



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

LYNDO TIPPETT  
SECRETARY

April 27, 2006

NC Department of Environment and Natural Resources  
Division of Water Quality-Stormwater Management  
943 Washington Square Mall  
Washington, NC 27889

Attention: Mr. Bill Moore

Subject: **Stormwater Permit Request for the Replacement of Bridge No. 60 over the Trent River on US 70 Business; Craven County; TIP Project B-2532; Federal Aid Project No. BRSTP-070B(4); \$420.00 Debit WBS 32649.1.1.**

The North Carolina Department of Transportation (NCDOT) proposes to replace Bridge No. 60 in Craven County, North Carolina. Craven County falls under the jurisdiction of the Coastal Area Management Act (CAMA). The NCDOT is applying for a CAMA Major Development Permit, a Clean Water Act (CWA) §404 Department of the Army Permit, a US Coast Guard Permit, and a North Carolina CWA §401 Water Quality Certification.

A stormwater application form and one copy of the project permit drawings are provided with this request. Please review this project for authorization by your division.

Thank you for your assistance with this important matter. Any assistance you can provide in expediting the review of this project is greatly appreciated. If you have any questions concerning this project, please feel free to contact Mr. Chris Underwood at (919) 715-1451.

Sincerely,

A handwritten signature in black ink, appearing to read "Gregory J. Thorpe".

Gregory J. Thorpe, Ph.D., Environmental Management Director  
Project Development and Environmental Analysis Branch

CC:

Dr. David Chang, P.E., Hydraulics  
Mr. William Wescott, USACE  
Mr. Brian Wrenn, NCDWQ  
Mr. Steve Sollod, DCM  
Mr. Vince Rhea, PE, NCDOT

**MAILING ADDRESS:**  
NC DEPARTMENT OF TRANSPORTATION  
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS  
1548 MAIL SERVICE CENTER  
RALEIGH NC 27699-1548

TELEPHONE: 919-733-3141  
FAX: 919-733-9794  
WEBSITE: [WWW.NCDOT.ORG](http://WWW.NCDOT.ORG)

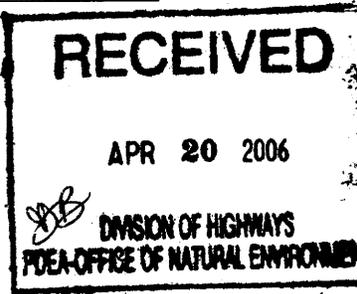
**LOCATION:**  
TRANSPORTATION BUILDING  
1 SOUTH WILMINGTON STREET  
RALEIGH NC

Underwood

OFFICE USE ONLY

Date Received	Fee Paid	Permit Number

**State of North Carolina**  
**Department of Environment and Natural Resources**  
**Division of Water Quality**



**STORMWATER MANAGEMENT PERMIT APPLICATION FORM**  
**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION**  
**LINEAR ROADWAY PROJECT**

*This form may be photocopied for use as an original.*

DWQ Stormwater Management Plan Review:

A complete stormwater management plan submittal includes this application form, a supplement form for each BMP proposed (see Section V), design calculations, and plans and specifications showing all road and BMP details.

**I. PROJECT INFORMATION**

NCDOT Project Number: 32649.1.1 (B-2532) County: Craven

Project Name: Bridge No. 60 over Trent River on US 70 Bus.

Project Location: Business US 70 Between US 70/17 and Front Street in Downtown New Bern

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Receiving Stream Name: Trent River/ Neuse River River Basin: Neuse Class: NSW, SB, Sw

Proposed linear feet of project: 2750 feet

Proposed Structural BMP and Road Station *(attach a list of station and BMP type if more room is needed):*

Level spreader left of station 15+00 adjacent to the BridgePoint Hotel

Type of proposed project: *(check all that apply):*

- New   
 Widening   
 2 lane\*   
 4 lane\*   
 Curb and Gutter   
 Bridge Replacement  
 Other *(Describe)* 570' of side walk will be added behind new curb and gutter along the SW end of project

*\*2 lane and 4 lane imply that roadside ditches are used unless Curb and Gutter is also checked.*

**II. REQUIRED ITEMS CHECKLIST**

Initial in the space provided below to indicate the following design requirements have been met and supporting documentation is attached. Supporting documentation shall, at a minimum, consist of a brief narrative description including (1) the scope of the project, (2) how the items below are met, (3) how the proposed best management practices minimize water quality impacts, and (4) any significant constraints and/or justification for not meeting a, b, c and d to the maximum extent practicable.

*Designer's Initials*

- SRM a. The amount of impervious surface has been minimized as much as possible.  
SRM b. The runoff from the impervious areas has been diverted away from surface waters as much as possible.  
SRM c. Best Management Practices are employed which minimize water quality impacts.  
SRM d. Vegetated roadside ditches are 3:1 slope or flatter.

### III. OPERATION AND MAINTENANCE AGREEMENT

I acknowledge and agree by my initials below that the North Carolina Department of Transportation is responsible for the implementation of the ~~four~~<sup>three</sup> maintenance items listed. I agree to notify DWQ of any operational problems with the BMP's that would impact water quality or prior to making any changes to the system or responsible party.

#### Maintenance Engineer's Initials

- SWR a. BMP's shall be inspected and maintained in good working order.  
SWR b. Eroded areas shall be repaired and reseeded as needed.  
SWR c. Stormwater collection systems, including piping, inlets, and outlets, shall be maintained to insure proper functioning.

Maintenance Engineer's Name: John W. Rouse, Jr., P.E.  
Title: Division 2 Maintenance Engineer

### IV. APPLICATION CERTIFICATION

I, (print or type name) Philip S. Harris III of PDEA Branch, certify that the information included on this permit application form is, to the best of my knowledge, correct and that the project will be constructed in conformance with the approved plans and that the proposed project complies with the requirements of 15A NCAC 2H .1000.

Title: \_\_\_\_\_  
Address: Parkway Lincoln Building, Raleigh NC  
Signature: [Signature] Date: 4/27/06

### V. SUPPLEMENT FORMS

The applicable state stormwater management permit supplement form(s) listed below must be submitted for each BMP specified for this project. Contact the Stormwater and General Permits Unit at (919) 733-5083 for the status and availability of these forms.

- Form SWU-102 Wet Detention Basin Supplement
- Form SWU-103 Infiltration Basin Supplement
- Form SWU-104 Low Density Supplement
- Form SWU-105 Curb Outlet System Supplement
- Form SWU-106 Off-Site System Supplement
- Form SWU-107 Underground Infiltration Trench Supplement
- Form SWU-108 Neuse River Basin Supplement
- Form SWU-109 Innovative Best Management Practice Supplement
- Form SWU-110 Extended Dry Detention Basin Supplement

## **STORMWATER MANAGEMENT PLAN**

### **PROJECT DESCRIPTION**

The NC Department of Transportation proposes to replace bridge no. 60 with a bridge. US 70 Business in the vicinity of the project is an urban local route that connects historic New Bern at the northern terminus of the project to James City at the southern terminus of the project. The existing roadway cross section varies from two lanes with an overall width of 36' across the bridge to 72' at the southern terminus where it intersects with US 70 Bypass.

The existing structure consists of multiple 35' approach spans north and south of a 220' main swing span. The overall bridge length is 1760'. The proposed structure will have multiple spans north and south of a 166' bascule span. The overall bridge length will be 1762'.

Bridge deck drainage is accomplished with deck drains on both the existing bridge and the proposed bridge. Proposed deck drains will be eliminated from the first 3 spans of the bridge (282'), except directly above the rip rap slope protection at the southern abutment. Similarly, deck drains will be eliminated from the last four spans of the bridge (285') except directly above the rip rap slope protection at the northern abutment.

The existing concrete and timber bulkheads will be retained on either end of the bridge. The relatively flat area between the bulkhead and the bridge abutment will be amended with rip rap to provide scour protection. This area will also act as an infiltration area for the deck drains mentioned above.

The existing bridge has two 3' sidewalks on either side of the bridge. The new bridge will have just one 5'6" sidewalk along the western side of the bridge. 300' of existing sidewalk will be removed along the roadway at the northeast end of the bridge. A 570' sidewalk with curb and gutter will be added along the western side of the roadway from a drive at the southern project terminus to the beginning of the bridge. The difference in the sidewalk improvements will add approximately 1350 square feet (0.031acre) of impervious area within the project limits.

Traffic will be detoured off-site during the bridge construction.

### **ENVIRONMENTAL DESCRIPTION**

The surrounding land use consists of residential, commercial, and industrial uses. The project area is located in the Neuse River Basin at the confluence of the Trent River with the Neuse River. The surrounding terrain is generally flat to very flat. The natural ground elevation at the site is approximately 4' NGVD. The water depth at the site is approximately 14' in the channel. The best usage classification is NSW, SB, Sw. No watershed critical areas, HQW, or ORW waters are located within one mile of the project site.

Craven County

Bridge No. 60 on US 70 Bus. over the Trent River

Hydraulics Project Manager: Andrew Nottingham, PE

### **BEST MANAGEMENT PRACTICES**

- The bridge replacement will be accomplished with a road closure that will minimize construction time and on-site impacts.
- The roadway typical section is a fill section with slopes no steeper than 3:1.
- The added curb and sidewalk section will use a level spreader device for additional treatment.
- Proposed deck drains will be eliminated from the first 3 spans of the bridge (282'), except directly above the rip rap slope protection at the southern abutment. Similarly, deck drains will be eliminated from the last four spans of the bridge (285') except directly above the rip rap slope protection at the northern abutment.
- Discharge from the deck drains will be allowed to infiltrate the natural ground behind the existing bulkheads.
- Placement of rip rap beneath both bridge ends between the bulkhead and the bridge abutment will control erosion from deck drains and storm event scour.
- To avoid impacts to SAV's, bridge construction in shallow water will be limited to a work bridge.

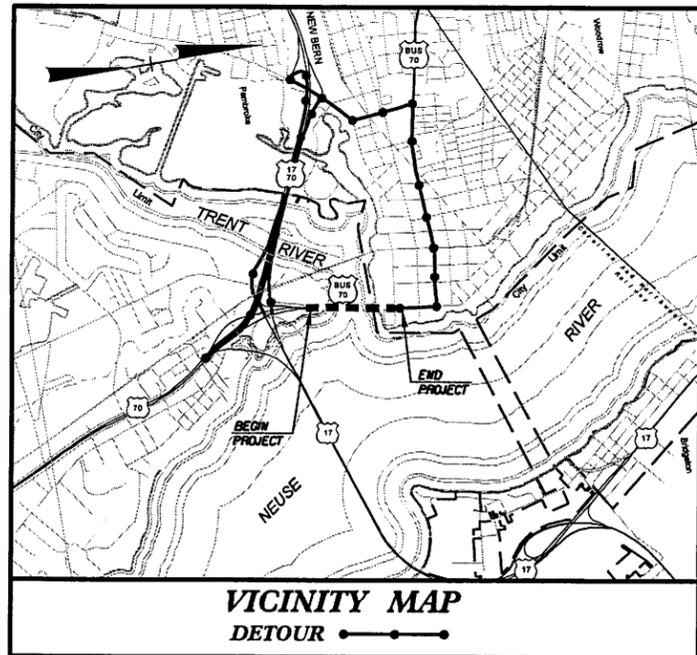
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**CRAVEN COUNTY**

LOCATION: Bridge No. 60 Over Trent River on US 70 BUSINESS

TYPE OF WORK: Grading, Drainage, Paving, Structures & Signals.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-2532	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
32649.1.1	BRSTP-070B(4)	PE	

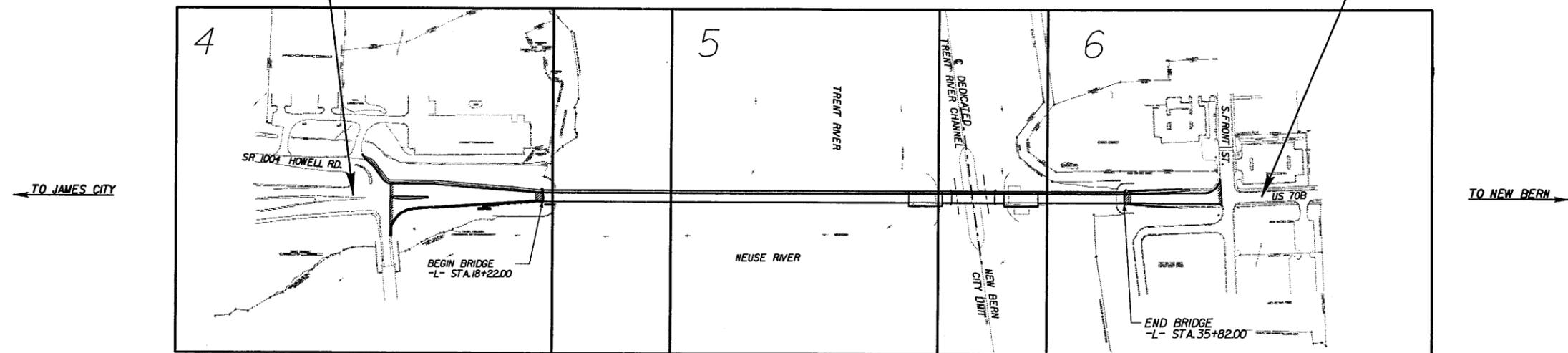


VICINITY MAP  
DETOUR

BEGIN TIP PROJECT B-2532  
-L- STA. 12+50.00



END TIP PROJECT B-2532  
-L- STA. 40+00.00

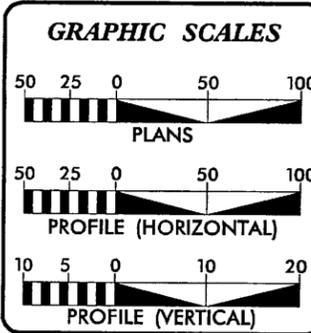


**INCOMPLETE PLANS**  
DO NOT USE FOR R/W ACQUISITION  
**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

METHOD OF CLEARING: METHOD III

TIP PROJECT: B-2532

CONTRACT:



**DESIGN DATA**

ADT 2004 = 16,200
ADT 2030 = 30,600
DHV = 10 %
D = 65 %
T = 3 % *
V = 40 MPH
FUNCTIONAL CLASS: LOCAL URBAN
* TTST 1% DUAL 2%

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT B-2532 =	.19 MI.
LENGTH STRUCTURE TIP PROJECT B-2532 =	.33 MI.
TOTAL LENGTH TIP PROJECT B-2532 =	.52 MI.

Prepared in the Office of:

**HNTB** HNTB NORTH CAROLINA, P.C.  
343 E. SIX FORKS ROAD, SUITE 200  
Raleigh, North Carolina 27609

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: \_\_\_\_\_

LETTING DATE: \_\_\_\_\_

ENRICO A. ROQUE, P.E.  
PROJECT ENGINEER

SCOTT YARLEY, P.E.  
PROJECT DESIGN ENGINEER

NCDOT CONTACT  
B. DOUG TAYLOR, P.E.  
PROJECT ENGINEER  
ROADWAY DESIGN

**HYDRAULICS ENGINEER**

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

**ROADWAY DESIGN ENGINEER**

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

**DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA**

\_\_\_\_\_  
STATE DESIGN ENGINEER P.E.

**DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION**

APPROVED \_\_\_\_\_  
DIVISION ADMINISTRATOR DATE

\$\$\$\$\$SYTIME\$\$\$\$\$  
\$\$\$\$\$DGN\$\$\$\$\$  
\$\$\$\$\$USERNAME\$\$\$\$\$

Note: Not to Scale

\*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**HNTB** HNTB NORTH CAROLINA, P. C.  
343 E. SIX FORKS ROAD, SUITE 200  
Raleigh, North Carolina 27609

PROJECT REFERENCE NO. B-2532 SHEET NO. 1-B

# CONVENTIONAL PLAN SHEET SYMBOLS

### BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○
Property Corner	⊕
Property Monument	⊕
Parcel/Sequence Number	(23)
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	-o-o-o-
Proposed Chain Link Fence	-□-□-□-
Proposed Barbed Wire Fence	-◇-◇-◇-
Existing Wetland Boundary	-----
Proposed Wetland Boundary	-----
Existing High Quality Wetland Boundary	-----
Existing Endangered Animal Boundary	-----
Existing Endangered Plant Boundary	-----

### BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or UG Tank Cap	○
Sign	⊙
Well	⊕
Small Mine	⊗
Foundation	⊠
Area Outline	⊠
Cemetery	⊠
Building	⊠
School	⊠
Church	⊠
Dam	⊠

### HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	-----
River Basin Buffer	-----
Flow Arrow	←
Disappearing Stream	→
Spring	○
Swamp Marsh	⊕
Proposed Lateral, Tail, Head Ditch	-----
False Sump	⊠

### RAILROADS:

Standard Gauge	-----
RR Signal Milepost	⊙
Switch	⊠
RR Abandoned	-----
RR Dismantled	-----

### RIGHT OF WAY:

Baseline Control Point	⊕
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	⊕
Proposed Control of Access	⊕
Existing Easement Line	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Utility Easement	-----

### ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Wheel Chair Ramp	-----
Curb Cut for Future Wheel Chair Ramp	-----
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	-----

### VEGETATION:

Single Tree	⊕
Single Shrub	⊕
Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	-----

### EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	-----
Bridge Wing Wall, Head Wall and End Wall	-----
MINOR:	
Head and End Wall	-----
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	-----
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊕
Storm Sewer	-----

### UTILITIES:

POWER:	
Existing Power Pole	⊕
Proposed Power Pole	⊕
Existing Joint Use Pole	⊕
Proposed Joint Use Pole	⊕
Power Manhole	⊕
Power Line Tower	⊕
Power Transformer	⊕
UG Power Cable Hand Hole	⊕
H-Frame Pole	⊕
Recorded UG Power Line	-----
Designated UG Power Line (S.U.E.*)	-----

### TELEPHONE:

Existing Telephone Pole	⊕
Proposed Telephone Pole	⊕
Telephone Manhole	⊕
Telephone Booth	⊕
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
UG Telephone Cable Hand Hole	⊕
Recorded UG Telephone Cable	-----
Designated UG Telephone Cable (S.U.E.*)	-----
Recorded UG Telephone Conduit	-----
Designated UG Telephone Conduit (S.U.E.*)	-----
Recorded UG Fiber Optics Cable	-----
Designated UG Fiber Optics Cable (S.U.E.*)	-----

### WATER:

Water Manhole	⊕
Water Meter	⊕
Water Valve	⊕
Water Hydrant	⊕
Recorded UG Water Line	-----
Designated UG Water Line (S.U.E.*)	-----
Above Ground Water Line	-----

### TV:

TV Satellite Dish	⊕
TV Pedestal	⊕
TV Tower	⊕
UG TV Cable Hand Hole	⊕
Recorded UG TV Cable	-----
Designated UG TV Cable (S.U.E.*)	-----
Recorded UG Fiber Optic Cable	-----
Designated UG Fiber Optic Cable (S.U.E.*)	-----

### GAS:

Gas Valve	⊕
Gas Meter	⊕
Recorded UG Gas Line	-----
Designated UG Gas Line (S.U.E.*)	-----
Above Ground Gas Line	-----

### SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
UG Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
Recorded SS Forced Main Line	-----
Designated SS Forced Main Line (S.U.E.*)	-----

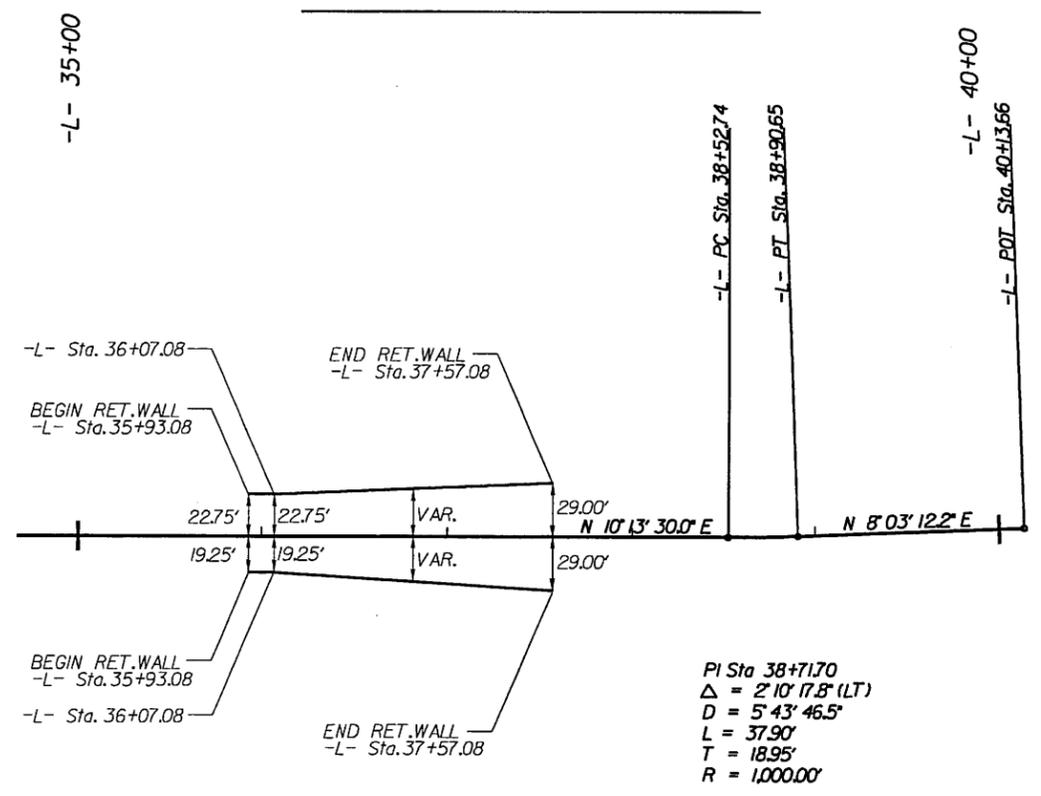
### MISCELLANEOUS:

Utility Pole	⊕
Utility Pole with Base	⊕
Utility Located Object	⊕
Utility Traffic Signal Box	⊕
Utility Unknown UG Line	-----
UG Tank; Water, Gas, Oil	⊕
AG Tank; Water, Gas, Oil	⊕
UG Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.





### RETAINING WALL DETAIL



SEE SHEET 6 FOR PLAN  
 SEE PREVIOUS SHEET 2-A FOR TYPICAL SECTION

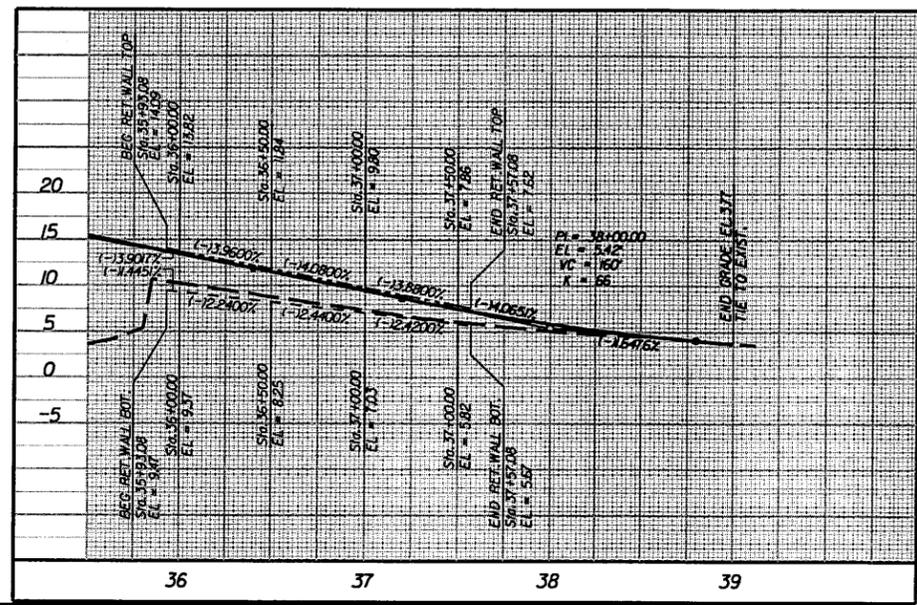
-L- STA	OFFSET FROM Q	ELEV @ TOP OF WALL	ELEV @ BOTTOM OF WALL	WALL HEIGHT
35+93.08	22.75	14.09	9.47	4.62
36+00.00	22.75	13.82	9.37	4.45
36+50.00	24.54	11.84	8.25	3.59
37+00.00	26.62	9.80	7.03	2.77
37+50.00	28.71	7.86	5.82	2.04
37+57.08	29.00	7.62	5.67	1.95

-L- STA	OFFSET FROM Q	ELEV @ TOP OF WALL	ELEV @ BOTTOM OF WALL	WALL HEIGHT
35+93.08	19.25	13.89	10.13	3.76
36+00.00	19.25	13.67	10.02	3.65
36+50.00	22.04	11.71	8.39	3.32
37+00.00	25.29	9.70	7.10	2.60
37+50.00	28.54	7.80	5.88	1.92
37+57.08	29.00	7.56	5.85	1.71

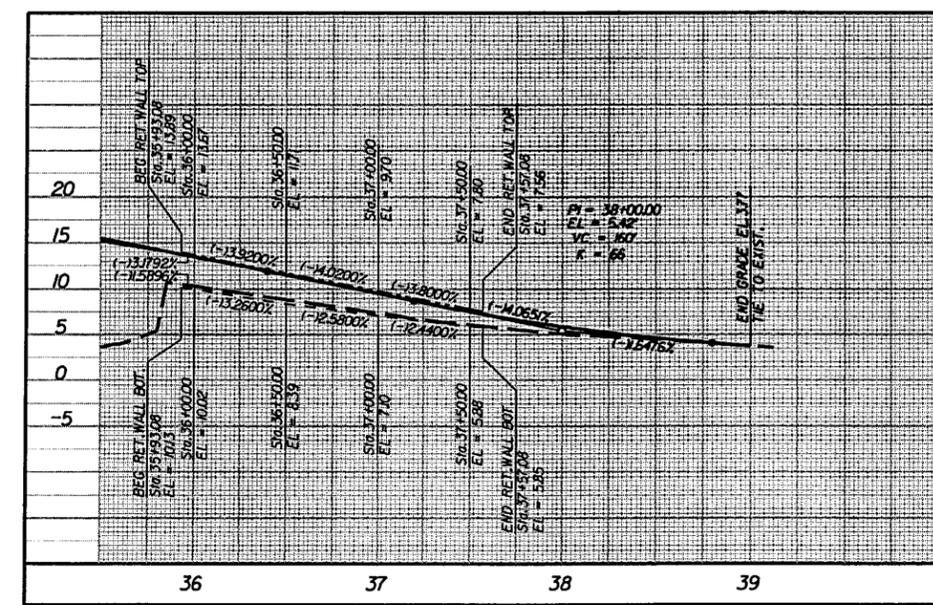
PI Sta 38+71.70  
 $\Delta = 2' 10'' 17.8''$  (LT)  
 $D = 5' 43'' 46.5''$   
 $L = 37.90'$   
 $T = 18.95'$   
 $R = 1,000.00'$

- NOTES:
- APPROX. WALL LENGTH = 164' (LT. & RT.)
  - TOP OF WALL ELEVATION DOES NOT INCLUDE COPING
  - BOTTOM OF WALL ELEVATION IS TO BERM OR EXISTING GROUND
  - ALL HEIGHTS/STATIONS DESIGNATED ABOVE ARE SHOWN IN FEET

### LEFT RETAINING WALL PROFILE (SHOWN IN FEET)

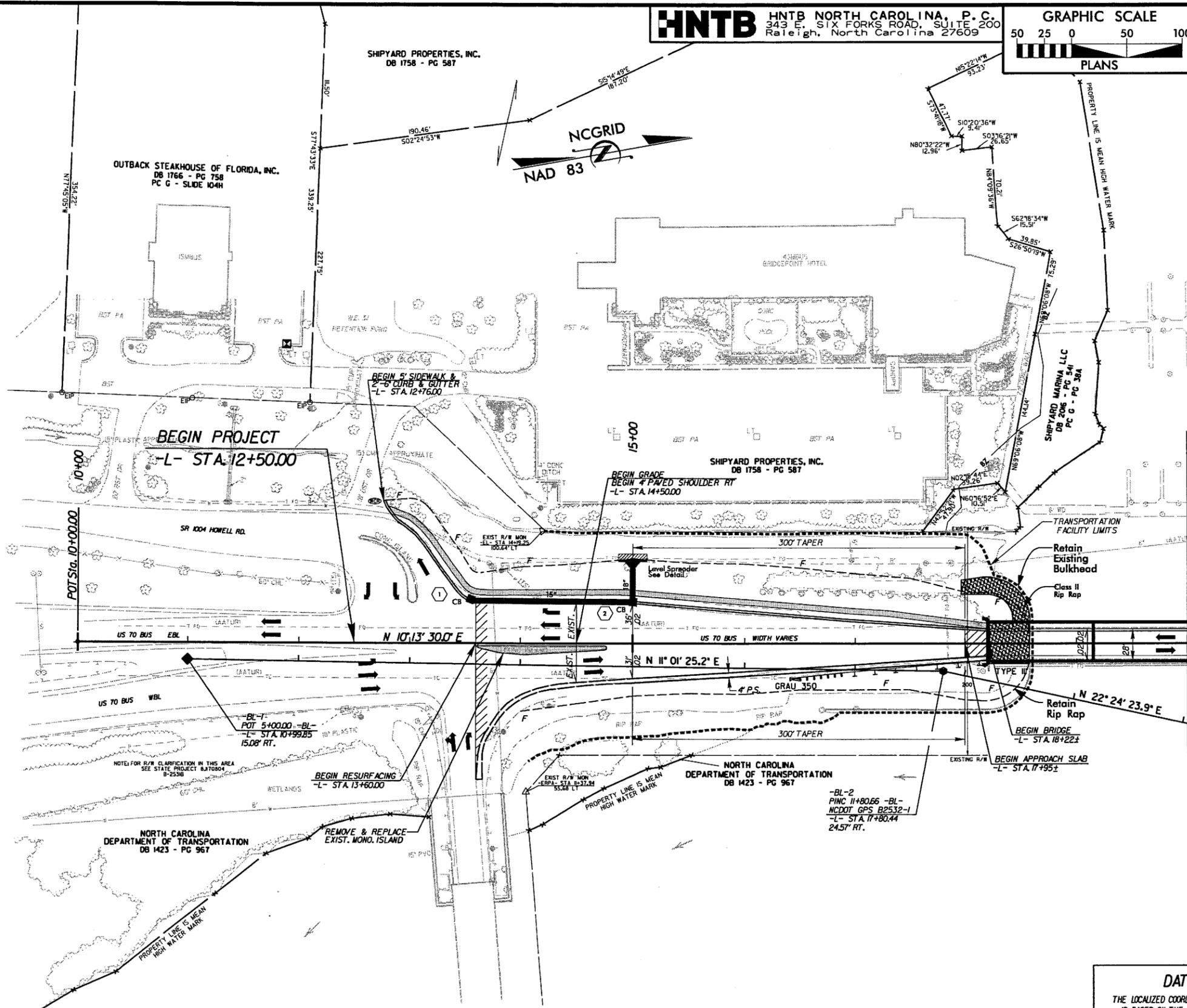
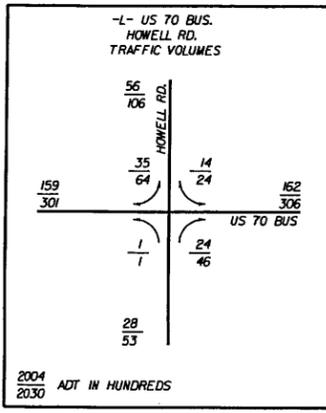


### RIGHT RETAINING WALL PROFILE (SHOWN IN FEET)







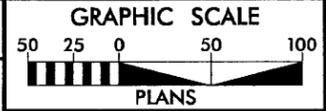


MATCHLINE -L- STA. 20+00.00 SEE SHEET NO. 5

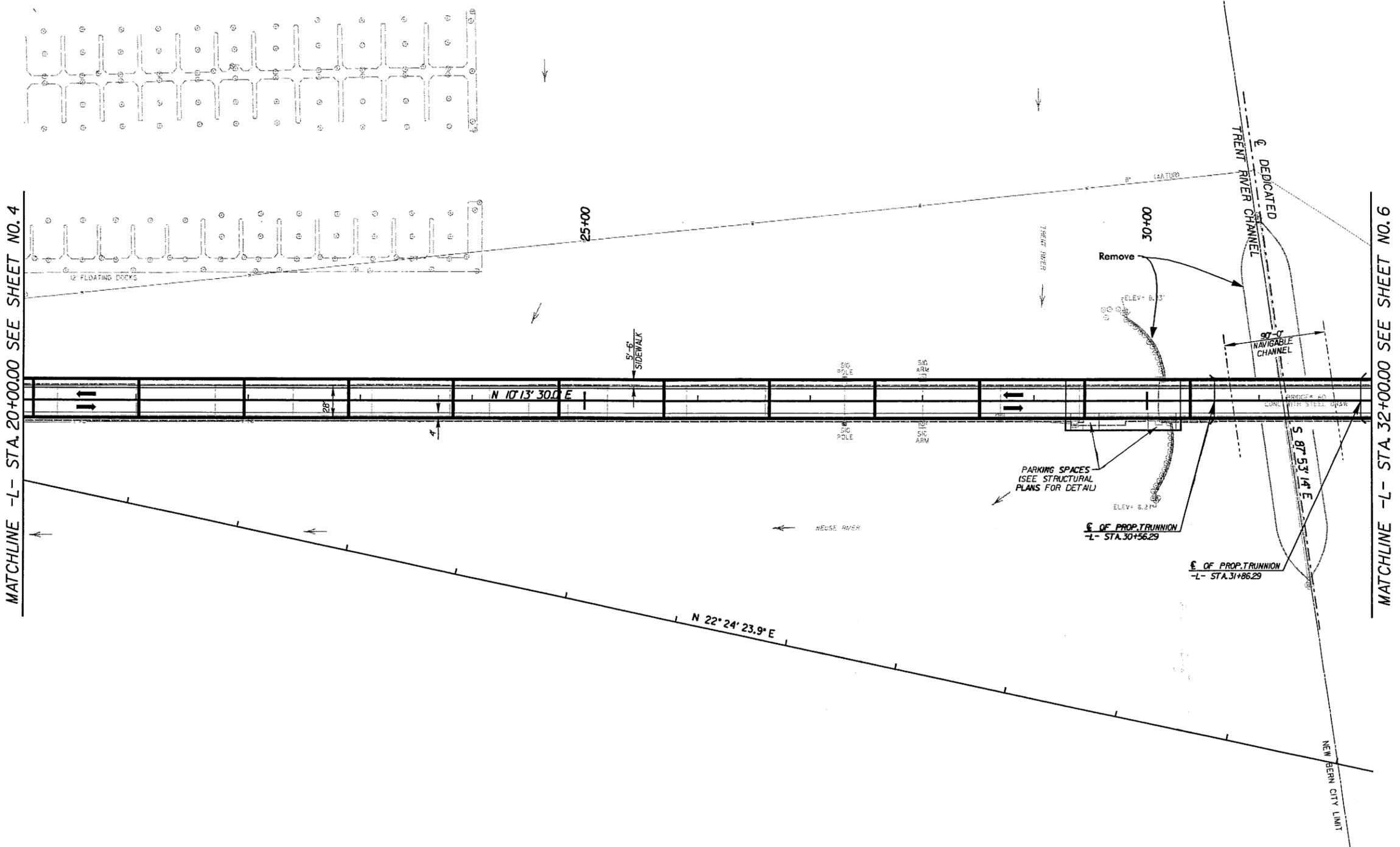
**DATUM DESCRIPTION**  
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT 'B2532-P' WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 496657.776(11) EASTING: 259696.795(11) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999884730 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM 'B2532-P' TO -L- STATION 10+00.00 IS S 12° 04' 46.2" W 780.8339 (11) ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

**NOTE:**  
 FOR -L- PROFILE, SEE SHEET No. 7.

SYSTEMS/SECTION/DATE/USER/NAME



PROJECT REFERENCE NO. B-2532	SHEET NO. 5
RAW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR A/W ACQUISITION	
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	



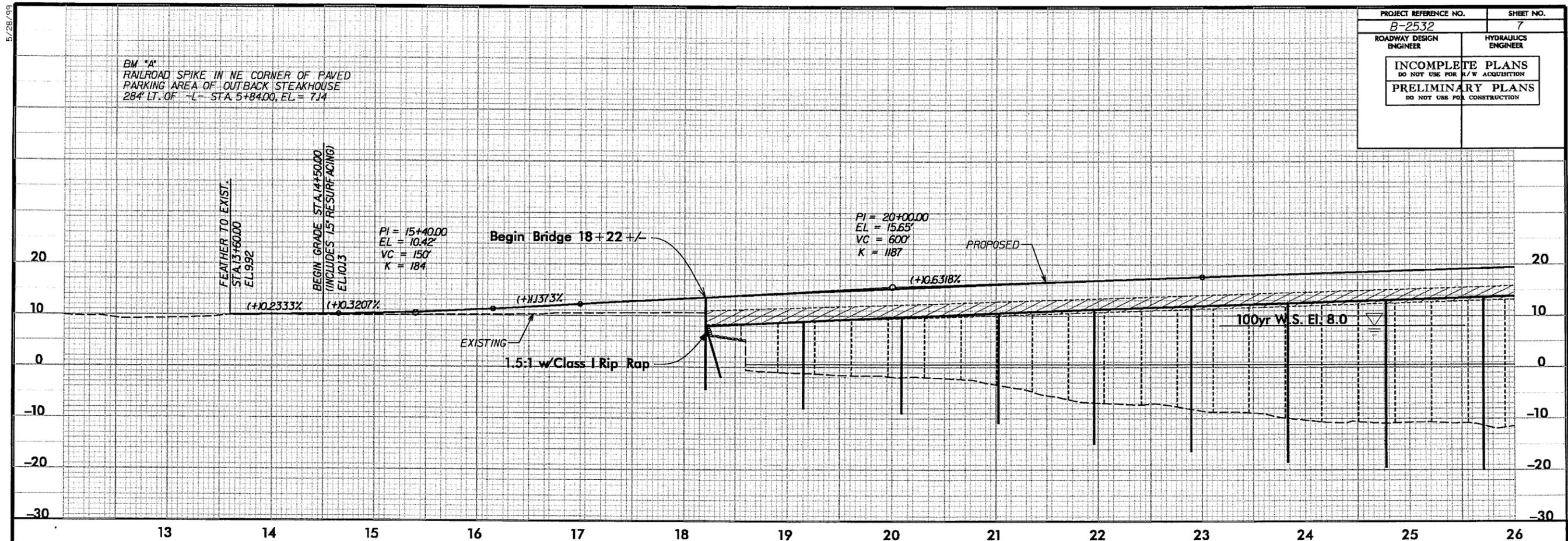
MATCHLINE -L- STA. 20+00.00 SEE SHEET NO. 4

MATCHLINE -L- STA. 32+00.00 SEE SHEET NO. 6

NOTE:  
 FOR -L- PROFILE, SEE SHEET No. 7.

\*\*\*\*\*  
 SYSTEMS  
 \*\*\*\*\*

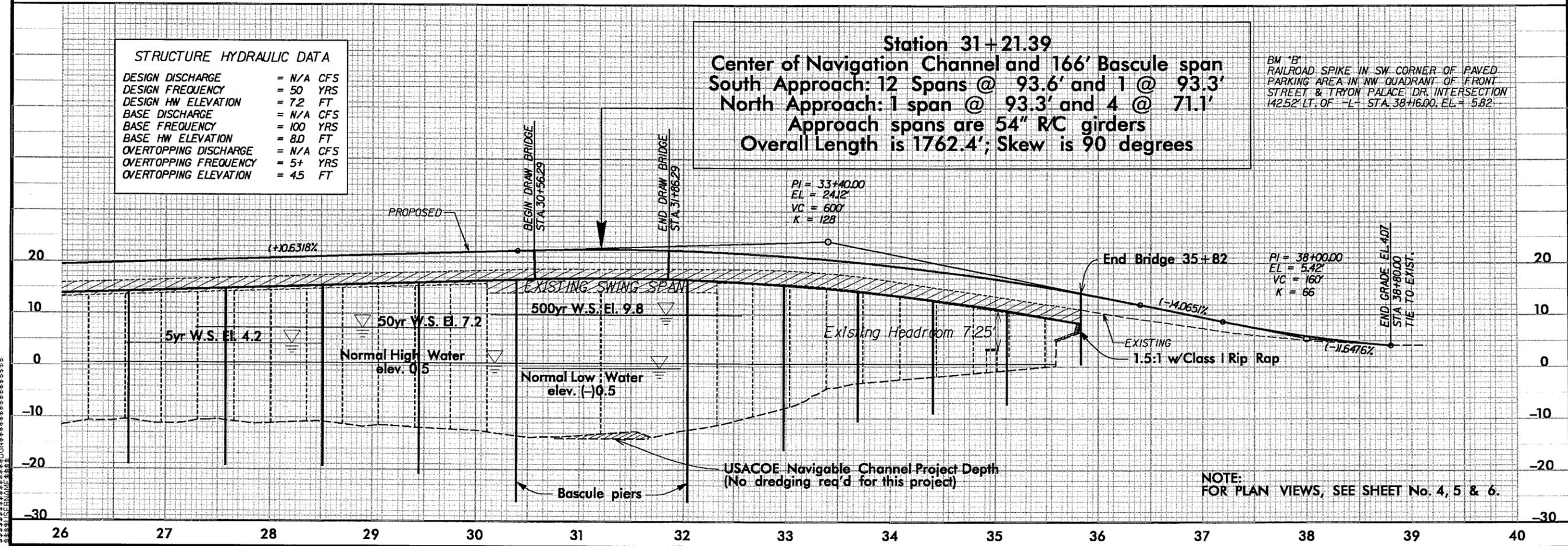




STRUCTURE HYDRAULIC DATA	
DESIGN DISCHARGE	= N/A CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 7.2 FT
BASE DISCHARGE	= N/A CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 8.0 FT
OVERTOPPING DISCHARGE	= N/A CFS
OVERTOPPING FREQUENCY	= 5+ YRS
OVERTOPPING ELEVATION	= 4.5 FT

**Station 31+21.39**  
**Center of Navigation Channel and 166' Bascule span**  
 South Approach: 12 Spans @ 93.6' and 1 @ 93.3'  
 North Approach: 1 span @ 93.3' and 4 @ 71.1'  
 Approach spans are 54" RC girders  
 Overall Length is 1762.4'; Skew is 90 degrees

BM "B"  
 RAILROAD SPIKE IN SW CORNER OF PAVED  
 PARKING AREA IN NW QUADRANT OF FRONT  
 STREET & TRYON PALACE DR. INTERSECTION  
 142.52' LT. OF -L- STA. 38+16.00, EL. = 5.82



NOTE:  
 FOR PLAN VIEWS, SEE SHEET No. 4, 5 & 6.









02/03/98

PRJ. REFERENCE NO.	SHEET NO.	TOTAL SHEET
B-2532	X-5	5

