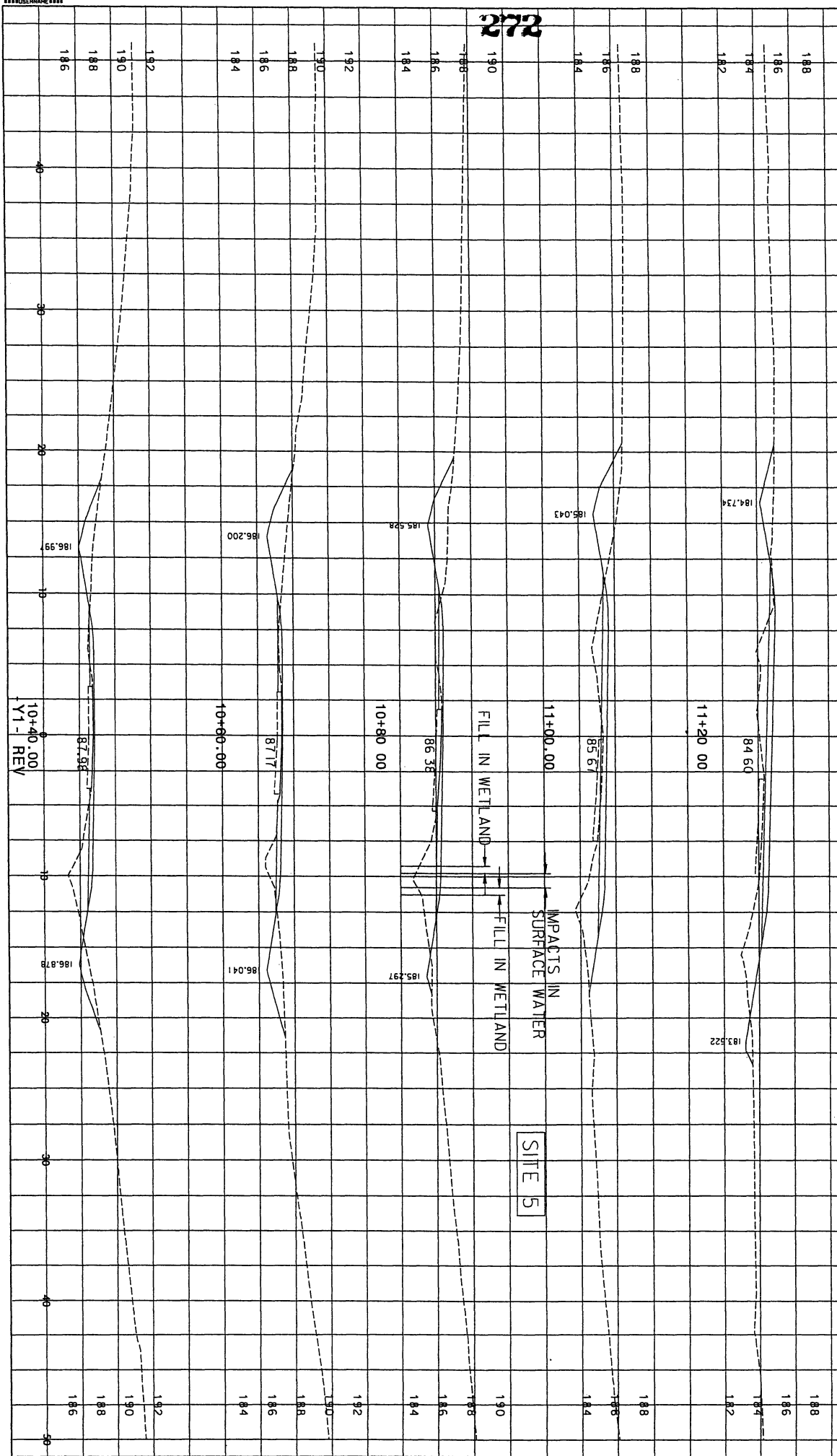
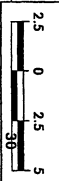
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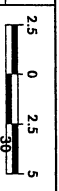
PROPERTY LINE
PROJECT REFERENCE NO. F-25130C
SHEET NO. F-100

PROJECT REFERENCE NO. F-25130C
SHEET NO. F-100

Permit Drawing
Sheet 7H of 52

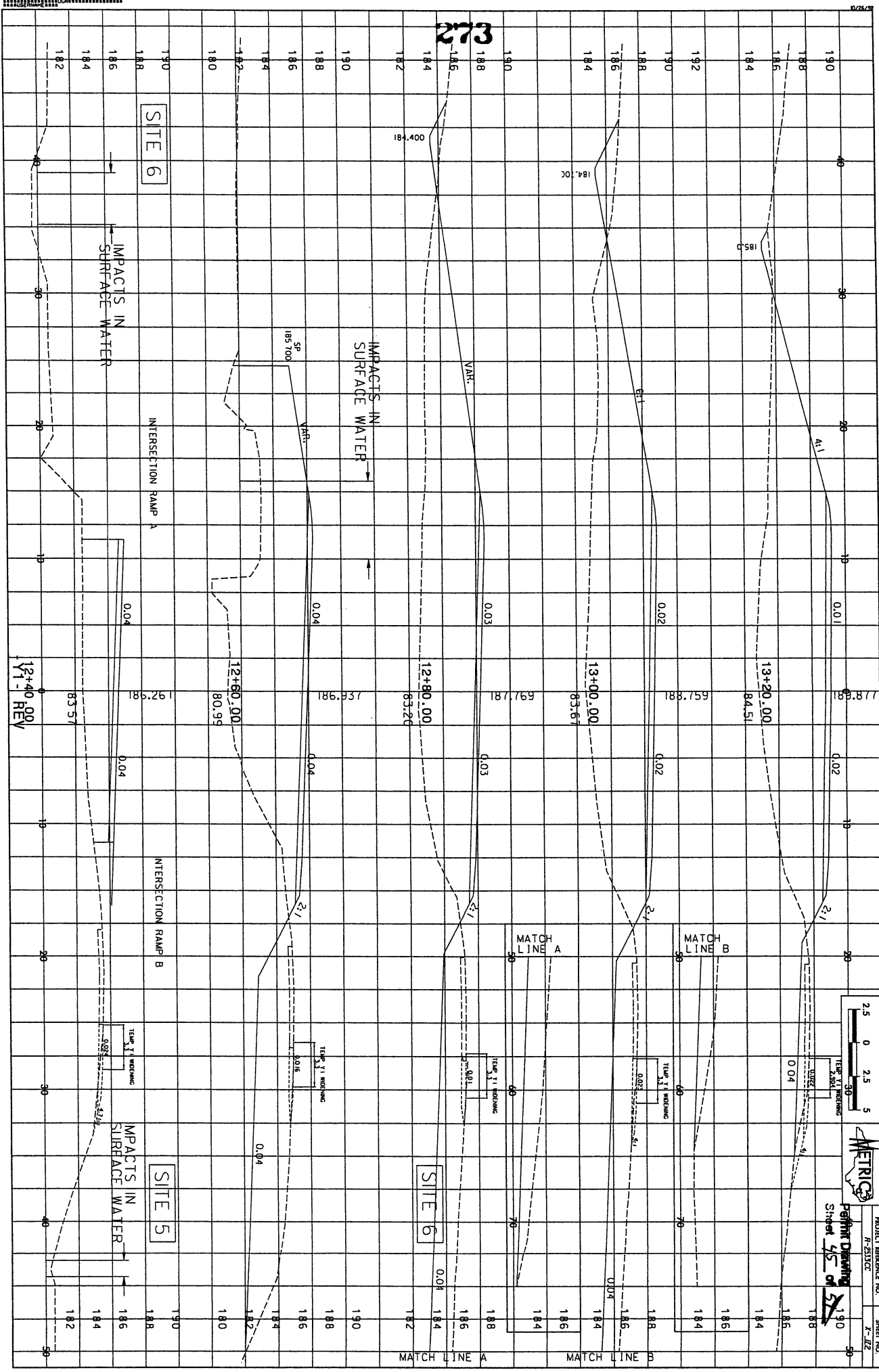


272



Permit Drawing
Sheet 45 of 52

PROJECT REFERENCE NO. R-25113/C
SHEET NO. J-1/2



273

12+40.00
Y1 - REV

SITE 6

SITE 5

SITE 6

MATCH LINE A

MATCH LINE B

MATCH LINE A

MATCH LINE B

IMPACTS IN SURFACE WATER

IMPACTS IN SURFACE WATER

IMPACTS IN SURFACE WATER

INTERSECTION RAMP A

INTERSECTION RAMP B

TEMP. 1" WIDE CONC. 0.04

TEMP. 1" WIDE CONC. 0.04

TEMP. 1" WIDE CONC. 0.04

TEMP. 1" WIDE CONC. 0.04

TEMP. 1" WIDE CONC. 0.04

SP 185.700

184.400

184.100

185.0

41.1

89.87

84.51

13+20.00

188.759

13+00.00

188.767

12+80.00

186.937

12+60.00

185.26

83.57

2.1

2.1

2.1

2.1

2.1

0.04

0.04

0.04

0.04

0.04

0.04

0.04

0.04

0.04

0.04

0.04

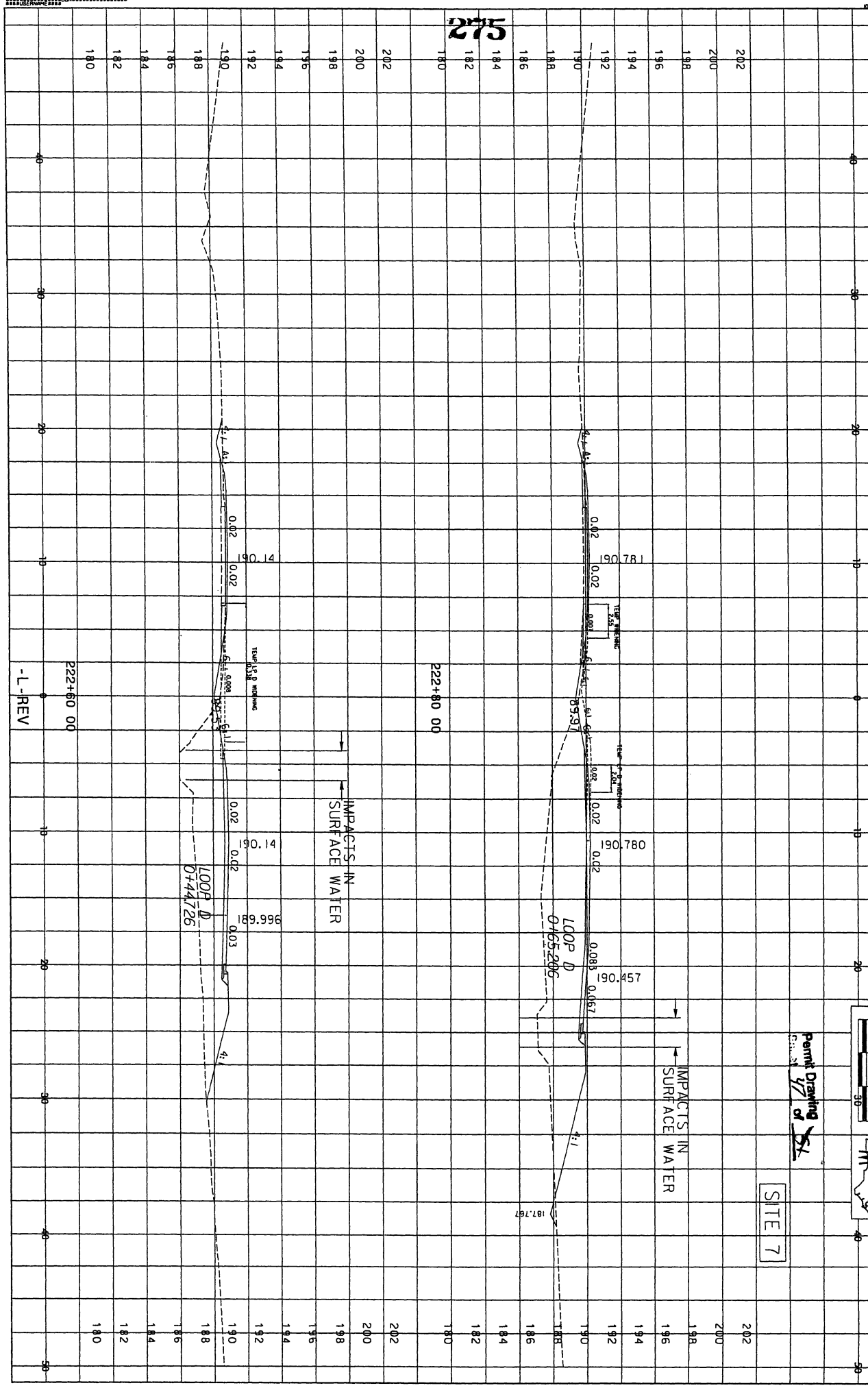
0.04

0.04

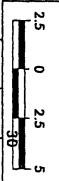
0.04

0.04

PERMIT TO CONSTRUCT AND/OR OBTAIN A PERMIT FROM THE CALIFORNIA STATE WATER RESOURCES DIVISION OF THE CALIFORNIA DEPARTMENT OF WATER RESOURCES



275



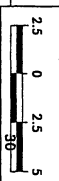
SITE 7

PROJECT REFERENCE NO. R-25130Z
SHEET NO. 7-A3

-L-REV

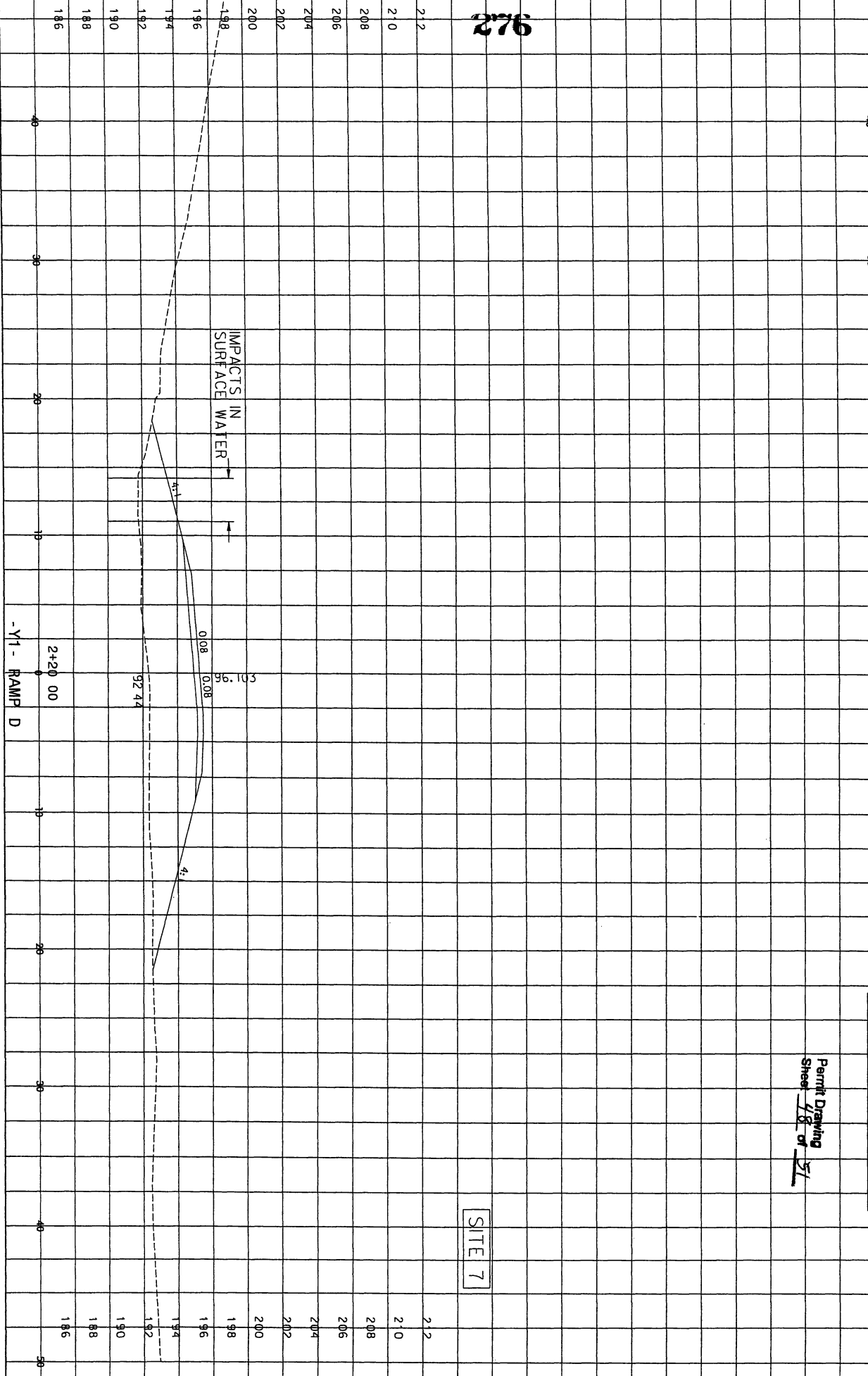
222+60 00

222+80 00



PROJECT INTERFERENCE NO. SHEET NO.
R-433307 X-156
Sheet 7 of 21

276

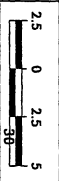


SITE 7

212
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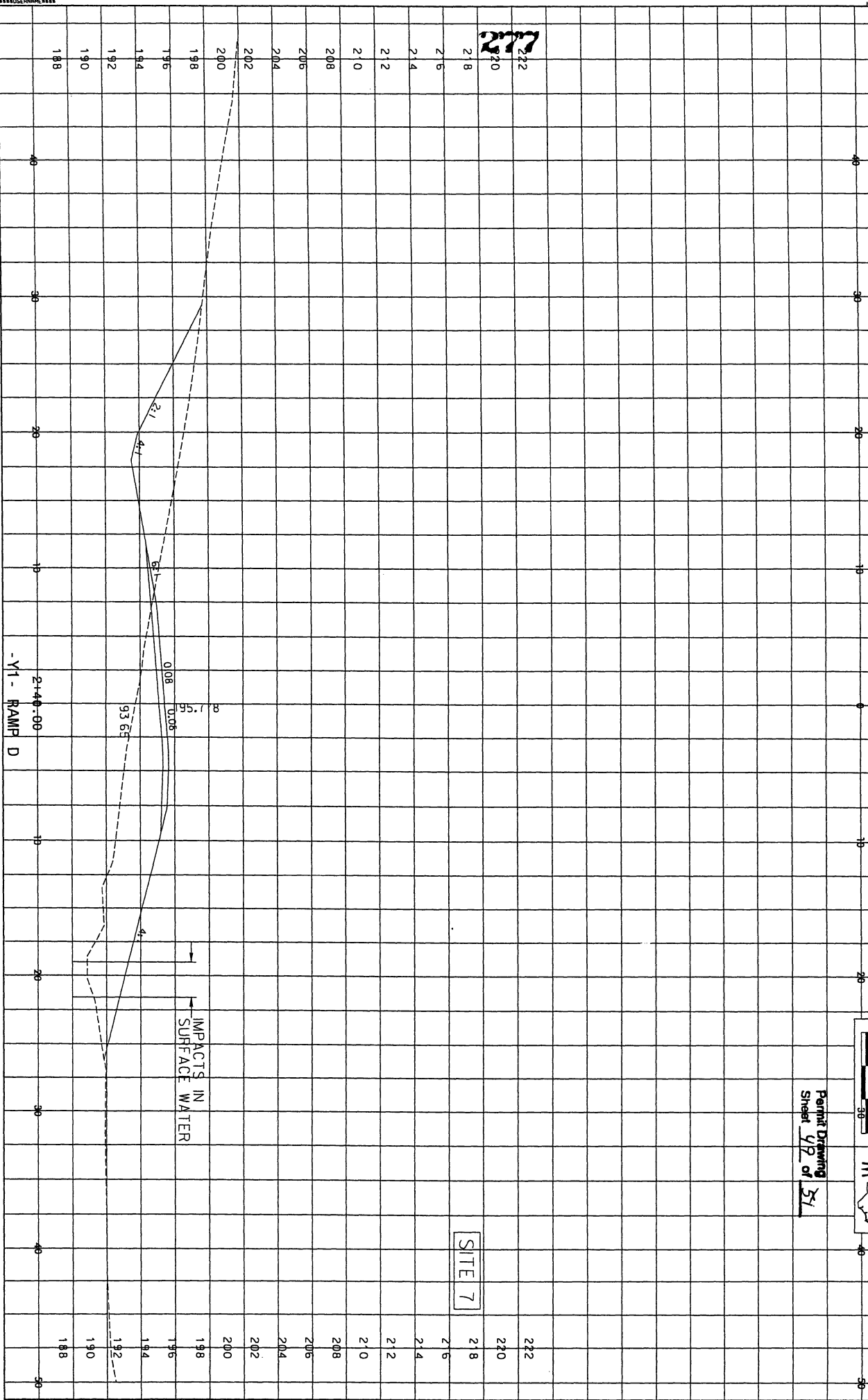
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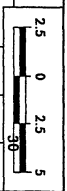
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Permit Drawing
Sheet 4/2 of 54

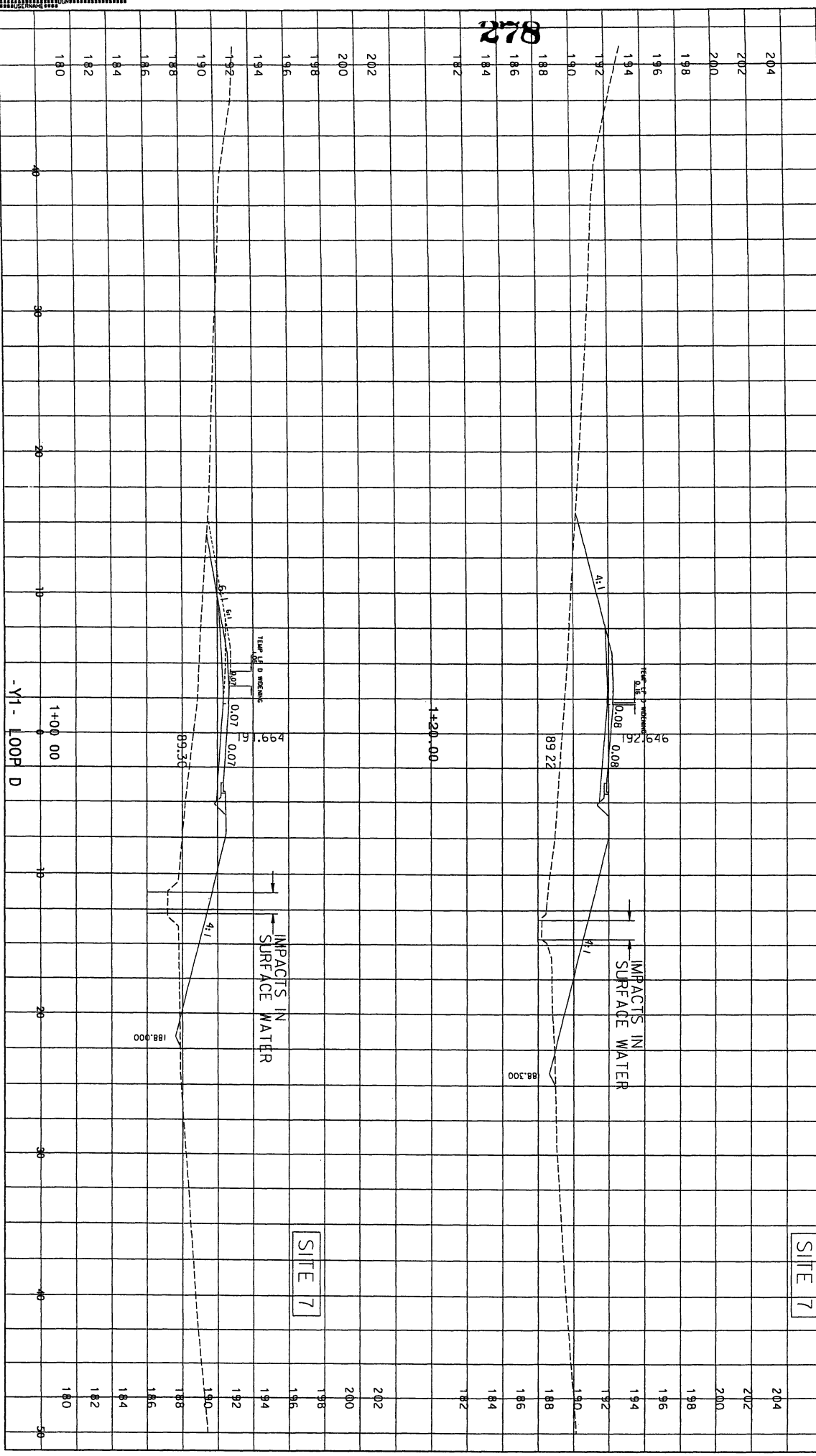
SITE 7





Permit Drawing
Sheet 52 of 51

SITE 7



278

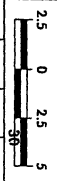
-Y1 - LOOP D

SITE 7

IMPACTS IN SURFACE WATER

IMPACTS IN SURFACE WATER

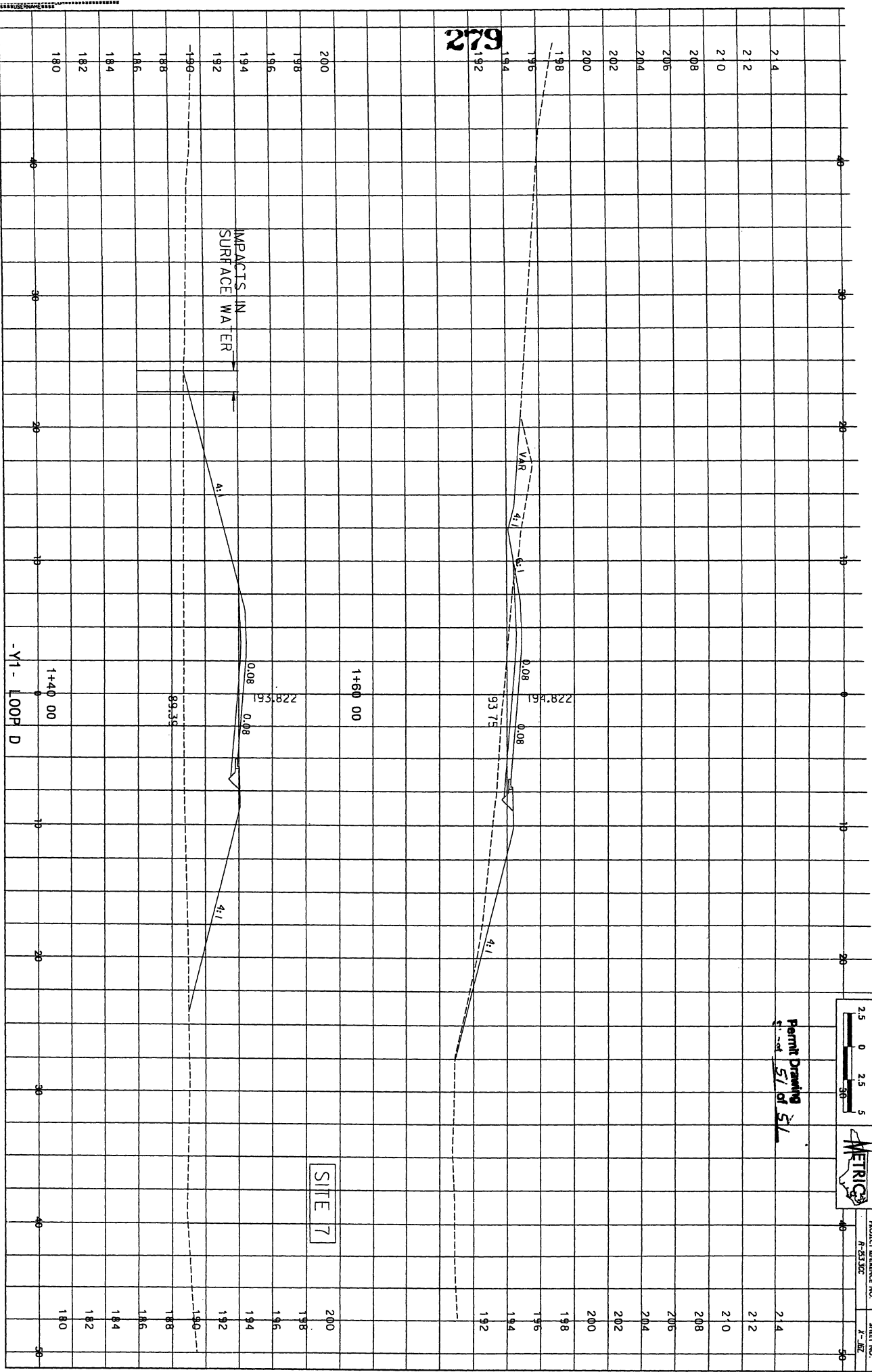
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Permit Drawing
Sheet 51 of 51



PROJECT REFERENCE NO. R-5130C
SHEET NO. 4-52



SITE 7

279
272