

MAD

PROJECT ID:  
WITH:

1112-02-61

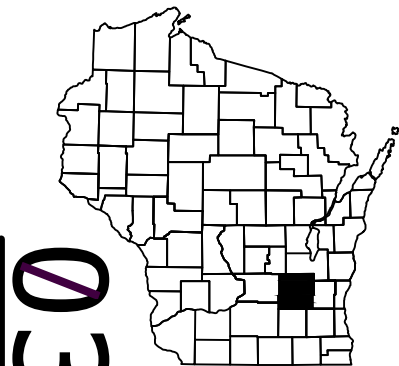
COUNTY:

DODGE

APRIL 2018  
ORDER OF SHEETS

|             |   |                              |
|-------------|---|------------------------------|
| Section No. | 1 | Title                        |
| Section No. | 2 | Typical Sections and Details |
| Section No. | 3 | Estimate of Quantities       |
| Section No. | 3 | Miscellaneous Quantities     |
| Section No. | 4 | Right of Way Plan            |
| Section No. | 5 | Plan and Profile             |
| Section No. | 6 | Standard Detail Drawings     |
| Section No. | 7 | Sign Plates                  |
| Section No. | 8 | Structure Plans              |
| Section No. | 9 | Computer Earthwork Data      |
| Section No. | 9 | Cross Sections               |

TOTAL SHEETS = 88



DESIGN DESIGNATION 1112-02-31

|              |      |   |           |
|--------------|------|---|-----------|
| A.A.D.T.     | 2018 | = | 18800     |
| A.A.D.T.     | 2038 | = | 23000     |
| D.H.V.       |      | = | 1587      |
| D.D.         |      | = | 60/40     |
| T.           |      | = | 11.1%     |
| DESIGN SPEED |      | = | 70 M.P.H. |
| ESALS        |      | = | N/A       |

CONVENTIONAL SYMBOLS

|                                |  |
|--------------------------------|--|
| PLAN                           |  |
| CORPORATE LIMITS               |  |
| PROPERTY LINE                  |  |
| LOT LINE                       |  |
| LIMITED HIGHWAY EASEMENT       |  |
| EXISTING RIGHT OF WAY          |  |
| PROPOSED OR NEW R/W LINE       |  |
| SLOPE INTERCEPT                |  |
| REFERENCE LINE                 |  |
| EXISTING CULVERT               |  |
| PROPOSED CULVERT (Box or Pipe) |  |
| COMBUSTIBLE FLUIDS             |  |
| MARSH AREA                     |  |
| WOODED OR SHRUB AREA           |  |

|                                             |  |
|---------------------------------------------|--|
| PROFILE                                     |  |
| GRADE LINE                                  |  |
| ORIGINAL GROUND                             |  |
| MARSH OR ROCK PROFILE (To be noted as such) |  |
| SPECIAL DITCH                               |  |
| GRADE ELEVATION                             |  |
| CULVERT (Profile View)                      |  |
| UTILITIES                                   |  |
| ELECTRIC                                    |  |
| FIBER OPTIC                                 |  |
| GAS                                         |  |
| SANITARY SEWER                              |  |
| STORM SEWER                                 |  |
| TELEPHONE                                   |  |
| WATER                                       |  |
| UTILITY PEDESTAL                            |  |
| POWER POLE                                  |  |
| TELEPHONE POLE                              |  |

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

SUN PRAIRIE - FOND DU LAC

COLUMBUS TO WAUPUN

USH 151

DODGE COUNTY

STATE PROJECT NUMBER  
1112-02-61

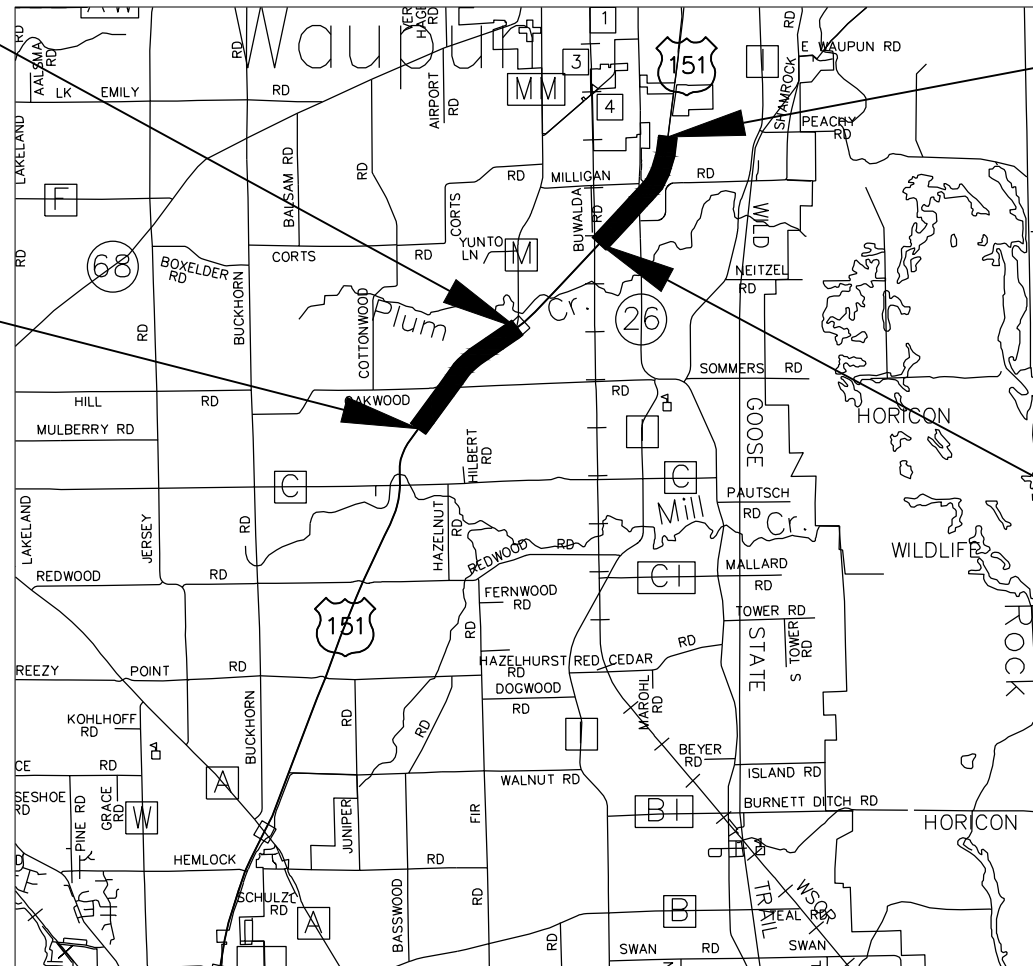
END SOUTH SEGMENT  
STA. 2679+57 SO

BEGIN PROJECT  
STA. 2632+10 SO

X = 865867.3139  
Y = 765357.2829

END PROJECT  
STA. 2823+30 NO

BEGIN NORTH SEGMENT  
STA. 2763+65 NO



LAYOUT  
SCALE 0 2 MI  
TOTAL NET LENGTH OF CENTERLINE = 0.000 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, DODGE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN DATUM OF 2012 (NAVD 88).

STATE PROJECT

1112-02-61

FEDERAL PROJECT

PROJECT

WISC 2018187

CONTRACT

1

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

|                     |                   |
|---------------------|-------------------|
| PREPARED BY         |                   |
| Surveyor            | JOHN MORAN        |
| Designer            | BEN THOMPSON      |
| Project Manager     | AMY COUGHLIN      |
| Regional Examiner   | SW REGION         |
| Regional Supervisor | BRENDA SCHOENFELD |

APPROVED FOR THE DEPARTMENT  
DATE: OCT 30, 2017  
*Amy Coughlin*  
(Signature)

E

STANDARD ABBREVIATIONS

|             |                              |         |                         |
|-------------|------------------------------|---------|-------------------------|
| AADT        | AVERAGE ANNUAL DAILY TRAFFIC | P.C.    | POINT OF CURVATURE      |
| AGG         | AGGREGATE                    | P.I.    | POINT OF INTERSECTION   |
| BAD         | BASE AGGREGATE DENSE         | P.E.    | PRIVATE ENTRANCE        |
| B.M.        | BENCH MARK                   | P.K.    | PARKER-KALON NAIL       |
| ¢ OR CL     | CENTER LINE                  | ℞ OR PL | PROPERTY LINE           |
| COR         | CORNER                       | P.P.    | POWER POLE              |
| CR          | CRUSHED                      | PROJ.   | PROJECT                 |
| CTH         | COUNTY TRUNK HIGHWAY         | P.T.    | POINT OF TANGENCY       |
| CWT         | HUNDREDWEIGHT                | PVMT.   | PAVEMENT                |
| CY          | CUBIC YARD                   | R       | RADIUS                  |
| DH          | DOUBLE HEADED                | R.R.    | RAILROAD                |
| DHV         | DESIGN HOURLY VOLUME         | REINF.  | REINFORCED              |
| DIR         | DIRECTED                     | REQ'D.  | REQUIRED                |
| E           | EAST                         | R/W     | RIGHT-OF-WAY            |
| EL OR ELEV. | ELEVATION                    | RD.     | ROAD                    |
| EOL         | EDGE OF LANE                 | RDWY.   | ROADWAY                 |
| F.E.        | FIELD ENTRANCE               | RL      | REFERENCE LINE          |
| FT          | FOOT (FEET)                  | S       | SOUTH                   |
| GAL         | GALLON                       | SE      | SOUTHEAST               |
| H.W.        | HIGH WATER                   | SHRK.   | SHRINKAGE               |
| HTCG        | HIGH TENSION CABLE GUARD     | S.R.    | SIDE ROAD               |
| IN          | INCHES                       | STD.    | STANDARD                |
| K           | SIGHT DISTANCE               | STH     | STATE TRUNK HIGHWAY     |
| L           | LENGTH OF CURVE              | STA.    | STATION                 |
| L.F.        | LINEAR FEET                  | SY      | SQUARE YARD             |
| L.H.F.      | LEFT HAND FORWARD            | T       | TANGENT LENGTH OF CURVE |
| L.S.        | LUMP SUM                     | TL      | TRANSIT LINE            |
| LT.         | LEFT                         | V       | DESIGN SPEED            |
| MAX         | MAXIMUM                      | V.C.    | VERTICAL CURVE          |
| MIN         | MINIMUM                      | VAR.    | VARIES                  |
| N           | NORTH                        | W       | WEST                    |
| NOR.        | NORMAL                       |         |                         |
| PAV'T.      | PAVEMENT                     |         |                         |

GENERAL NOTES

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE TOPSOILED, FERTILIZED, AND SEEDED AS DIRECTED BY THE ENGINEER.

EROSION CONTROL FEATURES, AS SHOWN IN THE PLANS, ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

NUMBER, LOCATION, AND SPACING OF SIGNS AND DEVICES, AS SHOWN IN THE PLANS, SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

PRIOR TO PLACEMENT OF CABLE BARRIER THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED.

WDNR LIASION

STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES  
3911 FISH HATCHERY ROAD  
FITCHBURG, WI 53711

ATTN: ERIC HEGGELUND  
PHONE: (608)-275-3301  
ERIC.HEGGELUND@WISCONSIN.GOV

SECTION 2 ORDER OF SHEETS

GENERAL NOTES  
PROJECT OVERVIEW  
EXISTING TYPICAL SECTION  
PROPOSED TYPICAL SECTION  
CONSTRUCTION DETAILS  
PLAN DETAILS  
EROSION CONTROL  
TRAFFIC CONTROL  
ALIGNMENT DETAILS  
SOIL BORINGS

DESIGN CONTACTS

PROJECT LEADER  
BEN THOMPSON  
DEPT. OF TRANSPORTATION  
2101 WRIGHT ST.  
MADISON, WI 53704  
(608-246-3856)

PROJECT MANAGER  
AMY COUGHLIN  
DEPT. OF TRANSPORTATION  
2101 WRIGHT ST.  
MADISON, WI 53704  
(608-245-5358)

PROJECT SURVEYOR  
JOHN MORAN  
DEPT. OF TRANSPORTATION  
2101 WRIGHT ST.  
MADISON , WI 53704  
(608) 516-6538 (MOBILE)

UTILITIES

ALLIANT ENERGY (WPL) ELECTRICITY  
PERRY S. BOECK  
120 EAST MAPLE AVENUE  
BEAVER DAM, WI 53916-2131  
(920) 887-6061  
(920) 960-5219 (MOBILE)  
PERRYBOECK@ALLIANTENERGY.COM

ALLIANT ENERGY (WPL) GAS/PETROLEUM  
PERRY S. BOECK  
120 EAST MAPLE AVENUE  
BEAVER DAM, WI 53916-2131  
(920) 887-6061  
(920) 960-5219 (MOBILE)  
PERRYBOECK@ALLIANTENERGY.COM

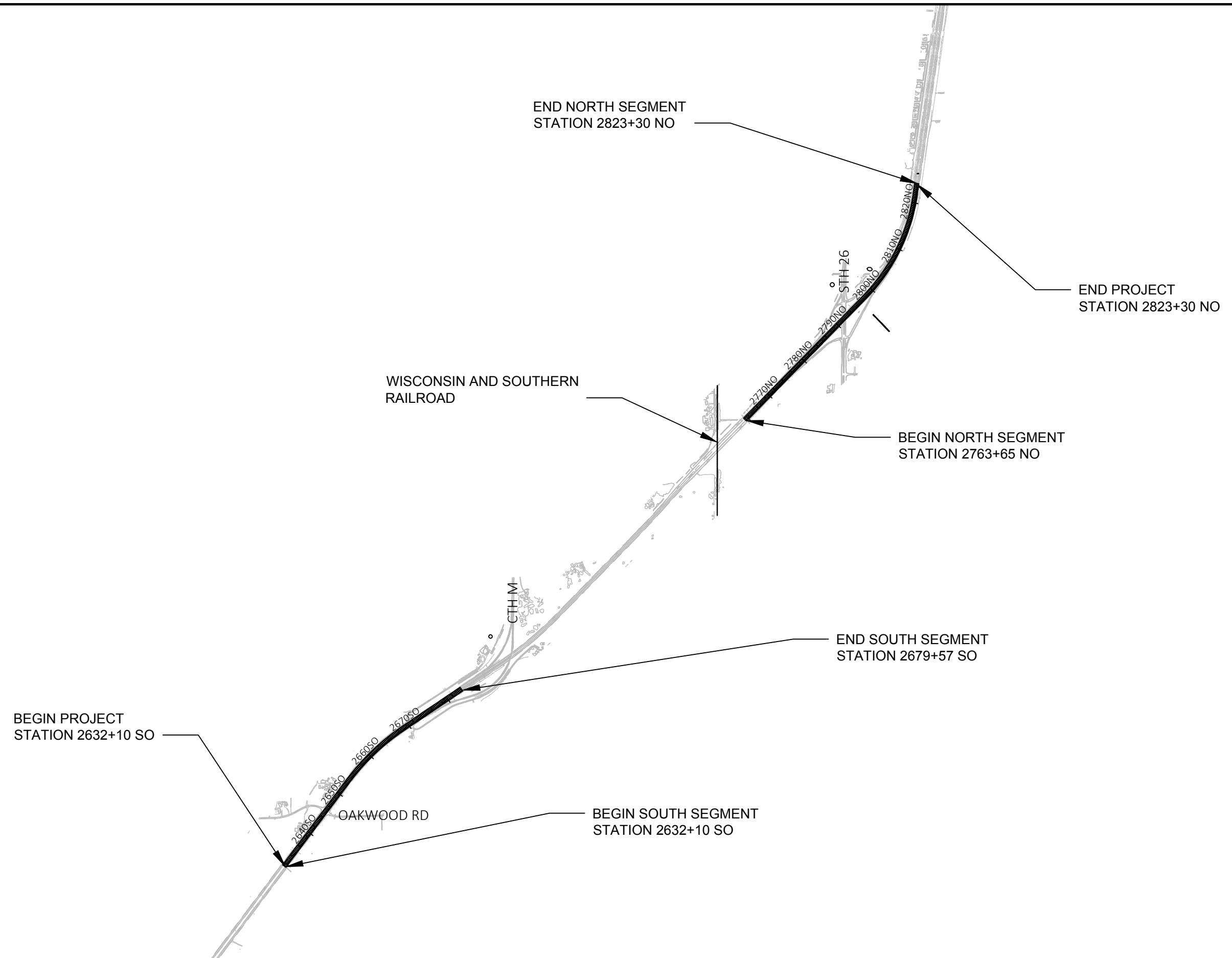
PAETEC COMMUNICATIONS, LLC - COMMUNICATION LINE  
MARY BETH FISHER  
13935 BISHOPS DR.  
BROOKFIELD, WI 53005  
(262) 792-7938  
(414) 313-9032 (MOBILE)  
MARY.B.FISHER@WINDSTREAM.COM

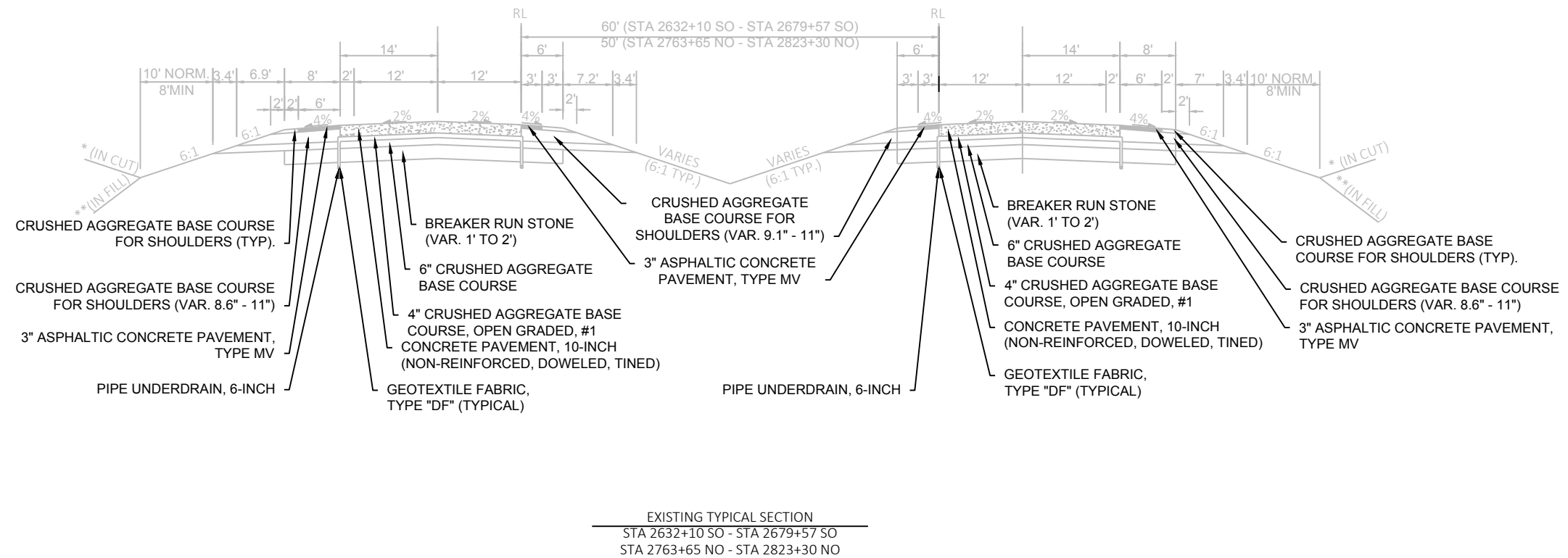
AT&T WISCONSIN - COMMUNICATION LINE  
CHUCK BARTELT  
70 E DIVISION STREET  
FOND DU LAC, WI 54935  
(920) 929-1013  
(920) 920-410-5104 (MOBILE)  
BARTELT@SBCGLOBAL.NET

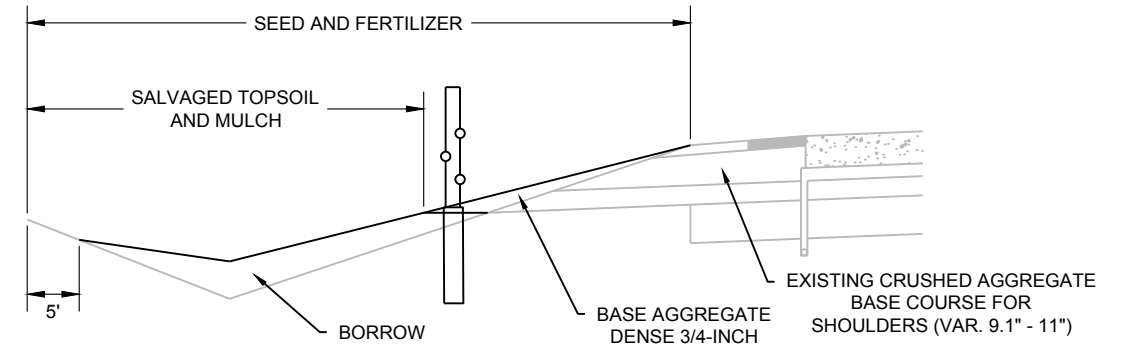
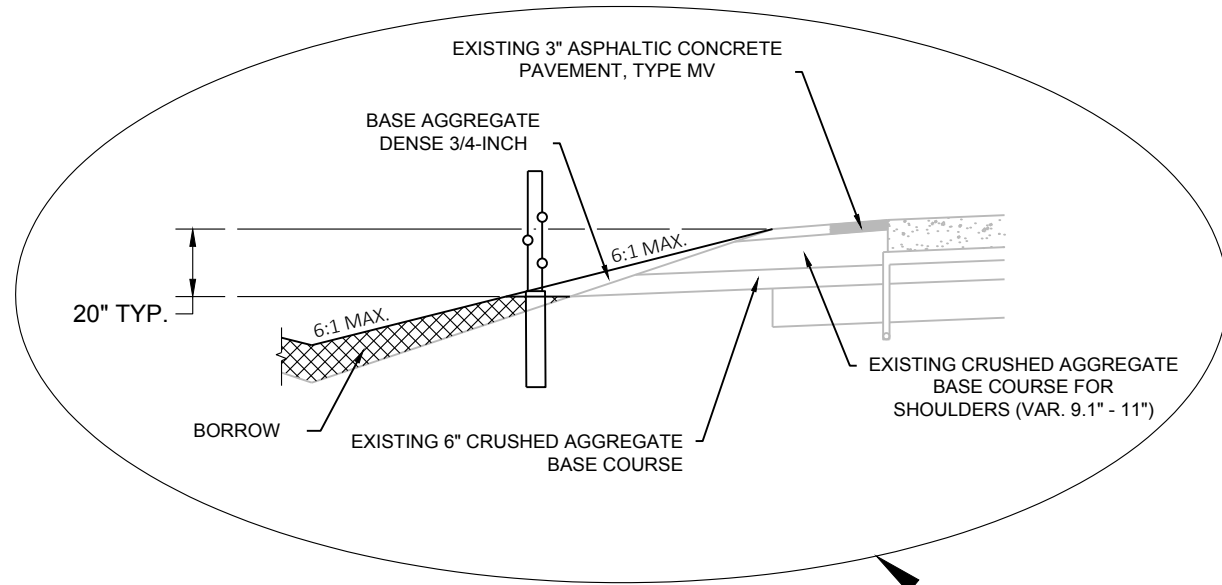
DIGGERSHOTLINE

Dial 811 or (800)242-8511

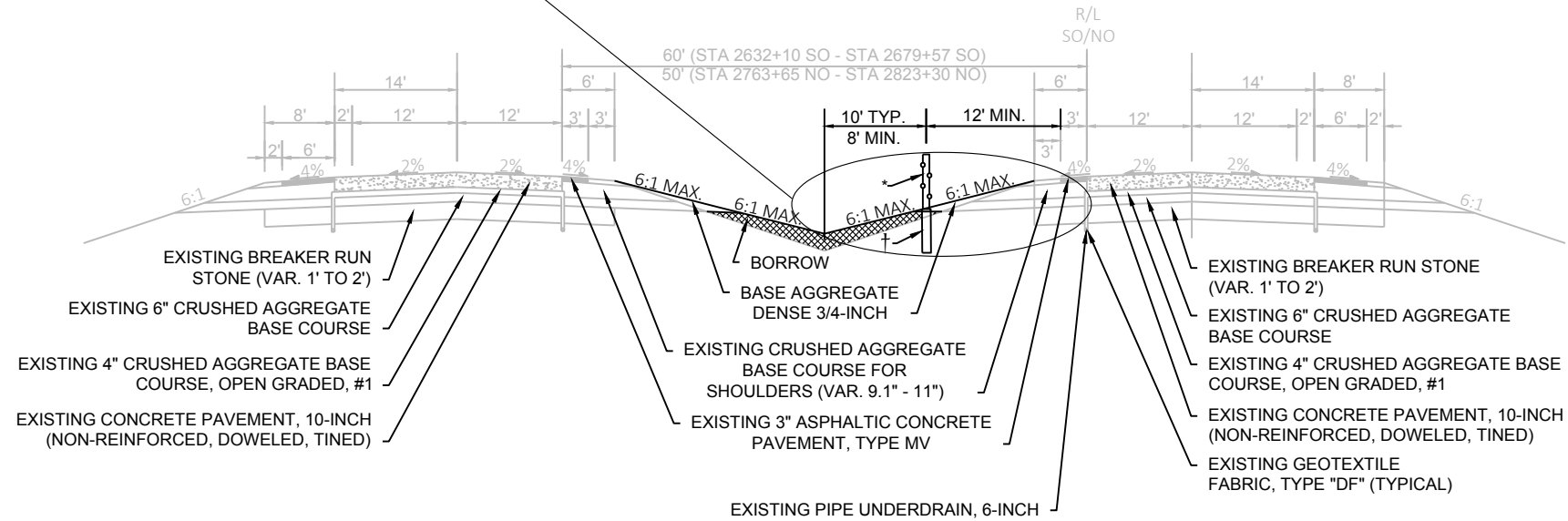
www.DiggersHotline.com







EROSION CONTROL ITEMS SECTION DETAIL

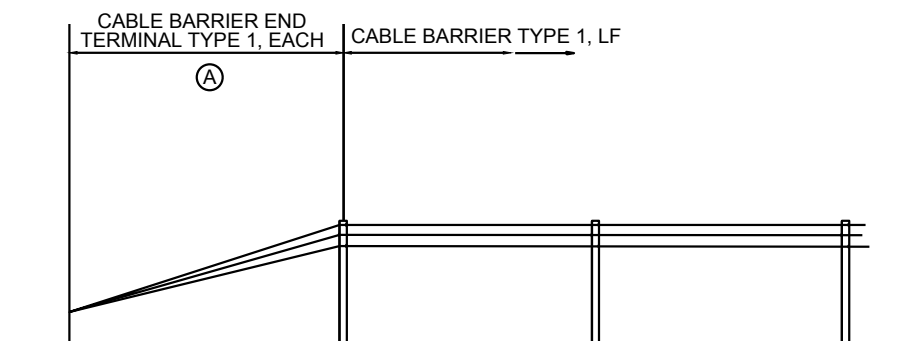


PROPOSED TYPICAL SECTION

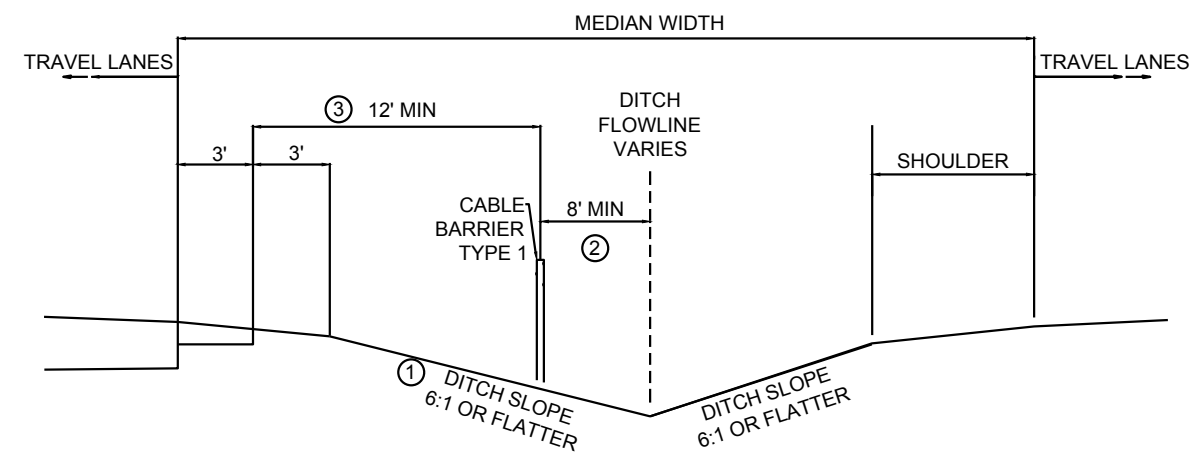
STA 2632+10 SO - STA 2679+57 SO  
STA 2763+65 NO - STA 2823+30 NO

\* PROPOSED CABLE BARRIER TYPE 1  
(SIDE VARIES)  
POST SPACING: MAX. 15', MIN. 7'

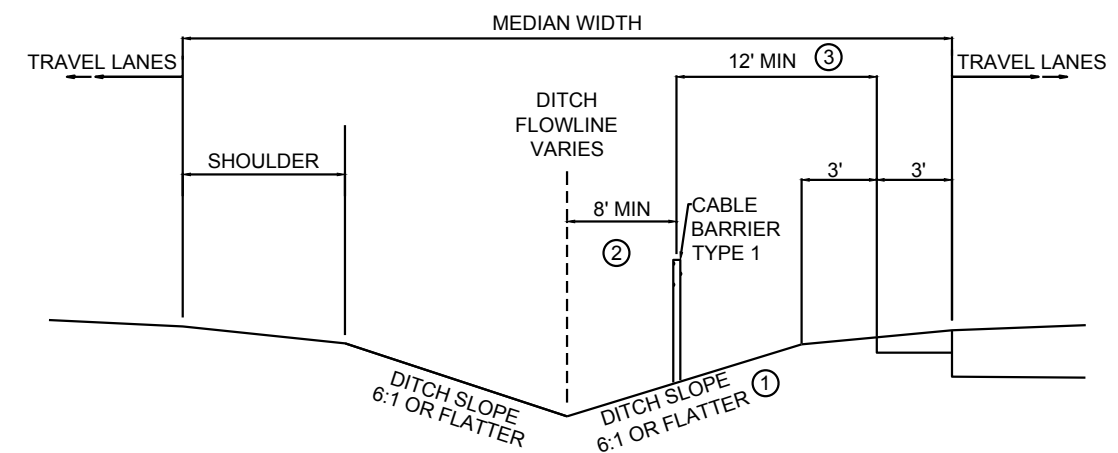
† SEE MANUFACTURER'S INFORMATION FOR  
FOOTING DETAILS



Ⓐ CABLE BARRIER TYPE 1 THAT FALLS WITHIN THE CABLE BARRIER END TERMINAL TYPE 1 IS INCLUDED IN COST OF CABLE BARRIER END TERMINAL TYPE 1



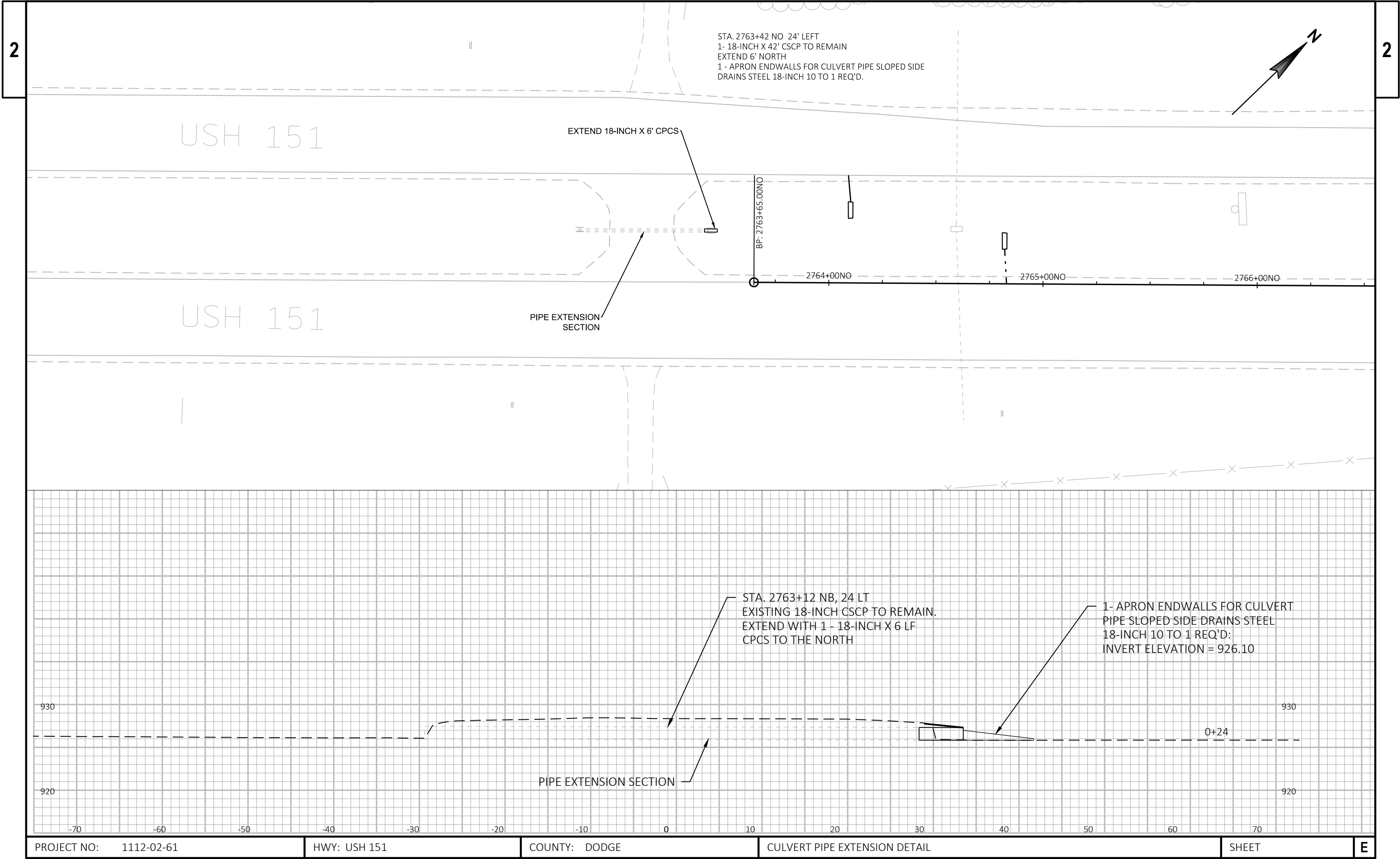
CABLE BARRIER OFFSET LOCATIONS  
(LEFT OF DITCH)

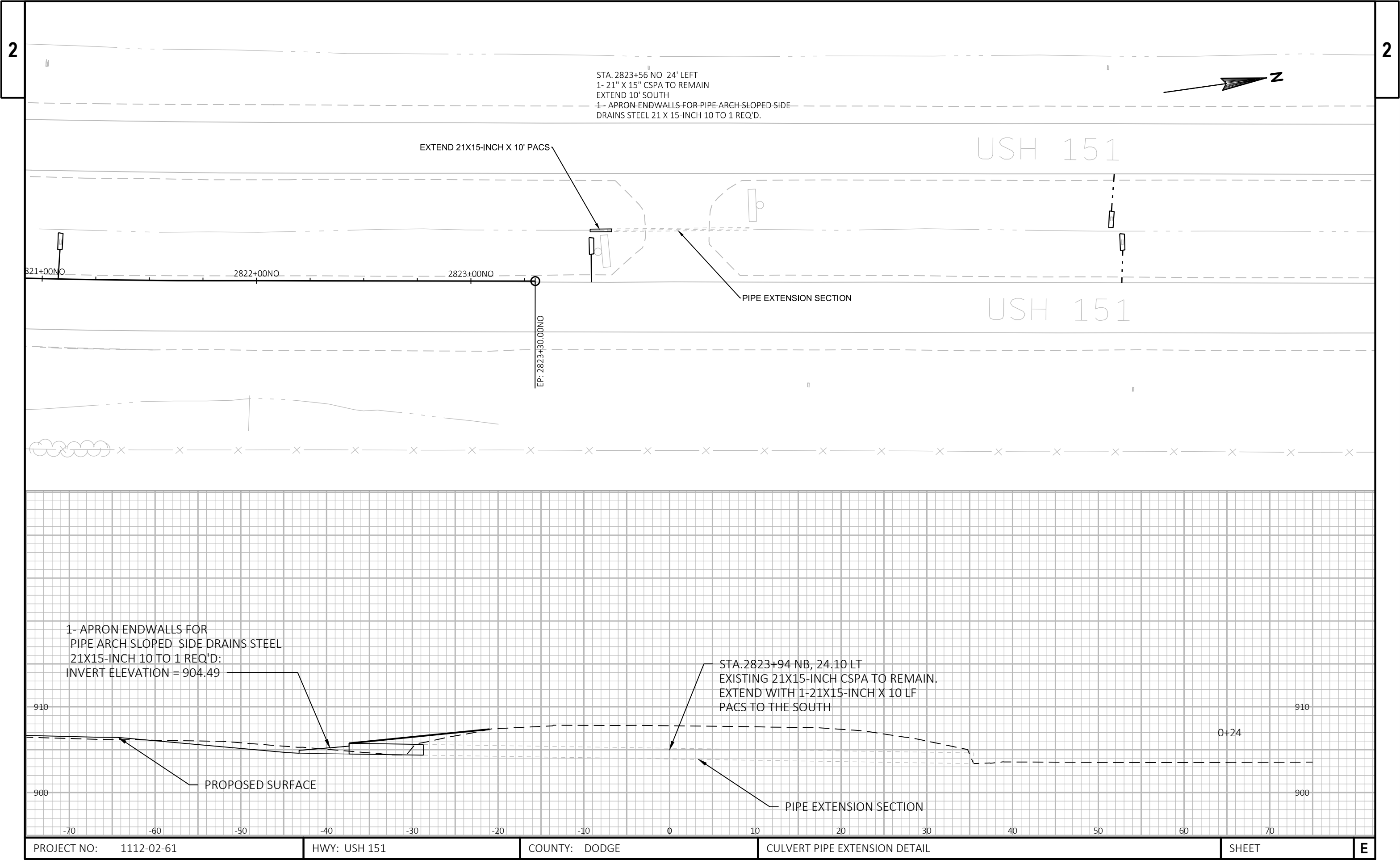


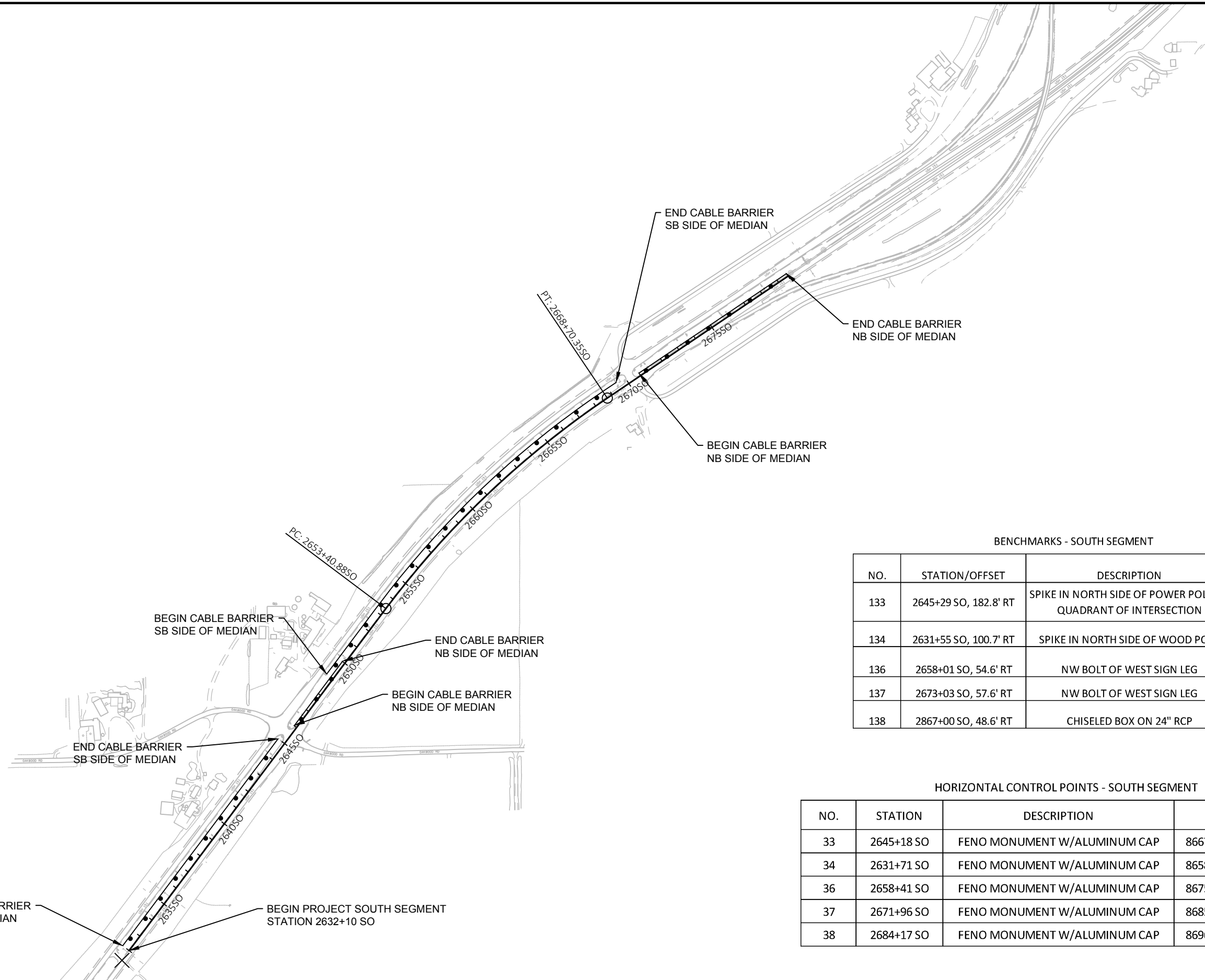
CABLE BARRIER OFFSET LOCATIONS  
(RIGHT OF DITCH)

#### GENERAL NOTES

- ① DO NOT INSTALL CABLE BARRIER TYPE 1 ON SLOPES STEEPER THAN 6:1
- ② OFFSET CABLE BARRIER TYPE 1 TO EITHER SIDE OF MEDIAN CENTERLINE: USE 8'-0" MIN. OFFSET FROM DITCH LINE
- ③ WORKING WIDTH OF CABLE BARRIER TYPE 1 IS 12' MINIMUM, MEASURED FROM THE MIDPOINT OF ROADWAY SHOULDER TO CABLE BARRIER TYPE 1





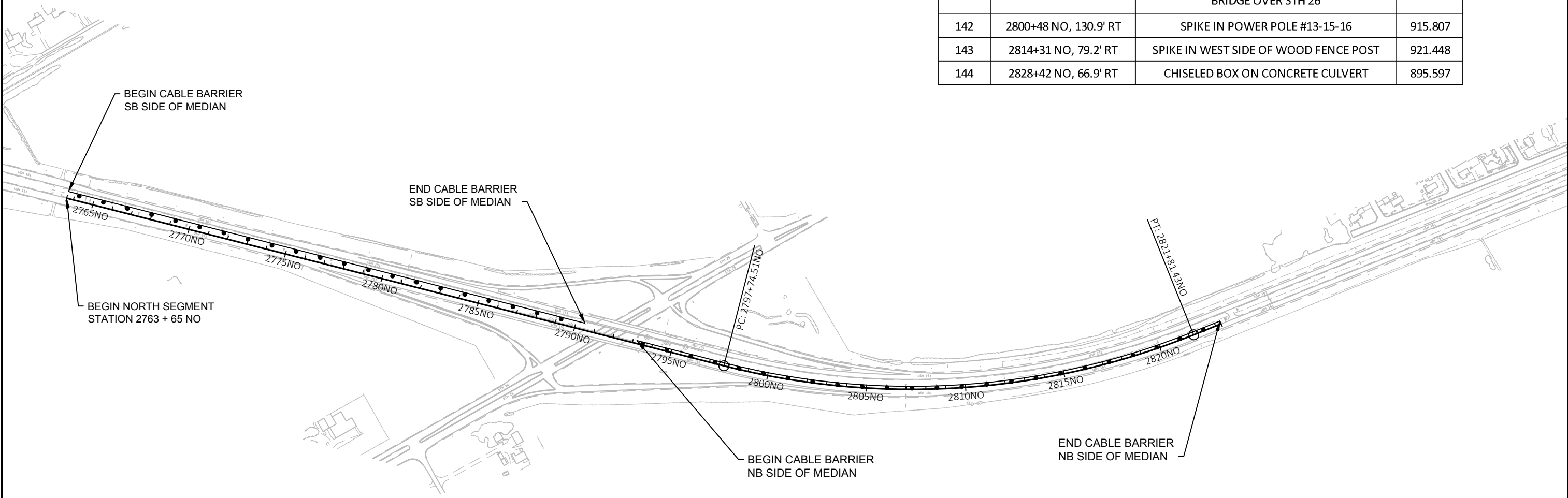


BENCHMARKS - SOUTH SEGMENT

| NO. | STATION/OFFSET        | DESCRIPTION                                                    | ELEVATION |
|-----|-----------------------|----------------------------------------------------------------|-----------|
| 133 | 2645+29 SO, 182.8' RT | SPIKE IN NORTH SIDE OF POWER POLE, SE QUADRANT OF INTERSECTION | 943.665   |
| 134 | 2631+55 SO, 100.7' RT | SPIKE IN NORTH SIDE OF WOOD POST                               | 938.692   |
| 136 | 2658+01 SO, 54.6' RT  | NW BOLT OF WEST SIGN LEG                                       | 945.552   |
| 137 | 2673+03 SO, 57.6' RT  | NW BOLT OF WEST SIGN LEG                                       | 941.297   |
| 138 | 2867+00 SO, 48.6' RT  | CHISELED BOX ON 24" RCP                                        | 934.188   |

HORIZONTAL CONTROL POINTS - SOUTH SEGMENT

| NO. | STATION    | DESCRIPTION                  | COORDINATES X,Y          |
|-----|------------|------------------------------|--------------------------|
| 33  | 2645+18 SO | FENO MONUMENT W/ALUMINUM CAP | 866711.4930, 766359.1940 |
| 34  | 2631+71 SO | FENO MONUMENT W/ALUMINUM CAP | 865896.7700, 765285.9540 |
| 36  | 2658+41 SO | FENO MONUMENT W/ALUMINUM CAP | 867509.3080, 767405.2390 |
| 37  | 2671+96 SO | FENO MONUMENT W/ALUMINUM CAP | 868556.4250, 768238.6890 |
| 38  | 2684+17 SO | FENO MONUMENT W/ALUMINUM CAP | 869657.7740, 768967.9420 |

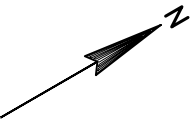


BENCHMARKS - NORTH SEGMENT

| NO. | STATION/OFFSET        | DESCRIPTION                                                  | ELEVATION |
|-----|-----------------------|--------------------------------------------------------------|-----------|
| 139 | 2759+96 NO, 131.6' RT | SPIKE IN WEST SIDE OF WOOD FENCE POST                        | 930.121   |
| 140 | 2775+00 NO, 58.2' RT  | NE BOLT OF WEST SIGN LEG                                     | 917.679   |
| 141 | 2789+86 NO, 35.1' RT  | DISK IN TOP OF PARAPET AT SW CORNER OF NB BRIDGE OVER STH 26 | 927.288   |
| 142 | 2800+48 NO, 130.9' RT | SPIKE IN POWER POLE #13-15-16                                | 915.807   |
| 143 | 2814+31 NO, 79.2' RT  | SPIKE IN WEST SIDE OF WOOD FENCE POST                        | 921.448   |
| 144 | 2828+42 NO, 66.9' RT  | CHISELED BOX ON CONCRETE CULVERT                             | 895.597   |

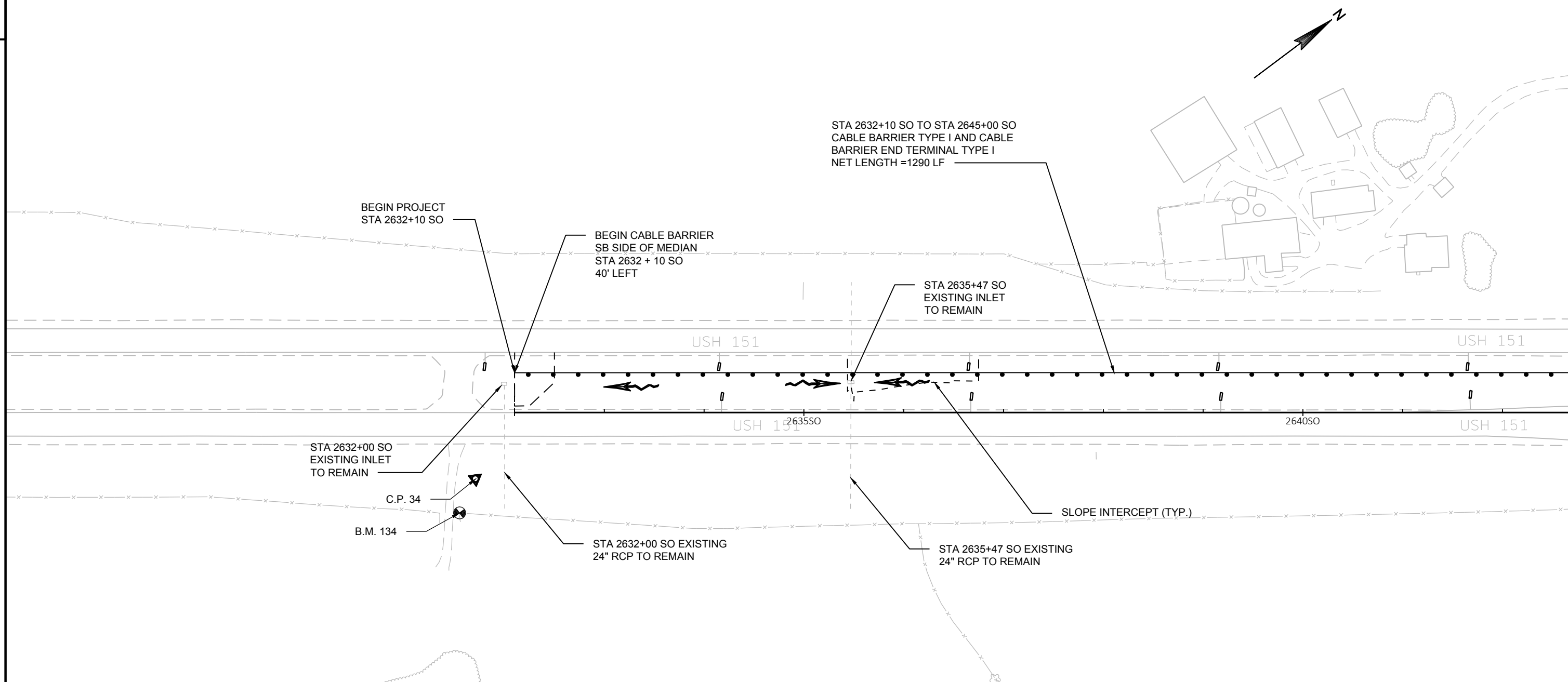
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| NO. | STATION/OFFSET        | DESCRIPTION                                                  | ELEVATION |
|-----|-----------------------|--------------------------------------------------------------|-----------|
| 139 | 2759+96 NO, 131.6' RT | SPIKE IN WEST SIDE OF WOOD FENCE POST                        | 930.121   |
| 140 | 2775+00 NO, 58.2' RT  | NE BOLT OF WEST SIGN LEG                                     | 917.679   |
| 141 | 2789+86 NO, 35.1' RT  | DISK IN TOP OF PARAPET AT SW CORNER OF NB BRIDGE OVER STH 26 | 927.288   |
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ALL UTILITIES ARE APPROXIMATE. ACTUAL LOCATION MUST BE FIELD VERIFIED.  
ADJUST CABLE BARRIER POST SPACING AS NEEDED TO ACCOMMODATE EXISTING  
UTILITY, STORM SEWER AND DRAINAGE PIPE CROSSINGS. MINIMUM POST SPACING IS 7'.  
MAXIMUM POST SPACING IS 15'.

EXISTING UNDERDRAIN OUTFALL.  
MATCH GRADING IN AROUND ENDWALL.



PROJECT NO: 1112-02-61

HWY: USH 151

COUNTY: DODGE

CABLE BARRIER LAYOUT - SOUTH SEGMENT

SHEET

E

FILE NAME : N:\PDS\C3D\11120231\SHEETS\PLAN\050201-PN.DWG  
LAYOUT NAME - S Seg - 01

PLOT DATE : 10/30/2017 9:17 AM

PLOT BY : THOMPSON, BENJAMIN P

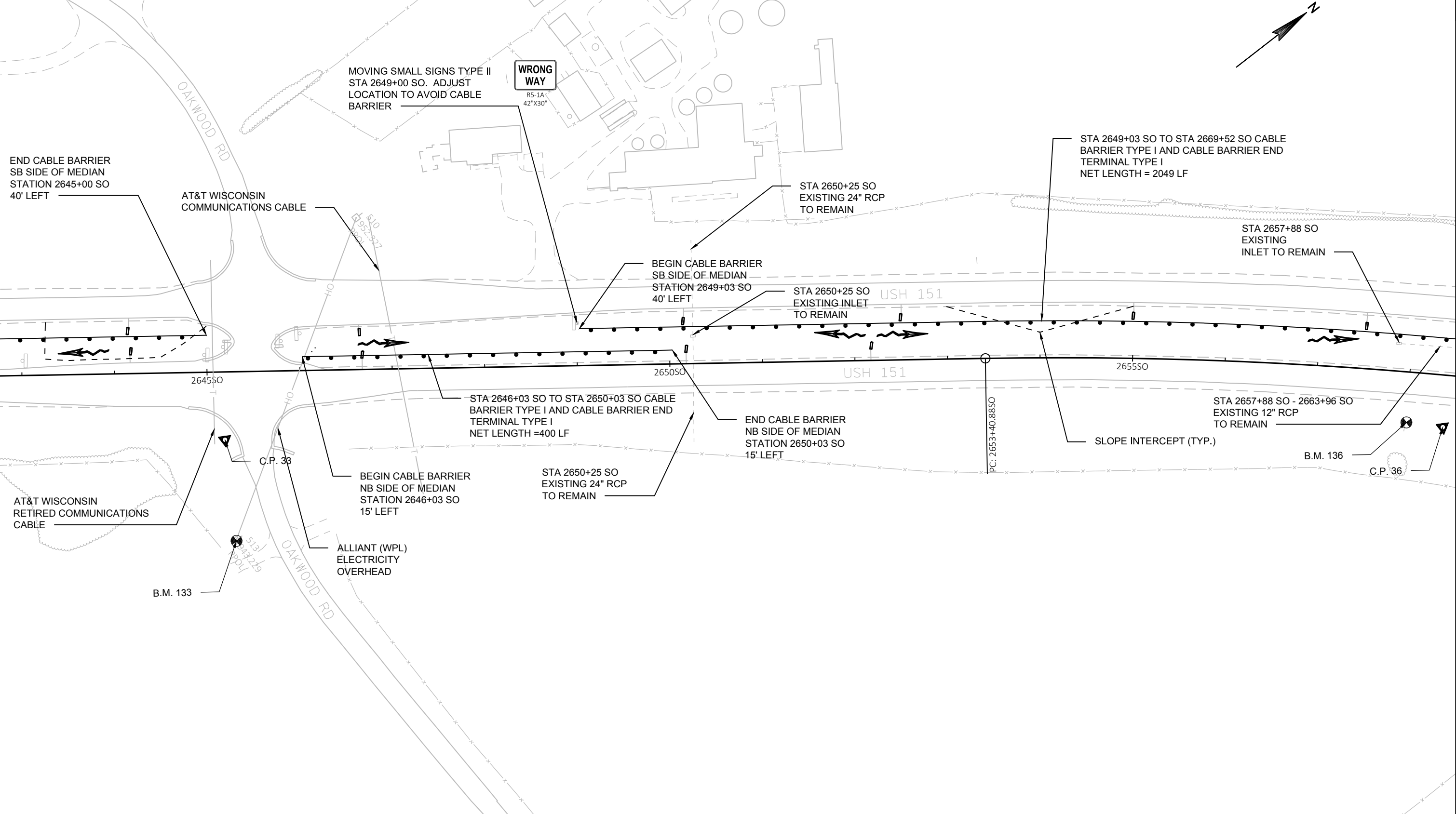
PLOT NAME :

PLOT SCALE : #####

WISDOT/CADD5 SHEET 42

ALL UTILITIES ARE APPROXIMATE. ACTUAL LOCATION MUST BE FIELD VERIFIED.  
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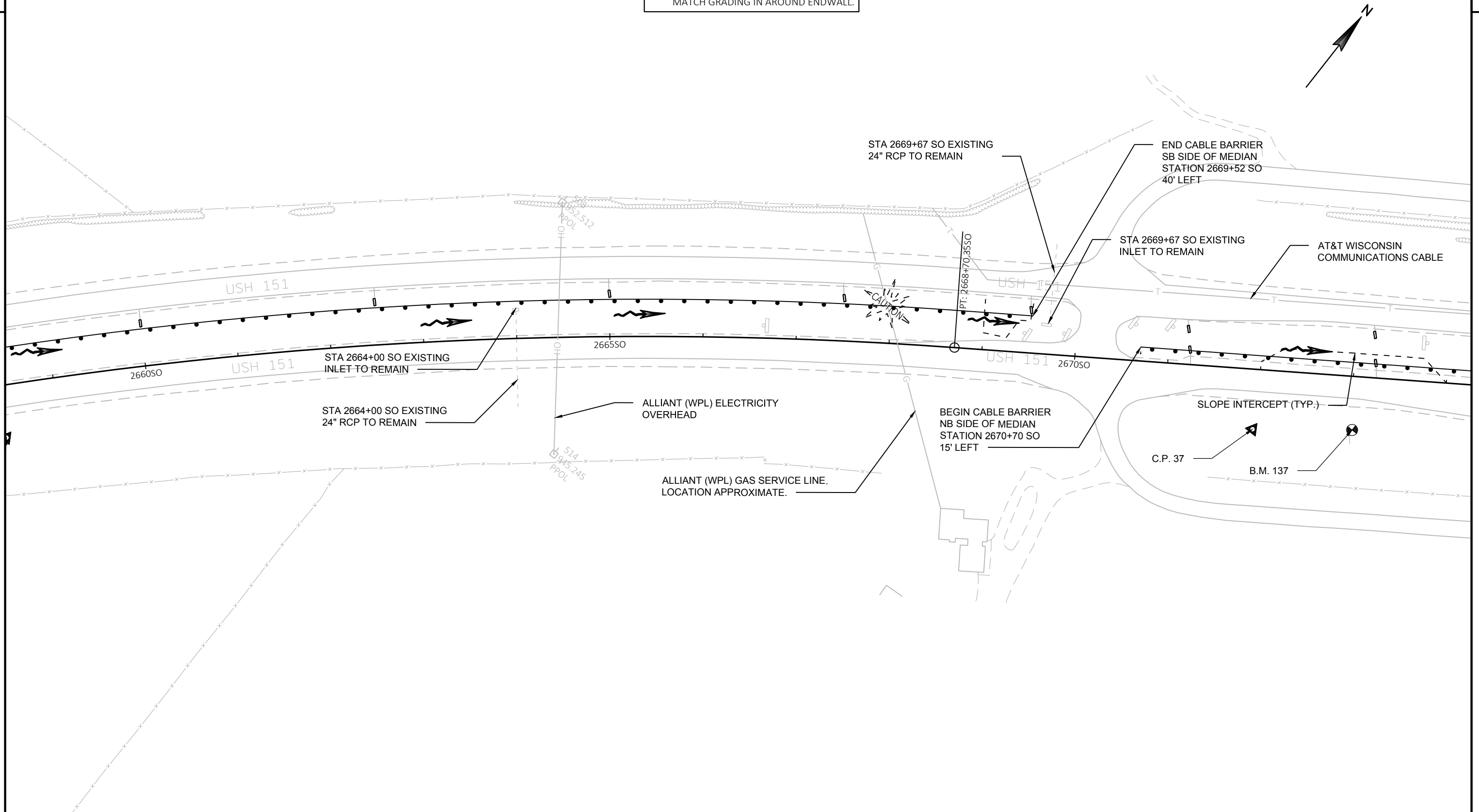
EXISTING UNDERDRAIN OUTFALL.  
MATCH GRADING IN AROUND ENDWALL.



|                        |              |               |                                      |       |   |
|------------------------|--------------|---------------|--------------------------------------|-------|---|
| PROJECT NO: 1112-02-61 | HWY: USH 151 | COUNTY: DODGE | CABLE BARRIER LAYOUT - SOUTH SEGMENT | SHEET | E |
|------------------------|--------------|---------------|--------------------------------------|-------|---|

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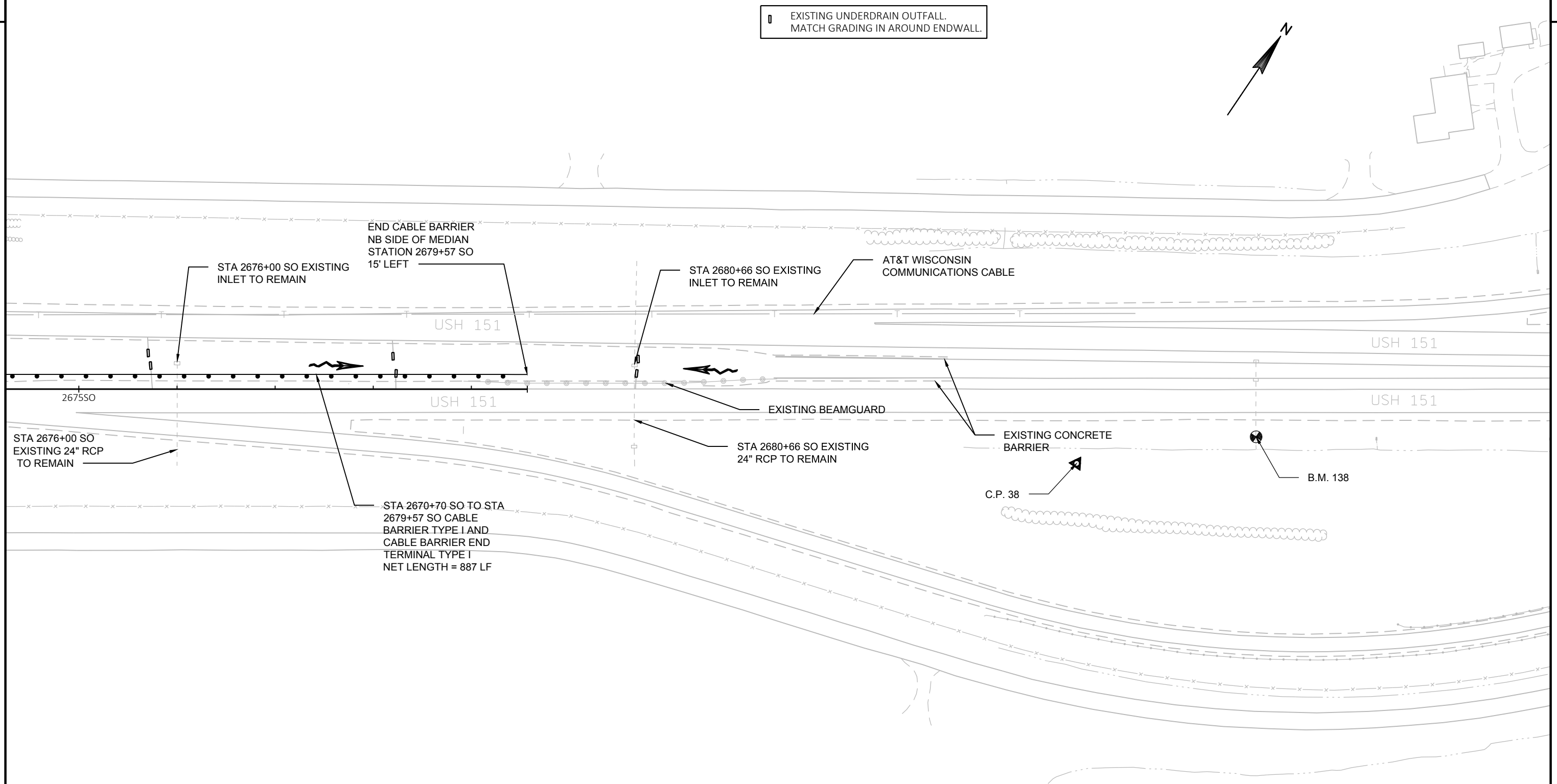
COUNTY: DODGE

CABLE BARRIER LAYOUT - SOUTH SEGMENT

SHEET

E

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HWY: USH 151

COUNTY: DODGE

CABLE BARRIER LAYOUT - SOUTH SEGMENT

SHEET

E

FILE NAME : N:\PDS\C3D\11120231\SHEETS\PLAN\050201-PN.DWG  
LAYOUT NAME - S Seg - 04

PLOT DATE : 10/30/2017 9:17 AM

PLOT BY : THOMPSON, BENJAMIN P

PLOT NAME :

PLOT SCALE : #####

WISDOT/CADDs SHEET 42

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MAXIMUM POST SPACING IS 15'.

EXISTING UNDERDRAIN OUTFALL.  
MATCH GRADING IN AROUND ENDWALL.

WISCONSIN & SOUTHERN RAILROAD

STA 2764+59 NO EXISTING  
30" RCP TO REMAIN

SLOPE INTERCEPT (TYP.)

STA 2762+83 NO TO STA 2763+44 NO  
EXISTING CULVERT PIPE  
CORRUGATED STEEL 18-INCH.  
EXTEND NORTH END

STA 2764+59 NO EXISTING  
INLET TO REMAIN

USH 151

USH 151

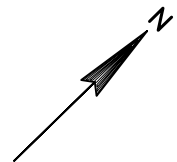
BEGIN CABLE BARRIER  
SB SIDE OF MEDIAN  
STATION 2763+65 NO  
35' LEFT

C.P. 39

B.M. 139

STA 2764+69 NO EXISTING  
30" RCP TO REMAIN

MOVING SMALL SIGNS TYPE II  
STA 2765+90 NO. ADJUST  
LOCATION TO AVOID CABLE  
BARRIER



PROJECT NO: 1112-02-61

HWY: USH 151

COUNTY: DODGE

CABLE BARRIER LAYOUT - NORTH SEGMENT

SHEET

E

FILE NAME : N:\PDS\C3D\11120231\SHEETS\PLAN\050201-PN.DWG  
LAYOUT NAME - N Seg - 01

PLOT DATE : 10/30/2017 9:17 AM

PLOT BY : THOMPSON, BENJAMIN P

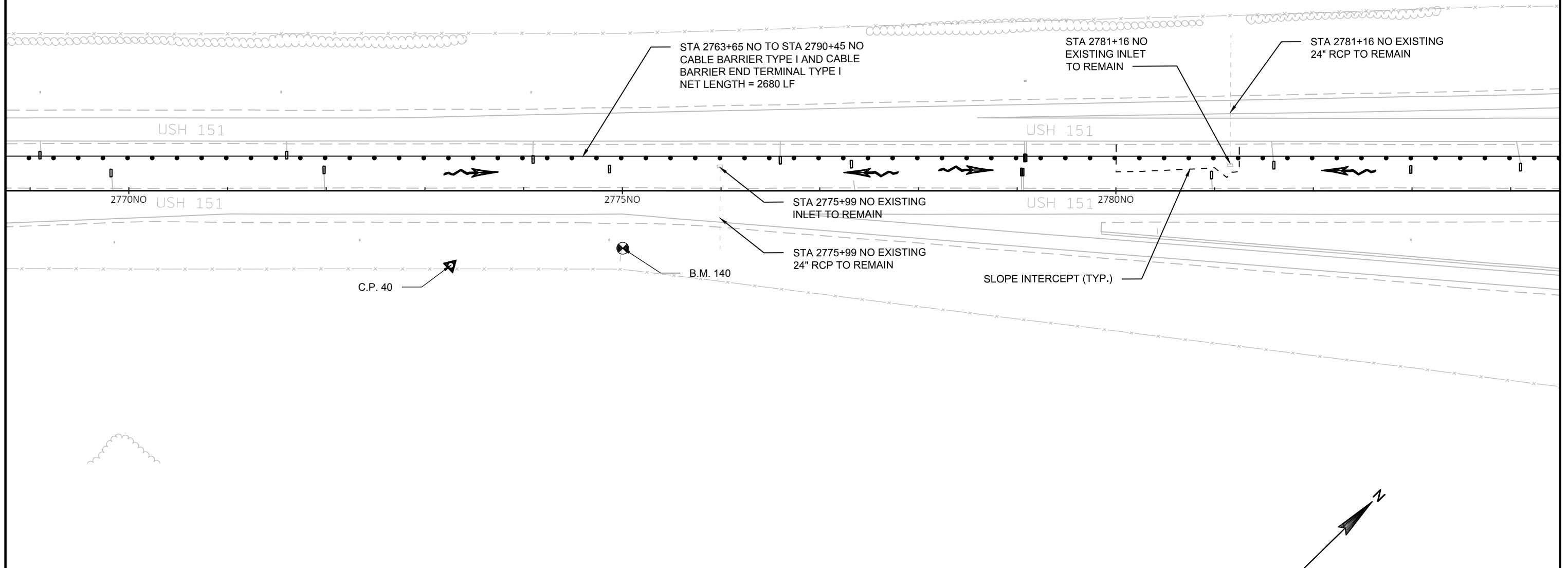
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PLOT SCALE : #####

WISDOT/CADD5 SHEET 42

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CABLE BARRIER LAYOUT - NORTH SEGMENT

SHEET

E

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PLOT BY : THOMPSON, BENJAMIN P

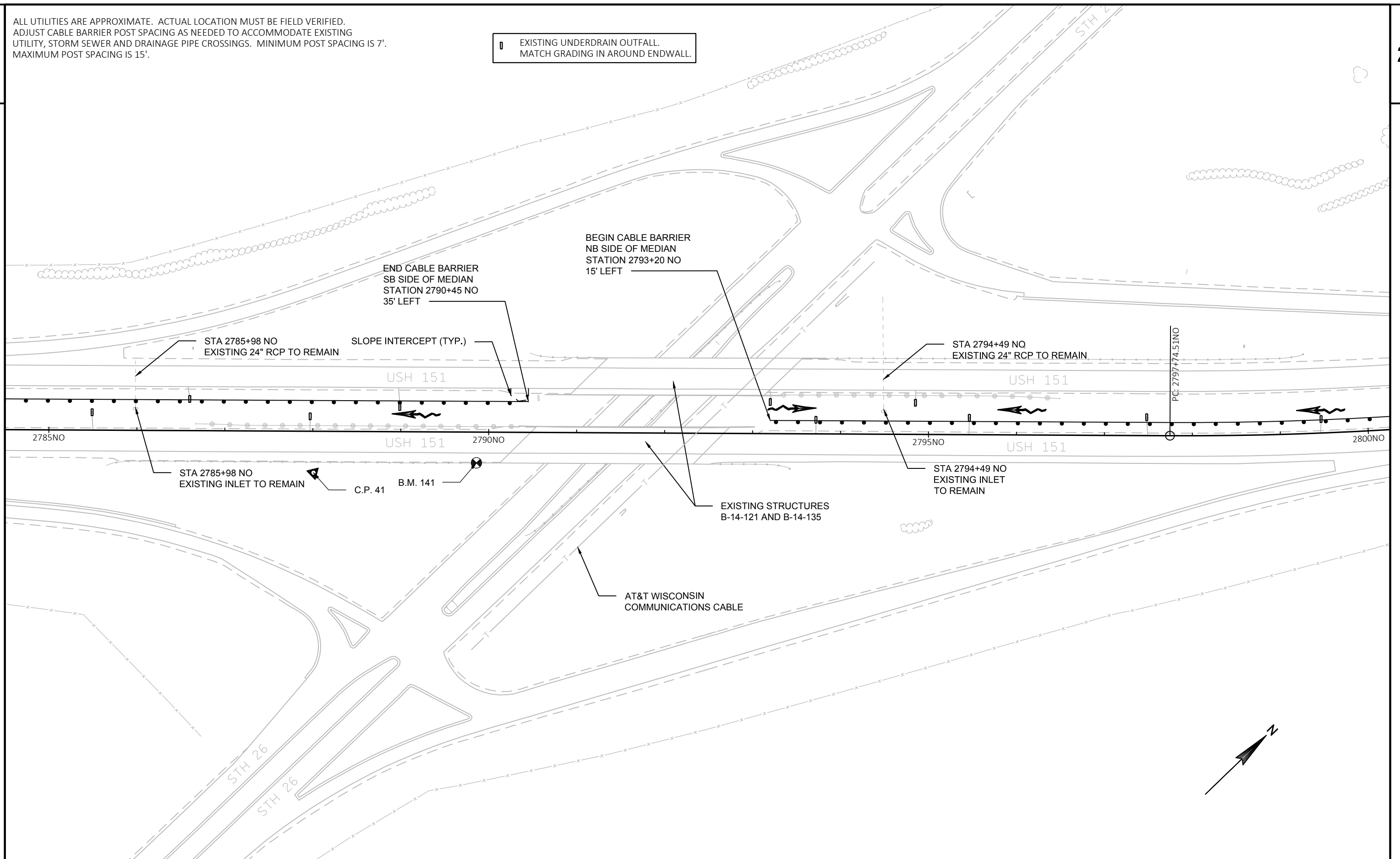
PLOT NAME :

PLOT SCALE : #####

WISDOT/CADD5 SHEET 42

ALL UTILITIES ARE APPROXIMATE. ACTUAL LOCATION MUST BE FIELD VERIFIED.  
ADJUST CABLE BARRIER POST SPACING AS NEEDED TO ACCOMMODATE EXISTING  
UTILITY, STORM SEWER AND DRAINAGE PIPE CROSSINGS. MINIMUM POST SPACING IS 7'.  
MAXIMUM POST SPACING IS 15'.

EXISTING UNDERDRAIN OUTFALL.  
MATCH GRADING IN AROUND ENDWALL.



PROJECT NO: 1112-02-61

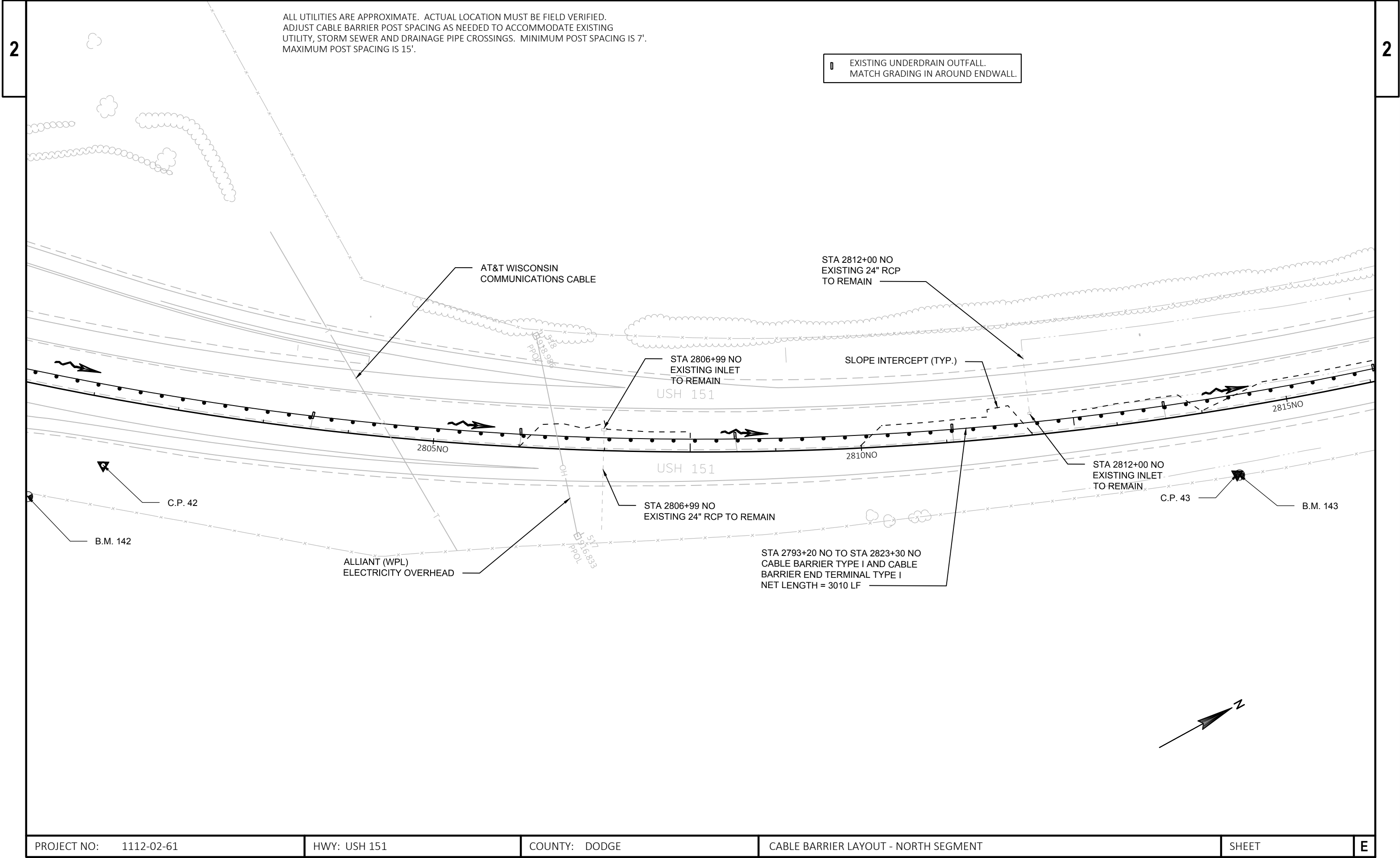
HWY: USH 151

COUNTY: DODGE

CABLE BARRIER LAYOUT - NORTH SEGMENT

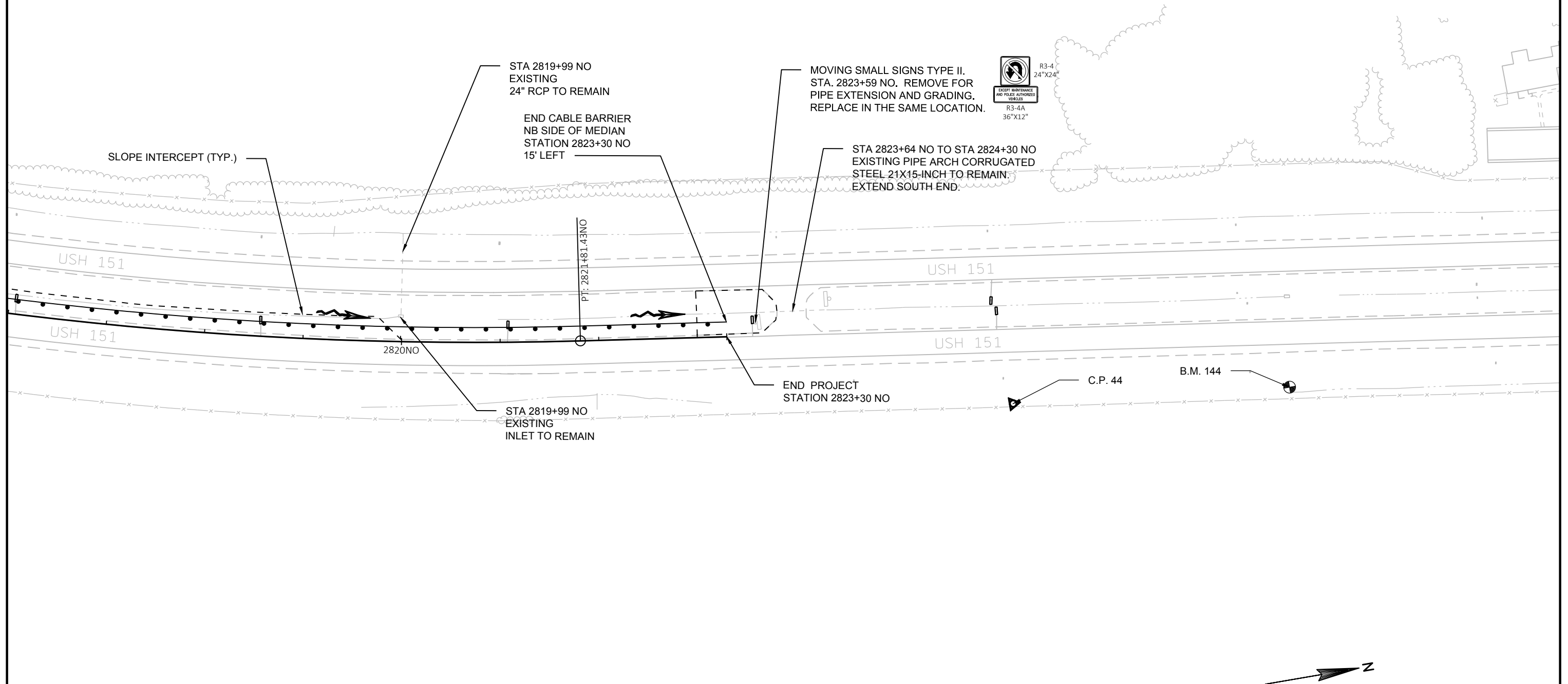
SHEET

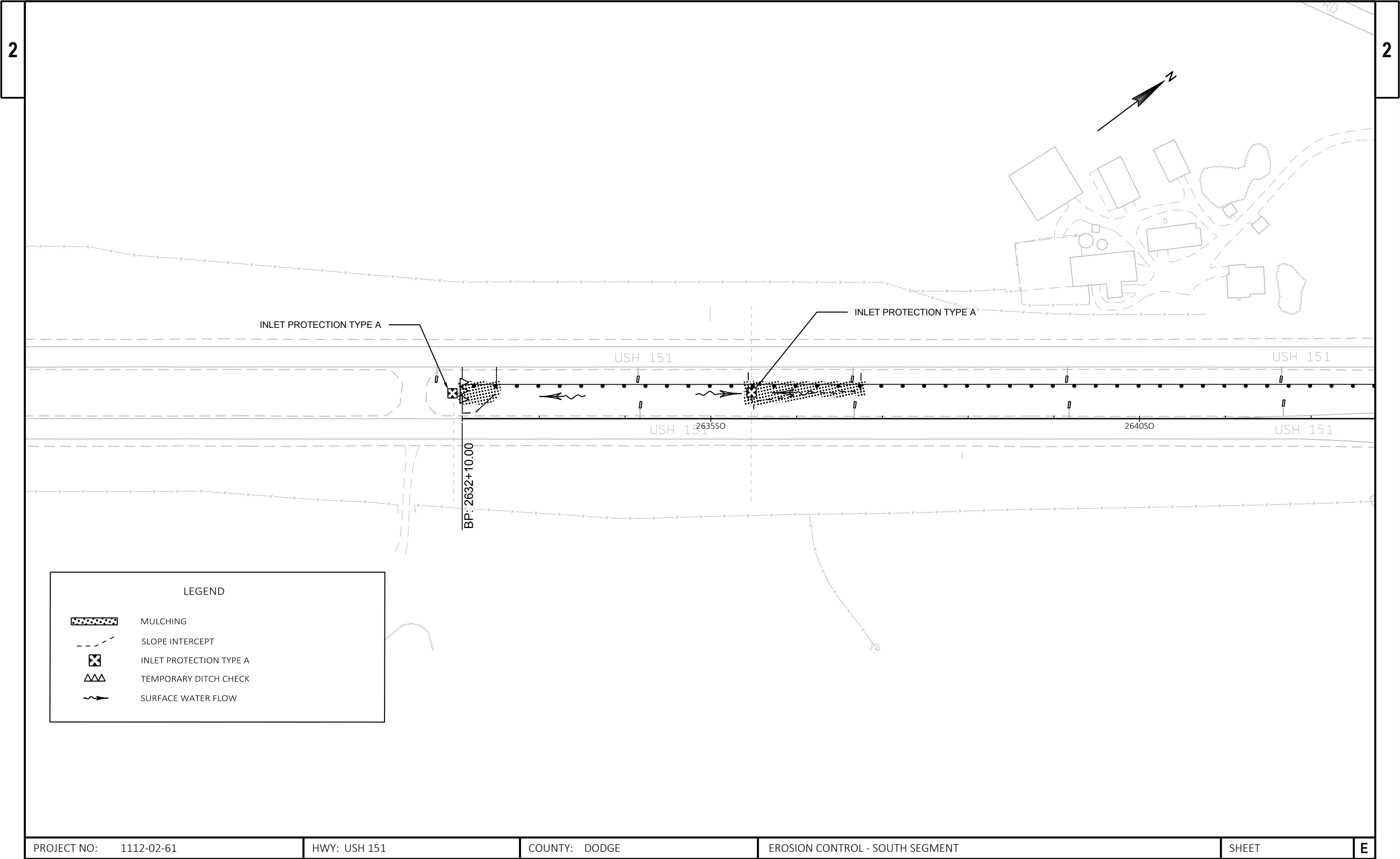
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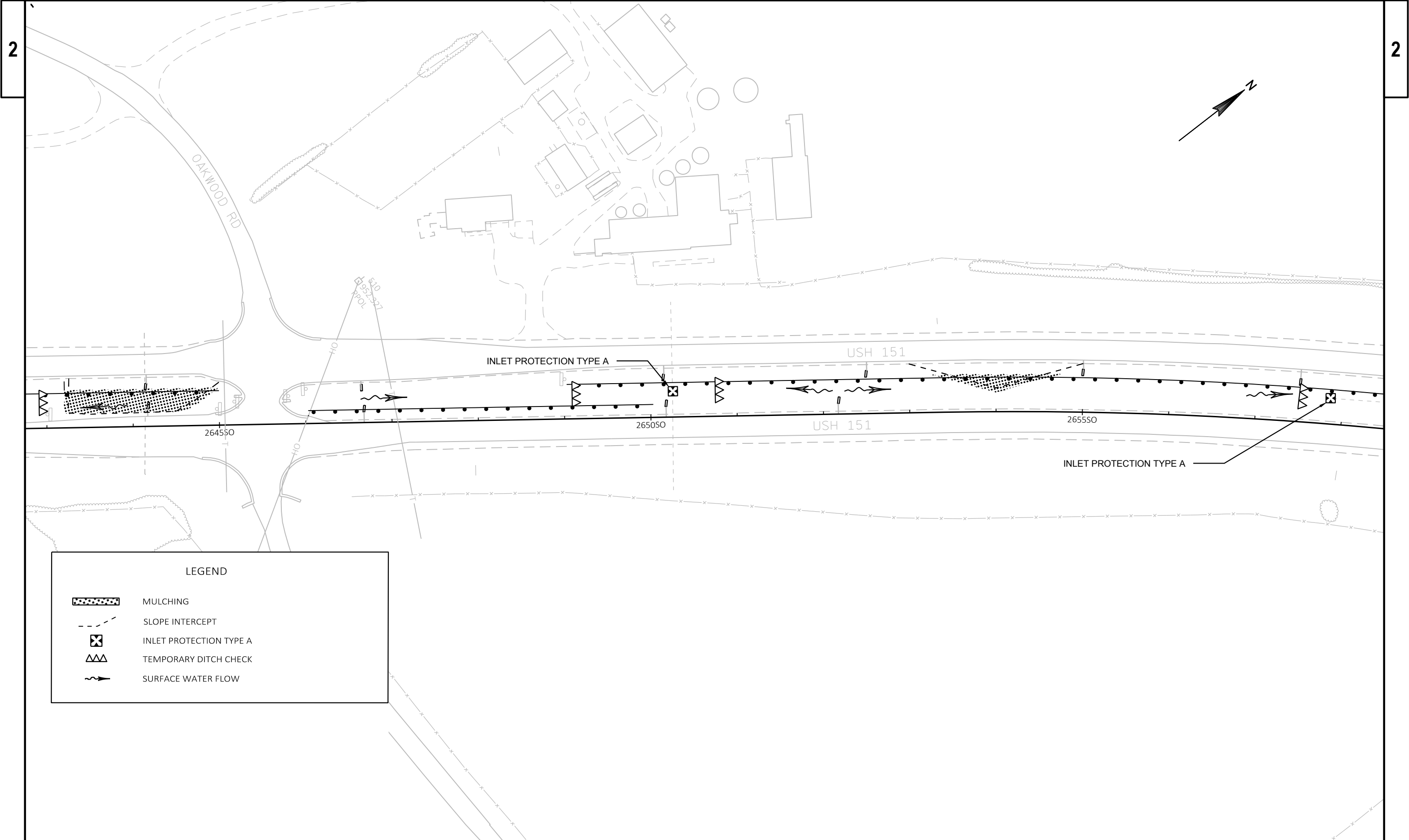


ALL UTILITIES ARE APPROXIMATE. ACTUAL LOCATION MUST BE FIELD VERIFIED.  
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MAXIMUM POST SPACING IS 15'.

EXISTING UNDERDRAIN OUTFALL.  
MATCH GRADING IN AROUND ENDWALL.







LEGEND



MULCHING



SLOPE INTERCEPT



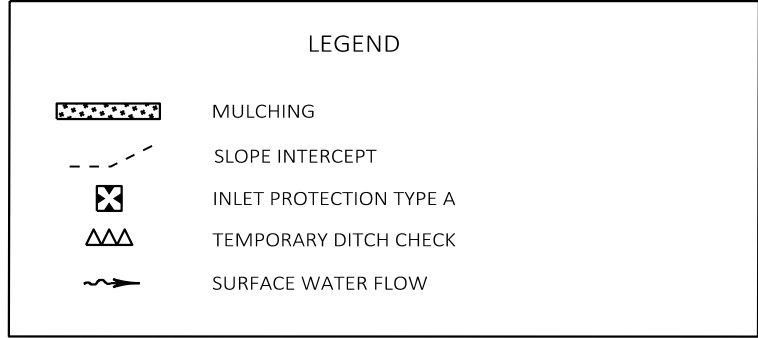
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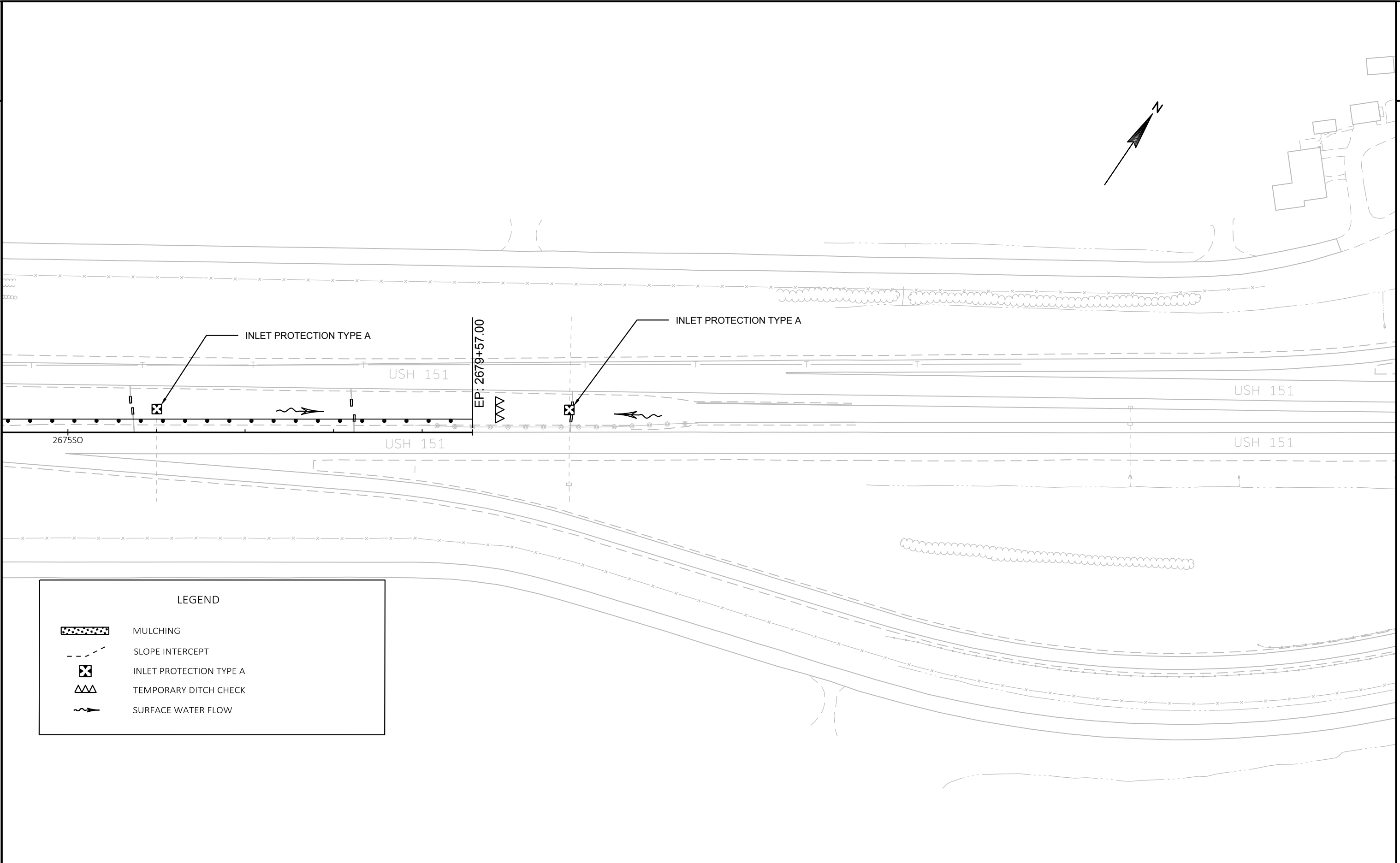


TEMPORARY DITCH CHECK



SURFACE WATER FLOW





ALL UTILITIES ARE APPROXIMATE. ACTUAL LOCATION MUST BE FIELD VERIFIED.  
ADJUST CABLE BARRIER POST SPACING AS NEEDED TO ACCOMMODATE EXISTING  
UTILITY, STORM SEWER AND DRAINAGE PIPE CROSSINGS. MINIMUM POST SPACING IS 7'.  
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WISCONSIN & SOUTHERN RAILROAD

USH 151

USH 151

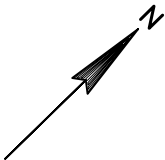
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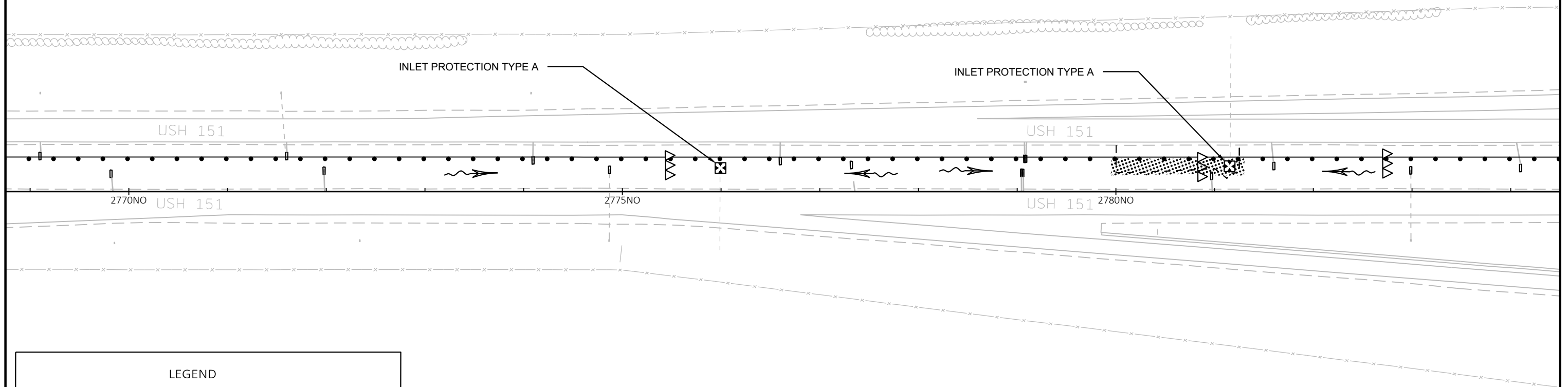
INLET PROTECTION TYPE A

LEGEND

- MULCHING
- SLOPE INTERCEPT
- INLET PROTECTION TYPE A
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW

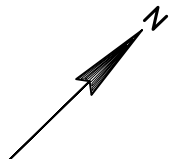


ALL UTILITIES ARE APPROXIMATE. ACTUAL LOCATION MUST BE FIELD VERIFIED.  
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UTILITY, STORM SEWER AND DRAINAGE PIPE CROSSINGS. MINIMUM POST SPACING IS 7'.  
MAXIMUM POST SPACING IS 15'.



## LEGEND

- |  |                         |
|--|-------------------------|
|  | MULCHING                |
|  | SLOPE INTERCEPT         |
|  | INLET PROTECTION TYPE A |
|  | TEMPORARY DITCH CHECK   |
|  | SURFACE WATER FLOW      |



PROJECT NO: 1112-02-61

HWY: USH 151

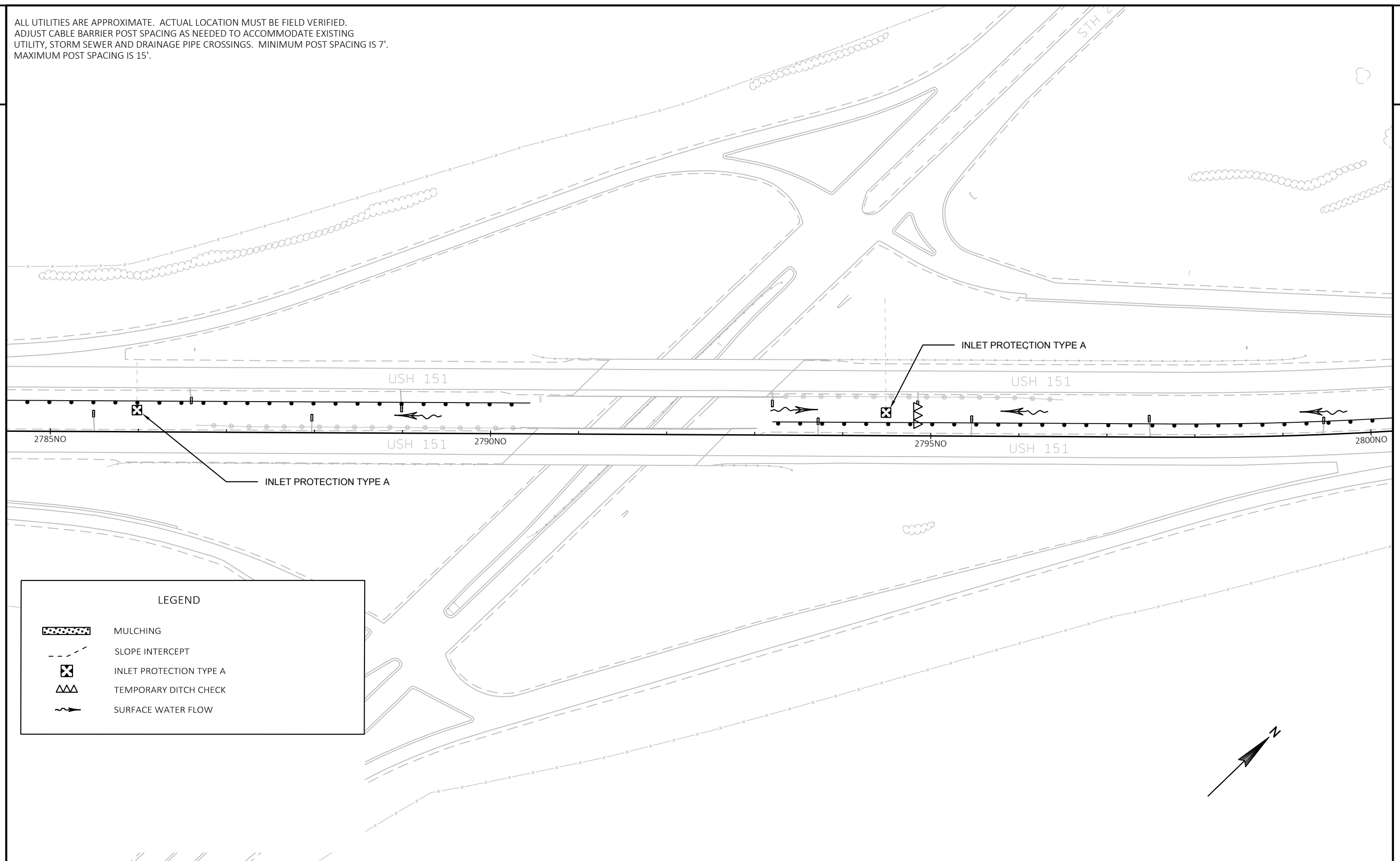
COUNTY: DODGE

EROSION CONTROL - NORTH SEGMENT

SHEET

E

ALL UTILITIES ARE APPROXIMATE. ACTUAL LOCATION MUST BE FIELD VERIFIED.  
ADJUST CABLE BARRIER POST SPACING AS NEEDED TO ACCOMMODATE EXISTING  
UTILITY, STORM SEWER AND DRAINAGE PIPE CROSSINGS. MINIMUM POST SPACING IS 7'.  
MAXIMUM POST SPACING IS 15'.



PROJECT NO: 1112-02-61

HWY: USH 151

COUNTY: DODGE

EROSION CONTROL - NORTH SEGMENT

SHEET

E

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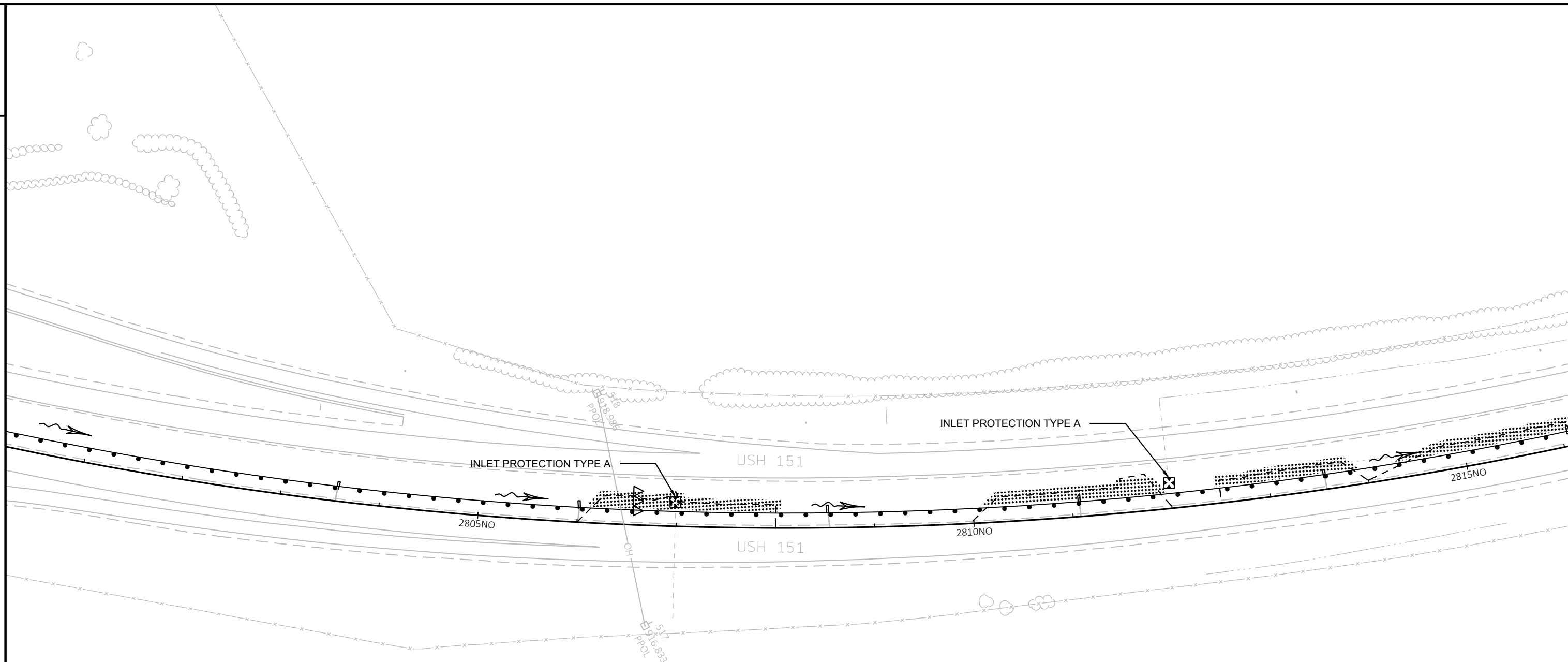
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PLOT BY : THOMPSON, BENJAMIN P

PLOT NAME :

PLOT SCALE : #####

WISDOT/CADDs SHEET 42



LEGEND



MULCHING



SLOPE INTERCEPT



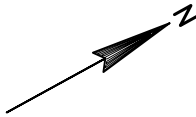
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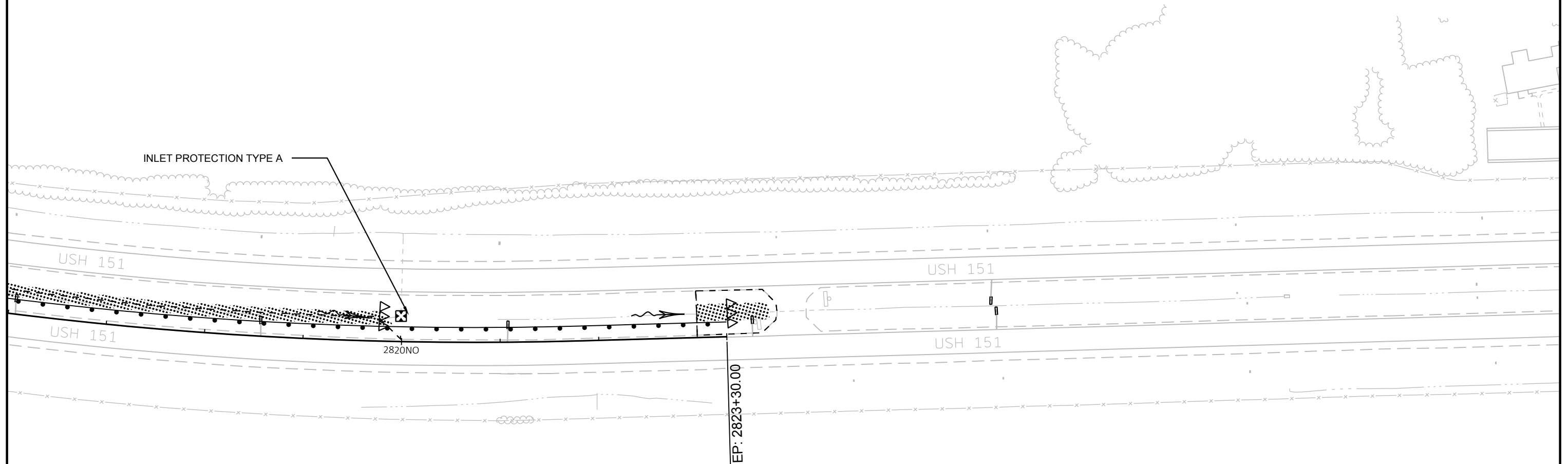


TEMPORARY DITCH CHECK



SURFACE WATER FLOW





## LEGEND

- |  |                         |
|--|-------------------------|
|  | MULCHING                |
|  | SLOPE INTERCEPT         |
|  | INLET PROTECTION TYPE A |
|  | TEMPORARY DITCH CHECK   |
|  | SURFACE WATER FLOW      |



PROJECT NO: 1112-02-61

HWY: USH 151

COUNTY: DODGE

EROSION CONTROL - NORTH SEGMENT

SHEET

E



WORK ZONE AREA

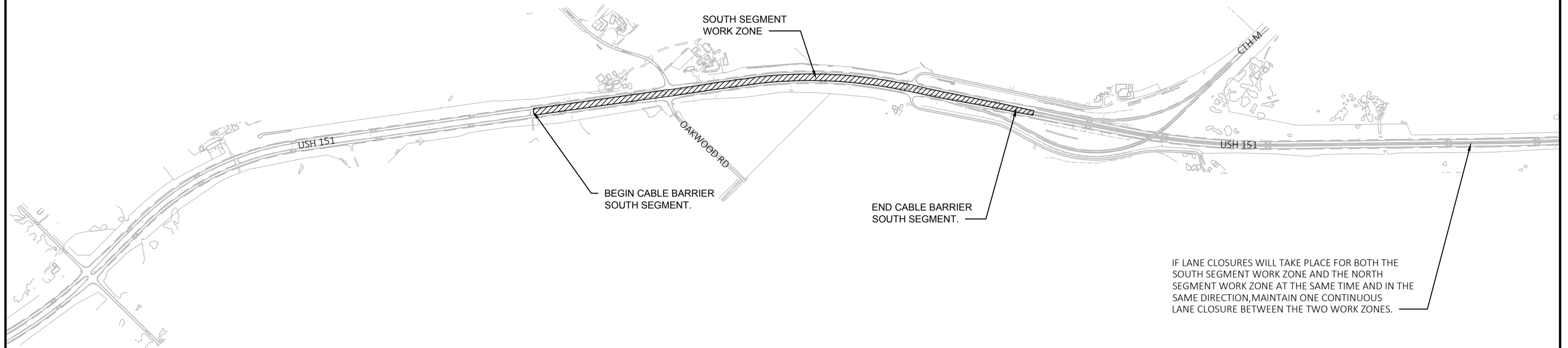
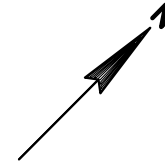
THE FOLLOWING TRAFFIC CONTROL STANDARD DETAIL DRAWINGS APPLY:

TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH;

TRAFFIC CONTROL, LANE CLOSURE;

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE;

TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LEFT LANE CLOSURE



PROJECT NO: 1112-02-61

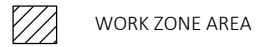
HWY: USH 151

COUNTY: DODGE

TRAFFIC CONTROL - SOUTH SEGMENT

SHEET

E



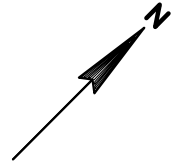
WORK ZONE AREA

THE FOLLOWING TRAFFIC CONTROL STANDARD DETAIL DRAWINGS APPLY:

TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH;

TRAFFIC CONTROL, LANE CLOSURE;

TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LEFT LANE CLOSURE



IF LANE CLOSURES WILL TAKE PLACE FOR BOTH THE SOUTH SEGMENT WORK ZONE AND THE NORTH SEGMENT WORK ZONE AT THE SAME TIME AND IN THE SAME DIRECTION, MAINTAIN ONE CONTINUOUS LANE CLOSURE BETWEEN THE TWO WORK ZONES.

NORTH SEGMENT  
WORK ZONE

END CABLE BARRIER  
NORTH SEGMENT

WISCONSIN AND  
SOUTHERN RAILROAD

BEGIN CABLE BARRIER  
NORTH SEGMENT

PROJECT NO: 1112-02-61

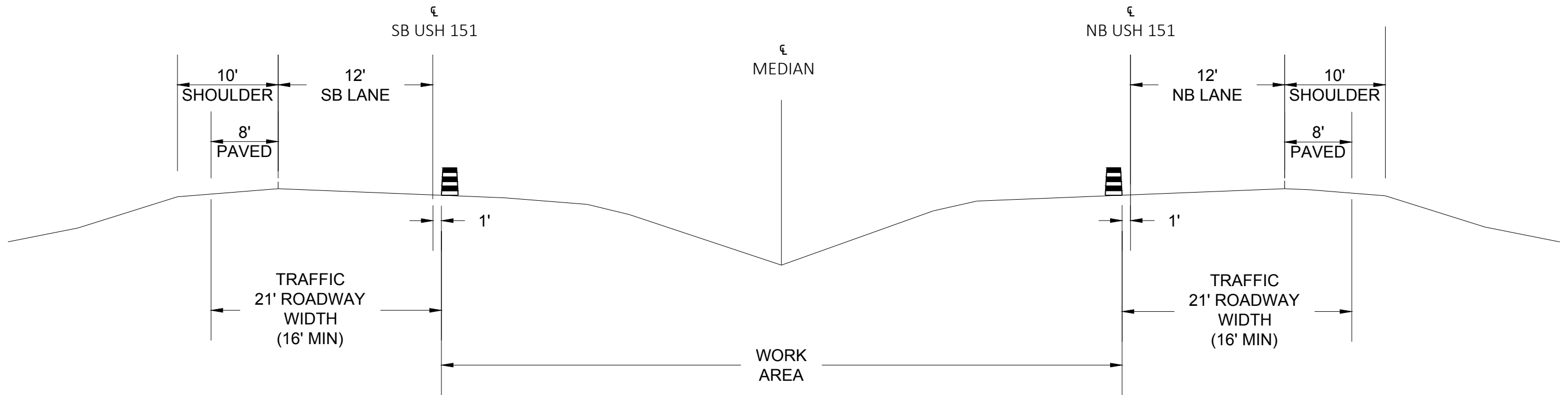
HWY: USH 151

COUNTY: DODGE

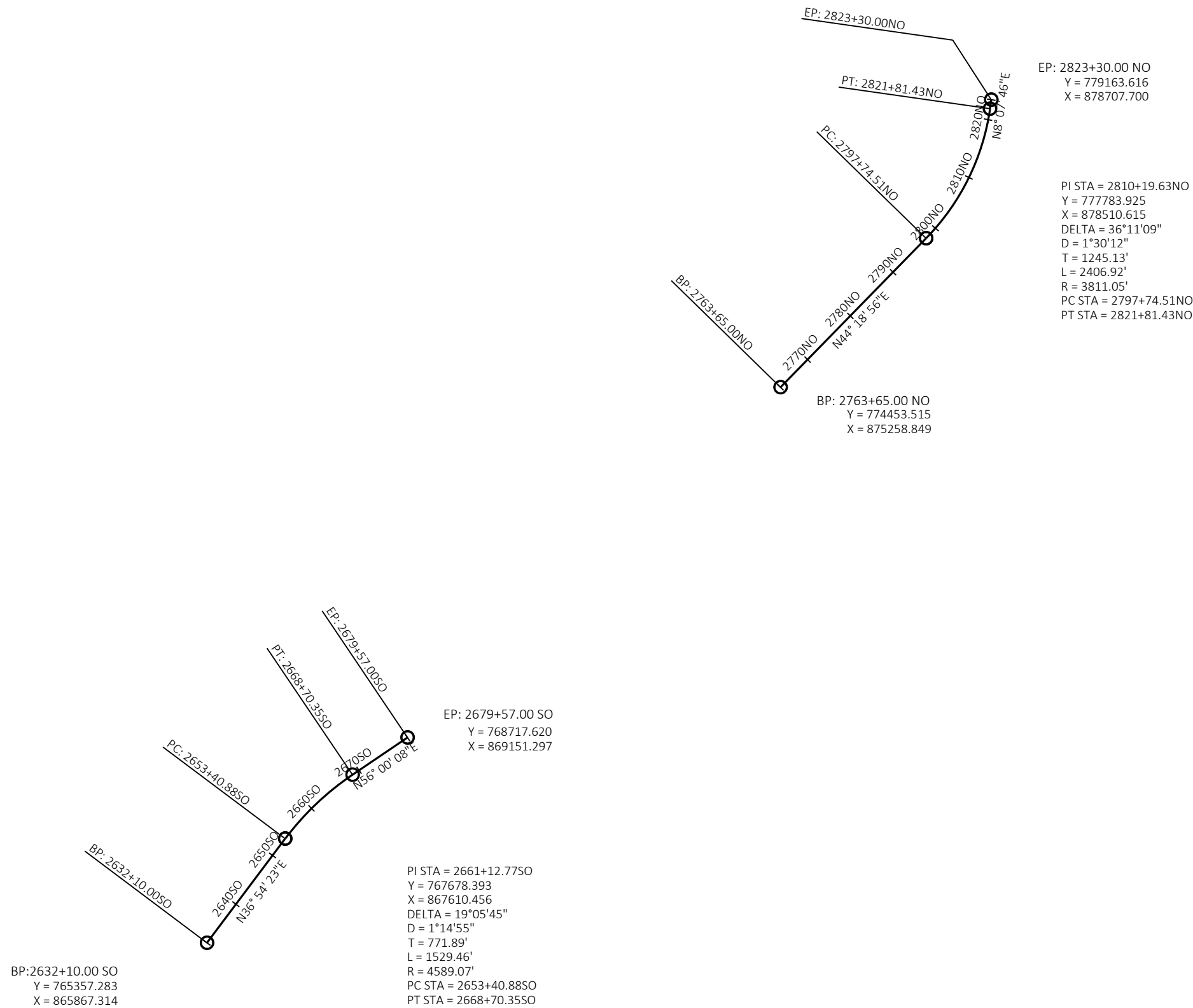
TRAFFIC CONTROL - NORTH SEGMENT

SHEET

E

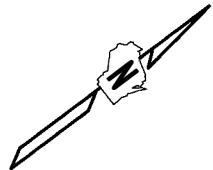


DAYTIME LANE CLOSURES USH 151



| BORING #                                                   | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|------------------------------------------------------------|----------------|--------------|-------------|
| 2-1                                                        | 8/07/2017      | 765387       | 865828      |
|                                                            |                |              |             |
|                                                            |                |              |             |
| BORINGS COMPLETED BY: WISDOT                               |                |              |             |
| REPORT COMPLETED BY: WISDOT                                |                |              |             |
| ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DODGE COUNTY |                |              |             |
| COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT     |                |              |             |

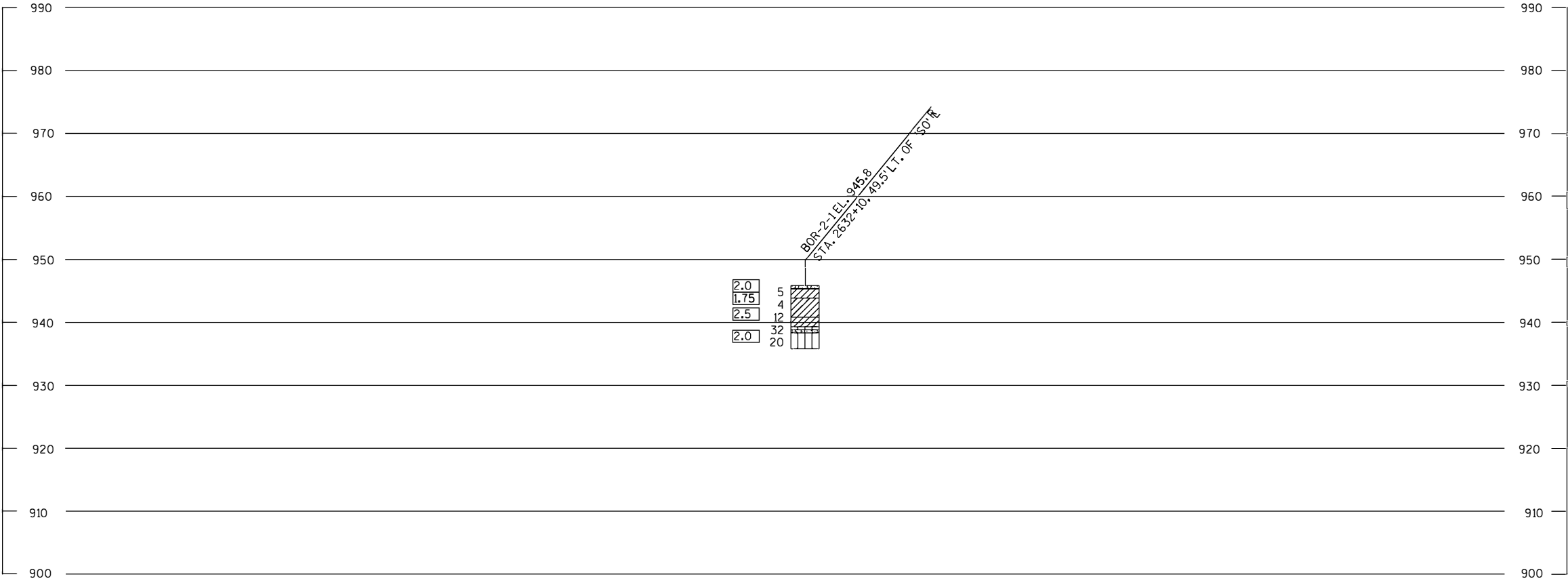
BOR-2-1



2631S0

2632S0

2633S0



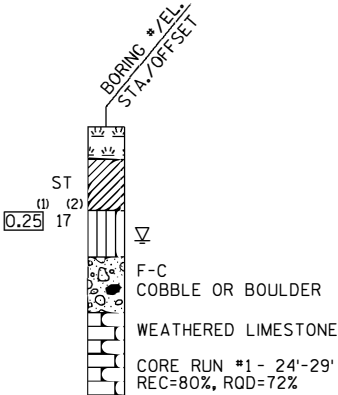
STATE PROJECT NUMBER

1112-02-31

MATERIAL SYMBOLS

|                     |           |                   |
|---------------------|-----------|-------------------|
| ASPHALT             | TOPSOIL   | PEAT              |
| CONCRETE            | FILL      | GRAVEL            |
| SAND                | CLAY      | SILT              |
| BOULDERS OR COBBLES | LIMESTONE | BEDROCK (UNKNOWN) |
| SHALE               | SANDSTONE | IGNEOUS/ META     |

LEGEND OF BORING



<sup>(1)</sup> UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

<sup>(2)</sup> UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

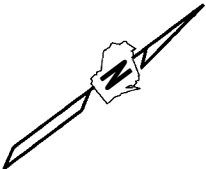
ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

| BORING #                                                   | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|------------------------------------------------------------|----------------|--------------|-------------|
| 2-2                                                        | 8/07/2017      | 766410       | 866614      |
| 2-3                                                        | 7/31/2017      | 766491       | 866681      |
|                                                            |                |              |             |
| BORINGS COMPLETED BY: WISDOT                               |                |              |             |
| REPORT COMPLETED BY: WISDOT                                |                |              |             |
| ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DODGE COUNTY |                |              |             |
| COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT     |                |              |             |

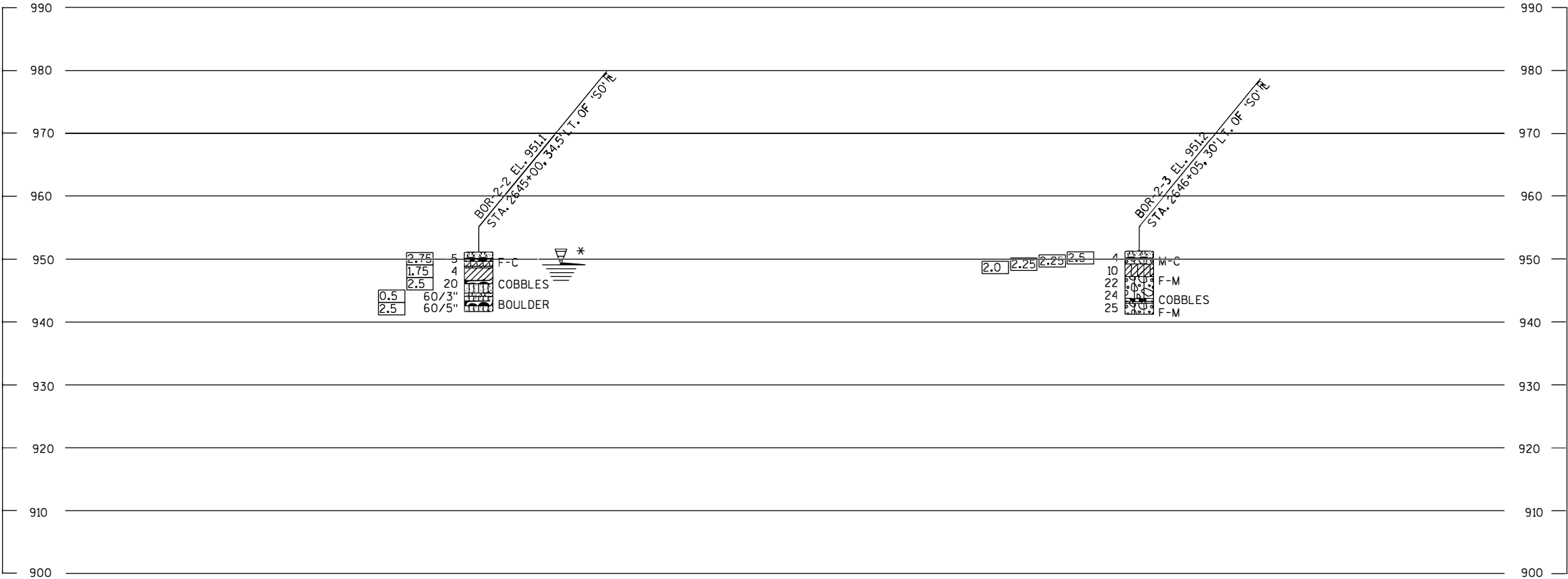


BOR-2-2

BOR-2-3

2645S0

2646S0



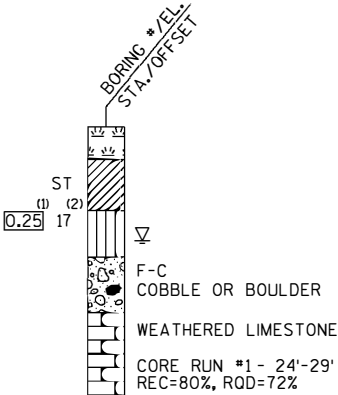
STATE PROJECT NUMBER

1112-02-31

MATERIAL SYMBOLS

|                     |           |                   |
|---------------------|-----------|-------------------|
| ASPHALT             | TOPSOIL   | PEAT              |
| CONCRETE            | FILL      | GRAVEL            |
| SAND                | CLAY      | SILT              |
| BOULDERS OR COBBLES | LIMESTONE | BEDROCK (UNKNOWN) |
| SHALE               | SANDSTONE | IGNEOUS/META      |

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)  
(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

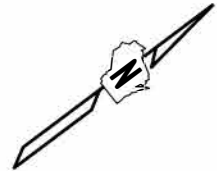
F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

\* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

| BORING #                                                   | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|------------------------------------------------------------|----------------|--------------|-------------|
| 2-4                                                        | 7/31/2017      | 766730       | 866854      |
| 2-5                                                        | 7/31/2017      | 766811       | 866921      |
|                                                            |                |              |             |
|                                                            |                |              |             |
| BORINGS COMPLETED BY: WISDOT                               |                |              |             |
| REPORT COMPLETED BY: WISDOT                                |                |              |             |
| ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DODGE COUNTY |                |              |             |
| COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT     |                |              |             |



BOR-2-4

BOR-2-5

264950

265050



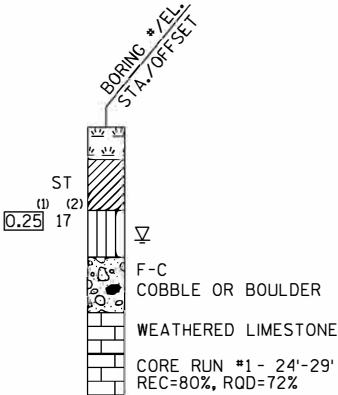
STATE PROJECT NUMBER

1112-02-31

MATERIAL SYMBOLS

|                     |           |                   |
|---------------------|-----------|-------------------|
| ASPHALT             | TOPSOIL   | PEAT              |
| CONCRETE            | FILL      | GRAVEL            |
| SAND                | CLAY      | SILT              |
| BOULDERS OR COBBLES | LIMESTONE | BEDROCK (UNKNOWN) |
| SHALE               | SANDSTONE | IGNEOUS/META      |

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)  
(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▽ AFTER DRILLING

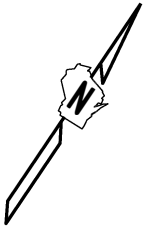
ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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| BORING #                                                   | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|------------------------------------------------------------|----------------|--------------|-------------|
| 2-6                                                        | 7/31/2017      | 768186       | 868298      |
| 2-7                                                        | 7/31/2017      | 768234       | 868408      |
|                                                            |                |              |             |
| BORINGS COMPLETED BY: WISDOT                               |                |              |             |
| REPORT COMPLETED BY: WISDOT                                |                |              |             |
| ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DODGE COUNTY |                |              |             |
| COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT     |                |              |             |



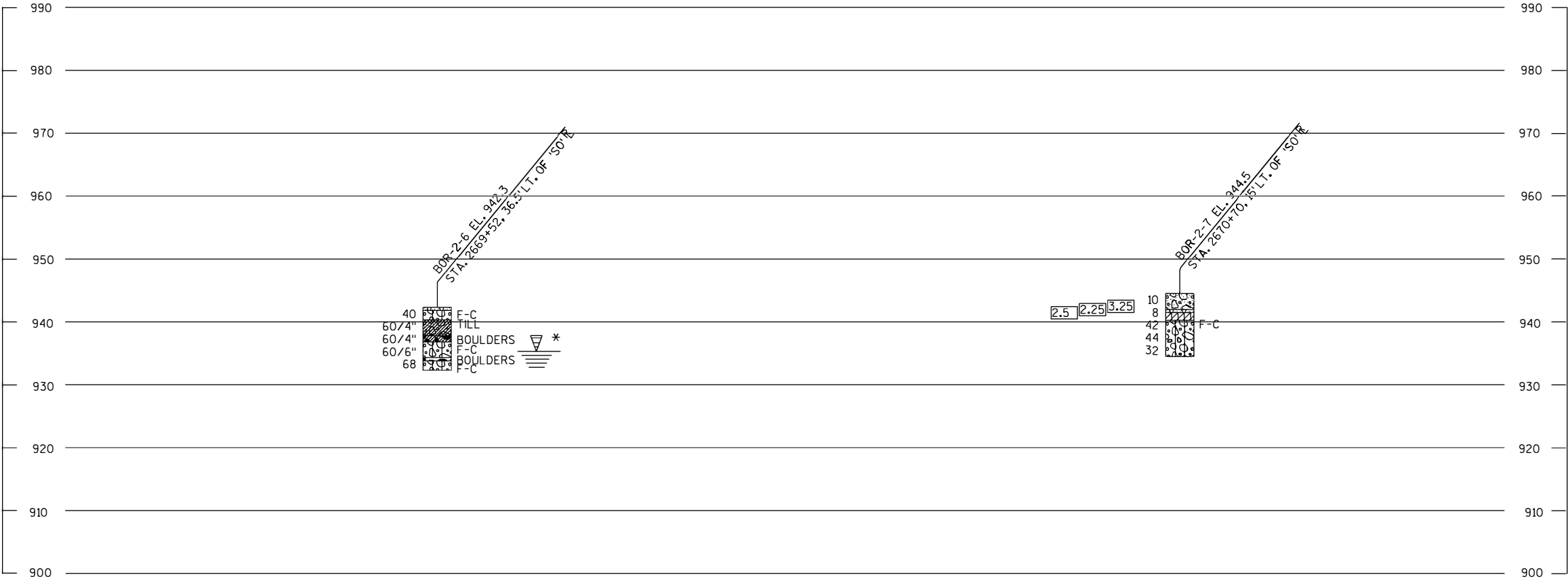
BOR-2-6

BOR-2-7

2669S0

2670S0

2671S0



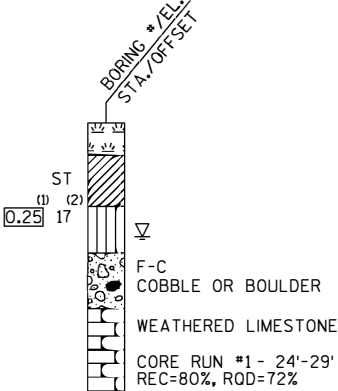
STATE PROJECT NUMBER

1112-02-31

MATERIAL SYMBOLS

|                     |           |                   |
|---------------------|-----------|-------------------|
| ASPHALT             | TOPSOIL   | PEAT              |
| CONCRETE            | FILL      | GRAVEL            |
| SAND                | CLAY      | SILT              |
| BOULDERS OR COBBLES | LIMESTONE | BEDROCK (UNKNOWN) |
| SHALE               | SANDSTONE | IGNEOUS/META      |

LEGEND OF BORING



- (1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)
- (2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▽ AFTER DRILLING

ABBREVIATIONS

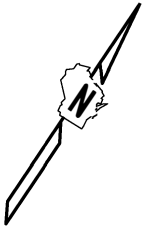
F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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\* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

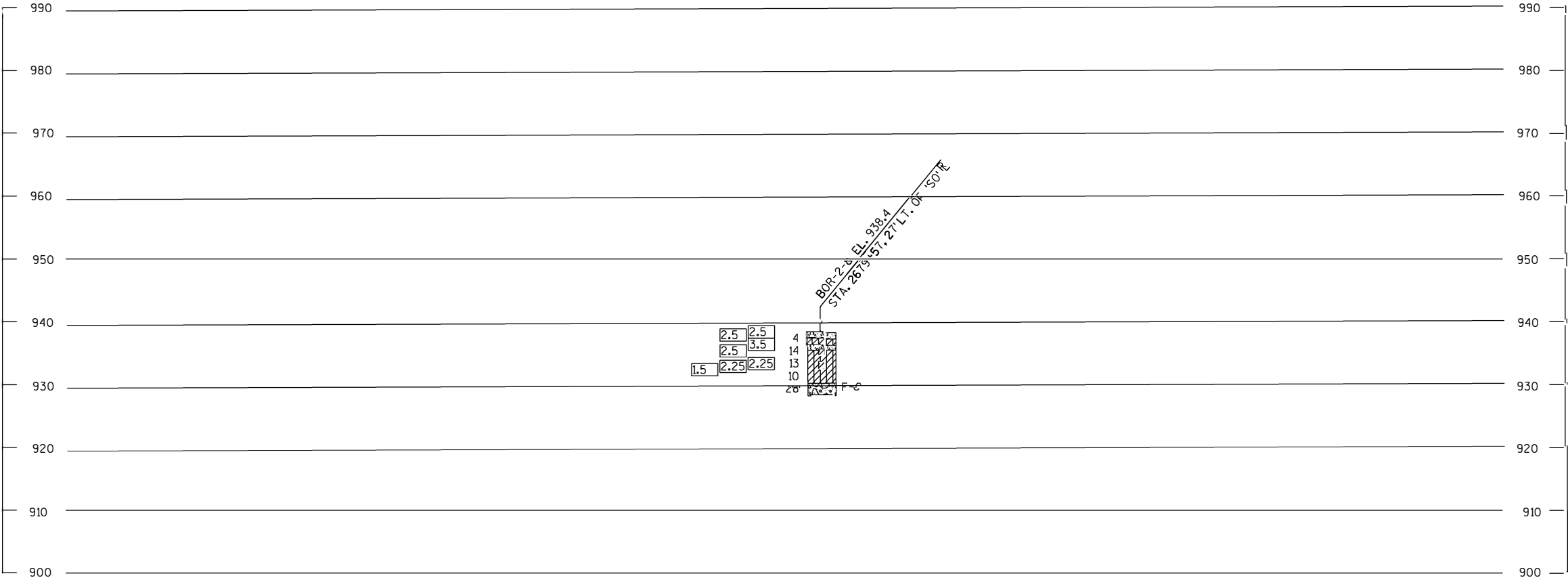
| BORING #                                                   | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|------------------------------------------------------------|----------------|--------------|-------------|
| 2-8                                                        | 7/31/2017      | 768740       | 869136      |
|                                                            |                |              |             |
|                                                            |                |              |             |
|                                                            |                |              |             |
| BORINGS COMPLETED BY: WISDOT                               |                |              |             |
| REPORT COMPLETED BY: WISDOT                                |                |              |             |
| ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DODGE COUNTY |                |              |             |
| COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT     |                |              |             |



BOR-2-8

2679S0

2680S0



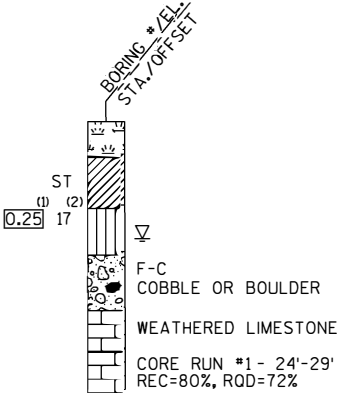
STATE PROJECT NUMBER

1112-02-31

MATERIAL SYMBOLS

|                     |           |                   |
|---------------------|-----------|-------------------|
| ASPHALT             | TOPSOIL   | PEAT              |
| CONCRETE            | FILL      | GRAVEL            |
| SAND                | CLAY      | SILT              |
| BOULDERS OR COBBLES | LIMESTONE | BEDROCK (UNKNOWN) |
| SHALE               | SANDSTONE | IGNEOUS/META      |

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▽ AFTER DRILLING

ABBREVIATIONS

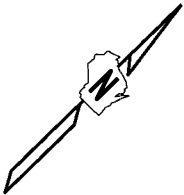
F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

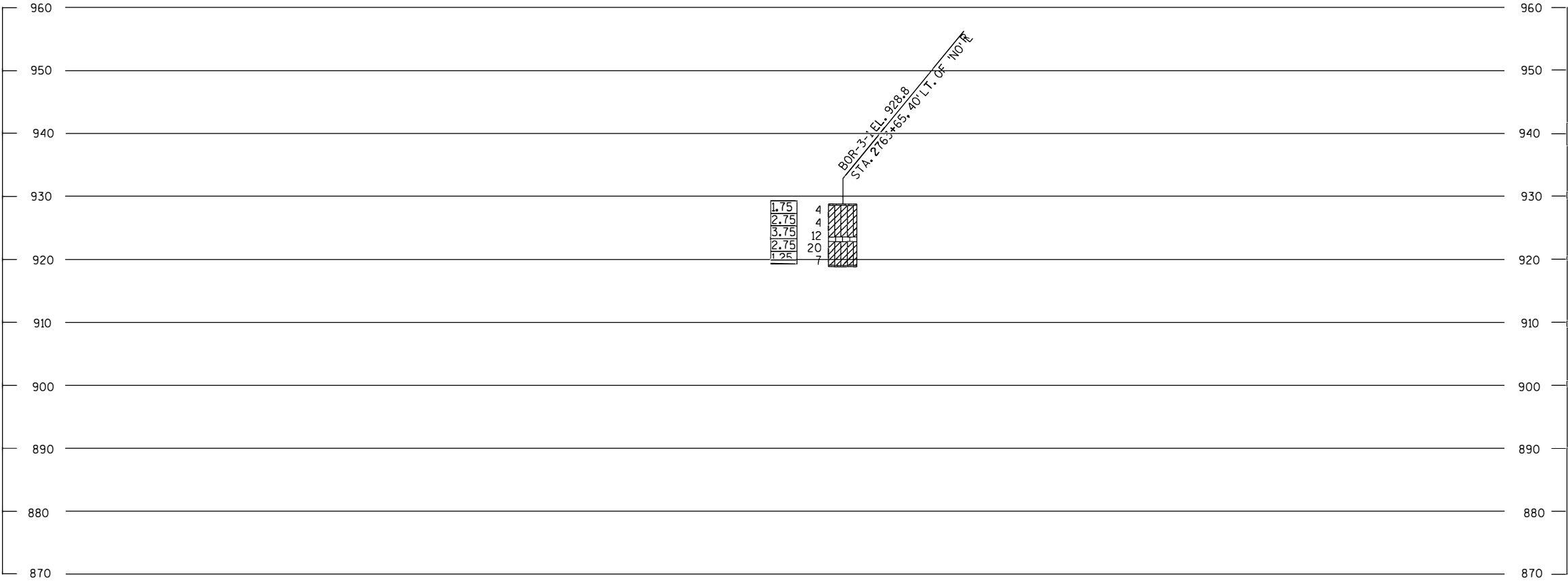
| BORING #                                                   | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|------------------------------------------------------------|----------------|--------------|-------------|
| 3-1                                                        | 8/07/2017      | 774481       | 875230      |
|                                                            |                |              |             |
|                                                            |                |              |             |
|                                                            |                |              |             |
| BORINGS COMPLETED BY: WISDOT                               |                |              |             |
| REPORT COMPLETED BY: WISDOT                                |                |              |             |
| ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DODGE COUNTY |                |              |             |
| COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT     |                |              |             |

BOR-3-1



2763NO

2764NO



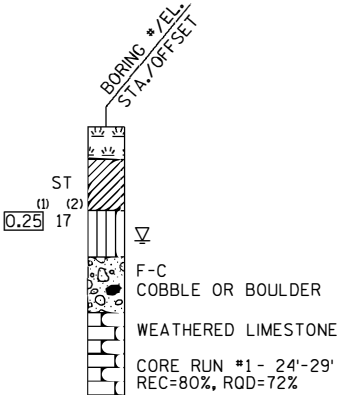
STATE PROJECT NUMBER

1112-02-31

MATERIAL SYMBOLS

|                     |           |                   |
|---------------------|-----------|-------------------|
| ASPHALT             | TOPSOIL   | PEAT              |
| CONCRETE            | FILL      | GRAVEL            |
| SAND                | CLAY      | SILT              |
| BOULDERS OR COBBLES | LIMESTONE | BEDROCK (UNKNOWN) |
| SHALE               | SANDSTONE | IGNEOUS/META      |

LEGEND OF BORING



<sup>(1)</sup> UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)  
<sup>(2)</sup> UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

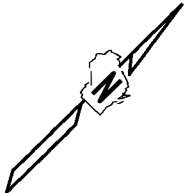
F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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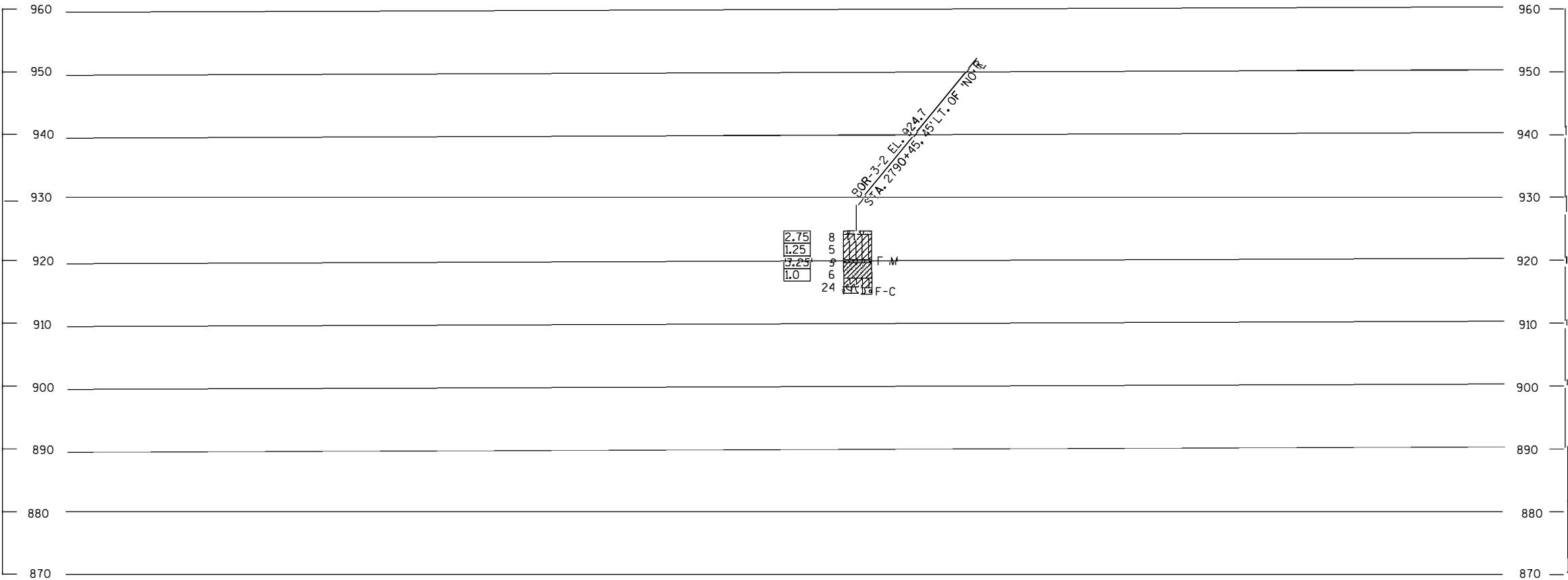
| BORING #                                                   | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|------------------------------------------------------------|----------------|--------------|-------------|
| 3-2                                                        | 8/07/2017      | 776403       | 877099      |
|                                                            |                |              |             |
|                                                            |                |              |             |
|                                                            |                |              |             |
| BORINGS COMPLETED BY: WISDOT                               |                |              |             |
| REPORT COMPLETED BY: WISDOT                                |                |              |             |
| ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DODGE COUNTY |                |              |             |
| COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT     |                |              |             |

BOR-3-2



2790N0

2791N0



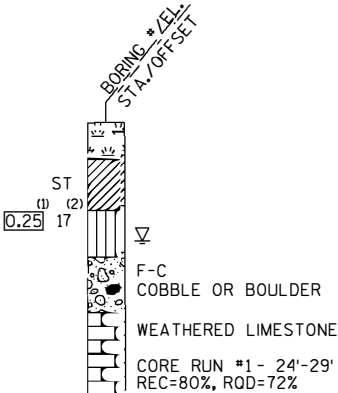
STATE PROJECT NUMBER

1112-02-31

MATERIAL SYMBOLS

|                     |           |                   |
|---------------------|-----------|-------------------|
| ASPHALT             | TOPSOIL   | PEAT              |
| CONCRETE            | FILL      | GRAVEL            |
| SAND                | CLAY      | SILT              |
| BOULDERS OR COBBLES | LIMESTONE | BEDROCK (UNKNOWN) |
| SHALE               | SANDSTONE | IGNEOUS/META      |

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)  
(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▽ AFTER DRILLING

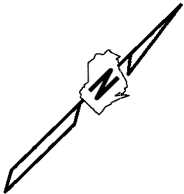
ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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| BORING #                                                   | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|------------------------------------------------------------|----------------|--------------|-------------|
| 3-3                                                        | 8/07/2017      | 176582       | 877316      |
|                                                            |                |              |             |
|                                                            |                |              |             |
|                                                            |                |              |             |
| BORINGS COMPLETED BY: WISDOT                               |                |              |             |
| REPORT COMPLETED BY: WISDOT                                |                |              |             |
| ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DODGE COUNTY |                |              |             |
| COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT     |                |              |             |

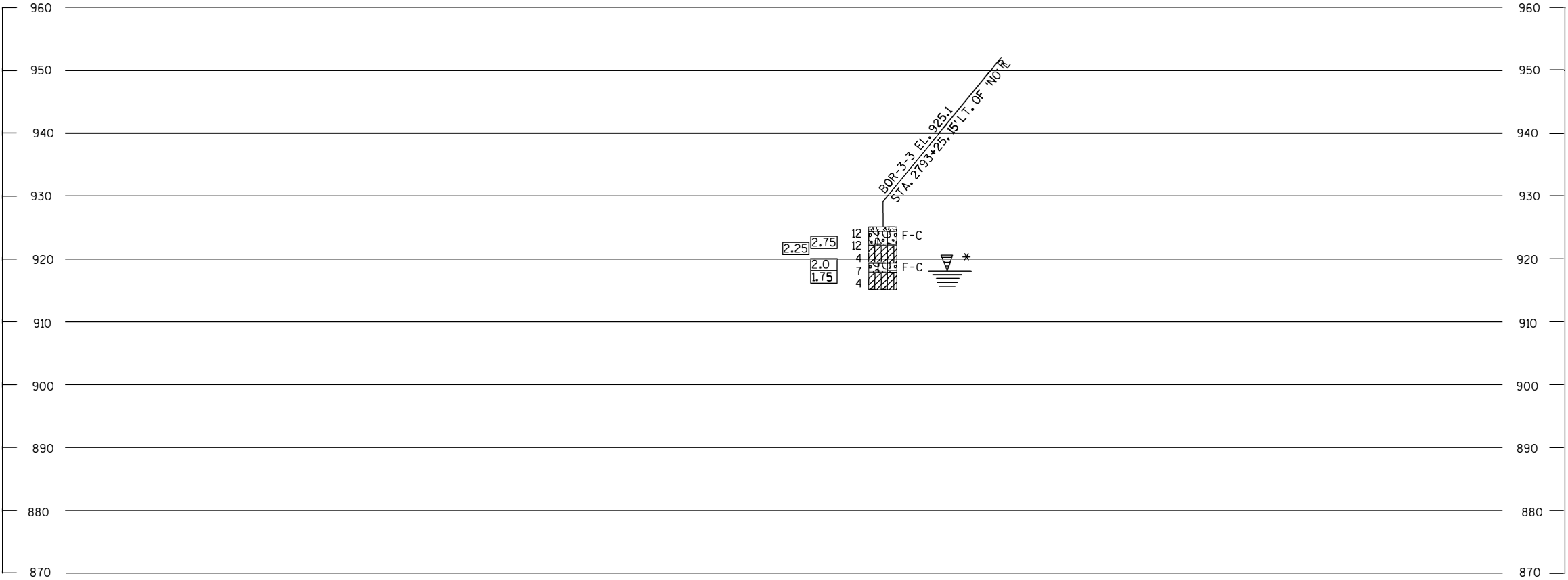


BOR-3-3

2792N0

2793N0

2794N0



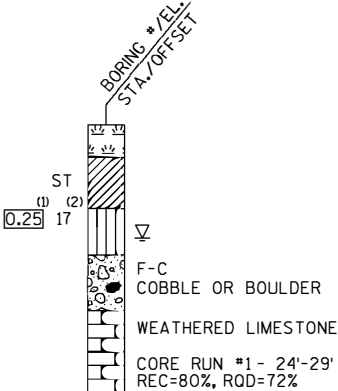
STATE PROJECT NUMBER

1112-02-31

MATERIAL SYMBOLS

|                     |           |                   |
|---------------------|-----------|-------------------|
| ASPHALT             | TOPSOIL   | PEAT              |
| CONCRETE            | FILL      | GRAVEL            |
| SAND                | CLAY      | SILT              |
| BOULDERS OR COBBLES | LIMESTONE | BEDROCK (UNKNOWN) |
| SHALE               | SANDSTONE | IGNEOUS/META      |

LEGEND OF BORING



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- ▼ END OF DRILLING
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\* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

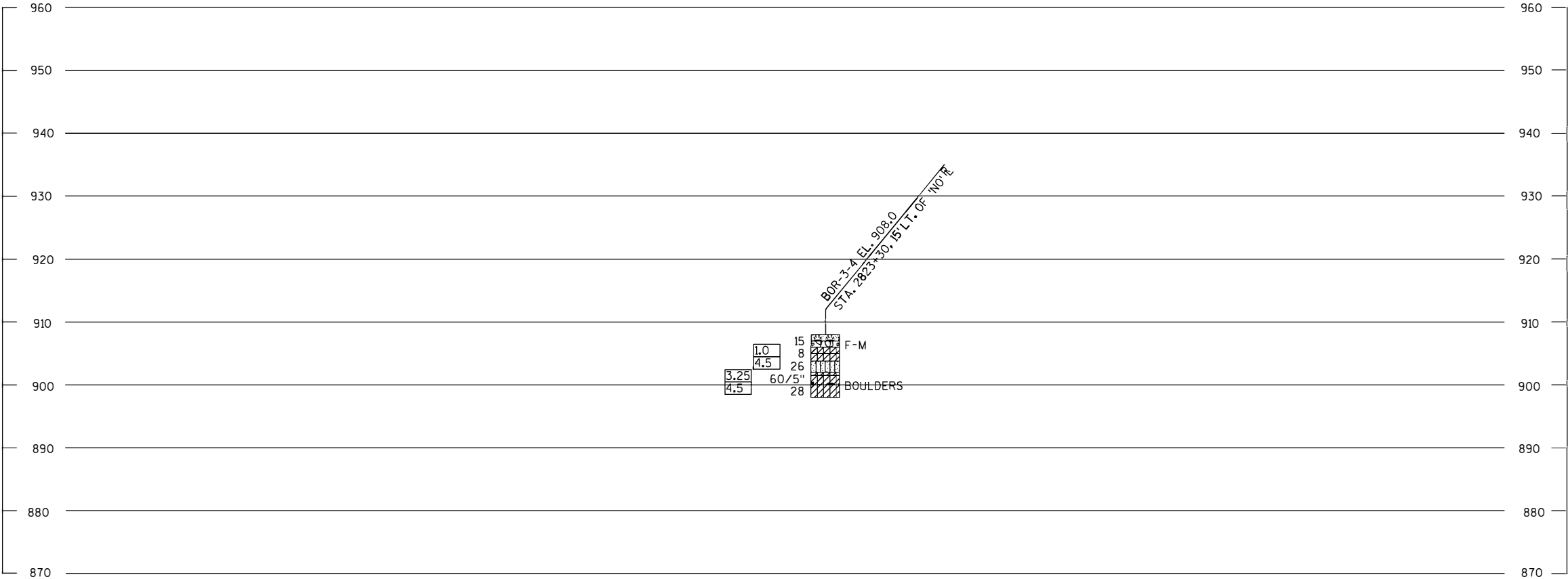
| BORING #                                                   | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|------------------------------------------------------------|----------------|--------------|-------------|
| 3-4                                                        | 8/07/2017      | 779166       | 878693      |
|                                                            |                |              |             |
|                                                            |                |              |             |
|                                                            |                |              |             |
| BORINGS COMPLETED BY: WISDOT                               |                |              |             |
| REPORT COMPLETED BY: WISDOT                                |                |              |             |
| ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DODGE COUNTY |                |              |             |
| COORDINATES COLLECTED USING NON-SURVEY GRADE EQUIPMENT     |                |              |             |



BOR-3-4

2823NO

2824NO



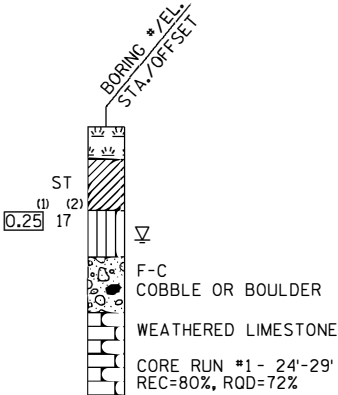
STATE PROJECT NUMBER

1112-02-31

MATERIAL SYMBOLS

|                     |           |                   |
|---------------------|-----------|-------------------|
| ASPHALT             | TOPSOIL   | PEAT              |
| CONCRETE            | FILL      | GRAVEL            |
| SAND                | CLAY      | SILT              |
| BOULDERS OR COBBLES | LIMESTONE | BEDROCK (UNKNOWN) |
| SHALE               | SANDSTONE | IGNEOUS/META      |

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Estimate Of Quantities

1112-02-61

| Line | Item       | Item Description                                                         | Unit | Total      | Qty        |
|------|------------|--------------------------------------------------------------------------|------|------------|------------|
| 0002 | 205.0100   | Excavation Common                                                        | CY   | 29.000     | 29.000     |
| 0004 | 208.0100   | Borrow                                                                   | CY   | 185.000    | 185.000    |
| 0006 | 213.0100   | Finishing Roadway (project) 01. 1112-02-61                               | EACH | 1.000      | 1.000      |
| 0008 | 305.0110   | Base Aggregate Dense 3/4-Inch                                            | TON  | 45.000     | 45.000     |
| 0010 | 521.1618   | Apron Endwalls for Culvert Pipe Sloped Side Drains Steel 18-Inch 10 to 1 | EACH | 1.000      | 1.000      |
| 0012 | 521.1821   | Apron Endwalls for Pipe Arch Sloped Side Drains Steel 21x15-Inch 10 to 1 | EACH | 1.000      | 1.000      |
| 0014 | 521.3118   | Culvert Pipe Corrugated Steel 18-Inch                                    | LF   | 6.000      | 6.000      |
| 0016 | 521.3721   | Pipe Arch Corrugated Steel 21x15-Inch                                    | LF   | 10.000     | 10.000     |
| 0018 | 613.1100.S | Cable Barrier Type 1                                                     | LF   | 9,840.000  | 9,840.000  |
| 0020 | 613.1200.S | Cable Barrier End Terminal Type 1                                        | EACH | 12.000     | 12.000     |
| 0022 | 618.0100   | Maintenance And Repair of Haul Roads (project) 01. 1112-02-61            | EACH | 1.000      | 1.000      |
| 0024 | 619.1000   | Mobilization                                                             | EACH | 1.000      | 1.000      |
| 0026 | 624.0100   | Water                                                                    | MGAL | 1.000      | 1.000      |
| 0028 | 625.0500   | Salvaged Topsoil                                                         | SY   | 4,481.000  | 4,481.000  |
| 0030 | 627.0200   | Mulching                                                                 | SY   | 4,481.000  | 4,481.000  |
| 0032 | 628.1504   | Silt Fence                                                               | LF   | 200.000    | 200.000    |
| 0034 | 628.1520   | Silt Fence Maintenance                                                   | LF   | 200.000    | 200.000    |
| 0036 | 628.1905   | Mobilizations Erosion Control                                            | EACH | 5.000      | 5.000      |
| 0038 | 628.1910   | Mobilizations Emergency Erosion Control                                  | EACH | 3.000      | 3.000      |
| 0040 | 628.2004   | Erosion Mat Class I Type B                                               | SY   | 448.000    | 448.000    |
| 0042 | 628.7005   | Inlet Protection Type A                                                  | EACH | 16.000     | 16.000     |
| 0044 | 628.7504   | Temporary Ditch Checks                                                   | LF   | 360.000    | 360.000    |
| 0046 | 629.0210   | Fertilizer Type B                                                        | CWT  | 5.000      | 5.000      |
| 0048 | 630.0120   | Seeding Mixture No. 20                                                   | LB   | 210.000    | 210.000    |
| 0050 | 630.0200   | Seeding Temporary                                                        | LB   | 210.000    | 210.000    |
| 0052 | 638.2102   | Moving Signs Type II                                                     | EACH | 3.000      | 3.000      |
| 0054 | 638.4000   | Moving Small Sign Supports                                               | EACH | 3.000      | 3.000      |
| 0056 | 642.5001   | Field Office Type B                                                      | EACH | 1.000      | 1.000      |
| 0058 | 643.0300   | Traffic Control Drums                                                    | DAY  | 16,524.000 | 16,524.000 |
| 0060 | 643.0420   | Traffic Control Barricades Type III                                      | DAY  | 1,071.000  | 1,071.000  |
| 0062 | 643.0705   | Traffic Control Warning Lights Type A                                    | DAY  | 1,836.000  | 1,836.000  |
| 0064 | 643.0715   | Traffic Control Warning Lights Type C                                    | DAY  | 1,352.000  | 1,352.000  |
| 0066 | 643.0800   | Traffic Control Arrow Boards                                             | DAY  | 102.000    | 102.000    |
| 0068 | 643.0900   | Traffic Control Signs                                                    | DAY  | 1,836.000  | 1,836.000  |
| 0070 | 643.5000   | Traffic Control                                                          | EACH | 1.000      | 1.000      |
| 0072 | 650.6000   | Construction Staking Pipe Culverts                                       | EACH | 2.000      | 2.000      |
| 0074 | 650.9910   | Construction Staking Supplemental Control (project) 01. 1112-02-61       | LS   | 1.000      | 1.000      |

Estimate Of Quantities

1112-02-61

| Line | Item     | Item Description                               | Unit | Total      | Qty        |
|------|----------|------------------------------------------------|------|------------|------------|
| 0076 | 650.9920 | Construction Staking Slope Stakes              | LF   | 2,700.000  | 2,700.000  |
| 0078 | SPV.0090 | Special 01. Construction Staking Cable Barrier | LF   | 10,320.000 | 10,320.000 |

| EARTHWORK  |         |    |         |               |                                  |                        |                                       |                           |     |
|------------|---------|----|---------|---------------|----------------------------------|------------------------|---------------------------------------|---------------------------|-----|
|            |         |    |         |               | 205.0100<br>EXCAVATION<br>COMMON |                        |                                       | 208.0100<br>BORROW<br>(5) |     |
|            |         |    |         |               | CUT (1)                          | UNEXPANDED<br>FILL (2) | EXPANDED<br>FILL (3)<br>FACTOR = 1.25 | MASS<br>ORDINATE<br>(4)   |     |
| CATEGORY   | STATION | TO | STATION | LOCATION      | CY                               | CY                     | CY                                    |                           | CY  |
| 0010       | 2632+10 | -  | 2679+57 | South Segment | 19                               | 31                     | 39.0                                  | -20                       | 20  |
| 0010       | 2763+65 | -  | 2823+30 | North Segment | 10                               | 140                    | 175.0                                 | -165                      | 165 |
| TOTAL 0010 |         |    |         |               | 29                               |                        |                                       |                           | 185 |

| BASE AGGREGATE DENSE 3/4-INCH |         |    |         |               |                 |  |
|-------------------------------|---------|----|---------|---------------|-----------------|--|
| CATEGORY                      | STATION | TO | STATION | LOCATION      | 305.0110<br>TON |  |
| 0010                          | 2632+10 | -  | 2679+57 | South Segment | 2               |  |
| 0010                          | 2763+65 | -  | 2823+30 | North Segment | 43              |  |
| TOTAL 0010                    |         |    |         |               | 45              |  |

| CULVERTS   |         |    |         |                                                                                                     |                                                                                                     |                                                                |                                                             |    |
|------------|---------|----|---------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------------------------|----|
|            |         |    |         | APRON ENDWALLS<br>FOR CULVERT<br>PIPE SLOPED<br>SIDE DRAINS<br>STEEL 18-INCH<br>10 TO 1<br>521.1618 | APRON ENDWALLS<br>FOR PIPE ARCH<br>SLOPED SIDE<br>DRAINS STEEL<br>21X15-INCH 10<br>TO 1<br>521.1821 | CULVERT<br>PIPE<br>CORRUGATE<br>D STEEL<br>18-INCH<br>521.3118 | PIPE ARCH<br>CORRUGATE<br>D STEEL<br>21X15-INCH<br>521.3721 |    |
| CATEGORY   | STATION | TO | STATION | LOCATION                                                                                            | EACH                                                                                                | EACH                                                           | LF                                                          | LF |
| 0010       | 2763+45 |    |         | 24' LEFT, BEGIN NORTH SEG                                                                           | 1                                                                                                   | -                                                              | 6                                                           | -  |
| 0010       | 2823+56 |    |         | 24' LEFT, END NORTH SEG                                                                             | -                                                                                                   | 1                                                              | -                                                           | 10 |
| TOTAL 0010 |         |    |         |                                                                                                     | 1                                                                                                   | 1                                                              | 6                                                           | 10 |

|                        |              |               |                          |        |   |
|------------------------|--------------|---------------|--------------------------|--------|---|
| PROJECT NO: 1112-02-61 | HWY: USH 151 | COUNTY: DODGE | MISCELLANEOUS QUANTITIES | SHEET: | E |
|------------------------|--------------|---------------|--------------------------|--------|---|

3

| CABLE BARRIER |         |    |         |          |      |            |            |  |  |
|---------------|---------|----|---------|----------|------|------------|------------|--|--|
|               |         |    |         |          |      | 613.1100.S | 613.1200.S |  |  |
| CATEGORY      | STATION | TO | STATION | LOCATION | LF   | EACH       |            |  |  |
| 0010          | 2632+10 | -  | 2645+00 | LEFT     | 1210 | 2          |            |  |  |
| 0010          | 2646+03 | -  | 2650+03 | LEFT     | 320  | 2          |            |  |  |
| 0010          | 2649+03 | -  | 2669+52 | LEFT     | 1982 | 2          |            |  |  |
| 0010          | 2670+70 | -  | 2679+57 | LEFT     | 807  | 2          |            |  |  |
| 0010          | 2763+65 | -  | 2790+45 | LEFT     | 2600 | 2          |            |  |  |
| 0010          | 2793+20 | -  | 2823+30 | LEFT     | 2921 | 2          |            |  |  |
| TOTAL 0010    |         |    |         |          | 9840 | 12         |            |  |  |

| WATER      |         |    |         |          |                  | MOVING SIGNS |         |    |         |          |                                                |                                                         |
|------------|---------|----|---------|----------|------------------|--------------|---------|----|---------|----------|------------------------------------------------|---------------------------------------------------------|
| CATEGORY   | STATION | TO | STATION | LOCATION | 624.0100<br>MGAL | CATEGORY     | STATION | TO | STATION | LOCATION | MOVING<br>SIGNS TYPE<br>II<br>638.2102<br>EACH | MOVING<br>SMALL<br>SIGN<br>SUPPORTS<br>638.4000<br>EACH |
| 0010       |         |    |         |          | 1                | 0010         | 2648+99 |    |         | LEFT 46' | 1                                              | 1                                                       |
|            |         |    |         |          |                  | 0010         | 2765+90 |    |         | LEFT 35' | 1                                              | 1                                                       |
|            |         |    |         |          |                  | 0010         | 2823+59 |    |         | LEFT 14' | 1                                              | 1                                                       |
| TOTAL 0010 |         |    |         |          | 1.0              | TOTAL 0010   |         |    |         |          | 3                                              | 3                                                       |

| EROSION CONTORL MOB |         |    |         |          |                                                      |                                                                      |  |  |  |
|---------------------|---------|----|---------|----------|------------------------------------------------------|----------------------------------------------------------------------|--|--|--|
| CATEGORY            | STATION | TO | STATION | LOCATION | MOBILIZATIONS<br>EROSION CONTROL<br>628.1905<br>EACH | MOBILIZATIONS<br>EMERGENCY<br>EROSION<br>CONTROL<br>628.1910<br>EACH |  |  |  |
| 0010                |         |    |         |          | 5                                                    | 3                                                                    |  |  |  |
| TOTAL 0010          |         |    |         |          | 5                                                    | 3                                                                    |  |  |  |

|                        |              |               |                          |        |   |
|------------------------|--------------|---------------|--------------------------|--------|---|
| PROJECT NO: 1112-02-61 | HWY: USH 151 | COUNTY: DODGE | MISCELLANEOUS QUANTITIES | SHEET: | E |
|------------------------|--------------|---------------|--------------------------|--------|---|

3

3

| EROSION CONTROL        |               |    |           |                  |          |               |          |             |                          |            |              |            |          |           |
|------------------------|---------------|----|-----------|------------------|----------|---------------|----------|-------------|--------------------------|------------|--------------|------------|----------|-----------|
| CATEGORY               | STATION       | TO | STATION   | LOCATION         | SALVAGED | MULCHING      | SILT     | SILT FENCE  | EROSION                  | INLET      | TEMPORARY    | FERTILIZER | SEEDING  | SEEDING   |
|                        |               |    |           |                  | TOPSOIL  |               | FENCE    | MAINTENANCE | MAT CLASS                | PROTECTION | DITCH CHECKS | TYPE B     | MIXTURE  | TEMPORARY |
|                        |               |    |           |                  | 625.0500 | 627.0200      | 628.1504 | 628.1520    | 628.2004                 | 628.7005   | 628.7504     | 629.0210   | 630.0120 | 630.0200  |
|                        |               |    |           |                  | SY       | SY            | LF       | LF          | SY                       | EACH       | LF           | CWT        | LB       | LB        |
| 0010                   | 2632+10       | S0 | - 2645+00 | S0               | 957      | 957           | -        | -           | -                        | -          | -            | 0.91       | 39       | 39        |
| 0010                   | 2646+03       | S0 | - 2669+52 | S0               | 337      | 337           | -        | -           | -                        | -          | -            | 0.36       | 16       | 16        |
| 0010                   | 2670+70       | S0 | - 2679+57 | S0               | 251      | 251           | -        | -           | -                        | -          | -            | 0.28       | 12       | 12        |
| 0010                   | 2763+65       | N0 | - 2790+45 | N0               | 383      | 383           | -        | -           | -                        | -          | -            | 0.43       | 18       | 18        |
| 0010                   | 2793+20       | N0 | - 2823+30 | N0               | 1657     | 1657          | -        | -           | -                        | -          | -            | 1.94       | 83       | 83        |
| 0010                   | 2632+10       | S0 |           | 28' LEFT         | -        | -             | -        | -           | -                        | 1          | 20           | -          | -        | -         |
| 0010                   | 2635+47       | S0 |           | 30' LEFT         | -        | -             | -        | -           | -                        | 1          | -            | -          | -        | -         |
| 0010                   | 2642+90       | S0 |           | SOUTH SEG MEDIAN | -        | -             | -        | -           | -                        | -          | 20           | -          | -        | -         |
| 0010                   | 2649+10       | S0 |           | SOUTH SEG MEDIAN | -        | -             | -        | -           | -                        | -          | 20           | -          | -        | -         |
| 0010                   | 2650+25       | S0 |           | 30' LEFT         | -        | -             | -        | -           | -                        | 1          | -            | -          | -        | -         |
| 0010                   | 2650+75       | S0 |           | SOUTH SEG MEDIAN | -        | -             | -        | -           | -                        | -          | 20           | -          | -        | -         |
| 0010                   | 2657+50       | S0 |           | SOUTH SEG MEDIAN | -        | -             | -        | -           | -                        | -          | 20           | -          | -        | -         |
| 0010                   | 2657+86       | S0 |           | 31' LEFT         | -        | -             | -        | -           | -                        | 1          | -            | -          | -        | -         |
| 0010                   | 2663+99       | S0 |           | 30' LEFT         | -        | -             | -        | -           | -                        | 1          | -            | -          | -        | -         |
| 0010                   | 2667+90       | S0 |           | SOUTH SEG MEDIAN | -        | -             | -        | -           | -                        | -          | 20           | -          | -        | -         |
| 0010                   | 2669+52       | S0 |           | SOUTH SEG MEDIAN | -        | -             | -        | -           | -                        | -          | 20           | -          | -        | -         |
| 0010                   | 2669+68       | S0 |           | 30' LEFT         | -        | -             | -        | -           | -                        | 1          | -            | -          | -        | -         |
| 0010                   | 2673+97       | S0 |           | SOUTH SEG MEDIAN | -        | -             | -        | -           | -                        | -          | 20           | -          | -        | -         |
| 0010                   | 2676+00       | S0 |           | 26' LEFT         | -        | -             | -        | -           | -                        | 1          | -            | -          | -        | -         |
| 0010                   | 2679+83       | S0 |           | SOUTH SEG MEDIAN | -        | -             | -        | -           | -                        | -          | 20           | -          | -        | -         |
| 0010                   | 2680+66       | S0 |           | 25' LEFT         | -        | -             | -        | -           | -                        | 1          | -            | -          | -        | -         |
| 0010                   | 2764+60       | N0 |           | 26' LEFT         | -        | -             | -        | -           | -                        | 1          | -            | -          | -        | -         |
| 0010                   | 2775+44       | N0 |           | NORTH SEG MEDIAN | -        | -             | -        | -           | -                        | -          | 20           | -          | -        | -         |
| 0010                   | 2776+00       | N0 |           | 25' LEFT         | -        | -             | -        | -           | -                        | 1          | -            | -          | -        | -         |
| 0010                   | 2780+83       | N0 |           | NORTH SEG MEDIAN | -        | -             | -        | -           | -                        | -          | 20           | -          | -        | -         |
| 0010                   | 2781+16       | N0 |           | 25' LEFT         | -        | -             | -        | -           | -                        | 1          | -            | -          | -        | -         |
| 0010                   | 2782+70       | N0 |           | NORTH SEG MEDIAN | -        | -             | -        | -           | -                        | -          | 20           | -          | -        | -         |
| 0010                   | 2785+98       | N0 |           | 25' LEFT         | -        | -             | -        | -           | -                        | 1          | -            | -          | -        | -         |
| 0010                   | 2794+49       | N0 |           | 26' LEFT         | -        | -             | -        | -           | -                        | 1          | -            | -          | -        | -         |
| 0010                   | 2794+81       | N0 |           | NORTH SEG MEDIAN | -        | -             | -        | -           | -                        | -          | 20           | -          | -        | -         |
| 0010                   | 2806+56       | N0 |           | NORTH SEG MEDIAN | -        | -             | -        | -           | -                        | -          | 20           | -          | -        | -         |
| 0010                   | 2806+99       | N0 |           | 23' LEFT         | -        | -             | -        | -           | -                        | 1          | -            | -          | -        | -         |
| 0010                   | 2811+99       | N0 |           | 23' LEFT         | -        | -             | -        | -           | -                        | 1          | -            | -          | -        | -         |
| 0010                   | 2819+77       | N0 |           | NORTH SEG MEDIAN | -        | -             | -        | -           | -                        | -          | 20           | -          | -        | -         |
| 0010                   | 2819+99       | N0 |           | 23' LEFT         | -        | -             | -        | -           | -                        | 1          | -            | -          | -        | -         |
| 0010                   | 2823+30       | N0 |           | NORTH SEG MEDIAN | -        | -             | -        | -           | -                        | -          | 20           | -          | -        | -         |
| 0010                   | 2823+65       | N0 |           | 24' LEFT         | -        | -             | -        | -           | -                        | -          | -            | -          | -        | -         |
| 0010                   | UNDISTRIBUTED |    |           |                  | 896      | 896           | 200      | 200         | 448                      | -          | 40           | 1          | 42       | 42        |
| TOTAL 0010             |               |    |           |                  | 4481     | 4481          | 200      | 200         | 448                      | 16         | 360          | 5          | 210      | 210       |
| PROJECT NO: 1112-02-61 |               |    |           | HWY: USH 151     |          | COUNTY: DODGE |          |             | MISCELLANEOUS QUANTITIES |            |              |            | SHEET: E |           |

3

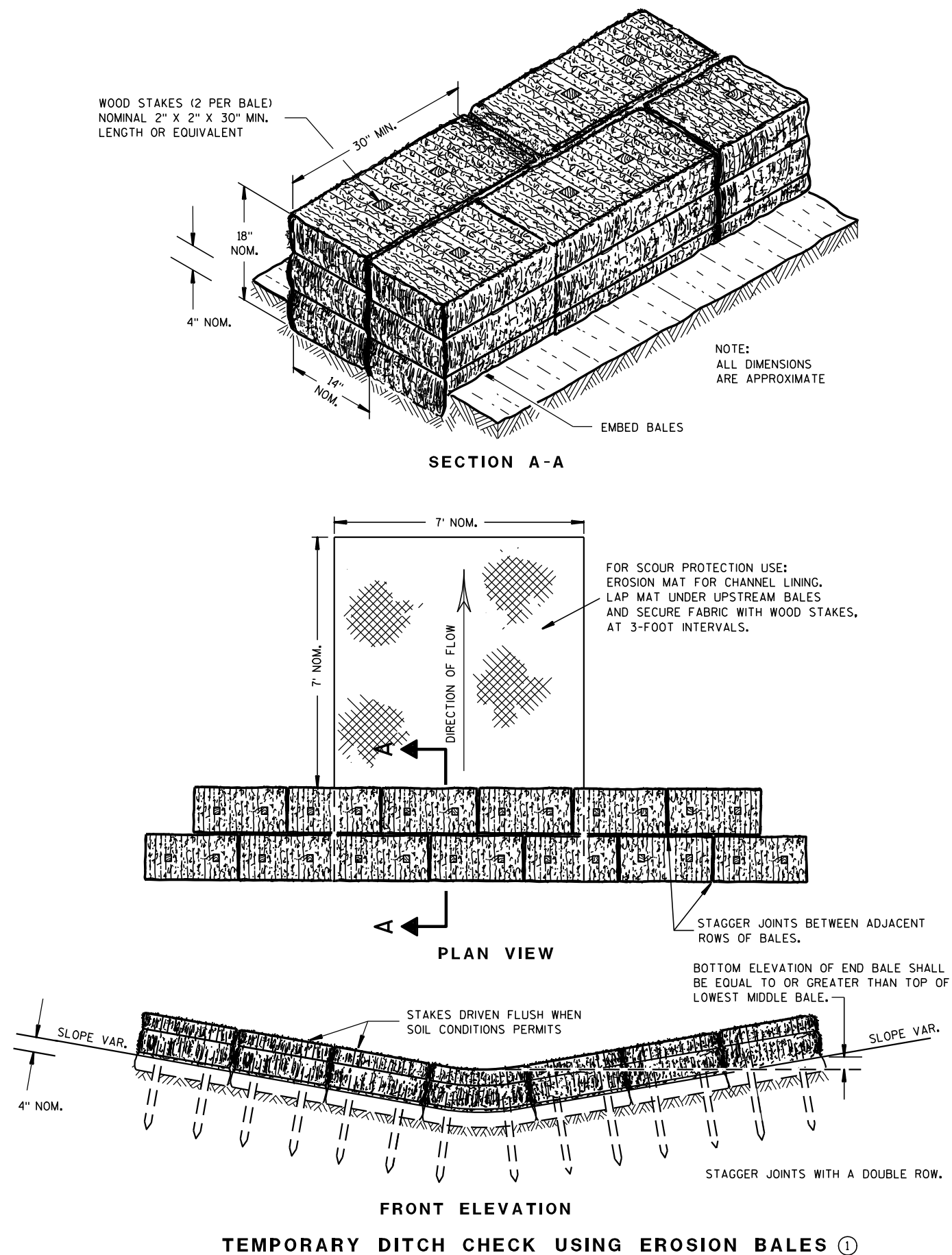
| TRAFFIC CONTROL |         |    |         |                         |                                             |                                                              |                                                                |                                                                |                                                       |                                             |
|-----------------|---------|----|---------|-------------------------|---------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------|
| CATEGORY        | STATION | TO | STATION | LOCATION                | TRAFFIC CONTROL<br>DRUMS<br>643.0300<br>DAY | TRAFFIC CONTROL<br>BARRICADES<br>TYPE III<br>643.0420<br>DAY | TRAFFIC CONTROL<br>WARNING<br>LIGHTS TYPE A<br>643.0705<br>DAY | TRAFFIC CONTROL<br>WARNING<br>LIGHTS TYPE C<br>643.0715<br>DAY | TRAFFIC CONTROL<br>ARROW<br>BOARDS<br>643.0800<br>DAY | TRAFFIC CONTROL<br>SIGNS<br>643.0900<br>DAY |
| 0010            |         |    |         | SOUTH END LANE CLOSURE  | 1046                                        | 51                                                           | 102                                                            | 408                                                            | 51                                                    | 230                                         |
| 0010            |         |    |         | OAKWOOD RD INTERSECTION | 3315                                        | 51                                                           | 102                                                            | -                                                              | -                                                     | 153                                         |
| 0010            |         |    |         | CTH M ON-RAMP           | 306                                         | 51                                                           | -                                                              | 179                                                            | -                                                     | 153                                         |
| 0010            |         |    |         | LANE CLOSURE NB         | 5100                                        | 383                                                          | 765                                                            | -                                                              | -                                                     | 383                                         |
| 0010            |         |    |         | LANE CLOSURE SB         | 5100                                        | 383                                                          | 765                                                            | -                                                              | -                                                     | 383                                         |
| 0010            |         |    |         | STH 26 SB ON-RAMP       | 306                                         | 51                                                           | -                                                              | 179                                                            | -                                                     | 153                                         |
|                 |         |    |         | STH 26 NB ON-RAMP       | 306                                         | 51                                                           | -                                                              | 179                                                            | -                                                     | 153                                         |
| 0010            |         |    |         | NORTH END LANE CLOSURE  | 1046                                        | 51                                                           | 102                                                            | 408                                                            | 51                                                    | 230                                         |
| TOTAL 0010      |         |    |         |                         | 16524                                       | 1071                                                         | 1836                                                           | 1352                                                           | 102                                                   | 1836                                        |

| CONSTRUCTION STAKING |         |    |         |          |                                                              |                                                                                         |                                                           |                                                                            |  |
|----------------------|---------|----|---------|----------|--------------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------------------------|--|
| CATEGORY             | STATION | TO | STATION | LOCATION | CONSTRUCTION<br>STAKING PIPE<br>CULVERTS<br>650.6000<br>EACH | CONSTRUCTION<br>STAKING<br>SUPPLEMENTAL<br>CONTROL<br>(01.1112-02-61)<br>650.9910<br>LS | CONSTRUCTION<br>STAKING<br>SLOPE STAKES<br>650.9920<br>LF | SPECIAL<br>(01.CONSTRUCTION<br>STAKING CABLE<br>BARRIER)<br>SPV.0090<br>LF |  |
| 0010                 | 2632+10 | SO | 2645+00 | SO       | -                                                            | -                                                                                       | 500                                                       | 1290                                                                       |  |
| 0010                 | 2646+03 | SO | 2650+03 | SO       | -                                                            | -                                                                                       | -                                                         | 400                                                                        |  |
| 0010                 | 2649+03 | SO | 2669+52 | SO       | -                                                            | -                                                                                       | 300                                                       | 2062                                                                       |  |
| 0010                 | 2670+70 | SO | 2679+57 | SO       | -                                                            | -                                                                                       | 200                                                       | 887                                                                        |  |
| 0010                 | 2763+12 | NO |         | 24' LEFT | 1                                                            | -                                                                                       | -                                                         | -                                                                          |  |
| 0010                 | 2763+65 | NO | 2790+45 | NO       | -                                                            | -                                                                                       | 400                                                       | 2680                                                                       |  |
| 0010                 | 2793+20 | NO | 2823+30 | NO       | -                                                            | -                                                                                       | 1300                                                      | 3001                                                                       |  |
| 0010                 | 2823+94 | NO |         | 24' LEFT | 1                                                            | -                                                                                       | -                                                         | -                                                                          |  |
| 0010                 |         |    |         | PROJECT  | -                                                            | 1                                                                                       | -                                                         | -                                                                          |  |
| TOTAL 0010           |         |    |         |          | 2                                                            | 1                                                                                       | 2700                                                      | 10320                                                                      |  |

|                        |              |               |                          |        |   |
|------------------------|--------------|---------------|--------------------------|--------|---|
| PROJECT NO: 1112-02-61 | HWY: USH 151 | COUNTY: DODGE | MISCELLANEOUS QUANTITIES | SHEET: | E |
|------------------------|--------------|---------------|--------------------------|--------|---|

Standard Detail Drawing List

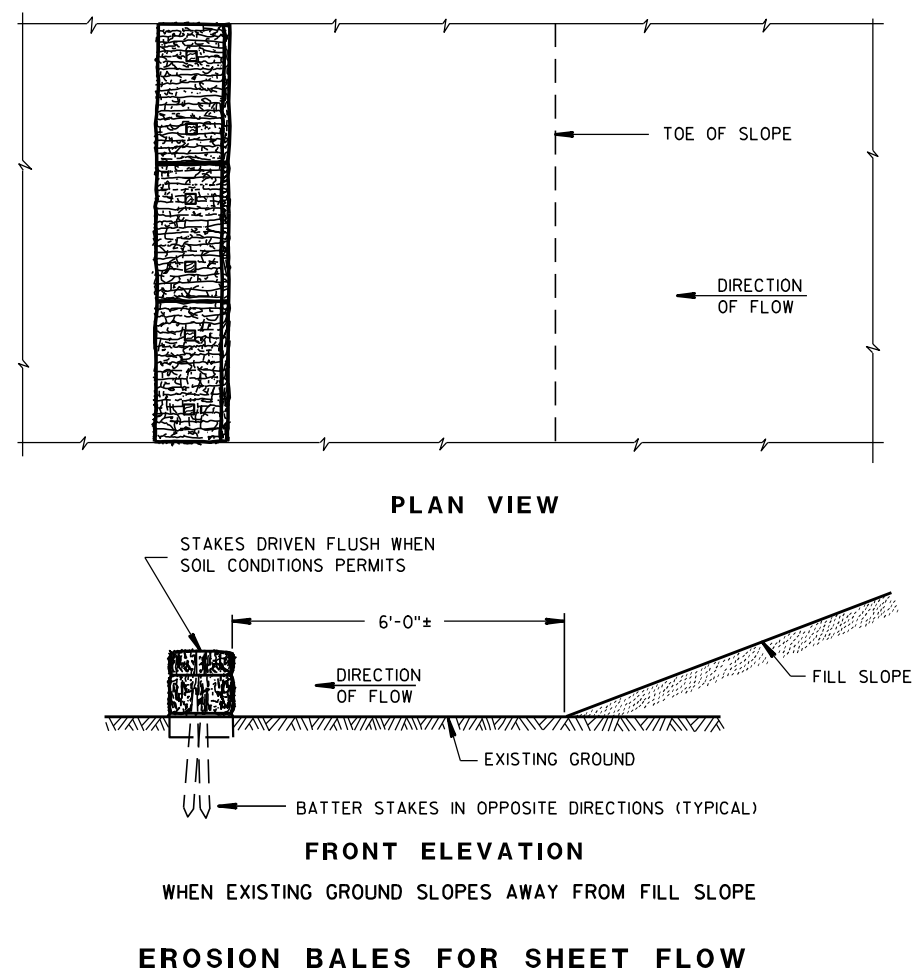
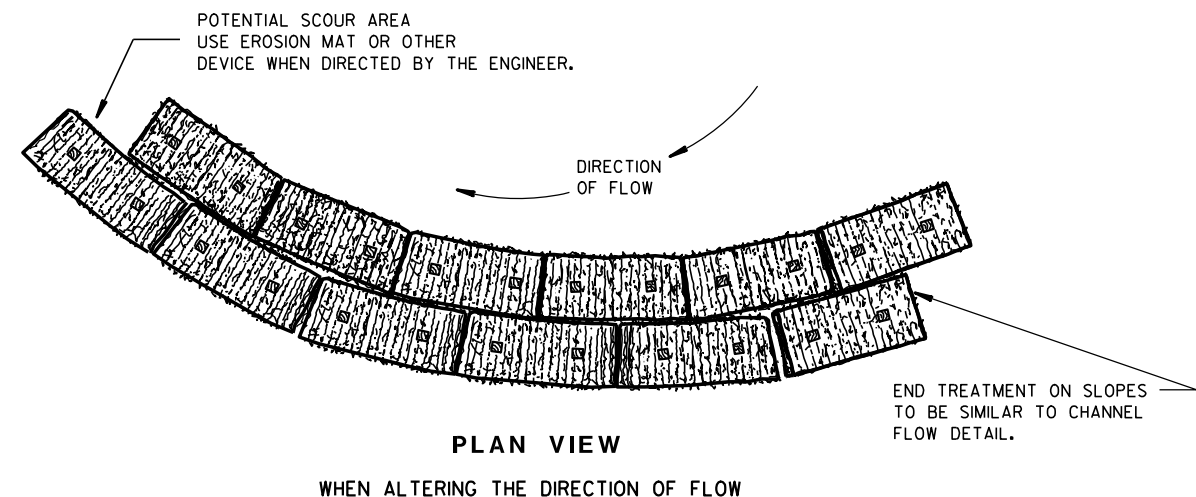
|           |                                                                                  |
|-----------|----------------------------------------------------------------------------------|
| 08E08-03  | TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS                  |
| 08E09-06  | SILT FENCE                                                                       |
| 08E10-02  | INLET PROTECTION TYPE A, B, C AND D                                              |
| 08F04-07  | JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL                          |
| 08F07-05  | STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE FRAINS           |
| 14B52-01A | CABLE BARRIER TYPE 1 LAYOUT                                                      |
| 14B52-01B | CABLE BARRIER TYPE 1 LAYOUT                                                      |
| 15C11-07B | CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS                |
| 15D12-06A | TRAFFIC CONTROL, LANE CLOSURE                                                    |
| 15D15-03D | TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE                       |
| 15D21-04  | TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE                         |
| 15D27-03  | TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH |
| 15D38-02A | TEMPORARY TRAFFIC CONTROL SIGN MOUNTING                                          |
| 15D38-02B | ATTACHMENT OF SIGNS TO POSTS                                                     |



## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

TYPICAL INSTALLATIONS OF  
EROSION BALES / TEMPORARY  
DITCH CHECKS

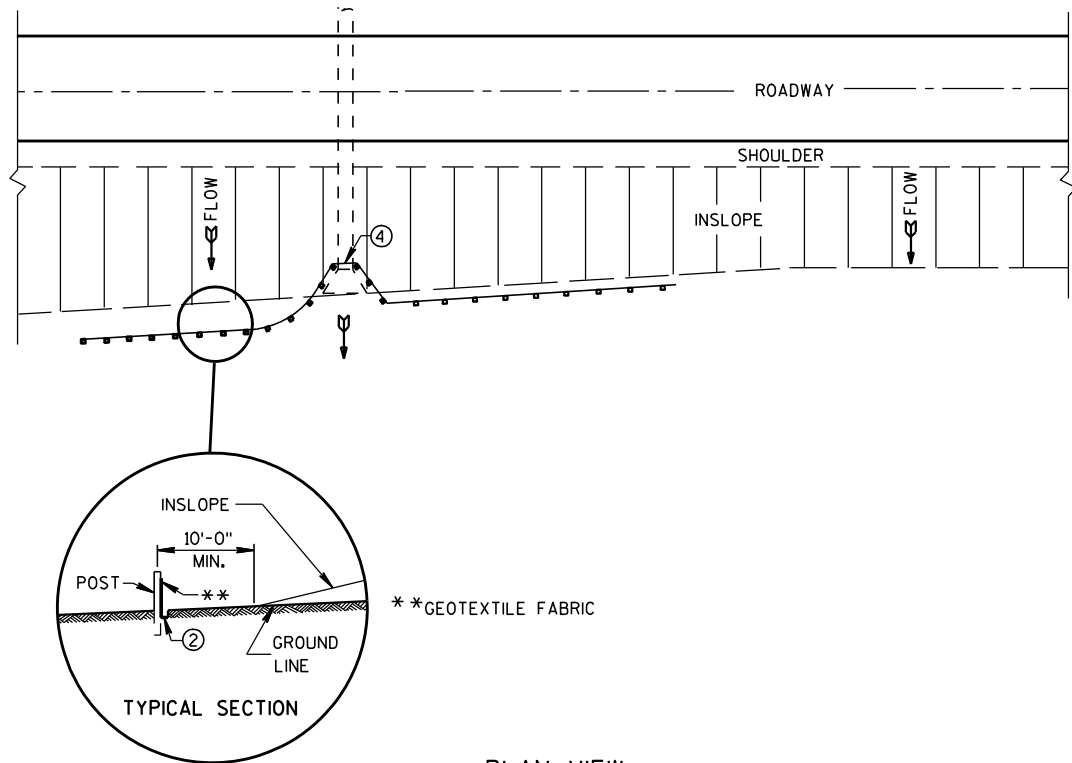
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

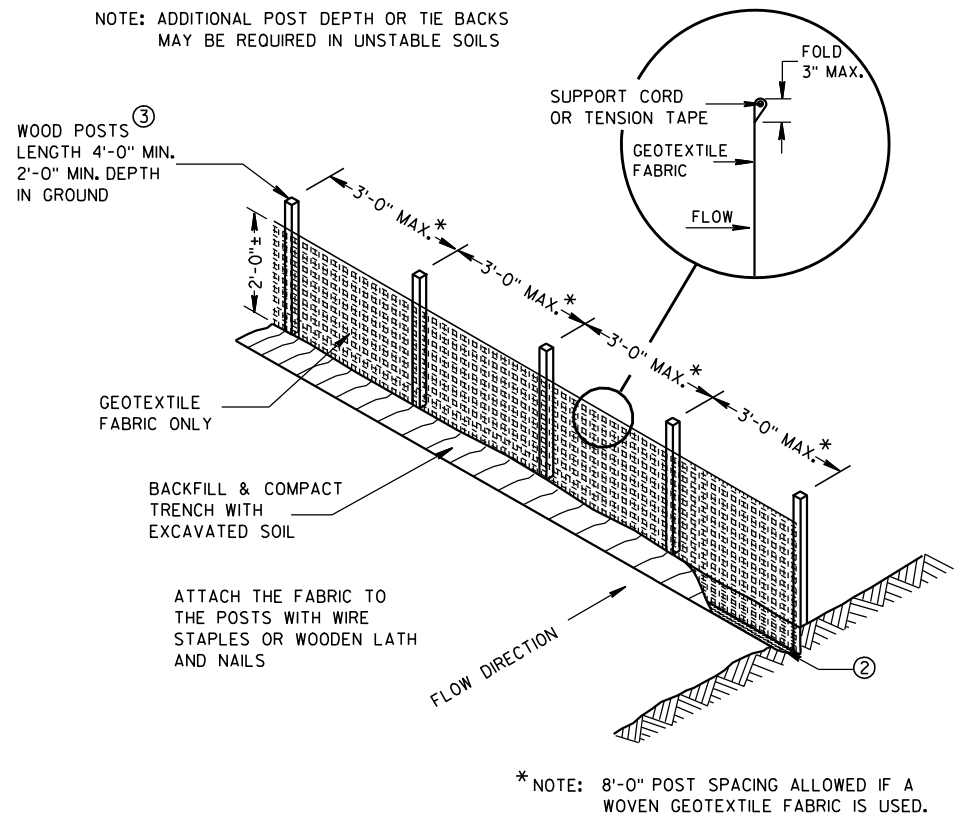
6/04/02  
DATE

FHWA

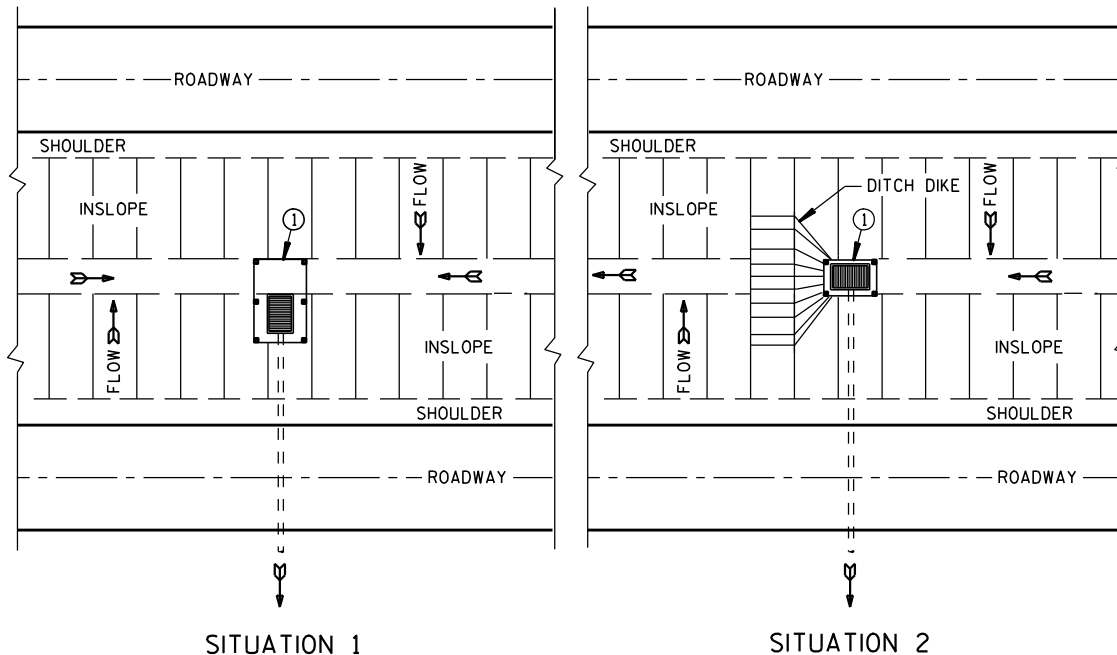
/S/ Beth Canestra  
CHIEF ROADWAY DEVELOPMENT ENGINEER



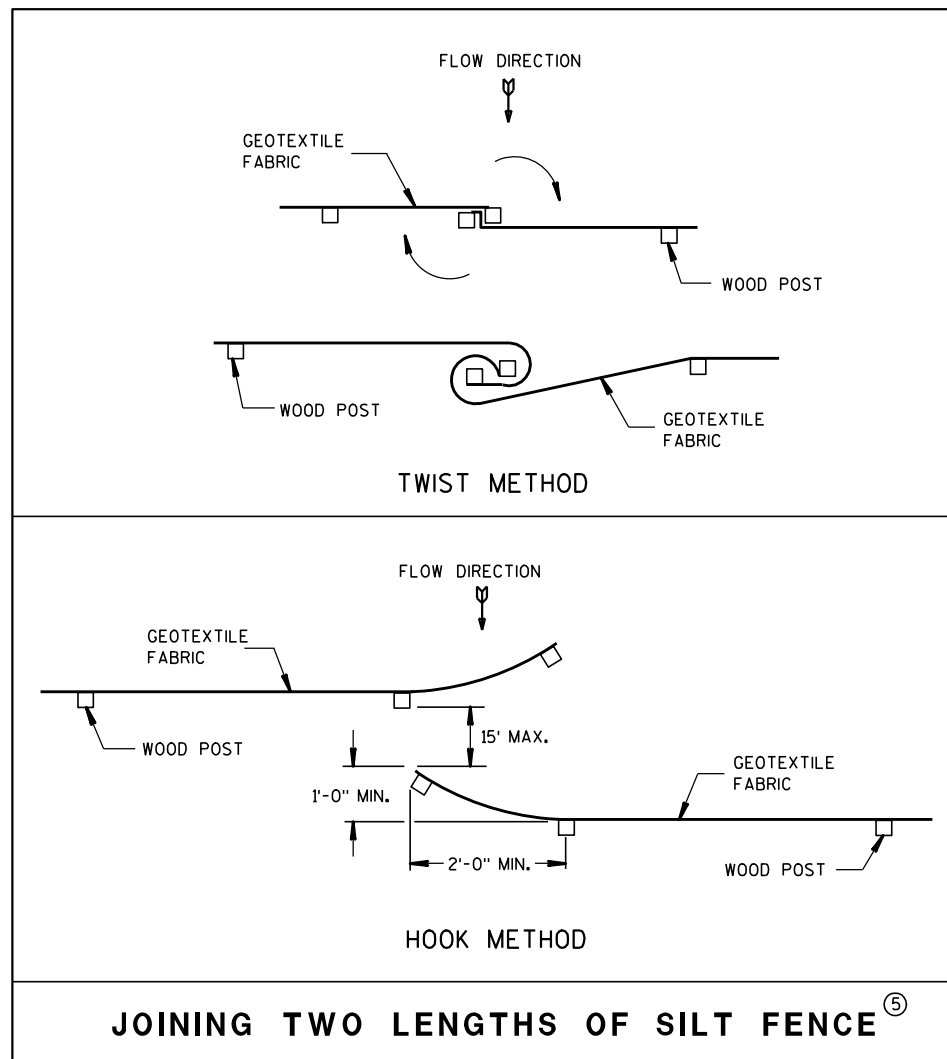
PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

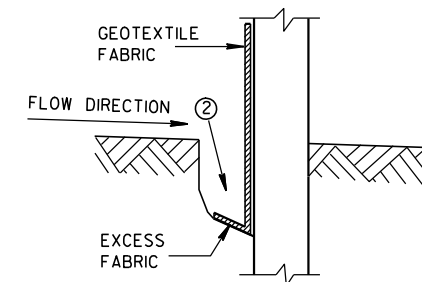


JOINING TWO LENGTHS OF SILT FENCE (5)

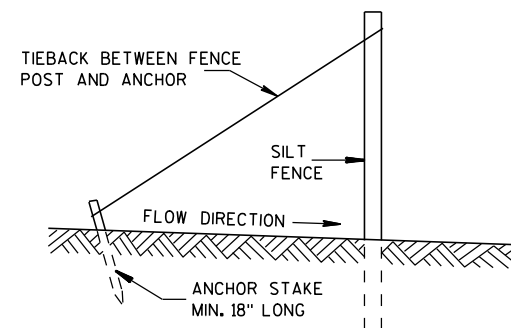
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

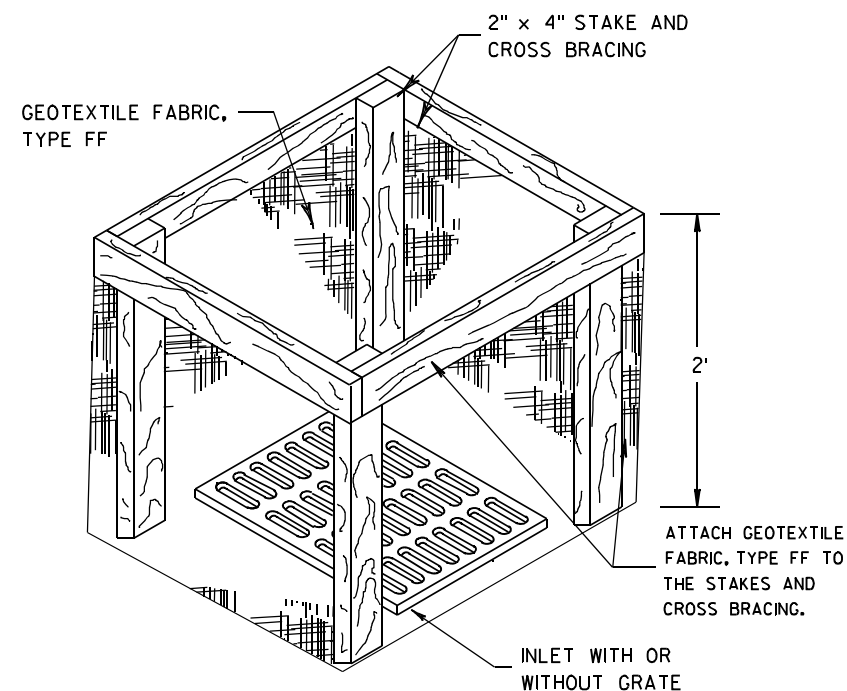
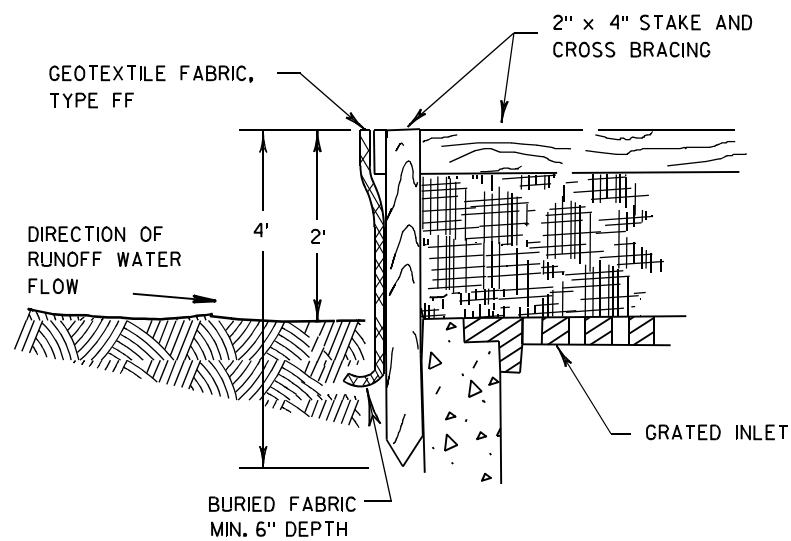


TRENCH DETAIL



SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

| SILT FENCE                                         |                                                         |
|----------------------------------------------------|---------------------------------------------------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                                                         |
| APPROVED<br>4-29-05<br>DATE                        | /S/ Beth Canestra<br>CHIEF ROADWAY DEVELOPMENT ENGINEER |
| FHWA                                               |                                                         |



**INLET PROTECTION, TYPE A**

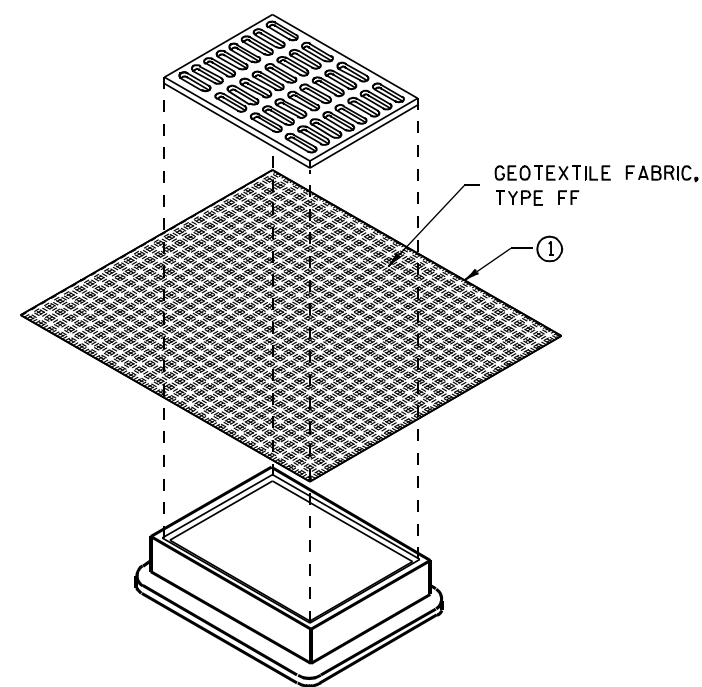
**GENERAL NOTES**

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

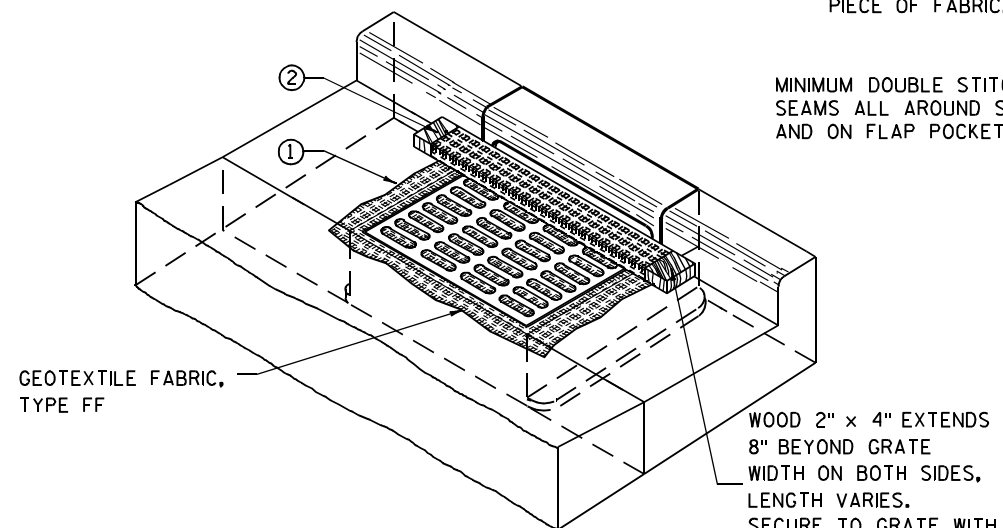
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B  
(WITHOUT CURB BOX)**

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



**INLET PROTECTION, TYPE C (WITH CURB BOX)**

**INSTALLATION NOTES**

**TYPE B & C**

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

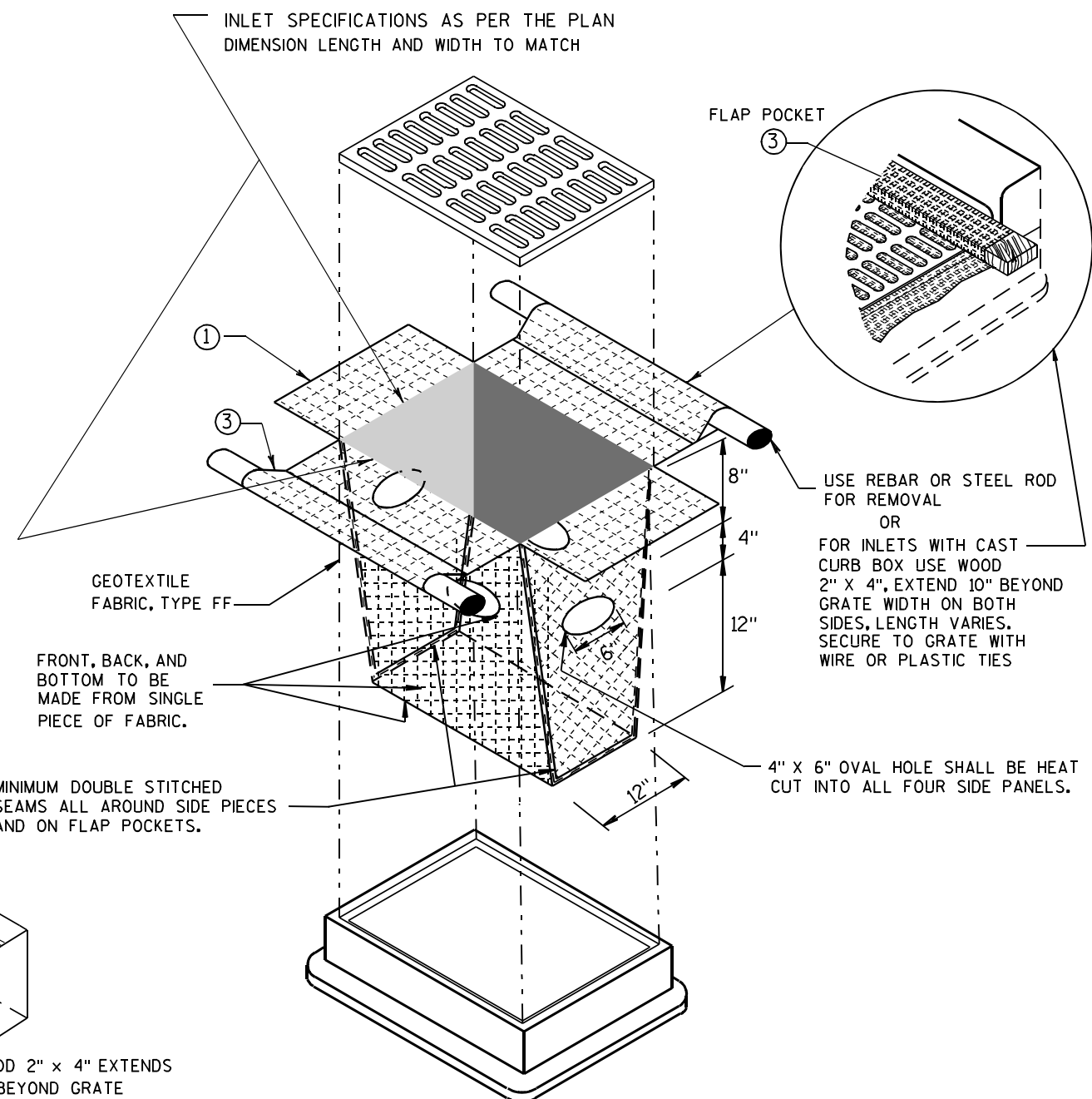
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**TYPE D**

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLower THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



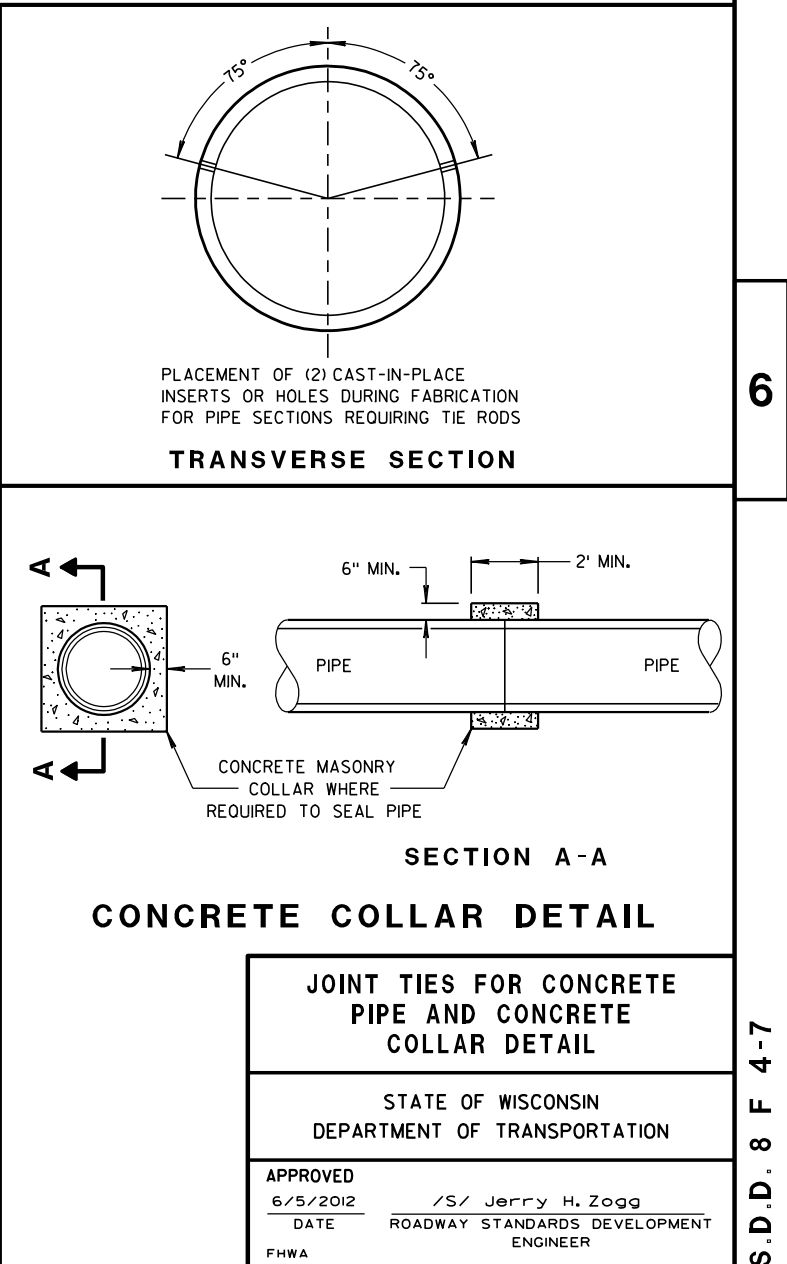
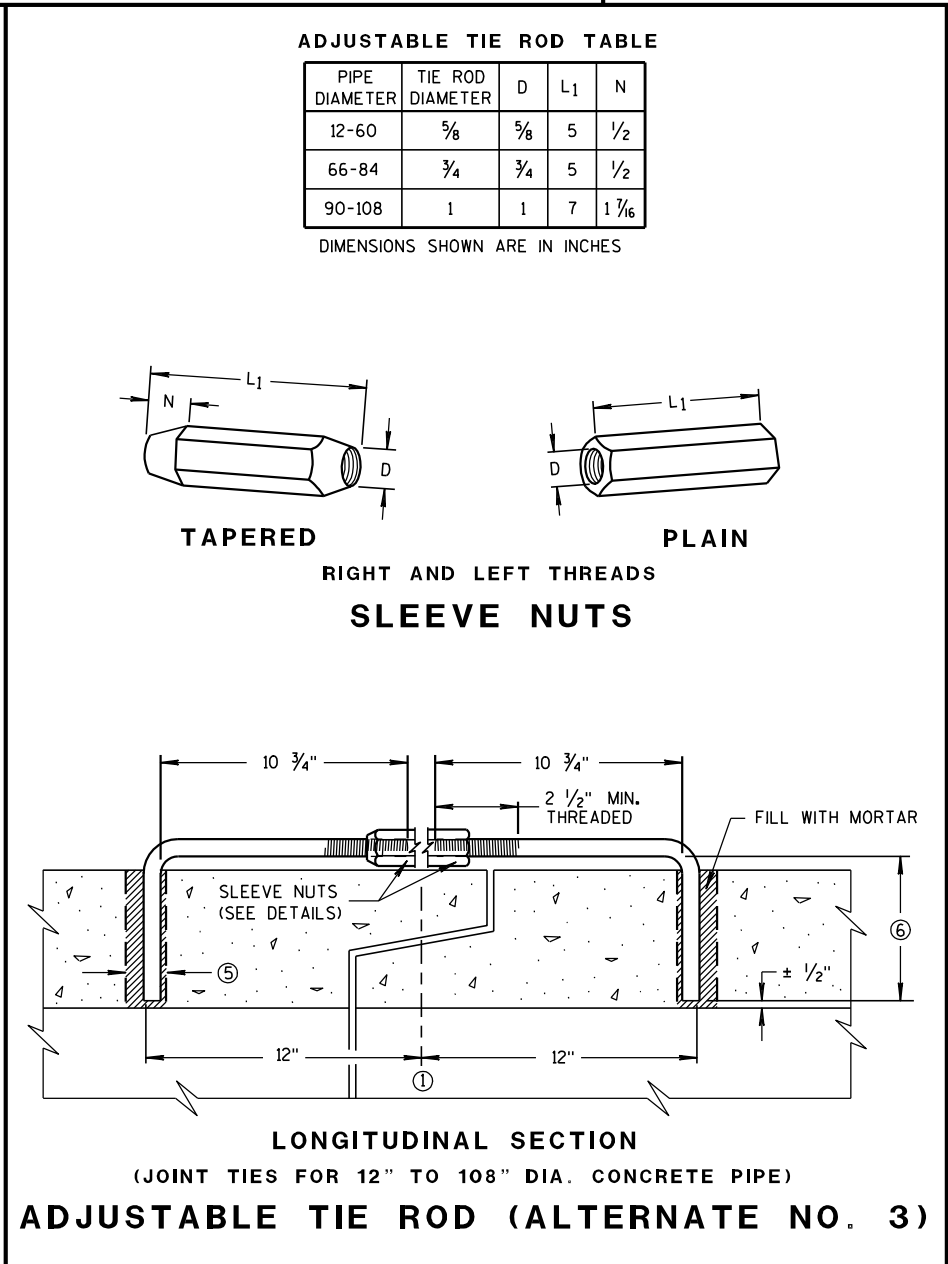
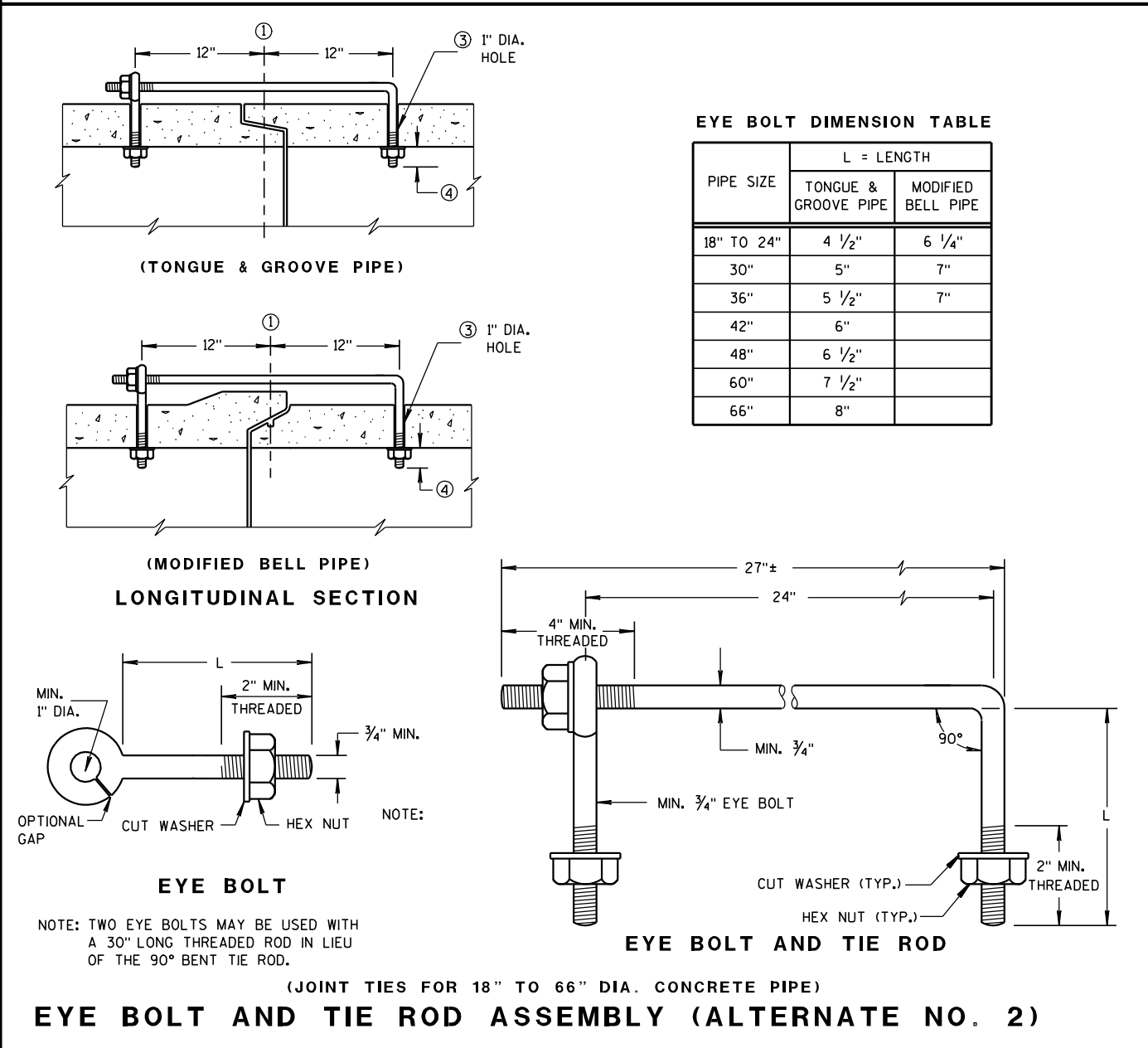
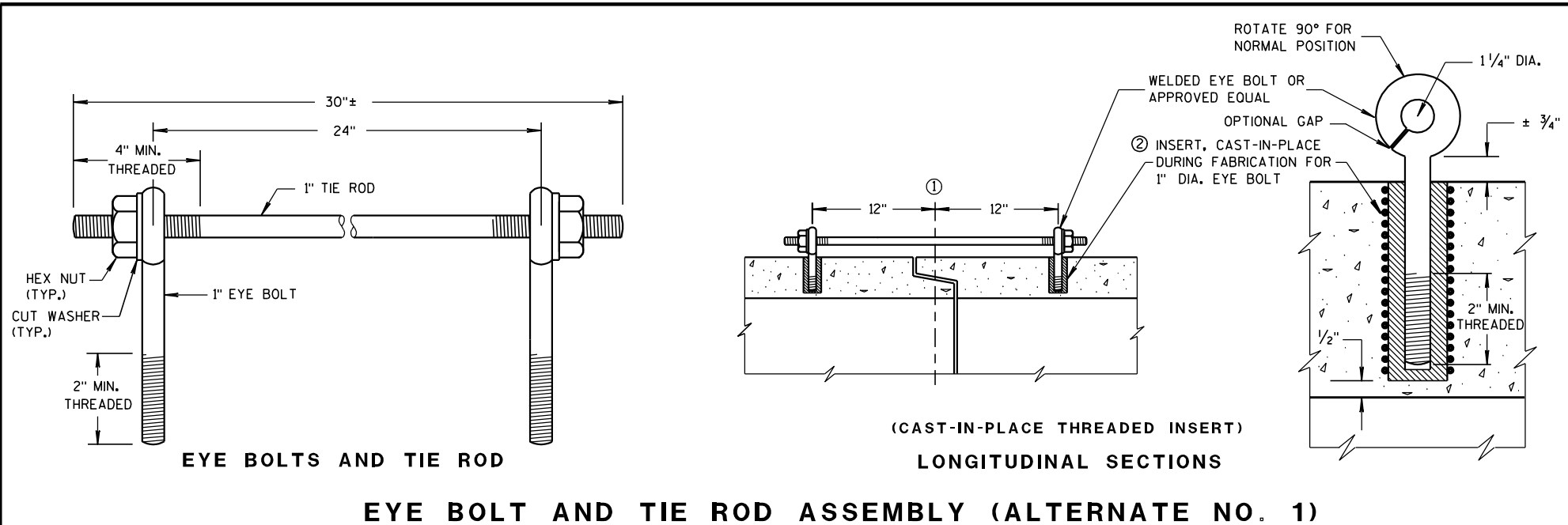
**INLET PROTECTION, TYPE D**

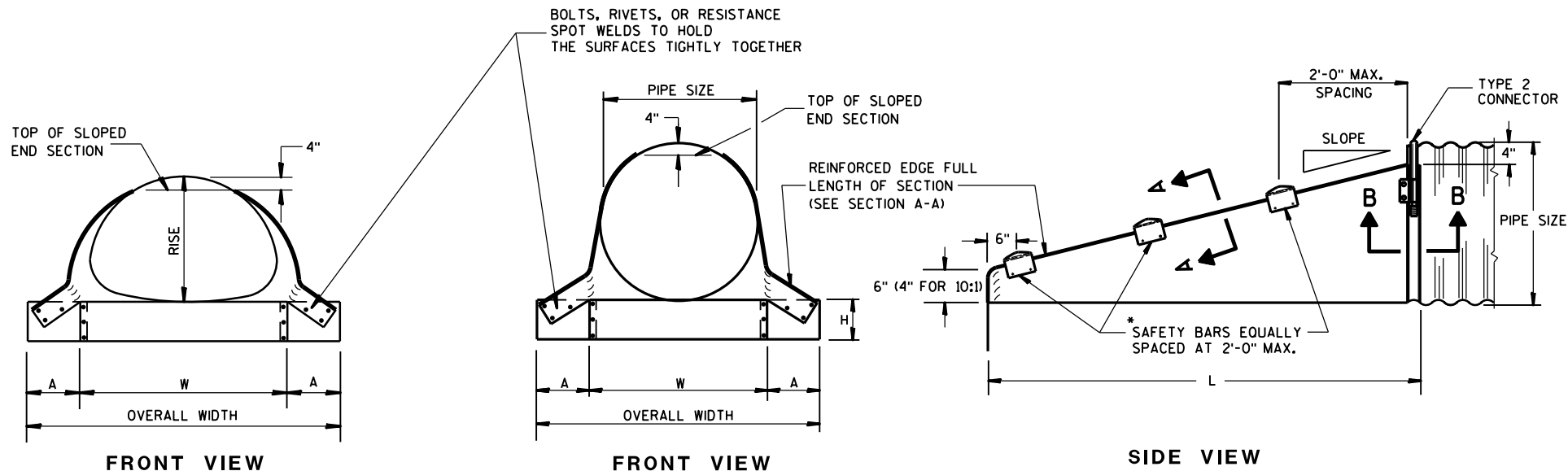
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

**INLET PROTECTION  
TYPE A, B, C, AND D**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
10/16/02 /S/ Beth Cannestra  
DATE  
CHIEF ROADWAY DEVELOPMENT ENGINEER  
FHWA





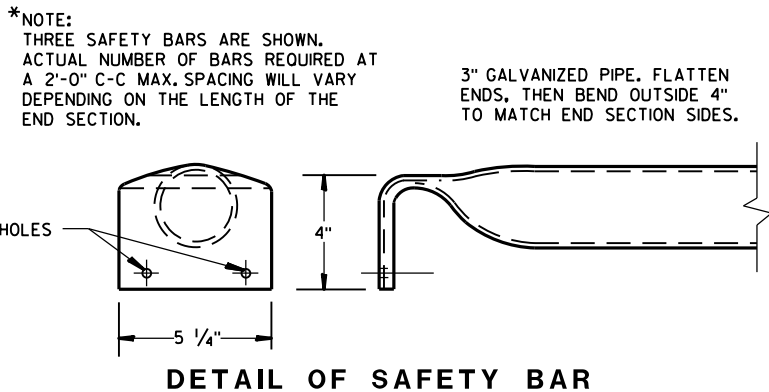
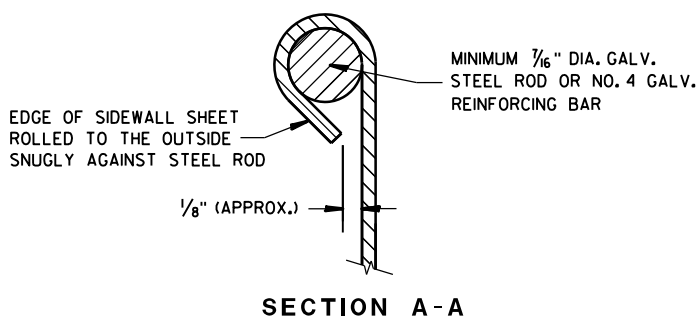
GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

SLOPED END SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, SECTION 521 FOR STEEL APRON ENDWALLS.

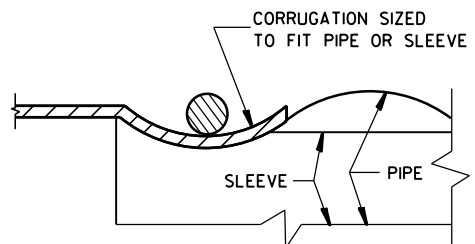
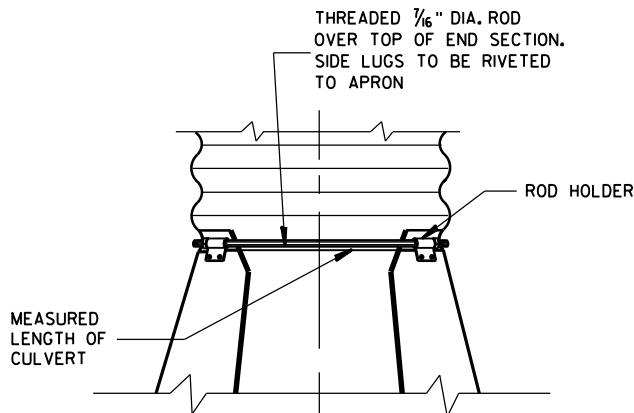
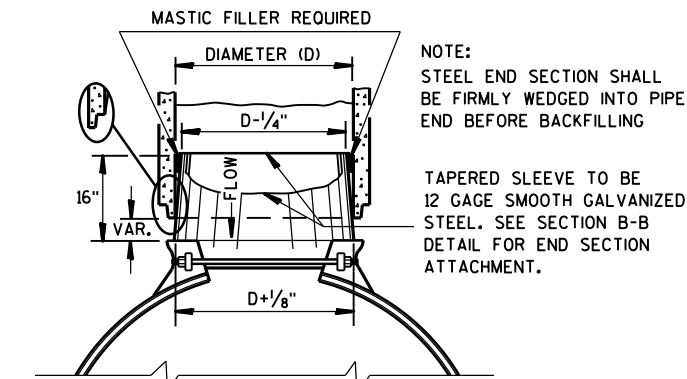
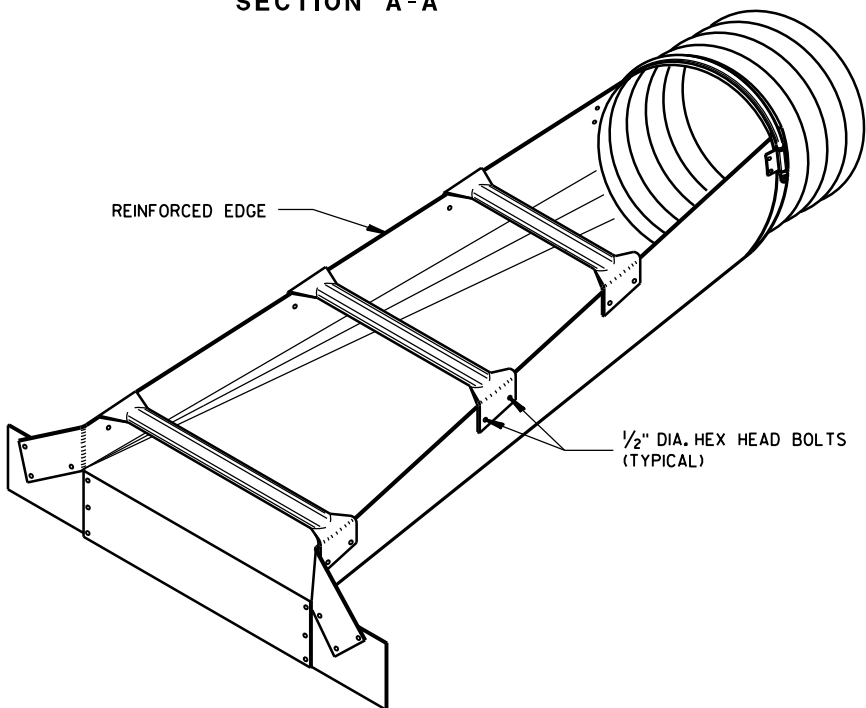
SAFETY BARS SHALL BE FABRICATED FROM GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL.

| STEEL APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS |                      |                     |    |    |               |              |               |       |               |       |               |
|----------------------------------------------------------|----------------------|---------------------|----|----|---------------|--------------|---------------|-------|---------------|-------|---------------|
| PIPE DIA. (IN.)                                          | MIN. THICK. (Inches) | DIMENSIONS (Inches) |    |    |               | L DIMENSIONS |               |       |               |       |               |
|                                                          |                      | A                   | H  | W  | OVERALL WIDTH | SLOPE        | LENGTH INCHES | SLOPE | LENGTH INCHES | SLOPE | LENGTH INCHES |
| 15                                                       | .064                 | 8                   | 6  | 21 | 37            | 4:1          | 20            | 6:1   | 30            | 10:1  | 70            |
| 18                                                       | .064                 | 8                   | 6  | 24 | 40            | 4:1          | 32            | 6:1   | 48            | 10:1  | 100           |
| 21                                                       | .064                 | 8                   | 6  | 27 | 43            | 4:1          | 44            | 6:1   | 66            | 10:1  | 130           |
| 24                                                       | .064                 | 8                   | 6  | 30 | 46            | 4:1          | 56            | 6:1   | 84            | 10:1  | 160           |
| 30                                                       | .109                 | 12                  | 9  | 36 | 60            | 4:1          | 80            | 6:1   | 120           | 10:1  | 220           |
| 36                                                       | .109                 | 12                  | 9  | 42 | 66            | 4:1          | 104           | 6:1   | 156           | 10:1  | 280           |
| 42                                                       | .109                 | 16                  | 12 | 48 | 80            | 4:1          | 128           | 6:1   | 192           | —     | —             |
| 48                                                       | .109                 | 16                  | 12 | 54 | 86            | 4:1          | 152           | 6:1   | 228           | —     | —             |
| 54                                                       | .109                 | 16                  | 12 | 60 | 92            | 4:1          | 176           | 6:1   | 264           | —     | —             |
| 60                                                       | .109                 | 16                  | 12 | 66 | 98            | 4:1          | 200           | 6:1   | 300           | —     | —             |



| STEEL APRON ENDWALLS FOR PIPE ARCH<br>SLOPED SIDE DRAINS |          |      |                              |                     |    |    |                  |              |                  |       |                  |        |                  |
|----------------------------------------------------------|----------|------|------------------------------|---------------------|----|----|------------------|--------------|------------------|-------|------------------|--------|------------------|
| EQUIV.<br>DIA.<br>(inches)                               | (inches) |      | MIN. THICK.<br>(inches)<br>① | DIMENSIONS (inches) |    |    |                  | L DIMENSIONS |                  |       |                  |        |                  |
|                                                          | SPAN     | RISE |                              | A                   | H  | W  | OVERALL<br>WIDTH | SLOPE        | LENGTH<br>INCHES | SLOPE | LENGTH<br>INCHES | SLOPE  | LENGTH<br>INCHES |
|                                                          |          |      |                              |                     |    |    |                  |              |                  |       |                  |        |                  |
| 15                                                       | 17       | 13   | .064 *                       | 7                   | 6  | 30 | 44               | 4:1          | 19               | 6:1   | 30               | 10:1 ② | 70               |
| 18                                                       | 21       | 15   | .064 *                       | 8                   | 6  | 27 | 43               | 4:1          | 20               | 6:1   | 30               | 10:1   | 70               |
| 21                                                       | 24       | 18   | .064 *                       | 8                   | 6  | 30 | 46               | 4:1          | 32               | 6:1   | 48               | 10:1   | 100              |
| 24                                                       | 28       | 20   | .064 *                       | 8                   | 6  | 34 | 50               | 4:1          | 40               | 6:1   | 60               | 10:1   | 120              |
| 30                                                       | 35       | 24   | .079 *                       | 12                  | 9  | 41 | 65               | 4:1          | 56               | 6:1   | 84               | 10:1   | 160              |
| 36                                                       | 42       | 29   | .109 *                       | 12                  | 9  | 48 | 72               | 4:1          | 76               | 6:1   | 114              | 10:1   | 210              |
| 42                                                       | 49       | 33   | .109                         | 16                  | 12 | 55 | 87               | 4:1          | 92               | 6:1   | 138              | —      | —                |
| 48                                                       | 57       | 38   | .109                         | 16                  | 12 | 63 | 95               | 4:1          | 112              | 6:1   | 168              | —      | —                |
| 54                                                       | 64       | 43   | .109                         | 16                  | 12 | 70 | 102              | 4:1          | 132              | 6:1   | 198              | —      | —                |

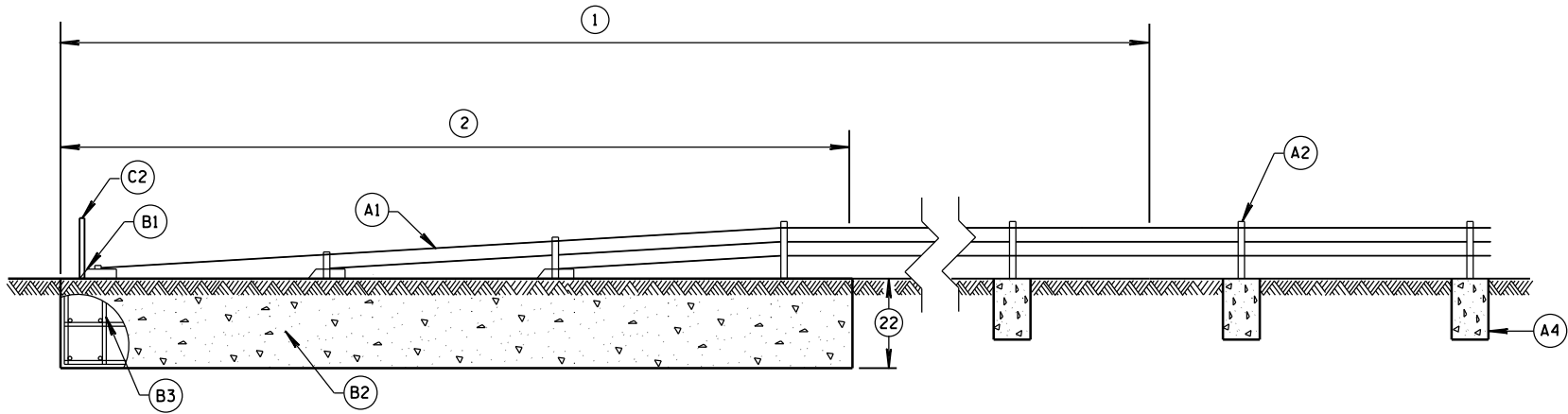
- ① \* MINIMUM THICKNESS OF ALL 10:1 SLOPED SIDE DRAINS IS 0.109".  
② ACTUAL SLOPE GREATER THAN 10:1.



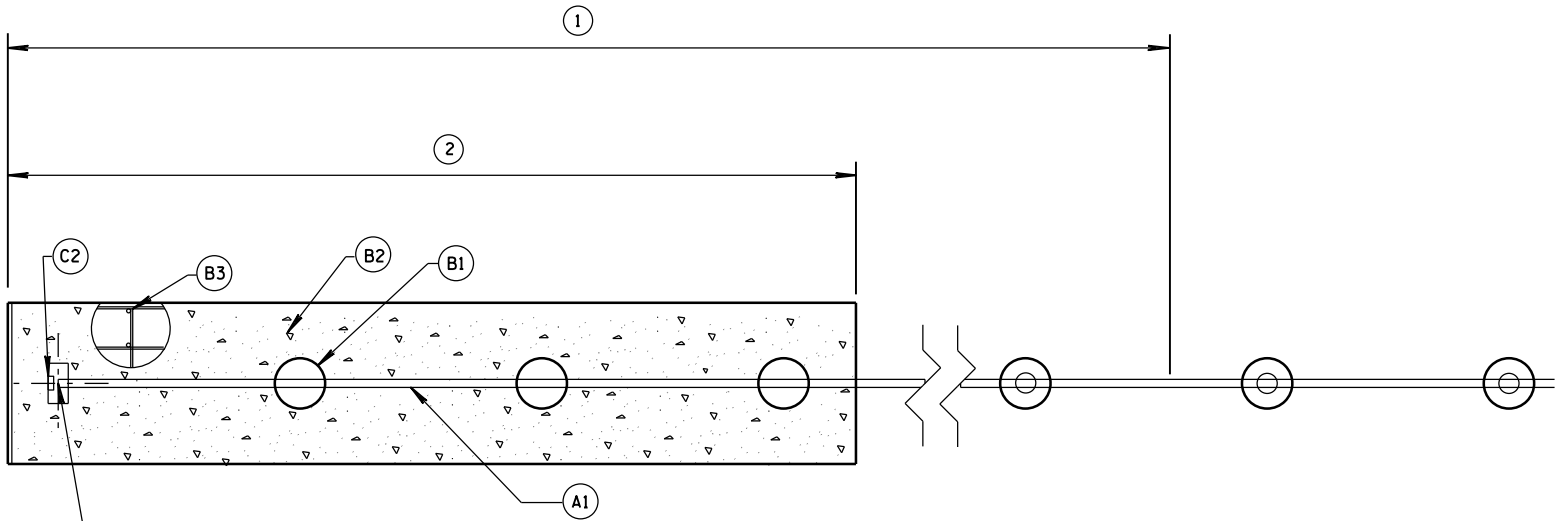
STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
9/14/2012 /S/ Jerry H. Zogg  
DATE ROADWAY STANDARDS DEVELOPMENT  
FHWA ENGINEER

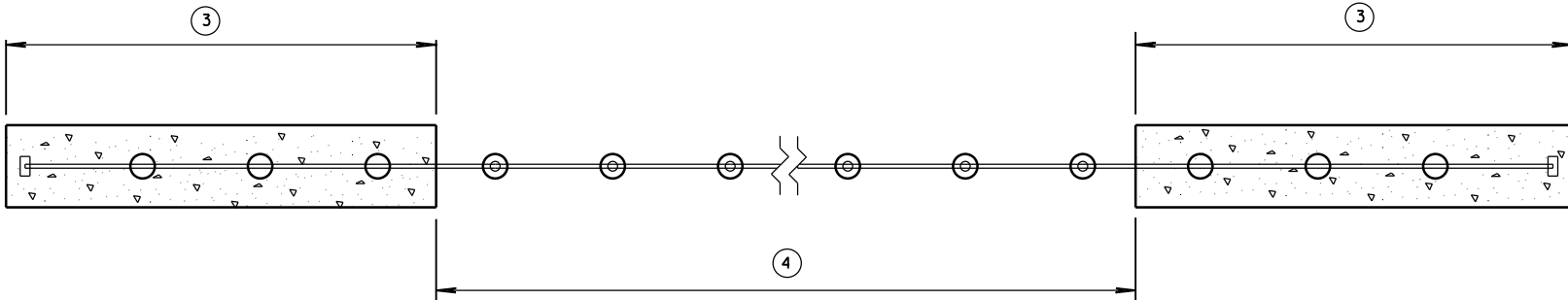


PROFILE VIEW



PLAN VIEW

TRANSITION FROM CABLE BARRIER  
TERMINAL TO CABLE BARRIER LINE POSTS



TYPICAL PLAN VIEW

GENERAL NOTES

- DRAWINGS ARE GENERAL IN NATURE. SEE MANUFACTURER'S INFORMATION FOR MORE DETAIL.
- PROVIDE 2 INCH CLEAR COVER FROM OUTER EDGE OF CONCRETE FOOTINGS TO REINFORCEMENT.
- INSTALL LINE POST PLUMB. LINE POSTS ARE TO BE EASILY REMOVED BY HAND AND HOLD CABLES AT THE PROPER ELEVATION.
- PROVIDE CABLE BARRIER SYSTEM FROM APPROVED PRODUCT LIST.
- PROVIDE A SYSTEM TO HAVE THE WORKING WIDTH INDICTED IN PLAN.
- PROVIDE DOCUMENTATION HOW POST SPACING, RADIUS OF CURVE AND ANCHOR SPACING INFLUENCES WORKING WIDTH TO CONSTRUCTION STAFF.
- PROVIDE A WISCONSIN PROFESSIONAL ENGINEERS STAMPED ANALYSIS THAT THE LINE POST AND CABLE BARRIER END TERMINAL FOOTINGS ARE DESIGNED FOR THE SOIL CONDITIONS PRESENT. THE WISCONSIN P.E. STAMP ANALYSIS IS TO INCLUDE, BUT IS NOT LIMITED TO: DESIGN IMPACT LOADS, FOUNDATION DEISGN METHODOLOGY USED, FACTORS OF SAFETY, SOIL TYPE, SOIL CONDITIONS, AND TEMPERATURE RANGES.
- DESIGN LINE POST FOOTINGS SO THAT LINE POST FOOTING MOVE LESS THAN 1 INCH WHEN LINE POST IS IMPACTED BY A TL-3 SMALL CAR.

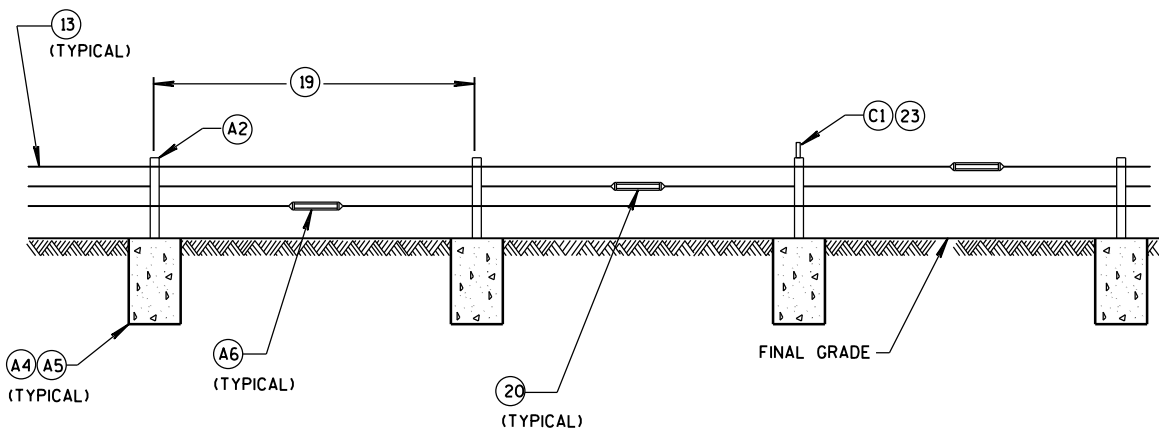
BILL OF MATERIALS

| PART NUMBER | QTY.            | DESCRIPTION                                     | MATERIALS SPECIFICATIONS                                                                                                                                                                                            |
|-------------|-----------------|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A1          | 3 OR 4          | 3/4" 3x7 PRESTRECHED GALVANIZED STEEL WIRE ROPE | ASTM A741 MIN. BREAKING STRENGTH 39,000 LBS.                                                                                                                                                                        |
|             |                 |                                                 | AASHTO M30 TYPE 1 CLASS A (GALVANATION).                                                                                                                                                                            |
| A2          | 1 PER LINE POST | GALVANIZED REMOVABLE STEEL LINE POST            | MINIMUM WIRE ROPE MODULUS OF ELASTICITY OF 19,000 PSI ACCORDING TO ISO 12067-202 WIRE ROPE MODULUS OF ELASTICITY "INITIAL" (AS MANUFACTURED), WITH NO BEDDING OR PRESTRECHING OF THE ROPE PERMITTED DURING TESTING. |
|             |                 |                                                 | SEE MANUFACTURER'S INFORMATION ON DIMENSIONS AND MATERIAL REQUIREMENTS.                                                                                                                                             |
| A3          | 1 PER LINE POST | GALVANIZED METAL SLEEVE                         | ASTM A123 (GALVANIZATION).                                                                                                                                                                                          |
|             |                 |                                                 | SEE MANUFACTURER'S INFORMATION ON DIMENSIONS AND MATERIAL REQUIREMENTS.                                                                                                                                             |
| A4          | VARIES          | CONCRETE FOR LINE POST FOOTING                  | A, A-FA.A-T, OR A-IP OF STANDARD SPECIFICATION 501.2 OR AS MANUFACTURER SPECIFIES.                                                                                                                                  |
|             |                 |                                                 | STANDARD SPECIFICATION 716 OMP FOR CLASS II ANCILLARY CONCRETE.                                                                                                                                                     |
| A5          | VARIES          | EPOXY COATED STEEL REINFORCEMENT                | SEE MANUFACTURER'S INFORMATION ON DIMENSIONS.                                                                                                                                                                       |
|             |                 |                                                 | STANDARD SPECIFICATION 505.                                                                                                                                                                                         |
| A6          | VARIES          | TURNBUCKLES AND OTHER CABLE CONNECTING HARDWARE | SEE MANUFACTURER'S INFORMATION ON DIMENSIONS.                                                                                                                                                                       |
|             |                 |                                                 | MINIMUM BREAKING STRENGTH OF TURNBUCKLES AND CONNECTION HARDWARE IS EQUAL TO CABLE.                                                                                                                                 |
| B1          | VARIES          | CABLE CONNECTION TO CABLE BARRIER END TERMINAL  | TURNBUCKLES AND OTHER CABLE CONNECTION HARDWARE IS FIELD SWAGED PER MANUFACTURER'S RECOMMENDATIONS AND DETAILS.                                                                                                     |
|             |                 |                                                 | SEE MANUFACTURER'S INFORMATION ON DIMENSIONS AND MATERIAL REQUIREMENTS.                                                                                                                                             |
| B2          | VARIES          | CONCRETE FOR CABLE BARRIER END TERMINAL         | A, A-FA.A-T, OR A-IP OF STANDARD SPECIFICATION 501.2.                                                                                                                                                               |
|             |                 |                                                 | STANDARD SPECIFICATION 716 OMP FOR CLASS II ANCILLARY CONCRETE.                                                                                                                                                     |
| B3          | VARIES          | EPOXY COATED STEEL REINFORCEMENT                | SEE MANUFACTURER'S INFORMATION ON DIMENSIONS.                                                                                                                                                                       |
|             |                 |                                                 | STANDARD SPECIFICATION 505.                                                                                                                                                                                         |
| C1          | VARIES          | LINE POST DELINEATOR                            | REFLECTIVE SHEETING TYPE SH.                                                                                                                                                                                        |
|             |                 |                                                 | SEE APPROVE PRODUCT LIST YELLOW.                                                                                                                                                                                    |
| C2          | VARIES          | CABLE BARRIER END TERMINAL DELINEATOR           | REFLECTIVE SHEETING TYPE SH.                                                                                                                                                                                        |
|             |                 |                                                 | SEE APPROVE PRODUCT LIST OBJECT MARKER TYPE 3 PATTERN.                                                                                                                                                              |

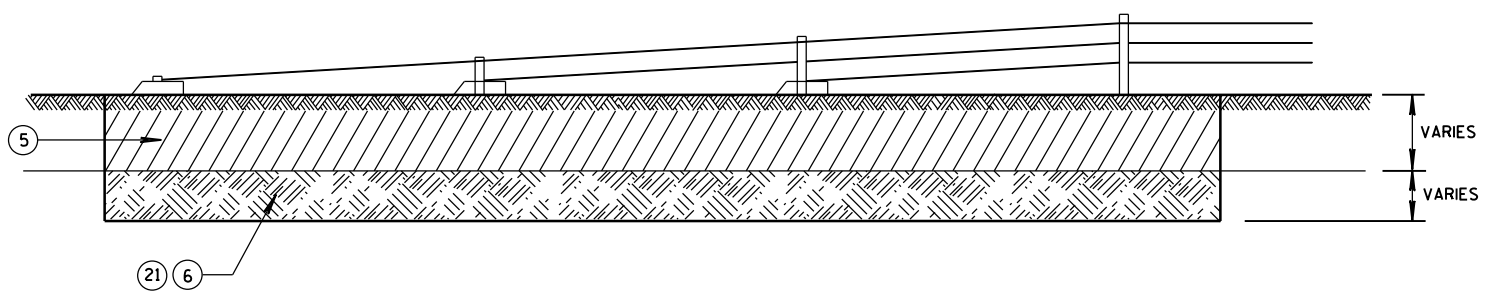
- 1 LOCATION OF LENGTH OF NEED POINT FOR CABLE BARRIER END TERMINAL VARIES. (SEE MANUFACTURER'S INFORMATION)
- 2 PAY LIMIT FOR CABLE BARRIER END TERMINAL. LENGTH OF CABLE BARRIER END TERMINAL VARIES. (SEE MANUFACTURER'S INFORMATION)
- 3 CABLE BARRIER END TERMINAL
- 4 CABLE BARRIER AND LINE POSTS

CABLE BARRIER TYPE 1  
LAYOUT

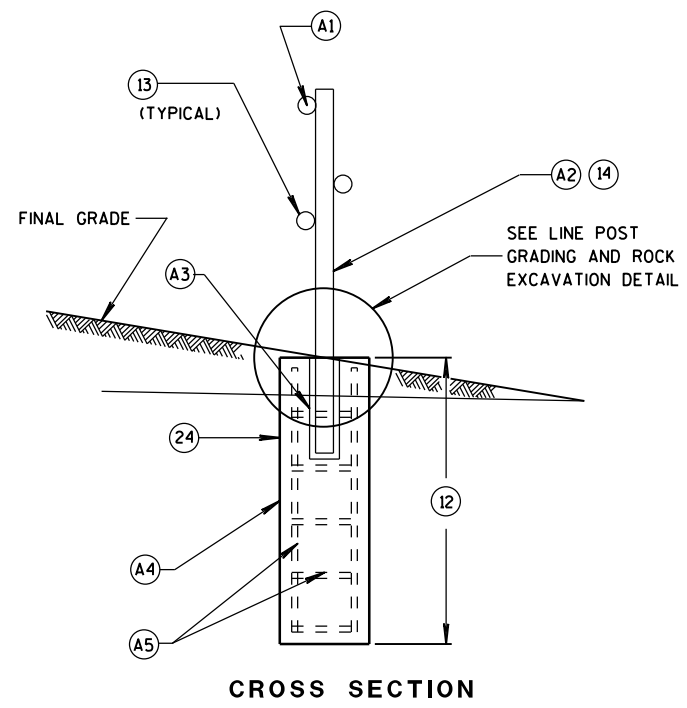
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



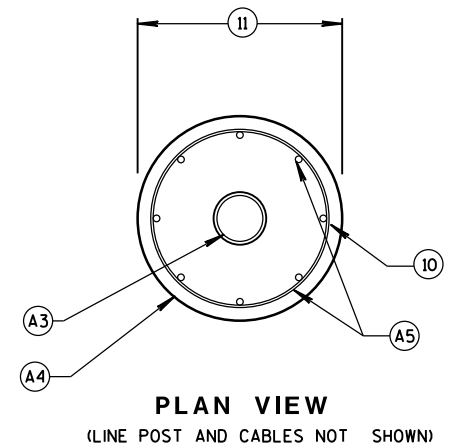
**PROFILE VIEW  
LINE POST INSTALLATION**



**CABLE BARRIER END  
TERMINAL ROCK EXCAVATION DETAIL**



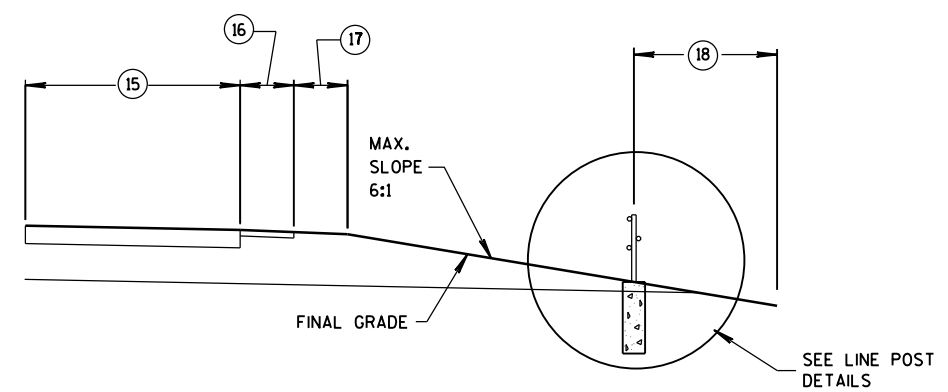
**CROSS SECTION**



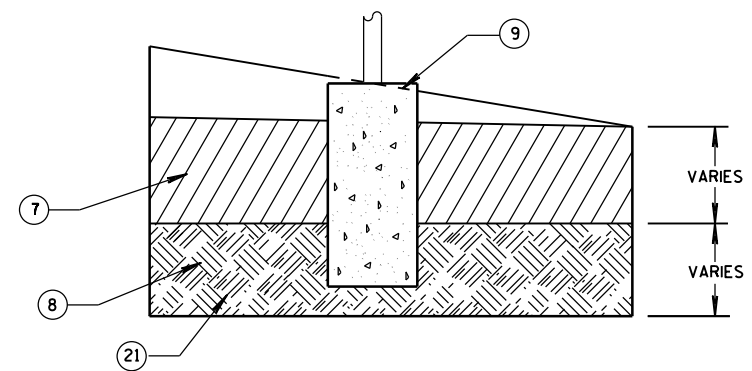
**PLAN VIEW  
(LINE POST AND CABLES NOT SHOWN)**

**LINE POST DETAILS**

- (5) SOIL TO BE EXCAVATED FOR CABLE BARRIER END TERMINAL (VARIES).
- (6) ROCK TO BE EXCAVATED FOR CABLE BARRIER END TERMINAL (VARIES).
- (7) SOIL TO BE EXCAVATED FOR LINE POST (VARIES).
- (8) ROCK TO BE EXCAVATED FOR LINE POST (VARIES).
- (9) EXCAVATE AND GRADE LINE FOR LINE POST FOOTINGS. INSTALL LINE POST FOOTING TO MINIMIZE 4 INCH TALL OBJECT ON 5 FOOT CHORD.
- (10) 2 INCHES OF CLEAR COVER FROM EDGE OF CONCRETE TO REINFORCEMENT.
- (11) DIAMETER OF LINE POST FOOTING VARIES. SEE MANUFACTURER'S INFORMATION.
- (12) MINIMUM DEPTH OF LINE POST FOOTING IS 48 INCHES IN SOIL. DEEPER FOOTINGS PER MANUFACTURER'S RECOMMENDATION ARE ACCEPTABLE.
- (13) NUMBER AND LOCATION OF CABLES VARY. SEE MANUFACTURER'S INFORMATION.
- (14) LINE POST DIMENSIONS AND CONNECTION HARDWARE VARY. SEE MANUFACTURER'S INFORMATION.
- (15) LANE OF ROADWAY (VARIES). SEE PLAN FOR MORE INFORMATION.
- (16) PAVED SHOULDER (VARIES). SEE PLAN FOR MORE INFORMATION.
- (17) GRAVEL SHOULDER (VARIES). SEE PLAN FOR MORE INFORMATION.
- (18) CABLE BARRIER OFFSET FROM CENTERLINE OF MEDIAN DITCH (8 FOOT MINIMUM). SEE PLAN FOR MORE INFORMATION.
- (19) MAXIMUM POST SPACING IS 15 FEET.
- (20) STAGGER TURNBUCKLES (TYPICAL).
- (21) SEE MANUFACTURER'S DESIGN WHEN ROCK IS ENCOUNTERED.
- (22) IN SOIL MINIMUM DEPTH OF CABLE BARRIER END TERMINAL FOOTING IS 60 INCHES. DEEPER FOOTINGS PER MANUFACTURER'S RECOMMENATION ARE ACCEPTABLE.
- (23) LINE POST DELINEATOR SPACING IS 100 FEET.
- (24) LINE POST FOOTINGS ARE REQUIRED TO HAVE LESS THAN 1 INCH OF MOVEMENT WHEN LINE POST IS IMPACTED BY A NCHRP 350 SMALL CAR UNDER TL-3 TEST CONDITIONS.

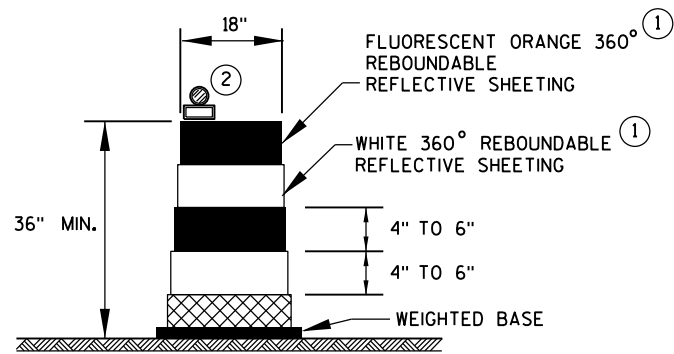


**CABLE BARRIER OFFSET FROM DITCH LINE**

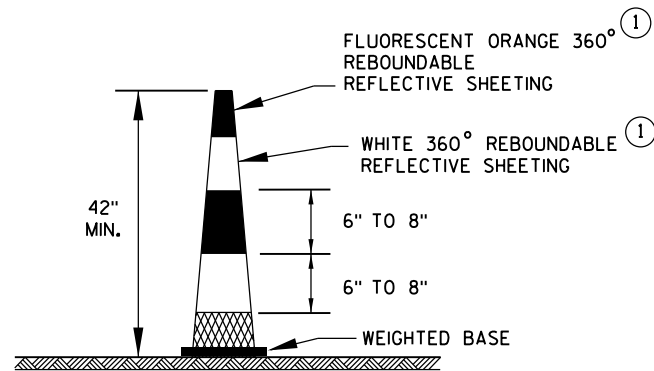


**LINE POST GRADING  
AND ROCK EXCAVATION DETAIL**

|                                                    |                                                                |
|----------------------------------------------------|----------------------------------------------------------------|
| <b>CABLE BARRIER TYPE 1<br/>LAYOUT</b>             |                                                                |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                                                                |
| APPROVED<br>June, 2015<br>DATE                     | /S/ Jerry H. Zogg<br>ROADWAY STANDARDS DEVELOPMENT<br>ENGINEER |
| FHWA                                               |                                                                |



**DRUM**

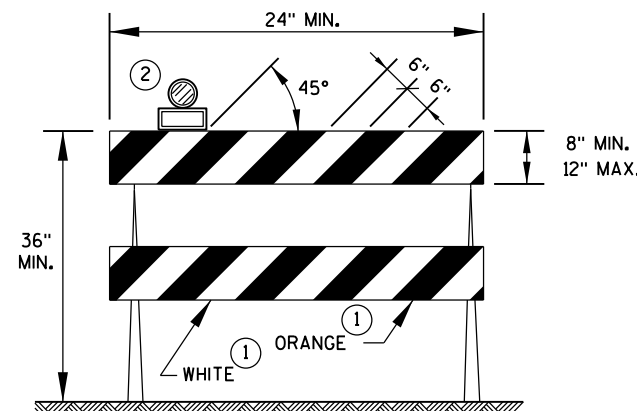


**42" CONE**

DO NOT USE IN TAPERS  
1/2 SPACING OF DRUMS

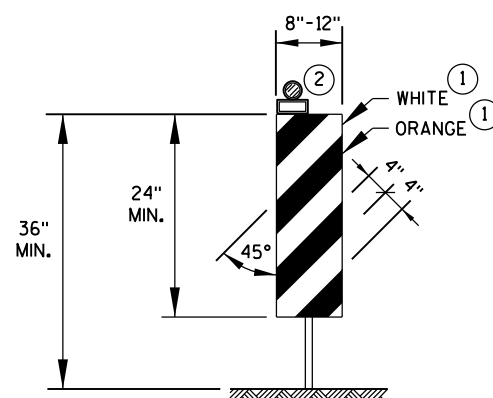
**GENERAL NOTES**

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



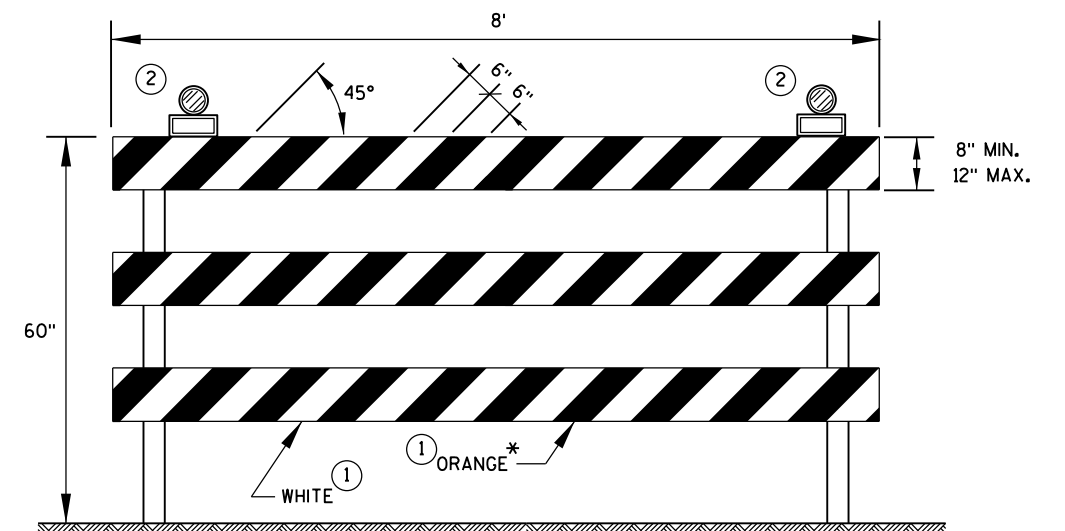
**TYPE 2 BARRICADE**

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED.  
ALL STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



**VERTICAL PANEL**

THE STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



**TYPE 3 BARRICADE**

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

\* IF USED FOR A PERMANENT APPLICATION, USE RED SHEETING.

CHANNELIZING DEVICES  
DRUMS, CONES, BARRICADES  
AND VERTICAL PANELS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017  
DATE

FHWA

/S/ Andrew Heidtke  
WORK ZONE ENGINEER

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMENENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"W0" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

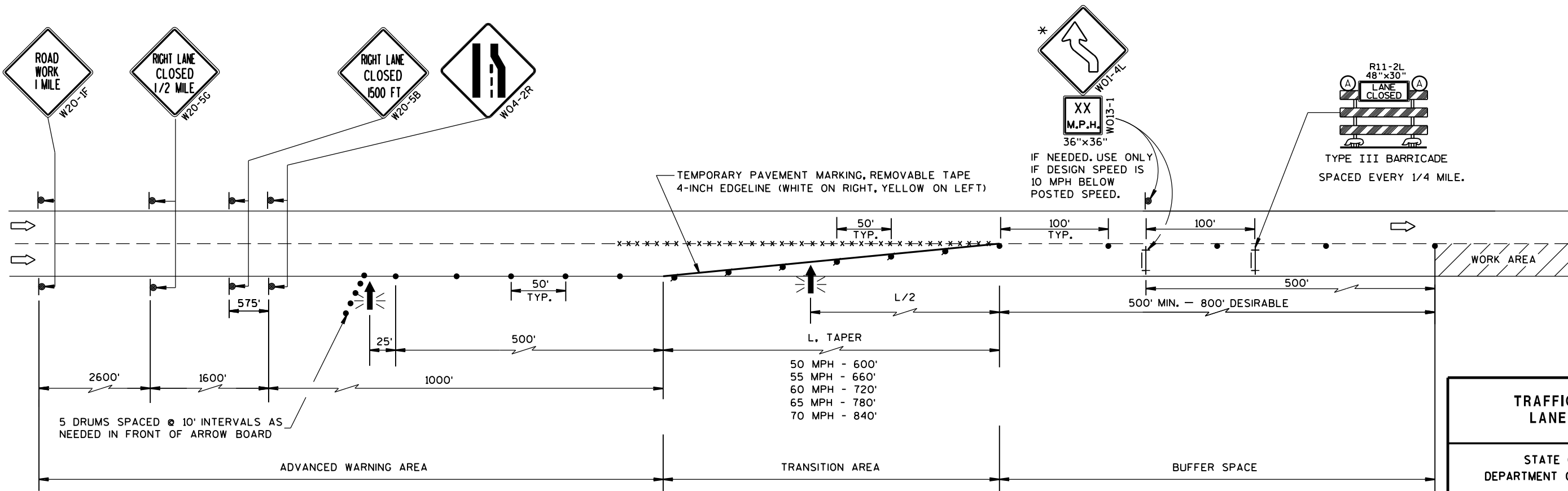
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

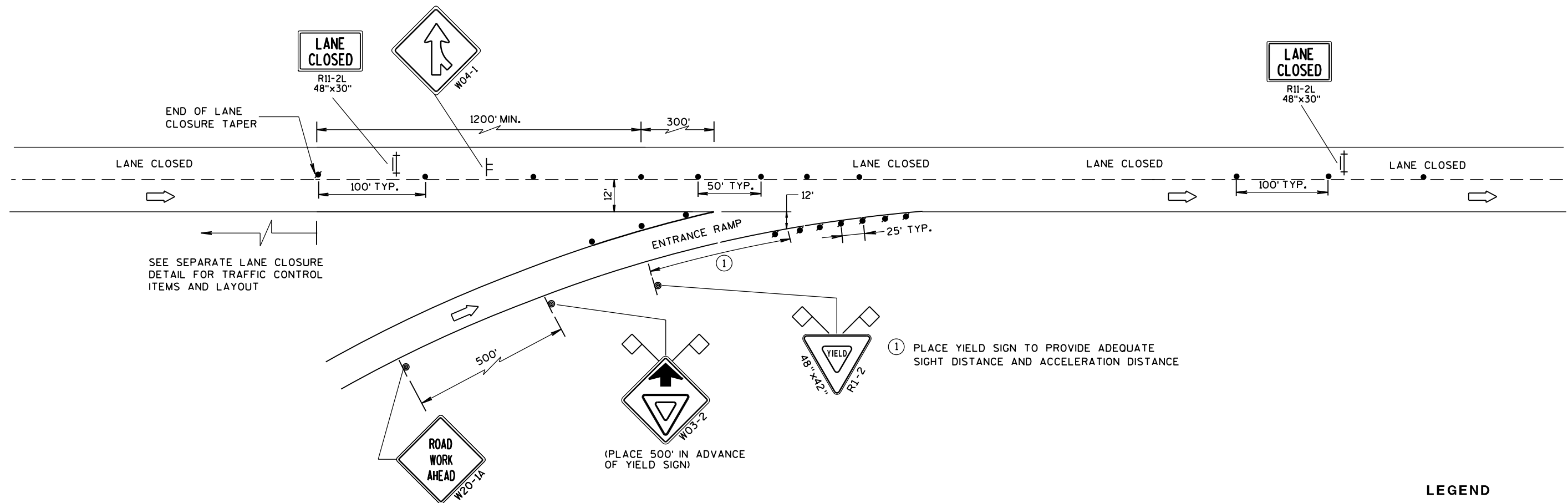
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

\* THE LEFT REVERSE CURVE SIGN (W01-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



|                                                    |                                                                           |
|----------------------------------------------------|---------------------------------------------------------------------------|
| TRAFFIC CONTROL,<br>LANE CLOSURE                   |                                                                           |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                                                                           |
| APPROVED<br>March 2016<br>DATE                     | /S/ Peter Amakobe Atepe<br>STATEWIDE WORK ZONE TRAFFIC<br>SAFETY ENGINEER |
| FHWA                                               |                                                                           |



## TAPERED ENTRANCE RAMP WITHIN LEFT LANE CLOSURE

### GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

### LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGS, 16" x 16" MIN., (ORANGE)
- DIRECTION OF TRAFFIC

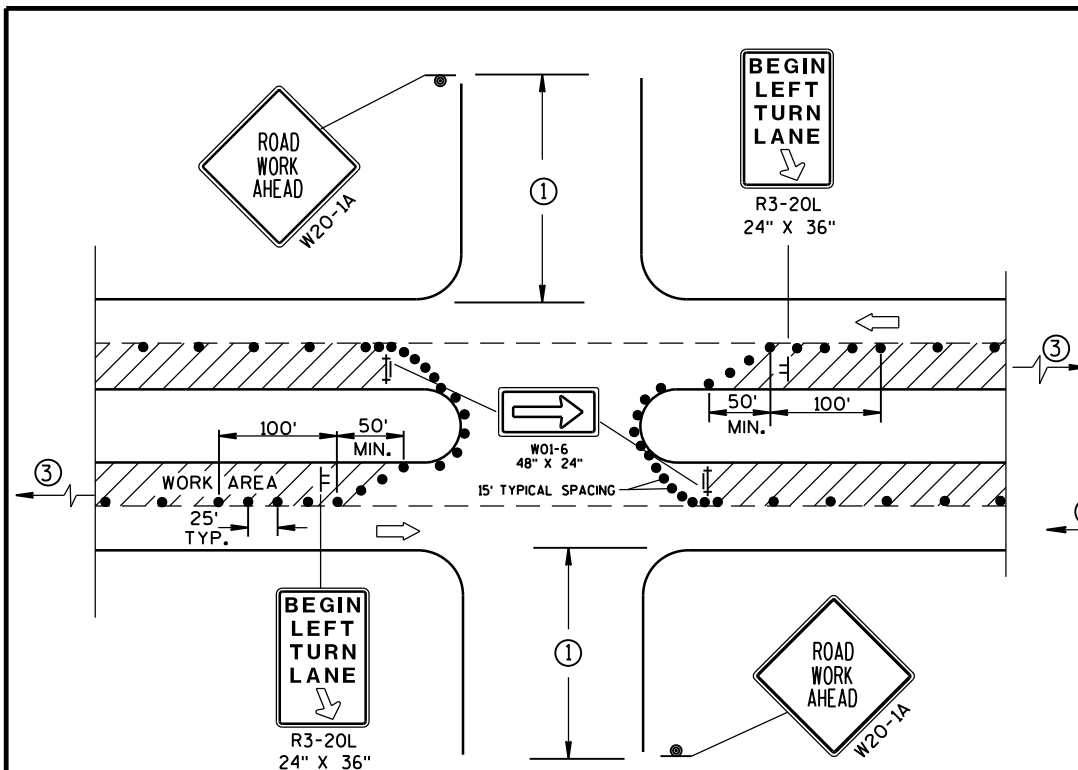
### TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

#### APPROVED

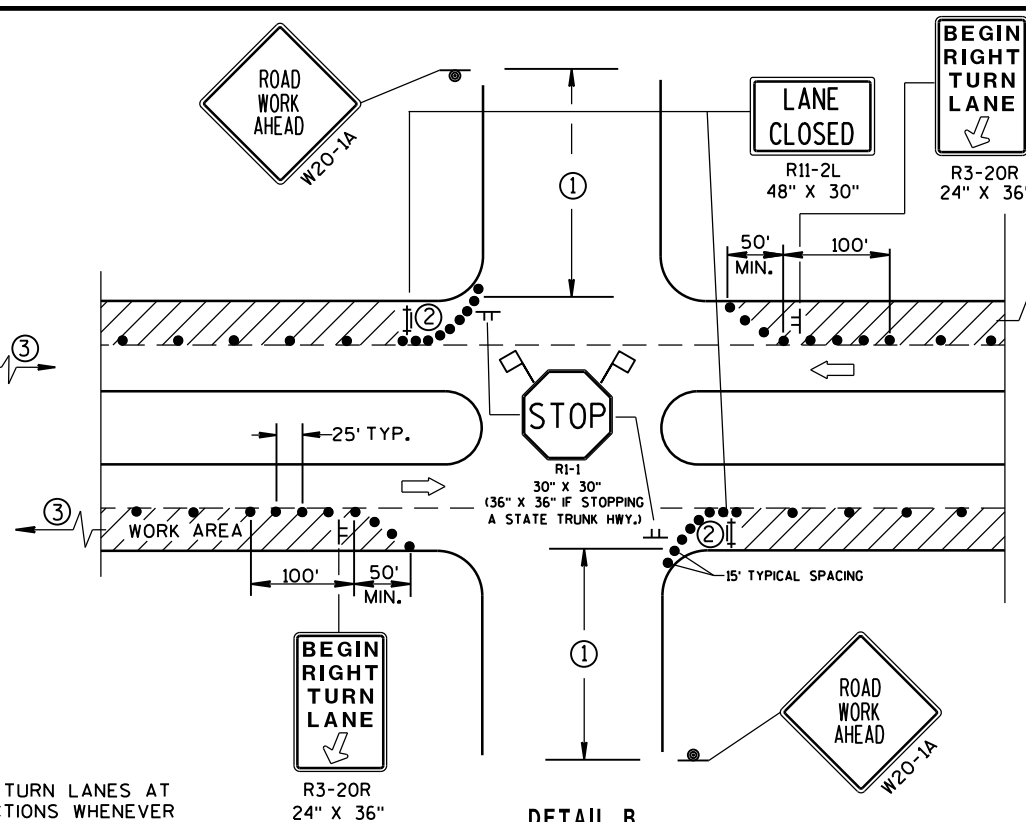
March, 2017 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA



DETAIL A  
FOR LEFT LANE CLOSURE AT  
INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



DETAIL B  
FOR RIGHT LANE CLOSURE  
AT INTERSECTION

## GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

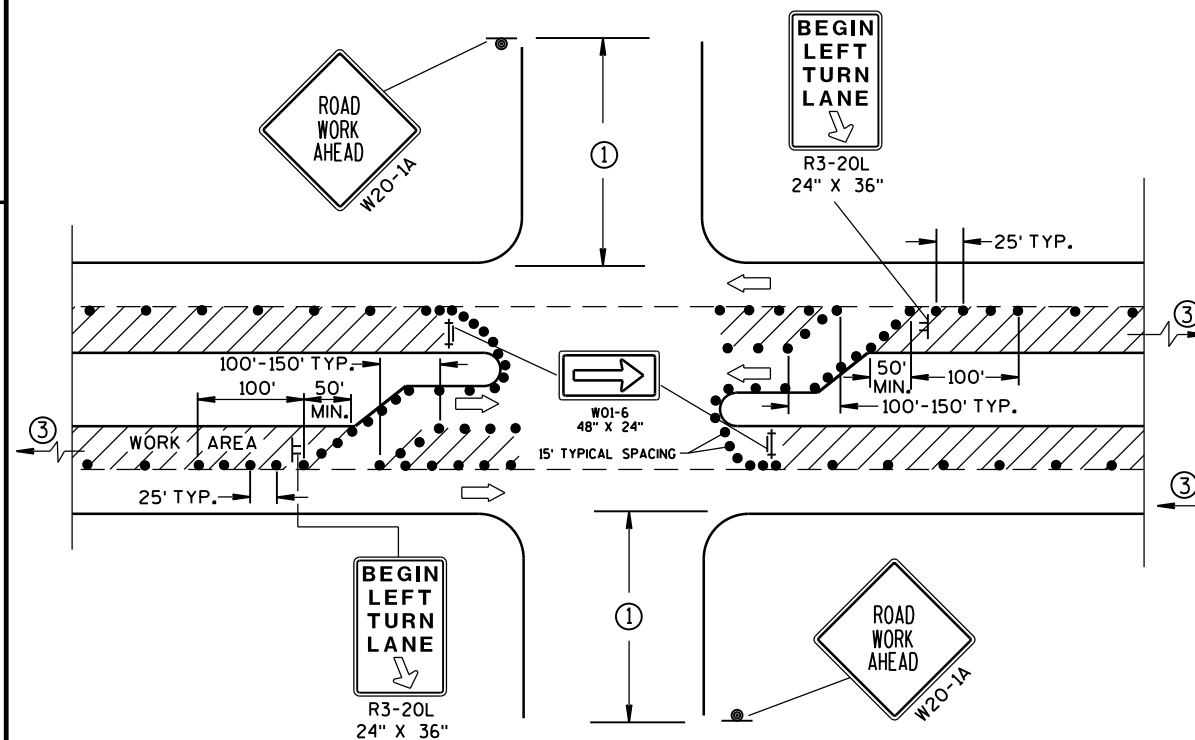
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

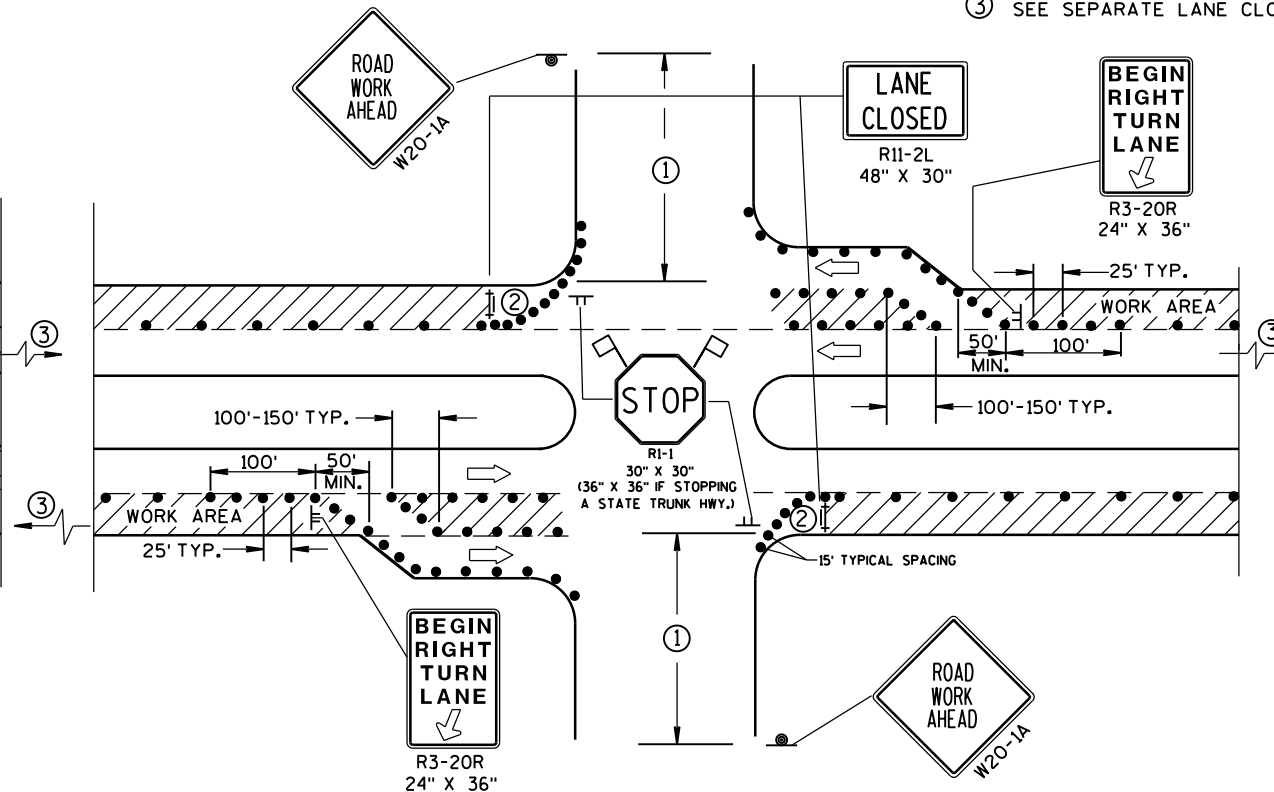
- ① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.  
350' IF 35-40 MPH.  
200' IF 25-30 MPH.
- ② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.
- ③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

## LEGEND

- TRAFFIC CONTROL DRUM
- ⊙ SIGN ON PERMANENT SUPPORT
- ⊢ SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- ⊢ TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- ➡ DIRECTION OF TRAFFIC
- ⚑ FLAGS, 16" X 16" MIN., (ORANGE)
- ▨ WORK AREA



DETAIL C  
FOR LEFT LANE CLOSURE AT INTERSECTION OR  
MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D  
FOR RIGHT LANE CLOSURE AT INTERSECTION  
(WITH RIGHT TURN BAY OPEN)

## TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
June 2016 /S/ Peter Anakobe Atepe  
DATE STATEWIDE WORK ZONE TRAFFIC  
FHWA SAFETY ENGINEER

LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ⚡➡ FLASHING ARROW BOARD
- ▨ WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

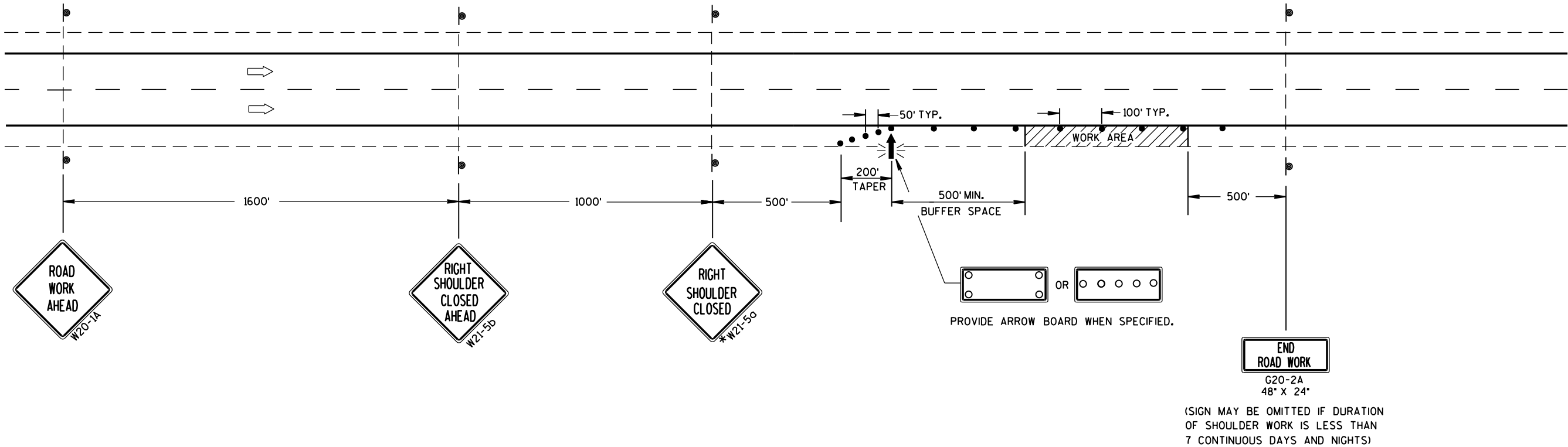
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

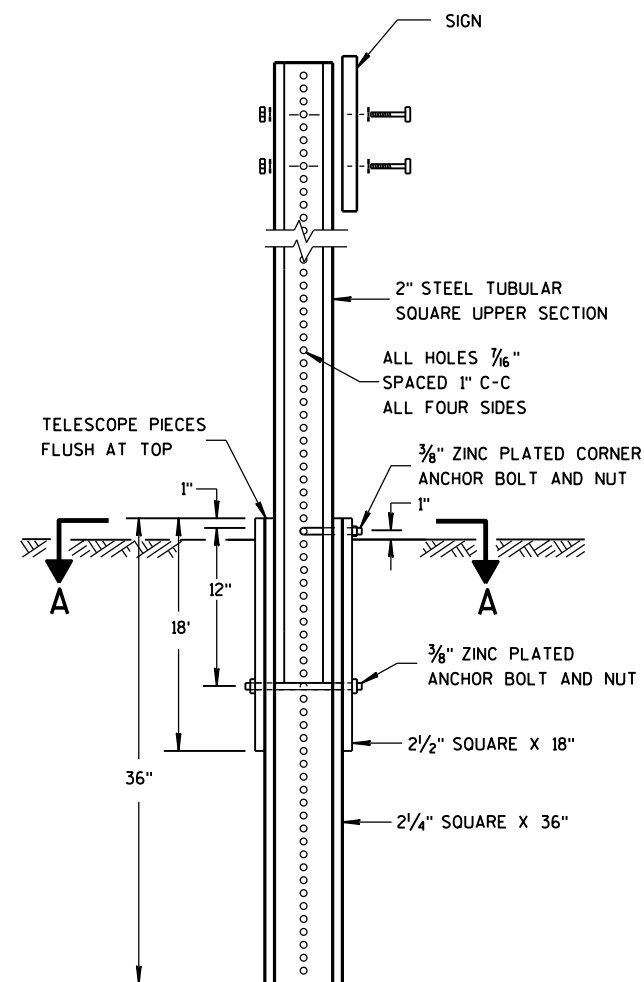
\*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL  
SHOULDER CLOSURE ON DIVIDED  
ROADWAY, SPEEDS GREATER  
THAN 40 MPH

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
June 2016 /S/ Peter Amakobe Atepe  
DATE STATEWIDE WORK ZONE TRAFFIC  
FHWA SAFETY ENGINEER

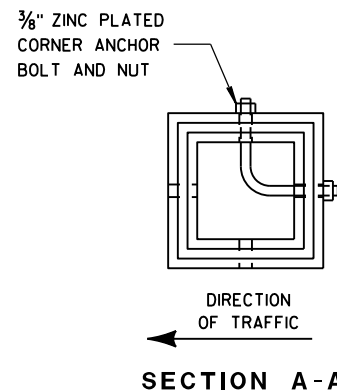


DETAIL OF TUBULAR  
STEEL SIGN POST

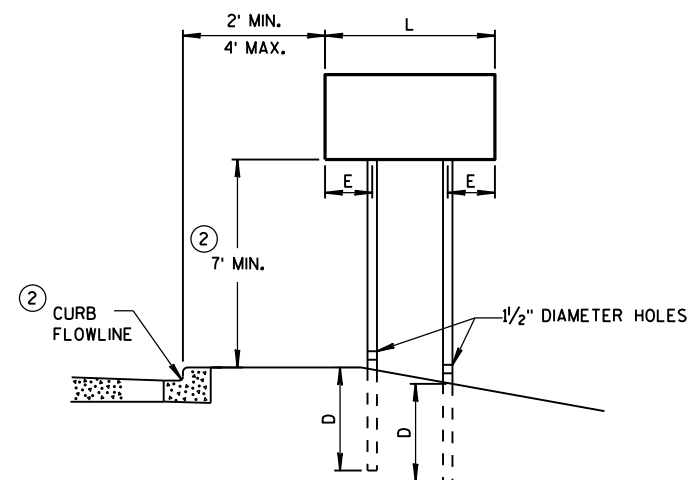
TUBULAR STEEL POSTS

| AREA OF SIGN<br>INSTALLATION<br>(SQ. FT.)      | NUMBER OF<br>REQUIRED TUBULAR<br>STEEL POSTS |
|------------------------------------------------|----------------------------------------------|
| 9 OR LESS                                      | 1                                            |
| GREATER THAN 9<br>LESS THAN OR EQUAL<br>TO 18  | 2                                            |
| GREATER THAN 18<br>LESS THAN OR EQUAL<br>TO 27 | 3                                            |

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).  
SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.



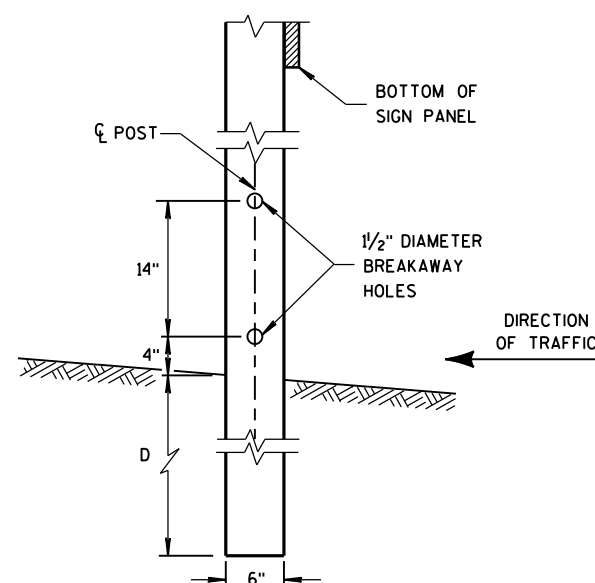
SECTION A-A



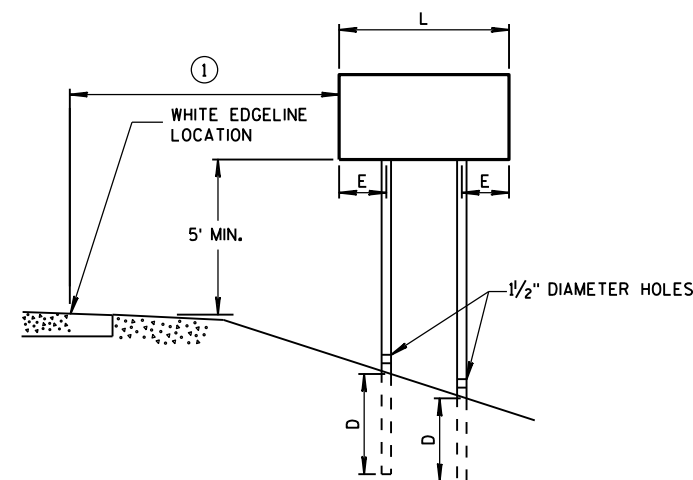
URBAN AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

| WOOD POST<br>EMBEDMENT DEPTH              |            |
|-------------------------------------------|------------|
| AREA OF SIGN<br>INSTALLATION<br>(SQ. FT.) | D<br>(MIN) |
| 20 OR LESS                                | 4'         |
| GREATER THAN 20                           | 5'         |



4 "x6 " WOOD POST  
MODIFICATION



RURAL AREA

| POST SPACING REQUIREMENTS               |     | NUMBER OF<br>WOOD POSTS<br>REQUIRED |
|-----------------------------------------|-----|-------------------------------------|
| L                                       | E   |                                     |
| 48" OR LESS AND<br>LESS THAN 20 SQ. FT. | -   | 1                                   |
| LESS THAN 60"                           | 12" | 2                                   |
| 60" TO 120"                             | L/5 | 2                                   |
| GREATER THAN 120"<br>LESS THAN 168"     | 12" | 3                                   |
| 168" AND GREATER                        | 12" | 4                                   |

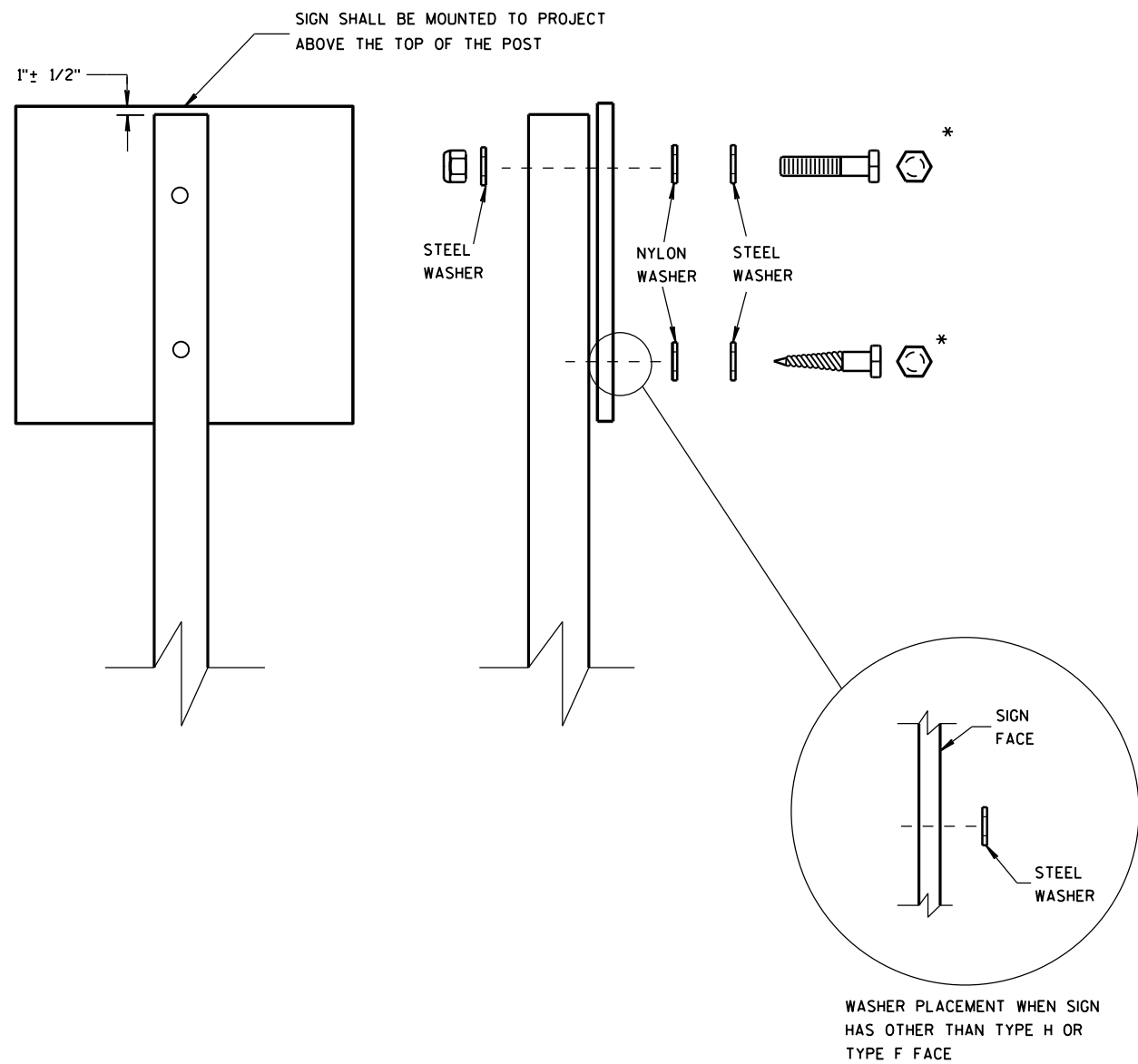
SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL  
SIGN MOUNTING

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3"
  - MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

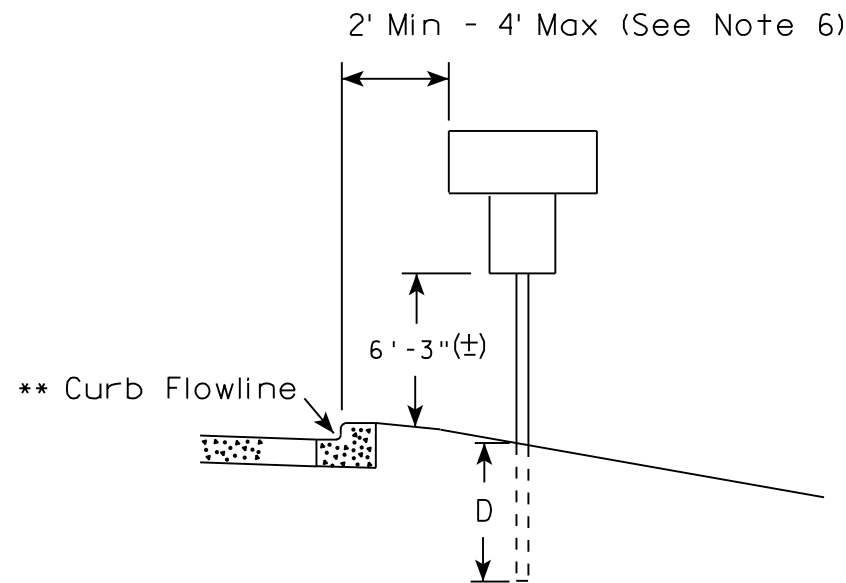
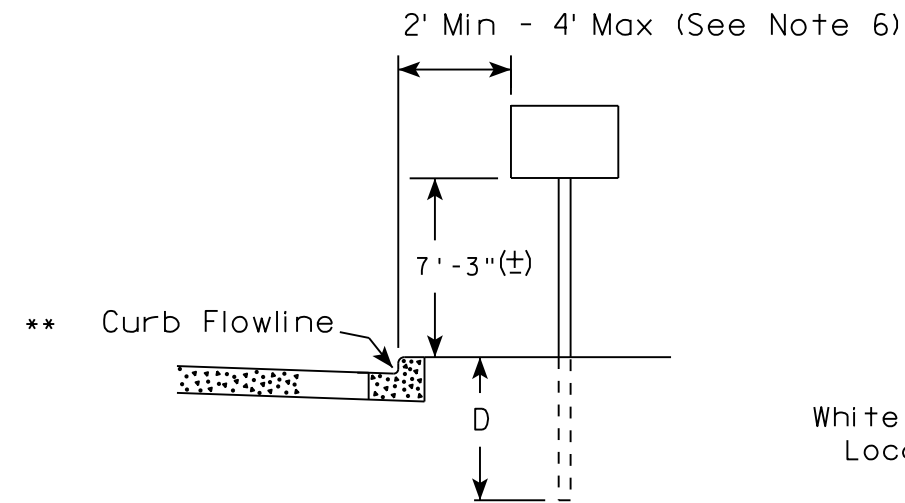
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS
  - RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
  - 1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

\* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

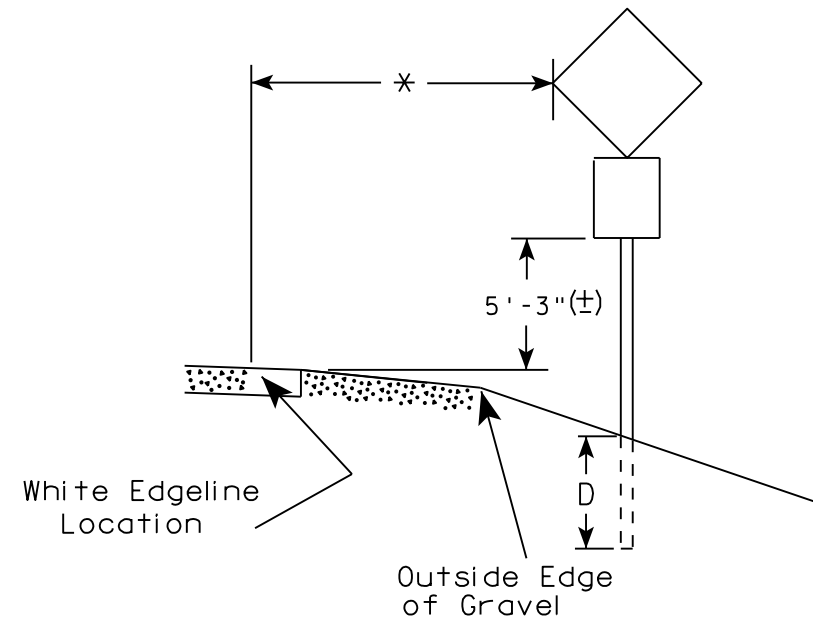
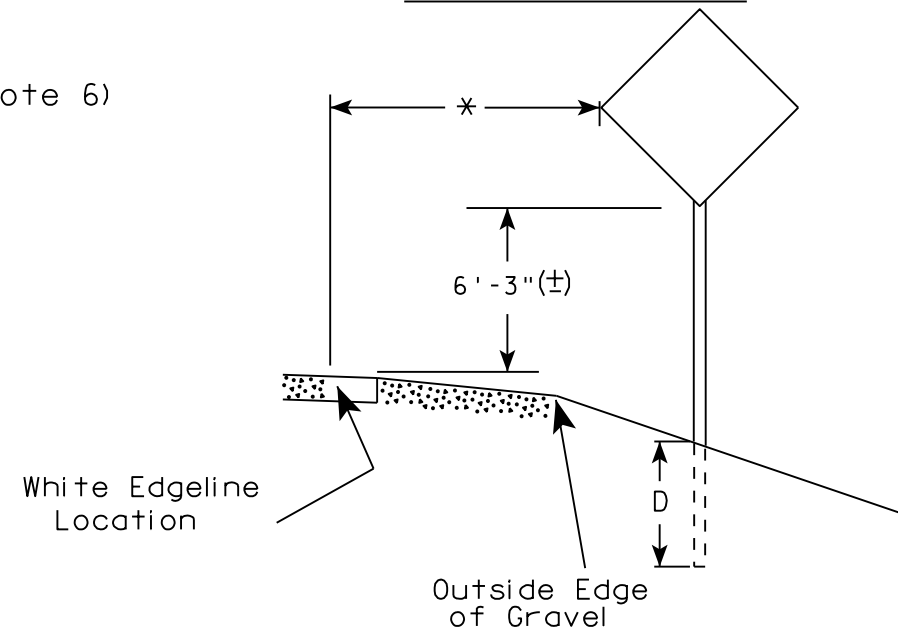
|                                                    |                                          |
|----------------------------------------------------|------------------------------------------|
| ATTACHMENT OF SIGNS<br>TO POSTS                    |                                          |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                                          |
| APPROVED<br>June 2017<br>DATE                      | /S/ Andrew Heidtke<br>WORK ZONE ENGINEER |
| FHWA                                               |                                          |

## URBAN AREA



✱✱ The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

## RURAL AREA (See Note 2)



✱ 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

POST EMBEDMENT DEPTH

| Area of Sign Installation ( Sq. Ft. ) | D ( Min ) |
|---------------------------------------|-----------|
| 20 or Less                            | 4'        |
| Greater than 20                       | 5'        |

## GENERAL NOTES

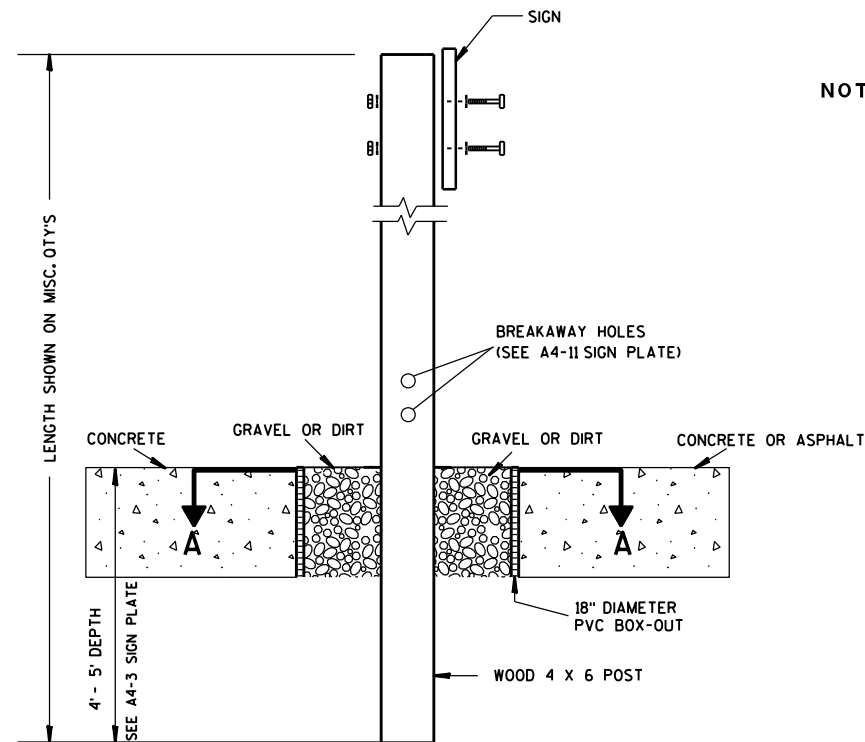
1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. J-Assemblies are considered to be one sign for mounting height.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'-3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

TYPICAL INSTALLATION  
OF PERMANENT TYPE II  
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

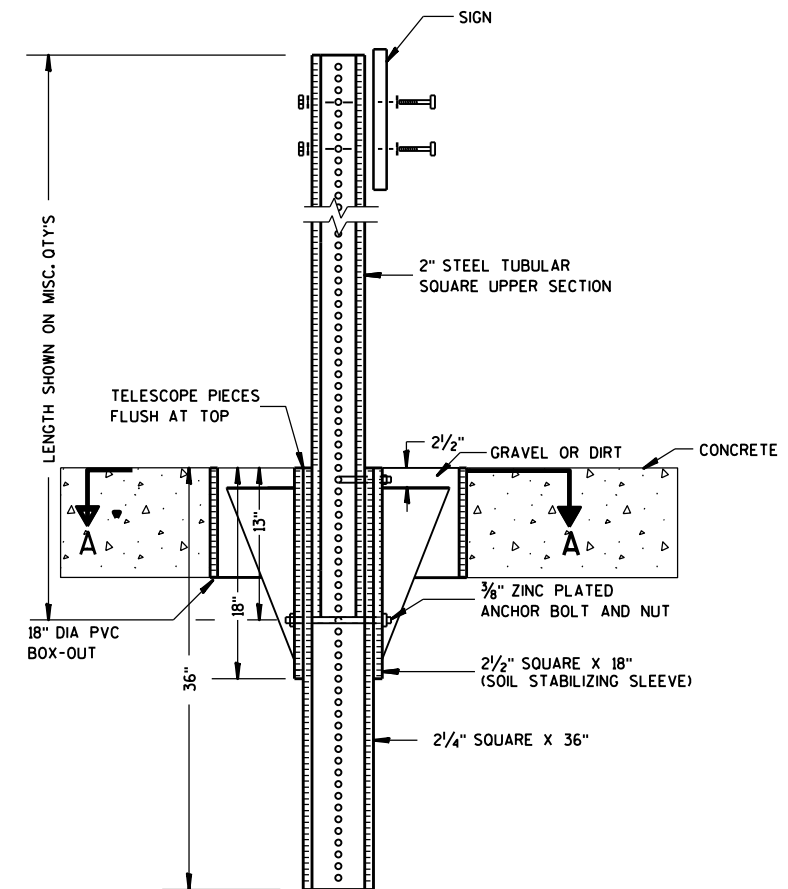
DATE 8/21/17 PLATE NO. A4-3.21



### ELEVATION VIEW

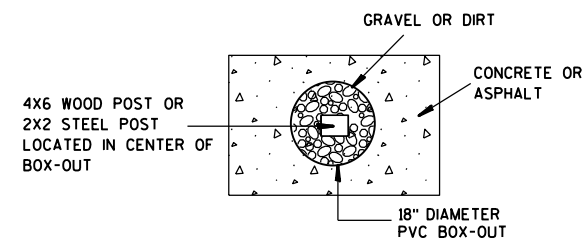
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES: 1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



### ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



### PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST  
BOX-OUTS  
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

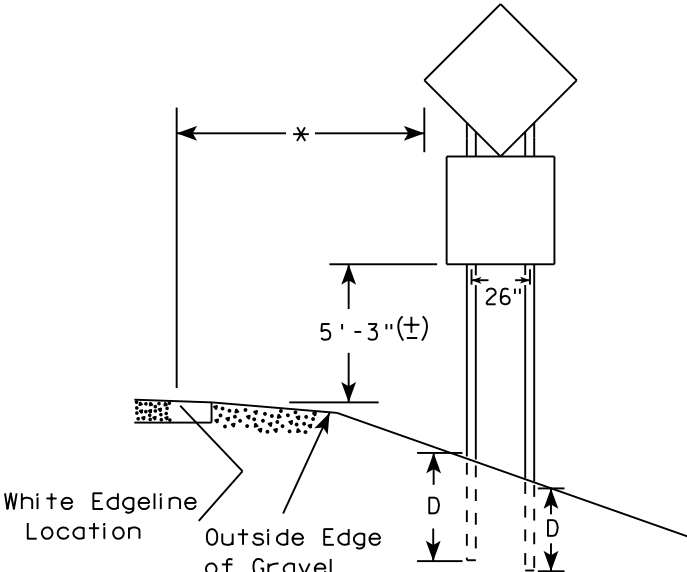
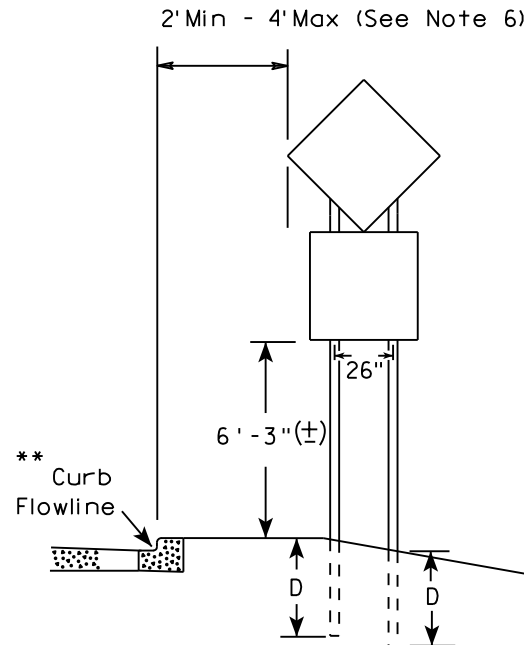
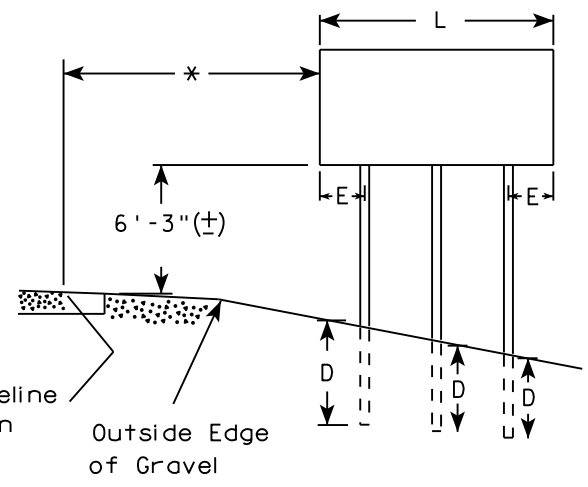
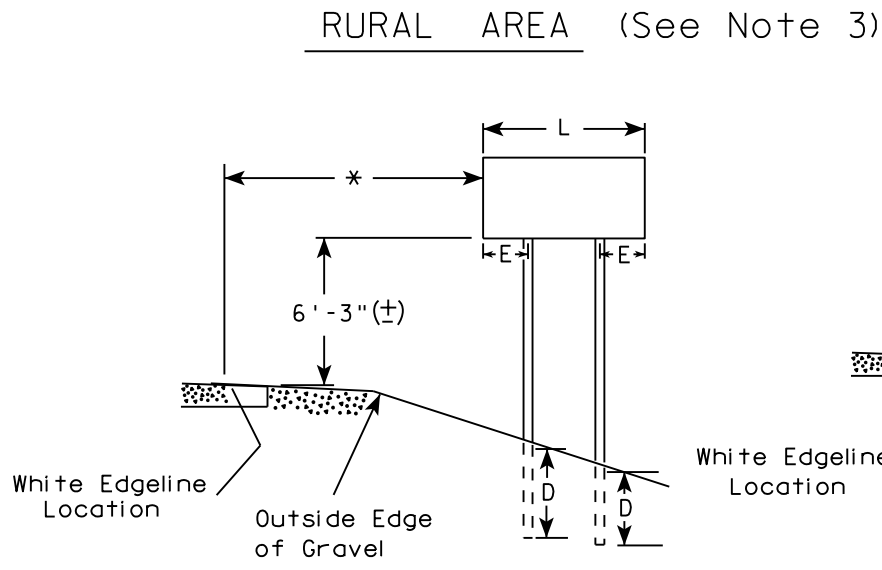
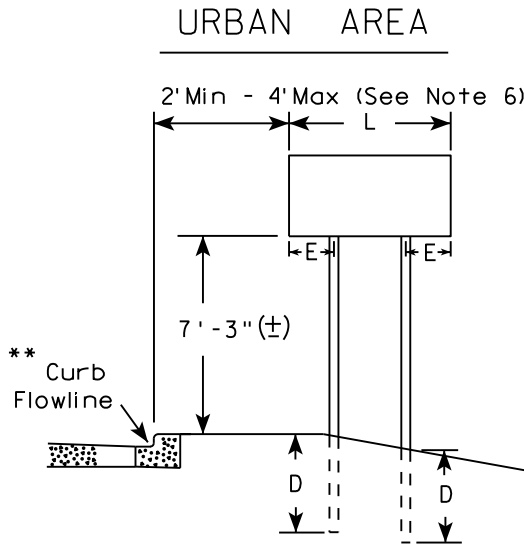
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



\*\*\*

| SIGN SHAPE OTHER THAN DIAMOND<br>(TWO POSTS REQUIRED) |     |
|-------------------------------------------------------|-----|
| L                                                     | E   |
| Greater than 48"<br>Less than 60"                     | 12" |
| 60" to 108"                                           | L/5 |

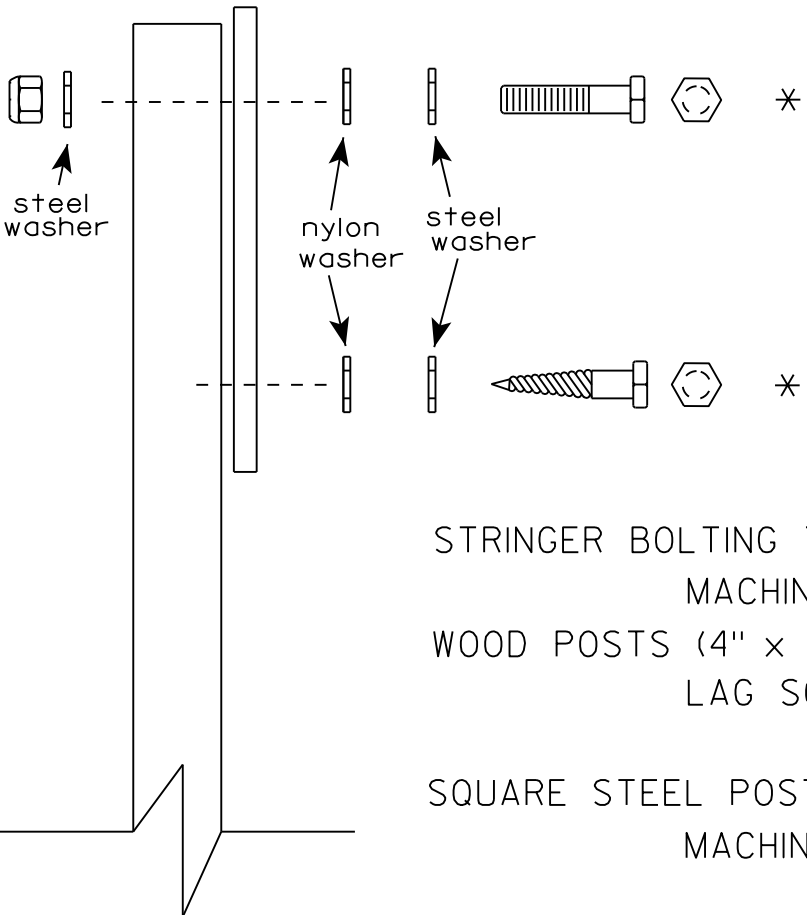
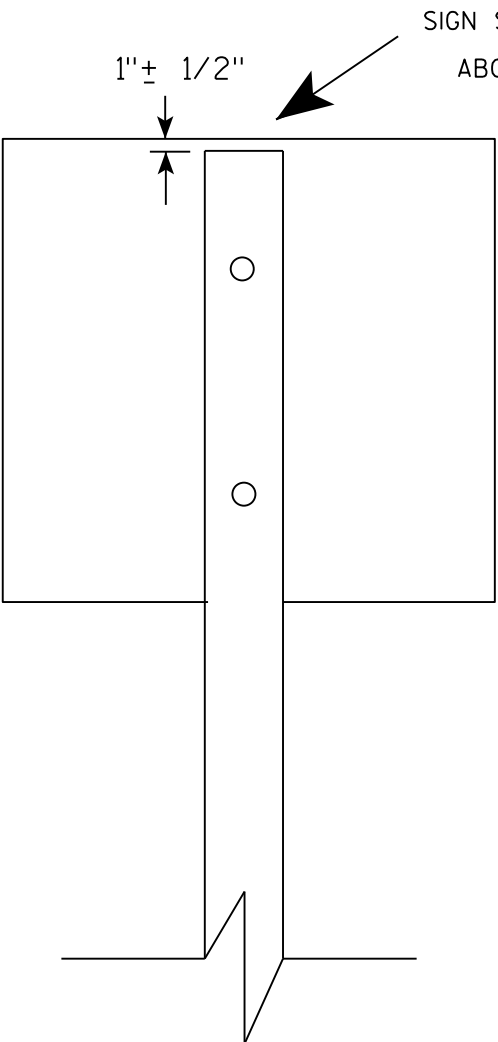
| SIGN SHAPE OTHER THAN DIAMOND<br>(THREE POSTS REQUIRED) |     |
|---------------------------------------------------------|-----|
| L                                                       | E   |
| Greater than 108"<br>to 144"                            | 12" |

| POST EMBEDMENT DEPTH                        |              |
|---------------------------------------------|--------------|
| Area of Sign<br>Installation<br>( Sq. Ft. ) | D<br>( Min ) |
| 20 or Less                                  | 4'           |
| Greater than 20                             | 5'           |

|                                                               |                                                       |
|---------------------------------------------------------------|-------------------------------------------------------|
| TYPICAL INSTALLATION<br>OF TYPE II SIGNS<br>ON MULTIPLE POSTS |                                                       |
| WISCONSIN DEPT OF TRANSPORTATION                              |                                                       |
| APPROVED                                                      | <i>Matthew R. Rauch</i><br>for State Traffic Engineer |
| DATE 8/21/17                                                  | PLATE NO. A4-4.15                                     |

- GENERAL NOTES
1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
  2. See tables below for required number of posts.
  3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
  4. The (±) tolerance for mounting height is 3 inches.
  5. J-Assemblies are considered to be one sign for mounting height.
  6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
  7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
  8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

- \* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.
- \*\* The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.
- \*\*\* See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

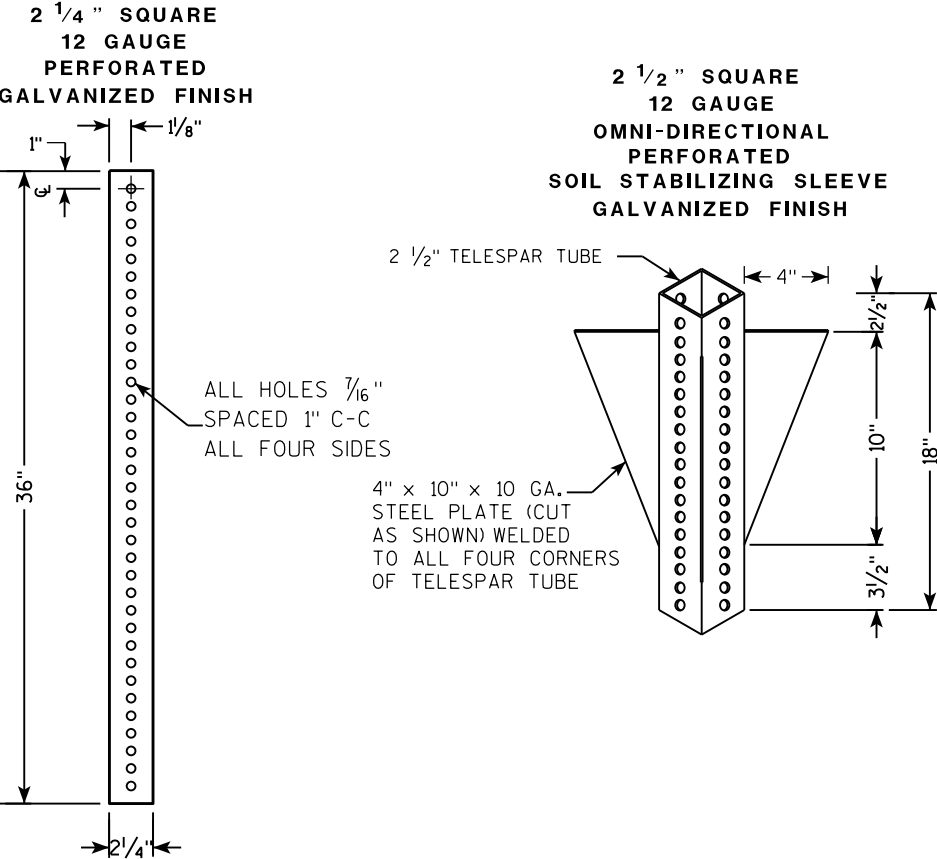
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS -  $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS -  $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
  - $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS -  $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
  - $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS -  $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
- O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ " STEEL
  - 1-1/4" O.D. X  $\frac{3}{8}$ " I.D. X .080 NYLON

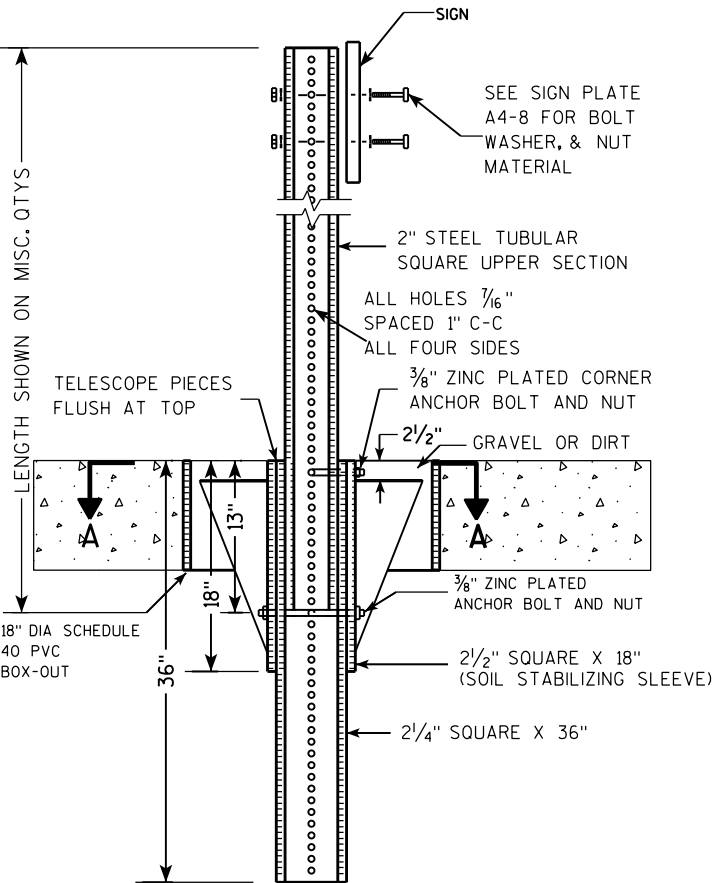
\* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

|                                  |                                                       |
|----------------------------------|-------------------------------------------------------|
| ATTACHMENT OF SIGNS<br>TO POSTS  |                                                       |
| WISCONSIN DEPT OF TRANSPORTATION |                                                       |
| APPROVED                         | <i>Matthew R. Rauch</i><br>For State Traffic Engineer |
| DATE <u>8/11/16</u>              | PLATE NO. <u>A4-8.8</u>                               |

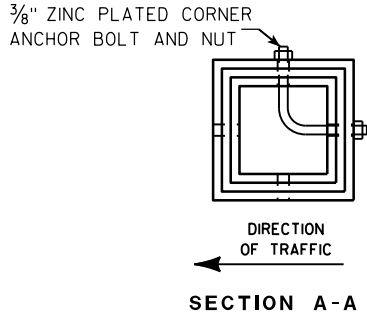
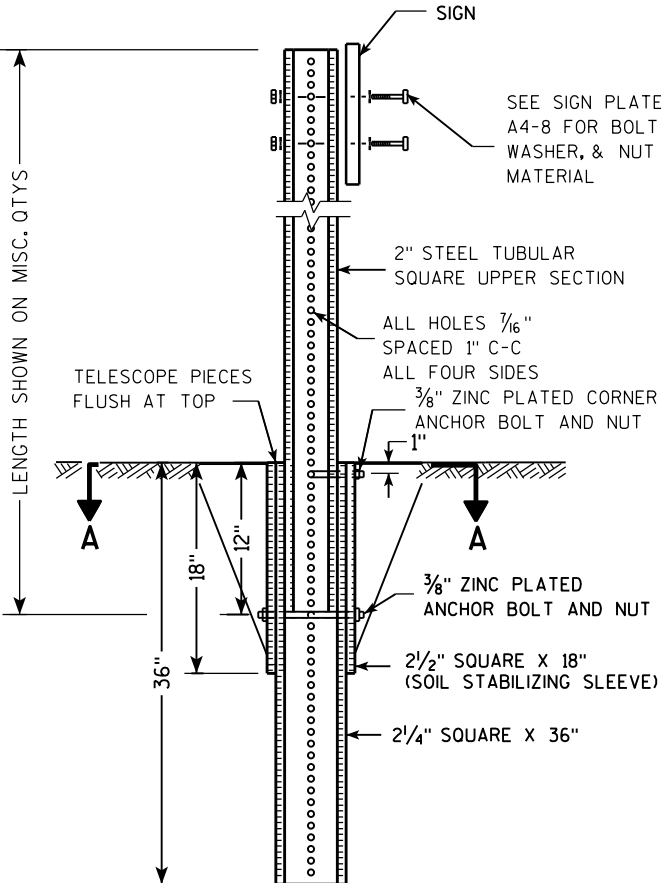
TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM



DETAIL OF TUBULAR STEEL SIGN POST  
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST  
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)



| Area of Sign Installation (Sq. Ft.)      | Number of Required Posts |
|------------------------------------------|--------------------------|
| 9 or less                                | 1                        |
| Greater than 9 less than or equal to 18  | 2                        |
| Greater than 18 less than or equal to 27 | 3                        |

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

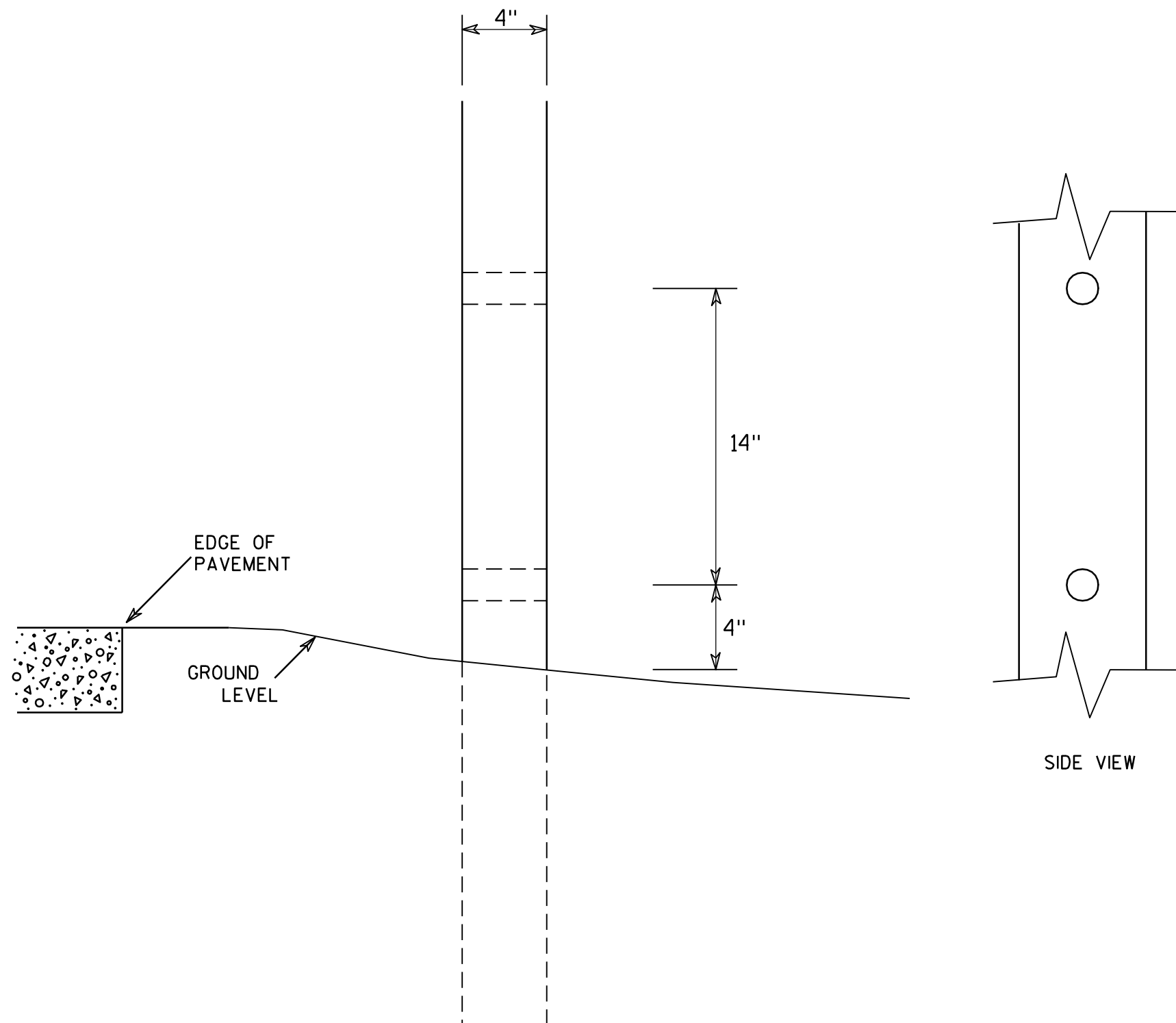
TUBULAR STEEL  
SIGN POST  
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

7



### GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

### 4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Chester J. Spang*  
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

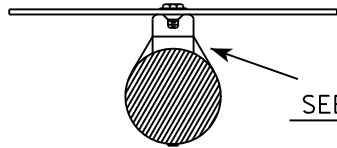
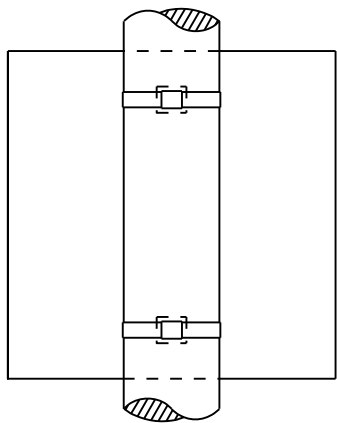
COUNTY:

SHEET NO:

E

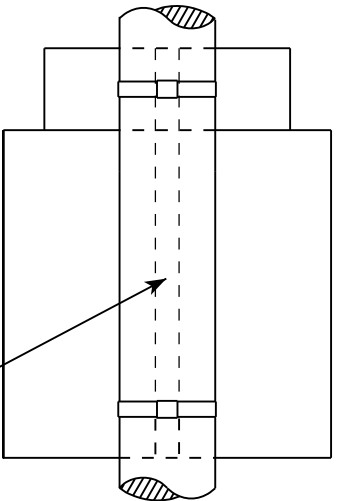
BANDING

SINGLE SIGN

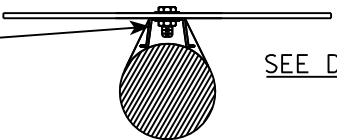


SEE DETAIL A

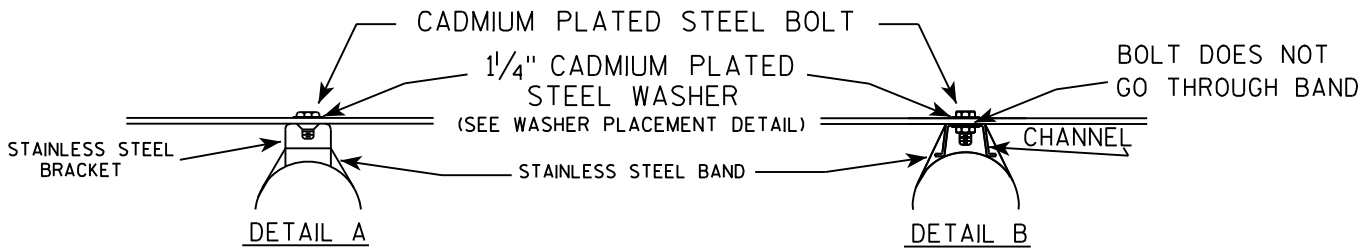
"J" ASSEMBLY



CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET



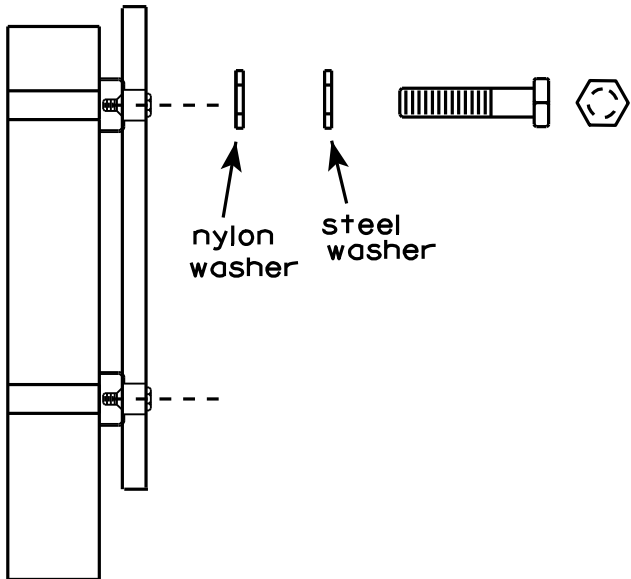
SEE DETAIL B



GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be  $\frac{3}{4}$ " in width and 0.025" thickness.

WASHER PLACEMENT



nylon washer

steel washer

WASHERS (ALL POSTS) -  
1-1/4" O.D. X  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ " STEEL  
1-1/4" O.D. X  $\frac{3}{8}$ " I.D. X .080 NYLON  
FOR ALL TYPE H SIGNS

STANDARD SIGN  
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Matthew R. Rauch*  
for State Traffic Engineer

DATE 8/16/13

PLATE NO. A5-9.3

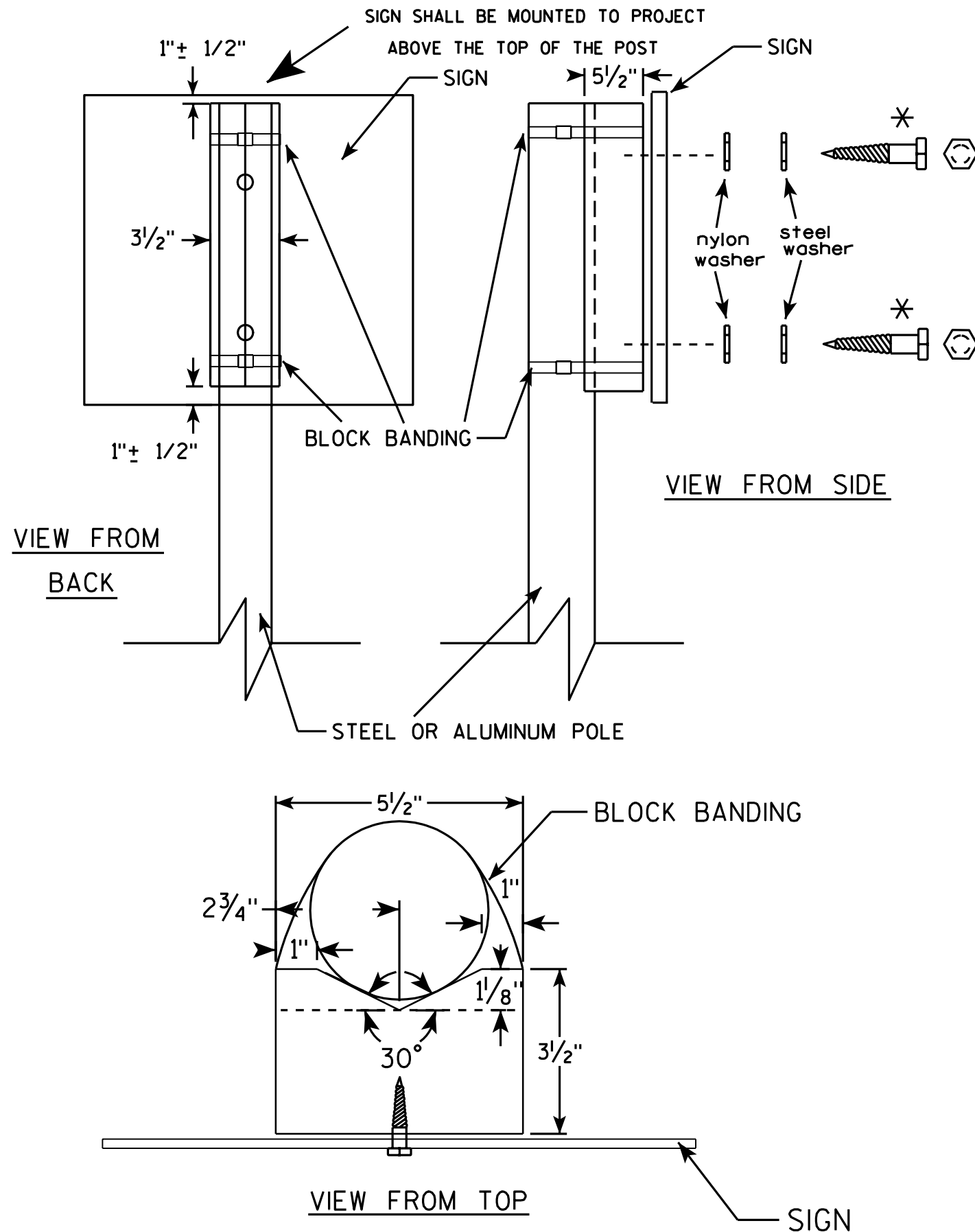
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



## GENERAL NOTES

1. WOOD 4"x6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, 3/4" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
  - b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
  - c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1 1/4" O.D. X 3/8" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1 1/4" O.D. X 3/8" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

\* LAG BOLTS SHALL BE 3/8" X 2 1/2"

BLOCK BANDING DETAIL  
( V-BLOCK OPTION )

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

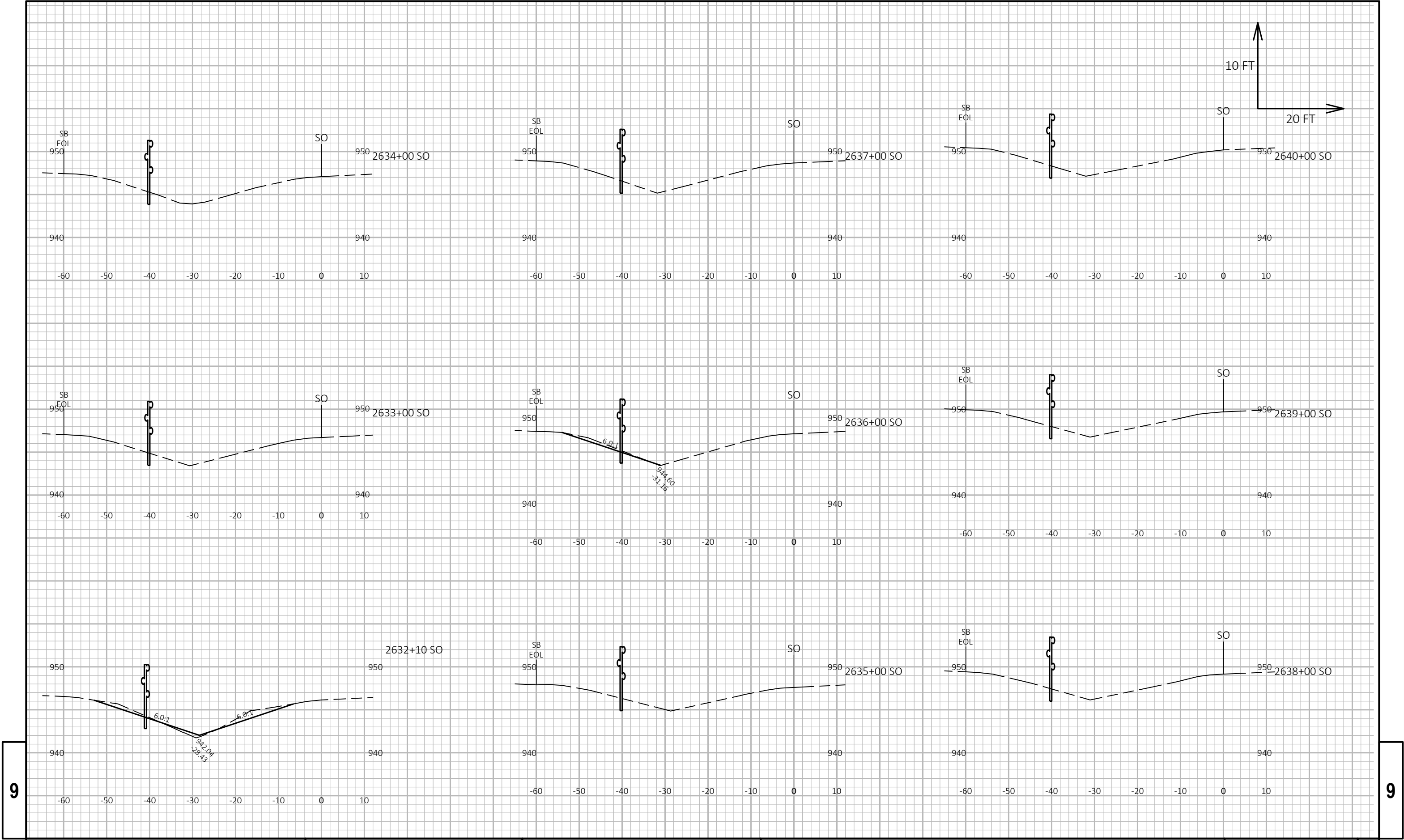
SHEET NO:

E

| EARTHWORK VOLUMES       |           |              |            |                    |            |                              |            |            |                |
|-------------------------|-----------|--------------|------------|--------------------|------------|------------------------------|------------|------------|----------------|
| EXPANSION FACTOR = 1.25 |           |              |            |                    |            |                              |            |            |                |
| STATION                 | ALIGNMENT | END AREA     |            | INCREMENTAL VOLUME |            | CUMULATIVE VOLUME UNEXPANDED |            | EXPANDED   | MASS           |
|                         |           | CUT<br>SF    | FILL<br>SF | CUT<br>CY          | FILL<br>CY | CUT<br>CY                    | FILL<br>CY | FILL<br>CY | ORDINATE<br>CY |
| 2632+10                 | SO        | 11.17        | 2.51       | 0.0                | 0.0        | 0.0                          | 0.0        | 0.0        | 0.0            |
| 2633+00                 | SO        | 0.00         | 0.00       | 8.4                | 1.9        | 8.4                          | 1.9        | 2.3        | 6.1            |
| 2634+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 8.4                          | 1.9        | 2.3        | 6.1            |
| 2635+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 8.4                          | 1.9        | 2.3        | 6.1            |
| 2636+00                 | SO        | 4.07         | 0.07       | 3.9                | 0.1        | 12.3                         | 1.9        | 2.4        | 9.9            |
| 2637+00                 | SO        | 0.00         | 0.00       | 3.9                | 0.1        | 16.2                         | 2.0        | 2.5        | 13.7           |
| 2638+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 16.2                         | 2.0        | 2.5        | 13.7           |
| 2639+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 16.2                         | 2.0        | 2.5        | 13.7           |
| 2640+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 16.2                         | 2.0        | 2.5        | 13.7           |
| 2641+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 16.2                         | 2.0        | 2.5        | 13.7           |
| 2642+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 16.2                         | 2.0        | 2.5        | 13.7           |
| 2643+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 16.2                         | 2.0        | 2.5        | 13.7           |
| 2644+00                 | SO        | 0.00         | 10.32      | 0.0                | 9.6        | 16.2                         | 11.5       | 14.4       | 1.8            |
| 2645+00                 | SO        | 0.00         | 0.00       | 0.0                | 9.6        | 16.2                         | 21.1       | 26.4       | -10.2          |
| 2646+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 16.2                         | 21.1       | 26.4       | -10.2          |
| 2647+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 16.2                         | 21.1       | 26.4       | -10.2          |
| 2648+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 16.2                         | 21.1       | 26.4       | -10.2          |
| 2649+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 16.2                         | 21.1       | 26.4       | -10.2          |
| 2650+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 16.2                         | 21.1       | 26.4       | -10.2          |
| 2651+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 16.2                         | 21.1       | 26.4       | -10.2          |
| 2652+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 16.2                         | 21.1       | 26.4       | -10.2          |
| 2653+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 16.2                         | 21.1       | 26.4       | -10.2          |
| 2654+00                 | SO        | 0.83         | 0.00       | 0.8                | 0.0        | 17.0                         | 21.1       | 26.4       | -9.4           |
| 2655+00                 | SO        | 0.00         | 0.00       | 0.8                | 0.0        | 17.7                         | 21.1       | 26.4       | -8.6           |
| 2656+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 17.7                         | 21.1       | 26.4       | -8.6           |
| 2657+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 17.7                         | 21.1       | 26.4       | -8.6           |
| 2658+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 17.7                         | 21.1       | 26.4       | -8.6           |
| 2659+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 17.7                         | 21.1       | 26.4       | -8.6           |
| 2660+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 17.7                         | 21.1       | 26.4       | -8.6           |
| 2661+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 17.7                         | 21.1       | 26.4       | -8.6           |
| 2662+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 17.7                         | 21.1       | 26.4       | -8.6           |
| 2663+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 17.7                         | 21.1       | 26.4       | -8.6           |
| 2664+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 17.7                         | 21.1       | 26.4       | -8.6           |
| 2665+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 17.7                         | 21.1       | 26.4       | -8.6           |
| 2666+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 17.7                         | 21.1       | 26.4       | -8.6           |
| 2667+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 17.7                         | 21.1       | 26.4       | -8.6           |
| 2668+00                 | SO        | 0.00         | 0.00       | 0.0                | 0.0        | 17.7                         | 21.1       | 26.4       | -8.6           |
| PROJECT NO: 1112-02-61  |           | HWY: USH 151 |            | COUNTY: DODGE      |            | EARTHWORK SUMMARY            |            | SHEET NO:  |                |
| E                       |           | E            |            | E                  |            | E                            |            | E          |                |

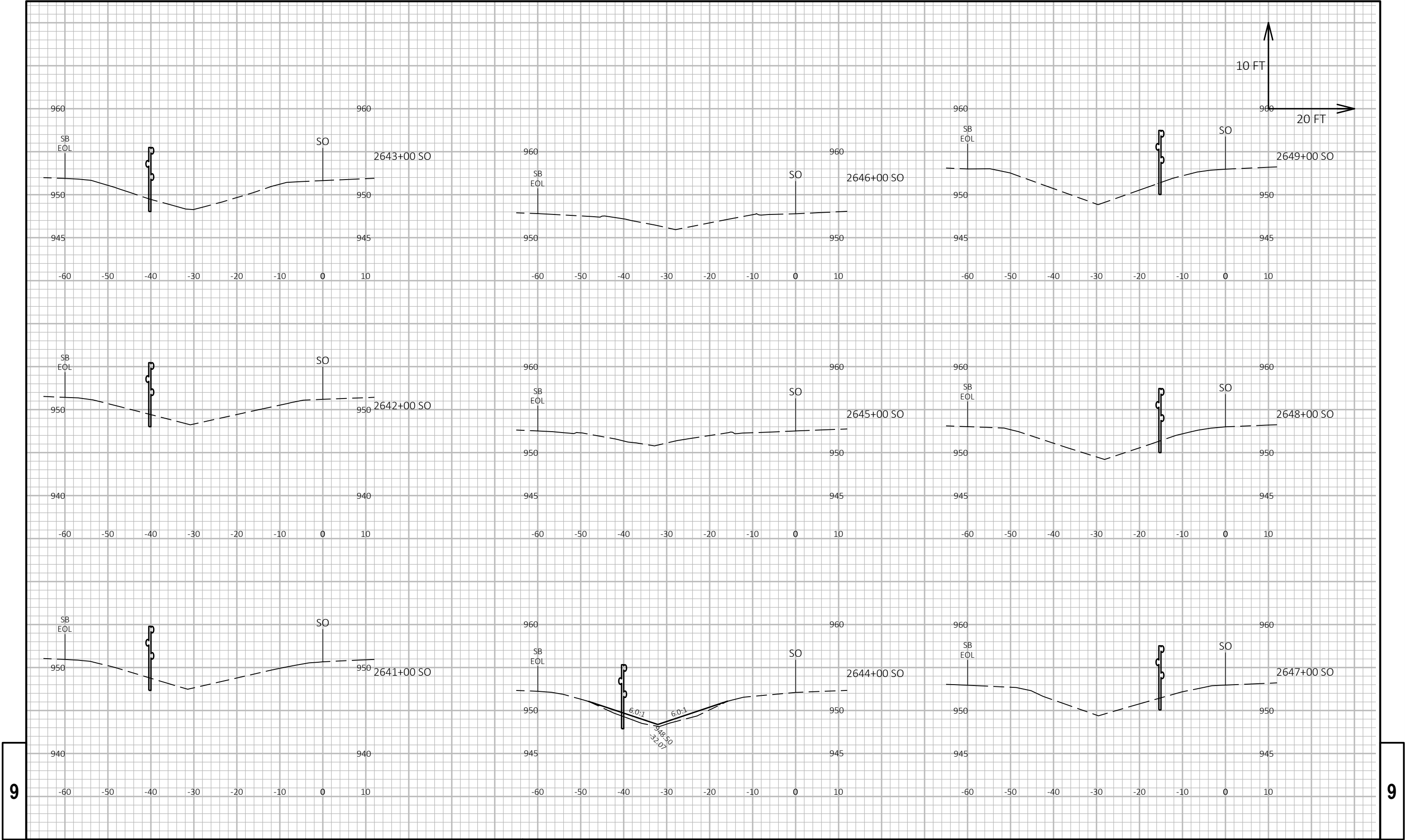
| EARTHWORK VOLUMES       |           |                   |      |                    |      |                   |                 |                     |       |
|-------------------------|-----------|-------------------|------|--------------------|------|-------------------|-----------------|---------------------|-------|
| EXPANSION FACTOR = 1.25 |           |                   |      |                    |      |                   |                 |                     |       |
| STATION                 | ALIGNMENT | END AREA          |      | INCREMENTAL VOLUME |      | CUMULATIVE VOLUME |                 | EXPANDED            | MASS  |
|                         |           | CUT               | FILL | CUT                | FILL | CUT               | UNEXPANDED FILL |                     |       |
| 2669+00                 | SO        | 0.00              | 2.28 | 0.0                | 1.1  | 17.7              | 22.1            | 27.7                | -9.9  |
| 2670+00                 | SO        | 0.00              | 0.00 | 0.0                | 2.1  | 17.7              | 24.3            | 30.3                | -12.6 |
| 2671+00                 | SO        | 0.00              | 0.00 | 0.0                | 0.0  | 17.7              | 24.3            | 30.3                | -12.6 |
| 2672+00                 | SO        | 0.00              | 0.00 | 0.0                | 0.0  | 17.7              | 24.3            | 30.3                | -12.6 |
| 2673+00                 | SO        | 0.70              | 3.53 | 0.7                | 3.3  | 18.4              | 27.5            | 34.4                | -16.0 |
| 2674+00                 | SO        | 0.00              | 0.00 | 0.7                | 3.3  | 19.1              | 30.8            | 38.5                | -19.3 |
| 2675+00                 | SO        | 0.11              | 0.00 | 0.1                | 0.0  | 19.2              | 30.8            | 38.5                | -19.2 |
| 2676+00                 | SO        | 0.00              | 0.00 | 0.1                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2677+00                 | SO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2678+00                 | SO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2679+00                 | SO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2679+50                 | SO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2764+00                 | NO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2765+00                 | NO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2766+00                 | NO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2767+00                 | NO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2768+00                 | NO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2769+00                 | NO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2770+00                 | NO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2771+00                 | NO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2772+00                 | NO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2773+00                 | NO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2774+00                 | NO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2775+00                 | NO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2776+00                 | NO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2777+00                 | NO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2778+00                 | NO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2779+00                 | NO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2780+00                 | NO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 30.8            | 38.5                | -19.1 |
| 2781+00                 | NO        | 0.00              | 4.60 | 0.0                | 8.5  | 19.3              | 39.3            | 49.1                | -29.8 |
| 2782+00                 | NO        | 0.00              | 0.00 | 0.0                | 8.5  | 19.3              | 47.8            | 59.8                | -40.4 |
| 2783+00                 | NO        | 0.00              | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8                | -40.4 |
| PROJECT NO: 1112-02-61  |           | HWY: USH 151      |      | COUNTY: DODGE      |      | EARTHWORK SUMMARY |                 | SHEET NO:           |       |
| FILE NAME : _____       |           | PLOT DATE : _____ |      | PLOT BY : _____    |      | PLOT NAME : _____ |                 | ORG DATE : _____    |       |
|                         |           |                   |      |                    |      |                   |                 | ORIGINATOR : DIST _ |       |
|                         |           |                   |      |                    |      |                   |                 | PLOT SCALE : 1:1    |       |

| EARTHWORK VOLUMES       |           |              |      |                    |      |                   |                 |               |               |
|-------------------------|-----------|--------------|------|--------------------|------|-------------------|-----------------|---------------|---------------|
| EXPANSION FACTOR = 1.25 |           |              |      |                    |      |                   |                 |               |               |
| STATION                 | ALIGNMENT | END AREA     |      | INCREMENTAL VOLUME |      | CUMULATIVE VOLUME |                 | EXPANDED FILL | MASS ORDINATE |
|                         |           | CUT          | FILL | CUT                | FILL | CUT               | UNEXPANDED FILL |               |               |
| 2784+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2785+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2786+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2787+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2788+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2789+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2790+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2794+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2795+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2796+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2797+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2798+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2799+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2800+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2801+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2802+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2803+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2804+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2805+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2806+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 47.8            | 59.8          | -40.4         |
| 2807+00                 | NO        | 0.00         | 2.61 | 0.0                | 4.8  | 19.3              | 52.6            | 65.8          | -46.5         |
| 2808+00                 | NO        | 0.00         | 0.00 | 0.0                | 4.8  | 19.3              | 57.5            | 71.8          | -52.5         |
| 2809+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 57.5            | 71.8          | -52.5         |
| 2810+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 19.3              | 57.5            | 71.8          | -52.5         |
| 2811+00                 | NO        | 0.00         | 4.10 | 0.0                | 7.6  | 19.3              | 65.1            | 81.3          | -62.0         |
| 2812+00                 | NO        | 0.00         | 0.00 | 0.0                | 7.6  | 19.3              | 72.7            | 90.8          | -71.5         |
| 2813+00                 | NO        | 2.59         | 1.04 | 4.8                | 1.9  | 24.1              | 74.6            | 93.2          | -69.1         |
| 2814+00                 | NO        | 0.00         | 0.00 | 4.9                | 1.9  | 29.0              | 76.5            | 95.6          | -66.6         |
| 2815+00                 | NO        | 0.00         | 4.68 | 0.0                | 8.7  | 29.0              | 85.1            | 106.4         | -77.4         |
| 2816+00                 | NO        | 0.00         | 6.91 | 0.0                | 21.5 | 29.0              | 106.6           | 133.2         | -104.2        |
| 2817+00                 | NO        | 0.00         | 4.77 | 0.0                | 21.6 | 29.0              | 128.2           | 160.3         | -131.3        |
| 2818+00                 | NO        | 0.00         | 4.75 | 0.0                | 17.6 | 29.0              | 145.9           | 182.3         | -153.3        |
| 2819+00                 | NO        | 0.00         | 4.36 | 0.0                | 16.9 | 29.0              | 162.7           | 203.4         | -174.4        |
| 2820+00                 | NO        | 0.00         | 0.00 | 0.0                | 8.3  | 29.0              | 171.0           | 214.0         | -185.0        |
| 2821+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 29.0              | 171.0           | 214.0         | -185.0        |
| 2822+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 29.0              | 171.0           | 214.0         | -185.0        |
| 2823+00                 | NO        | 0.00         | 0.00 | 0.0                | 0.0  | 29.0              | 171.0           | 214.0         | -185.0        |
| PROJECT NO: 1112-02-61  |           | HWY: USH 151 |      | COUNTY: DODGE      |      | EARTHWORK SUMMARY |                 |               | SHEET NO:     |
| E                       |           | E            |      | E                  |      | E                 |                 | E             |               |



9

9



PROJECT NO: 1112-02-61

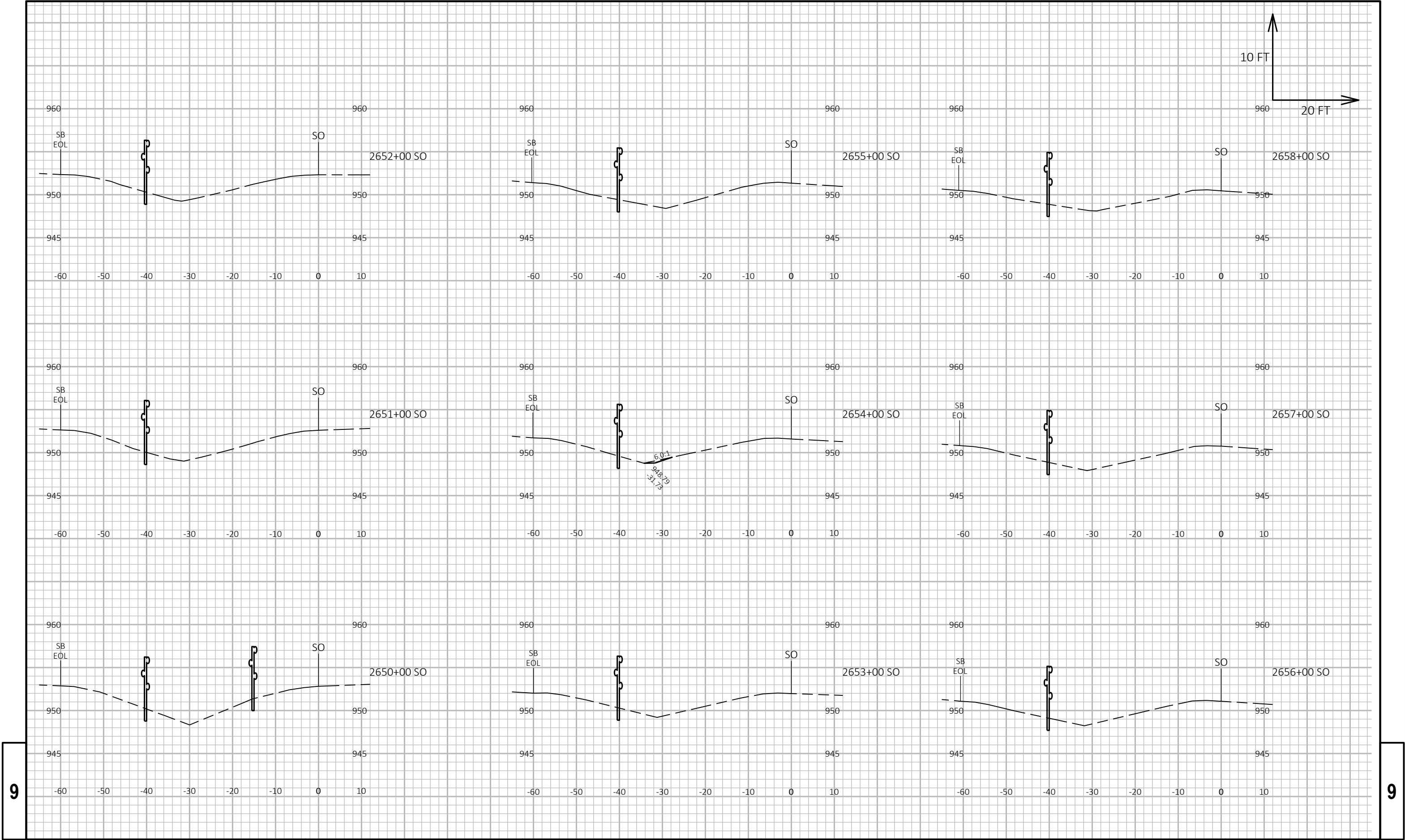
HWY: USH 151

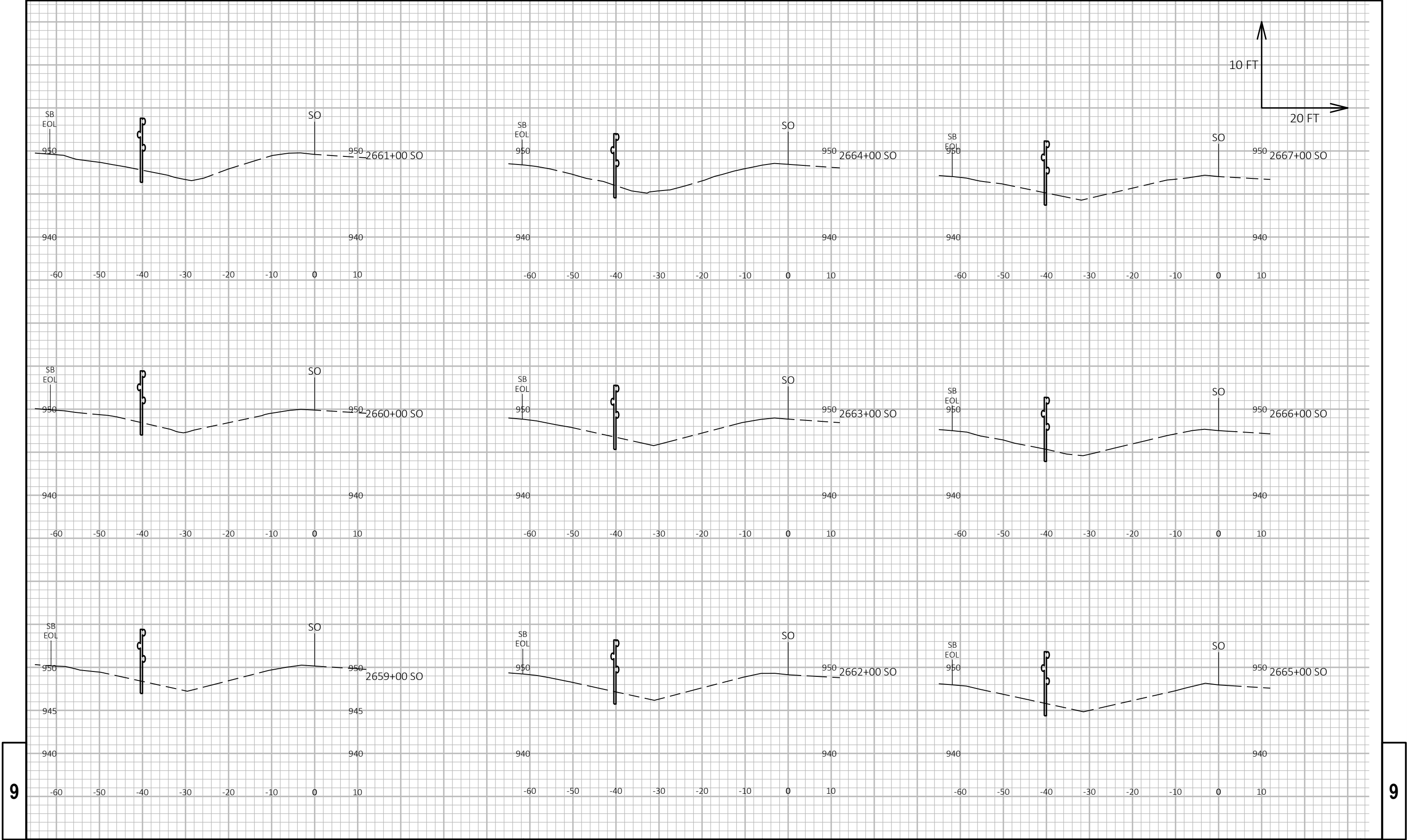
COUNTY: DODGE

CROSS SECTIONS: SOUTH SEGMENT

SHEET

E

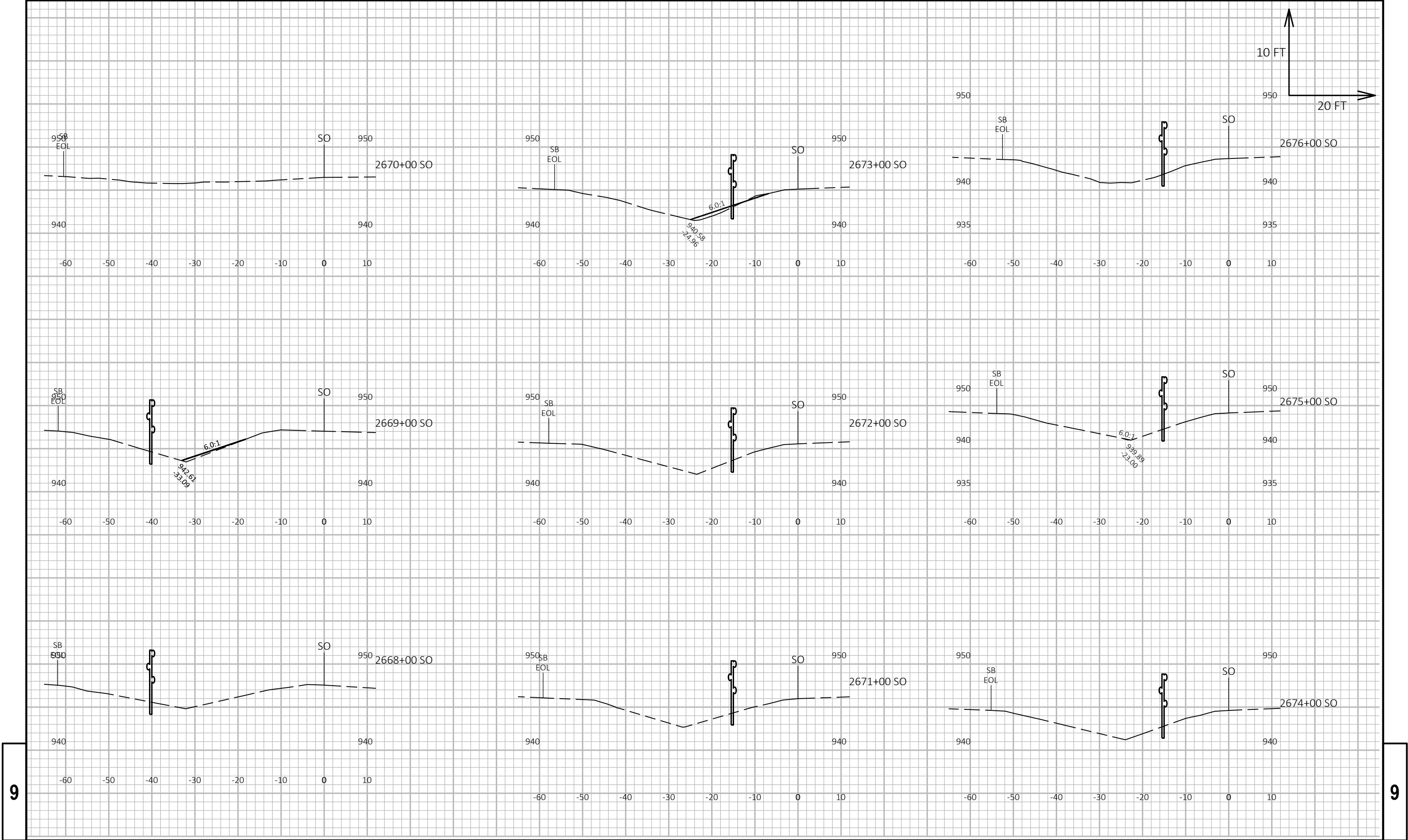




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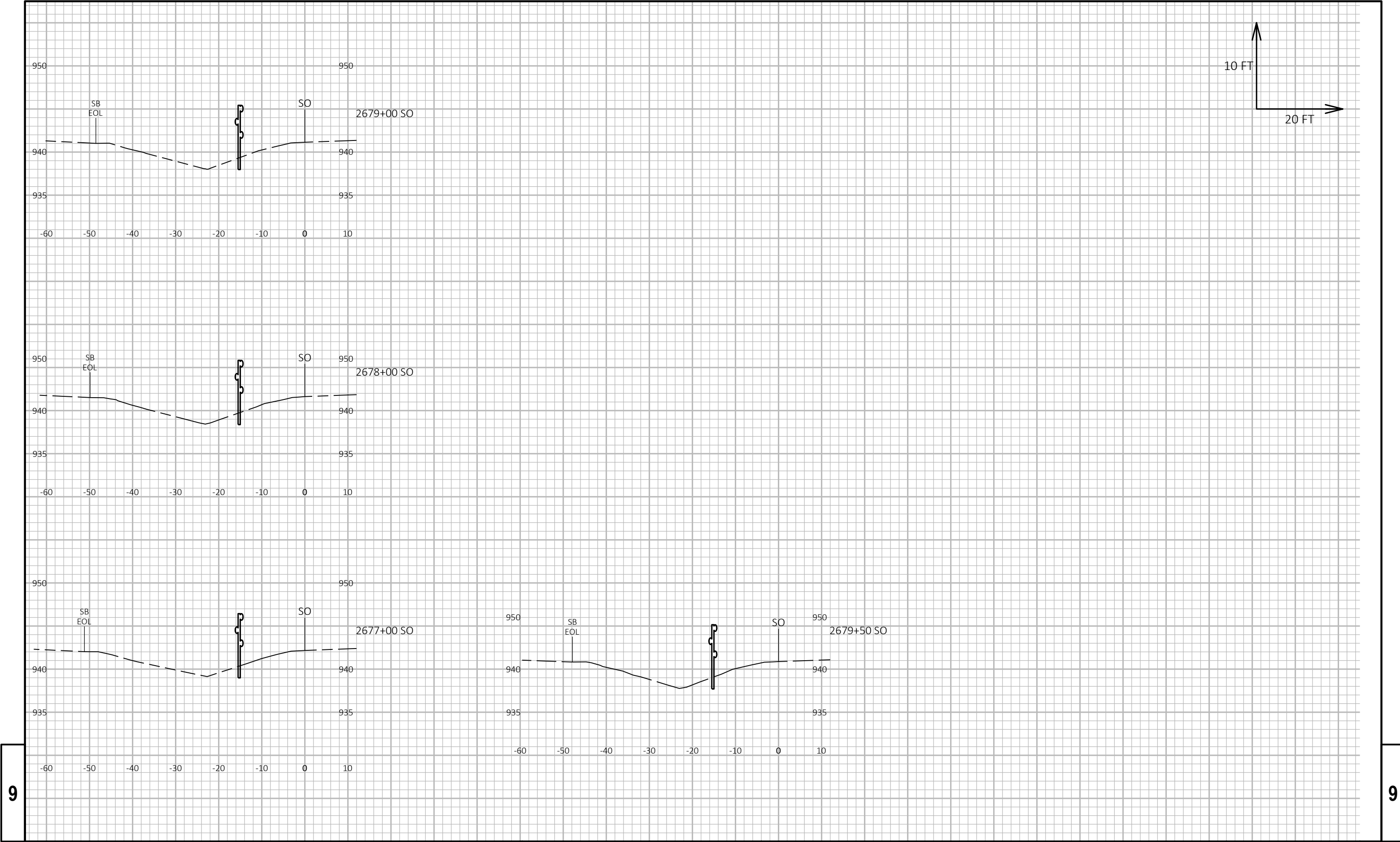
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|------------------------|--------------|---------------|-------------------------------|-------|---|
| PROJECT NO: 1112-02-61 | HWY: USH 151 | COUNTY: DODGE | CROSS SECTIONS: SOUTH SEGMENT | SHEET | E |
|------------------------|--------------|---------------|-------------------------------|-------|---|



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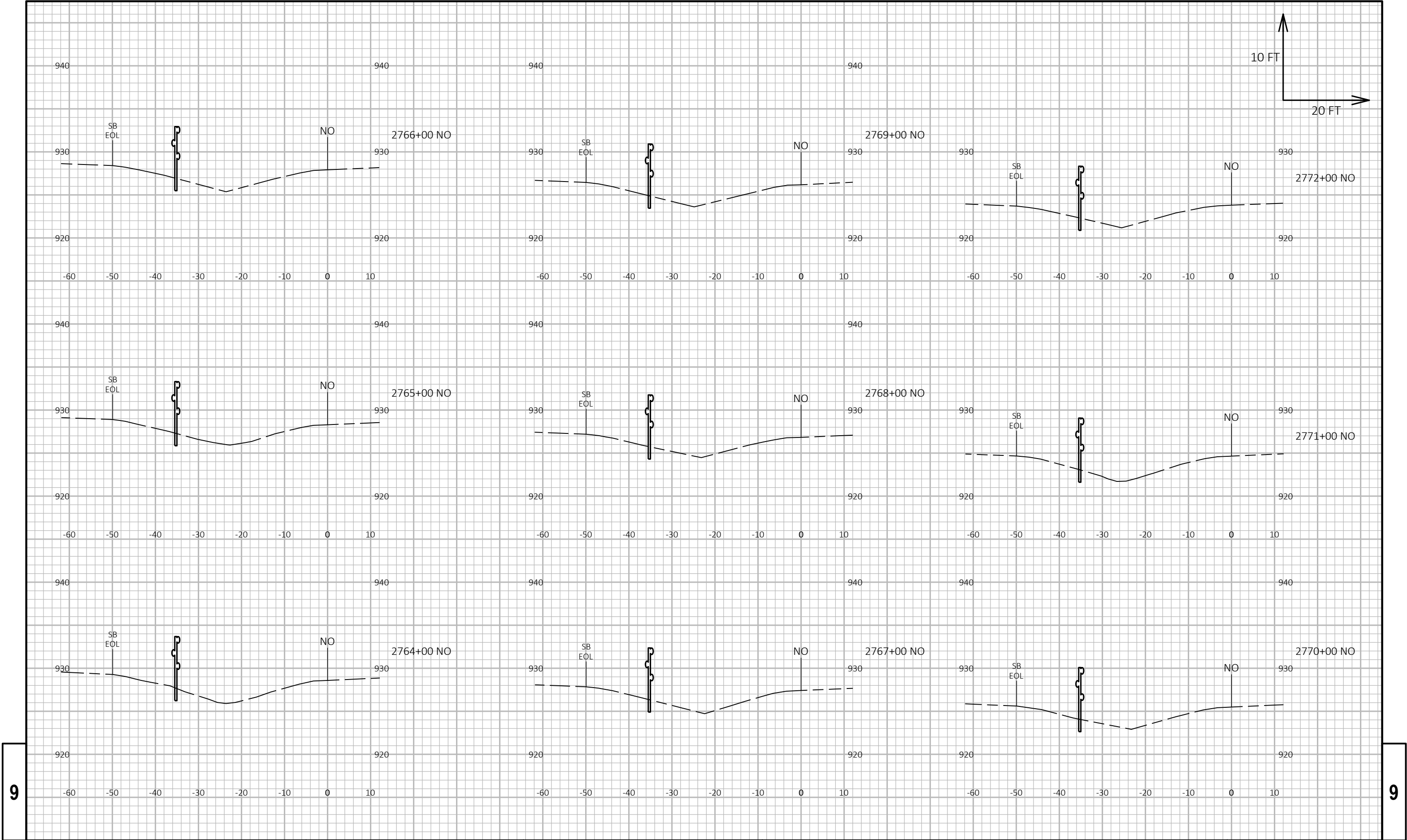
|                        |            |                 |                               |       |   |
|------------------------|------------|-----------------|-------------------------------|-------|---|
| PROJECT NO: 1112-02-61 | HWY: DODGE | COUNTY: USH 151 | CROSS SECTIONS: SOUTH SEGMENT | SHEET | E |
|------------------------|------------|-----------------|-------------------------------|-------|---|

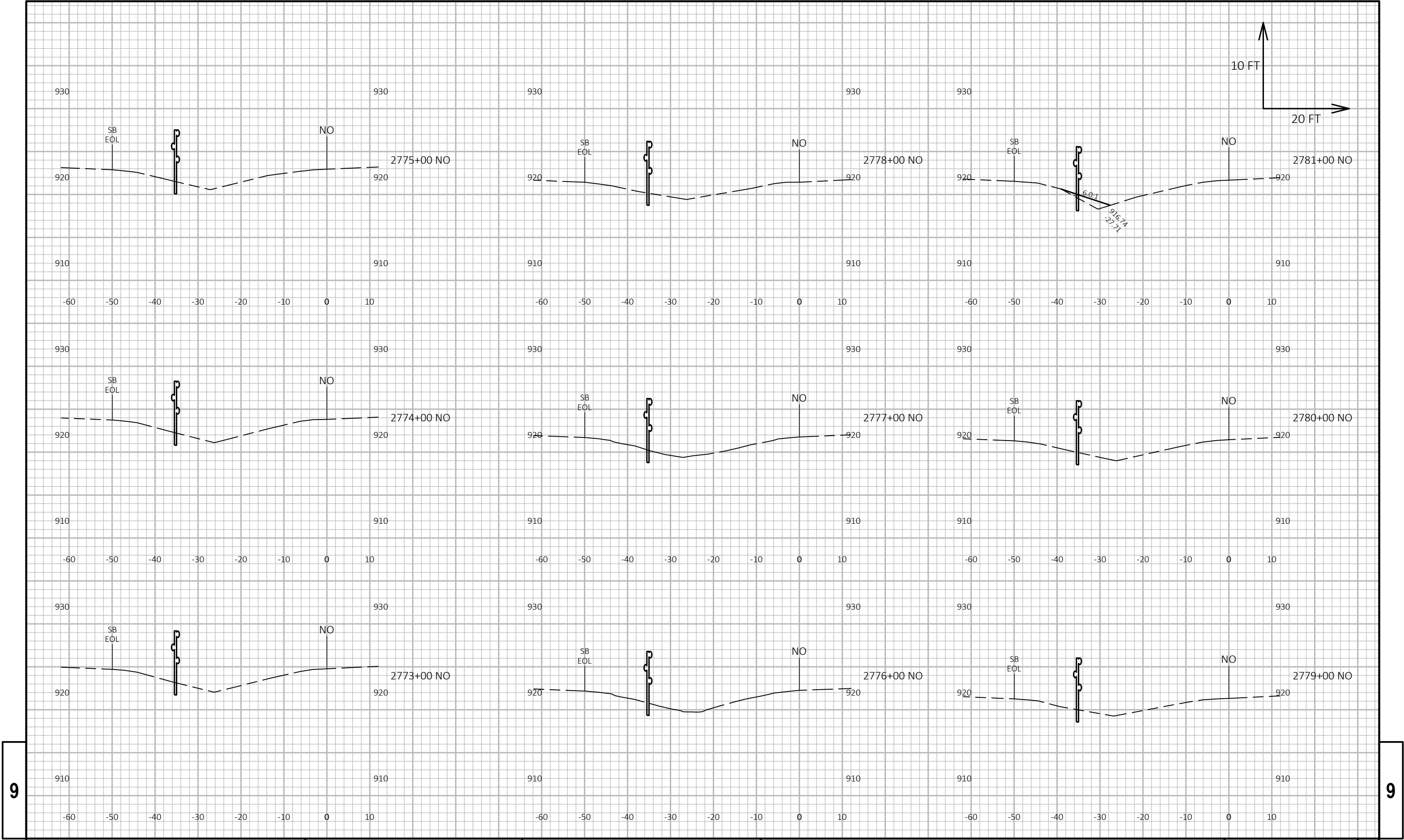


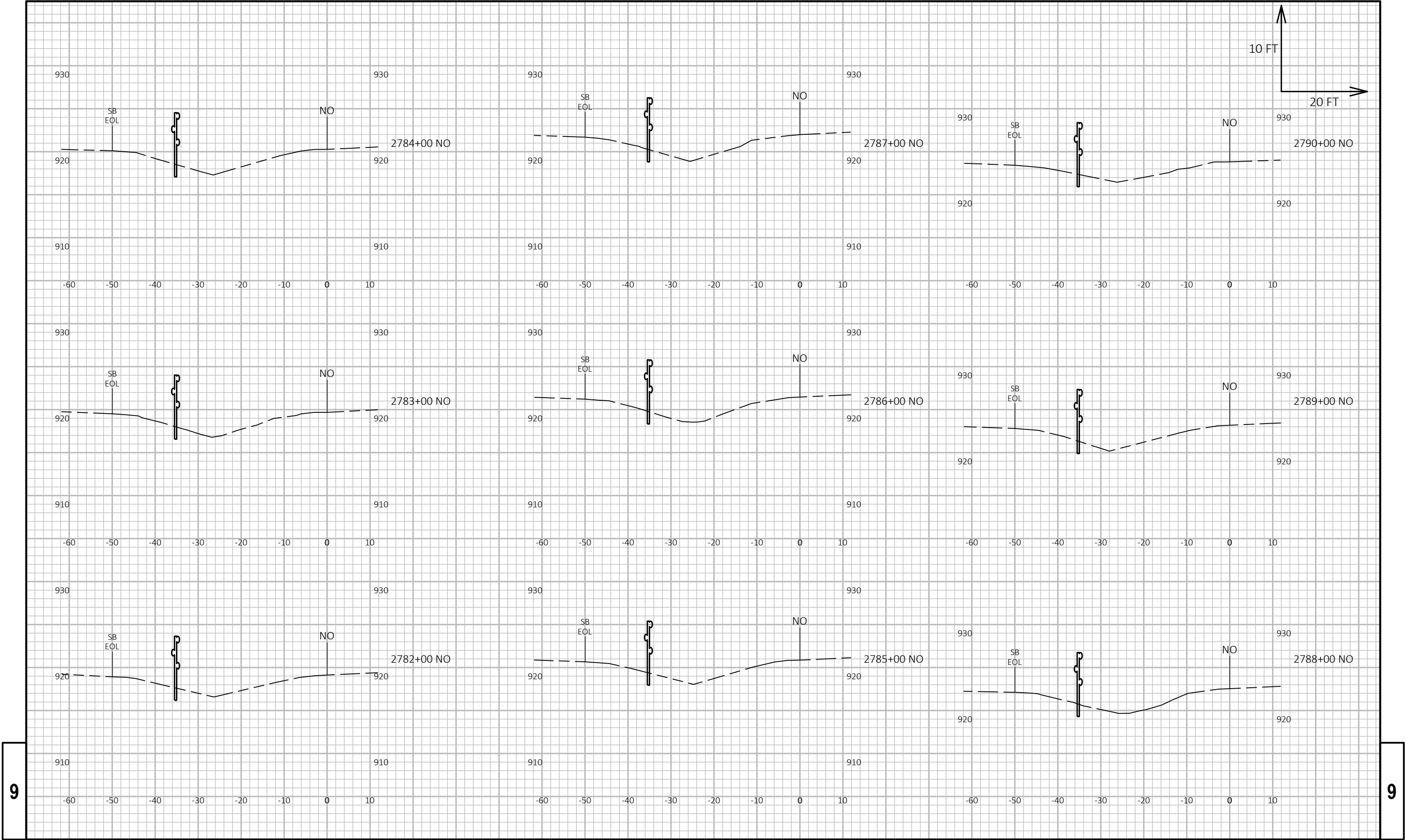
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| PROJECT NO: 1112-02-61 | HWY: USH 151 | COUNTY: DODGE | CROSS SECTIONS: SOUTH SEGMENT | SHEET | E |
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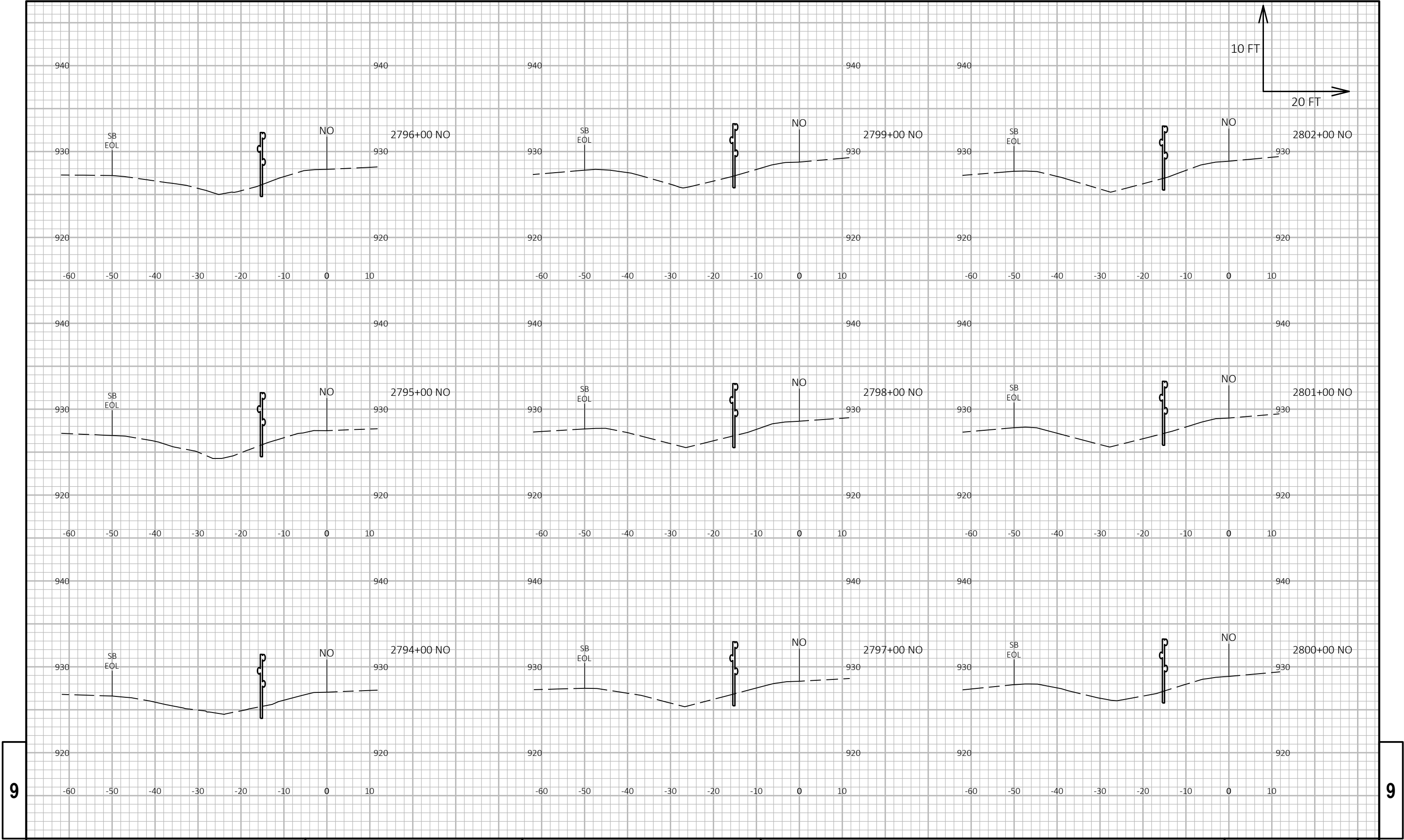




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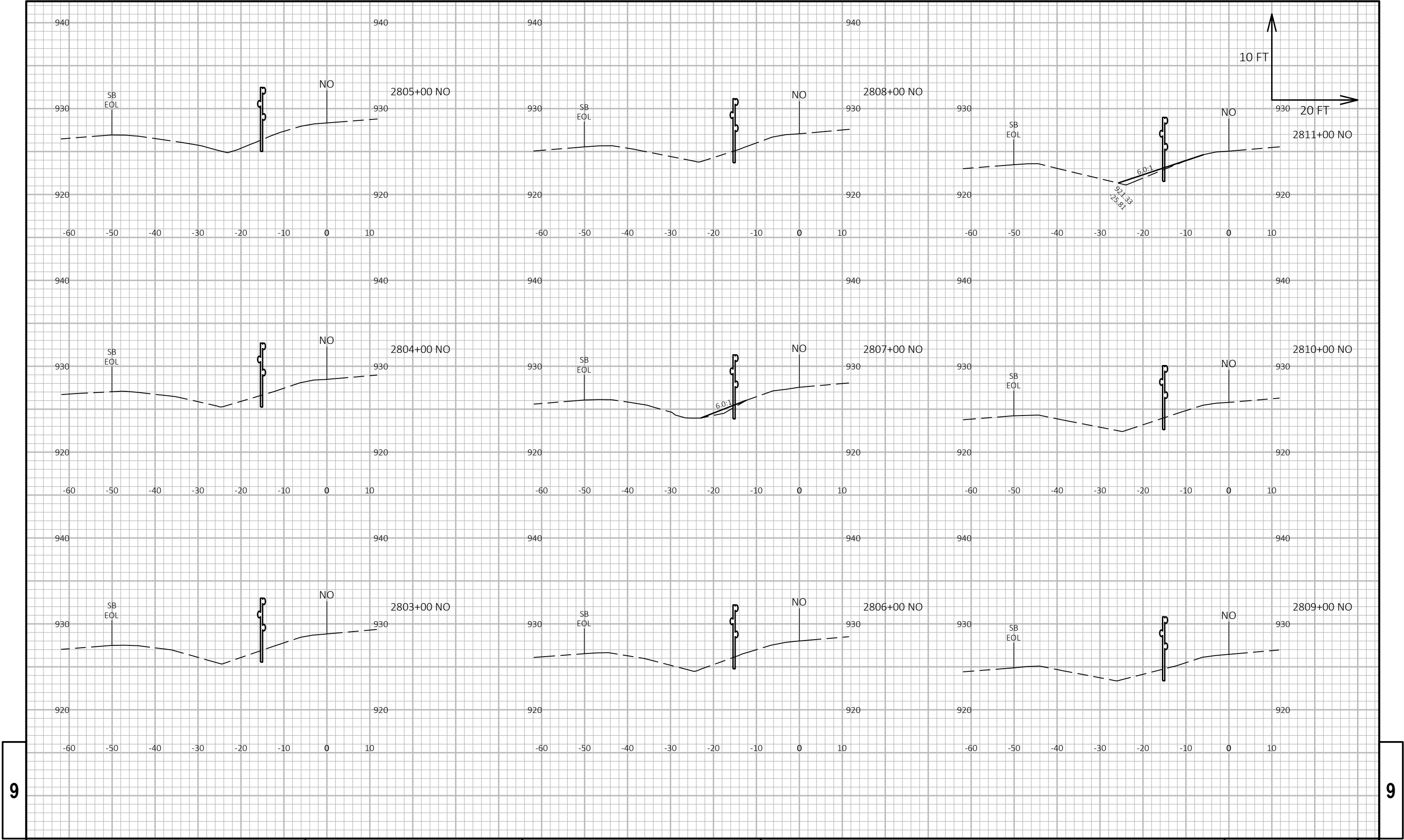
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|------------------------|--------------|---------------|-------------------------------|-------|---|
| PROJECT NO: 1112-02-61 | HWY: USH 151 | COUNTY: DODGE | CROSS SECTIONS: NORTH SEGMENT | SHEET | E |
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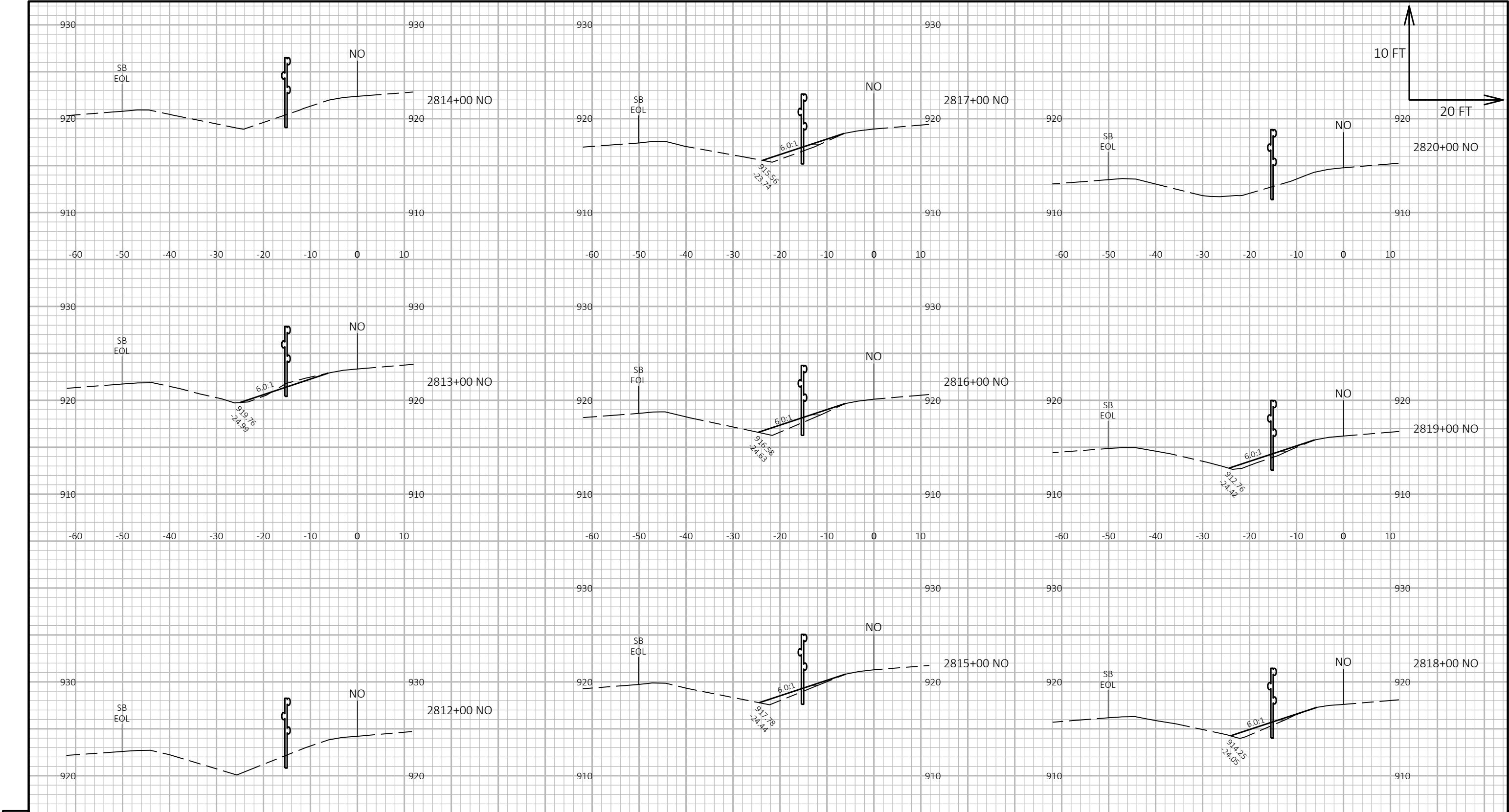


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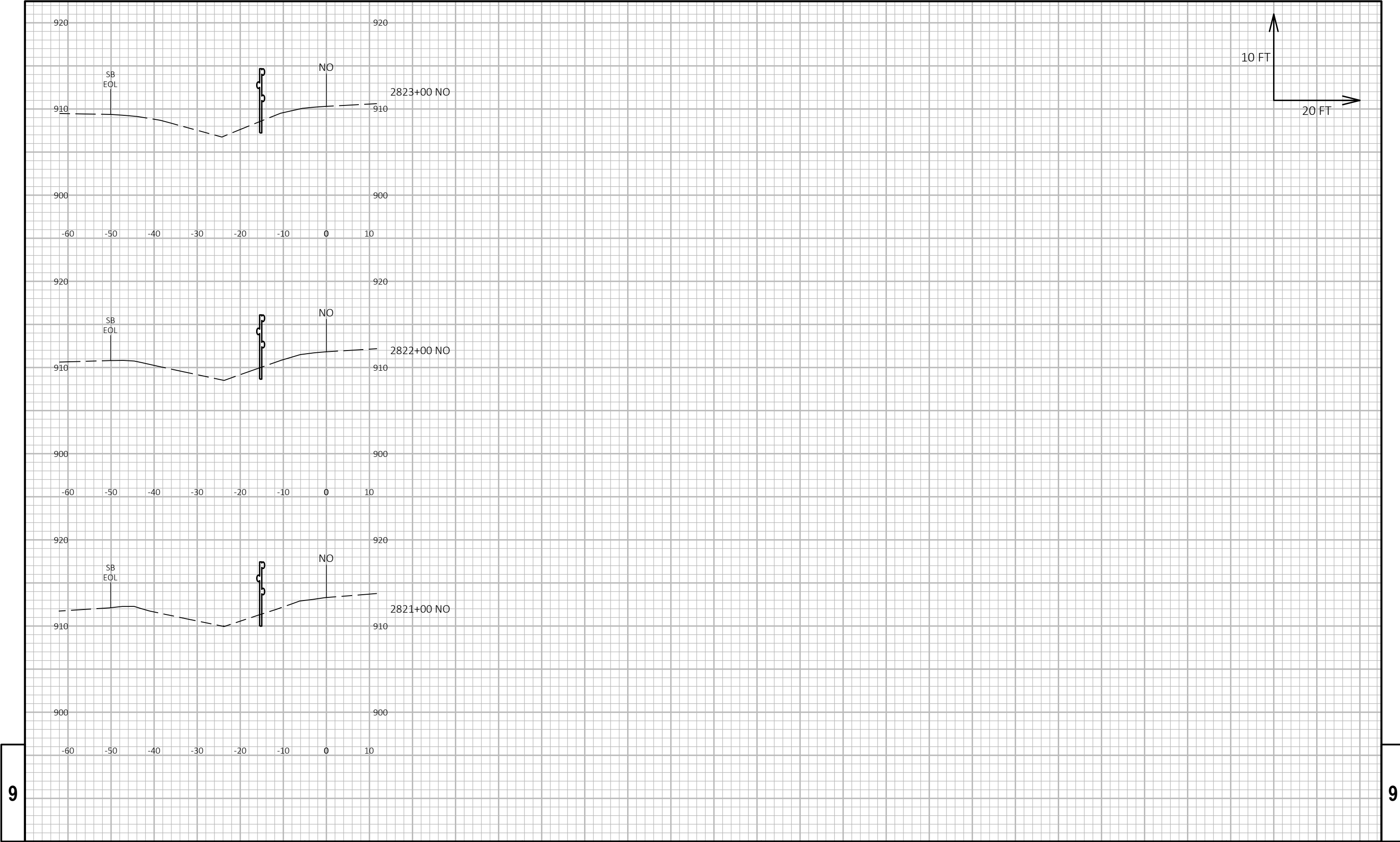
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|------------------------|--------------|---------------|-------------------------------|-------|---|
| PROJECT NO: 1112-02-61 | HWY: USH 151 | COUNTY: DODGE | CROSS SECTIONS: NORTH SEGMENT | SHEET | E |
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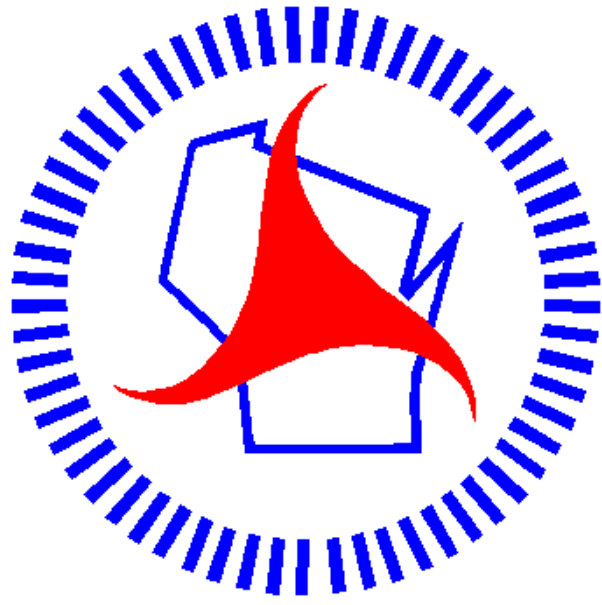
|   |  |                        |              |               |                               |       |   |
|---|--|------------------------|--------------|---------------|-------------------------------|-------|---|
| 9 |  | PROJECT NO: 1112-02-61 | HWY: USH 151 | COUNTY: DODGE | CROSS SECTIONS: NORTH SEGMENT | SHEET | E |
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## Notes



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