

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

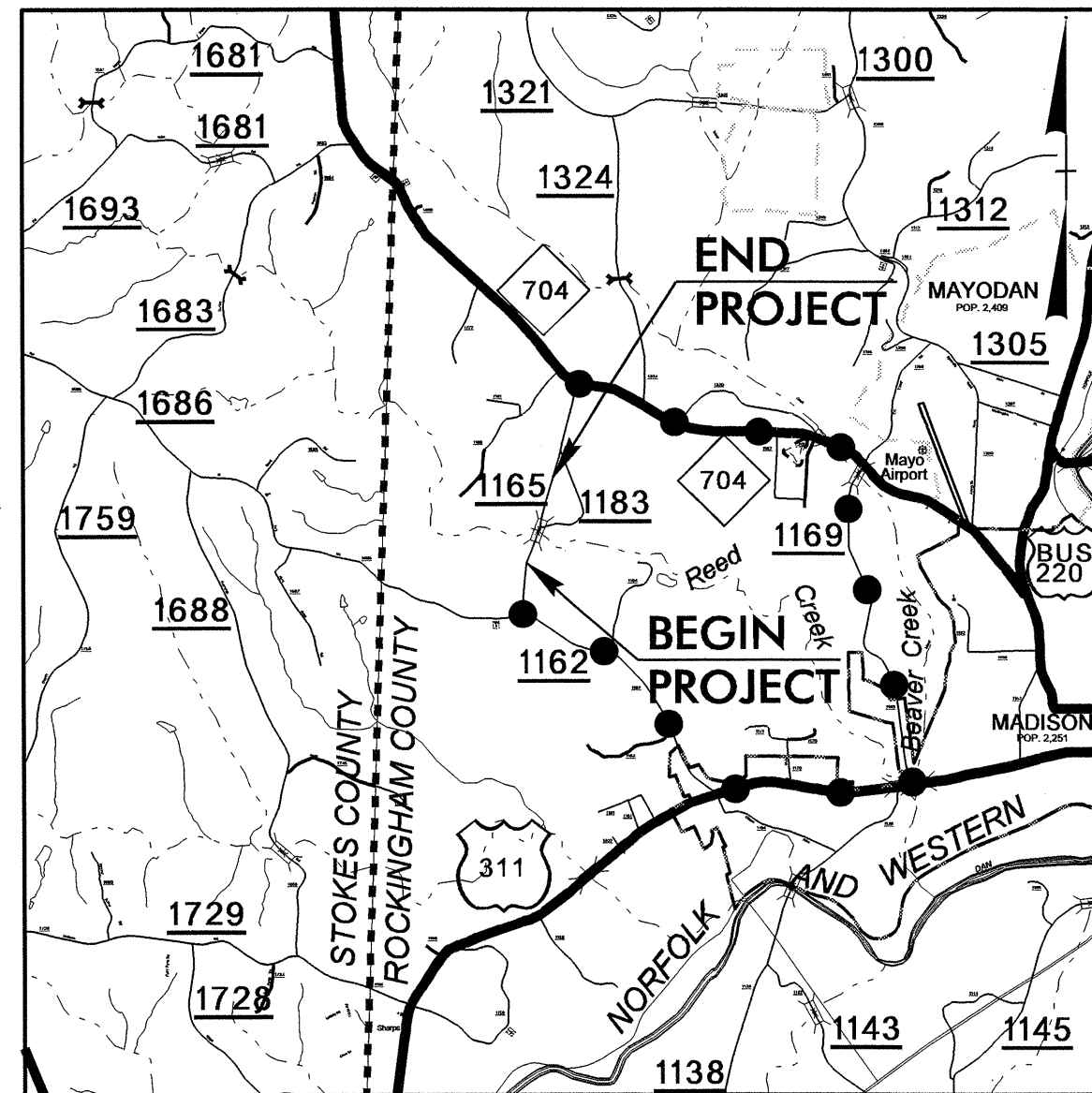
ROCKINGHAM COUNTY

LOCATION: BRIDGE NO. 249 OVER LITTLE BEAVER ISLAND CREEK
ON SR 1165 (CARDINAL RD.)

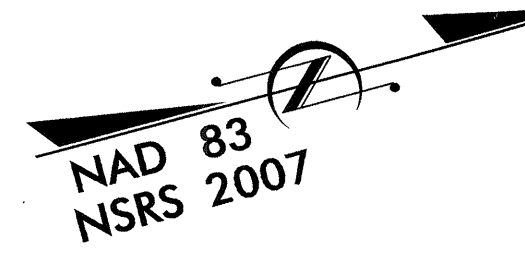
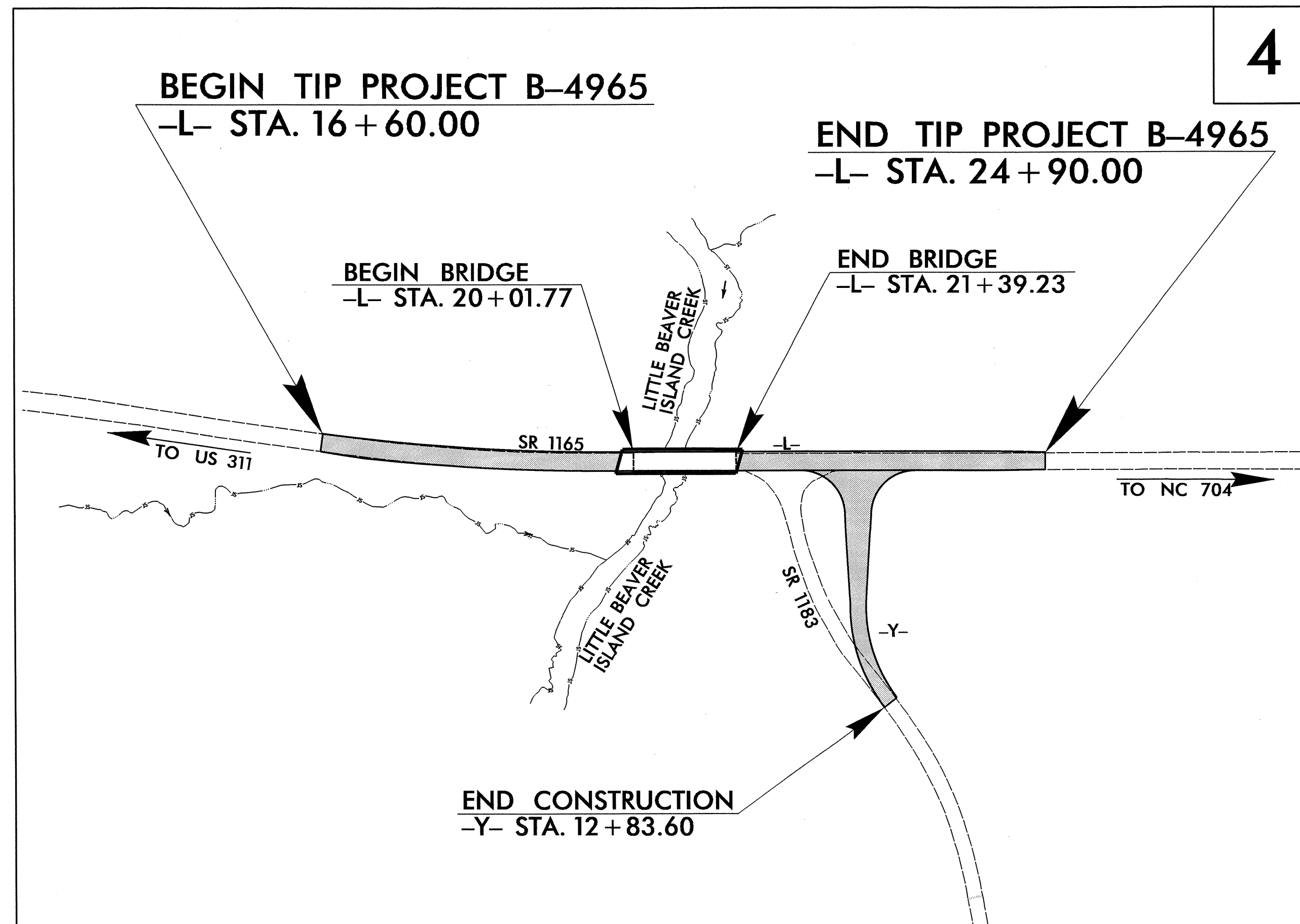
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE

| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C. | B-4965 | 1 | |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| 40243.1.1 | BRZ-1165(6) | PE | |
| 40243.2.1 | BRZ-1165(6) | RW, UTL | |
| 40243.3.1 | BRZ-1165(6) | CONST. | |

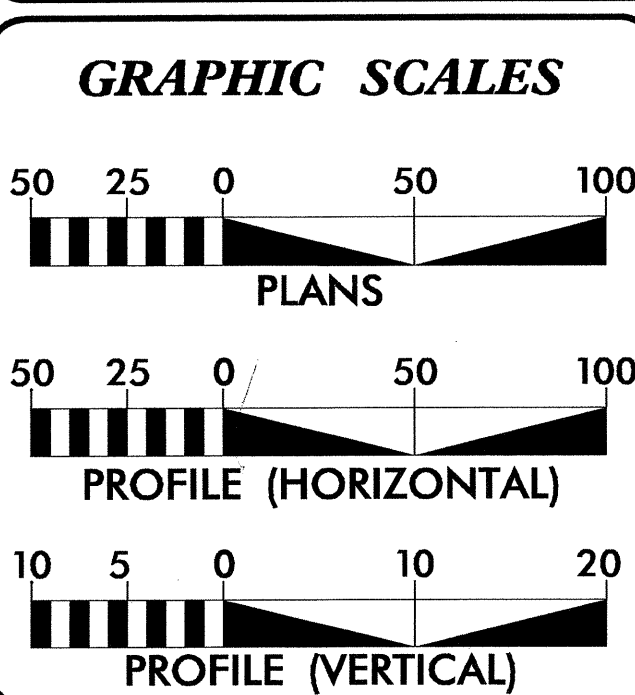
TIP PROJECT: B-4965



VICINITY MAP
●●●●● OFFSITE DETOUR



DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE K FACTORS AND NIGHTTIME SSD



DESIGN DATA

| | |
|------------------------|---------|
| ADT 2012 = | 1,760 |
| ADT 2035 = | 2,200 |
| DHV = | 12 % |
| D i = | 60 % |
| T = | 4 % * |
| V = | 60 MPH |
| * TTST 1% | DUAL 3% |
| FUNC CLASS=RURAL LOCAL | |
| SUB REGIONAL TIER | |

PROJECT LENGTH

| | |
|---------------------------------------|----------|
| LENGTH ROADWAY TIP PROJECT B-4965 = | 0.131 MI |
| LENGTH STRUCTURE TIP PROJECT B-4965 = | 0.026 MI |
| TOTAL LENGTH OF TIP PROJECT B-4965 = | 0.157 MI |

Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 10, 2012

LETTING DATE:
MARCH 19, 2013

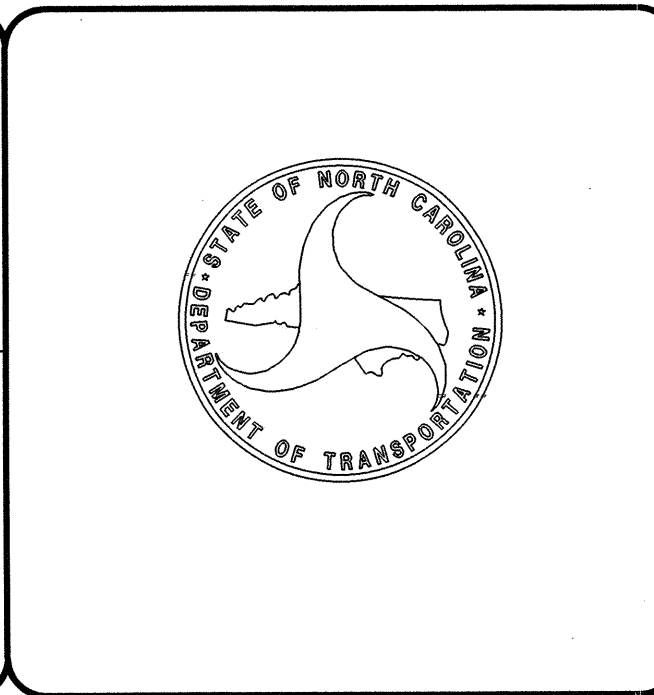
JAMES A. SPEER, PE
PROJECT ENGINEER

ALLISON K. WHITE
PROJECT DESIGN ENGINEER

HYDRAULIC ENGINEER

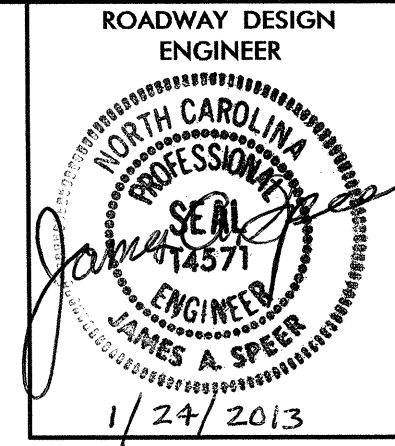
ROADWAY DESIGN ENGINEER

James A. Speer
SIGNATURE: 12/26/2012



20-DEC-2012 13:47
R:\Roadway\Proj\B4965_rdy_tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

CONTRACT: 203086



| SHEET NUMBER | INDEX OF SHEETS | SHEET |
|--------------------|---|-------|
| 1 | TITLE SHEET | |
| 1-A | INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS | |
| 1-B | CONVENTIONAL SYMBOLS | |
| 1-C | SURVEY CONTROL SHEET | |
| 2 | PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS | |
| 3 | SUMMARY OF QUANTITIES | |
| 3A | SUMMARY OF DRAINAGE QUANTITIES SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, ASPHALT PAVEMENT REMOVAL SUMMARY, AND SHOULDER BERM GUTTER SUMMARY | |
| 3B | GEO TECH SUMMARY SHEET | |
| 4 | PLAN SHEET | |
| 5 | PROFILE SHEET | |
| TMP-1 THRU TMP-3 | TRAFFIC CONTROL PLANS | |
| PMP-1 | PAVEMENT MARKING PLANS | |
| EC-1 THRU EC-5 | EROSION CONTROL PLANS | |
| SIGN-1 THRU SIGN-2 | SIGNING PLANS | |
| X-1A | CROSS-SECTIONS VOLUME SHEET | |
| X-1 THRU X-6 | CROSS-SECTIONS | |
| S-1 THRU S-21 | STRUCTURE PLANS | |

GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 07/30/12

GRADING AND SURFACING OR RESURFACING AND WIDENING:
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:
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SUPERELEVATION:
ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 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.

SIDE ROADS:
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.

GUARDRAIL:
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.

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

END BENTS:
THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

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

ROCK
ROCK IS ANTICIPATED BETWEEN -Y- STA 10+30 - 12+50. BLASTING MAY BE REQUIRED FOR EXCAVATION ON THE PROJECT. SEE SECTION 220 OF THE STANDARD SPECIFICATIONS AND IF APPLICABLE, ROCK BLASTING PROVISION.

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

| STD. NO. | TITLE |
|--|---|
| DIVISION 2 - EARTHWORK | |
| 200.02 | Method of Clearing - Method II |
| 225.02 | Guide for Grading Subgrade - Secondary and Local |
| 225.04 | Method of Obtaining Superelevation - Two Lane Pavement |
| DIVISION 3 - PIPE CULVERTS | |
| 300.01 | Method of Pipe Installation |
| 310.10 | Driveway Pipe Construction |
| DIVISION 4 - MAJOR STRUCTURES | |
| 422.11 | Reinforced Bridge Approach Fills - Sub Regional Tier |
| DIVISION 5 - SUBGRADE, BASES AND SHOULDERS | |
| 560.01 | Method of Shoulder Construction - High Side of Superelevated Curve - Method I |
| DIVISION 6 - ASPHALT BASES AND PAVEMENTS | |
| 654.01 | Pavement Repairs |
| DIVISION 8 - INCIDENTALS | |
| 806.01 | Concrete Right-of-Way Marker |
| 806.02 | Granite Right-of-Way Marker |
| 815.03 | Pipe Underdrain and Blind Drain |
| 862.01 | Guardrail Placement |
| 862.02 | Guardrail Installation |
| 862.03 | Structure Anchor Units |
| 876.01 | Rip Rap in Channels |
| 876.02 | Guide for Rip Rap at Pipe Outlets |

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

| | |
|--|---------|
| State Line | ----- |
| County Line | ----- |
| Township Line | ----- |
| City Line | ----- |
| Reservation Line | ----- |
| Property Line | ----- |
| Existing Iron Pin | ○ EIP |
| Property Corner | ----- |
| Property Monument | EDM |
| Parcel/Sequence Number | (123) |
| Existing Fence Line | -x-x-x- |
| Proposed Woven Wire Fence | ○ |
| Proposed Chain Link Fence | □ |
| Proposed Barbed Wire Fence | ◇ |
| Existing Wetland Boundary | -WLB- |
| Proposed Wetland Boundary | -WLB- |
| Existing Endangered Animal Boundary | -EAB- |
| Existing Endangered Plant Boundary | -EPB- |
| Known Soil Contamination: Area or Site | ☠ ☠ |
| Potential Soil Contamination: Area or Site | ☐ ? ? |

BUILDINGS AND OTHER CULTURE:

| | |
|-------------------------------|-----|
| Gas Pump Vent or U/G Tank Cap | ○ |
| Sign | ○ S |
| Well | ○ W |
| Small Mine | ⊗ |
| Foundation | ▭ |
| Area Outline | ▭ |
| Cemetery | ▭ |
| Building | ▭ |
| School | ▭ |
| Church | ▭ |
| Dam | ▭ |

HYDROLOGY:

| | |
|------------------------------------|--------|
| Stream or Body of Water | ----- |
| Hydro, Pool or Reservoir | ▭ |
| Jurisdictional Stream | -JS- |
| Buffer Zone 1 | -BZ 1- |
| Buffer Zone 2 | -BZ 2- |
| Flow Arrow | ← |
| Disappearing Stream | → |
| Spring | ○ |
| Wetland | ▭ |
| Proposed Lateral, Tail, Head Ditch | ▭ |
| False Sump | ▭ |

RAILROADS:

| | |
|--------------------|-----------------------------------|
| Standard Gauge | ----- |
| RR Signal Milepost | CSX TRANSPORTATION MILEPOST 35 |
| Switch | SWITCH |
| RR Abandoned | ----- |
| RR Dismantled | ----- |

RIGHT OF WAY:

| | |
|---|-------|
| Baseline Control Point | ◇ |
| Existing Right of Way Marker | △ |
| Existing Right of Way Line | ----- |
| Proposed Right of Way Line | ----- |
| Proposed Right of Way Line with Iron Pin and Cap Marker | ----- |
| Proposed Right of Way Line with Concrete or Granite RW Marker | ----- |
| Proposed Control of Access Line with Concrete C/A Marker | ----- |
| Existing Control of Access | ----- |
| Proposed Control of Access | ----- |
| Existing Easement Line | -E- |
| Proposed Temporary Construction Easement | -E- |
| Proposed Temporary Drainage Easement | -TDE- |
| Proposed Permanent Drainage Easement | -PDE- |
| Proposed Permanent Drainage / Utility Easement | -DUE- |
| Proposed Permanent Utility Easement | -PUE- |
| Proposed Temporary Utility Easement | -TUE- |
| Proposed Aerial Utility Easement | -AUE- |
| Proposed Permanent Easement with Iron Pin and Cap Marker | ----- |

ROADS AND RELATED FEATURES:

| | |
|----------------------------|-------|
| Existing Edge of Pavement | ----- |
| Existing Curb | ----- |
| Proposed Slope Stakes Cut | -C- |
| Proposed Slope Stakes Fill | -F- |
| Proposed Curb Ramp | CR |
| Existing Metal Guardrail | ----- |
| Proposed Guardrail | ----- |
| Existing Cable Guiderail | ----- |
| Proposed Cable Guiderail | ----- |
| Equality Symbol | ⊕ |
| Pavement Removal | ▭ |

VEGETATION:

| | |
|--------------|-------|
| Single Tree | ○ |
| Single Shrub | ○ |
| Hedge | ----- |
| Woods Line | ----- |

| | |
|----------|----------|
| Orchard | ----- |
| Vineyard | Vineyard |

EXISTING STRUCTURES:

| | |
|--|---------|
| MAJOR: | |
| Bridge, Tunnel or Box Culvert | CONC |
| Bridge Wing Wall, Head Wall and End Wall | CONC WW |
| MINOR: | |
| Head and End Wall | CONC HW |
| Pipe Culvert | ----- |
| Footbridge | ----- |
| Drainage Box: Catch Basin, DI or JB | CB |
| Paved Ditch Gutter | ----- |
| Storm Sewer Manhole | ⊙ |
| Storm Sewer | S |

UTILITIES:

| | |
|-------------------------------------|-------|
| POWER: | |
| Existing Power Pole | ● |
| Proposed Power Pole | ○ |
| Existing Joint Use Pole | ● |
| Proposed Joint Use Pole | ○ |
| Power Manhole | ⊙ |
| Power Line Tower | ⊗ |
| Power Transformer | ⊗ |
| U/G Power Cable Hand Hole | ----- |
| H-Frame Pole | ● |
| Recorded U/G Power Line | -P- |
| Designated U/G Power Line (S.U.E.*) | -P-- |

TELEPHONE:

| | |
|---|---------|
| Existing Telephone Pole | ● |
| Proposed Telephone Pole | ○ |
| Telephone Manhole | ⊙ |
| Telephone Booth | ⊙ |
| Telephone Pedestal | ⊙ |
| Telephone Cell Tower | ⊙ |
| U/G Telephone Cable Hand Hole | ----- |
| Recorded U/G Telephone Cable | -T- |
| Designated U/G Telephone Cable (S.U.E.*) | -T-- |
| Recorded U/G Telephone Conduit | -TC- |
| Designated U/G Telephone Conduit (S.U.E.*) | -TC-- |
| Recorded U/G Fiber Optics Cable | -T FO- |
| Designated U/G Fiber Optics Cable (S.U.E.*) | -T FO-- |

WATER:

| | |
|-------------------------------------|-------------|
| Water Manhole | ⊙ |
| Water Meter | ○ |
| Water Valve | ⊙ |
| Water Hydrant | ⊙ |
| Recorded U/G Water Line | -W- |
| Designated U/G Water Line (S.U.E.*) | -W-- |
| Above Ground Water Line | -A/G Water- |

TV:

| | |
|--|----------|
| TV Satellite Dish | ⊙ |
| TV Pedestal | ⊙ |
| TV Tower | ⊙ |
| U/G TV Cable Hand Hole | ----- |
| Recorded U/G TV Cable | -TV- |
| Designated U/G TV Cable (S.U.E.*) | -TV-- |
| Recorded U/G Fiber Optic Cable | -TV FO- |
| Designated U/G Fiber Optic Cable (S.U.E.*) | -TV FO-- |

GAS:

| | |
|-----------------------------------|-----------|
| Gas Valve | ◇ |
| Gas Meter | ○ |
| Recorded U/G Gas Line | -G- |
| Designated U/G Gas Line (S.U.E.*) | -G-- |
| Above Ground Gas Line | -A/G Gas- |

SANITARY SEWER:

| | |
|--|----------------------|
| Sanitary Sewer Manhole | ⊙ |
| Sanitary Sewer Cleanout | ⊙ |
| U/G Sanitary Sewer Line | -SS- |
| Above Ground Sanitary Sewer | -A/G Sanitary Sewer- |
| Recorded SS Forced Main Line | -FSS- |
| Designated SS Forced Main Line (S.U.E.*) | -FSS-- |

MISCELLANEOUS:

| | |
|--|--------|
| Utility Pole | ● |
| Utility Pole with Base | □ |
| Utility Located Object | ○ |
| Utility Traffic Signal Box | ⊙ |
| Utility Unknown U/G Line | -UTL- |
| U/G Tank; Water, Gas, Oil | ▭ |
| Underground Storage Tank, Approx. Loc. | ⊙ |
| A/G Tank; Water, Gas, Oil | ▭ |
| Geoenvironmental Boring | ⊙ |
| U/G Test Hole (S.U.E.*) | ⊙ |
| Abandoned According to Utility Records | AATUR |
| End of Information | E.O.I. |

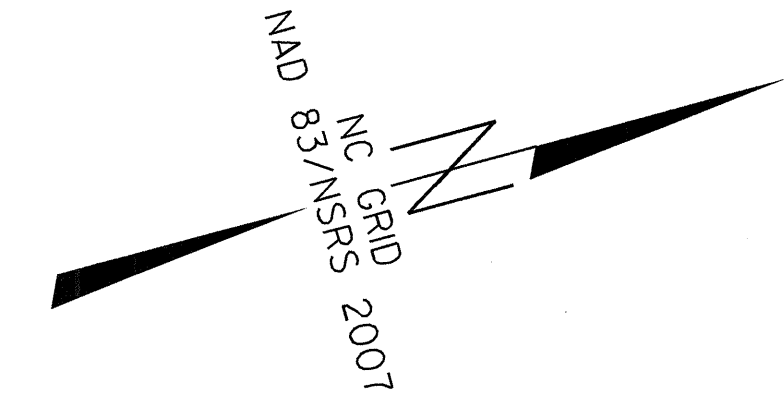
B-4965 SURVEY CONTROL SHEET

| | |
|-----------------------|-----------|
| PROJECT REFERENCE NO. | SHEET NO. |
| B-4965 | 1C |
| Location and Surveys | |

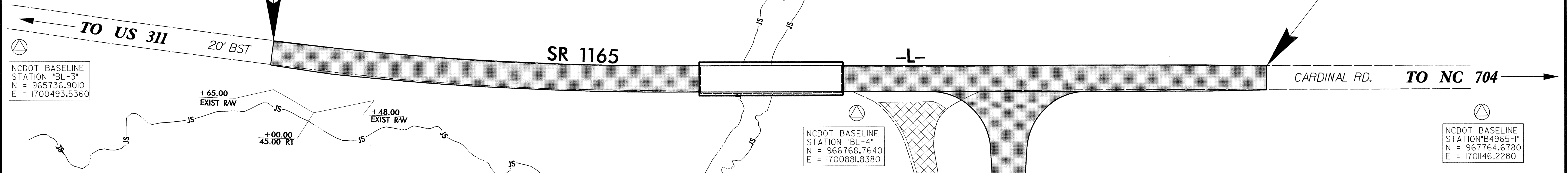
BMI
ELEV. = 655.62

BEGIN TIP PROJECT B-4965
-L- STA. 16+60.00

END TIP PROJECT B-4965
-L- STA. 24+90.00



BM2
ELEV. = 636.22



NCDOT BASELINE STATION "BL-3"
N = 965736.9010
E = 1700493.5360

NCDOT BASELINE STATION "BL-4"
N = 966768.7640
E = 1700881.8380

NCDOT BASELINE STATION "B4965-1"
N = 967764.6780
E = 1701146.2280

BASELINE DATA

| BL POINT | DESC. | NORTH | EAST | ELEVATION | L STATION | OFFSET |
|----------|---------|-------------|--------------|-----------|------------------------|----------|
| 3 | BL-3 | 965736.9010 | 1700493.5360 | 675.42 | 10+47.83 | 16.67 LT |
| 4 | BL-4 | 966768.7640 | 1700881.8380 | 628.73 | 21+48.60 | 16.50 RT |
| 1 | B4965-1 | 967764.6780 | 1701146.2280 | 683.19 | OUTSIDE PROJECT LIMITS | |
| 2 | B4965-2 | 969146.2740 | 1701512.4630 | 710.85 | OUTSIDE PROJECT LIMITS | |

| BY POINT | DESC. | NORTH | EAST | ELEVATION | L STATION | OFFSET |
|----------|-------|-------------|--------------|-----------|-----------|-----------|
| A4 | BL-4 | 966768.7640 | 1700881.8384 | 628.73 | 21+48.60 | 16.50 RT |
| 5 | BY-5 | 966928.1851 | 1701347.0144 | 662.31 | 24+22.66 | 424.78 RT |
| 6 | BY-6 | 966896.4236 | 1701780.3167 | 638.19 | 25+03.80 | 851.60 RT |

END CONSTRUCTION
-Y- STA. 12+83.60

BENCHMARK DATA

.....
 BMI ELEVATION = 655.62
 N 965847 E 1700291
 L STATION 11+08.00 238 LEFT
 RR SPIKE IN BASE OF 15 INCH PINE

 BM2 ELEVATION = 636.22
 N 966895 E 1700753
 L STATION 22+37.00 141 LEFT
 RR SPIKE IN ROOT OF 36 INCH TULIP POPLAR

NCDOT BASELINE STATION "BY-5"
N = 966928.1851
E = 1701347.0144

NOTES

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/)
THE FILES TO BE FOUND ARE AS FOLLOWS:
B4965_LS_CONTROL.TXT
SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- ⊕ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4965-1" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 967764.6780(±ft) EASTING: 1701146.2280(±ft) ELEVATION: 683.19'(±ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.0000476921
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4965-1" TO -L- STATION 16+60.00 IS
 S16°18'16.68"W 1,518.54'
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

| TYPE | STATION | NORTH | EAST |
|------|----------|-------------|--------------|
| PC | 10+00.00 | 965886.6383 | 1700501.6360 |
| PT | 13+56.21 | 966027.9561 | 1700600.3128 |
| PC | 16+17.31 | 966267.8500 | 1700703.3848 |
| PT | 19+85.96 | 966615.8933 | 1700823.9262 |
| POT | 30+49.95 | 967643.8479 | 1701098.4996 |

| TYPE | STATION | NORTH | EAST |
|------|----------|-------------|--------------|
| POT | 10+00.00 | 966895.1421 | 1700898.5153 |
| PC | 11+66.24 | 966852.2416 | 1701059.1267 |
| PT | 12+83.60 | 966859.7267 | 1701174.1707 |
| POT | 12+83.60 | 966859.7267 | 1701174.1707 |
| POT | 12+98.10 | 966865.2530 | 1701187.5783 |

| -L- NEW R/W MONUMENTS | | | | |
|-----------------------|----------|--------|-------------|--------------|
| ALIGN | STATION | OFFSET | NORTH | EAST |
| L | 21+32.58 | 30.00 | 966749.8035 | 1700890.7462 |
| L | 19+85.96 | -60.00 | 966631.3769 | 1700765.9584 |
| L | 19+85.96 | -30.00 | 966623.6351 | 1700794.9423 |
| L | 16+60.00 | -30.00 | 966318.5890 | 1700692.1478 |
| L | 16+60.00 | -90.00 | 966341.3469 | 1700636.6319 |
| L | 18+30.00 | -90.00 | 966495.0461 | 1700693.7237 |
| L | 24+21.40 | 30.00 | 967028.8377 | 1700965.2781 |

| -Y- NEW R/W MONUMENTS | | | | |
|-----------------------|----------|--------|-------------|--------------|
| ALIGN | STATION | OFFSET | NORTH | EAST |
| Y | 11+66.24 | 70.88 | 966783.7670 | 1701040.8366 |
| Y | 12+83.60 | 30.00 | 966831.9904 | 1701185.6029 |
| Y | 12+83.60 | -30.00 | 966887.4631 | 1701162.7385 |
| Y | 11+66.24 | -35.00 | 966886.0561 | 1701068.1588 |
| Y | 10+65.00 | -35.00 | 966912.1828 | 1700970.3458 |
| Y | 10+65.00 | 102.10 | 966779.7216 | 1700934.9644 |
| Y | 10+55.09 | -75.58 | 966953.9426 | 1700971.2421 |

| -L- NEW PERMANENT DRAINAGE EASEMENTS | | | | |
|--------------------------------------|----------|--------|-------------|--------------|
| ALIGN | STATION | OFFSET | NORTH | EAST |
| L | 21+63.43 | 56.79 | 966772.6996 | 1700924.5861 |
| L | 19+85.96 | 70.00 | 966597.8292 | 1700891.5552 |
| L | 19+85.96 | 30.00 | 966608.1516 | 1700852.9100 |
| L | 21+20.00 | -50.00 | 966758.2951 | 1700810.2097 |
| L | 21+80.00 | -40.00 | 966813.6822 | 1700835.3545 |
| L | 21+80.00 | -30.00 | 966811.1017 | 1700845.0158 |
| L | 20+34.96 | 70.00 | 966645.1639 | 1700904.1985 |
| L | 20+35.00 | 67.94 | 966648.3179 | 1700892.5634 |

NOTE: DRAWING NOT TO SCALE

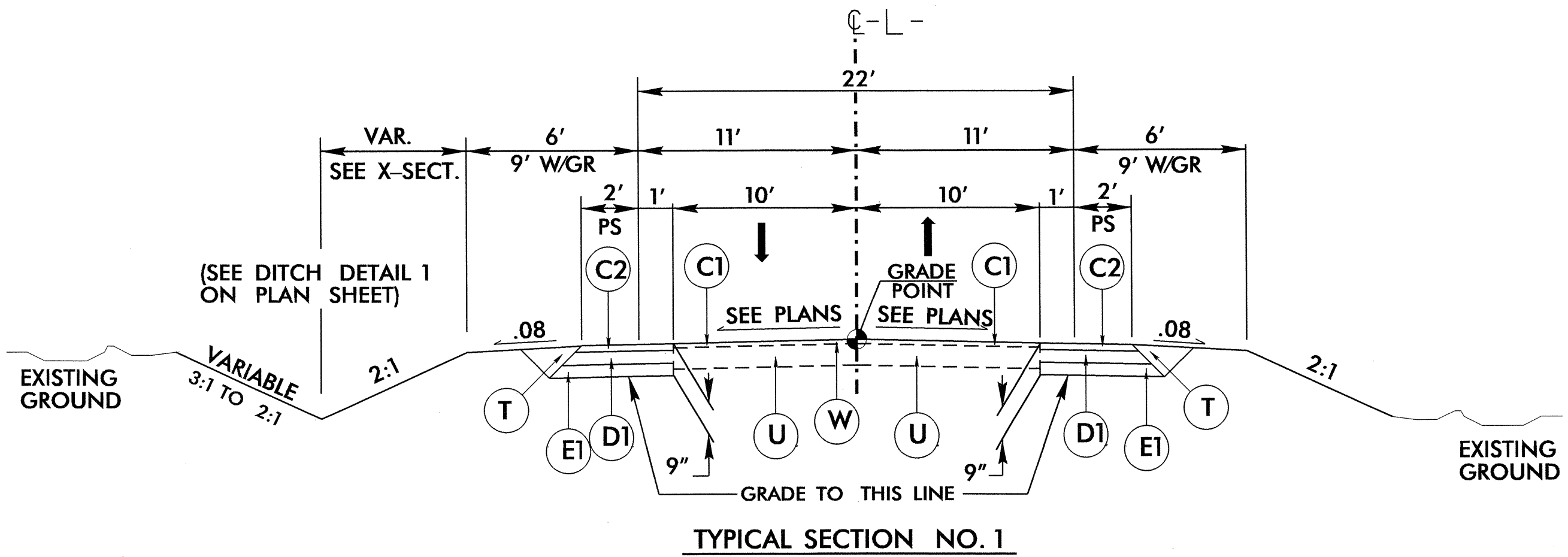
12/01/2005
07-JAN-2013 07:23
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6/2/99

| | |
|--|---|
| PROJECT REFERENCE NO. B-4965 | SHEET NO. 2 |
| ROADWAY DESIGN ENGINEER <i>(Signature)</i> | PAVEMENT DESIGN ENGINEER <i>(Signature)</i> |
| NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 14377 JAMES A. SPEED | NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22898 CLARK S. MORRISON |
| 12/20/2012 | 12/21/12 |

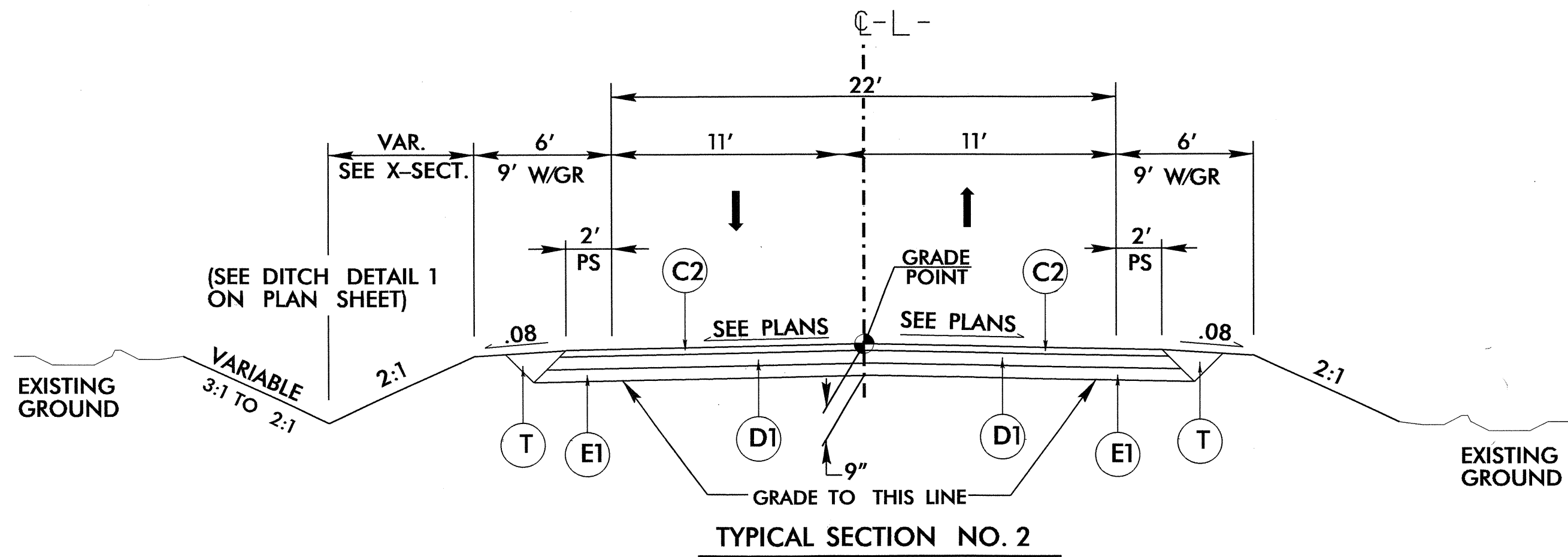
| PAVEMENT SCHEDULE | |
|-------------------|--|
| C1 | PROP. APPROX. 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. |
| C2 | PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS. |
| C3 | PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH. |
| D1 | PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD. |
| D2 | 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 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH. |
| E1 | PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD. |
| E2 | 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 1/2" IN DEPTH. |
| T | EARTH MATERIAL. |
| U | EXISTING PAVEMENT. |
| W | VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL) |

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



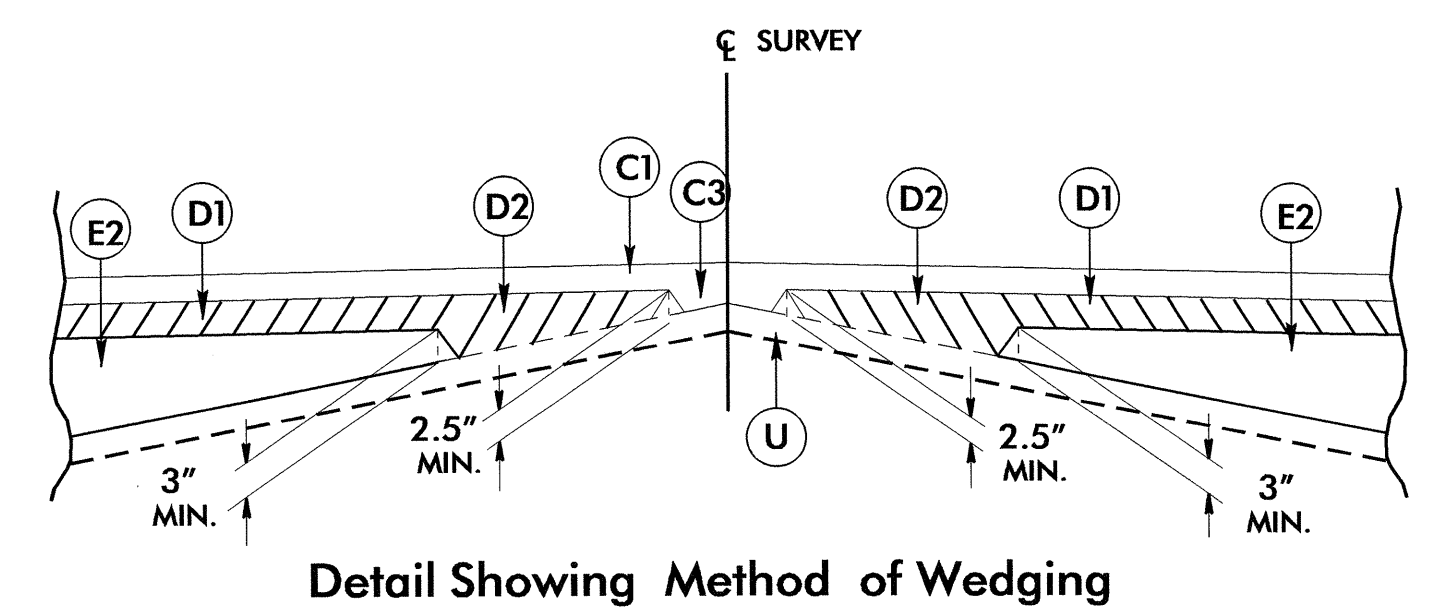
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1 AS FOLLOWS:
 -L- STA. 16+60.00 TO STA. 19+67.00
 -L- STA. 21+87.00 TO STA. 24+90.00

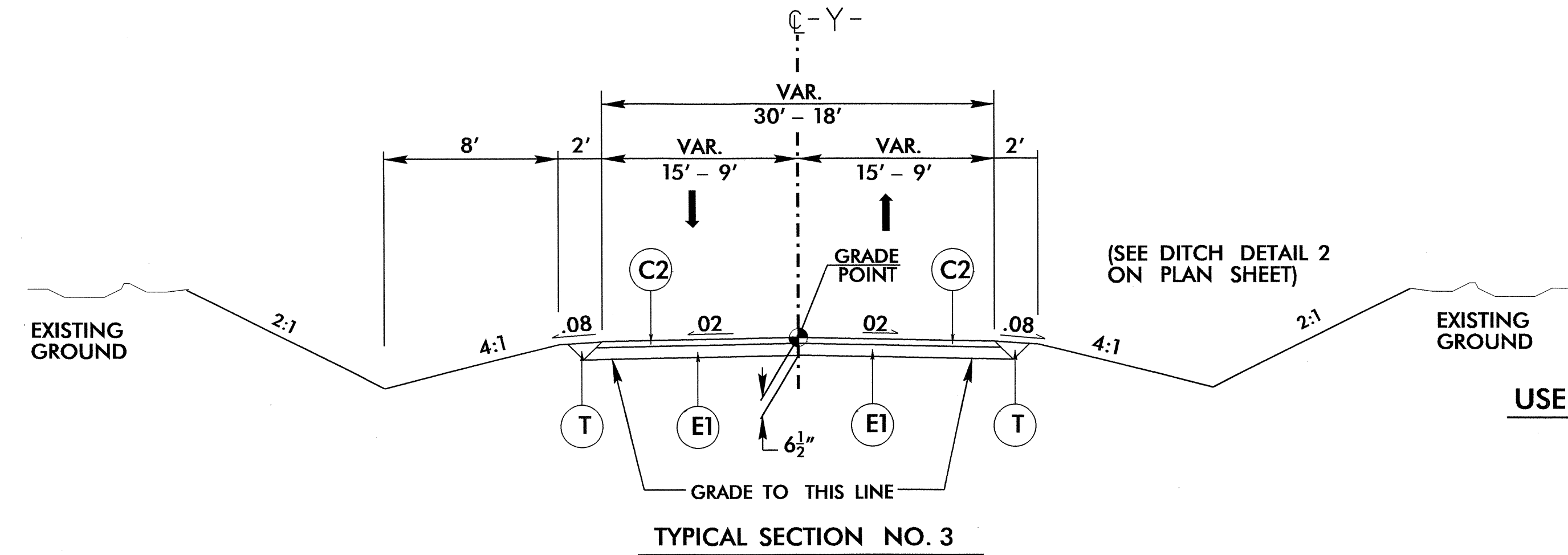


TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2 AS FOLLOWS:
 -L- STA. 19+67.00 TO STA. 20+01.77 (BEGIN BRIDGE)
 -L- STA. 21+39.23 (END BRIDGE) TO STA. 21+87.00

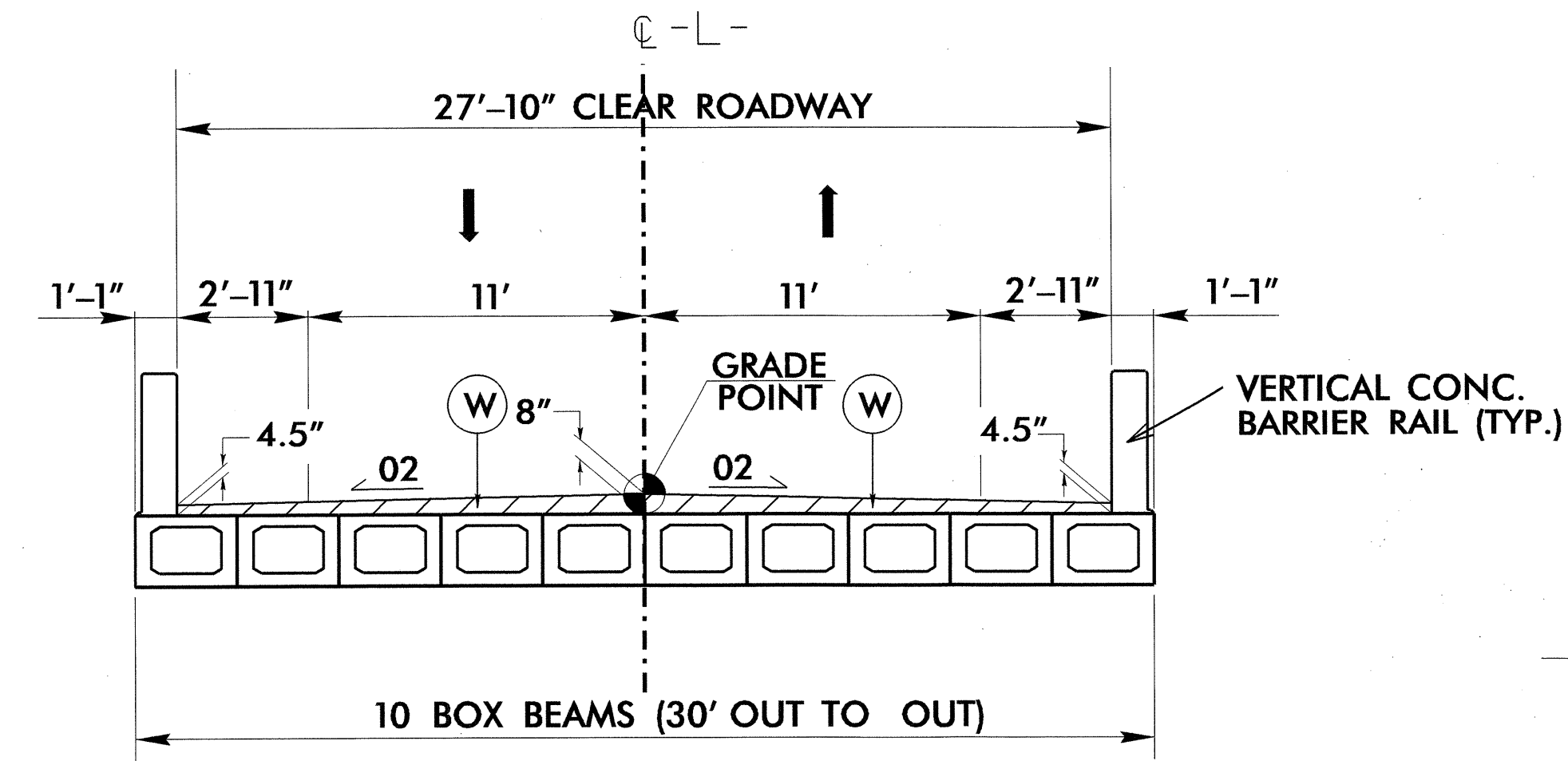


Detail Showing Method of Wedging



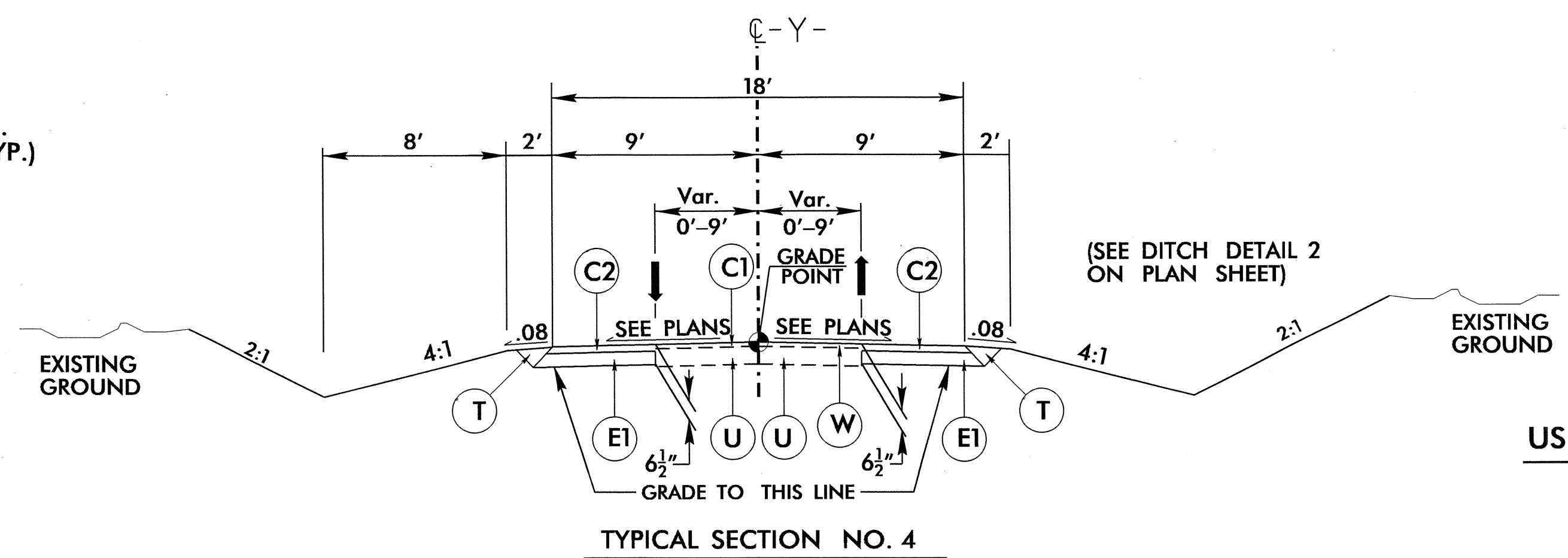
TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3 AS FOLLOWS:
 -Y- STA. 10+11.00 TO STA. 12+04.97



TYPICAL SECTION ON BRIDGE

-L- STA. 20+01.77 TO STA. 21+39.23



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4 AS FOLLOWS:
 -Y- STA. 12+04.97 TO STA. 12+83.60

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203086

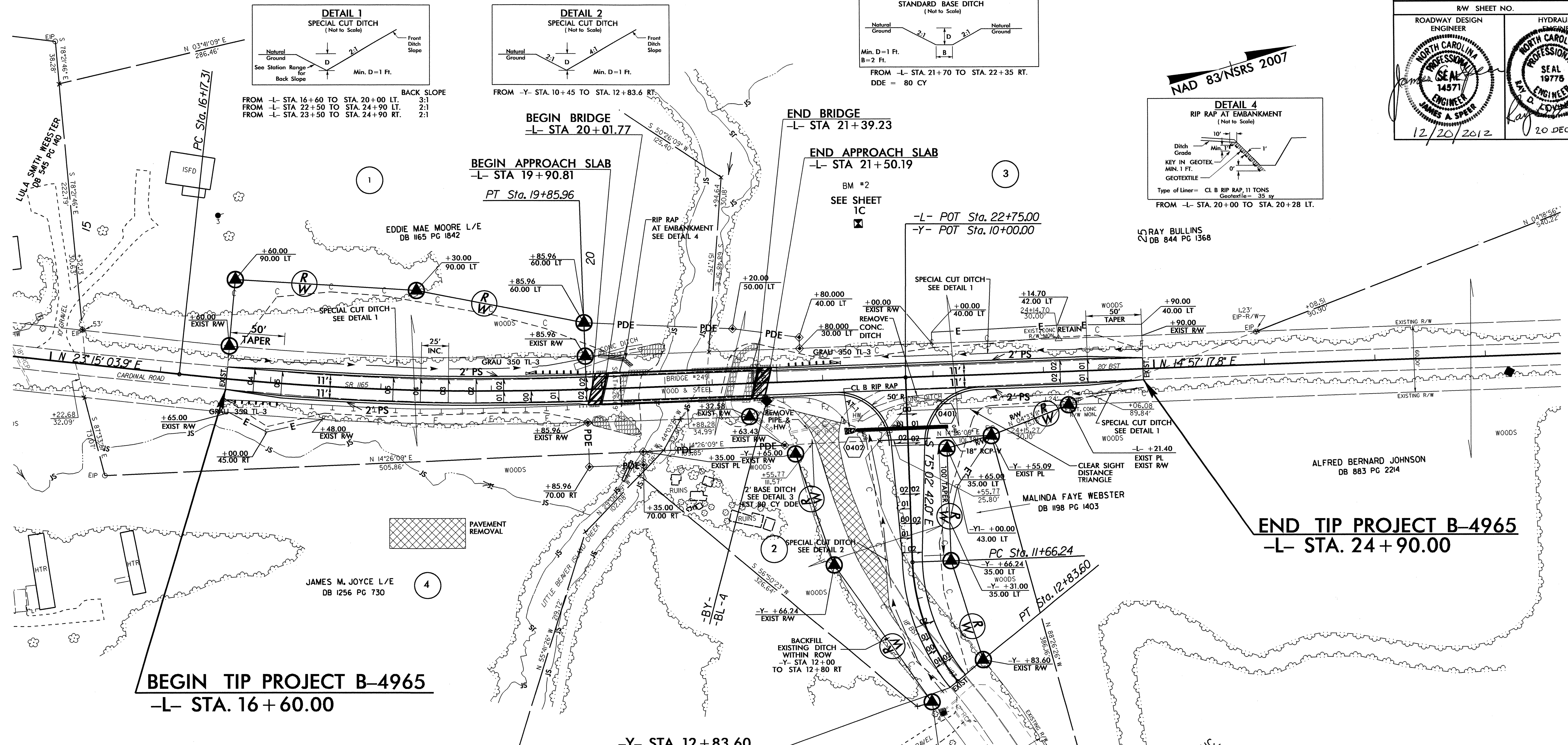
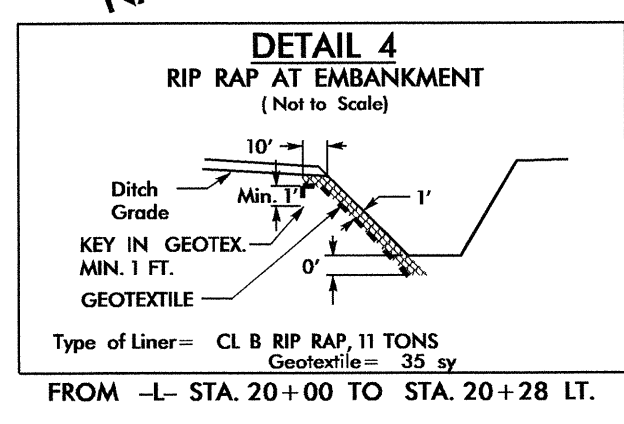
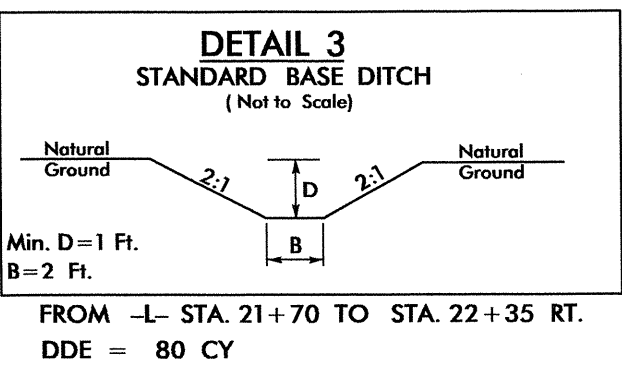
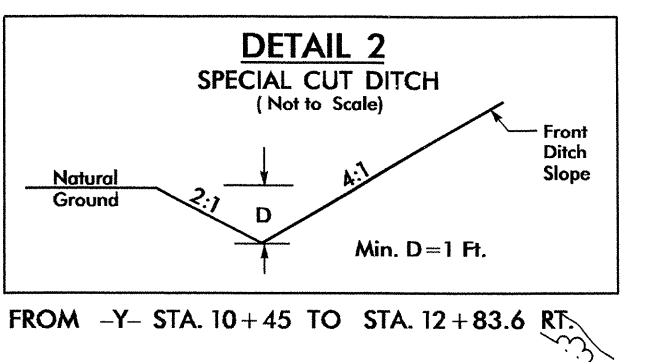
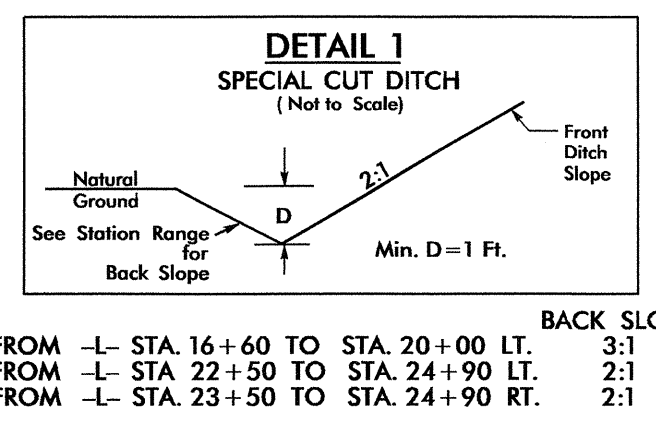
| ItemNumber | Sec # | Quantity | Unit | Description |
|-------------|-------|----------|------|--|
| 000100000-N | 800 | Lump Sum | | MOBILIZATION |
| 002200000-E | 225 | 3,800 | CY | UNCLASSIFIED EXCAVATION |
| 003000000-N | SP | Lump Sum | | BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ***** (20+70.50) |
| 003600000-E | 225 | 200 | CY | UNDERCUT EXCAVATION |
| 005000000-E | 226 | 1 | ACR | SUPPLEMENTARY CLEARING & GRUBBING |
| 006300000-N | SP | Lump Sum | | GRADING |
| 013400000-E | 240 | 80 | CY | DRAINAGE DITCH EXCAVATION |
| 019500000-E | 265 | 250 | CY | SELECT GRANULAR MATERIAL |
| 019600000-E | 270 | 750 | SY | GEOTEXTILE FOR SOIL STABILIZATION |
| 035400000-E | 310 | 84 | LF | *** RC PIPE CULVERTS, CLASS ***** (18", V) |
| 099500000-E | 340 | 68 | LF | PIPE REMOVAL |
| 109950000-E | 505 | 150 | CY | SHALLOW UNDERCUT |
| 109970000-E | 505 | 300 | TON | CLASS IV SUBGRADE STABILIZATION |
| 122000000-E | 545 | 500 | TON | INCIDENTAL STONE BASE |
| 133000000-E | 607 | 100 | SY | INCIDENTAL MILLING |
| 148900000-E | 610 | 490 | TON | ASPHALT CONC BASE COURSE, TYPE B25.0B |
| 149800000-E | 610 | 200 | TON | ASPHALT CONC INTERMEDIATE COURSE, TYPE II9.0B |
| 152500000-E | 610 | 470 | TON | ASPHALT CONC SURFACE COURSE, TYPE SF9.5A |
| 157500000-E | 620 | 65 | TON | ASPHALT BINDER FOR PLANT MIX |
| 169300000-E | 654 | 500 | TON | ASPHALT PLANT MIX, PAVEMENT REPAIR |
| 200000000-N | 806 | 14 | EA | RIGHT OF WAY MARKERS |
| 202200000-E | 815 | 44.8 | CY | SUBDRAIN EXCAVATION |
| 203300000-E | 815 | 33.6 | CY | SUBDRAIN FINE AGGREGATE |
| 204400000-E | 815 | 200 | LF | 6" PERFORATED SUBDRAIN PIPE |

SUMMARY OF QUANTITIES - B-4965

| ItemNumber | Sec # | Quantity | Unit | Description |
|-------------|-------|----------|------|-------------------------------------|
| 207000000-N | 815 | 1 | EA | SUBDRAIN PIPE OUTLET |
| 207700000-E | 815 | 6 | LF | 6" OUTLET PIPE |
| 255600000-E | 846 | 8 | LF | SHOULDER BERM GUTTER |
| 303000000-E | 862 | 312.5 | LF | STEEL BM GUARDRAIL |
| 304500000-E | 862 | 50 | LF | STEEL BM GUARDRAIL, SHOP CURVED |
| 315000000-N | 862 | 5 | EA | ADDITIONAL GUARDRAIL POSTS |
| 319500000-N | 862 | 1 | EA | GUARDRAIL ANCHOR UNITS, TYPE AT-1 |
| 321500000-N | 862 | 4 | EA | GUARDRAIL ANCHOR UNITS, TYPE III |
| 327000000-N | SP | 3 | EA | GUARDRAIL ANCHOR UNITS, TYPE 350 |
| 364900000-E | 876 | 20 | TON | RIP RAP, CLASS B |
| 365600000-E | 876 | 1,200 | SY | GEOTEXTILE FOR DRAINAGE |
| 407200000-E | 903 | 82 | LF | SUPPORTS, 3-LB STEEL U-CHANNEL |
| 409600000-N | 904 | 2 | EA | SIGN ERECTION, TYPE D |
| 410200000-N | 904 | 1 | EA | SIGN ERECTION, TYPE E |
| 415500000-N | 907 | 7 | EA | DISPOSAL OF SIGN SYSTEM, U-CHANNEL |
| 440000000-E | 1110 | 332 | SF | WORK ZONE SIGNS (STATIONARY) |
| 441000000-E | 1110 | 104 | SF | WORK ZONE SIGNS (BARRICADE MOUNTED) |
| 444500000-E | 1145 | 88 | LF | BARRICADES (TYPE III) |
| 481000000-E | 1205 | 8,618 | LF | PAINT PAVEMENT MARKING LINES (4") |
| 483500000-E | 1205 | 70 | LF | PAINT PAVEMENT MARKING LINES (24") |
| 600000000-E | 1605 | 850 | LF | TEMPORARY SILT FENCE |
| 600600000-E | 1610 | 385 | TON | STONE FOR EROSION CONTROL, CLASS A |
| 600900000-E | 1610 | 210 | TON | STONE FOR EROSION CONTROL, CLASS B |
| 601200000-E | 1610 | 305 | TON | SEDIMENT CONTROL STONE |
| 601500000-E | 1615 | 2 | ACR | TEMPORARY MULCHING |

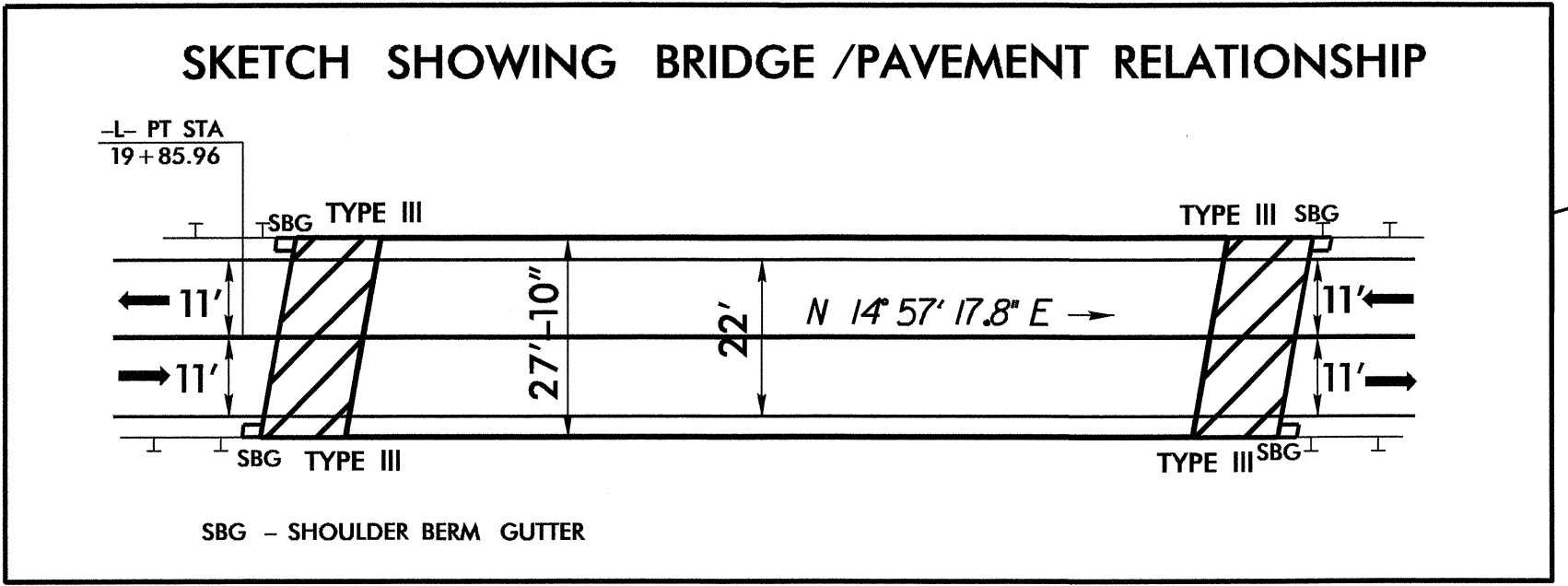
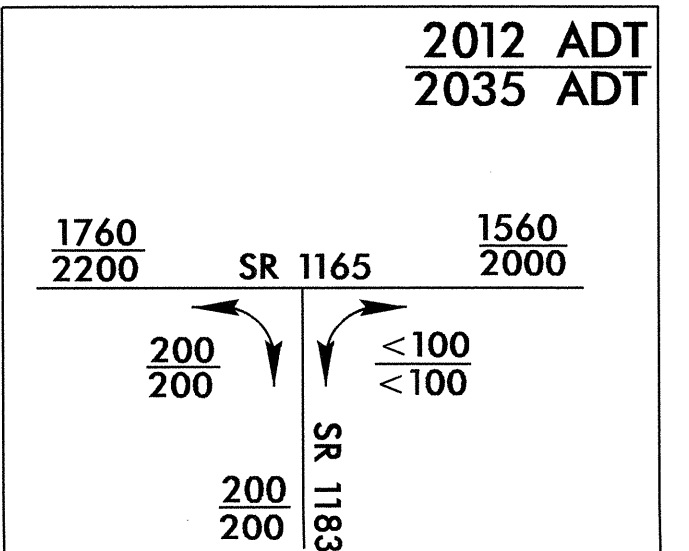
| ItemNumber | Sec # | Quantity | Unit | Description |
|-------------|-------|----------|------|----------------------------------|
| 601800000-E | 1620 | 100 | LB | SEED FOR TEMPORARY SEEDING |
| 602100000-E | 1620 | 2.25 | TON | FERTILIZER FOR TEMPORARY SEEDING |
| 602400000-E | 1622 | 200 | LF | TEMPORARY SLOPE DRAINS |
| 602900000-E | SP | 100 | LF | SAFETY FENCE |
| 603000000-E | 1630 | 460 | CY | SILT EXCAVATION |
| 603600000-E | 1631 | 5,000 | SY | MATTING FOR EROSION CONTROL |
| 603700000-E | SP | 450 | SY | COIR FIBER MAT |
| 603800000-E | SP | 900 | SY | PERMANENT SOIL REINFORCEMENT MAT |
| 604200000-E | 1632 | 520 | LF | 1/4" HARDWARE CLOTH |
| 607000000-N | 1639 | 6 | EA | SPECIAL STILLING BASINS |
| 607101000-E | SP | 225 | LF | WATTLE |
| 607102000-E | SP | 125 | LB | POLYACRYLAMIDE (PAM) |
| 607103000-E | 1640 | 140 | LF | COIR FIBER BAFFLE |
| 607105000-E | SP | 2 | EA | *** SKIMMER (1-1/2") |
| 608400000-E | 1660 | 2 | ACR | SEEDING & MULCHING |
| 608700000-E | 1660 | 1 | ACR | MOWING |
| 609000000-E | 1661 | 50 | LB | SEED FOR REPAIR SEEDING |
| 609300000-E | 1661 | 0.25 | TON | FERTILIZER FOR REPAIR SEEDING |
| 609600000-E | 1662 | 50 | LB | SEED FOR SUPPLEMENTAL SEEDING |
| 610800000-E | 1665 | 1.5 | TON | FERTILIZER TOPDRESSING |
| 611450000-N | 1667 | 10 | MHR | SPECIALIZED HAND MOWING |
| 611700000-N | SP | 18 | EA | RESPONSE FOR EROSION CONTROL |

NAD 83/NSRS 2007



| | |
|---------------------------------|--------------------------------|
| PI Sta 11+79.03 | PI Sta 18+01.96 |
| $\Delta = 14' 15'' 08.8''$ (RT) | $\Delta = 8' 17'' 46.1''$ (LT) |
| $D = 4' 00'' 04.0''$ | $D = 2' 15'' 01.5''$ |
| $L = 356.21'$ | $L = 368.65'$ |
| $T = 179.03'$ | $T = 184.65'$ |
| $R = 1,432.00'$ | $R = 2,546.00'$ |
| | RUNOFF = 125' |
| | SE = 05 |

-Y- STA. 12+83.60
END CONSTRUCTION



| |
|---------------------------------|
| PI Sta 12+27.09 |
| $\Delta = 37' 21'' 18.6''$ (LT) |
| $D = 3' 49'' 51.6''$ |
| $L = 117.35'$ |
| $T = 60.85'$ |
| $R = 180.00'$ |
| RUNOFF = 5' |
| SE = 04 |

SEE SHEET 5 FOR PROFILE VIEW

SEE SHEETS S1 THRU S-21 FOR STRUCTURE PLANS

ALFRED BERNARD JOHNSON
DB 883 PG 2214

REVISIONS

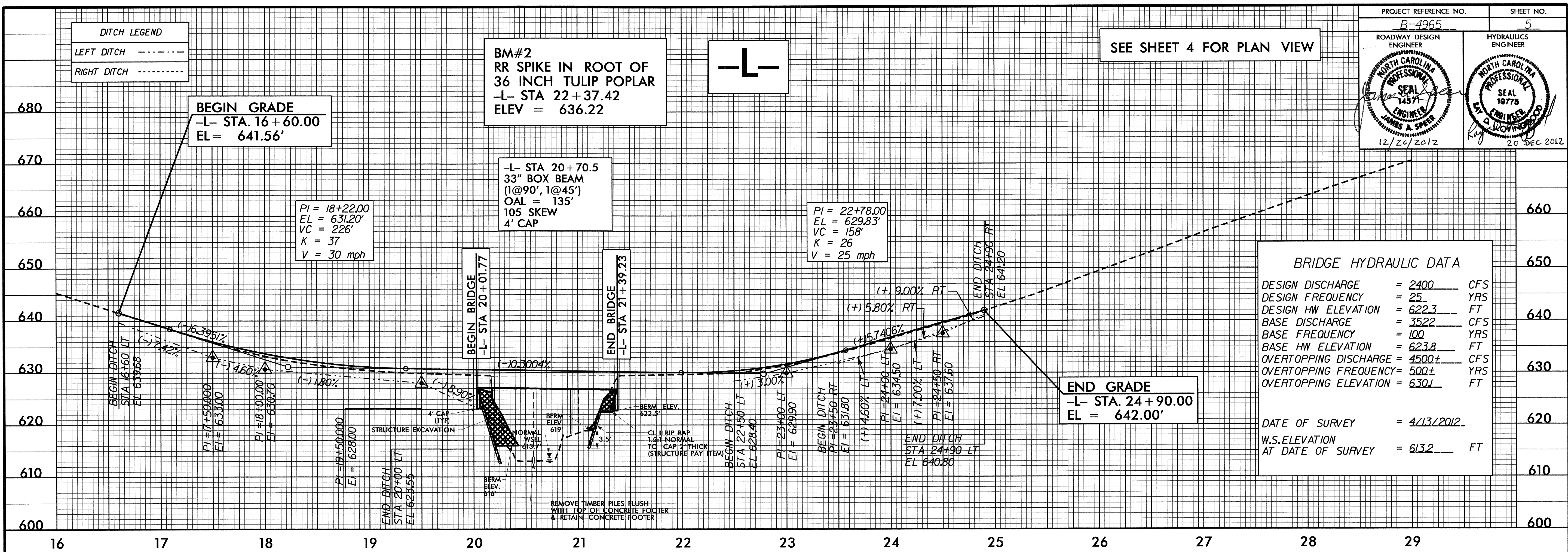
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5/28/09

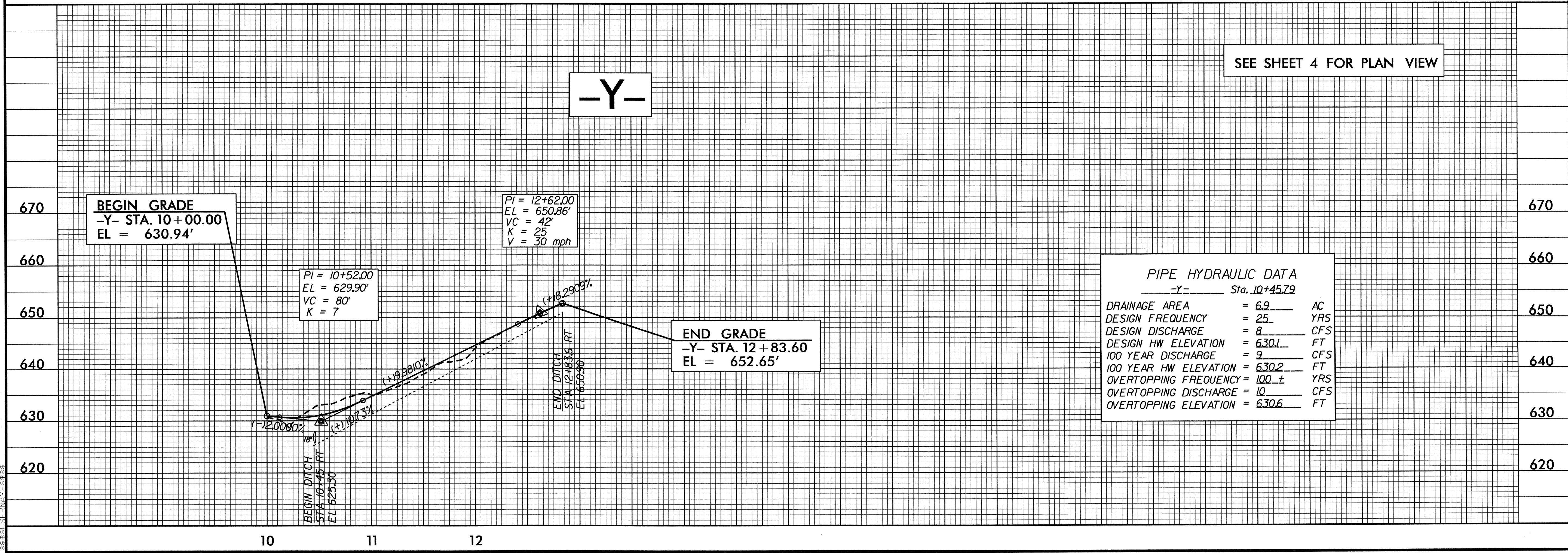
| | |
|---|--|
| PROJECT REFERENCE NO. B-4965 | SHEET NO. 5 |
| ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL JAMES A. SPEER 12/26/2012 | HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 20 DEC 2012 |

DITCH LEGEND
 LEFT DITCH - - - - -
 RIGHT DITCH - - - - -

SEE SHEET 4 FOR PLAN VIEW



SEE SHEET 4 FOR PLAN VIEW



20 DEC 2012 14:18 \\B4965-Rdy-pfl.dgn