



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

November 19, 2008

U. S. Army Corps of Engineers
Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28801-5006

ATTN: Mr. David Baker
NCDOT Coordinator

Subject: **Application for Section 404 Nationwide Permit 14 and Section 401 Water Quality Certification** for the NC 225 25/I-26 Connector from US 25 at Zirconia to I-26 in Henderson County, Federal Aid Project No. ADP-1954(1); Division 14; TIP No. R-0505
\$570.00 debit WBS 34334.1.1

Dear Sir:

The North Carolina Department of Transportation (NCDOT) proposes to improve the existing two lanes of SR 1954, which is the roadway connector between I-26 and US 25 in Henderson County. The primary function of the connector is to connect three major facilities: I-26, US 176, and US 25. Aside from interchanges associated with these major facilities, only four additional road intersections occur within the project study area to provide access to the connector from the townships of Flat Rock, Five Pints, and Zirconia. The project is approximately 2.5 miles long. There will be 0.05 acres of permanent wetland impacts, 1251 linear feet of permanent surface water impacts, and 95 linear feet of temporary surface water impacts associated with this project. However, of the total 1251 linear feet of permanent surface water impacts, 24 linear feet will require a mitigation ratio of 1:1 due to bank stabilization measures occurring on the banks only and the remaining 1227 linear feet will require the traditional 2:1 ratio because bank stabilization measures are not restricted to the banks only.

Please see enclosed copies of the Pre-Construction Notification (PCN), Ecosystem Enhancement Program acceptance letter, permit drawings, and design plans for the above-referenced project. The Finding of No Significant Impact (FONSI) was completed in September 2006. Documents were distributed shortly thereafter. Additional copies are available upon request.

This project calls for a letting date of April 21, 2009 and a review date of March 3, 2009.

A copy of this permit application will be posted on the NCDOT Website at:
<http://www.ncdot.org/doh/preconstruct/pe/>. If you have any questions or need additional information, please call Kris Dramby at (919) 715-5526.

Sincerely,



for

Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA

w/attachment

Mr. Brian Wrenn, NCDWQ (5 copies)
Ms. Marla Chambers, NCWRC
Ms. Marella Buncick, USFWS
Mr. Harold Draper, TVA

w/o attachment

Dr. David Chang, P.E., Hydraulics
Mr. Mark Staley, Roadside Environmental
Mr. Victor Barbour, P.E., Project Services Unit
Mr. Greg Perfetti, P.E., Structure Design
Mr. J. B. Setzer, P.E., Division Engineer
Mr. Mark Davis, DEO
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. Scott McLendon, USACE, Wilmington
Ms. Christy M. Wright, P.E., Project Development Engineer
Ms. Beth Harmon, EEP
Mr. Todd Jones, NCDOT External Audit Branch

Office Use Only:

Form Version March 05

USACE Action ID No. _____ **DWQ No.** _____

(If any particular item is not applicable to this project, please enter "Not Applicable" or "N/A".)

I. Processing

1. Check all of the approval(s) requested for this project:

☒ Section 404 Permit	☐ Riparian or Watershed Buffer Rules
☐ Section 10 Permit	☐ Isolated Wetland Permit from DWQ
☒ 401 Water Quality Certification	☐ Express 401 Water Quality Certification
2. Nationwide, Regional or General Permit Number(s) Requested: NWP 14
3. If this notification is solely a courtesy copy because written approval for the 401 Certification is not required, check here: ☐
4. If payment into the North Carolina Ecosystem Enhancement Program (NCEEP) is proposed for mitigation of impacts, attach the acceptance letter from NCEEP, complete section VIII, and check here: ☒
5. If your project is located in any of North Carolina's twenty coastal counties (listed on page 4), and the project is within a North Carolina Division of Coastal Management Area of Environmental Concern (see the top of page 2 for further details), check here: ☐

II. Applicant Information

1. Owner/Applicant Information
Name: Gregory J. Thorpe, Ph.D., Environmental Management Director
Mailing Address: 1598 Mail Service Center
Raleigh, NC 27699-1598

Telephone Number: (919) 733-3141 Fax Number: (919) 733-9794
E-mail Address: _____
2. Agent/Consultant Information (A signed and dated copy of the Agent Authorization letter must be attached if the Agent has signatory authority for the owner/applicant.)
Name: _____
Company Affiliation: _____
Mailing Address: _____

Telephone Number: _____ Fax Number: _____
E-mail Address: _____

III. Project Information

Attach a **vicinity map** clearly showing the location of the property with respect to local landmarks such as towns, rivers, and roads. Also provide a detailed **site plan** showing property boundaries and development plans in relation to surrounding properties. Both the vicinity map and site plan must include a scale and north arrow. The specific footprints of all buildings, impervious surfaces, or other facilities must be included. If possible, the maps and plans should include the appropriate USGS Topographic Quad Map and NRCS Soil Survey with the property boundaries outlined. Plan drawings, or other maps may be included at the applicant's discretion, so long as the property is clearly defined. For administrative and distribution purposes, the - USACE requires information to be submitted on sheets no larger than 11 by 17-inch format; however, DWQ may accept paperwork of any size. DWQ prefers full-size construction drawings rather than a sequential sheet version of the full-size plans. If full-size plans are reduced to a small scale such that the final version is illegible, the applicant will be informed that the project has been placed on hold until decipherable maps are provided.

1. Name of project: NC 225-US 25/I-26
2. T.I.P. Project Number or State Project Number (NCDOT Only): R-0505
3. Property Identification Number (Tax PIN): N/A
4. Location
County: Henderson Nearest Town: East Flat Rock
Subdivision name (include phase/lot number): N/A
Directions to site (include road numbers/names, landmarks, etc.): From Asheville, head south on I-26 until exit 23 or SR 1954.
5. Site coordinates (For linear projects, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)
Decimal Degrees (6 digits minimum): 35°15'29.81" N 85°29'27.75" W
6. Property size (acres): N/A
7. Name of nearest receiving body of water: :Laurel Creek/Green River
8. River Basin: Broad River Basin
(Note – this must be one of North Carolina's seventeen designated major river basins. The River Basin map is available at <http://h2o.enr.state.nc.us/admin/maps/>.)
9. Describe the existing conditions on the site and general land use in the vicinity of the project at the time of this application: The site is located in a rural section of Henderson County primarily surrounded by agriculture and forested land. The topography in the project area is comprised of moderate to steep rolling hills. Elevation within the project area measures approximately 2000 feet above mean sea level.

10. Describe the overall project in detail, including the type of equipment to be used: The project proposes to improve the existing two lanes of SR 1954, which is the roadway connector (hereafter referred to as “the connector”) between I-26 and US 25 in Henderson County. The project is approximately 2.5 miles long. Structures used for this project consist of dual grade separations. Despite avoidance and minimization efforts, there will be 0.05 acres of permanent impacts to wetlands, 1251 linear feet of permanent impacts to surface waters, and 95 linear feet of temporary impacts to surface waters. Construction equipment will consist of heavy trucks, earth moving equipment, cranes, etc.
11. Explain the purpose of the proposed work: The primary function of the connector is to act as a connection between three major facilities: I-26, US 176, and US 25. Aside from interchanges associated with these major facilities, only four additional road intersections occur within the project study area to provide access to the connector from the townships of Flat Rock, Five Points, and Zirconia.

IV. Prior Project History

If jurisdictional determinations and/or permits have been requested and/or obtained for this project (including all prior phases of the same subdivision) in the past, please explain. Include the USACE Action ID Number, DWQ Project Number, application date, and date permits and certifications were issued or withdrawn. Provide photocopies of previously issued permits, certifications or other useful information. Describe previously approved wetland, stream and buffer impacts, along with associated mitigation (where applicable). If this is a NCDOT project, list and describe permits issued for prior segments of the same T.I.P. project, along with construction schedules. N/A

V. Future Project Plans

Are any future permit requests anticipated for this project? If so, describe the anticipated work, and provide justification for the exclusion of this work from the current application.

N/A

VI. Proposed Impacts to Waters of the United States/Waters of the State

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to wetlands, open water, and stream channels associated with the project. Each impact must be listed separately in the tables below (e.g., culvert installation should be listed separately from riprap dissipater pads). Be sure to indicate if an impact is temporary. All proposed impacts, permanent and temporary, must be listed, and must be labeled and clearly identifiable on an accompanying site plan. All wetlands and waters, and all streams (intermittent and perennial) should be shown on a delineation map, whether or not impacts are proposed to these systems. Wetland and stream evaluation and delineation forms should be included as appropriate. Photographs may be included at the applicant's discretion. If this proposed impact is strictly for

wetland or stream mitigation, list and describe the impact in Section VIII below. If additional space is needed for listing or description, please attach a separate sheet.

1. Provide a written description of the proposed impacts: There will be 0.05 acres of permanent impacts to wetlands, 1251 linear feet of permanent impacts to surface waters, and 95 linear feet of temporary impacts to surface waters.
2. Individually list wetland impacts. Types of impacts include, but are not limited to mechanized clearing, grading, fill, excavation, flooding, ditching/drainage, etc. For dams, separately list impacts due to both structure and flooding.

Wetland Impact Site Number (indicate on map)	Type of Impact	Type of Wetland (e.g., forested, marsh, herbaceous, bog, etc.)	Located within 100-year Floodplain (yes/no)	Distance to Nearest Stream (linear feet)	Area of Impact (acres)
Site 2	Permanent Fill	PFO		0.00	<0.01
Site 9	Permanent Fill	PFO		0.00	<0.01
Site 9	Mech. Clearing	PFO		0.00	<0.01
Site 11	Permanent Fill	PFO		25.0	0.04
Site 11	Mech. Clearing	PFO		20.0	0.01
Total Wetland Impact (acres)					

3. List the total acreage (estimated) of all existing wetlands on the property: 0.05 acre
4. Individually list all intermittent and perennial stream impacts. Be sure to identify temporary impacts. Stream impacts include, but are not limited to placement of fill or culverts, dam construction, flooding, relocation, stabilization activities (e.g., cement walls, rip-rap, crib walls, gabions, etc.), excavation, ditching/straightening, etc. If stream relocation is proposed, plans and profiles showing the linear footprint for both the original and relocated streams must be included. To calculate acreage, multiply length X width, then divide by 43,560.

Stream Impact Number (indicate on map)	Stream Name	Type of Impact	Perennial or Intermittent?	Average Stream Width Before Impact	Impact Length (linear feet)	Area of Impact (acres)
Site 1	UT	Permanent Fill	Perennial	17.5 feet	176	0.07
Site 1	UT	Temporary Fill	Perennial	25 feet	37	0.02
Site 2	UT	Permanent Fill	Perennial	6 feet	134	0.02
Site 3	UT	Permanent Fill	Perennial	7 feet	186	0.03
Site 4	UT	Permanent Fill	Perennial	6 feet	157	0.02
Site 5	UT	Permanent Fill	Perennial	3 feet	13	<0.01
Site 6	UT	Permanent Fill	Intermittent	3 feet	11	<0.01
Site 7	UT	Permanent Fill	Intermittent	4 feet	221	0.02
Site 9	UT	Permanent Fill	Perennial	6 feet	171	0.02
Site 9	UT	Temporary Fill	Perennial	3 feet	35	<0.01
Site 9	UT	Permanent Fill	Perennial	3 feet	20	<0.01

Site 9	UT	Temporary Fill	Perennial	3 feet	23	<0.01
Site 10	UT	Permanent Fill	Perennial	3 feet	162	<0.01
Total Stream Impact (by length and acreage)					1251.0	0.20

5. Individually list all open water impacts (including lakes, ponds, estuaries, sounds, Atlantic Ocean and any other water of the U.S.). Open water impacts include, but are not limited to fill, excavation, dredging, flooding, drainage, bulkheads, etc.

Open Water Impact Site Number (indicate on map)	Name of Waterbody (if applicable)	Type of Impact	Type of Waterbody (lake, pond, estuary, sound, bay, ocean, etc.)	Area of Impact (acres)
Site 8	NA	Permanent Fill	Pond	0.25
Total Open Water Impact (acres)				

6. List the cumulative impact to all Waters of the U.S. resulting from the project:

Stream Impact (acres):	0.18
Wetland Impact (acres):	0.05
Open Water Impact (acres):	0.25
Total Impact to Waters of the U.S. (acres)	0.48
Total Stream Impact (linear feet):	1251.0

7. Isolated Waters

Do any isolated waters exist on the property? ☐ Yes ☒ No

Describe all impacts to isolated waters, and include the type of water (wetland or stream) and the size of the proposed impact (acres or linear feet). Please note that this section only applies to waters that have specifically been determined to be isolated by the USACE.

8. Pond Creation

If construction of a pond is proposed, associated wetland and stream impacts should be included above in the wetland and stream impact sections. Also, the proposed pond should be described here and illustrated on any maps included with this application.

Pond to be created in (check all that apply): ☐ uplands ☐ stream ☐ wetlands

Describe the method of construction (e.g., dam/embankment, excavation, installation of draw-down valve or spillway, etc.):

Proposed use or purpose of pond (e.g., livestock watering, irrigation, aesthetic, trout pond, local stormwater requirement, etc.):

Current land use in the vicinity of the pond:

Size of watershed draining to pond: Expected pond surface area:

VII. Impact Justification (Avoidance and Minimization)

Specifically describe measures taken to avoid the proposed impacts. It may be useful to provide information related to site constraints such as topography, building ordinances, accessibility, and financial viability of the project. The applicant may attach drawings of alternative, lower-impact site layouts, and explain why these design options were not feasible. Also discuss how impacts were minimized once the desired site plan was developed. If applicable, discuss construction techniques to be followed during construction to reduce impacts. Avoidance examines all appropriate and practicable possibilities of averting impacts to "Waters of the United States." The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impact. In addition, Best Management Practices (BMPs) will be followed as outlined in "NCDOT's Best Management Practices for Construction and Maintenance Activities." In addition to NCDOT's BMP's the following minimization efforts have been incorporated into this project: 2:1 slopes to avoid impacts in wetlands and streams and Design Standards for Sensitive Watersheds will be used for protection of downstream waters and for the January 1 – April 15 trout moratorium. There will be 1251 linear feet of permanent stream impacts and 0.05 acres of permanent wetland impacts. The EEP has agreed to compensate these stream impacts (see attached letter dated September 29, 2008). Impacts associated with bank stabilization and the use of rip rap should receive a 1:1 mitigation ratio.

VIII. Mitigation

DWQ - In accordance with 15A NCAC 2H .0500, mitigation may be required by the NC Division of Water Quality for projects involving greater than or equal to one acre of impacts to freshwater wetlands or greater than or equal to 150 linear feet of total impacts to perennial streams.

USACE – In accordance with the Final Notice of Issuance and Modification of Nationwide Permits, published in the Federal Register on January 15, 2002, mitigation will be required when necessary to ensure that adverse effects to the aquatic environment are minimal. Factors including size and type of proposed impact and function and relative value of the impacted aquatic resource will be considered in determining acceptability of appropriate and practicable mitigation as proposed. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland and/or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferable in the same watershed.

If mitigation is required for this project, a copy of the mitigation plan must be attached in order for USACE or DWQ to consider the application complete for processing. Any application lacking a required mitigation plan or NCEEP concurrence shall be placed on hold as incomplete. An applicant may also choose to review the current guidelines for stream restoration in DWQ's Draft Technical Guide for Stream Work in North Carolina, available at <http://h2o.enr.state.nc.us/ncwetlands/strmgide.html>.

1. Provide a brief description of the proposed mitigation plan. The description should provide as much information as possible, including, but not limited to: site location (attach directions and/or map, if offsite), affected stream and river basin, type and amount (acreage/linear feet) of mitigation proposed (restoration, enhancement, creation, or preservation), a plan view, preservation mechanism (e.g., deed restrictions, conservation easement, etc.), and a description of the current site conditions and proposed method of construction. Please attach a separate sheet if more space is needed.

There will be 0.05 acres of permanent wetland impacts, 1251 linear feet of permanent surface water impacts, and 95 linear feet of temporary surface water impacts associated with this project. However, of the total 1251 linear feet of permanent surface water impacts, 24 linear feet will require a mitigation ratio of 1:1 due to bank stabilization measures occurring on the banks only and the remaining 1227 linear feet will require the traditional 2:1 ratio because bank stabilization measures are not restricted to the banks only. Additionally, see attached EEP letter dated September 29, 2008.

2. Mitigation may also be made by payment into the North Carolina Ecosystem Enhancement Program (NCEEP). Please note it is the applicant's responsibility to contact the NCEEP at (919) 715-0476 to determine availability, and written approval from the NCEEP indicating that they are will to accept payment for the mitigation must be attached to this form. For additional information regarding the application process for the NCEEP, check the NCEEP website at <http://h2o.enr.state.nc.us/wrp/index.htm>. If use of the NCEEP is proposed, please check the appropriate box on page five and provide the following information:

Amount of stream mitigation requested (linear feet): 1251

Amount of buffer mitigation requested (square feet): N/A

Amount of Riparian wetland mitigation requested (acres): 0.05

Amount of Non-riparian wetland mitigation requested (acres): N/A

Amount of Coastal wetland mitigation requested (acres): N/A

IX. Environmental Documentation (required by DWQ)

1. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land? Yes ☒ No ☐
2. If yes, does the project require preparation of an environmental document pursuant to the requirements of the National or North Carolina Environmental Policy Act (NEPA/SEPA)?
Note: If you are not sure whether a NEPA/SEPA document is required, call the SEPA coordinator at (919) 733-5083 to review current thresholds for environmental documentation.
Yes ☒ No ☐
3. If yes, has the document review been finalized by the State Clearinghouse? If so, please attach a copy of the NEPA or SEPA final approval letter. Yes ☒ No ☐

X. Proposed Impacts on Riparian and Watershed Buffers (required by DWQ)

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to required state and local buffers associated with the project. The applicant must also provide justification for these impacts in Section VII above. All proposed impacts must be listed herein, and must be clearly identifiable on the accompanying site plan. All buffers must be shown on a map, whether or not impacts are proposed to the buffers. Correspondence from the DWQ Regional Office may be included as appropriate. Photographs may also be included at the applicant's discretion.

1. Will the project impact protected riparian buffers identified within 15A NCAC 2B .0233 (Neuse), 15A NCAC 2B .0259 (Tar-Pamlico), 15A NCAC 02B .0243 (Catawba) 15A NCAC 2B .0250 (Randleman Rules and Water Supply Buffer Requirements), or other (please identify _____)? Yes ☐ No ☒
2. If "yes", identify the square feet and acreage of impact to each zone of the riparian buffers. If buffer mitigation is required calculate the required amount of mitigation by applying the buffer multipliers.

Zone*	Impact (square feet)	Multiplier	Required Mitigation
1		3 (2 for Catawba)	
2		1.5	
Total			

* Zone 1 extends out 30 feet perpendicular from the top of the near bank of channel; Zone 2 extends an additional 20 feet from the edge of Zone 1.

3. If buffer mitigation is required, please discuss what type of mitigation is proposed (i.e., Donation of Property, Riparian Buffer Restoration / Enhancement, or Payment into the Riparian Buffer Restoration Fund). Please attach all appropriate information as identified within 15A NCAC 2B .0242 or .0244, or .0260. N/A
-
-

XI. Stormwater (required by DWQ)

Describe impervious acreage (existing and proposed) versus total acreage on the site. Discuss stormwater controls proposed in order to protect surface waters and wetlands downstream from the property. If percent impervious surface exceeds 20%, please provide calculations demonstrating total proposed impervious level. N/A

XII. Sewage Disposal (required by DWQ)

Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility.
N/A

XIII. Violations (required by DWQ)

Is this site in violation of DWQ Wetland Rules (15A NCAC 2H .0500) or any Buffer Rules?

Yes ☐ No ☒

Is this an after-the-fact permit application? Yes ☐ No ☒

XIV. Cumulative Impacts (required by DWQ)

Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality? Yes ☐ No ☒

If yes, please submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent North Carolina Division of Water Quality policy posted on our website at <http://h2o.enr.state.nc.us/ncwetlands>. If no, please provide a short narrative description: _____

XV. Other Circumstances (Optional):

It is the applicant's responsibility to submit the application sufficiently in advance of desired construction dates to allow processing time for these permits. However, an applicant may choose to list constraints associated with construction or sequencing that may impose limits on work schedules (e.g., draw-down schedules for lakes, dates associated with Endangered and Threatened Species, accessibility problems, or other issues outside of the applicant's control).

On June 16 and July 9-10, 2008, biologists from the NCDOT visited the site and performed updated surveys for the following: bunched arrowhead, mountain sweet pitcher plant, small whorled pogonia, and swamp pink. A plant by plant survey was completed in all areas of suitable habitat for the target species. However, none of the target species were observed and therefore the No Effect call is still warranted for all Threatened and Endangered species for the project.


Applicant/Agent's Signature

11.19.08
Date

(Agent's signature is valid only if an authorization letter from the applicant is provided.)



September 29, 2008

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

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

R-0505, NC 225 – US 25/I-26 Connector from US 25 at Zirconia
to I-26, Henderson County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the stream and riparian wetland mitigation for the subject project. Based on the information supplied by you on September 26, 2008, the impacts are located in CU 03050105 of the Broad River Basin in the Southern Mountains (SM) Eco-Region, and are as follows:

Cool Stream: 1,251 feet

Riparian Wetland: 0.05 acre

EEP commits to implementing sufficient compensatory stream and riparian wetland mitigation credits to offset the impacts associated with this project by the end of the MOA Year in which this project is permitted, in accordance with Section X of the Amendment No. 2 to the Memorandum of Agreement between the North Carolina Department of Environment and Natural Resources, the North Carolina Department of Transportation, and the U. S. Army Corps of Engineers, fully executed on March 8, 2007. If the above referenced stream and wetland impact amounts are revised, then this

Restoring... Enhancing... Protecting Our State

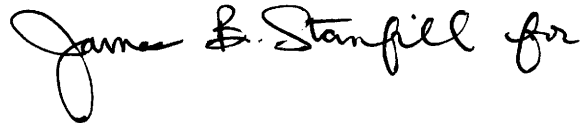
North Carolina Ecosystem Enhancement Program, 1652 Mail Service Center, Raleigh, NC 27699-1652 / 919-715-0476 / www.nceep.net



mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

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

Sincerely,

A handwritten signature in black ink that reads "James B. Stanfill for". The signature is written in a cursive, flowing style.

William D. Gilmore, P.E.
EEP Director

cc: Mr. David Baker, USACE – Asheville Regulatory Field Office
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit
File: R-0505



PROGRAM

September 29, 2008

Mr. David Baker
U. S. Army Corps of Engineers
Asheville Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, North Carolina 28801-5006

Dear Mr. Baker:

Subject: EEP Mitigation Acceptance Letter:

R-0505, NC 225 – US 25/I-26 Connector from US 25 at Zirconia to I-26,
Henderson County; Broad River Basin (Cataloging Unit 03050105);
Southern Mountains (SM) Eco-Region

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream and riparian wetland mitigation for the unavoidable impact associated with the above referenced project. As indicated in the NCDOT's mitigation request dated September 26, 2008, stream and riparian wetland mitigation from EEP is required for approximately 1,251 feet of cool stream impact and 0.05 acre of riparian wetland impact.

Stream and riparian wetland mitigation associated with this project will be provided in accordance with Section X of the Amendment No. 2 to the Memorandum of Agreement between the N. C. Department of Environment and Natural Resources, the N. C. Department of Transportation, and the U. S. Army Corps of Engineers fully executed on March 8, 2007 (Tri-Party MOA). EEP commits to implement sufficient stream and riparian wetland mitigation up to 2,502 cool stream credits and 0.10 riparian wetland credits to offset the impacts associated with this project by the end of the MOA year in which this project is permitted. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

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

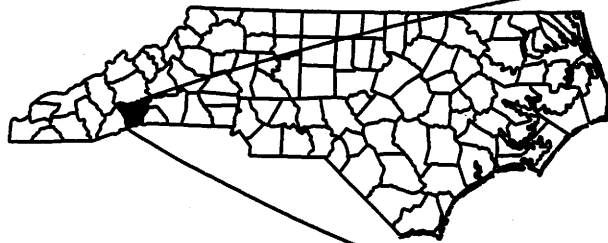
Sincerely,

William D. Gilmore, P.E.
EEP Director

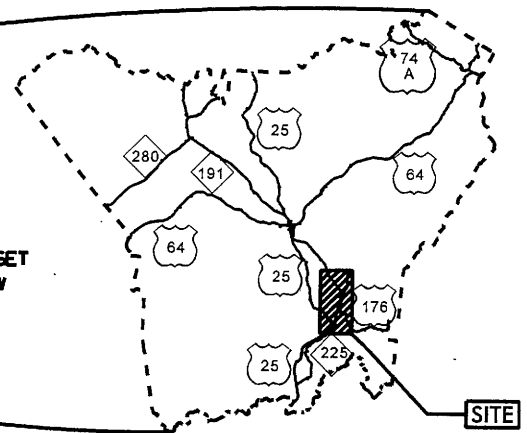
cc: Mr. Gregory J. Thorpe, Ph.D., NCDOT-PDEA
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit
File: R-0505

Restoring Ecosystems... Preserving Our Future

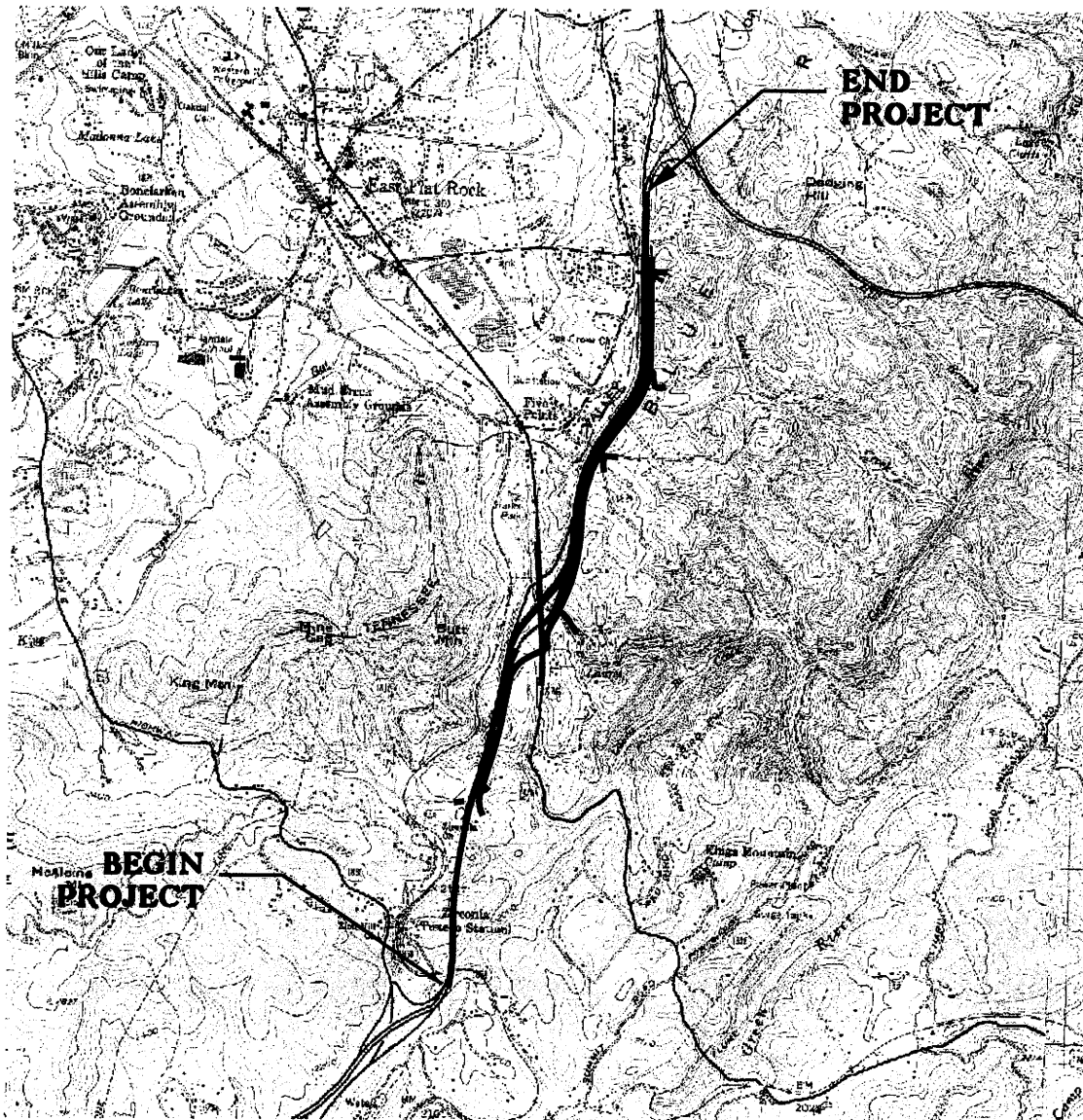




SEE INSET
BELOW



HENDERSON COUNTY



**WETLAND/STREAM IMPACTS
VICINITY MAP**

Permit Drawing
Sheet 1 of 32

**N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
HENDERSON COUNTY**

PROJECT: 34334.1.1 (R-505)
NC 225-US 25/ I-26 CONNECTOR
FROM US 25 AT ZIRCONIA TO I-26

SHEET ____ OF ____ 5/29/08

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1, 2	LEON ALLISON	P.O. BOX 2469 HENDERSONVILLE, NC 28793
6	ALEXANDER CAPPS	120 LAUREL ACRES LANE FLAT ROCK, NC 28731
7	LEON HYDER	314 HYDER ST. HENDERSONVILLE, NC 28739
13	HENRY E. BAUMBERGER JR.	40 KAY RD FLAT ROCK, NC 28731
19	L & E PROPERTIES LLC	P.O. BOX 578 MOUNTAIN HOME, NC 28758
20	GAIL BELL	P.O. BOX 811 FLAT ROCK, NC 28726
23	ELIZABETH JONES	322 BIG RAVEN LANE SALUDA, NC 28773
24	JERRY MELTON	2244 OLD KANUGA RD HENDERSONVILLE, NC 28739

WETLAND/ STREAM
IMPACTS

Permit Drawing
Sheet 3 of 32

NCDOT DIVISION OF HIGHWAYS

HENDERSON COUNTY

PROJECT: 34334.1.1 (R-505)
NC 225-US 25 CONNECTOR
FROM US 25 AT ZIRCONIA
TO I-26

SHEET OF

05/29/08

05/08/99

TIP PROJECT: R-505

CONTRACT:

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



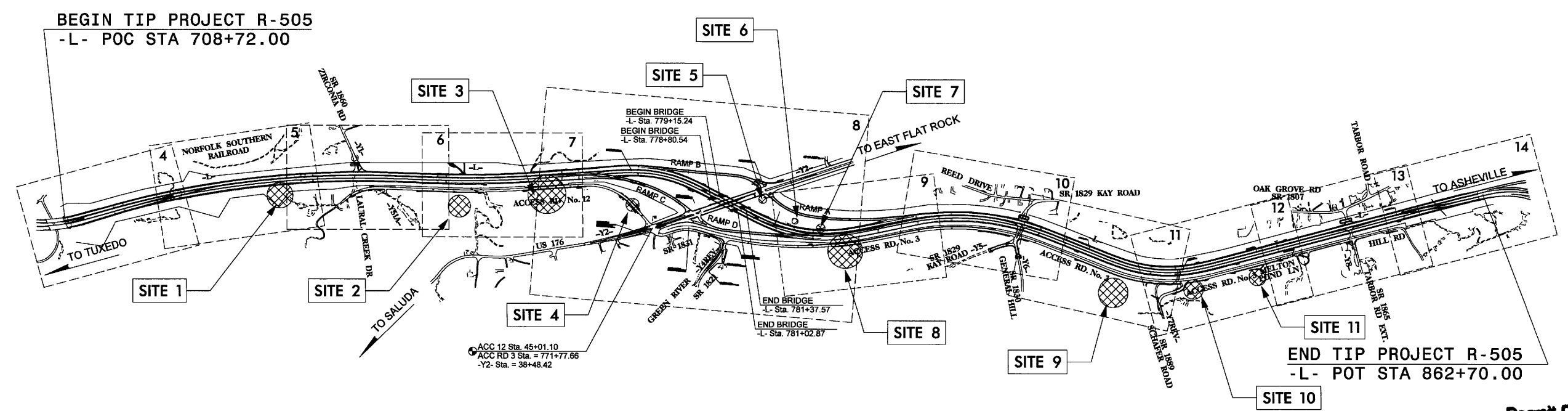
VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
HENDERSON COUNTY

LOCATION: NC 225-US 25/I-26 CONNECTOR FROM US 25
AT ZIRCONIA TO I-26

TYPE OF WORK: GRADING, PAVING, AND DRAINAGE,
STRUCTURES, GUARDRAIL, AND
PAVEMENT MARKINGS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-505	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34334.1.1	APD-1954 (I)	P.E.	
34334.3.1	APD-1954 (I)	R/W, UTILITIES	

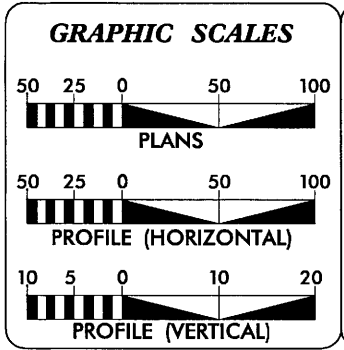


THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

WETLAND/STREAM
IMPACTS

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 4 of 32



DESIGN DATA

ADT 2009 = 11,000
ADT 2029 = 17,000
DHV = 10 %
D = 60 %
T = 18 % *
V = 60 MPH
* TTST 12
* DUAL 6%
FUNC CLASS RURAL FREEWAY

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-505 = 2.874 MILES
LENGTH STRUCTURE TIP PROJECT R-505 = 0.042 MILES
TOTAL LENGTH TIP PROJECT R-505 = 2.916 MILES

NCDOT CONTACT: CATHY S. HOUSER, PE
PROJECT ENGINEER ROADWAY DESIGN

Prepared in the Office of:

PB PARSONS BRINCKERHOFF

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: OCTOBER 19, 2007	DANIEL BRIDGES, PE PROJECT ENGINEER
LETTING DATE: APRIL 21, 2009	ERIC MISAK PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ ROADWAY DESIGN ENGINEER
SIGNATURE: _____ P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

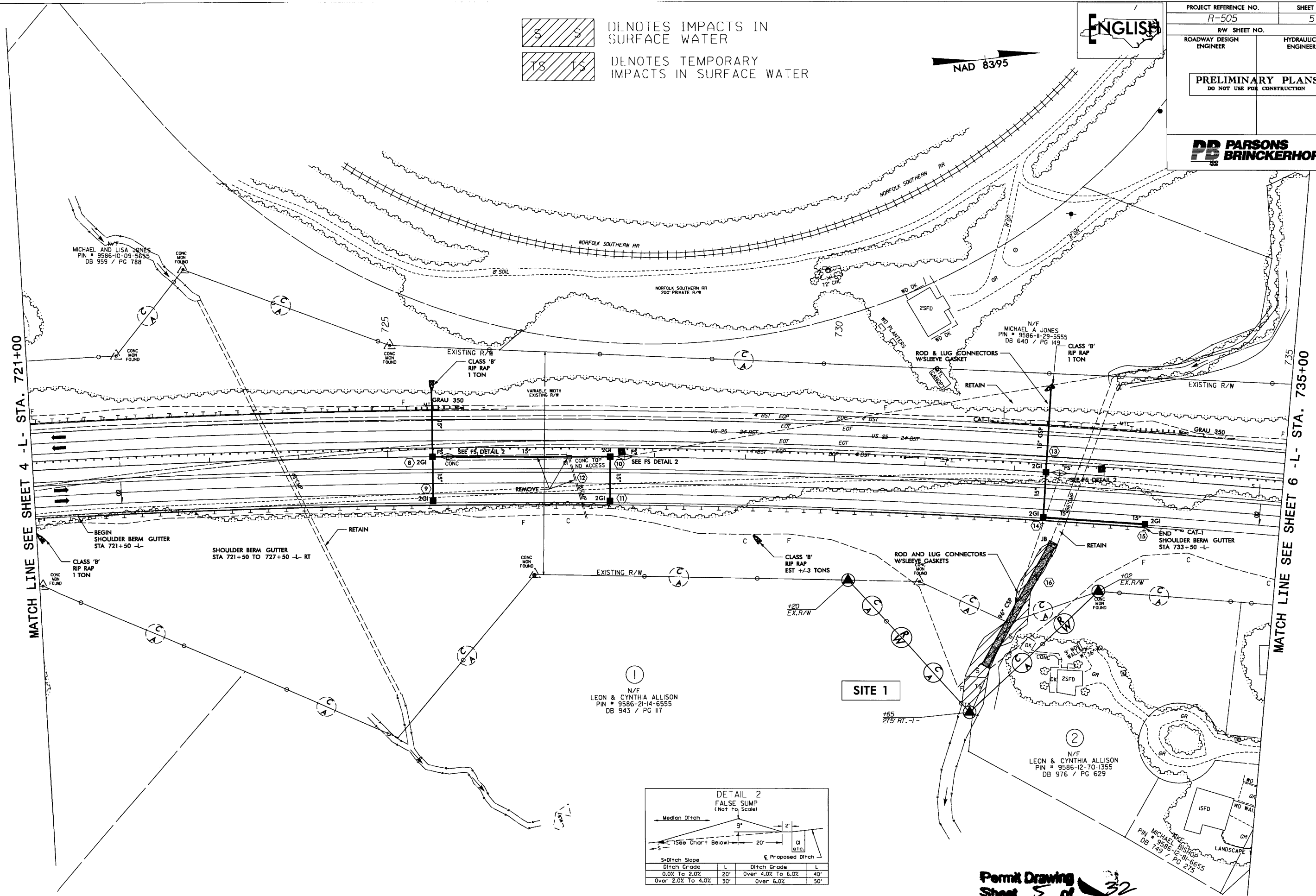
STATE DESIGN ENGINEER DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
APPROVED DIVISION ADMINISTRATOR
DATE

PROJECT REFERENCE NO. R-505		SHEET NO. 5	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER			
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

D\NOTES IMPACTS IN SURFACE WATER
 D\NOTES TEMPORARY IMPACTS IN SURFACE WATER

NAD 83/95

ENGLISH



DETAIL 2
FALSE SUMP
(Not to Scale)

S\Ditch Slope		Ditch Grade		L	
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'		
Over 2.0% To 4.0%	30'	Over 6.0%	50'		

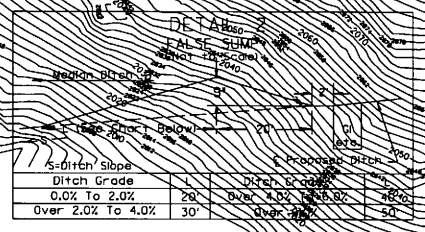
Permit Drawing
 Sheet 5 of 32



**PARSONS
BRINCKERHOFF**

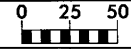
NAD 83/95

A topographic map showing contour lines with elevations of 200, 220, and 240. A rectangular area is outlined and labeled "SITE 1". The site is located between the 220 and 240 contour lines.

Permit Drawing
Sheet 6 of 34

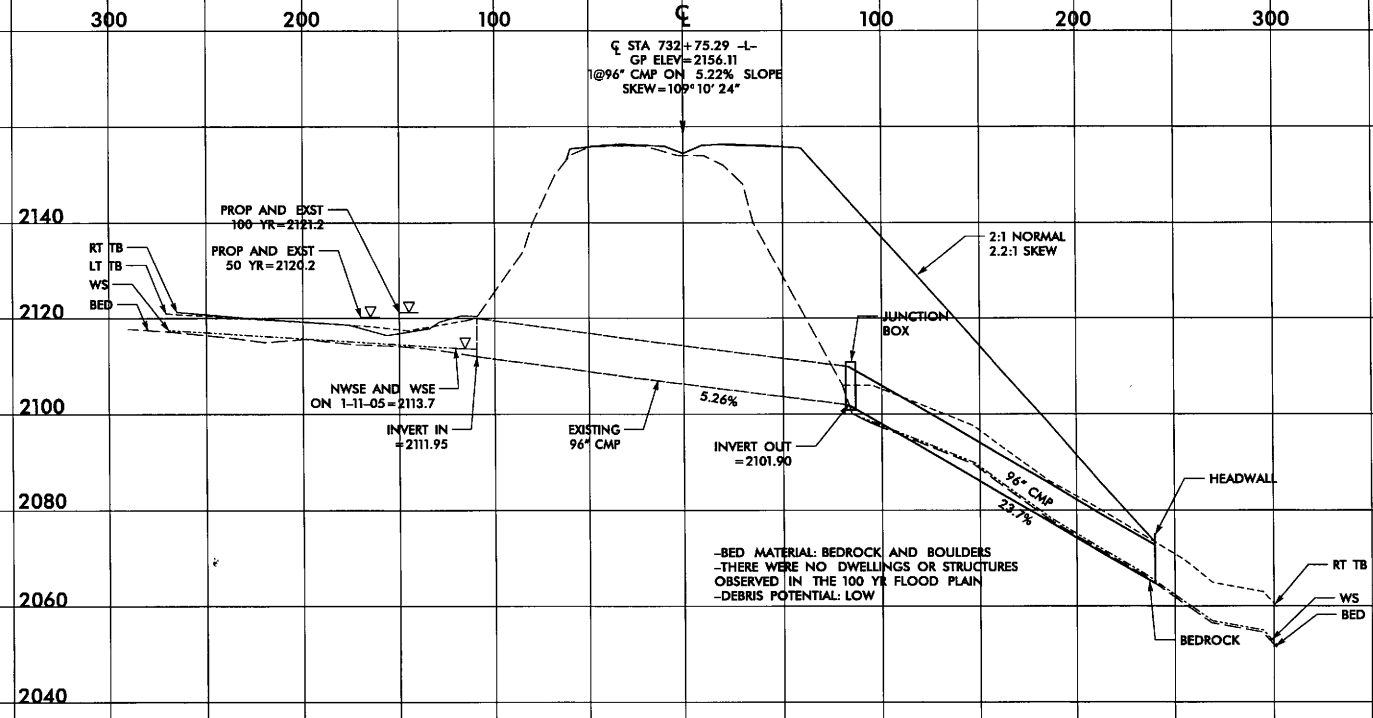
SEE SHEETS 15 FOR -L- PROFILE

8/23/99



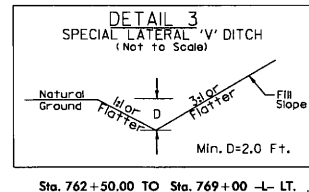
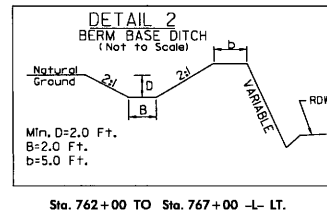
PROJ. REFERENCE NO. SHEET NO.

SITE 1

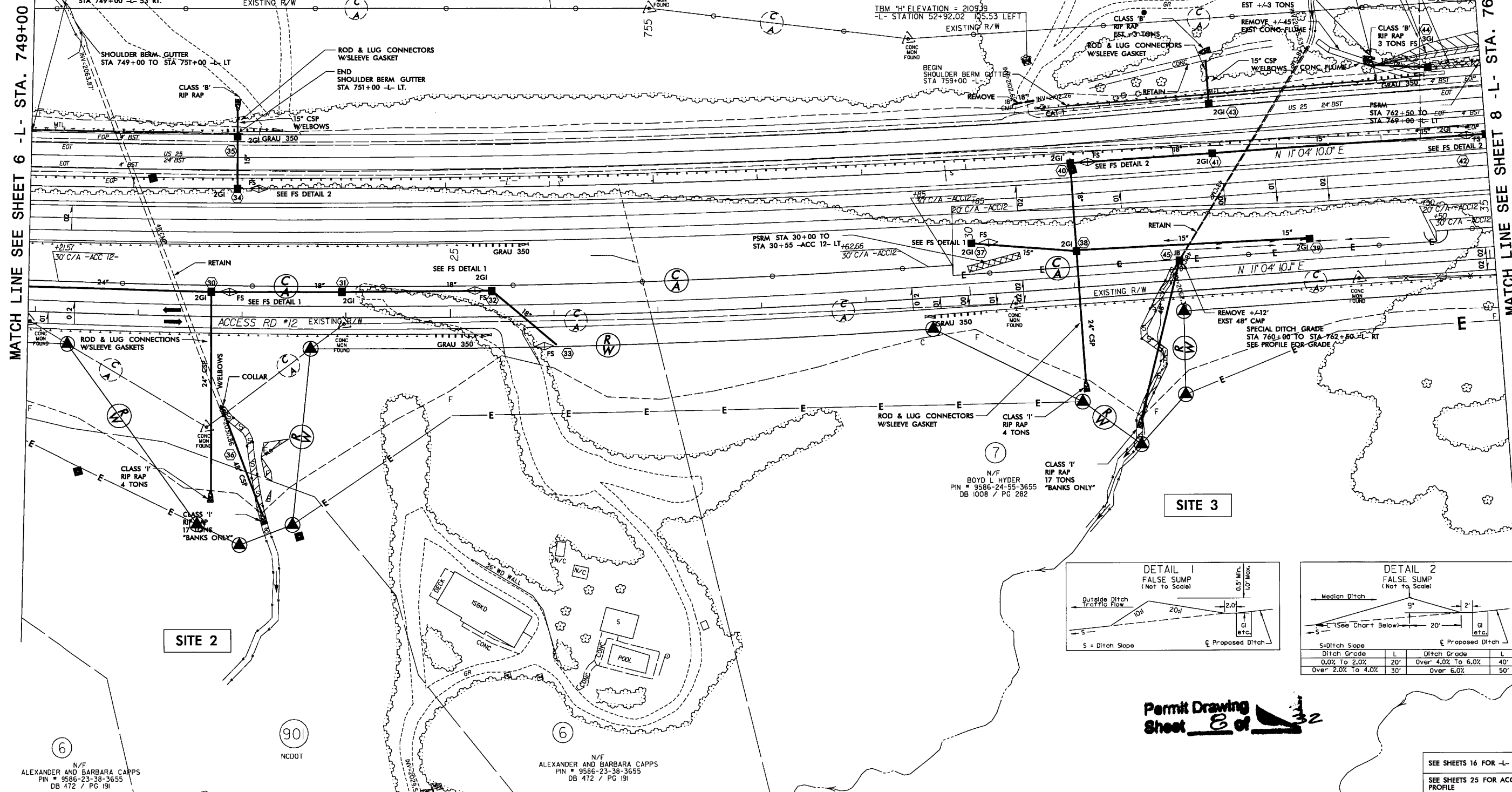


 DENOTES IMPACTS IN SURFACE WATER

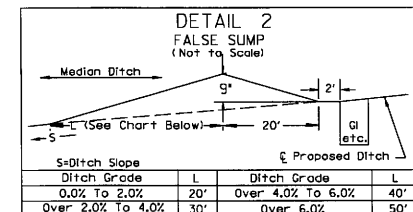
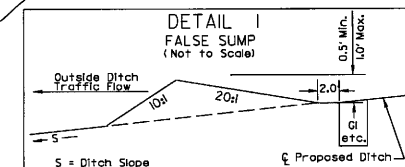
PROJECT REFERENCE NO.	SHEET NO.
R-505	7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	


**PARSONS
BRINCKERHOFF**

NAD 83/95



ATCH LINE SEE SHEET 8 -L- STA. 763+00



Permit Drawing
Sheet E of 32

SEE SHEETS 16 FOR -L- PROFILE

SEE SHEETS 25 FOR ACCESS RD. 12
PROFILE

A rectangular region with diagonal hatching (lines from top-left to bottom-right). Inside the rectangle, there are two 'F' labels, one on the left and one on the right.

ENGLISH

PROJECT REFERENCE NO.	SHEET NO.
B-505	7

RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

**PB PARSONS
BRINCKERHOFF**

MATCH LINE SEE SHEET 6 - L- STA. 749+00

MATCH LINE SEE SHEET 8 -L- SIA: 100

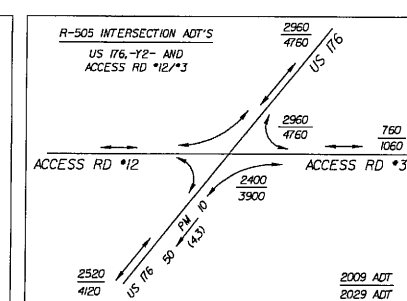
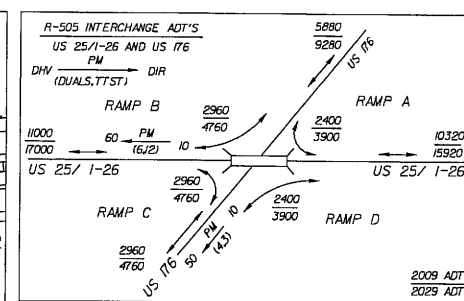
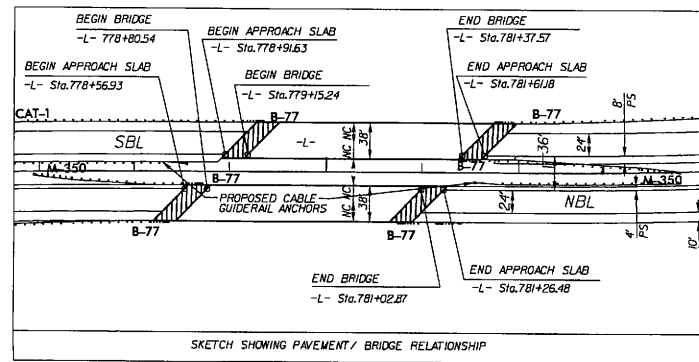
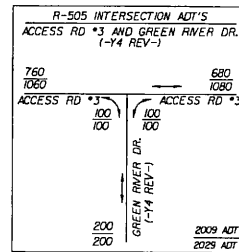
Permit Drawing
Sheet 9 of 32

SEE SHEETS 16 FOR -L- PROFILE

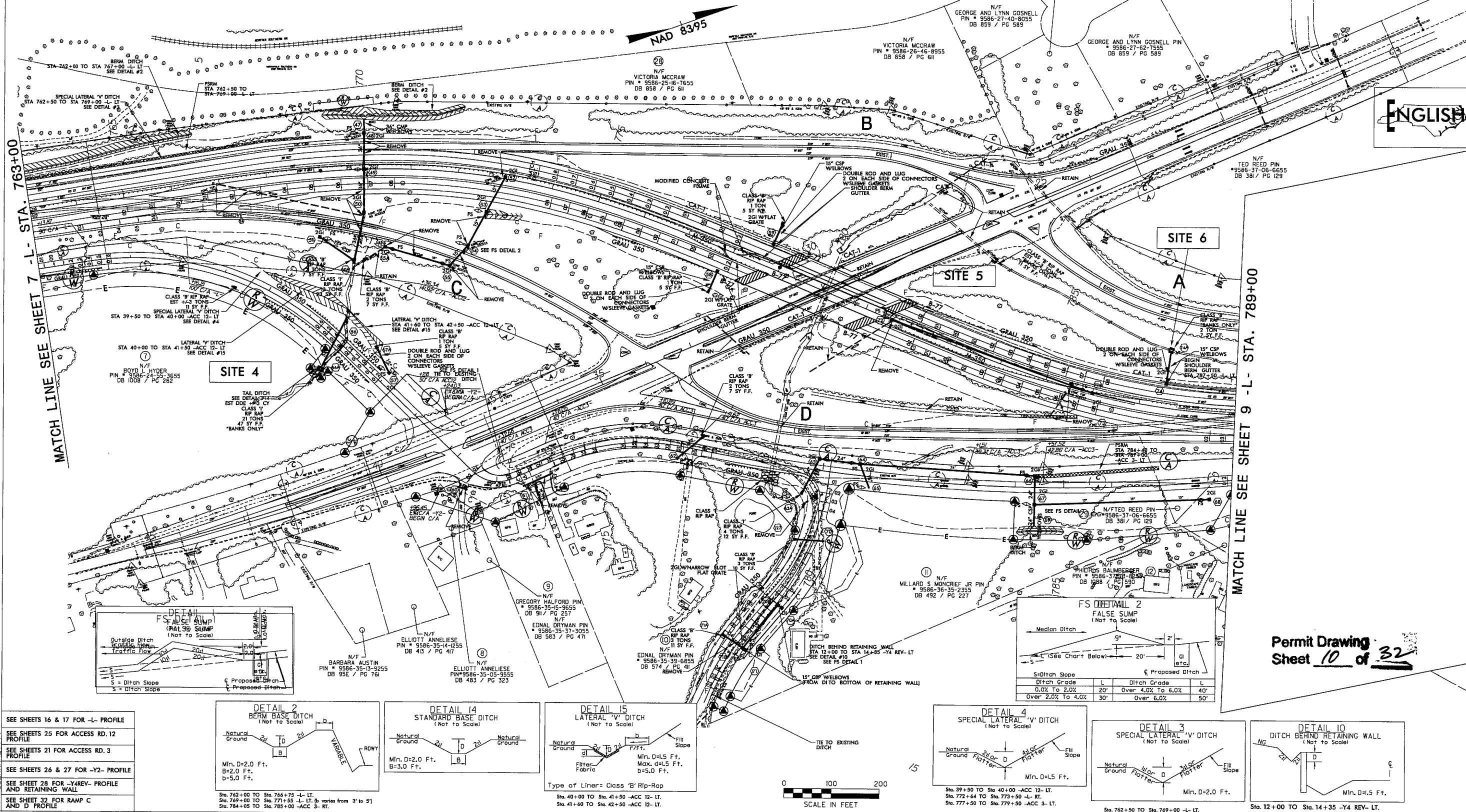
SEE SHEETS 25 FOR ACCESS RD. 12
PROFILE



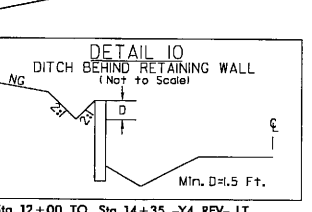
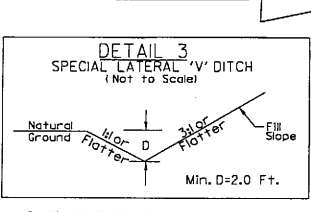
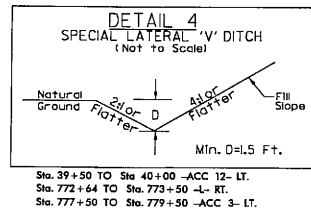
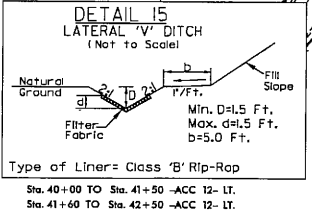
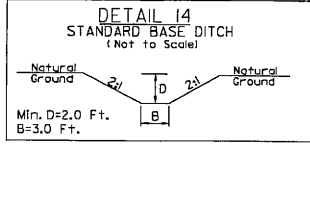
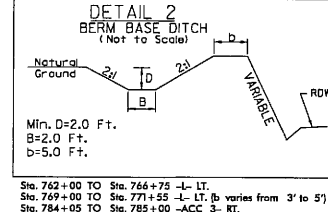
DENOTES IMPACTS IN
SURFACE WATER



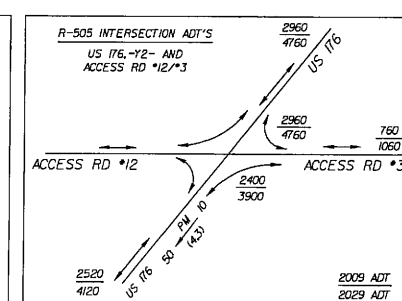
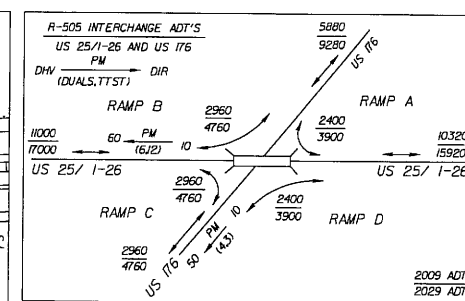
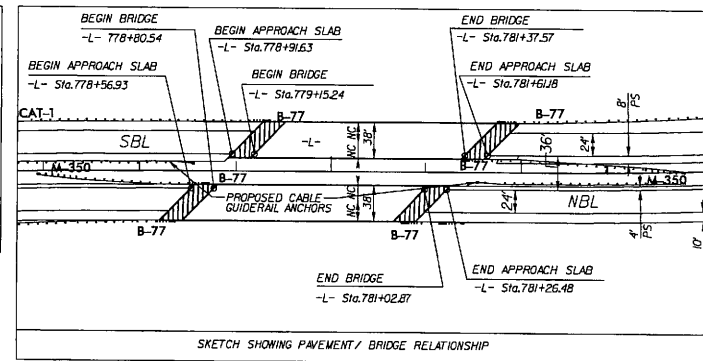
PROJECT REFERENCE NO. R-505	SHEET NO. 8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
PB PARSONS BRINCKERHOFF	



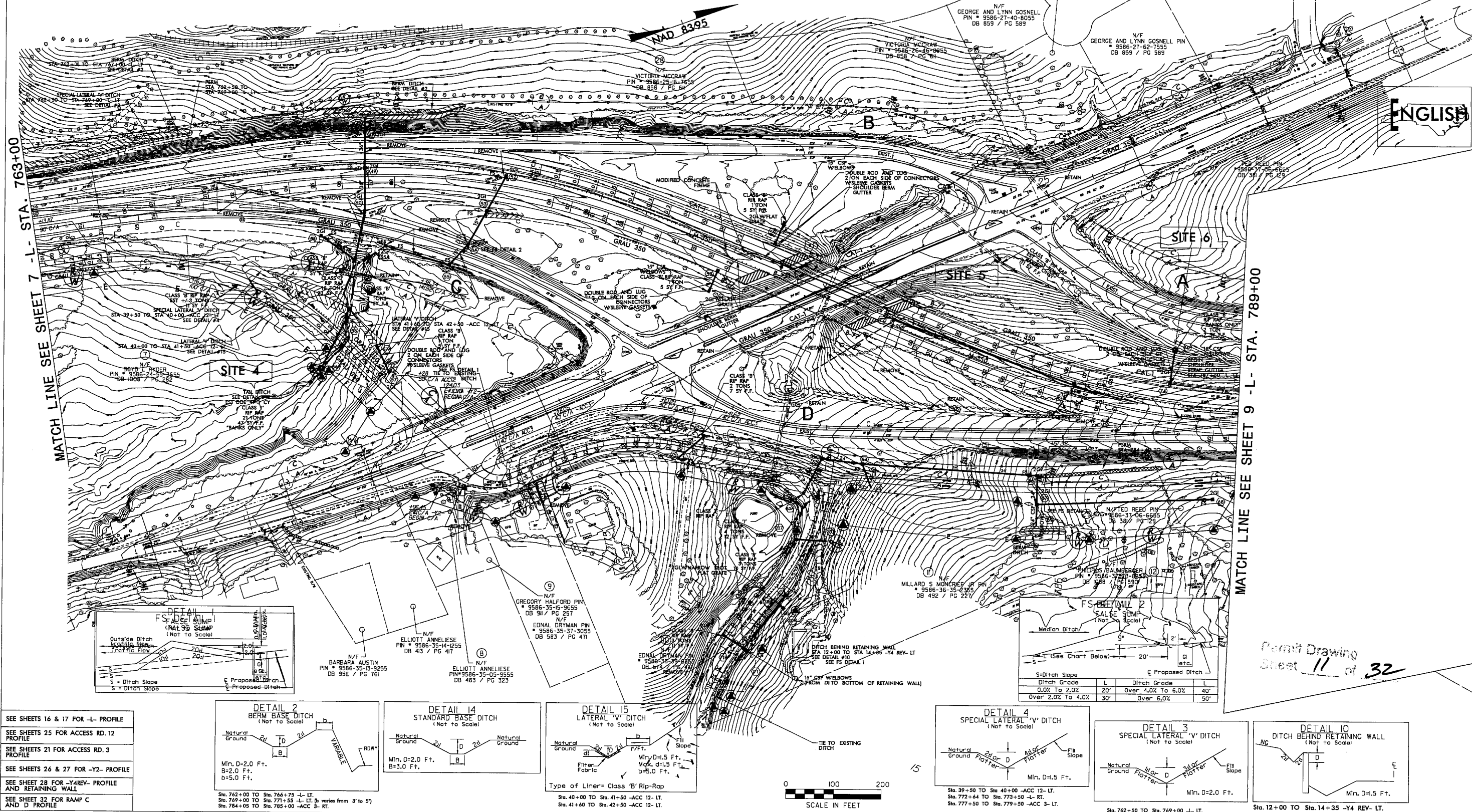
SEE SHEETS 16 & 17 FOR -L- PROFILE
SEE SHEETS 25 FOR ACCESS RD. 12
PROFILE
SEE SHEETS 21 FOR ACCESS RD. 3
PROFILE
SEE SHEETS 26 & 27 FOR -Y2- PROFILE
SEE SHEET 28 FOR -YAREV- PROFILE
AND RETAINING WALL
SEE SHEET 32 FOR RAMP C
AND D PROFILE



Permit Drawing
Sheet 10 of 32



PROJECT REFERENCE NO.	SHEET NO.
R-505	8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



DENOTES IMPACTS IN
SURFACE WATER

LATERAL 'V' DITCH
STA 41+50 -ACC 12- LT
SEE DETAIL #15

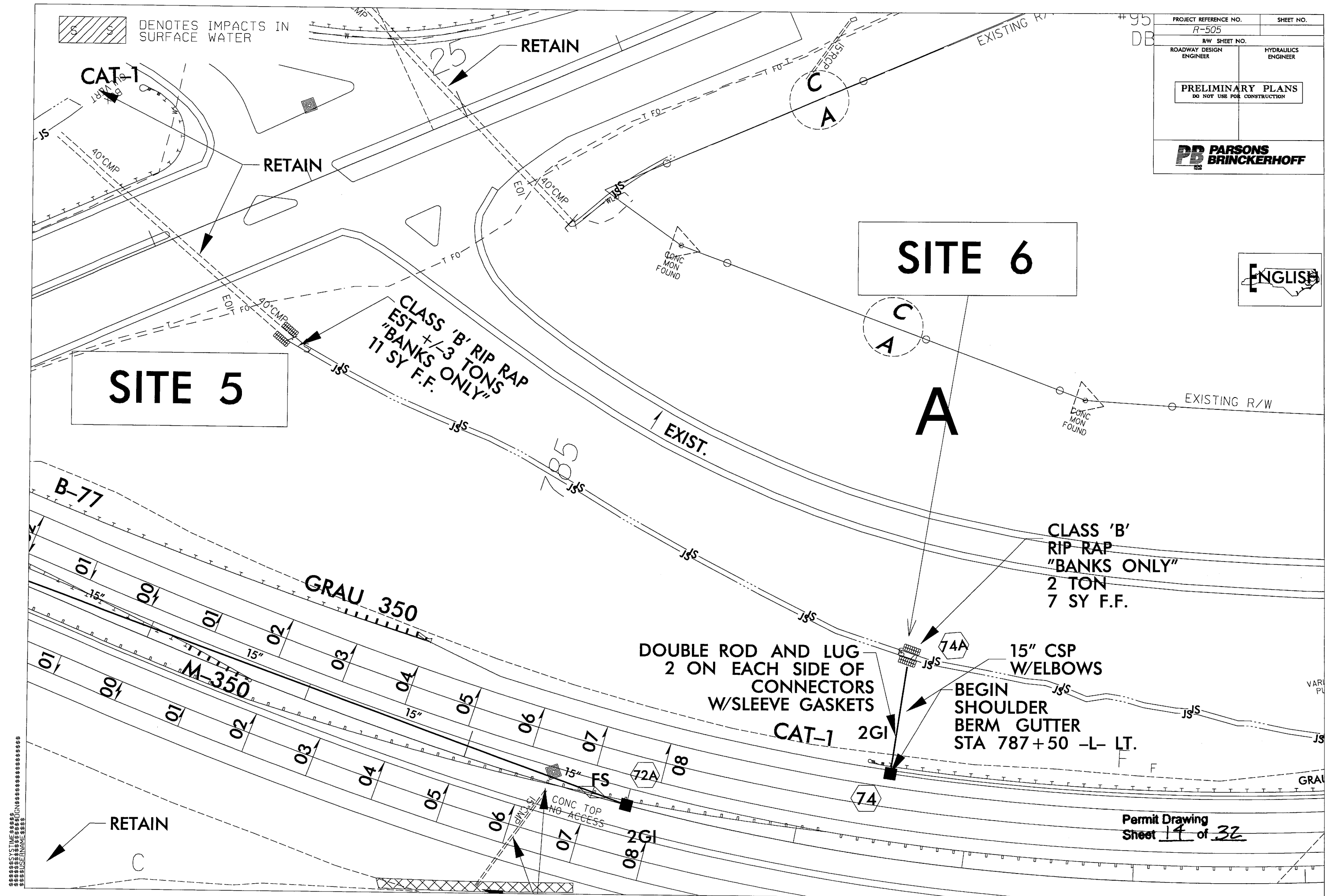
SITE 4

TAIL DITCH
SEE DETAIL #14
EST DDE +/-3 CY

CLASS 'I'
RIP RAP
21 TONS
"BANKS ONLY"

LATERAL 'V' DITCH
- STA 41+60 TO STA 42+50 -ACC 12- LT
SEE DETAIL #15
CLASS 'B'
RIP RAP
1 TON
ROD & LUG CONNECTORS
W/SLEEVE GASKET
SEE FS DETAIL 1
TIE TO EXISTING
DITCH

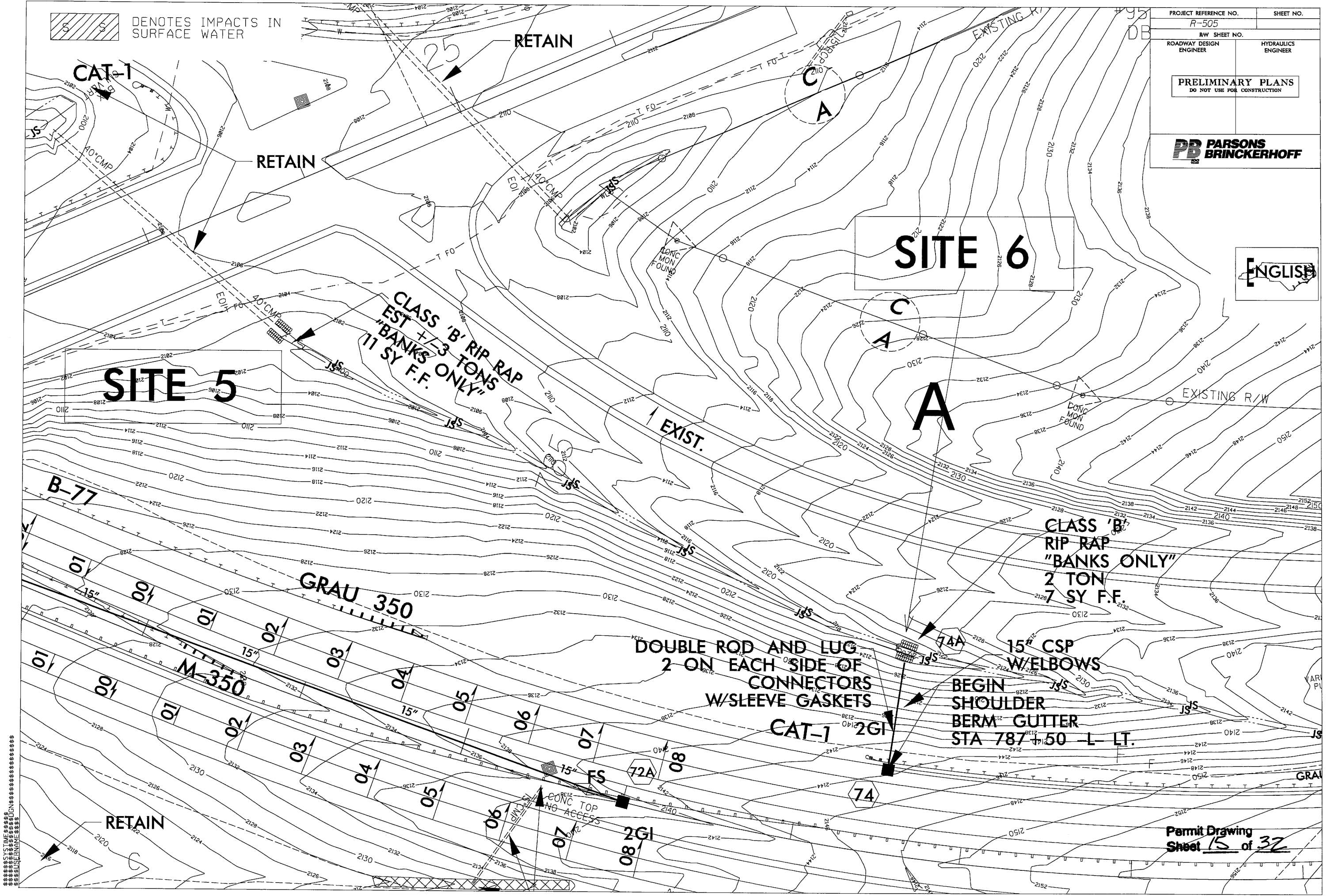
Permit Drawing
Sheet 13 of 32

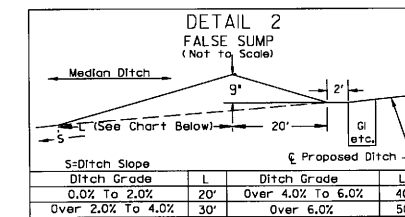
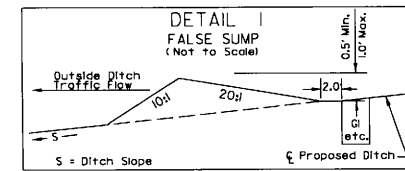
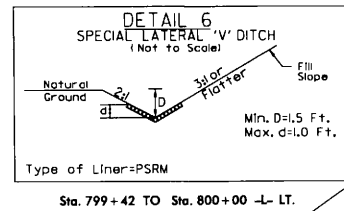




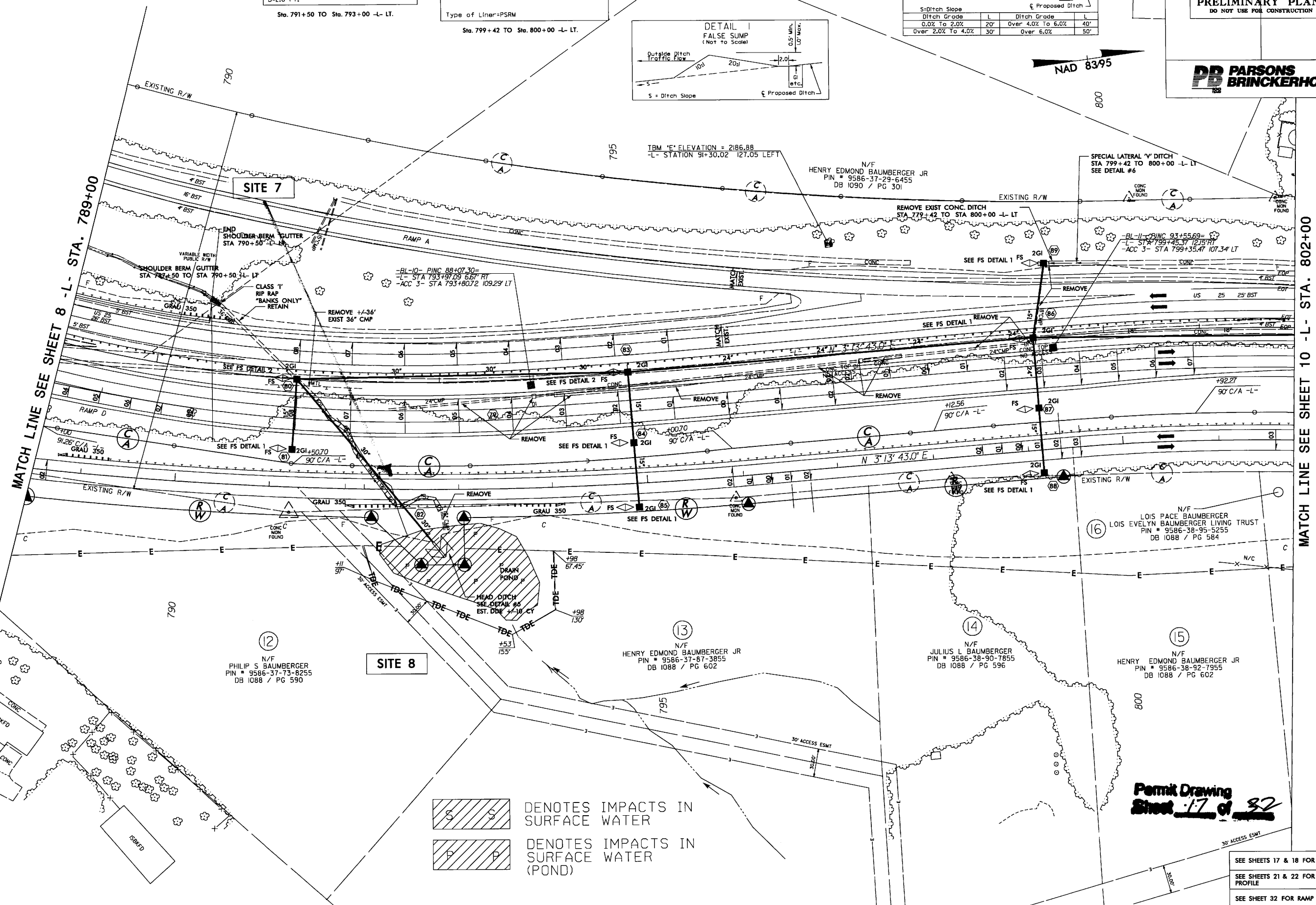
DENOTES IMPACTS IN
SURFACE WATER

PROJECT REFERENCE NO. R-505		SHEET NO.	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			
PARSONS BRINCKERHOFF			





ENGLISH



PROJECT REFERENCE NO.
R-505

SHEET NO.
9

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

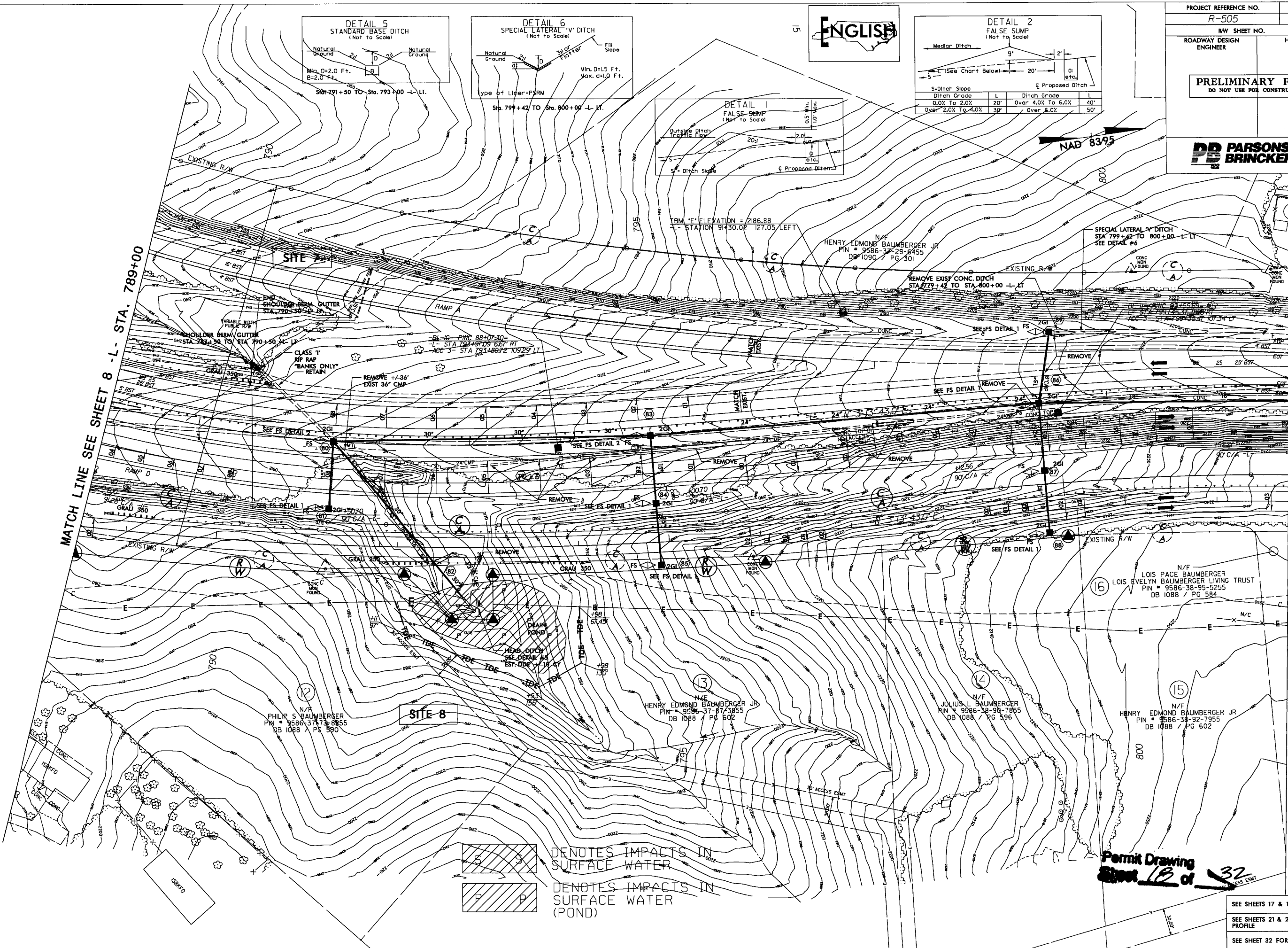
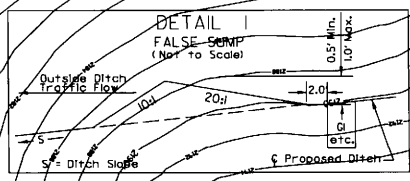
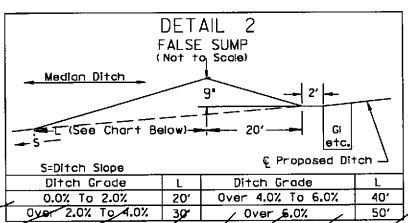
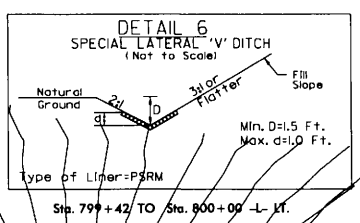
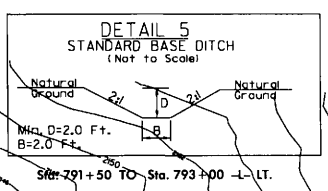
PRELIMINARY PLANS

DO NOT USE FOR CONSTRUCTION

PARSONS BRINCKERHOFF

MATCH LINE SEE SHEET 8 - L- STA. 789+00

MATCH LINE SEE SHEET 10 - L- STA. 802+00

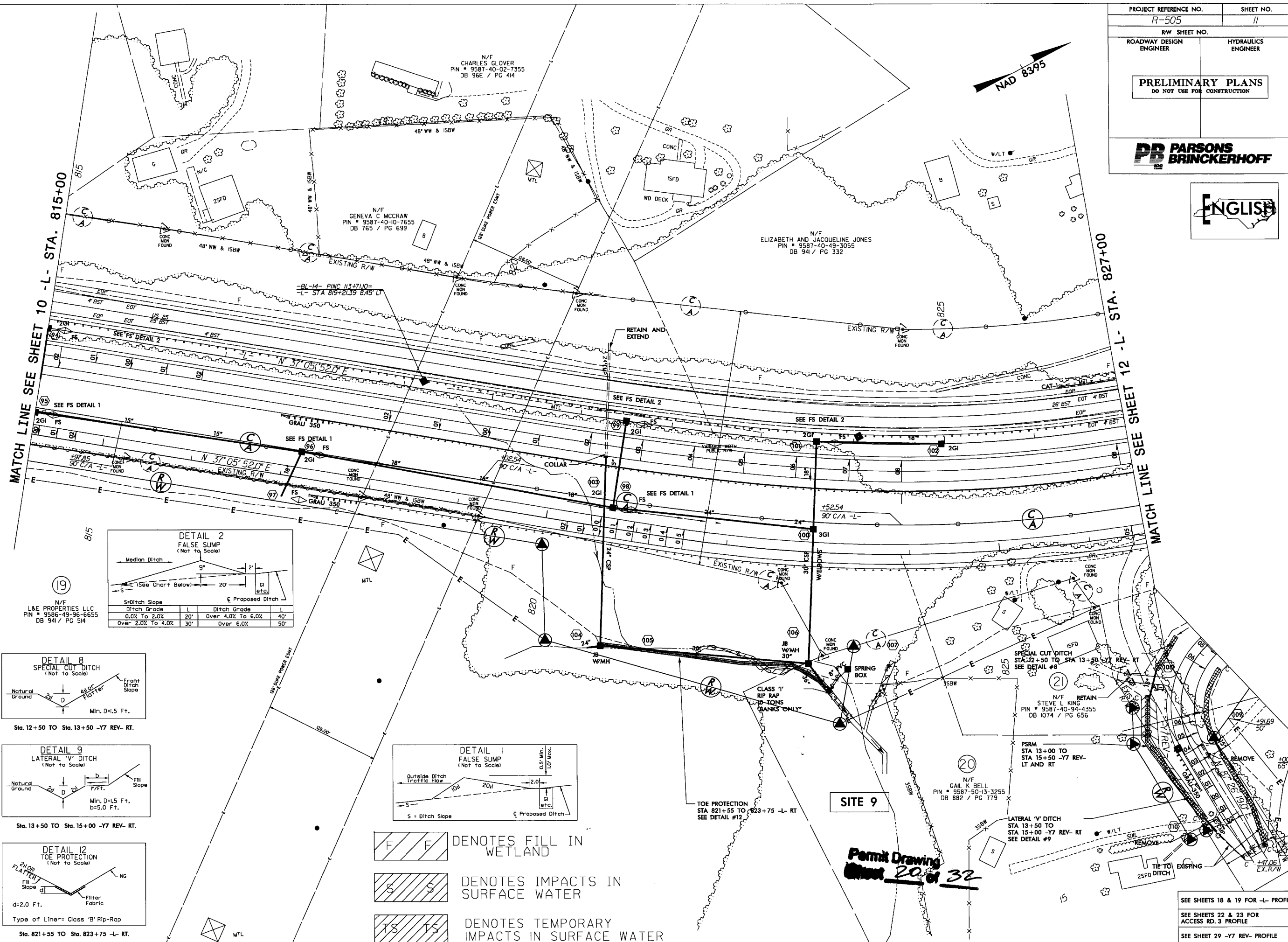


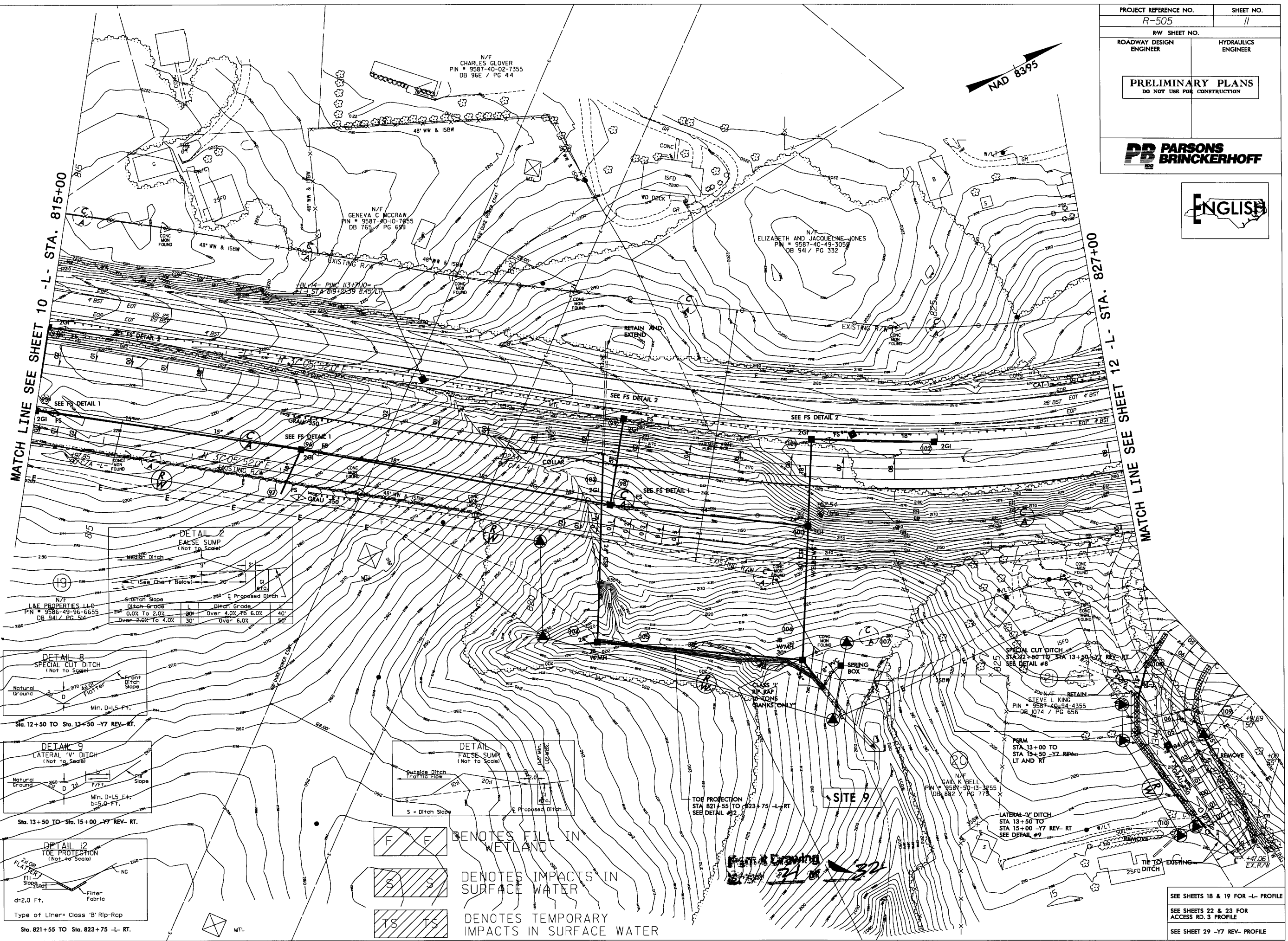
DENOTES IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER (POND)

Permit Drawing
Sheet 10 of 32

SEE SHEETS 17 & 18 FOR -L- PROFILE
SEE SHEETS 21 & 22 FOR ACCESS RD. 3 PROFILE
SEE SHEET 32 FOR RAMP D PROFILE



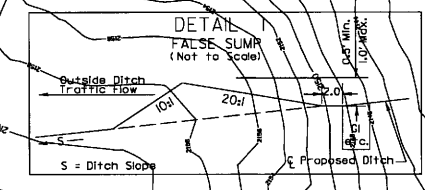
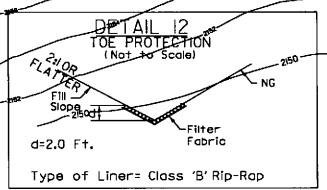
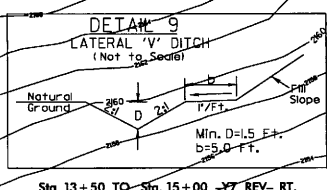
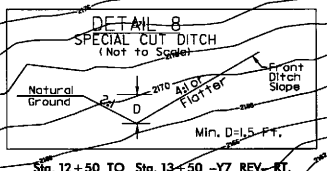


MATCH LINE SEE SHEET 10 -L- STA. 815+00

MATCH LINE SEE SHEET 12 -L- STA. 827+00

DETAIL 2
FALSE SUMP
(Not to Scale)

Ditch Slope	Ditch Grade	Ditch Width
20%	Over 4.0% to 6.0%	40'
Over 2.0% to 4.0%	Over 6.0%	50'



FF F F DENOTES FILL IN WETLAND
S S DENOTES IMPACTS IN SURFACE WATER
TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

SITE 9

SEE SHEETS 18 & 19 FOR -L- PROFILE
SEE SHEETS 22 & 23 FOR ACCESS RD. 3 PROFILE
SEE SHEET 29 -Y7- PROFILE

PROJECT REFERENCE NO.
R-505

SHEET NO.
12

RW SHEET NO.

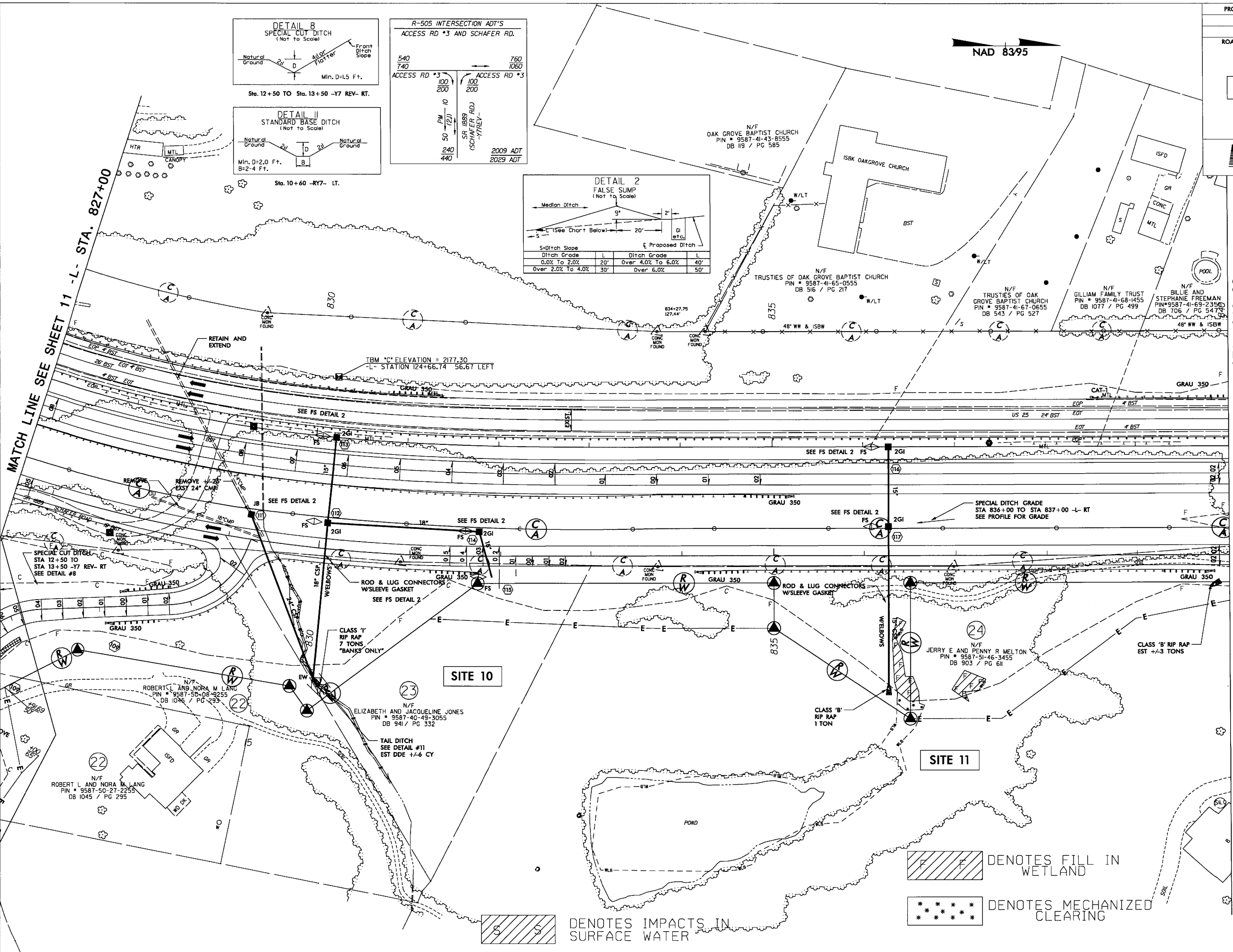
ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

PRELIMINARY PLANS

DO NOT USE FOR CONSTRUCTION

PARSONS BRINCKERHOFF



MATCH LINE SEE SHEET 11 -L- STA. 827+00

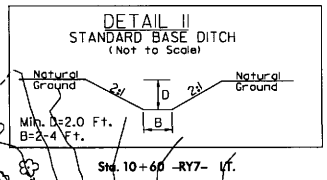
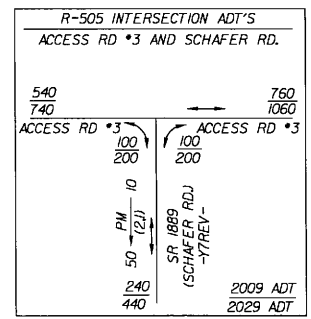
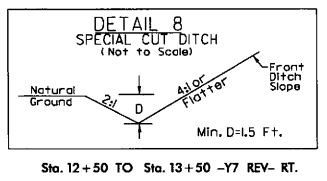
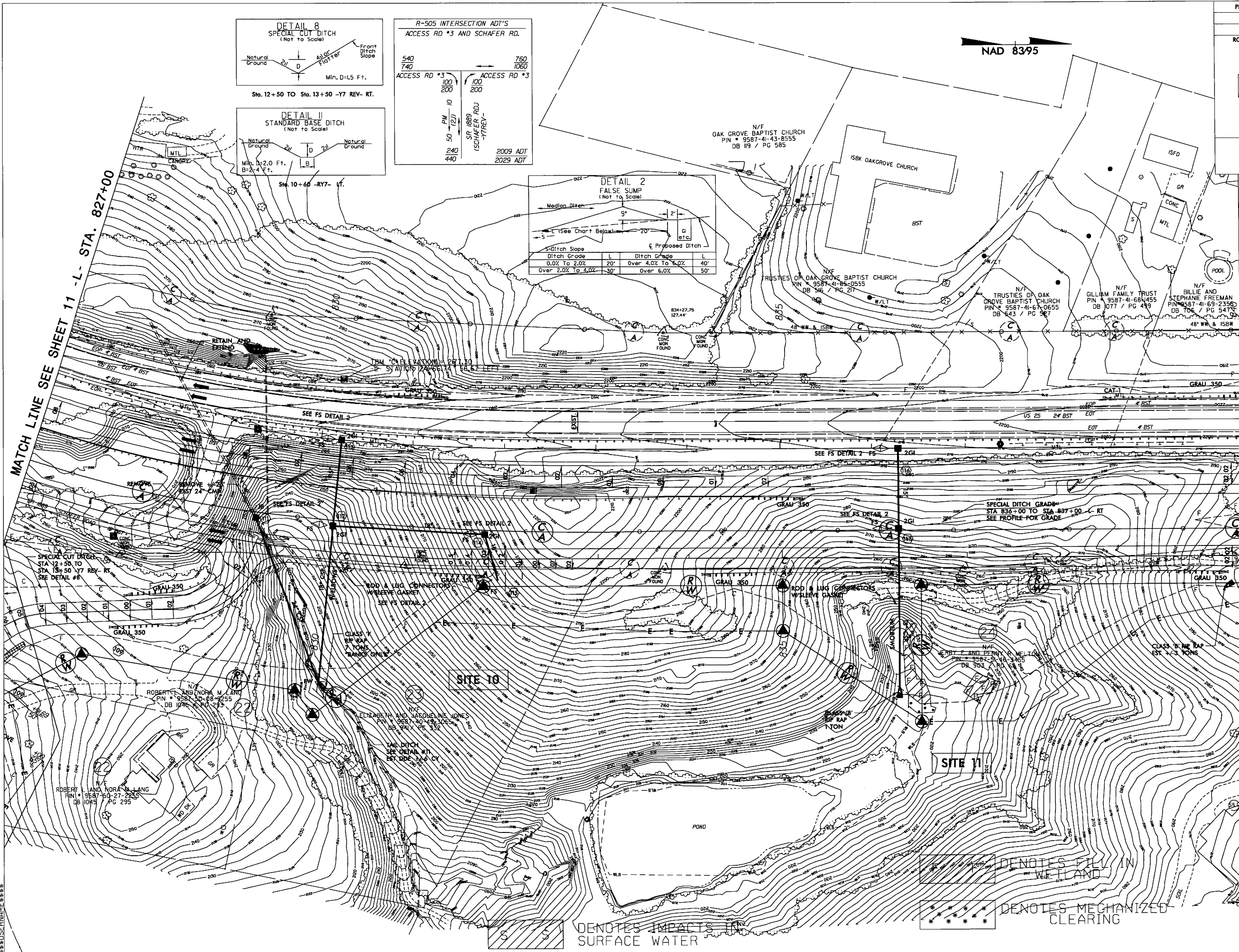
Permit Drawing
Sheet 22 of 32

SEE SHEETS 19 FOR -L- PROFILE
SEE SHEETS 23 FOR ACCESS RD. 3 PROFILE
SEE SHEET 29 FOR -Y7REV- PROFILE

PROJECT REFERENCE NO. R-505		SHEET NO. 12
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		
PARSONS BRINCKERHOFF		



NAD 8395



DETAIL 2
FALSE SUMP
(Not to Scale)

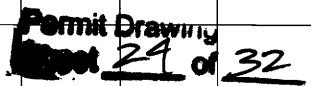
Ditch Slope	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

MATCH LINE SEE SHEET 11 -L- STA. 827+00

MATCH LINE SEE SHEET 13 -L- STA. 840+00

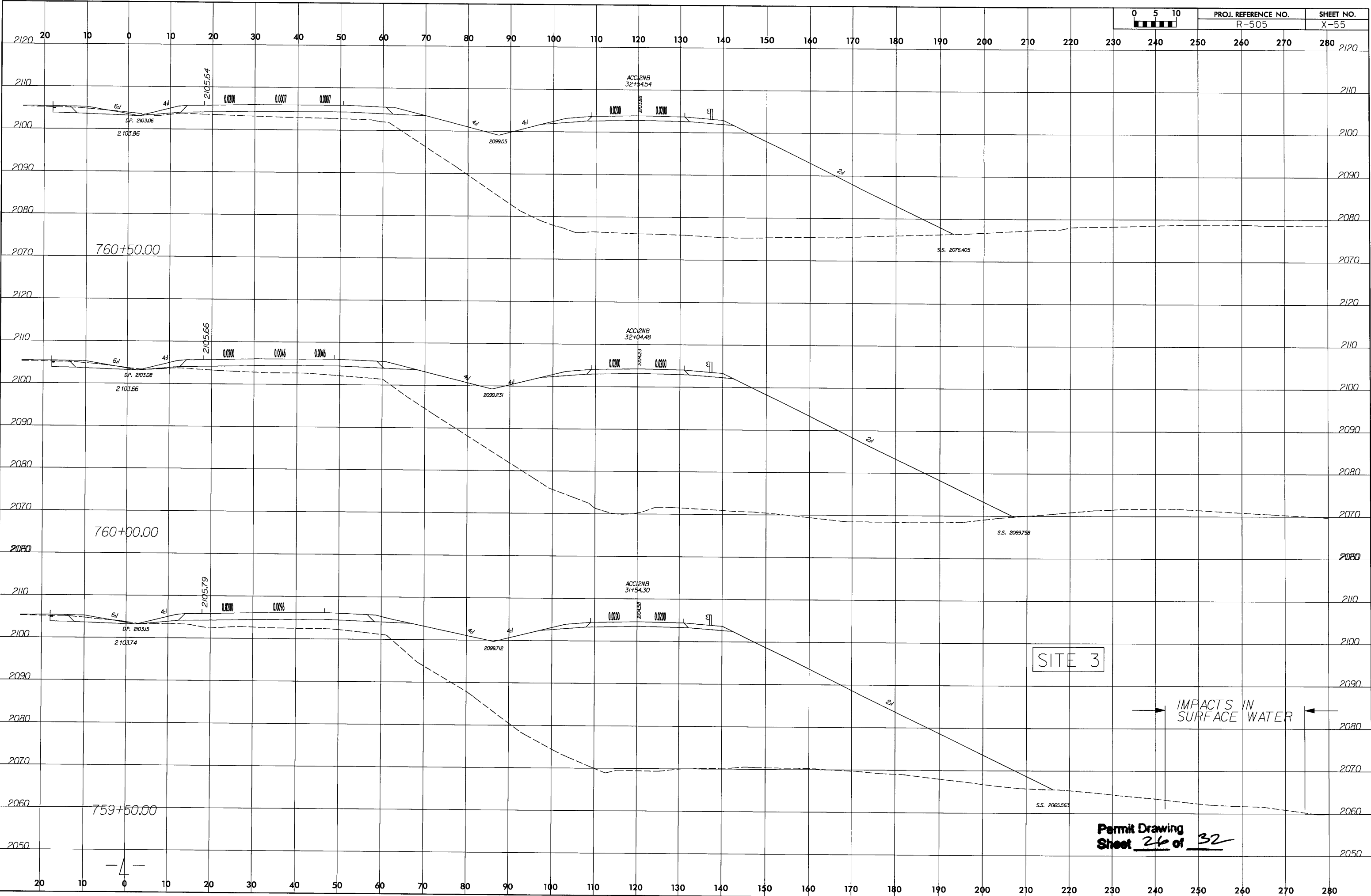
Permit Drawing
Sheet **23** of **32**

SEE SHEETS 19 FOR -L- PROFILE
SEE SHEETS 23 FOR ACCESS RD. 3 PROFILE
SEE SHEET 29 FOR -Y7REV- PROFILE



8/23/99

PROJ. REFERENCE NO.			SHEET NO.	
R-505			X-55	

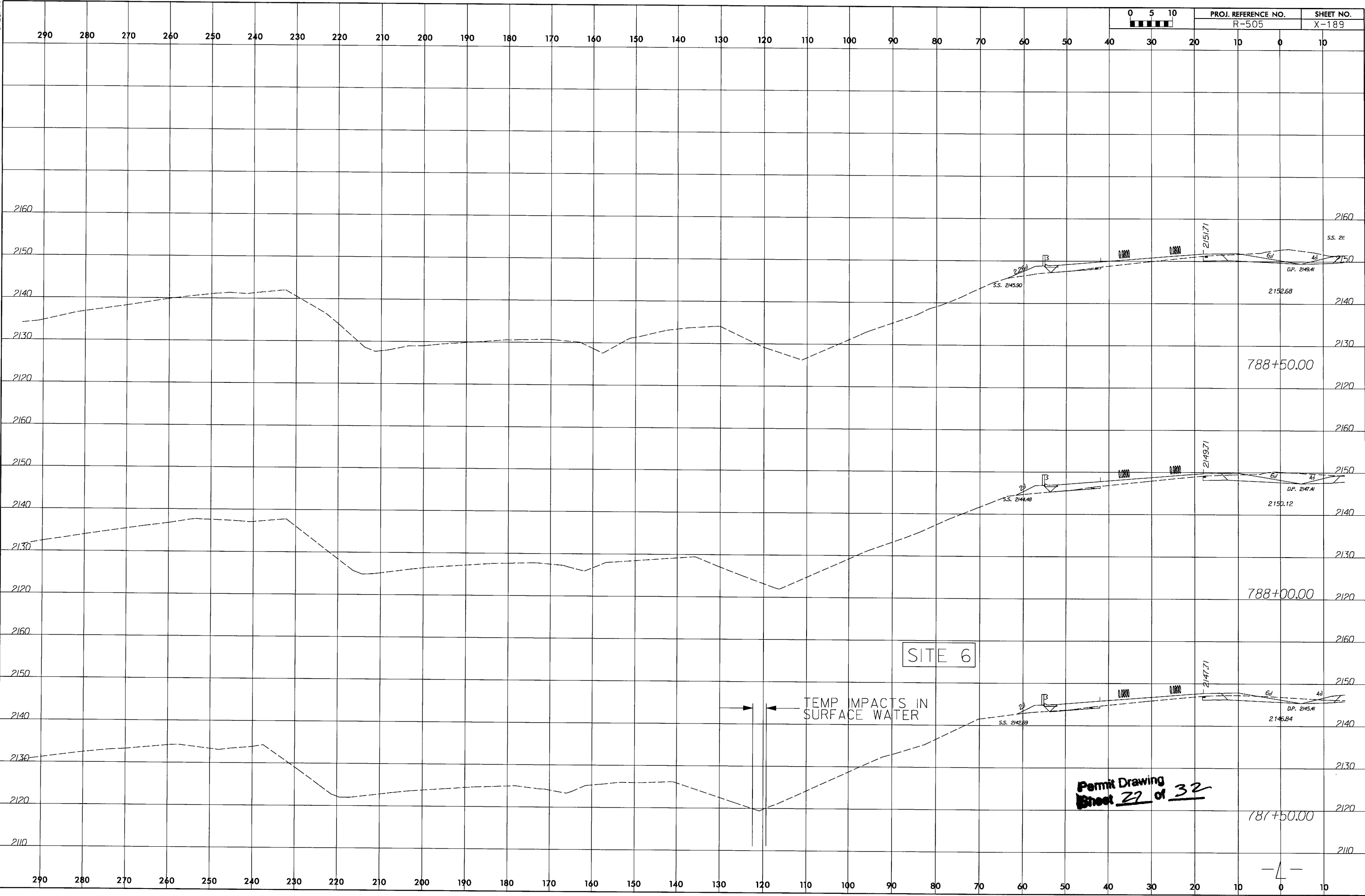


Permit Drawing
Sheet 26 of 32

8/23/99



PROJ. REFERENCE NO.	SHEET NO.
R-505	X-189



8/23/99

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

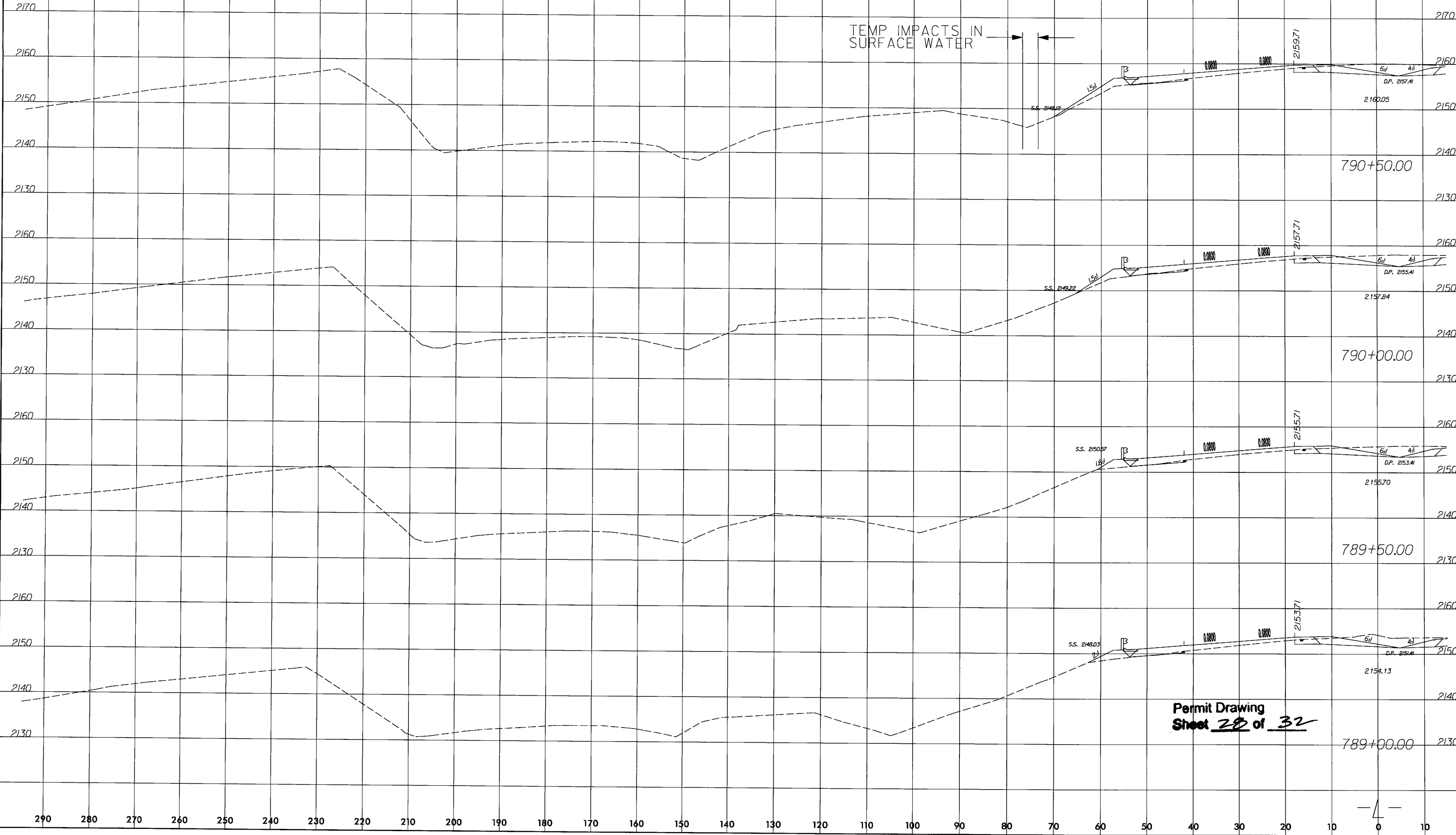


PROJ. REFERENCE NO.
R-505

SHEET NO.
X-190

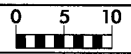
SITE 7

TEMP IMPACTS IN
SURFACE WATER

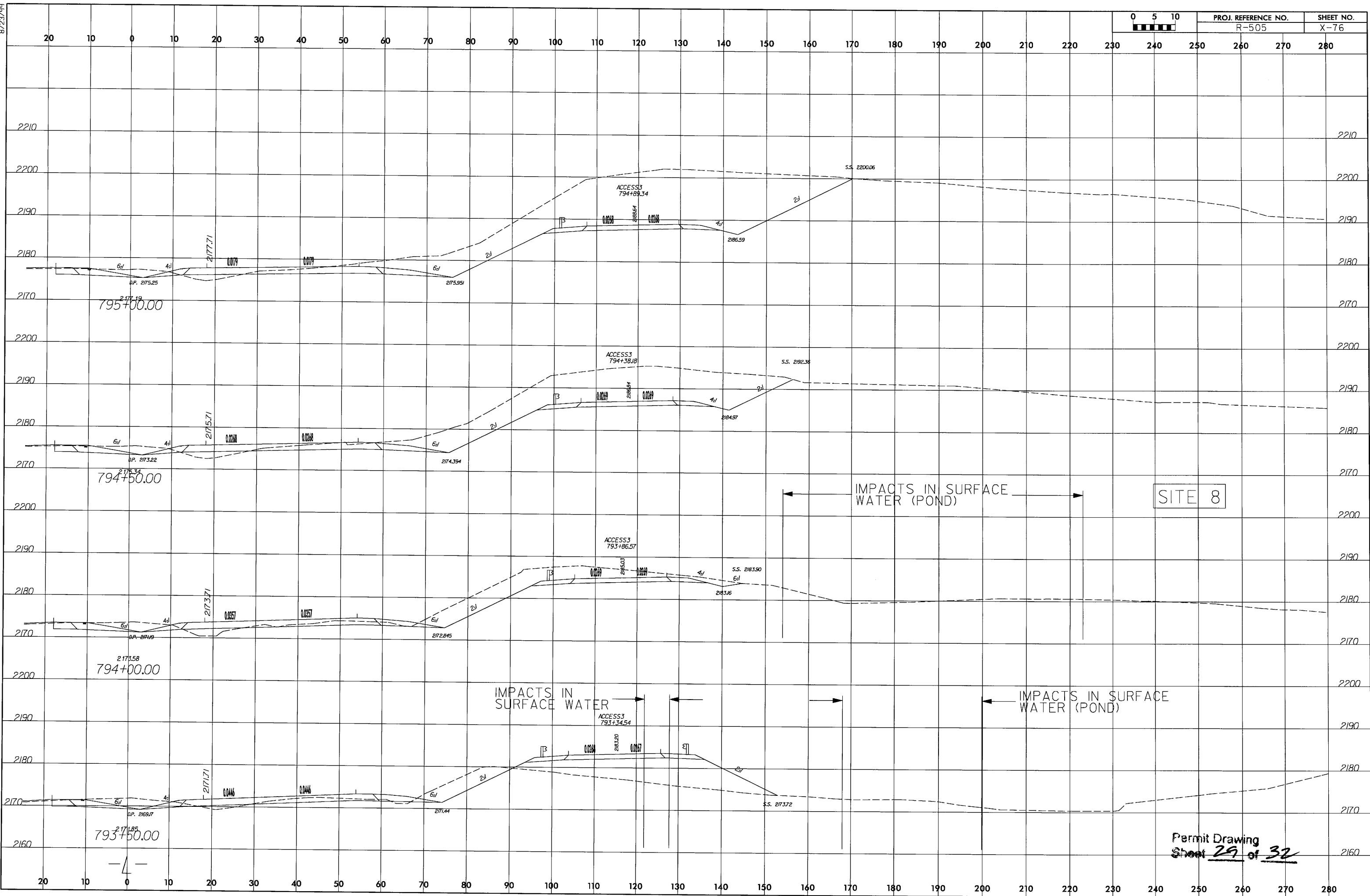


Permit Drawing
Sheet 28 of 32

8/23/99



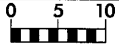
PROJ. REFERENCE NO.	SHEET NO.
R-505	X-76



SYNOPSIS OF DESIGN CONDITIONS

Permit Drawing
Sheet 29 of 32

8/23/99



PROJ. REFERENCE NO.

R-505

SHEET NO.

X-98

20 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

2200

2200

2190

2190

2180

2180

2170

2170

2160

2160

2150

2150

2140

2140

2130

2130

2120

2120

2110

2110

2100

2100

6:1

4:1

2183.01

0.0000

0.0000

4:1

2180.88

D.P. 2180.86

2:1

4:1

ACCESS 3
822+81.08

0.0500

2166.88

0.0500

4:1

2163.49

2:1

IMPACTS IN
SURFACE WATER

SITE 9

S.S. 2112.26

823+50.00

-4-

Permit Drawing
Sheet 30 of 32

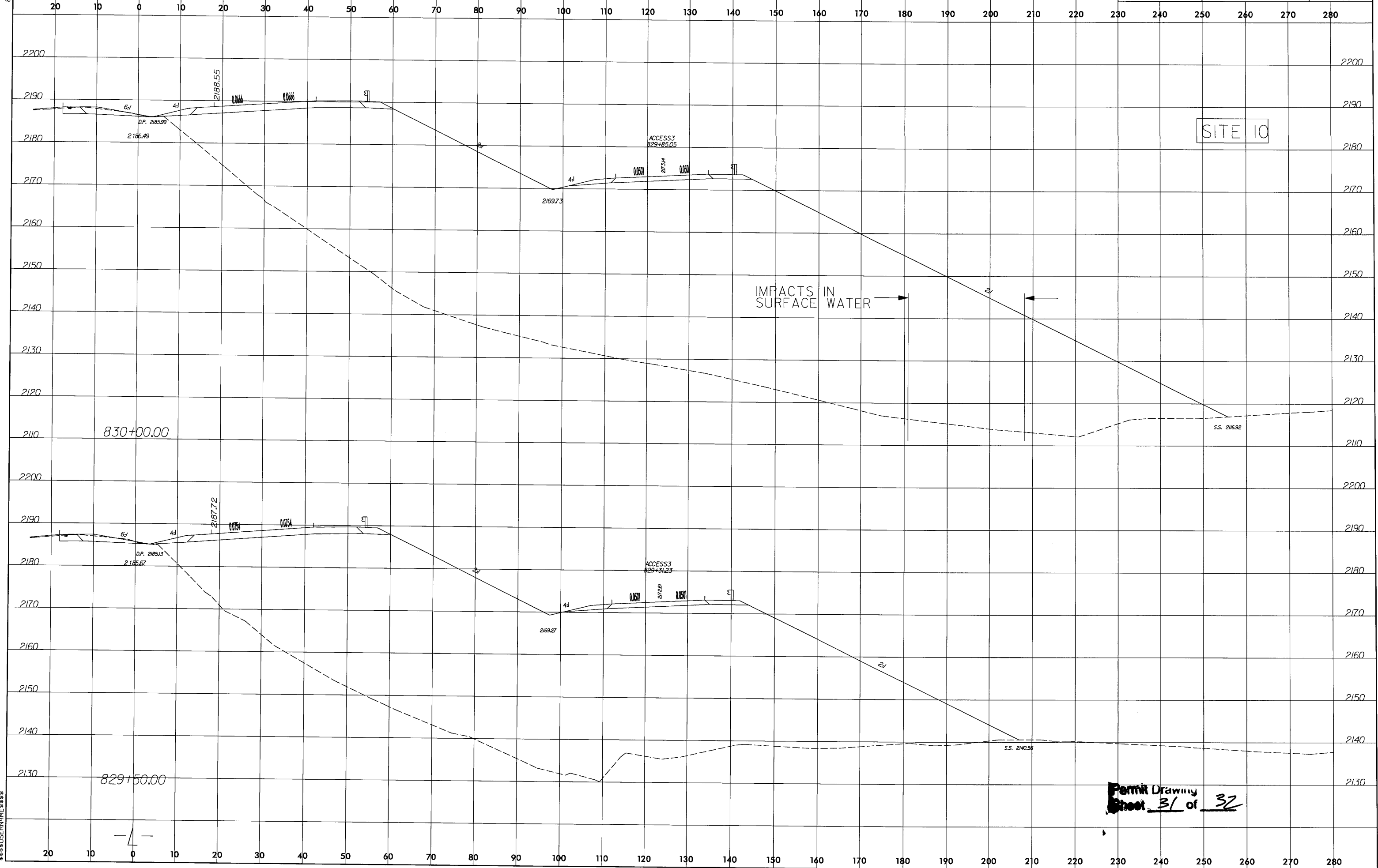
32

8/23/99



PROJ. REFERENCE NO.
R-505

SHEET NO.
X-105



SITE 10

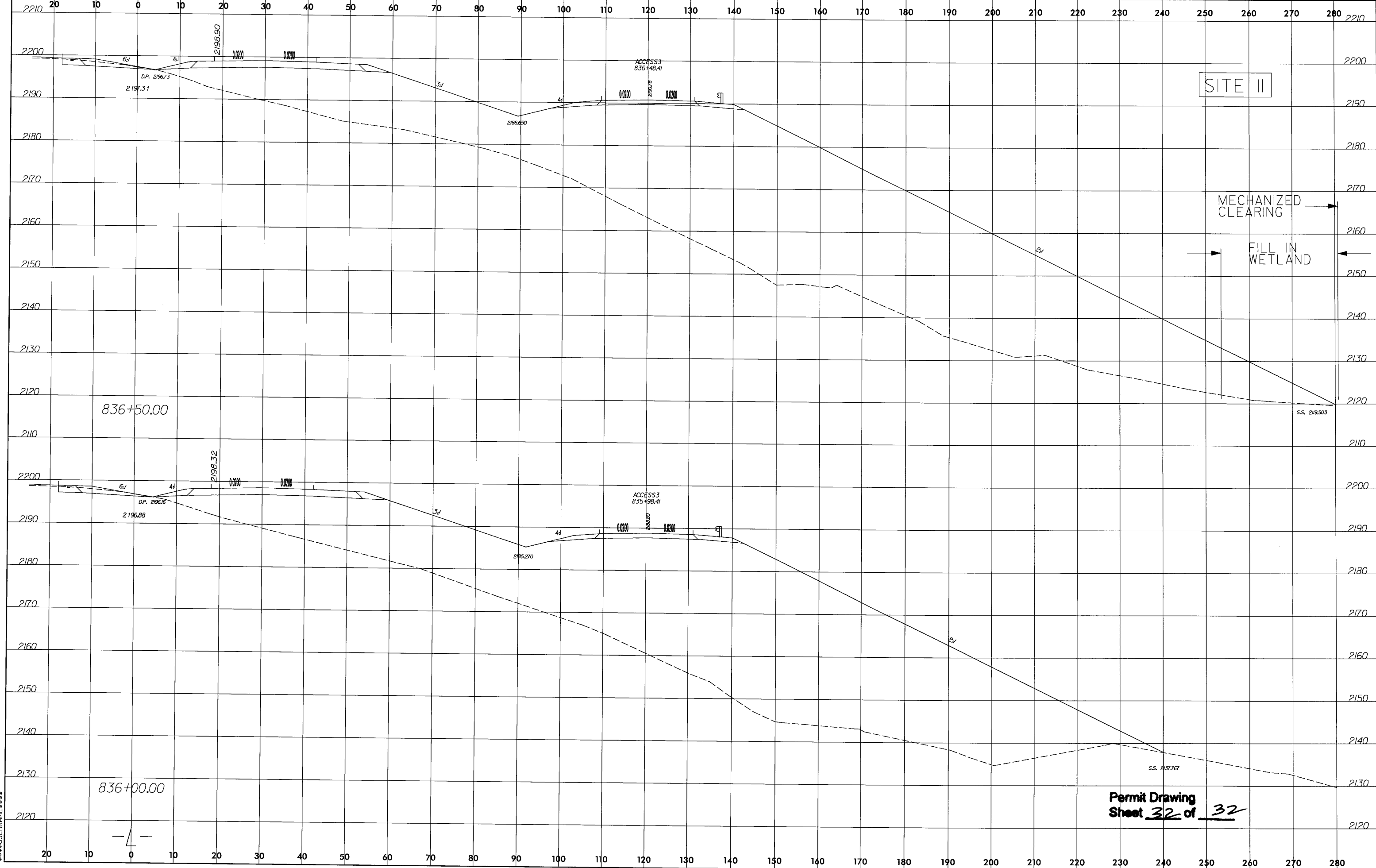
IMPACTS IN SURFACE WATER

Permit Drawing
Sheet 31 of 32

8/23/99



PROJ. REFERENCE NO.	SHEET NO.
R-505	X-111



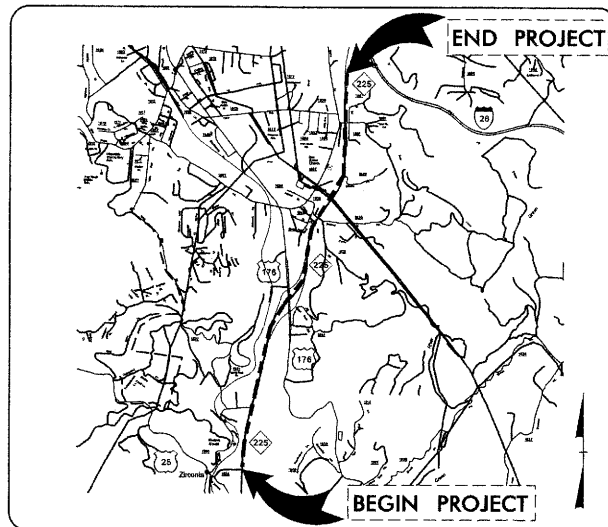
Permit Drawing
Sheet 32 of 32

09/28/2007 08:42
C:\Projects\10025\10025 Roadway\Proj\10025.rdw
mangum

TIP PROJECT: R-505

CONTRACT:

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



VICINITY MAP

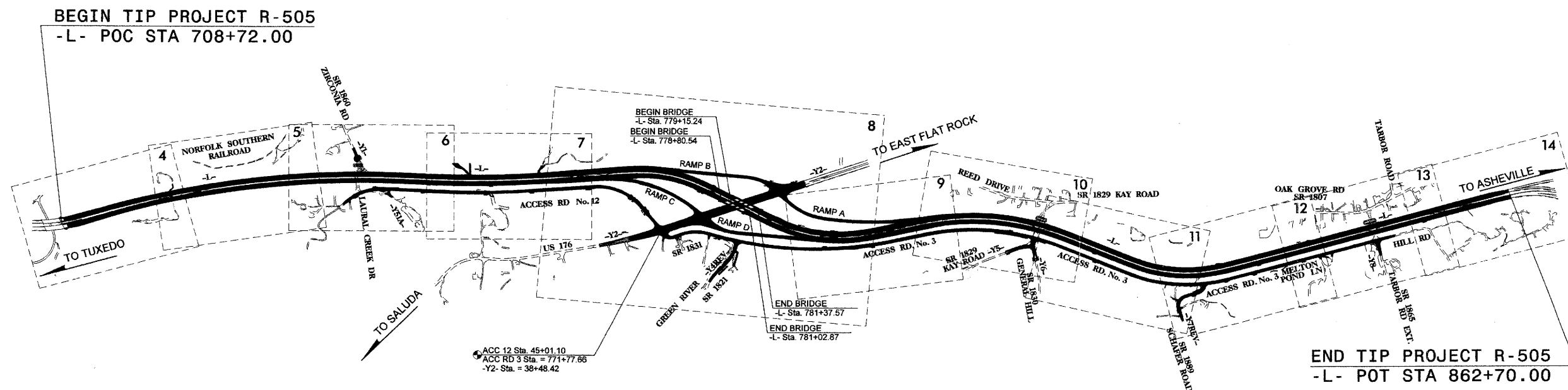
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
HENDERSON COUNTY

LOCATION: NC 225-US 25A-26 CONNECTOR FROM US 25
AT ZIRCONIA TO I-26

TYPE OF WORK: GRADING, PAVING, AND DRAINAGE,
STRUCTURES, GUARDRAIL, AND
PAVEMENT MARKINGS

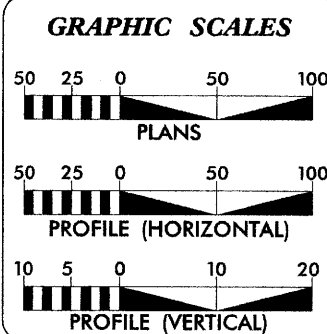
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-505	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
34334.1.1	APD-1954 (I)	P.E.	
34334.3.1	APD-1954 (I)	R/W, UTILITIES	

NAD 8395



THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



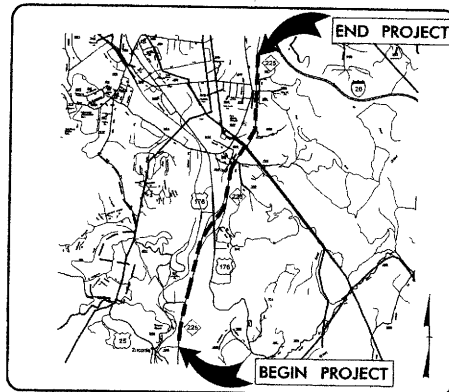
DESIGN DATA	
ADT 2009 =	11,000
ADT 2029 =	17,000
DHV =	10 %
D =	60 %
T =	18 % *
V =	60 MPH
* TTST 12	* DUAL 6%
FUNC CLASS RURAL FREEWAY	

PROJECT LENGTH	
LENGTH ROADWAY TIP PROJECT R-505 =	2.874 MILES
LENGTH STRUCTURE TIP PROJECT R-505 =	0.042 MILES
TOTAL LENGTH TIP PROJECT R-505 =	2.916 MILES
NCDOT CONTACT:	CATHY S. HOUSER, PE PROJECT ENGINEER ROADWAY DESIGN

Prepared In the Office of: PD PARSONS BRINCKERHOFF	
2006 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: OCTOBER 19, 2007	DANIEL BRIDGES, PE PROJECT ENGINEER
LETTING DATE: APRIL 21, 2009	ERIC MISAK PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER	
SIGNATURE:	P.E.
ROADWAY DESIGN ENGINEER	
SIGNATURE:	P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA	
SIGNATURE:	P.E.
STATE DESIGN ENGINEER	
DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION	
APPROVED DIVISION ADMINISTRATOR	DATE



VICINITY MAP

NOTES

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT
[HTTP://WWW.NCDOT.ORG/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/preconstruct/highway/location/project/)
 THE FILE TO BE FOUND IS
 R0505_LS_CONTROL_050217.TXT
 SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT.
 IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

BEGIN TIP PROJECT R-0505
-L- STA 708+72.00

NCDOT GPS STATION R0505-GPS1
 LOCALIZED PROJECT COORDINATES
 N = 559883.4540
 E = 981389.2400
 ELEV.2195.28'

NCDOT GPS STATION R0505-GPS2
 LOCALIZED PROJECT COORDINATES
 N = 560773.6490
 E = 981388.7280
 ELEV.2181.33'

NCDOT GPS STATION R0505-GPS3
 LOCALIZED PROJECT COORDINATES
 N = 565615.6120
 E = 982395.6850
 ELEV.2109.88'

NCDOT GPS STATION R0505-GPS4
 LOCALIZED PROJECT COORDINATES
 N = 566447.9040
 E = 982906.0160
 ELEV.2119.57'

NCDOT GPS STATION R0505-GPS5
 LOCALIZED PROJECT COORDINATES
 N = 571729.4060
 E = 984920.0900
 ELEV.2198.53'

NCDOT GPS STATION R0505-GPS6
 LOCALIZED PROJECT COORDINATES
 N = 572647.9280
 E = 984929.8850
 ELEV.2188.54'

END TIP PROJECT R-0505
-L- STA 862+70.00

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "14400-BL47"
 WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF
 NORTHING: 604761.2980(X1) EASTING: 968222.3850(X1)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99977884
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "14400-BL47" TO -L- STATION 708+72.00 IS
 S 16°15'55.59" E 46.95232'
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

SURVEY CONTROL SHEET R-0505

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	GPS-1	559883.4540	981389.2400	2195.28	OUTSIDE PROJECT LIMITS	
2	OPS-2	560773.6490	981388.7280	2181.33	719+57.83	2.98 LT
BL3	BL3	561575.7307	981458.6889	2164.92	727+62.84	5.49 LT
BL4	BL4	562103.7315	981540.7425	2154.40	732+96.87	7.69 LT
BL5	BL5	562752.0835	981713.4609	2142.05	739+67.81	19.64 RT
BL6	BL6	563199.3558	981811.0932	2132.06	744+25.06	8.65 LT
BL7	BL7	563767.5098	981981.3521	2120.20	750+18.40	9.38 LT
BL8	BL8	564622.1359	982203.0561	2103.28	759+01.50	6.66 RT
3	OPS-3	565615.6120	982395.6850	2109.88	769+13.44	2.06 LT
4	GPS-4	566447.9040	982906.0160	2119.57	778+95.79	9.13 LT
BL9	BL9	566936.4589	983337.4950	2138.25	785+52.83	7.23 LT
BL10	BL10	567716.8150	983628.2310	2172.74	793+97.09	6.67 RT
BL11	BL11	568263.8075	983667.3112	2193.45	799+45.37	12.15 RT
BL12	BL12	568812.3979	983672.8702	2211.41	804+82.54	70.41 LT
BL13	BL13	569426.5165	983916.3967	2216.15	811+25.97	79.25 LT
BL14	BL14	570039.9041	984439.4991	2192.46	819+21.39	8.45 LT
BL15	BL15	570434.2768	984717.4578	2181.36	824+05.22	7.82 LT
BL16	BL16	570922.2629	984897.4820	2185.09	829+29.79	0.95 LT
5	GPS-5	571729.4060	984920.0900	2198.53	837+38.21	4.10 LT
6	GPS-6	572647.9280	984929.8850	2188.54	846+56.76	2.09 RT
BL17	BL17	573255.5043	984927.2487	2165.27	852+64.32	2.93 LT

BY2 POINT	DESC.	NORTH	EAST	ELEVATION	Y2 STATION	OFFSET
BY21	BY2-1	567660.9491	982876.5511	2113.43	18+53.38	38.12 RT
BY22	BY2-2	566931.6936	982917.0378	2107.16	25+83.75	41.88 RT
BY23	BY2-3	566447.9040	982906.0160	2119.57	30+65.98	82.19 RT
BY24	BY2-4	566172.6914	982897.0937	2106.08	33+40.15	107.77 RT
BY25	BY2-5	565614.4090	983112.1412	2117.25	39+07.73	76.78 LT
BY26	BY2-6	564938.0930	982995.7866	2092.81	OUTSIDE PROJECT LIMITS	

BY4 POINT	DESC.	NORTH	EAST	ELEVATION	Y4R STATION	OFFSET
BY44	BY4-4	565614.4090	983112.1412	2117.25	14+70.22	697.01 RT
BY43	BY4-3	568045.6291	983121.9835	2115.40	OUTSIDE PROJECT LIMITS	
BY42	BY4-2	566357.8715	983382.5097	2084.63	10+56.84	21.83 RT
BY41	BY4-1	565954.1293	983748.7296	2078.09	OUTSIDE PROJECT LIMITS	

BY5 POINT	DESC.	NORTH	EAST	ELEVATION	Y5 STATION	OFFSET
BY53	BY5-3	569426.5165	983916.3967	2216.15	OUTSIDE PROJECT LIMITS	
BY52	BY5-2	569291.2527	984171.4699	2204.28	12+78.22	5.81 LT
BY51	BY5-1	568659.3809	984245.3368	2240.30	OUTSIDE PROJECT LIMITS	

BY6 POINT	DESC.	NORTH	EAST	ELEVATION	Y6 STATION	OFFSET
BY62	BY6-2	569291.2527	984171.4699	2204.28	10+88.51	28.89 RT
BY61	BY6-1	569238.5550	984646.0310	2156.14	OUTSIDE PROJECT LIMITS	

BY7 POINT	DESC.	NORTH	EAST	ELEVATION	Y7 STATION	OFFSET
BY73	BY7-3	570922.2629	984897.4820	2185.09	OUTSIDE PROJECT LIMITS	
BY72	BY7-2	570763.2863	985013.0917	2169.55	10+34.82	51.50 RT
BY71	BY7-1	570580.7963	985189.0348	2123.49	13+32.61	13.23 RT

BY8 POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
BY81	BY8-1	572080.9364	985037.7047	2203.17	840+90.28	112.14 RT
BY82	BY8-2	572705.7867	985059.4385	2190.47	847+15.13	131.42 RT
BY83	BY8-3	573025.9726	985025.5353	2175.81	850+35.18	96.26 RT

BY8A POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
BY8A1	BY8A-1	572116.7294	984555.3101	2183.30	841+24.09	370.39 LT
BY8A2	BY8A-2	572776.9231	984755.5758	2183.00	847+65.07	172.72 LT
BY8A3	BY8A-3	573347.3547	984581.5463	2186.84	853+54.81	348.99 LT

BY8B POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
BY8B1	BY8B-1	572776.9231	984755.5758	2183.00	847+65.07	172.72 LT
BY8B2	BY8B-2	572647.9280	984929.8850	2188.54	846+56.76	2.09 RT
BY8B3	BY8B-3	572705.7867	985059.4385	2190.47	847+15.13	131.42 RT

NOTE: DRAWING NOT TO SCALE



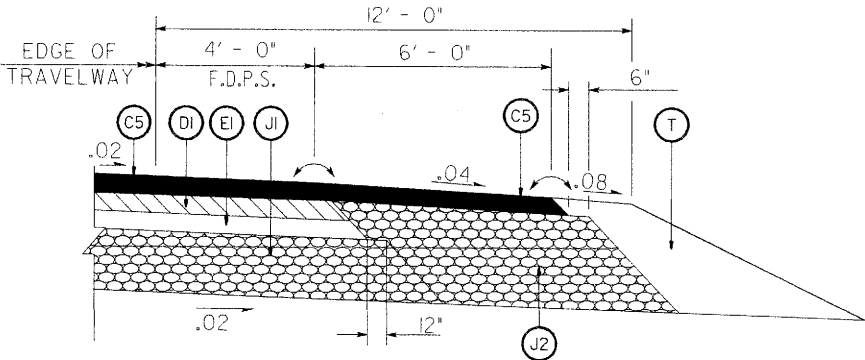
INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

29-OCT-2007 08:47
C:\projects\700265\Roadway\Proj\R505_rdy.typ.dgn
manum AT W-DIL CIV06

PAVEMENT SCHEDULE

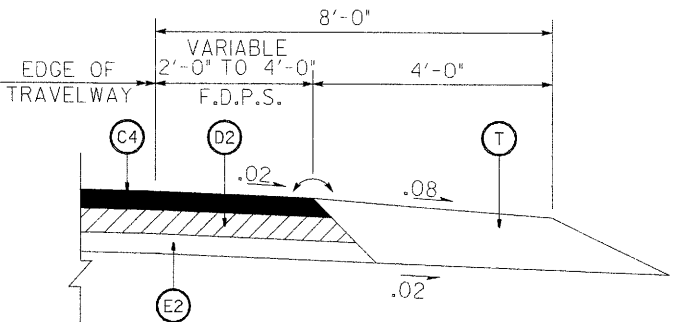
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 140 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C4	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C5	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C6	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D3	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2¼" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 3.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD.
E2	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E3	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J1	PROP. 10" AGGREGATE BASE COURSE.
J2	PROP. VARIABLE DEPTH AGGREGATE BASE COURSE.
J3	PROP. 6" AGGREGATE BASE COURSE.
R1	EXISTING CONCRETE MEDIAN
R2	5" CONCRETE MONOLITHIC ISLAND
R3	SHOULDER BERM GUTTER
R4	PRECAST REINFORCED CONCRETE BARRIER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

NOTE: ALL PAVEMENT SLOPES ARE 1:1 UNLESS NOTED OTHERWISE



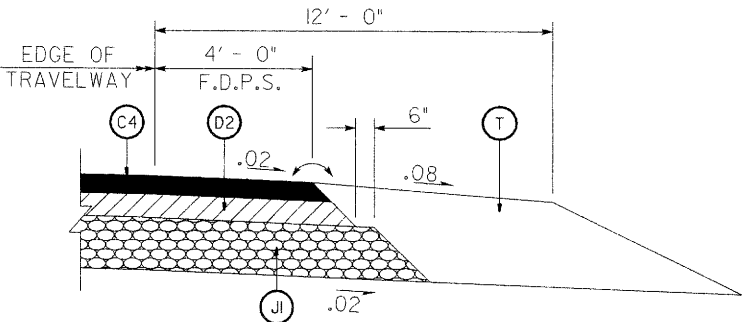
PAVED SHOULDER DETAIL No. 1

USE IN CONJUNCTION WITH
TYPICAL SECTION No. 1A, 1, 2 & 4



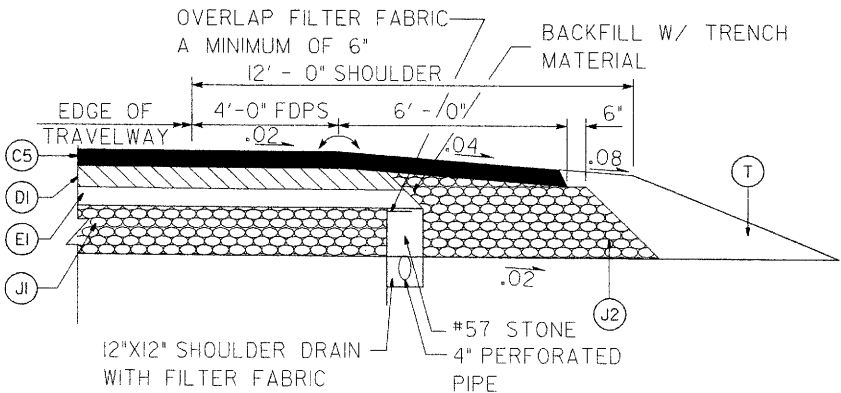
PAVED SHOULDER DETAIL No. 2

USE IN CONJUNCTION WITH
TYPICAL SECTION NO. 9 & 10



PAVED SHOULDER DETAIL No. 3

USE IN CONJUNCTION WITH
TYPICAL SECTION NO. 5



TYPICAL SHOULDER DRAIN DETAIL No. 4

USE TYPICAL SHOULDER DRAIN DETAIL FOR THE FOLLOWING

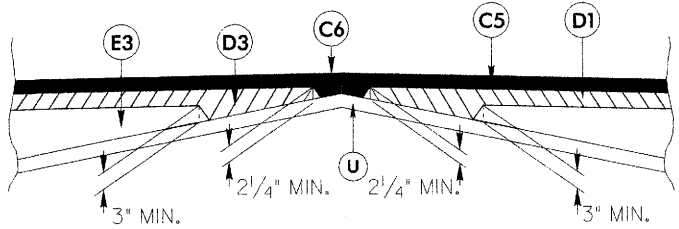
-L- STA. 760+50.00 TO -L- STA. 763+00.00 NBL
-L- STA. 825+50.00 TO -L- STA. 827+50.00 NBL

PROJECT REFERENCE NO. R-505 SHEET NO. 2

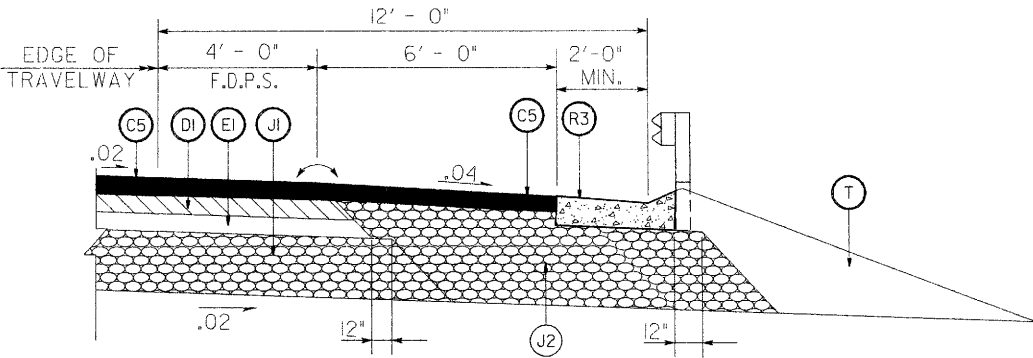
R/W SHEET NO. ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PARSONS
BRINCKERHOFF



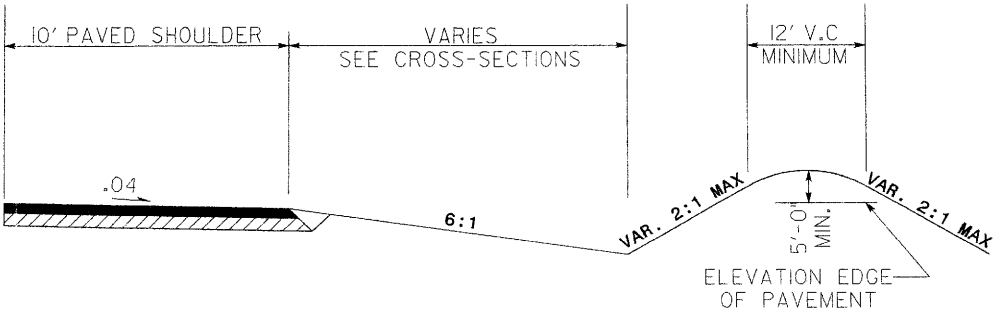
DETAIL SHOWING METHOD OF WEDGING No. 5



SHOULDER BERM GUTTER DETAIL No. 6

USE IN CONJUNCTION WITH
TYPICAL SECTION NO. 1, 2, & 4

-L- STA. 721+50.00 TO -L- STA. 733+50.00 RT.
-L- STA. 759+00.00 TO -L- STA. 762+00.00 LT.
-L- STA. 787+50.00 TO -L- STA. 790+50.00 LT.



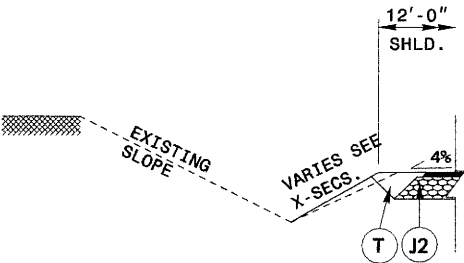
FALSE CUT DETAIL No. 7

USE IN CONJUNCTION WITH
TYPICAL SECTION NO. 1

PAVEMENT SCHEDULE

C1	1 1/2" TYPE S9.5B	E3	VARIABLE DEPTH TYPE B25.0C
C2	2" TYPE S9.5B	J1	10" ABC
C3	2 1/2" TYPE S9.5B	J2	VARIABLE DEPTH ABC
C4	3" TYPE S9.5B	J3	6" ABC
C5	3" TYPE S9.5C	R1	EXISTING CONCRETE MEDIAN
C6	VARIABLE DEPTH TYPE S9.5C	R2	5" CONCRETE MONOLITHIC ISLAND
D1	2 1/2" TYPE I19.0C	R3	SHOULDER BERM GUTTER
D2	4" TYPE I19.0B	R4	PRECAST REINFORCED CONCRETE BARRIER
D3	VARIABLE DEPTH TYPE I19.0C	T	EARTH MATERIAL
E1	3 1/2" TYPE B25.0C	U	EXISTING PAVEMENT
E2	5" TYPE B25.0B	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

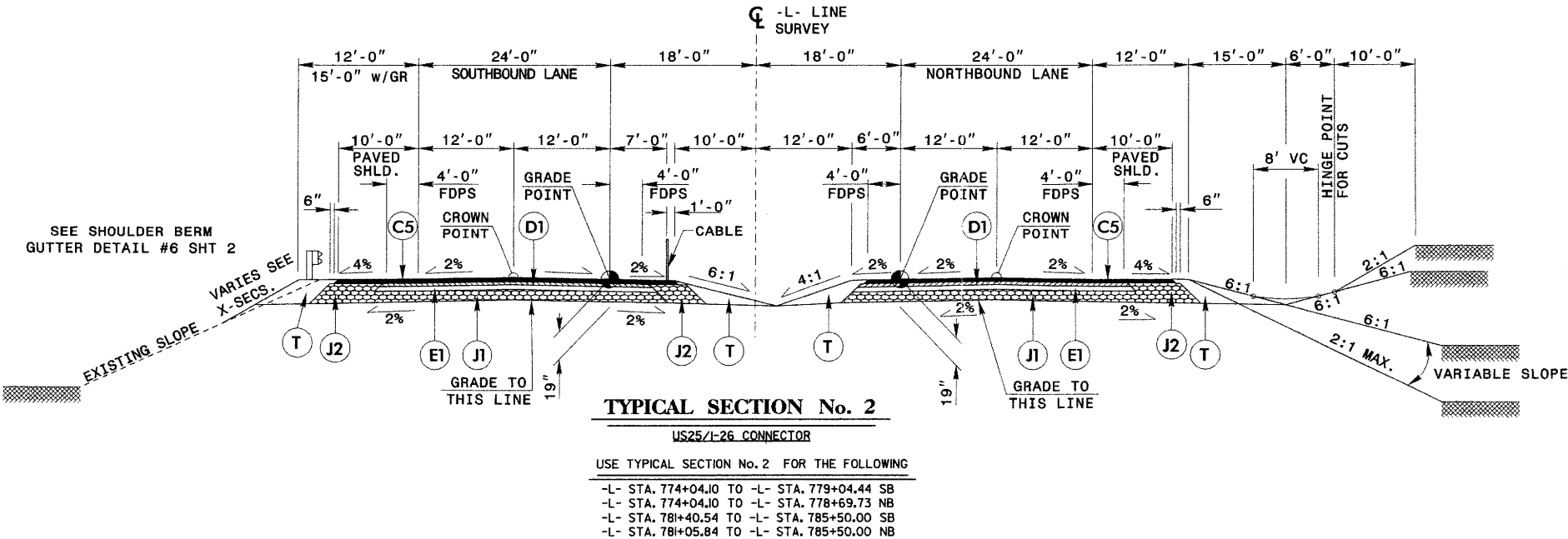
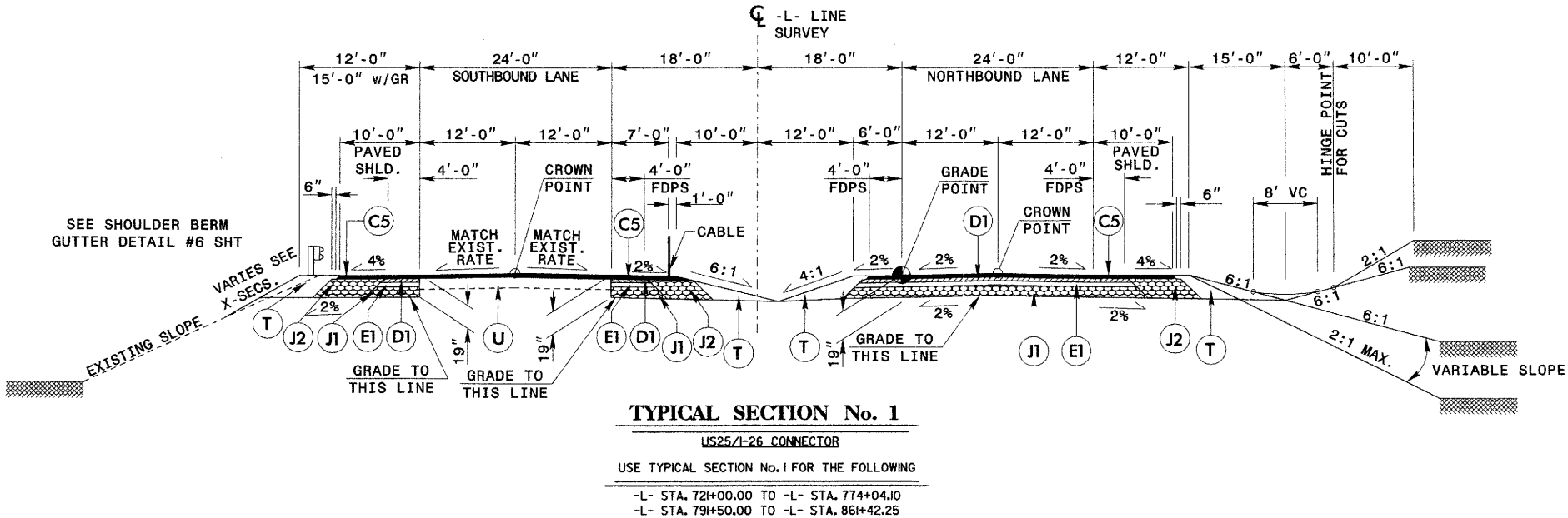
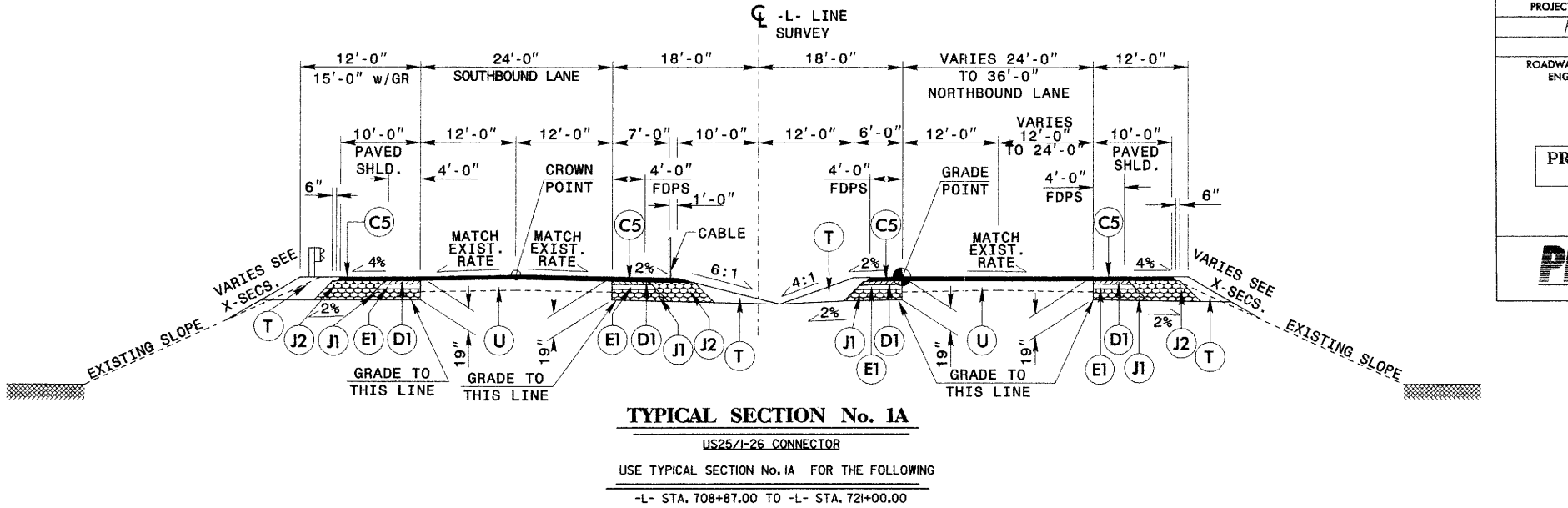
NOTE: ALL PAVEMENT SLOPES ARE 1:1 UNLESS NOTED OTHERWISE



PARTIAL TYPICAL SECTION NO. PI

USE IN CONJUNCTION WITH TYPICAL SECTION No.'s 1, 2 & 4
USE PARTIAL TYPICAL NO. PI FOR THE FOLLOWING

- L- STA. 715+00.00 TO -L- STA. 720+00.00
- L- STA. 726+50.00 TO -L- STA. 731+50.00
- L- STA. 734+50.00 TO -L- STA. 748+50.00
- L- STA. 751+50.00 TO -L- STA. 758+50.00
- L- STA. 762+50.00 TO -L- STA. 774+50.00
- L- STA. 792+50.00 TO -L- STA. 820+00.00
- L- STA. 822+00.00 TO -L- STA. 825+00.00
- L- STA. 831+50.00 TO -L- STA. 837+50.00
- L- STA. 844+00.00 TO -L- STA. 854+50.00
- L- STA. 857+50.00 TO -L- STA. 858+50.00
- L- STA. 860+00.00 TO -L- STA. 861+42.26



PROJECT REFERENCE NO.
R-505

SHEET NO.
2-A

RAW SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

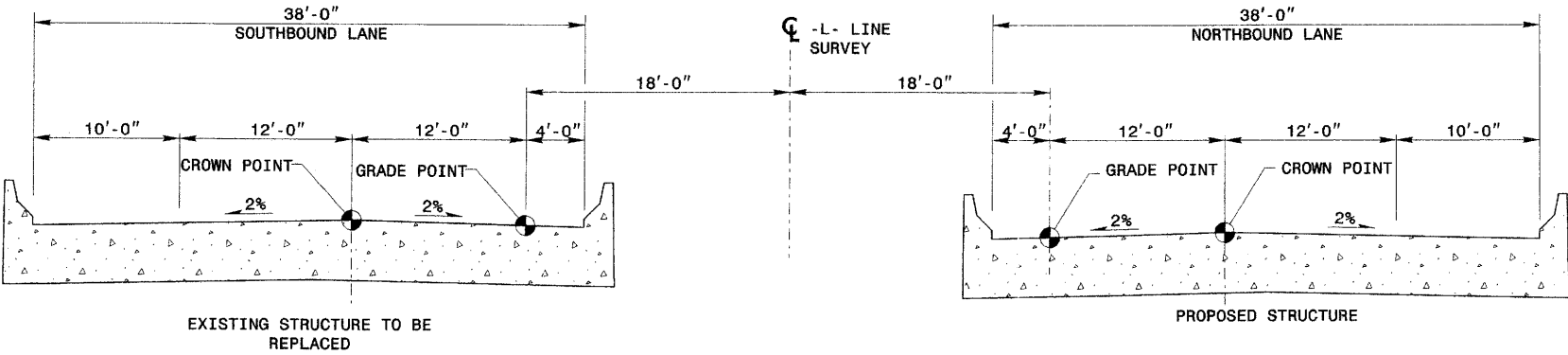
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PARSONS BRINCKERHOFF

29-OCT-2007 08:47
G:\Projects\700295\Roadway\Proj\R505_rdy_typ.dgn
manjun AT W-CHL CIV06

PAVEMENT SCHEDULE			
C1	1 1/2" TYPE S9.5B	E3	VARIABLE DEPTH TYPE B25.0C
C2	2" TYPE S9.5B	J1	10" ABC
C3	2 1/2" TYPE S9.5B	J2	VARIABLE DEPTH ABC
C4	3" TYPE S9.5B	J3	6" ABC
C5	3" TYPE S9.5C	R1	EXISTING CONCRETE MEDIAN
C6	VARIABLE DEPTH TYPE S9.5C	R2	5" CONCRETE MONOLITHIC ISLAND
D1	2 1/2" TYPE I19.0C	R3	SHOULDER BERM GUTTER
D2	4" TYPE I19.0B	R4	PRECAST REINFORCED CONCRETE BARRIER
D3	VARIABLE DEPTH TYPE I19.0C	T	EARTH MATERIAL
E1	3 1/2" TYPE B25.0C	U	EXISTING PAVEMENT
E2	5" TYPE B25.0B	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

NOTE: ALL PAVEMENT SLOPES ARE 1:1 UNLESS NOTED OTHERWISE

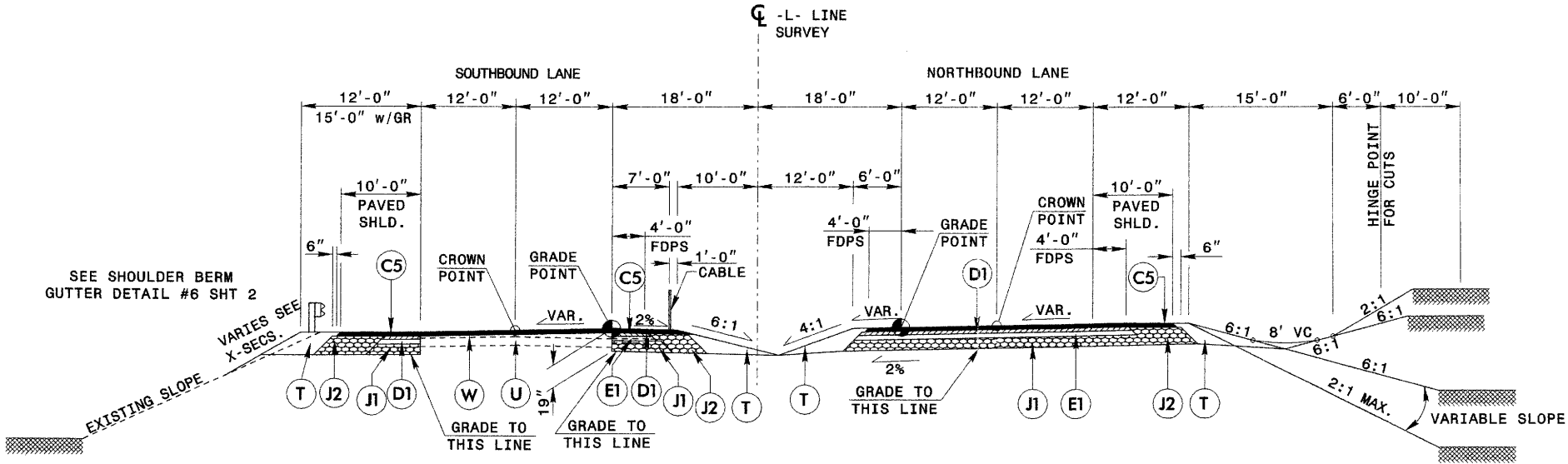


TYPICAL SECTION No. 3

US25/I-26 CONNECTOR

USE TYPICAL SECTION No. 3 FOR THE FOLLOWING

-L- STA. 779+04.44 TO -L- STA. 781+40.54 SB
-L- STA. 778+69.73 TO -L- STA. 781+05.84 NB

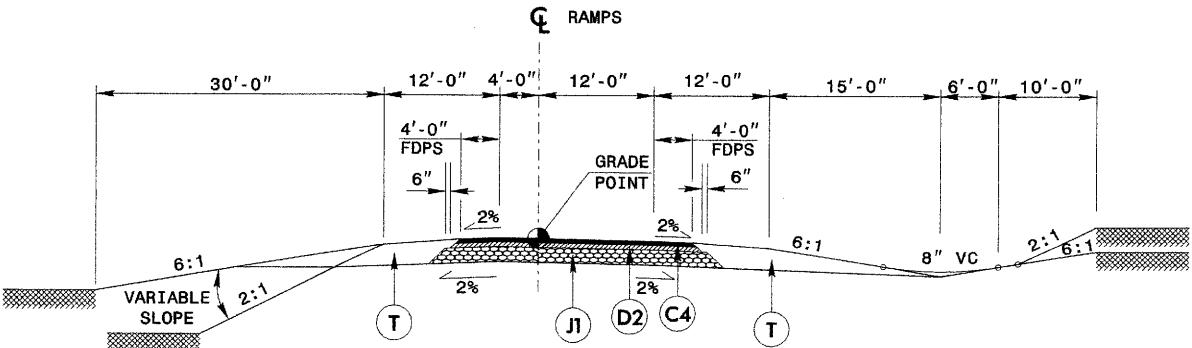


TYPICAL SECTION No. 4

US25/I-26 CONNECTOR (NC 225)

USE TYPICAL SECTION No. 4 FOR THE FOLLOWING

-L- STA. 785+50.00 TO -L- STA. 791+50.00

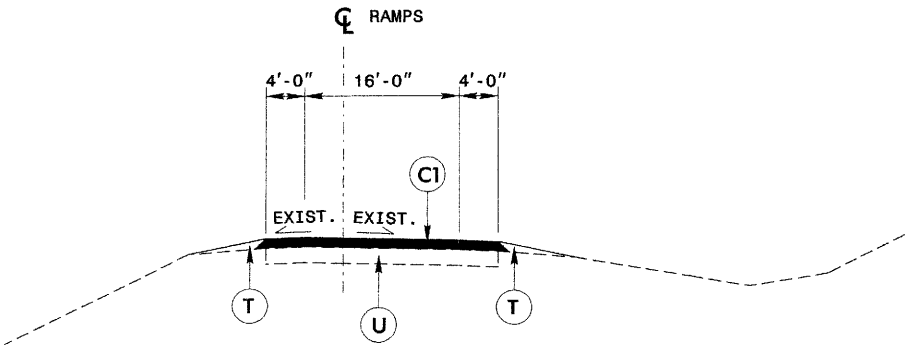


TYPICAL SECTION No.5

PROPOSED RAMPS C AND D

USE TYPICAL SECTION No. 5 FOR THE FOLLOWING

-RAMP C- STA. 2+47.76 TO STA. 8+66.18
-RAMP D- STA. 1+01.13 TO STA. 9+00.00



TYPICAL SECTION No.6

RESURFACING RAMPS A, B, C & D

USE TYPICAL SECTION No. 6 FOR THE FOLLOWING

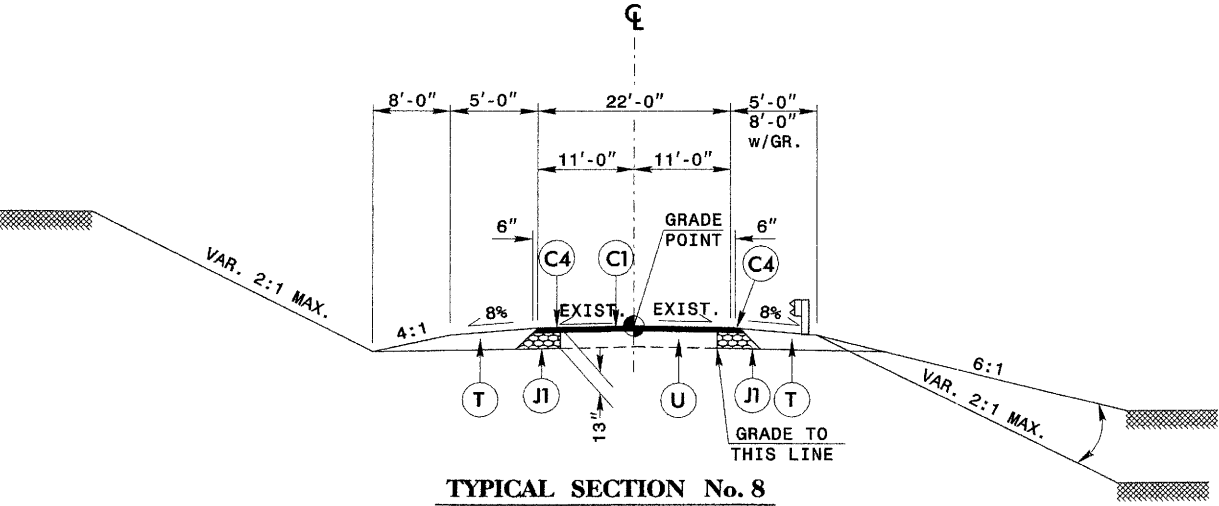
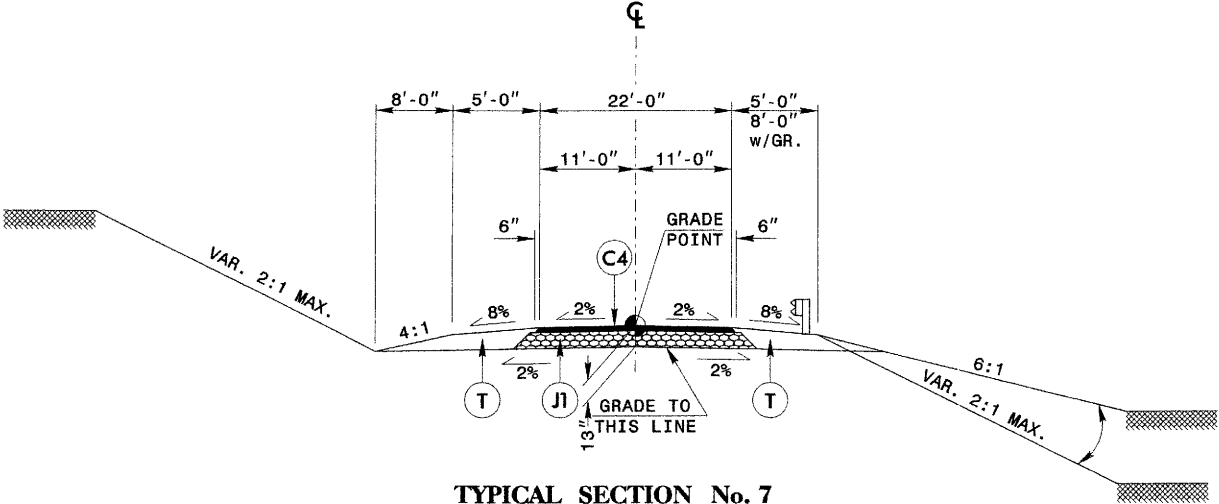
RAMP 'A' FROM TIE TO -L- TO TIE WITH -Y2-
RAMP 'B' FROM TIE TO -L- TO TIE WITH -Y2-
RAMP 'C' STA. 8+66.18 TO TIE WITH -Y2-
RAMP 'D' STA. 9+00.00 TO STA. 14+84.60

PROJECT REFERENCE NO.	SHEET NO.
R-505	2-B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
PARSONS BRINCKERHOFF	

PAVEMENT SCHEDULE

C1	1 1/2" TYPE S9.5B	E3	VARIABLE DEPTH TYPE B25.0C
C2	2" TYPE S9.5B	J1	10" ABC
C3	2 1/2" TYPE S9.5B	J2	VARIABLE DEPTH ABC
C4	3" TYPE S9.5B	J3	6" ABC
C5	3" TYPE S9.5C	R1	EXISTING CONCRETE MEDIAN
C6	VARIABLE DEPTH TYPE S9.5C	R2	5" CONCRETE MONOLITHIC ISLAND
D1	2 1/2" TYPE I19.0C	R3	SHOULDER BERM GUTTER
D2	4" TYPE I19.0B	R4	PRECAST REINFORCED CONCRETE BARRIER
D3	VARIABLE DEPTH TYPE I19.0C	T	EARTH MATERIAL
E1	3 1/2" TYPE B25.0C	U	EXISTING PAVEMENT
E2	5" TYPE B25.0B	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

NOTE: ALL PAVEMENT SLOPES ARE 1:1 UNLESS NOTED OTHERWISE

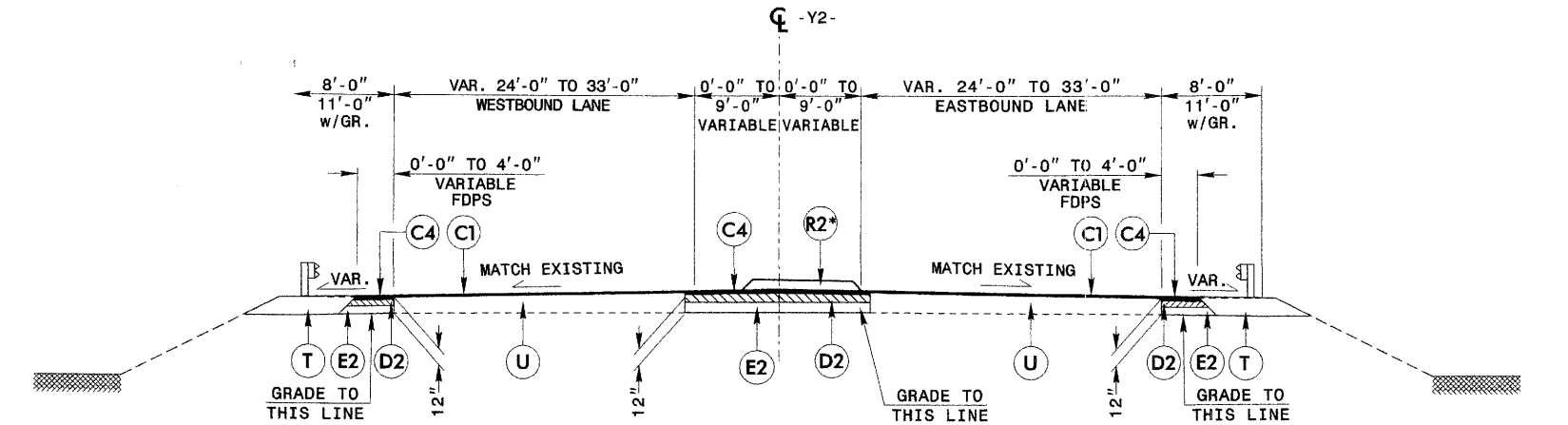


PROJECT REFERENCE NO.	SHEET NO.
R-505	2-C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
PARSONS BRINCKERHOFF	

PAVEMENT SCHEDULE

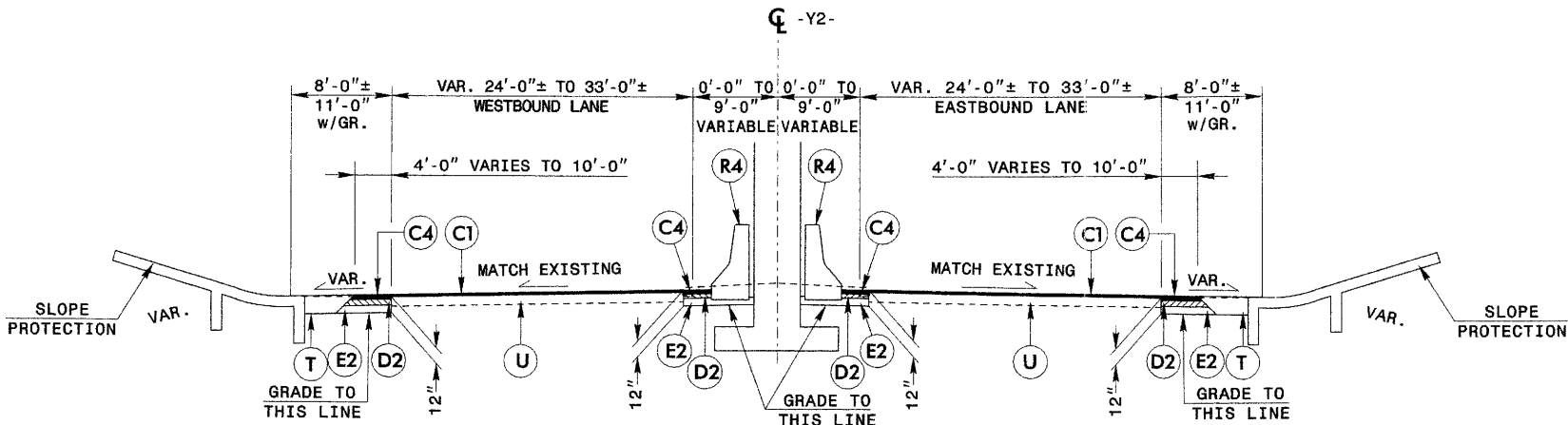
C1	1 1/2" TYPE S9.5B	E3	VARIABLE DEPTH TYPE B25.0C
C2	2" TYPE S9.5B	J1	10" ABC
C3	2 1/2" TYPE S9.5B	J2	VARIABLE DEPTH ABC
C4	3" TYPE S9.5B	J3	6" ABC
C5	3" TYPE S9.5C	R1	EXISTING CONCRETE MEDIAN
C6	VARIABLE DEPTH TYPE S9.5C	R2	5" CONCRETE MONOLITHIC ISLAND
D1	2 1/2" TYPE I19.0C	R3	SHOULDER BERM GUTTER
D2	4" TYPE I19.0B	R4	PRECAST REINFORCED CONCRETE BARRIER
D3	VARIABLE DEPTH TYPE I19.0C	T	EARTH MATERIAL
E1	3 1/2" TYPE B25.0C	U	EXISTING PAVEMENT
E2	5" TYPE B25.0B	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

NOTE: ALL PAVEMENT SLOPES ARE 1:1 UNLESS NOTED OTHERWISE



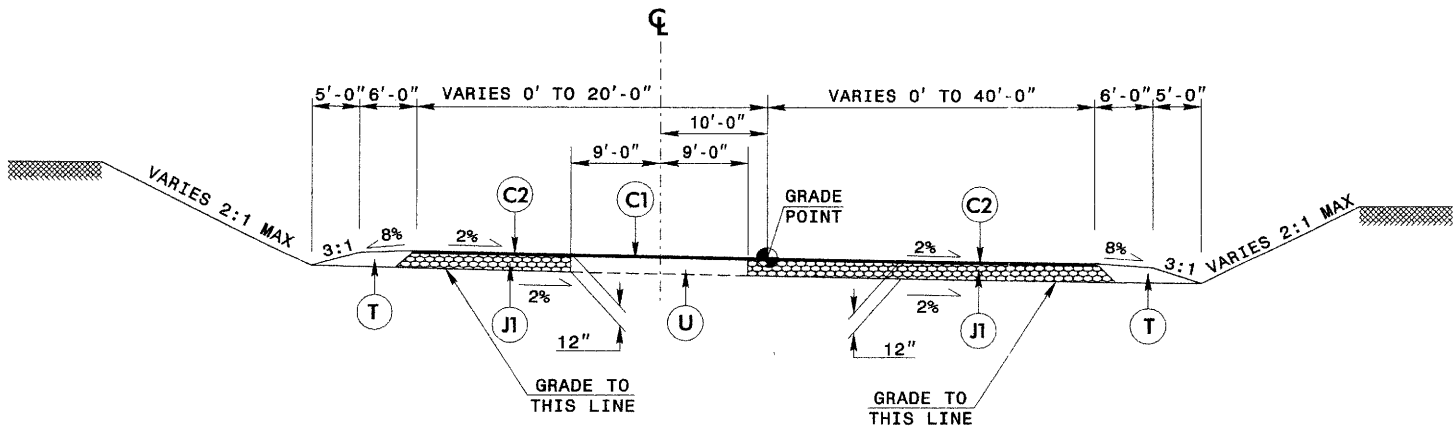
TYPICAL SECTION No.9

USE TYPICAL SECTION No. 9 FOR THE FOLLOWING
-Y2- STA. 23+00.00 TO -Y2- STA. 28+70.00 LT. (STA. 29+30.00 RT.)
-Y2- STA. 30+70.00 TO -Y2- STA. 45+6.22 LT. (STA. 31+50.00 RT.)
• SEE PLANS FOR VARIABLE WIDTH OF CONC. ISLAND



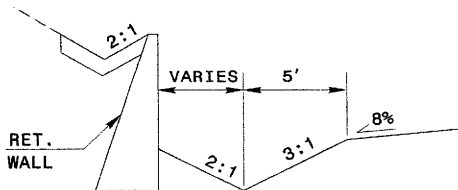
TYPICAL SECTION No.10

USE TYPICAL SECTION No. 10 FOR THE FOLLOWING
-Y2- STA. 28+70.00 TO STA. 30+70.00 LT.
-Y2- STA. 29+30.00 TO STA. 31+50.00 RT.



TYPICAL SECTION No. 11

USE TYPICAL SECTION No. 11 FOR THE FOLLOWING
-Y1- STA. 10+15.00 TO -Y1- STA. 11+60.00



TYPICAL SECTION No. 11A

USE TYPICAL SECTION No. 11A FOR THE FOLLOWING
-Y1- STA. 11+05.00 TO 11+55.00

PROJECT REFERENCE NO.
R-505

SHEET NO.
2-D

R/W SHEET NO.

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

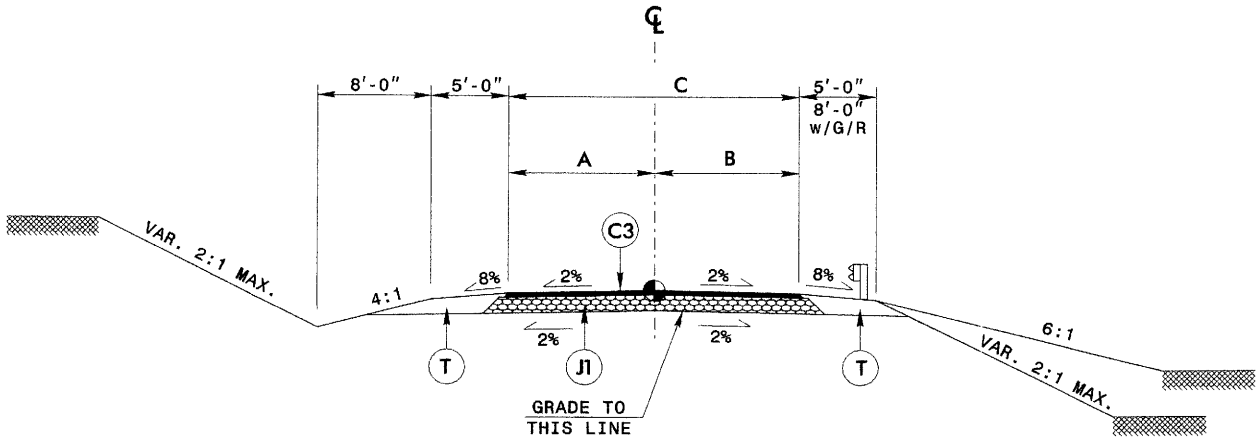
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PB PARSONS
BRINCKERHOFF

PAVEMENT SCHEDULE

C1	1 1/2" TYPE S9.5B	E3	VARIABLE DEPTH TYPE B25.0C
C2	2" TYPE S9.5B	J1	10" ABC
C3	2 1/2" TYPE S9.5B	J2	VARIABLE DEPTH ABC
C4	3" TYPE S9.5B	J3	6" ABC
C5	3" TYPE S9.5C	R1	EXISTING CONCRETE MEDIAN
C6	VARIABLE DEPTH TYPE S9.5C	R2	5" CONCRETE MONOLITHIC ISLAND
D1	2 1/2" TYPE I19.0C	R3	SHOULDER BERM GUTTER
D2	4" TYPE I19.0B	R4	PRECAST REINFORCED CONCRETE BARRIER
D3	VARIABLE DEPTH TYPE I19.0C	T	EARTH MATERIAL
E1	3 1/2" TYPE B25.0C	U	EXISTING PAVEMENT
E2	5" TYPE B25.0B	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

NOTE: ALL PAVEMENT SLOPES ARE 1:1 UNLESS NOTED OTHERWISE

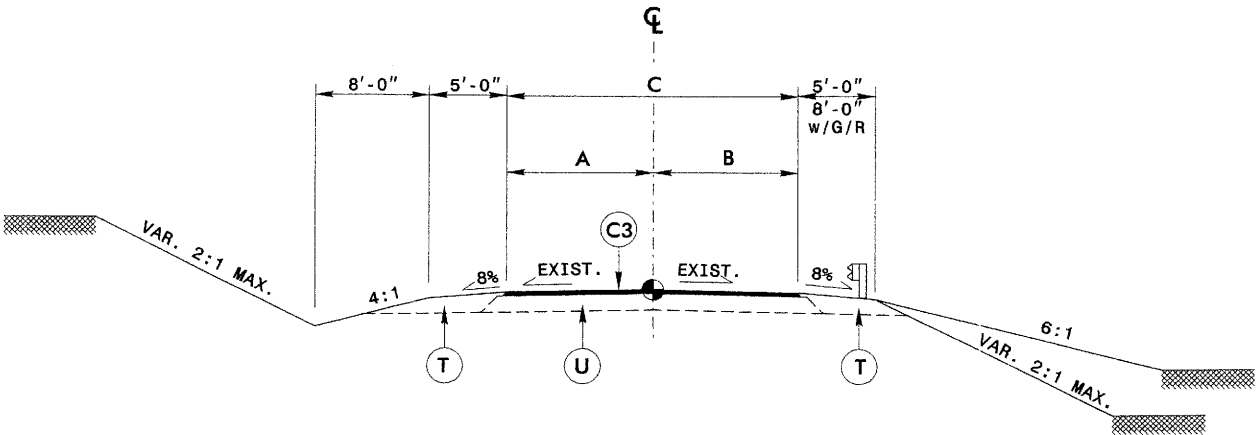


TYPICAL SECTION No.12

SR 1821(-Y4REV-), SR 1829 (-Y5-),
SR 1889 (-Y7REV-)

USE TYPICAL SECTION No.12 FOR THE FOLLOWING

-Y4REV- STA. 10+00.00 TO -Y4REV- STA. 13+00.00
-Y5- STA. 11+60.00 TO -Y5- STA. 12+87.60
-Y7REV- STA. 10+16.93 TO -Y7REV- STA. 14+60.00

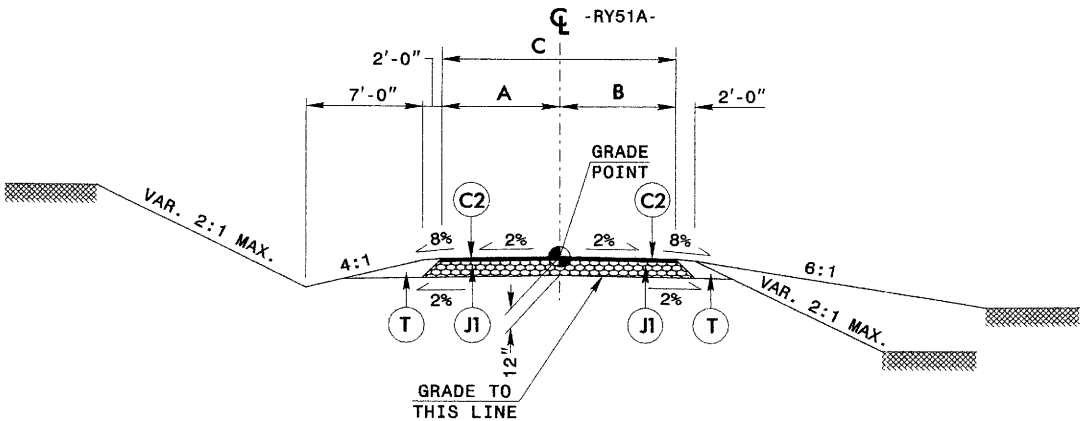


TYPICAL SECTION No.13

SR 1821(-Y4REV-), SR 1829 (-Y5-),
SR 1830 (-Y6-), SR 1889 (-Y7REV-), SR 1865 (-Y8-)

USE TYPICAL SECTION No.13 FOR THE FOLLOWING

-Y4REV- STA. 13+00.00 TO 15+23.83
-Y5- STA. 10+00.00 TO 11+60.00
-Y6- STA. 10+11.00 TO 12+00.00
-Y7REV- STA. 14+60.00 TO 15+50.73
-Y8- 10+11.00 TO 11+60.00

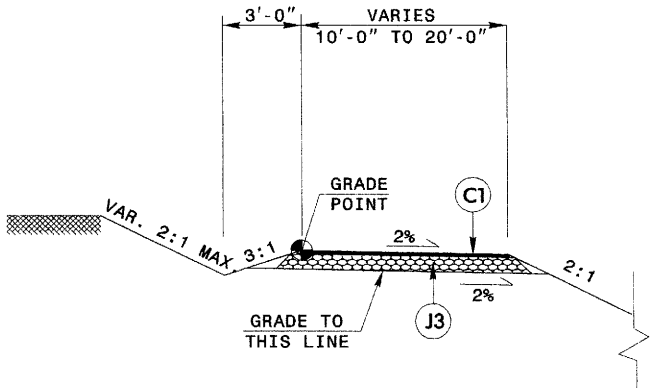


TYPICAL SECTION No.14

-RYS1A-

USE TYPICAL SECTION No.14 FOR THE FOLLOWING

-RYS1A- STA. 10+11.00 TO -RYS1A- STA. 10+95.00



TYPICAL SECTION No.15 -DRIVEWAY-

-Y4REV- STA. 11+03.51 TO -Y4REV- STA. 12+26.79

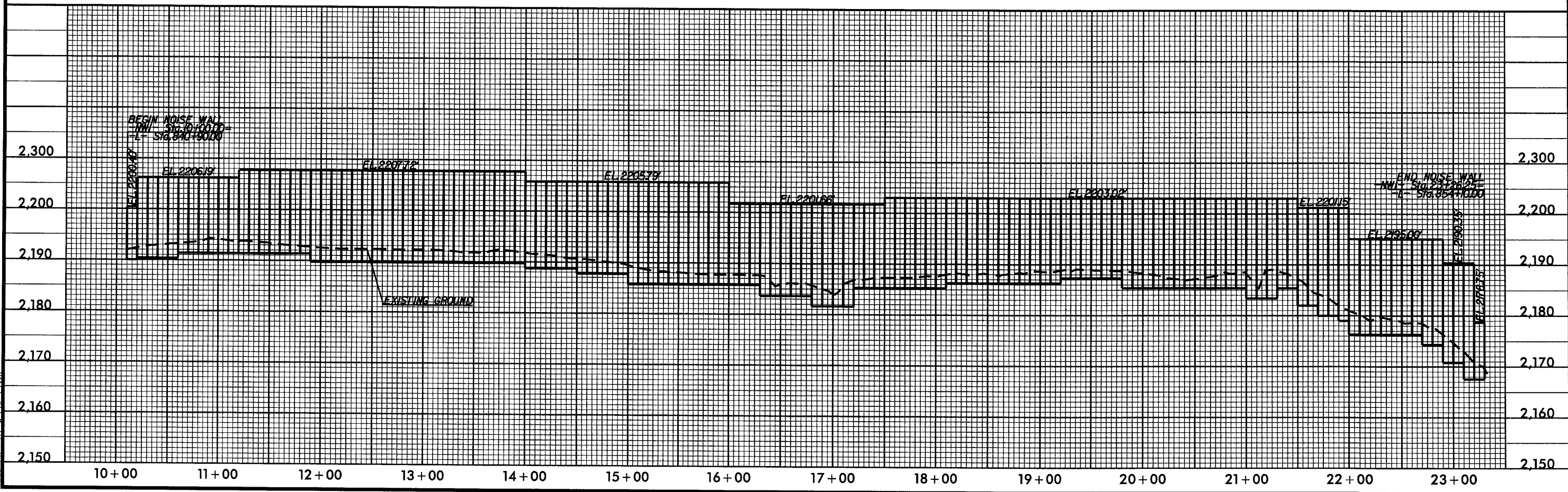
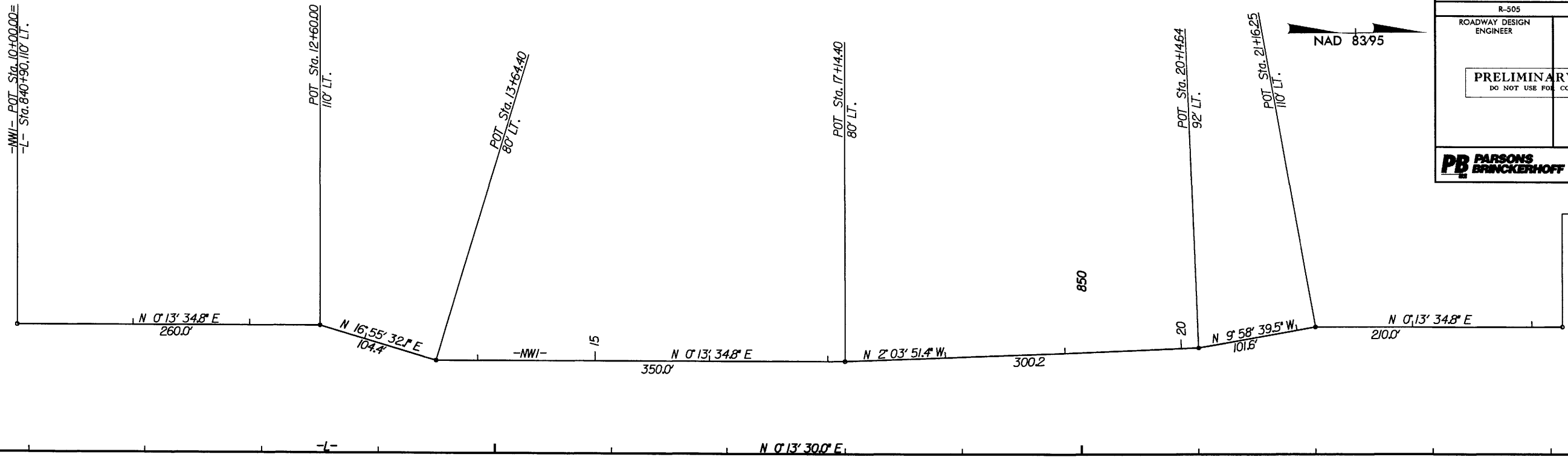
PROJECT REFERENCE NO.	SHEET NO.
R-505	2-E
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	
PB PARSONS BRINCKERHOFF	

TYPICAL SECTION No.12 & No.14
WIDTHS

Y LINE	A	B	C
-Y4REV-	11'	11'	22'
-Y5-	10'	10'	20'
-Y6-	9'-11'	9'-11'	18'-22'
-Y7REV-	11'-15'	11'-15'	22'
-Y8-	9.6'-15'	8.8'-15'	18.4'-30'
-RYS1A-	5'-10'	5'-10'	10'-20'

PROJECT REFERENCE NO.		SHEET NO.	
R-505		2-F	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			
PB PARSONS BRINCKERHOFF		121 WEST TRADE STREET SUITE 1850 CHARLOTTE, NC 28202	

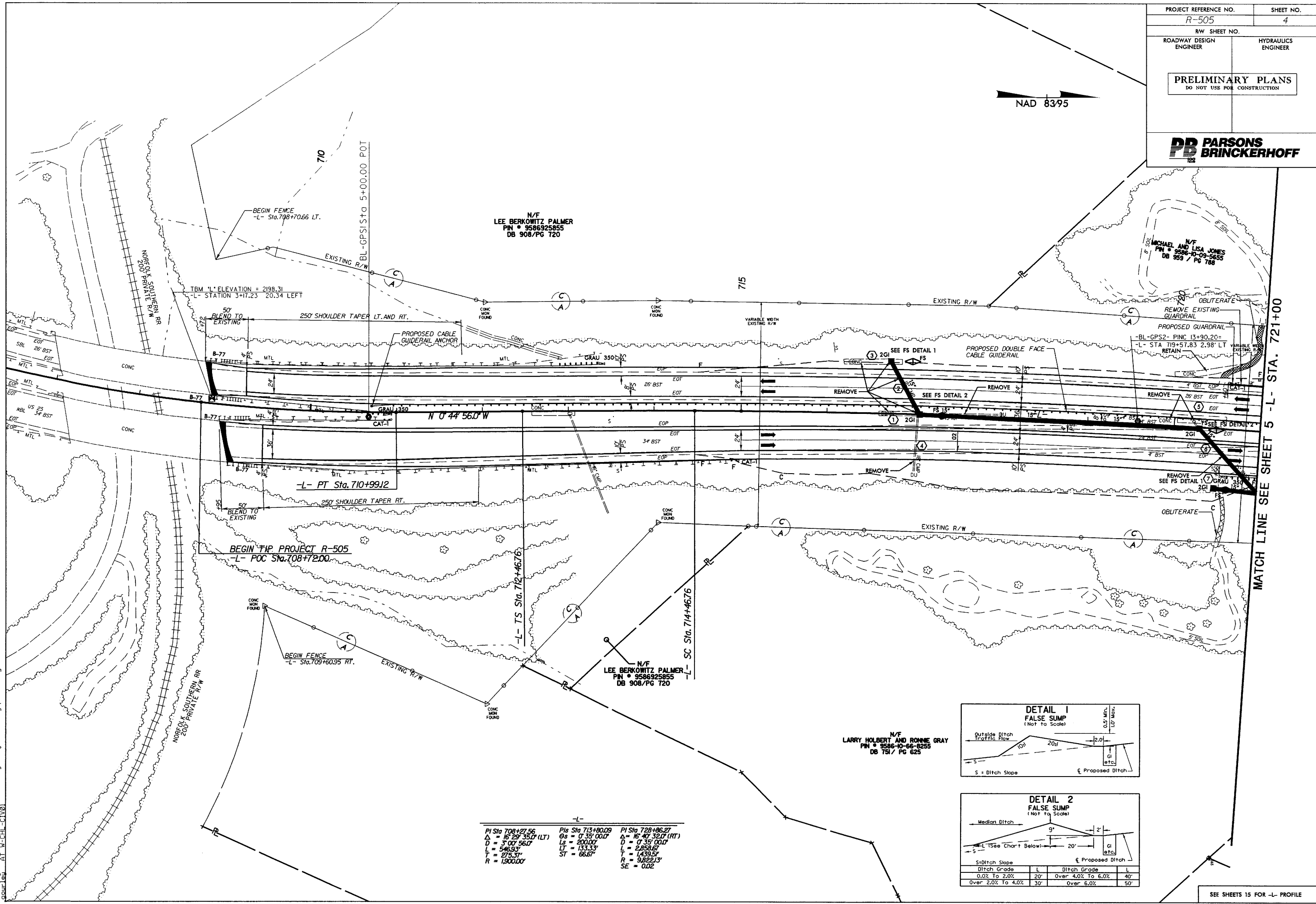
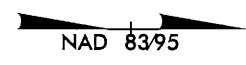
NAD 83/95



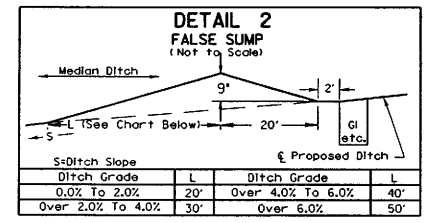
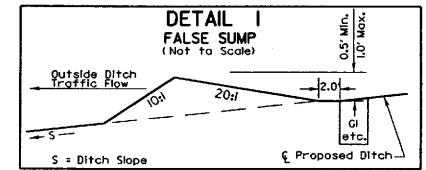
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Created by: AT VCHL-RTV01

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SUMMARY OF EARTHWORK
IN CUBIC YARDS

STATION TO STATION	TOTAL EXCAV. (UNCL.)	EMBANK- MENT +%	BORROW	TOTAL WASTE
-L- Sta 709+00 to 715+00	1460	34	0	1426
-L- Sta 715+00 to 743+50 RT.	47857	46074	0	1783
-L- Sta 715+00 to 743+50 LT.	1704	270	0	1434
-Y1- 10+15.00 to 11+60.00	3736	1913	0	1823
-RY51A- 10+08.00 to 10+95.00	370	0	0	370
-ACCESS RD #12- Sta 12+64.64 to 21+00.00	37659	472	0	37187
TOTAL Summary No. 1	92786	48763	0	44023
-L- Sta 743+50 to 773+50 RT.	133344	21983	0	111361
-L- Sta 743+50 to 773+50 LT.	59563	420	0	59143
-ACCESS RD #12- Sta 24+08.68 to 34+00.00	1671	310144	308473	0
-ACCESS RD #12- Sta 41+50.00 to 53+00.00	6664	6366	0	298
TOTAL Summary No. 2	201242	338913	308473	170802
-L- Sta 773+50 to 778+61.82 RT.	44	3659	3615	0
-L- Sta 773+50 to 778+96.53 LT.	291	1457	1166	0
-Y2- Sta 23+00.00 to 45+16.22	1973	0	0	1973
-ACCESS RD #3- Sta 772+15.38 to 781+06.51	4295	1938	0	2357
-Y4REV- Sta 10+11.00 to 15+23.83	3582	1685	0	2897
TOTAL Summary No. 3	10185	8739	4567	6227
-L- Sta 781+20.15 to 812+00.00 RT	259912	15632	0	244280
-L- Sta 781+54.85 to 812+00.00 LT	5247	2760	0	2487
-Y5- Sta 10+12.00 to 12+88.48	301	1560	1259	0
-Y6- Sta 10+11.00 to 12+45.00	221	155	0	66
TOTAL Summary No. 4	265681	20107	1259	246833
-L- Sta 812+00.00 to 842+00.00 RT	59954	193370	133416	0
-L- Sta 812+00.00 to 842+00.00 LT	18994	2716	0	16278
-Y7REV- Sta 10+11.00 to 15+50.73	616	1572	956	0
TOTAL Summary No. 5	79564	197658	134372	16278
-L- Sta 842+00.00 to 861+42.25 RT	11949	10787	0	1162
-L- Sta 842+00.00 to 861+42.25 LT	6767	511	0	6256
-Y8- Sta 10+11.00 to 11+60.00	458	7	0	451
SUBTOTAL RT. Summary No. 6	19174	11305	0	7869
SUBTOTAL R-505	668632	625485	448885	492032
additional undercut		0	0	0
est for pvmt removal	0	0	0	
loss to clearing & grubbing	-33432	0	33432	
shoulder construction		0		
		0		
rock to repl borrow		0	0	
waste to repl. borrow		0	-492032	-492032
TOTAL R-505	635200	625485	0	0
5% to replace topsoil on borrow pit			0	
SAY	635300	635300	0	9716
drainage ditch excavation (est.)				



MATCH LINE SEE SHEET 5 -L- STA. 721+00

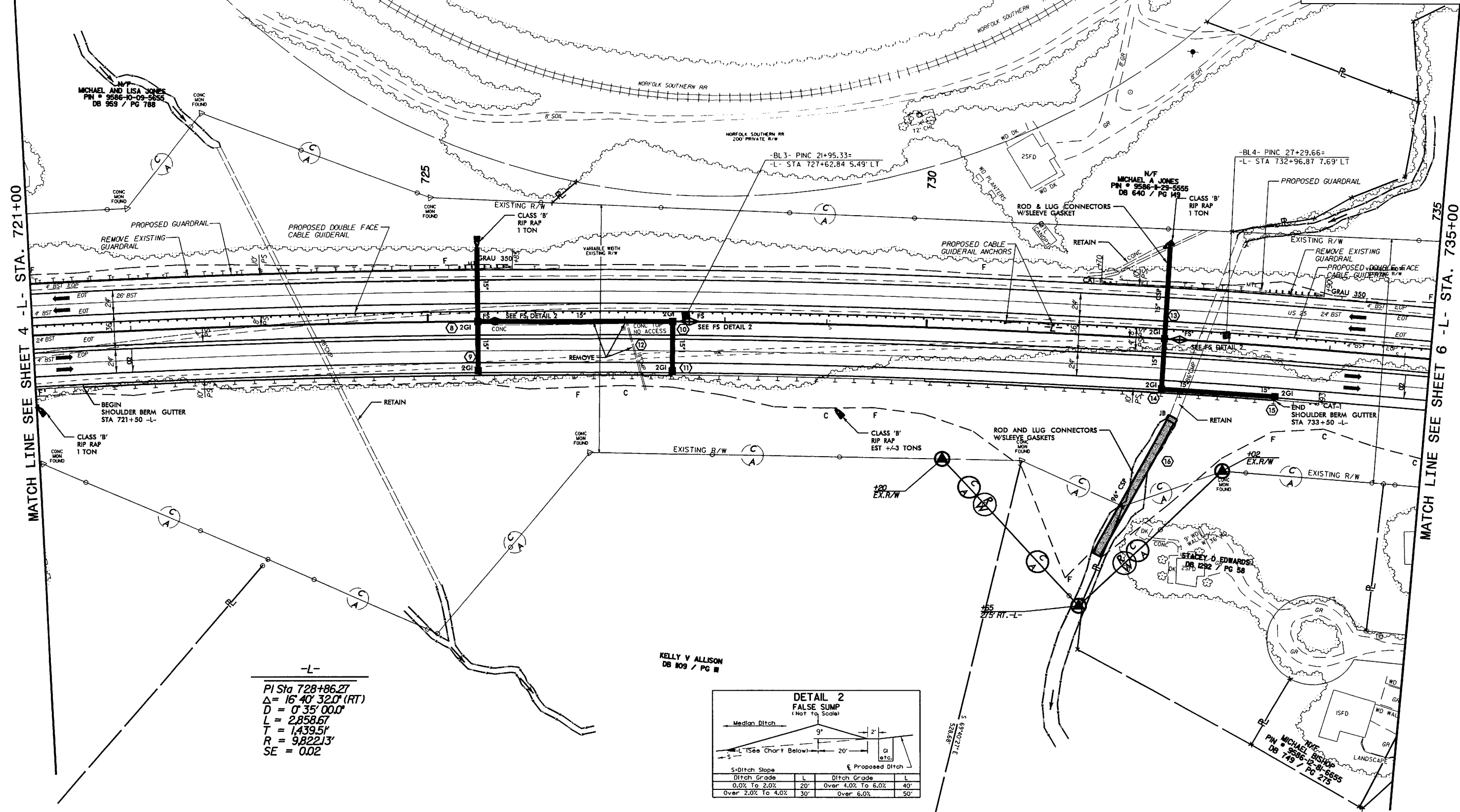


-L-		-L-		-L-	
PI Sta 708+27.56	PI Sta 713+80.09	PI Sta 728+86.27			
Δ = 16° 29' 35.0" (LT)	Δ = 0° 35' 00.0"	Δ = 16° 40' 32.0" (RT)			
D = 3° 00' 56.0"	Ls = 200.00	D = 0° 35' 00.0"			
L = 546.93'	LT = 133.33'	L = 2,858.67'			
T = 275.37'	ST = 66.67'	T = 1,439.51'			
R = 1,500.00'		R = 5,822.13'			
		SE = 0.02			

N/F
LARRY HOLBERT AND RONNE GRAY
PIN # 9586-10-66-8255
DB 751 / PG 625

20 JUN 2008 07:50:55 R-505 Roadway Project R-505.rdy.psh.04.dgn

SEE SHEETS 15 FOR -L- PROFILE



DETAIL 2
FALSE SUMP
(Not to Scale)

Median Ditch

9'

2'

20'

L (See Chart Below)

S

G
etc.

Proposed Ditch

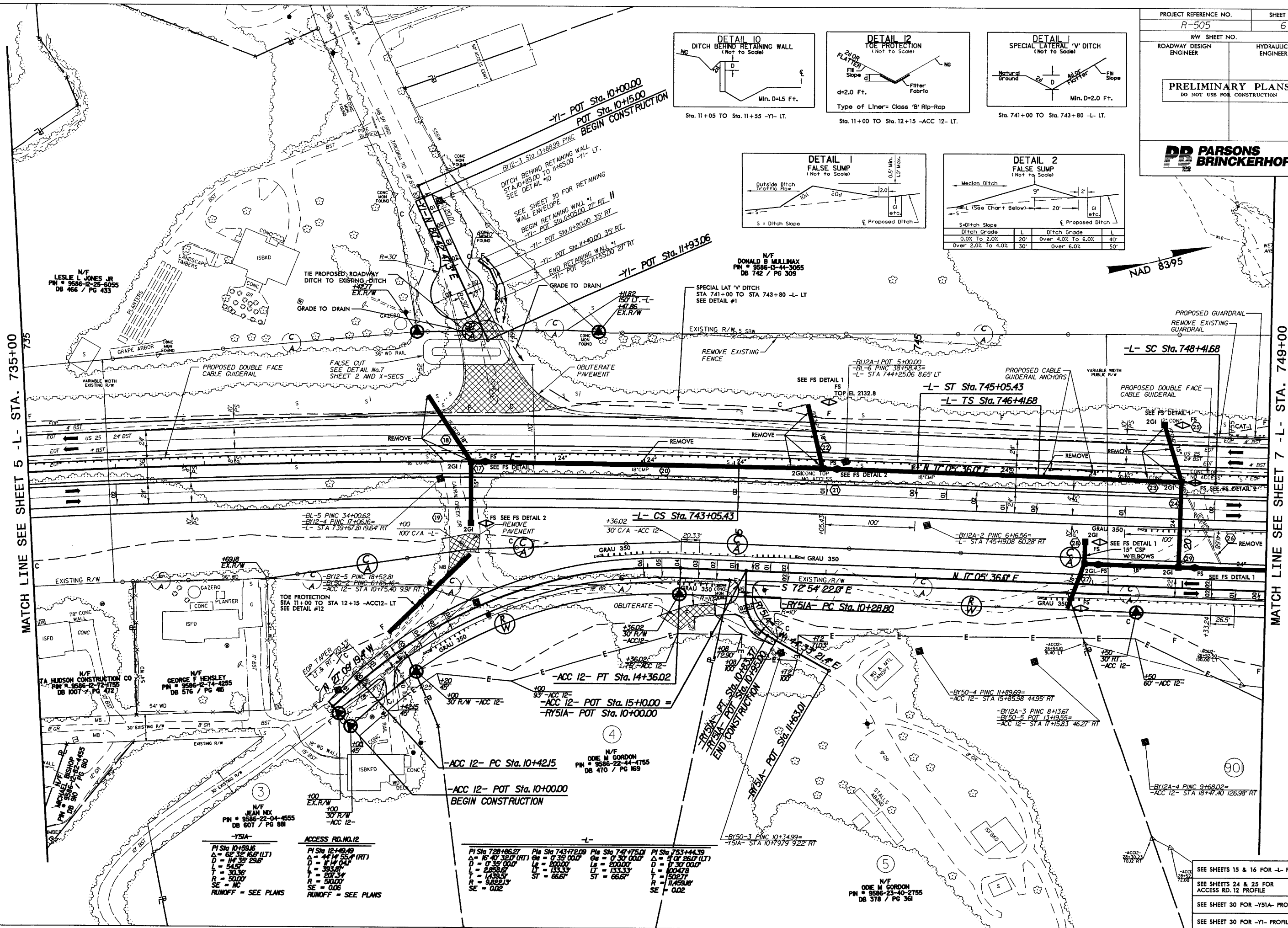
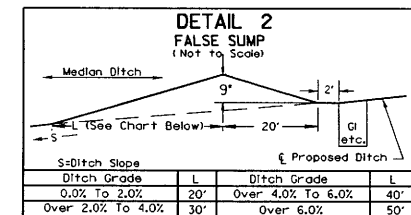
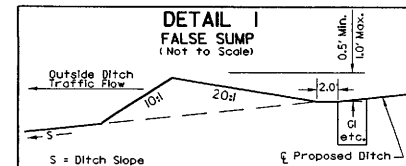
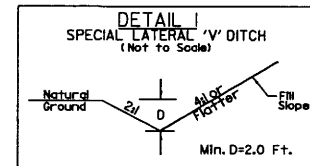
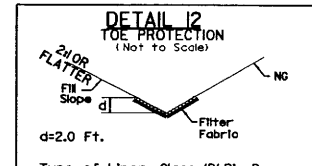
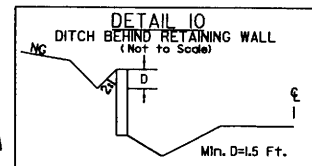
S-Ditch Slope		Proposed Ditch	
Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

-L-

PI Sta 728+86.27
 $\Delta = 16^\circ 40' 32.0''$ (RT)
 $D = 0^\circ 35' 00.0''$
 $L = 2,858.67$
 $T = 1,439.51$
 $R = 9,822.13'$
 $SE = 0.02$

KELLY V ALLISON
DB 009 / PG 11

SEE SHEETS 15 FOR -L- PROFILE



MATCH LINE SEE SHEET 5 -L- STA. 735+00

MATCH LINE SEE SHEET 7 -L- STA. 749+00

ACCESS RD. NO. 12

PI Sta 10+59.6	PI Sta 12+49.49
Δ = 62° 32' 16.8" (LT)	Δ = 44° 14' 55.4" (RT)
D = 14' 35" 25.6'	D = 14' 04"
L = 54'	L = 393.8'
T = 30.36'	T = 207.34'
R = 50.00'	R = 50.00'
SE = NC	SE = 0.06
RUNOFF = SEE PLANS	RUNOFF = SEE PLANS

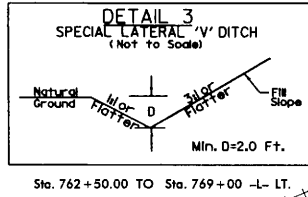
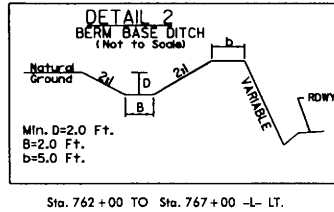
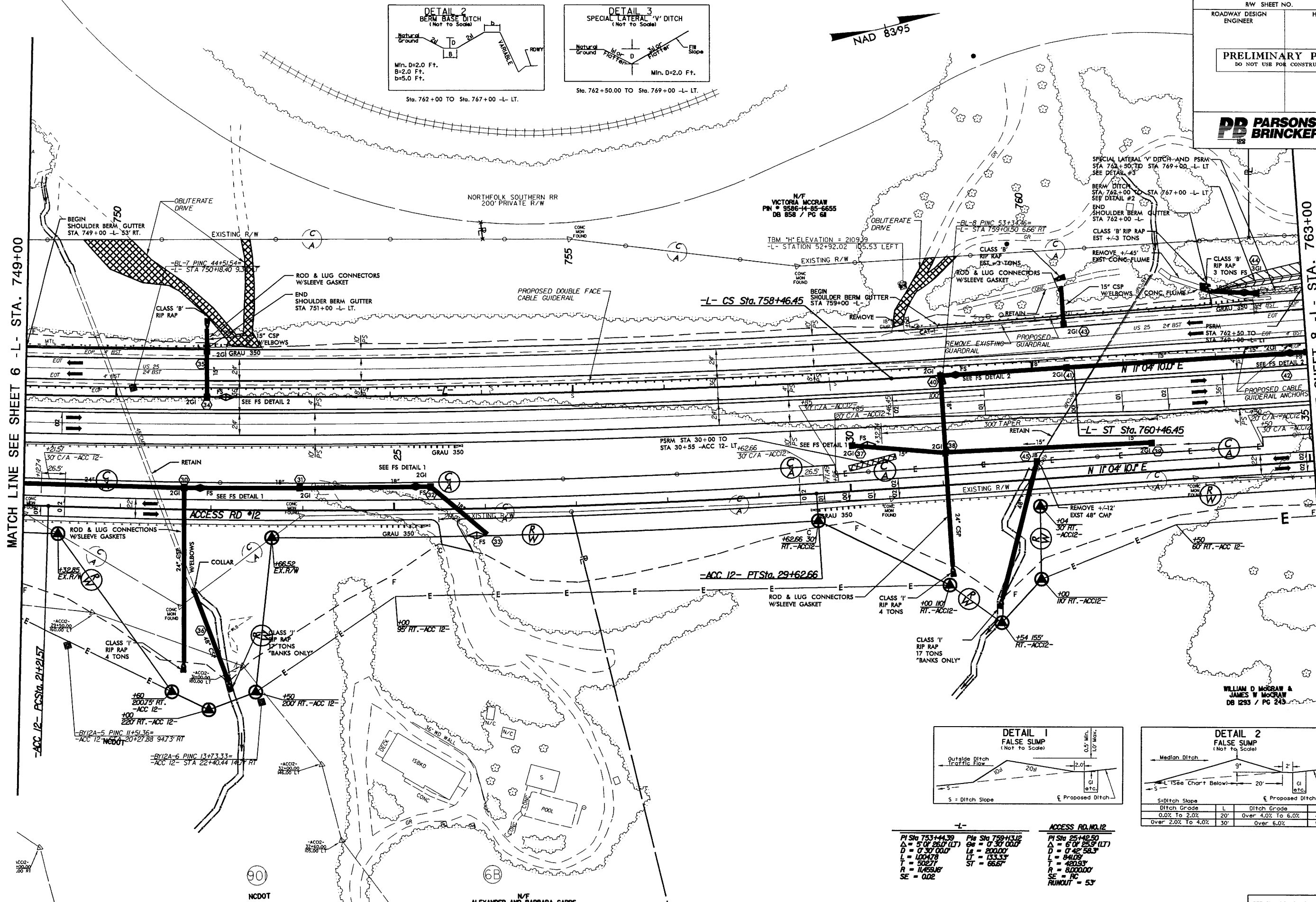
PI Sta 728+86.27	PI Sta 743+72.09	PI Sta 747+75.01	PI Sta 753+44.39
Δ = 10° 40' 32.0" (RT)	Δ = 0° 35' 00.0"	Δ = 0° 30' 00.0"	Δ = 4° 04' 26.0" (LT)
D = 0° 35' 00.0"	L = 80.00'	L = 80.00'	D = 11' 30' 00.0"
L = 285.86'	L = 133.33'	L = 133.33'	L = 100.478'
T = 139.53'	T = 66.67'	T = 66.67'	T = 50.27'
R = 9.8213'	SE = 0.02	SE = 0.02	R = 11.4598'
SE = 0.02			SE = 0.02

N/F
ODIE M GORDON
PN # 9586-23-40-2755
DB 378 / PG 361

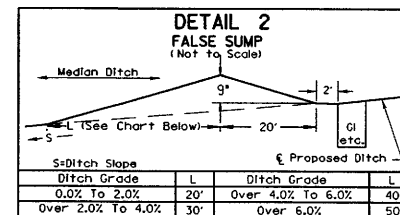
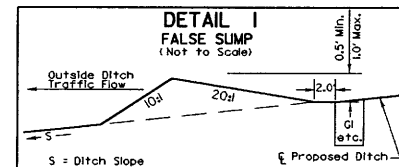
SEE SHEETS 15 & 16 FOR -L- PROFILE
SEE SHEETS 24 & 25 FOR
ACCESS RD. 12 PROFILE
SEE SHEET 30 FOR -Y5IA- PROFILE
SEE SHEET 30 FOR -YI- PROFILE

MATCH LINE SEE SHEET 6 -L- STA. 749+00

MATCH LINE SEE SHEET 8 -L- STA. 763+00



NAD 83/95



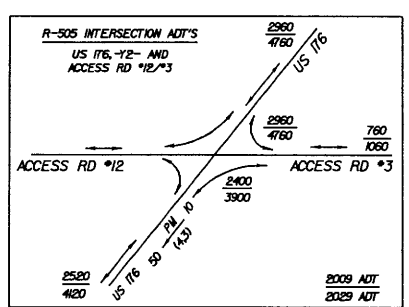
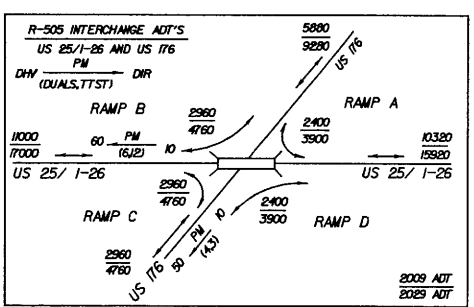
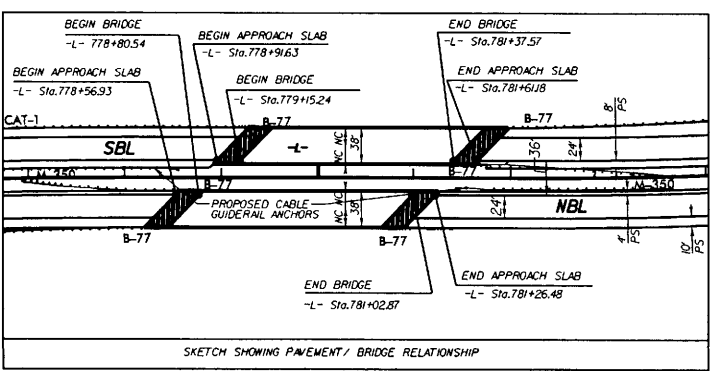
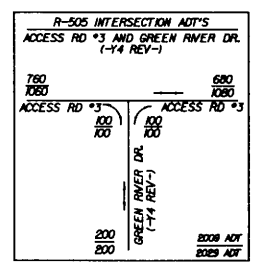
-L-		ACCESS RD. NO. 12	
PI Sta 753+44.39	PI Sta 759+31.2	PI Sta 25+42.50	
Δ = 5' 0" 26.0' (LT)	Δ = 0' 30' 0.0'	Δ = 6' 0" 25.9' (LT)	
D = 0' 30' 0.0'	L = 200.00'	D = 0' 42' 58.3'	
L = 100.00'	ST = 65.6'	L = 84.03'	
R = 502.71'		T = 420.33'	
SE = 0.02		R = 8,000.00'	
		SE = FC	
		RUNOUT = 53'	

WILLIAM D. MCGRAW &
JAMES W. MCGRAW
DB 1293 / PG 243

N/F
ALEXANDER AND BARBARA CAPPS
PIN # 9586-23-38-3655
DB 472 / PG 191

SEE SHEETS 16 FOR -L- PROFILE
SEE SHEETS 25 FOR ACCESS RD. 12 PROFILE

PM STA 763+00 64 = 9.07 000 L = 400.00 ST = 30.39 SE = 0.08	PM STA 775+00 64 = 3.00 000 L = 400.00 ST = 30.39 SE = 0.08	PM STA 775+00 64 = 3.00 000 L = 400.00 ST = 30.39 SE = 0.08	PM STA 775+00 64 = 3.00 000 L = 400.00 ST = 30.39 SE = 0.08	PM STA 775+00 64 = 3.00 000 L = 400.00 ST = 30.39 SE = 0.08
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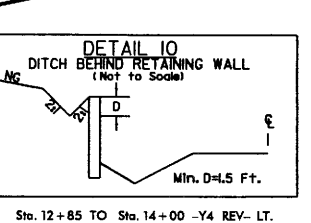
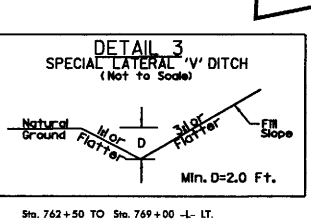
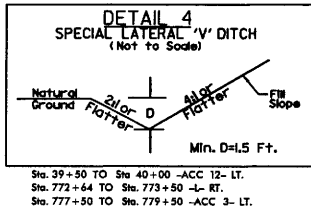
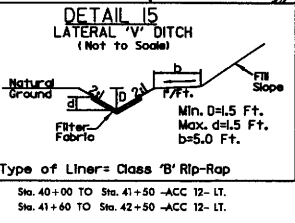
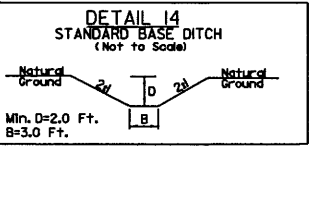
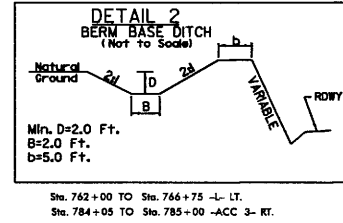
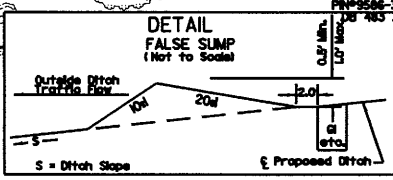
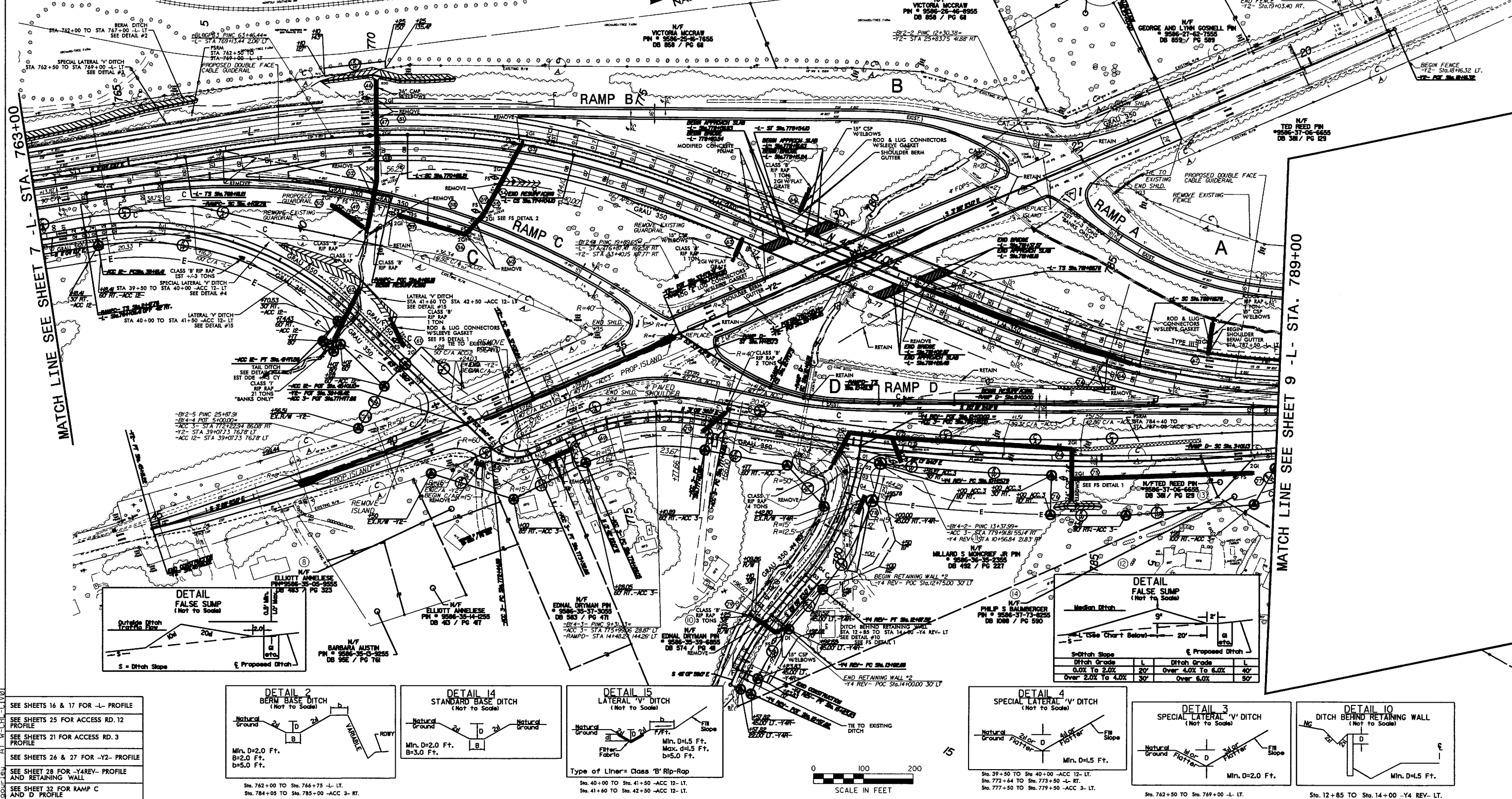
PROJECT REFERENCE NO. R-505 SHEET NO. 8

RW SHEET NO.

ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

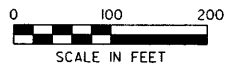
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PARSONS BRINCKERHOFF



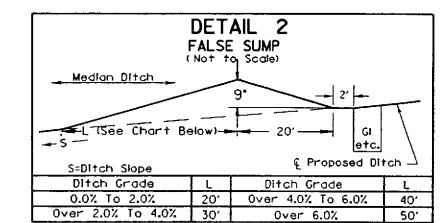
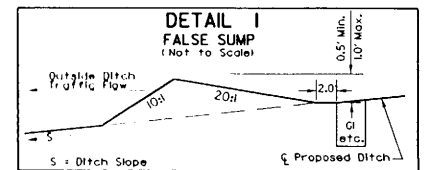
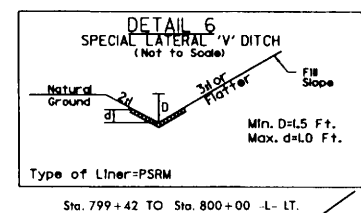
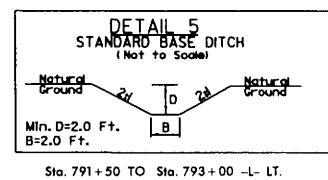
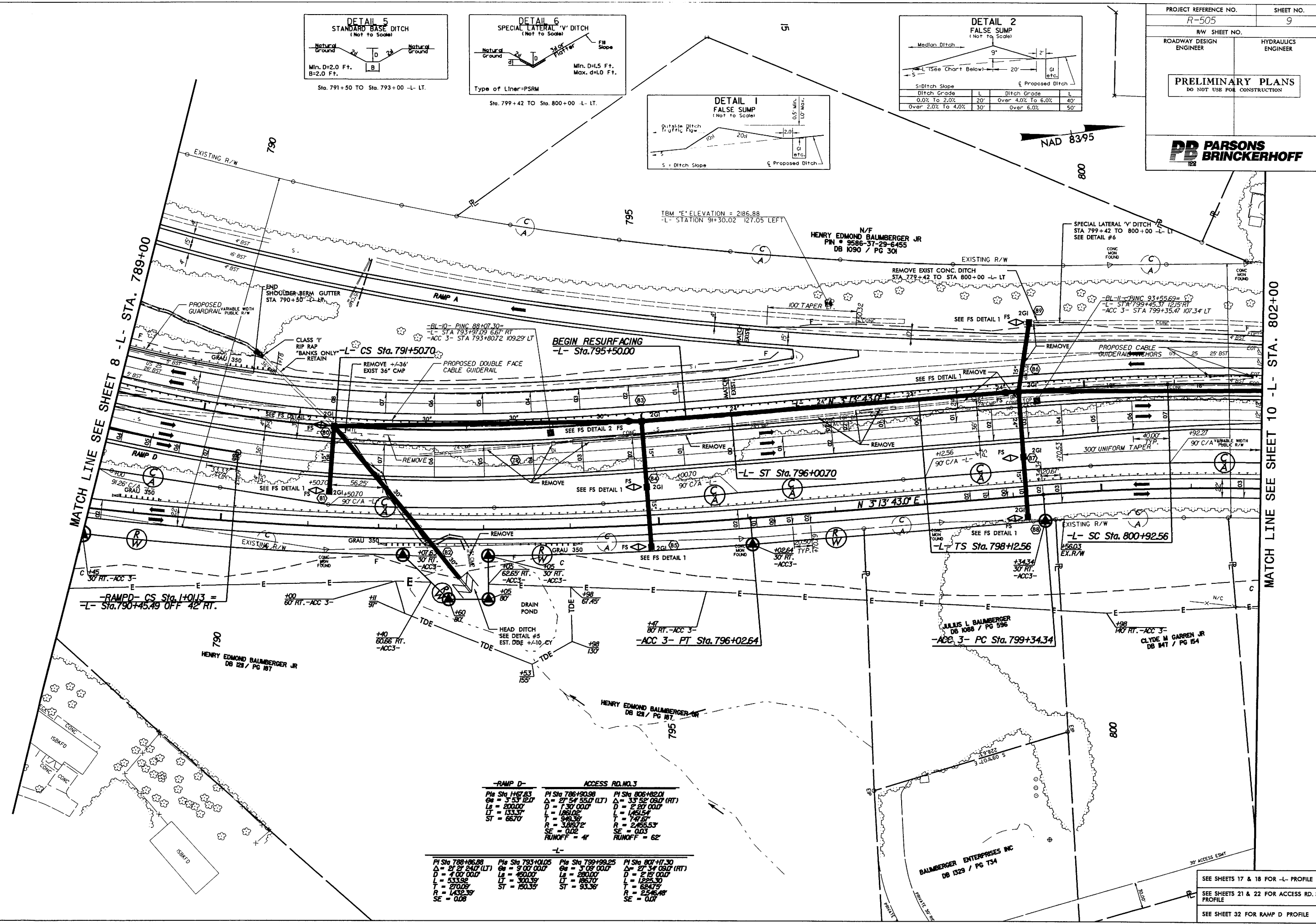
DETAIL FALSE SUMP (Not to Scale)

Slope	Ditch Grade	Ditch Slope
0.0% To 2.0%	20'	Over 4.0% To 6.0%
Over 2.0% To 4.0%	30'	Over 6.0%



20 JUN 2008 09:55:35 R-505 (Roadway) Proj\RF505.rdy.psh.08.dgn

PROJECT REFERENCE NO.		SHEET NO.	
R-505		9	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER			
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			
PARSONS BRINCKERHOFF			



NAD 83/95

20-JUN-2008 08:33
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Source: AT W-CH-C-1102

MATCH LINE SEE SHEET 10 -L- STA. 802+00

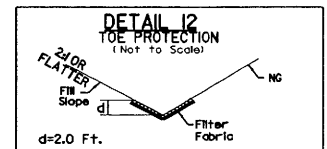
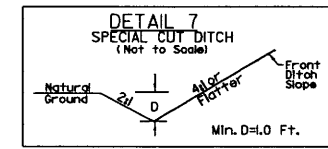
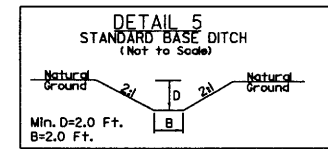
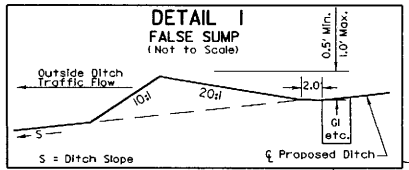
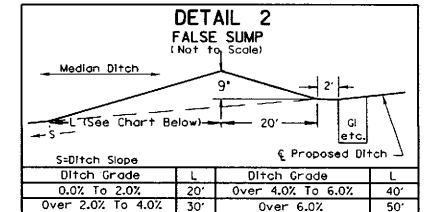
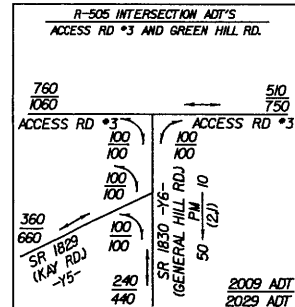
MATCH LINE SEE SHEET 8 -L- STA. 789+00

-RAMP D-			
Sta 788+86.88	Sta 793+01.05	Sta 799+99.25	Sta 807+17.30
Δ = 21° 21' 24.0" (LT)	Δ = 9° 00' 00.0"	Δ = 3° 09' 00.0"	Δ = 27° 34' 09.0" (RT)
D = 400.00'	L = 460.00'	L = 280.00'	D = 2' 15' 00.0"
L = 333.92'	ST = 150.35'	ST = 93.36'	L = 125.30'
T = 270.09'			T = 68.479'
R = 1432.39'			R = 2546.48'
SE = 0.08			SE = 0.07

ACCESS RD. NO. 3			
Sta 786+90.98	Sta 796+10.01	Sta 806+82.01	
Δ = 27° 54' 55.0" (LT)	Δ = 33° 52' 09.0" (RT)	Δ = 2° 50' 00.0"	
D = 130.00'	L = 146.54'	L = 141.67'	
L = 128.02'	T = 94.36'	R = 2455.53'	
R = 3819.72'	SE = 0.02	SE = 0.03	
SE = 0.02	RUNOFF = 4"	RUNOFF = 62"	

SEE SHEETS 17 & 18 FOR -L- PROFILE
SEE SHEETS 21 & 22 FOR ACCESS RD. 3 PROFILE
SEE SHEET 32 FOR RAMP D PROFILE

-L-	ACCESS RD. NO. 3	-Y5-	-Y6-
PI Sta 807+17.30 $\Delta = 27^\circ 34' 09.0''$ (RT) $Ea = 3' 09' 00.0''$ $D = 2' 50' 00.0''$ $L = 125.30$ $T = 186.70$ $R = 2546.48'$ $SE = 0.03$	PI Sta 806+82.01 $\Delta = 33^\circ 52' 09.0''$ (RT) $D = 2' 50' 00.0''$ $L = 125.30$ $T = 186.70$ $R = 2546.48'$ $SE = 0.03$ RUNOFF = 62"	PI Sta 11+86.00 $\Delta = 18^\circ 00' 00.0''$ (RT) $D = 12' 19' 18.0''$ $L = 146.09$ $T = 73.65$ $R = 465.00'$ $SE = 0.03$ RUNOFF = SEE PLANS	PI Sta 10+57.20 $\Delta = 32^\circ 36' 00.0''$ (LT) $D = 46' 00' 00.0''$ $L = 67.92$ $T = 34.91$ $R = 18.37'$ $SE = 0.03$ RUNOFF = SEE PLANS



NAD 83.95

PROJECT REFERENCE NO.
R-505

SHEET NO.
10

RW SHEET NO.

ROADWAY DESIGN ENGINEER

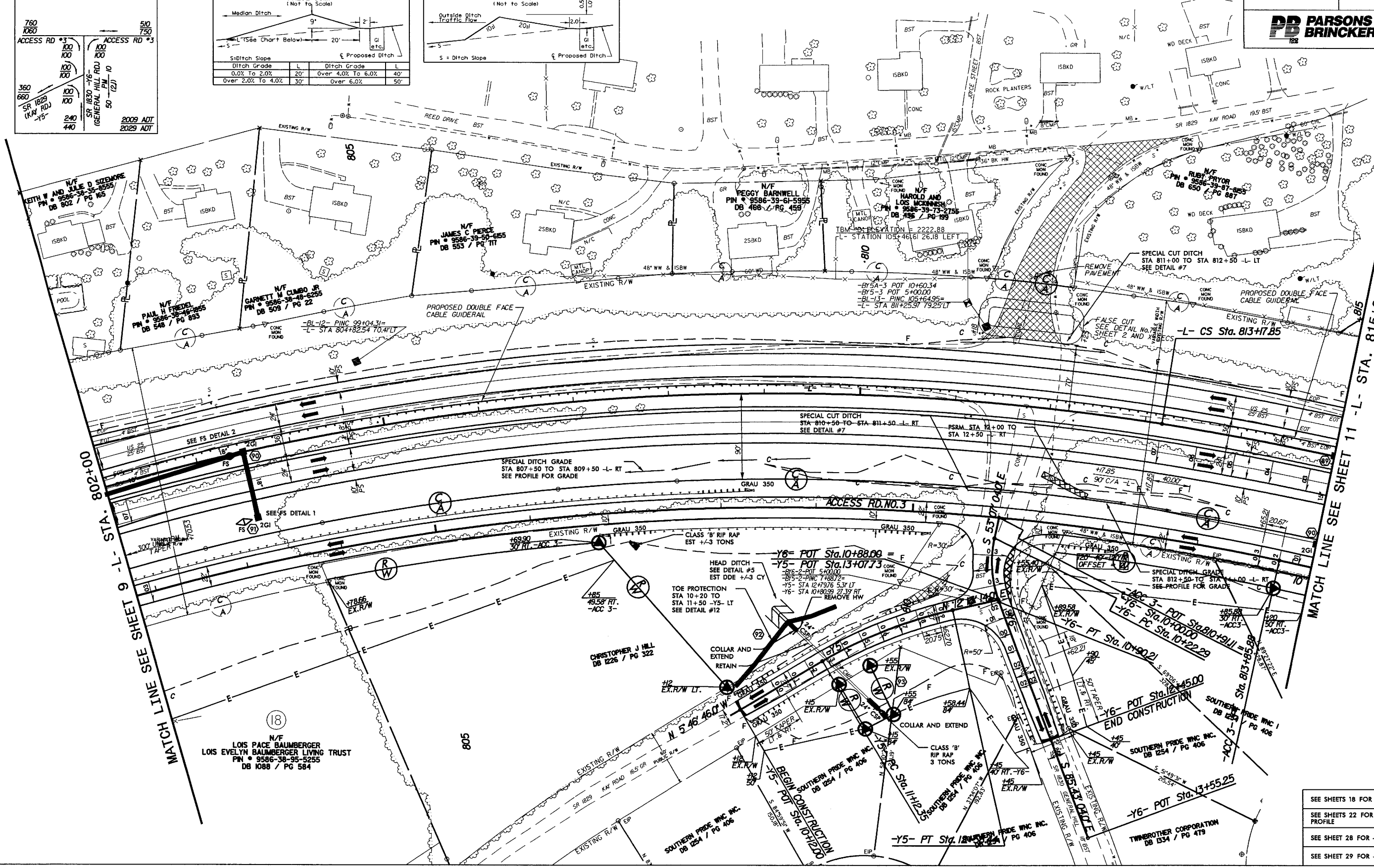
HYDRAULICS ENGINEER

PRELIMINARY PLANS

DO NOT USE FOR CONSTRUCTION

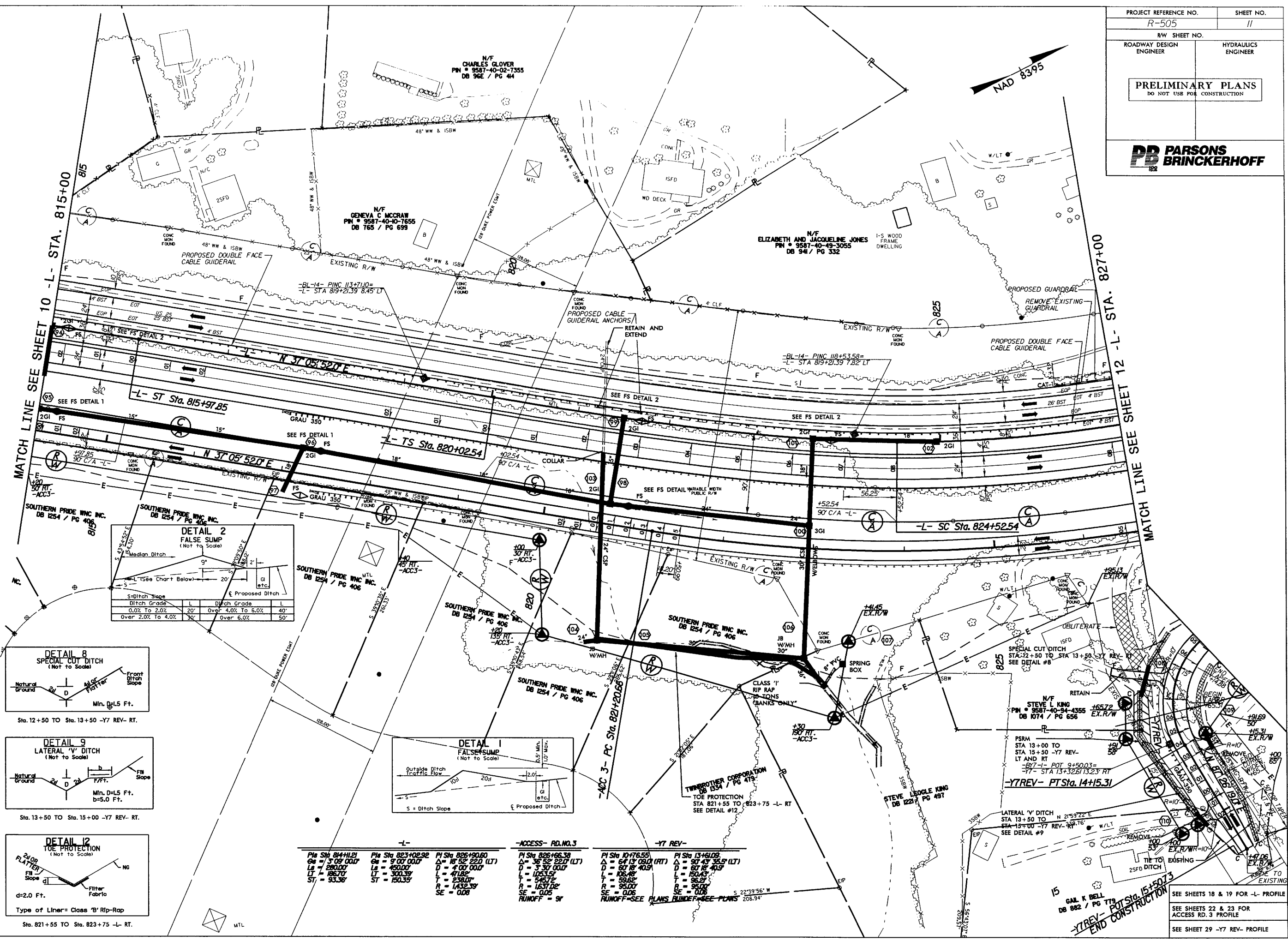
PARSONS

BRINCKERHOFF

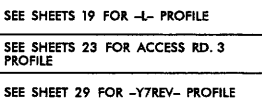


- SEE SHEETS 18 FOR -L- PROFILE
- SEE SHEETS 22 FOR ACCESS RD. 3 PROFILE
- SEE SHEET 28 FOR -Y5- PROFILE
- SEE SHEET 29 FOR -Y6- PROFILE

20-JUN-2008 08:34
G:\Projects\2005\Roadway\Proj\R505\rdy_psh_10.dgn
source: AT WCHL-CV00



20 JUN 2008 08:34
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C:\JUN2008\0834\505\Roadway\Proj\505\Roadway\505_rdy.psh.11.dgn

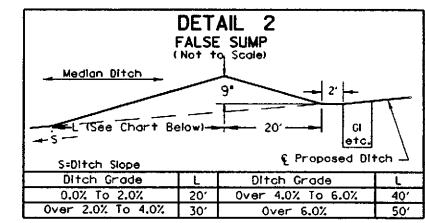




R-505 INTERSECTION ADT'S
ACCESS RD #3 AND
SR 1865 (TARBOR RD. EXT)

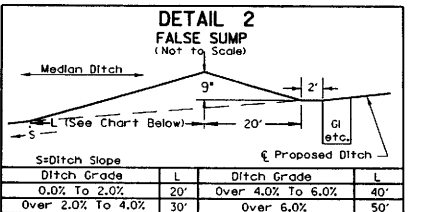
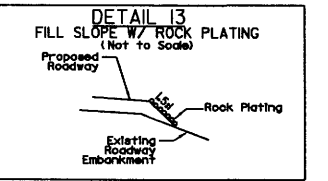
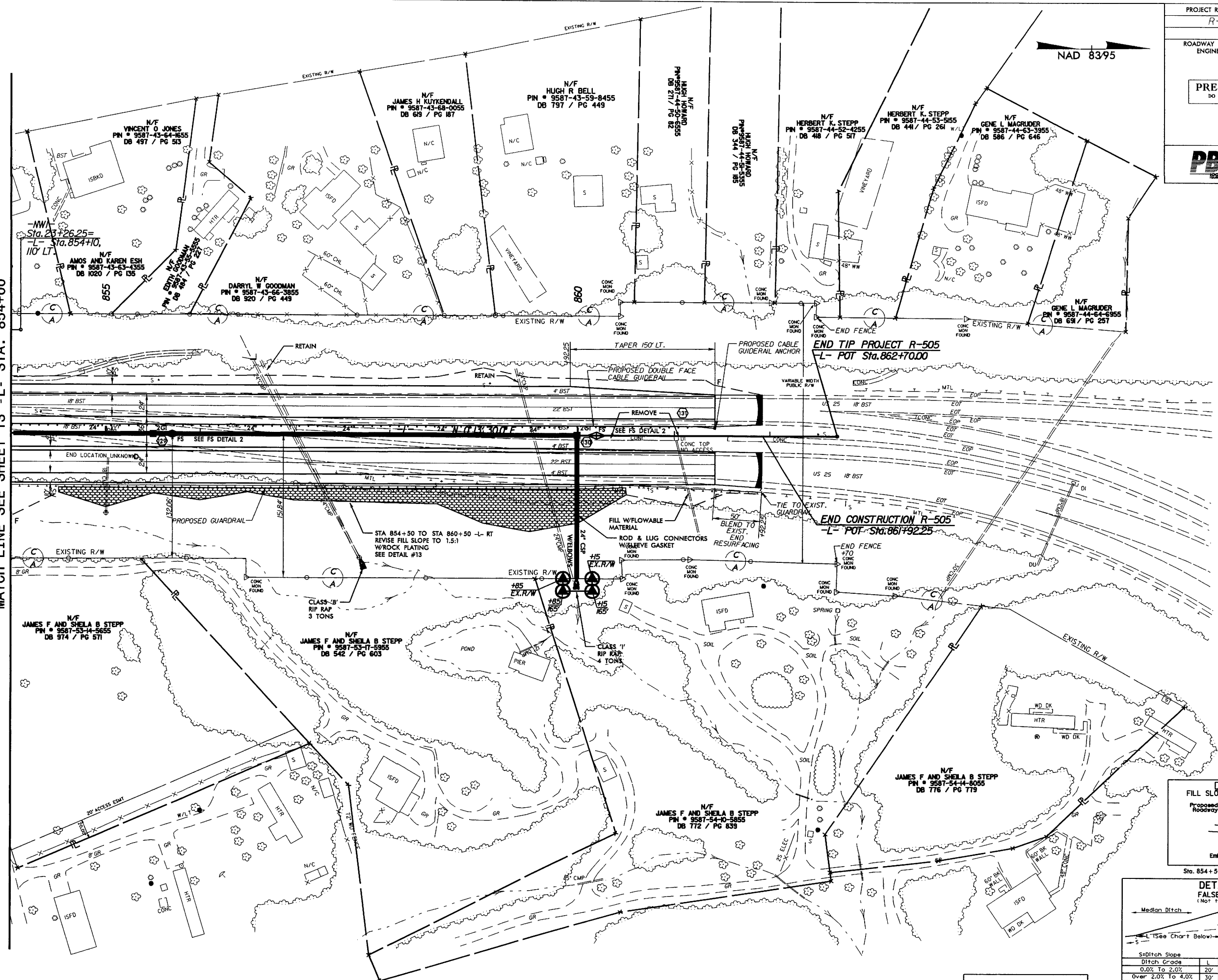
760		000
1060	←	000
ACCESS RD #3		ACCESS RD #3
760		000
1060		000
10		
PM		
(2)		
50		
760		2009 ADT
1060		2029 ADT

SR 1865
(TARBOR RD. EXT)
y8-



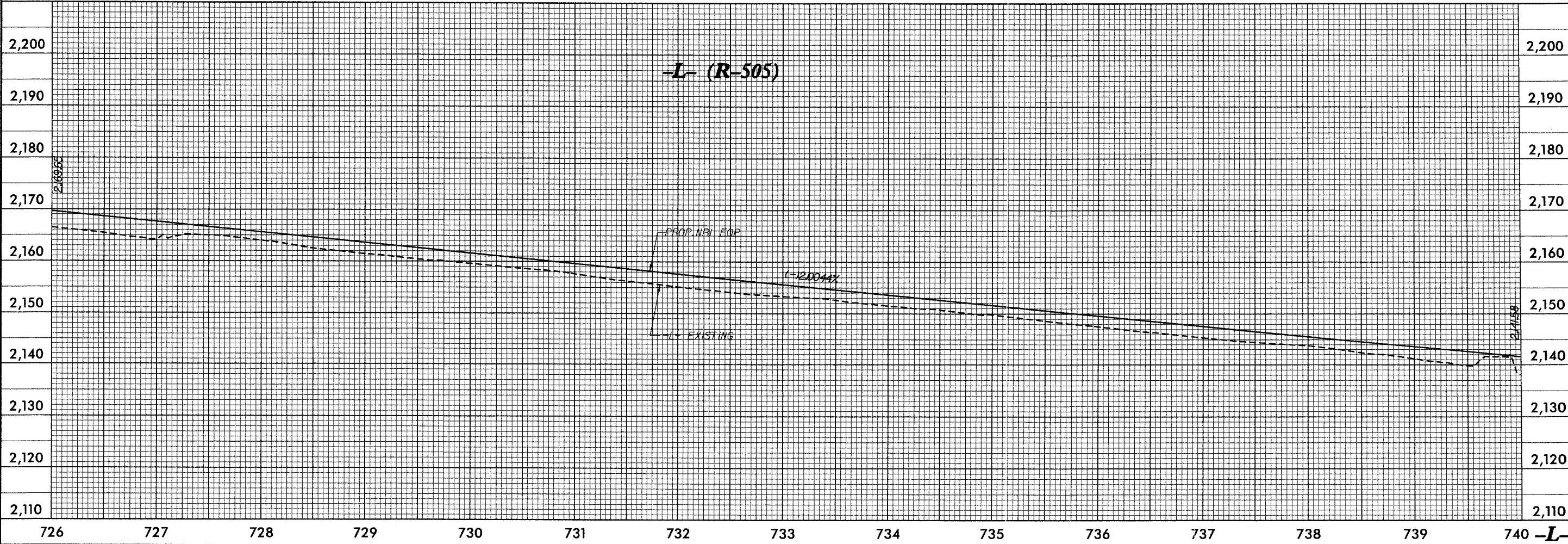
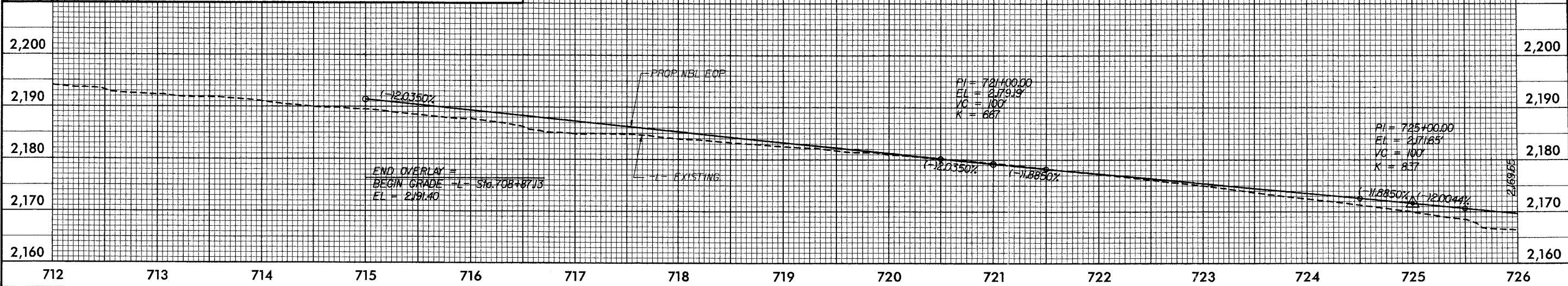
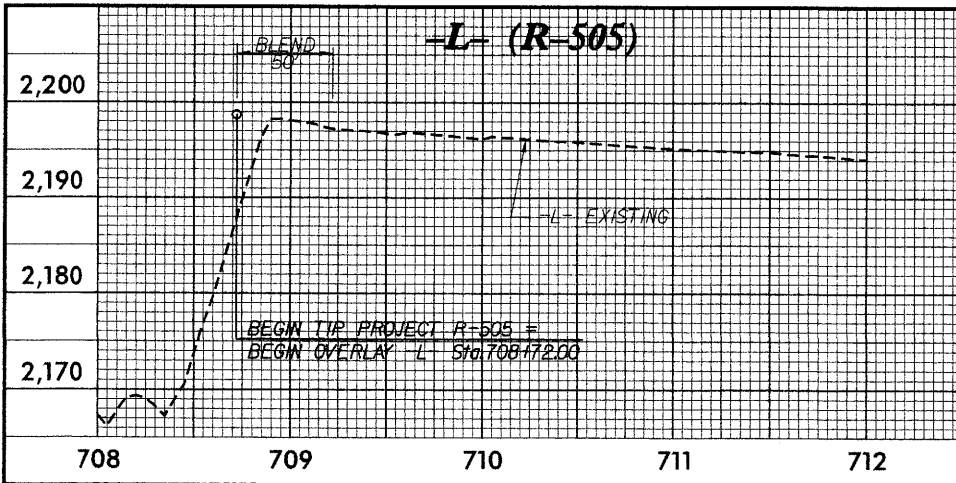
SEE SHEETS 19 & 20 FOR -L- PROFILE
SEE SHEETS 23 & 24 FOR ACCESS RD. 3 PROFILE
SEE SHEET 30 FOR -YB- PROFILE

MATCH LINE SEE SHEET 13 - L- STA. 854+00



SEE SHEETS 20 FOR -L- PROFILE

5/28/99



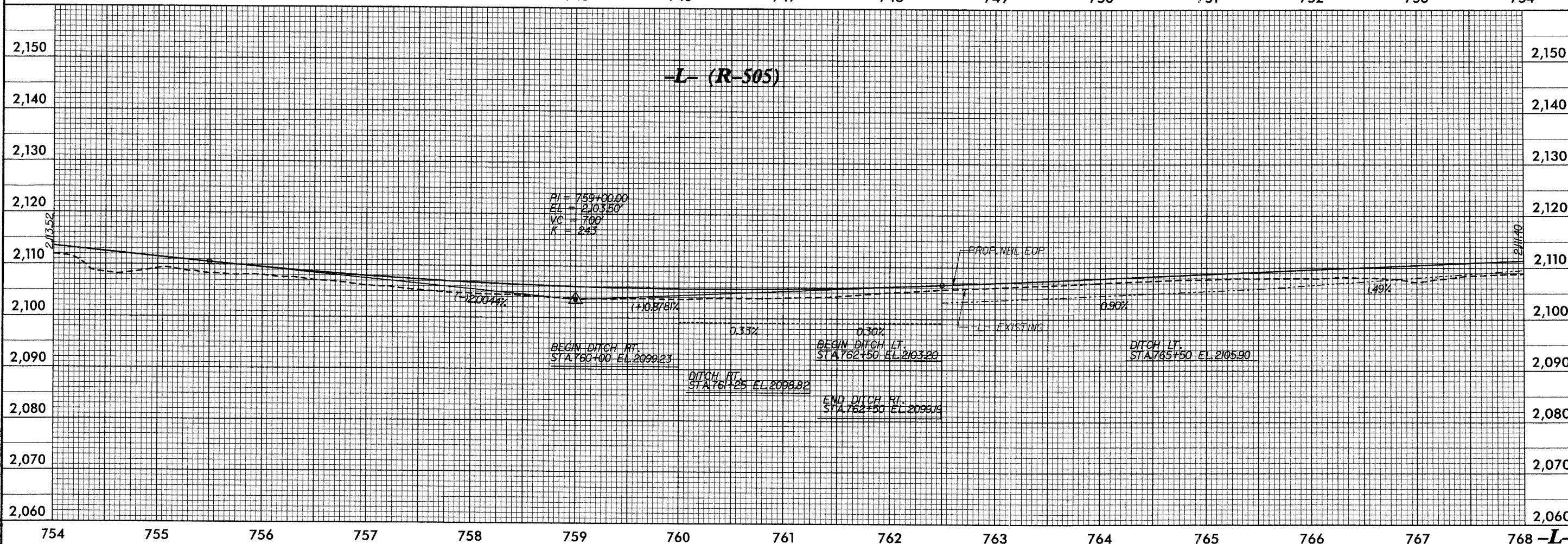
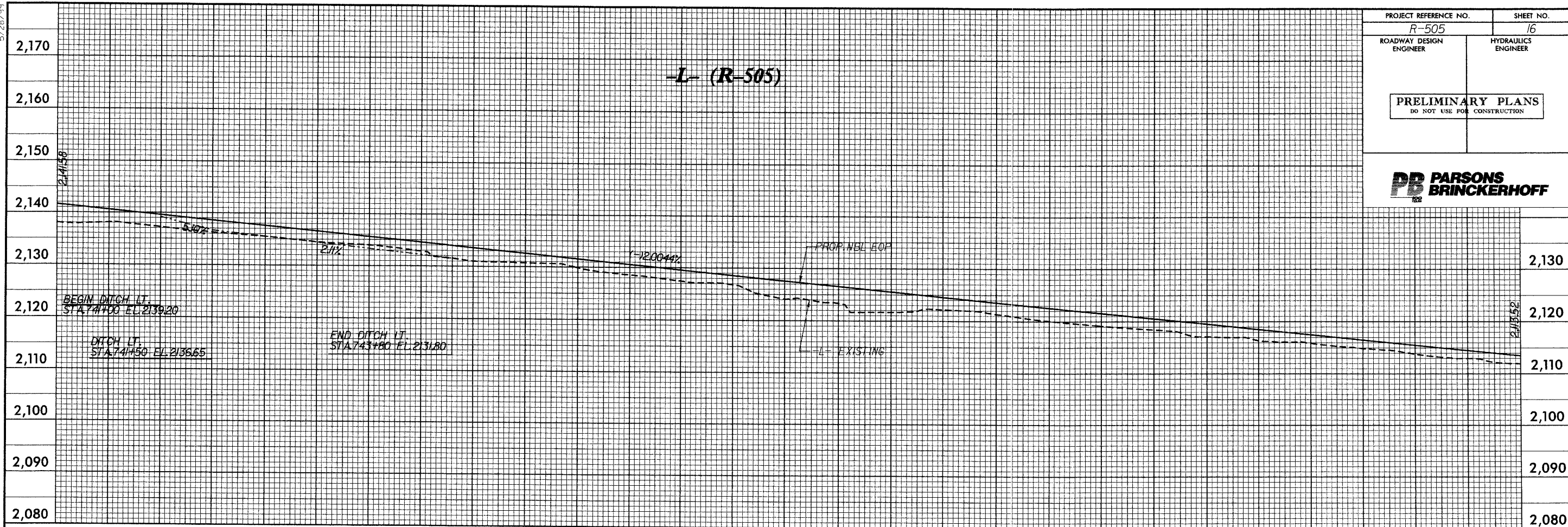
PROJECT REFERENCE NO. R-505	SHEET NO. 15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



29 OCT 2007 09:50
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A W C L L U 06

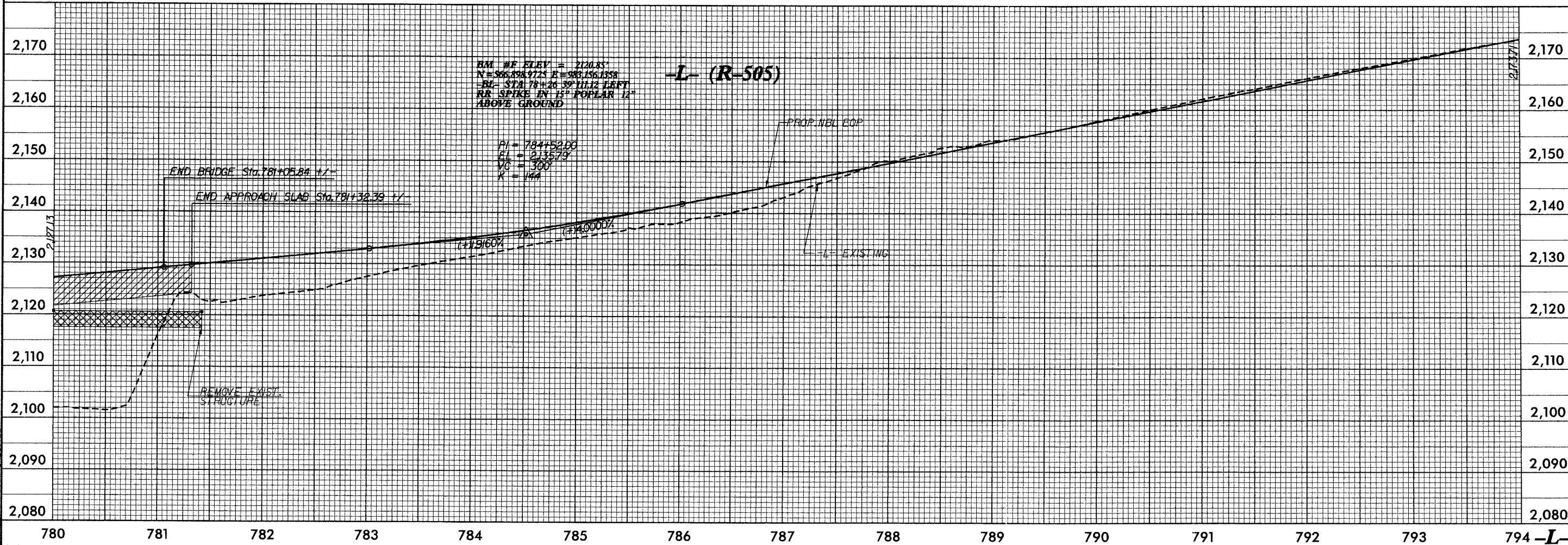
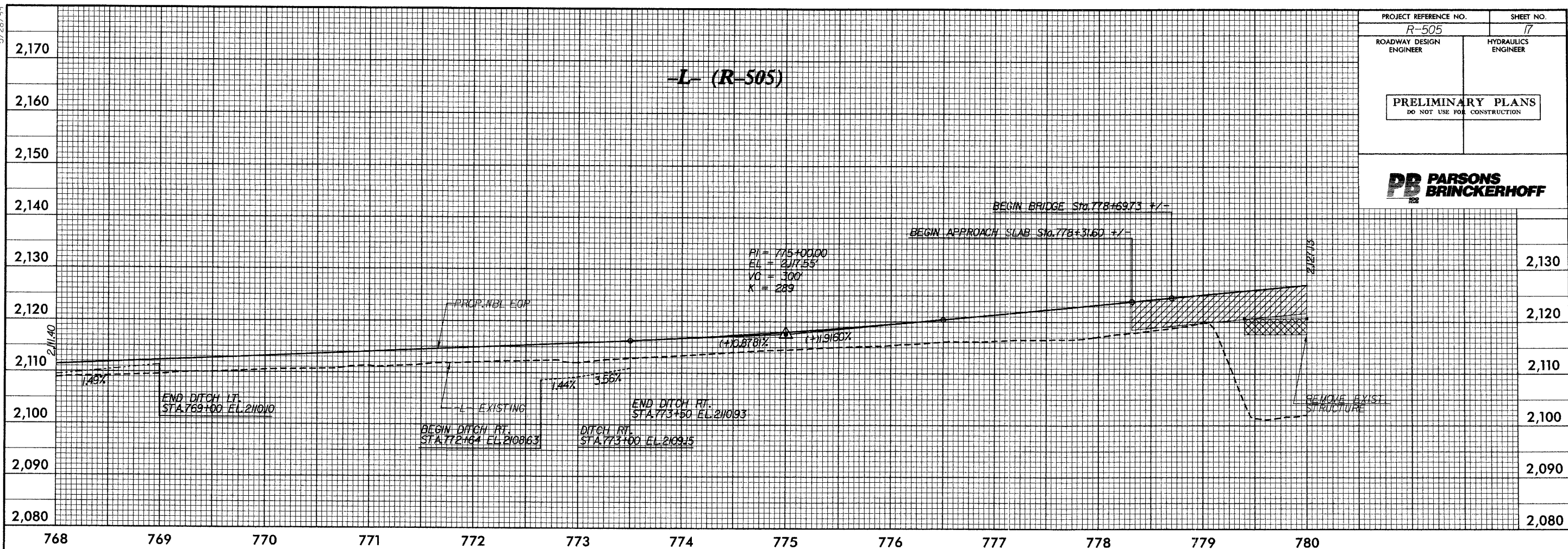
5/28/99
29-OCT-2007 08:51
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Roadway\RS05_rdy.plt.dgn

PROJECT REFERENCE NO. R-505	SHEET NO. 16
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



5/28/99

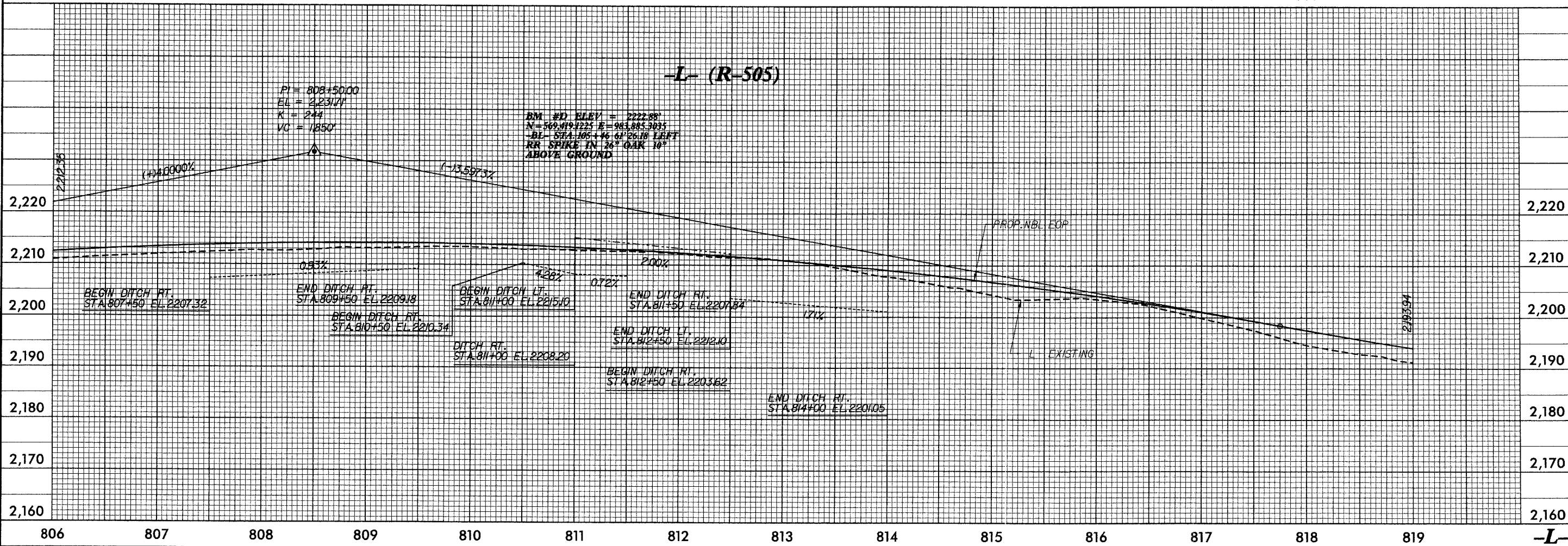
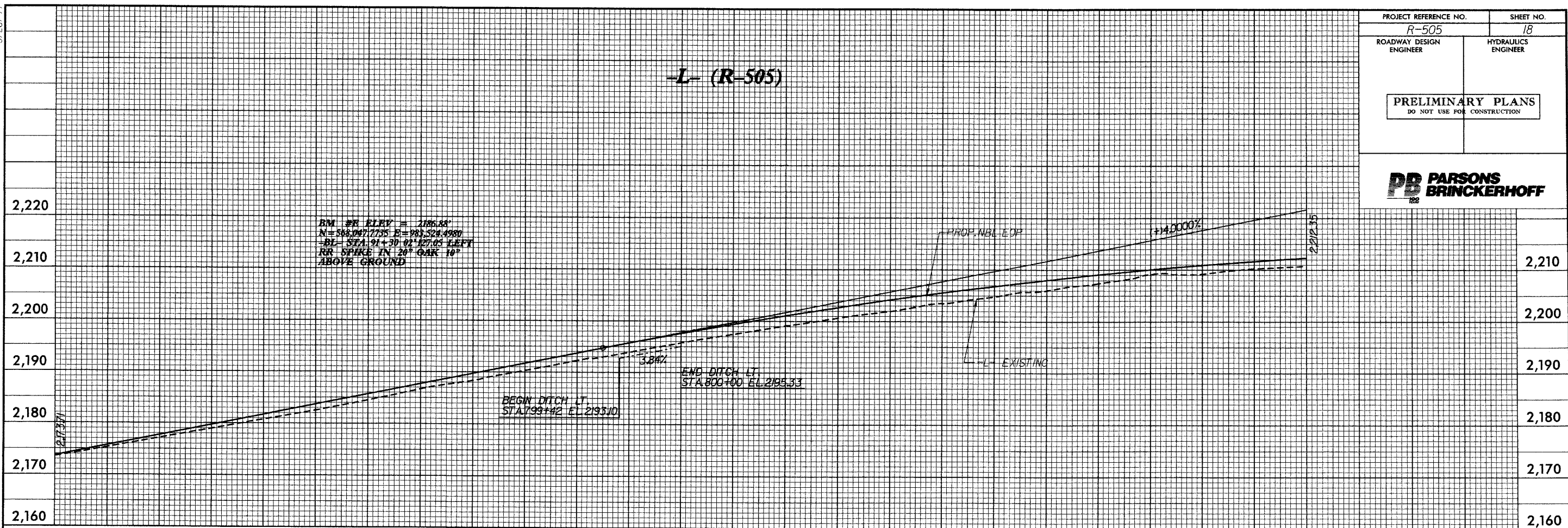
PROJECT REFERENCE NO.		SHEET NO.	
R-505		17	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



2007 0805 18-505 Roadway Proj\F505_rdy.pfl.dgn
Project: W-111 CL 108
maddam

5/28/99

PROJECT REFERENCE NO. <i>R-505</i>	SHEET NO. <i>18</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

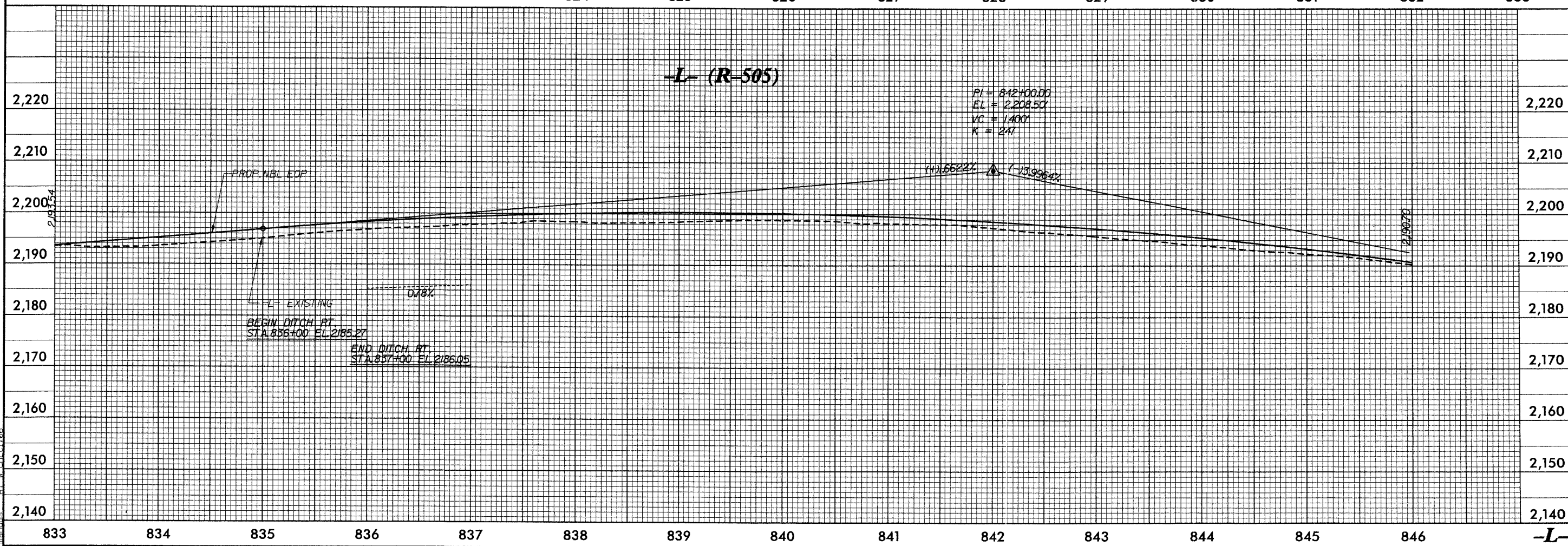
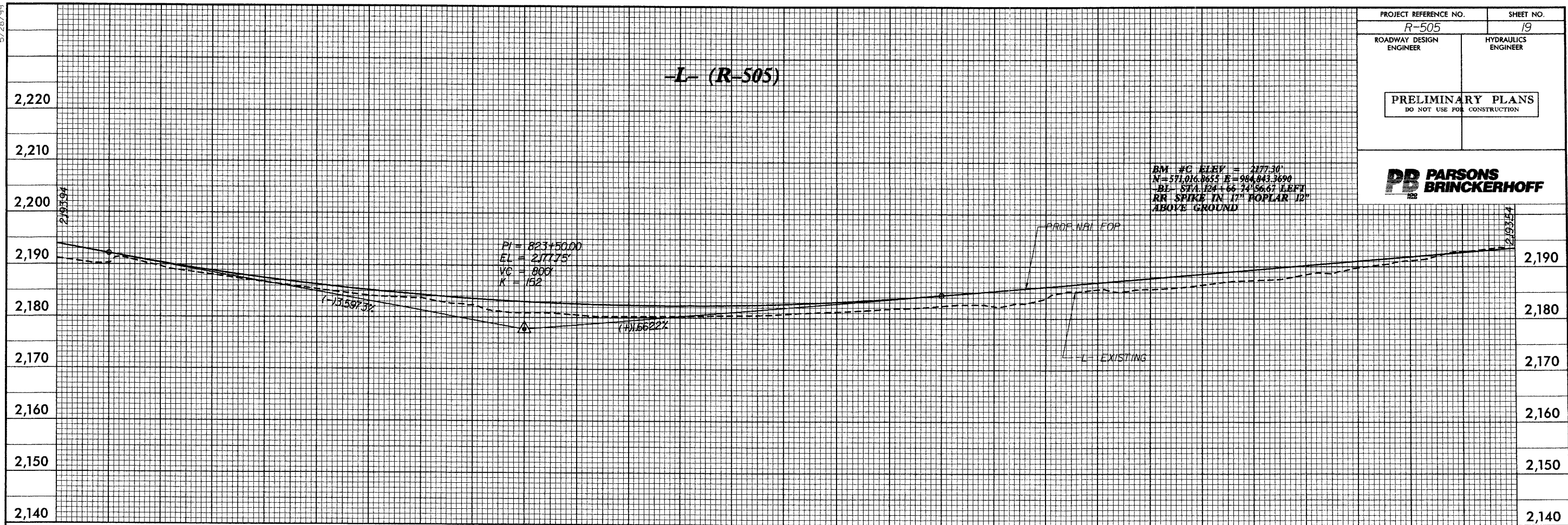


29 OCT 2007 10:05 AM
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A1 W-CH CIV06
mduffy

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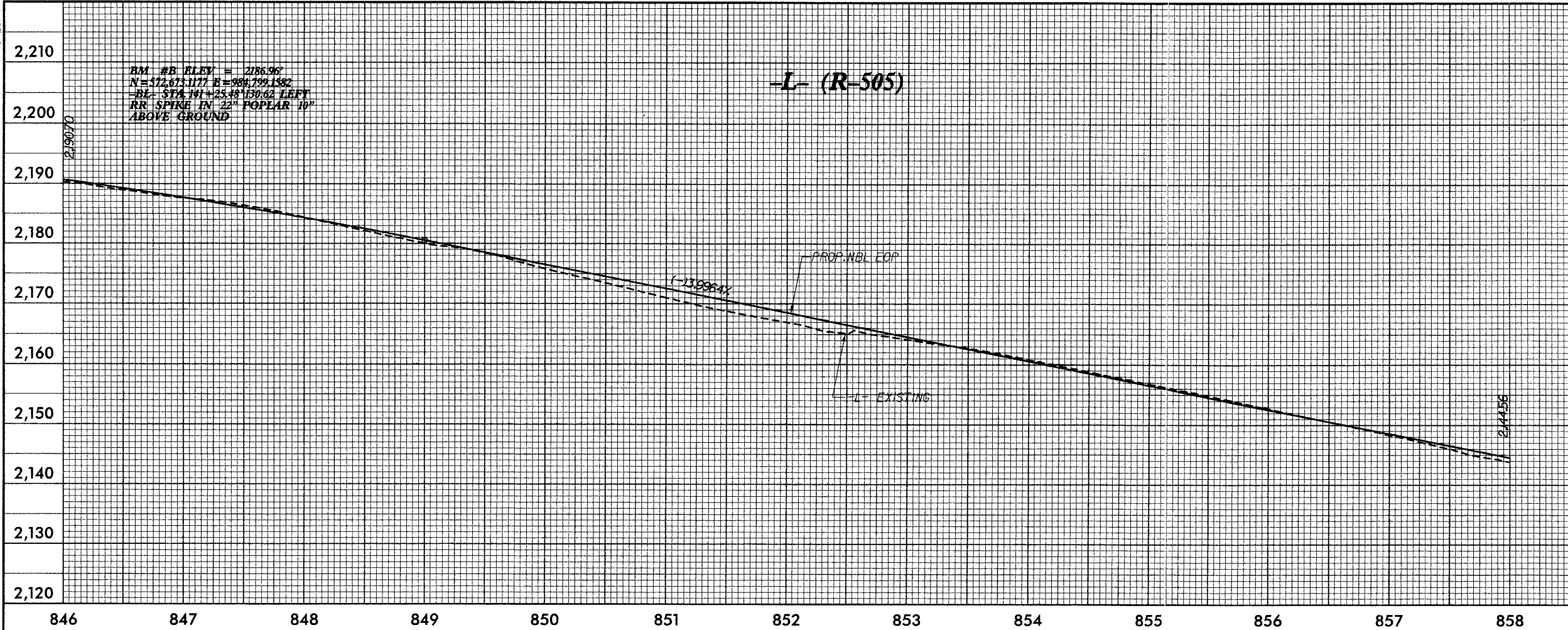
PROJECT REFERENCE NO. <i>R-505</i>		SHEET NO. <i>19</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

**PARSONS
BRINCKERHOFF**



29-OCT-2007 08:51
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medium AT WCH CIV06

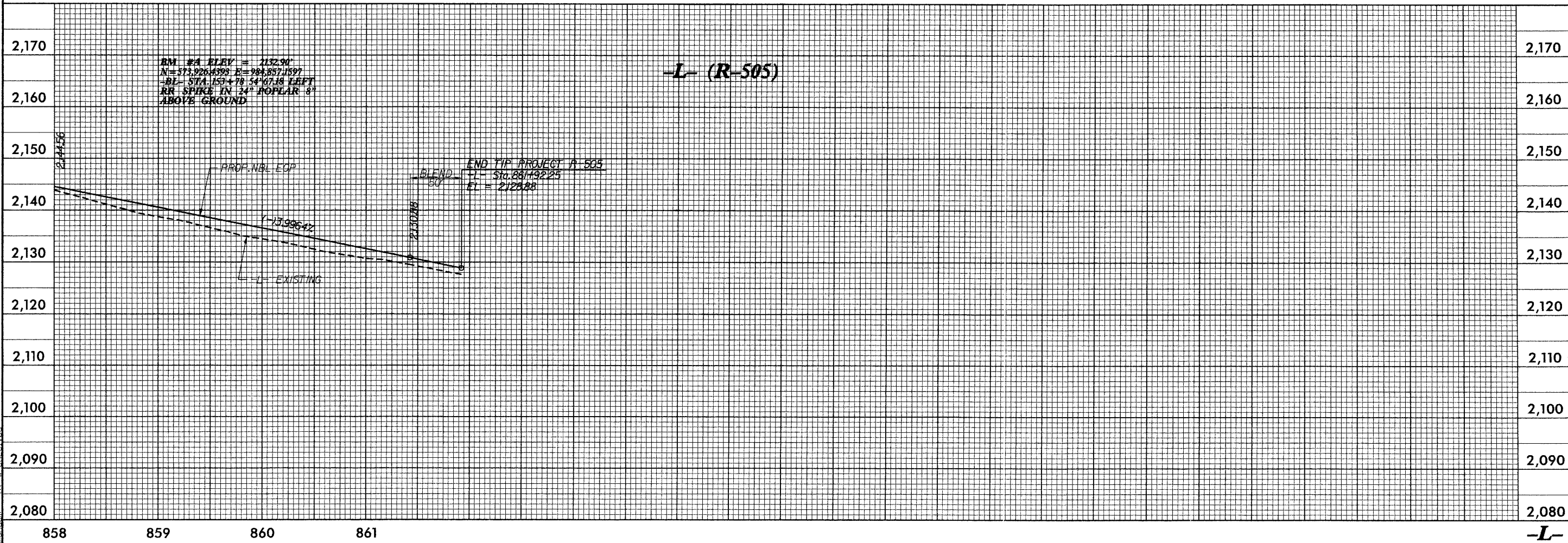
5/28/99



PROJECT REFERENCE NO. <i>R-505</i>		SHEET NO. <i>20</i>	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



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2,160
2,150
2,140
2,130
2,120

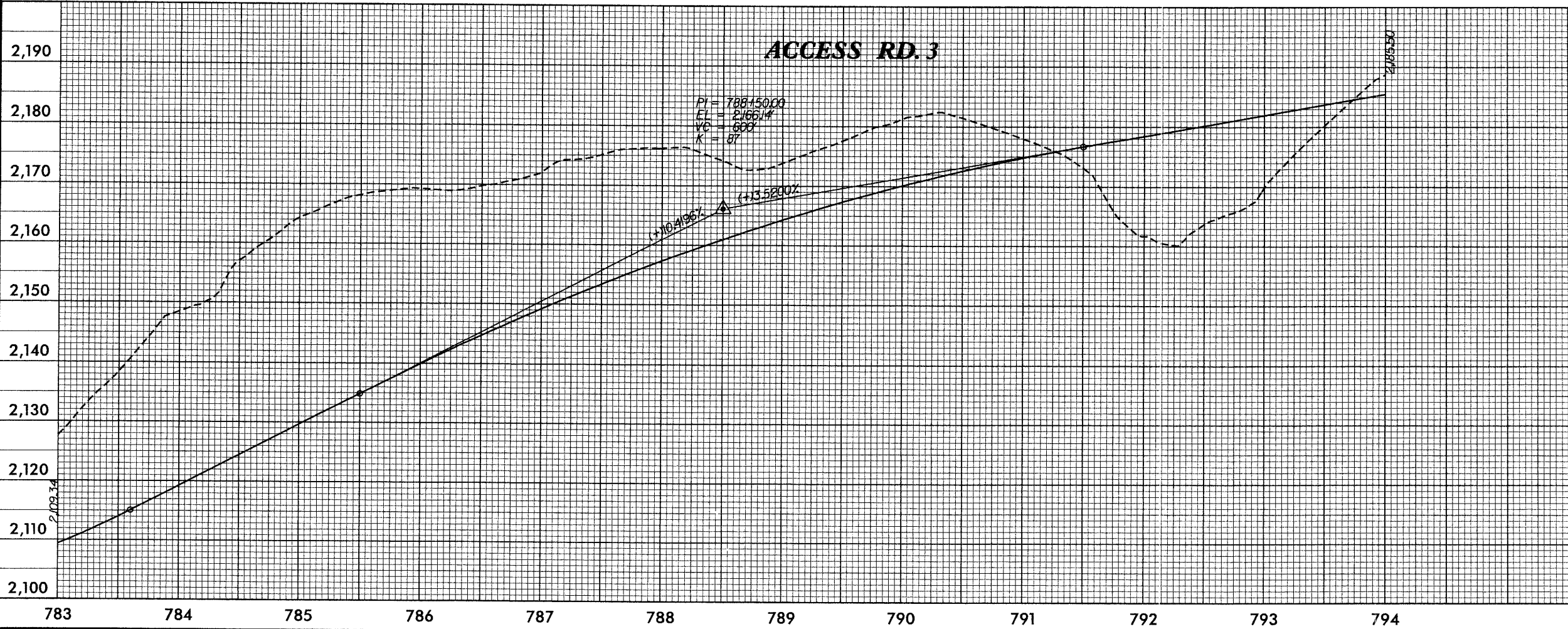
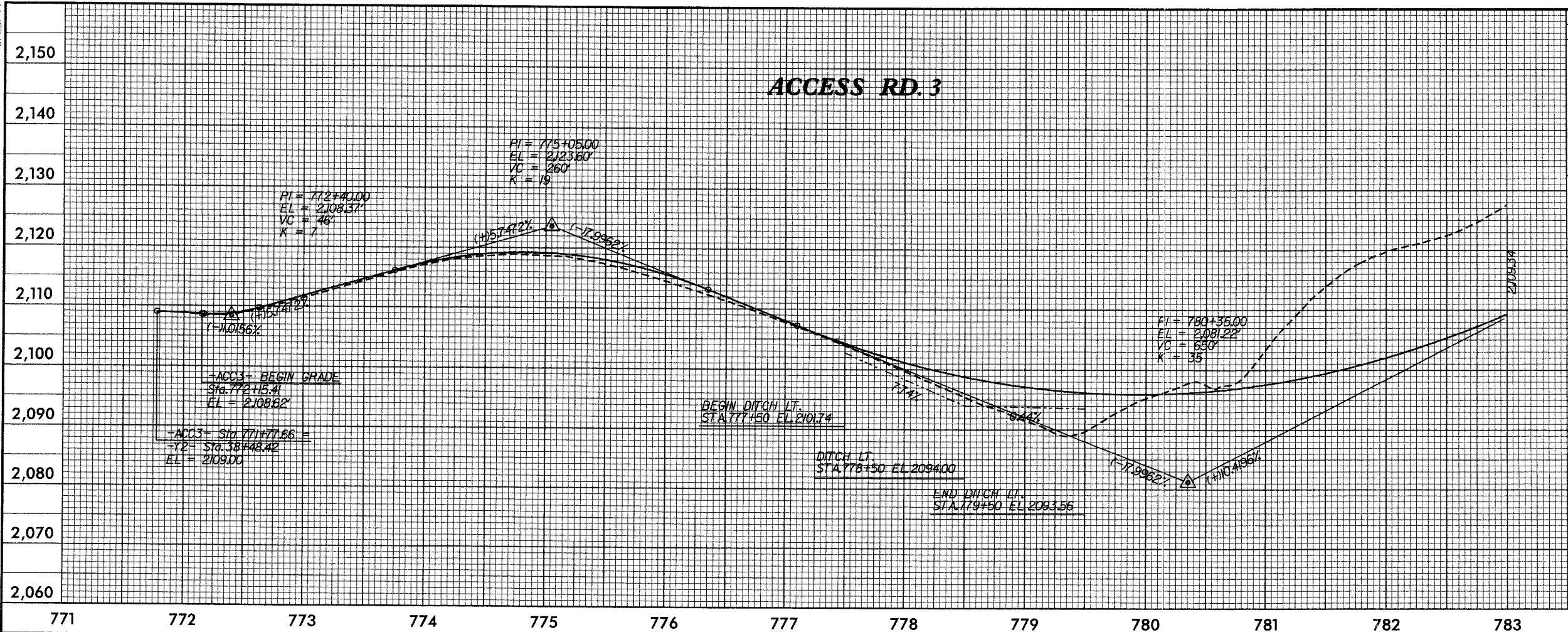


-L-

29-OCT-2007 08:51
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Parsons

5/28/99

PROJECT REFERENCE NO. R-505		SHEET NO. 21
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

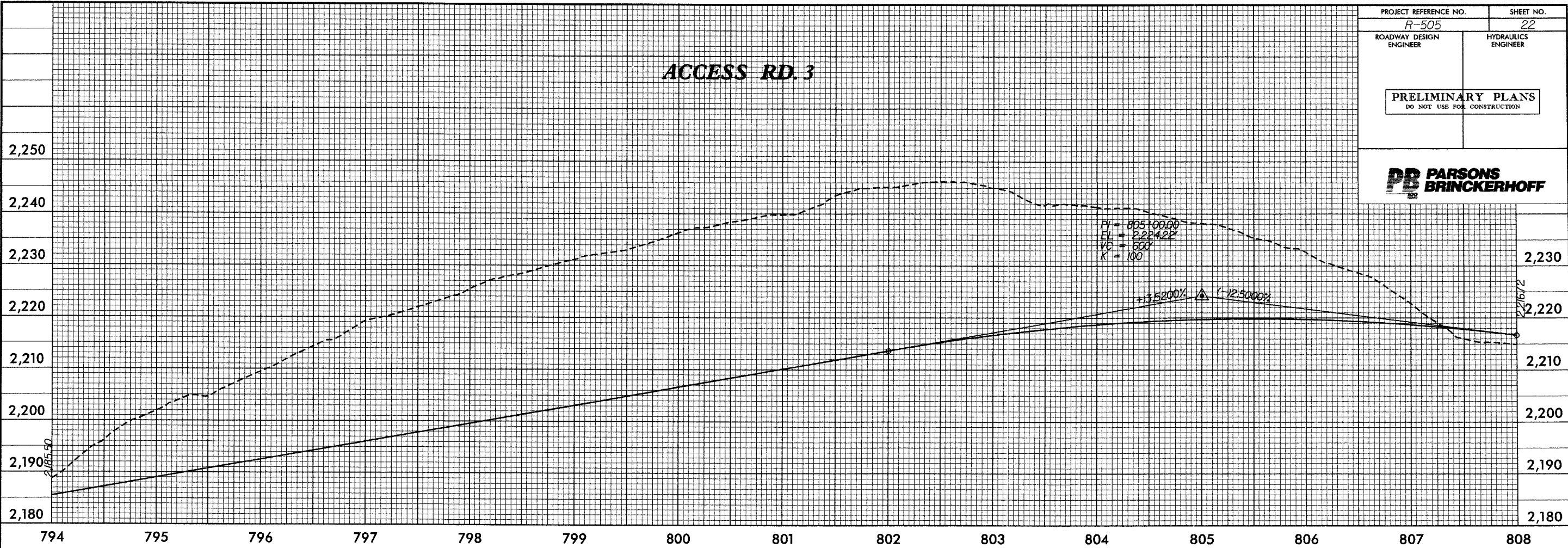


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mchall

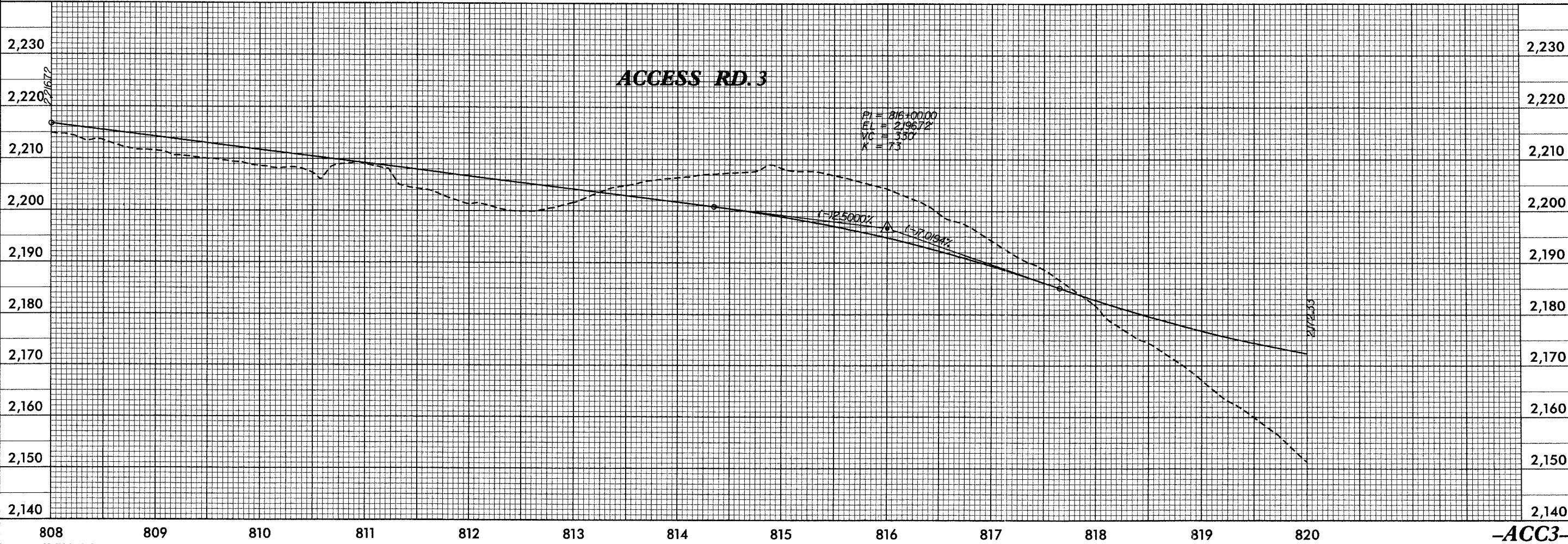
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5/28/99

PROJECT REFERENCE NO. R-505		SHEET NO. 22	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



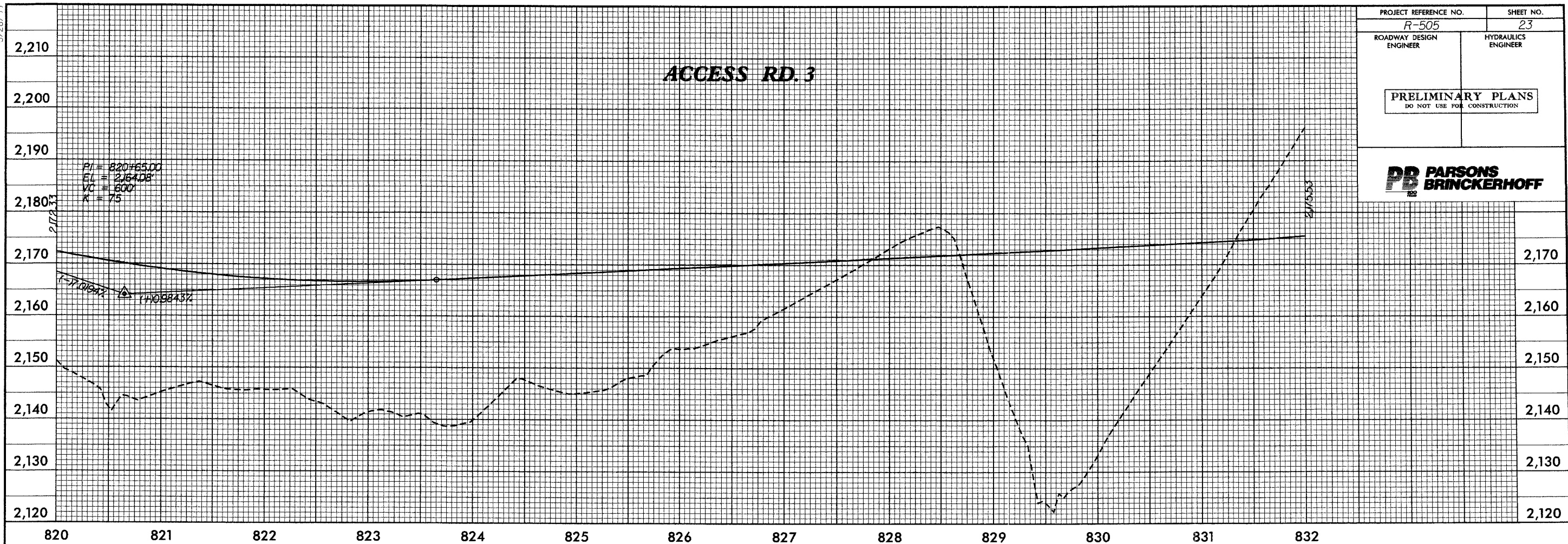
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manan



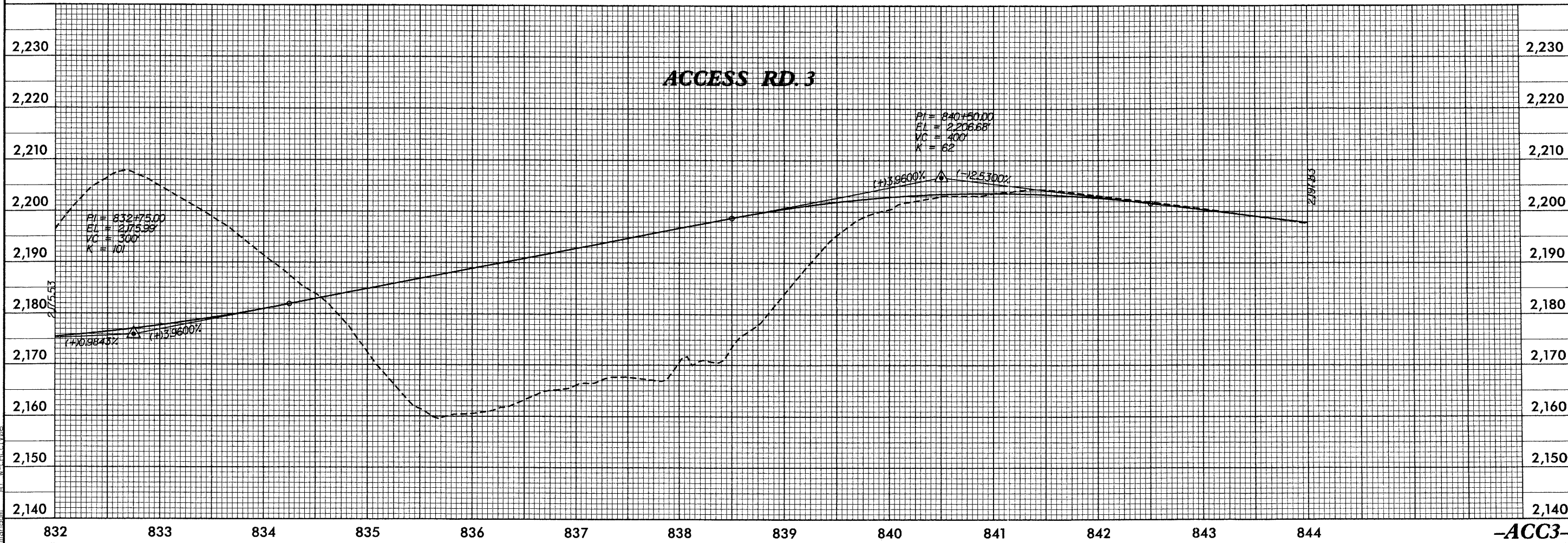
5/28/99

PROJECT REFERENCE NO.		SHEET NO.
R-505		23
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		

**PB PARSONS
BRINCKERHOFF**

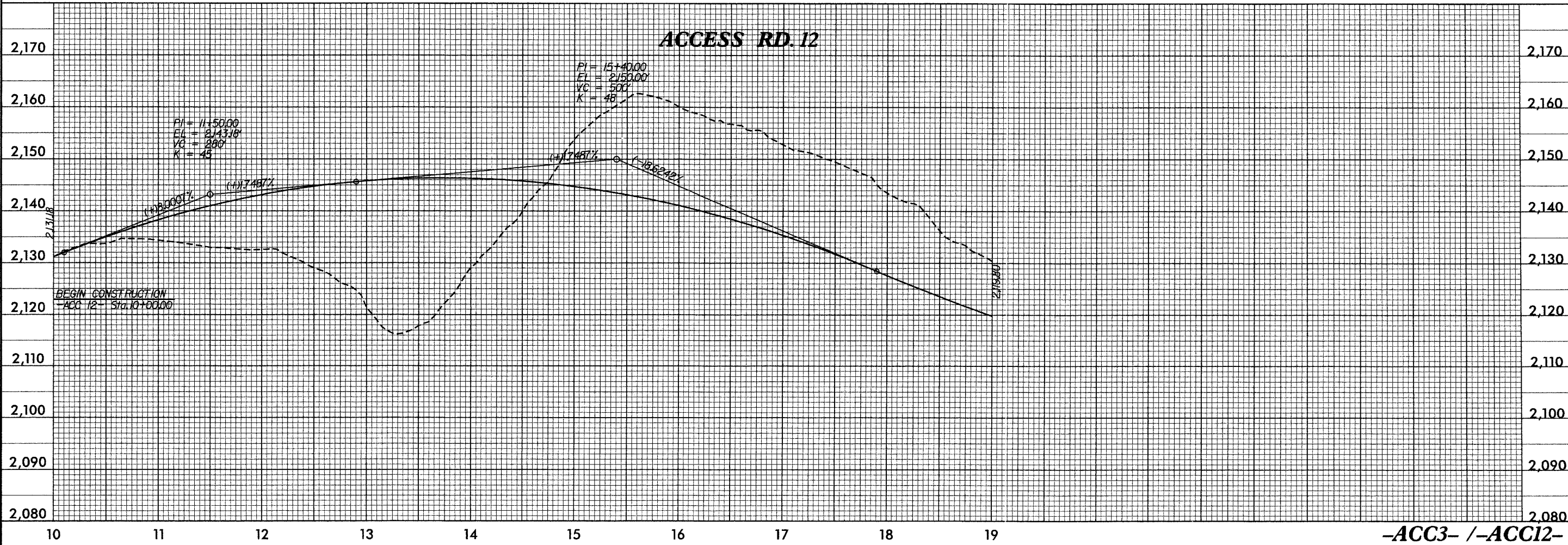
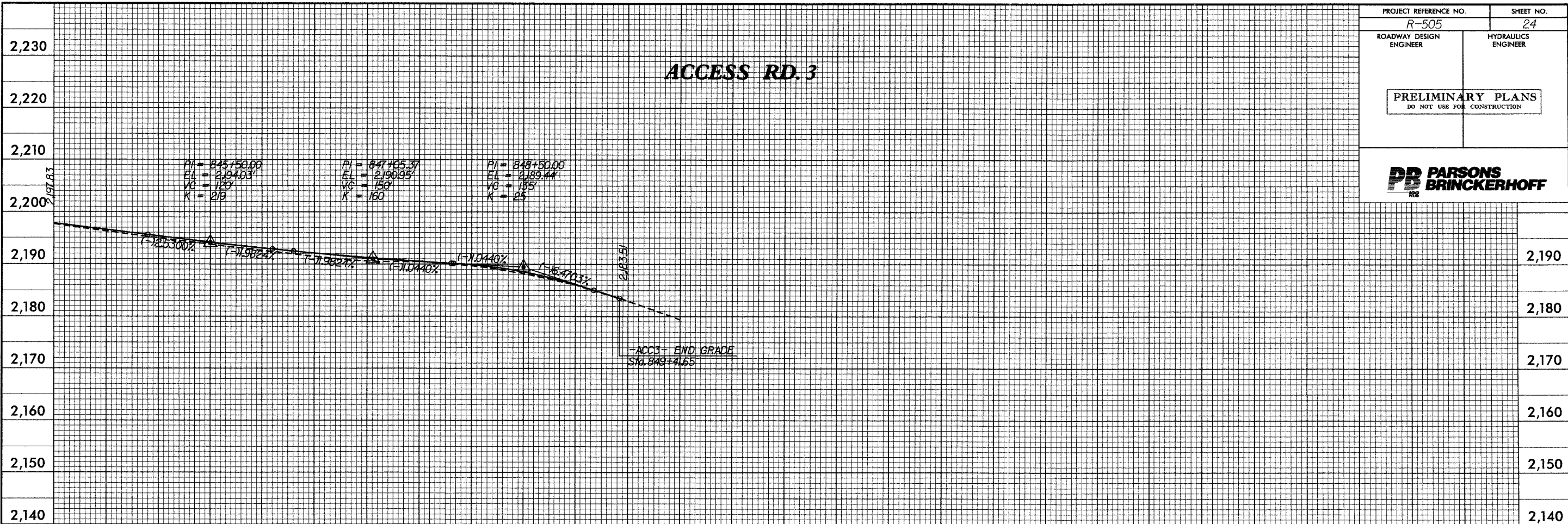


28-OCT-2007 08:52
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manum At WCH CIV05



5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-505	24
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



23-001-2007_0855251-R-505-Roadway\Pro\1505-rdy-pl.dgn
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-ACC3- /-ACC12-

5/28/99

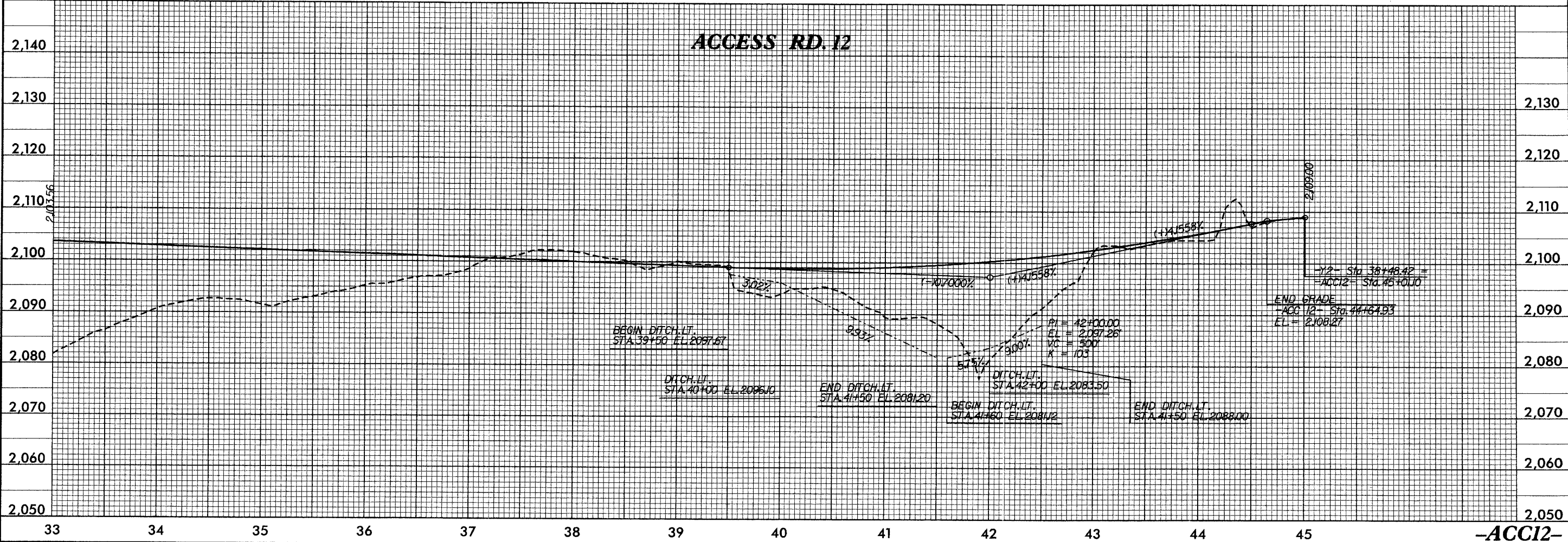
ACCESS RD. 12



PROJECT REFERENCE NO. R-505	SHEET NO. 25
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



ACCESS RD. 12

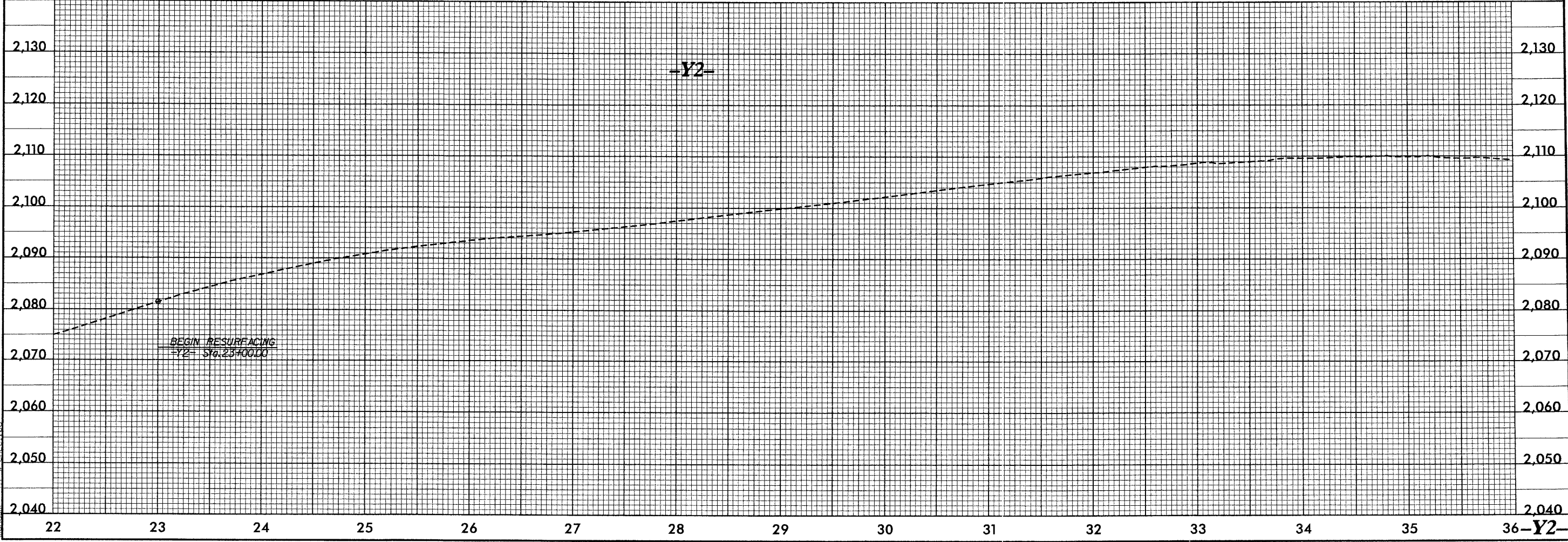
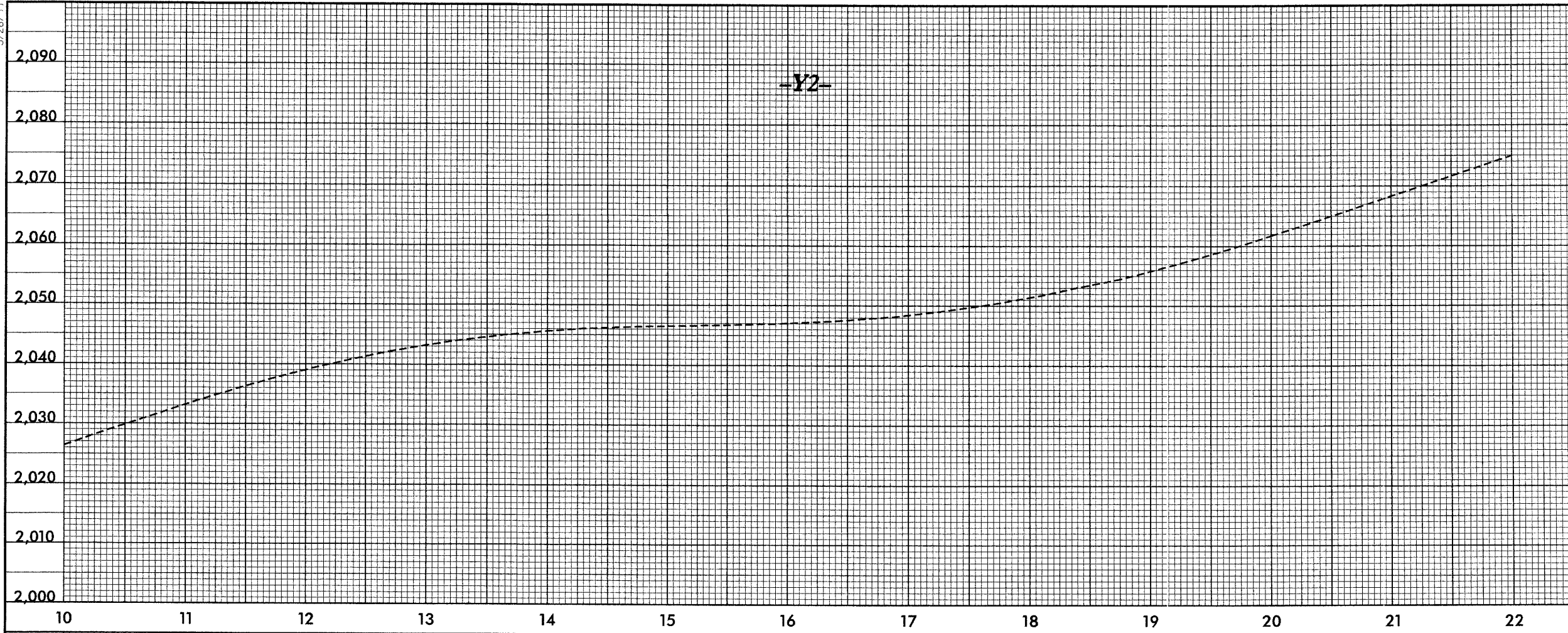


-ACC12-

29 OCT 2007 08:52
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macdon A1 W-CH 1106

5/28/99

PROJECT REFERENCE NO. <i>R-505</i>		SHEET NO. <i>26</i>	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			



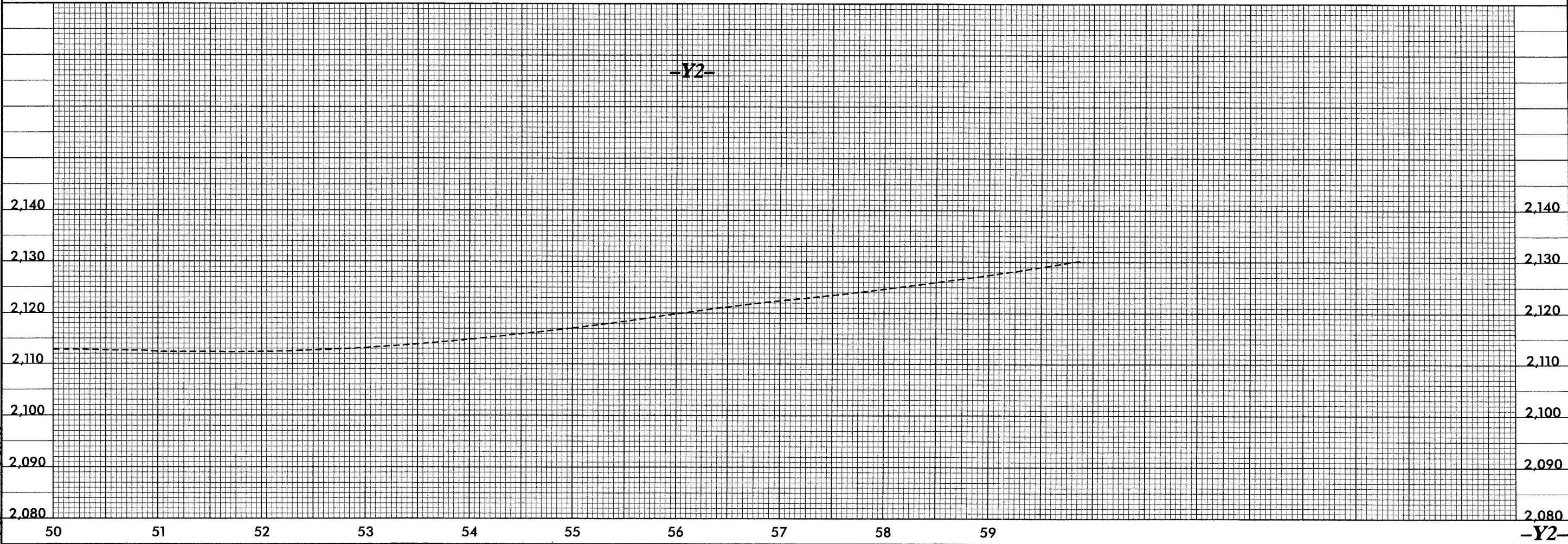
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AT WCH CIV05

5/28/99

PROJECT REFERENCE NO. <i>R-505</i>		SHEET NO. <i>27</i>	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

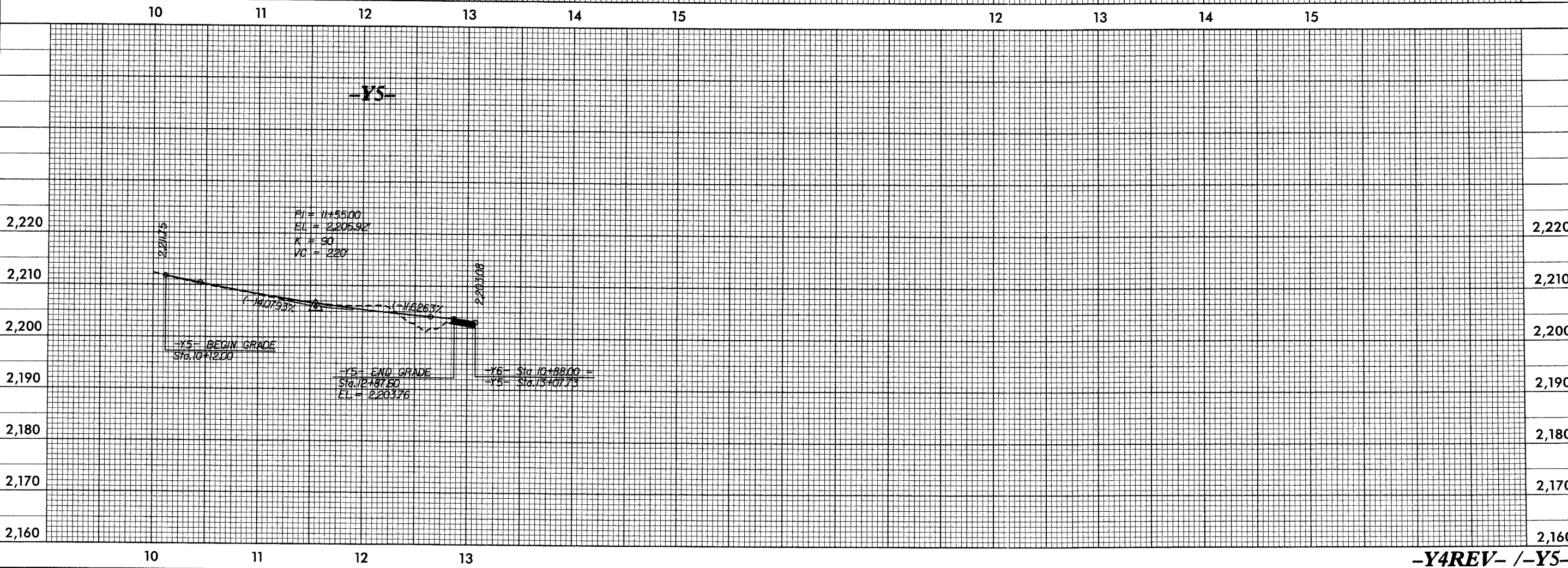
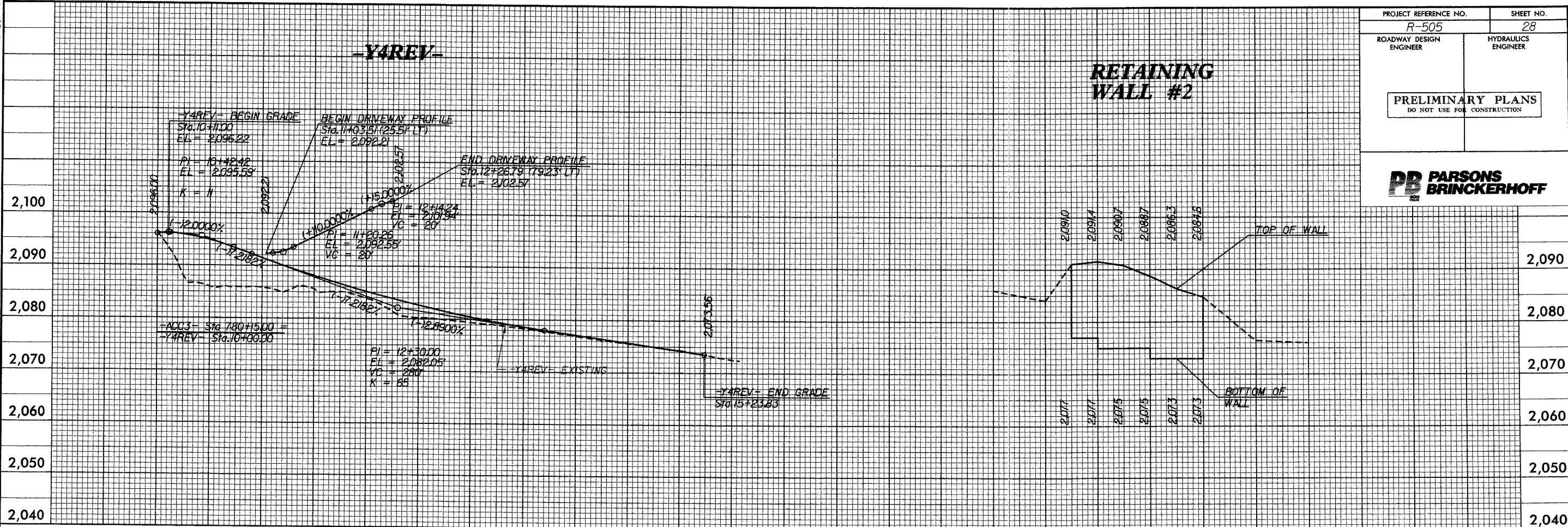


25-OCT-2007 08:52
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5/28/99

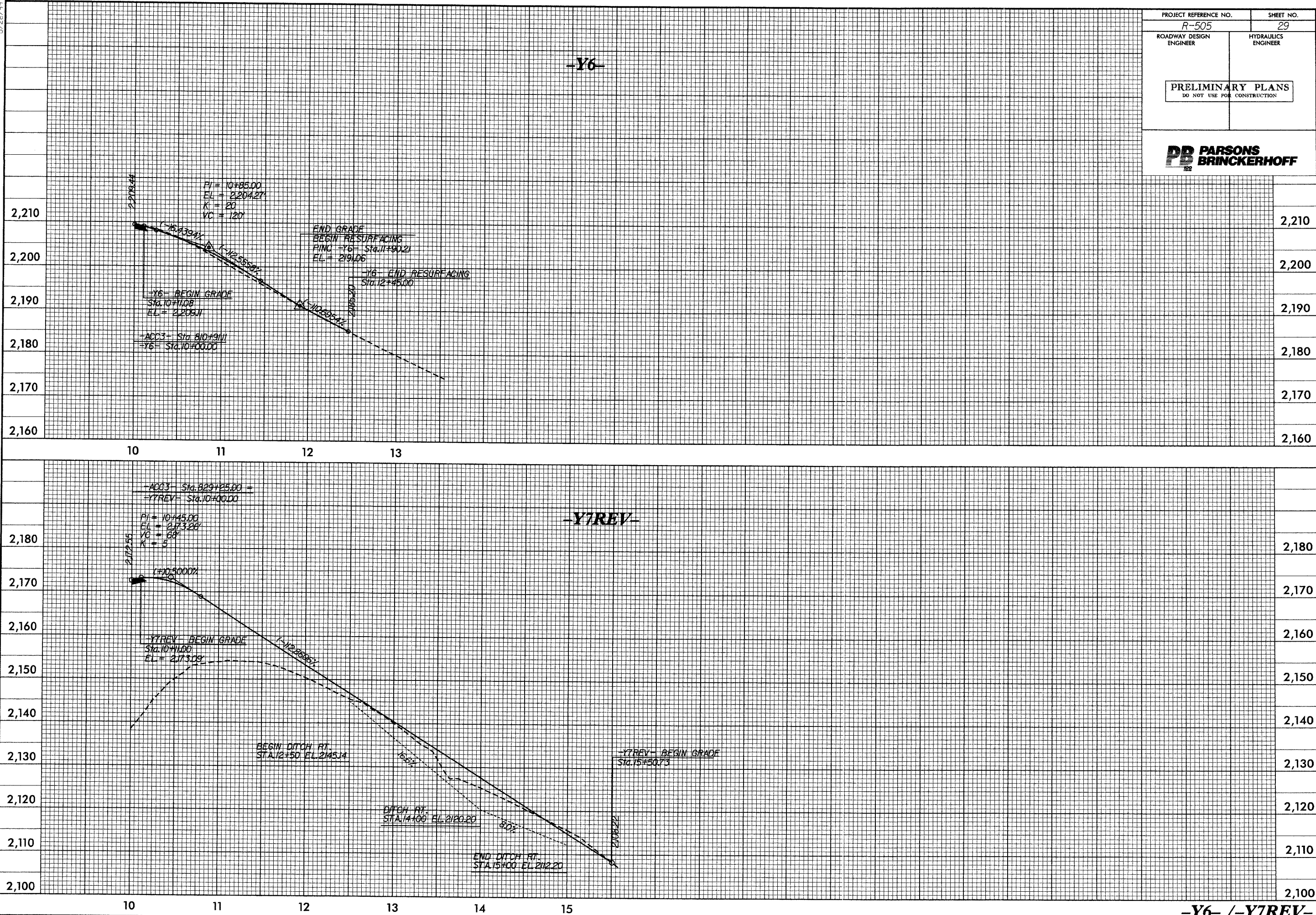
PROJECT REFERENCE NO. R-505		SHEET NO. 28	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			
PARSONS BRINCKERHOFF			



-Y4REV- / -Y5-

29-OCT-2007 08:52
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User: Al W. Cal 10/05

5/28/99
29-OCT-2007 08:52
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main.dgn At: W:\Chil\0005



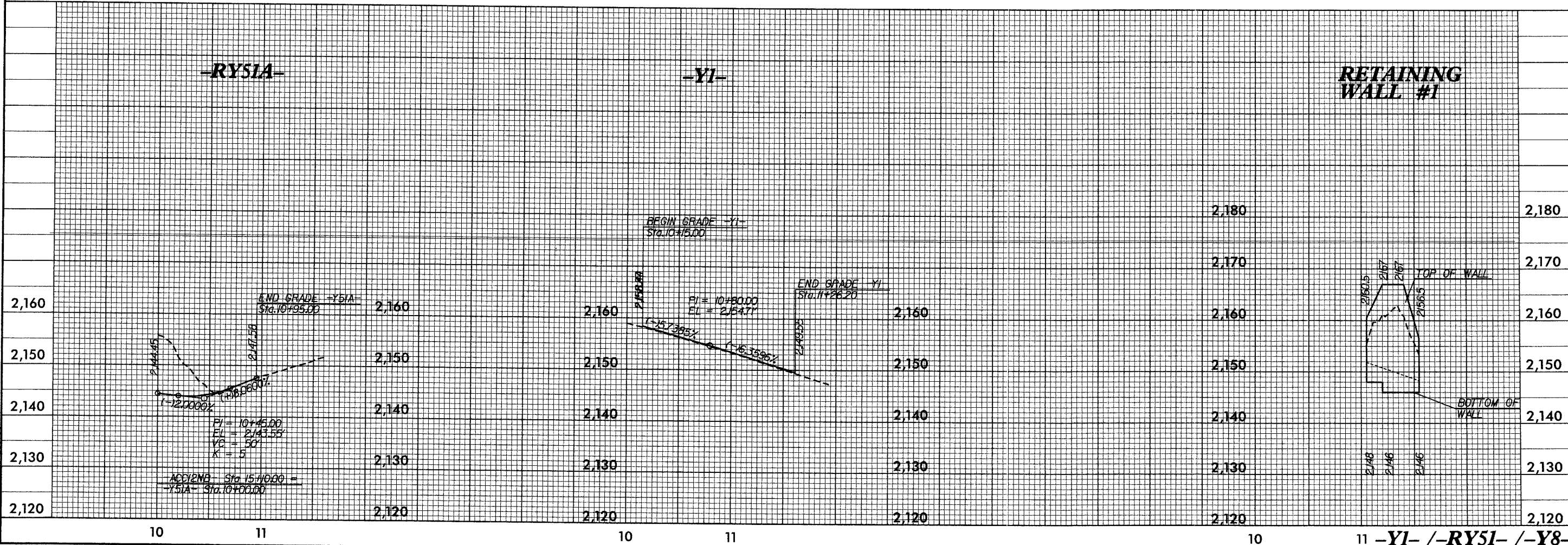
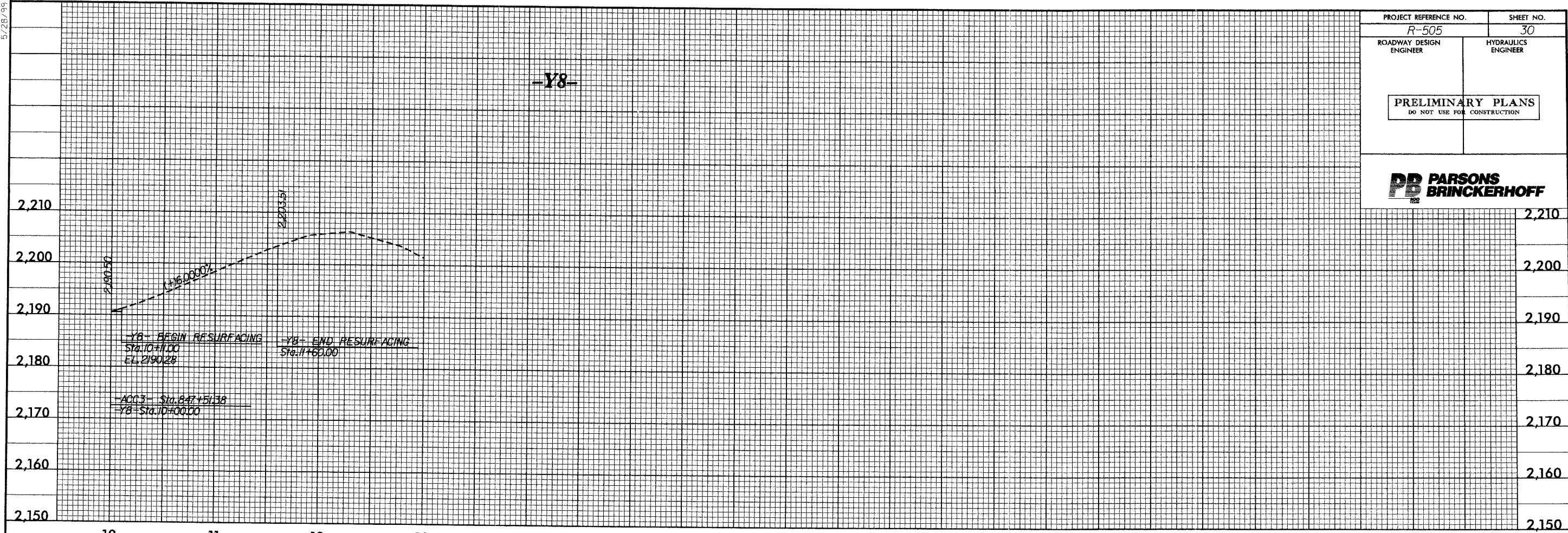
PROJECT REFERENCE NO.	SHEET NO.
R-505	29
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



-Y6- /-Y7REV-

5/28/99
29-OCT-2007 08:53
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Main.dwg
PL 10-11-105

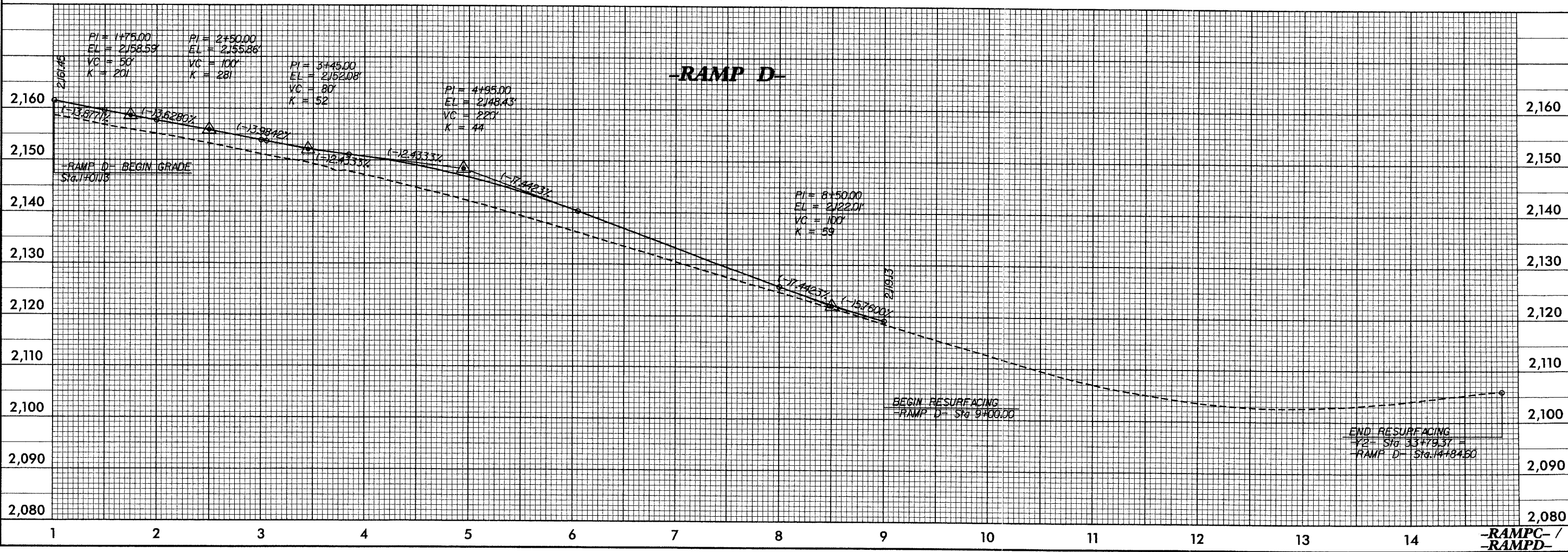
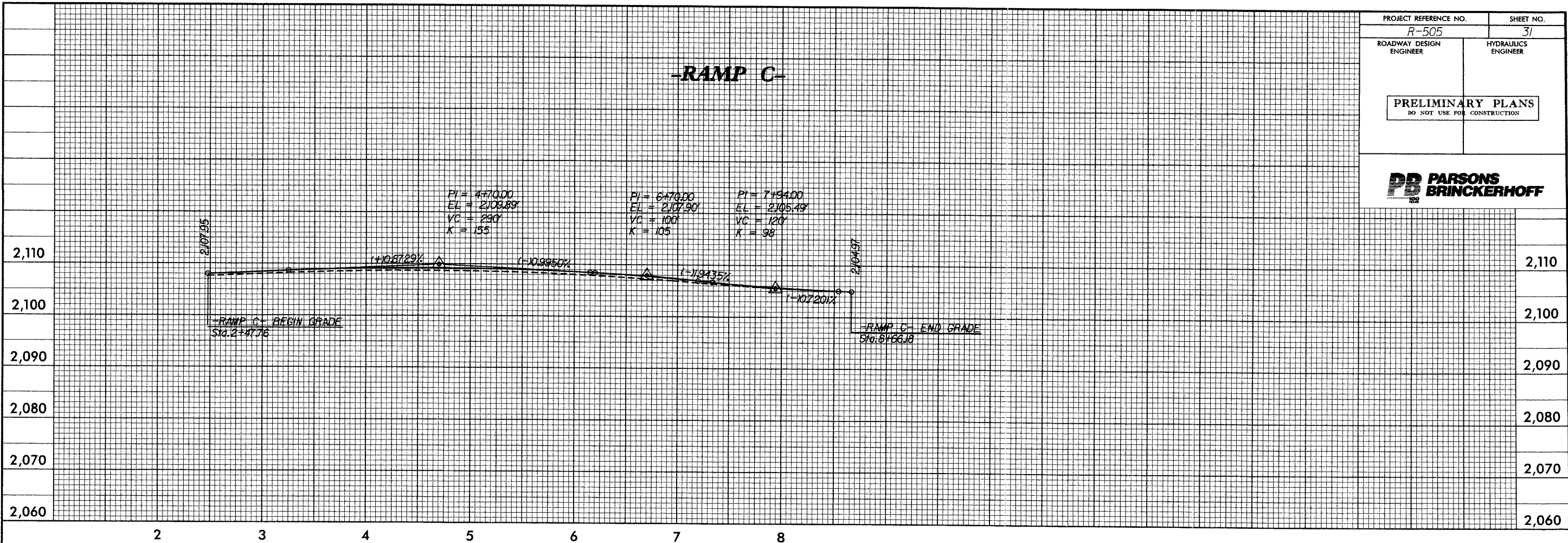
PROJECT REFERENCE NO. <i>R-505</i>		SHEET NO. <i>30</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION		



5/28/99

PROJECT REFERENCE NO.		SHEET NO.	
R-505		31	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION			

PARSONS BRINCKERHOFF



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