

8/17/99

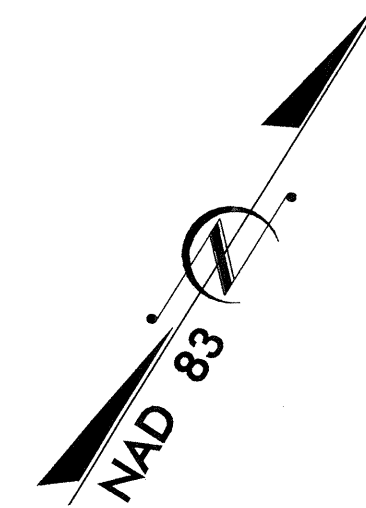
| | |
|-------------------|---------------------|
| TIP NO. I-3600 | SHEET NO. SIGN-1 |
|-------------------|---------------------|

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

SIGNING PLANS

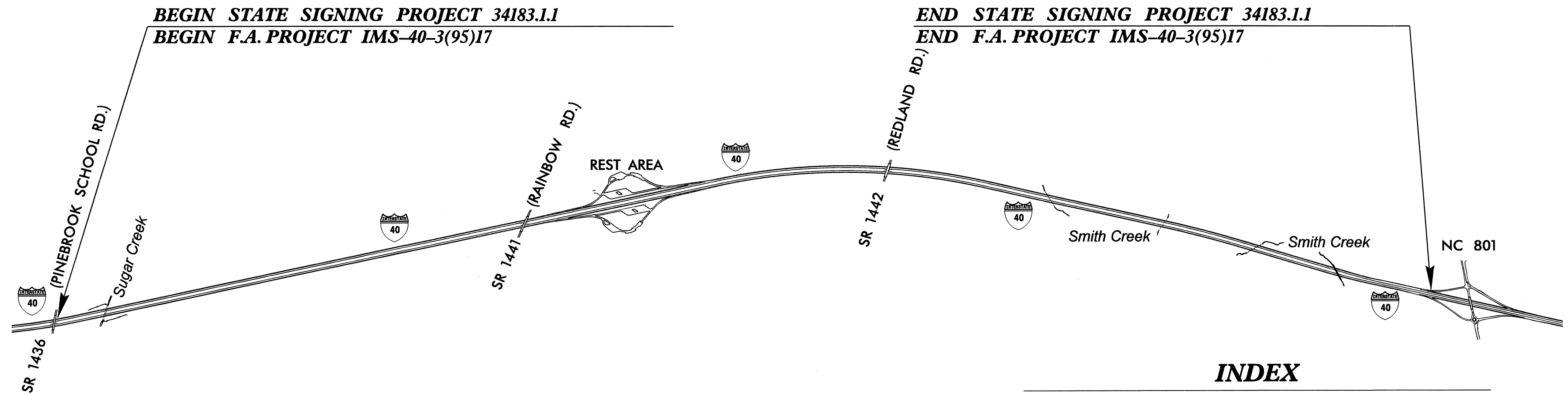
DAVIE COUNTY

**LOCATION: I-40 FROM SR 1436 (PINEBROOK DRIVE)
(MILEPOST 175) TO WEST OF NC 801**



T.I.P.: I-3600

CONTRACT: C201233



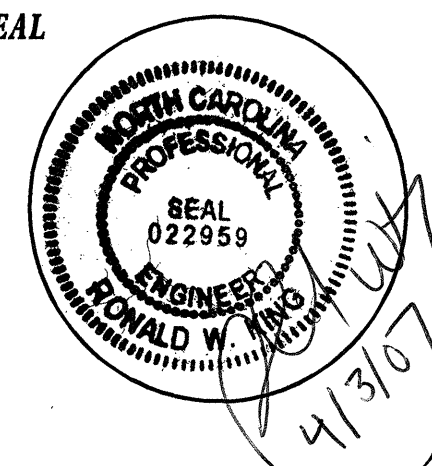
INDEX

| SHEET NO. | DESCRIPTION |
|-----------|---------------------------------|
| 1 | TITLE SHEET |
| 2 | SUMMARY OF QUANTITIES |
| 2 | NOTES |
| 3-3D | SUPPORT CHART & DETAIL DRAWINGS |
| 4 | E SHEETS |
| 4 | F and Milemarker SHEETS |
| 5-14 | SIGN ROADWAY SHEETS |

PLAN PREPARED BY: N.C.D.O.T. SIGNING SECTION

RON W. KING, PE SIGNING ENGINEER
 AYMAN I. ALQUDWAH, PE SIGNING PROJECT ENGINEER
 KELVIN L. JORDAN SIGNING DESIGN ENGINEER
 CHAD L. DOWNEY SIGNING DESIGNER

SEAL



SIGNS SUMMARY OF QUANTITIES

| ITEM NO. | | ITEM DESCRIPTION | QUANTITY | UNIT |
|------------|-----------|--|----------|------|
| DESC. NO. | SECT. NO. | | | |
| 4048000000 | 902 | REINFORCED CONCRETE SIGN FOUNDATIONS..... | 6 | C.Y. |
| 4060000000 | 903 | SUPPORTS, BREAKAWAY STEEL BEAM..... | 4796 | LB. |
| 4072000000 | 903 | SUPPORTS, 3 LB STEEL U-CHANNEL..... | 435 | L.F. |
| 4078000000 | 903 | SUPPORTS, 2 LB STEEL U-CHANNEL..... | 10 | EA. |
| 4110000000 | 904 | SIGN ERECTION, TYPE A (GROUND MOUNTED)..... | 12 | EA. |
| 4110000000 | 904 | SIGN ERECTION, TYPE B (GROUND MOUNTED)..... | 4 | EA. |
| 4102000000 | 904 | SIGN ERECTION, TYPE E..... | 20 | EA. |
| 4108000000 | 904 | SIGN ERECTION, TYPE F..... | 3 | EA. |
| 4114000000 | 904 | SIGN ERECTION, MILEMARKERS..... | 10 | EA. |
| 4129000000 | 904 | RELOCATE SIGN, TYPE A (GROUND MOUNTED)..... | 2 | EA. |
| 4138000000 | 907 | DISPOSAL OF SUPPORT, STEEL BEAM..... | 4 | EA. |
| 4152000000 | 907 | DISPOSAL OF SIGN SYSTEM, STEEL BEAM..... | 4 | EA. |
| 4155000000 | 907 | DISPOSAL OF SIGN SYSTEM, U-CHANNEL..... | 26 | EA. |
| 4236000000 | 907 | DISPOSAL OF SIGN, A OR B (GROUND MOUNTED)..... | 7 | EA. |

**ROADWAY STANDARD DRAWINGS
APPLICABLE TO THESE SIGNING PLANS**

| | |
|--------|--------|
| 901.10 | 904.10 |
| 901.20 | 904.20 |
| 901.50 | 904.40 |
| 901.70 | 904.50 |
| 903.10 | |

PROJECT NOTES

Pay Item Notes:

- | | |
|---|---|
| 1 | DISPOSAL OF SIGN SYSTEM, STEEL BEAM |
| 2 | DISPOSAL OF SIGN SYSTEM, U-CHANNEL |
| 3 | DISPOSAL OF SIGN, A OR B (GROUND MOUNTED) |
| 4 | SIGN ERECTION, TYPE A (GROUND MOUNTED) |
| 5 | SIGN ERECTION, TYPE B (GROUND MOUNTED) |
| 6 | DISPOSAL OF SUPPORT, STEEL BEAM |
| 7 | RELOCATE SIGN, TYPE A (GROUND MOUNTED) |

General Notes:

- . SIGNS FURNISHED BY STATE
- . IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
- . SIGNING PLANS DO NOT INCLUDE TEMPORARY CONSTRUCTION SIGNING OR PAVEMENT MARKINGS. SEE TRAFFIC CONTROL PLANS.
- . WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
- . ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- . WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.
- . THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE III REFLECTIVE SHEETING.
DO NOT BEGIN FABRICATION FOR TYPES A & B SIGNS MOUNTED ON OVERHEAD STRUCTURES OR STEEL SUPPORTS UNTIL "S" DIMENSIONS HAVE BEEN FIELD VERIFIED.
- SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

Project Notes:

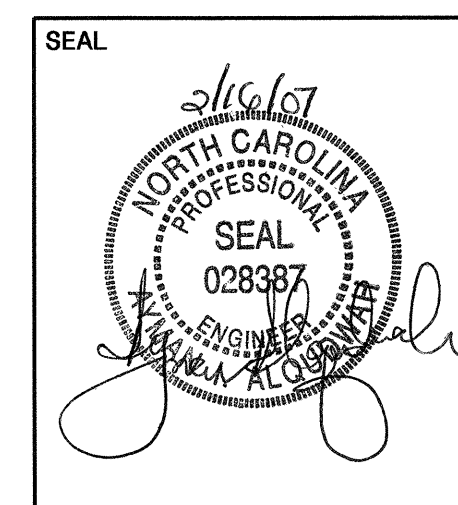
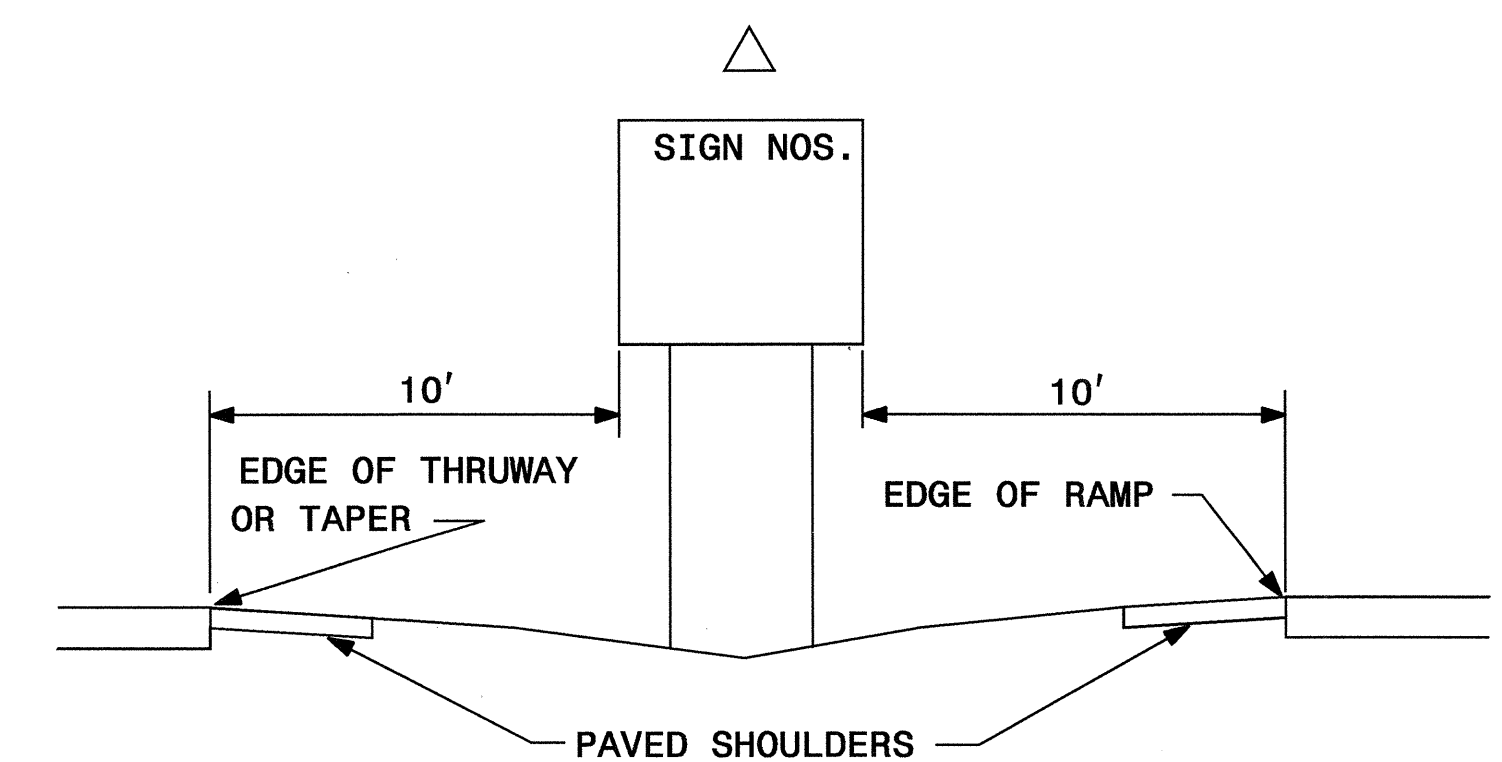
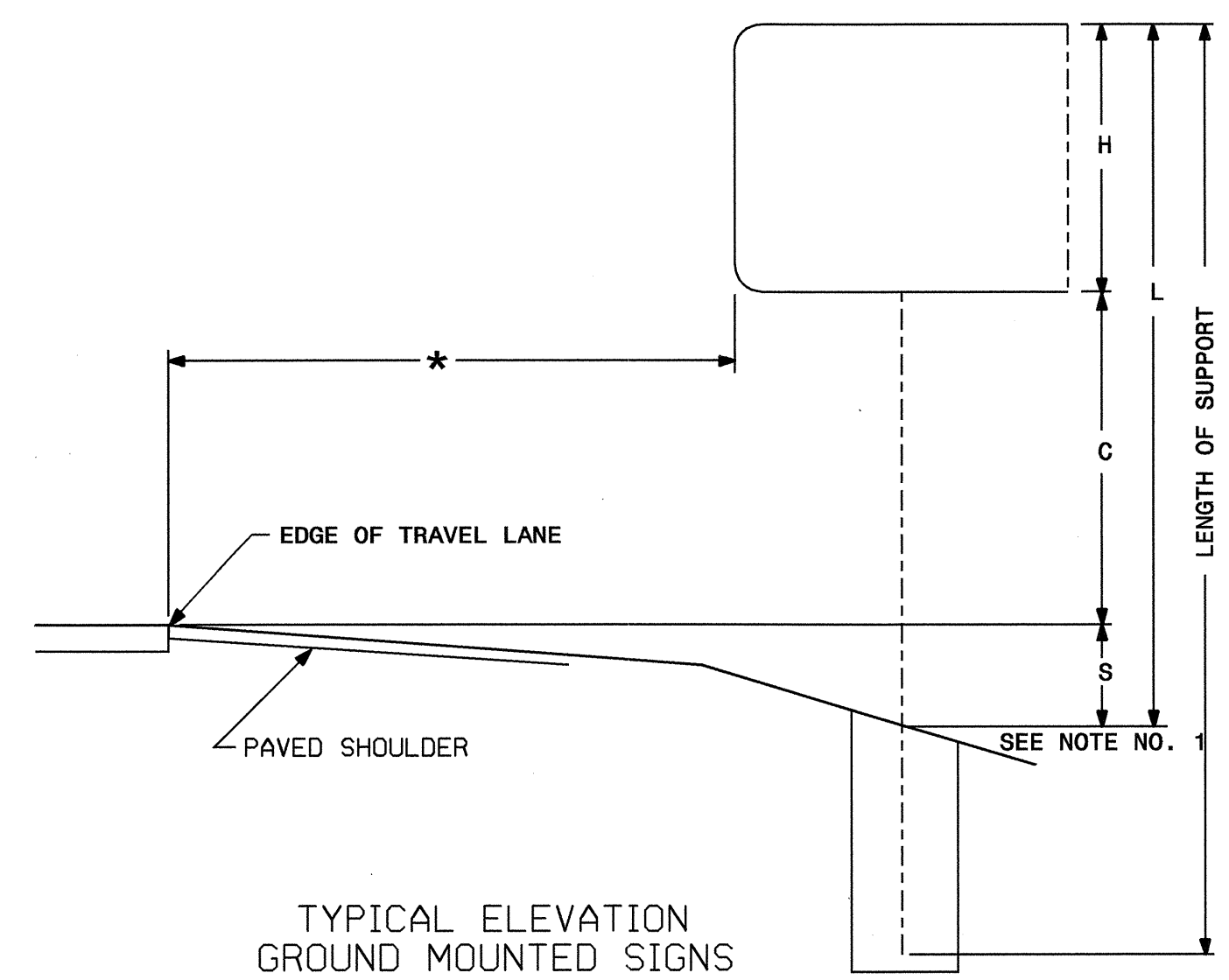
- | | |
|---|---|
| A | ERECT PROPOSED SIGN(S) ON EXISTING SUPPORTS |
|---|---|

NOTES

- DIMENSION "S" REPRESENTS AN INCREASE (+), OR A DECREASE (-) IN POLE LENGTH, RELATIVE TO THE ELEVATION OF THE EDGE OF PAVEMENT.
- FIELD VERIFICATIONS SHALL BE REQUIRED FOR ALL SUPPORTS, SEE (*) ARTICLE 903-3. FABRICATORS SHALL BE AISC CERTIFIED IN CATEGORY 1, SEE (*) ARTICLE 1072-1. (*) = N.C.D.O.T. STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES
- PLAN LOCATIONS FOR EXISTING UTILITIES ARE BASED ON THE BEST AVAILABLE INFORMATION AND, THEREFORE MAY NOT BE PRECISELY ACCURATE. THEREFORE, IT IS INCUMBENT UPON THE CONTRACTOR TO DETERMINE THE EXACT LOCATION OF UTILITIES BEFORE BEGINNING WORK IN A LOCATION.

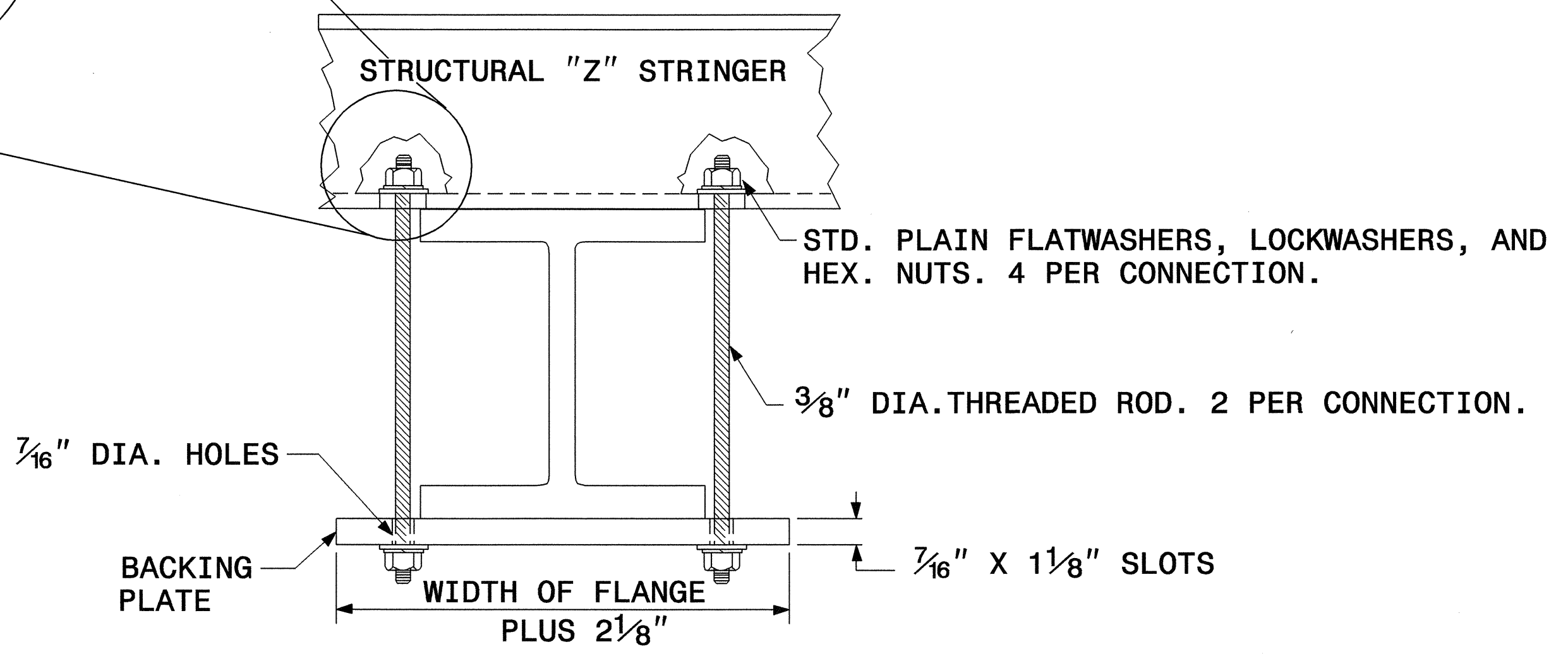
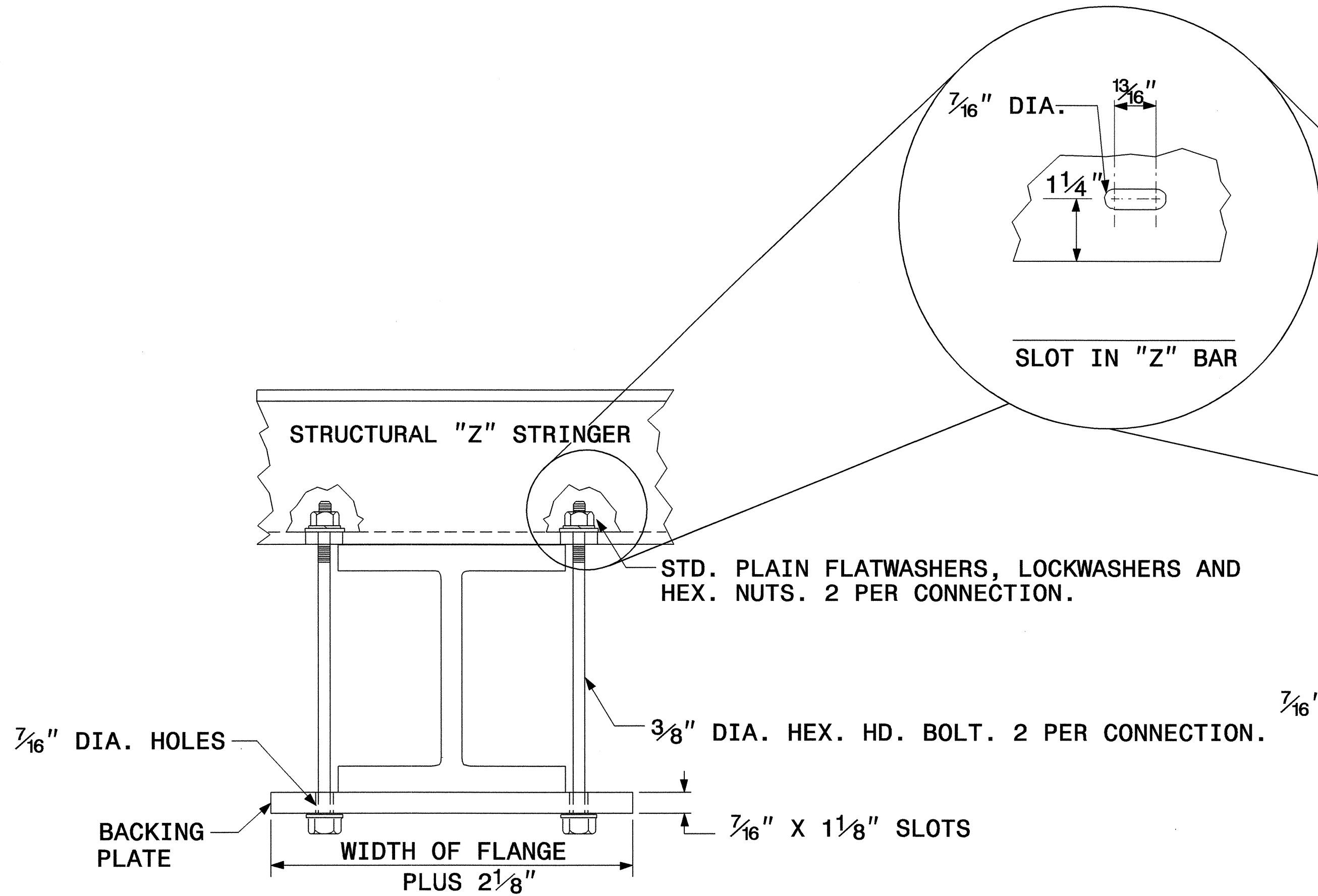
| SIGN NO. | SIGN TYPE | SIGN SIZE (in.) | | | ROADWAY STATION | NO. OF SUP. | BEAM SECTION | SUPPORT TYPE BA or S | ATTACH METHOD | MOUNTING METHOD | HORIZ. CLR.* (ft.) | LENGTH (ft) | | | LEFT SUPPORT (ft) | | | CENTER SUPPORT (ft) | | | RIGHT SUPPORT (ft) | | | FOOTING DIAMETER (ft.) | FOOTING DEPTH (ft.) | B/A SUPPORT WEIGHTS (lbs.) | SIMPLE SUPPORT WEIGHTS (lbs.) | REINF. FTGS. (c.y.) | FIELD VERIFIED (mm/dd/yy) |
|----------|-----------|-----------------|---|-----|-----------------|-------------|--------------|----------------------|---------------|-----------------|--------------------|-------------|----------|------------|-------------------|-------|--------------|---------------------|------|--------------|--------------------|-------|--------------|------------------------|---------------------|----------------------------|-------------------------------|---------------------|---------------------------|
| | | w | x | h | | | | | | | | SNS H | MTG HT C | EMBED-MENT | S | L | TOTAL LENGTH | S | L | TOTAL LENGTH | S | L | TOTAL LENGTH | | | | | | |
| 101A | B | 102 | X | 30 | 169+50 | 2 | W8x18 | BA | 1-R | N/A | 30.00 | 11.50 | 8.20 | 6.5 | -1.20 | 18.50 | 25.00 | 0.00 | 0.00 | 0.00 | -0.90 | 18.80 | 25.30 | 2 | 7 | 1067.52 | 0.00 | 1.63 | |
| 101B | A | 204 | X | 138 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 102A | B | 102 | X | 30 | 190+80 | 2 | W8x18 | BA | 1-R | N/A | 30.00 | 12.50 | 7.95 | 6.5 | -0.95 | 19.50 | 26.00 | 0.00 | 0.00 | 0.00 | -0.59 | 19.86 | 26.36 | 2 | 7 | 1104.60 | 0.00 | 1.63 | |
| 102B | A | 204 | X | 150 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 201 | A | 78 | X | 78 | 117+80 | 2 | S4x7.7 | BA | N/A | N/A | 10.00 | 6.50 | 7.00 | 4 | 0.61 | 14.11 | 18.11 | 0.00 | 0.00 | 0.00 | 0.61 | 14.11 | 18.11 | 1 | 4.5 | 319.50 | 0.00 | 0.26 | |
| 202 | A | 78 | X | 78 | 138+00 | 2 | S4x7.7 | BA | N/A | N/A | 10.00 | 6.50 | 7.00 | 4 | 0.61 | 14.11 | 18.11 | 0.00 | 0.00 | 0.00 | 0.61 | 14.11 | 18.11 | 1 | 4.5 | 319.50 | 0.00 | 0.26 | |
| 203 | A | 84 | X | 60 | 277+80 | 2 | S3x5.7 | BA | N/A | N/A | 10.00 | 5.00 | 7.00 | 3.5 | 0.80 | 12.80 | 16.30 | 0.00 | 0.00 | 0.00 | 0.80 | 12.80 | 16.30 | 1 | 4 | 221.35 | 0.00 | 0.23 | |
| 901 | A | 180 | X | 120 | 249+00 | 2 | W6x16 | BA | N/A | N/A | 30.00 | 10.00 | 9.10 | 6 | -2.10 | 17.00 | 23.00 | 0.00 | 0.00 | 0.00 | -1.35 | 17.75 | 23.75 | 1.5 | 6.5 | 880.38 | 0.00 | 0.85 | |
| 902 | A | 180 | X | 120 | 259+00 | 2 | W6x16 | BA | N/A | N/A | 30.00 | 10.00 | 9.15 | 6 | -2.15 | 17.00 | 23.00 | 0.00 | 0.00 | 0.00 | -1.25 | 17.90 | 23.90 | 1.5 | 6.5 | 882.78 | 0.00 | 0.85 | |

| | | | |
|------|---------|-------|-------|
| | TOTAL | TOTAL | TOTAL |
| | 4795.65 | 0.00 | 5.72 |
| USE: | 4796 | 0 | 6 |



TYPE "A" AND TYPE "B" GROUND MOUNTED SIGNS

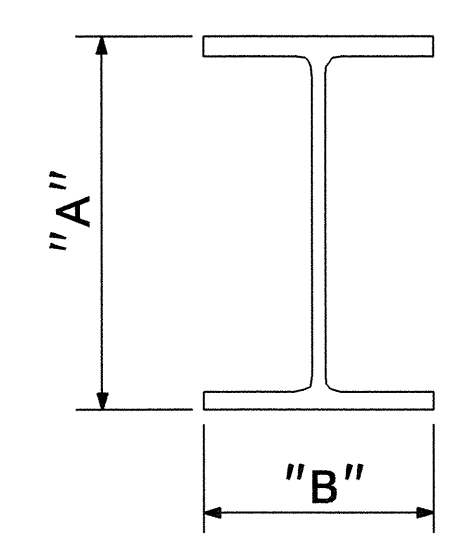
| | | | |
|-------------------------|-------------|--|-----------|
| SCALE | 1:1000 | N. C. DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH | REVISIONS |
| DATE | FEB 2007 | | |
| SIGNING DESIGN ENG | G. TERLIZZI | | |
| SIGNING PROJECT DGN ENG | K. JORDAN | | |
| SIGNING PROJECT ENG | A. ALQUDWAH | | |



SUPPORT MOUNTING DETAIL

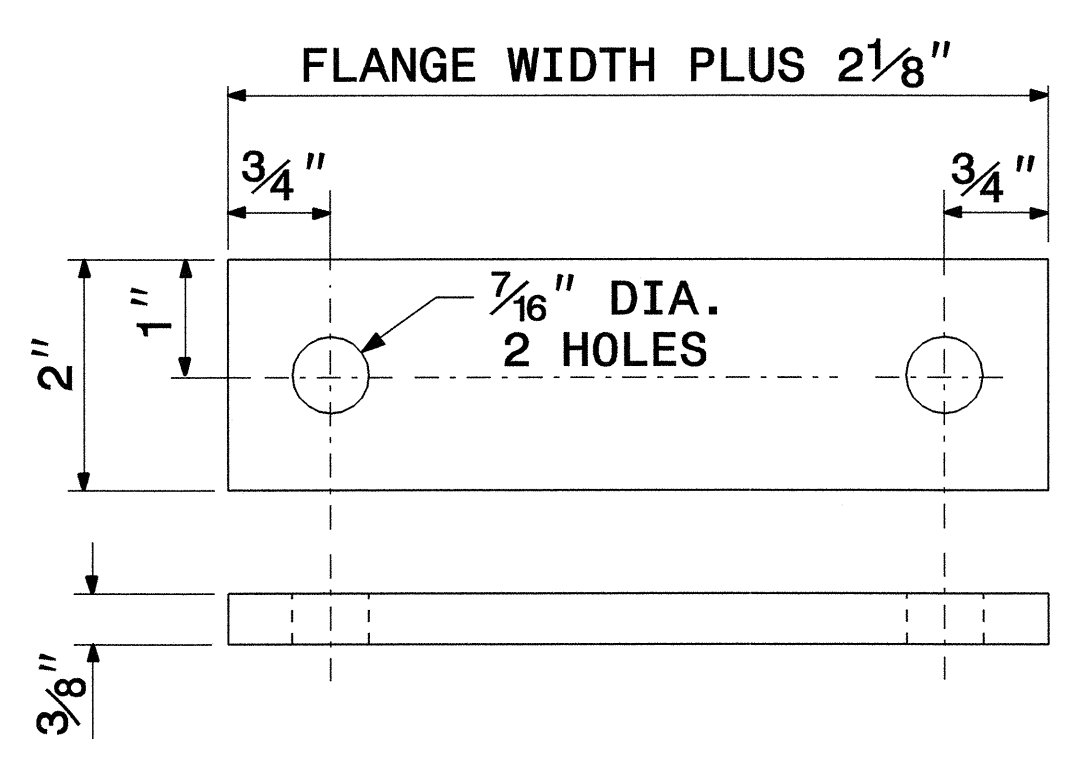
ALTERNATIVE SUPPORT MOUNTING DETAIL

SIGN SUPPORTS SECTION DIMENSIONS

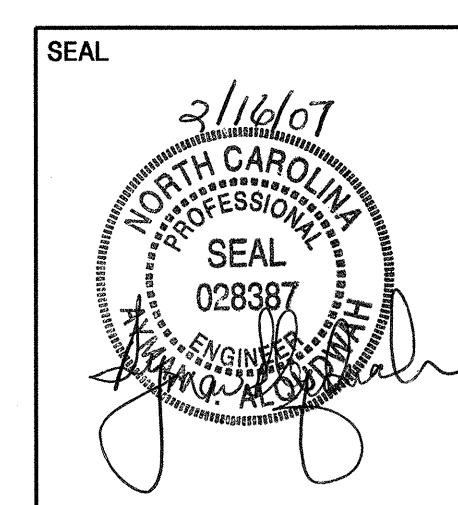


| SECTION | A | B |
|----------|---------|--------|
| S3 X 5.7 | 3" | 2 3/8" |
| S4 X 7.7 | 4" | 2 5/8" |
| W6 X 9 | 6" | 4" |
| W6 X 12 | 6" | 4" |
| W6 X 16 | 6 1/4" | 4" |
| W8 X 18 | 8 1/8" | 5 1/4" |
| W8 X 21 | 8 1/4" | 5 1/4" |
| W10 X 22 | 10 1/8" | 5 3/4" |
| W10 X 26 | 10 3/8" | 5 3/4" |
| W12 X 26 | 12 1/4" | 6 1/2" |
| W14 X 30 | 13 7/8" | 6 3/4" |
| W16 X 31 | 15 7/8" | 5 1/2" |
| W18 X 35 | 17 3/4" | 6" |
| W18 X 40 | 17 7/8" | 6" |
| W21 X 44 | 20 5/8" | 6 1/2" |

BACKING PLATE DETAIL

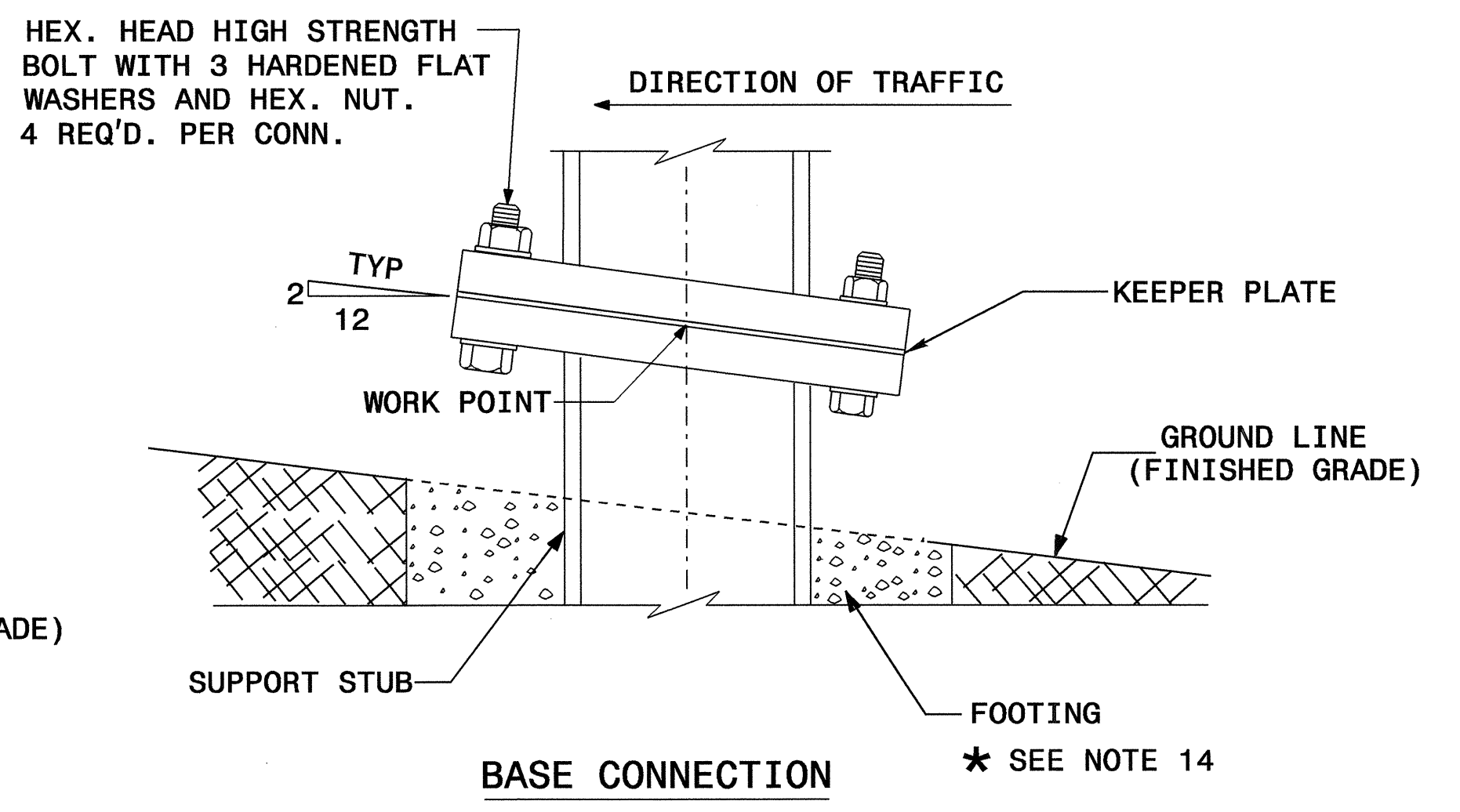
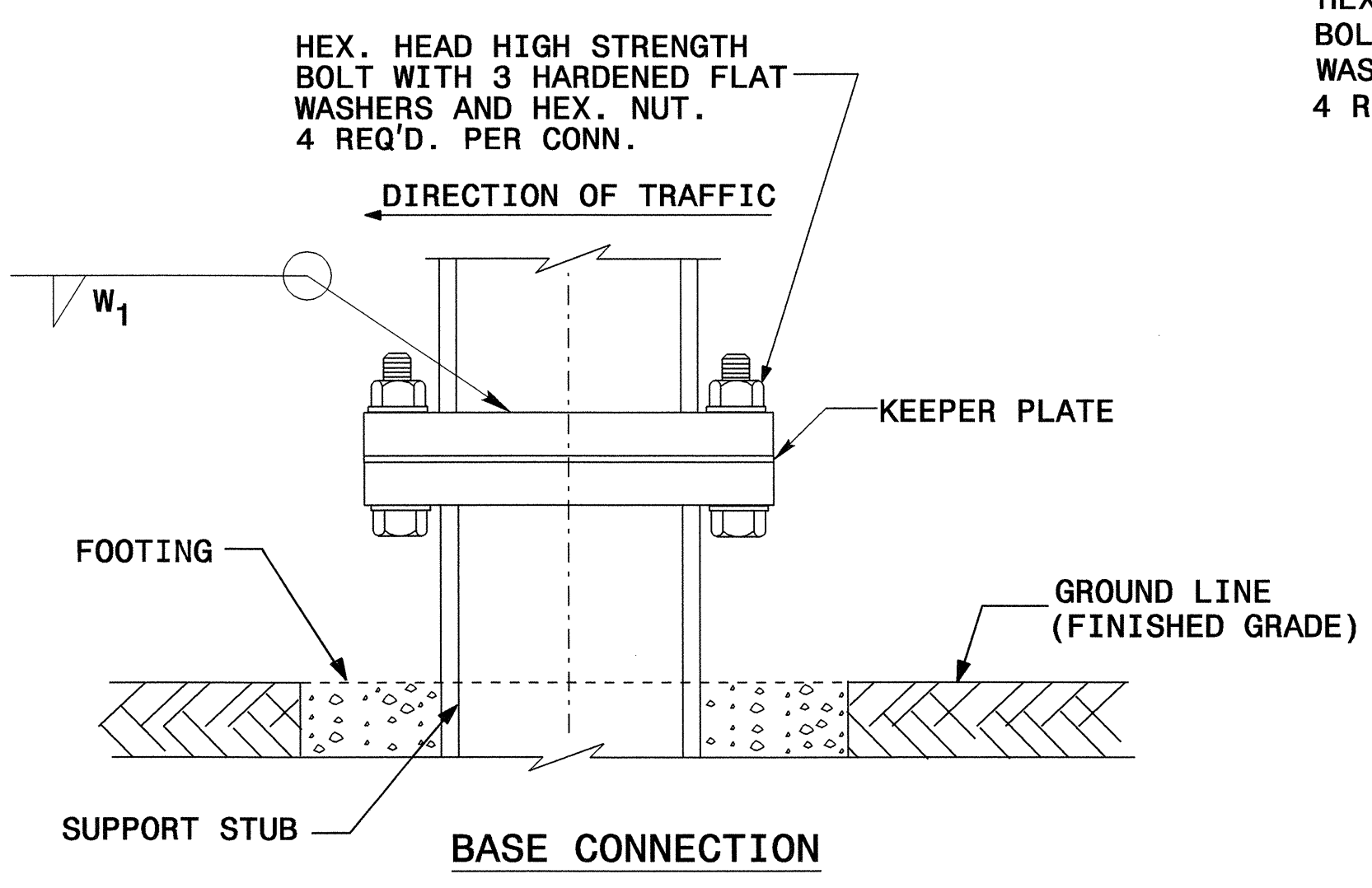
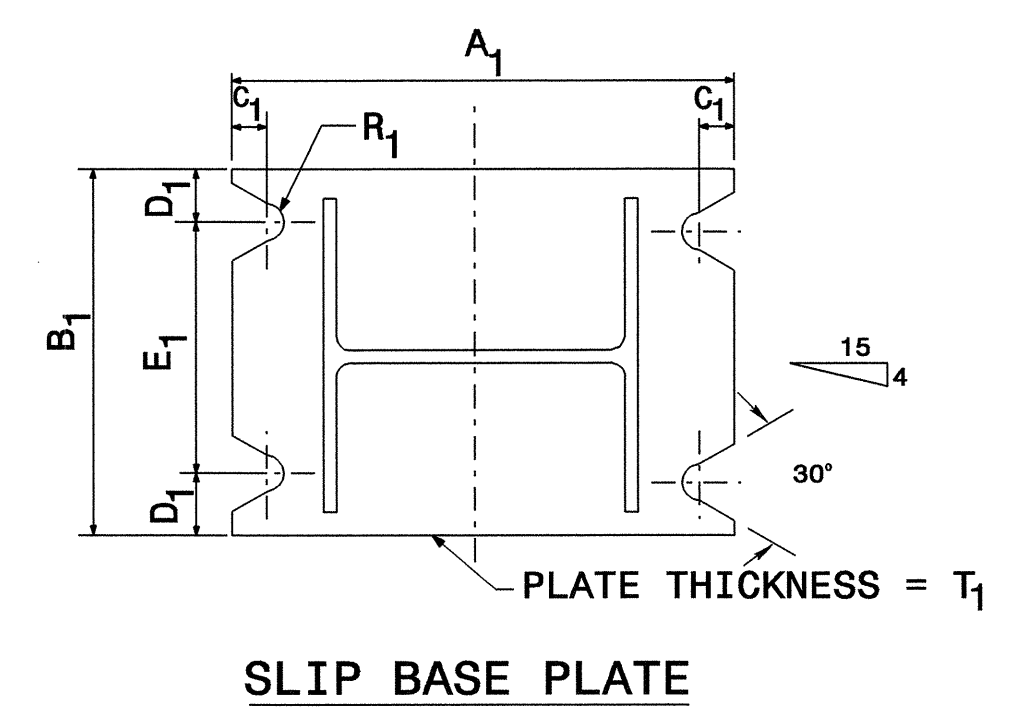
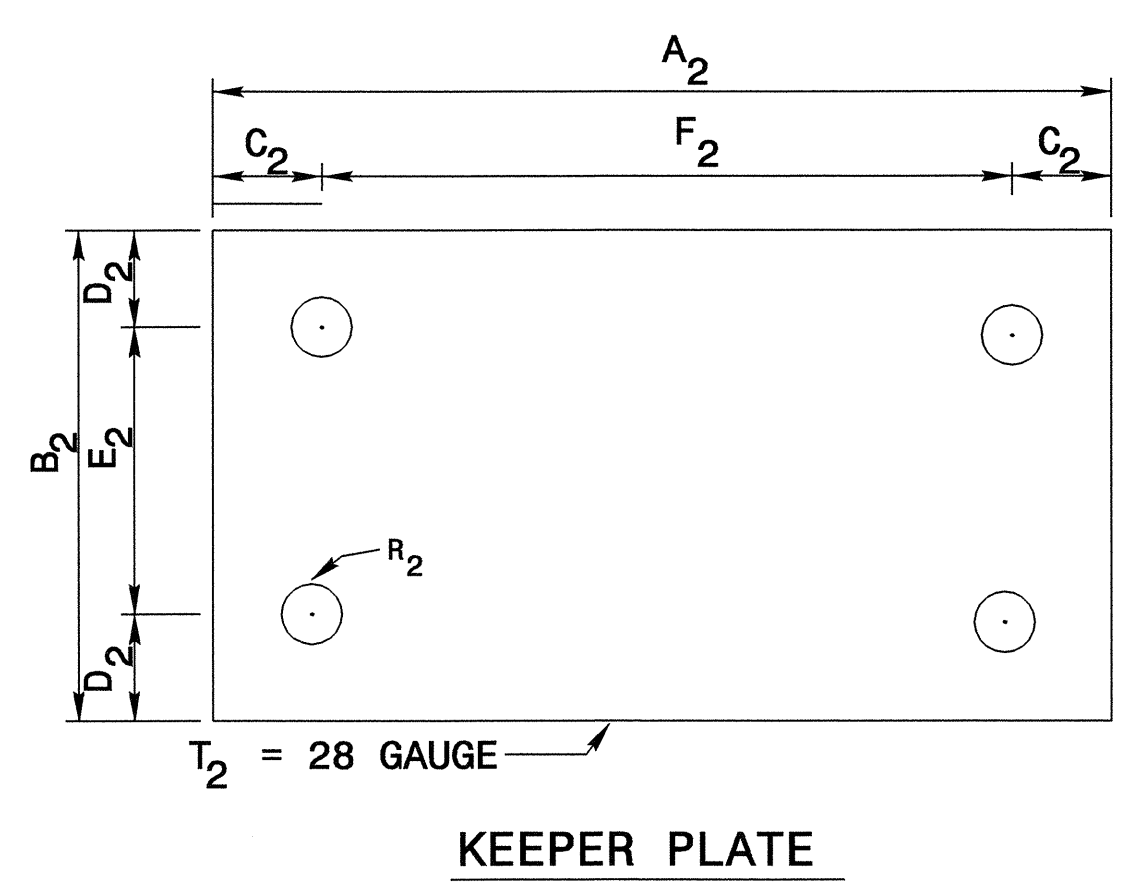
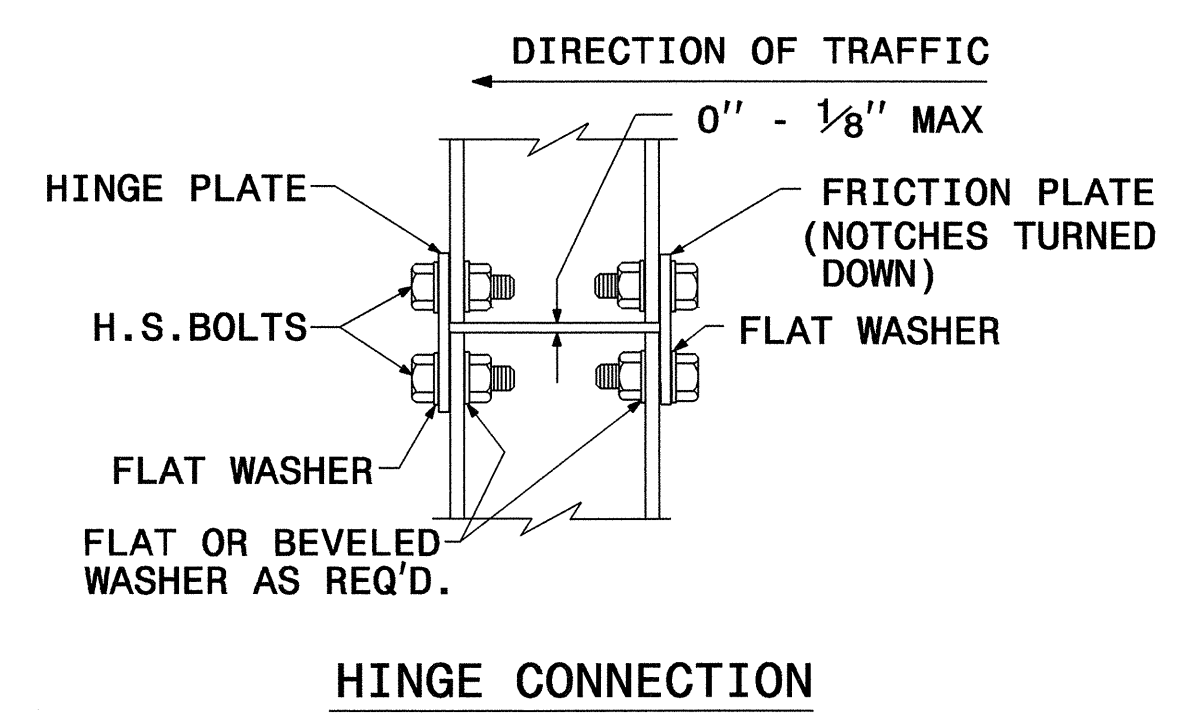
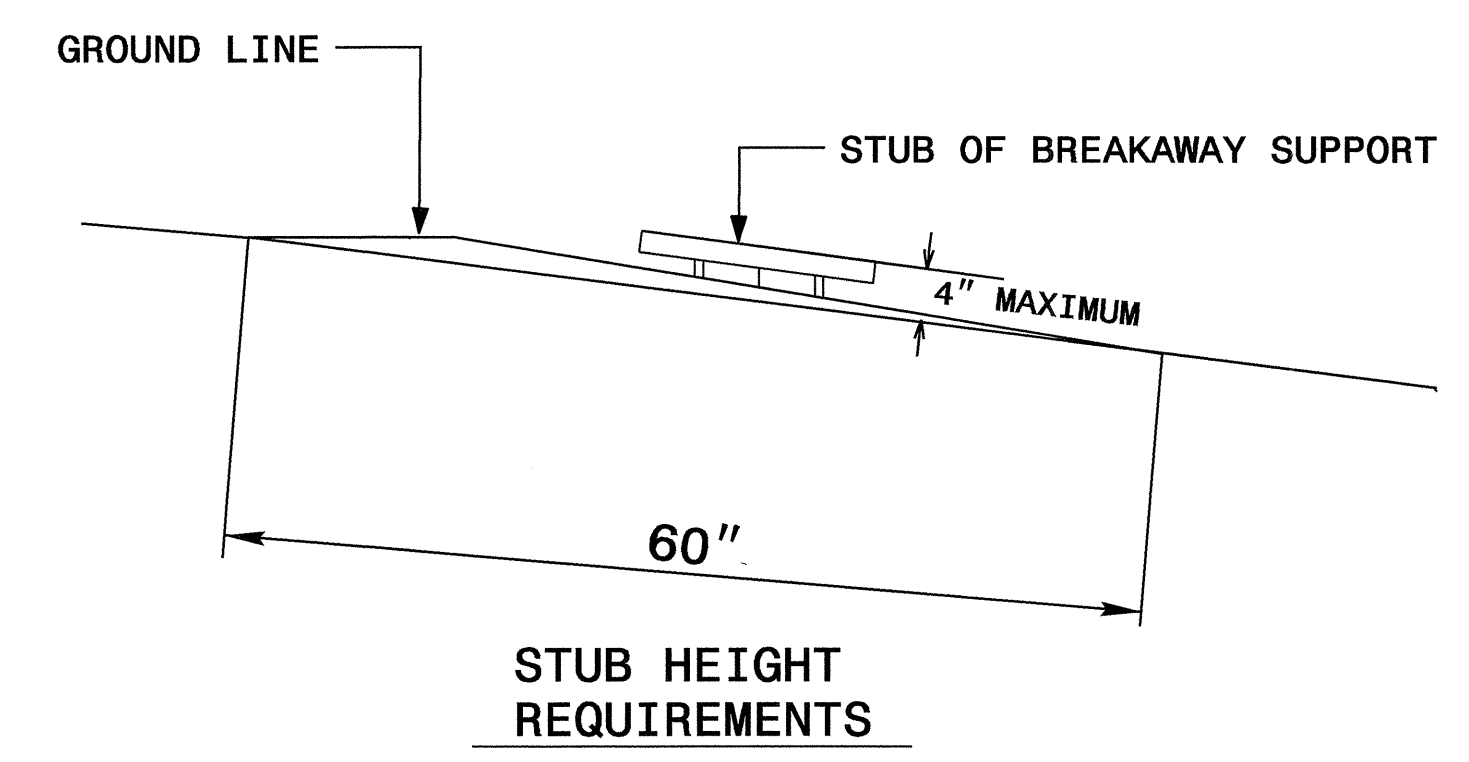
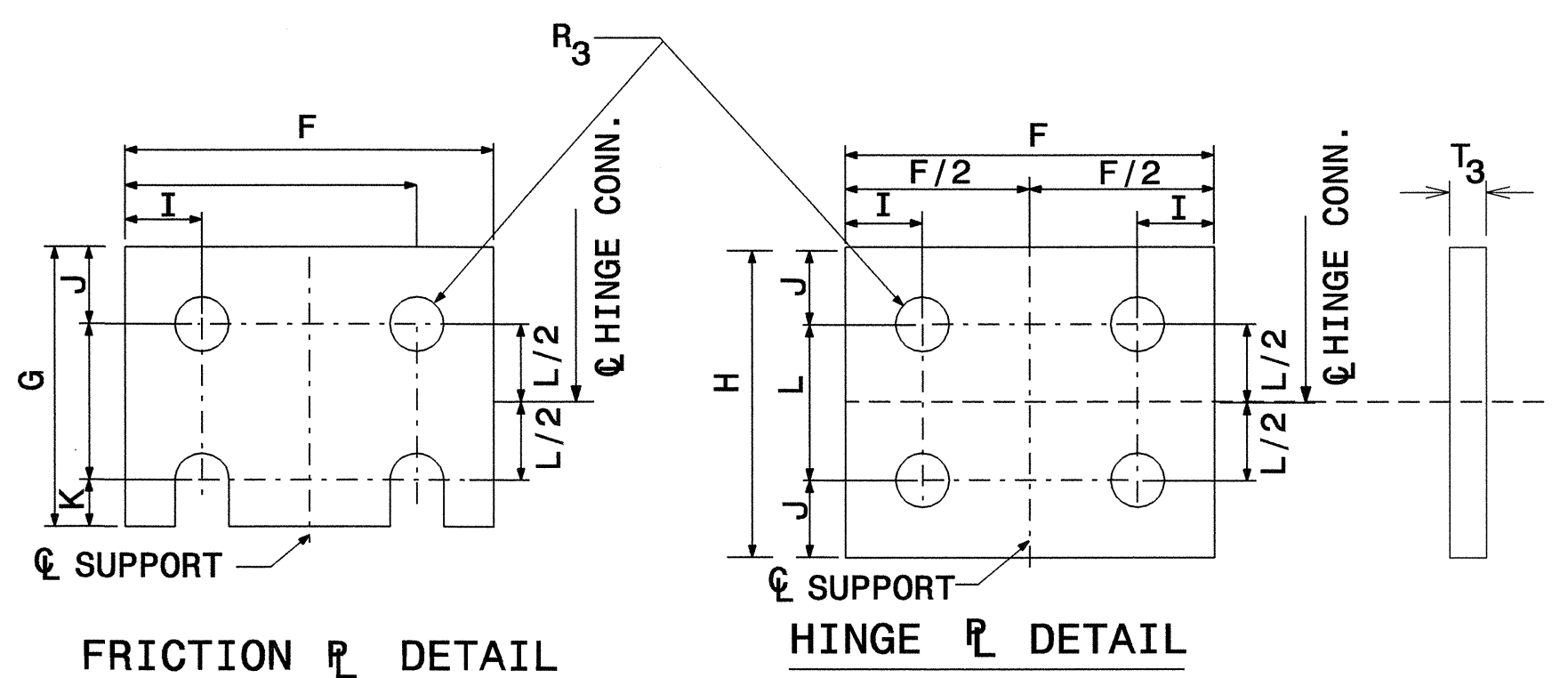
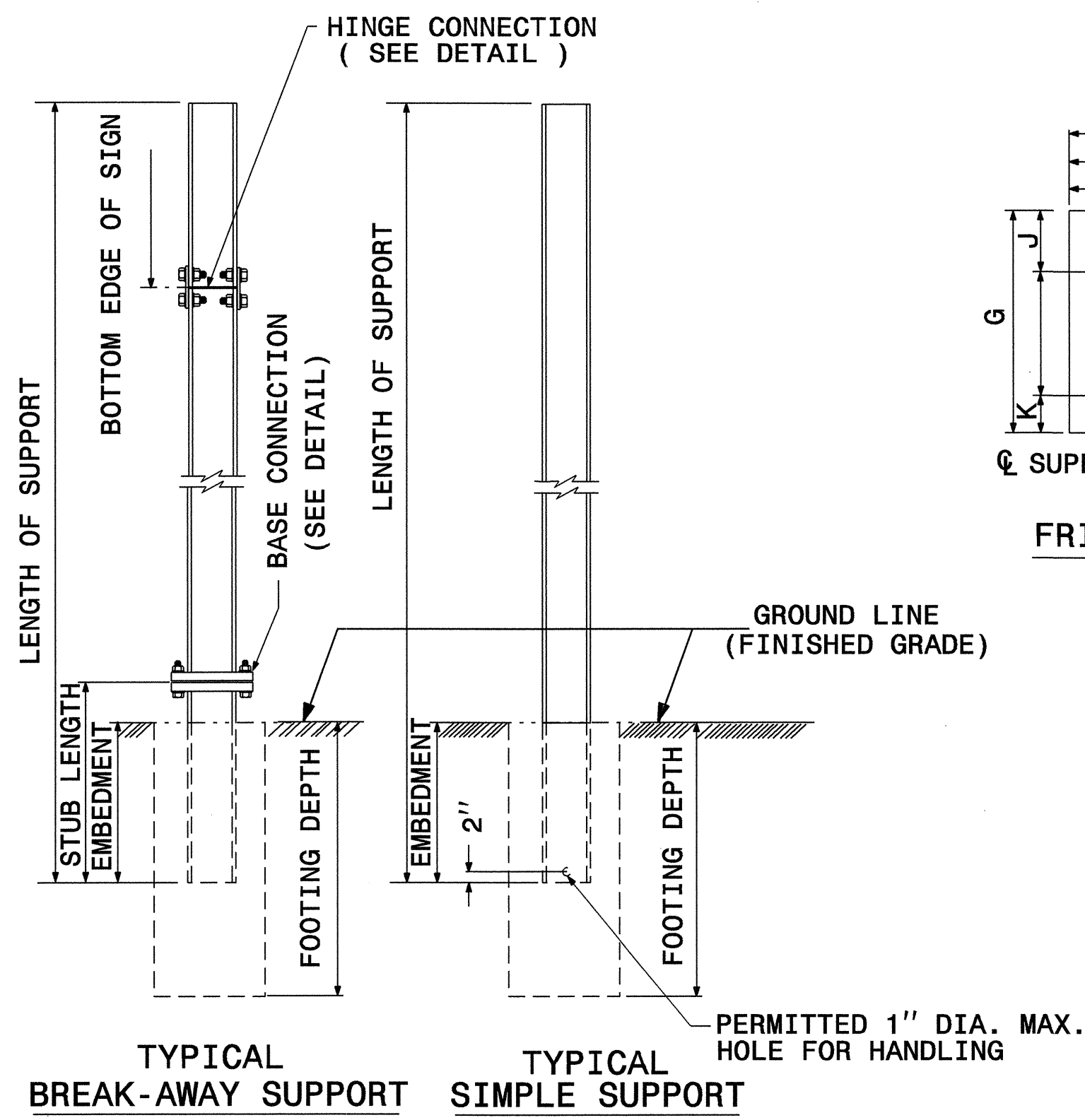


1. THE SUPPORT MOUNTING DETAIL SHOWS A "W" OR "S" BEAM. THIS DETAIL IS ALSO USED FOR MOUNTING SIGNS TO WOOD OR SQUARE TUBE SUPPORTS.
2. USE GALVANIZED STEEL FOR BACKING PLATES AND MOUNTING BOLTS IN ACCORDANCE WITH ASTM A123.
3. SEE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES FOR TYPE OF MATERIAL TO BE USED FOR SIGN HANGER ASSEMBLIES AND SUPPORTS.
4. USE GALVANIZED STEEL FOR MOUNTING BOLTS AND THREADED RODS IN COMPLIANCE WITH ASTM A307 AND ASTM A153.

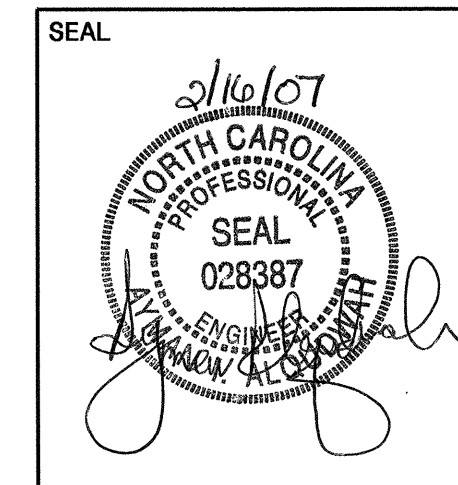


SIGN MOUNTING DETAILS

| | | | |
|-------------------------|-------------|--|-----------|
| SCALE | 1:1000 | N. C. DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH | REVISIONS |
| DATE | FEB 2007 | | |
| SIGNING DESIGN ENG | G. TERLIZZI | | |
| SIGNING PROJECT DGN ENG | K. JORDAN | | |
| SIGNING PROJECT ENG | A. ALQUDWAH | | |



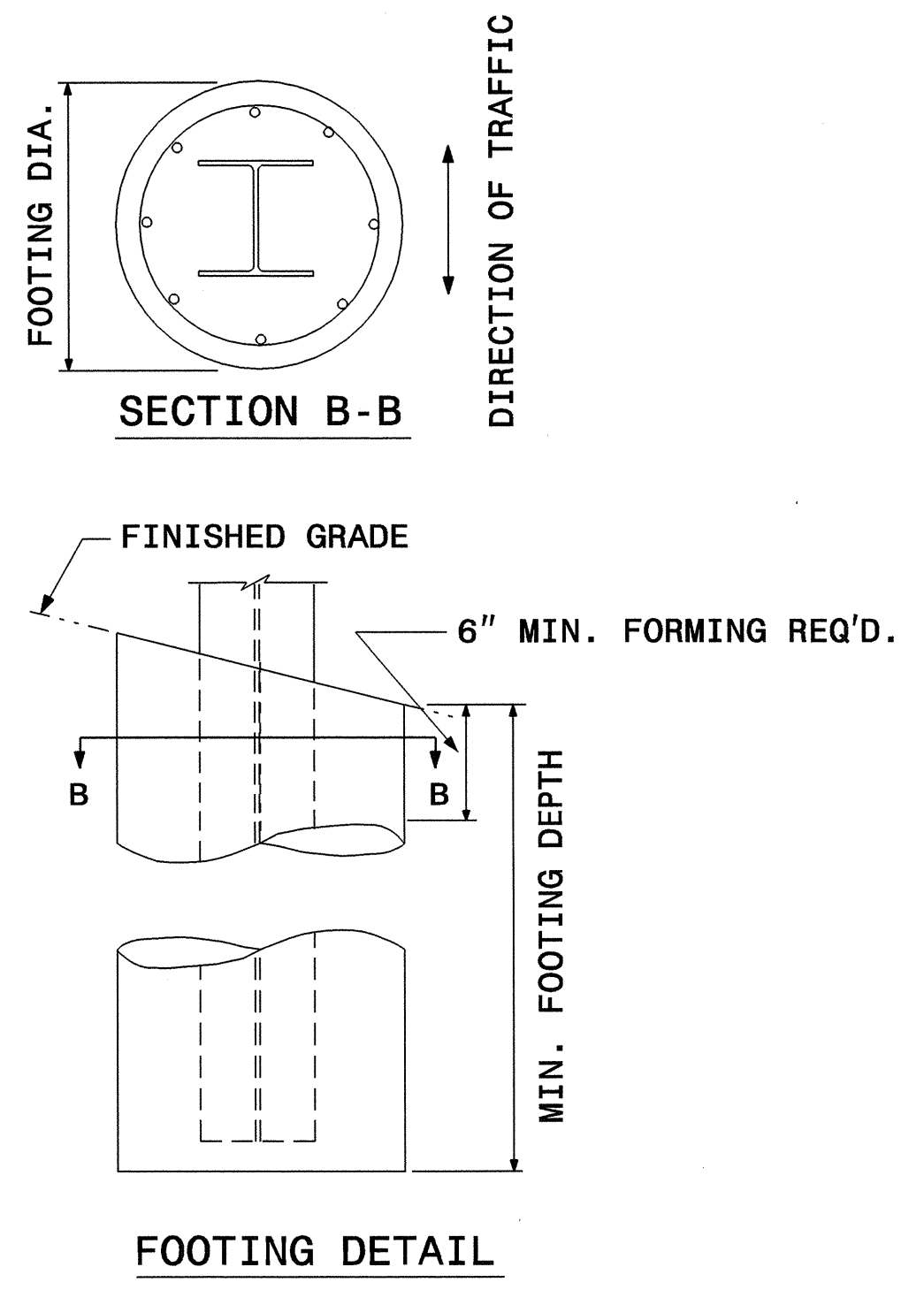
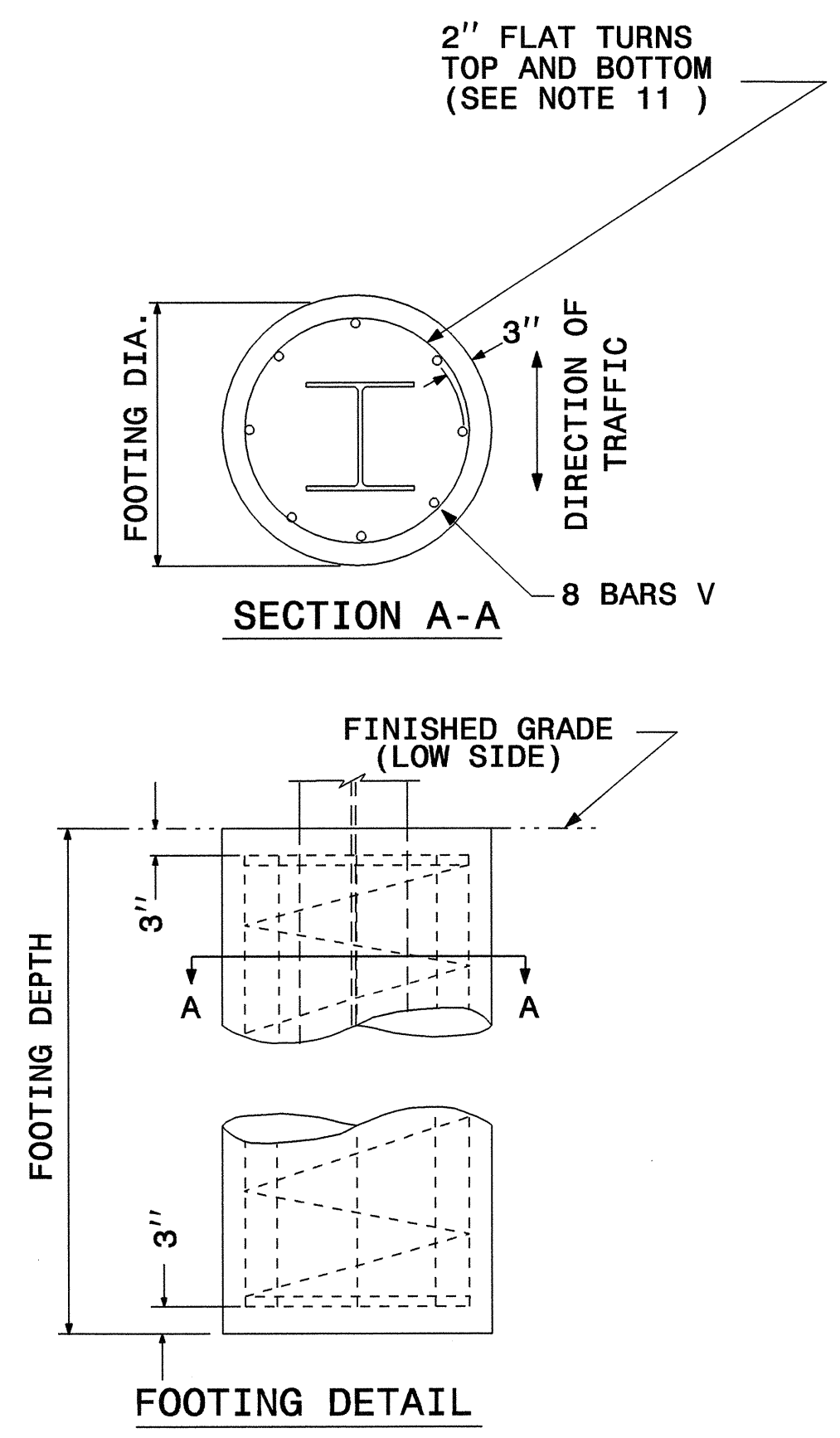
SEE SHEET SIGN-7 FOR DIMENSIONS.
SEE SHEET SIGN-8 FOR NOTES.



GROUND MOUNTED SIGN SUPPORT

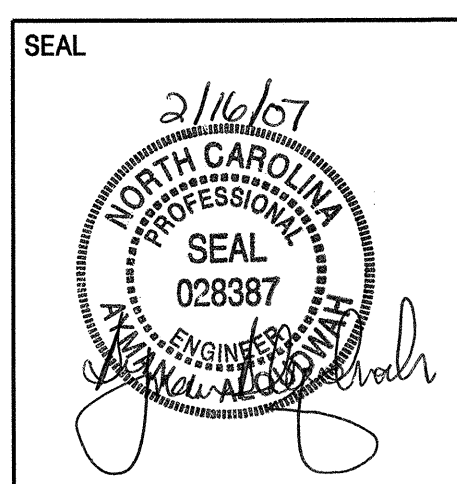
| | | | |
|-------------------------|--------------|--|-----------|
| SCALE | 1:1000 | N. C. DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH | REVISIONS |
| DATE | FEB 2007 | | |
| SIGNING DESIGN ENG | G. TERLIZZI | | |
| SIGNING PROJECT DGN ENG | K. JORDAN | | |
| SIGNING PROJECT ENG | A. ALQUIDWAH | | |

| BEAM SHAPE | BOLT SIZE | SLIP BASE PLATE DATA | | | | | | | | KEEPER PLATE DATA | | | | | | | | HINGE CONNECTION DATA | | | | | | | | BREAK AWAY SUPPORT WEIGHT CONSTANT LBS. | | |
|------------|-------------------|----------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------------|--------|--------|--------|--------|--------|------|--------|---|----------------|----------------|
| | | A ₁ | B ₁ | C ₁ | D ₁ | E ₁ | T ₁ | W ₁ | R ₁ | A ₂ | B ₂ | C ₂ | D ₂ | E ₂ | F ₂ | R ₂ | T ₂ | BOLT SIZE | F | G | H | I | J | K | L | | R ₃ | T ₃ |
| S3X5.7 | 1/2"DIA. X 3" | 7" | 4" | 1" | 3/4" | 2 1/2" | 1" | 3/8" | 9/32" | 7" | 4" | 1" | 3/4" | 2 1/2" | 5" | 9/32" | 28 GAUGE | 1/2"DIA. X 1 1/4" | 2 1/4" | 3 1/2" | 4" | 1/2" | 1" | 1/2" | 2" | 9/32" | 3/8" | 18 |
| S4X7.7 | 1/2"DIA. X 3" | 8" | 4" | 1" | 3/4" | 2 1/2" | 1" | 3/8" | 9/32" | 8" | 4" | 1" | 3/4" | 2 1/2" | 6" | 9/32" | 28 GAUGE | 1/2"DIA. X 1 1/4" | 2 5/8" | 3 1/2" | 4" | 1/2" | 1" | 1/2" | 2" | 9/32" | 3/8" | 20 |
| W6X9 | 1/2"DIA. X 3" | 10" | 5" | 1" | 3/4" | 3 1/2" | 1" | 3/8" | 9/32" | 10" | 5" | 1" | 3/4" | 3 1/2" | 8" | 9/32" | 28 GAUGE | 1/2"DIA. X 1 1/4" | 4" | 3 1/2" | 4" | 3/4" | 1" | 1/2" | 2" | 9/32" | 3/8" | 32 |
| W6X12 | 5/8"DIA. X 3 3/4" | 11" | 5" | 1 1/4" | 7/8" | 3 1/4" | 1 1/4" | 3/8" | 11/32" | 11" | 5" | 1 1/4" | 7/8" | 3 1/4" | 8 1/2" | 11/32" | 28 GAUGE | 5/8"DIA. X 2 1/4" | 4" | 4" | 4 1/2" | 3/4" | 1 1/8" | 5/8" | 2 1/4" | 11/32" | 3/8" | 43 |
| W6X16 | 5/8"DIA. X 4 1/4" | 12" | 6" | 1 1/4" | 7/8" | 4 1/4" | 1 1/2" | 3/8" | 11/32" | 12" | 6" | 1 1/4" | 7/8" | 4 1/4" | 9 1/2" | 11/32" | 28 GAUGE | 5/8"DIA. X 2 1/2" | 4" | 4" | 4 1/2" | 3/4" | 1 1/8" | 5/8" | 2 1/4" | 11/32" | 1/2" | 66 |
| W8X18 | 5/8"DIA. X 4 1/4" | 13 1/2" | 6 1/2" | 1 1/4" | 7/8" | 4 3/4" | 1 1/2" | 3/8" | 11/32" | 13 1/2" | 6 1/2" | 1 1/4" | 7/8" | 4 3/4" | 11" | 11/32" | 28 GAUGE | 5/8"DIA. X 2 1/2" | 5 1/4" | 4" | 4 1/2" | 1" | 1 1/8" | 5/8" | 2 1/4" | 11/32" | 1/2" | 81 |
| W8X21 | 3/4"DIA. X 4 1/4" | 14" | 7" | 1 1/2" | 1" | 5" | 1 1/2" | 3/8" | 13/32" | 14" | 7" | 1 1/2" | 1" | 5" | 11" | 13/32" | 28 GAUGE | 3/4"DIA. X 2 3/4" | 5 1/4" | 6" | 7" | 1" | 1 3/4" | 3/4" | 3 1/2" | 13/32" | 1/2" | 93 |
| W10X22 | 3/4"DIA. X 4 1/4" | 16" | 8" | 1 1/2" | 1" | 6" | 1 1/2" | 3/8" | 13/32" | 16" | 8" | 1 1/2" | 1" | 6" | 13" | 13/32" | 28 GAUGE | 3/4"DIA. X 2 3/4" | 5 3/4" | 6" | 7" | 1" | 1 3/4" | 3/4" | 3 1/2" | 13/32" | 1/2" | 119 |
| W10X26 | 3/4"DIA. X 4 3/4" | 16 1/2" | 8" | 1 1/2" | 1" | 6" | 1 3/4" | 3/8" | 13/32" | 16 1/2" | 8" | 1 1/2" | 1" | 6" | 13 1/2" | 13/32" | 28 GAUGE | 3/4"DIA. X 2 3/4" | 5 3/4" | 6" | 7" | 1" | 1 3/4" | 3/4" | 3 1/2" | 13/32" | 5/8" | 144 |
| W12X26 | 3/4"DIA. X 4 3/4" | 18 1/2" | 9" | 1 1/2" | 1" | 7" | 1 3/4" | 3/8" | 13/32" | 18 1/2" | 9" | 1 1/2" | 1" | 7" | 15 1/2" | 13/32" | 28 GAUGE | 3/4"DIA. X 2 3/4" | 6 1/2" | 6" | 7" | 1" | 1 3/4" | 3/4" | 3 1/2" | 13/32" | 5/8" | 180 |
| W14X30 | 1"DIA. X 5 3/4" | 22" | 9" | 2" | 1 1/2" | 6" | 2" | 1/2" | 17/32" | 22" | 9" | 2" | 1 1/2" | 6" | 18" | 17/32" | 28 GAUGE | 1"DIA. X 3" | 6 3/4" | 7" | 8" | 1 1/4" | 2" | 1" | 4" | 17/32" | 5/8" | 242 |
| W16X31 | 1"DIA. X 5 3/4" | 24" | 9" | 2" | 1 1/2" | 6" | 2" | 1/2" | 17/32" | 24" | 9" | 2" | 1 1/2" | 6" | 20" | 17/32" | 28 GAUGE | 1"DIA. X 3 1/4" | 5 1/2" | 7" | 8" | 1 1/4" | 2" | 1" | 4" | 17/32" | 3/4" | 263 |
| W18X35 | 1"DIA. X 5 3/4" | 25" | 9" | 2" | 1 1/2" | 6" | 2" | 1/2" | 17/32" | 25" | 9" | 2" | 1 1/2" | 6" | 21" | 17/32" | 28 GAUGE | 1"DIA. X 3 1/4" | 6" | 7" | 8" | 1 1/4" | 2" | 1" | 4" | 17/32" | 3/4" | 274 |
| W18X40 | 1"DIA. X 6 1/4" | 26" | 9" | 2" | 1 1/2" | 6" | 2 1/4" | 5/8" | 17/32" | 26" | 9" | 2" | 1 1/2" | 6" | 22" | 17/32" | 28 GAUGE | 1"DIA. X 3 3/4" | 6" | 7" | 8" | 1 1/4" | 2" | 1" | 4" | 17/32" | 7/8" | 321 |
| W21X44 | 1"DIA. X 6 3/4" | 29" | 9" | 2" | 1 1/2" | 6" | 2 1/2" | 5/8" | 17/32" | 29" | 9" | 2" | 1 1/2" | 6" | 25" | 17/32" | 28 GAUGE | 1"DIA. X 3 3/4" | 6 1/2" | 7" | 8" | 1 1/4" | 2" | 1" | 4" | 17/32" | 7/8" | 394 |



| FOUNDATION DATA * | | |
|-------------------|---------------|------------------|
| FOOTING DIAMETER | REINFORCEMENT | SPIRAL BAR |
| 1' | 8 # 4 BARS | #3 BAR, 3" PITCH |
| 1' 6" | 8 # 6 BARS | #3 BAR, 3" PITCH |
| 2' | 8 # 7 BARS | #3 BAR, 3" PITCH |
| 2' 6" | 8 # 9 BARS | #3 BAR, 3" PITCH |
| 3' | 8 # 11 BARS | #3 BAR, 3" PITCH |
| 3' 6" | 8 # 12 BARS | #3 BAR, 3" PITCH |
| 4' | 8 # 14 BARS | #3 BAR, 3" PITCH |

* FOUNDATION DIMENSIONS ARE SHOWN IN PLANS
SEE SHEET SIGN-8 FOR NOTES.



GROUND MOUNTED SIGN SUPPORT

| | | | |
|-------------------------|-------------|--|-----------|
| SCALE | 1:1000 | N. C. DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH | REVISIONS |
| DATE | FEB 2007 | | |
| SIGNING DESIGN ENG | G. TERLIZZI | | |
| SIGNING PROJECT DGN ENG | K. JORDAN | | |
| SIGNING PROJECT ENG | A. ALQUDWAH | | |

NOTES:

1. DESIGN CONFORMS WITH THE SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS - A.A.S.H.T.O.
2. USE MATERIALS, FABRICATE AND ERECT SIGNS AND SUPPORTS THAT CONFORM TO THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
3. USE HIGH STRENGTH BOLTS, NUTS AND WASHERS THAT CONFORM TO A.S.T.M. A-325 AND THAT ARE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A-153.
4. USE BACKING PLATES, SLIP BASE PLATES, FRICTION PLATES, AND HINGE PLATES THAT CONFORM TO A.S.T.M. A-36 AND THAT ARE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A-123 PRIOR TO GALVANIZING, GRIND SMOOTH ANY METAL PROJECTION BEYOND THE PLATE FACE. KEEPER PLATES SHALL BE MANUFACTURED FROM 28 GAUGE SHEET STEEL THAT CONFORMS TO A.S.T.M. A-36 AND IS GALVANIZED IN ACCORDANCE WITH A.S.T.M. A-123
5. ASSEMBLE HINGE CONNECTIONS IN THE SHOP. SHOP TIGHTEN BOLTS BY USE OF EITHER A CALIBRATED POWER WRENCH OR A MANUAL TORQUE WRENCH. TIGHTEN EACH HINGE CONNECTION BOLT TO 1/3 PAST SNUG.
6. BASE PLATES DETAILS ARE FOR INSTALLATIONS ON THE RIGHT SHOULDER AND IN GORE AREAS.
7. ASSEMBLE UPPER SUPPORT TO STUB AS SHOWN IN DETAIL. SLIP BASE PLATES SHALL BE FILLET WELDED ONTO POSTS ALL AROUND THE STRUCTURAL SHAPE. ASSEMBLE IN EITHER SHOP OR FIELD. 28 GAUGE KEEPER PLATE IS PLACED BETWEEN SLIP BASE PLATES TO PREVENT BOLT SLIPPING. TIGHTEN BOLTS TO THE FOLLOWING PRESCRIBED TORQUE:

| BOLT DIAMETER | TORQUE (LB. FT.) |
|---------------|------------------|
| 1/2" | 9 |
| 5/8" | 22 |
| 3/4" | 37 |
| 1" | 48 |

COMPLETELY ASSEMBLE B/A POSTS PRIOR TO ERECTION. B/A POST TO BE SET IN ONE PIECE. AFTER SUPPORT HAS BEEN ERECTED AND THE CONCRETE FOOTINGS HAS CURED AT LEAST 48 HRS., CLEAN CONCRETE FROM BASE CONNECTION BOLTS THEN LOOSEN AND RETIGHTEN EACH BOLT IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. DO NOT OVERTIGHTEN. BURR ALL BOLT THREADS OF BASE CONNECTIONS TO PREVENT LOOSENING.

8. USE REINFORCED FOOTINGS WITH DIMENSIONS AS SHOWN IN PLANS. WHERE SOLID ROCK IS ENCOUNTERED, THE ENGINEER DIRECTS WHETHER TO PLACE THE FOOTING AT THE PRESCRIBED DEPTH OR EXTEND IT AT LEAST TWO FEET INTO THE ROCK. CONSTRUCT ALL FOOTINGS OF CLASS A CONCRETE.
9. FORM TOP 6" OF FOOTINGS. ENGINEER APPROVES THE METHOD USED.
10. THE FINAL FLAT TURN OF SPIRAL OR HOOPS NO. 3 OR LARGER PLACED 3" FROM TOP AND BOTTOM OF FOOTING MAY BE WELDED TO VERTICAL REINFORCING BARS. NO OTHER WELDING WILL BE PERMITTED.
11. ELIMINATE HINGE CONNECTION FOR ALL SINGLE SUPPORT SIGNS.
12. DETAIL IS FOR ONE DIRECTION BREAKAWAY. WHEN PLANS REQUIRE A TWO DIRECTION BREAKAWAY, TWO FRICTION PLATES SHALL BE USED IN LIEU OF ONE FRICTION PLATE AND ONE HINGE PLATE.
13. SHAPE THE TOPS OF THE FOOTINGS TO CONFORM WITH FINISHED GROUND ELEVATIONS SUCH THAT WATER WILL NOT COLLECT AGAINST THE SUPPORTS.
14. IF THE GROUNDWATER IS ENCOUNTERED AT AN DEPTH SHALLOWER THAN 7 FEET, THE SIGN FOUNDATION MUST BE REDESIGNED BASED UPON THE ACTUAL FIELD CONDITIONS. THE FOUNDATION DESIGN DOES NOT APPLY TO VERY SOFT OR LOOSE SOIL, MUCK, WEATHERED ROCK, OR HARD ROCK.

SEAL




GROUND MOUNTED SIGN SUPPORT

| | | | | |
|-------------------------|-------------|--|-----------|--|
| SCALE | 1:1000 | N. C. DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH | REVISIONS | |
| DATE | FEB 2007 | | | |
| SIGNING DESIGN ENG | G. TERLIZZI | | | |
| SIGNING PROJECT DGN ENG | K. JORDAN | | | |
| SIGNING PROJECT ENG | A. ALQUDWAH | | | |

| | |
|-------------------|---------------------|
| TIP NO. I-3600 | SHEET NO. SIGN-4 |
| | |

401 QUANTITY REQ'D 1



36 X 36
W17-12

ONE "U" POST PER SIGN

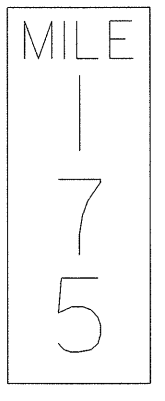
501 503

WEST
INTERSTATE
40

1 - 24" X 12"
1 - 36" X 36"

ONE "U" POST PER SIGN

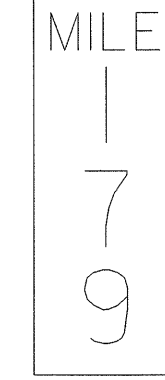
QUANTITY REQ'D 2



12 X 48
W17-12

ONE "U" POST PER SIGN

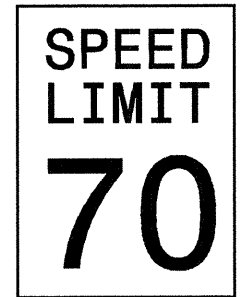
QUANTITY REQ'D 2



12 X 48
W17-12

ONE "U" POST PER SIGN

402 QUANTITY REQ'D 5



48 X 60
R2-1

TWO "U" POSTS PER SIGN

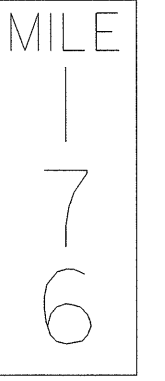
502

EAST
INTERSTATE
40

1 - 24" X 12"
1 - 36" X 36"

ONE "U" POST PER SIGN

QUANTITY REQ'D 2

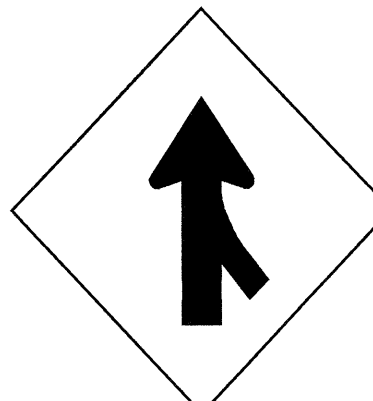


12 X 48
W17-12

ONE "U" POST PER SIGN

QUANTITY REQ'D 2

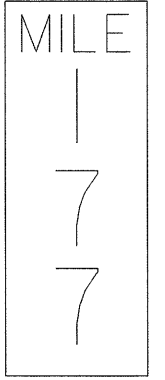
403 QUANTITY REQ'D 2



48 X 48
W4-1 (R)

TWO "U" POSTS PER SIGN

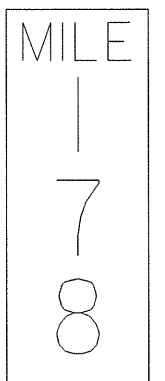
QUANTITY REQ'D 2



12 X 48
W17-12

ONE "U" POST PER SIGN

QUANTITY REQ'D 2

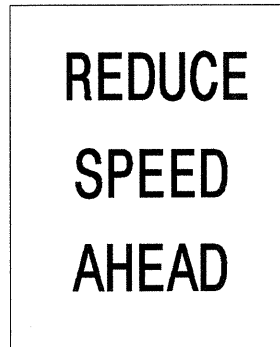


12 X 48
W17-12

ONE "U" POST PER SIGN

QUANTITY REQ'D 2

404 QUANTITY REQ'D 4



48 X 48
R2-5a

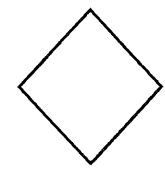
TWO "U" POSTS PER SIGN

QUANTITY REQ'D 2

QUANTITY REQ'D 2

QUANTITY REQ'D 2

417 QUANTITY REQ'D 8



18 X 18
W23-15

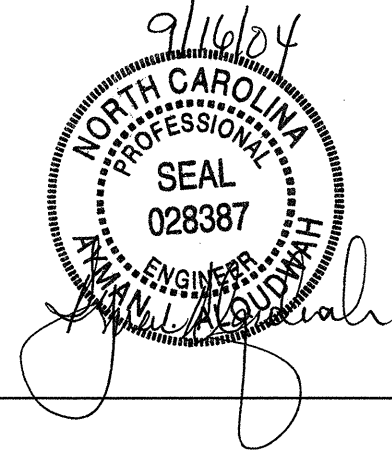
MOUNT ABOVE SIGN 404
IN 2.. INSTALLATIONS

QUANTITY REQ'D 2

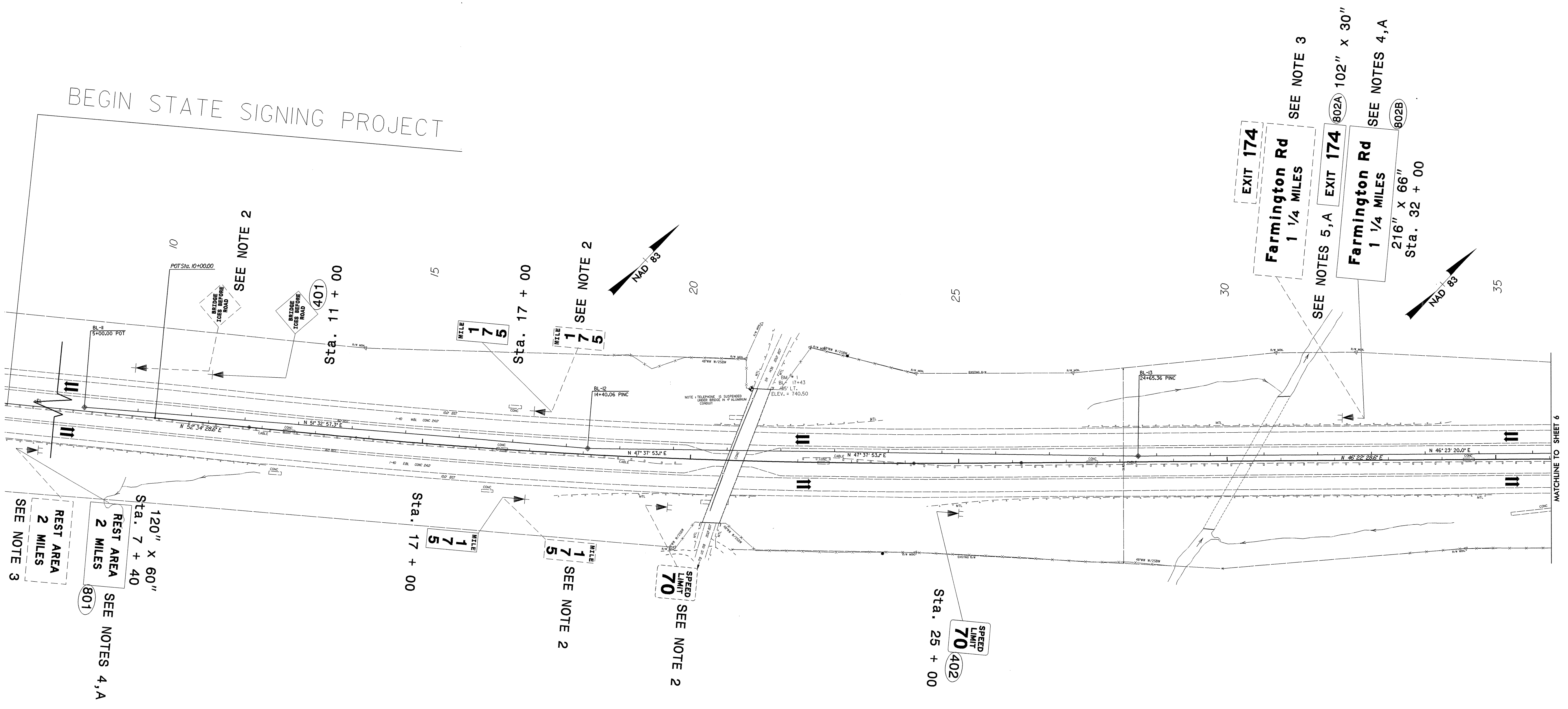
QUANTITY REQ'D 2

QUANTITY REQ'D 2

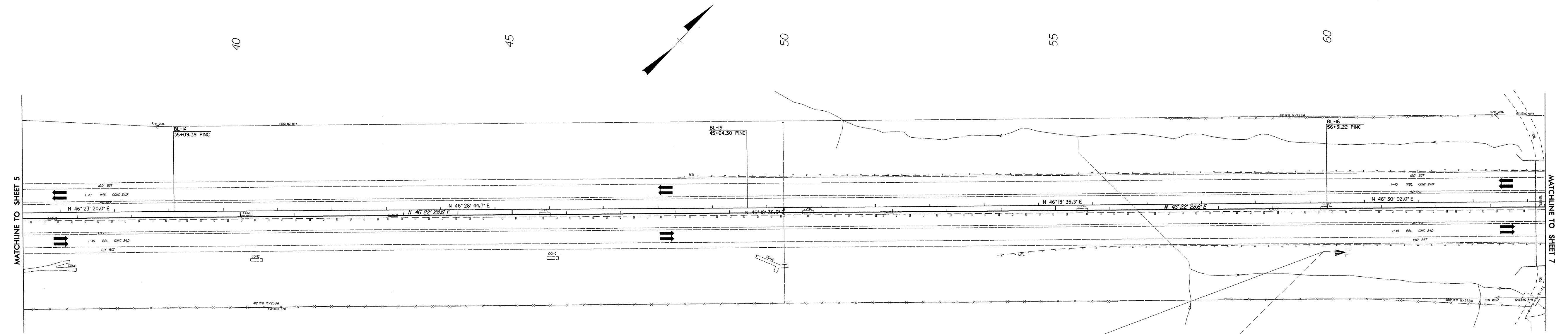
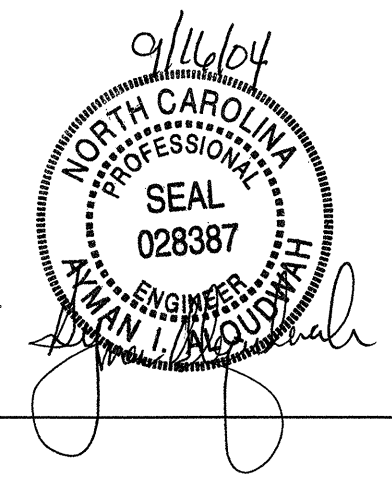
**TYPE "E" SIGNS
TYPE "F" SIGNS
MILEMARKERS**



BEGIN STATE SIGNING PROJECT



PROPOSED & EXISTING SIGNS
 STA 7 + 40 TO 36 + 00
 I-40

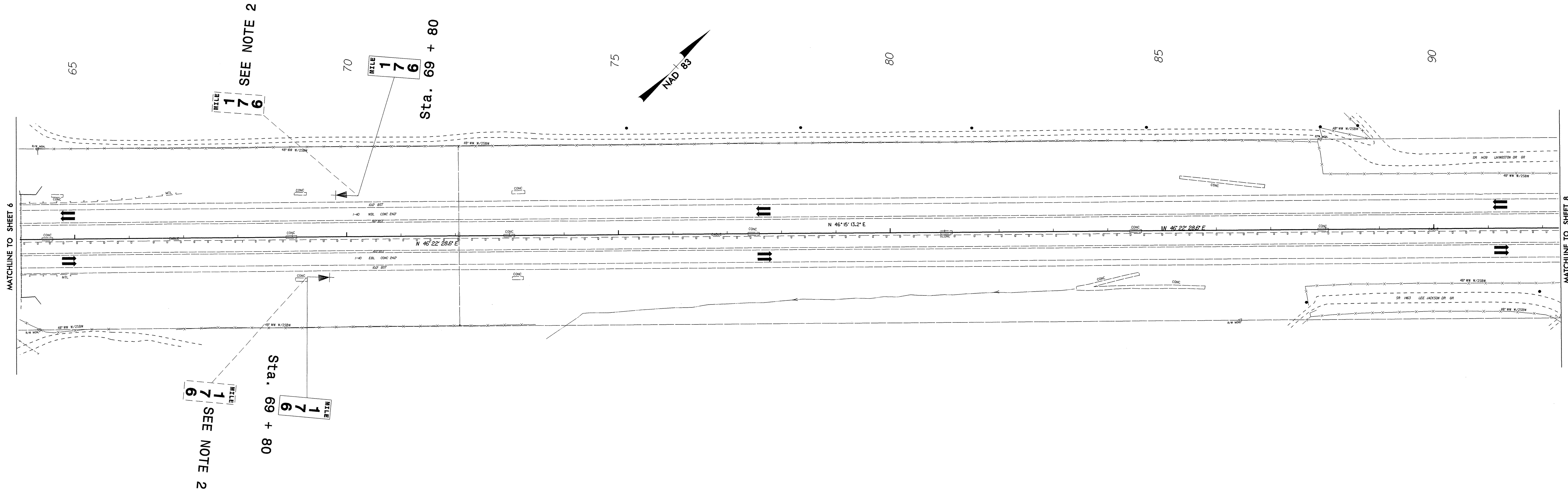


**REST AREA
RIGHT LANE**
SEE NOTE 3

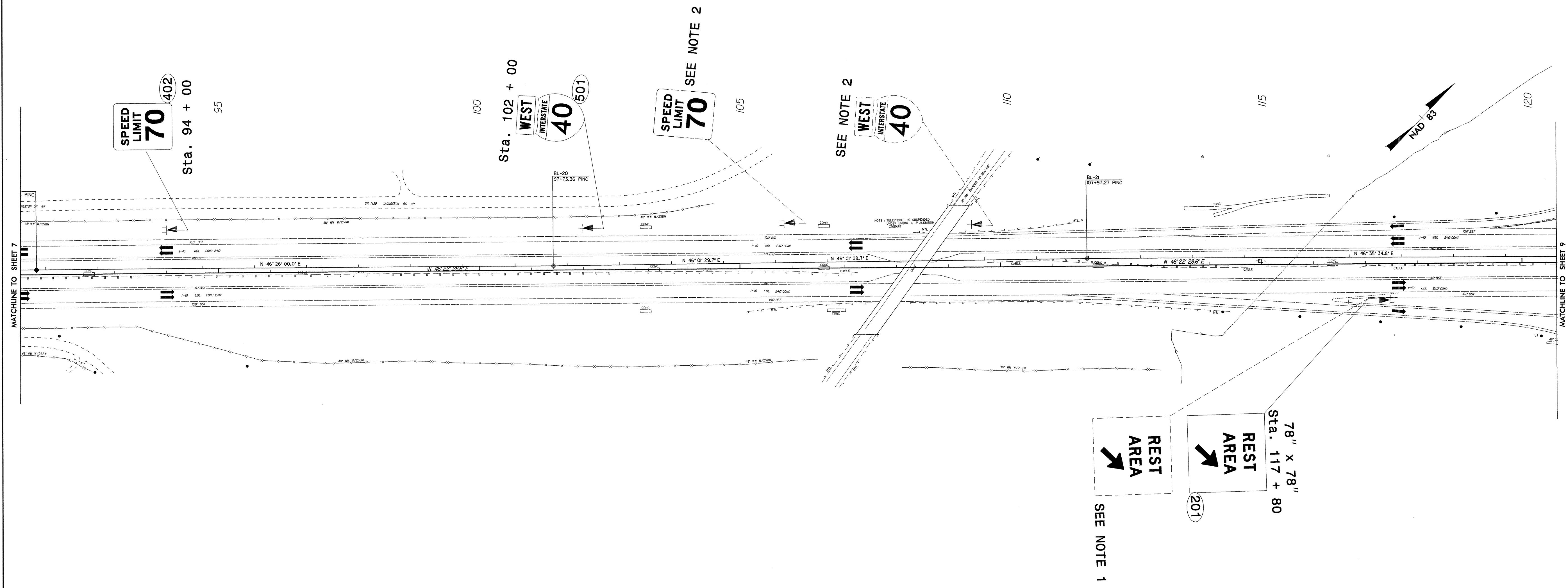
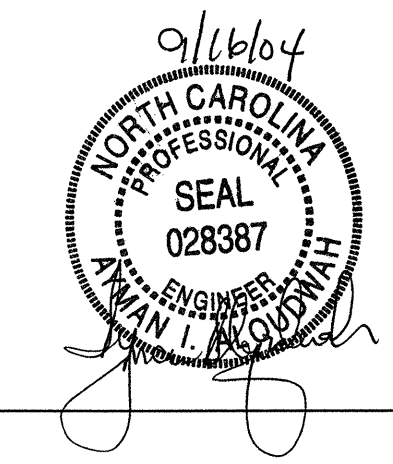
**REST AREA
RIGHT LANE**
120" X 60"
SEE NOTE 4, A
Sta. 60 + 00
(803)

**PROPOSED & EXISTING SIGNS
STA 37 + 00 TO 64 + 00
I-40**

| | |
|-------------------|---------------------|
| TIP NO. I-3600 | SHEET NO. SIGN-7 |
|-------------------|---------------------|



PROPOSED & EXISTING SIGNS
 STA 65 + 00 TO 92 + 00
 I-40



SEE NOTE 1

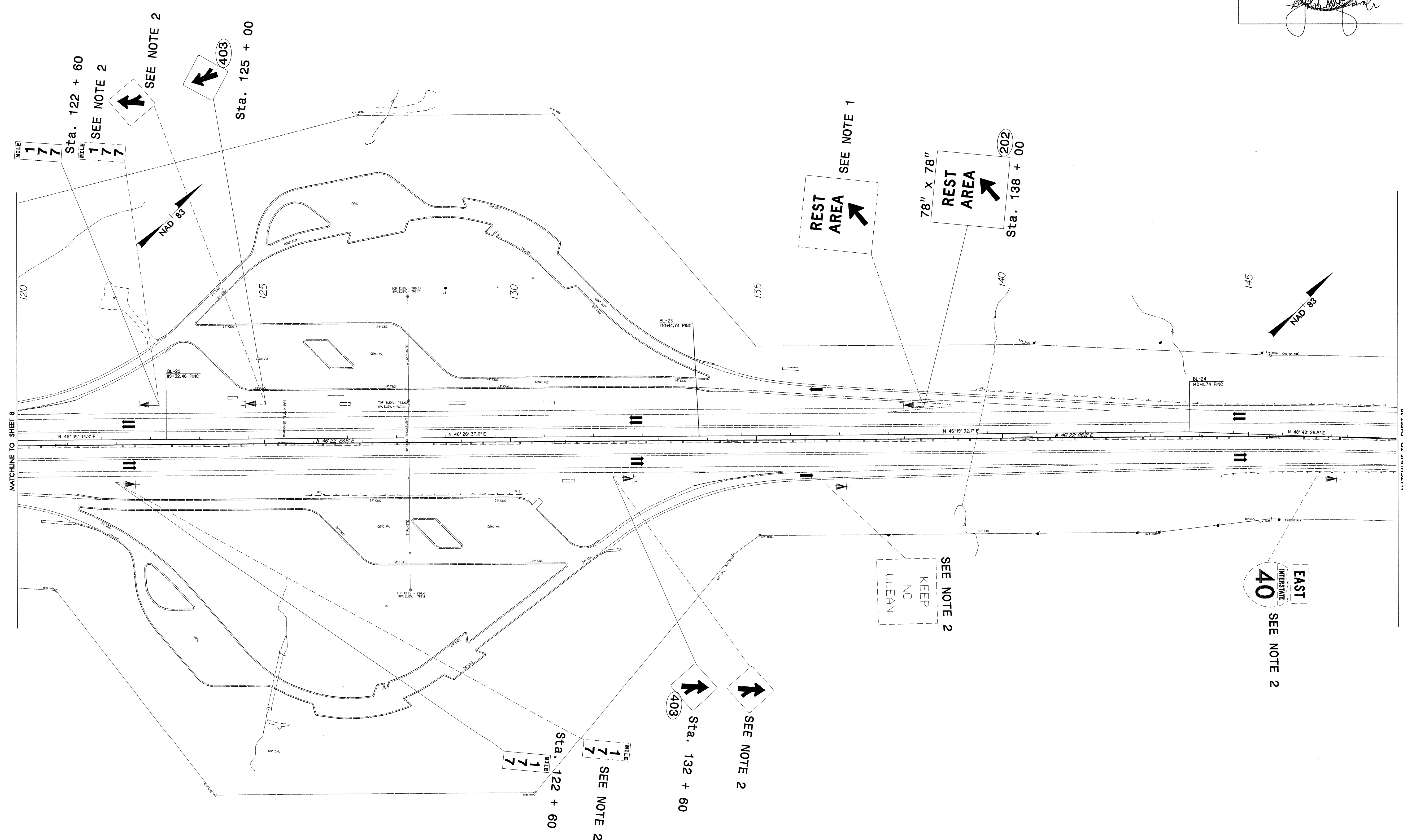
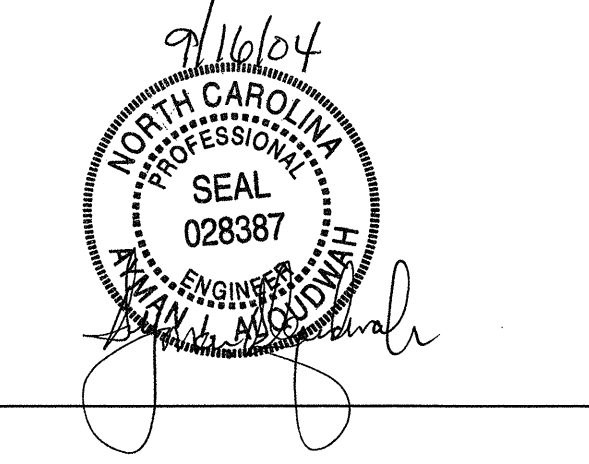
REST AREA

REST AREA

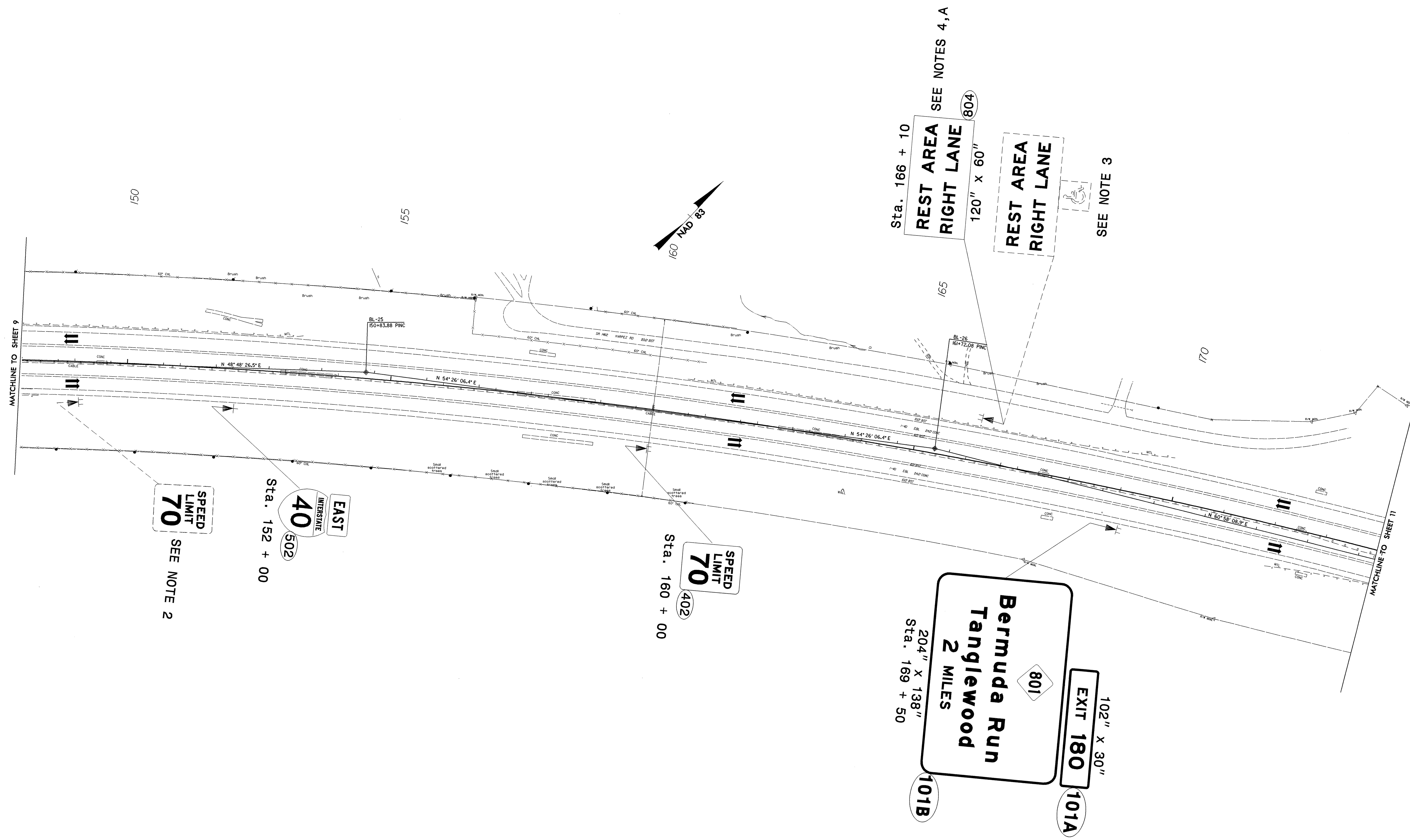
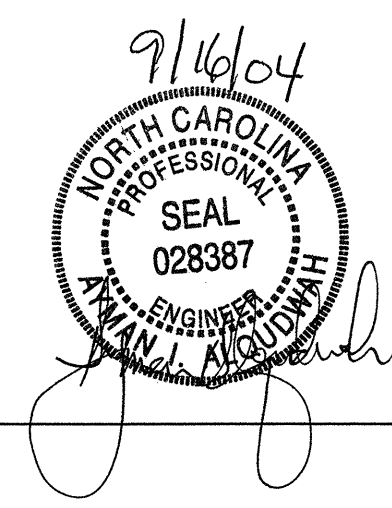
78" X 78"
Sta. 117 + 80

(201)

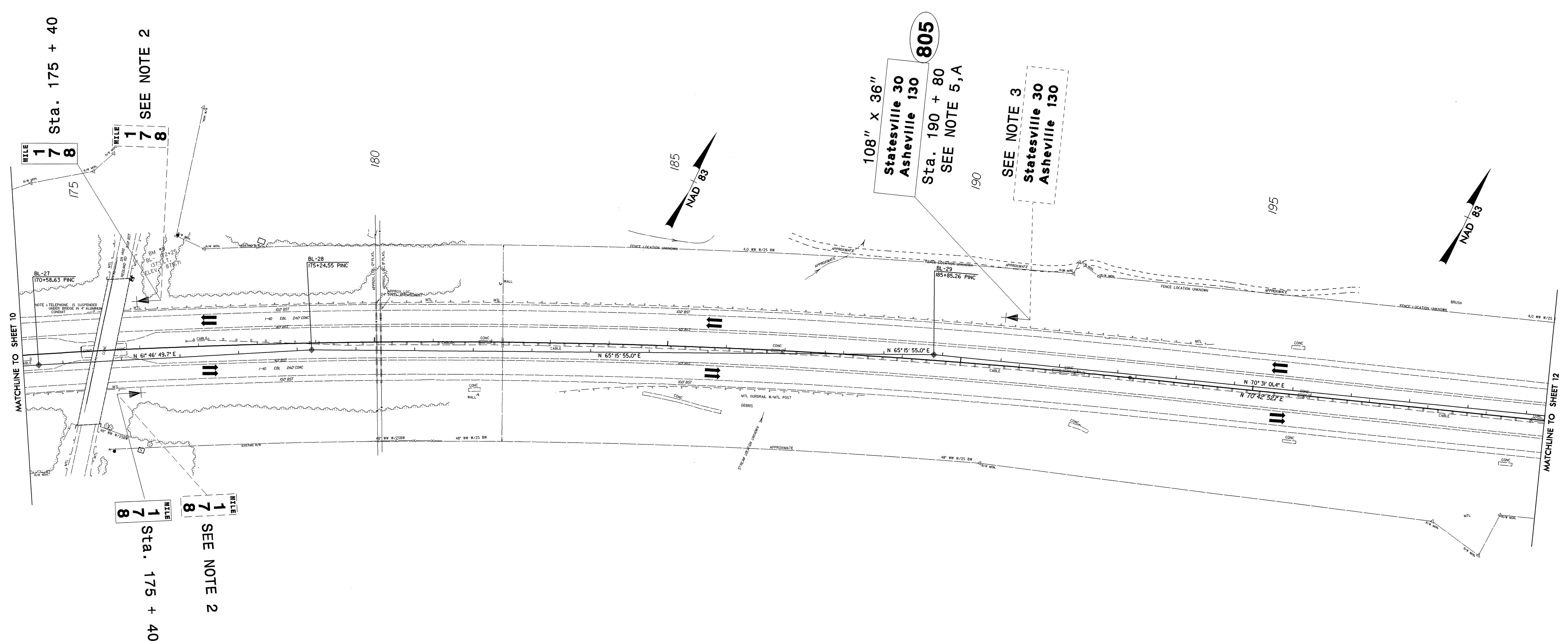
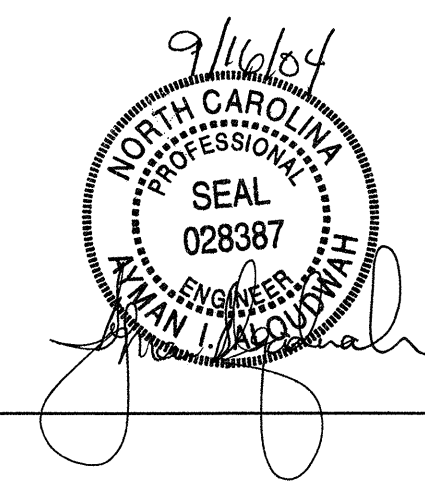
PROPOSED & EXISTING SIGNS
STA 92 + 00 TO 120 + 00
I-40

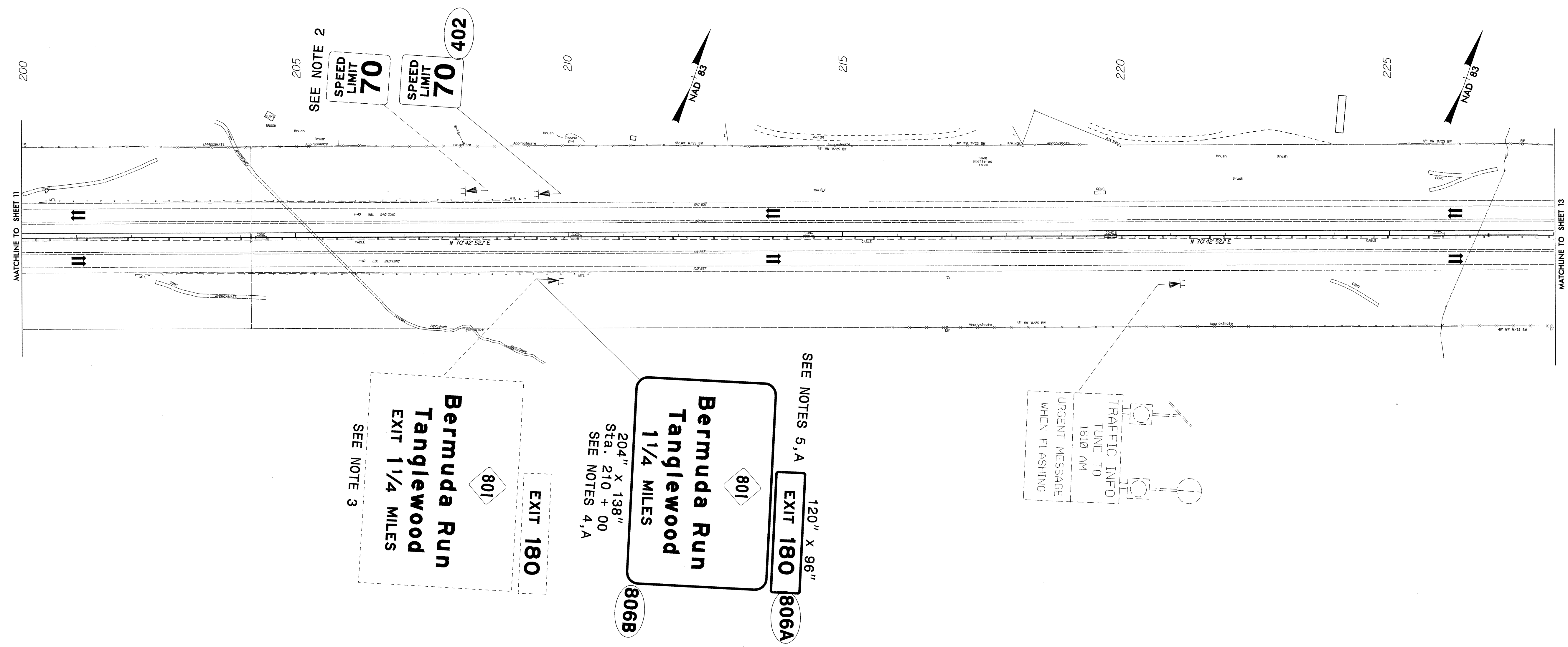
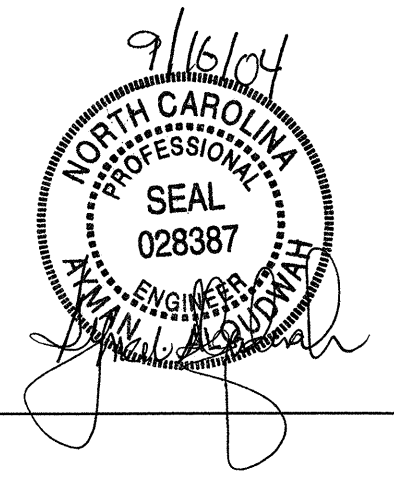


PROPOSED & EXISTING SIGNS
 STA 120 + 00 TO 148 + 00
 I-40

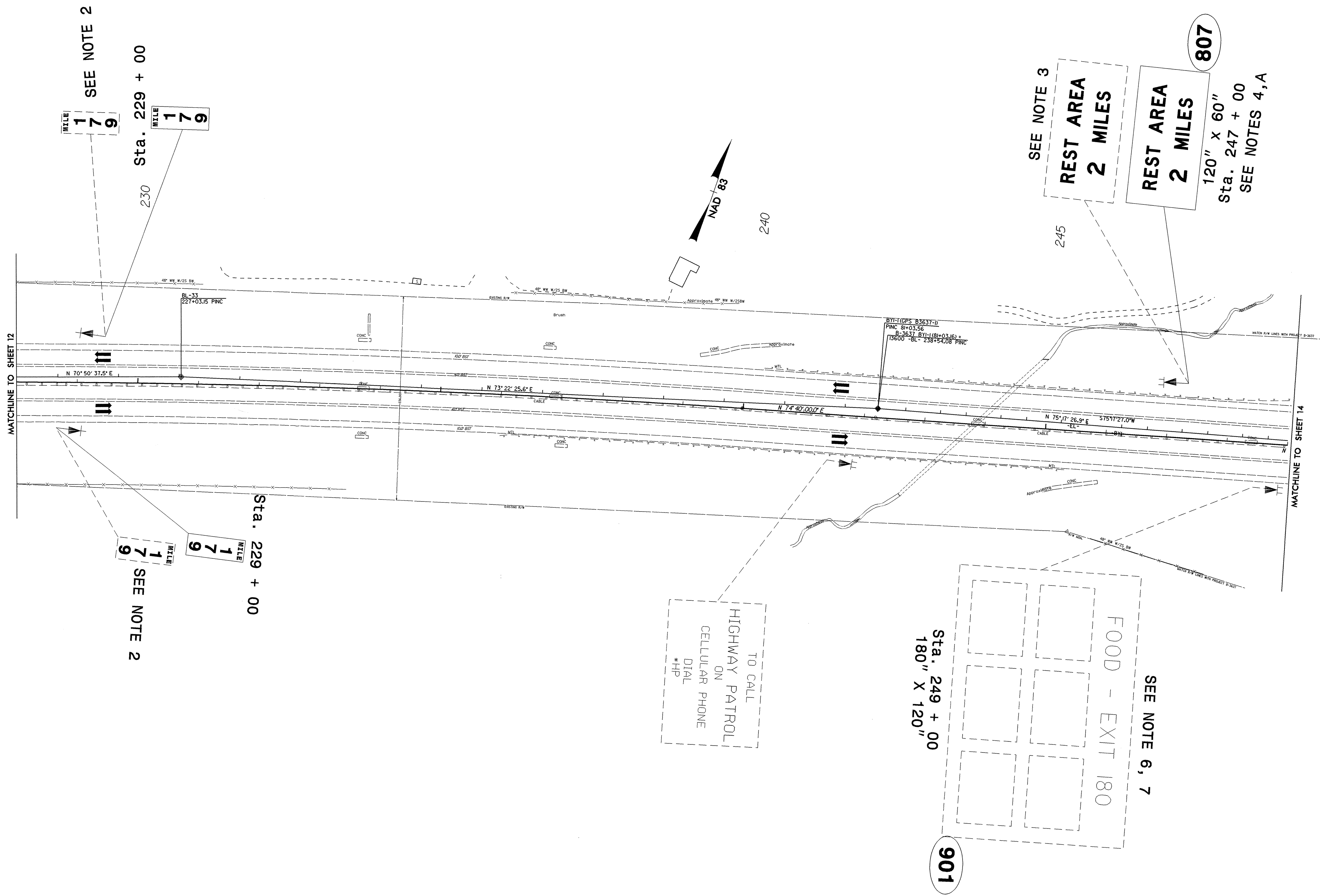


PROPOSED & EXISTING SIGNS
 STA 149 + 00 TO 174 + 00
 I-40





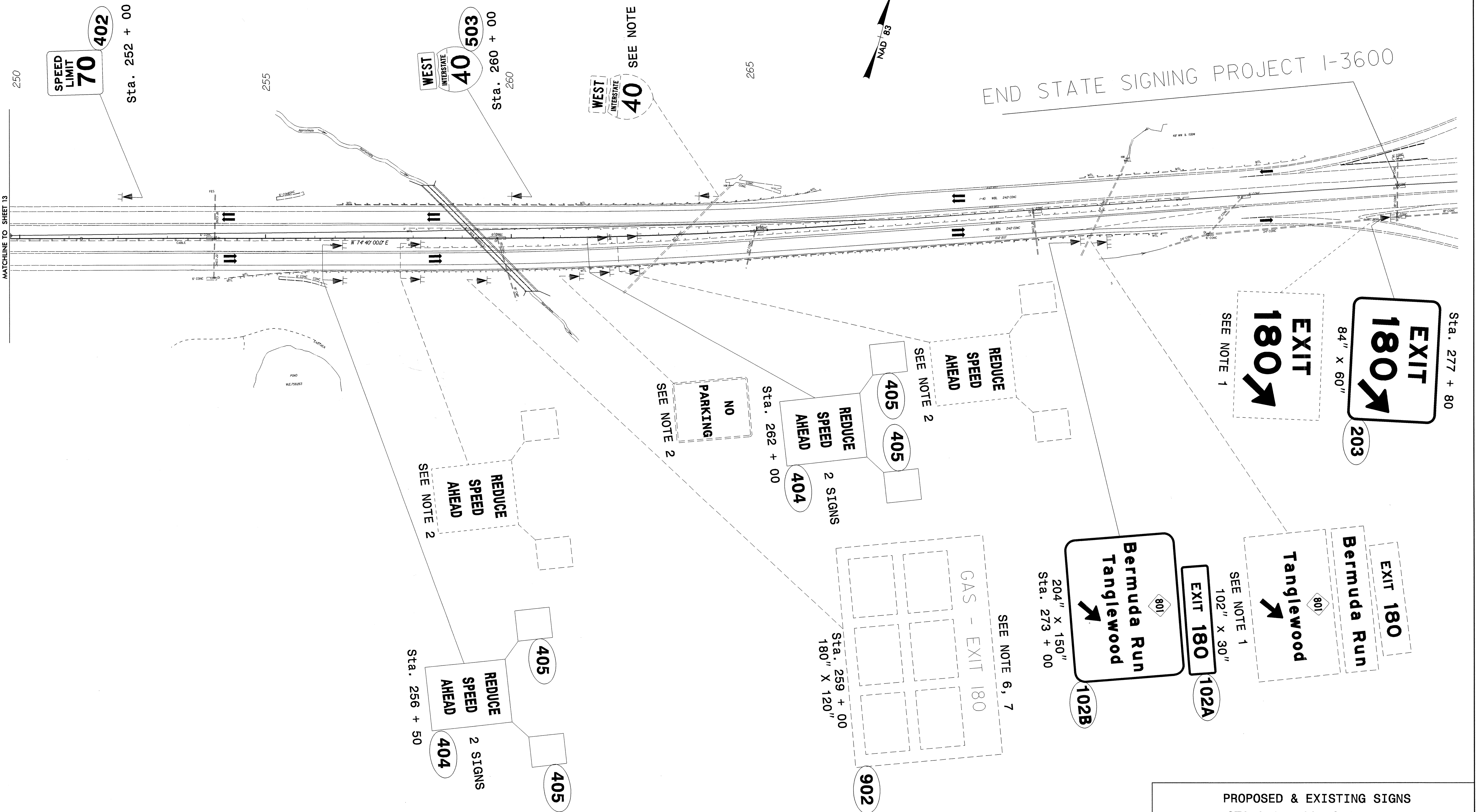
PROPOSED & EXISTING SIGNS
 STA 201 + 00 TO 228 + 00
 I-40



PROPOSED & EXISTING SIGNS
 STA 229 + 00 TO 249 + 00
 I-40



END STATE SIGNING PROJECT I-3600



PROPOSED & EXISTING SIGNS
STA 250 + 00 TO 277 + 80
I-40