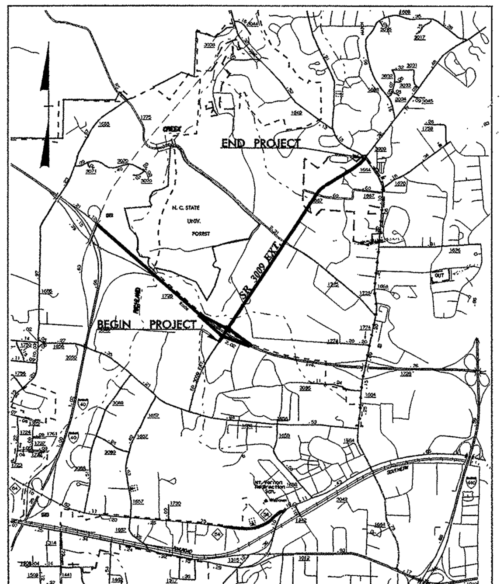
U-2582B

PROJECT: 8.2402803

6/24/99

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



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

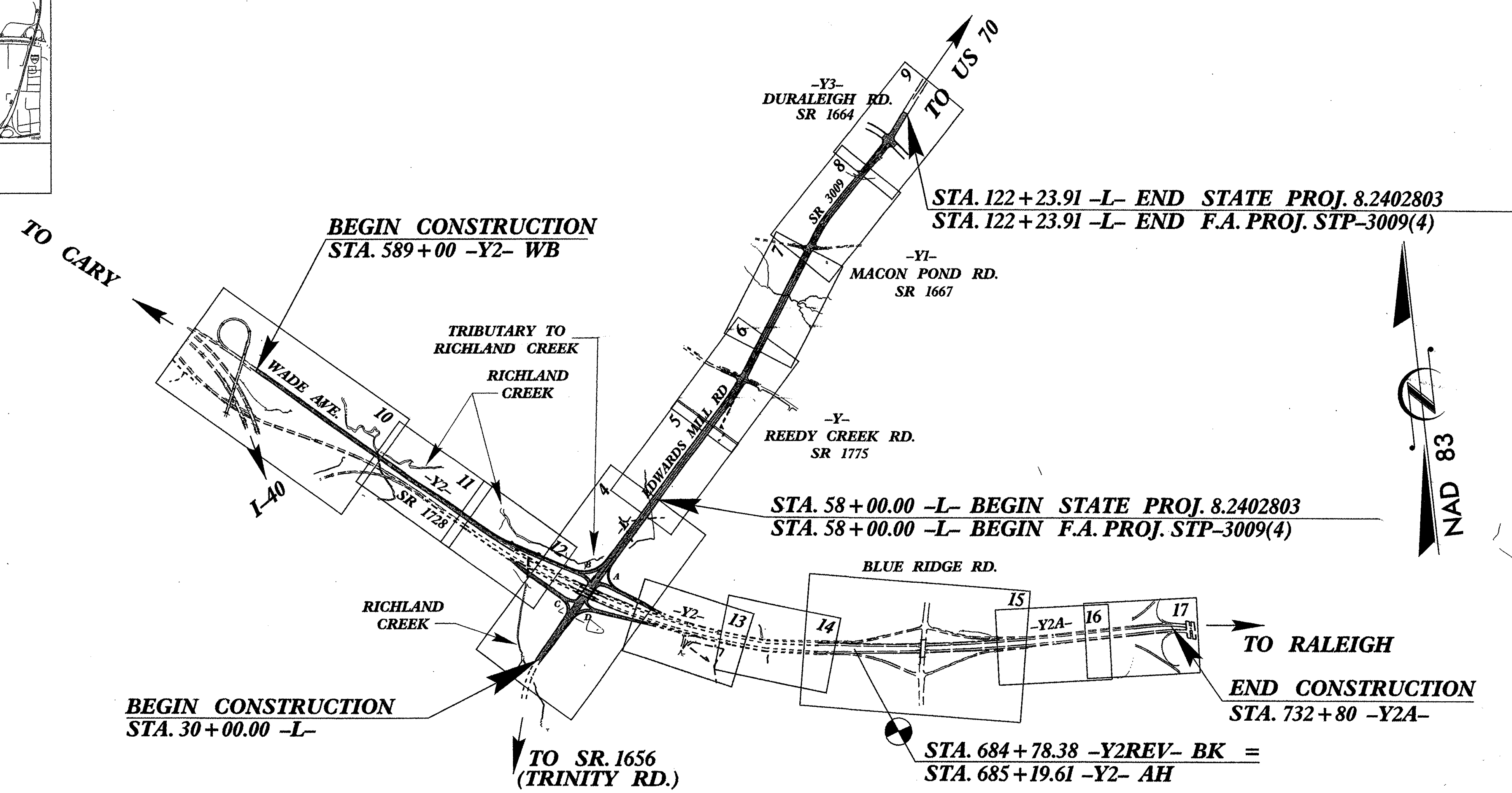
WAKE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2582B	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
8.2402802	MASTP-STP-3009(3)	P.E., RW, UTILS.
8.2402803	STP-3009(4)	CONST.

LOCATION: EDWARDS MILL ROAD EXTENSION (SR 3009) FROM SOUTH OF WADE AVENUE (SR 1728) TO DURALEIGH ROAD (SR 1664)

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



GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2000 = 20,300
ADT 2025 = 49,100
DHV = 11 %
D = 62 %
T = 5 % *
V = 50 MPH

* TTST 2 % DUAL 3 %

PROJECT LENGTH

LENGTH OF ROADWAY F.A. PROJECT STP-3009(4) =1.217 mi.
TOTAL LENGTH STATE PROJECT NO. 8.2402803 = 1.217 mi.

Prepared In the Office of:

DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh, NC 27610

1995 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: SEPTEMBER 30, 1999

LETTING DATE: FEBRUARY 20, 2001

GLENN W. MUMFORD, P.E.
PROJECT ENGINEER

ANTHONY A. HOUSER, P.E.
PROJECT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 19776 ENGINEER RAY D. LOVINGOOD

HYDRAULICS ENGINEER

22 DEC 00

SIGNATURE

NORTH CAROLINA PROFESSIONAL SEAL 18494 ENGINEER ANTHONY AARON HOUSER

ROADWAY DESIGN ENGINEER

12-20-00

SIGNATURE:

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

D. M. Barbour P.E.

STATE DESIGN ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ADMINISTRATOR DATE

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7/2/99

PROJECT REFERENCE NO.	SHEET NO.
U-2582B	1-A
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18494 ENGINEER ANTHONY AARON HOMER
10-01

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEEET
1-A	INDEX OF SHEETS, GENERAL NOTES AND LIST OF STANDARDS
1-B	CONVENTIONAL SYMBOLS
2	PAVEMENT SCHEDULE AND DETAIL SHOWING METHOD OF WEDGING
2-A THRU 2-E	TYPICAL SECTIONS
2-F	DETAIL OF PAVEMENT REPAIRS
2-G THRU 2-L	DETAIL OF GUARDRAIL PLACEMENT
2-M THRU 2-S	DETAIL OF CABLE GUIDERAIL
2-T	DETAIL OF GREENWAY AT REEDY CREEK ROAD
2-U	DETAIL OF CONCRETE EXPRESSWAY GUTTER
2-V	DETAIL OF DROP INLET WITH EXPRESSWAY GUTTER
2-W	DETAIL OF WOVEN WIRE FENCE WITH WOOD POSTS AND STRAND BARBED WIRE
2-X	DETAIL OF WHEEL CHAIR RAMPS WITH EXPRESSWAY GUTTER
2-Y	DETAIL OF CONCRETE ISLANDS
2-Z	DETAILS FOR LEVEL SPREADER AND RIP-RAPPED ENERGY DISSIPATOR BASIN
3 (2 SHEETS)	SUMMARY OF QUANTITIES
3-A THRU 3-E	DRAINAGE SUMMARY
3-F	GUARDRAIL SUMMARY
3-G	DOUBLE FACE CABLE GUIDERAIL SUMMARY
3-H	SUMMARY OF EARTHWORK
3-I	SUMMARY OF WOVEN WIRE FENCE, SUMMARY OF ASPHALT PAVEMENT REMOVAL, SUMMARY OF 4" CONCRETE SIDEWALK
4 THRU 17	PLAN SHEETS
17-A THRU 26	PROFILE SHEETS
TCP-1 THRU TCP-13	TRAFFIC CONTROL PLANS
PM-1 THRU PM-6	PAVEMENT MARKINGS PLANS
EC-1 THRU EC-22	EROSION CONTROL PLANS
RF-1	REFORESTATION DETAIL SHEET
SIGN-1 THRU SIGN-19	SIGNING PLANS
SIG-1 THRU SIG-35	SIGNAL PLANS
CM-1 THRU CM-9	CONGESTION MANAGEMENT PLAN FOR PROPOSED REVERSIBLE LANE CONTROL SIGNS
UC-1 THRU UC-3	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-3	UTILITY BY OTHERS
X-1 THRU X-88	CROSS-SECTIONS
C-1 THRU C-7	CULVERT PLANS

GENERAL NOTES: ENGLISH

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III. (METHOD III MOD. IN WETLAND AREAS)

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 OR 225.05 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION ON HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01 OR 560.02.

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

BERM DITCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 240.01 AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.02 USING 3 RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

UTILITY OWNERS ON THIS PROJECT ARE BELLSOUTH, CAROLINA POWER AND LIGHT AND PSNC.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

ALL RIGHT OF WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.

WHEELCHAIR RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. THE CONSTRUCTION OF ALL WHEELCHAIR RAMPS SHALL BE IN ACCORDANCE WITH STD. NO. 848.05.

ROADWAY ENGLISH STANDARD DRAWINGS — EFF. 01-20-98, REVISED 08-05-99

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - HIGHWAY DESIGN BRANCH - N. C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 20, 1998 AND THE LATEST REVISION THERETO ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD.NO.	TITLE
200.03	METHOD OF CLEARING - METHOD III (TYPE III MOD. IN WETLAND AREAS)
225.01	GUIDE FOR GRADING SUBGRADE - INTERSTATE AND FREEWAY
225.02	GUIDE FOR GRADING SUBGRADE - SECONDARY AND LOCAL
225.04	METHOD OF OBTAINING SUPERELEVATION - 2 LANE PAVEMENT
225.05	METHOD OF OBTAINING SUPERELEVATION - DIVIDED HIGHWAYS
225.07	GRADING FOR FALSE CUT AT GRADE SEPARATIONS
240.01	GUIDE FOR BERM DITCH CONSTRUCTION
300.01	METHOD OF PIPE INSTALLATION - METHOD 'A'
310.10	DRIVEWAY PIPE CONSTRUCTION
560.01	METHOD OF SHOULDER CONSTRUCTION - HIGH SIDE OF SUPERELEVATED CURVE - METHOD I
560.02	METHOD OF SHOULDER CONSTRUCTION - HIGH SIDE OF SUPERELEVATED CURVE - METHOD II
806.01	CONC. RIGHT-OF-WAY MARKER
806.02	GRANITE RIGHT-OF-WAY MARKER
815.03	PIPE UNDERDRAIN AND BLIND DRAIN
816.04	MARKERS FOR DRAINAGE STRUCTURE AND CONCRETE PAD
820.04	DRAIN INSTALLATION IN SHOULDER BERM GUTTER
838.01	CONC. ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS - 15" THRU 48" PIPE - 90 DEG. SKEW
838.11	BRICK ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS - 15" THRU 48" PIPE - 90 DEG. SKEW
838.39	REINF. CONC. ENDWALL - SINGLE 72" PIPE - 90 DEG. SKEW
838.45	NOTES FOR REINF. CONC. ENDWALL - STD. DWGS. 838.21 THRU 838.44
838.69	REINF. BRICK ENDWALL - SINGLE 72" PIPE - 90 DEG. SKEW
838.75	NOTES FOR REINF. BRICK ENDWALL - STD. DRWGS. 838.51 THRU 838.74
840.00	CONC. BASE PAD FOR DRAINAGE STRUCTURES
840.01	BRICK CATCH BASIN - 12" THRU 54" PIPE
840.02	CONC. CATCH BASIN - 12" THRU 54" PIPE
840.03	FRAME, GRATES AND HOOD - FOR USE ON STANDARD CATCH BASIN
840.11	CONC. NARROW DROP INLET - 12" THRU 24" PIPE
840.12	BRICK NARROW DROP INLET - 12" THRU 24" PIPE
840.13	NARROW DROP INLET FRAME AND GRATE - FOR USE WITH STD. DRWGS. 840.11 AND 840.12
840.14	CONC. DROP INLET - 12" THRU 30" PIPE
840.15	BRICK DROP INLET - 12" THRU 30" PIPE
840.16	DROP INLET FRAME AND GRATES - FOR USE WITH STD. DRWGS. 840.14 AND 840.15
840.18	CONC. MEDIAN DROP INLET TYPE 'B' - 12" THRU 36" PIPE
840.19	CONC. MEDIAN DROP INLET TYPE 'D' - 12" THRU 36" PIPE
840.20	FRAMES AND WIDE SLOT FLAT GRATES
840.22	FRAMES AND WIDE SLOT SAG GRATES
840.27	BRICK MEDIAN DROP INLET TYPE 'B' - 12" THRU 36" PIPE
840.28	BRICK MEDIAN DROP INLET TYPE 'D' - 12" THRU 36" PIPE
840.29	FRAMES AND NARROW SLOT FLAT GRATES
840.34	TRAFFIC BEARING JUNCTION BOX - FOR USE WITH PIPES 36" AND UNDER
840.45	PRECAST DRAINAGE STRUCTURE
840.46	TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE
840.54	MANHOLE FRAME AND COVER
840.66	DRAINAGE STRUCTURE STEPS
840.71	CONC. AND BRICK PIPE PLUG
840.72	PIPE COLLAR
846.01	CONC. CURB, GUTTER AND CURB & GUTTER
846.02	EXPRESSWAY GUTTER TRANSITION FOR DROP INLET
848.01	CONC. SIDEWALK
848.02	DRIVEWAY TURNOUT - RADIUS TYPE
848.04	STREET TURNOUT
848.05	WHEELCHAIR RAMP - CURB CUT
850.01	CONC. PAVED DITCHES
850.10	GUIDE FOR BERM DRAINAGE OUTLET - 15" AND 18" PIPE
852.04	METHOD FOR PLACEMENT OF DROP INLETS IN GRASSED MEDIAN - USING 1'-6" CURB & GUTTER
852.10	MEDIAN CONSTRUCTION WITH CURB & GUTTER
862.02	GUARDRAIL INSTALLATION
868.01	RIP RAP IN CHANNELS
868.02	GUIDE FOR RIP RAP AT PIPE OUTLETS
868.04	DRAINAGE DITCHES WITH CLASS 'B' RIP RAP

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PROJECT REFERENCE NO.	SHEET NO.
U-2582B	1-B

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL SYMBOLS

ROADS & RELATED ITEMS

- Edge of Pavement
- Curb
- Prop. Slope Stakes Cut — C
- Prop. Slope Stakes Fill — F
- Prop. Woven Wire Fence
- Prop. Chain Link Fence
- Prop. Barbed Wire Fence
- Prop. Wheelchair Ramp — WCR
- Exist. Guardrail
- Prop. Guardrail
- Equality Symbol
- Pavement Removal

RIGHT OF WAY

- Baseline Control Point
- Existing Right of Way Marker
- Exist. Right of Way Line w/Marker
- Prop. Right of Way Line with Proposed R/W Marker (Iron Pin & Cap)
- Prop. Right of Way Line with Proposed (Concrete or Granite) R/W Marker
- Exist. Control of Access Line — CA
- Prop. Control of Access Line — CA
- Exist. Easement Line — E
- Prop. Temp. Construction Easement Line — E
- Prop. Temp. Drainage Easement Line — TDE
- Prop. Perm. Drainage Easement Line — PDE

HYDROLOGY

- Stream or Body of Water
- Flow Arrow
- Disappearing Stream
- Spring
- Swamp Marsh
- Shoreline
- Falls, Rapids
- Prop Lateral, Tail, Head Ditches — FLOW

STRUCTURES

MAJOR

- Bridge, Tunnel, or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR

- Head & End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Boxes — CB
- Paved Ditch Gutter

UTILITIES

- Exist. Pole
- Exist. Power Pole
- Prop. Power Pole
- Exist. Telephone Pole
- Prop. Telephone Pole
- Exist. Joint Use Pole
- Prop. Joint Use Pole
- Telephone Pedestal — T
- Cable TV Pedestal — C
- Hydrant
- Satellite Dish
- Exist. Water Valve
- Sewer Clean Out
- Power Manhole — P
- Telephone Booth
- Water Manhole — W
- Light Pole
- H-Frame Pole
- Power Line Tower
- Pole with Base
- Gas Valve
- Gas Meter
- Telephone Manhole
- Power Transformer
- Sanitary Sewer Manhole
- Storm Sewer Manhole — S
- Tank; Water, Gas, Oil
- Water Tank With Legs
- Traffic Signal Junction Box — S
- Fiber Optic Splice Box — F
- Television or Radio Tower

- Utility Power Line Connects to Traffic Signal Lines Cut Into the Pavement — TS TS
- Water Line — W W
- Sanitary Sewer — SS SS
- Sanitary Sewer Force Main — FSS FSS
- Gas Line — G G
- Storm Sewer — S S
- Power Line — P P
- Telephone Cable — T T
- U/G Telephone Conduit — TC TC
- Unknown Utility — ?UTL ?UTL
- Television Cable — TV TV
- Fiber Optics Cable — FO FO
- Exist. Water Meter — 0
- Drawn According to U/G Records — DATUR
- Abandoned According to U/G Records — AATUR
- End Of Information — E.O.I.

BOUNDARIES & PROPERTIES

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Property Line Symbol — PL
- Exist. Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Property Number — 123
- Parcel Number — 6
- Fence Line — WW & ISBW
- Existing Wetland Boundaries — WLB
- Proposed Wetland Boundaries — WLB
- Existing Endangered Animal Boundaries — EAB
- Existing Endangered Plant Boundaries — EPB

BUILDINGS & OTHER CULTURE

- Buildings
- Foundations
- Area Outline
- Gate
- Gas Pump Vent or U/G Tank Cap
- Church
- School
- Park
- Cemetery
- Dam
- Sign — S
- Well — W
- Small Mine
- Swimming Pool

TOPOGRAPHY

- Loose Surface
- Hard Surface
- Change in Road Surface
- Curb
- Right of Way Symbol — R/W
- Guard Post — GP
- Paved Walk
- Bridge
- Box Culvert or Tunnel
- Ferry
- Culvert
- Footbridge
- Trail, Footpath
- Light House

VEGETATION

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — VINEYARD

RAILROADS

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH

revised 02/25/97

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PROJECT REFERENCE NO.	SHEET NO.
U-2582B	2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 18494 ENGINEER ANTHONY AARON HOUSER 12-20-00

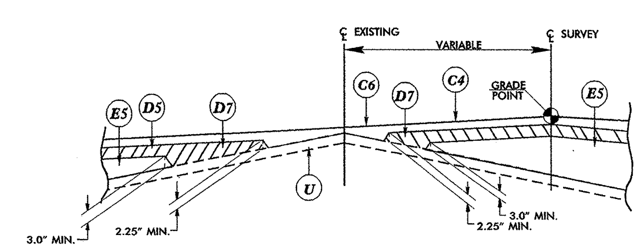
NORTH CAROLINA PROFESSIONAL SEAL 17395 ENGINEER JUDITH B. CORLEY-LAY 12/20/00

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 140 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.
C3	PROP. APPROX. 2.5" 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 S12.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C5	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S12.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C6	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S12.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 1.50" IN DEPTH OR GREATER THAN 3.00 " IN DEPTH.
D1	PROP. APPROX. 2.25" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 256.5 LBS. PER SQ. YD.
D2	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D3	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D4	PROP. APPROX. 3.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D5	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D6	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D7	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2.25" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 3" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
E2	PROP. APPROX. 3.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 399 LBS. PER SQ. YD.
E3	PROP. APPROX. 6.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 370.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E4	PROP. APPROX. 8.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 484.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E5	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, 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 5.5" IN DEPTH.

E6	PROP. APPROX. 5.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
J1	PROP. 6" AGGREGATE BASE COURSE.
J2	PROP. 8" AGGREGATE BASE COURSE.
J3	PROP. VARIABLE DEPTH AGGREGATE BASE COURSE.
J4	INCIDENTAL STONE
K	SUBBASE TO BE TREATED WITH LIME TO A DEPTH OF 8" AT A RATE OF 20 LBS. PER SQ. YD. AS DIRECTED BY THE ENGINEER OR SUBBASE TO BE TREATED WITH CEMENT TO A DEPTH OF 7" AT A RATE OF 55 LBS. PER SQ. YD. AS DIRECTED BY THE ENGINEER OR SUBBASE TO BE TREATED WITH AGGREGATE AT A RATE OF 300 LBS. PER SQ. YD. AND CEMENT AT A RATE OF 55 LBS. PER SQ. YD. TO A DEPTH OF 7" AS DIRECTED BY THE ENGINEER (SEE PROJECT SPECIAL PROVISIONS)
P	PRIME COAT AT THE RATE OF 0.35 GAL. PER SQ. YD.
R1	2'-6" CONCRETE CURB AND GUTTER.
R2	1'-6" CONCRETE CURB AND GUTTER.
R3	CONCRETE EXPRESSWAY GUTTER.
R4	3" CONCRETE ISLAND COVER
S	4" CONCRETE SIDEWALK
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	VARIABLE MILLING
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL THIS SHEET)

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



Detail Showing Method Of Wedging

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REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-2582B	2-A
RW SHEET NO.	

ROADWAY DESIGN ENGINEER

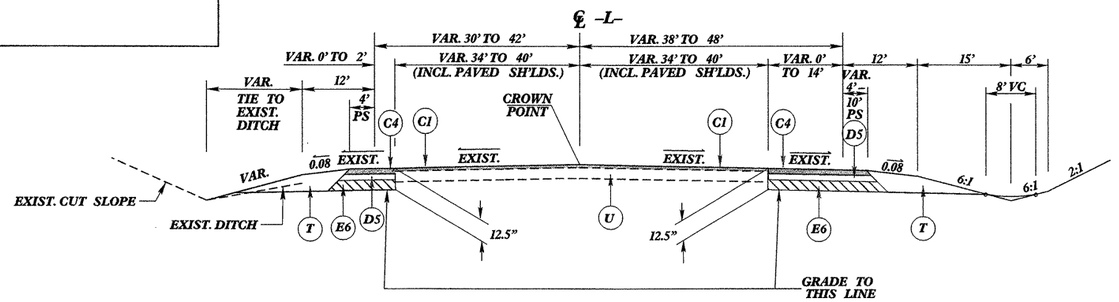
NORTH CAROLINA PROFESSIONAL SEAL 18494 ENGINEER ANTHONY W. AARON

Anthony Waron 12-20-00

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 17395 ENGINEER JUDITH B. CORLEY-LAY

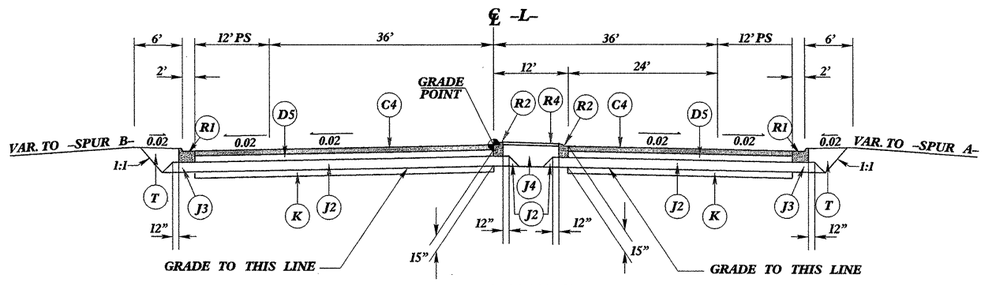
Judith B. Corley-Lay 12/20/00



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1 AT THE FOLLOWING LOCATIONS:

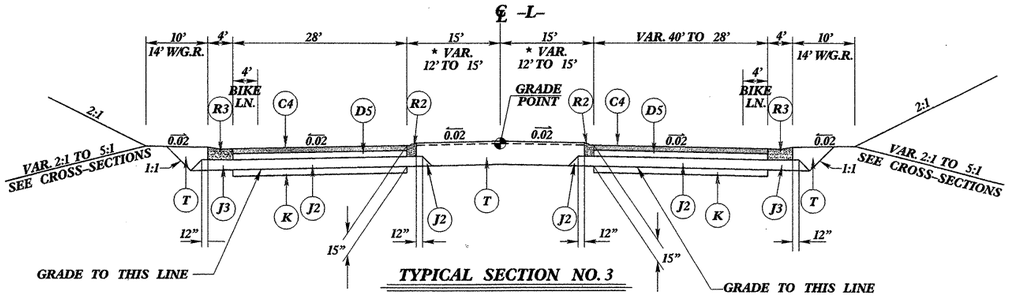
–L– STA. 30+00 TO STA. 36+34.31 LT. (36+51.82 RT.)
TRANSITION TO EXISTING ON LEFT SIDE.
TRANSITION TO TYPICAL SECTION NO. 19 ON RIGHT SIDE.



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 AT THE FOLLOWING LOCATIONS:

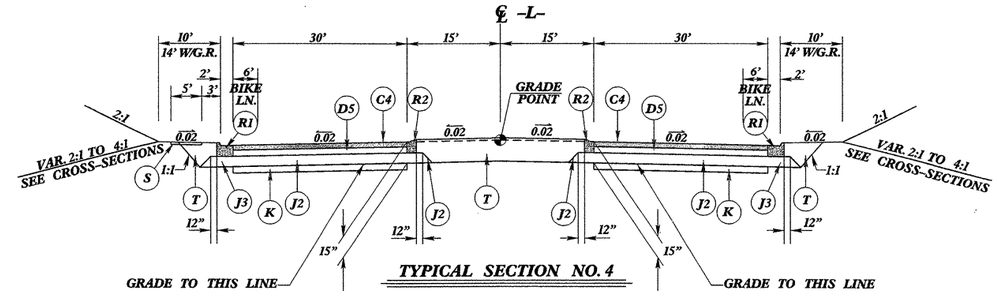
–L– STA. 44+00 TO STA. 47+90.01 LT. (47+70.54 RT.)



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3 AT THE FOLLOWING LOCATIONS:

–L– STA. 47+90.01 (47+70.54 RT.) TO STA. 78+84.44
* –L– STA. 47+90.01 TO STA. 59+50
(BEG. EXPWY. GUTTER STA. 49+00.00 LT.)



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4 AT THE FOLLOWING LOCATIONS:

–L– STA. 78+84.44 TO STA. 99+59.95

PAVEMENT SCHEDULE	
C1	1.25" S9.5B
C2	2" S9.5B
C3	2.5" S9.5B
C4	3" S12.5B
C5	3" S12.5C
C6	VAR. S12.5B
D1	2.25" I19.0B
D2	3" I19.0B
D3	3" I19.0C
D4	3.5" I19.0B
D5	4" I19.0B
D6	4" I19.0C
D7	VAR. I19.0B
E1	3" B25.0B
E2	3.5" B25.0B
E3	6.5" B25.0C
E4	8.5" B25.0C
E5	VAR. B25.0B
E6	5.5" B25.0B
J1	6" ABC
J2	8" ABC
J3	VAR. ABC
J4	INCIDENTAL STONE
K	STABILIZATION
P	PRIME COAT
R1	2'-6" CONC. C&G
R2	1'-6" CONC. C&G
R3	EXPWY. GUTTER
R4	3" ISLAND COVER
S	4" CONC. SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	VAR. MILLING
W	WEDGING

13-NOV-2000 13:06
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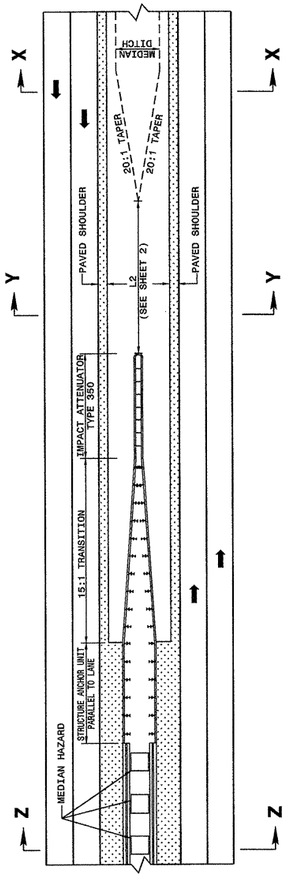
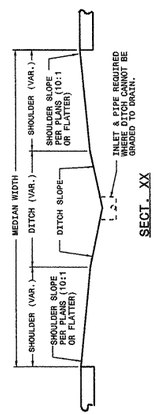
THouser

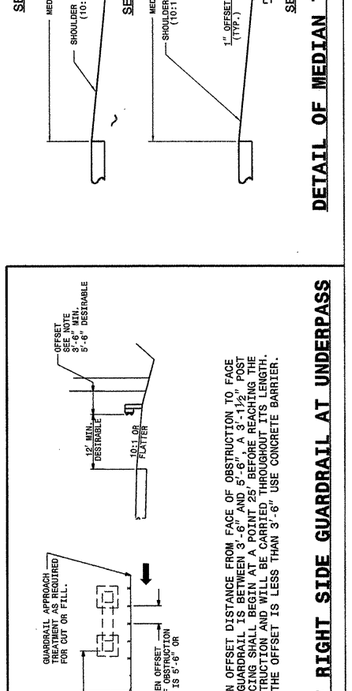
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2582B	2-G





DETAIL OF MEDIAN TREATMENT AT UNDERPASS



NOTE: WHEN OFFSET DISTANCE FROM FACE OF OBSTRUCTION TO FACE OF GUARDRAIL IS BETWEEN 5'-6" AND 15'-0", A 12'-6" POST SPACING SHALL BEGIN A POINT 25'-0" BEFORE REACHING THE OBSTRUCTION AND WILL BE CARRIED THROUGHOUT ITS LENGTH. IF THE OFFSET IS LESS THAN 3'-6" USE CONCRETE BARRIER.

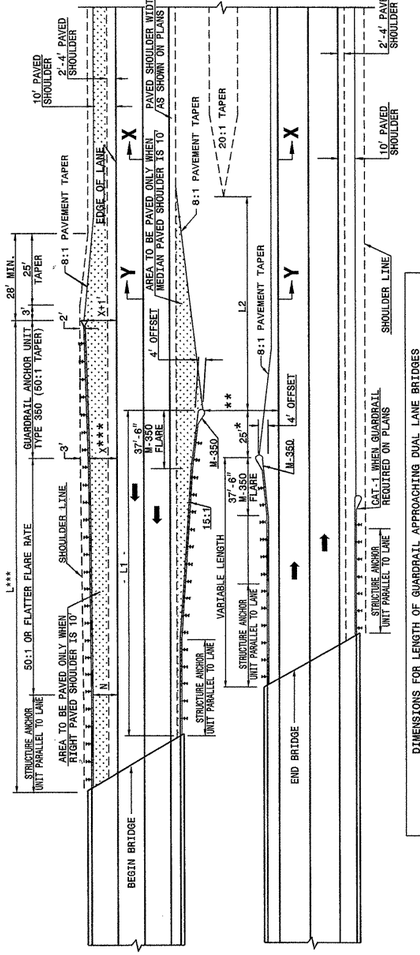
DETAIL OF RIGHT SIDE GUARDRAIL AT UNDERPASS

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	ENGLISH DETAIL DRAWING FOR **GUARDRAIL PLACEMENT**	SHEET 1 OF 12 **862D01**

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR **GUARDRAIL PLACEMENT**

SHEET 1 OF 12 **862D01**



DIMENSIONS FOR LENGTH OF GUARDRAIL APPROACHING DUAL LANE BRIDGES

MEDIAN WIDTH	-L-*** 70 MPH	50 MPH	-L1- 70 MPH	60 MPH	50 MPH	-L2- DIM.
30'	300.0'	250.0'	187.5'	162.5'	137.5'	80.0'
36'	300.0'	250.0'	212.5'	187.5'	137.5'	60.0'
40' & ABOVE	300.0'	250.0'	212.5'	187.5'	137.5'	40.0'

NOTES: * MINOR VARIATION TO THE 25'-0" DIMENSION IS PERMISSIBLE TO ACCOMODATE THE 12'-6" IN GUARDRAIL LENGTHS.

** NO GUARDRAIL IS REQUIRED ON THE TRAILING END WHEN THIS DISTANCE EXCEEDS CLEAR ROADSIDE RECOVERY AREA FOR THE APPROPRIATE DESIGN SPEED.

*** BASED ON "X" OF 12'
USE FLARE RATE AS THE CONTROL IF THE "X" DISTANCE IS NOT OBTAINED. ("X" IS BASED ON SHOULDER WIDTHS IN THE HIGHWAY DESIGN BRANCH MANUAL, PART 1, 1-4B, Fig A).
"N"= DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL WHERE GUARDRAIL IS PARALLEL TO LANE.
THE DESIGN LAYOUT FOR LENGTHS SHOWN ON THIS STANDARD ARE MINIMUM DESIGN LENGTHS.
SEE SHEET 1 OF 12 FOR SECTIONS XX, YY
SEE STD. 862.03 FOR STRUCTURE ANCHOR UNITS

DETAIL OF GUARDRAIL APPROACHING DUAL LANE BRIDGES

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	ENGLISH DETAIL DRAWING FOR **GUARDRAIL PLACEMENT**	SHEET 2 OF 12 **862D01**

DESIGN SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: STD. 862.01 DATE:
MODIFIED BY: E.E. WARD DATE: 8-13-98
CHECKED BY: E E Ward DATE: 3-99
FILE SPEC.: ds172:/usr/stds/english/revisions/86201

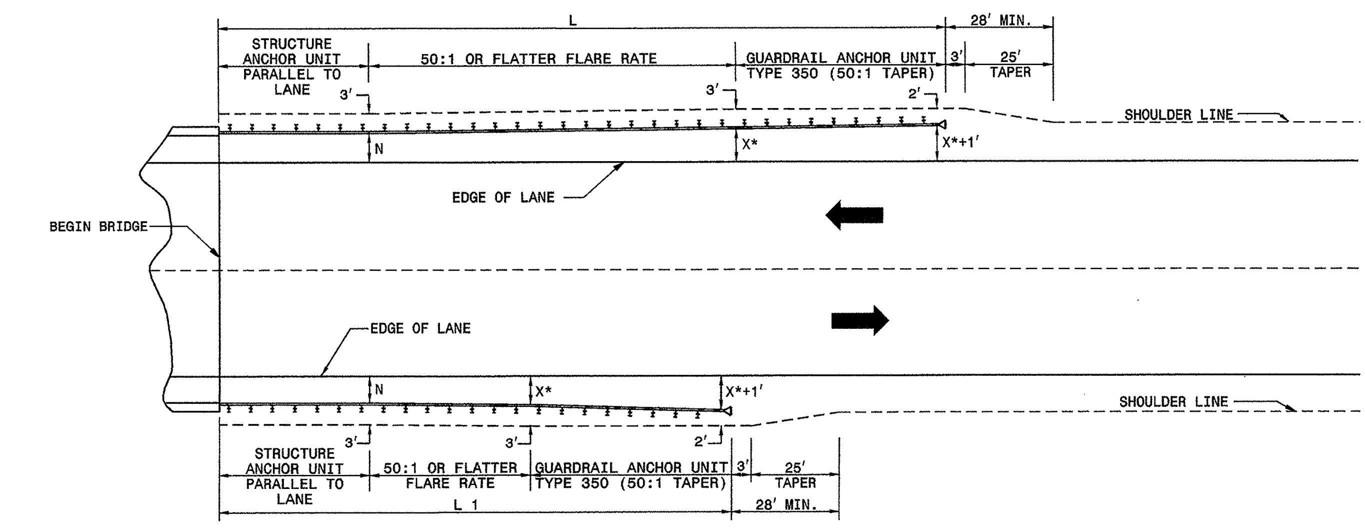
PROJECT REFERENCE NO. U-2582B | SHEET NO. 2-H

5/14/99

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 3 OF12
862D01



DESIGN SPEED (MPH)	"L" APPROACH LENGTH (FT.) DESIGN YEAR ADT OVER 2000	1001-2000	CURRENT YEAR ADT 400-1000	UNDER 400	"L1" TRAILING LENGTH (FT.) DESIGN YEAR ADT OVER 2000	1001-2000	CURRENT YEAR ADT 400-1000	UNDER 400
70	362.5'	362.5'	350.0'	287.5'	187.5'	187.5'	175.0'	75.0'
60	300.0'	287.5	275.0'	225.0'	137.5'	137.5'	100.0'	75.0'
50	212.5'	212.5'	200.0'	162.5'	87.5'	75.0'	75.0'	75.0'
40	175.0'	150.0'	137.5'	112.5'	75.0'	75.0'	75.0'	75.0'
X *	8'	6'	4'	4'	8'	6'	4'	4'

GUARDRAIL INSTALLATION AT BRIDGE APPROACHES FOR TWO-LANE, TWO-WAY TRAFFIC

* USE FLARE RATE AS THE CONTROL IF THE "X" DISTANCE IS NOT OBTAINED. ("X" IS BASED ON SHOULDER WIDTHS IN THE HIGHWAY DESIGN BRANCH MANUAL, PART 1, 1-4B, F1).

"N"= DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL WHERE GUARDRAIL IS PARALLEL TO LANE.

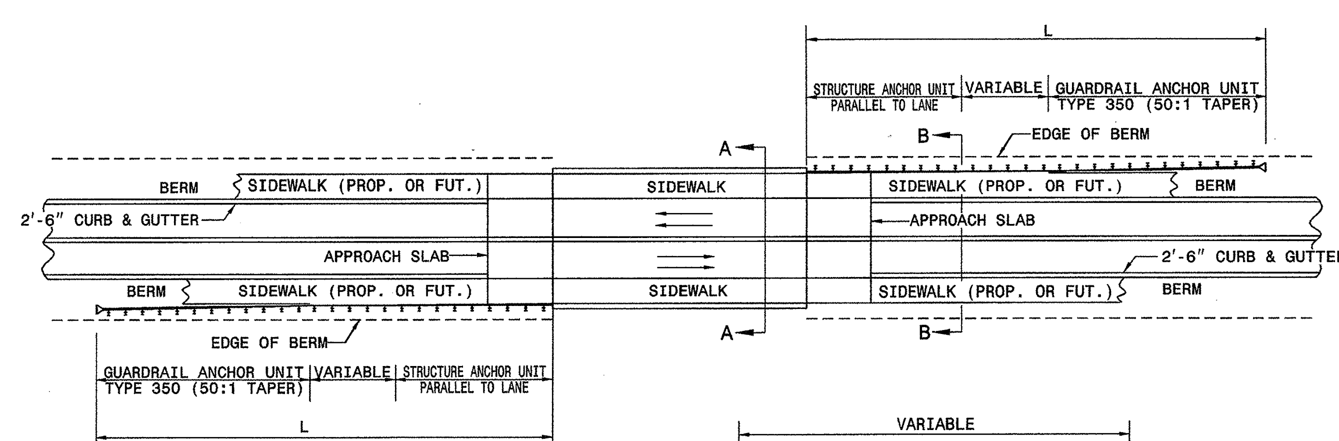
SEE STD. 862.03 FOR STRUCTURE ANCHOR UNITS

LENGTHS AND OFFSETS FOR PROPOSED GUARDRAIL AT TWO LANE - TWO WAY LOCATIONS

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

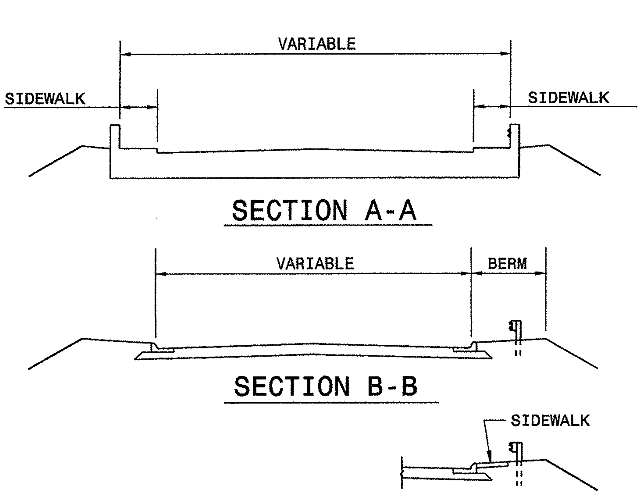
SHEET 4 OF12
862D01



MINIMUM GUARDRAIL LENGTHS "L" REQUIRED AT BRIDGE APPROACHES ON 2'-6" CONCRETE CURB AND GUTTER ROADWAYS	
DESIGN SPEED (MPH)	"L"
40	150'
50	225'

NOTE: "L" VALUES ARE BASED ON NO HAZARDS OTHER THAN END OF BRIDGE BEING PRESENT WITHIN THE CLEAR ZONE.

SEE STD. 862.03 FOR STRUCTURE ANCHOR UNITS.



STANDARD GUARDRAIL PLACEMENT AT BRIDGES WITH 2'-6" CONCRETE CURB AND GUTTER

DESIGN SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: STD. 862.01 DATE:
MODIFIED BY: E.E. WARD DATE: 4-17-98
CHECKED BY: [signature] DATE: 3-99
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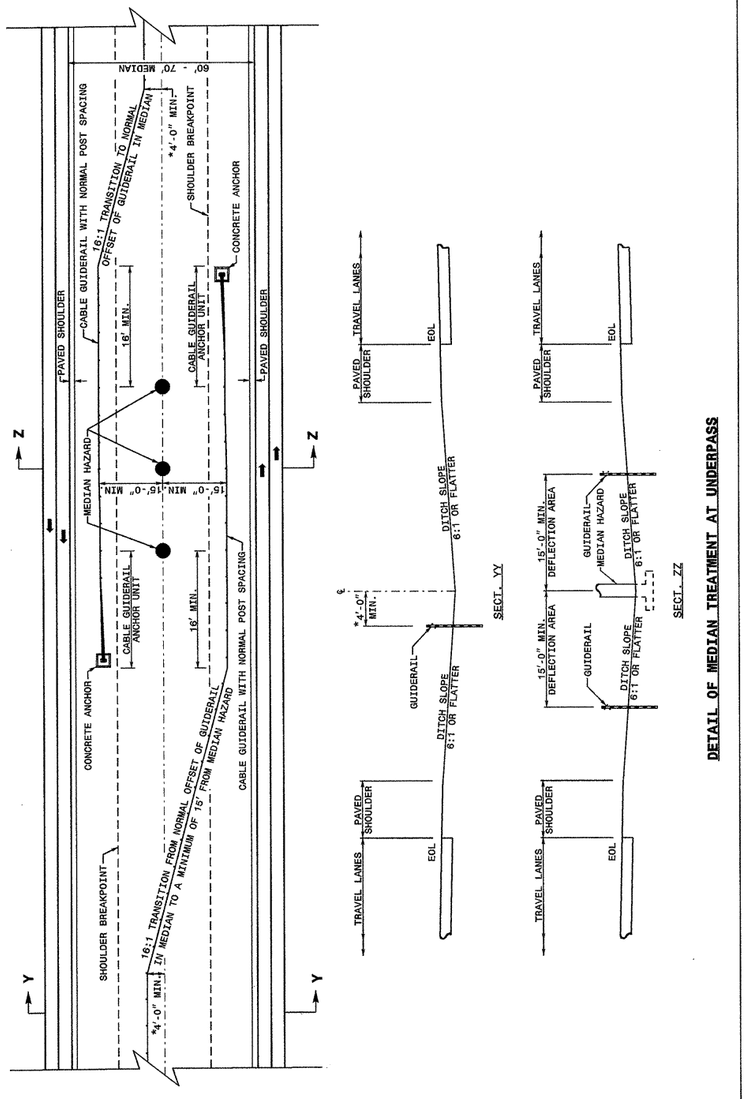
PROJECT REFERENCE NO.	SHEET NO.
U-2582B	7-M

ENGLISH DETAIL DRAWING FOR
CABLE GUIDERAIL
MEDIAN HAZARD GUIDERAIL LAYOUT

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

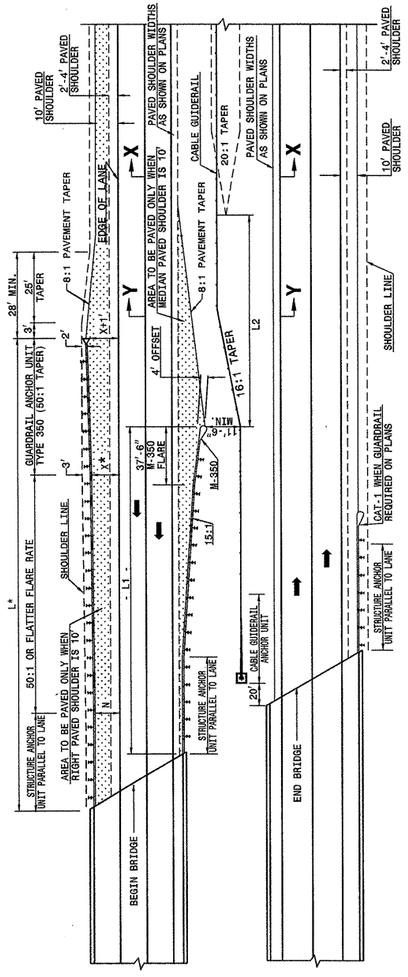


DETAIL OF MEDIAN TREATMENT AT UNDERPASS

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	ENGLISH DETAIL DRAWING FOR **CABLE GUIDERAIL** MEDIAN HAZARD GUIDERAIL LAYOUT	SHEET 1 OF 13 862D05

ENGLISH DETAIL DRAWING FOR
CABLE GUIDERAIL
DUAL LANE BRIDGES GUIDERAIL LAYOUT

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.



DIMENSIONS FOR LENGTH OF GUARDRAIL APPROACHING DUAL LANE BRIDGES

MEDIAN WIDTH	-L-* 70 MPH	-L-* 60 MPH	-L1- 70 MPH	-L1- 60 MPH	-L2- DIM.
30'	300.0'	250.0'	150.0'	137.5'	80.0'
36'	300.0'	250.0'	150.0'	137.5'	60.0'
40' & ABOVE	300.0'	250.0'	150.0'	137.5'	40.0'

NOTES: *BASED ON "X" OF 12'
USE FLARE RATE AS THE CONTROL IF THE "X" DISTANCE IS NOT OBTAINED. ("X" IS BASED ON SHOULDER WIDTHS IN THE HIGHWAY DESIGN BRANCH MANUAL, PART 1, T-4B, F1A).
"N"= DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL WHERE GUARDRAIL IS PARALLEL TO LANE.
THE DESIGN LAYOUT FOR LENGTHS SHOWN ON THIS STANDARD ARE MINIMUM DESIGN LENGTHS.
SEE DETAIL 862D01 SHEET 1 OF 12 FOR SECTIONS XX, YY
SEE STD. 862.03 FOR STRUCTURE ANCHOR UNITS

DETAIL OF CABLE GUIDERAIL AT DUAL LANE BRIDGES

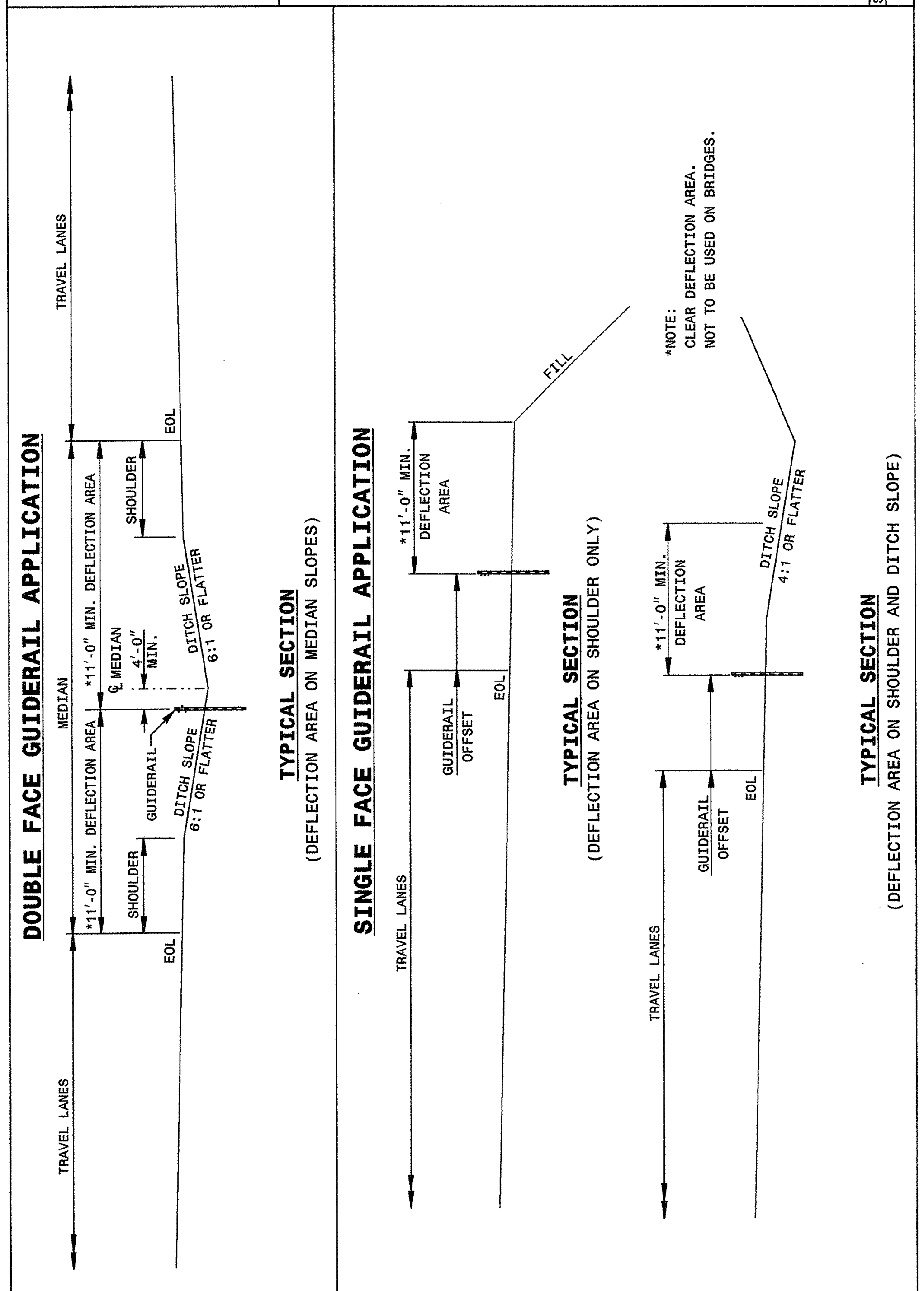
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	ENGLISH DETAIL DRAWING FOR **CABLE GUIDERAIL** DUAL LANE BRIDGES GUIDERAIL LAYOUT	SHEET 2 OF 13 862D05

DESIGN SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

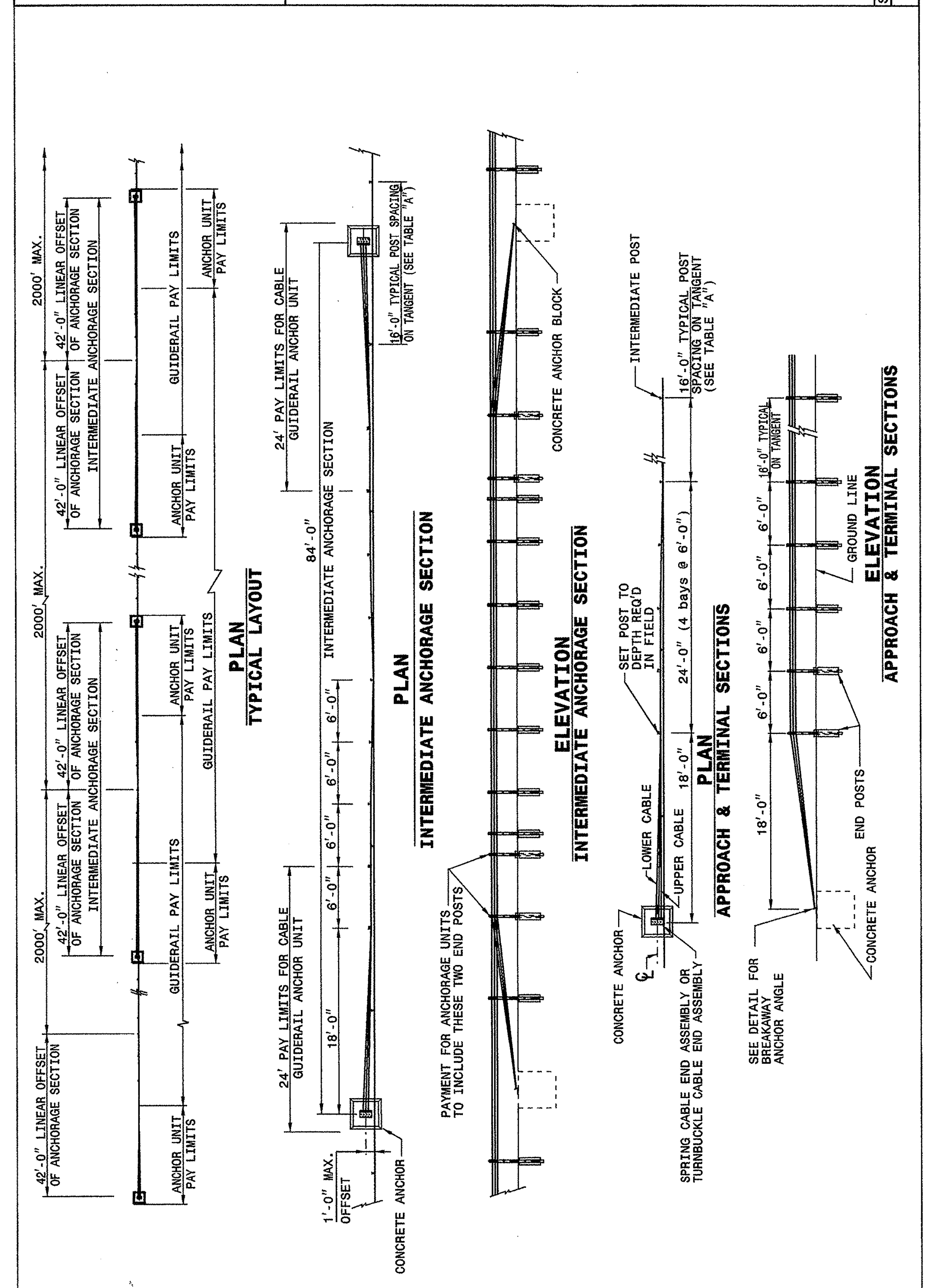
ORIGINAL BY: STANDARDS DATE:
MODIFIED BY: E.E. WARD DATE: 8-13-98
CHECKED BY: E.E. Ward Jr DATE: 3-99
FILE SPEC.: D5172:/usr/std/english/revisions/862d05/862d05.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-2582B	2-N



DOUBLE FACE GUIDERAIL APPLICATION
TRAVEL LANES
MEDIAN
SHOULDER
EOL
*11'-0" MIN. DEFLECTION AREA
℄ MEDIAN
4'-0" MIN.
GUIDERAIL
DITCH SLOPE 6:1 OR FLATTER
TYPICAL SECTION
(DEFLECTION AREA ON MEDIAN SLOPES)
SINGLE FACE GUIDERAIL APPLICATION
*11'-0" MIN. DEFLECTION AREA
FILL
GUIDERAIL OFFSET
TYPICAL SECTION
(DEFLECTION AREA ON SHOULDER ONLY)
*NOTE:
CLEAR DEFLECTION AREA.
NOT TO BE USED ON BRIDGES.
DITCH SLOPE 4:1 OR FLATTER
TYPICAL SECTION
(DEFLECTION AREA ON SHOULDER AND DITCH SLOPE)

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	ENGLISH DETAIL DRAWING FOR **CABLE GUIDERAIL** DESIGN AND PLACEMENT	SHEET 3 OF 13 **862D05**



2000' MAX.
42'-0" LINEAR OFFSET OF ANCHORAGE SECTION
INTERMEDIATE ANCHORAGE SECTION
GUIDERAIL PAY LIMITS
ANCHOR UNIT PAY LIMITS
PLAN
TYPICAL LAYOUT
24' PAY LIMITS FOR CABLE GUIDERAIL ANCHOR UNIT
16'-0" TYPICAL POST SPACING ON TANGENT (SEE TABLE "A")
84'-0"
1'-0" MAX. OFFSET
CONCRETE ANCHOR
PAYMENT FOR ANCHORAGE UNITS TO INCLUDE THESE TWO END POSTS
PLAN
INTERMEDIATE ANCHORAGE SECTION
CONCRETE ANCHOR BLOCK
ELEVATION
INTERMEDIATE ANCHORAGE SECTION
INTERMEDIATE POST
SET POST TO DEPTH REQ'D IN FIELD
24'-0" (4 bays @ 6'-0")
LOWER CABLE
UPPER CABLE
SPRING CABLE END ASSEMBLY OR TURNBUCKLE CABLE END ASSEMBLY
PLAN
APPROACH & TERMINAL SECTIONS
SEE DETAIL FOR BREAKAWAY ANCHOR ANGLE
END POSTS
GROUND LINE
ELEVATION
APPROACH & TERMINAL SECTIONS

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	ENGLISH DETAIL DRAWING FOR **CABLE GUIDERAIL** DOUBLE FACE GUIDERAIL LAYOUT	SHEET 4 OF 13 **862D05**

DESIGN SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: STANDARDS DATE:
MODIFIED BY: E.E. WARD DATE: 7-28-98
CHECKED BY: [signature] DATE: 3-99
FILE SPEC.: DS172:/usr/std/english/revisions/86205/0862d05.dgn

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-2582B	3(1 OF 2)

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
SUMMARY OF QUANTITIES

5/28/99

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS ROADWAYS SUMMARY OF QUANTITIES FOR CONTRACT - C200111

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0001000000-E	200	6	LS	CLEARING & GRUBBING .. ACRE(S)
0008000000-E	200	1	ACR	SUPPLEMENTARY CLEARING & GRUB- BING
0015000000-N	205	2	EA	SEALING ABANDONED WELLS
0022000000-E	225	80,200	CY	UNCLASSIFIED EXCAVATION
0036000000-E	225	3,500	CY	UNDERCUT EXCAVATION
0070000000-E	SP	500	CY	SELECT GRANULAR MATERIAL
0077000000-E	SP	5,500	SY	FABRIC FOR SOIL STABILIZATION
0106000000-E	230	108,200	CY	BORROW EXCAVATION
0134000000-E	240	710	CY	DRAINAGE DITCH EXCAVATION
0141000000-E	240	400	LF	BERM DITCH CONSTRUCTION
0156000000-E	SP	1,460	SY	REMOVAL OF EXISTING ASPHALT PAVEMENT
0192000000-N	260	13	HR	PROOF ROLLING
0255000000-E	SP	2,600	TON	GENERIC GRADING ITEM CLASS IV SUBGRADE STABILIZA- TION
0318000000-E	300	900	TON	FOUNDATION CONDITIONING MATE- RIAL, MINOR STRS
0342000000-E	SP	152	LF	**" SIDE DRAIN PIPE (15")
0342000000-E	SP	56	LF	**" SIDE DRAIN PIPE (18")
0360000000-E	310	52	LF	12" RC PIPE CULVERTS, CLASS III
0366000000-E	310	2,848	LF	15" RC PIPE CULVERTS, CLASS III
0372000000-E	310	1,984	LF	18" RC PIPE CULVERTS, CLASS III
0378000000-E	310	1,396	LF	24" RC PIPE CULVERTS, CLASS III
0384000000-E	310	776	LF	30" RC PIPE CULVERTS, CLASS III
0390000000-E	310	424	LF	36" RC PIPE CULVERTS, CLASS III
0402000000-E	310	216	LF	48" RC PIPE CULVERTS, CLASS III
0426000000-E	310	152	LF	72" RC PIPE CULVERTS, CLASS III
0708000000-E	324	176	LF	15" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
0720000000-E	324	112	LF	24" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
0806000000-E	324	2	EA	15" BIT COAT CS PIPE ELBOWS, T YPE B 0.064" THICK
0808000000-E	324	3	EA	24" BIT COAT CS PIPE ELBOWS, T YPE B 0.064" THICK
1011000000-N	500	Lump Sum		FINE GRADING
1022000000-E	SP	250	LB	SEALING EXISTING PAVEMENT CRACKS
1044000000-E	501	32,000	SY	LIME TREATED SOIL (SLURRY METHOD)
1066000000-E	501	320	TON	LIME FOR LIME TREATED SOIL
1121000000-E	520	35,200	TON	AGGREGATE BASE COURSE
1176000000-E	542	21,300	SY	**" SOIL CEMENT BASE (7")
1187000000-E	542	590	TON	PORTLAND CEMENT FOR SOIL CE- MENT BASE
1198000000-E	SP	325	TON	AGGREGATE FOR SOIL CEMENT BASE
1209000000-E	543	8,000	GAL	ASPHALT CURING SEAL
1220000000-E	545	830	TON	INCIDENTAL STONE BASE
1275000000-E	600	650	GAL	PRIME COAT
1330000000-E	612	975	SY	INCIDENTAL MILLING
1489000000-E	SP	850	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1491000000-E	SP	4,240	TON	ASPHALT CONC BASE COURSE, TYPE B25.0C
1498000000-E	SP	14,550	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
1503000000-E	SP	1,740	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0C
1519000000-E	SP	3,100	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
1528000000-E	SP	11,550	TON	ASPHALT CONC SURFACE COURSE, TYPE S12.5B
1539000000-E	SP	4,675	TON	ASPHALT CONC SURFACE COURSE, TYPE S12.5C
1560000000-E	SP	1,822	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
1565000000-E	SP	258	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 70-22
1693000000-E	654	55	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2000000000-N	806	47	EA	RIGHT OF WAY MARKERS
2011000000-E	810	156	LF	PIPE REMOVAL
2022000000-E	815	170	CY	SUBDRAIN EXCAVATION
2033000000-E	815	85	CY	SUBDRAIN FINE AGGREGATE
2044000000-E	815	500	LF	6" PERFORATED SUBDRAIN PIPE
2055000000-E	815	15	EA	6" SUBDRAIN PIPE WYES, TEES, & ELBOWS
2066000000-N	815	1	EA	CONCRETE PAD FOR SUBDRAIN PIPE OUTLET
2077000000-E	815	6	LF	6" OUTLET PIPE (SUBDRAINS)
2143000000-E	818	10	TON	BLOTTING SAND
2209000000-E	SP	13	CY	ENDWALLS
2220000000-E	SP	15	CY	REINFORCED ENDWALLS
2253000000-E	840	2	CY	PIPE COLLARS
2264000000-E	840	1	CY	PIPE PLUGS
2286000000-N	840	61	EA	MASONRY DRAINAGE STRUCTURES
2308000000-E	840	15	LF	MASONRY DRAINAGE STRUCTURES
2352000000-N	840	1	EA	FRAME WITH GRATE, STD 840.**** (840.13)
2363000000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840.***** (840.16)
2363000000-N	840	4	EA	FRAME WITH TWO GRATES, STD 840.***** (840.20)
2363000000-N	840	2	EA	FRAME WITH TWO GRATES, STD 840.***** (840.22)
2363000000-N	840	19	EA	FRAME WITH TWO GRATES, STD 840.***** (840.29)
2374000000-N	840	5	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)
2374000000-N	840	13	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)
2374000000-N	840	13	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)
2396000000-N	840	1	EA	FRAME WITH COVER, STD 840.54
2451000000-N	840	4	EA	CONCRETE APRON FOR DROP INLETS
2542000000-E	846	13,500	LF	1'-6" CONCRETE CURB & GUTTER
2549000000-E	846	9,225	LF	2'-6" CONCRETE CURB & GUTTER
2556000000-E	846	420	LF	SHOULDER BERM GUTTER
2577000000-E	SP	7,050	LF	CONCRETE EXPRESSWAY GUTTER
2591000000-E	848	3,300	SY	4" CONCRETE SIDEWALK
2598000000-E	848	162	SY	CONCRETE WHEELCHAIR RAMPS
2612000000-E	848	19	SY	6" CONCRETE DRIVEWAY
2619000000-E	850	11	SY	4" CONCRETE PAVED DITCH
2626000000-E	852	595	SY	3" CONCRETE ISLAND COVERS
2655000000-E	852	122	SY	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)
2815000000-N	858	1	EA	ADJUSTMENT OF DROP INLETS
3030000000-E	862	1,900	LF	STEEL BM GUARDRAIL
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3210000000-N	862	6	EA	GUARDRAIL ANCHOR UNITS, TYPE CAT-1
3270000000-N	SP	5	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3345000000-E	SP	900	LF	REMOVE & RESET EXISTING GUARD- RAIL
3375000000-E	SP	875	LF	REMOVE & STOCKPILE EXISTING GUARDRAIL
3389400000-E	SP	11,500	LF	DOUBLE FACED CABLE GUIDERAIL
3389600000-N	SP	18	EA	CABLE GUIDERAIL ANCHOR UNITS
3557000000-E	866	100	LF	ADDITIONAL BARBED WIRE
3575000000-E	SP	7,850	LF	GENERIC FENCING ITEM 48" WOVEN WIRE FENCE W/ 2 STRAND BARBED WIRE COMPLETE W/ POSTS
3575000000-E	SP	650	LF	GENERIC FENCING ITEM TEMP 48" WOVEN WIRE FENCE W/ 2 STRAND BARBED WIRE COMPLETE W/ POSTS
3628000000-E	868	26	TON	PLAIN RIP RAP, CLASS I
3635000000-E	868	25	TON	PLAIN RIP RAP, CLASS II
3649000000-E	868	650	TON	PLAIN RIP RAP, CLASS B
3656000000-E	868	2,400	SY	FILTER FABRIC FOR DRAINAGE
4054000000-E	902	1	CY	PLAIN CONCRETE SIGN FOOTINGS
4060000000-E	903	259	LB	BREAKAWAY STEEL BEAM SIGN SUP- PORTS
4072000000-E	903	962	LF	3# STEEL U-CHANNEL POSTS
4090000000-N	904	1	EA	TYPE B SIGNS, ERECTION
4096000000-N	904	7	EA	TYPE D SIGNS, ERECTION
4102000000-N	904	61	EA	TYPE E SIGNS, ERECTION
4108000000-N	904	8	EA	TYPE F SIGNS, ERECTION
4300000000-N	SP	25	EA	REMOVE & DISPOSE OF EXISTING SIGNS & "U" CHANNEL POSTS
4342000000-N	908	2	EA	ERECT EXISTING SIGN ON NEW U-CHANNEL POSTS
4360000000-N	SP	1	EA	GENERIC SIGNING ITEM 1-SIDED, 1 STATE LANE CONTROL SIGNAL
4360000000-N	SP	3	EA	GENERIC SIGNING ITEM 1-SIDED, 3 STATE LANE CONTROL SIGNAL
4360000000-N	SP	2	EA	GENERIC SIGNING ITEM 1-SIDED, 4 STATE LANE CONTROL SIGNAL
4360000000-N	SP	3	EA	GENERIC SIGNING ITEM 2 SIDED, 3 STATE / 4 STATE LAN E CONTROL SIGNAL
4360000000-N	SP	1	EA	GENERIC SIGNING ITEM 2-SIDED, 1 STATE / 2 STATE LAN E CONTROL SIGNAL
4360000000-N	SP	1	EA	GENERIC SIGNING ITEM 2-SIDED, 1 STATE / 3 STATE LAN E CONTROL SIGNAL
4360000000-N	SP	2	EA	GENERIC SIGNING ITEM 2-SIDED, 1STATE / 1 STATE LANE CONTROL SIGNAL
4360000000-N	SP	1	EA	GENERIC SIGNING ITEM 2-SIDED, 3 STATE / 3 STATE LAN E CONTROL SIGNAL
4360000000-N	SP	2	EA	GENERIC SIGNING ITEM 2-SIDED, 4 STATE / 5 STATE LAN E CONTROL SIGNAL
4360000000-N	SP	1	EA	GENERIC SIGNING ITEM CENTRAL COMMAND COMPUTER
4360000000-N	SP	1	EA	GENERIC SIGNING ITEM CENTRAL COMMAND COMPUTER OPERA TING SOFTWARE
4360000000-N	SP	1	EA	GENERIC SIGNING ITEM HOST COMPUTER
4360000000-N	SP	1	EA	GENERIC SIGNING ITEM HOST COMPUTER OPERATING SOFT- WARE
4360000000-N	SP	1	EA	GENERIC SIGNING ITEM LAPTOP MAINTENANCE COMPUTER
4360000000-N	SP	1	EA	GENERIC SIGNING ITEM LAPTOP MAINTENANCE COMPUTER OPERATING SOFTWARE
4370000000-N	SP	Lump Sum		GENERIC SIGNING ITEM DYNAMIC MESSAGE SIGN "DMS-1"
4370000000-N	SP	Lump Sum		GENERIC SIGNING ITEM DYNAMIC MESSAGE SIGN MAINTEN- ANCE TRAINING
4370000000-N	SP	Lump Sum		GENERIC SIGNING ITEM DYNAMIC MESSAGE SIGN SYSTEM OPERATIONALTESTS

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PROJ. REFERENCE NO.	SHEET NO.	TOTAL SHEETS
U-2582B	3 (2 of 2)	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
SUMMARY OF QUANTITIES

ItemNumber	Sec #	Quantity	Unit	Description
4370000000-N	SP	Lump Sum		GENERIC SIGNING ITEM DYNAMIC MESSAGE SIGN SYSTEM DESIGN APPROVAL TESTS
4370000000-N	SP	Lump Sum		GENERIC SIGNING ITEM OVERHEAD DYNAMIC MESSAGE SIGN ASSEMBLY "DMS-1"
4370000000-N	SP	Lump Sum		GENERIC SIGNING ITEM OVERHEAD LANE CONTROL SIGNAL ASSEMBLY "K"
4370000000-N	SP	Lump Sum		GENERIC SIGNING ITEM OVERHEAD LANE CONTROL SIGNAL ASSEMBLY "L"
4370000000-N	SP	Lump Sum		GENERIC SIGNING ITEM REMOVAL AND DISPOSAL OF FIBER OPTIC LANE CONTROL SIGNALS
4400000000-E	1110	832	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	380	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	140	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4415000000-N	1115	2	EA	FLASHING ARROW PANELS, TYPE C
4420000000-N	1120	2	EA	CHANGEABLE MESSAGE SIGNS
4430000000-N	1130	200	EA	DRUMS
4435000000-N	1135	100	EA	CONES
4445000000-E	1145	500	LF	BARRICADES (TYPE III)
4455000000-N	1150	200	MD	FLAGGER
4460000000-N	1155	6	EA	WARNING LIGHTS (TYPE B)
4465000000-N	1160	2	EA	TEMPORARY CRASH CUSHIONS
4470000000-N	1160	1	EA	RESET TEMPORARY CRASH CUSHIONS
4480000000-N	1165	2	EA	TRUCK MOUNTED IMPACT ATTENUA-TOR (60 MPH)
4485000000-E	1170	6,300	LF	PORTABLE CONCRETE BARRIER
4500000000-E	1170	3,300	LF	RESET PORTABLE CONCRETE BAR-RIER
4510000000-N	SP	24	HR	POLICE
4650000000-N	1251	1,150	EA	TEMPORARY RAISED PAVEMENT MARKERS
4685000000-E	1205	36,000	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
4686000000-E	1205	13,800	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
4695000000-E	1205	6,900	LF	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)
4697000000-E	1205	1,500	LF	THERMOPLASTIC PAVEMENT MARKING LINES (8", 120 MILS)
4710000000-E	1205	800	LF	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)
4725000000-E	1205	116	EA	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)
4810000000-E	1205	149,400	LF	PAINT PAVEMENT MARKING LINES (4")
4820000000-E	1205	25,200	LF	PAINT PAVEMENT MARKING LINES (8")
4835000000-E	1205	2,400	LF	PAINT PAVEMENT MARKING LINES (24")
4845000000-N	1205	348	EA	PAINT PAVEMENT MARKING SYMBOL
4850000000-E	1205	5,000	LF	REMOVAL OF PAVEMENT MARKING LINES (4")
4900000000-N	1252	1,150	EA	PERMANENT RAISED PAVEMENT MARKERS
4910000000-N	1261	50	EA	GUARDRAIL DELINEATORS (PERMA-NENT, **********) (CRYSTAL)
4913000000-N	1261	70	EA	BARRIER DELINEATORS (TEMPORARY **********) (CRYSTAL)
4913000000-N	1261	70	EA	BARRIER DELINEATORS (TEMPORARY **********) (YELLOW)
4935000000-N	SP	200	EA	FLEXIBLE DELINEATORS (CRYSTAL)
4940000000-N	SP	60	EA	FLEXIBLE DELINEATORS (YELLOW)
5300000000-E	1505	15	TON	FOUNDATION CONDITIONING MATE-RIAL, UTILITIES CLASS ******** (IV)
5306000000-E	1505	15	TON	BEDDING MATERIAL, UTILITIES CLASS ************ (IV)
5360000000-E	1510	22	LF	6" DI WATER PIPE, PC 350
5378000000-E	1510	80	LF	12" DI WATER PIPE, PC 350
5480000000-E	1510	215	LB	DUCTILE IRON WATER PIPE FIT-TINGS, 250# MIN WP
5600000000-E	SP	1	EA	**" BLOW OFF ASSEMBLY (12")
5672000000-N	1510	2	EA	RELOCATE EXISTING FIRE HYDRANT
5840000000-E	SP	164	LF	**" STEEL ENCASEMENT PIPE, *****" THICK, BY OPEN CUT (12 3/4", 0.188")
5882000000-N	SP	1	EA	GENERIC UTILITY ITEM RELOCATE EXISTING CATTLE WATER ING DEVICE
5888000000-E	SP	196	LF	GENERIC UTILITY ITEM 4" PVC WATER PIPE, SCH. 40, 20 0# WP
6000000000-E	1605	350	LF	TEMPORARY SILT FENCE
6006000000-E	1610	200	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	1,575	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	900	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	39.50	ACR	TEMPORARY MULCHING
6018000000-E	1620	1,700	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	6.75	TON	FERTILIZER FOR TEMPORARY SEED-ING
6024000000-E	1622	850	LF	TEMPORARY SLOPE DRAINS
6027000000-N	1622	11	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
6030000000-E	1630	7,100	CY	SILT EXCAVATION
6033000000-E	1631	2,400	SY	SYNTHETIC ROVING
6036000000-E	1631	1,200	SY	MATTING FOR EROSION CONTROL
6042000000-E	1632	2,000	LF	1/4" HARDWARE CLOTH
6069000000-E	1638	48	CY	STILLING BASINS
6084000000-E	1660	44.50	ACR	SEEDING & MULCHING
6087000000-E	1660	23.50	ACR	MOWING
6090000000-E	1661	450	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.75	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	1,100	LB	SEED FOR SUPPLEMENTAL SEEDING
6102000000-E	1663	10,100	SY	SODDING
6105000000-E	1663	340	M/G	WATER
6108000000-E	1665	33.50	TON	FERTILIZER TOPDRESSING
6114000000-N	SP	8	HR	SPECIALIZED HAND MOWING
6117000000-N	SP	16	EA	RESPONSE FOR EROSION CONTROL
6120000000-E	SP	300	CY	CULVERT DIVERSION CHANNEL
6123000000-E	1670	4	ACR	REFORESTATION
6141000000-E	SP	100	SY	GENERIC EROSION CONTROL ITEM PERMANENT SOIL REINFORCEMENT M AT
7048000000-E	SP	16	EA	PEDESTRIAN SIGNAL HEAD (12", 2 SECTION)
7060000000-E	SP	2,145	LF	SIGNAL CABLE
7120000000-E	SP	33	EA	VEHICLE SIGNAL HEAD (12", 3 SECTION)
7144000000-E	SP	8	EA	VEHICLE SIGNAL HEAD (12", 5 SECTION)
7264000000-E	SP	1,285	LF	MESSENGER CABLE (3/8")
7276000000-E	SP	380	LF	JACK & BORE
7288000000-E	SP	35	LF	TRENCHING (PAVED)
7300000000-E	SP	2,760	LF	TRENCHING (UNPAVED)
7324000000-N	SP	24	EA	JUNCTION BOX (STANDARD SIZE)
7336000000-N	SP	17	EA	JUNCTION BOX (OVER-SIZED)
7444000000-E	SP	6,940	LF	INDUCTIVE LOOP SAWCUT
7456000000-E	SP	13,180	LF	LEAD-IN CABLE
7484000000-N	SP	2	EA	MICROWAVE VEHICLE DETECTOR
7504000000-E	SP	8,780	LF	COMMUNICATIONS CABLE (** TWISTED-PAIR) (12)
7552000000-N	SP	6	EA	INTERCONNECT CENTER
7566000000-N	SP	26	EA	DELINEATOR MARKER
7568000000-N	SP	1	EA	FURNISH FIBER-OPTIC RESTORA- T ION KIT
7570000000-N	SP	1	EA	FURNISH FIBER-OPTIC POWER ME-TER
7572000000-N	SP	1	EA	FURNISH OPTICAL LIGHT GENERA-TOR
7576000000-N	SP	12	EA	METAL SIGNAL POLE
7612000000-N	SP	12	EA	METAL SIGNAL POLE FOUNDATION
7636000000-N	SP	4	EA	SIGN FOR SIGNALS
7684000000-N	SP	6	EA	SIGNAL CABINET FOUNDATION
7828000000-N	SP	4	EA	CONTROLLER WITH CABINET (NEMA TS-2, TYPE 1, BASE MOUNTED)
7852000000-N	SP	26	EA	DETECTOR CHANNEL (NEMA TS-2)
7973000000-N	SP	4	EA	METAL STRAIN POLE DESIGN
7980000000-N	SP	3	EA	GENERIC SIGNAL ITEM CCTV CAMERA ASSEMBLY
7980000000-N	SP	1	EA	GENERIC SIGNAL ITEM CCTV CAMERA POLE
7980000000-N	SP	3	EA	GENERIC SIGNAL ITEM CCTV MONITORS
7980000000-N	SP	1	EA	GENERIC SIGNAL ITEM FURNISH CCTV CAMERA ASSEMBLY
7980000000-N	SP	1	EA	GENERIC SIGNAL ITEM FURNISH MMFO TRANSCEIVER (RLSC)
7980000000-N	SP	1	EA	GENERIC SIGNAL ITEM FURNISH SMFO TRANSCEIVER (CCTV)
7980000000-N	SP	1	EA	GENERIC SIGNAL ITEM FURNISH SMFO TRANSCEIVER (DMS)
7980000000-N	SP	2	EA	GENERIC SIGNAL ITEM MMFO TRANSCEIVER (RLSC)
7980000000-N	SP	2	EA	GENERIC SIGNAL ITEM REVERSIBLE LANE SIGNAL CONTROL LER WITH CABINET
7980000000-N	SP	6	EA	GENERIC SIGNAL ITEM SMFO TRANSCEIVER (CCTV)
7980000000-N	SP	2	EA	GENERIC SIGNAL ITEM SMFO TRANSCEIVER (DMS)
7980000000-N	SP	4	EA	GENERIC SIGNAL ITEM SPLICE ENCLOSURE
7985000000-N	SP	Lump Sum		GENERIC SIGNAL ITEM FIBER OPTIC TRAINING
7985000000-N	SP	Lump Sum		GENERIC SIGNAL ITEM RE-TERMINATING AND SPLICING FIBERS IN EXISTING GANTRY "J"
7990000000-E	SP	180	LF	GENERIC SIGNAL ITEM 18-4UF LEAD -IN CABLE
7990000000-E	SP	920	LF	GENERIC SIGNAL ITEM DIRECTIONAL BORE WITH CONDUIT
7990000000-E	SP	1,600	LF	GENERIC SIGNAL ITEM MMFO COMMUNICATIONS CABLE (12 FIBER)
7990000000-E	SP	9,100	LF	GENERIC SIGNAL ITEM SMFO COMMUNICATIONS CABLE (60 FIBER)
7990000000-E	SP	280	LF	GENERIC SIGNAL ITEM SMFO DROP CABLE (6 FIBER)
7990000000-E	SP	9,100	LF	GENERIC SIGNAL ITEM TRACER WIRE, #14 AWG
7990000000-E	SP	8,780	LF	GENERIC SIGNAL ITEM TRENCHED MULTI-DUCT, 1 1/4"

COMPUTED BY: L. McCRORY DATE: OCTOBER 2000
CHECKED BY: T. HOUSER DATE: NOVEMBER 2000

PROJECT REFERENCE NO.	SHEET NO.
U-2582B	3-A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 15" .064	18" .064	24" .064	30" .079	36" .079	42" .109	48" .109	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	LIN. *FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	M.D.I. TYPE "B" STD. 840.18 OR 840.27	M.D.I. TYPE "D" STD. 840.19 OR 840.28	SPECIAL M.D.I. (SEE DETAIL SHT. NO. 2-U)	M.D.I. FRAME WITH TWO GRATES STD. 840.20	M.D.I. FRAME WITH TWO GRATES STD. 840.22	M.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	T.B.J.B. STD. 840.34	M.H. FRAME & COVER STD. 840.54	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	N.D.I. STD. 840.11 OR 840.12	N.D.I. FRAME & GRATE STD. 840.13	ADJUST EXIST. D.I.	CONCRETE APRON FOR DI	J.B. STD. 840.31 OR 840.32	4" CONCRETE PAVED DITCH (BDO) S.Y.	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
SHEET 4																																																						
-L- 40+00	RT	74		370.58																							1			1		1																						
-L-	RT	74	75		367.58	360.82			24																		1	3.50												1	1													REMOVE CB APPROX. E.D. FOR STR. #75
-L- 45+00	LT	1		365.20	362.12	350.80										116											1			1			1																	1-15"				
-L- 45+60	RT	2		364.37																							1			1		1																						
-L-	RT	2	3		361.29	361.53			36																																													
SPUR A 3+75	RT	3		364.19																							1							1					1															
SPUR A 1+98	RT	4																																																	.55			REMOVE CB
SPUR A	RT	4	5		362.39	362.88					12																																											
SPUR A 1+98	RT	5		368.39																							1	.51						1			1																	EXTRA DEPTH REQUIRED
SPUR A	RT	5	6		362.88	370.80				148																																												
SPUR A 0+37	RT	6		376.96																							1									1	1																	
RAMP A 10+00	RT	7		391.46																								.46									1									1								REMOVE EXIST. GRATE & FRAME E.D. IS FOR ADJUSTMENT OF DI
RAMP A	RT	7	73		386.30	395.65			148																																													
-L-	RT	2	8		361.29	359.00			248																																													
-L- 48+00	RT	8		361.92																							1							1					1															
-L-	RT	8	9		359.00	358.37				96																																												
-L- 49+00	RT	9		361.29																							1							1					1															
-L-	RT	9	10		358.37	358.29				16																																												
-L- 49+19	RT	10		361.29																							1							1					1															EXTRA DEPTH REQUIRED
-L-	RT	10	11		358.29	359.40			128																																													
-L- 50+50	RT	11		362.06																							1							1					1															
-L- 49+19		10	12		358.29	355.53				100																																												
-L- 49+19	LT	12		361.37																							1	.84						1					1															EXTRA DEPTH REQUIRED
-L- 49+19	LT	12	12A		355.53	357.70					44																																											
-L-	LT	12	13		355.53	359.22				128																																												
-L- 50+50	LT	13		362.14																							1							1					1															
-L-	LT	13	14		359.22	363.90			248																																													
-L- 53+00	LT	14		367.89																							1							1					1															
-L- 53+00		14	15		363.90	365.07			96																																													
-L- 53+00	RT	15		367.73																							1							1					1															
SHEET 5																																																						
-L- 58+00	LT	16		388.82																							1							1					1															
-L- 58+00		16	17		386.16	383.50			88																																													
-L- 58+00	RT	17		388.75																							1	.25						1					1															EXTRA DEPTH REQUIRED
-L- 58+00	RT	17	17A		383.50	383.30						28																																								
SHEET TOTALS								0		488		28		0		116		0	0	0	0	0	0		0		17			3				12		1				1		0		0			0	0		1-15"			0	
									1016		56		0		0		0							0		0		5.56			0	2	1				3	0	11		1		0		0	1			0		.55	0		

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

6/20/00

18-DEC-2000 13:36 P:\U2582B\proj\u2582b.aum T.Houser

COMPUTED BY: L.McCRORY DATE: OCTOBER 2000
CHECKED BY: T. Houser DATE: 12-19-00

PROJECT REFERENCE NO.	SHEET NO.
U-2582B	3-B

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

Station	Location (LT, RT, or CL)	Structure No. From	Structure No. To	Top Elevation	Invert Elevation	Invert Elevation	Slope Critical	Class III R.C. Pipe (Unless Noted Otherwise) 12"	15"	18"	24"	30"	36"	42"	48"	Bituminous Coated C.S. Pipe Type B (Unless Noted Othrwise) 15" .064	18" .064	24" .064	30" .079	36" .079	42" .109	48" .109	15" Side Drain Pipe	18" Side Drain Pipe	24" Side Drain Pipe	Endwalls Std. 838.01 or Std. 838.11 (Unless Noted Otherwise) R.C.P. Cu. Yds.	Quantities for Drainage Structures Per Each (0' thru 5.0')	Lin. *Ft. A 5.0' thru 10.0'	Lin. *Ft. B 10.0' and above	C.B. Std. 840.01 or Std. 840.02	Frame, Grates and Hood Standard 840.03 Type of Grate E	F	G	M.D.I. Type "B" Std. 840.18 or 840.27	M.D.I. Type "D" Std. 840.19 or 840.28	Special M.D.I. (See Detail Sht. No. 2-U)	M.D.I. Frame with Two Grates Std. 840.20	M.D.I. Frame with Two Grates Std. 840.22	M.D.I. (N.S.) Frame with Two Grates Std. 840.29	T.B.J.B. Std. 840.34	M.H. Frame & Cover Std. 840.54	D.I. Std. 840.14 or Std. 840.15	D.I. Frame & Grate Std. 840.16	N.D.I. Std. 840.11 or 840.12	N.D.I. Frame & Grate Std. 840.13	Adjust Exist. D.I.	Concrete Apron for DI	J.B. Std. 840.31 or 840.32	4" Concrete Paved Ditch (BDO) S.Y.	Corr. Steel Elbows No. & Size	Conc. Collars Cl. "B" C.Y. Std 840.72	Conc. & Brick Pipe Plug, C.Y. Std. 840.71	Pipe Removal Lin. Ft.	Remarks
SHEET 5																																																						
-L-	RT	17	18		383.50	396.35						296																																										
-L- 61+00	RT	18		401.60																							1	.25						1					1															EXTRA DEPTH REQUIRED
-L- 61+00		18	19		396.35	398.94			88																																													
-L- 61+00	LT	19		401.60																							1							1					1															
-L-	RT	18	20		396.35	409.63					296																																											
-L- 64+00	RT	20		414.39																							1							1					1															EXTRA DEPTH REQUIRED
-L- 64+00		20	21		409.63	411.47				88																																												
-L- 64+00	LT	21		414.39																							1							1					1															EXTRA DEPTH REQUIRED
-L-	RT	20	22		409.63	423.54				296																																												
-L- 67+00	RT	22		426.89																							1							1					1															EXTRA DEPTH REQUIRED
-L- 67+00		22	23		423.54	424.23			88																																													
-L- 67+00	LT	23		426.89																							1							1					1															
SHEET 6																																																						
-L- 72+70		24			431.00	415.50						220																																										
-L- 73+50	LT	25																					20																															
-L- 74+83	MED	26		449.60																							1															1	1				1							
-L- 74+83		26	27		446.60	445.14			44																																													
-L- 74+83	LT	27		449.04																							1							1					1															EXTRA DEPTH REQUIRED
-L- 74+83	LT	27	27A		445.14	434.30										40																																		1-15"				
-L-	LT	27	28		445.14	446.72			312																																													
-L- 78+00	LT	28		449.38																							1							1					1															
-L- 78+00	LT	28	29		446.72	447.79			44																																													
-L- 78+00	MED	29		450.79																							1																	1	1		1							
-Y- 10+60	RT	30																					24																															
-Y- 10+60	LT	30A																					40																															
-L- 83+20	LT	31	31A		431.50	420.50					20																																											
-L- 83+20	LT	31A		435.70																							1			1			1																					EXTRA DEPTH REQUIRED
-L- 83+20		31A	32		431.20	430.32					92																																											
-L- 83+20	RT	32		435.70																							1	.38		1		1																						EXTRA DEPTH REQUIRED
-L- 83+20	RT	32	32A		430.32	420.50												68																																1-24"				
SHEET 7																																																						
-L- 88+00	RT	33		409.17																							1			1		1																						
-L- 88+00		33	34		406.09	405.35			92																																													
-L- 88+00	LT	34		409.17																							1			1			1																					EXTRA DEPTH REQUIRED
-L- 88+00	LT	34	35		405.35	414.50										20																																	11	1-15"				SEE COMPUTATION SHEET FOR BDO
SHEET TOTALS								0		384		516		0		60		68	0	0	0	0	84		0		14			4				8						0		1		1			2	0		1-15"			0	
									668		408		0		0		0							0		0		.63			0	2	2			0	0	0	8		0		1		1	0			11	1-24"	0	0		

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

6/20/00

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THouser

6/20/00

COMPUTED BY: L. McCRORY DATE: OCTOBER 2000
CHECKED BY: T. Houser DATE: 12-19-00

PROJECT REFERENCE NO.	SHEET NO.
U-2582B	3-E

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 12"	15"	18"	24"	30"	36"	42"	48"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHERWISE) 15" .064	18" .064	24" .064	30" .079	36" .079	42" .109	48" .109	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.		QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	M.D.I. TYPE "S" STD. 840.18 OR 840.27	M.D.I. TYPE "D" STD. 840.19 OR 840.28	SPECIAL M.D.I. (SEE DETAIL SHT. NO. 2-U)	M.D.I. FRAME WITH TWO GRATES STD. 840.20	M.D.I. FRAME WITH TWO GRATES STD. 840.22	M.D.I. (N-S.) FRAME WITH TWO GRATES STD. 840.29	T.B.J.B. STD. 840.34	M.H. FRAME & COVER STD. 840.54	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	N.D.I. STD. 840.11 OR 840.12	N.D.I. FRAME & GRATE STD. 840.13	ADJUST EXIST. D.I.	CONCRETE APRON FOR DI	J.B. STD. 840.31 OR 840.32	4" CONCRETE PAVED DITCH (BDD) S.Y.	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
SHEET 12																																														
-Y2- 624+48	LT	70		352.02	350.37	350.34			12																			1																		.40			LESS THAN STD. DEPTH – REMOVE 2GI
RAMP B 4+00	LT	72		366.80	364.37	363.64		52																					1				1			1									.35			REMOVE DI
SHEET 13																																														
RAMP A 8+50	RT	73		398.31																									1				1				1										
SHHEET TOTALS								52		0		0		0			0		0		0		0		0		0		3			0		3	1			0	0				0			0			0	
									12		0		0		0			0			0			0			0			0		0	0	0			0		1	2	0		0		0		0	0			0		.75	0		
PROJECT TOTALS								52		1984		776		0			176		112		0		0		0		0		152			0		61				31					22	1	1									4	1			2–15"			156	
									2848		1396		424		216			0									56			12.8			14.35			5	13	13					4	2	19		1		3		1	1			1 1	3–24"	1.70	.09		
																													SAY 13			SAY 15																				SAY	2	1		

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

6/21/00

COMPUTED BY: L. McCRORY DATE: OCTOBER 2000
CHECKED BY: T. HOUSER DATE: 12-19-00

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 54" & OVER)

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 54"	60"	66"	72"	78"	84"	BITUMINOUS COATED C.S. PIPE TYPE B 54" SHOP ELONGATED .109	54" SHOP ELONGATED .138	54" SHOP ELONGATED .168	54" .138	54" .168	60" .138	60" .168	66" .138	66" .168	72" .138	72" .168	STRUCTURAL PLATE PIPE 60" 12	60" 10	66" 12	66" 10	72" 12	72" 10	REINFORCED ENDWALLS WITH R.C. – C.Y.	WITH C.S. – C.Y.	MASONRY DRAINAGE STRUCTURES CUBIC YARDS	REINF. CONC. FLARED END SECTIONS NO. & SIZE	CORR. STEEL FLARED END SECTIONS NO. & SIZE	REINF. CONC. ELBOWS NO. & SIZE	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	PIPE REMOVAL LIN.FT.	REMARKS
-L- 91+00		41A									152																			14.2									CATTLE CROSSING W/2 ENDWALLS
PROJECT TOTALS								0	0	0	152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14.2		0						
																														SAY 15								

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

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6/16/99

COMPUTED BY: L. McCRORY DATE: OCTOBER 2000
CHECKED BY: T. Houser DATE: Nov. 2000

PROJECT REFERENCE NO.	SHEET NO.
U-2582B	3-F

"N" = DISTANCE FROM EDGE OF PAVEMENT TO FACE OF GUARDRAIL.
TOTAL SHOULDER /BERM WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE OR FACE OF 2'-6" CURB OR BACK OF EXPRESSWAY CURB TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.P.	TOTAL SHOULDER/ BERM WIDTH	FLARE LENGTH		W		ANCHORS								IMPACT ATTENUATOR TYPE 350				REMOVE AND RESET EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	TYPE 350	CAT-1							EA	G	NG				
-L-	44+00																											EXIST. BARRICADE
-L-	70+50	75+37.50	RT.	487.50			71+50	75+37.50	16'	14'	50'		1'		1	1												
-L-	70+75	76+50	LT.	575.00			70+75	75+50	16'	14'	50'		1'		1	1												
-L-	89+50	93+50	RT.	400.00			90+50	93+50	14'	14'	50'		1'		1	1												
-L-	90+50	94+50	LT.	400.00			90+50	93+50	14'	14'	50'		1'		1	1												
-Y2-	594+00	601+75.00	LT.	212.50				594+00	12'	15'						1										562.50	6.25	REMOVE EXIST. CAT-1
RAMP B	3+80	8+30	LT.	112.50			7+05	3+80	12'	15'	50'		1'		1	1										337.50	43.75	REMOVE EXIST. MELT & CAT-1
			SUBTOTAL	2187.50											5	6									SUBTOTAL	900.00	162.50	
			LESS ANCHORS	-287.50																							712.50	PLUS TOTAL FROM GUIDERAIL SUMMARY
			TOTAL	1900.00											5	6									SUBTOTAL	900.00	875.00	
			SAY	1900.00																					SAY	900.00	875.00	

ADDITIONAL GUARDRAIL POSTS = 5 EA.

ANCHOR DEDUCTIONS:

TYPE 350 - 5 X 50.00 = 250.00
CAT-1 - 6 X 6.25 = 37.50
TOTAL 287.50

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COMPUTED BY: L. McCRORY DATE: OCTOBER 2000
CHECKED BY: T. Houser DATE: Nov. 2000

PROJECT REFERENCE NO.	SHEET NO.
U-2582B	3-G

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DOUBLE FACE CABLE GUIDERAIL SUMMARY

SURVEY LINE	BEG. STATION	END STATION	LOCATION	LENGTH (LF)		TOTAL GUIDERAIL LENGTH (LENGTH PLUS 84' FOR INTERMEDIATE ANCHORAGE SECTION OVERLAPS) (LF)	OFFSET DISTANCE FROM CENTERLINE	CABLE GUIDE RAIL ANCHOR UNITS (EA)	DEDUCTIONS FROM TOTAL GUIDERAIL LENGTH (LF) (24' FOR EACH ANCHOR)	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
-Y2-	612+00	632+24	RT.	2,024		2,024	4'	2	48	75	REMOVE EXISTING GUARDRAIL AT SIGN SUPPORT IN MEDIAN STA. 632+00 – OFFSET GUIDERAIL 4' RT. OF EXISTING DITCH STA. 612+00 TO 615+00
-Y2-	631+76	643+76	LT.	1,200		1,200	4'	2	48	75	REMOVE EXISTING GUARDRAIL AT SIGN SUPPORT IN MEDIAN STA. 632+00
-Y2-	646+50	657+24	RT.	1,074		1,074	4'	2	48	75	REMOVE EXISTING GUARDRAIL AT SIGN SUPPORT IN MEDIAN STA. 657+00
-Y2-	656+76	684+19	LT.	2,743		2,827	4'	4	96	150	REMOVE EXISTING GUARDRAIL AT SIGN SUPPORTS IN MEDIAN STA. 657+00 AND 683+95
-Y2-/-Y2A-	683+71	694+64	RT.	1,052		1,052	4'	2	48	75	REMOVE EXISTING GUARDRAIL AT SIGN SUPPORT IN MEDIAN STA. 683+95
-Y2A-	696+77	722+19	LT.	2,542		2,626	4'	4	96	137.5	REMOVE EXISTING GUARDRAIL AT SIGN SUPPORT IN MEDIAN STA. 721+90
-Y2A-	721+61	732+80	LT.	1,119		1,119	4'	2	48	125	REMOVE EXISTING GUARDRAIL AT SIGN SUPPORT IN MEDIAN STA. 721+90
					SUBTOTAL	11,922		18	432	712.5	
					LESS ANCHORS	-432					
					TOTAL	11,490		18		712.5	SEE GUARDRAIL SUMMARY FOR REMOVAL OF EXISTING GUARDRAIL TOTAL
					SAY	11,500		18			

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COMPUTED BY: L. MACKEY
CHECKED BY: T. Hauser
DATE: OCTOBER, 2000
DATE: Nov. 2000

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

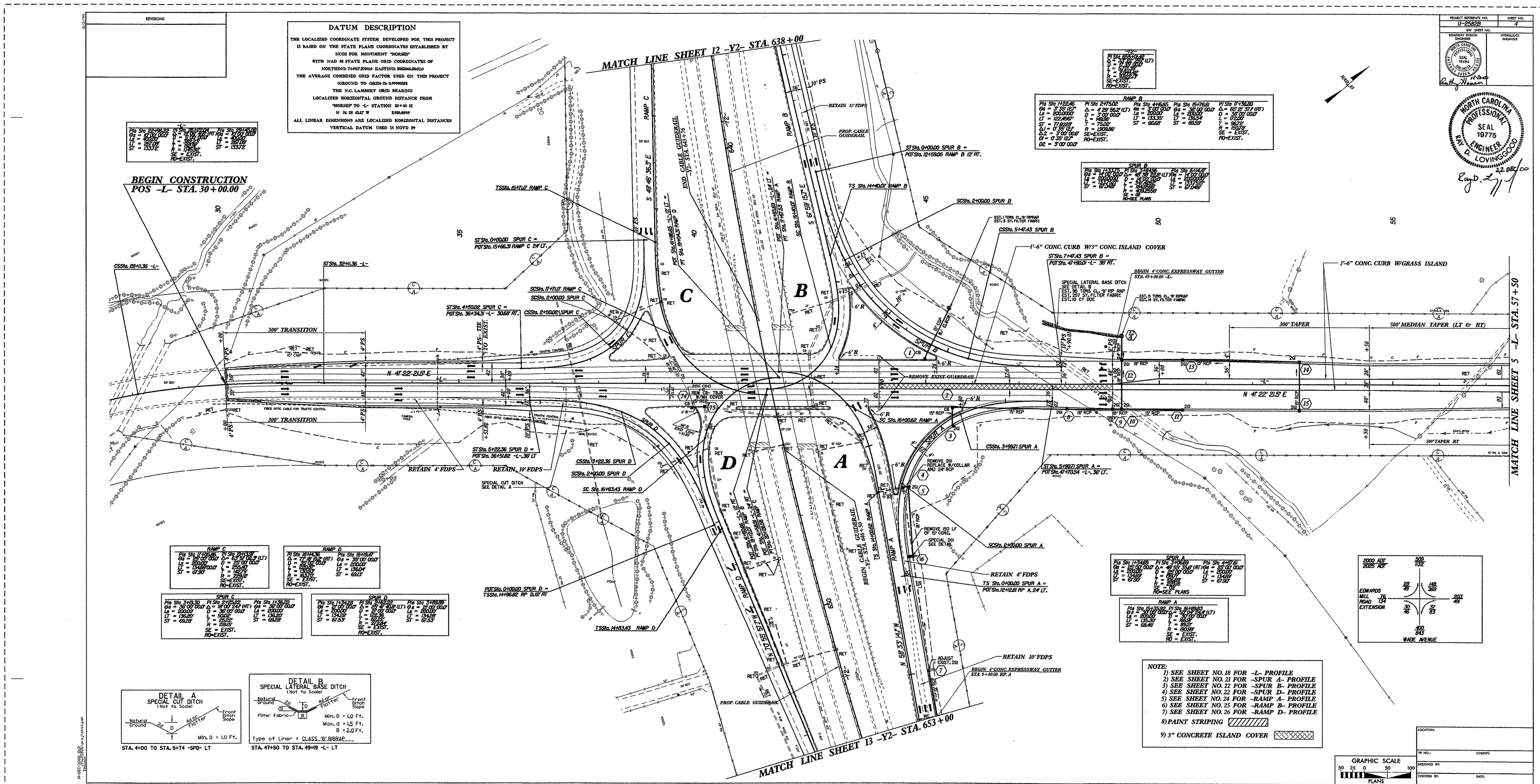
SUMMARY OF EARTHWORK

IN CUBIC YARDS

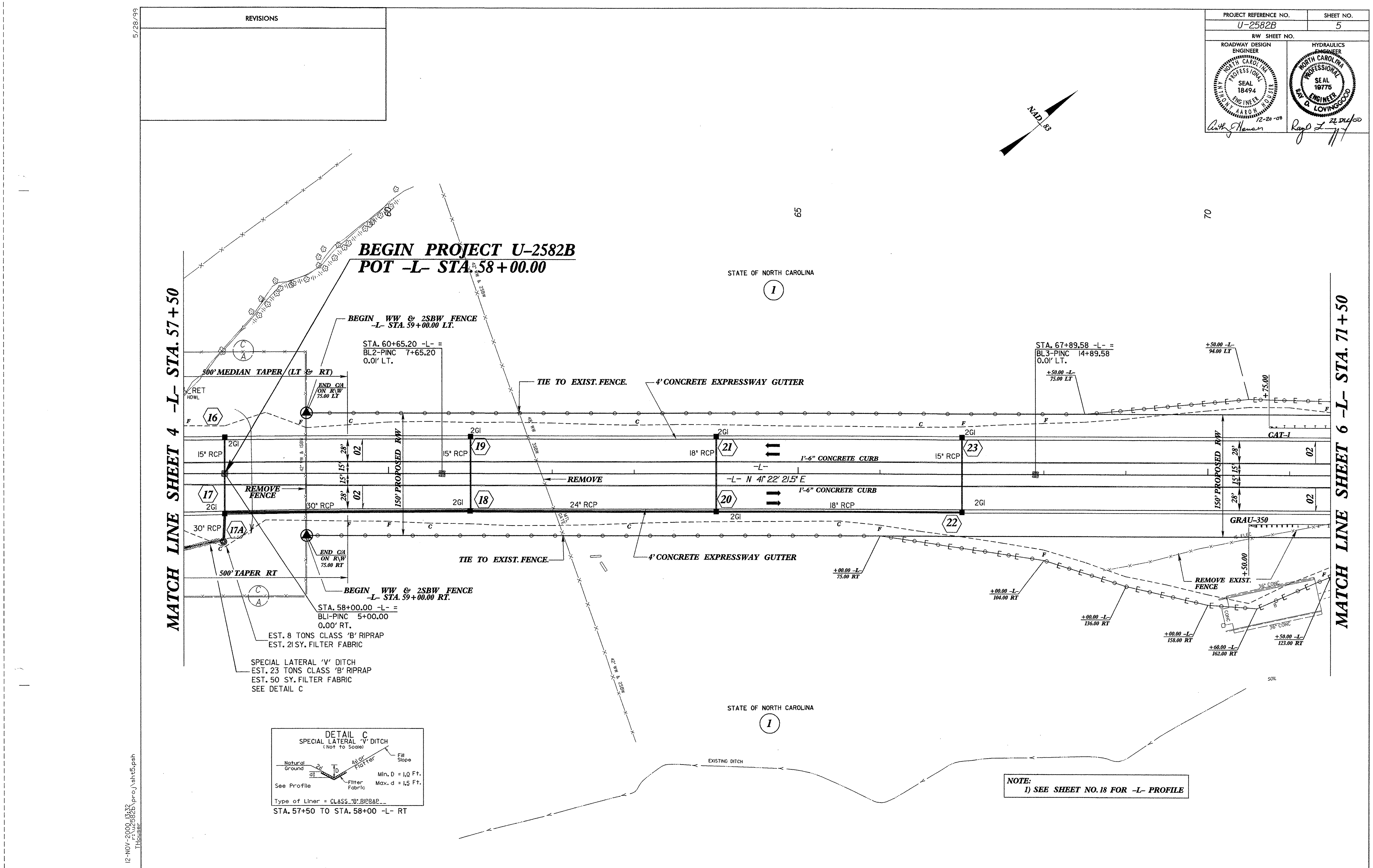
LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
SUMMARY NO. 1					
-L- LT 30+00 TO 36+00	150	0	70	0	80
-L- RT 30+00 TO 39+00	3,129	0	45	0	3,084
-L- 44+00 TO 60+00	8,754	0	2,652	0	6,102
RAMP A 6+00 TO 15+70	5,097	0	1,117	0	3,980
RAMP B 0+00 TO 16+55	1,112	0	1,836	624	0
-Y2- LT 619+00 TO 628+16.17	12,523	0	231	0	12,292
SUBTOTAL	30,865	0	5,951	624	25,538
SUMMARY NO. 2					
-L- 60+00 TO 90+00	19,996	0	100,528	80,532	0
-Y- 10+00 TO 12+80.99	2,389	0	0	0	2,389
-Y- 13+73.7 TO 17+00	382	0	180	0	202
-GRWY- 10+00 TO 15+22.43	270	0	55	0	215
-GRWY- 16+95.38 TO 22+86.64	485	0	181	0	304
SUBTOTAL	23,522	0	100,944	80,532	3,110
SUMMARY NO. 3					
-L- 90+00 TO 118+00	28,530	0	73,132	44,602	0
-Y1- 13+00 TO 15+00	546	0	16	0	530
-Y1- 16+50 TO 18+00	722	0	0	0	722
SUBTOTAL	29,798	0	73,148	44,602	1,252
SUMMARY NO. 4					
-Y2- LT 589+00 TO 601+68.87	2,407	0	260	0	2,147
-Y2- LT 615+00 TO 619+00	807	0	3	0	804
SUBTOTAL	3,214	0	263	0	2,951
SUMMARY NO. 5					
-Y2- MED 592+00 TO 624+00	1,188	0	196	0	992
SUBTOTAL	1,188	0	196	0	992
PROJECT SUBTOTAL	88,587	0	180,502	125,758	33,843
WASTE IN LIEU OF BORROW				-33,843	-33,843
PROJECT TOTAL	88,587	0	180,502	91,915	0
LOSS TO CLEARING & GRUBBING	-8,500			8,500	
ESTIMATED SHOULDER MATERIAL				2,500	
ESTIMATED 5% TO REPLACE BORROW					
PIT TOPSOIL				5,146	
GRAND TOTAL	80,087	0	180,502	108,061	0
SAY	80,200			108,200	
UNDERCUT = 3,500 C.Y.					
DDE = 710 C.Y.					

PROJECT REFERENCE NO. U-2582B

SHEET NO. 3-H



DATUM DESCRIPTION
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "HORSES"
WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 744917.270(ft) EASTING: 2082666.284(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99990232
THE N.C. LAMBERT GRID BEARING LOCALIZED HORIZONTAL GROUND DISTANCE FROM "HORSES" TO -L- STATION 30+00 IS
N 36 38 42.57 W 3,930.8898'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NGVD 29
MATCH LINE SHEET 12 -Y2- STA. 638+00
MATCH LINE SHEET 13 -Y2- STA. 653+00
MATCH LINE SHEET 5 -L- STA. 57+50
BEGIN CONSTRUCTION POS -L- STA. 30+00.00
RAMP A
RAMP B
RAMP C
RAMP D
SPUR A
SPUR B
SPUR C
SPUR D
300' TRANSITION
300' TAPER
500' MEDIAN TAPER (LT & RT)
500' TAPER RT
1'-6" CONC. CURB W/GRASS ISLAND
1'-6" CONC. CURB W/3" CONC. ISLAND COVER
REMOVE EXIST. GUARDRAIL
RETAIN 4' FDPS
RETAIN 10' FDPS
RETAIN 12' FDPS
PROP. CABLE GUIDERAIL
BEGIN 4' CONC. EXPRESSWAY GUTTER
DETAIL A
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground
Front Ditch Slope
Min. D = 1.0 Ft.
STA. 4+00 TO STA. 5+74 -SPD- LT
DETAIL B
SPECIAL LATERAL BASE DITCH
(Not to Scale)
Filter Fabric
Min. D = 1.0 Ft.
Max. d = 1.5 Ft.
B = 2.0 Ft.
Type of Liner = CLASS 'B' RIPRAP
STA. 47+50 TO STA. 49+19 -L- LT
RAMP A
PI Sta 15+35.92
θs = 30°00'00.0"
Ls = 200.00'
LT = 135.30'
ST = 68.46'
PI Sta 16+89.83
Δ = 50°04'24.4" (LT)
D = 30°00'00.0"
L = 166.91'
T = 89.21'
R = 190.99'
SE = EXIST.
RO = EXIST.
NOTE:
1) SEE SHEET NO. 18 FOR -L- PROFILE
2) SEE SHEET NO. 21 FOR -SPUR A- PROFILE
3) SEE SHEET NO. 22 FOR -SPUR B- PROFILE
4) SEE SHEET NO. 22 FOR -SPUR D- PROFILE
5) SEE SHEET NO. 24 FOR -RAMP A- PROFILE
6) SEE SHEET NO. 25 FOR -RAMP B- PROFILE
7) SEE SHEET NO. 26 FOR -RAMP D- PROFILE
8) PAINT STRIPING
9) 3" CONCRETE ISLAND COVER
2000 ADT
2025 ADT
EDWARDS MILL ROAD EXTENSION
WADE AVENUE
GRAPHIC SCALE
PLANS
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19775
REVISIONS



REVISIONS
5/28/99
PROJECT REFERENCE NO.
SHEET NO.
U-2582B
5
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18494 ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 19775 ENGINEER RAY D. LOVINGOOD
12-20-00
NAD 83
65
70
BEGIN PROJECT U-2582B
POT -L- STA. 58+00.00
STATE OF NORTH CAROLINA
1
MATCH LINE SHEET 4 -L- STA. 57+50
MATCH LINE SHEET 6 -L- STA. 71+50
BEGIN WW & 2SBW FENCE
-L- STA. 59+00.00 LT.
STA. 60+65.20 -L- =
BL2-PINC 7+65.20
0.01' LT.
STA. 67+89.58 -L- =
BL3-PINC 14+89.58
0.01' LT.
+50.00 -L-
94.00 LT
+50.00 -L-
75.00 LT
+75.00
500' MEDIAN TAPER (LT & RT)
END C/A ON R/W 75.00 LT
TIE TO EXIST. FENCE.
4' CONCRETE EXPRESSWAY GUTTER
RET HDWL
16
2GI
15" RCP
19
18" RCP
21
23
1'-6" CONCRETE CURB
-L-
-L- N 41° 22' 21.5" E
REMOVE
REMOVE FENCE
17
30" RCP
18
24" RCP
20
18" RCP
22
28'
15'
02
150' PROPOSED R/W
CAT-1
GRAU-350
17A
END C/A ON R/W 75.00 RT
TIE TO EXIST. FENCE.
4' CONCRETE EXPRESSWAY GUTTER
+00.00 -L-
75.00 RT
+00.00 -L-
104.00 RT
+00.00 -L-
136.00 RT
+00.00 -L-
158.00 RT
+60.00 -L-
162.00 RT
+50.00 -L-
123.00 RT
+50.00
REMOVE EXIST. FENCE
36" CONC
500' TAPER RT
BEGIN WW & 2SBW FENCE
-L- STA. 59+00.00 RT.
STA. 58+00.00 -L- =
BL1-PINC 5+00.00
0.00' RT.
EST. 8 TONS CLASS 'B' RIPRAP
EST. 21 SY. FILTER FABRIC
SPECIAL LATERAL 'V' DITCH
EST. 23 TONS CLASS 'B' RIPRAP
EST. 50 SY. FILTER FABRIC
SEE DETAIL C
42" WW & 2SBW
EXISTING DITCH
SOIL
DETAIL C
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
Fill Slope
4:1 or Flatter
Filter Fabric
Min. D = 1.0 Ft.
Max. d = 1.5 Ft.
See Profile
Type of Liner = CLASS 'B' RIPRAP
STA. 57+50 TO STA. 58+00 -L- RT
NOTE:
1) SEE SHEET NO. 18 FOR -L- PROFILE
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REVISIONS

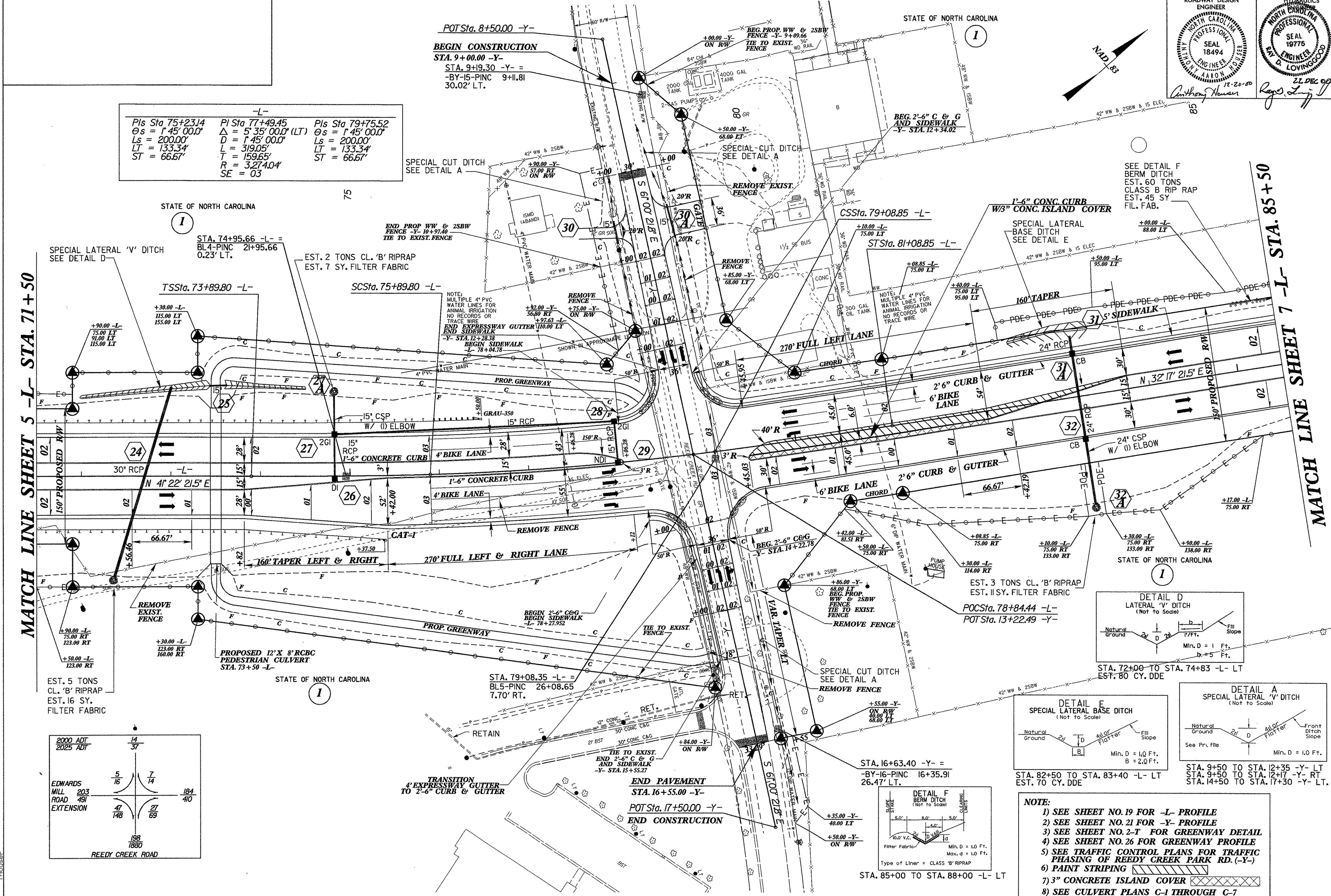
PROJECT REFERENCE NO.	SHEET NO.
U-2582B	6

R/W SHEET NO.

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18494 ANTHONY AARON HOUSER 12-20-00

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19775 RAY D. LOVINGGOOD 22 DEC 99

-L-		
PIs Sta 75+23.14	PI Sta 77+49.45	PIs Sta 79+75.52
Θs = 1° 45′ 00.0″	Δ = 5° 35′ 00.0″ (LT)	Θs = 1° 45′ 00.0″
Ls = 200.00′	D = 1° 45′ 00.0″	Ls = 200.00′
LT = 133.34′	L = 319.05′	LT = 133.34′
ST = 66.67′	T = 159.65′	ST = 66.67′
	R = 3,274.04′	
	SE = 03	



2000 ADT / 2025 ADT	
EDWARDS MILL ROAD EXTENSION	203/491, 184/410
REEDY CREEK ROAD	198/1880

DETAIL D
LATERAL 'V' DITCH (Not to Scale)
Min. D = 1 Ft. b = 5 Ft.
STA. 72+00 TO STA. 74+83 -L- LT
EST. 80 CY. DDE

DETAIL E
SPECIAL LATERAL BASE DITCH (Not to Scale)
Min. D = 1.0 Ft. B = 2.0 Ft.
STA. 82+50 TO STA. 83+40 -L- LT
EST. 70 CY. DDE

DETAIL A
SPECIAL LATERAL 'V' DITCH (Not to Scale)
Min. D = 1.0 Ft.
STA. 9+50 TO STA. 12+35 -Y- LT
STA. 9+50 TO STA. 12+17 -Y- RT
STA. 14+50 TO STA. 17+30 -Y- LT.

DETAIL F
BERM DITCH (Not to Scale)
Min. d = 1.0 Ft. Max. d = 1.0 Ft.
Type of Liner = CLASS 'B' RIPRAP
STA. 85+00 TO STA. 88+00 -L- LT

NOTE:
1) SEE SHEET NO. 19 FOR -L- PROFILE
2) SEE SHEET NO. 21 FOR -Y- PROFILE
3) SEE SHEET NO. 2-T FOR GREENWAY DETAIL
4) SEE SHEET NO. 26 FOR GREENWAY PROFILE
5) SEE TRAFFIC CONTROL PLANS FOR TRAFFIC PHASING OF REEDY CREEK PARK RD. (-Y-)
6) PAINT STRIPING
7) 3″ CONCRETE ISLAND COVER
8) SEE CULVERT PLANS C-1 THROUGH C-7

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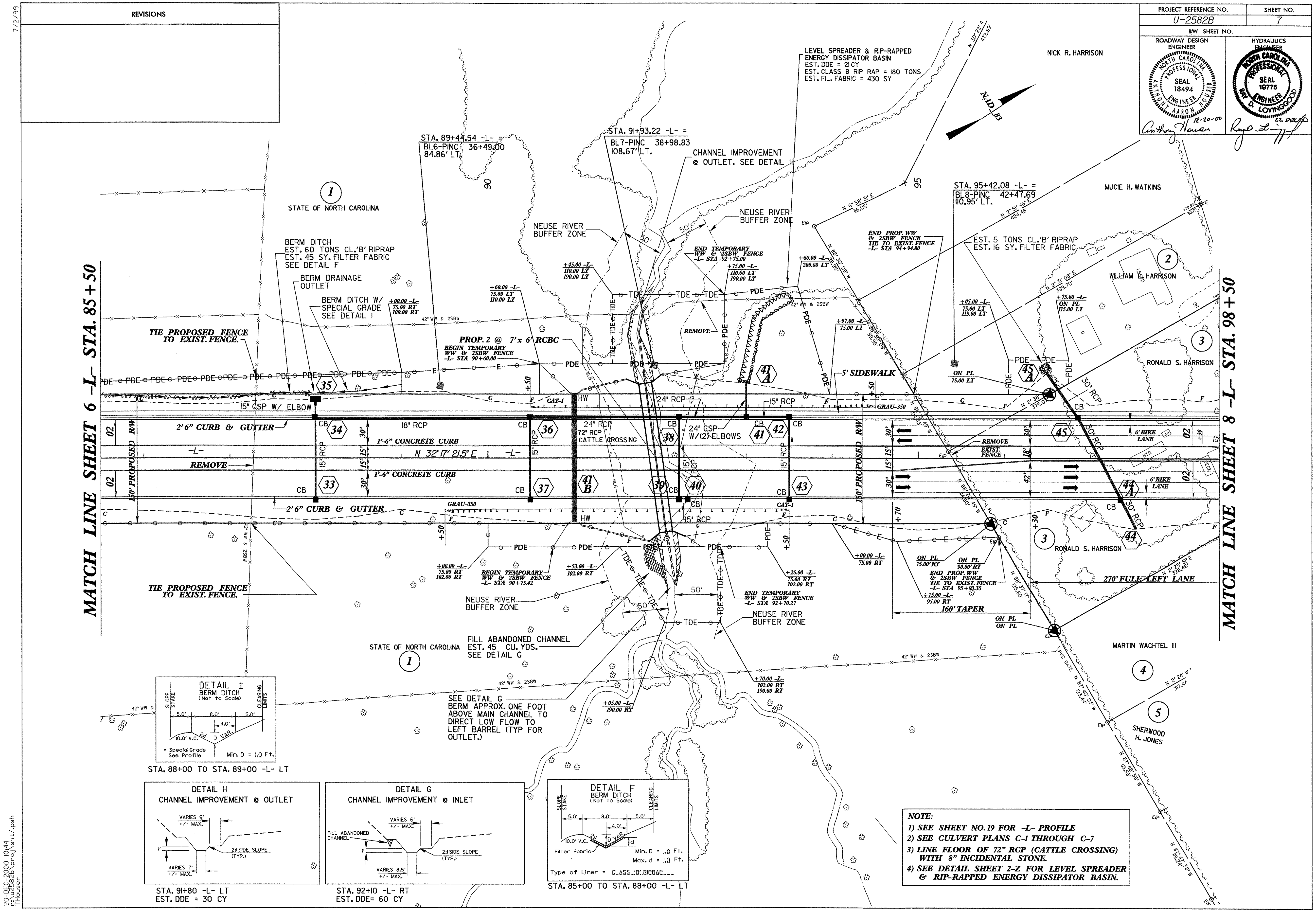
REVISIONS
7/2/99
PROJECT REFERENCE NO.
SHEET NO.
U-2582B
7
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18494 ENGINEER ANTHONY AARON HOUSER
12-20-00
NORTH CAROLINA PROFESSIONAL SEAL 10776 ENGINEER RAY D. LOVINGGOOD
MATCH LINE SHEET 6 -L- STA. 85+50
MATCH LINE SHEET 8 -L- STA. 98+50
NAD 83
STATE OF NORTH CAROLINA
NICK R. HARRISON
MUCIE H. WATKINS
WILLIAM HARRISON
RONALD S. HARRISON
MARTIN WACHTEL III
SHERWOOD H. JONES
STA. 89+44.54 -L- = BL6-PINC 36+49.00 84.86' LT.
STA. 91+93.22 -L- = BL7-PINC 38+98.83 108.67' LT.
STA. 95+42.08 -L- = BL8-PINC 42+47.69 110.95' LT.
CHANNEL IMPROVEMENT @ OUTLET. SEE DETAIL H
LEVEL SPREADER & RIP-RAPPED ENERGY DISSIPATOR BASIN
EST. DDE = 21 CY
EST. CLASS B RIP RAP = 180 TONS
EST. FIL. FABRIC = 430 SY
NEUSE RIVER BUFFER ZONE
BERM DITCH
EST. 60 TONS CL.'B' RIPRAP
EST. 45 SY. FILTER FABRIC
SEE DETAIL F
BERM DRAINAGE OUTLET
BERM DITCH W/ SPECIAL GRADE SEE DETAIL I
TIE PROPOSED FENCE TO EXIST. FENCE.
PROP. 2 @ 7' x 6' RCBC
BEGIN TEMPORARY WW & 2SBW FENCE -L- STA 90+60.00
END TEMPORARY WW & 2SBW FENCE -L- STA 92+75.00
END PROP. WW & 2SBW FENCE TIE TO EXIST. FENCE -L- STA 94+94.80
EST. 5 TONS CL.'B' RIPRAP
EST. 16 SY. FILTER FABRIC
5' SIDEWALK
15" CSP W/ ELBOW
18" RCP
24" RCP
15" RCP
72" RCP CATTLE CROSSING
24" CSP W/(2) ELBOWS
30" RCP
2'6" CURB & GUTTER
1'-6" CONCRETE CURB
N 32°17'21.5" E
REMOVE
150' PROPOSED R/W
6' BIKE LANE
REMOVE EXIST. FENCE
BEGIN TEMPORARY WW & 2SBW FENCE -L- STA 90+75.42
END TEMPORARY WW & 2SBW FENCE -L- STA 92+70.27
END PROP. WW & 2SBW FENCE TIE TO EXIST. FENCE -L- STA 95+93.35
160' TAPER
270' FULL LEFT LANE
FILL ABANDONED CHANNEL EST. 45 CU. YDS. SEE DETAIL G
SEE DETAIL G BERM APPROX. ONE FOOT ABOVE MAIN CHANNEL TO DIRECT LOW FLOW TO LEFT BARREL (TYP FOR OUTLET.)
DETAIL I BERM DITCH (Not to Scale)
Special Grade See Profile
Min. D = 1.0 Ft.
STA. 88+00 TO STA. 89+00 -L- LT
DETAIL H CHANNEL IMPROVEMENT @ OUTLET
VARIES 6' +/- MAX.
VARIES 7' +/- MAX.
2:1 SIDE SLOPE (TYP.)
STA. 91+80 -L- LT
EST. DDE = 30 CY
DETAIL G CHANNEL IMPROVEMENT @ INLET
FILL ABANDONED CHANNEL
VARIES 6' +/- MAX.
VARIES 8.5' +/- MAX.
STA. 92+10 -L- RT
EST. DDE= 60 CY
DETAIL F BERM DITCH (Not to Scale)
Filter Fabric
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
Type of Liner = CLASS 'B' RIPRAP
STA. 85+00 TO STA. 88+00 -L- LT
NOTE:
1) SEE SHEET NO. 19 FOR -L- PROFILE
2) SEE CULVERT PLANS C-1 THROUGH C-7
3) LINE FLOOR OF 72" RCP (CATTLE CROSSING) WITH 8" INCIDENTAL STONE.
4) SEE DETAIL SHEET 2-Z FOR LEVEL SPREADER & RIP-RAPPED ENERGY DISSIPATOR BASIN.
20-DEC-2000 10:44
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PROJECT REFERENCE NO.	SHEET NO.
U-2582B	8

R/W SHEET NO.

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18494 ANTHONY AARON HOUSER — 12-20-00

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 10775 RAY D. LOVINGOOD — 22 DEC 00

REVISIONS

5/28/99

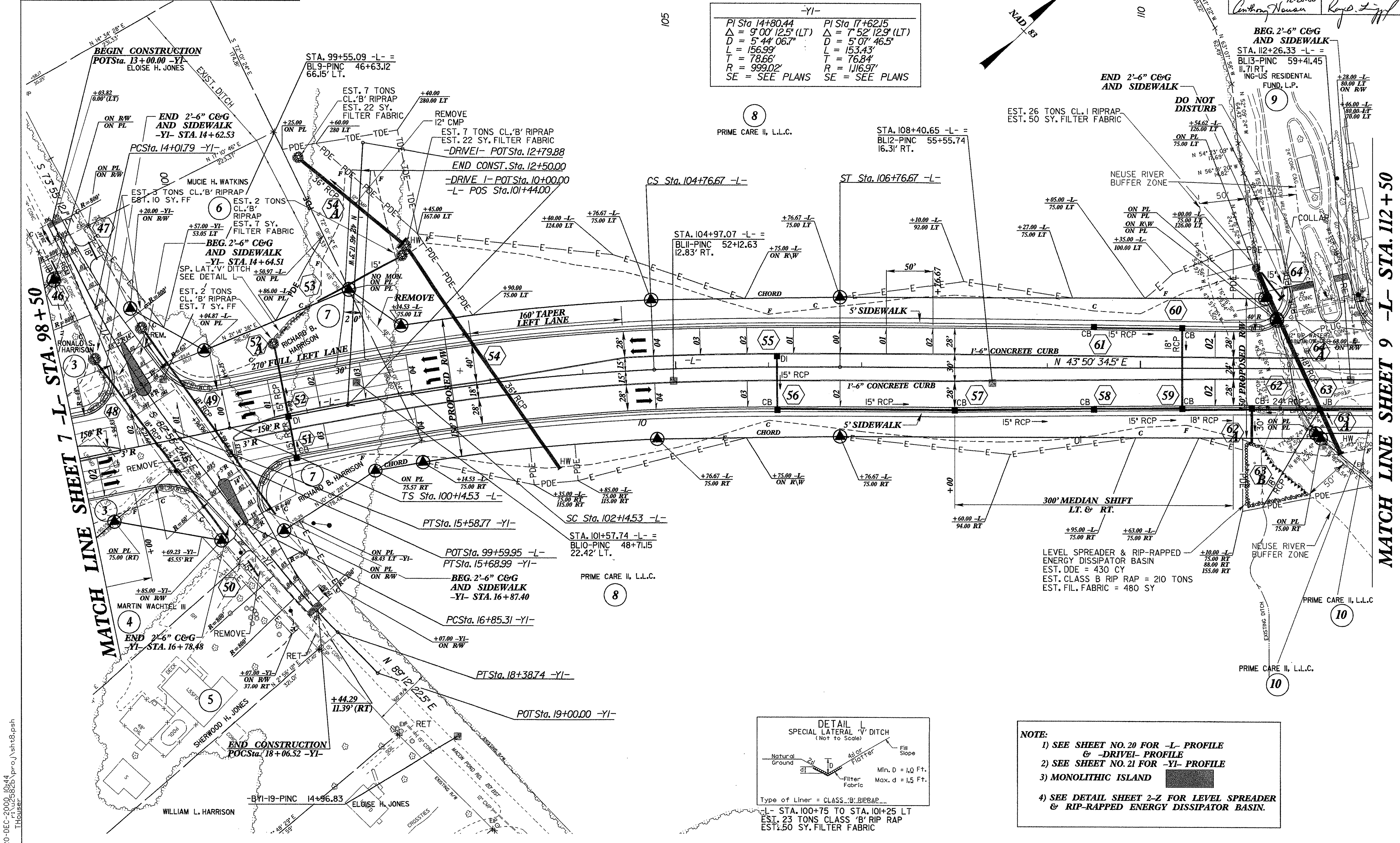
(UTIL. ESMT.)

-L-

PIs Sta 101+47.87	PI Sta 103+45.74	PIs Sta 105+43.35
Θs = 2° 30′ 00.0″	Δ = 6° 33′ 13.0″ (RT)	Θs = 2° 30′ 00.0″
Ls = 200.00′	D = 2° 30′ 00.0″	Ls = 200.00′
LT = 133.35′	L = 262.14′	LT = 133.35′
ST = 66.68′	T = 131.22′	ST = 66.68′
	R = 2,291.83′	
	SE = .04	

-Y1-

PI Sta 14+80.44	PI Sta 17+62.15
Δ = 9° 00′ 12.5″ (LT)	Δ = 7° 52′ 12.9″ (LT)
D = 5° 44′ 06.7″	D = 5° 07′ 46.5″
L = 156.99′	L = 153.43′
T = 78.66′	T = 76.84′
R = 999.02′	R = 1,116.97′
SE = SEE PLANS	SE = SEE PLANS



MATCH LINE SHEET 7 -L- STA. 98+50
MATCH LINE SHEET 9 -L- STA. 112+50
BEGIN CONSTRUCTION
POTSta. 13+00.00 -Y1-
ELOISE H. JONES
END 2'-6" C&G AND SIDEWALK -Y1- STA. 14+62.53
PCSta. 14+01.79 -Y1-
MUCIE H. WATKINS
EST. 3 TONS CL.'B' RIPRAP
EST. 10 SY. FF
BEG. 2'-6" C&G AND SIDEWALK -Y1- STA. 14+64.51
SP. LAT. 'V' DITCH SEE DETAIL L
EST. 2 TONS CL.'B' RIPRAP EST. 7 SY. FF
EST. 2 TONS CL.'B' RIPRAP EST. 7 SY. FILTER FABRIC
STA. 99+55.09 -L- = BL9-PINC 46+63.12 66.15' LT.
EST. 7 TONS CL.'B' RIPRAP EST. 22 SY. FILTER FABRIC
REMOVE 12" CMP
EST. 7 TONS CL.'B' RIPRAP
EST. 22 SY. FILTER FABRIC
-DRIVE1- POTSta. 12+79.88
END CONST. Sta. 12+50.00
-DRIVE 1- POTSta. 10+00.00
-L- POS Sta. 101+44.00
RICHARD B. HARRISON
RONALD S. HARRISON
160' TAPER LEFT LANE
270' FULL LEFT LANE
150' R
CS Sta. 104+76.67 -L-
ST Sta. 106+76.67 -L-
STA. 104+97.07 -L- = BL11-PINC 52+12.63 12.83' RT.
STA. 108+40.65 -L- = BL12-PINC 55+55.74 16.31' RT.
PRIME CARE II, L.L.C.
5' SIDEWALK
1'-6" CONCRETE CURB
N 43° 50' 34.5" E
15' RCP
18" RCP
300' MEDIAN SHIFT LT. & RT.
TS Sta. 100+14.53 -L-
SC Sta. 102+14.53 -L-
STA. 101+57.74 -L- = BL10-PINC 48+71.15 22.42' LT.
PTSta. 15+58.77 -Y1-
POTSta. 99+59.95 -L-
PTSta. 15+68.99 -Y1-
BEG. 2'-6" C&G AND SIDEWALK -Y1- STA. 16+87.40
PCSta. 16+85.31 -Y1-
PTSta. 18+38.74 -Y1-
POTSta. 19+00.00 -Y1-
MARTIN WACHTEL III
END 2'-6" C&G -Y1- STA. 16+78.48
SHERWOOD H. JONES
END CONSTRUCTION POCSta. 18+06.52 -Y1-
-BY1-19-PINC 14+96.83
ELOISE H. JONES
WILLIAM L. HARRISON
END 2'-6" C&G AND SIDEWALK
DO NOT DISTURB
EST. 26 TONS CL. I RIPRAP
EST. 50 SY. FILTER FABRIC
NEUSE RIVER BUFFER ZONE
BEG. 2'-6" C&G AND SIDEWALK
STA. 112+26.33 -L- = BL13-PINC 59+41.45 11.71 RT.
ING-US RESIDENTAL FUND, L.P.
LEVEL SPREADER & RIP-RAPPED ENERGY DISSIPATOR BASIN
EST. DDE = 430 CY
EST. CLASS B RIP RAP = 210 TONS
EST. FIL. FABRIC = 480 SY
PRIME CARE II, L.L.C
NAD 83

DETAIL L
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

Natural Ground — Fill Slope — Filter Fabric

Min. D = 1.0 Ft.
Max. d = 1.5 Ft.

Type of Liner = CLASS 'B' RIPRAP

-L- STA. 100+75 TO STA. 101+25 LT
EST. 23 TONS CLASS 'B' RIP RAP
EST. 50 SY. FILTER FABRIC

NOTE:

1) SEE SHEET NO. 20 FOR -L- PROFILE & -DRIVE1- PROFILE
2) SEE SHEET NO. 21 FOR -Y1- PROFILE
3) MONOLITHIC ISLAND
4) SEE DETAIL SHEET 2-Z FOR LEVEL SPREADER & RIP-RAPPED ENERGY DISSIPATOR BASIN.

20-DEC-2000 10:44
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THouser

7/2/99

REVISIONS

CONSTRUCTION REVISION MADE 7-18-01. STRUCTURE NO. 65A (15" RCP W\CB) ADDED AND MONOLITHIC ISLAND ADDED.

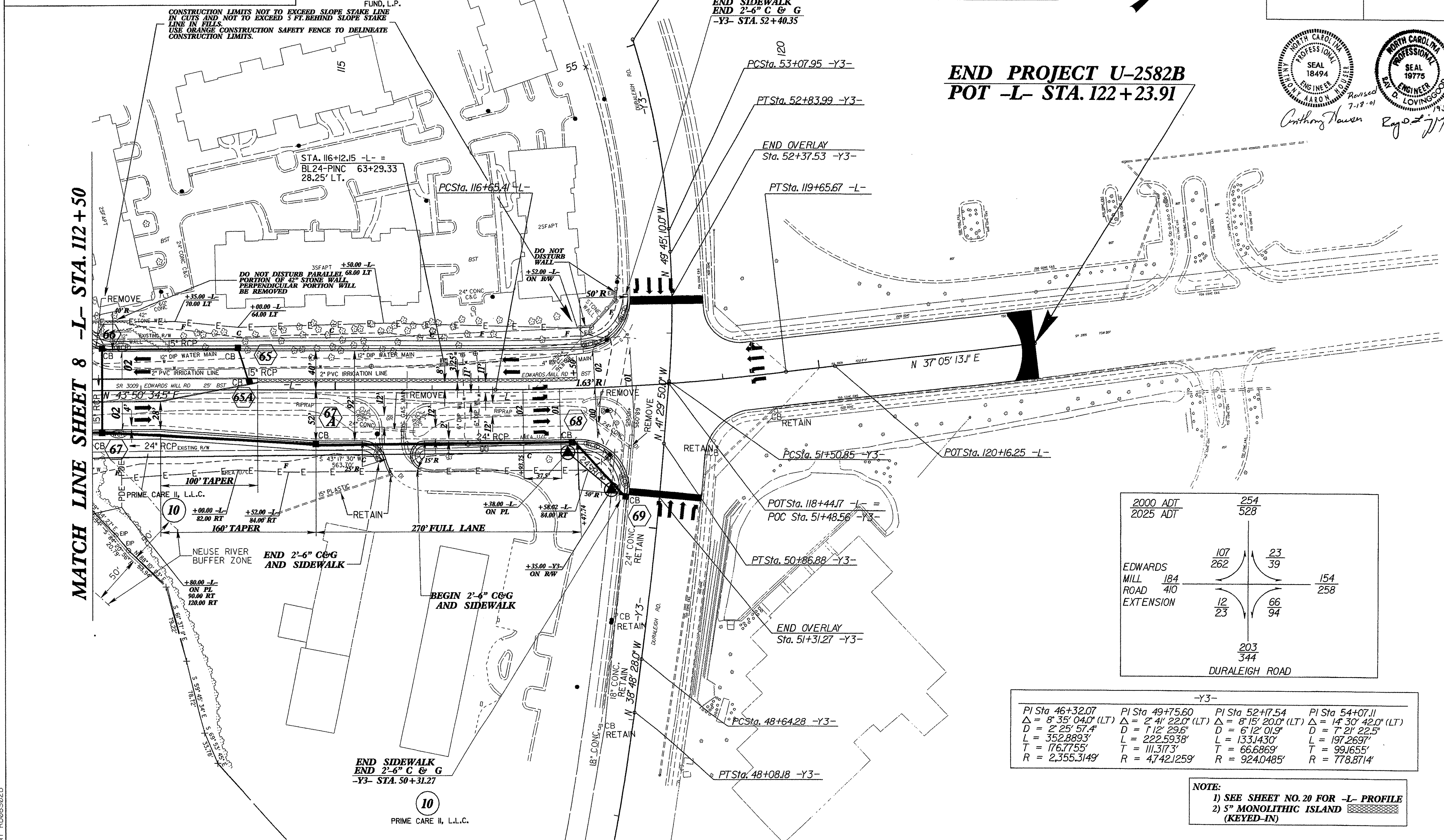
PROJECT REFERENCE NO.	SHEET NO.
U-2582B	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY ANTHONY HOUSER 18494, 12-20-00	THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY RAY D. LOVINGGOOD 19775, 12-22-00

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 18494 ANTHONY AARON HOUSER — Revised 7-19-01 — Anthony Houser

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19775 RAY D. LOVINGGOOD — 19 JUL 01

-L-
PI Sta 118+15.72
Δ = 6° 45′ 21.4″ (LT)
D = 2° 15′ 00.0″
L = 300.26′
T = 150.31′
R = 2,546.48′
SE = 04
RUNOFF = SEE PLANS
INC = 57.5′

END PROJECT U-2582B
POT -L- STA. 122+23.91



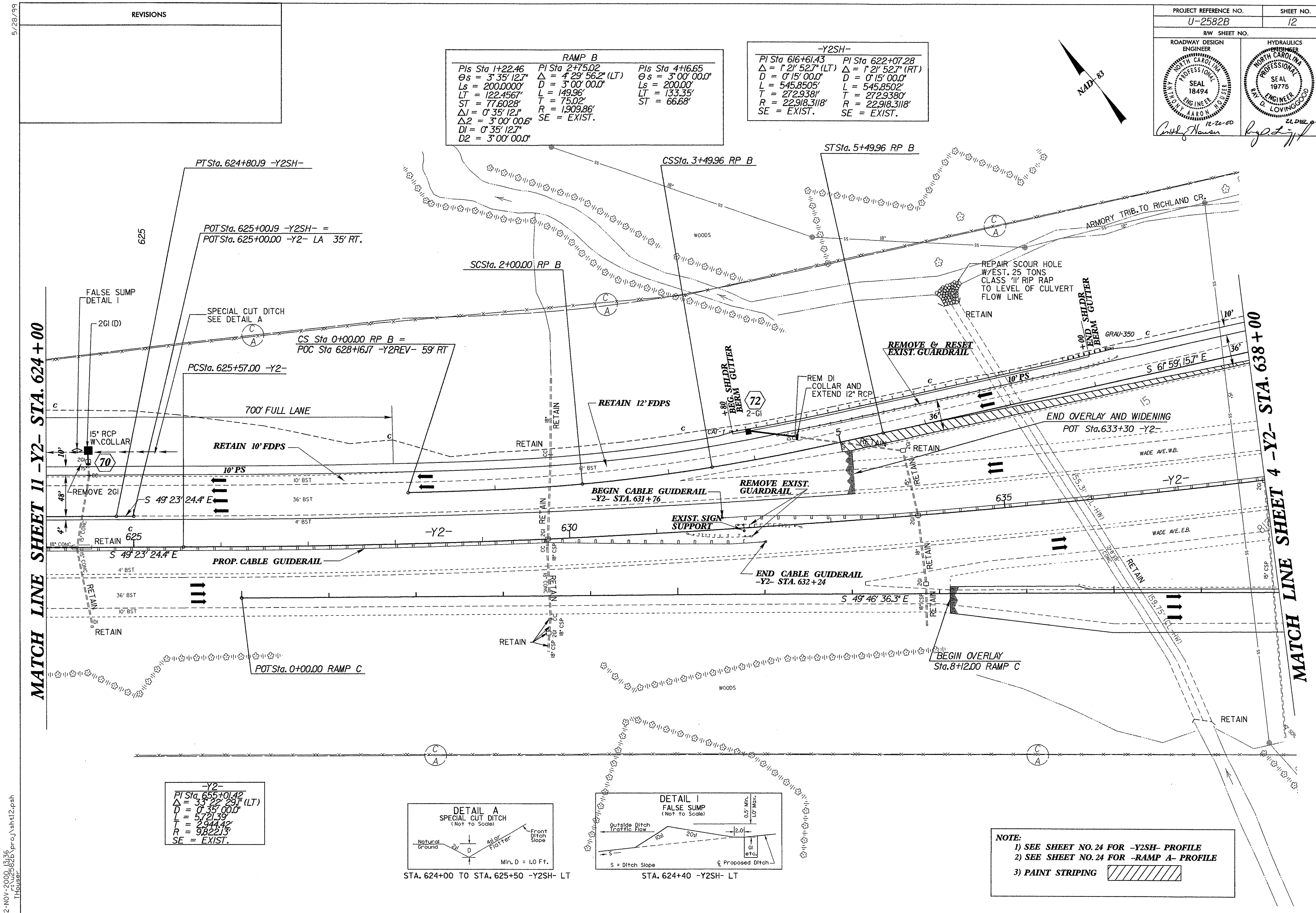
2000 ADT 2025 ADT	
DURALEIGH ROAD (north)	254 / 528
Left turn	107 / 262
Right turn	23 / 39
EDWARDS MILL ROAD EXTENSION	184 / 410
East	154 / 258
	12 / 23
	66 / 94
DURALEIGH ROAD (south)	203 / 344

-Y3-

PI Sta 46+32.07	PI Sta 49+75.60	PI Sta 52+17.54	PI Sta 54+07.11
Δ = 8° 35′ 04.0″ (LT)	Δ = 2° 41′ 22.0″ (LT)	Δ = 8° 15′ 20.0″ (LT)	Δ = 14° 30′ 42.0″ (LT)
D = 2° 25′ 57.4″	D = 1° 12′ 29.6″	D = 6° 12′ 01.9″	D = 7° 21′ 22.5″
L = 352.8893′	L = 222.5938′	L = 133.1430′	L = 197.2697′
T = 176.7755′	T = 111.3173′	T = 66.6869′	T = 99.1655′
R = 2,355.3149′	R = 4,742.1259′	R = 924.0485′	R = 778.8714′

NOTE:
1) SEE SHEET NO. 20 FOR -L- PROFILE
2) 5" MONOLITHIC ISLAND (KEYED-IN)

17-JUL-2001 10:27
BCFowler AT RD06S02D



REVISIONS
5/28/99
PROJECT REFERENCE NO. U-2582B
SHEET NO. 12
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18494 ENGINEER ANTHONY AARON HOUSER
NORTH CAROLINA PROFESSIONAL SEAL 19775 ENGINEER RAY D. LOVINGOOD
12-20-00
22 DEC 00
NAD 83
RAMP B
PIs Sta 1+22.46
Θs = 3° 35' 12.7"
Ls = 200.0000'
LT = 122.4567'
ST = 77.6028'
ΔI = 0° 35' 12.1"
Δ2 = 3° 00' 00.6"
DI = 0° 35' 12.7"
D2 = 3° 00' 00.0"
PI Sta 2+75.02
Δ = 4° 29' 56.2" (LT)
D = 3° 00' 00.0"
L = 149.96'
T = 75.02'
R = 1,909.86'
SE = EXIST.
PIs Sta 4+16.65
Θs = 3° 00' 00.0"
Ls = 200.00'
LT = 133.35'
ST = 66.68'
-Y2SH-
PI Sta 616+61.43
Δ = 1° 21' 52.7" (LT)
D = 0° 15' 00.0"
L = 545.8505'
T = 272.9381'
R = 22,918.3118'
SE = EXIST.
PI Sta 622+07.28
Δ = 1° 21' 52.7" (RT)
D = 0° 15' 00.0"
L = 545.8502'
T = 272.9380'
R = 22,918.3118'
SE = EXIST.
PT Sta. 624+80.19 -Y2SH-
POT Sta. 625+00.19 -Y2SH- =
POT Sta. 625+00.00 -Y2- LA 35' RT.
SC Sta. 2+00.00 RP B
CS Sta. 3+49.96 RP B
ST Sta. 5+49.96 RP B
FALSE SUMP DETAIL I
2GI (D)
SPECIAL CUT DITCH SEE DETAIL A
CS Sta 0+00.00 RP B =
POC Sta 628+16.17 -Y2REV- 59' RT
PC Sta. 625+57.00 -Y2-
700' FULL LANE
RETAIN 10' FDPS
RETAIN 12' FDPS
15" RCP W/ COLLAR
REMOVE 2GI
S 49° 23' 24.4" E
RETAIN
PROP. CABLE GUIDERAIL
BEGIN CABLE GUIDERAIL -Y2- STA. 631+76
REMOVE EXIST. GUARDRAIL
EXIST. SIGN SUPPORT
END CABLE GUIDERAIL -Y2- STA. 632+24
REM DI COLLAR AND EXTEND 12" RCP
+80 BEG. SHLDR BERM GUTTER
+00 END SHLDR BERM GUTTER
REMOVE & RESET EXIST. GUARDRAIL
REPAIR SCOUR HOLE W/EST. 25 TONS CLASS 'II' RIP RAP TO LEVEL OF CULVERT FLOW LINE
ARMORY TRIB. TO RICHLAND CR.
S 6° 59' 15.7" E
END OVERLAY AND WIDENING
POT Sta. 633+30 -Y2-
WADE AVE. W.B.
WADE AVE. E.B.
S 49° 46' 36.3" E
BEGIN OVERLAY
Sta. 8+12.00 RAMP C
POT Sta. 0+00.00 RAMP C
WOODS
MATCH LINE SHEET 11 -Y2- STA. 624+00
MATCH LINE SHEET 4 -Y2- STA. 638+00
-Y2-
PI Sta 655+01.42
Δ = 33° 22' 29.1" (LT)
D = 0° 35' 00.0"
L = 5,721.39'
T = 2,944.42'
R = 9,822.13'
SE = EXIST.
DETAIL A
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground
Front Ditch Slope
Min. D = 1.0 Ft.
STA. 624+00 TO STA. 625+50 -Y2SH- LT
DETAIL I
FALSE SUMP
(Not to Scale)
Outside Ditch
Traffic Flow
S = Ditch Slope
Proposed Ditch
STA. 624+40 -Y2SH- LT
NOTE:
1) SEE SHEET NO. 24 FOR -Y2SH- PROFILE
2) SEE SHEET NO. 24 FOR -RAMP A- PROFILE
3) PAINT STRIPING
12-NOV-2000 13:36
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5/28/99

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
U-2582B	13
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 18494 ENGINEER AARON HOUSER — 12-20-00

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 19775 ENGINEER R. D. LOVINGGOOD — 22 DEC 00

-Y2-	RAMP A		
PI Sta 655+01.42	PIs Sta 1+18.23	PI Sta 3+87.77	PIs Sta 6+41.67
Δ = 33° 22' 29.1" (LT)	Θs = 2° 35' 12.7"	Δ = 7° 30' 00.0" (RT)	Θs = 2° 00' 00.0"
D = 0° 35' 00.0"	Ls = 200.0000'	D = 2° 00' 00.0"	Ls = 200.0000'
L = 5,721.39'	LT = 118.2258'	L = 375.0000'	LT = 133.3418'
T = 2,944.42'	ST = 81.8062'	T = 187.7682'	ST = 66.6744'
R = 9,822.13'	Δ1 = 0° 35' 12.4"	R = 2,864.7890'	
SE = EXIST.	Δ2 = 2° 00' 00.2"	SE = EXIST.	
	D1 = 0° 35' 12.7"		
	D2 = 2° 00' 00.0"		

NAD 83

ST Sta. 7+75.00 RP A

CS Sta. 5+75.00 RP A

SC Sta. 2+00.00 RAMP A

CS Sta 0+00.00 RAMP A
POC Sta 661+99.91 -Y2 REV- 59' LT.

200' LANE & PAVED SHOULDER TAPER

SPECIAL CUT DITCH SEE DETAIL A

BEGIN OVERLAY Sta. 6+43.00 RAMP A

FALSE SUMP DETAIL I

15" RCP

73

N 58° 33' 14.1" W

RETAIN 10' FDPS

MATCH LINE SHEET 4 -Y2- STA. 663+00

MATCH LINE SHEET 14 -Y2- STA. 667+00

BEGIN CABLE GUIDERAIL -Y2- STA. 656+76

REMOVE EXIST. GUARDRAIL

EXIST. SIGN SUPPORT

655

660

665

-Y2-

PROP. CABLE GUIDERAIL

RETAIN

END CABLE GUIDERAIL -Y2- STA. 657+24

N 70° 55' 57.7" W

BEGIN OVERLAY Sta. 7+15.00 RAMP D

WOODS

WADE AVE. W.B.

WADE AVE. E.B.

60° CMP

10' BST

23' BST

5' BST

4' BST

36' BST

15" CONC

18" CONC

24" CONC

72" CONC

TYPE 4 66D

MONITORING WELL

HAZARDOUS WASTE TEST WELL AREA

MONITORING WELLS

EBL

EXISTING R/W

48" WW

72" CMP & 350FM

FILL AREA

STATE OF N.C.
1845 AC. (TAX MAP)

POT Sta. 0+00.00 RAMP D

DETAIL I
FALSE SUMP
(Not to Scale)

Outside Ditch Traffic Flow — 10ft — 20ft — 2.0 — 0.5' Min. 1.0' Max. — 6:1 etc. — S = Ditch Slope — ℄ Proposed Ditch

STA. 8+60 -RPA- RT

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground — 2ft — D — 4:1 or Flatter — Front Ditch Slope — Min. D = 1.0 Ft.

STA. 7+00 TO STA. 8+50 -RPA- RT

NOTE:
1) SEE SHEET NO. 24 FOR -RAMP A- PROFILE
2) SEE SHEET NO. 25 FOR -RAMP D- PROFILE

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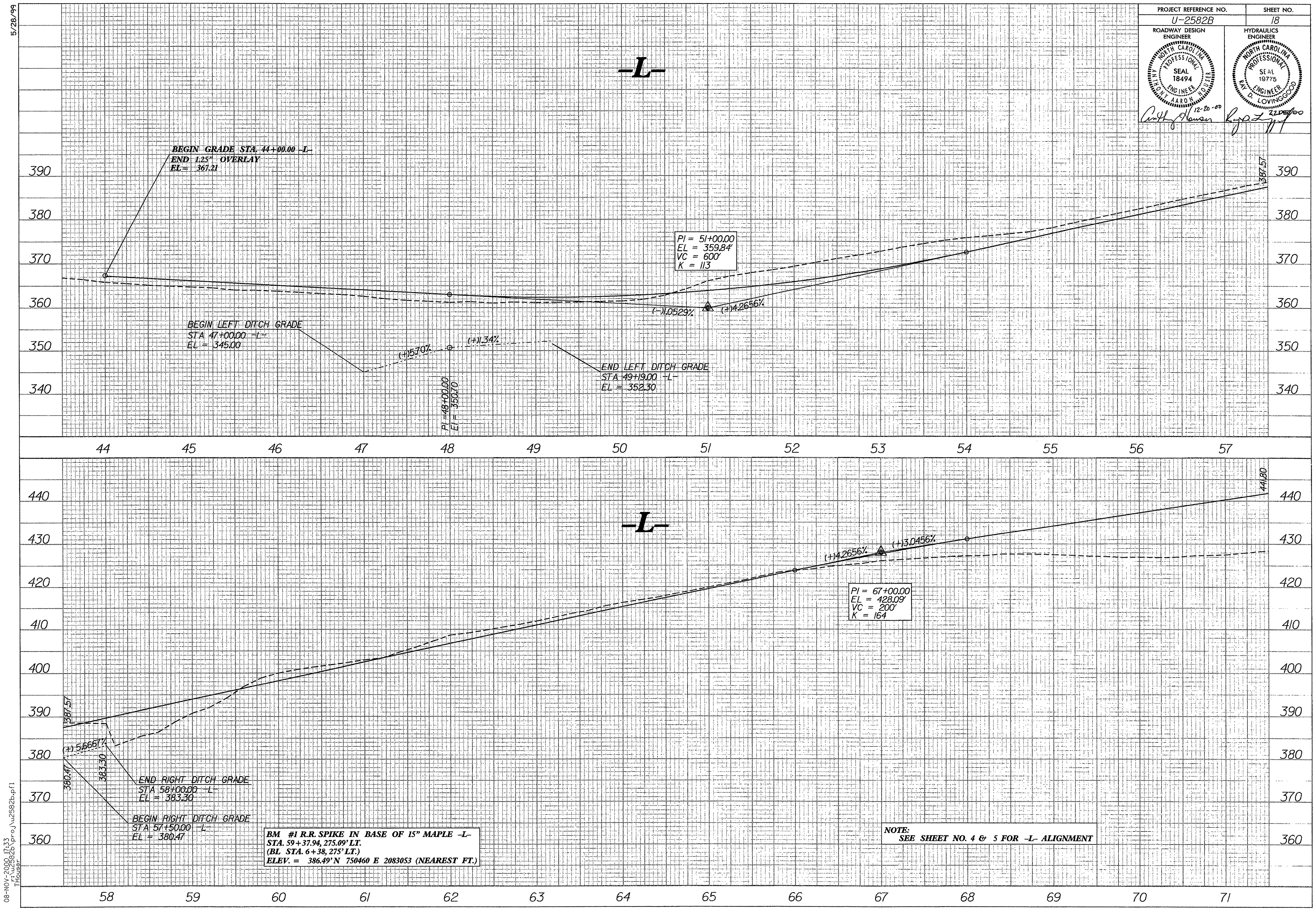

PROJECT REFERENCE NO.
U-2582B
SHEET NO.
18
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18494 ENGINEER ANTHONY AARON HOUSER
NORTH CAROLINA PROFESSIONAL SEAL 19775 ENGINEER RAY D. LOVINGGOOD
12-20-00
22DEC00
5/28/99
-L-
BEGIN GRADE STA. 44+00.00 -L-
END 1.25" OVERLAY
EL= 367.21
PI = 51+00.00
EL = 359.84'
VC = 600'
K = 113
(-)1.0529%
(+)4.2656%
BEGIN LEFT DITCH GRADE
STA 47+00.00 -L-
EL = 345.00
(+)5.70%
(+)1.34%
END LEFT DITCH GRADE
STA 49+19.00 -L-
EL = 352.30
PI =48+00.00
EL = 350.70
387.57
390
380
370
360
350
340
44
45
46
47
48
49
50
51
52
53
54
55
56
57
-L-
(+)4.2656%
(+)3.0456%
PI = 67+00.00
EL = 428.09'
VC = 200'
K = 164
441.80
440
430
420
410
400
390
380
370
360
387.57
(+)5.6667%
380.47
383.30
END RIGHT DITCH GRADE
STA 58+00.00 -L-
EL = 383.30
BEGIN RIGHT DITCH GRADE
STA 57+50.00 -L-
EL = 380.47
BM #1 R.R. SPIKE IN BASE OF 15" MAPLE -L-
STA. 59+37.94, 275.09' LT.
(BL STA. 6+38, 275' LT.)
ELEV. = 386.49' N 750460 E 2083053 (NEAREST FT.)
NOTE:
SEE SHEET NO. 4 & 5 FOR -L- ALIGNMENT
58
59
60
61
62
63
64
65
66
67
68
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PROJECT REFERENCE NO.	SHEET NO.
U-2582B	19
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 18494 ENGINEER ANTHONY AARON HOUSER — Anthony Houser 1-3-01	NORTH CAROLINA PROFESSIONAL SEAL 19775 ENGINEER RAY O. LOVINGGOOD — Ray O. Lovinggood 4 JAN 01

5/28/99

PIPE HYDRAULIC DATA

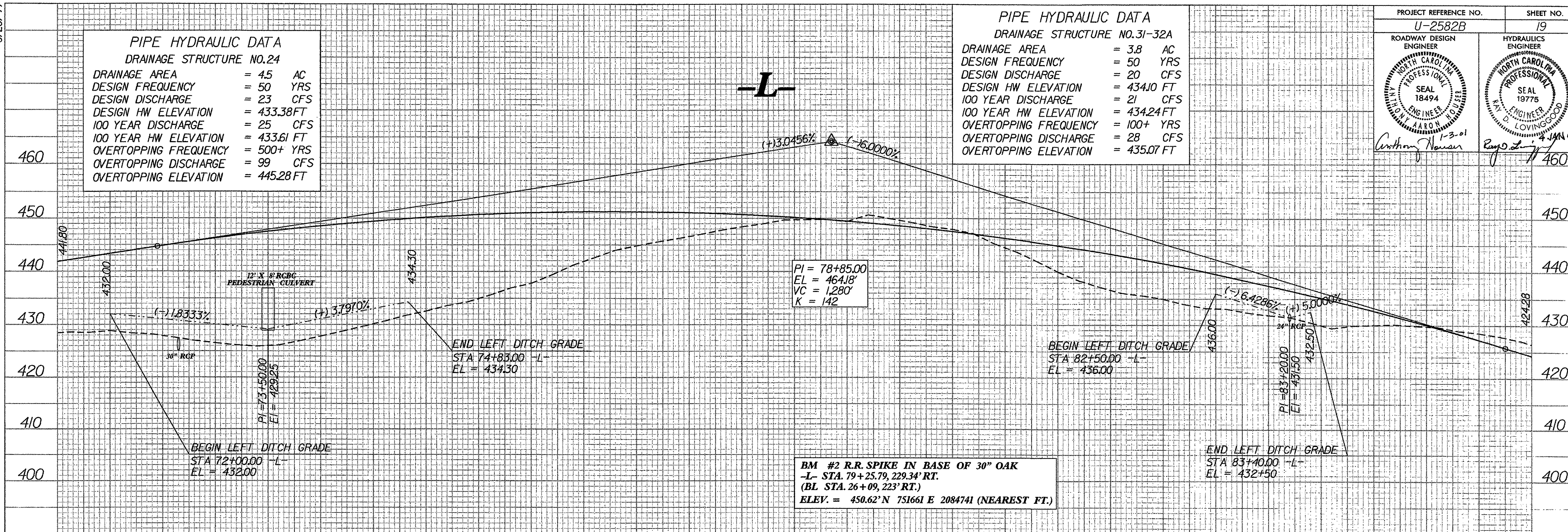
DRAINAGE STRUCTURE NO.24

DRAINAGE AREA	= 4.5 AC
DESIGN FREQUENCY	= 50 YRS
DESIGN DISCHARGE	= 23 CFS
DESIGN HW ELEVATION	= 433.38 FT
100 YEAR DISCHARGE	= 25 CFS
100 YEAR HW ELEVATION	= 433.61 FT
OVERTOPPING FREQUENCY	= 500+ YRS
OVERTOPPING DISCHARGE	= 99 CFS
OVERTOPPING ELEVATION	= 445.28 FT

PIPE HYDRAULIC DATA

DRAINAGE STRUCTURE NO.31-32A

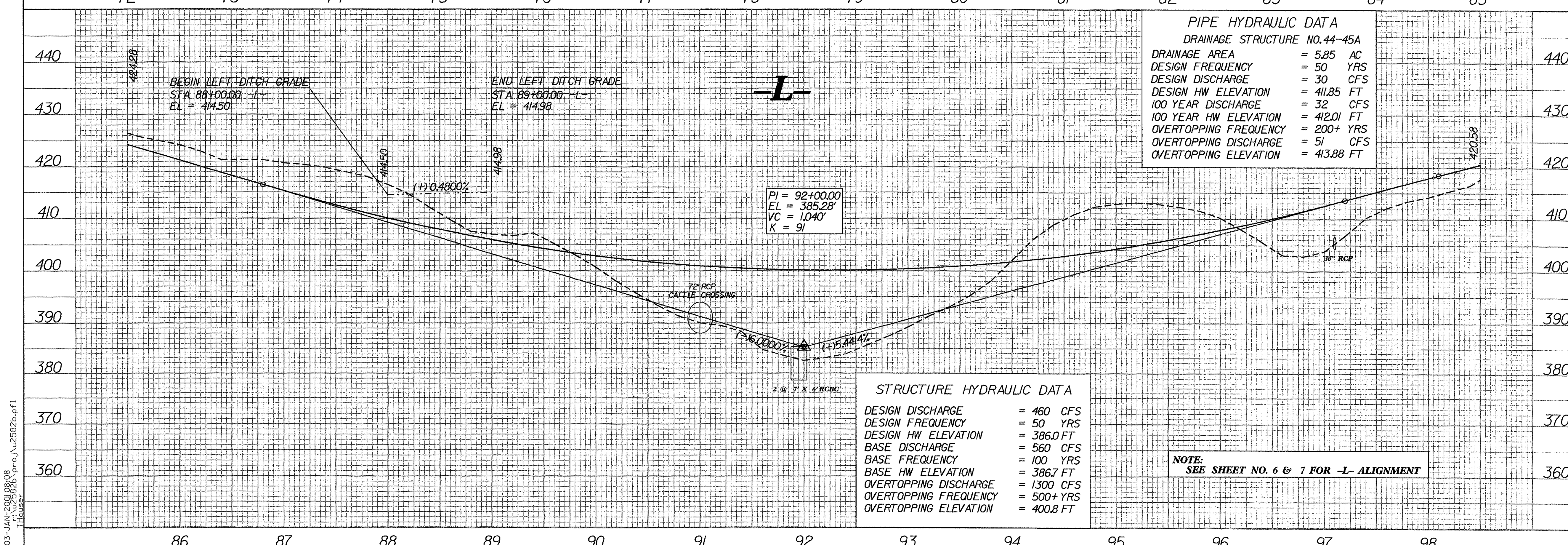
DRAINAGE AREA	= 3.8 AC
DESIGN FREQUENCY	= 50 YRS
DESIGN DISCHARGE	= 20 CFS
DESIGN HW ELEVATION	= 434.10 FT
100 YEAR DISCHARGE	= 21 CFS
100 YEAR HW ELEVATION	= 434.24 FT
OVERTOPPING FREQUENCY	= 100+ YRS
OVERTOPPING DISCHARGE	= 28 CFS
OVERTOPPING ELEVATION	= 435.07 FT



PIPE HYDRAULIC DATA

DRAINAGE STRUCTURE NO.44-45A

DRAINAGE AREA	= 5.85 AC
DESIGN FREQUENCY	= 50 YRS
DESIGN DISCHARGE	= 30 CFS
DESIGN HW ELEVATION	= 411.85 FT
100 YEAR DISCHARGE	= 32 CFS
100 YEAR HW ELEVATION	= 412.01 FT
OVERTOPPING FREQUENCY	= 200+ YRS
OVERTOPPING DISCHARGE	= 51 CFS
OVERTOPPING ELEVATION	= 413.88 FT



STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE	= 460 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 386.0 FT
BASE DISCHARGE	= 560 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 386.7 FT
OVERTOPPING DISCHARGE	= 1300 CFS
OVERTOPPING FREQUENCY	= 500+ YRS
OVERTOPPING ELEVATION	= 400.8 FT

NOTE:
SEE SHEET NO. 6 & 7 FOR -L- ALIGNMENT

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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-2582B	20

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 18494 ENGINEER ANTHONY AARON

12-20-00

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 19775 ENGINEER RAY D. LOVINGGOOD

12-20-00

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO.48

DRAINAGE AREA	= 0.67	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 3.5	CFS
DESIGN HW ELEVATION	= 426.43	FT
100 YEAR DISCHARGE	= 3.7	CFS
100 YEAR HW ELEVATION	= 426.49	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 15.7	CFS
OVERTOPPING ELEVATION	= 428.42	FT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO.49

DRAINAGE AREA	= 0.67	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 3.5	CFS
DESIGN HW ELEVATION	= 428.43	FT
100 YEAR DISCHARGE	= 3.7	CFS
100 YEAR HW ELEVATION	= 428.49	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 10.7	CFS
OVERTOPPING ELEVATION	= 429.24	FT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO.54

DRAINAGE AREA	= 8.90	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 46	CFS
DESIGN HW ELEVATION	= 426.39	FT
100 YEAR DISCHARGE	= 49	CFS
100 YEAR HW ELEVATION	= 426.55	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 129	CFS
OVERTOPPING ELEVATION	= 434.65	FT

PIPE HYDRAULIC DATA
DRAINAGE STRUCTURE NO.63

DRAINAGE AREA	= 26.1	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 90	CFS
DESIGN HW ELEVATION	= 421.90	FT
100 YEAR DISCHARGE	= 110	CFS
100 YEAR HW ELEVATION	= 422.64	FT
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING DISCHARGE	= 211	CFS
OVERTOPPING ELEVATION	= 428.50	FT

-L-

PI = 101+90.00
EL = 439.15'
VC = 760'
K = 112

(+)5.4417%
(-)1.3430%
420.58
18" RCP
18" RCP
425.41'
(-)11.7600%
416.00
BEGIN LEFT DITCH GRADE
STA 100+70.00 -L-
EL = 425.41
36" RCP W/HDWL
END LEFT DITCH GRADE
STA 101+50.000 -L-
EL = 416.00

PI = 111+20.00
EL = 426.66'
VC = 400'
K = 94

430.73
(-)1.3430%
(+)2.9286%
48" RCP

BM #3 R.R. SPIKE IN BASE OF 15" PINE
-L- STA. 99+37.96, 247.85' LT.
(BL STA. 46+26, 179' LT.)
ELEV. = 417.41' N 753621 E 2085417 (NEAREST FT.)

99 100 101 102 103 104 105 106 107 108 109 110 111 112

-L-

END GRADE STA. 118+06.00 -L-
EL = 447.34'

PI = 117+50.00
EL = 445.11'
VC = 100'
K = 95

430.73
(+)2.9286%
(+)3.9844%

113 114 115 116 117 118

-DRIVE1-

BEGIN GRADE STA. 10+52.34 -DRIVE1-
NOTE: GRADE TIES 6 FEET OFF FACE OF CURB
SEE STD. 848.02
EL = 433.72

PI = 10+67.34
EI = 433.12'
PINC

(-)4.0000%
(-)18.1390%
(-)0.3000%

END GRADE STA. 12+50.00 -DRIVE1-
EL = 421.00

PI = 12+15.00
EI = 421.11'
VC = 70.00
K = 9

10 11 12

NOTE:
SEE SHEET NO. 8 & 9 FOR -L- ALIGNMENT
SEE SHEET NO. 8 -DRIVE1- ALIGNMENT

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U-2582B

PROJECT: 8.2402802

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.		SHEET NO.
U-2582B		TCP-1
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
8.2402803	STP-3009(4)	CONST.

PLAN FOR PROPOSED TRAFFIC CONTROL, MARKING & DELINEATION

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS"-ROADWAY DESIGN UNIT-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C., DATED JANUARY 1998 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL PLAN DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW PANELS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGERS
1160.01	TEMPORARY CRASH CUSHION
1165.01	TRUCK MOUNTED IMPACT ATTENUATOR
1170.01	PORTABLE CONCRETE BARRIER
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.03	PAVEMENT MARKINGS - INTERCHANGES
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS & WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1250.01	PAVEMENT MARKER SPACING
1251.01	RAISED PAVEMENT MARKERS (TEMPORARY & PERMANENT)
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR TYPES
1263.01	FLEXIBLE DELINEATOR INSTALLATION
1263.02	FLEXIBLE DELINEATOR SPACING
1263.03	FLEXIBLE DELINEATORS - INTERCHANGES
1264.01	OBJECT MARKERS
1264.02	PLACEMENT OF OBJECT MARKERS

INDEX OF SHEETS

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- NORTH ARROW
- PROPOSED PVMT. --------- EXIST. PVMT.
- WORK AREA
- REMOVAL OF EXISTING PAVEMENT

TRAFFIC CONTROL DEVICES

- TYPE I BARRICADE
- TYPE II BARRICADE
- TYPE III BARRICADE
- CONE
- DRUM
- FLASHING ARROW PANEL (TYPE C)
- TYPE 'B' WARNING LIGHT
- STATIONARY SIGN
- PORTABLE SIGN
- WARNING FLAGS
- CRASH CUSHION
- CHANGEABLE MESSAGE SIGN
- TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
- POLICE
- FLAGGER

PAVEMENT MARKINGS

- CRYSTAL PAVEMENT MARKER
- YELLOW/YELLOW PAVEMENT MARKER
- CRYSTAL/RED PAVEMENT MARKER
- PAVEMENT MARKING SYMBOLS

APPROVED: [signature] DATE: 1/5/01

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022104 ENGINEER JOHN S KITE, II

PLAN PREPARED BY: N.C.D.O.T. TRAFFIC CONTROL, MARKING & DELINEATION SECTION

J.S. BOURNE, P.E. — TRAFFIC CONTROL ENGINEER

J.S. KITE, P.E. — TRAFFIC CONTROL PROJECT ENGINEER

C.L. MULLEN — TRAFFIC CONTROL PROJECT DESIGN ENGINEER

J.H. WEATHERSBEE — TRAFFIC CONTROL DESIGN ENGINEER / TECHNICIAN

PROJECT NOTES

PROJ. REFERENCE NO.	SHEET NO.
U-2582B	TCP-2

GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

A) ADAPT THE TRAFFIC CONTROL PLANS, WHEN DIRECTED BY THE ENGINEER, TO MEET FIELD CONDITIONS TO PROVIDE SAFE AND EFFICIENT TRAFFIC MOVEMENT. CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SU PPLEMENTING, COVERING OR REMOVAL OF DEVICES.

TIME RESTRICTIONS

B) DO NOT CLOSE OR NARROW TRAVEL LANES ON WADE AVE. AS FOLLOWS:

DAY AND TIME RESTRICTIONS

FROM 6:00 A.M. TO 9:00 A.M. AND
3:30 P.M. UNTIL 8:00 P.M. MONDAY THRU FRIDAY

C) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME

1. WADE AVENUE

HOLIDAY

1. FOR NEW YEAR'S, BETWEEN THE HOURS OF 7:00 A.M. DECEMBER 31ST TO 7:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A SATURDAY OR A SUNDAY, THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.
2. FOR EASTER, BETWEEN THE HOURS OF 7:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.
3. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
4. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 7:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY.

   IF INDEPENDENCE DAY IS ON A SATURDAY OR SUNDAY, THEN BETWEEN THE HOURS OF 7:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
5. FOR LABOR DAY, BETWEEN THE HOURS OF 7:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
6. FOR THANKSGIVING, BETWEEN THE HOURS OF 7:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.
7. FOR CHRISTMAS, BETWEEN THE HOURS OF 7:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING MONDAY AFTER THE WEEK OF CHRISTMAS.
8. FOR EVENTS AT THE ENTERTAINMENT AND SPORTS ARENA, FROM THREE (3) HOURS BEFORE THE START OF THE EVENT UNTIL THREE (3) HOURS AFTER THE CONCLUSION OF THE EVENT.
9. FOR FOOTBALL GAMES AT CARTER-FINLEY STADIUM, FROM 7:00 A.M. THE DAY OF THE GAME UNTIL 7:00 A.M. THE DAY AFTER THE GAME.
10. FOR THE NORTH CAROLINA STATE FAIR OCURRING IN OCTOBER, FROM 7:00 P.M. THE THURSDAY BEFORE THE FIRST DAY OF THE FAIR UNTIL 7:00 A.M. THE MONDAY FOLLOWING THE LAST DAY OF THE FAIR.

D) DO NOT STOP TRAFFIC FOR MORE THAN 15 MINUTES AS FOLLOWS:

OPERATION	ROAD NAME
1. TRAFFIC SHIFTS	WADE AVE.

LANE CLOSURE REQUIREMENTS

E) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED.

F) CLOSE THE OPEN TRAVEL LANE ADJACENT TO THE WORK AREA WHEN PERSONNEL AND/OR EQUIPMENT ARE WITHIN 5' OF AN OPEN TRAVEL LANE ON AN UNDIVIDED FACILITY OR WITHIN 10' OF AN OPEN LANE ON A DIVIDED FACILITY. USE ROADWAY STANDARD NO. 1101.02, UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

G) DO NOT WORK SIMULTANEOUSLY, ON BOTH SIDES OF AN OPEN TRAVELWAY, WITHIN THE SAME LOCATION, ON A TWO-LANE, TWO-WAY ROAD.

H) DO NOT PERFORM WORK INVOLVING HEAVY EQUIPMENT WITHIN 15' OF THE EDGE OF TRAVELWAY WHEN WORK IS BEING PERFORMED BEHIND A LANE CLOSURE ON THE OPPOSITE SIDE OF THE TRAVELWAY.

PAVEMENT EDGE DROP OFF REQUIREMENTS

I) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS A DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2" ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3" ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH ABC OR SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

J) DO NOT EXCEED A DIFFERENCE OF 1½" IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC.

TRAFFIC PATTERN ALTERATIONS

K) NOTIFY THE ENGINEER 21 CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

L) PROVIDE PERMANENT SIGNING WITHIN THE PROJECT LIMITS.

M) PROVIDE ALL DETOUR SIGNING.

N) COVER OR REMOVE ALL DETOUR SIGNS WHEN A DETOUR IS NOT IN OPERATION.

O) INSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

P) WHEN USING ROADWAY STANDARD NO. 1101.02, CONES MAY BE USED IN LIEU OF DRUMS ON REEDY CREEK RD. (-Y-) AND MACON POND RD. (-Y1-).

Q) SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER THAN TWICE THE POSTED SPEED LIMIT, EXCEPT 10' ON-CENTER IN RADII, AND 3' OFF THE EDGE OF AN OPEN TRAVELWAY, WHEN LANE CLOSURES ARE NOT IN EFFECT.

R) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN (R11-2) ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY. STAGGER OR OVERLAP BARRICADES TO ALLOW FOR INGRESS OR EGRESS.

S) PLACE SETS OF THREE DRUMS PERPENDICULAR TO THE EDGE OF THE TRAVELWAY ON 500' CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC. THESE DRUMS SHALL BE IN ADDITION TO CHANNELIZING DEVICES.

SHEET OF

APPROVED: _____ DATE: 10/23/00

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022104 ENGINEER JOHN S. KITE, JR.

PROJECT NOTES

SCALE:	NONE
DATE:	10/00
DWG. BY:	JHW
DESIGN BY:	JHW
REVIEWED BY:	CLM

DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH

REVISIONS	
CADD FILE:	

PROJ. REFERENCE NO.	SHEET NO.
U-2582B	TCP-3

GENERAL NOTES (CONT.)

PAVEMENT MARKINGS AND MARKERS

T) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
1. ALL ROADS	THERMOPLASTIC	PERMANENT RAISED

U) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
1. ALL ROADS	PAINT	TEMPORARY RAISED

V) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

W) REPLACE ANY PAVEMENT MARKINGS THAT HAVE BEEN OBLITERATED BY THE END OF EACH DAY'S OPERATION.

X) TRACE THE EDGE OF PROPOSED MONOLITHIC ISLANDS WITH THE PROPER COLOR PAVEMENT MARKING PRIOR TO INSTALLATION OF A PROPOSED MONOLITHIC ISLAND.

Y) PLACE TWO APPLICATIONS OF PAINT ON NEW ASPHALT WITH TEMPORARY TRAFFIC PATTERNS WHICH WILL REMAIN IN PLACE OVER THREE (3) MONTHS. PLACE THE SECOND APPLICATION OF PAINT UPON AMPLE DRYING TIME OF THE FIRST, AS DETERMINED BY THE ENGINEER.

SIGNALS

Z) INSTALL THE DETECTOR LOOPS PRIOR TO PLACING THE FINAL LAYER OF SURFACE COURSE.

AA) INSTALL AND MAKE OPERATIONAL ALL SIGNALS PRIOR TO ALTERING ANY TRAFFIC PATTERN, UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLAN.

BB) NOTIFY THE ENGINEER TWO (2) MONTHS BEFORE A TRAFFIC SIGNAL INSTALLATION IS REQUIRED.

CC) SHIFT AND REVISE ALL SIGNAL HEADS AS SHOWN ON THE SIGNAL PLANS.

MISCELLANEOUS

DD) A "ROLLING ROAD BLOCK" MAY BE USED ON WADE AVE. USE TWO TRUCKS WITH "PILOT CAR FOLLOW ME" SIGN AND ROTATING BEACONS TO SLOW TRAFFIC. MAINTAIN A MINIMUM SPEED OF 20 MPH FOR THE "ROLLING ROAD BLOCK". CLOSE THE ON RAMPS OR STOP ON RAMP TRAFFIC WHEN THE "ROLLING ROAD BLOCK" IS USED IN THE VICINITY OF THE RAMPS. PLACE CHANGEABLE MESSAGE SIGNS FLASHING THE MESSAGE "SLOW MOVING TRAFFIC AHEAD" ONE (1) MILE AHEAD OF THE "ROLLING ROAD BLOCK" VEHICLES.

EE) POLICE MAY BE USED TO MAINTAIN TRAFFIC THROUGH INTERSECTIONS.

FF) PLACE DRUMS, CONES, OR TUBULAR MARKERS TO DELINEATE EXISTING AND PROPOSED ISLANDS AFTER REMOVAL AND BEFORE INSTALLATION.

LOCAL NOTE

1) IF NO WORK IS PURSUED WITHIN 3 DAYS AFTER INSTALLATION OF ADVANCED WORK ZONE SIGNS, THE CONTRACTOR SHALL COVER OR REMOVE THE SIGNING AS DIRECTED BY THE ENGINEER. NO DIRECT PAYMENT WILL BE MADE FOR THESE COVERINGS.

TEMPORARY PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	PAY ITEM/ QUANTITY BREAKDOWN		TOTAL QUANTITY	
		PAVEMENT MARKING LINES			
		PAINT (4")			
PA	WHITE EDGELINE 3X	54000	ft.		
PB	YELLOW EDGE LINE 3X	54000	ft.		
PC	10 ft. WHITE SKIP 3X	15000	ft.		
PD	2 ft. WHITE MINISKIP 3X	3000	ft.		
PE	WHITE SOLID LANE LINE 3X	12000	ft.		
PF	10 ft. YELLOW SKIP 3X	3000	ft.		
PI	YELLOW DOUBLE CENTER LINE 3X	8400	ft.		
				TOTAL 149400	ft.
		PAINT (8")			
PR	WHITE GORELINE 3X	12600	ft.		
PS	WHITE DIAGONAL 3X	7500	ft.		
PV	YELLOW DIAGONAL 3X	600	ft.		
PX	WHITE CROSSWALK LINE 3X	4500	ft.		
				TOTAL 25200	ft.
		PAINT (24")			
P4	WHITE STOP BAR 3X	2400	ft.		
				TOTAL 2400	ft.
		PAVEMENT MARKING SYMBOLS			
		PAINT SYMBOL			
QA	LEFT TURN ARROW 3X	129	EA		
QB	RIGHT TURN ARROW 3X	48	EA		
QC	STRAIGHT ARROW 3X	129	EA		
QE	COMBO STRAIGHT & RIGHT TURN ARROW 3X	36	EA		
QG	COMBO LEFT, RIGHT & STRAIGHT ARROW 3	6	EA		
				TOTAL 348	EA
		PAVEMENT MARKERS			
		TEMPORARY RAISED			
MH	YELLOW & YELLOW	500	EA		
MI	CRYSTAL & RED	650	EA		
				TOTAL 1150	EA

NOTE: FOR EACH PAINT PAVEMENT MARKING ITEM, 1X IMPLIES A SINGLE APPLICATION, 2X IMPLIES TWO APPLICATIONS, AND 3X IMPLIES THREE APPLICATIONS.

SHEET OF

APPROVED: DATE: 10/23/00

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022104 ENGINEER JOHN S. KITE, JR.

NOTES (CONT.)

SCALE:	NONE
DATE:	10/00
DWG. BY:	JHW
DESIGN BY:	JHW
REVIEWED BY:	CLM

DIVISION OF HIGHWAYS PAVEMENT MANAGEMENT UNIT TRAFFIC ENGINEERING BRANCH TRAFFIC SERVICES UNIT

REVISIONS	
CADD FILE	

PROJ. REFERENCE NO.	SHEET NO.
U-2582B	TCP-4

PHASING

GENERAL CONCEPT: THE CONCEPT BELOW IS DESIGNED TO MINIMIZE THE IMPACT TO TRAFFIC ALONG WADE AVE. AND DURALEIGH RD. AS WELL AS TO MINIMIZE THE TIME THAT WORK ZONE SIGNING IS INSTALLED PRIOR TO WORK ACTIVITY. WORK ALONG THE NEW LOCATION WILL BE DONE FIRST, FOLLOWED BY THE WORK ALONG WADE AVE. AND DURALEIGH RD.

PHASE I

STEP 1: INSTALL -Y- LINE WORK ZONE ADVANCE WARNING SIGNS ALONG MACON POND RD. (-Y1-) AND REEDY CREEK RD. (-Y-). SEE TCP-12, DETAIL D & LOCAL NOTE 1.

STEP 2: INSTALL TYPE III BARRICADES WITH SIGN R11-2 (ROAD CLOSED) ATTACHED AT STA. 43+90+/- -L-, STA. 78+10+/- -L-, STA. 79+40+/- -L-, STA. 99+00+/- -L-, STA. 100+10+/- -L-, AND STA. 111+20+/- -L-. SEE TCP-5.

BEGIN CLEARING, GRADING, DRAINAGE AND CURB AND GUTTER OF EDWARDS MILL RD. (-L-) FROM STA. 43+90+/- TO STA. 78+10+/- AND FROM STA. 79+40+/- TO STA. 111+20+/-. SEE TCP-5 AND RSD 1101.05.

BEGIN GRADING, DRAINAGE, CURB AND GUTTER AND PAVING OF MACON POND RD. (-Y1-) FROM STA. 13+00 +/- TO STA. 18+07 +/-. SEE RSD 1101.02, SHEET 1 OF 7.
NOTE: MAINTAIN ACCESS FOR RESIDENTS ALONG MACON POND RD (-Y1-) AT ALL TIMES DURING CONSTRUCTION. SEE TCP-5.

USING TCP-11, INSTALL CABLE GUIDERAIL IN THE MEDIAN OF WADE AVE. (-Y2-) AS SHOWN IN THE CONSTRUCTION PLANS FROM STA. 612+00 -Y2- TO STA. 732+80 -Y2-.

STEP 3: INSTALL AND COVER DETOUR SIGNS TO DETOUR REEDY CREEK RD. TRAFFIC. SEE TCP-6 AND RSD 1101.03.

COMPLETE THE WORK OF PHASE I, STEP 4 IN 28 CONSECUTIVE CALENDAR DAYS. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.)

STEP 4: UNCOVER DETOUR SIGNS AND CLOSE REEDY CREEK RD. (-Y-) FROM STA. 9+00 +/- TO STA. 16+55+/-. CONSTRUCT EDWARDS MILL RD. (-L-) UP TO THE FINAL LAYER OF SURFACE COURSE AND PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) FROM STA. 78+10 +/- -L- TO STA. 79+40 +/- -L-. CONSTRUCT REEDY CREEK RD. (-Y-) UP TO THE FINAL LAYER OF SURFACE COURSE AND PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) FROM STA. 9+00 +/- -Y- TO STA. 16+55 +/- -Y-. SEE TCP-6 & RSD 1101.03, 1 OF 9.

OPEN REEDY CREEK RD. TO A TWO-LANE, TWO-WAY TRAFFIC PATTERN.

STEP 5: COMPLETE GRADING, DRAINAGE, CURB AND GUTTER AND BEGIN PAVING OF EDWARDS MILL RD. FROM STA. 43+90+/- TO STA.78+10+/- AND FROM STA. 79+40+/- TO STA. 111+20+/-.

NOTE: PHASE II WORK SHALL BEGIN ONCE PAVING OPERATIONS ARE STARTED ON THE "NEW LOCATION" PORTION OF EDWARDS MILL RD. EXT.

PHASE II

NOTE: WORK ON WADE AVE AND DURALEIGH RD IN PHASE II MAY BE PERFORMED CONCURRENTLY.

WADE AVE.

STEP 1: INSTALL MAINLINE ADVANCE WARNING SIGNS (DETAIL A) ALONG WADE AVE. (-Y2-) AND INSTALL -Y- LINE ADVANCE WARNING SIGNS (DETAIL D) ALONG EDWARDS MILL RD (-L-). SEE TCP-12 & 13 AND LOCAL NOTE 1.

COMPLETE THE WORK REQUIRED OF PHASE II, STEP 2 IN ONE WEEKEND BETWEEN FRIDAY NIGHT AT 8:00 P.M. AND MONDAY MORNING AT 6:00 A.M. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.)

STEP 2: USING RSD 1101.02, SHEETS 3 AND 6 OF 7, PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) ON WB WADE AVENUE FROM STA. 589+00+/- -Y2- TO STA. 629+00+/- -Y2-. SHIFT TRAFFIC ONTO 4' EXISTING FULL DEPTH MEDIAN SHOULDER. SEE TCP-7, 8 & 9.

STEP 3: USING RSD 1101.02, SHEETS 3 AND 6 OF 7, INSTALL PCB ON THE EXISTING OUTSIDE SHOULDER OF RAMP B AND WESTBOUND WADE AVENUE (-Y2-) FROM STA. 589+00 +/- -Y2- TO STA. 3+00+/- -SPUR B-. SEE TCP-7, 8 & 9.

BEHIND BARRIER, BEGIN CONSTRUCTION OF RAMP B AND SPUR B INCLUDING DRAINAGE FROM STA. 0+00+/- -RP B- TO STA. 7+47+/- -SPUR B-. SEE TCP-8 & 9.

USING RSD 1101.02, SHEET 7 OF 7, INSTALL PCB ON RAMP A FROM STA. 6+00+/- TO STA. 14+00+/- -RAMP A-. PERFORM GRADING, DRAINAGE AND PAVING OF RAMP A WIDENING AND OF SPUR A ACCORDING TO CONSTRUCTION PLANS. SEE TCP-9.

BEHIND BARRIER, REMOVE EXISTING 10' VDPS FROM STA. 589+00+/- -Y2SH- TO STA. 601+69+/- -Y2SH- AND FROM 615+00+/- -Y2SH- TO 619+00+/- -Y2SH- ACCORDING TO CONSTRUCTION PLANS. SEE TCP-7.

STEP 4: BEHIND BARRIER, PERFORM OUTSIDE WIDENING ON WB WADE AVENUE UP THE EDGE AND ELEVATION OF EXISTING PAVEMENT, DRAINAGE, SHOULDER AND GUARDRAIL WORK ACCORDING TO CONSTRUCTION PLANS AND PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS FROM STA. 589+00+/- -Y2REV- TO STA. 628+16+/- -Y2REV-. SEE TCP-7 & 8.

STEP 5: USING RSD 1101.02, SHEETS 3 AND 6 OF 7, REMOVE PCB PLACED ON WB WADE AVE. (-Y2SH-) IN PHASE II, STEP 1.

COMPLETE THE WORK REQUIRED OF PHASE II, STEP 6 IN ONE WEEKEND BETWEEN FRIDAY NIGHT AT 8:00 P.M. AND MONDAY MORNING AT 6:00 A.M. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.)

STEP 6: USING RSD 1101.02, SHEET 3 OF 7, PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) ON WB WADE AVENUE FROM STA. 592+60+/- -Y2SH- TO STA. 628+00+/- -Y2SH-. SHIFT TRAFFIC 5' AWAY FROM EDGE OF 4' FDPS. SEE TCP-10.

STEP 7: USING RSD 1101.02, SHEET 3 OF 7, PLACE PCB 1' OFF EXISTING 4' FDPS FROM STA. 600+00+/- -Y2SH- TO STA. 628+00+/- -Y2SH-. SEE TCP-10.

BEHIND BARRIER AND USING RSD 1101.02, SHEET 3 OF 7 WHERE NECESSARY, REMOVE EXISTING 4' FDPS FROM STA. 592+00+/- -Y2SH- TO STA. 624+00+/- -Y2SH- ACCORDING TO CONSTRUCTION PLANS. SEE TCP-10.

BEHIND BARRIER AND USING RSD 1101.02, SHEET 3 OF 7 WHERE NECESSARY, PERFORM WIDENING ON WB WADE AVE. UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT, DRAINAGE, SHOULDER WORK AND PLACE TEMPORARY PAVEMENT MARKINGS AND MARKERS FROM STA. 589+00+/- -Y2SH- TO STA. 624+00+/- -Y2SH- ACCORDING TO CONSTRUCTION PLANS. SEE TCP-10.

DURALEIGH RD.

STEP 1: INSTALL -Y- LINE WORK ZONE ADVANCE WARNING SIGNS ALONG DURALEIGH RD. (-Y3-). SEE TCP-12, DETAIL D AND LOCAL NOTE 1.

STEP 2: USING RSD. 1101.02, SHEET 1 OF 7 AND FLAGGERS AND MAINTAINING ACCESS FOR RESIDENTS AT ALL TIMES, PERFORM LEFT SIDE WIDENING CONSTRUCTION UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT, DRAINAGE AND CURB AND GUTTER INSTALLATION ON EXISTING EDWARDS MILL RD. FROM STA. 112+50+/- -L- TO STA. 118+00+/- -L-.

STEP 3: USING RSD. 1101.02, SHEET 1 OF 7 AND FLAGGERS AND MAINTAINING ACCESS FOR RESIDENTS AT ALL TIMES, PERFORM RIGHT SIDE WIDENING CONSTRUCTION UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT, DRAINAGE AND CURB AND GUTTER INSTALLATION ON EXISTING EDWARDS MILL RD. FROM STA. 112+50+/- -L- TO STA. 118+00+/- -L-.

PHASE III

STEP 1: INSTALL AND COVER PERMANENT SIGNING AS SHOWN IN THE SIGNING PLANS.

USING RSD 1101.02, SHEETS 1 AND 3 OF 7, INSTALL AND COVER NEW SIGNAL HEADS AT THE WADE AVENUE INTERCHANGE AND THE DURALEIGH RD. INTERSECTION ACCORDING TO CONSTRUCTION PLANS AND PLACE THE FINAL LAYER OF SURFACE COURSE, FINAL PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS IN THE FINAL PATTERN ON ALL RAMPS (SEE RSD 1101.02, SHEET 6 AND 7 OF 7) AND AT THE FOLLOWING LOCATIONS: (SEE PM-1 THRU PM-6)

EDWARDS MILL RD. (-L-)	FROM STA. 43+90+/- -L- TO STA. 78+10+/- -L-, FROM STA. 79+40+/- -L- TO STA. 99+00+/- -L-, AND FROM STA. 100+10+/- -L- TO STA. 117+80+/- -L-
REEDY CREEK RD. (-Y-)	FROM STA. 9+00+/- -Y- TO STA. 16+55+/- -Y-
MACON POND RD. (-Y1-)	FROM STA. 13+00+/- -Y1- TO STA. 18+07+/- -Y1-
WADE AVE. (-Y2SH-)	FROM STA. 589+00+/- -Y2- TO STA. 630+00+/- -Y2-

COMPLETE THE WORK REQUIRED OF PHASE III, STEPS 2 AND 3 IN ONE WEEKEND BETWEEN FRIDAY NIGHT AT 8:00 P.M. AND MONDAY MORNING AT 6:00 A.M. (SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES.)

STEP 2: PLACE THE SIGNALS AT THE EDWARDS MILL RD. AND DURALEIGH RD. INTERSECTION ON FLASH MODE.

USING RSD 1101.02, SHEETS 1, 3 AND 4 OF 7 AND POLICE, PLACE THE FINAL LAYER OF SURFACE COURSE, FINAL PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS FROM STA. 117+80+/- -L- TO STA. 122+24+/- -L- AND FROM STA. 50+30+/- -Y3- TO STA. 52+40+/- -Y3-. SHIFT AND REVISE SIGNAL HEADS. SEE PM-6.

PLACE THE SIGNALS AT THE EDWARDS MILL RD. AND WADE AVENUE INTERCHANGE ON FLASH MODE.

USING RSD 1101.02, SHEETS 3 AND 4 OF 7 AND POLICE, PLACE THE FINAL LAYER OF SURFACE COURSE, FINAL PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS FROM STA. 30+00+/- -L- TO STA. 43+90+/- -L-. SHIFT AND REVISE SIGNAL HEADS. SEE PM-2.

STEP 3: SIMULTANEOUSLY REMOVE TYPE III BARRICADES AT STATIONS 43+90 -L-, 78+10 -L-, 79+40 -L-, 99+00 -L-, 100+10 -L- AND 111+20 -L- AND ACTIVATE SIGNALS IN THE PROPOSED TRAFFIC PATTERN.

STEP 4: UNCOVER SIGNS AND REMOVE ALL TRAFFIC CONTROL DEVICES.

SHEET OF

APPROVED: [signature] DATE: 1/5/01

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022104 ENGINEER JOHN S. KITE, JR.

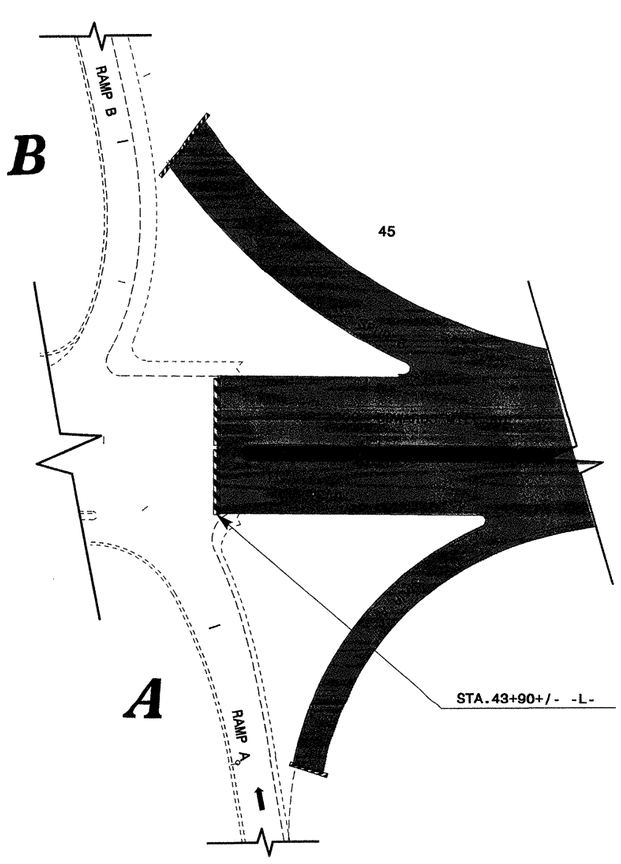
PHASING

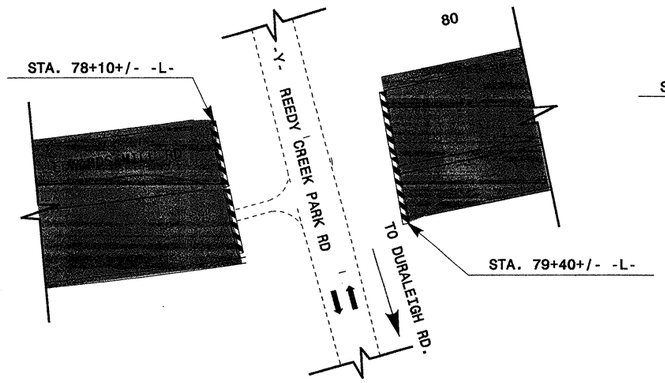
SCALE:	NONE
DATE:	10/00
DWG. BY:	JHW
DESIGN BY:	JHW
REVIEWED BY:	CLM

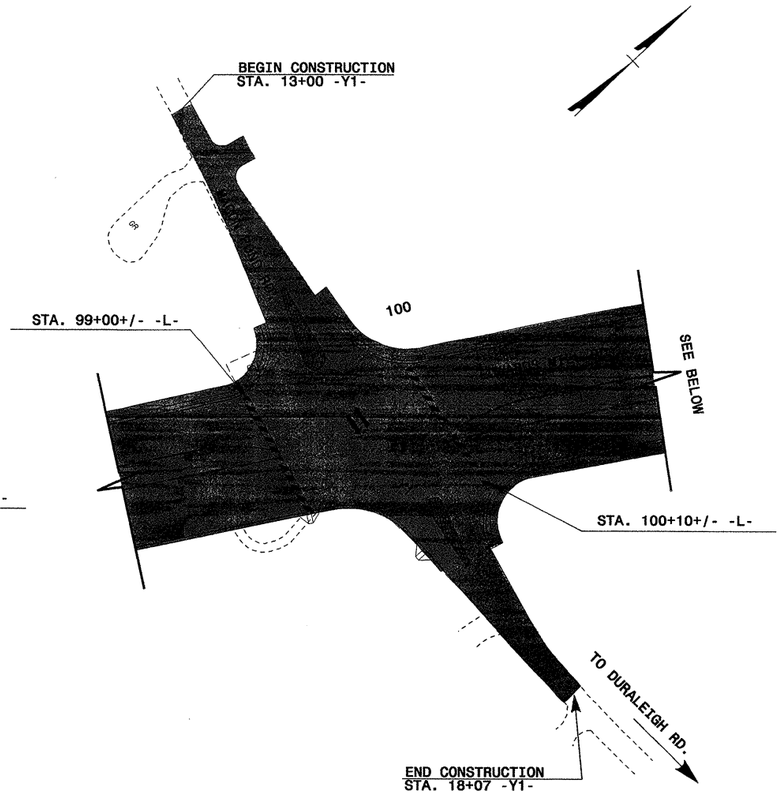
REVISIONS

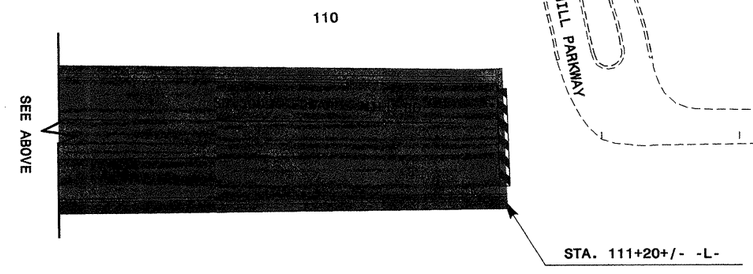
CADD FILE

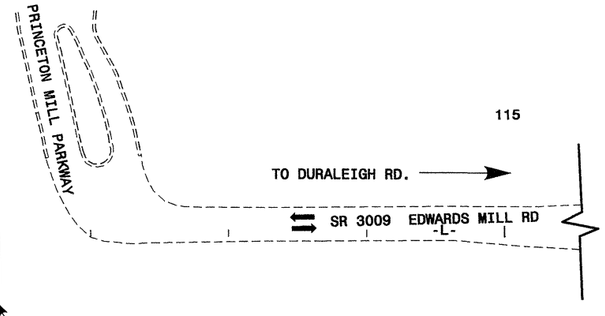
PROJ. REFERENCE NO.	SHEET NO.
U-2582B	TCP-5











SHEET OF

APPROVED: John S. Kite DATE: 10/23/00

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022104 ENGINEER JOHN S. KITE, JR.

PHASE I STEP 2

SCALE:	NONE
DATE:	10/00
DWG. BY:	JHW
DESIGN BY:	JHW
REVIEWED BY:	CLM

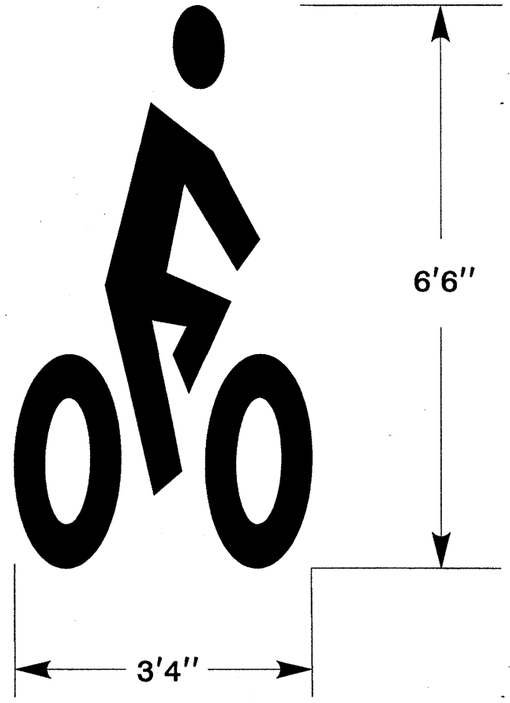
DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

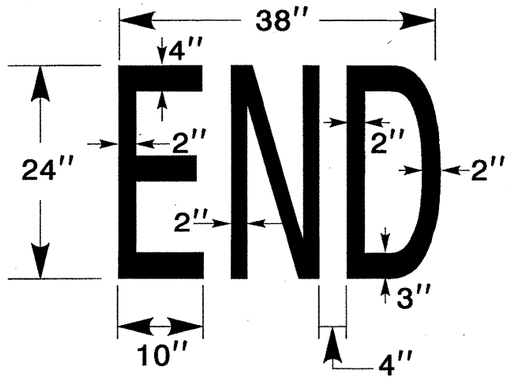
REVISIONS

CADD FILE

PROJ. REFERENCE NO.	SHEET NO.
U-2582B	PM-1

BIKE SYMBOL DIMENSIONS FOR DESIGNATED 4'/6' BIKE LANE





* CENTERING "END" IN 4' BIKE LANE WILL LEAVE 5" ON BOTH SIDES TO THE EDGE OF THE BIKE LANE

FINAL PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	PAY ITEM/ QUANTITY BREAKDOWN		TOTAL QUANTITY	
		PAVEMENT MARKING LINES			
		THERMOPLASTIC (4", 90 mils)			
TA	WHITE EDGELINE	18000	ft.		
TB	YELLOW EDGE LINE	18000	ft.		
			TOTAL	36000	ft.
		THERMOPLASTIC (4", 120 mils)			
TC	10 ft. WHITE SKIP	5000	ft.		
TD	2 ft. WHITE MINISKIP	1000	ft.		
TE	WHITE SOLID LANE LINE	4000	ft.		
TF	10 ft. YELLOW SKIP	1000	ft.		
TI	YELLOW DOUBLE CENTER LINE	2800	ft.		
			TOTAL	13800	ft.
		THERMOPLASTIC (8", 90 mils)			
TP	WHITE GORELINE	4200	ft.		
TQ	WHITE DIAGONAL	2500	ft.		
TT	YELLOW DIAGONAL	200	ft.		
			TOTAL	6900	ft.
		THERMOPLASTIC (8", 120 mils)			
TV	WHITE CROSSWALK LINE	1500	ft.		
			TOTAL	1500	ft.
		THERMOPLASTIC (24", 120 mils)			
T2	WHITE STOP BAR	800	ft.		
			TOTAL	800	ft.
		PAVEMENT MARKING SYMBOLS			
		THERMOPLASTIC THICK SYMBOL (90 mils)			
UA	LEFT TURN ARROW	43	EA		
UB	RIGHT TURN ARROW	16	EA		
UC	STRAIGHT ARROW	43	EA		
UE	COMBINATION STRAIGHT & RIGHT TURN AR	12	EA		
UG	COMBINATION LEFT, RIGHT & STRAIGHT A	2	EA		
			TOTAL	116	EA
		PAVEMENT MARKERS			
		PERMANENT RAISED			
MA	YELLOW & YELLOW	500	EA		
MB	CRYSTAL & RED	650	EA		
			TOTAL	1150	EA

SHEET OF

APPROVED: DATE: 10/23/00

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022104 ENGINEER JOHN S. KITE, JR.

PAVEMENT MARKING PLAN

SCALE:	NONE
DATE:	10/00
DWG. BY:	JHW
DESIGN BY:	JHW
REVIEWED BY:	CLM

DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH TRAFFIC ENGINEER

REVISIONS	
CADD FILE	

PROJ. REFERENCE NO.	SHEET NO.
U-2582B	PM-2

MATCHLINE A-A SEE PM-3

TO CARY

-Y2- SR 1728 WADE AVE SBL

-Y2- SR 1728 WADE AVE NBL

10' PS

C

B

D

A

STA. 12+00+/- -RAMP B-

STA. 13+85+/- -RAMP B-

STA. 30+00 -L-
BEGIN REVERSIBLE LANE MARKING
SEE DETAIL BELOW
TIE TO EXISTING MARKINGS
BEGIN MINISKIP

STA. 35+00+/- -L-

35

100'

100'

15'
12'
12'
12'
12'
12'
12'
12'
15'

-L-

MATCHLINE C-C

TI

STA. 34+95+/- -L-

STA. 34+50+/- -L-
END REVERSIBLE LANE MARKINGS
SEE DETAIL BELOW

STA. 44+00+/- -L-

TP

16' 12'

45

SPUR B

STA. 45+92+/- -L-

UA

UE

UB

50

MATCHLINE D-D SEE PM-4

STA. 48+15+/- -L-

TE

STA. 49+00+/- -L-
BEGIN 4' BIKE LANE

STA. 49+50+/- -L-
BIKE SYMBOL
SEE PM-1

STA. 18+31 -RAMP C-

40

STA. 41+01 -L-

STA. 40+71 -L-

STA. 13+00+/- -L-

SPUR C

TT

MATCHLINE C-C

TE

SPUR D

STA. 37+00+/- -L-

STA. 39+64 -L-

T2

LANE

BUS

35'

100'

LANE

BUS

35'

TQ

STA. 42+76 -L-

STA. 42+46 -L-

STA. 15+72 -RAMP A-

STA. 15+22 -RAMP A-

12' 12'

SPUR A

TE

STA. 14+00+/- -RAMP A-

TP

STA. 13+80 -RAMP A-

STA. 12+50+/- -RAMP A-

RAMP A

STA. 14+80+/- -RAMP D-

TD

100'

100'

RAMP D

UC

TO RALEIGH

650

MATCHLINE B-B SEE PM-3

DETAIL OF REVERSIBLE LANE MARKINGS

10'

4", 120 MILS YELLOW SKIP

6"

SHEET OF

APPROVED: DATE: 10/23/00

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022104 ENGINEER JOHN S KITE, JR.

PAVEMENT MARKING PLAN

SCALE:	NONE
DATE:	10/00
DWG. BY:	JHW
DESIGN BY:	JHW
REVIEWED BY:	CLM

DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH TRAFFIC ENGINEERING DESIGN UNIT

REVISIONS	
CADD FILE	

090899

PROJECT: 8.2402803

U-2582B

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

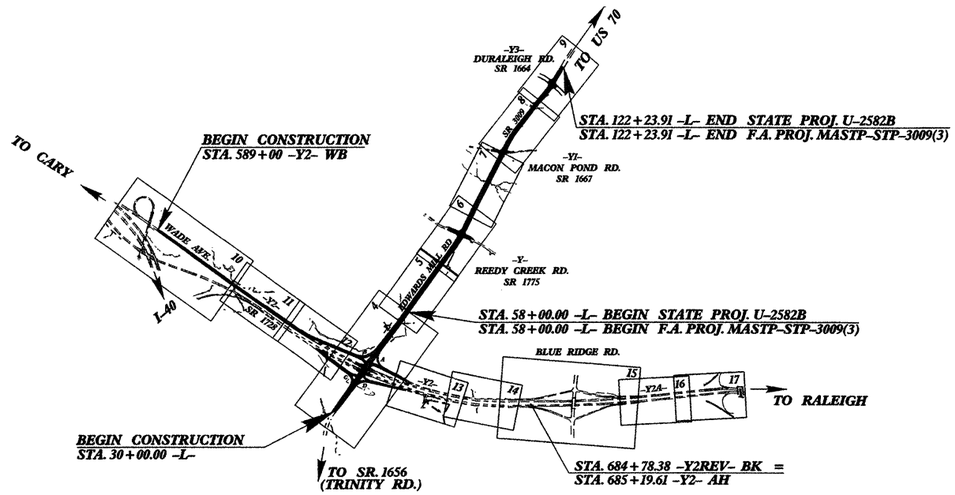
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

WAKE COUNTY

LOCATION: ***EDWARDS MILL ROAD EXTENSION (SR 3009)***
FROM SOUTH OF WADE AVENUE (SR 1728)
TO DURALEIGH ROAD (SR 1664)

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

NAD 83



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2582B	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
	Reforestation	
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1622.01	Temporary Berms and Slope Drains	
1630.01	Silt Basin Type A	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
1633.02	Temporary Rock Silt Check Type-B	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1636.01	Rock Silt Screen	
1630.04	Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A OR A
1632.02	Type B	B OR B
1632.03	Type C	C OR C

THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

Environmentally Sensitive Area(s) Exist
From Sta. Beginning
to Sta. End
Refer To E. C. Special Provisions for Special Considerations.

GRAPHIC SCALE

0
PLANS
0
PROFILE (HORIZONTAL)
0
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

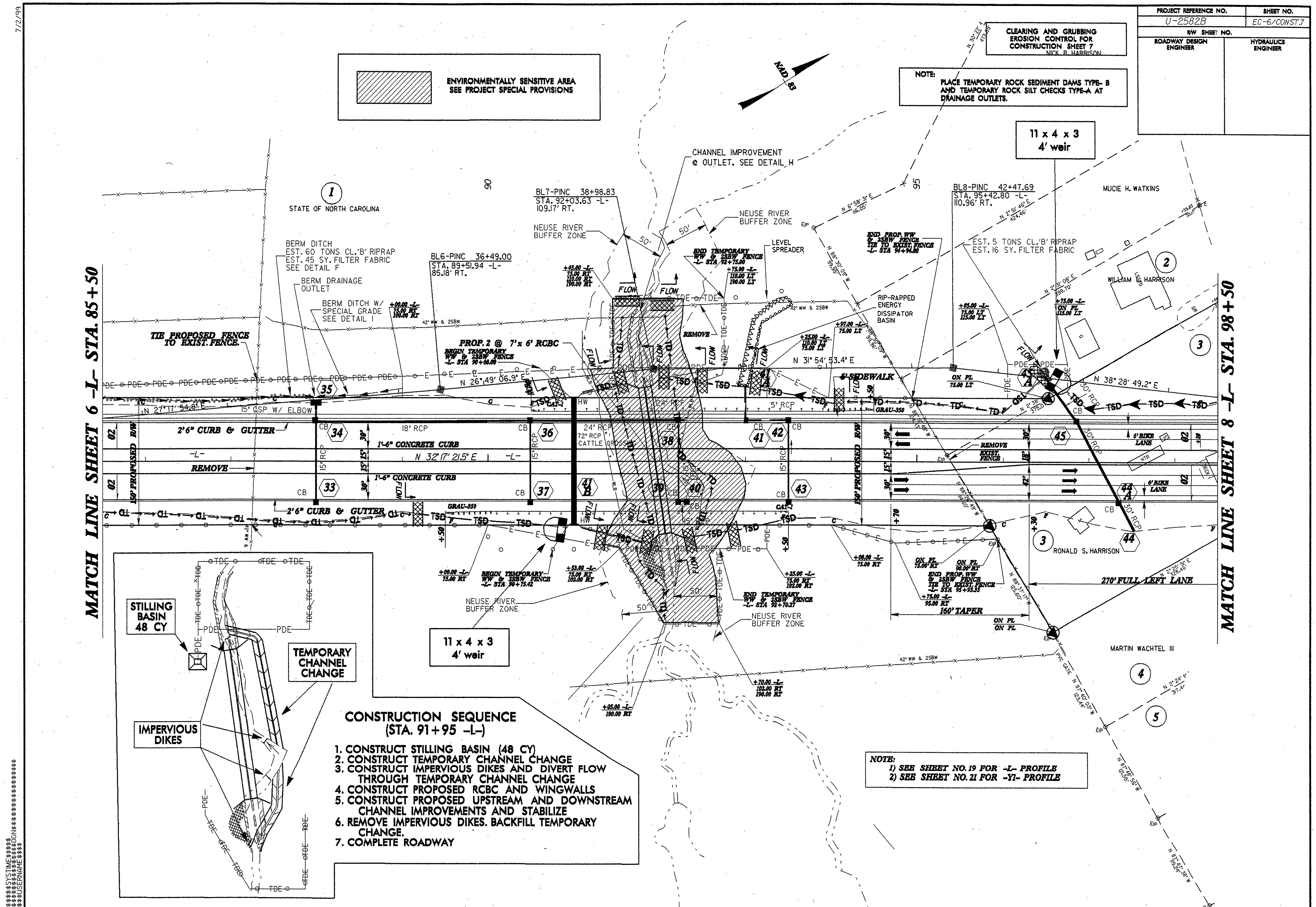
P.E.
ROADSIDE ENVIRONMENTAL ENGINEER

Prepared In the Office of:
ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611
1995 STANDARD SPECIFICATIONS

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 20, 1998 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

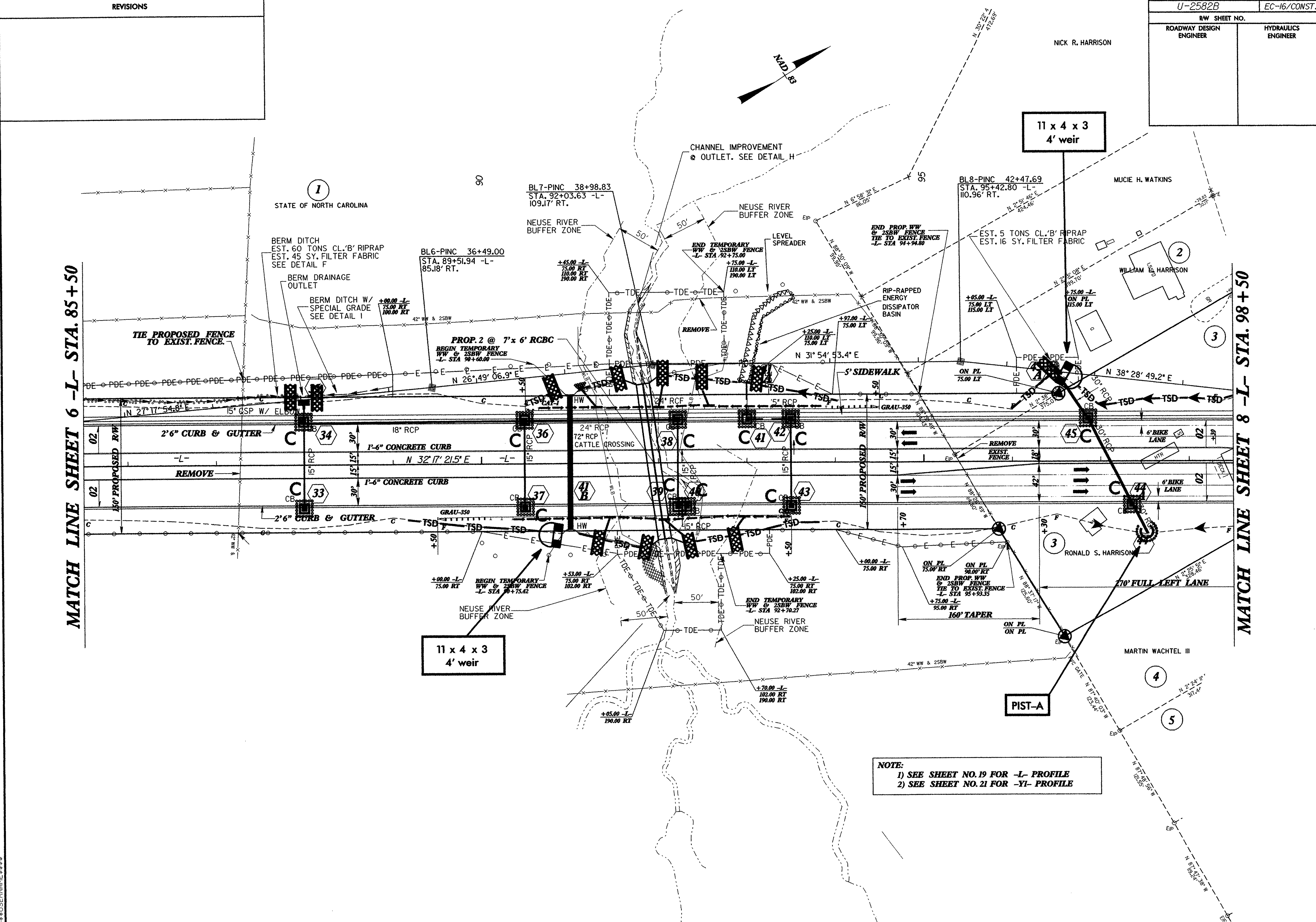
1605.01	Temporary Silt Fence	1632.03	Rock Inlet Sediment Trap Type C
1622.01	Temporary Berms and Slope Drains	1633.01	Temporary Rock Silt CheckType A
1630.02	Silt Basin Type B	1633.02	Temporary Rock Silt Check Type B
1630.03	Temporary Silt Ditch	1634.02	Temporary Rock Sediment Dam Type B
1630.04	Stilling Basin	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.05	Temporary Diversion		


PROJECT REFERENCE NO.
U-2582B
SHEET NO.
EC-6/CONST.7
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 7
NICK R. HARRISON
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE- B AND TEMPORARY ROCK SILT CHECKS TYPE-A AT DRAINAGE OUTLETS.
ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS
NAD 83
11 x 4 x 3
4' weir
MATCH LINE SHEET 6 -L- STA. 85+50
MATCH LINE SHEET 8 -L- STA. 98+50
STATE OF NORTH CAROLINA
MUCIE H. WATKINS
WILLIAM G. HARRISON
RONALD S. HARRISON
MARTIN WACHTEL III
CHANNEL IMPROVEMENT
& OUTLET. SEE DETAIL H
BL7-PINC 38+98.83
STA. 92+03.63 -L-
109.17' RT.
BL6-PINC 36+49.00
STA. 89+51.94 -L-
85.18' RT.
BL8-PINC 42+47.69
STA. 95+42.80 -L-
110.96' RT.
NEUSE RIVER BUFFER ZONE
BERM DITCH
EST. 60 TONS CL.'B' RIPRAP
EST. 45 SY. FILTER FABRIC
SEE DETAIL F
BERM DRAINAGE OUTLET
BERM DITCH W/ SPECIAL GRADE
SEE DETAIL I
EST. 5 TONS CL.'B' RIPRAP
EST. 16 SY. FILTER FABRIC
LEVEL SPREADER
RIP-RAPPED ENERGY DISSIPATOR BASIN
TIE PROPOSED FENCE TO EXIST. FENCE.
PROP. 2 @ 7' x 6' RCBC
2'6" CURB & GUTTER
1'-6" CONCRETE CURB
N 32° 17' 21.5" E
N 26° 49' 06.9" E
N 31° 54' 53.4" E
N 38° 28' 49.2" E
150' PROPOSED R/W
REMOVE
5' SIDEWALK
REMOVE EXIST. FENCE
6' BIKE LANE
270' FULL LEFT LANE
160' TAPER
24" RCP
72" RCP CATTLE CROSSING
18" RCP
15" RCP
30" RCP
15" CSP W/ ELBOW
GRAU-350
STILLING BASIN 48 CY
TEMPORARY CHANNEL CHANGE
IMPERVIOUS DIKES
CONSTRUCTION SEQUENCE
(STA. 91+95 -L-)
1. CONSTRUCT STILLING BASIN (48 CY)
2. CONSTRUCT TEMPORARY CHANNEL CHANGE
3. CONSTRUCT IMPERVIOUS DIKES AND DIVERT FLOW THROUGH TEMPORARY CHANNEL CHANGE
4. CONSTRUCT PROPOSED RCBC AND WINGWALLS
5. CONSTRUCT PROPOSED UPSTREAM AND DOWNSTREAM CHANNEL IMPROVEMENTS AND STABILIZE
6. REMOVE IMPERVIOUS DIKES. BACKFILL TEMPORARY CHANGE.
7. COMPLETE ROADWAY
NOTE:
1) SEE SHEET NO. 19 FOR -L- PROFILE
2) SEE SHEET NO. 21 FOR -Y1- PROFILE
7/2/99

PROJECT REFERENCE NO.	SHEET NO.
U-2582B	EC-16/CONST.7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

REVISIONS

7/2/99



MATCH LINE SHEET 6 -L- STA. 85+50
MATCH LINE SHEET 8 -L- STA. 98+50
NAD 83
STATE OF NORTH CAROLINA
NICK R. HARRISON
MUCIE H. WATKINS
WILLIAM HARRISON
RONALD S. HARRISON
MARTIN WACHTEL III
CHANNEL IMPROVEMENT
@ OUTLET. SEE DETAIL H
BL7-PINC 38+98.83
STA. 92+03.63 -L-
109.17' RT.
BL8-PINC 42+47.69
STA. 95+42.80 -L-
110.96' RT.
BL6-PINC 36+49.00
STA. 89+51.94 -L-
85.18' RT.
NEUSE RIVER
BUFFER ZONE
BERM DITCH
EST. 60 TONS CL.'B' RIPRAP
EST. 45 SY. FILTER FABRIC
SEE DETAIL F
BERM DRAINAGE
OUTLET
BERM DITCH W/
SPECIAL GRADE
SEE DETAIL I
TIE PROPOSED FENCE
TO EXIST. FENCE.
PROP. 2 @ 7'x 6' RCBC
BEGIN TEMPORARY
WW & 2SBW FENCE
LEVEL
SPREADER
RIP-RAPPED
ENERGY
DISSIPATOR
BASIN
EST. 5 TONS CL.'B' RIPRAP
EST. 16 SY. FILTER FABRIC
END PROP. WW
& 2SBW FENCE
TIE TO EXIST. FENCE
5' SIDEWALK
N 31° 54' 53.4" E
N 38° 28' 49.2" E
N 26° 49' 06.9" E
N 27° 17' 54.8" E
N 32° 17' 21.5" E
15" CSP W/ ELBOW
2'6" CURB & GUTTER
1'-6" CONCRETE CURB
REMOVE
18" RCP
24" RCP
72" RCP
CATTLE CROSSING
15" RCP
150' PROPOSED R/W
GRAU-350
6' BIKE LANE
REMOVE EXIST. FENCE
270' FULL LEFT LANE
160' TAPER
11 x 4 x 3
4' weir
PIST-A
NEUSE RIVER
BUFFER ZONE

NOTE:

1) SEE SHEET NO. 19 FOR -L- PROFILE
2) SEE SHEET NO. 21 FOR -Y1- PROFILE

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2582B	RF-1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	

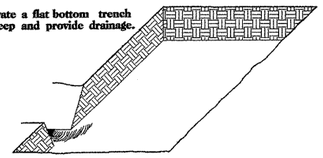
PLANTING DETAILS

SEEDLING / LINER BAREROOT PLANTING DETAIL

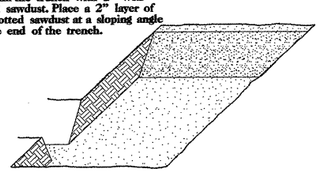
HEALING IN

1. Locate a healing-in site in a shady, well protected area.

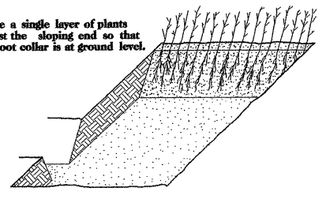
2. Excavate a flat bottom trench 12" deep and provide drainage.



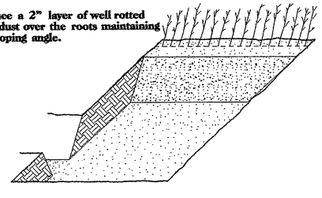
3. Backfill the trench with 2" well rotted sawdust. Place a 2" layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

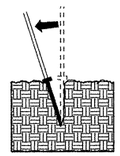


5. Place a 2" layer of well rotted sawdust over the roots maintaining a sloping angle.

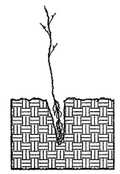


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

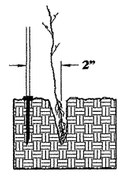
DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR



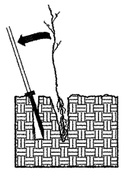
1. Insert planting bar as shown and pull handle toward planter.



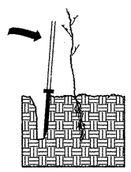
2. Remove planting bar and place seedling at correct depth.



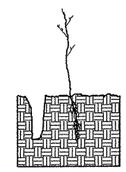
3. Insert planting bar 2" toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.



5. Push handle forward firming soil at top.



6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.

KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12" long, 4" wide and 1" thick at center.

ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches (10") below the root collar.

REFORESTATION

TREE REFORESTATION SHALL BE PLANTED 6' TO 10' ON CENTER, RANDOM SPACING, AVERAGING 8' ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

100% CORNUS FLORIDA FLOWERING DOGWOOD 12" – 18", SEEDLING BR

REFORESTATION DETAIL SHEET

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

TIP NO.	SHEET NO.	TOTAL SHEETS
U-2582B	SIGN-1	
STATE PROJECT NO.		
F.A. PROJ. NO.		

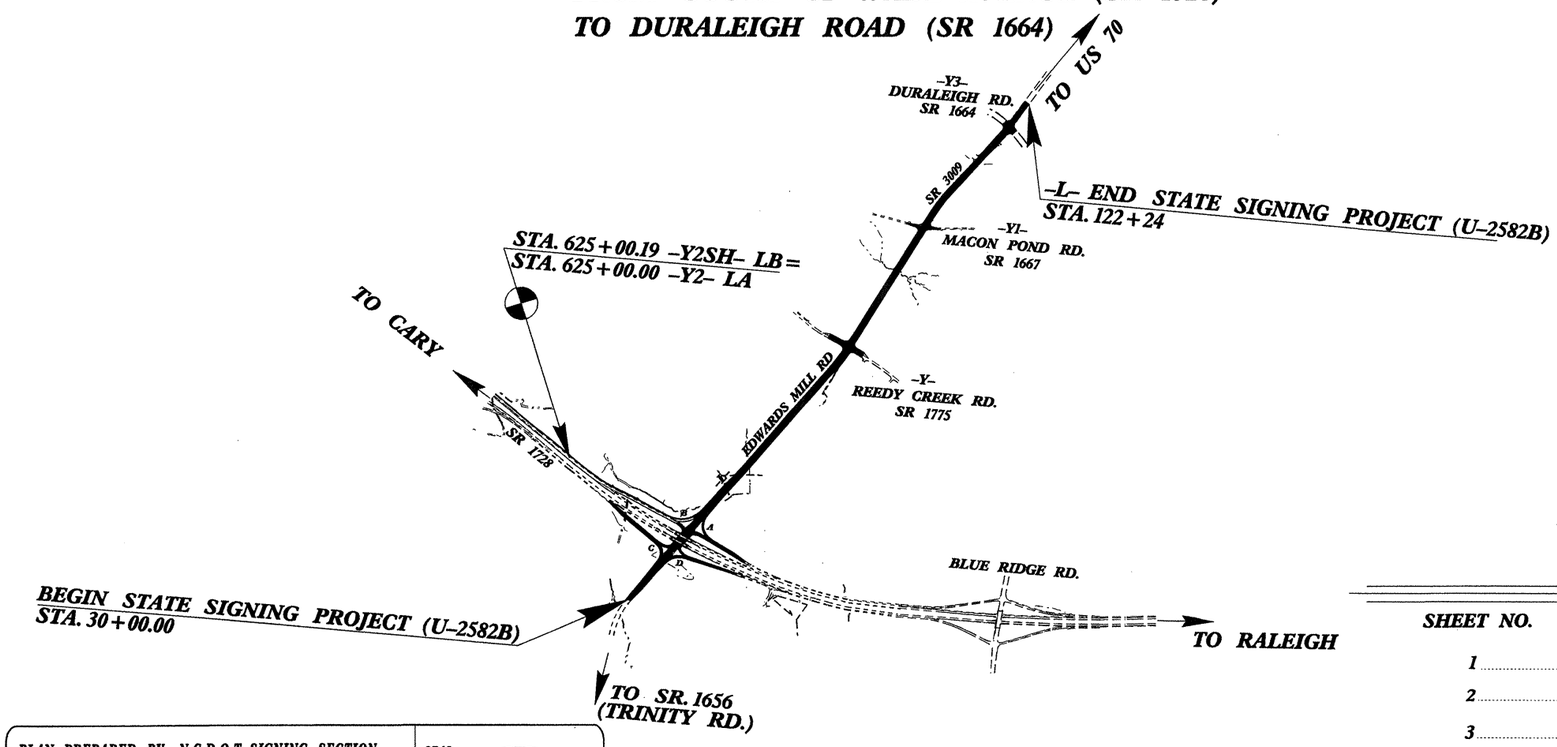
T.I.P.:U-2582B

8.2402803

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

SIGNING PLANS
WAKE COUNTY

LOCATION: EDWARDS MILL ROAD EXTENSION (SR 3009)
FROM SOUTH OF WADE AVENUE (SR 1728)
TO DURALEIGH ROAD (SR 1664)



PLAN PREPARED BY: N.C.D.O.T. SIGNING SECTION	SEAL
RON KING — SIGNING ENGINEER	NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING
TIM McFADDEN — SIGNING PROJECT ENGINEER	
SUSAN MUSSELWHITE — SIGNING DESIGNER	
WALTER JOHNSON — SIGNING DESIGNER	

INDEX

TIP NO.	SHEET NO.
U-2582B	*SIGN-2*

02/19/02 REVISED QUANTITIES W. JOHNSON
03/27/02 REVISED QUANTITIES W. JOHNSON

SIGNS
SUMMARY OF QUANTITIES

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
001	800	MOBILIZATION		L.S.
1669	901	TYPE A SIGNS, FABRICATION		S.F.
1670	901	TYPE B SIGNS, FABRICATION		S.F.
1671	901	TYPE D SIGNS, FABRICATION		S.F.
1672	901	TYPE E SIGNS, FABRICATION		S.F.
1673	901	TYPE F SIGNS, FABRICATION		S.F.
1723	901	OVERLAYS FOR TYPE A & B SIGNS, FABRICATION		S.F.
1725	901	OVERLAYS FOR TYPE C SIGNS, FABRICATION		S.F.
1675	901	MILEMARKERS, FABRICATION		S.F.
1681	902	REINFORCED CONCRETE SIGN FOOTINGS		C.Y.
1682	902	PLAIN CONCRETE SIGN FOOTINGS	1	C.Y.
1677	903	BREAKAWAY STEEL BEAM SIGN SUPPORTS	245	LB.
1678	903	SIMPLE STEEL BEAM SIGN SUPPORTS		LB.
1679	903	3 LB STEEL U-CHANNEL POSTS	1018	L.F.
1680	903	2 LB STEEL U-CHANNEL POSTS		EA.
1663	904	TYPE A SIGNS, ERECTION		EA.
1664	904	TYPE B SIGNS, ERECTION	1	EA.
1666	904	TYPE D SIGNS, ERECTION	7	EA.
1667	904	TYPE E SIGNS, ERECTION	65	EA.
1668	904	TYPE F SIGNS, ERECTION	8	EA.
1674	904	MILEMARKERS, ERECTION		EA.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1707	905	OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.
1714	906	LIGHTING SYSTEM FOR OVERHEAD SIGN ASSEMBLY " "		L.S.

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
1732	907	REMOVE AND DISPOSE OF EXISTING SIGNS ON 1 SUPPORT		EA.
1735	907	REMOVE AND DISPOSE OF EXISTING SIGNS ON 2 SUPPORTS		EA.
1738	907	REMOVE AND DISPOSE OF EXISTING SUPPORTS		EA.
1740	907	REMOVE AND DISPOSE OF EXISTING FOOTINGS		EA.
1744	907	REMOVE AND DISPOSE OF EXISTING SECONDARY SIGNS		EA.
1747	907	REMOVE AND DISPOSE OF EXISTING SIGNS MOUNTED ON "U" CHANNEL POSTS		EA.
1753	907	REMOVE AND DISPOSE OF EXISTING "U" CHANNEL POSTS		EA.
1756	907	REMOVE AND DISPOSE OF EXISTING MILEMARKERS AND POSTS		EA.
1757	907	REMOVE AND DISPOSE OF EXISTING OVERHEAD SIGN ASSEMBLIES		EA.
1728	908	ERECT EXISTING SIGN ON NEW U-CHANNEL POSTS	2	EA.
1764	SP	REMOVE AND DISPOSE OF EXISTING SIGNS AND "U" CHANNEL POSTS	25	EA.
S	SP	1-SIDED, 1 STATE LANE CONTROL SIGNAL	1	EA.
S	SP	1-SIDED, 3 STATE LANE CONTROL SIGNAL	3	EA.
S	SP	1-SIDED, 4 STATE LANE CONTROL SIGNAL	2	EA.
S	SP	2-SIDED, 1 STATE/1 STATE LANE CONTROL SIGNAL	3	EA.
S	SP	2-SIDED, 1 STATE/2 STATE LANE CONTROL SIGNAL	0	EA.
S	SP	2-SIDED, 1 STATE/3 STATE LANE CONTROL SIGNAL	2	EA.
S	SP	2-SIDED, 3 STATE/3 STATE LANE CONTROL SIGNAL	2	EA.
S	SP	2-SIDED, 3 STATE/4 STATE LANE CONTROL SIGNAL	2	EA.
S	SP	2-SIDED, 4 STATE/5 STATE LANE CONTROL SIGNAL	2	EA.
S	SP	DYNAMIC MESSAGE SIGN "DMS-1"	1	L.S.
S	SP	OVERHEAD DYNAMIC MESSAGE SIGN ASSEMBLY "DMS-1"	1	L.S.
S	SP	REMOVAL AND DISPOSAL OF FIBER OPTIC LANE CONTROL SIGNALS	1	L.S.
S	SP	DYNAMIC MESSAGE SIGN MAINTENANCE TRAINING	1	L.S.
S	SP	DYNAMIC MESSAGE SIGN SYSTEM DESIGN APPROVAL TESTS	1	L.S.
S	SP	DYNAMIC MESSAGE SIGN SYSTEM OPERATIONAL TESTS	1	L.S.
S	SP	CENTRAL COMMAND COMPUTER	1	EA.
S	SP	CENTRAL COMMAND COMPUTER OPERATING SOFTWARE	1	EA.
S	SP	OVERHEAD LANE CONTROL SIGNAL ASSEMBLY "K"	1	L.S.
S	SP	OVERHEAD LANE CONTROL SIGNAL ASSEMBLY "L"	1	L.S.
S	SP	LAPTOP MAINTENANCE COMPUTER	1	EA.
S	SP	LAPTOP MAINTENANCE COMPUTER OPERATION SOFTWARE	1	EA.
S	SP	HOST COMPUTER	1	EA.
S	SP	HOST COMPUTER OPERATION SOFTWARE	1	EA.

ROADWAY STANDARD DRAWINGS
APPLICABLE TO THESE SIGNING PLANS

901.20	903.10
901.50	904.10
901.70	904.50

SEAL

SEAL 022959
RONALD W. KING

4/3/02

SUMMARY OF QUANTITIES

SCALE	NONE
DATE	9/2000
DESIGN BY	WALTER JOHNSON
REVIEWED BY	SUSAN MUSSELWHITE
APPROVED BY	TIM McFADDEN

TRAFFIC ENGINEERING
SIGNING SECTION
STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

REVISIONS	
2/28/02 TTM	
4/3/02 TTM	

TIP NO.	SHEET NO.
U-2582B	SIGN-5

02/19/02 ADDED (4) SIGN NOS. 409 W. JOHNSON

401 QUANTITY REQ'D ___

48" X 60"
R2-1

TWO "U" POSTS PER SIGN

402 QUANTITY REQ'D ___

48" X 60"
R2-1

TWO "U" POSTS PER SIGN

403 QUANTITY REQ'D 2

24" X 30"
R2-1

ONE "U" POST PER SIGN

404 QUANTITY REQ'D ___

24" X 30"
R2-1

ONE "U" POST PER SIGN

405 QUANTITY REQ'D ___

48" X 60"
R4-3

TWO "U" POSTS PER SIGN

406 QUANTITY REQ'D ___

48" X 48"
W4-1 (R)

TWO "U" POSTS PER SIGN

407 QUANTITY REQ'D ___

48" X 48"
W4-1 (L)

TWO "U" POSTS PER SIGN

408 QUANTITY REQ'D ___

48" X 48"
R1-1

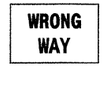
TWO "U" POSTS PER SIGN

409 QUANTITY REQ'D 7

36" X 36"
R1-1

ONE "U" POST PER SIGN

410 QUANTITY REQ'D 12



36" X 24"
R5-1a

ONE "U" POST PER SIGN

411 QUANTITY REQ'D 9

30" X 30"
R5-1

ONE "U" POST PER SIGN

412 QUANTITY REQ'D 3

36" X 36" X 36"
R1-2

ONE "U" POST PER SIGN

413 QUANTITY REQ'D 4

54" X 18"
R6-1 (R)

TWO "U" POSTS PER SIGN

414 QUANTITY REQ'D 4

54" X 18"
R6-1 (L)

MOUNT BACK TO BACK WITH SIGN 414
IN 4 INSTALLATIONS

TWO "U" POSTS PER SIGN

415 QUANTITY REQ'D ___

36" X 48"
R4-7

TWO "U" POSTS PER SIGN

416 QUANTITY REQ'D 4

24" X 30"
R4-7

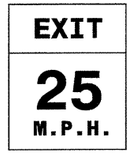
ONE "U" POST PER SIGN

417 QUANTITY REQ'D 4

18" X 18"
W23-15

MOUNT BELOW SIGN 416
IN 4 INSTALLATIONS

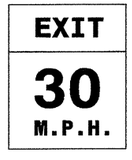
418 QUANTITY REQ'D ___



48" X 60"
W13-2

TWO "U" POSTS PER SIGN

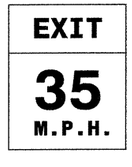
419 QUANTITY REQ'D ___



48" X 60"
W13-2

TWO "U" POSTS PER SIGN

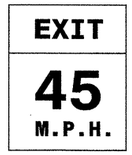
420 QUANTITY REQ'D ___



48" X 60"
W13-2

TWO "U" POSTS PER SIGN

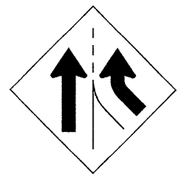
421 QUANTITY REQ'D ___



48" X 60"
W13-2

TWO "U" POSTS PER SIGN

422 QUANTITY REQ'D ___



48" X 48"
W4-3(R)

TWO "U" POSTS PER SIGN

423 QUANTITY REQ'D ___

48" X 48"
W4-3(L)

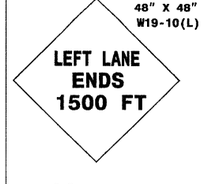
TWO "U" POSTS PER SIGN

424 QUANTITY REQ'D ___

48" X 48"
W19-10(L)

TWO "U" POSTS PER SIGN

425 QUANTITY REQ'D ___



48" X 48"
W19-10(L)

TWO "U" POSTS PER SIGN

426 QUANTITY REQ'D ___

48" X 48"
W9-1 (L)

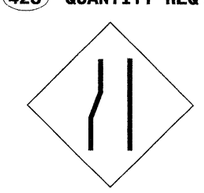
TWO "U" POSTS PER SIGN

427 QUANTITY REQ'D ___

48" X 48"
W9-2(R)

TWO "U" POSTS PER SIGN

428 QUANTITY REQ'D ___



48" X 48"
W4-2(L)

TWO "U" POSTS PER SIGN

429 QUANTITY REQ'D ___

48" X 48"
W19-10(R)

TWO "U" POSTS PER SIGN

430 QUANTITY REQ'D ___

48" X 48"
W19-10(R)

TWO "U" POSTS PER SIGN

431 QUANTITY REQ'D ___

48" X 48"
W9-1 (R)

TWO "U" POSTS PER SIGN

432 QUANTITY REQ'D ___

48" X 48"
W9-2(L)

TWO "U" POSTS PER SIGN

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

3/11/02

TYPE "E" SIGNS

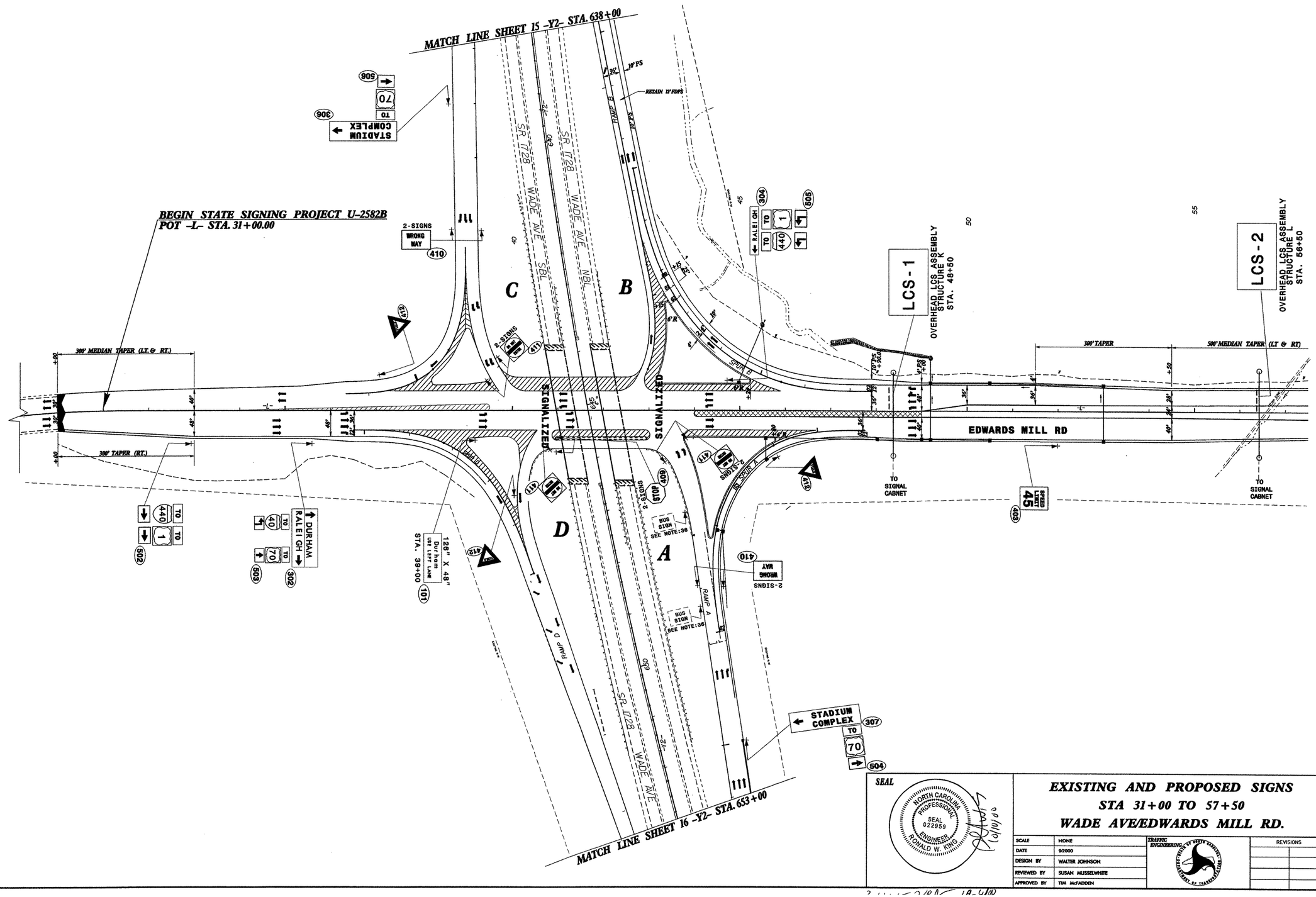
SCALE	NONE
DATE	9/2000
DESIGN BY	WALTER JOHNSON
REVIEWED BY	SUSAN MUSSELWHITE
APPROVED BY	TIM McFADDEN

TRAFFIC ENGINEERING — STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION — SIGNING SECTION

REVISIONS
2/26/02 TIM

TESN193440 Thursday February 28 2002 U2582B.m

TIP NO.	SHEET NO.
U-2582B	SIGN-9



SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

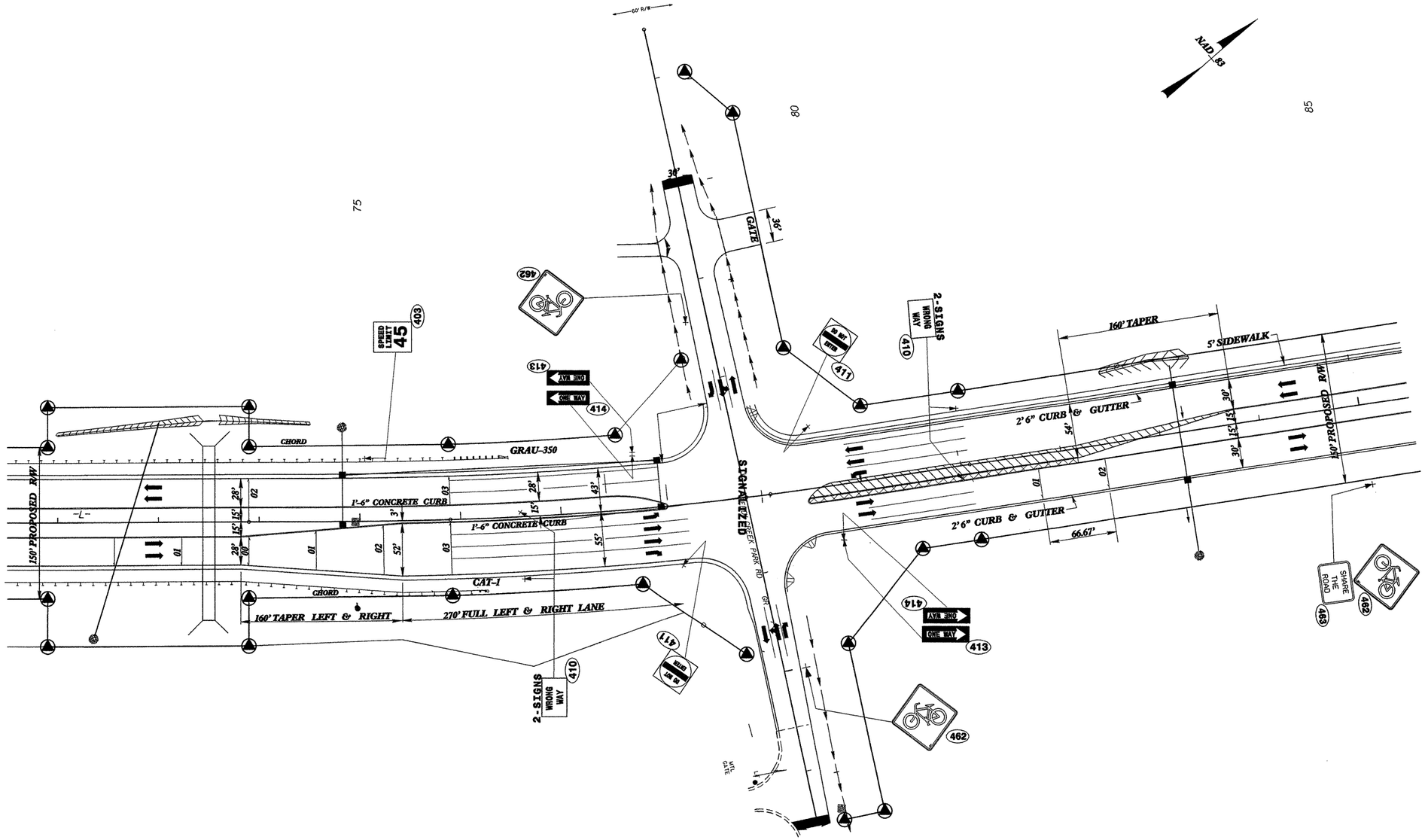
EXISTING AND PROPOSED SIGNS
STA 31+00 TO 57+50
WADE AVE/EDWARDS MILL RD.

SCALE	NONE
DATE	9/2000
DESIGN BY	WALTER JOHNSON
REVIEWED BY	SUSAN MUSSELWHITE
APPROVED BY	TIM McFADDEN

TRAFFIC ENGINEERING — NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

REVISIONS	

TIP NO.	SHEET NO.
U-2582B	SIGN-11



SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

10/01/00

PROPOSED SIGNS
STA 71+50TO 85+50
EDWARDS MILL RD

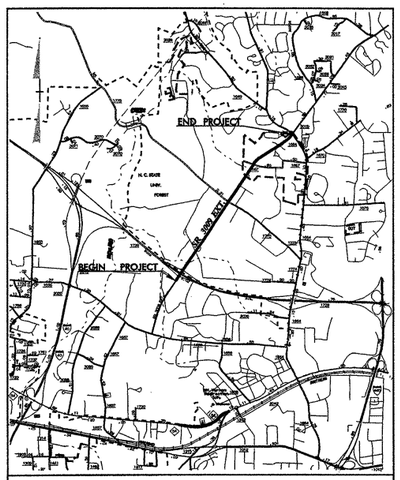
SCALE	NONE
DATE	9/2000
DESIGN BY	WALTER JOHNSON
REVIEWED BY	SUSAN MUSSELWHITE
APPROVED BY	TIM McFADDEN

TRAFFIC ENGINEERING

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF TRAFFIC ENGINEERING SIGNING SECTION

REVISIONS

PROJECT: 8.2402802 U-2582B



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

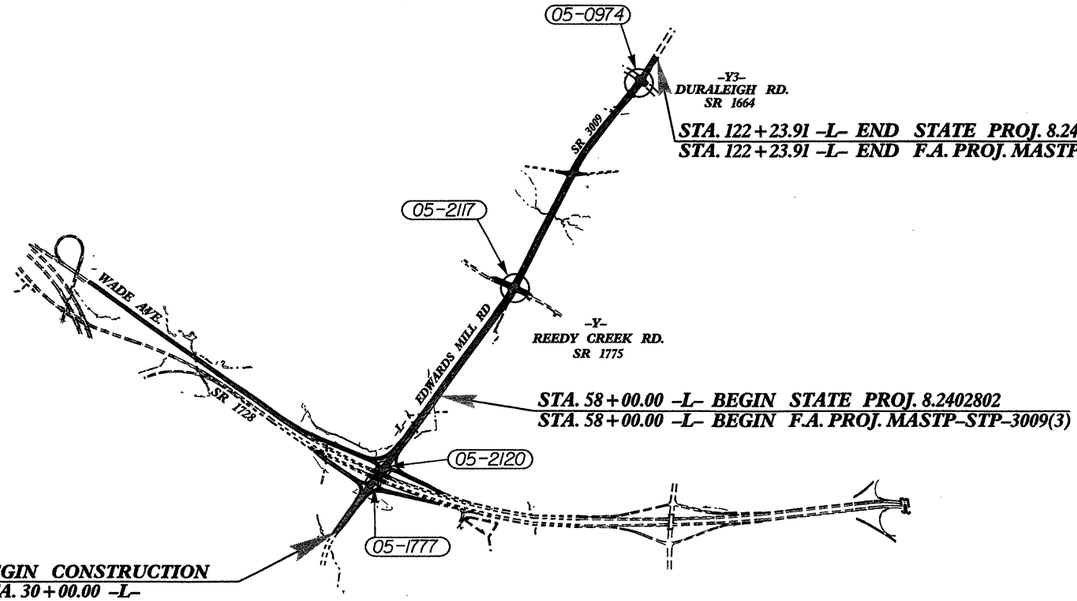
WAKE COUNTY

STATE	PROJECT NO.	SHEET NO.
N.C.	U-2582B	Sig.1
F.A. PROJ. NO.		
PROJECT ID. NO.		

Project Description: *Edwards Mill Road Extension (SR 3009) from South of Wade Avenue (SR 1728) to Duraleigh Road (SR 1664)*

Type of Work: *Traffic Signals*

Location: *Raleigh, NC*



INDEX OF PLANS

LEGEND

(##-####) SIGNAL INVENTORY NUMBER

TRAFFIC ENGINEERING AND SAFETY SYSTEMS BRANCH

RICHARD E. MULLINAX, PE – ACTING SIGNALS AND GEOMETRICS ENGINEER

DOUMIT Y. ISHAK – SIGNALS AND GEOMETRICS CONTRACTS ENGINEER

TIMOTHY J. WILLIAMS, PE – SIGNALS AND GEOMETRICS PROJECT ENGINEER

BETSY L. WATSON – SIGNALS AND GEOMETRICS DESIGN ENGINEER

MILTON I. DEAN, PE – SIGNALS MANAGEMENT ENGINEER

GEORGE C. BROWN, PE – SIGNAL EQUIPMENT DESIGN ENGINEER

GREG A. FULLER, PE – TRAFFIC MANAGEMENT SYSTEMS ENGINEER

I. NEIL AVERY – TRAFFIC MANAGEMENT SYSTEMS PROJECT ENGINEER

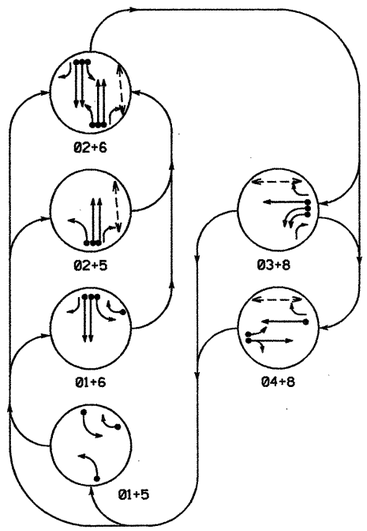
Prepared in the Offices of:

Traffic Engineering and Safety Systems Branch
Signals and Geometrics Section
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

122 N. McDowell St., Raleigh, NC 27603

PROJECT REFERENCE NO.	SHEET NO.
U-2582B	Sig.10

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	03+8	04+8	FLASH
21	R	R	G	G	R	R	Y
22	R	R	G	G	R/G	R	Y
23	R/G	R	G/R	G	R	R	Y
31,32	R	R	R	R	—	R	R
41,42	R	R	R	R	R	G	R
61,62	R	G	R	G	R	R	R
63	R/G	R	G	R	R	R	Y
81	R	R	R	R	G	G	R
82	R/G	R	R	R	G	G	R
P21,P22	DW	DW	W	W	DW	DW	DK
P81,P82	DW	DW	DW	DW	W	W	DK

SIGNAL FACE I.D.

Denotes L.E.D.

STANDARD SIGNAL FACE CLEARANCES

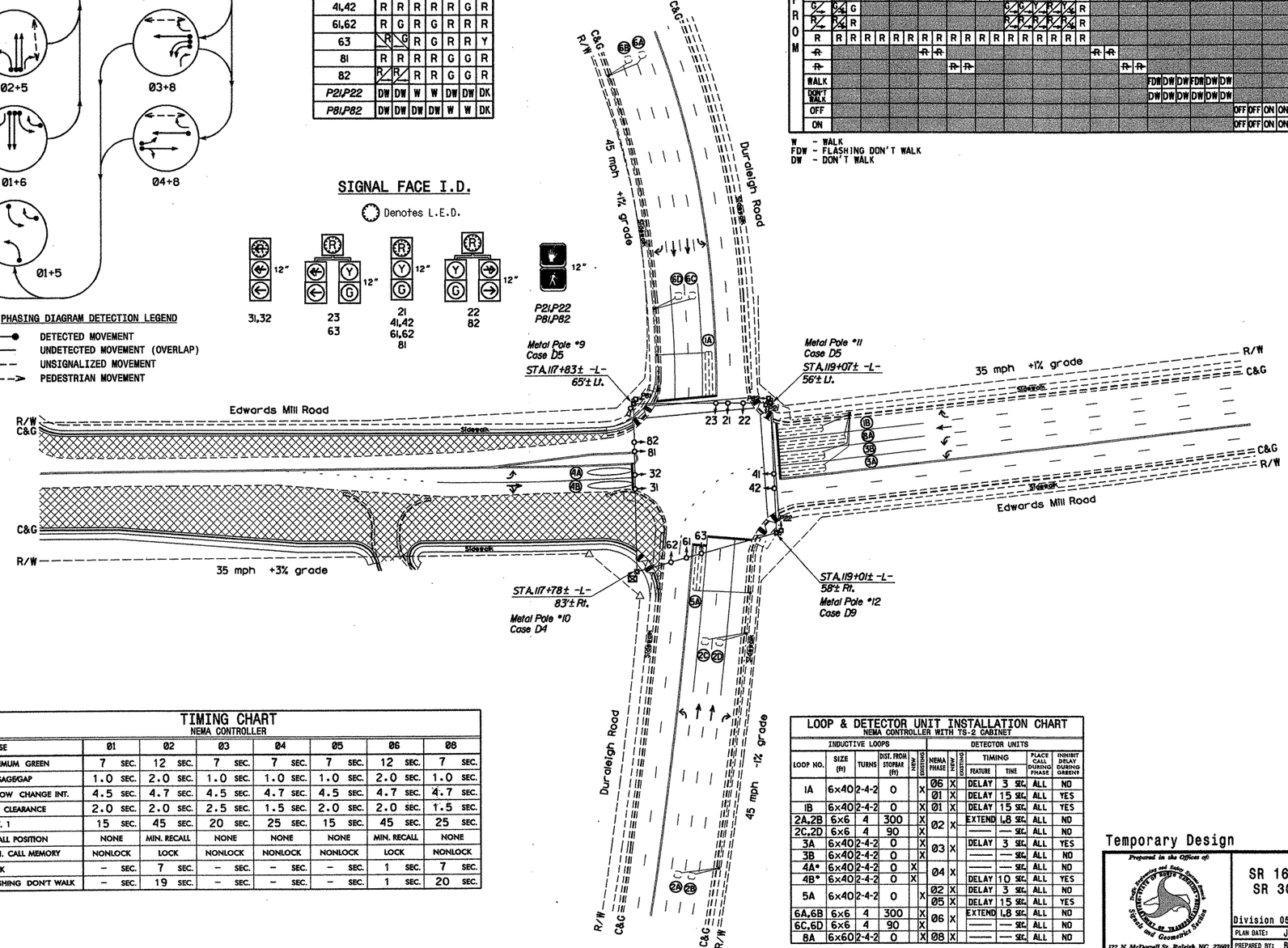
FROM \ TO	G 1	G 2	⅄G 1	⅄G 2	⅄R 1	⅄R 2	← 1	← 2	→ 1	→ 2	G 1	G 2	⅄G 1	⅄G 2	⅄R 1	⅄R 2	R 1	R 2	R 1	R 2	R 1	R 2	WALK 1	WALK 2	DON'T WALK 1	DON'T WALK 2	OFF 1	OFF 2	ON 1	ON 2
G	G	G	G	G	Y	R					G	G	G	G	Y	R	Y	R												
⅄G	⅄G	G	⅄G	G	⅄Y	R											⅄Y	R												
⅄R	⅄R	R	⅄R	R	⅄R	R											⅄R	R												
←							←	←									R	R	+	+										
→									→	→							R	R			+	+								
G											G	G					Y	R												
⅄G	⅄R	G									⅄G	⅄G	⅄G	⅄G	⅄R	⅄R	⅄R	R												
⅄R	⅄R	R									⅄R	⅄R	⅄R	⅄R	⅄R	⅄R	⅄R	R												
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	+	+										
+							+	+									R	R	+	+										
+									+	+							R	R			+	+								
WALK																							FDW	DW	DW	DW	DW	DW		
DON'T WALK																							DW	DW	DW	DW	DW	DW		
OFF																											OFF	OFF	ON	ON
ON																											OFF	OFF	ON	ON

W - WALK
FDW - FLASHING DON'T WALK
DW - DON'T WALK

6 Phase Actuated Raleigh City System

NOTES

1. Coordinate sawcutting and loop placement with pavement markings as shown in the traffic control and pavement marking plans.
2. Place cabinet so as not to obstruct sight distance of vehicles turning right on red.
3. Locate all underground utilities prior to pole drilling and conduit trenching.
4. Coil sufficient signal cable beside each head to accomodate signal head shifts during various construction phases.
5. Omit phase 1 during phase 2 on.
6. Omit phase 5 during phase 6 on.
7. Omit phase 3 during phase 4 on.
8. Program controller to clear from phase 2+6 to phase 1 and/or 5 by progressing through phase 4+8 (see Electrical Details).
9. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
10. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
11. Set signal on flash from 11:00 PM until 6:00 AM unless otherwise directed by the Area Traffic Engineer.
12. Program phase 8 for dual entry.
13. Set all detector units to presence mode.



TIMING CHART
NEMA CONTROLLER

PHASE	01	02	03	04	05	06	08
MINIMUM GREEN	7 SEC.	12 SEC.	7 SEC.	7 SEC.	7 SEC.	12 SEC.	7 SEC.
PASSAGE/GAP	1.0 SEC.	2.0 SEC.	1.0 SEC.	1.0 SEC.	1.0 SEC.	2.0 SEC.	1.0 SEC.
YELLOW CHANGE INT.	4.5 SEC.	4.7 SEC.	4.5 SEC.	4.7 SEC.	4.5 SEC.	4.7 SEC.	4.7 SEC.
RED CLEARANCE	2.0 SEC.	2.0 SEC.	2.5 SEC.	1.5 SEC.	2.0 SEC.	2.0 SEC.	1.5 SEC.
MAX. 1	15 SEC.	45 SEC.	20 SEC.	25 SEC.	15 SEC.	45 SEC.	25 SEC.
RECALL POSITION	NONE	MIN. RECALL	NONE	NONE	NONE	MIN. RECALL	NONE
VEHI. CALL MEMORY	NONLOCK	LOCK	NONLOCK	NONLOCK	NONLOCK	LOCK	NONLOCK
WALK	– SEC.	7 SEC.	– SEC.	– SEC.	– SEC.	1 SEC.	7 SEC.
FLASHING DON'T WALK	– SEC.	19 SEC.	– SEC.	– SEC.	– SEC.	1 SEC.	20 SEC.

LOOP & DETECTOR UNIT INSTALLATION CHART
NEMA CONTROLLER WITH TS-2 CABINET

LOOP NO.	INDUCTIVE LOOPS SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW	EXISTING	DETECTOR UNITS NEMA PHASE	NEW	EXISTING	TIMING FEATURE	TIMING TIME	PLACE CALL DURING PHASE	INHIBIT DELAY DURING GREEN†
1A	6x40	2-4-2	0		X	06	X		DELAY	3 SEC.	ALL	NO
						01	X		DELAY	15 SEC.	ALL	YES
1B	6x40	2-4-2	0		X	01	X		DELAY	15 SEC.	ALL	YES
2A,2B	6x6	4	300		X	02	X		EXTEND	1.8 SEC.	ALL	NO
2C,2D	6x6	4	90		X				——	— SEC.	ALL	NO
3A	6x40	2-4-2	0		X	03	X		DELAY	3 SEC.	ALL	YES
3B	6x40	2-4-2	0		X				——	— SEC.	ALL	NO
4A*	6x40	2-4-2	0	X		04	X		——	— SEC.	ALL	NO
4B*	6x40	2-4-2	0	X					——	— SEC.	ALL	YES
5A	6x40	2-4-2	0		X	02	X		DELAY	10 SEC.	ALL	NO
						05	X		DELAY	3 SEC.	ALL	YES
6A,6B	6x6	4	300		X	06	X		DELAY	15 SEC.	ALL	NO
6C,6D	6x6	4	90		X				EXTEND	1.8 SEC.	ALL	NO
8A	6x60	2-4-2	0		X	08	X		——	— SEC.	ALL	NO

• Microwave Detection Zone

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Pull Box	
	2-in Underground Conduit	
	Right of Way with Marker	N/A
	Directional Arrow	
	Pavement Marking Arrow	
	Construction Zone	N/A
	Out of Pavement Detector	
	Microwave Detection Zone	N/A

Temporary Design

Prepared in the Offices of:
Traffic Engineering and Safety Systems Branch
Traffic Signal and Geometrics Section
122 N. McDowell St., Raleigh, NC 27603

SR 1664 (Duraleigh Road) at SR 3009 (Edwards Mill Road)

Division 05 Wake County Raleigh

PLAN DATE: July 2000 REVIEWED BY: T.J. Williams
PREPARED BY: B.L. Watson REVIEWED BY: D.Y. Ishak

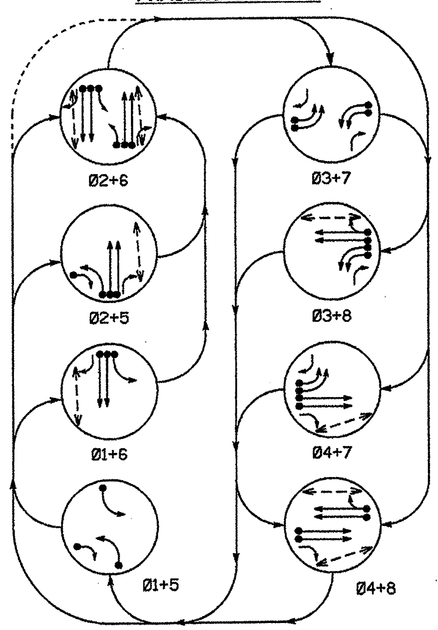
REVISIONS	INIT.	DATE

SCALE 0 50 1"=50'

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 22027 ENGINEER RICHARD E. MUDDIMAN
SIGNATURE DATE 28 SEP 2000
SIG. INVENTORY NO. 05-0974T

PROJECT REFERENCE NO.	SHEET NO.
U-2582B	Sig. 12

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

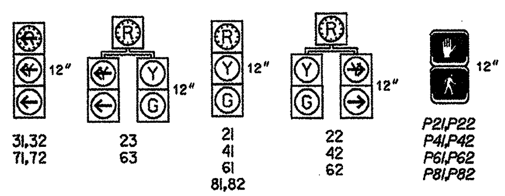
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE Ø1+5	Ø1+6	Ø2+5	Ø2+6	Ø3+7	Ø3+8	Ø4+7	Ø4+8	FLASH
21	R	R	G	G	R	R	R	R	Y
22	R	R	G	G	R/←	R/←	R	R	Y
23	\R←	R	\G←	G	R	R	R	R	Y
31,32	←R	←R	←R	←R	←	←	←R	←R	←R
41	R	R	R	R	R	R	G	G	R
42	R/←	R	R/←	R	R	R	G	G	R
61	R	G	R	G	R	R	R	R	Y
62	R	G	R	G	R/←	R	R/←	R	Y
63	\R←	\G←	R	G	R	R	R	R	Y
71,72	←R	←R	←R	←R	←	←R	←	←R	←R
81,82	R	R	R	R	R	G	R	G	R
P21,P22	DW	DW	W	W	DW	DW	DW	DW	DK
P41,P42	DW	DW	DW	DW	DW	DW	W	W	DK
P61,P62	DW	W	DW	W	DW	DW	DW	DW	DK
P81,P82	DW	DW	DW	DW	DW	W	DW	W	DK

SIGNAL FACE I.D.

Denotes L.E.D.



STANDARD SIGNAL FACE CLEARANCES

FROM \ TO	G 1	G 2	\G← 1	\G← 2	\R← 1	\R← 2	← 1	← 2	→ 1	→ 2
G	G	G	G	G	Y	R				
\G←	\G✳	G	\G←	\G←	\Y←	\R←				
\R←	\R✳	R	\R←	\R←	\R←	\R←				
←							←	←		
→									→	→
G←										
G/→	G/✳	G								
R/→	R/✳	R								
R	R	R	R	R	R	R	R	R	R	R
←R							←R	←R		
R→									R→	R→
WALK										
DON'T WALK										
OFF										
ON										

FROM \ TO	G← 1	G← 2	G/→ 1	G/→ 2	R/→ 1	R/→ 2	R 1	R 2	←R 1	←R 2	R→ 1	R→ 2
G	G	G	G	G	Y	R	Y	R				
\G←							\Y✳	R				
\R←							\R✳	R				
←							✳←	R	✳←	←R		
→							✳→	R			✳→	R→
G←	G	G					Y	R				
G/→			G/→	G/→	Y/→	R/→	Y/✳	R				
R/→			R/→	R/→	R/→	R/→	R/✳	R				
R	R	R	R	R	R	R	R	R				
←R									←R	←R		
R→											R→	R→
WALK												
DON'T WALK												
OFF												
ON												

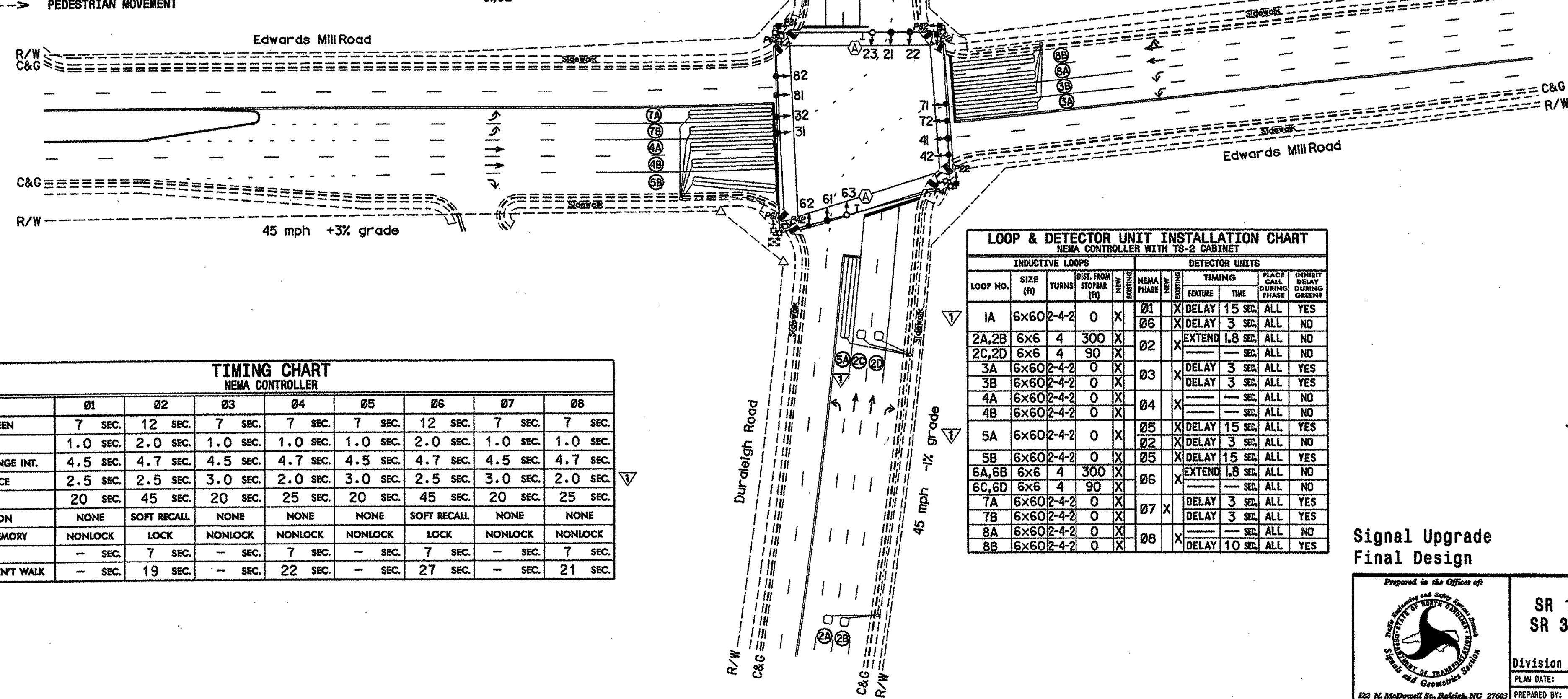
FROM \ TO	WALK PED	WALK 1	WALK 2	DON'T WALK PED	DON'T WALK 1	DON'T WALK 2	OFF 1	OFF 2	ON 1	ON 2
WALK	FDW	DW	DW	FDW	DW	DW				
DON'T WALK	DW	DW	DW	DW	DW	DW				
OFF							OFF	OFF	ON	ON
ON							OFF	OFF	ON	ON

W - WALK
FDW - FLASHING DON'T WALK
DW - DON'T WALK

8 Phase Actuated Raleigh City System

NOTES

1. Coordinate sawcutting and loop placement with pavement markings as shown in the traffic control and pavement marking plans.
2. Locate all underground utilities prior to pole drilling and conduit trenching.
3. Reposition existing signal head numbers 41, 61, & 81.
4. Omit phase 1 during phase 2 on.
5. Omit phase 5 during phase 6 on.
6. Program controller to clear from phase 2+6 to phase 1 and/ or phase 5 by progressing through phase 4+8.
7. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
8. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
9. Set signal on flash from 11:00 PM until 6:00 AM unless otherwise directed by the Area Traffic Engineer.
10. Program all signal heads for the same approach to flash concurrently during flashing operation.
11. Set all detector units to presence mode.
12. Thirty days after implementation of the revised signal operation, signs Ⓐ and/or orange flags may be removed at the discretion of the Area Traffic Engineer.



TIMING CHART
NEMA CONTROLLER

PHASE	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
MINIMUM GREEN	7 SEC.	12 SEC.	7 SEC.	7 SEC.	7 SEC.	12 SEC.	7 SEC.	7 SEC.
PASSAGE/GAP	1.0 SEC.	2.0 SEC.	1.0 SEC.	1.0 SEC.	1.0 SEC.	2.0 SEC.	1.0 SEC.	1.0 SEC.
YELLOW CHANGE INT.	4.5 SEC.	4.7 SEC.	4.5 SEC.	4.7 SEC.	4.5 SEC.	4.7 SEC.	4.5 SEC.	4.7 SEC.
RED CLEARANCE	2.5 SEC.	2.5 SEC.	3.0 SEC.	2.0 SEC.	3.0 SEC.	2.5 SEC.	3.0 SEC.	2.0 SEC.
MAX. 1	20 SEC.	45 SEC.	20 SEC.	25 SEC.	20 SEC.	45 SEC.	20 SEC.	25 SEC.
RECALL POSITION	NONE	SOFT RECALL	NONE	NONE	NONE	SOFT RECALL	NONE	NONE
VEHI. CALL MEMORY	NONLOCK	LOCK	NONLOCK	NONLOCK	NONLOCK	LOCK	NONLOCK	NONLOCK
WALK	— SEC.	7 SEC.	— SEC.	7 SEC.	— SEC.	7 SEC.	— SEC.	7 SEC.
FLASHING DON'T WALK	— SEC.	19 SEC.	— SEC.	22 SEC.	— SEC.	27 SEC.	— SEC.	21 SEC.

LOOP & DETECTOR UNIT INSTALLATION CHART
NEMA CONTROLLER WITH TS-2 CABINET

LOOP NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW	EXISTING	NEMA PHASE	NEW	EXISTING	TIMING FEATURE	TIMING TIME	PLACE CALL DURING PHASE	INHIBIT DELAY DURING GREEN?
1A	6x60	2-4-2	0	X		Ø1		X	DELAY	15 SEC.	ALL	YES
						Ø6		X	DELAY	3 SEC.	ALL	NO
2A,2B	6x6	4	300	X		Ø2		X	EXTEND	1.8 SEC.	ALL	NO
2C,2D	6x6	4	90	X					—	— SEC.	ALL	NO
3A	6x60	2-4-2	0	X		Ø3		X	DELAY	3 SEC.	ALL	YES
3B	6x60	2-4-2	0	X					DELAY	3 SEC.	ALL	YES
4A	6x60	2-4-2	0	X		Ø4		X	—	— SEC.	ALL	NO
4B	6x60	2-4-2	0	X					—	— SEC.	ALL	NO
5A	6x60	2-4-2	0	X		Ø5		X	DELAY	15 SEC.	ALL	YES
						Ø2		X	DELAY	3 SEC.	ALL	NO
5B	6x60	2-4-2	0	X		Ø5		X	DELAY	15 SEC.	ALL	YES
6A,6B	6x6	4	300	X		Ø6		X	EXTEND	1.8 SEC.	ALL	NO
6C,6D	6x6	4	90	X					—	— SEC.	ALL	NO
7A	6x60	2-4-2	0	X		Ø7	X		DELAY	3 SEC.	ALL	YES
7B	6x60	2-4-2	0	X					DELAY	3 SEC.	ALL	YES
8A	6x60	2-4-2	0	X		Ø8		X	—	— SEC.	ALL	NO
8B	6x60	2-4-2	0	X					DELAY	10 SEC.	ALL	YES

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Pull Box	
	2-in Underground Conduit	
	Right of Way with Marker	
	Directional Arrow	
	Pavement Marking Arrow	
Ⓐ	"LEFT TURN YIELD ON GREEN" Sign With Flags (R10-12)	Ⓐ

LEFT TURN YIELD ON GREEN
ORANGE WARNING FLAG

Signal Upgrade Final Design

Prepared in the Offices of: Traffic Engineering and Safety Systems Branch, State of North Carolina Department of Transportation, Signals and Geometrics Section
122 N. McDowell St., Raleigh, NC 27603

SR 1664 (Duraleigh Road) at SR 3009 (Edwards Mill Road)

Division 05 Wake County Raleigh

PLAN DATE: July 2000	REVIEWED BY: T.J. Williams
PREPARED BY: B.L. Watson	REVIEWED BY: D.Y. Ishak

SCALE 0 50 1"=50'

REVISIONS	INIT.	DATE
1. Changed to protected/permitted phasing and revised red clearance on Duraleigh Road (ill/blw).	REM	1/17/03

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 22027 ENGINEER RICHARD E. MULLINAX
28 SEPT 2000

SIGNATURE DATE

SIG. INVENTORY NO. 05-0974

METRIC	PROJECT REFERENCE NO.	SHEET
	U-2526	5A 18

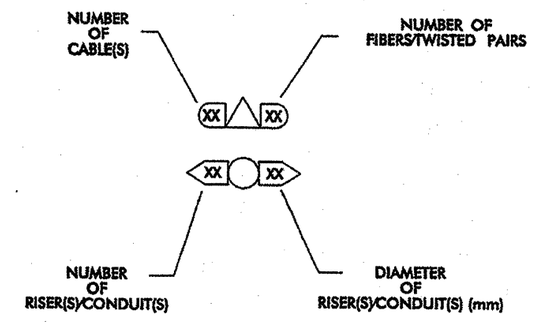
1. INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
2. INSTALL REA, PE – 38, (FIGURE – 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
3. INSTALL REA, PE – 39, (UNDERGROUND) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
4. INSTALL SMFO CABLE
5. INSTALL MMFO CABLE
6. INSTALL FIBER OPTIC DROP CABLE
7. TRENCH
8. INSTALL PVC CONDUIT
9. INSTALL RIGID, GALVANIZED STEEL CONDUIT
10. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
11. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC CABLE SEAL
12. INSTALL MULTI-DUCT POLYETHYLENE CONDUIT
13. BORE AND JACK RIGID GALVANIZED STEEL CONDUIT
14. INSTALL CABLE(S) IN EXISTING CONDUIT
15. INSTALL CABLE(S) IN NEW CONDUIT
16. INSTALL CABLE(S) IN EXISTING RISER
17. INSTALL CABLE(S) IN NEW RISER
18. INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS
19. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
20. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
21. INSTALL NEW CONDUIT INTO EXISTING POLE MOUNTED CABINET
22. INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET
23. TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
24. INSTALL NEW TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
25. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET
26. INSTALL UNDERGROUND SPLICE ENCLOSURE
27. INSTALL AERIAL SPLICE ENCLOSURE
28. INSTALL POLE MOUNTED SPLICE CABINET
29. INSTALL BASE MOUNTED SPLICE CABINET
30. REMOVE EXISTING SPLICE CABINET
31. INSTALL CABINET FOUNDATION
32. REMOVE EXISTING CABINET FOUNDATION
33. INSTALL CCTV CAMERA ASSEMBLY
34. INSTALL CCTV CAMERA WOOD POLE
35. INSTALL CCTV CAMERA METAL POLE AND FOUNDATION
36. INSTALL JUNCTION BOX
37. INSTALL OVERSIZED JUNCTION BOX
38. REMOVE EXISTING JUNCTION BOX
39. INSTALL WOOD POLE
40. REMOVE EXISTING WOOD POLE
41. INSTALL AERIAL GUY ASSEMBLY
42. INSTALL STANDARD GUY ASSEMBLY
43. INSTALL SIDEWALK GUY ASSEMBLY
44. INSTALL MESSENGER ON POLE
45. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER
46. REMOVE EXISTING COMMUNICATIONS CABLE
47. INSTALL TELEPHONE SERVICE
48. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 30 METERS OF CABLE
49. INSTALL DELINEATOR MARKER
50. STORE 6 METERS OF COMMUNICATIONS CABLE
51. LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE
52. LASH CABLE(S) TO EXISTING MESSENGER
53. LASH CABLE(S) TO NEW MESSENGER
54. MODIFY EXISTING ELECTRICAL SERVICE

LEGEND

- NEW FIBER OPTIC COMMUNICATIONS CABLE
- NEW TWISTED PAIR COMMUNICATIONS CABLE
- EXISTING COMMUNICATIONS CABLE
- EXISTING COMMUNICATIONS CABLE TO BE REMOVED
- NEW AERIAL GUY ASSEMBLY
- NEW CONDUIT
- EXISTING CONDUIT
- NEW BORED & JACKED CONDUIT
- NEW JUNCTION BOX
- EXISTING JUNCTION BOX
- NEW POLE
- EXISTING POLE
- NEW AERIAL SPLICE ENCLOSURE
- METAL POLE
- CCTV CAMERA ASSEMBLY
- NEW STANDARD GUY ASSEMBLY
- NEW SIDEWALK GUY ASSEMBLY
- NEW CABLE STORAGE RACKS (SNOW SHOES)
- EXISTING CONTROLLER AND CABINET
- EXISTING SPLICE CABINET
- NEW SPLICE CABINET
- SP — SIGNAL POLE
- XX-XXXX — SIGNAL INVENTORY NUMBER

CONSTRUCTION NOTE SYMBOLOGY KEY

- (XX) INDICATES NUMBER OF CABLES, LOOPS, ETC.
- (XX) INDICATES NUMBER OF FIBERS PER CABLE, TWISTED PAIRS PER CABLE, ETC.
- <XX INDICATES NUMBER OF RISER(S)/CONDUIT(S)
- XX> INDICATES DIAMETER OF RISER(S)/CONDUIT(S) (mm)



Prepared in the Office of: NCDOT Traffic Engineering Branch, 1020 Birch Ridge Drive, Raleigh, NC 27610

CONSTRUCTION NOTES

PLAN DATE: | REVISED BY:
PREPARED BY: G.A. FULLER | REVISED BY:

REVISIONS	INIT.	DATE

SCALE: 0 — NONE

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 023919 ENGINEER GREGORY A. FULLER

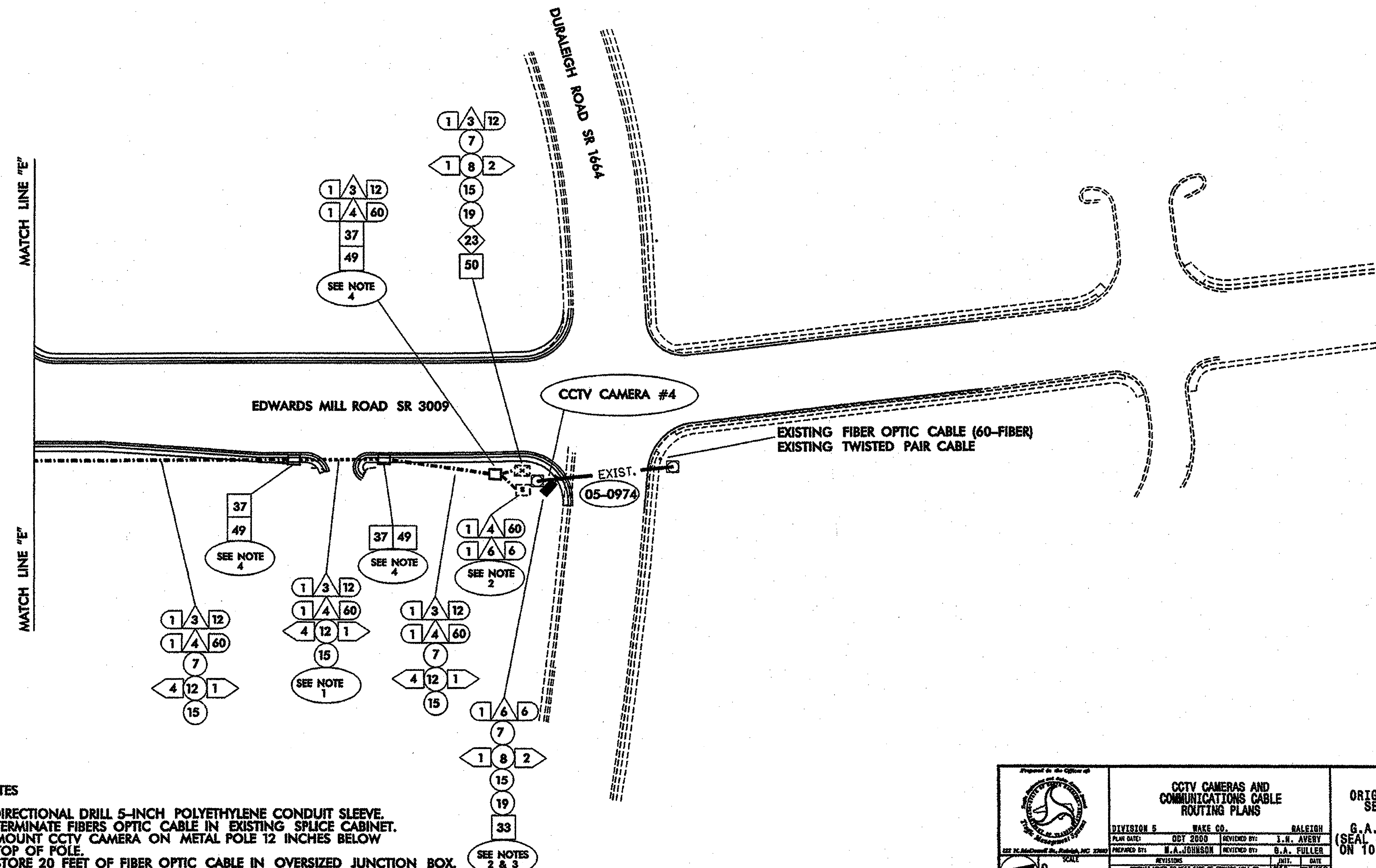
SIGNATURE: Gregory A. Fuller 10/27/06 DATE

CADD FILE NAME

PROJECT REFERENCE NO.	SHEET NO.
U-2582B	SIG 28

MULTI-DUCT COLOR KEY

1. BLACK FOR 60-FIBER SMFO CABLE AND TRACER WIRE
2. ORANGE IS SPARE
3. BLUE FOR 12-PAIR REA, PE-39 CABLE
4. WHITE IS SPARE



NOTES

1. DIRECTIONAL DRILL 5-INCH POLYETHYLENE CONDUIT SLEEVE.
2. TERMINATE FIBERS OPTIC CABLE IN EXISTING SPLICE CABINET.
3. MOUNT CCTV CAMERA ON METAL POLE 12 INCHES BELOW TOP OF POLE.
4. STORE 20 FEET OF FIBER OPTIC CABLE IN OVERSIZED JUNCTION BOX.

Prepared in the Offices of
222 N. McDowell St., Raleigh, NC 27603

CCTV CAMERAS AND COMMUNICATIONS CABLE ROUTING PLANS

DIVISION 5 WAKE CO. RALEIGH

PLAN DATE:	OCT 2000	REVIEWED BY:	I.H. AVERY
PREPARED BY:	M.A.JOHNSON	REVIEWED BY:	G.A. FULLER

REVISIONS	INIT.	DATE
CONDUIT MOVED TO WEST SIDE OF EDWARDS MILL RD.	[illegible]	7/31/02

SCALE 0 NONE

ORIGINALLY SEALED BY G.A.FULLER (SEAL # 023919) ON 10-06-2000

CADD FILE NAME

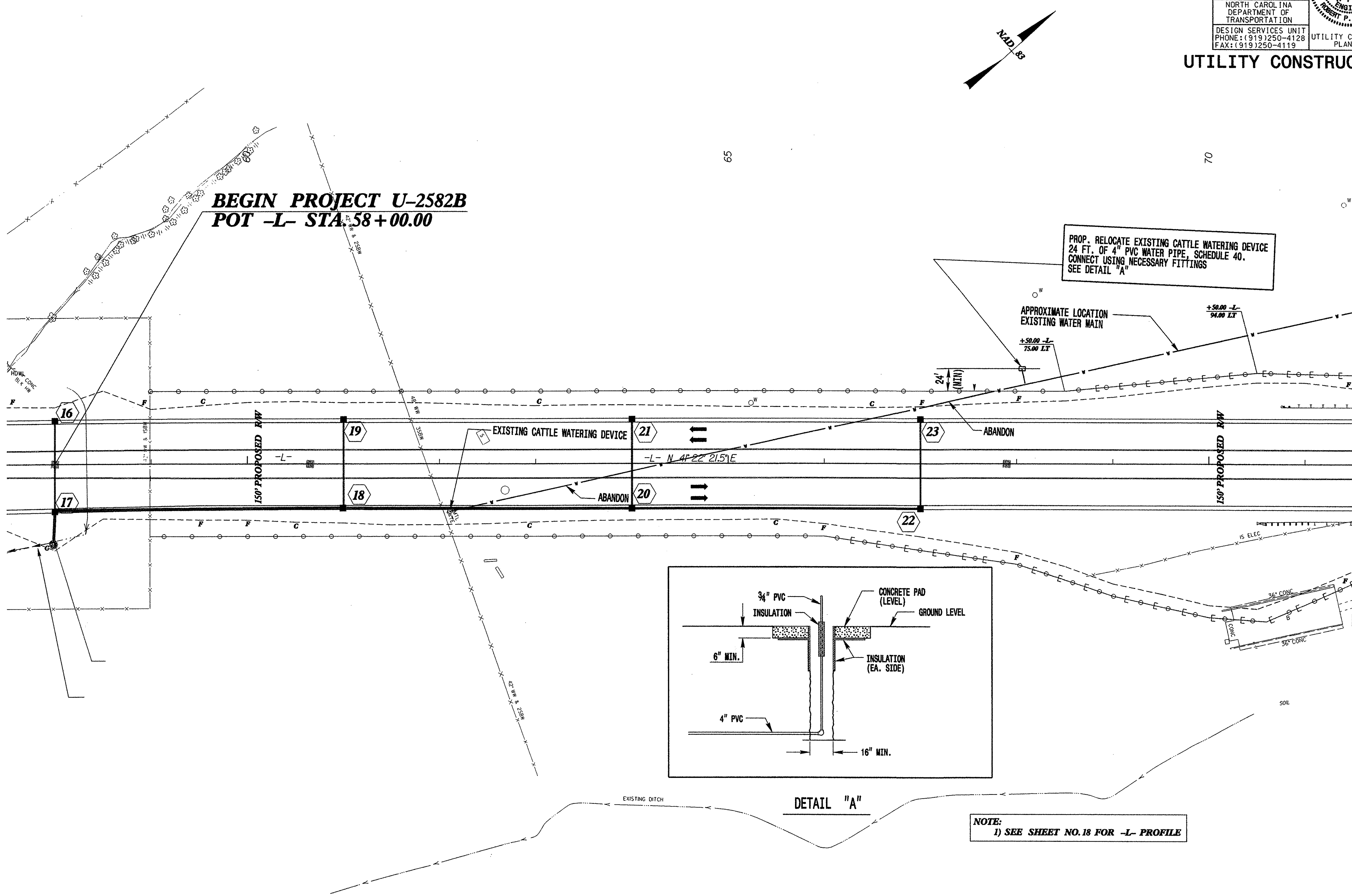
PROJECT REFERENCE NO.		SHEET NO.
U-2582B		UC-1

DESIGNED BY: HNS
DRAWN BY: HNS
CHECKED BY: RPW
APPROVED BY: RPW
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN SERVICES UNIT
PHONE:(919)250-4128
FAX:(919)250-4119

NORTH CAROLINA PROFESSIONAL SEAL 19024 ENGINEER ROBERT P. WILLCOX
UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



NAD 83
BEGIN PROJECT U-2582B
POT -L- STA 58+00.00
65
70
PROP. RELOCATE EXISTING CATTLE WATERING DEVICE
24 FT. OF 4" PVC WATER PIPE, SCHEDULE 40.
CONNECT USING NECESSARY FITTINGS
SEE DETAIL "A"
APPROXIMATE LOCATION
EXISTING WATER MAIN
+50.00 -L-
94.00 LT
+50.00 -L-
75.00 LT
24' (MIN)
EXISTING CATTLE WATERING DEVICE
ABANDON
150' PROPOSED R/W
-L-
-L- N 41°22' 21.5" E
16
17
18
19
20
21
22
23
Match Line See Sheet UC-2
15 ELEC
36" CONC
EXISTING DITCH
3/4" PVC
INSULATION
CONCRETE PAD (LEVEL)
GROUND LEVEL
6" MIN.
INSULATION (EA. SIDE)
4" PVC
16" MIN.
DETAIL "A"
NOTE:
1) SEE SHEET NO. 18 FOR -L- PROFILE

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050197

SMALL DIAMETER WATER MAINS
ARE OWNED BY NC STATE UNIVERSITY

12" WATER MAINS ARE OWNED BY
THE CITY OF RALEIGH

PROJECT REFERENCE	NO.	SHEET NO.
U-2582B		UC-2
DESIGNED BY: HNS		
DRAWN BY: HNS		
CHECKED BY: RPW		
APPROVED BY: RPW		
REVISED:		
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		
DESIGN SERVICES UNIT PHONE:(919)250-4128 FAX:(919)250-4119		

NORTH CAROLINA PROFESSIONAL SEAL 19024 ENGINEER ROBERT P. WILLSON

Rev 7-16-02
UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

NAD 83

-L-		
PIs Sta 75+23.14	PI Sta 77+49.45	PIs Sta 79+75.52
Θs = 1° 45' 00.0"	Δ = 5° 35' 00.0" (LT)	Θs = 1° 45' 00.0"
Ls = 200.00'	D = 1° 45' 00.0"	Ls = 200.00'
LT = 133.34'	L = 319.05'	LT = 133.34'
ST = 66.67'	T = 159.65'	ST = 66.67'
	R = 3,274.04'	
	SE = 03	

PROP. 277.3 FT OF 12" DI WATER PIPE, PC 350
2 - 12" - 45° DI BENDS
2 - 12" - 22 1/2° DI BENDS
CONNECT USING NECESSARY FITTINGS

PROP. 48 FT. 4" PVC WATER PIPE, SCHEDULE 40
44 FT. 12¾" STEEL ENCASEMENT 0.188 IN. THICK BY OPEN CUT
CONNECT USING NECESSARY FITTINGS

PROP. 9 FT OF 6" DI WATER PIPE, PC 350
1 - 12"x6" DI TEE
1 - 6" GATE VALVE AND VALVE BOX, 200# WP
RELOCATE EXISTING FIRE HYDRANT
CONNECT USING NECESSARY FITTINGS

PROP. 9 FT OF 12" DI WATER PIPE, PC 350
1 - 12"x12" DI TEE
1 - 12" GATE VALVE AND VALVE BOX, 200# WP
1 - 12" BLOW-OFF
CONNECT USING NECESSARY FITTINGS

PROP. 124 FT. 4" PVC WATER PIPE, SCHEDULE 40
120 FT. 12¾" STEEL ENCASEMENT 0.188 IN. THICK BY OPEN CUT
CONNECT USING NECESSARY FITTINGS

POT Sta. 8+50.00 -Y-

BEGIN CONSTRUCTION
STA. 9+00.00 -Y-

BEG. PROP. WW & 2SBW FENCE TIE TO EXIST. FENCE

BEG. 2'-6" C & G -Y- STA. 12+34.02

STATE OF NORTH CAROLINA

APPROXIMATE LOCATION EXISTING WATER MAIN

TSSta. 73+89.80 -L-

SCSta. 75+89.80 -L-

STSta. 81+08.85 -L-

END PROP. WW & 2SBW FENCE TIE TO EXIST. FENCE

REMOVE FENCE

REMOVE EXIST. FENCE

END EXPRESSWAY GUTTER -Y- STA. 12+28.38

POCSta. 78+84.44 -L-

POT Sta. 13+22.49

PLUG

TIE PROP. FENCE TO WW

FENCE +65.00 -L- 115.00 LT

FENCE +80.00 -L- 115.00 LT

NOTE: MULTIPLE 4" PVC WATER LINES FOR ANIMAL IRRIGATION; NO RECORDS OR TRACE WIRE

GRAU-350

1'-6" CONCRETE CURB

CAT-1

160' TAPER LEFT & RIGHT

270' FULL LEFT & RIGHT LANE

270' FULL LEFT LANE

2'-6" CURB & GUTTER

66.67'

150' PROPOSED R/W

-L- N 41° 22' 21.5" E

REMOVE EXIST. FENCE

FENCE +12.00 123.00 RT

TIE PROP. FENCE TO WW

PROPOSED 12' X 8' RCBC PEDESTRIAN CULVERT STA. 73+50 -L-

STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA

BEG. 2'-6" C&G -Y- STA. 14+22.78

BEG. PROP. WW & 2SBW FENCE TIE TO EXIST. FENCE

REMOVE FENCE

END PROP. WW & 2SBW FENCE TIE TO EXIST. FENCE

REMOVE FENCE

TIE TO EXIST. END 2'-6" C & G -Y- STA. 15+55

END CONSTRUCTION
STA. 16+55.00 -Y-

POT Sta. 17+50.00 -Y-

TRANSITION 4' EXPRESSWAY GUTTER TO 2'-6" CURB & GUTTER

S 67° 00' 21" E

+35.00 -Y- 40.00 LT

+50.00 -Y- ON R/W

10 FT

5' E

2000 ADT / 2025 ADT			
EDWARDS MILL ROAD EXTENSION	203 / 491	14 / 37	
		5 / 16	7 / 14
		41 / 148	27 / 69
		198 / 1880	184 / 410

REEDY CREEK PARK ROAD

NOTE:
1) SEE SHEET NO. 19 FOR -L- PROFILE
2) SEE SHEET NO. 21 FOR -Y- PROFILE
3) SEE TRAFFIC CONTROL PLANS FOR TRAFFIC PHASING OF REEDY CREEK PARK RD. (-Y-)
4) PAINT STRIPING
5) 3" CONCRETE ISLAND COVER

Match Line See Sheet UC-1

REV 1 ADDED 12" WATER RELOCATION

03-JUL-2002 14:36
Utilities on Const-U-2582Bsht6_uc2.dgn
rwilcox AT DS179865

DS179865 Wednesday July 03 2002 U-2582Bsht6_uc2.m

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-2582B	UC-3
DESIGNED BY: HNS	
DRAWN BY: HNS	
CHECKED BY: RPW	
APPROVED BY: RPW	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
DESIGN SERVICES UNIT PHONE:(919)250-4128 FAX:(919)250-4119	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 19024 ENGINEER ROBERT P. WILLSON 10-30-00

UTILITY CONSTRUCTION

-L-

PIs Sta 105+43.35
Θs = 2° 30' 00.0"
Ls = 200.00'
LT = 133.35'
ST = 66.68'

PI Sta 118+15.72
Δ = 6° 45' 21.4" (LT)
D = 2° 15' 00.0"
L = 300.26'
T = 150.31'
R = 2,546.48'
SE = SEE PLANS

NAD 83

BL13-PINC 59+41.45
STA. 112+26.19 -L-
11.71 LT.

PROP. RELOCATE EXISTING FIRE HYDRANT
10' OF 6" D I WATER PIPE, PC 350
CONNECT USING NECESSARY FITTINGS

PROP. 80' OF 12" D I WATER PIPE, PC 350
1 - 12" 45° BEND
12" BLOW OFF ASSEMBLY
CONNECT USING NECESSARY FITTINGS

BL12-PINC 55+55.74
STA. 108+40.71 -L-
16.31' LT.

ST Sta. 106+76.67 -L-

BL24-PINC 63+29.33
STA. 116+15.07 -L-
28.40' RT.

PCSta. 116+65.41 -L-

PCSta. 53+07.95

PTSta. 52+83.9

PTSta. 119+65

DO NOT DISTURB PARALLEL PORTION OF 42" STONE WALL PERPENDICULAR PORTION WILL BE REMOVED

PROP. RELOCATE EXISTING FIRE HYDRANT
12' OF 6" D I WATER PIPE, PC 350
CONNECT USING NECESSARY FITTINGS

PCSta. 51+

POTSta. 118+44

POC Sta. 51+4

PTSta. 50+86.88

PCSta. 48+64.28 -Y3-

PTSta. 48+08.18 -Y3-

N 43° 50' 34.5" E

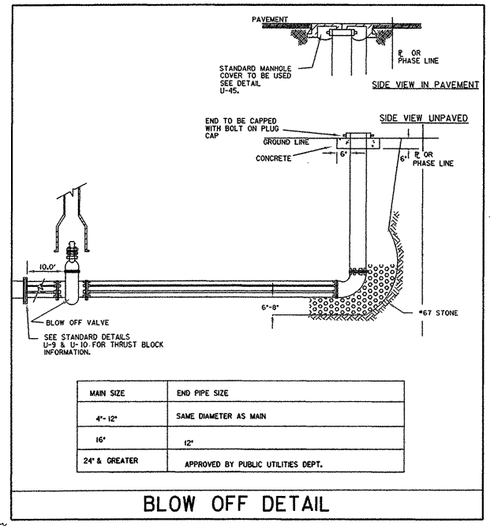
N 44° 04' 24.3" E

N 43° 09' 36.4" E

N 45° 45' 10.0" W

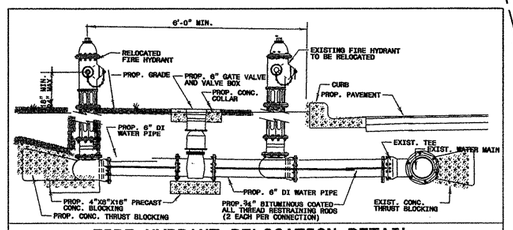
N 41° 29' 50.0" W

N 38° 48' 28.0" W



MAIN SIZE	END PIPE SIZE
4"- 12"	SAME DIAMETER AS MAIN
16"	12"
24" & GREATER	APPROVED BY PUBLIC UTILITIES DEPT.

BLOW OFF DETAIL



FIRE HYDRANT RELOCATION DETAIL

NOTE:

1) *SEE SHEET NO. 20 FOR -L- PROFILE*
2) *SEE SHEET NO. 21 FOR -Y1- PROFILE*
3) *MONOLITHIC ISLAND*

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U:\sheets\projects\consts\u-2582b\sht8.dgn

DS152 Monday November 13 2000 sht8.m

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-2582B	U0-1

UTILITIES BY OTHERS

NAD 83

PROP. LOWER 100 ± FT. F/O CABLE WITH 54" COVER (MIN.)

PROP. POWER POLE

PROP. O/H POWER LINES

PROP. OVERHEAD POWER LINE

REMOVE

NOTE: MULTIPLE 4" PVC WATER LINES FOR ANIMAL IRRIGATION, NO RECORDS OR TRACE WIRE

150' PROPOSED R/W

NOTE:

1) SEE SHEET NO. 19 FOR –L– PROFILE
2) SEE SHEET NO. 21 FOR –Y– PROFILE
3) SEE TRAFFIC CONTROL PLANS FOR TRAFFIC PHASING OF REEDY CREEK PARK RD. (–Y–)
4) PAINT STRIPING
5) 3" CONCRETE ISLAND COVER

14-NOV-2000 07:33
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USGal

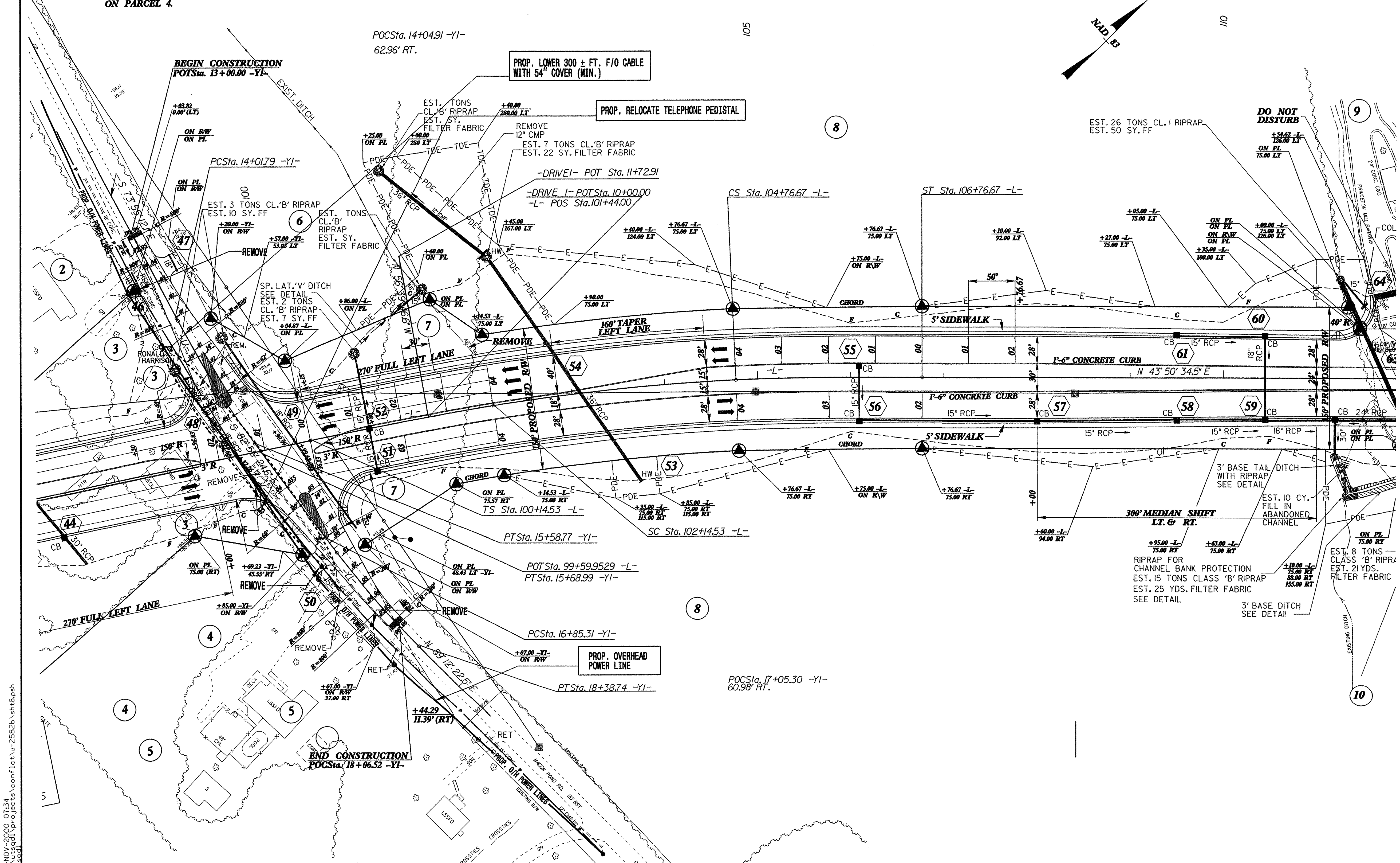
PROJECT REFERENCE NO.	SHEET NO.
U-2582B	U0-2

UTILITIES BY OTHERS

-L-

Pls Sta 101+47.87	PI Sta 103+45.74	Pls Sta 105+43.35	PI Sta 118+15.72
Θs = 2° 30' 00.0"	Δ = 6° 33' 13.0" (RT)	Θs = 2° 30' 00.0"	Δ = 6° 45' 21.4" (LT)
Ls = 200.00'	D = 2° 30' 00.0"	Ls = 200.00'	D = 2° 15' 00.0"
LT = 133.35'	L = 262.14'	LT = 133.35'	L = 300.26'
ST = 66.68'	T = 131.22'	ST = 66.68'	T = 150.31'
	R = 2,291.83'		R = 2,546.48'
	SE = 04		SE = SEE PLANS

RIGHT OF WAY REVISION MADE 3-28-2000.
NAME CHANGE ON PARCELS 4,8,9 AND 10.
EASEMENT CHANGED TO MISS WALL ON PARCEL 9.
ADDED DRIVEWAY TO PARCEL 4.
ADJUSTED RIGHT OF WAY AND EASEMENTS ON PARCEL 4.



(UTIL. ESMT.)
NAD 83
BEGIN CONSTRUCTION POTSta. 13+00.00 -Y1-
END CONSTRUCTION POCSta. 18+06.52 -Y1-
POCSta. 14+04.91 -Y1- 62.96' RT.
POCSta. 17+05.30 -Y1- 60.98' RT.
PROP. LOWER 300 ± FT. F/O CABLE WITH 54" COVER (MIN.)
PROP. RELOCATE TELEPHONE PEDISTAL
PROP. OVERHEAD POWER LINE
PROP. O/H POWER LINES
EXIST. DITCH
PCSta. 14+01.79 -Y1-
-DRIVE1- POT Sta. 11+72.91
-DRIVE 1- POTSta. 10+00.00
-L- POS Sta.101+44.00
CS Sta. 104+76.67 -L-
ST Sta. 106+76.67 -L-
TS Sta. 100+14.53 -L-
SC Sta. 102+14.53 -L-
PTSta. 15+58.77 -Y1-
POTSta. 99+59.9529 -L-
PTSta. 15+68.99 -Y1-
PCSta. 16+85.31 -Y1-
PTSta. 18+38.74 -Y1-
EST. 3 TONS CL.'B' RIPRAP
EST. 10 SY. FF
EST. 7 TONS CL.'B' RIPRAP
EST. 22 SY. FILTER FABRIC
REMOVE 12" CMP
SP. LAT.'V' DITCH SEE DETAIL
EST. 2 TONS CL. 'B' RIPRAP
EST. 7 SY. FF
EST. 26 TONS CL. I RIPRAP
EST. 50 SY. FF
DO NOT DISTURB
160' TAPER LEFT LANE
270' FULL LEFT LANE
5' SIDEWALK
1'-6" CONCRETE CURB
N 43° 50' 34.5" E
50' PROPOSED R/W
300' MEDIAN SHIFT LT. & RT.
3' BASE TAIL DITCH WITH RIPRAP SEE DETAIL
EST. 10 CY. FILL IN ABANDONED CHANNEL
RIPRAP FOR CHANNEL BANK PROTECTION
EST. 15 TONS CLASS 'B' RIPRAP
EST. 25 YDS. FILTER FABRIC
SEE DETAIL
3' BASE DITCH SEE DETAIL
EST. 8 TONS CLASS 'B' RIPRAP
EST. 21 YDS. FILTER FABRIC
RONALD /HARRISON

8/17/99

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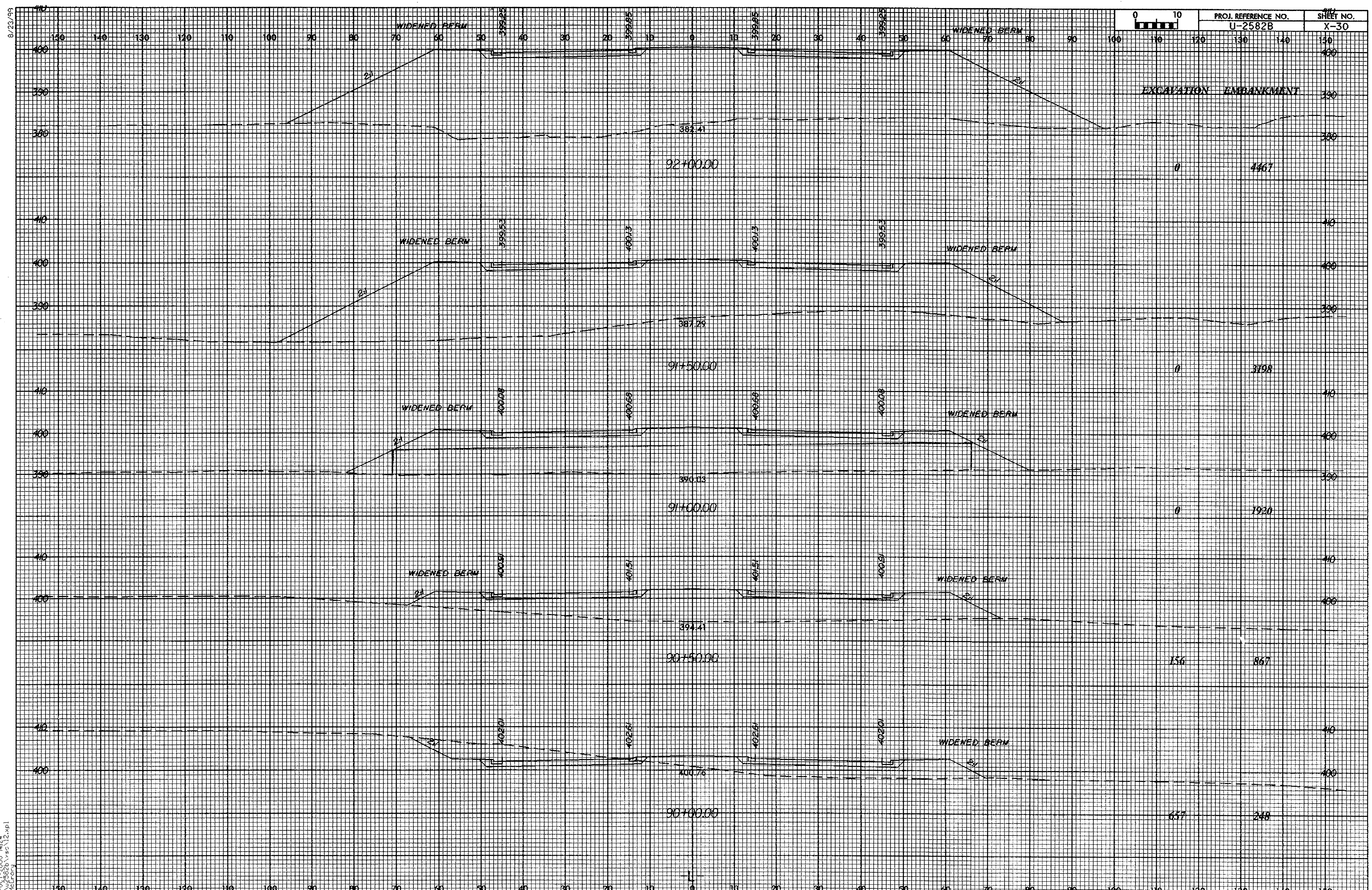
PROJ. REFERENCE NO. U-2582B
SHEET NO. X-30



8/23/99

PROJ. REFERENCE NO.	SHEET NO.
U-2582B	X-31

EXCAVATION EMBANKMENT

94+50.00

1228 51

WIDENED BERM

2%

409.89 402.59 409.90 402.59 409.89

2%

94+00.00

222 851

WIDENED BERM

2%

400.07 400.57 400.57 400.07

WIDENED BERM

2%

394.04

93+50.00

0 2252

WIDENED BERM

2%

399.52 400.12 400.12 399.52

WIDENED BERM

2%

389.19

93+00.00

0 3568

WIDENED BERM

2%

399.25 399.85 399.85 399.25

WIDENED BERM

2%

384.84

92+50.00

0 4647

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[u2582b\xsec12x.prt]

9/23/99

0 10	PROJ. REFERENCE NO.	SHEET NO.
	U-2582B	X-32

EXCAVATION EMBANKMENT

97+50.00

1 972

403.82

97+00.00

1 1164

404.36

96+50.00

431 639

408.28

96+00.00

1399 1

412.52

95+50.00

2156 0

412.80

95+00.00

2194 0

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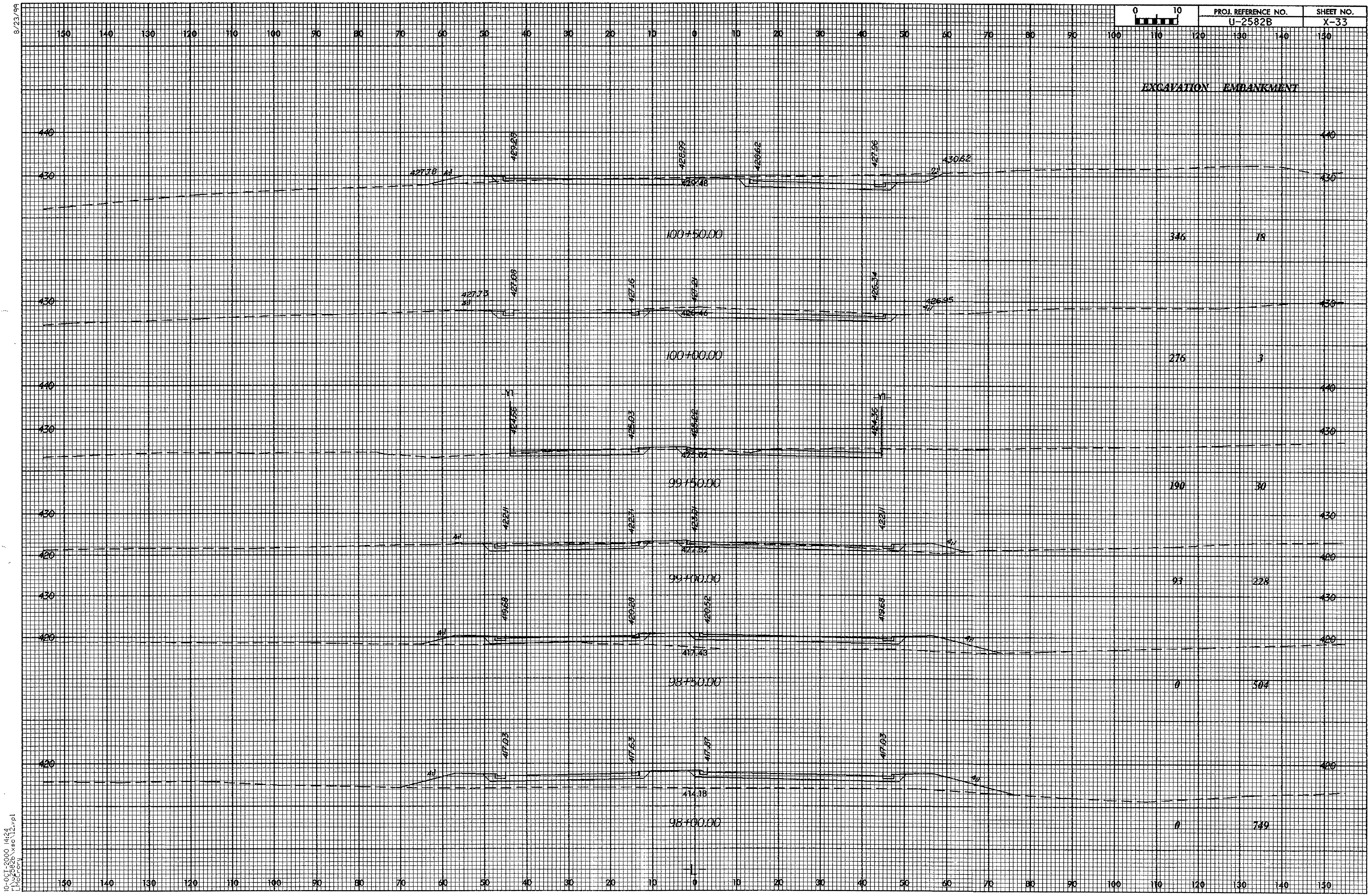
LMcCrory

PROJ. REFERENCE NO.	SHEET NO.
U-2582B	X-33



Station	EXCAVATION	EMBANKMENT
100+50.00	346	18
100+00.00	276	3
99+50.00	190	30
99+00.00	93	228
98+50.00	0	504
98+00.00	0	749

9/23/99

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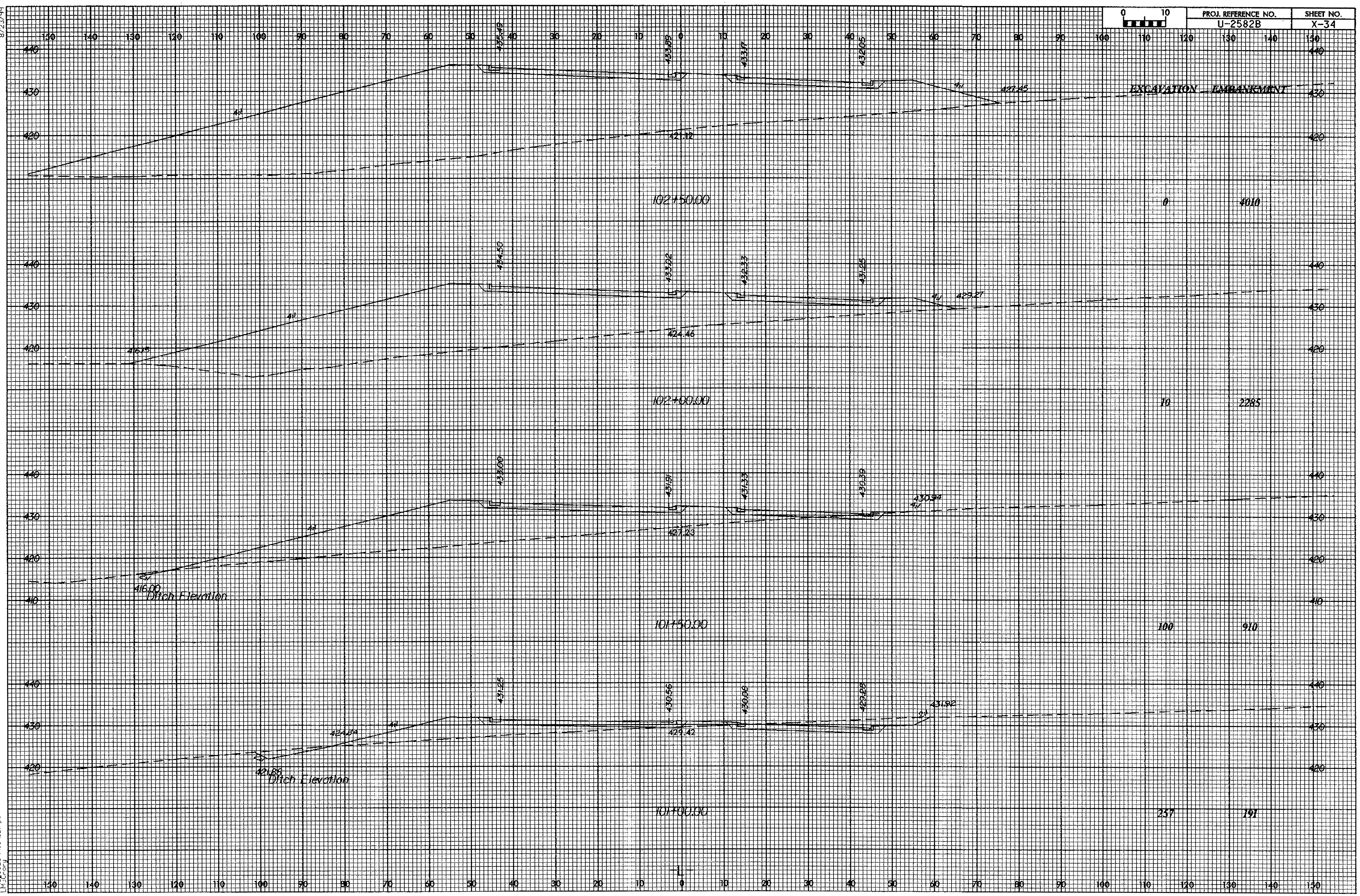
LMcCrory

8/23/99



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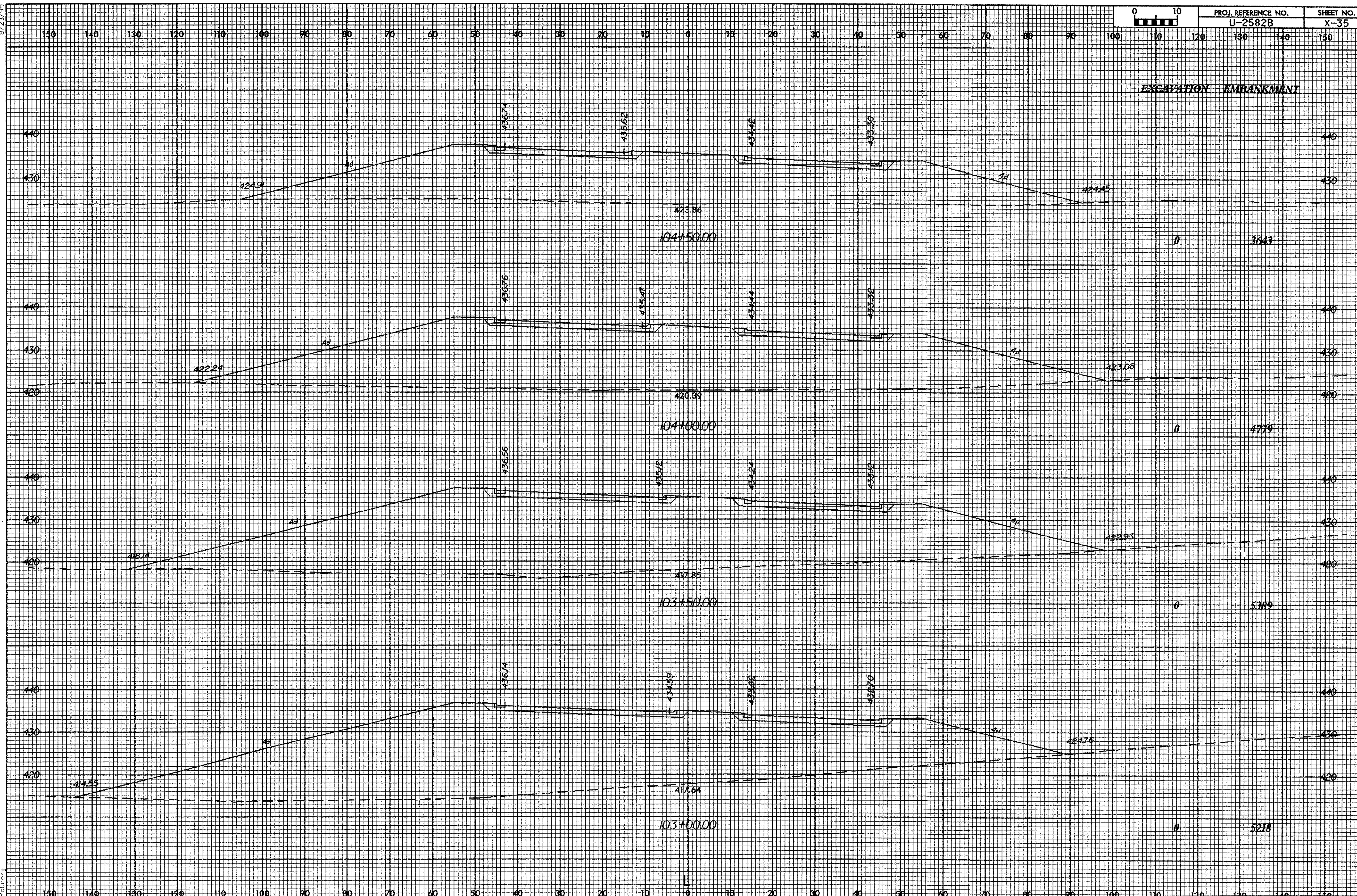
McCrory

PROJ. REFERENCE NO.	SHEET NO.
U-2582B	X-35

8/23/99



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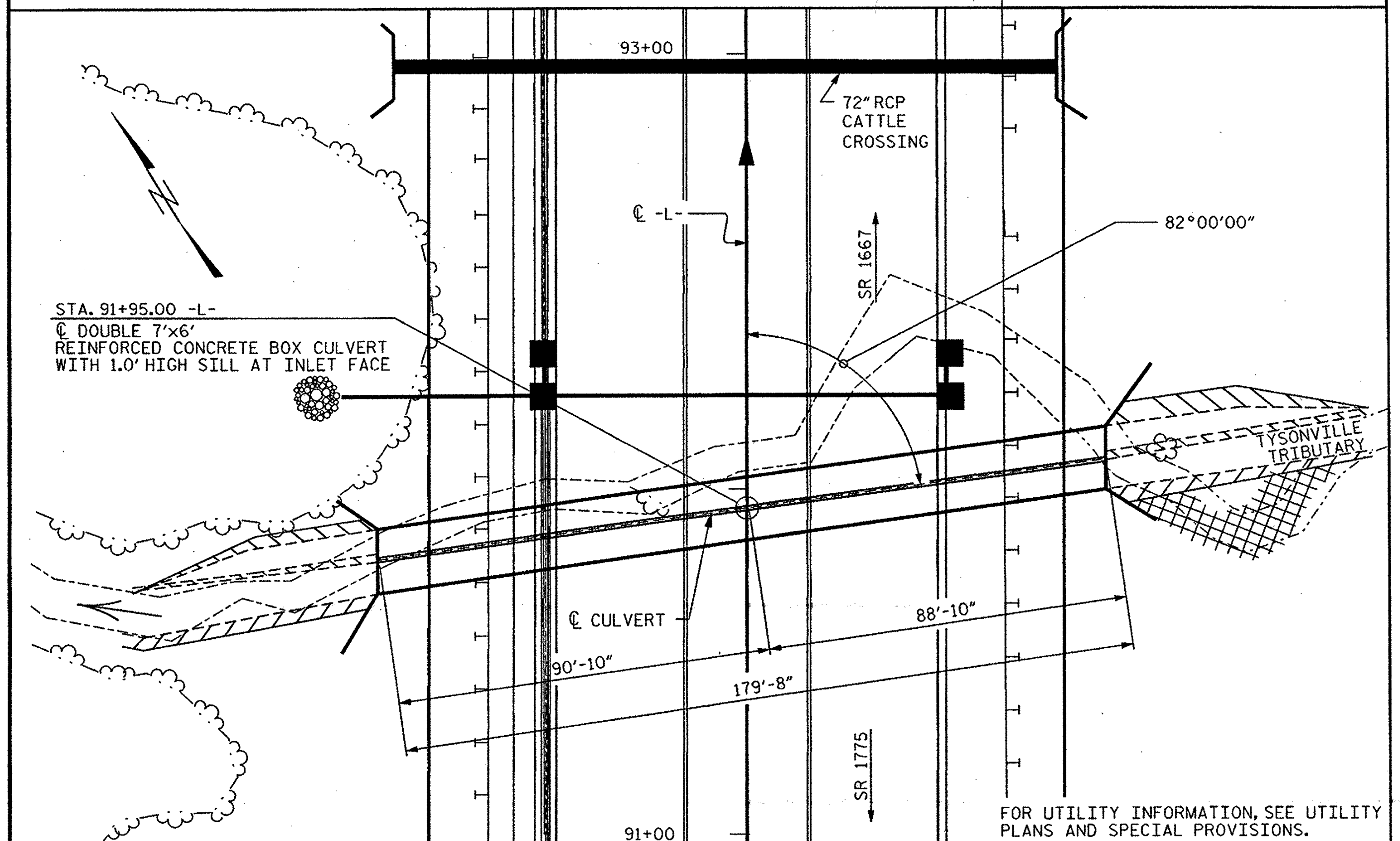
r:\u2582b\xsc\12.xpl
LMcCrory

BM#2- R.R. SPIKE IN BASE OF 3" OAK BL STA. 26+09.223' RT. ELEV.= 450.62. DATUM: NGVD 29.



LOCATION SKETCH

HYDRAULIC DATA

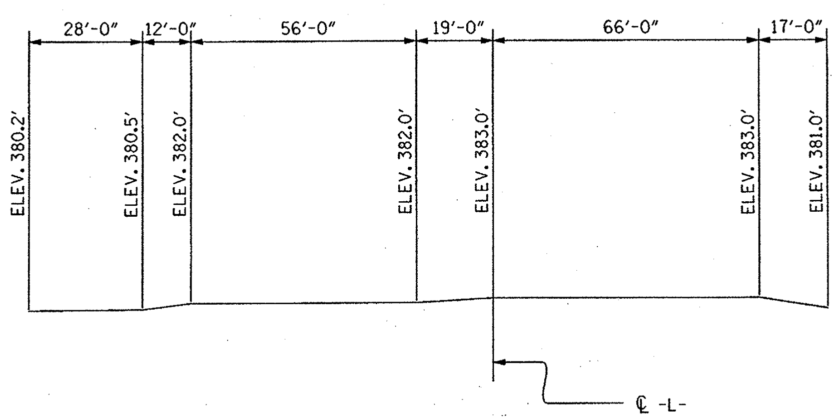
DESIGN DISCHARGE	= 460.00 c.f.s.
FREQUENCY OF DESIGN FLOOD	= 50 YR.
DESIGN HIGH WATER ELEVATION	= 385.100
DRAINAGE AREA	= 0.27 SQ. MI.
BASIC DISCHARGE (Q100)	= 560.00 c.f.s.
BASIC HIGH WATER ELEVATION	= 385.750

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 1300.00 c.f.s.
FREQUENCY OF OVERTOPPING FLOOD	= 500 YR.+
OVERTOPPING FLOOD ELEVATION	= 400.750

GRADE DATA

GRADE PT. EL. @ STA. 91+95.00-L-	= 400.169
BED EL. @ STA. 91+95.00-L-	= 379.100
ROADWAY SLOPES	= 2 :1



PROFILE ALONG ℄ CULVERT

NOTES

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.

FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.

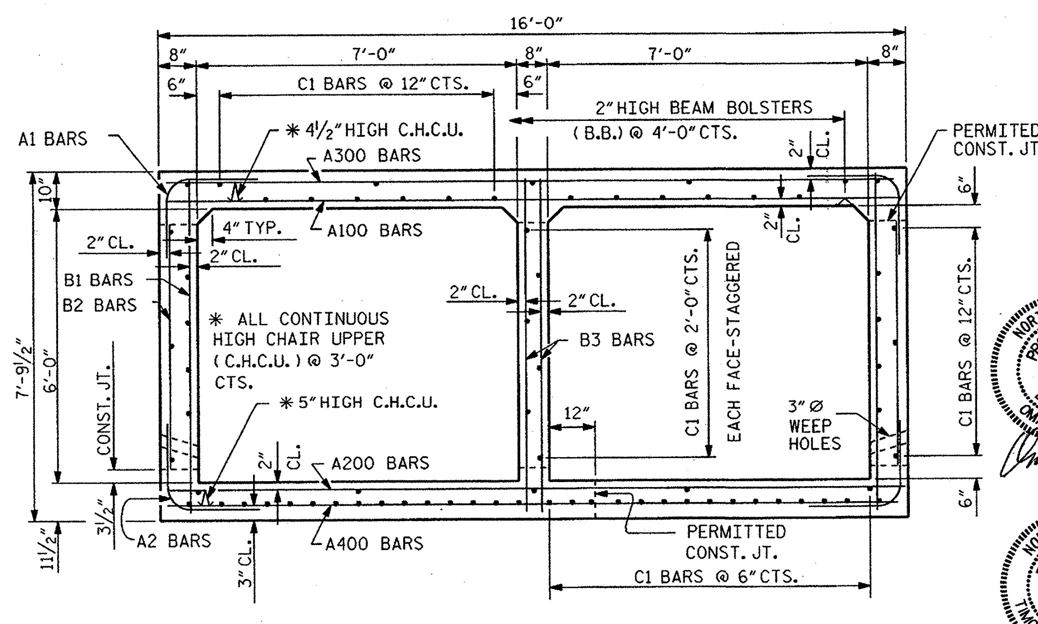
A 3 FOOT STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.

REINFORCING STEEL BAR SCHEDULE

BAR	NO	SIZE	TYPE	LENGTH	WEIGHT
A1	576	4	6	4-3	1635
A2	576	4	6	4-4	1667
A100	305	4	STR	15-7	3175
A101	4	4	STR	6-3	17
A200	305	4	STR	15-7	3175
A201	4	4	STR	6-3	17
A300	284	6	STR	15-7	6647
A301	4	6	STR	5-8	34
A400	284	6	STR	15-7	6647
A401	4	6	STR	5-8	34
B1	360	4	STR	7-3	1743
B2	576	4	STR	5-4	2052
B3	360	4	STR	7-3	1743
C1	518	4	STR	27-5	9487
D1	2	6	STR	2-0	6
G1	8	5	STR	15-9	131
S1	12	8	STR	15-9	505
REINFORCING STEEL	LBS				38,715

SPLICE LENGTH CHART

BAR	SIZE	SPLICE LENGTH
A200	4	1-9
A400	6	2-3
B1	4	1-9
B3	4	1-9
C1	4	1-11



RIGHT ANGLE SECTION OF BARREL

THERE ARE 74 "C" BARS IN SECTION OF BARREL.

F.A. PROJECT NO.------- STP-3009(4)

ASSUMED LIVE LOAD ----------HS20 OR ALTERNATE LOADING.

DESIGN FILL----------------- 14.66 FT.

FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET, SN.

3" Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.

CONCRETE IN CULVERTS TO BE POURED IN THE FOLLOWING ORDER:

1. WING FOOTINGS AND FLOOR SLAB INCLUDING 3 1/2" OF ALL VERTICAL WALLS.
2. THE REMAINING PORTIONS OF THE WALLS AND WINGS FULL HEIGHT FOLLOWED BY ROOF SLAB AND HEADWALLS AND SILL.

THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.

DIMENSIONS FOR WING LAYOUT AS WELL AS ADDITIONAL REINFORCING STEEL EMBEDDED IN BARREL ARE SHOWN ON WING SHEET.

TRANSVERSE CONSTRUCTION JOINTS SHALL BE USED IN THE BARREL, SPACED TO LIMIT THE POURS TO A MAXIMUM OF 70 FT. LOCATION OF JOINTS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.

STEEL IN THE BOTTOM SLAB MAY BE SPLICED AT THE PERMITTED CONSTRUCTION JOINT AT THE CONTRACTOR'S OPTION. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.

AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL AND BOTH FACES OF INTERIOR WALL ABOVE LOWER WALL CONSTRUCTION JOINT. THE SPLICE LENGTH SHALL BE AS PROVIDED IN THE SPLICE LENGTH CHART SHOWN ON THE PLANS. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.

AT THE CONTRACTOR'S OPTION HE MAY SUBMIT, TO THE ENGINEER FOR APPROVAL, DESIGN AND DETAIL DRAWINGS FOR A PRECAST REINFORCED CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE CULVERT SHOWN ON THE PLANS. THE DESIGN SHALL PROVIDE THE SAME SIZE AND NUMBER OF BARRELS AS USED ON THE CAST-IN-PLACE DESIGN. FOR OPTIONAL PRECAST REINFORCED CONCRETE BOX CULVERT, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE		
BARREL @ 1.514 CY/FT	272.0	C.Y.
WINGS, ETC.	17.8	C.Y.
TOTAL	289.8	C.Y.
REINFORCING STEEL		
BARREL	38,715	LBS.
WINGS, ETC.	934	LBS.
TOTAL	39,649	LBS.
CULVERT EXCAVATION	LUMP SUM	
FOUNDATION COND. MAT'L	203	TONS

PROJECT NO. U-2582B

WAKE COUNTY

STATION: 91+95.00-L-

SHEET 1 OF 3

NORTH CAROLINA PROFESSIONAL SEAL 12274 ENGINEER OMAR R. AZIZI — 12/18/00

NORTH CAROLINA PROFESSIONAL SEAL 14045 ENGINEER TIMOTHY L. COGGINS — 12/18/00

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DOUBLE BARREL 7 FT. X 6 FT. CONCRETE BOX CULVERT 82° SKEW

1971

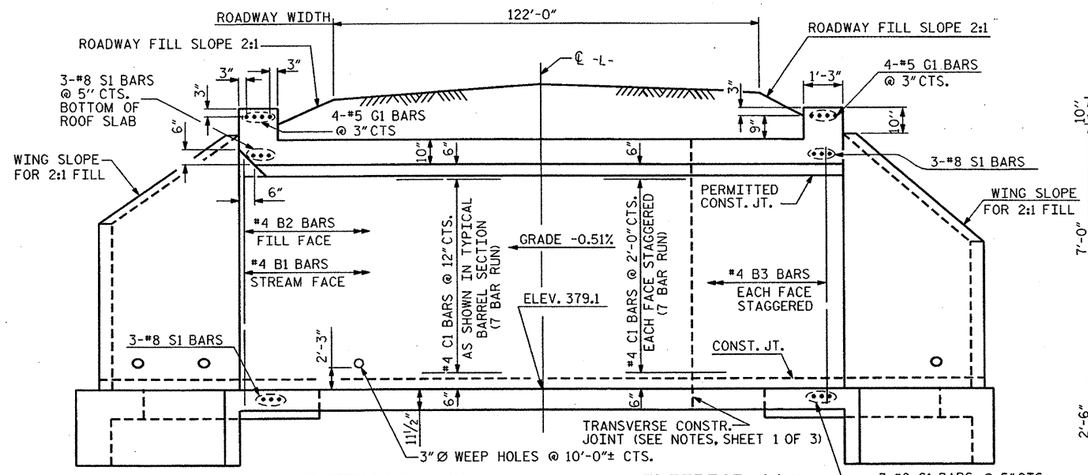
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-5
1			3			TOTAL SHEETS
2			4			7

ASSEMBLED BY : CHAD SIMPSON	DATE : JUN 00	SPECIAL
CHECKED BY : R.L. CHESSON	DATE : JUN 00	
DRAWN BY : R.W.WRIGHT	DATE : OCT. 1989	STANDARD
CHECKED BY : A.R.BISSETTE	DATE : OCT. 1989	

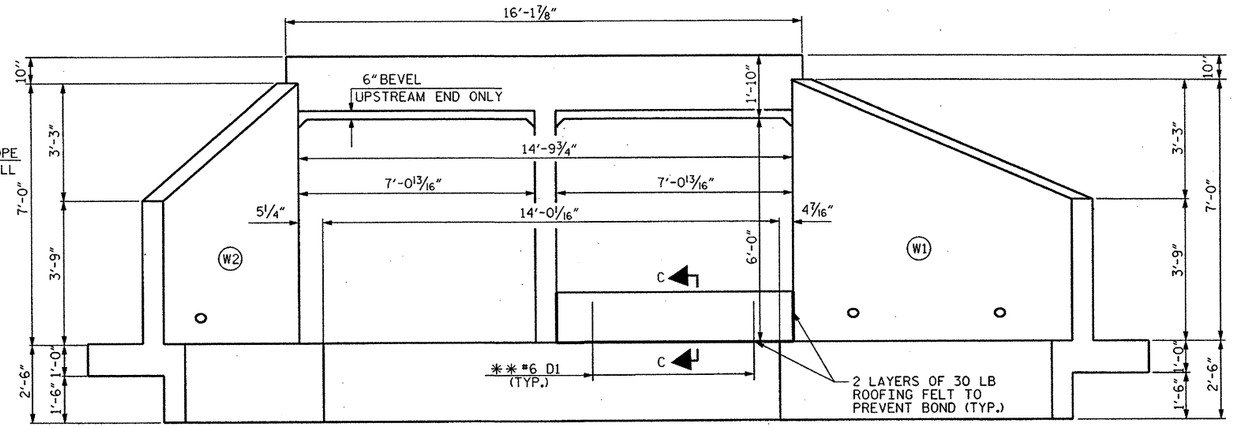
ADDED 11-1-90

STD. NO. CB22A

STR#2



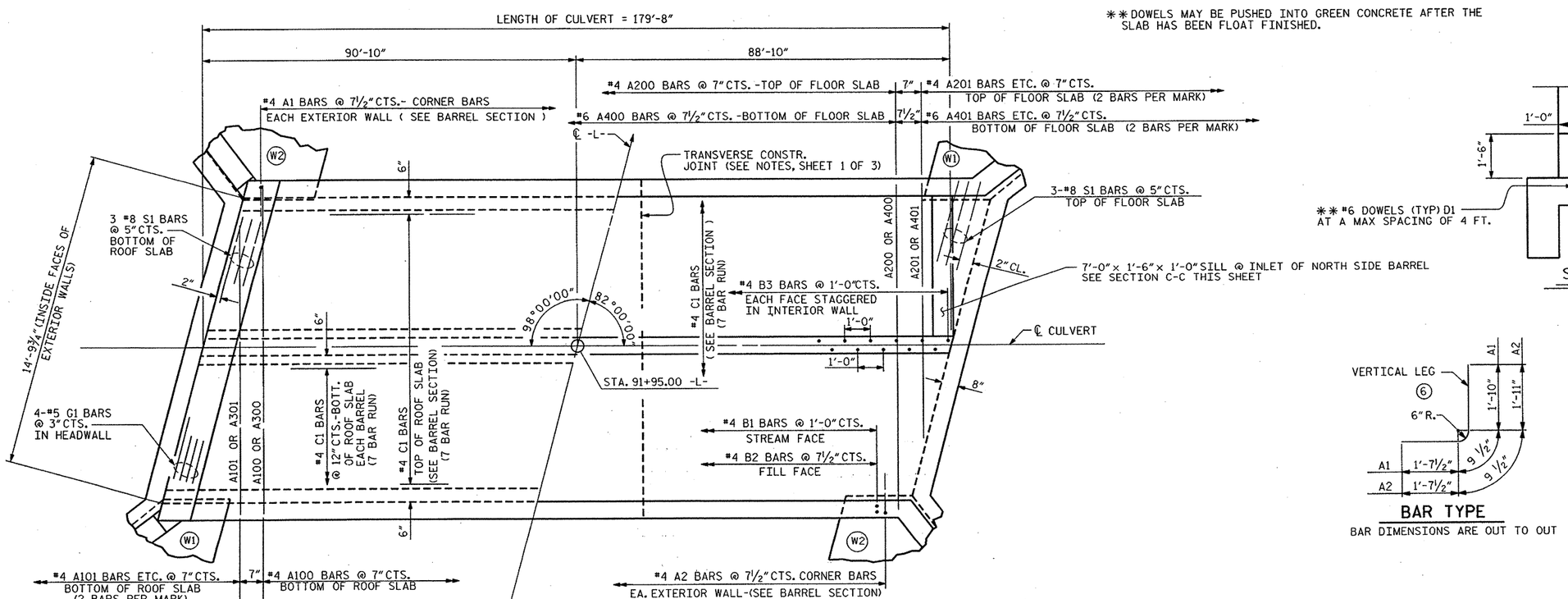
CULVERT SECTION NORMAL TO ROADWAY



END ELEVATION NORMAL TO SKEW

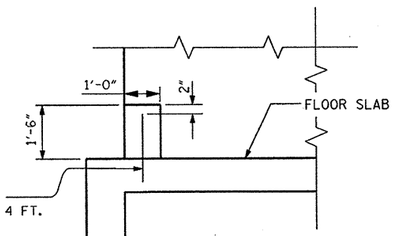
INLET

**DOWELS MAY BE PUSHED INTO GREEN CONCRETE AFTER THE SLAB HAS BEEN FLOAT FINISHED.



PART PLAN - ROOF SLAB

PART PLAN - FLOOR SLAB



SECTION C-C

BAR TYPE

BAR DIMENSIONS ARE OUT TO OUT

REVISED 11-19-98 BY M.M. CHECKED BY R.W.W.
REDRAWN NOV. 1990 BY TSS CHECKED BY ARB

ASSEMBLED BY : CHAD SIMPSON	DATE : JUN 00	SPECIAL
CHECKED BY : R.L. CHESSON	DATE : JUN 00	
DRAWN BY : W.BRYAN STALEY II	DATE : SEPT. 21,1971	STANDARD
CHECKED BY : JOEL A. JOHNSON	DATE : NOV. 12,1971	

PROJECT NO. U-2582B

WAKE COUNTY

STATION: 91+95.00-L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DOUBLE 7 FT. X 6 FT. CONCRETE BOX CULVERT 82° SKEW

1971

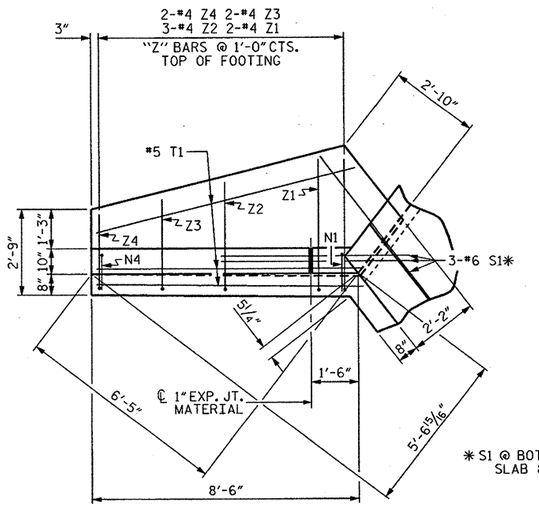
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-6
1			3			TOTAL SHEETS
2			4			7

STD. NO. CB22

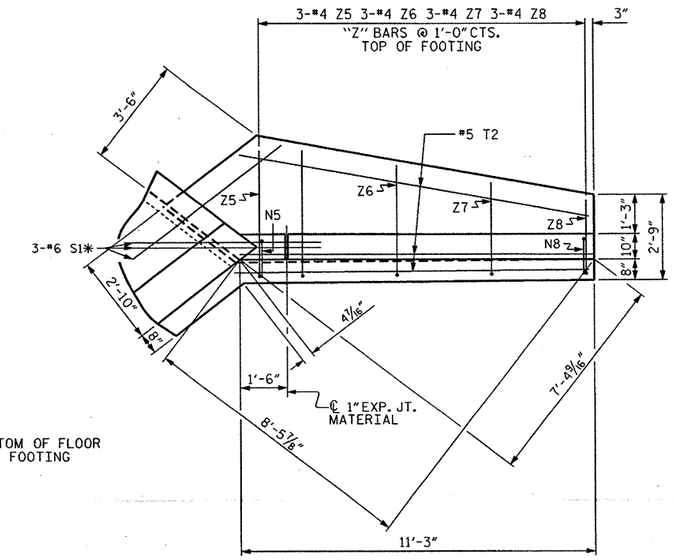
STR#2

NORTH CAROLINA PROFESSIONAL SEAL 14045 ENGINEER TIMOTHY A. COGGINS

18-DEC-2000 14:17
c:\users\archive\wake\u2582b\u2582b02cu.dgn
chad

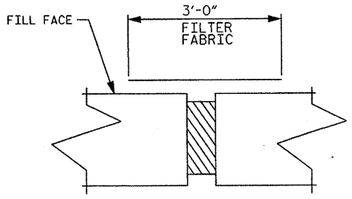


PLAN W2

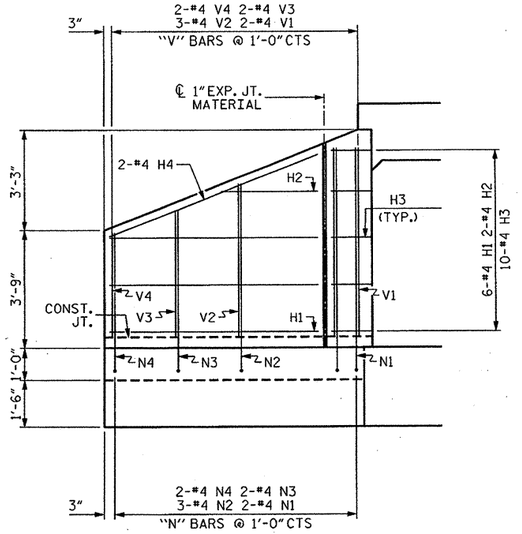


PLAN W1

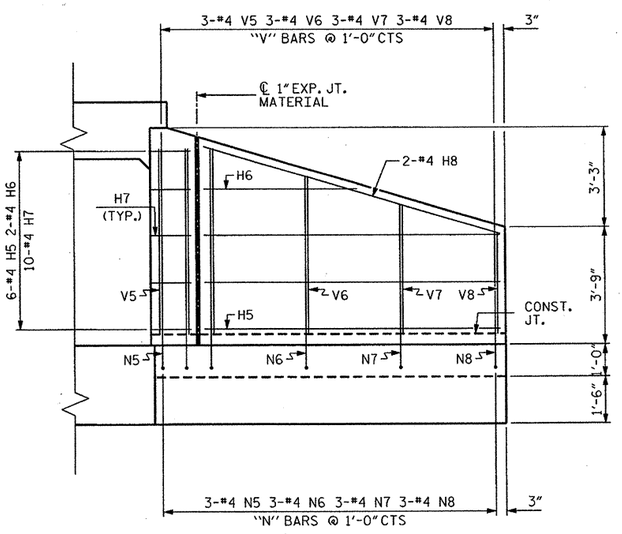
* S1 @ BOTTOM OF FLOOR SLAB & FOOTING



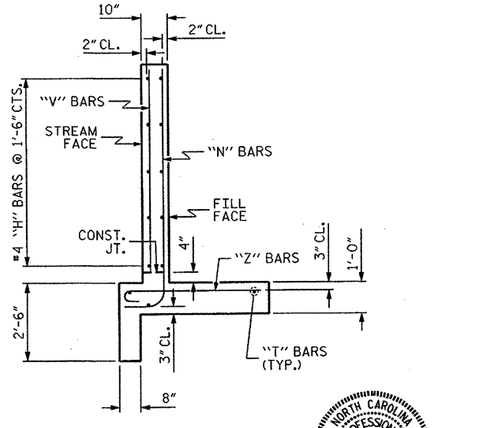
EXPANSION JOINT



ELEVATION W2



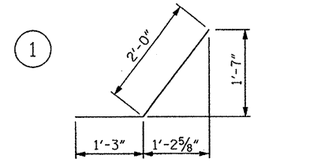
ELEVATION W1

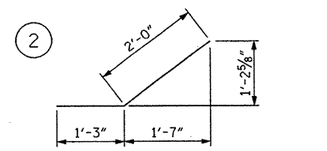


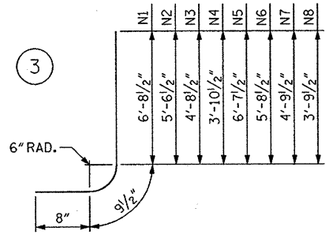
TYPICAL WING SECTION

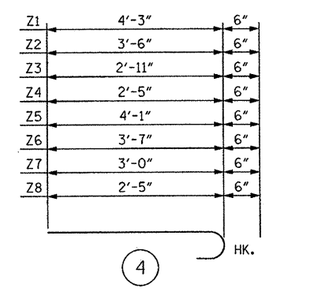
BAR TYPES

ALL BAR DIMENSIONS ARE OUT TO OUT.









BILL OF MATERIAL

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
H1	12	#4	STR	6'-7"	53
H2	4	#4	STR	3'-1"	8
H3	20	#4	1	3'-3"	43
H4	4	#4	STR	7'-1"	19
H5	12	#4	STR	9'-4"	75
H6	4	#4	STR	4'-10"	13
H7	20	#4	2	3'-3"	43
H8	4	#4	STR	9'-9"	26
N1	4	#4	3	8'-2"	22
N2	6	#4	3	7'-1"	28
N3	4	#4	3	6'-2"	16
N4	4	#4	3	5'-4"	14
N5	6	#4	3	8'-1"	32
N6	6	#4	3	7'-2"	29
N7	6	#4	3	6'-3"	25
N8	6	#4	3	5'-3"	21
S1	12	#6	STR	6'-0"	108
T1	6	#5	STR	8'-6"	53
T2	6	#5	STR	11'-3"	70
V1	4	#4	STR	6'-1"	16
V2	6	#4	STR	4'-11"	20
V3	4	#4	STR	4'-1"	11
V4	4	#4	STR	3'-4"	9
V5	6	#4	STR	6'-0"	24
V6	6	#4	STR	5'-1"	20
V7	6	#4	STR	4'-2"	17
V8	6	#4	STR	3'-3"	13
Z1	4	#4	4	4'-9"	13
Z2	6	#4	4	4'-0"	16
Z3	4	#4	4	3'-5"	9
Z4	4	#4	4	2'-11"	8
Z5	6	#4	4	4'-7"	18
Z6	6	#4	4	4'-1"	16
Z7	6	#4	4	3'-6"	14
Z8	6	#4	4	2'-11"	12

REINFORCING STEEL FOR 4 WINGS		934 LBS
CLASS A CONCRETE		
4 WINGS	14.2	CY
2 HEADWALLS	1.5	CY
2 END CURTAIN WALLS	1.7	CY
1 SILL	0.4	CY
TOTAL	17.8	CY

ASSEMBLED BY : CHAD SIMPSON	DATE : JUN 00
CHECKED BY : R.L. CHESSON	DATE : JUN 00
DRAWN BY : CCJ 12/99	
CHECKED BY : RWW 03/00	

PROJECT NO. U-2582B

WAKE COUNTY

STATION: 91+95.00-L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD WINGS FOR CONCRETE BOX CULVERT

H = 6'-0" SLOPE = 2:1

82° SKEW

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

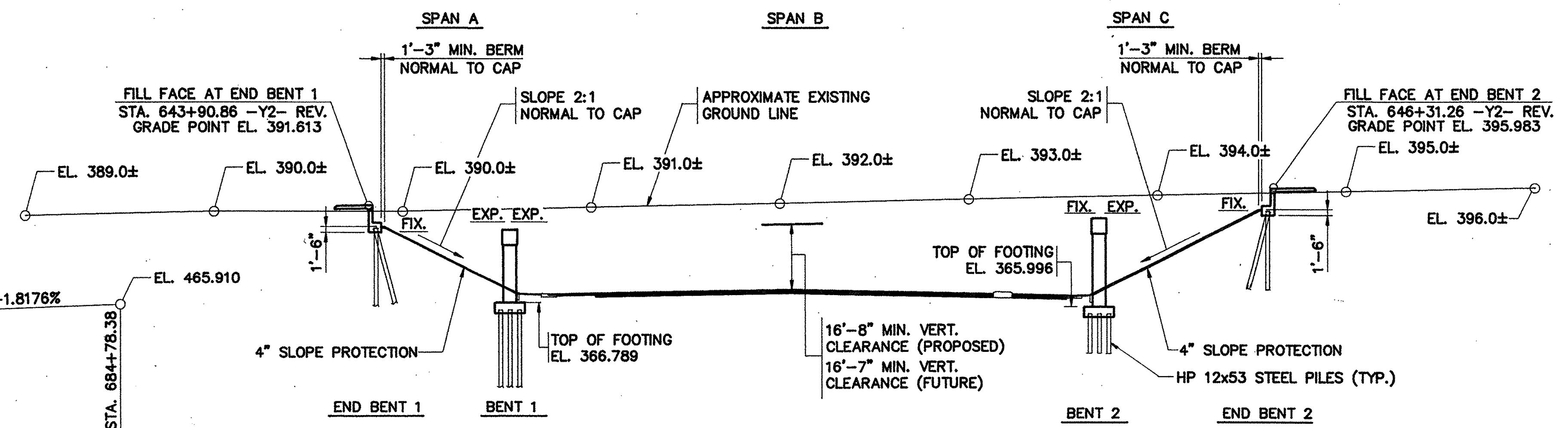
SHEET NO. C-7

TOTAL SHEETS 7

STD. NO. CW7506

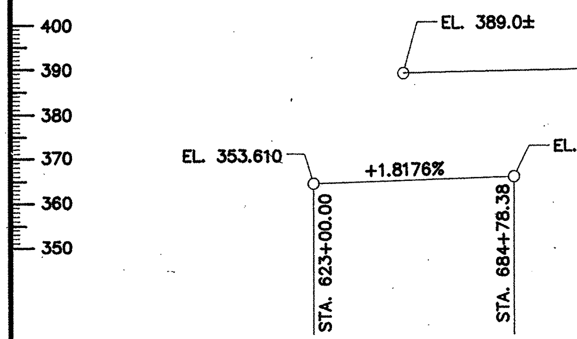
STR#2

F.A. PROJECT NO. STP-3009(1)



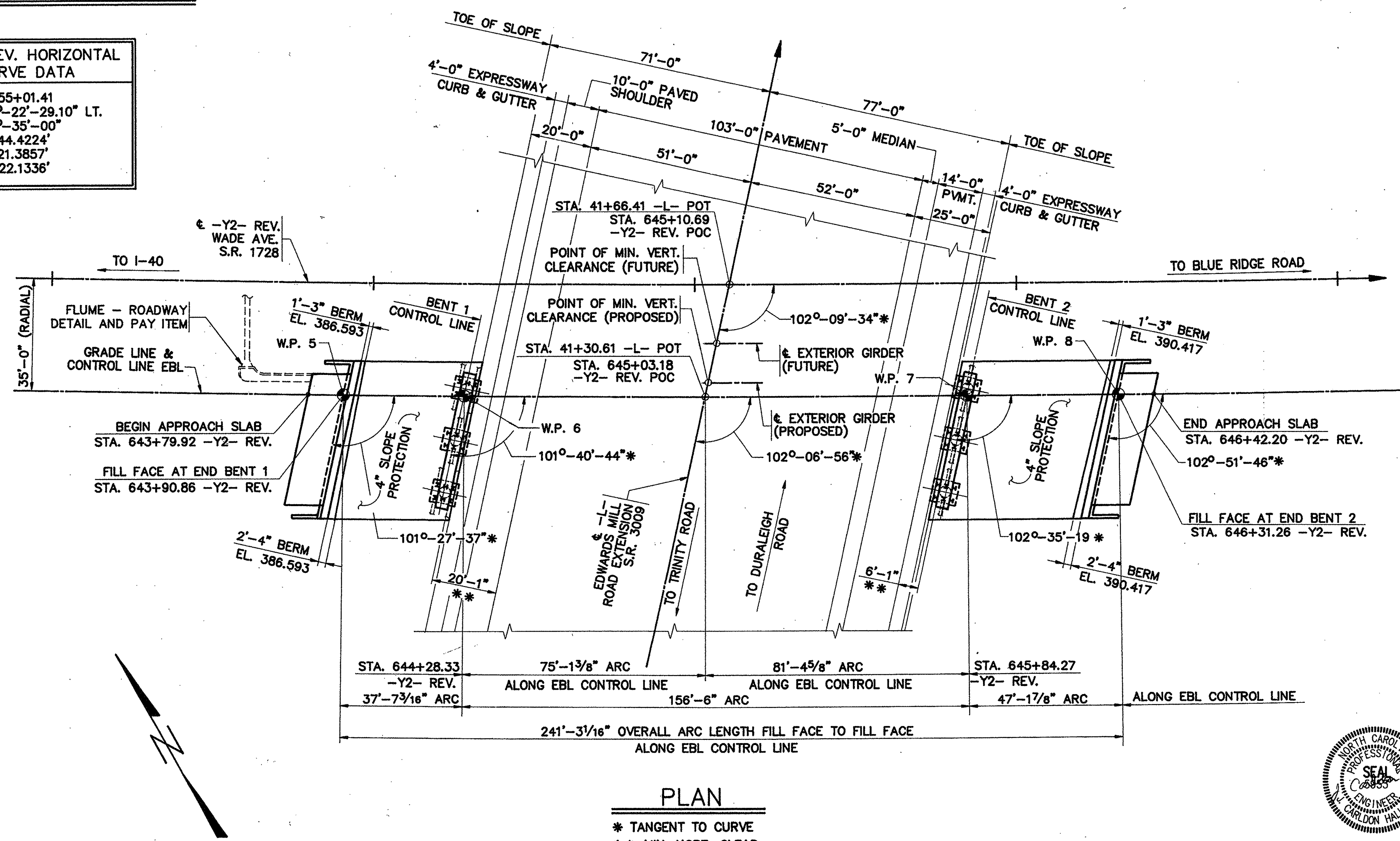
SECTION ALONG GRADE LINE – EBL

BENTS AND END BENTS ON SECTION AT RIGHT ANGLES TO BENTS



-Y2- REV. GRADE DATA

-Y2- REV. HORIZONTAL CURVE DATA
P.I. = 655+01.41
Δ = 33°-22'-29.10" LT.
D = 00°-35'-00"
T = 2,944.4224'
L = 5,721.3857'
R = 9,822.1336'



PLAN

* TANGENT TO CURVE
** MIN. HORZ. CLEAR TO FACE OF CAP

--NOTES--

ASSUMED LIVE LOAD = HS20-44 OR ALTERNATE LOADING.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE "STANDARD SPECIFICATIONS FOR SEISMIC DESIGN OF HIGHWAY BRIDGES", FOR SEISMIC PERFORMANCE CATEGORY A.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET S-N.

PILES FOR BENTS AND END BENTS SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 50 TONS EACH.

WORK SHALL NOT BE STARTED ON THIS BRIDGE UNTIL ROADWAY SECTION HAS BEEN EXCAVATED.

FOUNDATION EXCAVATION TO BE MEASURED FROM THE GRADED ROADWAY TYPICAL SECTION.

~~FOR ANCHOR BOLTS, SEE SPECIAL PROVISIONS.~~

THE EXISTING PAVEMENT WITHIN THE AREA OF THE END BENT PILES SHALL BE REMOVED AND THE ROADBED SCARIFIED TO A MINIMUM DEPTH OF 2'-0".

ALL STRUCTURAL STEEL FOR THIS STRUCTURE SHALL BE ASTM A588 STEEL WITH MINIMUM YIELD STRENGTH OF 50,000 PSI, UNLESS OTHERWISE NOTED ON THE PLANS.

FOR REINFORCED CONCRETE DECK SLAB, SEE SPECIAL PROVISIONS.

FOR FABRICATED METAL STAY-IN-PLACE FORMS, SEE SPECIAL PROVISIONS.

FOR CURING BRIDGE DECK SLABS, SEE THE SPECIAL PROVISION, "REINFORCED CONCRETE DECK SLAB".

THIS BRIDGE HAS BEEN DESIGNED BY STRENGTH DESIGN METHOD AS SPECIFIED IN AASHTO SPECIFICATIONS.

~~FOR PAINTING WEATHERING STEEL, SEE SPECIAL PROVISIONS.~~

ALL STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH THE 1995 STANDARD SPECIFICATIONS UNLESS NOTED OTHERWISE ON THE PLANS.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT DEWATERING SHOULD BE ANTICIPATED FOR CONSTRUCTION OF THE BENT 2 FOUNDATIONS SINCE GROUNDWATER IS PRESENT ABOVE THE PROPOSED BOTTOM OF FOOTING ELEVATION. EFFORT SHOULD BE MADE TO PROTECT THE INTEGRITY OF THE FOOTING SUBGRADE AT ALL TIMES.

FOR EROSION CONTROL PLANS FOR THIS STRUCTURE, SEE ROADWAY PLANS.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE THIRTY INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO THIRTY INCH SAMPLES OF EACH SIZE ARE USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SAME SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.

PREPARED IN THE OFFICE OF
NALLAMALA, HALL & WILSON, P.A.
WINSTON-SALEM, NORTH CAROLINA

PROJECT NO. U-2582A
WAKE COUNTY
STATION: 41+30.61 -L- POT
645+03.18 -Y2- REV. POC
SHEET 1 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING FOR BRIDGE ON S.R. 1728 (WADE AVENUE) OVER S.R. 3009 (EDWARDS MILL ROAD) EXTENSION BETWEEN I-40 AND BLUE RIDGE ROAD
EASTBOUND LANE

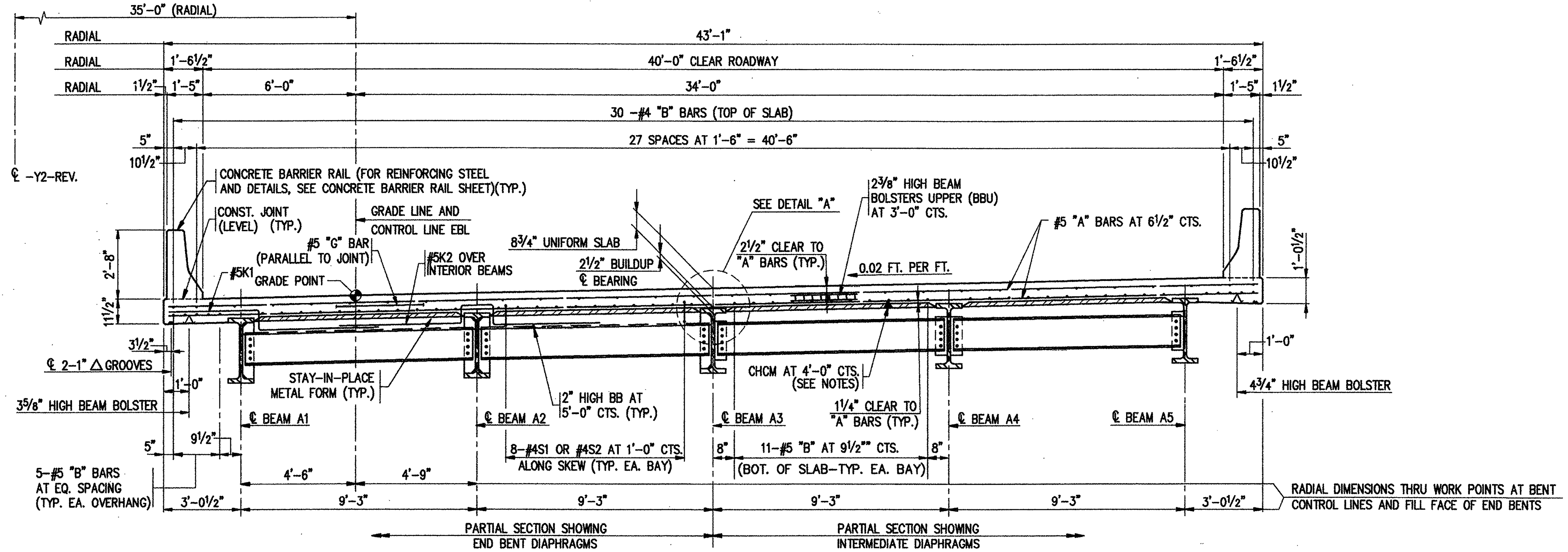
NOVEMBER 1994

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S-1
1			3			TOTAL SHEETS
2			4			72

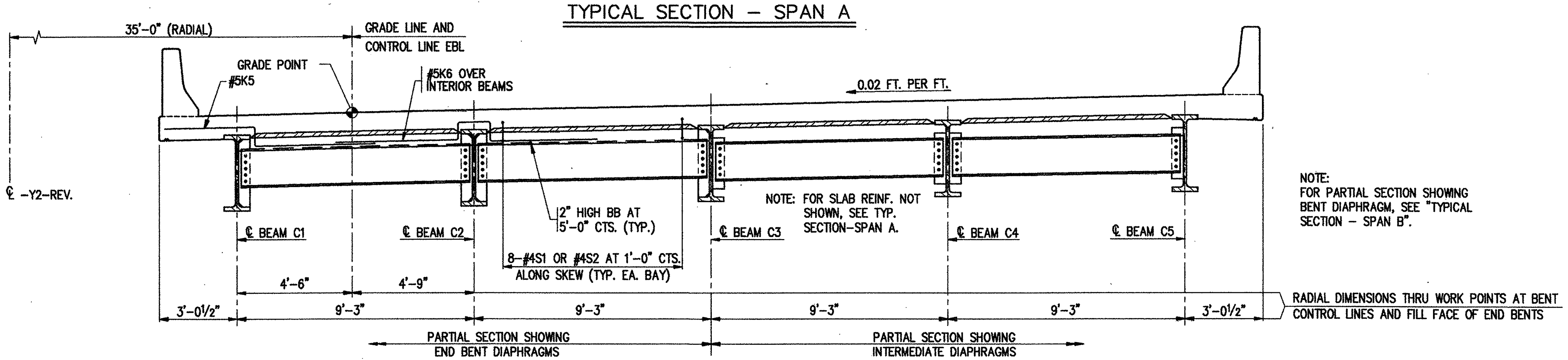
DRAWN BY PAUL W. PETERSON, JR DATE OCT. 21, 1994
CHECKED BY H. Fletcher Wilson Jr. DATE NOV 14, 1994
APPROVED BY ____ DATE ____

DWG. NO. 9413-37

1

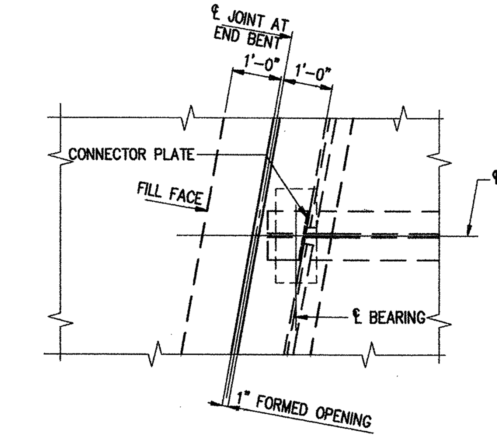


TYPICAL SECTION – SPAN A

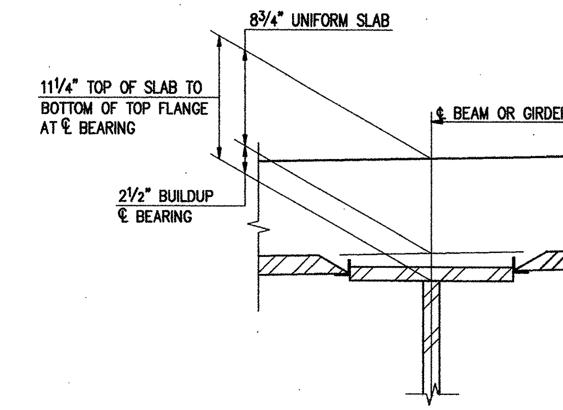


TYPICAL SECTION – SPAN C

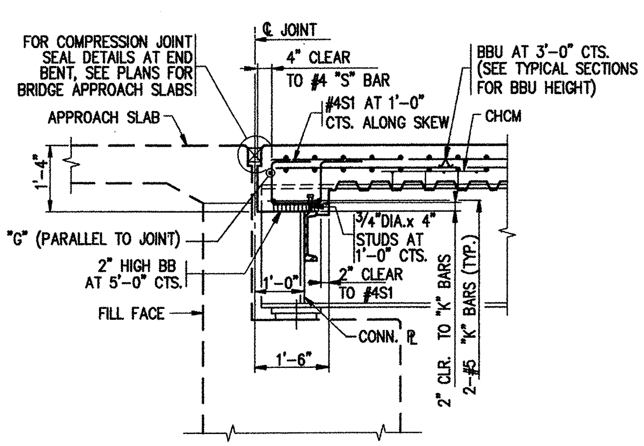
NOTE:
FOR PARTIAL SECTION SHOWING BENT DIAPHRAGM, SEE "TYPICAL SECTION – SPAN B".



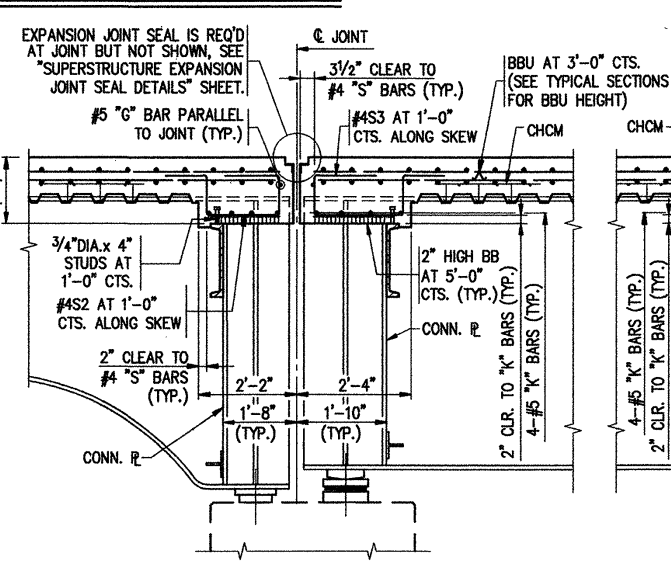
PLAN OF BEAM AT END BENT JOINT



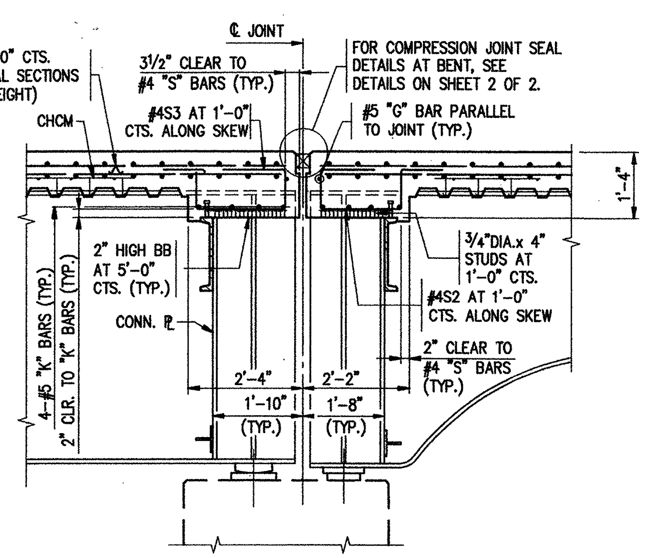
DETAIL "A"



SECTION THRU END BENT DIAPHRAGM



SECTION THRU BENT DIAPHRAGM AT BENT 1



SECTION THRU BENT DIAPHRAGM AT BENT 2

NORTH CAROLINA PROFESSIONAL SEAL 5953 ENGINEER CARLDON HALL, JR. 01/16/95
NORTH CAROLINA PROFESSIONAL SEAL 5382 ENGINEER FLETCHER WILSON, JR. 01/16/95

PREPARED IN THE OFFICE OF
NALLAMALA, HALL & WILSON, P.A.
WINSTON-SALEM, NORTH CAROLINA

PROJECT NO. U-2582A
WAKE COUNTY
STATION: 41+30.61-L-POT

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

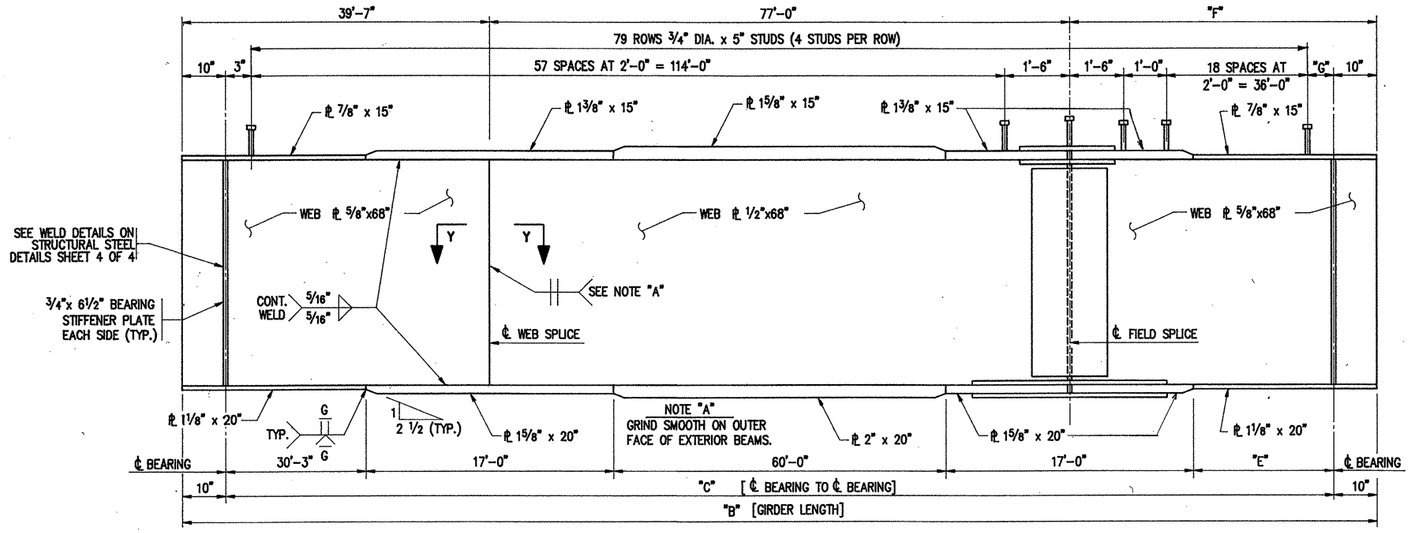
SUPERSTRUCTURE
TYPICAL SECTIONS
EASTBOUND LANE

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S-5
1			3			TOTAL SHEETS
2			4			72

DWG. NO. 9413 – 41

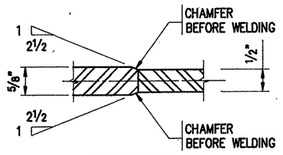
DRAWN BY A. STEPHEN CALLAWAY DATE JULY 25, 1994
CHECKED BY J. Carldon Hall, Jr. DATE NOV. 14, 1994
APPROVED BY DATE

JANUARY 09, 1995 2:48PM C:\-9413\SUPER\EBLTYP.DWG - SLABSEC, EBLSHT

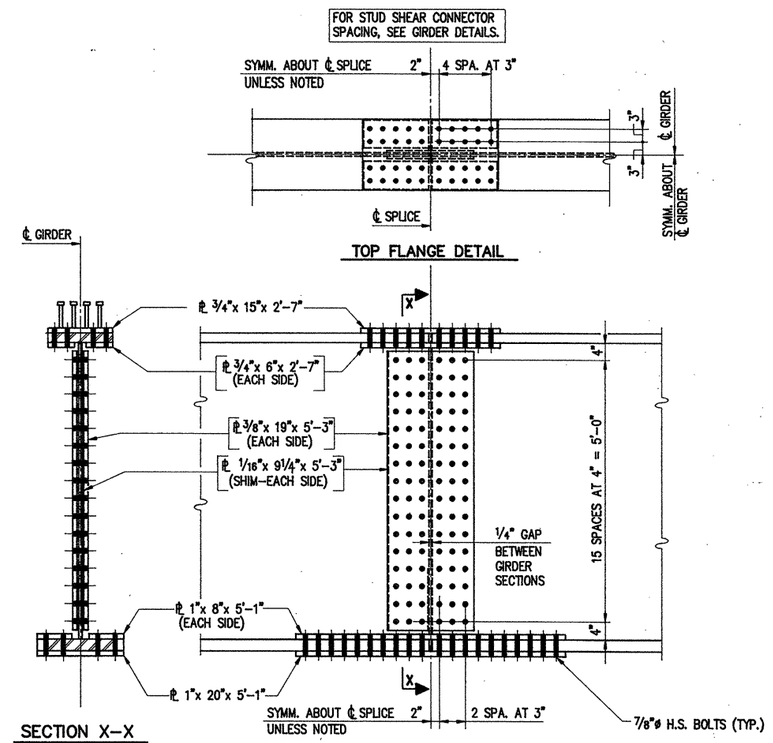


ELEVATION OF GIRDER AT SPAN B

(CONNECTOR PLATES NOT SHOWN)

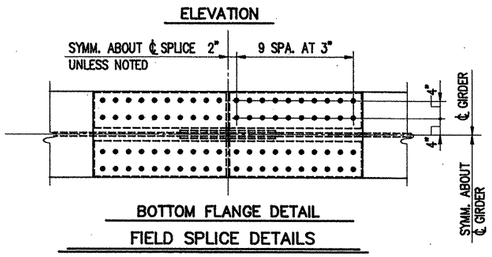


SECTION Y-Y



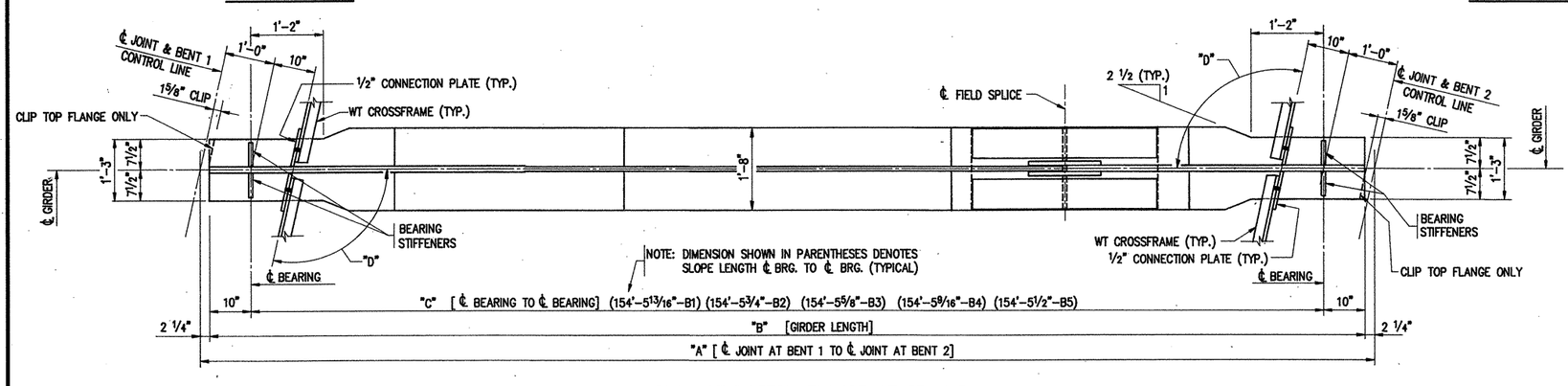
SECTION X-X

ELEVATION



BOTTOM FLANGE DETAIL

FIELD SPLICE DETAILS



PLAN OF BOTTOM FLANGE AT SPAN B

GIRDER DIMENSIONS – SPAN B							
GIRDER	DIM. "A"	DIM. "B"	DIM. "C"	ANGLE "D"	DIM. "E"	DIM. "F"	DIM. "G"
EXTERIOR – B1	156'-6"	156'-1½"	154'-5½"	102° 08' 22"	30'-2½"	39'-6½"	2½"
INTERIOR – B2	156'-5 15/16"	156'-1 7/16"	154'-5 7/16"	102° 07' 40"	30'-2 7/16"	39'-6 7/16"	2 7/16"
INTERIOR – B3	156'-5 13/16"	156'-1 5/16"	154'-5 5/16"	102° 06' 58"	30'-2 5/16"	39'-6 5/16"	2 5/16"
INTERIOR – B4	156'-5¾"	156'-1¼"	154'-5¼"	102° 06' 17"	30'-2¼"	39'-6¼"	2¼"
EXTERIOR – B5	156'-5 11/16"	156'-1 3/16"	154'-5 3/16"	102° 05' 36"	30'-2 3/16"	39'-6 3/16"	2 3/16"

DRAWN BY A. STEPHEN CALLAWAY DATE AUG. 2, 1994
CHECKED BY H. Wilson DATE 11-14-94
APPROVED BY DATE

PREPARED IN THE OFFICE OF
NALLAMALA, HALL & WILSON, P.A.
WINSTON-SALEM, NORTH CAROLINA

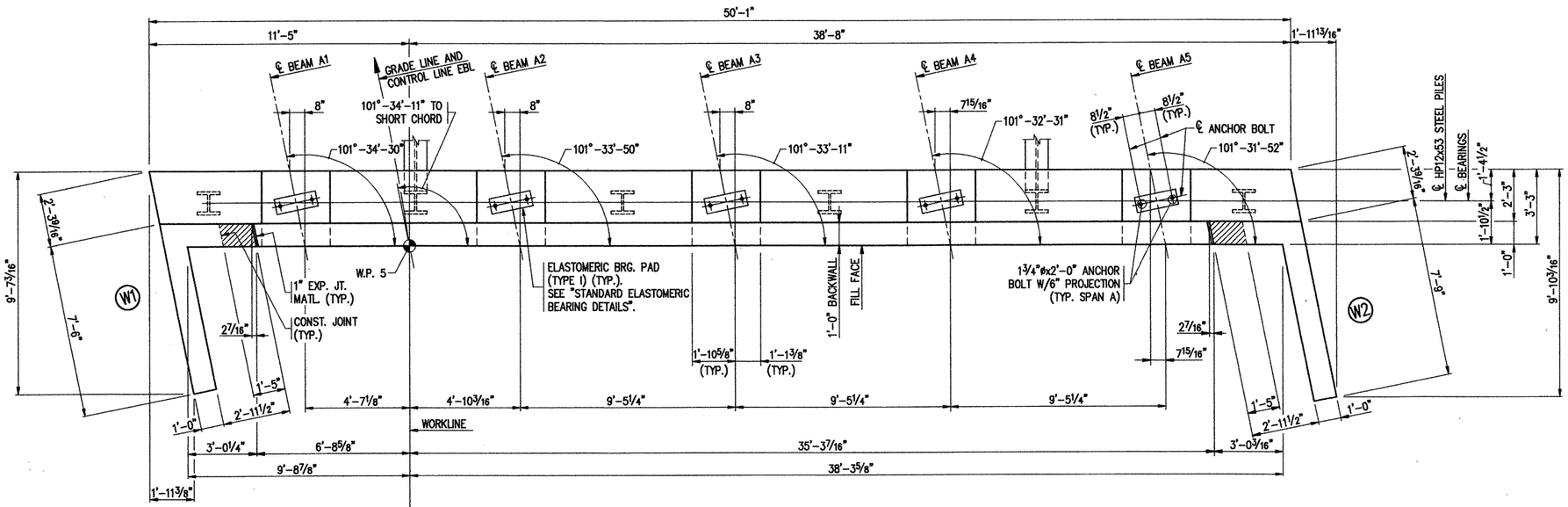
PROJECT NO. U-2582A
WAKE COUNTY
STATION: 41+30.61 -L- POT

SHEET 2 OF 4

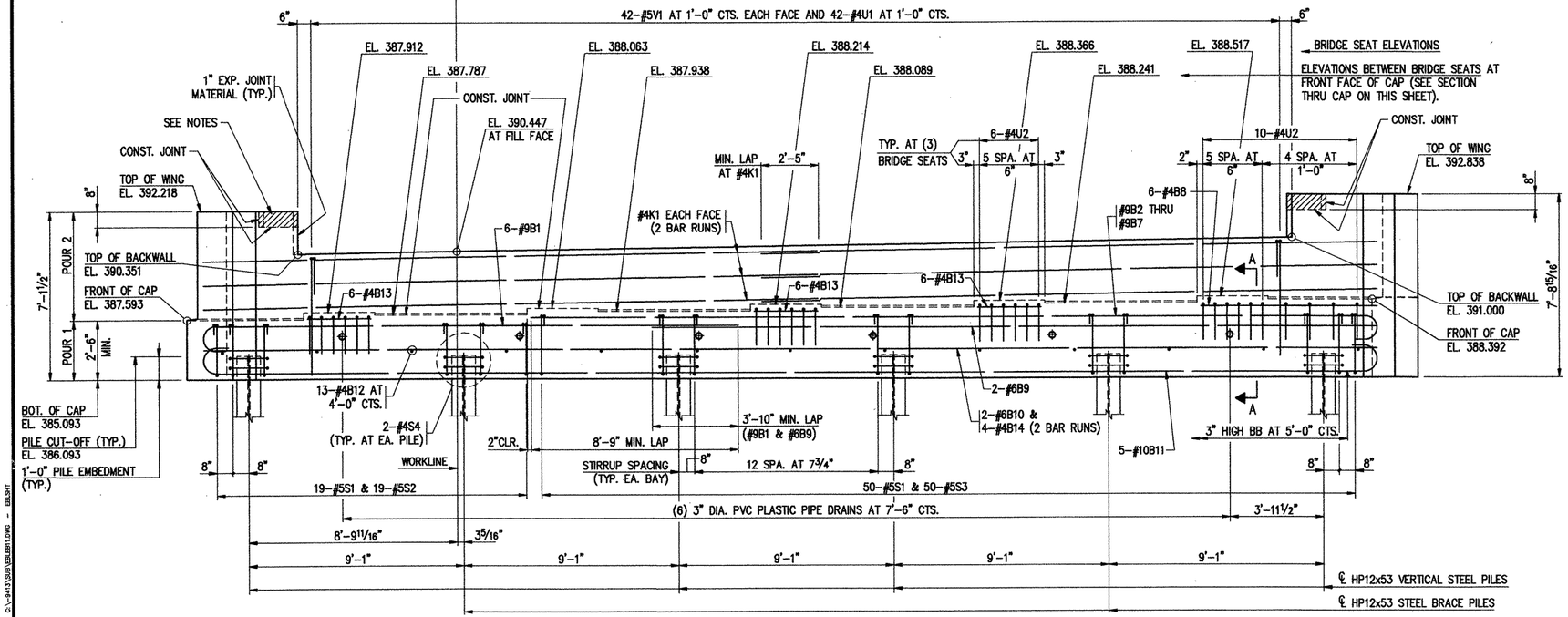
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
STRUCTURAL STEEL DETAILS
EASTBOUND LANE

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S-12
1			3			TOTAL SHEETS
2			4			72

DWG. NO. 9413-48



PLAN



ELEVATION

NOTES

PIPE DRAINS MAY BE SHIFTED AS NECESSARY TO CLEAR REINFORCING STEEL AND ANCHOR BOLTS.

THE TOP SURFACE OF THE END BENT CAP SHALL BE CURED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS EXCEPT THE MEMBRANE CURING COMPOUND SHALL NOT BE USED.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

BACKWALL SHALL BE PLACED BEFORE APPLYING THE EPOXY PROTECTIVE COATING.

THE TOP SURFACE OF THE END BENT CAP EXCEPT THE BRIDGE SEAT BUILD-UPS SHALL BE SLOPED TRANSVERSELY FROM THE FILL FACE TO THE BACK FACE AT A RATE OF 1/4 PER FOOT.

THE CONCRETE IN THE CROSS HATCHED AREAS OF THE WING SHALL BE POURED AFTER THE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

STIRRUPS IN CAP MAY BE SHIFTED SLIGHTLY IF NECESSARY TO CLEAR ANCHOR BOLTS.

DO NOT APPLY EPOXY PROTECTIVE COATING UNDER ELASTOMERIC BEARINGS.

PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 50 TONS EACH.

FOR PIPE DRAIN DETAILS SEE END BENT 2 SHEET 3 OF 3.

FOR PILE SPLICE DETAILS SEE END BENT 2 SHEET 3 OF 3.

FOR TEMPORARY DRAINAGE AT END BENTS SEE END BENT 2 SHEET 3 OF 3.

NORTH CAROLINA PROFESSIONAL SEAL 5953 ENGINEER CARLTON HALL JR. 01/16/95

NORTH CAROLINA PROFESSIONAL SEAL 5382 ENGINEER FLETCHER WILSON 01/16/95

PREPARED IN THE OFFICE OF
NALLAMALA, HALL & WILSON, P.A.
WINSTON-SALEM, NORTH CAROLINA

PROJECT NO. U-2582A

WAKE COUNTY

STATION: 41+30.61-L-POT

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

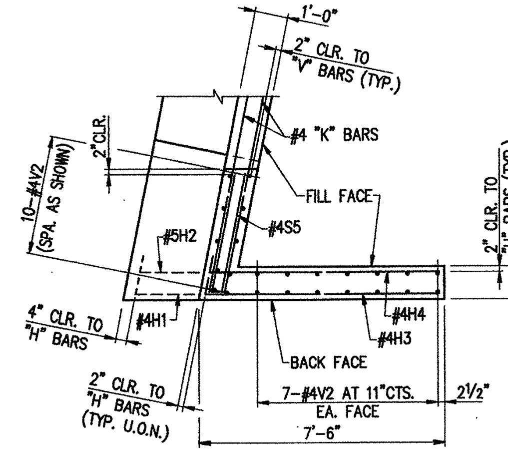
SUBSTRUCTURE END BENT 1 EASTBOUND LANE

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S-25
1			3			TOTAL SHEETS
2			4			72

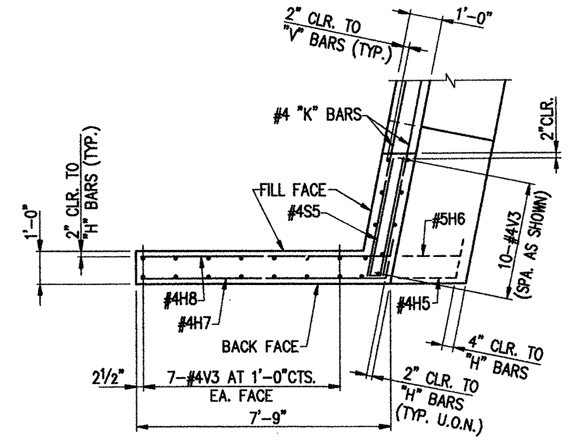
DWG. NO. 9413 - 61

DRAWN BY: LEE A. WILLIAMS DATE: 9-2-94
CHECKED BY: J. Carlton Hall, Jr. DATE: NOV 11, 1994
APPROVED BY: DATE:

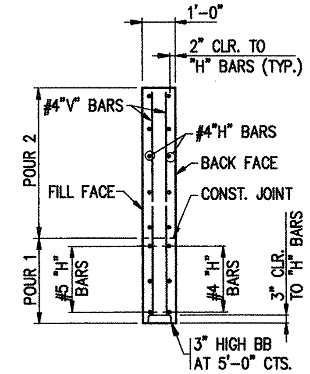
JANUARY 09, 1995 3:27PM C:\-9413\SUB\EBS11.DWG - EBLSHT



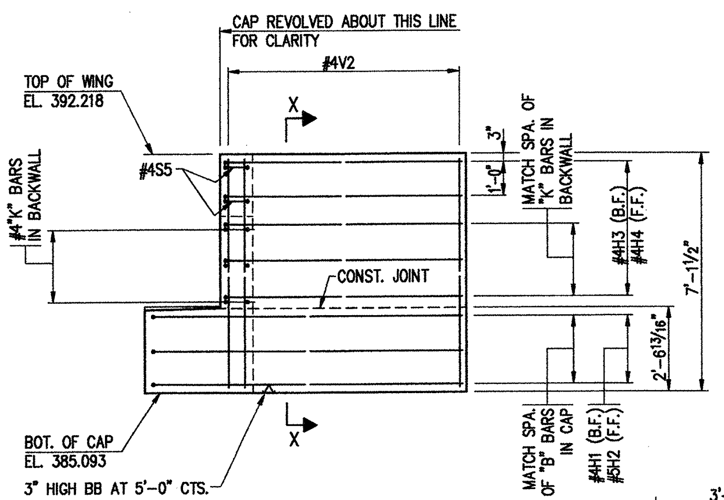
PLAN OF WING (W1)



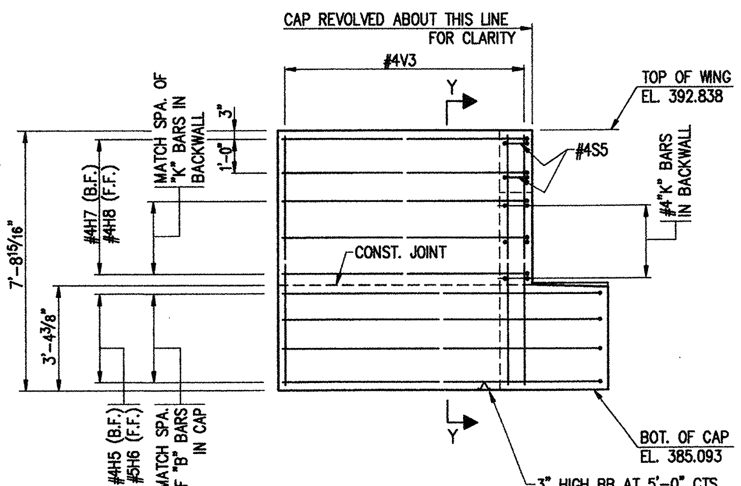
PLAN OF WING (W2)



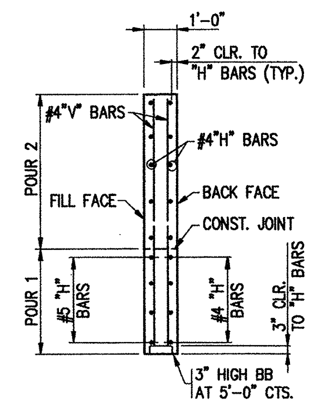
SECTION X–X



ELEVATION OF WING (W1)

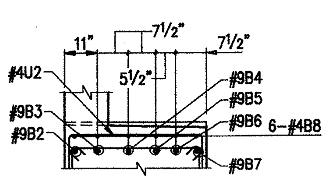


ELEVATION OF WING (W2)



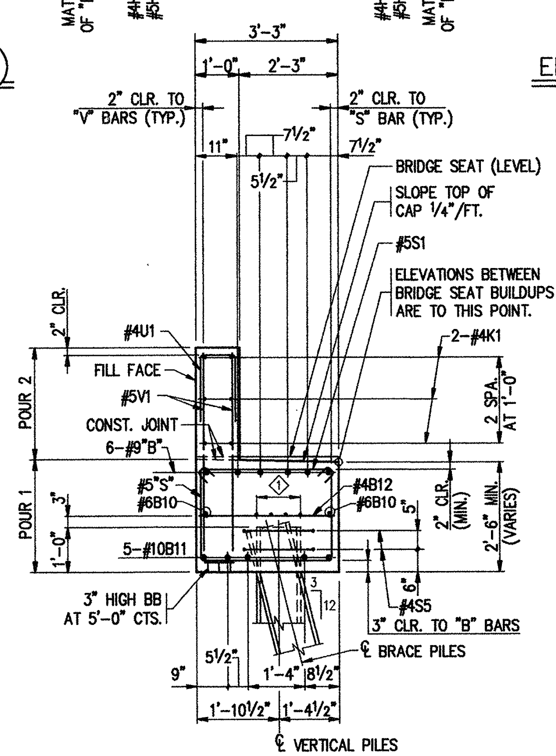
SECTION Y–Y

NOTE:
F.F. DENOTES FILL FACE
B.F DENOTES BACK FACE



SECTION A–A

FOR DETAILS NOT SHOWN SEE "SECTION THRU CAP".

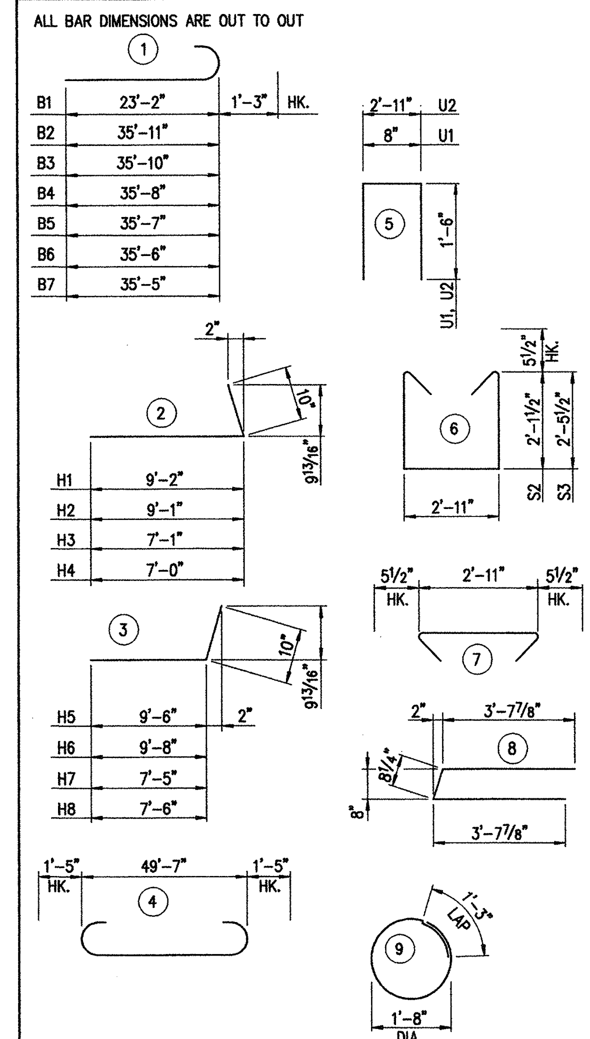


SECTION THRU CAP

(1) 4-#4B14 AT 4" CENTERED OVER PILE.

BILL OF MATERIALS

BAR TYPES

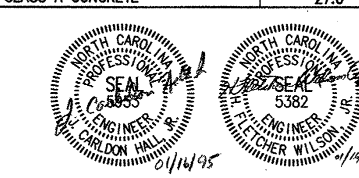


END BENT 1 – EBL

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	6	#9	(1)	24'-5"	498
B2	1	#9	(1)	37'-2"	126
B3	1	#9	(1)	37'-1"	126
B4	1	#9	(1)	36'-11"	126
B5	1	#9	(1)	36'-10"	125
B6	1	#9	(1)	36'-9"	125
B7	1	#9	(1)	36'-8"	125
B8	6	#4	STR.	7'-0"	28
B9	2	#6	STR.	30'-5"	91
B10	2	#6	STR.	49'-7"	149
B11	5	#10	(4)	52'-5"	1128
B12	13	#4	STR.	2'-11"	25
B13	18	#4	STR.	2'-8"	32
B14	8	#4	STR.	25'-9"	138
H1	3	#4	(2)	10'-0"	20
H2	3	#5	(2)	9'-11"	31
H3	5	#4	(2)	7'-11"	26
H4	5	#4	(2)	7'-10"	26
H5	4	#4	(3)	10'-4"	28
H6	4	#5	(3)	10'-6"	44
H7	5	#4	(3)	8'-3"	28
H8	5	#4	(3)	8'-4"	28
K1	12	#4	STR.	26'-0"	208
S1	69	#5	(7)	3'-10"	276
S2	19	#5	(6)	8'-1"	160
S3	50	#5	(6)	8'-9"	456
S4	12	#4	(9)	6'-6"	52
S5	4	#4	(8)	8'-0"	21
U1	42	#4	(5)	3'-8"	103
U2	28	#4	(5)	5'-11"	111
V1	84	#5	STR.	4'-10"	423
V2	24	#4	STR.	6'-9"	108
V3	24	#4	STR.	7'-4'	118

SUMMARY OF QUANTITIES

HP 12x53 STEEL PILES	NO. 6	LIN. FT. 300
TOTAL REINFORCING STEEL (LBS.)		5109
CLASS A CONCRETE BREAKDOWN		CU.YDS.
POUR 1 (CAP, WALLS)		19.5
POUR 2 (WALLS)		7.5
TOTAL CLASS A CONCRETE		27.0



PREPARED IN THE OFFICE OF
NALLAMALA, HALL & WILSON, P.A.
WINSTON-SALEM, NORTH CAROLINA

PROJECT NO. U-2582A

WAKE COUNTY

STATION: 41+30.61–L–POT

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

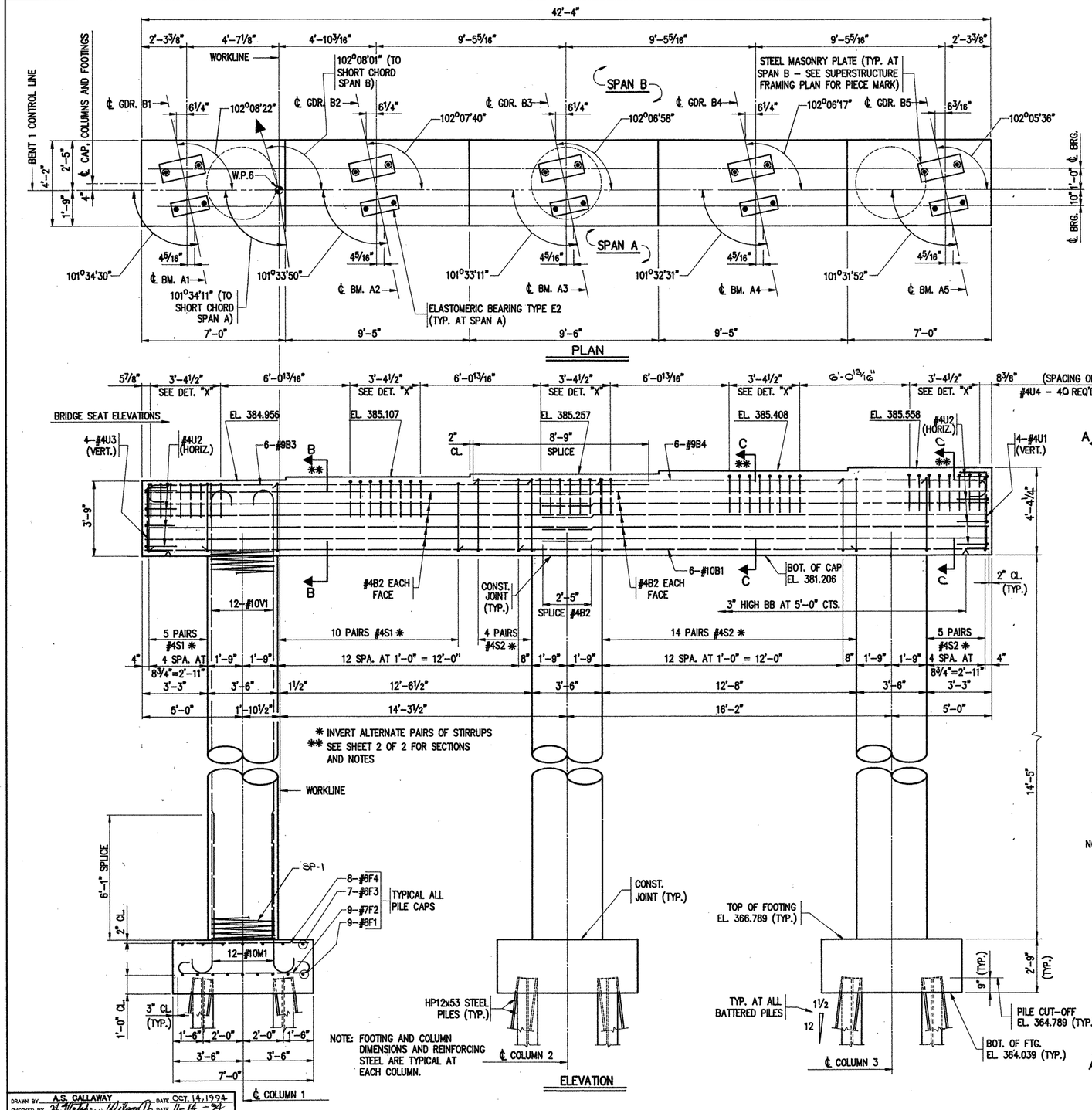
SUBSTRUCTURE
END BENT 1
EASTBOUND LANE

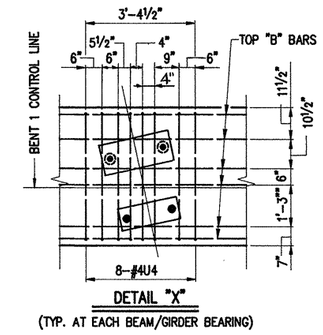
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S-26
1			3			TOTAL SHEETS
2			4			72

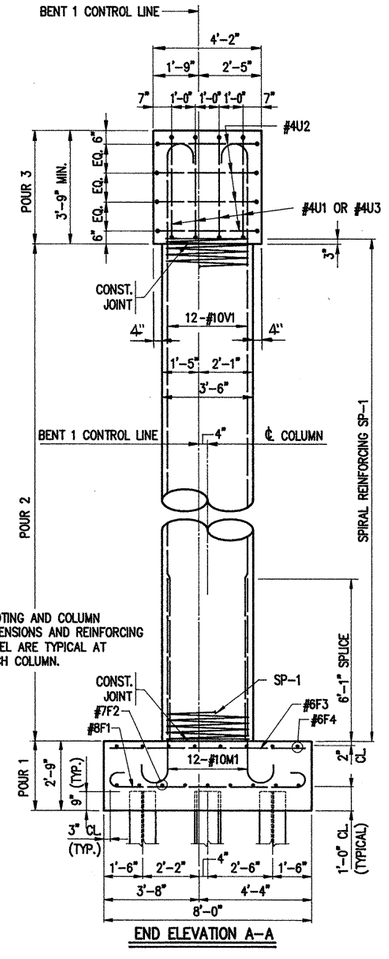
DWG. NO. 9413 – 62

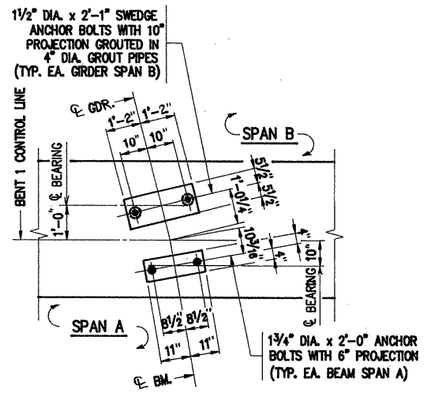
DRAWN BY	LEE A. WILLIAMS	DATE	9-13-94
CHECKED BY	J. Carldon Hall Jr.	DATE	NOV. 14, 1994
APPROVED BY		DATE	

JANUARY 09, 1995 3:29PM C:\-9413\SUB\EBLEB1S2.DWG - EB1SECE, EBLSHT









TYPICAL ANCHOR BOLT SETTING DETAIL

SEE BEARING DETAIL SHEETS FOR DETAILS OF ANCHOR BOLTS AND BEARING PLATES

NOTES

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE CENTERLINE JOINT IN THE DECK SLAB (CONTROL LINE) IS OFFSET FROM THE CENTERLINE BENT.

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS OR GROUT PIPES.

HOOKS ON "V" AND "M" BARS MAY BE TURNED AS NECESSARY FOR PLACING REINFORCING STEEL.

THE TOP SURFACE AREAS OF BENT CAP SHALL BE CURED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS EXCEPT THE MEMBRANE CURING COMPOUND METHOD SHALL NOT BE USED.

FOR SPIRAL COLUMN REINFORCING STEEL, SEE SPECIAL PROVISIONS.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 50 TONS EACH.

FOR PILE SPLICE DETAILS SEE END BENT 2, SHEET 2 OF 3.

NORTH CAROLINA PROFESSIONAL SEAL 5363 ENGINEER GORDON HALL JR. 01/16/95

NORTH CAROLINA PROFESSIONAL SEAL 5382 ENGINEER FLETCHER WILSON III 01/16/95

PREPARED IN THE OFFICE OF
NALLAMALA, HALL & WILSON, P.A.
WINSTON–SALEM, NORTH CAROLINA

PROJECT NO. U–2582A
WAKE COUNTY
STATION: 41+30.61–L–POT

SHT. 1 OF 2

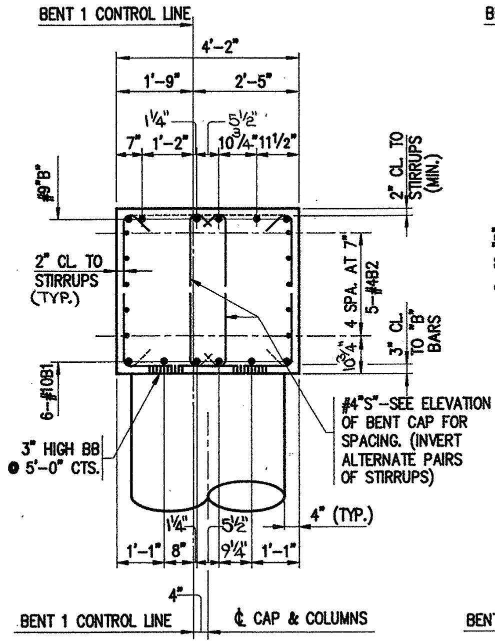
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT 1
EASTBOUND LANE

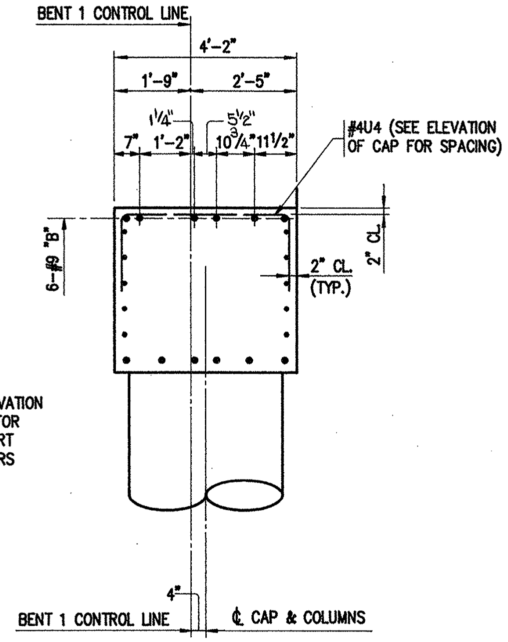
DRAWN BY: A.S. CALLAWAY DATE: OCT. 14, 1994
CHECKED BY: H. Fletcher Wilson III DATE: 11-14-94
APPROVED BY: DATE:

DWG. NO. 9413–03

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S-27
1			3			TOTAL SHEETS
2			4			72



SECTION B-B



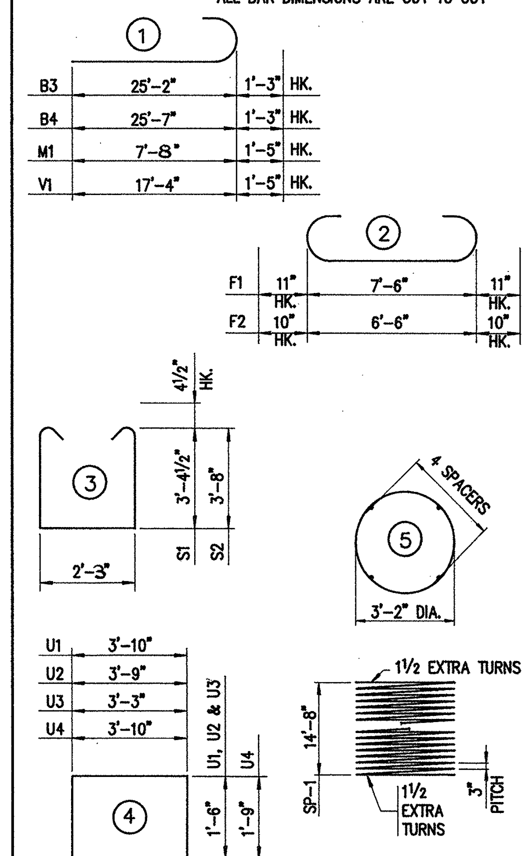
SECTION C-C

STIRRUPS NOT SHOWN FOR CLARITY.

BILL OF MATERIALS

BAR TYPES

ALL BAR DIMENSIONS ARE OUT TO OUT

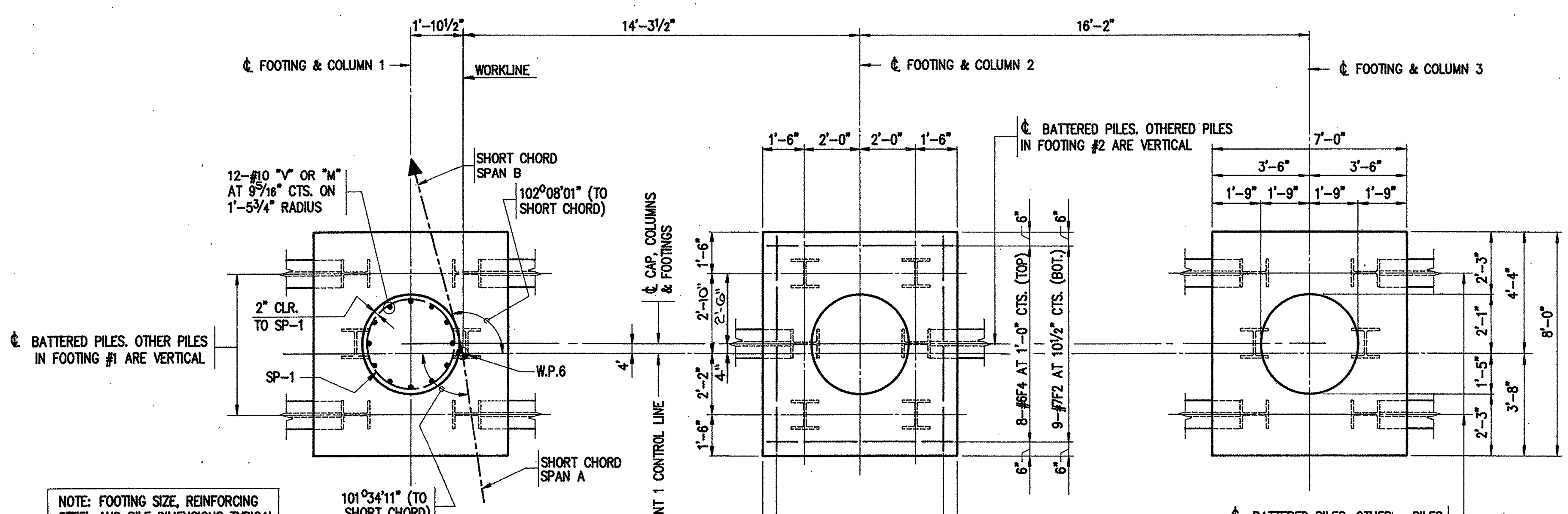


BENT 1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	6	#10	STR.	42'-0"	1084
B2	20	#4	STR.	22'-3"	297
B3	6	#9	①	26'-5"	539
B4	6	#9	①	26'-10"	547
F1	27	#8	②	9'-4"	673
F2	27	#7	②	8'-2"	451
F3	21	#6	STR.	7'-6"	237
F4	24	#6	STR.	6'-6"	234
M1	36	#10	①	9'-1"	1407
S1	30	#4	③	9'-9"	195
S2	46	#4	③	10'-4"	318
U1	4	#4	④	6'-10"	18
U2	8	#4	④	6'-9"	36
U3	4	#4	④	6'-3"	17
U4	40	#4	④	7'-4"	196
V1	36	#10	①	18'-9"	2905
SP-1	3		⑤	605'-8"	1214

SUMMARY OF QUANTITIES

TOTAL REINFORCING STEEL (LBS.)		9,154
TOTAL SPIRAL COLUMN REINF. (LBS.)		1,214
CLASS "A" CONCRETE BREAKDOWN		CU. YDS.
POUR 1 (FOOTINGS)		17.1
POUR 2 (COLUMNS)		15.4
POUR 3 (CAP)		26.5
TOTAL CLASS "A" CONCRETE		59.0
FOUNDATION EXCAVATION (CU. YDS.)		85
HP12x53 PILES	NO. 18	LIN. FT. 630



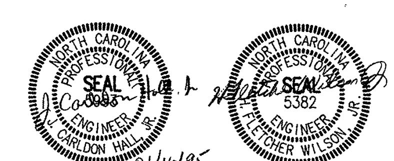
NOTE: FOOTING SIZE, REINFORCING STEEL AND PILE DIMENSIONS TYPICAL FOR ALL FOOTINGS

PLAN OF FOOTINGS

PREPARED IN THE OFFICE OF
NALLAMALA, HALL & WILSON, P.A.
WINSTON-SALEM, NORTH CAROLINA

PROJECT NO. U-2582A
WAKE COUNTY
STATION: 41+30.61-L-POT

SHT. 2 OF 2



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT 1
EASTBOUND LANE

REVISIONS						
NO.	BY	DATE	NO.	BY	DATE	
1			3			
2			4			

SHEET NO. S-28
TOTAL SHEETS 72

DWG. NO. 9413-64

DRAWN BY A.S. CALLAWAY DATE Oct. 14, 1994
CHECKED BY H. Fletcher Wilson DATE 11-14-94
APPROVED BY DATE