# Appendix C

# Construction Plans

# MINNESOTA DEPARTMENT OF TRANSPORTATION
# SCOTT COUNTY HIGHWAY DEPARTMENT

## CONSTRUCTION PLAN FOR GRADING, AGGREGATE BASE, BITUMINOUS PAVEMENT, STORM WATER PONDS, SIGNING AND STRIPING

**LOCATED ON** C.R. 60 **FROM** C.S.A.H 1 & C.S.A.H. 6 INTERSECTION IN BLAKELEY TOWNSHIP **TO** 2925' SOUTH/SOUTHEAST ON C.R. 60

**FROM** 823.25' WEST & 820.30' NORTH OF THE E1/4 CORNER OF SEC. 8–T113N–R25W

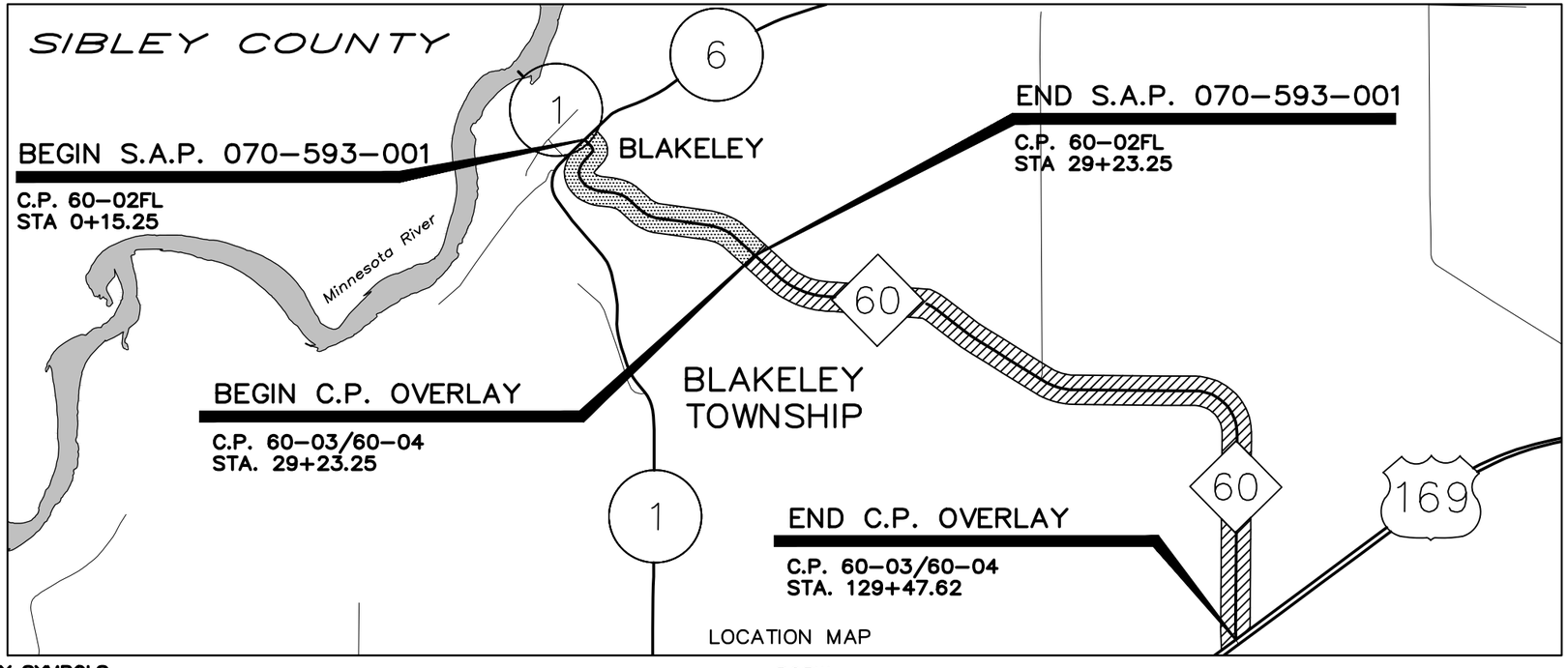
**TO** 1,496.81' EAST & 744.61' SOUTH OF THE E1/4 CORNER OF SEC. 8–T113N–R25W

(LEGAL DESCRIPTION)

**OVERLAY LOCATED ON** C.R. 60 **FROM** 2925' SOUTH/SOUTHEAST ON C.R. 60 **TO** U.S. HIGHWAY 169 ROW

### PLAN SYMBOLS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT–OF–WAY LINE
PRESENT RIGHT–OF–WAY LINE
CONTROL OF ACCESS LINE
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE




LOCATION MAP

### UTILITY SYMBOLS

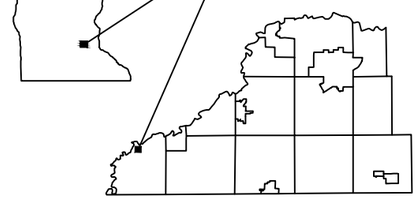
POWER POLE LINE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE AND POWER ON POWER POLES
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL (TELEPHONE CABLE TERMINAL)
GAS MAIN
WATER MAIN
CONDUIT
TELEPHONE CABLE IN CONDUIT
ELECTRIC CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRIC MANHOLE
BURIED TELEPHONE CABLE
BURIED ELECTRIC CABLE
AERIAL TELEPHONE CABLE
SEWER, (SANITARY)
SEWER, (STORM)
SEWER MANHOLE
HANDHOLE
CATCH BASIN
FIRE HYDRANT

SCALES

| | |
|---|---|
| PLAN | 50' |
| PROFILE | 10' |
| INDEX MAP | 1000' |
| X–SECTION | |

| | | |
|---|---|---|
| GROSS LENGTH | 2,908.00 FEET | 0.551 MILES |
| BRIDGES–LENGTH | 0.00 FEET | 0.000 MILES |
| EXCEPTIONS–LENGTH | 0.00 FEET | 0.000 MILES |
| NET LENGTH | 2,908.00 FEET | 0.551 MILES |

PROJECT LOCATION
COUNTY SCOTT
DISTRICT METRO



| STATE PROJ. NO. | AREA | JOB |
|---|---|---|
| | | |

| PLAN REVISIONS | | |
|---|---|---|
| DATE | SHEET NO. | APPROVED BY |
| 05/09/16 | 1.1,1.2,1.7,1.9,2.2,3.2,4.1 | CAK |
| 05/09/16 | 5.3,8.1,9.5,12.1–12.5 | CAK |
| | | |
| | | |
| | | |

MINN. PROJ. NO.

### GOVERNING SPECIFICATIONS

THE 2016 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

### INDEX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THIS PLAN CONTAINS 128 SHEETS

### DESIGN DESIGNATION

ADT (Current Year) (2016) = 380
ADT (Future Year) (2036) = 720
HCADT (Future Year) (2036) = 5.9%
FUNCTIONAL CLASSIFICATION: B MINOR ARTERIAL
NO. OF TRAFFIC LANES: 2
NO. OF PARKING LANES: 0
SHOULDER WIDTH: 4'
STRUCTURAL DESIGN: 10
R VALUE: 11 N 18 FACTOR: 98,662
DESIGN SPEED: 55 MPH
BASED ON: STOPPING SIGHT DISTANCE
HEIGHT OF EYE: 3.5' HEIGHT OF OBJECT: 2.0'

DESIGN SPEED NOT ACHIEVED AT :
STA. TO STA. MPH (VERTICAL)

Approved DATE 5/09/2016
SCOTT COUNTY HIGHWAY ENGINEER

DATE
DISTRICT STATE AID ENGINEER
REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE 5/09/2016
CURT KOBILARCSIK LIC. NO. 24756

C.P. 60–02FL — TITLE SHEET

S.A.P. 070–593–001 — Sheet No. 1.1 of 1.13 Sheets

## STATEMENT OF ESTIMATED QUANTITIES

| ** TABLE OR CONST. NOTE NUMBER | SPEC. NO. | ITEM | UNIT | TOTAL EST'D QUANT.'S | PARTICIPATING SAP 070-593-001 CR 60 ROADWAY | PARTICIPATING SAP 070-593-001 CR 60 STORM SEWER | SCOTT COUNTY CP OVERLAY |
|---|---|---|---|---|---|---|---|
| | 2021.501 | MOBILIZATION | LUMP SUM | 1.00 | 0.60 | 0.09 | 0.31 |
| | 2031.501 | FIELD OFFICE TYPE D | EACH | 1.00 | 0.87 | 0.13 | |
| B | 2101.501 | CLEARING | ACRE | 6.10 | 6.10 | | |
| B | 2101.506 | GRUBBING | ACRE | 6.10 | 6.10 | | |
| B | 2104.501 | REMOVE PIPE CULVERTS | LIN FT | 30 | 30 | | |
| B | 2104.501 | REMOVE CONCRETE CURB | LIN FT | 148 | 148 | | |
| B,5,2 | 2104.503 | REMOVE BITUMINOUS PAVEMENT | SQ FT | 335,233 | 51,418 | | 283,815 |
| B,2,6 | 2104.513 | SAWING BITUMINOUS PAVEMENT (FULL DEPTH) | LIN FT | 246 | 176 | | 70 |
| J | 2104.523 | SALVAGE SIGN TYPE C | EACH | 41 | 41 | | |
| L | 2104.523 | SALVAGE SIGN TYPE D | EACH | 2 | 2 | | |
| B,4 | 2104.601 | REMOVE MISCELLANEOUS DEBRIS | LUMP SUM | 1 | 1 | | |
| B | 2104.607 | SALVAGE RANDOM RIPRAP | CU YD | 146 | 146 | | |
| 11 | 2104.610 | SALVAGE 6-FT DIA TREE ROOT BALL WITH 25-FT STEM | EACH | 100 | | | 100 |
| 11 | 2104.610 | SALVAGE 35-FT LOG | EACH | 100 | | | 100 |
| A,3 | 2105.501 | COMMON EXCAVATION (P) | CU YD | 80,456 | 80,456 | | |
| A | 2105.522 | SELECT GRANULAR BORROW (CV) (P) | CU YD | 8,633 | 8,633 | | |
| A | 2105.523 | COMMON BORROW (CV) | CU YD | 30,018 | 30,018 | | |
| D | 2105.604 | GEOTEXTILE FABRIC TYPE IV | SQ YD | 200 | 200 | | |
| | 2112.603 | SHOULDER PREPARATION | LIN FT | 20,050 | | | 20,050 |
| C | 2118.501 | AGGREGATE SURFACING CLASS 2 | TON | 99 | 99 | | |
| C | 2211.503 | AGGREGATE BASE (CV) CLASS 5 (P) | CU YD | 4,650 | 4,650 | | |
| C | 2221.501 | SHOULDER BASE AGGREGATE CLASS 2 | TON | 1,123 | 363 | | 760 |
| C | 2360.501 | TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) | TON | 7,796 | 2,701 | | 5,095 |
| C | 2360.502 | TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,B) | TON | 1,555 | 1,555 | | |
| | 2360.502 | TYPE SP 19.0 NON WEARING COURSE MIXTURE (3,B) | TON | 5,885 | | | 5,885 |
| E | 2501.515 | 42" RC PIPE APRON | EACH | 2 | | 2 | |
| E | 2501.515 | 48" RC PIPE APRON | EACH | 4 | | 4 | |
| E | 2501.515 | 54" RC PIPE APRON | EACH | 1 | | 1 | |
| E | 2501.561 | 48" RC PIPE CULVERT DESIGN 3006 | LIN FT | 80 | | 80 | |
| D | 2503.541 | 21" RC PIPE SEWER DESIGN 3006 CLASS III | LIN FT | 62 | | 62 | |
| D | 2503.541 | 36" RC PIPE SEWER DESIGN 3006 CLASS IV | LIN FT | 33 | | 33 | |
| D | 2503.541 | 42" RC PIPE SEWER DESIGN 3006 CLASS III | LIN FT | 742 | | 742 | |
| D | 2503.541 | 48" RC PIPE SEWER DESIGN 3006 CLASS III | LIN FT | 104 | | 104 | |
| D | 2503.541 | 54" RC PIPE SEWER DESIGN 3006 CLASS IV | LIN FT | 87 | | 87 | |
| D | 2503.541 | 54" RC PIPE SEWER DESIGN 3006 CLASS V | LIN FT | 399 | | 399 | |
| D | 2503.602 | CONNECT TO EXISTING STORM SEWER | EACH | 1 | | 1 | |
| D | 2506.501 | CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020 | LIN FT | 11.3 | | 11.3 | |
| D | 2506.501 | CONSTRUCT DRAINAGE STRUCTURE DESIGN 60-4020 | LIN FT | 21.9 | | 21.9 | |
| D | 2506.501 | CONSTRUCT DRAINAGE STRUCTURE DESIGN 72-4020 | LIN FT | 23.3 | | 23.3 | |
| D | 2506.501 | CONSTRUCT DRAINAGE STRUCTURE DESIGN 84-4020 | LIN FT | 7.9 | | 7.9 | |
| D | 2506.501 | CONSTRUCT DRAINAGE STRUCTURE DESIGN 96-4020 | LIN FT | 18.0 | | 18.0 | |
| D | 2506.501 | CONSTRUCT DRAINAGE STRUCTURE DESIGN 108-4020 | LIN FT | 28.8 | | 28.8 | |
| D,E | 2511.501 | RANDOM RIPRAP CLASS III | CU YD | 180 | 180 | | |
| B | 2511.607 | INSTALL RANDOM RIPRAP | CU YD | 146 | 146 | | |
| | 2531.501 | CONCRETE CURB AND GUTTER DESIGN D424 | LIN FT | 43 | 43 | | |

## STATEMENT OF ESTIMATED QUANTITIES

| ** TABLE OR CONST. NOTE NUMBER | SPEC. NO. | ITEM | UNIT | TOTAL EST'D QUANT.'S | PARTICIPATING SAP 070-593-001 CR 60 ROADWAY | PARTICIPATING SAP 070-593-001 CR 60 STORM SEWER | SCOTT COUNTY CP OVERLAY |
|---|---|---|---|---|---|---|---|
| 9 | 2540.602 | MAIL BOX | EACH | 2 | 1 | | 1 |
| 9 | 2540.602 | MAIL BOX SUPPORT | EACH | 13 | 2 | | 11 |
| | 2563.601 | TRAFFIC CONTROL | LUMP SUM | 1.00 | 0.60 | 0.09 | 0.31 |
| K | 2564.531 | SIGN PANELS TYPE C | SQ FT | 79 | 79 | | |
| L | 2564.537 | INSTALL SIGN TYPE D | EACH | 2 | 2 | | |
| F | 2573.502 | SILT FENCE, TYPE MS | LIN FT | 4,518 | 4,518 | | |
| F | 2573.530 | STORM DRAIN INLET PROTECTION | EACH | 8 | 8 | | |
| | 2573.533 | SEDIMENT CONTROL LOG TYPE COMPOST | LIN FT | 120 | 120 | | |
| | 2573.535 | STABILIZED CONSTRUCTION EXIT | LUMP SUM | 1 | 1 | | |
| F | 2573.560 | CULVERT END CONTROLS | EACH | 3 | 3 | | |
| F | 2574.508 | FERTILIZER TYPE 3 | POUND | 2,961 | 2,961 | | |
| F | 2574.508 | FERTILIZER TYPE 4 | POUND | 127 | 127 | | |
| F,8 | 2574.609 | COMMON TOPSOIL BORROW | TON | 4,831 | 4,656 | | 175 |
| F | 2575.501 | SEEDING | ACRE | 9.46 | 9.46 | | |
| F | 2575.502 | SEED MIXTURE 25-141 | POUND | 155 | 155 | | |
| F | 2575.502 | SEED MIXTURE 33-261 | POUND | 38 | 38 | | |
| F | 2575.502 | SEED MIXTURE 35-241 | POUND | 227 | 227 | | |
| F | 2575.523 | EROSION CONTROL BLANKETS CATEGORY 6 | SQ YD | 424 | 424 | | |
| F | 2575.525 | TURF REINFORCEMENT MAT CATEGORY 4 | SQ YD | 3,660 | 3,660 | | |
| F | 2575.560 | HYDRAULIC BONDED FIBER MATRIX | POUND | 33,110 | 33,110 | | |
| | 2582.502 | 4" SOLID LINE PAINT | LIN FT | 5,950 | | | 5,950 |
| H | 2582.502 | 6" SOLID LINE PAINT | LIN FT | 26,777 | 6,672 | | 20,105 |
| | 2582.502 | 4" BROKEN LINE PAINT | LIN FT | 7,930 | | | 7,930 |
| H | 2582.502 | 4" DOUBLE SOLID LINE PAINT | LIN FT | 5,462 | 3,332 | | 2,130 |

## INDEX OF TABULATIONS


| TABLE | SHEET | DESCRIPTION |
|---|---|---|
| A | 1.4-1.6 | EARTHWORK |
| B | 1.7 | REMOVALS |
| C | 1.7 | SURFACING |
| D | 1.8 | DRAINAGE |
| E | 1.8 | CULVERTS |
| F | 1.9 | EROSION CONTROL |
| G | 1.8 | CASTINGS |
| H | 10.1 | PAVEMENT MARKINGS |
| J | 1.9 | SALVAGE TYPE C SIGNS |
| K | 1.9 | PROPOSED SIGNING |
| L | 1.9 | SALVAGE & INSTALL TYPE D SIGNS |


NOTE: TABLE "I" WAS NOT USED

## INDEX OF DETAILS


| DETAIL | SHEET | DESCRIPTION |
|---|---|---|
| 1 | 1.4 | INSLOPE BENCH CONSTRUCTION |
| 2 | 1.8 | PIPE & STRUCTURE BEDDING |
| 3 | 1.11 | SEDIMENT POND BERM |
| 4 | 7.2 | BITUMINOUS STEP ON RURAL SECTIONS |


| DATE | BY | REVISIONS |
|---|---|---|
| 1/12/2016 | NRT | ADDITION OF D424 C&G. |
| 2/8/2016 | JCS | UPDATED EARTHWORK QUANTITIES |
| 2/24/2016 | JCS | ADDED SALVAGE OF TREE ROOT BALL WITH STEM AND LOGS |
| 5/9/2016 | NRT | REVISED QUANTITIES PER FEMA/UPADTED OVERLAY QUANTITIES |

DRAWN: NT
CHECKED: JS
APPROVED: JS

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 05/09/2016
Reg. No. 24756

C.P. 60-02FL — ESTIMATED QUANTITIES

S.A.P. 070-593-001 — Sheet No. 1.2 of 1.13 Sheets

CONSTRUCTION NOTES:

1. UTILITY COMPANIES WILL RELOCATE THEIR FACILITIES IN ADVANCE OF, OR CONCURRENTLY WITH THE CONSTRUCTION OPERATIONS UNDER THIS CONTRACT. THE CONTRACTOR SHALL SCHEDULE CONSTRUCTION IN COOPERATION WITH UTILITY RELOCATION.

2. WHEN REMOVING PAVEMENTS, FULL DEPTH SAWCUTS SHALL BE MADE PERPENDICULAR TO THE ROADWAY CENTERLINE AND ALONG EXISTING LANE LINES.

3. STRIP TOPSOIL FROM AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING. THE DEPTH OF TOPSOIL IS VARIABLE THROUGHOUT THE PROJECT. UNLESS PROVIDED FOR IN THE STATEMENT OF ESTIMATED QUANTITIES AS A LINE ITEM, ALL TOPSOIL STRIPPING, STOCKPILING, AND RESPREADING SHALL BE INCIDENTAL TO THE CONTRACT.

4. PROVIDE FOR THE REMOVAL AND DISPOSAL OF ANY INPLACE SURFACING, GUARDRAIL, OTHER STRUCTURES, OR DEBRIS THAT WOULD INTERFERE WITH THE CONSTRUCTION. ALL SUCH MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL EITHER BE RECYCLED OR DISPOSED OF OFF THE PROJECT LIMITS IN ACCORDANCE WITH THE SPECS.

5. ALL INPLACE PAVEMENT REMOVAL ON THE PROJECT IS PAID FOR AS "REMOVE BITUMINOUS PAVEMENT" AND IS NOT INCLUDED IN THE EARTHWORK QUANTITIES.

6. WHERE MATCHING NEW SURFACING, AT CROSSROADS OR PROJECT TERMINI, TO EXISTING PAVEMENTS, CUT VERTICALLY TO THE BOTTOM OF EXISTING OR PROPOSED SURFACING, WHICHEVER IS DEEPER, THEN 1V:20H TO THE BOTTOM OF THE RECOMMENDED SUBGRADE TREATMENT.

7. CR 60 CLASS 2 SHOULDERS SHALL RECEIVE TACK COAT AS DIRECTED BY ENGINEER. UNLESS PROVIDED FOR IN THE STATEMENT OF ESTIMATED QUANTITIES AS A LINE ITEM, TACK COAT SHALL BE INCIDENTAL.

8. PLACE A MINIMUM OF 6 INCHES OF TOPSOIL ON ALL AREAS SCHEDULED FOR PERMANENT TURF ESTABLISHMENT.

9. MAILBOX SUPPORT INCLUDES REMOVING THE EXISTING SUPPORT, FURNISHING & INSTALLING A NEW MAILBOX SUPPORT, SALVAGING THE EXISTING MAILBOX AND INSTALLING ON NEW SUPPORT. THE MAILBOX ITEM WILL BE USED ONLY IF THE ENGINEER DETERMINES THAT THE SALVAGED MAILBOX DOES NOT MEET THE LOCAL POSTMASTER'S STANDARDS AND CANNOT BE USED. SPEC. 1903 WILL NOT APPLY TO THIS ITEM. THE NEW LOCATION WILL BE STAKED BY THE ENGINEER AFTER APPROVAL FROM THE LOCAL POSTMASTER. THE EXISTING MAILBOXES & SUPPORTS WILL BE OFFERED TO THE PROPERTY OWNER BEFORE DISPOSING. SEE MnDOT STANDARD PLATE NO. 9350 FOR DETAILS.

10. CONSTRUCTION SURVEYING SHALL BE CONSIDERED INCIDENTAL.

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT

**STANDARD PLATES**

| PLATE NO. | DESCRIPTION |
|---|---|
| 3006G | GASKET JOINT FOR R.C. PIPE (2 SHEETS) |
| 3040F | CORRUGATED METAL PIPE CULVERT |
| 3100G | CONCRETE APRON FOR REINFORCED CONCRETE PIPE |
| 3123J | METAL APRON FOR C.S. PIPE |
| 3124B | METAL APRON CONNECTION |
| 3133D | RIPRAP AT RCP OUTLETS |
| 3145G | CONCRETE PIPE OR PRECAST CULVERT TIES |
| 3221C | CORRUGATED STEEL PIPE COUPLING BAND (3 SHEETS) |
| 4010H | CONCRETE SHORT CONE AND ADJUSTING RING |
| 4011E | PRECAST CONCRETE BASE |
| 4020J | MANHOLE OR CATCH BASIN (2 SHEETS) |
| 4026A | CONCRETE ENCASED CONCRETE ADJUSTING RINGS |
| 4101D | RING CASTING FOR MANHOLE OR CATCH BASIN |
| 4110F | COVER CASTING FOR MANHOLE |
| 4143E | STOOL GRATE & CONCRETE FRAME |
| 4180J | MANHOLE OR CATCH BASIN STEP |
| 8000I | STANDARD BARRICADES |
| 9000E | APPROACHES AND ENTRANCES |
| 9350A | MAILBOX SUPPORT |
| | |

| DATE | BY | REVISIONS |
|---|---|---|
| | | |

| | |
|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

CONSTRUCTION NOTES & STANDARD PLATES

S.A.P. 070–593–001

Sheet No. 1.3 of 1.13 Sheets

## EARTHWORK SUMMARY — TAB A

| STATION | EXCAVATION TOTALS | EMBANKMENT VOLUMES | | |
|---|---|---|---|---|
| | COMMON (C.Y.) | COMMON (C.Y.) | TOPSOIL (C.Y.) | GRANULAR (C.Y.) |
| PROPOSED CR 60 | 80,923 | 88,789 | 6,856 | 8,633 |
| EXISTING CR 60 CONNECTION | 392 | | 52 | |
| SCHENDLINGER DRIVEWAY | 81 | | 27 | |
| BERM 1 | | 813 | 99 | |
| BERM 2 | | 1,036 | 130 | |
| POND ACCESS | | 694 | 99 | |
| PAVEMENT REMOVALS | -1,014 | | | |
| PROJECT TOTAL | 80,382 | 91,332 | 7,263 | 8,633 |

## AVAILABLE EXCAVATION (CUBIC YARDS) — TAB B

PAY ITEMS

| TOTAL COMMON EXCAVATION |
|---|
| 80,382 |

COMMON (EV) — 80,382 = 80,382 — COMMON

- TOPSOIL (U.S. DEPTH) — 7,628 (EV) / 1 = 7,628 (CV) TOPSOIL
- COMMON — 72,754 (EV) / 1.25 = 58,203 (CV) COMMON

## EXCAVATION LOSS (CUBIC YARDS)

TOPSOIL (50% LOSS) — 7,628 / 2 = 3,814 (CV) TOPSOIL

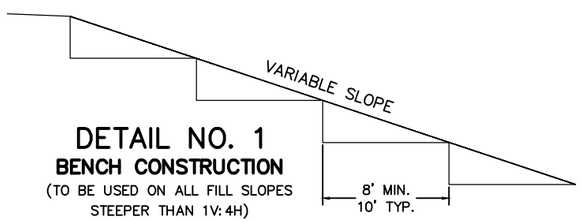
COMMON (GAIN FROM TOPSOIL) — 58,203 + 3,814 / 1.25 = 61,255 (CV) COMMON

## NEEDED EMBANKMENT (CUBIC YARDS)

| | | |
|---|---|---|
| TOPSOIL | 7,263 | (CV) |
| COMMON | 91,332 | (CV) |
| SELECT GRANULAR | 8,633 | (CV) |

## EXCESS QUANTITIES (CUBIC YARDS)

| | AVAILABLE QUANTITIES | - | NEEDED QUANTITIES | = | EXCESS QUANTITIES |
|---|---|---|---|---|---|
| TOPSOIL (CV) | 3,814 | - | 7,263 | = | -3,449 |
| COMMON (CV) | 61,255 | - | 91,332 | = | -30,077 |
| SELECT GRANULAR (CV) | 0 | - | 8,633 | = | -8,633 |




## DETAIL NO. 1
**BENCH CONSTRUCTION**
(TO BE USED ON ALL FILL SLOPES STEEPER THAN 1V:4H)

# EARTHWORK SUMMARY NOTES

THE AGGREGATE MATERIAL IS INCLUDED AS COMMON EXCAVATION. HOWEVER, IF THE CONTRACTOR ELECTS TO RECYCLE, RECLAIM, DISPOSE OF, OR OTHERWISE REUSE ANY OF THIS MATERIAL ON OR OFF THE PROJECT FOR ANYTHING OTHER THAN EMBANKMENT MATERIAL, THE CONTRACTOR WILL BE REQUIRED TO REPLACE ANY AND ALL MATERIAL WITH ENGINEER APPROVED SUITABLE MATERIAL FOR THE CONSTRUCTION OF THE ROADWAY EMBANKMENT. ANY MATERIAL USED FOR ANYTHING OTHER THAN ROADWAY EMBANKMENT WILL BE DEDUCTED FROM THE COMMON EXCAVATION QUANTITY. THIS WORK MUST BE APPROVED BY THE ENGINEER PRIOR TO COMMENCING.

1. UNLESS PROVIDED FOR AS A PAY ITEM, ALL REMOVAL OF BITUMINOUS CURB, ROCK, OR CONCRETE RUBBLE WILL BE CONSIDERED INCIDENTAL. THE DISPOSAL OF REMOVED BITUMINOUS, CONCRETE CURB, CONCRETE PIPE, CONCRETE WALK, CONCRETE RUBBLE, ROCK, METAL PIPE, AND TREES IS THE RESPONSIBILITY OF THE CONTRACTOR. DISPOSAL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF 2104.3D3.
2. UNLESS DIRECTED OTHERWISE BY THE ENGINEER, ANY MATERIAL THAT IS FOUND TO BE UNNECESSARY FOR THE CONSTRUCTION OF THE ROADWAY AND IF DISPOSAL OF SAME BECOMES NECESSARY, ON OR OFF THE PROJECT, THE DISPOSAL AND ALL RELATED ITEMS WILL BE CONSIDERED INCIDENTAL. THE CONTRACTOR WILL NOT BE ALLOWED TO REMOVE ANY EXCESS MATERIAL OFF OF THE PROJECT UNTIL THE PROJECT IS COMPLETE UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
3. ANY EXISTING BITUMINOUS USED FOR THE ROADWAY EMBANKMENT MUST BE 4 INCHES OR LESS IN SIZE AND CANNOT BE PLACED IN THE UPPER 3 FEET OF THE ROADWAY EMBANKMENT.
4. SEE CROSS SECTIONS FOR SUBCUT DEPTH AND LOCATIONS. SUBCUT QUANTITIES ARE INCLUDED IN COMMON EXCAVATION. ADDITIONAL SUBGRADE CORRECTIONS, IF REQUIRED, WILL BE DESIGNATED BY THE ENGINEER AND PAID FOR AS COMMON EXCAVATION. THE UPPER 2' OF ANY SUBCUT WILL BE FILLED WITH GRANULAR MATERIAL, EITHER GRANULAR BORROW OR FROM MATERIAL ON SITE AS DIRECTED BY THE ENGINEER.
5. TO THE EXTENT POSSIBLE, THE CONTRACTOR WILL BE REQUIRED TO USE THE ON-SITE COMMON EXCAVATION MATERIAL FOR THE GRANULAR BACKFILL OF THE 2 FOOT SUBCUT IF THE PROJECT ENGINEER DEEMS THIS MATERIAL ACCEPTABLE.
6. ALL GRANULAR MATERIAL FOUND ON-SITE SHALL BE PLACED ONLY AS DIRECTED BY THE PROJECT ENGINEER.
7. DITCH BOTTOMS AND TOPS OF BACKSLOPES ARE TO BE ROUNDED AS DIRECTED BY THE ENGINEER AND ALL WORK WILL BE CONSIDERED INCIDENTAL. SEE CROSS SECTIONS FOR DITCH DEPTHS.
8. ONLY SUITABLE MATERIAL AS APPROVED BY THE ENGINEER SHALL BE USED FOR ROADBED CONSTRUCTION WITHIN THE 1:2 SLOPES AS SHOWN ON THE TYPICAL GRADING SECTIONS AND THE CROSS SECTIONS. WHERE THE PROPOSED ALIGNMENT EXTENDS OFF THE EXISTING ROADWAY ALL TOPSOIL SHALL BE REMOVED FROM WITHIN THE 1:2 SLOPES.
9. UNLESS PROVIDED FOR AS A PAY ITEM, TOPSOIL STRIPPING WILL BE CONSIDERED INCIDENTAL. NO PAYMENT WILL BE MADE FOR STOCKPILING OR REPLACING THE TOPSOIL ON THE SLOPES AND DITCH BOTTOMS, NOR WILL ANY UNDERCUTTING MADE PRIOR TO SPREADING THE TOPSOIL BE MEASURED FOR PAYMENT.
10. LOCATION AND PREPARATION OF ENTRANCE & APPROACH CONSTRUCTION AND CULVERT INSTALLATION ARE TO BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION. INSLOPES OF ENTRANCES AND APPROACHES SHALL BE 1:6 IN THE RECOVERY AREA OR TO THE ROW WHICHEVER IS GREATER. THIS WILL BE CONSIDERED INCIDENTAL.
11. UNSUITABLE MATERIAL FOR ROADBED CONSTRUCTION SHALL BE USED OUTSIDE THE 1:2 INSLOPE AS SHOWN ON THE TYPICAL GRADING SECTIONS AND THE CROSS SECTIONS. SELECT MATERIAL SHALL NOT BE USED FOR INSLOPE CONSTRUCTION OUTSIDE THE ROADBED UNLESS APPROVED BY THE ENGINEER.
12. ALL SHAPING AROUND CULVERT ENDS AND STORM SEWER INLETS & OUTLETS, AS DIRECTED BY THE ENGINEER, WILL BE CONSIDERED INCIDENTAL.
13. NO WORK, INCLUDING THE STOCKPILING OF TOPSOIL, SHALL EXTEND BEYOND THE RIGHT-OF-WAY, TEMPORARY EASEMENT, OR THE DRAINAGE & UTILITY EASEMENT UNLESS THE CONTRACTOR HAS PROVIDED THE COUNTY WITH A COPY OF THE OWNER'S WRITTEN PERMISSION FOR SUCH WORK. THIS MUST ALSO BE APPROVED BY THE ENGINEER.
14. THE GRADING GRADE IS DEFINED AS THE BOTTOM OF THE CLASS 5 OR CLASS 6 AGGREGATE BASE.
15. SELECT OR SUITABLE GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF TOPSOIL, DEBRIS, ORGANIC MATERIAL, AND OTHER UNSTABLE MATERIAL AS DETERMINED BY THE ENGINEER.
16. GRANULAR & SELECT GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF MNDOT SPEC. 3149.2B.
17. OBTAIN COMPACTION ON THE GRADING AND AGGREGATE BASE PORTIONS OF CONSTRUCTION IN ACCORDANCE WITH THE PENETRATION INDEX (PI) REQUIREMENTS.
18. TEST ROLLING WILL NOT BE REQUIRED.
19. PROVIDE A SAWCUT TO ENSURE A UNIFORM JOINT WHERE PLACING NEW PAVEMENT NEXT TO INPLACE PAVEMENT.
20. THE CONTRACTOR IS HEREBY REMINDED OF THEIR RESPONSIBILITY UNDER STATE LAW TO CONTACT ALL UTILITIES THAT MAY HAVE FACILITIES IN THE AREA. CONTACT MUST BE MADE THROUGH GOPHER STATE ONE-CALL.
21. ALL SEED BED PREPARATION SHALL BE IN ACCORDANCE WITH SPEC 2575 AND THE FOLLOWING: WHEN PROJECT FERTILIZER HAS BEEN APPLIED ALL AREAS SHALL BE IMMEDIATELY BLANKETED OR MULCHED AND DISK ANCHORED TO PREVENT ANY RUNOFF OF THE FERTILIZER FROM THE PROJECT. BLANKETS SHALL HAVE NATURAL NETTING AND STITCHING.

| DATE | BY | REVISIONS |
|---|---|---|
| 2/8/2016 | JCS | REVISED EARTHWORK SUMMARY TABLES AND NOTES. |

| | |
|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik — Date 02/10/2016 — Reg. No. 24756

C.P. 60-02FL — EARTHWORK SUMMARY

S.A.P. 070-593-001 — Sheet No. 1.4 of 1.13 Sheets

## CR 60 COMMON EXCAVATION INCLUDING TOPSOIL STRIPPING

| Station | Cut Area (SF) | Fill Area (SF) | Cut Volume (CY) | Fill Volume (CY) | Cumulative Cut Vol (CY) | Cumulative Fill Vol (CY) |
|---|---|---|---|---|---|---|
| 0+00.00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0+35.89 | 184 | 4 | 123 | 3 | 123 | 3 |
| 0+50.00 | 128 | 5 | 82 | 2 | 204 | 5 |
| 1+00.00 | 112 | 4 | 223 | 8 | 427 | 13 |
| 1+50.00 | 117 | 9 | 212 | 12 | 639 | 25 |
| 1+97.00 | 98 | 11 | 187 | 17 | 826 | 42 |
| 2+00.00 | 93 | 74 | 11 | 5 | 837 | 47 |
| 2+10.00 | 56 | 219 | 28 | 54 | 864 | 101 |
| 2+25.66 | 77 | 151 | 38 | 108 | 903 | 208 |
| 2+50.00 | 112 | 168 | 84 | 149 | 987 | 357 |
| 3+00.00 | 48 | 407 | 145 | 546 | 1,132 | 903 |
| 3+50.00 | 38 | 397 | 77 | 758 | 1,209 | 1,662 |
| 4+00.00 | 36 | 708 | 68 | 1,036 | 1,278 | 2,698 |
| 4+50.00 | 99 | 985 | 125 | 1,568 | 1,403 | 4,265 |
| 4+90.00 | 219 | 1,163 | 236 | 1,591 | 1,639 | 5,857 |
| 5+00.00 | 230 | 1,135 | 83 | 426 | 1,722 | 6,282 |
| 5+50.00 | 102 | 1,358 | 308 | 2,309 | 2,029 | 8,591 |
| 6+00.00 | 102 | 1,323 | 188 | 2,483 | 2,218 | 11,074 |
| 6+50.00 | 125 | 1,460 | 199 | 2,571 | 2,417 | 13,645 |
| 7+00.00 | 115 | 1,900 | 209 | 3,105 | 2,626 | 16,750 |
| 7+11.53 | 121 | 1,920 | 50 | 816 | 2,676 | 17,565 |
| 7+50.00 | 191 | 1,815 | 205 | 2,655 | 2,881 | 20,220 |
| 8+00.00 | 88 | 1,922 | 238 | 3,443 | 3,119 | 23,663 |
| 8+50.00 | 93 | 1,877 | 154 | 3,479 | 3,272 | 27,142 |
| 9+00.00 | 1,085 | 1,904 | 1,124 | 3,430 | 4,396 | 30,571 |
| 9+50.00 | 1,671 | 1,989 | 2,642 | 3,507 | 7,037 | 34,078 |
| 10+00.00 | 1,360 | 2,242 | 2,901 | 3,813 | 9,939 | 37,890 |
| 10+09.78 | 1,288 | 2,221 | 480 | 808 | 10,418 | 38,699 |
| 10+50.00 | 1,202 | 2,510 | 1,917 | 3,438 | 12,335 | 42,136 |
| 11+00.00 | 1,403 | 2,629 | 2,412 | 4,758 | 14,746 | 46,895 |
| 11+50.00 | 1,542 | 2,553 | 2,727 | 4,798 | 17,473 | 51,692 |
| 12+00.00 | 1,603 | 2,132 | 3,039 | 4,104 | 20,512 | 55,796 |
| 12+50.00 | 1,931 | 2,674 | 3,424 | 4,129 | 23,937 | 59,925 |
| 13+00.00 | 1,779 | 2,769 | 3,591 | 4,649 | 27,528 | 64,573 |
| 13+50.00 | 1,835 | 2,481 | 3,503 | 4,465 | 31,031 | 69,038 |
| 13+70.02 | 2,097 | 2,336 | 1,520 | 1,630 | 32,551 | 70,668 |
| 14+00.00 | 2,069 | 2,282 | 2,402 | 2,332 | 34,953 | 73,000 |
| 14+50.00 | 2,012 | 1,998 | 3,917 | 3,592 | 38,870 | 76,592 |
| 15+00.00 | 2,694 | 866 | 4,468 | 2,355 | 43,337 | 78,947 |
| 15+50.00 | 3,033 | 668 | 5,346 | 1,206 | 48,683 | 80,153 |
| 16+00.00 | 3,310 | 675 | 5,806 | 1,045 | 54,489 | 81,198 |
| 16+50.00 | 3,208 | 575 | 5,859 | 963 | 60,348 | 82,161 |
| 17+00.00 | 2,637 | 609 | 5,175 | 915 | 65,522 | 83,076 |
| 17+32.15 | 1,574 | 1,499 | 2,419 | 1,063 | 67,941 | 84,138 |
| 17+50.00 | 1,162 | 1,865 | 905 | 1,112 | 68,846 | 85,251 |
| 17+70.52 | 1,029 | 837 | 833 | 893 | 69,679 | 86,144 |
| 18+00.00 | 652 | 442 | 925 | 631 | 70,605 | 86,775 |

## CR 60 COMMON EXCAVATION INCLUDING TOPSOIL STRIPPING

| Station | Cut Area (SF) | Fill Area (SF) | Cut Volume (CY) | Fill Volume (CY) | Cumulative Cut Vol (CY) | Cumulative Fill Vol (CY) |
|---|---|---|---|---|---|---|
| 18+50.00 | 252 | 409 | 837 | 788 | 71,441 | 87,564 |
| 19+00.00 | 158 | 269 | 379 | 628 | 71,820 | 88,191 |
| 19+50.00 | 133 | 125 | 269 | 364 | 72,090 | 88,555 |
| 20+00.00 | 140 | 18 | 253 | 132 | 72,343 | 88,687 |
| 20+50.00 | 204 | 3 | 318 | 20 | 72,661 | 88,707 |
| 21+00.00 | 464 | 0 | 619 | 3 | 73,280 | 88,710 |
| 21+50.00 | 525 | 0 | 919 | 0 | 74,199 | 88,710 |
| 22+00.00 | 688 | 0 | 1,124 | 0 | 75,323 | 88,710 |
| 22+50.00 | 599 | 0 | 1,188 | 0 | 76,511 | 88,710 |
| 23+00.00 | 409 | 0 | 929 | 0 | 77,440 | 88,710 |
| 23+50.00 | 176 | 1 | 540 | 1 | 77,980 | 88,711 |
| 24+00.00 | 133 | 1 | 286 | 2 | 78,266 | 88,713 |
| 24+50.00 | 119 | 8 | 234 | 8 | 78,500 | 88,721 |
| 25+00.00 | 118 | 12 | 220 | 18 | 78,720 | 88,739 |
| 25+50.00 | 124 | 13 | 224 | 22 | 78,944 | 88,761 |
| 26+00.00 | 131 | 0 | 236 | 12 | 79,180 | 88,773 |
| 26+50.00 | 144 | 2 | 254 | 2 | 79,434 | 88,776 |
| 27+00.00 | 147 | 1 | 269 | 3 | 79,703 | 88,779 |
| 27+50.00 | 156 | 0 | 280 | 1 | 79,983 | 88,780 |
| 28+00.00 | 151 | 5 | 284 | 4 | 80,267 | 88,784 |
| 28+50.00 | 141 | 0 | 271 | 4 | 80,538 | 88,789 |
| 29+00.00 | 142 | 0 | 263 | 0 | 80,801 | 88,789 |
| 29+23.23 | 143 | 0 | 123 | 0 | 80,923 | 88,789 |

| DATE | BY | REVISIONS |
|---|---|---|
| 2/8/2016 | JCS | REVISED EARTHWORK SUMMARY TABLES AND NOTES. |

| | |
|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

EARTHWORK SUMMARY

S.A.P. 070–593–001

Sheet No. 1.5 of 1.13 Sheets

## CR 60 CONNECTION COMMON EXCAVATION INCLUDING TOPSOIL STRIPPING

| Station | Cut Area (SF) | Fill Area (SF) | Cut Volume (CY) | Fill Volume (CY) | Cumulative Cut Vol (CY) | Cumulative Fill Vol (CY) |
|---|---|---|---|---|---|---|
| 305+00.00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 305+10.84 | 22 | 0 | 4 | 0 | 4 | 0 |
| 305+50.00 | 31 | 0 | 37 | 0 | 42 | 0 |
| 306+00.00 | 25 | 0 | 51 | 0 | 93 | 1 |
| 306+50.00 | 23 | 0 | 44 | 0 | 137 | 1 |
| 307+00.00 | 23 | 0 | 42 | 0 | 179 | 1 |
| 307+50.00 | 21 | 0 | 41 | 0 | 219 | 2 |
| 308+00.00 | 19 | 0 | 37 | 1 | 256 | 2 |
| 308+50.00 | 12 | 1 | 28 | 1 | 285 | 3 |
| 309+00.00 | 41 | 1 | 49 | 1 | 333 | 4 |
| 309+08.62 | 45 | 3 | 14 | 1 | 347 | 5 |
| 309+30.00 | 70 | 1 | 46 | 1 | 392 | 6 |

## PROPOSED CR SUBGRADE TO POND ACCESS SUBGRADE

| Station | Cut Area (SF) | Fill Area (SF) | Cut Volume (CY) | Fill Volume (CY) | Cumulative Cut Vol (CY) | Cumulative Fill Vol (CY) |
|---|---|---|---|---|---|---|
| 0+00.00 | 0 | 79 | 0 | 0 | 0 | 0 |
| 0+25.00 | 0 | 90 | 0 | 78 | 0 | 78 |
| 0+50.00 | 0 | 92 | 0 | 84 | 0 | 162 |
| 0+75.00 | 0 | 91 | 0 | 84 | 0 | 247 |
| 1+00.00 | 0 | 89 | 0 | 83 | 0 | 330 |
| 1+25.00 | 0 | 84 | 0 | 80 | 0 | 411 |
| 1+50.00 | 0 | 78 | 0 | 75 | 0 | 486 |
| 1+75.00 | 0 | 79 | 0 | 73 | 0 | 559 |
| 2+00.00 | 0 | 88 | 0 | 77 | 0 | 636 |
| 2+16.73 | 0 | 97 | 0 | 57 | 0 | 694 |

## BERM 1 SUBGRADE TO PROPOSED CR 60 FG SUBGRADE

| Station | Cut Area (SF) | Fill Area (SF) | Cut Volume (CY) | Fill Volume (CY) | Cumulative Cut Vol (CY) | Cumulative Fill Vol (CY) |
|---|---|---|---|---|---|---|
| 0+02.36 | 6 | 0 | 0 | 0 | 0 | 0 |
| 0+25.00 | 0 | 282 | 2 | 118 | 2 | 118 |
| 0+50.00 | 0 | 337 | 0 | 286 | 2 | 404 |
| 0+50.86 | 0 | 337 | 0 | 11 | 2 | 415 |
| 0+75.00 | 0 | 272 | 0 | 272 | 2 | 687 |
| 0+99.49 | 1 | 4 | 0 | 125 | 3 | 813 |
| 1+00.00 | 0 | 0 | 0 | 0 | 3 | 813 |

## Berm 2 SUBGRADE TO PROPOSED CR 60 SUBGRADE

| Station | Cut Area (SF) | Fill Area (SF) | Cut Volume (CY) | Fill Volume (CY) | Cumulative Cut Vol (CY) | Cumulative Fill Vol (CY) |
|---|---|---|---|---|---|---|
| 0+00.00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0+05.49 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0+14.35 | 2 | 2 | 0 | 0 | 0 | 0 |
| 0+25.00 | 0 | 103 | 0 | 21 | 1 | 21 |
| 0+50.00 | 0 | 352 | 0 | 210 | 1 | 231 |
| 0+72.24 | 0 | 352 | 0 | 290 | 1 | 521 |
| 0+75.00 | 0 | 352 | 0 | 36 | 1 | 557 |
| 1+00.00 | 0 | 352 | 0 | 326 | 1 | 883 |
| 1+10.00 | 0 | 189 | 0 | 100 | 1 | 983 |
| 1+25.00 | 0 | 0 | 0 | 52 | 1 | 1,036 |

| DATE | BY | REVISIONS |
|---|---|---|
| 2/8/2016 | JCS | REVISED EARTHWORK SUMMARY TABLES AND NOTES. |

| | |
|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

EARTHWORK SUMMARY

S.A.P. 070–593–001

Sheet No. 1.6 of 1.13 Sheets

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## REMOVALS TABULATION

TAB B

| ITEMS | LOCATION | REMOVALS [illegible] | REMOVALS [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|
| | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| REMOVALS [illegible] | | | | | | | | | |
| [illegible] | | [illegible] | [illegible] | | [illegible] | | | | |
| [illegible] | MAINLINE | | | | | [illegible] | | | |
| [illegible] | MAINLINE / RT | | | | | | [illegible] | | |
| [illegible] | MAINLINE | | | | | [illegible] | | | |
| [illegible] | MAINLINE | | | | | [illegible] | | | |
| [illegible] | RT | | | | | | [illegible] | | |
| [illegible] | RT | | | | | | | [illegible] | |
| [illegible] | RT | | | [illegible] | | | | | |
| [illegible] | MAINLINE | | | | | | [illegible] | | |
| [illegible] | [illegible] | | | | | | [illegible] | | |
| [illegible] | MAINLINE | | | | | [illegible] | | | |
| | | | | | | | | | |
| [illegible] | | | | | | | | | |
| [illegible] | [illegible] | | | | | | | [illegible] | |
| [illegible] | | | | | | | | | [illegible] |
| TOTAL | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

1. THE CONTRACTOR MAY BE REQUIRED TO PERFORM THIS WORK IN PHASES.
2. ITEMS THAT ARE TO BE REMOVED AND/OR SALVAGED WITHIN THE CONSTRUCTION LIMITS WILL BE DETERMINED BY THE ENGINEER BEFORE REMOVAL. ALL ITEMS TO BE SALVAGED OR TRANSPLANTED WILL BE MARKED. ALL ITEMS TO BE TRANSPLANTED WILL BE TRANSPLANTED BY OTHERS.
3. [illegible] IS [illegible] AT [illegible] [illegible] - [illegible] FOR THE [illegible] OF [illegible] PAVED [illegible].
4. FOR REMOVAL MISC. ITEMS NOTE WITHIN THE NOTES [illegible] CONSTRUCTION.
5. INCLUDES APRON.

## SURFACING TABULATION

TAB C

| ALIGNMENT | STATION | LOCATION | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|---|---|
| | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | MAINLINE | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | | | |
| | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | | | |
| | [illegible] | [illegible] | | | [illegible] | | | | |
| | | | | | | | | | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | | | [illegible] |
| | | | | | | | | | |
| [illegible] | [illegible] | [illegible] | | | [illegible] | | | | |
| | [illegible] | [illegible] | | | [illegible] | | | | |
| | [illegible] | [illegible] | [illegible] | [illegible] | | | | [illegible] | |
| | [illegible] | [illegible] | [illegible] | [illegible] | | | | [illegible] | |
| | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| | | | | | | | | | |
| TOTAL | | | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

NOTES:
1. [illegible] - [illegible] FOR [illegible] VARY PER TYPE OF [illegible].
2. [illegible] MATERIAL FOR DATE THAT - [illegible] OF [illegible] INTERVAL.
   [illegible] VARIANCE [illegible] TO BETWEEN ALL [illegible] [illegible].
   [illegible] VARIANCE [illegible] TO ON ALL [illegible] [illegible].
3. ALIGNMENT BASED, ALIGNMENT [illegible] ALL [illegible] BASE ALIGNMENT - [illegible] [illegible] [illegible] [illegible].

| DATE | BY | REVISIONS |
|---|---|---|
| 5/9/2016 | NRT | REVISED QUANTITIES PER FEMA (PAVEMENT & CURB REMOVALS, SAWCUT) |

| | |
|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 05/09/2016

Reg. No. 24756

C.P. 60–02FL

QUANTITY TABULATIONS

S.A.P. 070–593–001

Sheet No. 1.7 of 1.13 Sheets

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## DRAINAGE TABULATION

TAB D

| STRUCTURE NO. | ALIGNMENT | STATION | OFFSET | STATION | OFFSET | STATION | OFFSET | STATION | OFFSET | STATION | OFFSET | CONNECT TO EXISTING DRAIN PIPE | STATUS | CASTING ASSEMBLY | DR CASTING NO. | GRATE | 12" RC PIPE (MARK 4W) | 18" RC PIPE (MARK 4W) | 42" RC PIPE (MARK 4W) | 48" RC PIPE (MARK 4W) | 54" RC PIPE (MARK 4W) | 54" RC PIPE (MARK 4W) | APRON 42" RC APRON | APRON 18" RC APRON | DRAIN TO STRUCTURE NO. | DRAIN TO PIPE MARK | DRAIN TO SIDEWALK NO. | BUCKET NO. | INSTALL FABRIC TYPE IV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | EACH | | | | | LIN FT | LIN FT | LIN FT | LIN FT | LIN FT | LIN FT | EACH | EACH | | | | SQ YD | SQ YD |
| [illegible] | [illegible] | [illegible] | [illegible] | | | | | [illegible] | | | | | Y | | [illegible] | [illegible] | | | | [illegible] | | | | | | [illegible] | [illegible] | [illegible] | | |
| [illegible] | [illegible] | [illegible] | [illegible] | | | | | | [illegible] | | | | Y | A-4 | [illegible] | [illegible] | | | | | | [illegible] | | | | [illegible] | [illegible] | [illegible] | | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | | | | | | | | Y | M-11 | [illegible] | [illegible] | [illegible] | | | | | | | | | [illegible] | [illegible] | [illegible] | | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | | | | | | | | Y | M-11 | [illegible] | [illegible] | [illegible] | | | | | | | | | [illegible] | [illegible] | [illegible] | | |
| [illegible] | [illegible] | [illegible] | [illegible] | | | | | [illegible] | | | | | Y | A7-4 | [illegible] | [illegible] | | | | | [illegible] | | | | | [illegible] | [illegible] | | | |
| APR [illegible] | [illegible] | [illegible] | [illegible] | | | | | | | | | | | | | [illegible] | | | | | | | | [illegible] | | | | | [illegible] | - |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| APR [illegible] | [illegible] | [illegible] | [illegible] | | | | | | | | | | | | | [illegible] | | | | | | | [illegible] | | | | | | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | | | [illegible] | | | | | | | Y | M-11 | [illegible] | [illegible] | | | [illegible] | | | | | | | APR [illegible] | [illegible] | | | |
| [illegible] | [illegible] | [illegible] | [illegible] | | | [illegible] | | | | | | | Y | M-11 | [illegible] | [illegible] | | | [illegible] | | | | | | | [illegible] | [illegible] | [illegible] | | |
| [illegible] | [illegible] | [illegible] | [illegible] | | | | | | [illegible] | | | | Y | M-11 | [illegible] | [illegible] | | | [illegible] | | | | | | | [illegible] | [illegible] | [illegible] | | |
| APR [illegible] | [illegible] | [illegible] | [illegible] | | | | | | | | | | | | | [illegible] | | | [illegible] | | | | [illegible] | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | | | | | | | [illegible] | Y | M-11 | [illegible] | [illegible] | | [illegible] | | | | | | | | [illegible] | [illegible] | [illegible] | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL | | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | | | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | | | | | [illegible] | [illegible] |

NOTES:

1. STATIONS AND OFFSETS ARE TO CENTER OF CASTING BASED ON DRAINAGE DRAWINGS, OPTIONS OR STAKING OF PROPOSED, AND IN THE OF ALL DRAINAGE.
2. THE OF CASTING ELEVATIONS ARE TO CENTER OF GRATE WITH [illegible] FOR STRUCTURES.
3. TAP INSTALLED ARE TRAP SIZE TO OPTIONS.
4. DEPTH OF PIPE IS TO THE END OF BARREL. THIS DOES NOT INCLUDE APRON LENGTH.
5. DRAINAGE STRUCTURES OVER 4.0' IN DEPTH REQUIRE STEPS.
6. ALL [illegible] PIPE IS [illegible] FOR [illegible] 20 MT.
7. "INTERTEXTILE FABRIC" GRANULAR MATERIAL UNDER THE PIPEAT TO CONTINUE INTERNAL.
8. TIE ALL POINTS FROM APRON TO MANHOLE OR FROM APRON TO APRON - INCIDENTAL.
9. GRANULAR BEDDING IS REQUIRED FOR ALL DRAINAGE STRUCTURES, R.C. PIPE SEWER AND R.C. APRON STRUCTURES. SEE BEDDING DETAIL ON THIS SHEET FOR BEDDING REQUIREMENTS. ALL GRANULAR BEDDING IS CONSIDERED TO BE INCIDENTAL.

## CULVERT TABULATION

TAB E

| STATION | STATION | OFFSET | STATION | OFFSET | STATION | OFFSET | 42" RC PIPE CULVERT | 42" RC PIPE APRON | MIN. COVER TO FL |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | LIN FT | EACH | FT |
| [illegible] | | | | | | | | | |
| [illegible] | BEAM | [illegible] | | [illegible] | | | | [illegible] | [illegible] |
| [illegible] | | [illegible] | [illegible] | | | [illegible] | | [illegible] | |
| | | | | | | | | | |
| [illegible] | BEAM | [illegible] | | [illegible] | | | | [illegible] | [illegible] |
| [illegible] | | [illegible] | [illegible] | | | [illegible] | | [illegible] | |
| | | | | | | | | | |
| TOTAL | | | | | | | [illegible] | [illegible] | - |

NOTES:

1. STATIONS AND OFFSETS ARE TO [illegible] OF [illegible] APRON.
   DEPTH OF PIPE IS TO THE END OF BARREL. THIS DOES INCLUDE APRON LENGTH.
3. ALL [illegible] PIPE IS [illegible] FOR [illegible] 20 MT.
4. "INTERTEXTILE FABRIC" GRANULAR MATERIAL UNDER THE PIPEAT TO CONTINUE INTERNAL.
5. TIE ALL POINTS FROM APRON TO MANHOLE OR FROM APRON TO APRON - INCIDENTAL.
6. GRANULAR BEDDING IS REQUIRED FOR ALL PIPE CULVERT AND APRON STRUCTURES. SEE BEDDING DETAIL ON THIS SHEET FOR BEDDING REQUIREMENTS. ALL GRANULAR BEDDING IS CONSIDERED TO BE INCIDENTAL.

## STANDARD CASTING ASSEMBLIES

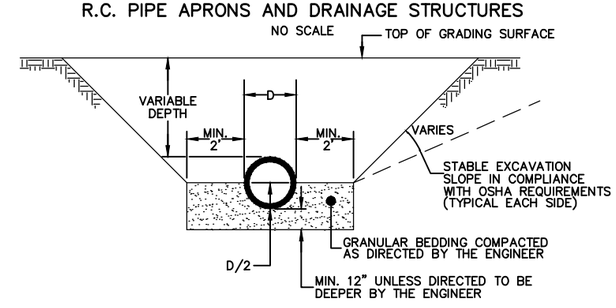
TAB G

| STRUCTURE | ASSEMBLY | RING OR FRAME CASTING NO. (Std. Plate No.) | COVER OR GRATE CASTING NO. (Std. Plate No.) | QUANTITY |
|---|---|---|---|---|
| MH | A7-D | 700-7 (4101) | 716 (4110) | 2 |
| DI | M-11 | (4143) | (4143) | 6 |
| TOTAL | | | | 8 |

## DETAIL NO. 2

### BEDDING FOR R.C. PIPE SEWER, R.C. PIPE CULVERT, R.C. PIPE APRONS AND DRAINAGE STRUCTURES

NO SCALE




1) GRANULAR BEDDING IS REQUIRED FOR ALL R.C. PIPE SEWER, R.C. PIPE CULVERT, R.C. PIPE APRONS, AND CONCRETE DRAINAGE STRUCTURES. IF AT THE TIME OF CONSTRUCTION, THE BASE IS TOO WET FOR PLACEMENT OF SAID ITEMS, THEN COARSE AGGREGATE CA-1, CA-2, OR CA-3 SHALL BE USED IN PLACE OF THE GRANULAR BEDDING AT NO EXTRA COMPENSATION. THE COARSE AGGREGATE SHALL BE CONSIDERED INCIDENTAL.

2) A MINIMUM EXCAVATION OF 1' BELOW THE BOTTOM OF ALL END SECTIONS, PIPES AND STRUCTURES IS REQUIRED. EXCAVATION IN EXCESS OF 3' BELOW THE BOTTOM OF THE INSTALLATION SHALL BE PAID FOR AS EXTRA WORK. ALL OTHER EXCAVATION AND BACKFILL SHALL BE CONSIDERED INCIDENTAL.

3) IF THE DEPTH BETWEEN THE GRADING SURFACE AND THE TOP OF PIPE IS GREATER THAN 8' THEN THE SIDE SLOPES SHALL BE TERRACED AS DIRECTED BY THE ENGINEER.

4) D = OUTSIDE DIAMETER OF PIPE SEWER OR CONCRETE STRUCTURE.

| DATE | BY | REVISIONS |
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| | | |

| | |
|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Jason Swenson

Date 02/10/2016

Reg. No. 43383

C.P. 60-02FL

QUANTITY TABULATIONS

S.A.P. 070-593-001

Sheet No. 1.8 of 1.13 Sheets

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## EROSION CONTROL TABULATION

TAB F

| LOCATION | TOTAL QTY | SILT FENCE TYPE | SILT FENCE TYPE | SILT FENCE TYPE | TEMP DITCH | BIOROLL BIOFIBER STRAW MATRIX | BIOROLL INSTALL BIOFIBER STRAW MATRIX (SEE T | BIOROLLS REMOVED (SEE TAB A) | BIOROLLS REMOVED (SEE TAB A) | SILT FENCE REMOVED | TYPE MULCH FOR PERMANENT COVER (SEE TAB G) | MULCH TYPE FOR TEMP COVER (SEE TABS G, H, I) | SEDIMENT CONTROL LOG (SEE TAB) | TEMPORARY ROCK CONSTRUCTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FEET | FEET | FEET | ACRE | FEET | FEET | FEET | FEET | FEET | | MACH | | MATR |
| BASELINE TAB F | | | | | | | | | | | | | | |
| [illegible] | LF | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | | | | | | | | | | | | | | |
| [illegible] | SY | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | | |
| | | | | | | | | | | | | | | |
| ADDITIONAL TB RE. CONSTRUCTION | | | | | | | | | | | | | | |
| [illegible] | TON & SY | [illegible] | | | | [illegible] | [illegible] | | [illegible] | | [illegible] | | | |
| | | | | | | | | | | | | | | |
| SEPTIC SYSTEM TAB | | | | | | | | | | | | | | |
| [illegible] | SY | | | | | | | | | | [illegible] | | | |
| [illegible] | LF | | | | | | | | | | [illegible] | | | |
| | | | | | | | | | | | | | | |
| TOTALS | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |

## SIGNING TABULATION

TAB K

| ITEM SIGN NO. | TOTAL SIGNS | TOTAL LENGTH FT | MOUNTING HEIGHT FT | NO. OF UPRIGHTS | SIGN SIZE IN | SIGN AREA SF | SIGN SHEET SF | MULCH SIGN NO. | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | - | - | - | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | ALL WAY |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | - | - | - | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | ALL WAY |
| [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | | | [illegible] | LARGE OVERSIZE DEAD ARROW |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | STREET [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | - | - | - | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | - | - | - | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | - | - | - | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | - | - | - | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | - | - | - | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | - | - | - | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | - | - | - | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | - | - | - | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | - | - | - | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | - | - | - | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| | | | | | | | | | |
| | | | TOTAL | | | | | TOTAL | |

GENERAL NOTES:

1. MOUNTING HEIGHT IS MINIMUM. SEE SHEET [illegible] - [illegible] FOR TYPICAL MOUNTING.

GENERAL NOTES:

1. POST SPACING ARE APPROXIMATE AND SHOULD BE ADJUSTED ACCORDING TO SITE CONDITIONS.
2. SEE SHEET [illegible] - [illegible] FOR TYPICAL DETAILS.
3. SEE STANDARD SIGN MANUAL FOR SIGNING USE AND LOCATION GUIDELINES OF THESE SIGNS SAFETY.

## 2104 SALVAGE SIGN TYPE D
## 2564 INSTALL SIGN TYPE D

TAB L

| ITEM SIGN NO. | SALVAGE AND DELIVER [illegible] TYPE [illegible] | INSTALL [illegible] TYPE [illegible] | DESCRIPTION |
|---|---|---|---|
| [illegible] | [illegible] | [illegible] | BELLE PLAINE |
| [illegible] | [illegible] | [illegible] | HENDERSON GREEN ISLE |
| | | | |
| TOTAL | [illegible] | [illegible] | |

## 2104 SALVAGE SIGN TYPE C

TAB J

| ITEM SIGN NO. | SALVAGE AND DELIVER [illegible] TYPE [illegible] | MULCH SIGN NO. | DESCRIPTION |
|---|---|---|---|
| [illegible] | [illegible] | [illegible] | NO OUTLET |
| | [illegible] | [illegible] | STOP |
| | [illegible] | [illegible] | ALL WAY |
| [illegible] | [illegible] | [illegible] | [illegible] |
| | [illegible] | [illegible] | ALL WAY |
| [illegible] | [illegible] | [illegible] | NO OUTLET |
| [illegible] | [illegible] | [illegible] | [illegible] |
| | [illegible] | [illegible] | ATTACHED SHEET [illegible] MILE |
| [illegible] | [illegible] | [illegible] | LARGE OVERSIZE DEAD ARROW |
| [illegible] | [illegible] | [illegible] | DEAD END |
| [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] |
| | [illegible] | [illegible] | [illegible] |
| | [illegible] | [illegible] | DIRECTIONAL ARROW - OUTER BEAD |
| | [illegible] | [illegible] | [illegible] |
| | [illegible] | [illegible] | [illegible] |
| | [illegible] | [illegible] | DIRECTIONAL ARROW - OUTER BEAD |
| [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] |
| | [illegible] | [illegible] | [illegible] |
| | [illegible] | [illegible] | [illegible] |
| | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] |
| | [illegible] | [illegible] | [illegible] |
| | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] |
| | [illegible] | [illegible] | ATTACHED SHEET [illegible] MILE |
| [illegible] | [illegible] | [illegible] | [illegible] |
| | [illegible] | [illegible] | A [illegible] SHEET [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | ALIGN A HIGHWAY |
| | | | |
| TOTALS | [illegible] | | |

NOTES:

1. THE CONTRACTOR SHALL ATTACH ALL SALVAGED SIGNS BEFORE INSTALLATION.
2. ALL SALVAGED SIGNS ARE NOT TO BE USED WITHIN 2 FEET OF THE [illegible] OF THE SAFETY ZONE IN THE SAFETY ZONE SHALL NOT BE BOLTED ALONG AT [illegible] THAT MUST BE [illegible] HORIZONTAL.
3. SALVAGE AND DELIVER 4 SIGN POSTS TO HE AND DELIVER TO PUBLIC WORKS BUILDING.

| DATE | BY | REVISIONS |
|---|---|---|
| 5/9/2016 | NRT | REVISED QUANTITIES PER FEMA (SILT FENCE) |

| | |
|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 05/09/2016

Reg. No. 24756

C.P. 60-02FL

QUANTITY TABULATIONS

S.A.P. 070-593-001

Sheet No. 1.9 of 1.13 Sheets

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| ELECTRIC POWER | | | | | | |
|---|---|---|---|---|---|---|
| ALIGNMENT | STA. | OFFSET | SIZE | OWNER | REMARKS | STATUS |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| | [illegible] | [illegible] | [illegible] | [illegible] | | |
| | [illegible] | [illegible] | [illegible] | [illegible] | | |
| | [illegible] | [illegible] | [illegible] | [illegible] | | |
| | [illegible] | [illegible] | [illegible] | [illegible] | | |
| | [illegible] | [illegible] | [illegible] | [illegible] | | |
| | [illegible] | [illegible] | [illegible] | [illegible] | | |
| [illegible] | | | | | | |
| | [illegible] | [illegible] | [illegible] | [illegible] | | |
| | | | | | | |

| TELECOMMUNICATIONS | | | | | | |
|---|---|---|---|---|---|---|
| ALIGNMENT | STA. | OFFSET | SIZE | OWNER | REMARKS | STATUS |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| | | | | | | |

GENERAL NOTES:

– ALL UTILITY WORK SHOWN ON THESE SHEETS SHALL BE DONE BY OTHERS UNLESS NOTED.

– THE REMARKS COLUMN IS BASED UPON THE BEST INFORMATION AVAILABLE AND MAY NOT REFLECT THE ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. ACTUAL DETERMINATIONS WILL BE MADE IN THE FIELD DURING CONSTRUCTION.

## UTILITY LOCATIONS

GOPHER STATE ONE CALL 800–252–1166 or 651–454–0002

NOTE : CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITY LOCATIONS AND ELEVATIONS PRIOR TO CONSTRUCTION. ALL IN PLACE UTILITIES MAY NOT BE SHOWN ON THIS PLAN.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38–02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA." SOME UTILITIES WERE MARKED AND FIELD LOCATED BY SURVEY CREWS OR TAKEN FROM AERIAL MAPPING, AND OTHER UTILITIES WERE TAKEN FROM AS–BUILTS, MAPS, AND DRAWINGS FURNISHED BY THE UTILITY COMPANIES TO SCOTT COUNTY.

| DATE | BY | REVISIONS |
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|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 02/10/2016

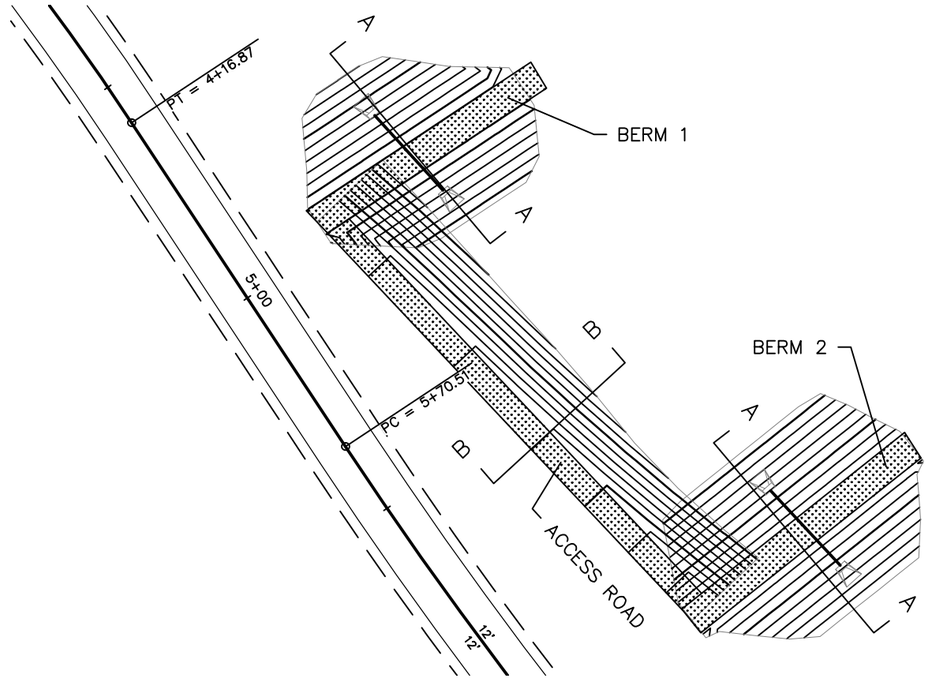
Reg. No. 24756

C.P. 60–02FL

QUANTITY TABULATIONS

S.A.P. 070–593–001

Sheet No. 1.10 of 1.13 Sheets

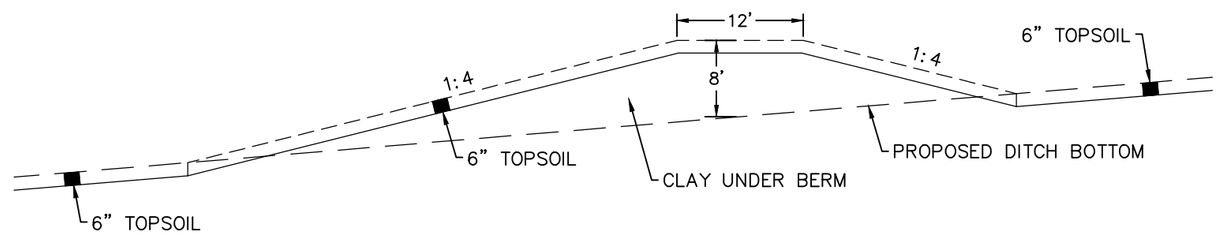



BERM 1:
SEE SHEET 5.5 FOR PROFILE AND SHEETS 11.51–11.52 FOR CROSS SECTIONS

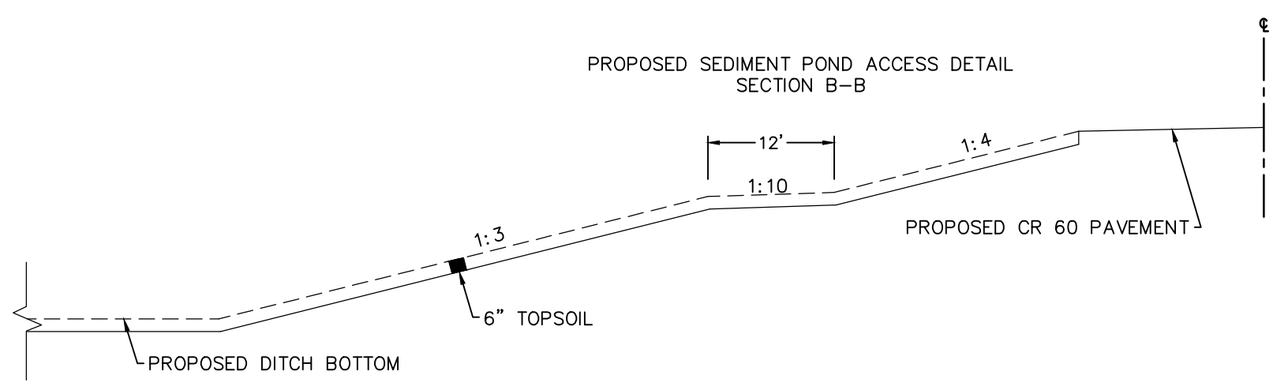
BERM 2:
SEE SHEET 5.5 FOR PROFILE AND SHEETS 11.53–11.55 FOR CROSS SECTIONS

ACCESS ROAD:
SEE SHEETS 11.56–11.57 FOR CROSS SECTIONS

PROPOSED SEDIMENT POND BERM DETAIL NO. 3
SECTION A–A




PROPOSED SEDIMENT POND ACCESS DETAIL
SECTION B–B




| DATE | BY | REVISIONS |
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|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

TYPICAL SECTION AND DETAIL FOR SEDIMENT POND

S.A.P. 070–593–001

Sheet No. 1.11 of 1.13 Sheets

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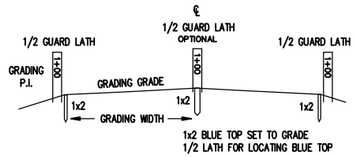
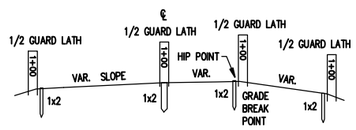
## BLUE TOPS

NORMAL SECTION

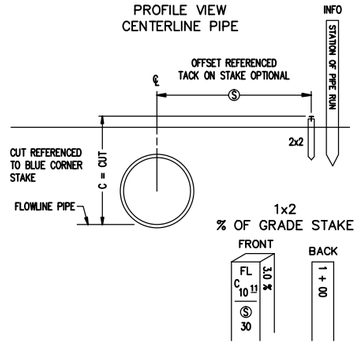



TRANSITION SECTION



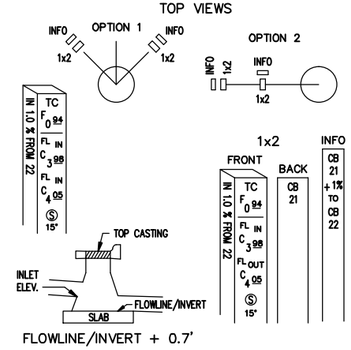

## PIPE STAKING

PROFILE VIEW
CENTERLINE PIPE




## CATCH BASIN OR MANHOLE ( CB/MH )

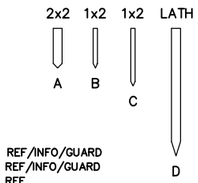
TOP VIEWS




FLOWLINE/INVERT + 0.7'

## STANDARD STAKES

TYPES:
REFERENCE ( REF )
INFORMATIONAL ( INFO )
VISIBILITY ( VIS )
GUARD ( GUARD )



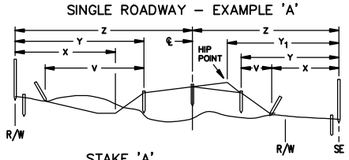

SIZES:
A = 2" X 2" X VAR. REF/INFO/GUARD
B = 1" X 2" X VAR. REF/INFO/GUARD
C = 1" X 2" X VAR. REF
D = LATH INFO/VIS/GUARD
1x2 OR LATH = INFO STAKES

## ABBREVIATIONS

BBL = BARREL ( PIPE )
B.C. = BACK CURB
C & G = CURB & GUTTER
C = CUT
CAP = CORR. ALUM. PIPE
CB = CATCH BASIN
℄ = CENTERLINE
CL & GR = CLEAR & GRUB
CMP = CORR. METAL PIPE
COR = CORNER
CR = CROWN
CSP = CORR. STEEL PIPE
℄ = DITCH CUT
D.E. = DRAINAGE EASEMENT
DI = DROP INLET
EB = EASTBOUND
E.M. = EDGE BITUMINOUS MAT
E.S. = EDGE CONCRETE SLAB
F = FILL
FF = FRONT FACE
FL = FLOW LINE
FL IN = FLOWLINE INLET
FL OUT = FLOWLINE OUTLET
GR = GRADE
GW = GRADING WIDTH
HH = HANDHOLE
HP = HIP POINT
LT = LEFT
MH = MANHOLE
NB = NORTHBOUND
Ⓢ = OFFSET
PAR = PARCEL
% = PERCENT GRADE
P.E. = PERM. EASEMENT
RAD = RADIUS POINT
RCP = REINF. CONC. PIPE
RP = REFERENCE POINT
RSC = REINF. SECT. CONC.
RT = RIGHT
R/W = RIGHT OF WAY
SB = SOUTHBOUND
SCP = SECT. CONC. PIPE
SH = SHOULDER
TC = TOP CASTING
OR TOP CURB
T.E. = TEMP. EASEMENT
3 : 1 = SLOPE ( EXAMPLE )
WB = WESTBOUND
WP = WORKING POINTS

## SLOPE STAKES

SINGLE ROADWAY – EXAMPLE 'A'



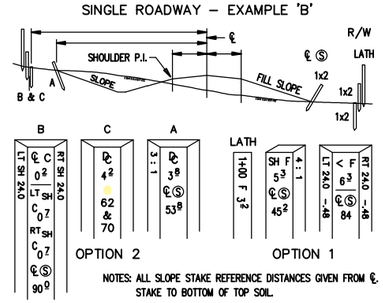

STAKE 'A'
FULL LATH AND HUB-STATION
DIST. TO ℄ WITH CUT/FILL TO ℄ (Z)
DIST. TO SHLD. WITH CUT/FILL TO SHLD. (Y) (Y1)
DIST. TO TOE OF SLOPE, CUT/FILL FROM HUB (X)
OFFSET TO SAFTY SLOPE
OFFSET TO HIP POINT

STAKE 'B'
FULL LATH
DITCH CUT/SHLD. FILL
SLOPE RATED
DISTANCE TO INSLOPE
TOE (V1) OR SHOULDER
( AS APPLIES ) (V)

NOTE:
BLUE TOPS REQUIRED ON ℄ AND BOTH SHOULDERS AT MINIMUM
ALL CULVERTS TO BE STAKED
MINIMUM DATA TO BE PROVIDED
STAKE TO BOTTOM OF TOPSOIL

## SLOPE STAKES

SINGLE ROADWAY – EXAMPLE 'B'

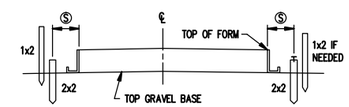



OPTION 2 OPTION 1

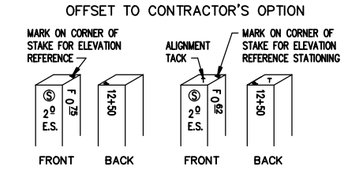
NOTES: ALL SLOPE STAKE REFERENCE DISTANCES GIVEN FROM ℄.
STAKE TO BOTTOM OF TOP SOIL.

KEY STAKES: BLUE TOP SET AT R/W BOUNDARY LT. & RT.
MAY BE EXCEPTIONS TO SETTING STAKE ON R/W.

## CONCRETE PAVING STATIONARY FORM




OFFSET TO CONTRACTOR'S OPTION




NOTE INFORMATION ON STAKE IF NECESSARY

## RECOMMENDED STAKING INTERVALS

FIGURE A

| | SLOPE STAKES | SUB GRADE B.T. | CLASS MATERIAL B.T. | CONC PAVT | C & G | CL & GR LIMITS | MUCK EXC. | R/W | TEMP. EASE. |
|---|---|---|---|---|---|---|---|---|---|
| TANGENT | 100 | 100 | 100 | 50 | 50 | ALL CORNERS | 100 | ALL CORNERS | ALL CORNERS |
| HORIZ. CURVE | | | | | | | | | |
| 0 – 3" | 100 | 100 | 100 | 50 | 50 | ALL CORNERS | 100 | ALL CORNERS | ALL CORNERS |
| OVER 3" – | 100 | 50 | 50 | 25 | 25 | ALL CORNERS | 100 | ALL CORNERS | ALL CORNERS |
| | | | | | | | | | |
| VERT. CURVE | | | | | | | | | |
| W 100' CHORD | 100 | 100 | 100 | 50 | 50 | | | | |
| 0 ≤ W ≤ .25 OVER .25 | 100 | 50 | 50 | 25 | 25 | | | | |
| TRAN. | | 50 | 50 | | | | | | |

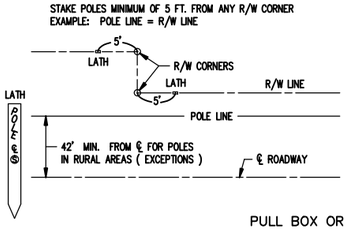
## STAKING TOLERANCES ( FEET )

| | HORIZONTAL | VERTICAL |
|---|---|---|
| CONSTRUCTION LIMITS | ± 1.5 | |
| CLEARING & GRUBBING | 2.0 | |
| SLOPES STAKES | 2.0 | ± 0.2 |
| KEY STAKES | 0.2 | 0.03 |
| DRAINAGE STAKES | 0.05 | 0.05 |
| CURB & GUTTER | 0.07 | 0.03 |
| PAVING | 0.05 | 0.03 |
| ALIGNMENT | 0.07 | |
| UTILITY | 0.10 | 0.05 |
| STRUCTURAL | 0.02 | 0.02 |
| GUARD RAIL | 0.5 | |
| BUILDINGS | 0.04 | |
| O.H. SIGNS | 0.05 | 0.05 |
| MUCK EXCAVATION LIMITS | 2.0 | |
| R/W B–POINTS | 0.10 | |
| NOISE WALLS | 1.0 | 0.5 |

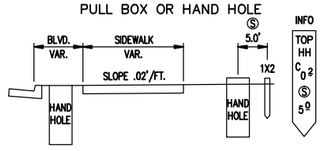
THE TOLERANCES ARE RELATIVE TO PROJECT DATUM

## UTILITY ( UTIL )

STAKE POLES MINIMUM OF 5 FT. FROM ANY R/W CORNER
EXAMPLE: POLE LINE = R/W LINE




PULL BOX OR HAND HOLE

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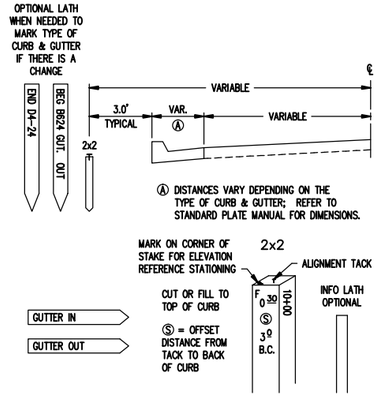
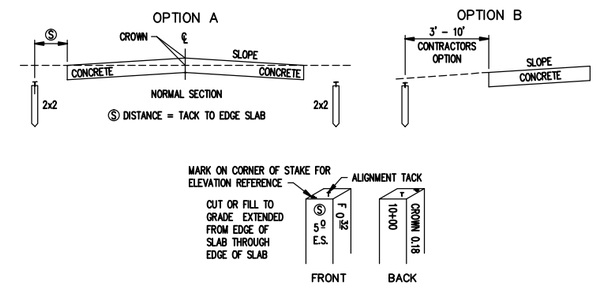
## CURB & GUTTER ( CURB )




## CONCRETE PAVING – SLIP FORM




## DISCLAIMER

THESE STAKING INFORMATION SHEETS ARE FOR INFORMATION PURPOSES ONLY. STAKING PROCEDURES VARY AND MAY BE SUBJECT TO CHANGE DURING CONSTRUCTION BY CIRCUMSTANCES AND/OR AGREEMENTS BETWEEN SURVEY CREW AND CONTRACTOR.

MINNESOTA DEPARTMENT OF TRANSPORTATION
STATE DESIGN ENGINEER
REVISED:
APPROVED: 8–6–2014

STAKING INFORMATION SHEET

STANDARD PLAN 5–297.115 | 1 OF 2

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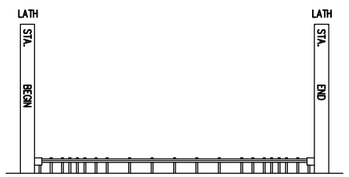
Curt Kobilarcsik
Date 02/10/2016
Reg. No. 24756

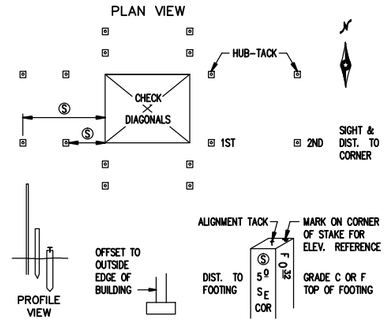
C.P. 60–02FL | DETAILS

S.A.P. 070–593–001 | Sheet No. 1.12 of 1.13 Sheets

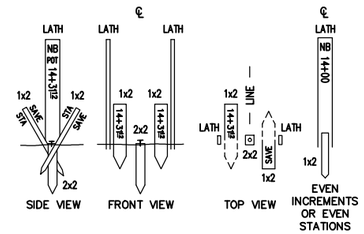
## GUARDRAIL ( GUARD )




## BUILDING ( BUILD ) FOUNDATION / FOOTING




## ALIGNMENT POINTS ( ALIGN )



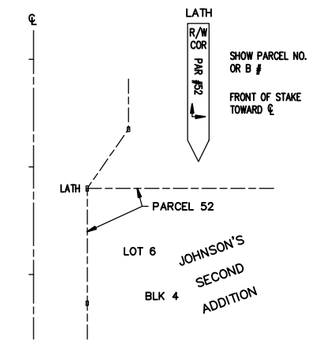

STAKE C = 2" X 2" HUB ( LENGTH MAY VARY ) SET AS TEMPORARY STAKE. MAY BE REPLACED BY MnDOT MARKER AFTER CONSTRUCTION IS COMPLETED.

SET AT GROUND LEVEL ( TEMPORARY CONSTRUCTION STAKE ).

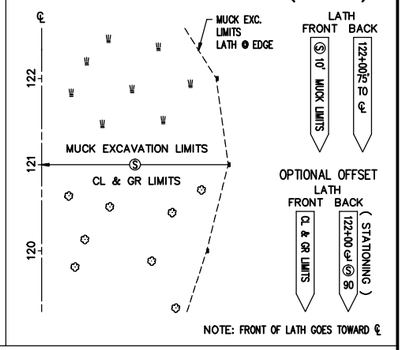
TACK SET AT ALIGNMENT POINTS.

STAKE A = GUARD STAKES SET AT ANGLE IN GROUND 6" EACH SIDE OF STAKE D, WITH STATIONING READ WHEN LOOKING UP STATION.

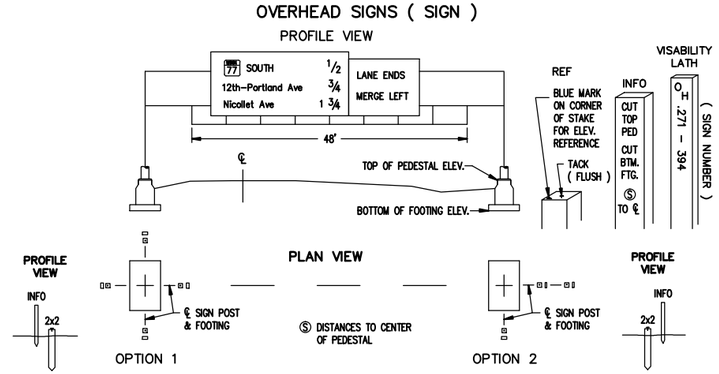
## R/W & TEMP. EASEMENT ( R/W )




## CLEAR & GRUBBING LIMITS ( CLEAR ) OR MUCK EXCAVATION LIMITS ( MUCK )

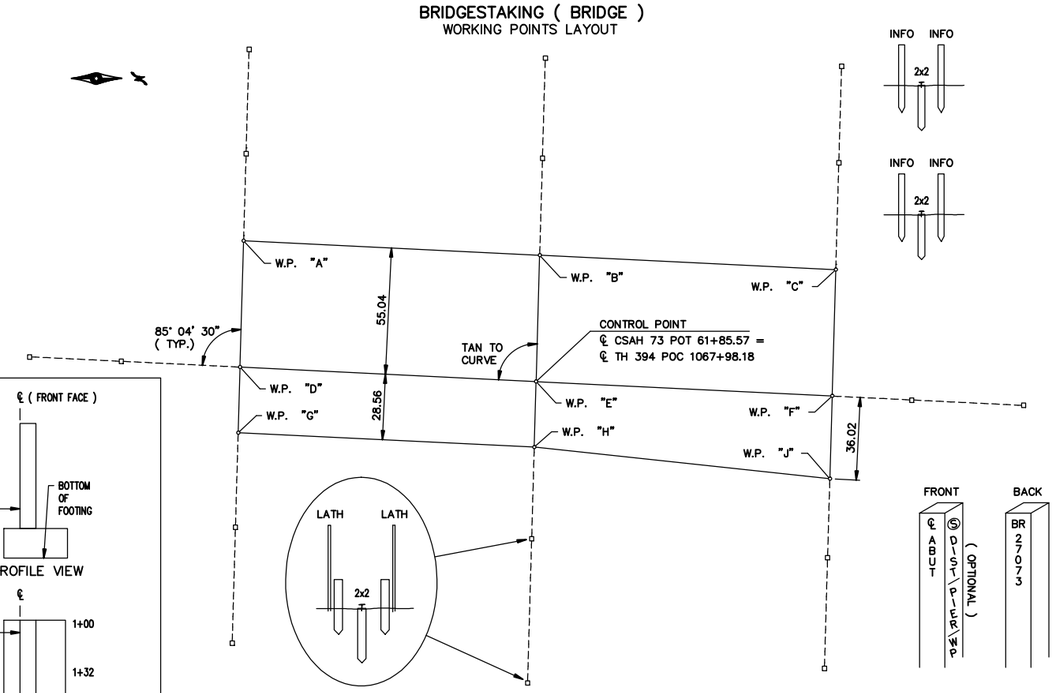



## OVERHEAD SIGNS ( SIGN )

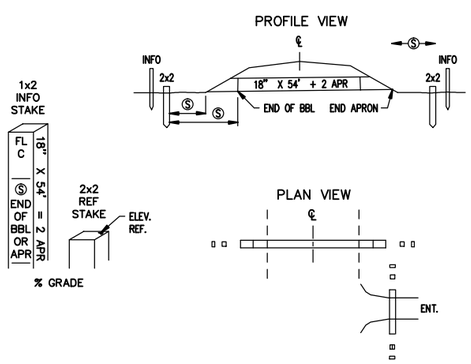



## BRIDGESTAKING ( BRIDGE )

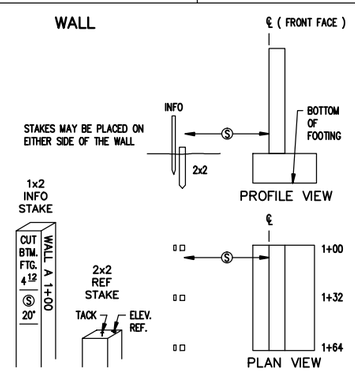
WORKING POINTS LAYOUT




## CULVERT




## WALL




REVISION:

APPROVED: 8-6-2014

DIRECTOR, OFFICE OF LAND MANAGEMENT

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISED:

APPROVED: 8-6-2014

STATE DESIGN ENGINEER

STAKING INFORMATION SHEET

STANDARD PLAN 5-297.115 | 2 OF 2

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60-02FL | DETAILS

S.A.P. 070-593-001 | Sheet No. 1.13 of 1.13 Sheets

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# TRAFFIC CONTROL NOTES

GENERAL INFO:

1) TRAFFIC CONTROL WILL BE PAID FOR AS A LUMP SUM ITEM. ALL INFORMATION ON SHEETS 2.2–2.4 IS FOR INFORMATIONAL PURPOSES ONLY.
2) ALL TRAFFIC CONTROL DEVICES REQUIRED TO CONTROL, WARN OR GUIDE TRAFFIC THROUGH THE PROJECT OR EXCLUDE TRAFFIC FROM THE PROJECT OR PORTIONS THEREOF INCLUDING, BUT NOT LIMITED TO, BARRIERS TO PROTECT, WARN, EXCLUDE TRAFFIC, AND PROTECT WORKERS, FLAG PERSONS AS NEEDED, LIGHTS, LANE CLOSURE AND ROAD CLOSURE SIGNS AS NEEDED, AND RELOCATIONS OF DEVICES AS NEEDED SHALL BE PROVIDED AND MAINTAINED BY THE CONTRACTOR. UNLESS THE CONTROL DEVICE HAS A SPECIFIC PAY ITEM IT SHALL BE CONSIDERED INCIDENTAL. BEFORE ANY TRAFFIC RESTRICTIONS WILL BE PERMITTED, THE CONTRACTOR'S PLAN FOR TRAFFIC CONTROL AND METHODS MUST BE APPROVED BY THE PROJECT ENGINEER.
3) THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
4) FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
5) ALL DISTANCES AND LOCATIONS SHOWN ARE APPROXIMATE.
6) THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH MNMUTCD.
7) AN ANNUAL FALL REVIEW OF ALL TRAFFIC CONTROLS WILL BE MADE TO PREPARE FOR WINTER MAINTENANCE OF THE PROJECT. THIS MAY INCLUDE ADJUSTMENTS OR EXCHANGE OF ONE TRAFFIC CONTROL DEVICE FOR ANOTHER. READJUSTMENTS MAY AGAIN BE REQUIRED IN THE SPRING.

SIGNING:

1) ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATIONS SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
2) WHEN SIGNS ARE FURNISHED & INSTALLED, THEY SHALL BE MOUNTED ON POSTS DRIVEN INTO THE GROUND AT THE PROPER HEIGHT AND LATERAL OFFSET AS DETAILED IN THE MNMUTCD. IF THIS IS NOT POSSIBLE THEY WILL BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE ENGINEER. WHEN THE SIGNS ARE REMOVED THE SIGN POSTS SHALL ALSO BE REMOVED.
3) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.
4) LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
5) THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE PLACED AS NEEDED, OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS PLACED.

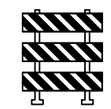
PAVEMENT MARKING:

1) OBLITERATE ANY CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
2) PAINT, POLYMER LANE TAPE AND/OR TRPM'S ARE ACCEPTABLE TEMPORARY STRIPING ALTERNATIVES ACCORDING TO ACTUAL CONDITIONS ENCOUNTERED AS DIRECTED BY THE ENGINEER. GENERALLY, PAINT WILL ONLY BE USED BEFORE MAY 1st OR WHEN THE OTHER MANUFACTURERS' SPECIFICATIONS CAN NOT BE MET.
3) TRPM'S (TEMPORARY RAISED PAVEMENT MARKERS) SHALL BE USED TO SUPPLEMENT THE LONG TERM (MORE THAN 3 DAYS) EDGELINES ON ALL TRANSITION AREAS WHEN THE CONDITIONS ARE WITHIN THE MANUFACTURERS' SPECIFICATIONS.
4) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND INSTALLATION OF TEMPORARY AND FINAL STRIPING, SCOTT COUNTY PERSONNEL WILL ASSIST IN THE SPOTTING OF ALL LANE MARKINGS, TRANSITION AREAS, GORES AND TAPERS.
5) TRPM'S WILL BE CONSIDERED INCIDENTAL.

BARRIER & DELINEATION:

1) TOP MOUNTED BARRIER DELINEATORS WILL HAVE A MINIMUM OF 24 SQ. IN. OF REFLECTIVE SURFACE AREA AND BE PLACED AT 30' SPACES ON TOP OF THE BARRIER WHEN THE BARRIER IS WITHIN 10' OF TRAFFIC UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE ENGINEER. IF THE TRAFFIC ENGINEER REQUIRES SIDE MOUNTED BARRIER DELINEATORS, THEY WILL HAVE A MINIMUM OF 12 SQ. IN. OF REFLECTIVE SURFACE AREA AND BE PLACED AT 30' SPACES. IF A SMALLER APPROVED BARRIER DELINEATOR IS USED IT SHALL BE AT ONE HALF THE SPACING.
2) BARRIER DELINEATORS WILL BE CONSIDERED INCIDENTAL.

## TRAFFIC CONTROL SIGN TABULATION

| SIGN | SIGN NO. | COLOR | SIZE (INCHES) |
|---|---|---|---|
| ROAD CLOSED | R11–2 | BLACK ON WHITE | 48 X 30 |
| ROAD WORK AHEAD | W20–1 | BLACK ON ORANGE | 36 X 36 |
|  | BARRICADE RIGHT | ORANGE ON WHITE | TYPE III (EACH) |

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| APPROVED: | JS |

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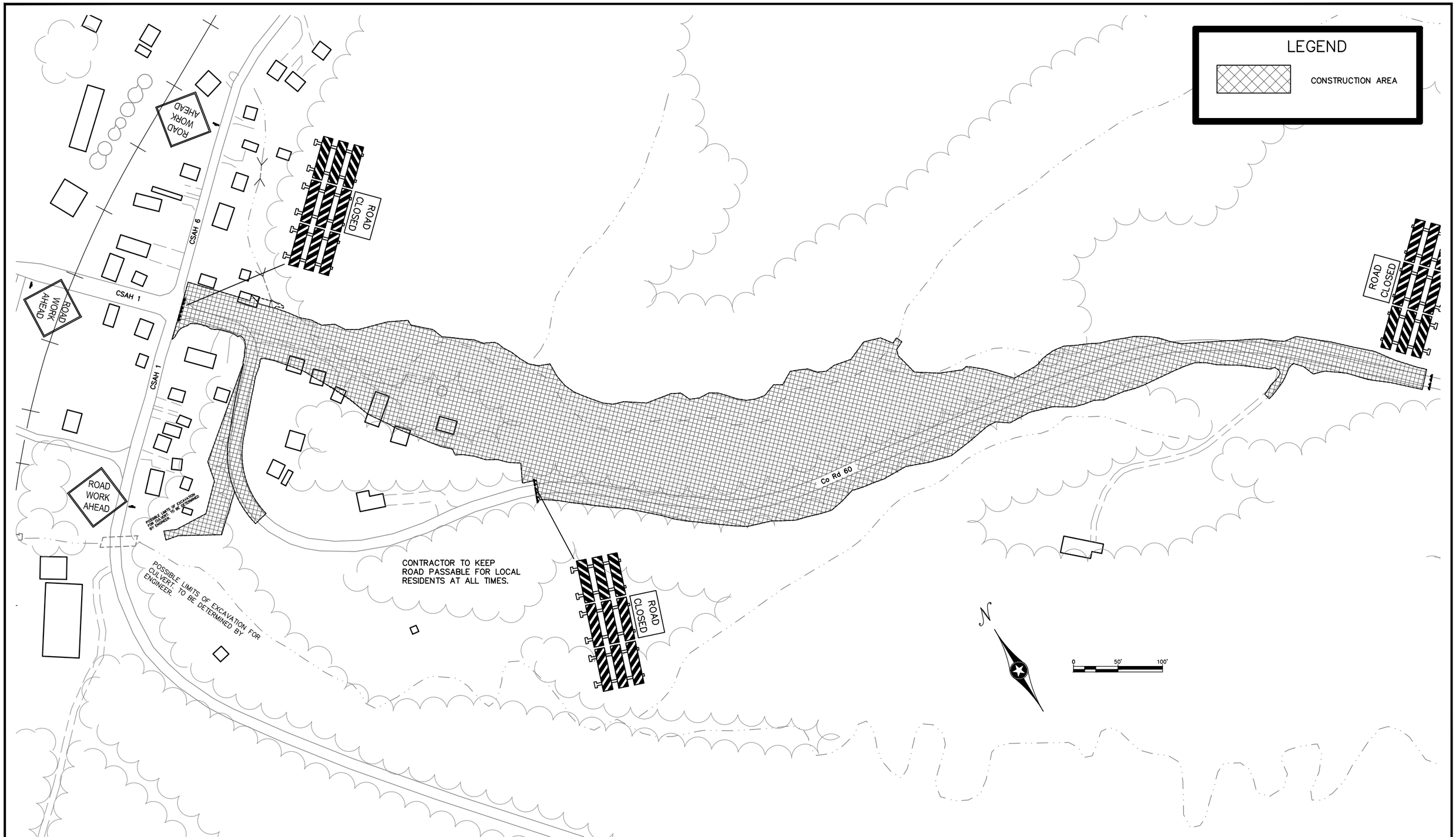
Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL — TRAFFIC CONTROL

S.A.P. 070–593–001 — Sheet No. 2.1 of 2.5 Sheets




| DATE | BY | REVISIONS |
|---|---|---|
| 1/5/2016 | JCS | REVISED CONSTRUCTION LIMIT BOUNDARY |
| 5/9/2016 | NRT | REVISED CONSTRUCTION LIMITS, ADDED ROAD BLOCK PER FEMA |

| | |
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| APPROVED: | JS |

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Date 05/09/2016

Reg. No. 24756

C.P. 60–02FL

TRAFFIC CONTROL SIGNING 1

S.A.P. 070–593–001

Sheet No. 2.2 of 2.5 Sheets

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

TRAFFIC CONTROL SIGNING 2

S.A.P. 070–593–001

Sheet No. 2.3 of 2.5 Sheets

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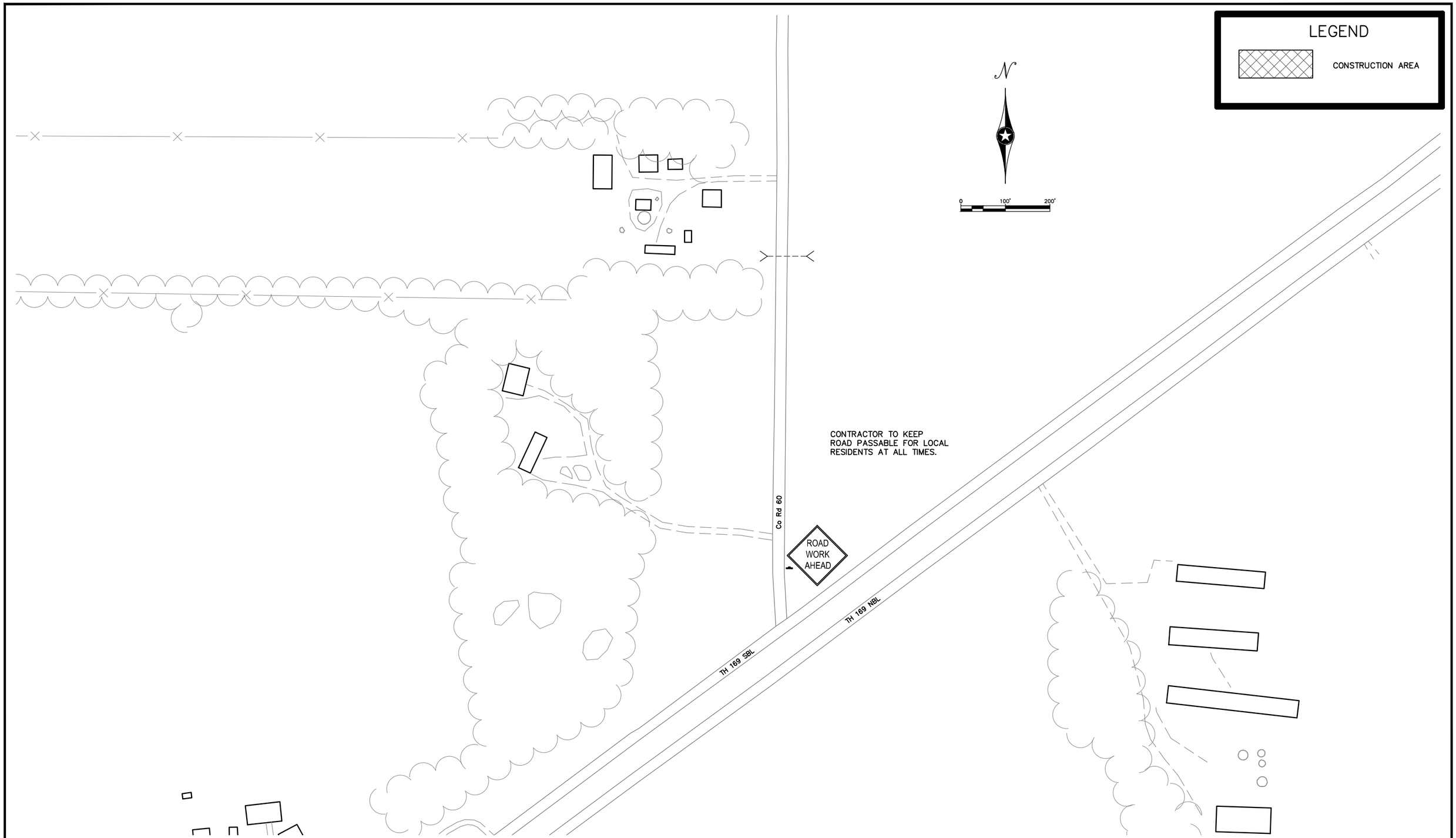


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Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

TRAFFIC CONTROL SIGNING 3

S.A.P. 070–593–001

Sheet No. 2.4 of 2.5 Sheets

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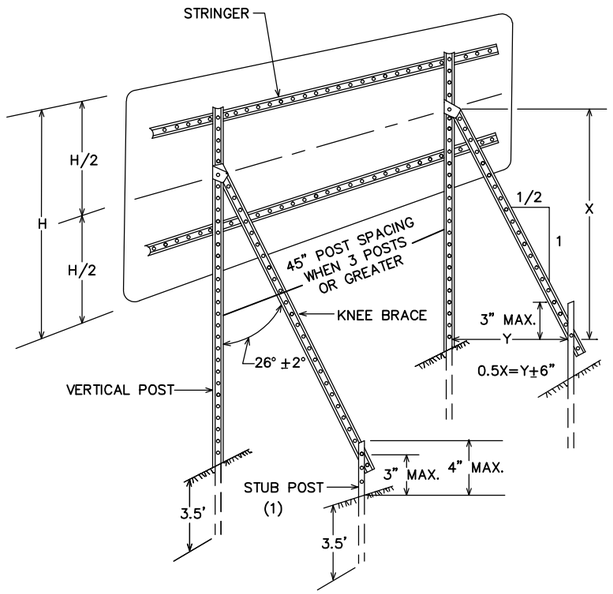
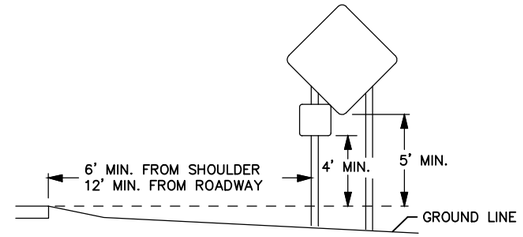
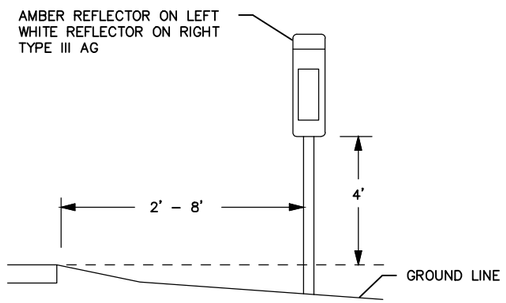


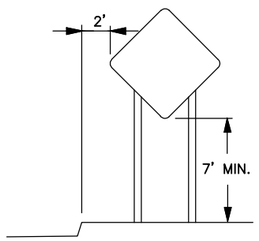

TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS




TYPICAL RURAL DESIGN




DELINEATION MOUNTING




TYPICAL URBAN DESIGN

## SIGN DATA

SIGNS TO BE INSTALLED ON DRIVEN U-POSTS SHALL BE INSTALLED IN ACCORDANCE WITH TABLE 1 OR TABLE 2 BELOW. SIGN PANELS SHALL BE INSTALLED ON SIGN STRUCTURES TO MEET THE MINIMUM 5 FEET DEPICTED ON THE TYPICAL RURAL DESIGN DETAIL, THE 7 FEET DEPICTED ON THE TYPICAL URBAN DESIGN DETAIL, OR MINIMUM 7 AND 9 FEET DEPICTED ON THE TYPICAL MOUNTING DETAIL ON THIS SHEET.

### TABLE 1

STANDARD CONSTRUCTION SIGNS IN MN/DOT STANDARD SIGNS MANUAL

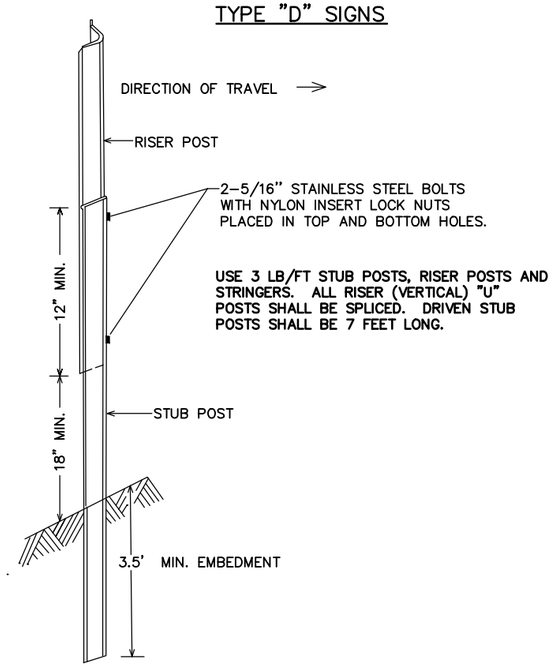
| PANEL SIZE (IN.) | POSTS | | | |
|---|---|---|---|---|
| | NO. & TYPE | SPACING (IN.) | KNEE BRACES QUANT. | LENGTH (FT.) |
| 24 x 24 | 2-U | 18 | | 13 |
| 30 x 24 | 2-U | 18 | | 13 |
| 36 x 30 | 2-U | 24 | | 13 |
| 36 x 36 | 2-U | 18 | | 14 |
| 42 x 36 | 2-U | 30 | | 14 |
| 48 x 48 | 2-U | 30 | | 15 |
| 60 x 60 | 2-U | 42 | 1 | 16 |
| 72 x 72 | 2-U | 42 | 2 | 17 |
| 96 x 54 | 2-U | 54 | 2 | 16 |
| 168 x 132 | 4-U | 48 | 4 | 20 |

GENERAL NOTES:
1. POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.
2. SEE STANDARD SIGNS MANUAL FOR PUNCHING HOLES.

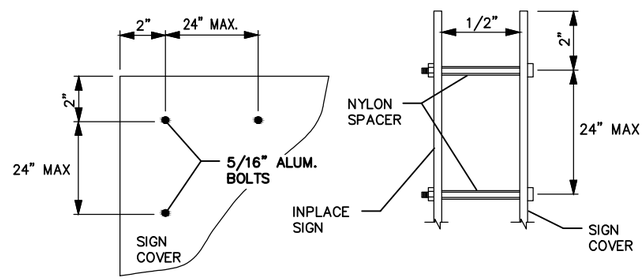
### TABLE 2

SPECIAL DESIGN CONSTRUCTION SIGNS

| PANEL SIZE | | POSTS | | | |
|---|---|---|---|---|---|
| LENGTH (IN.) | HEIGHT (IN.) | NO. & TYPE | SPACING (IN.) | KNEE BRACES QUANT. | LENGTH (FT.) |
| 54 - 96 | 78 | 2-U | 42 | 2 | 20 |
| 102 - 138 | 78 | 3-U | 45 | 3 | 20 |
| 144 - 180 | 78 | 4-U | 45 | 4 | 20 |
| | | | | | |
| | | | | | |

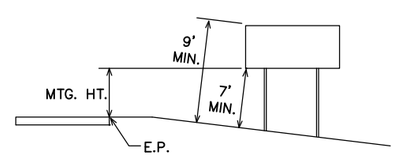



"U" POST SPLICE




REFER TO TRAFFIC ENGINEERING MANUAL CHAPTER 8 FOR MORE INFORMATION ON COVERING SIGNS

SIGN PANEL OVERLAY




TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY RELATIVE TO VERTICAL POST.

NOTES:

FOR TEMPORARY CONSTRUCTION SIGN FRAMING, THE CONTRACTOR MAY USE GRADE 5 ZINC PLATED BOLTS FOR ALL BOLTED CONNECTIONS, EXCEPT FOR THE KNEE BRACE CONNECTION TO THE REAR STUB POST, WHICH SHALL UTILIZE A 5/16 INCH STAINLESS STEEL BOLT AND NYLON INSERT LOCK NUT. ADDITIONAL SIGN FRAMING DETAILS CAN BE FOUND IN THE TRAFFIC ENGINEERING MANUAL PART 6.

IF THE CONTRACTOR ELECTS TO USE SOME OTHER TYPE OF SIGN SUPPORT (OTHER THAN U-CHANNEL SIGN POSTS) FOR MOUNTING CONSTRUCTION SIGNS, DETAILS OF THE PROPOSED SIGN STRUCTURE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING THE SIGN STRUCTURE COMPONENTS. ANY SIGN STRUCTURE TO BE SUBMITTED TO THE ENGINEER SHALL BE AN FHWA ACCEPTED BREAKAWAY SIGN SUPPORT. SIGN STRUCTURE SHALL ALSO BE APPROVED FOR 90 MPH WIND LOAD.

GUIDE SIGNS SHOWN TO BE COVERED SHALL BE COVERED WITH THE SAME COLOR AS THE SIGN BACKGROUND. THE CONTRACTOR SHALL INSTALL COVERS OR ADDITIONAL SIGNS USING A MINIMUM 1/2" NYLON SPACER BETWEEN THE INPLACE SIGN AND THE COVERING MATERIAL. HOLES WILL BE DRILLED IN THE COVER AND THE INPLACE SIGN AND SHALL BE INSTALLED IN ACCORDANCE TO THE SIGN PANEL DETAIL. SPACERS ARE REQUIRED. MID-PANEL SPACING SHALL BE NO GREATER THAN 24".

TYPICAL TEMPORARY SIGN FRAMING AND INSTALLATION DETAILS

| DATE | BY | REVISIONS |
|---|---|---|
| | | |

| | |
|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60-02FL

SIGN FRAMING & INSTALLATION

S.A.P. 070-593-001

Sheet No. 2.5 of 2.5 Sheets

| Point | Northing | Easting | Station | Offset | Side | Description |
|---|---|---|---|---|---|---|
| 1 | 151052.126 | 360368.451 | 0+35.40 | -64.51 | Left | NEW ROW |
| 2 | 151030.955 | 360368.154 | 0+50.47 | -49.64 | Left | NEW ROW |
| 3 | 150934.343 | 360462.447 | 1+85.47 | -50.80 | Left | NEW ROW |
| 4 | 150940.302 | 360468.599 | 1+85.42 | -59.37 | Left | NEW ROW |
| 5 | 150753.907 | 360622.700 | 4+16.87 | -60.00 | Left | NEW ROW |
| 6 | 150625.696 | 360707.365 | 5+70.51 | -60.00 | Left | NEW ROW |
| 7 | 150281.822 | 361011.424 | 10+47.90 | -60.00 | Left | NEW ROW |
| 8 | 150211.503 | 361093.840 | 11+56.23 | -60.00 | Left | NEW ROW |
| 9 | 150201.641 | 361105.572 | 11+72.44 | -60.00 | Left | NEW ROW |
| 10 | 150201.714 | 361131.198 | 11+93.60 | -76.21 | Left | NEW ROW |
| 11 | 150180.573 | 361131.870 | 12+08.09 | -60.00 | Left | NEW ROW |
| 12 | 149970.296 | 361643.071 | 17+99.85 | -60.00 | Left | NEW ROW |
| 13 | 149942.753 | 361869.096 | 20+27.54 | -60.00 | Left | NEW ROW |
| 14 | 149640.548 | 362518.922 | 27+18.43 | -60.00 | Left | NEW ROW |
| 15 | 149491.161 | 362679.489 | 29+37.75 | -60.00 | Left | NEW ROW |
| 16 | 149471.271 | 362661.138 | 29+37.75 | -32.94 | Left | EX. ROW |
| 17 | 150982.550 | 360296.623 | 0+35.89 | 35.49 | Right | NEW ROW |
| 18 | 150982.352 | 360310.790 | 0+45.84 | 25.41 | Right | NEW ROW |
| 19 | 150900.052 | 360391.114 | 1+60.83 | 24.41 | Right | EX. ROW |
| 20 | 150824.714 | 360414.027 | 2+31.53 | 60.00 | Right | NEW ROW |
| 21 | 150687.781 | 360522.563 | 4+16.87 | 60.00 | Right | NEW ROW |
| 22 | 150559.570 | 360607.228 | 5+70.51 | 60.00 | Right | NEW ROW |
| 23 | 150284.945 | 360831.355 | 9+13.48 | 60.00 | Right | NEW ROW |
| 24 | 150201.194 | 360949.336 | 10+53.00 | 41.64 | Right | EX. ROW |
| 25 | 150201.294 | 360984.147 | 10+79.41 | 18.97 | Right | EX. ROW |
| 26 | 150096.517 | 361114.890 | 12+45.56 | 17.49 | Right | EX. ROW |
| 27 | 150081.421 | 361135.022 | 12+70.31 | 18.24 | Right | EX. ROW |
| 28 | 150059.667 | 361135.713 | 12+82.80 | 35.84 | Right | EX. ROW |
| 29 | 149993.350 | 361313.654 | 14+67.16 | 7.22 | Right | EX. ROW |
| 30 | 149925.153 | 361818.287 | 19+79.24 | -36.38 | Left | EX. ROW |
| 31 | 149877.735 | 362084.081 | 22+41.83 | -43.09 | Left | EX. ROW |
| 32 | 149709.584 | 362404.542 | 25+92.00 | -40.16 | Left | EX. ROW |
| 33 | 149647.089 | 362473.456 | 26+81.83 | -34.45 | Left | EX. ROW |
| 34 | 150691.327 | 360175.629 | 1+62.29 | 324.41 | Right | EX. ROW |
| 35 | 150673.436 | 360193.090 | 1+87.29 | 324.19 | Right | EX. ROW |
| 36 | 150697.436 | 360217.867 | 1+87.12 | 289.70 | Right | EX. ROW |
| 37 | 150699.540 | 360300.197 | 2+47.86 | 228.61 | Right | EX. ROW |
| 38 | 150527.158 | 360257.667 | 3+98.64 | 369.46 | Right | EX. ROW |
| 39 | 150419.875 | 360345.078 | 5+42.63 | 355.74 | Right | EX. ROW |
| 40 | 150356.980 | 360509.179 | 6+70.50 | 256.84 | Right | EX. ROW |
| 41 | 150348.586 | 360570.327 | 7+09.02 | 213.40 | Right | EX. ROW |
| 42 | 150360.474 | 360571.959 | 7+01.57 | 204.80 | Right | NEW ROW |
| 43 | 150355.034 | 360611.587 | 7+27.49 | 177.07 | Right | NEW ROW |
| 44 | 150343.146 | 360609.955 | 7+34.93 | 185.80 | Right | EX. ROW |
| 45 | 150506.093 | 360194.992 | 3+68.33 | 432.81 | Right | EX. ROW |
| 46 | 150365.239 | 360308.053 | 5+67.82 | 416.74 | Right | EX. ROW |
| 47 | 150291.593 | 360500.203 | 7+10.36 | 303.75 | Right | EX. ROW |
| 48 | 150269.032 | 360664.552 | 8+17.58 | 192.21 | Right | EX. ROW |
| 49 | 150254.568 | 360730.729 | 8+67.92 | 153.30 | Right | EX. ROW |

| Point | Northing | Easting | Station | Offset | Side | Description |
|---|---|---|---|---|---|---|
| 50 | 150200.894 | 360844.557 | 9+78.04 | 111.40 | Right | EX. ROW |
| 51 | 150200.829 | 360821.617 | 9+62.43 | 127.12 | Right | EX. ROW |
| 52 | 150178.701 | 360852.431 | 9+97.50 | 122.45 | Right | EX. ROW |
| 53 | 150018.483 | 361052.354 | 12+41.00 | 117.38 | Right | EX. ROW |
| 54 | 149962.991 | 361138.786 | 13+33.89 | 115.70 | Right | EX. ROW |
| 55 | 149905.279 | 361140.620 | 13+61.28 | 164.50 | Right | EX. ROW |
| 56 | 149867.574 | 361274.586 | 14+81.46 | 138.04 | Right | EX. ROW |
| 57 | 149777.561 | 361952.113 | 21+39.11 | 88.74 | Right | EX. ROW |
| 58 | 149582.161 | 362370.306 | 26+43.81 | 81.64 | Right | EX. ROW |
| 100 | 150950.742 | 360479.378 | 1+85.35 | -74.37 | Left | DUE |
| 101 | 150839.098 | 360579.710 | 3+28.20 | -75.00 | Left | DUE |
| 102 | 150742.043 | 360766.240 | 5+05.87 | -173.24 | Left | DUE |
| 103 | 150502.030 | 360976.127 | 8+55.71 | -195.00 | Left | DUE |
| 104 | 150386.324 | 361015.386 | 9+77.21 | -140.72 | Left | DUE |
| 105 | 150285.960 | 361216.274 | 12+10.72 | -195.00 | Left | DUE |
| 106 | 150214.305 | 361327.129 | 13+71.41 | -196.32 | Left | DUE |
| 107 | 150219.078 | 361688.277 | 18+14.63 | -312.42 | Left | DUE |
| 108 | 150203.420 | 361260.251 | 13+09.82 | -152.65 | Left | EX. DUE |
| 109 | 150191.262 | 361265.783 | 13+22.71 | -145.29 | Left | EX. DUE |
| 110 | 150175.957 | 361281.626 | 13+47.40 | -140.39 | Left | EX. DUE |
| 111 | 150161.572 | 361330.737 | 14+04.97 | -151.64 | Left | EX. DUE |
| 112 | 150162.356 | 361335.050 | 14+09.00 | -154.32 | Left | EX. DUE |
| 113 | 150183.998 | 361364.566 | 14+28.63 | -186.94 | Left | EX. DUE |
| 114 | 150189.083 | 361408.882 | 14+74.99 | -210.34 | Left | EX. DUE |
| 115 | 150164.044 | 361467.421 | 15+53.64 | -208.85 | Left | EX. DUE |
| 116 | 150157.784 | 361493.395 | 15+86.52 | -211.35 | Left | EX. DUE |
| 117 | 150156.098 | 361517.857 | 16+16.15 | -217.01 | Left | EX. DUE |
| 118 | 150151.345 | 361544.012 | 16+49.17 | -219.49 | Left | EX. DUE |
| 119 | 150145.944 | 361562.062 | 16+72.68 | -218.68 | Left | EX. DUE |
| 120 | 150142.702 | 361572.897 | 16+86.76 | -218.00 | Left | EX. DUE |
| 121 | 150102.044 | 361632.734 | 17+68.20 | -189.15 | Left | EX. DUE |
| 122 | 150078.679 | 361651.166 | 17+93.85 | -168.55 | Left | EX. DUE |
| 123 | 150051.744 | 361690.469 | 18+37.06 | -146.59 | Left | EX. DUE |
| 124 | 150048.371 | 361715.565 | 18+62.36 | -146.27 | Left | EX. DUE |
| 125 | 150047.874 | 361759.541 | 19+06.08 | -151.10 | Left | EX. DUE |
| 126 | 150049.942 | 361778.076 | 19+24.22 | -155.39 | Left | EX. DUE |
| 127 | 150048.617 | 361813.562 | 19+59.61 | -158.37 | Left | EX. DUE |
| 128 | 150043.152 | 361842.638 | 19+89.13 | -156.46 | Left | EX. DUE |
| 129 | 150027.659 | 361938.498 | 20+78.98 | -154.05 | Left | EX. DUE |
| 130 | 150104.873 | 362032.696 | 21+44.25 | -248.30 | Left | EX. DUE |
| 131 | 150122.508 | 362247.653 | 23+02.98 | -328.78 | Left | EX. DUE |
| 132 | 150016.304 | 362356.799 | 24+15.25 | -276.63 | Left | EX. DUE |
| 133 | 149987.349 | 362328.625 | 24+05.50 | -238.07 | Left | EX. DUE |
| 134 | 149989.601 | 362316.340 | 23+95.61 | -234.63 | Left | EX. DUE |
| 135 | 149922.859 | 362179.949 | 23+11.49 | -118.22 | Left | EX. DUE |
| 136 | 149905.113 | 362170.726 | 23+09.65 | -98.32 | Left | EX. DUE |
| 137 | 149868.407 | 362199.256 | 23+47.15 | -75.40 | Left | EX. DUE |
| 138 | 149837.263 | 362265.567 | 24+15.71 | -75.69 | Left | EX. DUE |
| 139 | 149823.073 | 362258.858 | 24+16.19 | -60.00 | Left | EX. DUE |

| Point | Northing | Easting | Station | Offset | Side | Description |
|---|---|---|---|---|---|---|
| 140 | 150202.843 | 361216.567 | 12+68.45 | -128.02 | Left | EX. DUE |
| 141 | 150174.696 | 361229.374 | 12+97.99 | -111.78 | Left | EX. DUE |
| 142 | 150138.998 | 361266.329 | 13+53.55 | -100.77 | Left | EX. DUE |
| 143 | 150136.112 | 361273.302 | 13+61.79 | -101.75 | Left | EX. DUE |
| 144 | 150123.053 | 361319.955 | 14+14.14 | -112.46 | Left | EX. DUE |
| 145 | 150130.098 | 361358.702 | 14+49.87 | -135.84 | Left | EX. DUE |
| 146 | 150151.740 | 361388.218 | 14+70.52 | -167.82 | Left | EX. DUE |
| 147 | 150152.306 | 361393.151 | 14+75.58 | -170.34 | Left | EX. DUE |
| 148 | 150127.267 | 361451.691 | 15+50.85 | -168.92 | Left | EX. DUE |
| 149 | 150117.879 | 361490.644 | 15+98.09 | -172.50 | Left | EX. DUE |
| 150 | 150116.193 | 361515.106 | 16+26.54 | -177.93 | Left | EX. DUE |
| 151 | 150113.023 | 361532.546 | 16+47.62 | -179.51 | Left | EX. DUE |
| 152 | 150107.623 | 361550.596 | 16+70.11 | -178.73 | Left | EX. DUE |
| 153 | 150106.701 | 361553.676 | 16+73.94 | -178.56 | Left | EX. DUE |
| 154 | 149988.592 | 361536.077 | 16+87.07 | -60.00 | Left | EX. DUE |
| 155 | 150603.861 | 360121.262 | 1+87.78 | 424.19 | Right | DUE |
| 156 | 150615.868 | 360055.900 | 1+33.86 | 463.05 | Right | DUE |
| 157 | 150655.848 | 359959.340 | 0+38.17 | 505.06 | Right | DUE |
| 158 | 150641.633 | 359944.664 | 0+38.27 | 525.49 | Right | DUE |
| 159 | 150634.628 | 359951.500 | 0+48.05 | 525.40 | Right | DUE |
| 160 | 150629.000 | 359947.579 | 0+49.40 | 532.13 | Right | DUE |
| 161 | 150611.063 | 359936.803 | 0+54.89 | 552.32 | Right | DUE |
| 162 | 150530.388 | 360131.647 | 2+67.18 | 467.05 | Right | DUE |
| 163 | 150582.869 | 360185.828 | 2+61.72 | 391.69 | Right | DUE |
| 200 | 150907.209 | 360384.129 | 1+50.83 | 24.50 | Right | TE |
| 201 | 150900.251 | 360376.946 | 1+50.88 | 34.50 | Right | TE |
| 202 | 150893.095 | 360383.931 | 1+60.88 | 34.41 | Right | TE |
| 203 | 150726.115 | 360211.543 | 1+62.05 | 274.41 | Right | TE |
| 204 | 150731.840 | 360205.955 | 1+54.05 | 274.48 | Right | TE |
| 205 | 150679.659 | 360152.084 | 1+54.41 | 349.48 | Right | TE |
| 206 | 150673.934 | 360157.672 | 1+62.41 | 349.41 | Right | TE |
| 207 | 150656.043 | 360175.133 | 1+87.41 | 349.19 | Right | TE |
| 208 | 150663.199 | 360168.149 | 1+77.41 | 349.28 | Right | TE |
| 209 | 150606.080 | 360109.180 | 1+77.81 | 431.38 | Right | TE |
| 210 | 150350.626 | 360555.466 | 6+99.50 | 223.87 | Right | TE |
| 211 | 150413.173 | 360564.053 | 6+59.54 | 179.28 | Right | TE |
| 212 | 150402.973 | 360638.356 | 7+08.27 | 126.31 | Right | TE |
| 213 | 150340.426 | 360629.770 | 7+48.17 | 172.16 | Right | TE |
| 214 | 150245.168 | 360758.367 | 8+91.79 | 139.89 | Right | TE |
| 215 | 150071.639 | 360986.025 | 11+64.16 | 116.41 | Right | TE |
| 216 | 150063.836 | 360979.771 | 11+64.37 | 126.41 | Right | TE |
| 217 | 150010.680 | 361046.100 | 12+40.59 | 127.37 | Right | TE |
| 218 | 149951.650 | 361139.146 | 13+39.45 | 125.23 | Right | TE |
| 219 | 149641.095 | 362297.607 | 25+43.00 | 77.37 | Right | TE |
| 220 | 149608.546 | 362274.356 | 25+41.64 | 117.35 | Right | TE |
| 221 | 149568.456 | 362325.493 | 26+14.42 | 120.16 | Right | TE |
| 222 | 149598.804 | 362351.551 | 26+16.78 | 80.22 | Right | TE |

| DATE | BY | REVISIONS |
|---|---|---|
| | | |

| | |
|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

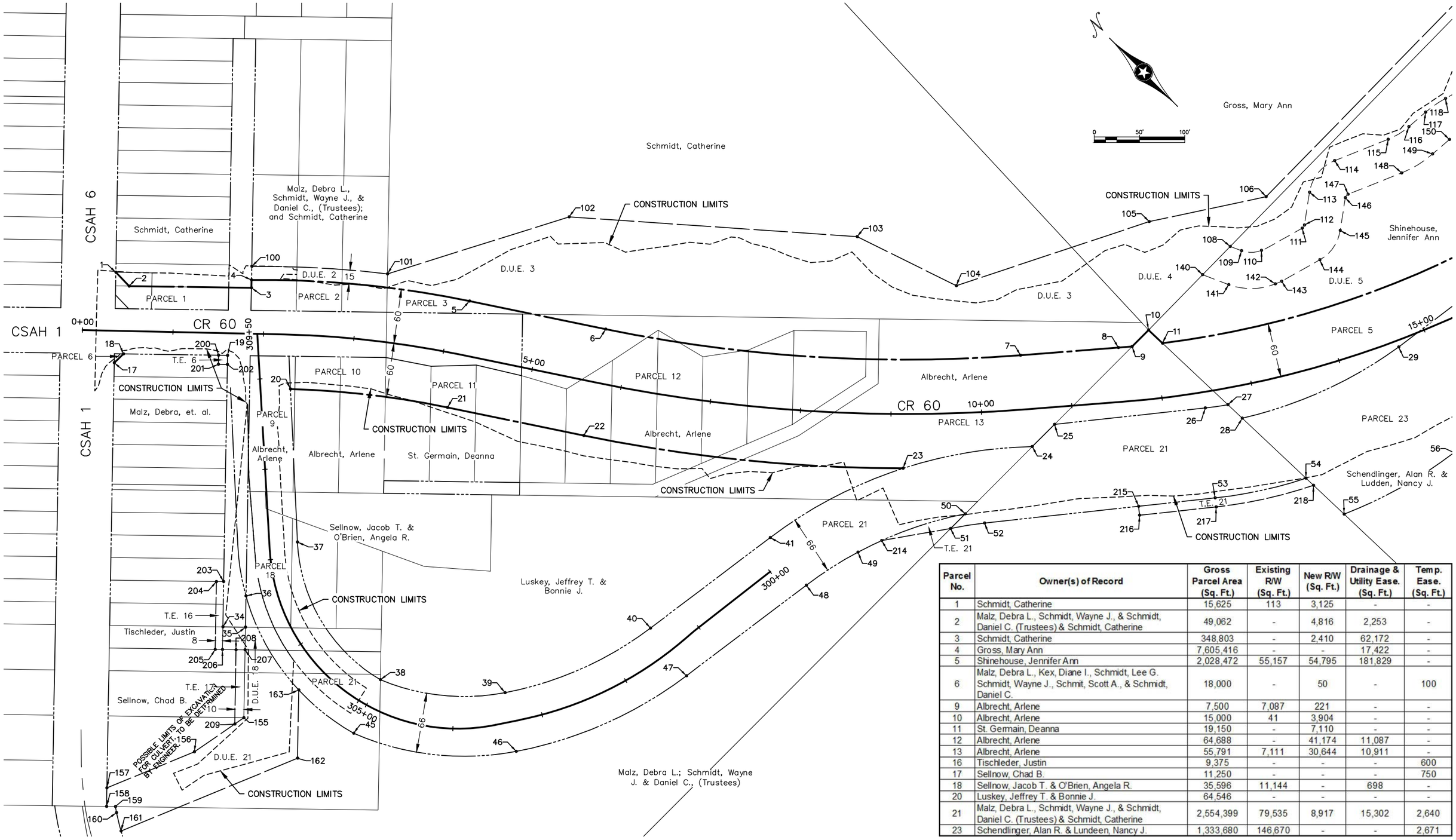
C.P. 60-02FL

CR 60 RIGHT-OF-WAY

S.A.P. 070-593-001

Sheet No. 3.1 of 3.3 Sheets

\\HWYGIS\hwydata\P\6002FL\CAD\Production Drawings\ROW Plan Sheets\6002FL_ROW - POINTS.dwg (2/10/2016 4:18 PM)




| Parcel No. | Owner(s) of Record | Gross Parcel Area (Sq. Ft.) | Existing R/W (Sq. Ft.) | New R/W (Sq. Ft.) | Drainage & Utility Ease. (Sq. Ft.) | Temp. Ease. (Sq. Ft.) |
|---|---|---|---|---|---|---|
| 1 | Schmidt, Catherine | 15,625 | 113 | 3,125 | - | - |
| 2 | Malz, Debra L., Schmidt, Wayne J., & Schmidt, Daniel C. (Trustees) & Schmidt, Catherine | 49,062 | - | 4,816 | 2,253 | - |
| 3 | Schmidt, Catherine | 348,803 | - | 2,410 | 62,172 | - |
| 4 | Gross, Mary Ann | 7,605,416 | - | - | 17,422 | - |
| 5 | Shinehouse, Jennifer Ann | 2,028,472 | 55,157 | 54,795 | 181,829 | - |
| 6 | Malz, Debra L., Kex, Diane I., Schmidt, Lee G. Schmidt, Wayne J., Schmit, Scott A., & Schmidt, Daniel C. | 18,000 | - | 50 | - | 100 |
| 9 | Albrecht, Arlene | 7,500 | 7,087 | 221 | - | - |
| 10 | Albrecht, Arlene | 15,000 | 41 | 3,904 | - | - |
| 11 | St. Germain, Deanna | 19,150 | - | 7,110 | - | - |
| 12 | Albrecht, Arlene | 64,688 | - | 41,174 | 11,087 | - |
| 13 | Albrecht, Arlene | 55,791 | 7,111 | 30,644 | 10,911 | - |
| 16 | Tischleder, Justin | 9,375 | - | - | - | 600 |
| 17 | Sellnow, Chad B. | 11,250 | - | - | - | 750 |
| 18 | Sellnow, Jacob T. & O'Brien, Angela R. | 35,596 | 11,144 | - | 698 | - |
| 20 | Luskey, Jeffrey T. & Bonnie J. | 64,546 | - | - | - | - |
| 21 | Malz, Debra L., Schmidt, Wayne J., & Schmidt, Daniel C. (Trustees) & Schmidt, Catherine | 2,554,399 | 79,535 | 8,917 | 15,302 | 2,640 |
| 23 | Schendlinger, Alan R. & Lundeen, Nancy J. | 1,333,680 | 146,670 | - | - | 2,671 |

| DATE | BY | REVISIONS |
|---|---|---|
| 1/5/2016 | JCS | CONSTRUCTION LIMIT LABEL REMOVAL |
| 5/9/2016 | NRT | REMOVED PARCEL 20 TE & ROW PER FEMA |

| | |
|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 05/09/2016

Reg. No. 24756

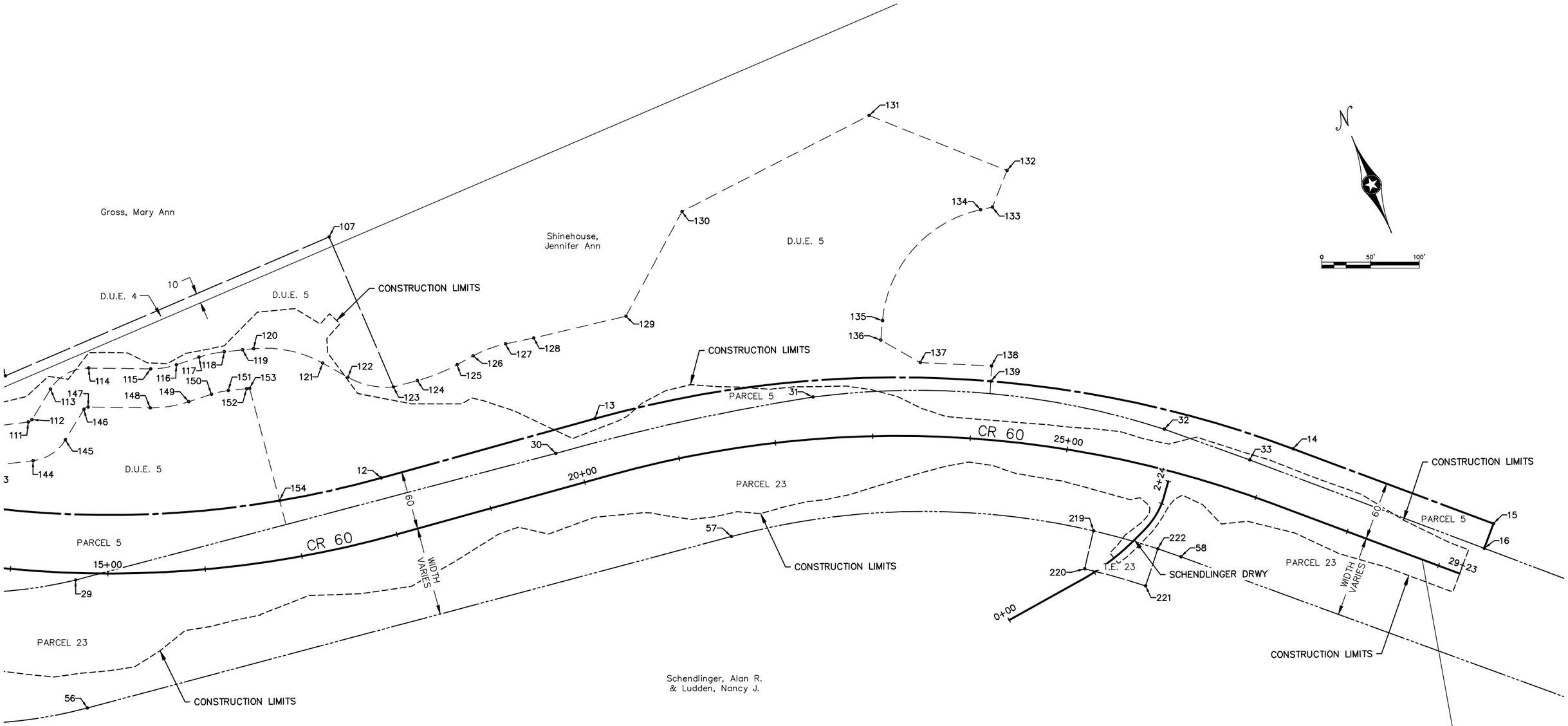
C.P. 60–02FL

CR 60 RIGHT–OF–WAY

S.A.P. 070–593–001

Sheet No. 3.2 of 3.3 Sheets

\\HWYGIS\hwydata\P\6002FL\CAD\Production Drawings\ROW Plan Sheets\6002FL_ROW - POINTS.dwg (5/9/2016 3:48 PM)




| Parcel No. | Owner(s) of Record | Gross Parcel Area (Sq. Ft.) | Existing R/W (Sq. Ft.) | New R/W (Sq. Ft.) | Drainage & Utility Ease. (Sq. Ft.) | Temp. Ease. (Sq. Ft.) |
|---|---|---|---|---|---|---|
| 4 | Gross, Mary Ann | 7,605,416 | - | - | 17,422 | - |
| 5 | Shinehouse, Jennifer Ann | 2,028,472 | 55,157 | 54,795 | 181,829 | - |
| 23 | Schendlinger, Alan R. & Lundeen, Nancy J. | 1,333,680 | 55,158 | - | - | 2,671 |

| DATE | BY | REVISIONS |
|---|---|---|
| | | |

| | |
|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

CR 60 RIGHT–OF–WAY

S.A.P. 070–593–001

Sheet No. 3.3 of 3.3 Sheets

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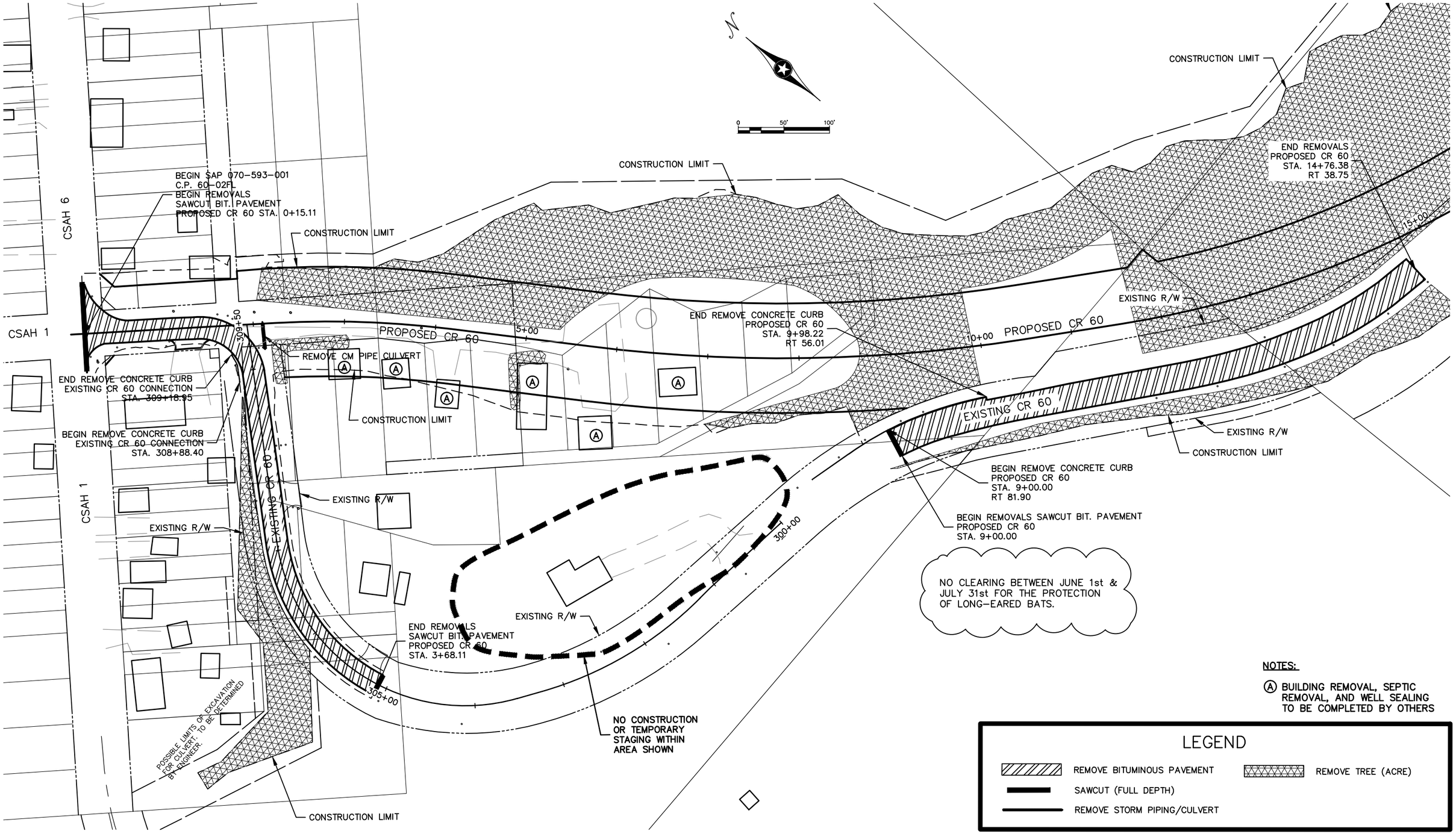


NOTES:

Ⓐ BUILDING REMOVAL, SEPTIC REMOVAL, AND WELL SEALING TO BE COMPLETED BY OTHERS

LEGEND

- REMOVE BITUMINOUS PAVEMENT
- SAWCUT (FULL DEPTH)
- REMOVE STORM PIPING/CULVERT
- REMOVE TREE (ACRE)

| DATE | BY | REVISIONS |
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| 5/9/2016 | NRT | REMOVAL & CON. LIMITS, ADDED "NO STAGING" BOUNDARY PER FEMA |

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| APPROVED: | JS |

Scott

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 05/09/2016

Reg. No. 24756

C.P. 60-02FL

REMOVALS

S.A.P. 070-593-001

Sheet No. 4.1 of 4.2 Sheets

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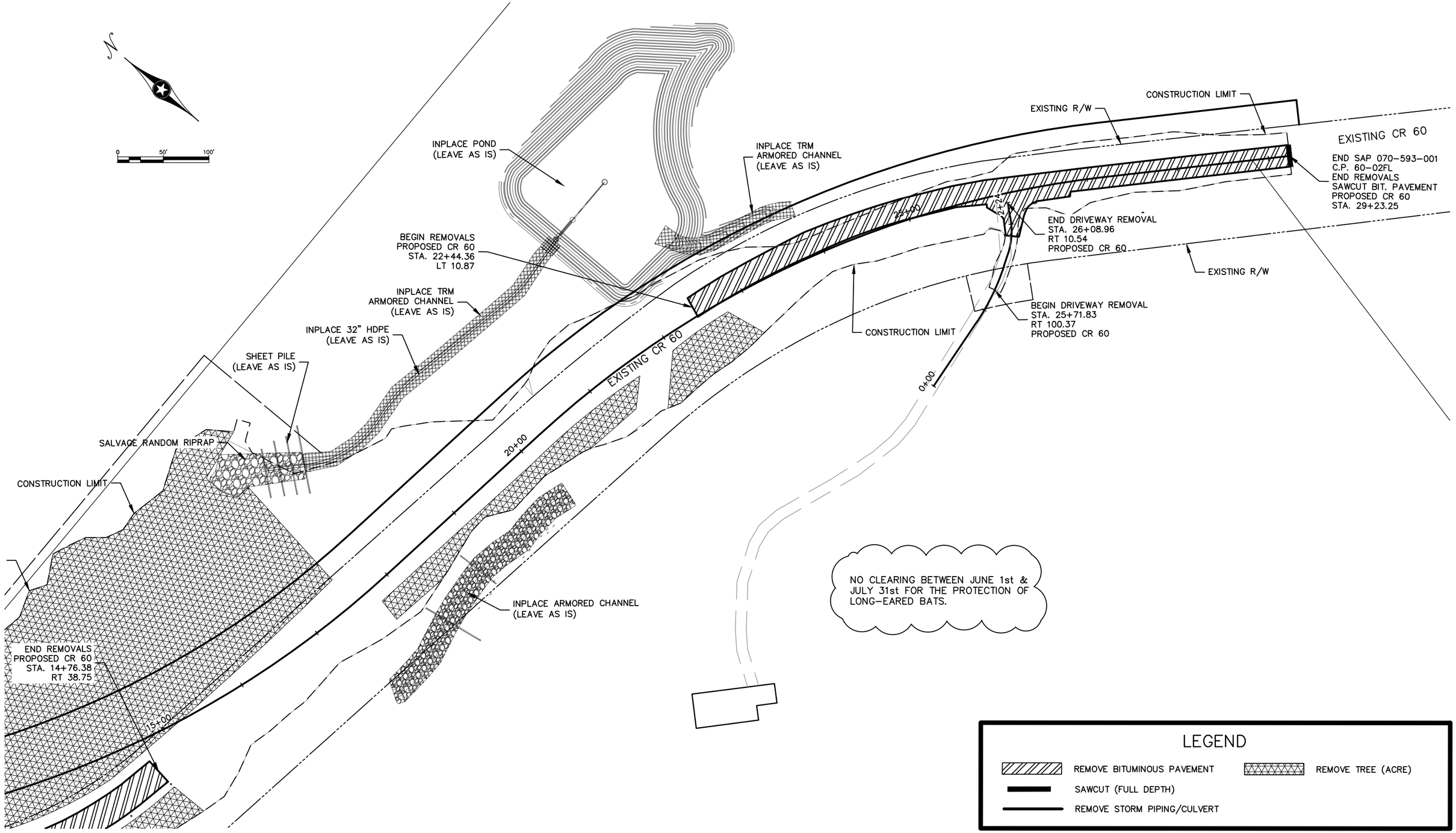


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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60-02FL

REMOVALS

S.A.P. 070-593-001

Sheet No. 4.2 of 4.2 Sheets

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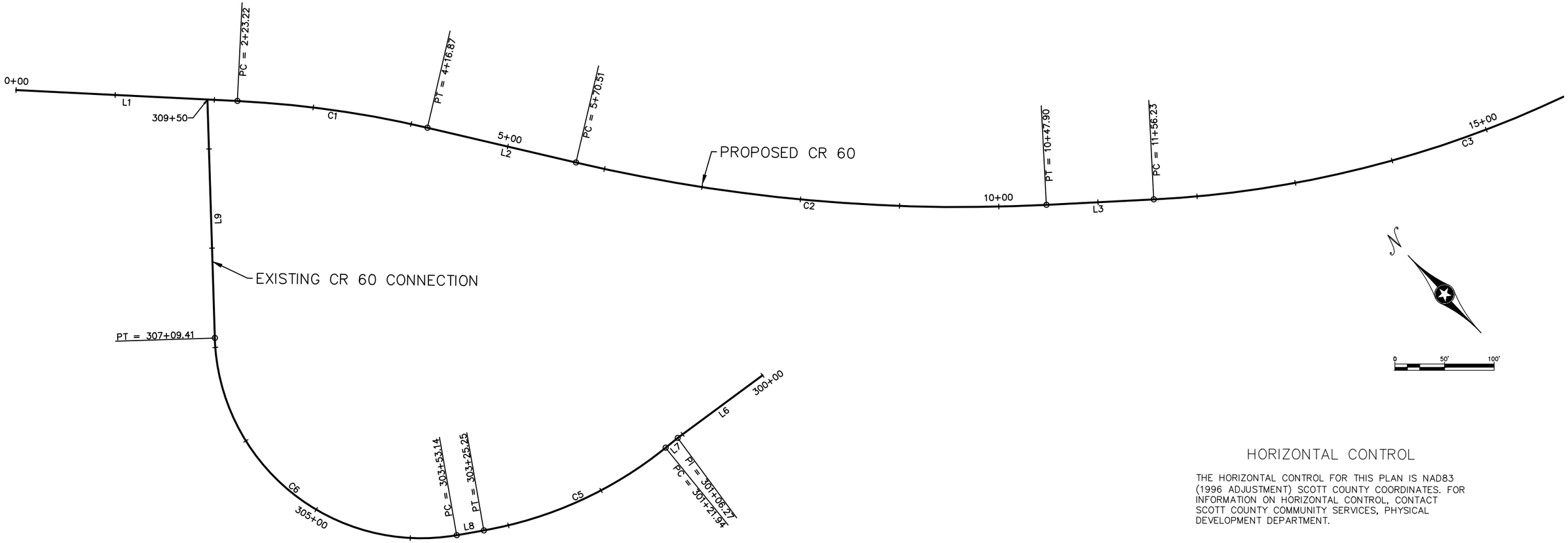
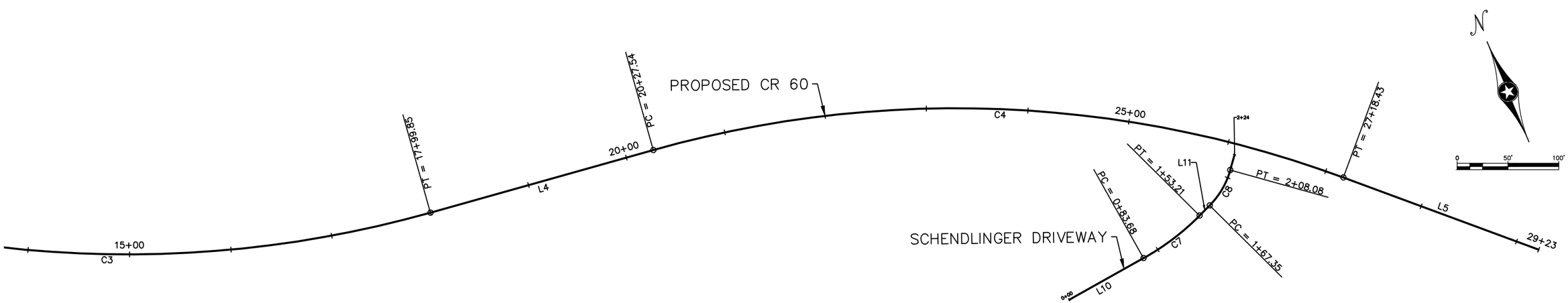



## HORIZONTAL CONTROL

THE HORIZONTAL CONTROL FOR THIS PLAN IS NAD83 (1996 ADJUSTMENT) SCOTT COUNTY COORDINATES. FOR INFORMATION ON HORIZONTAL CONTROL, CONTACT SCOTT COUNTY COMMUNITY SERVICES, PHYSICAL DEVELOPMENT DEPARTMENT.

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

ALIGNMENT PLAN

S.A.P. 070–593–001

Sheet No. 5.1 of 5.7 Sheets

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## PROPOSED CR 60

| Number | Begin Station | End Station | PI Station | Delta | Degree | Radius | Tangent | Length | Begin Northing | Begin Easting | End Northing | End Easting | Line/Chord Direction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1 | 0+00.00 | 2+23.22 | | | | | | 223.22' | 151,033.018 | 360,297.396 | 150,871.929 | 360,451.919 | S 43° 48' 30.48" E |
| C1 | 2+23.22 | 4+16.87 | 3+20.31 | 10° 22' 10.21" | 5° 21' 17.08" | 1,070.00' | 97.09' | 193.65' | 150,871.929 | 360,451.919 | 360,572.632 | 360,572.632 | S 38° 37' 25.38" E |
| L2 | 4+16.87 | 5+70.51 | | | | | | 153.64' | 150,720.844 | 360,572.632 | 150,592.633 | 360,657.296 | S 33° 26' 20.27" E |
| C2 | 5+70.51 | 10+47.90 | 8+10.79 | 16° 05' 21.90" | 3° 22' 13.22" | 1,700.00' | 240.27' | 477.38' | 150,592.633 | 360,657.296 | 360,972.480 | 360,972.480 | S 41° 29' 01.22" E |
| L3 | 10+47.90 | 11+56.23 | | | | | | 108.34' | 150,236.178 | 360,972.480 | 150,165.859 | 361,054.896 | S 49° 31' 42.17" E |
| C3 | 11+56.23 | 17+99.85 | 14+87.55 | 33° 31' 25.90" | 5° 12' 31.35" | 1,100.00' | 331.31' | 643.61' | 150,165.859 | 361,054.896 | 361,635.813 | 361,635.813 | S 66° 17' 25.12" E |
| L4 | 17+99.85 | 20+27.54 | | | | | | 227.70' | 149,910.737 | 361,635.813 | 149,883.194 | 361,861.838 | S 83° 03' 08.07" E |
| C4 | 20+27.54 | 27+18.43 | 23+84.81 | 35° 59' 11.53" | 5° 12' 31.35" | 1,100.00' | 357.27' | 690.89' | 149,883.194 | 361,861.838 | 362,478.052 | 362,478.052 | S 65° 03' 32.30" E |
| L5 | 27+18.43 | 29+23.25 | | | | | | 204.81' | 149,596.620 | 362,478.052 | 149,457.109 | 362,628.004 | S 47° 03' 56.54" E |

## EXISTING CR 60 CONNECTION

| Number | Begin Station | End Station | PI Station | Delta | Degree | Radius | Tangent | Length | Begin Northing | Begin Easting | End Northing | End Easting | Line/Chord Direction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L6 | 300+00.00 | 301+06.27 | | | | | | 106.27' | 150,307.810 | 360,646.776 | 150,320.557 | 360,541.277 | N 83° 06' 38.14" W |
| L7 | 301+06.27 | 301+21.94 | | | | | | 15.68' | 150,320.557 | 360,541.277 | 150,321.749 | 360,525.648 | N 85° 38' 21.68" W |
| C5 | 301+21.94 | 303+25.25 | 302+25.84 | 29° 07' 16.90" | 14° 19' 26.20" | 400.00' | 103.90' | 203.31' | 150,321.749 | 360,525.648 | 360,335.391 | 360,335.391 | N 71° 04' 43.23" W |
| L8 | 303+25.25 | 303+53.14 | | | | | | 27.89' | 150,386.967 | 360,335.391 | 150,402.354 | 360,312.129 | N 56° 31' 04.78" W |
| C6 | 303+53.14 | 307+09.41 | 305+93.00 | 98° 08' 18.72" | 27° 32' 45.77" | 208.00' | 239.86' | 356.27' | 150,402.354 | 360,312.129 | 360,271.385 | 360,271.385 | N 7° 26' 55.42" W |
| L9 | 307+09.41 | 309+49.79 | | | | | | 240.38' | 150,713.991 | 360,271.385 | 150,893.691 | 360,431.045 | N 41° 37' 13.94" E |

## SCHENDLINGER DRIVEWAY

| Number | Begin Station | End Station | PI Station | Delta | Degree | Radius | Tangent | Length | Begin Northing | Begin Easting | End Northing | End Easting | Line/Chord Direction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L10 | 0+00.00 | 0+83.68 | | | | | | 83.68' | 149,589.519 | 362,182.780 | 149,599.140 | 362,265.905 | N 83° 23' 54.94" E |
| C7 | 0+83.68 | 1+53.21 | 1+18.67 | 15° 56' 06.40" | 22° 55' 05.92" | 250.00' | 34.99' | 69.53' | 149,599.140 | 362,265.905 | 362,332.983 | 362,332.983 | N 75° 25' 51.74" E |
| L11 | 1+53.21 | 1+67.35 | | | | | | 14.14' | 149,616.573 | 362,332.983 | 149,621.992 | 362,346.043 | N 67° 27' 48.54" E |
| C8 | 1+67.35 | 2+08.08 | 1+88.17 | 29° 10' 17.49" | 71° 37' 11.01" | 80.00' | 20.82' | 40.73' | 149,621.992 | 362,346.043 | 362,378.170 | 362,378.170 | N 52° 52' 39.79" E |

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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

ALIGNMENT PLAN

S.A.P. 070–593–001

Sheet No. 5.2 of 5.7 Sheets

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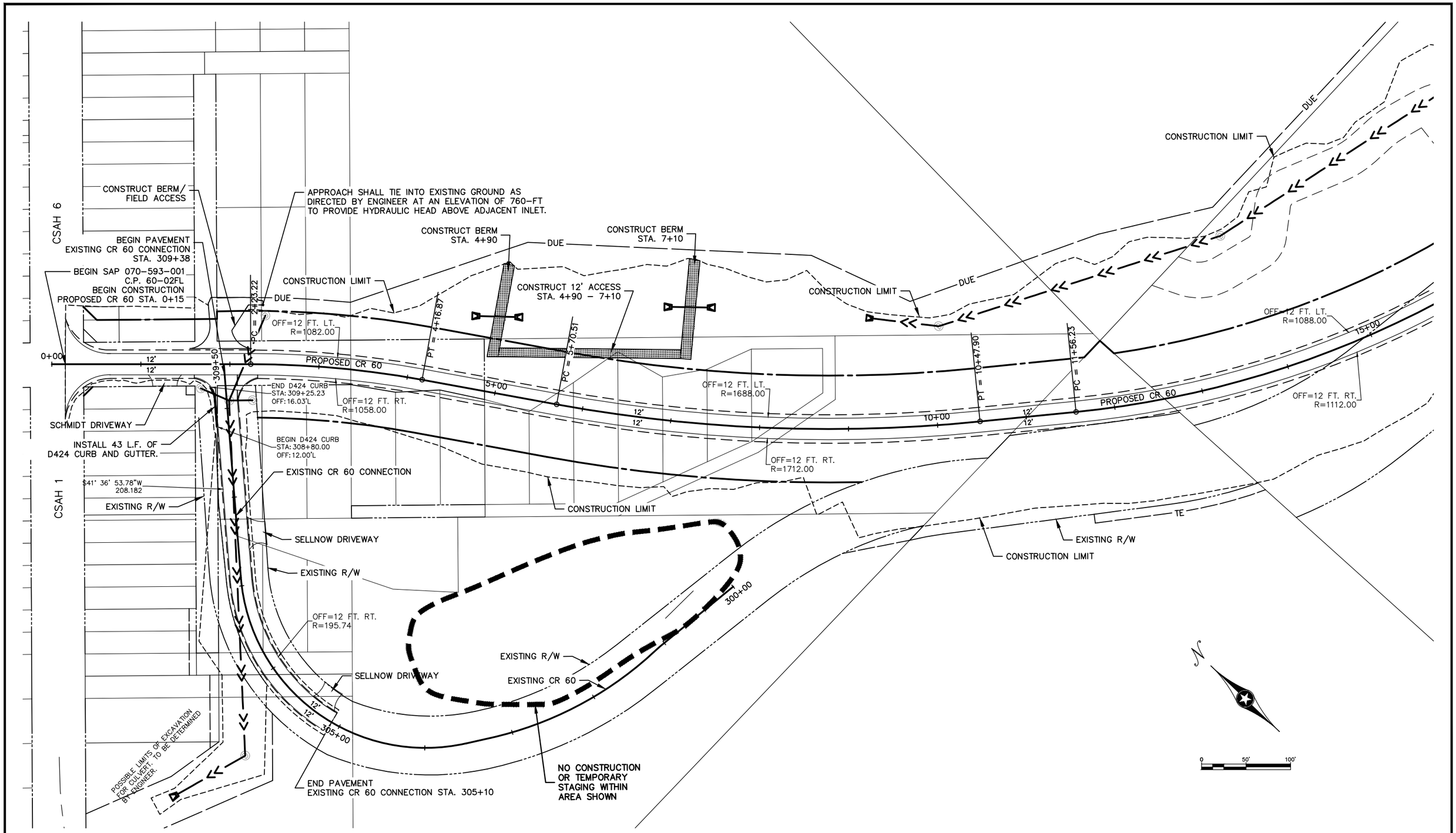


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| 5/9/2016 | NRT | CONSTRUCTION LIMITS, ADDED "NO STAGING" BOUNDARY PER FEMA |

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Date 05/09/2016

Reg. No. 24756

C.P. 60-02FL

CONSTRUCTION PLAN

S.A.P. 070-593-001

Sheet No. 5.3 of 5.7 Sheets

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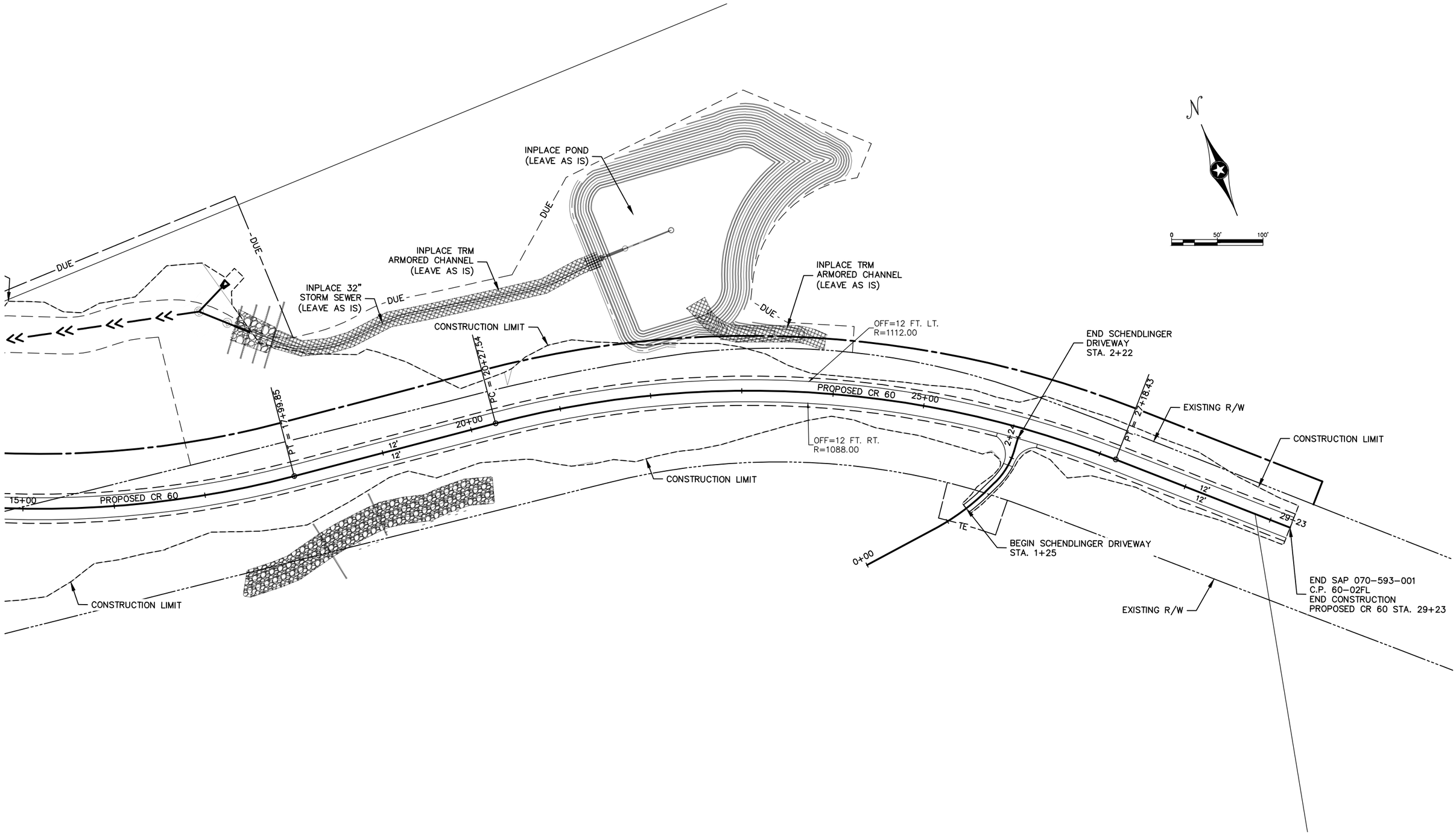


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C.P. 60-02FL

CONSTRUCTION PLAN

S.A.P. 070-593-001

Sheet No. 5.4 of 5.7 Sheets

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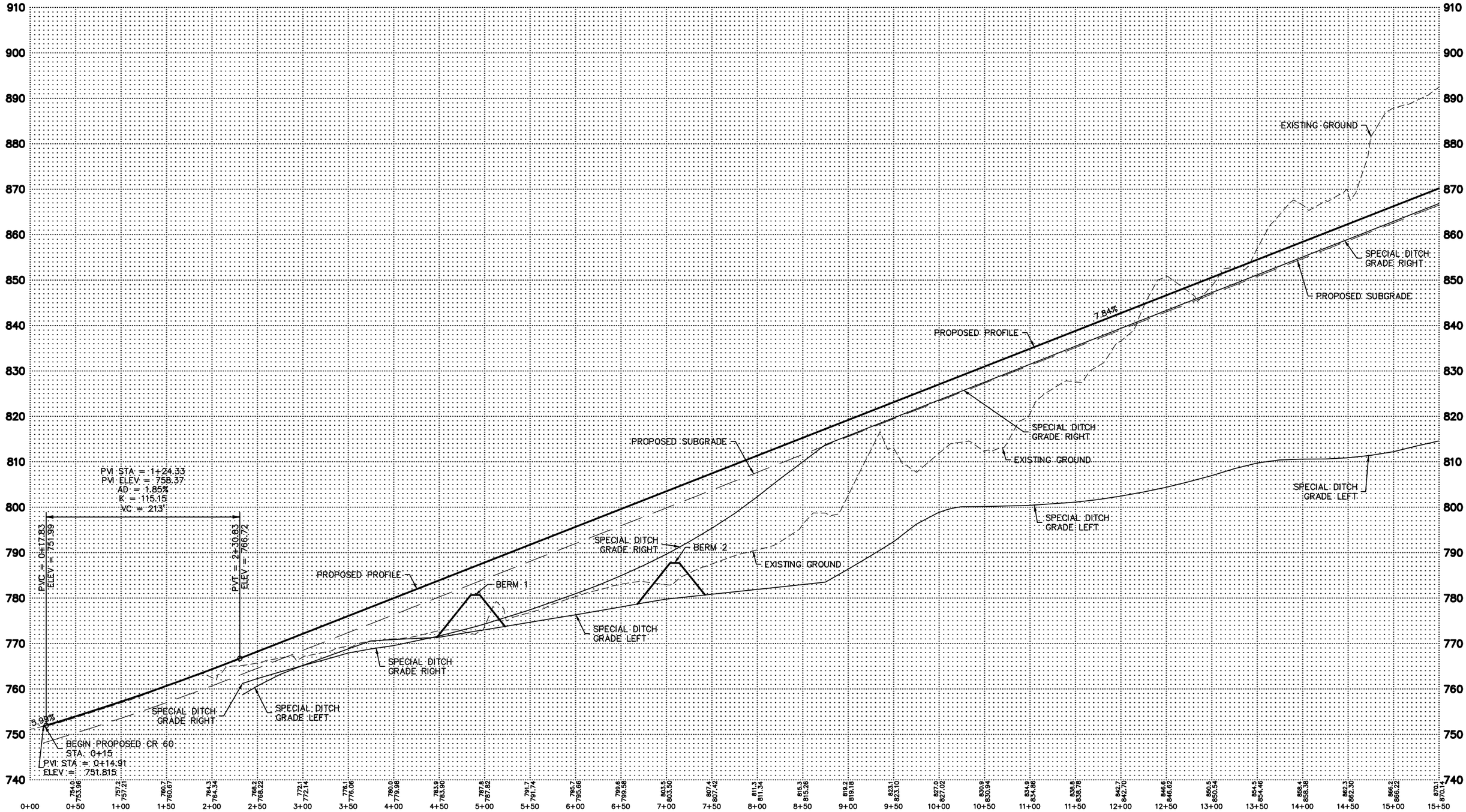


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Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

CONSTRUCTION PROFILE

S.A.P. 070–593–001

Sheet No. 5.5 of 5.7 Sheets

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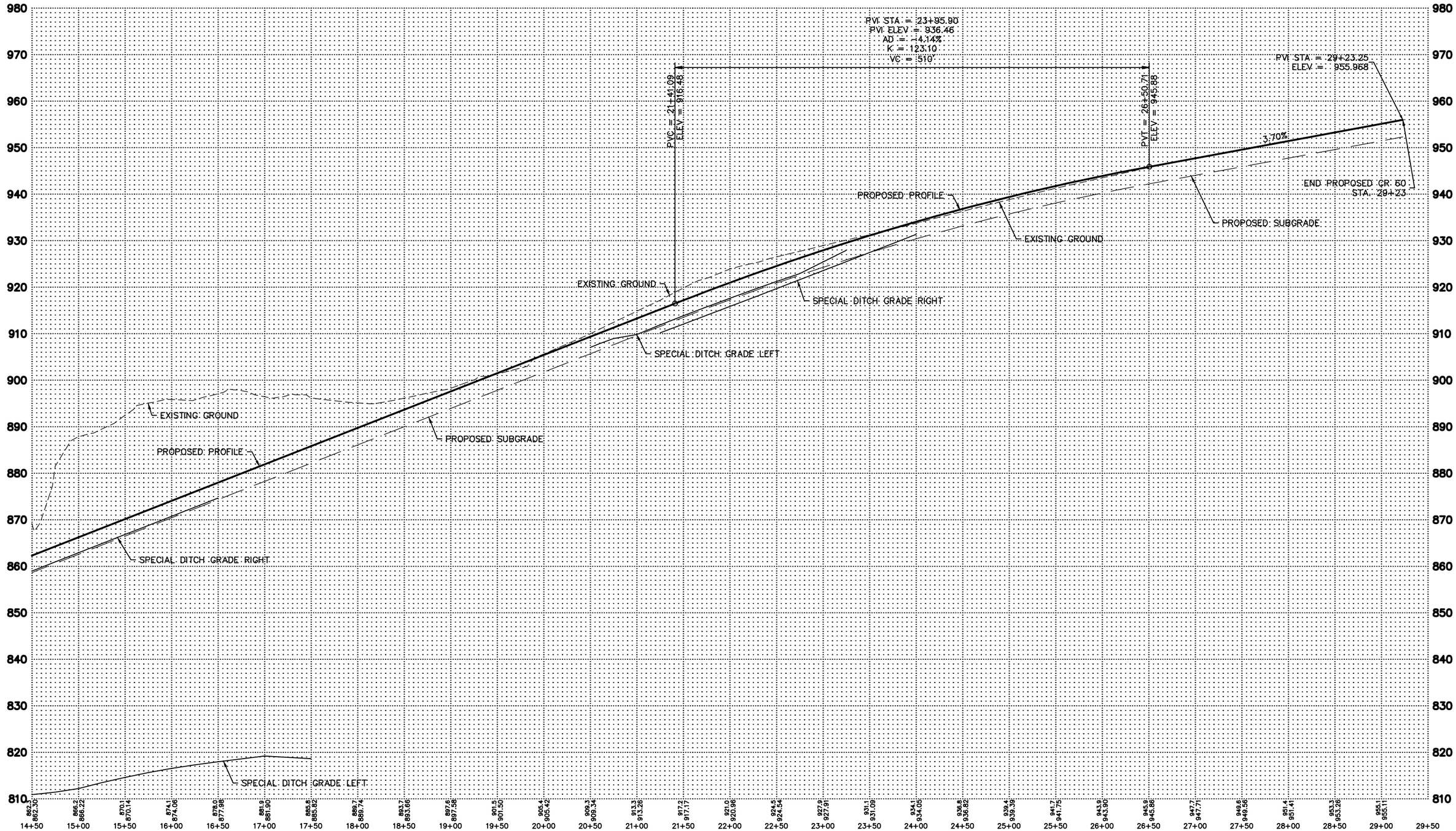


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| APPROVED: | JS |

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

CONSTRUCTION PROFILE

S.A.P. 070–593–001

Sheet No. 5.6 of 5.7 Sheets

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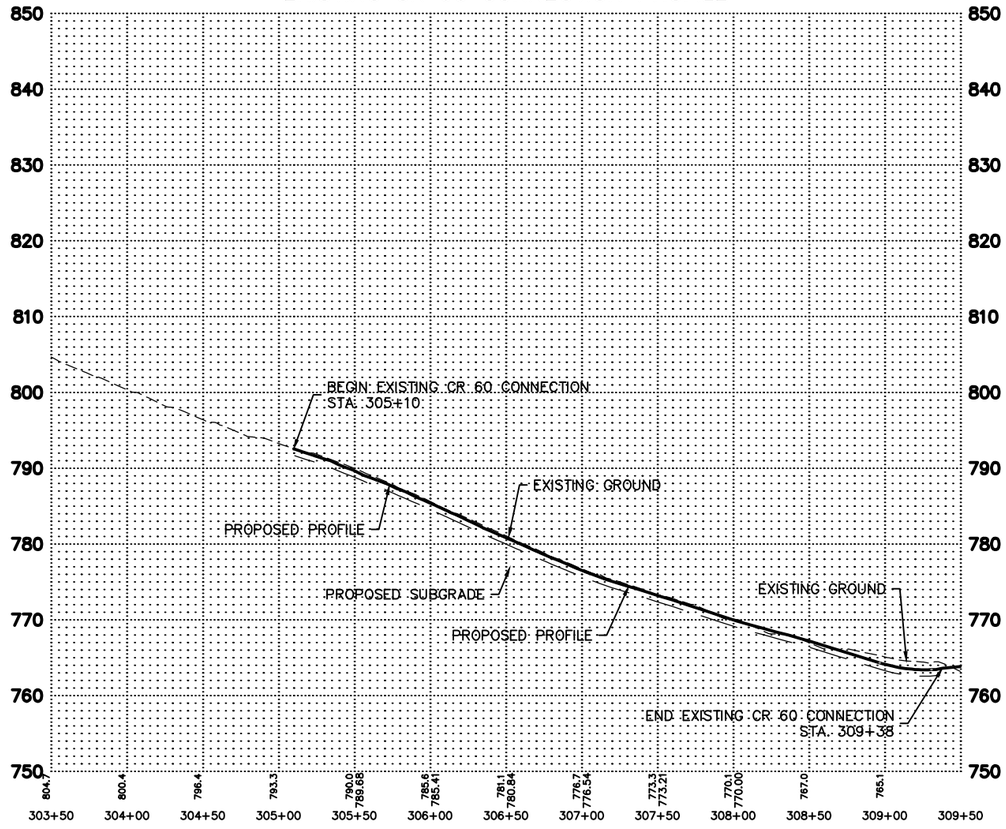
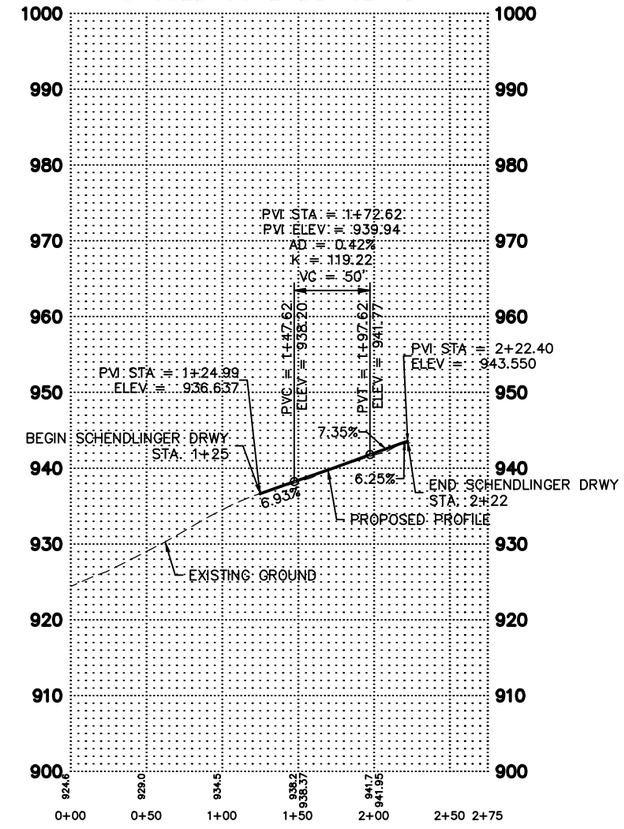
## EXISTING CR 60 CONNECTION PROFILE




## PROPOSED SCHENDLINGER DRWY

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Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

CONSTRUCTION PROFILE

S.A.P. 070–593–001

Sheet No. 5.7 of 5.7 Sheets

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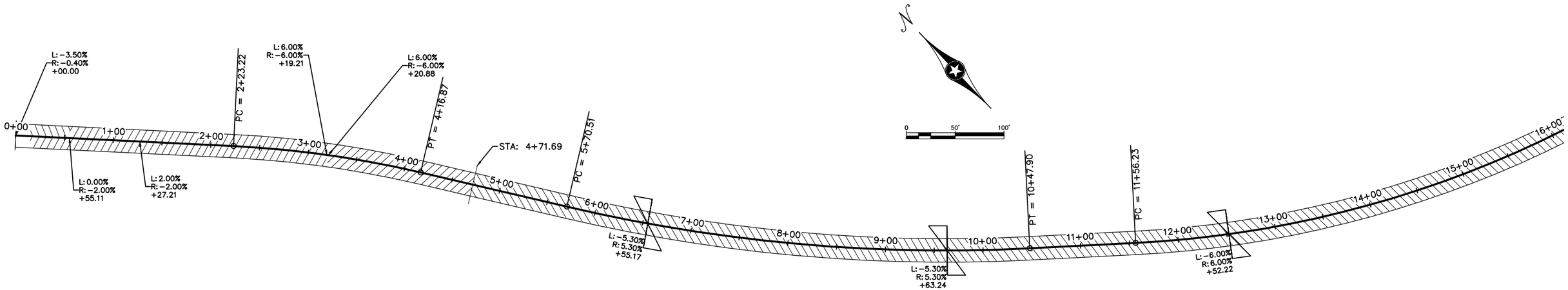
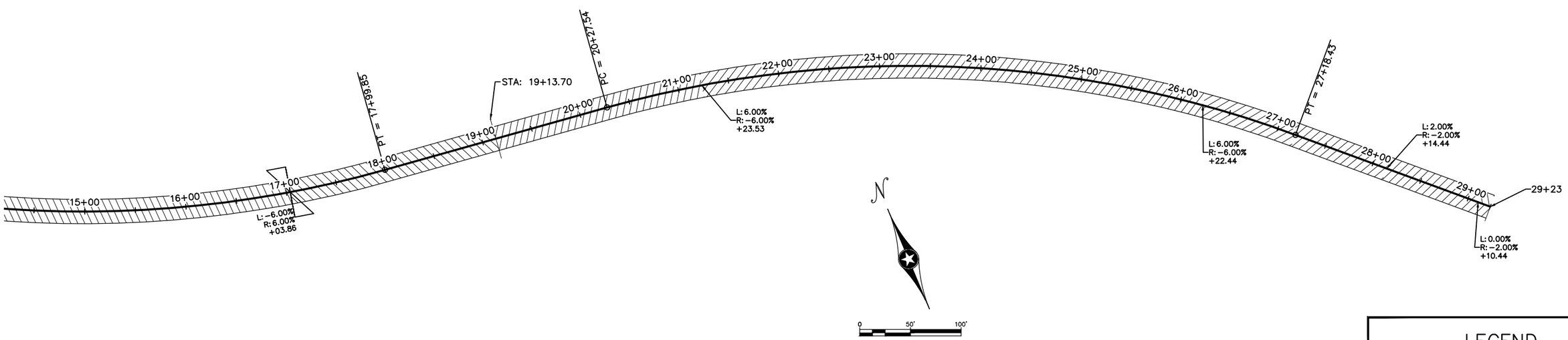



LEGEND

SUPER TRANSITION FT/FT

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Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

SUPERELEVATIONS

S.A.P. 070–593–001

Sheet No. 6.1 of 6.1 Sheets

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# INPLACE C.R. 60
# TYPICAL GRADING AND SURFACE SECTION
STA. 0+00 – 31+66

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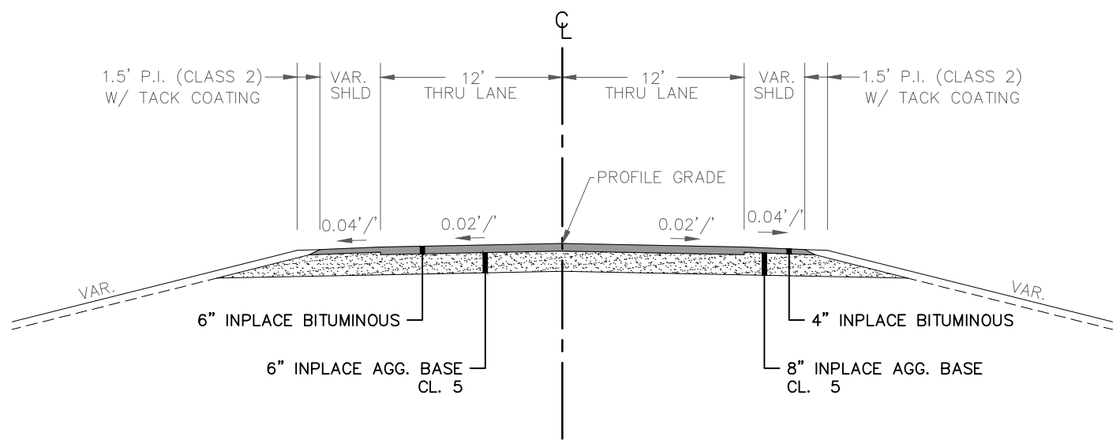


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Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

TYPICAL SECTIONS

S.A.P. 070–593–001

Sheet No. 7.1 of 7.7 Sheets

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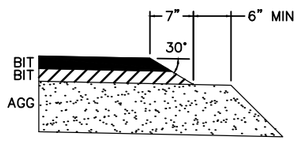
## SAFETY EDGE DETAIL NO. 4

PLACE EACH COURSE AS SHOWN
(RURAL SECTION ONLY)




# PROPOSED C.R. 60

## STA. 0+15 – 2+00

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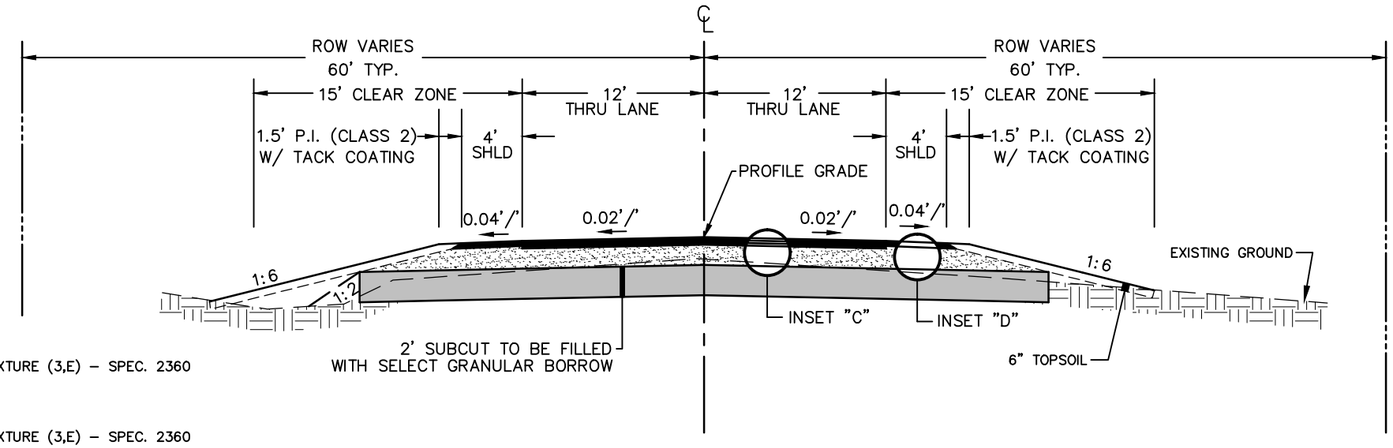


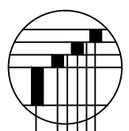

INSET "C"

- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) – SPEC. 2360
  MIX DESIGNATION SPWEB340E
- TACK COAT – SPEC. 2357
- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) – SPEC. 2360
  MIX DESIGNATION SPWEB340E
- TACK COAT – SPEC. 2357
- 3" TYPE SP 12.5 NON–WEARING COURSE MIXTURE (3,B) – SPEC. 2360
  MIX DESIGNATION SPNWB330B
- 6" AGGREGATE BASE, CLASS 5 – SPEC. 2211

## STA. 2+00 – 3+50

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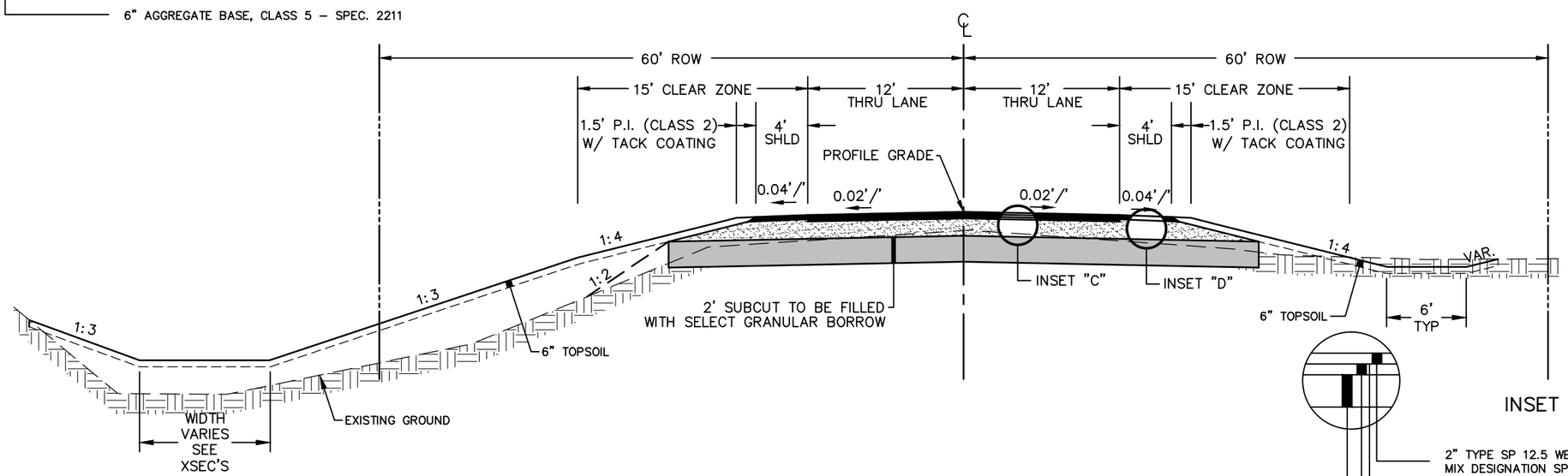




INSET "D"

- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) – SPEC. 2360
  MIX DESIGNATION SPWEB330E
- TACK COAT – SPEC. 2357
- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) – SPEC. 2360
  MIX DESIGNATION SPWEB330E
- 9" AGGREGATE BASE, CLASS 5 – SPEC. 2211

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Scott

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL — TYPICAL SECTIONS

S.A.P. 070–593–001 — Sheet No. 7.2 of 7.7 Sheets

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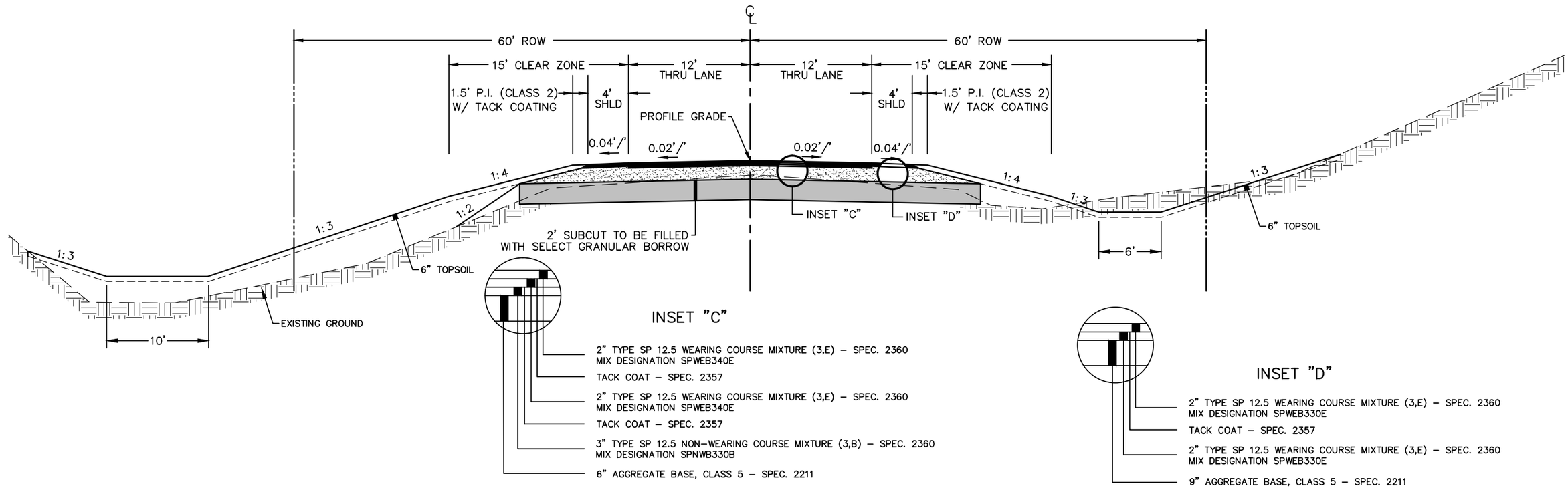
# PROPOSED C.R. 60

STA. 3+50 – 8+75
NO SCALE



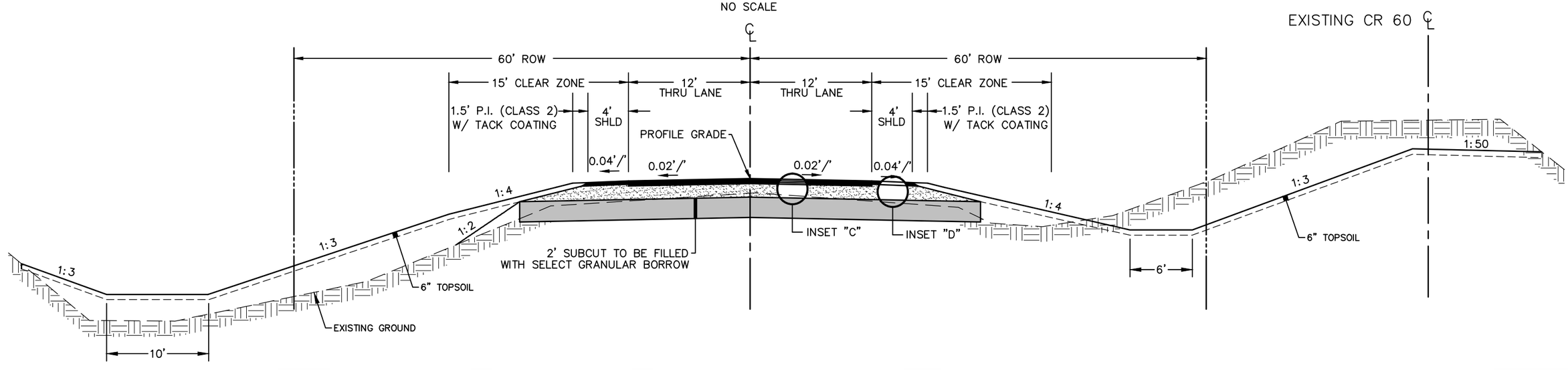

## INSET "C"

- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) – SPEC. 2360 MIX DESIGNATION SPWEB340E
- TACK COAT – SPEC. 2357
- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) – SPEC. 2360 MIX DESIGNATION SPWEB340E
- TACK COAT – SPEC. 2357
- 3" TYPE SP 12.5 NON-WEARING COURSE MIXTURE (3,B) – SPEC. 2360 MIX DESIGNATION SPNWB330B
- 6" AGGREGATE BASE, CLASS 5 – SPEC. 2211

## INSET "D"

- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) – SPEC. 2360 MIX DESIGNATION SPWEB330E
- TACK COAT – SPEC. 2357
- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) – SPEC. 2360 MIX DESIGNATION SPWEB330E
- 9" AGGREGATE BASE, CLASS 5 – SPEC. 2211

STA. 8+75 – 16+50
NO SCALE

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Curt Kobilarcsik

Date 02/10/2016
Reg. No. 24756

C.P. 60–02FL

TYPICAL SECTIONS

S.A.P. 070–593–001

Sheet No. 7.3 of 7.7 Sheets

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# PROPOSED C.R. 60

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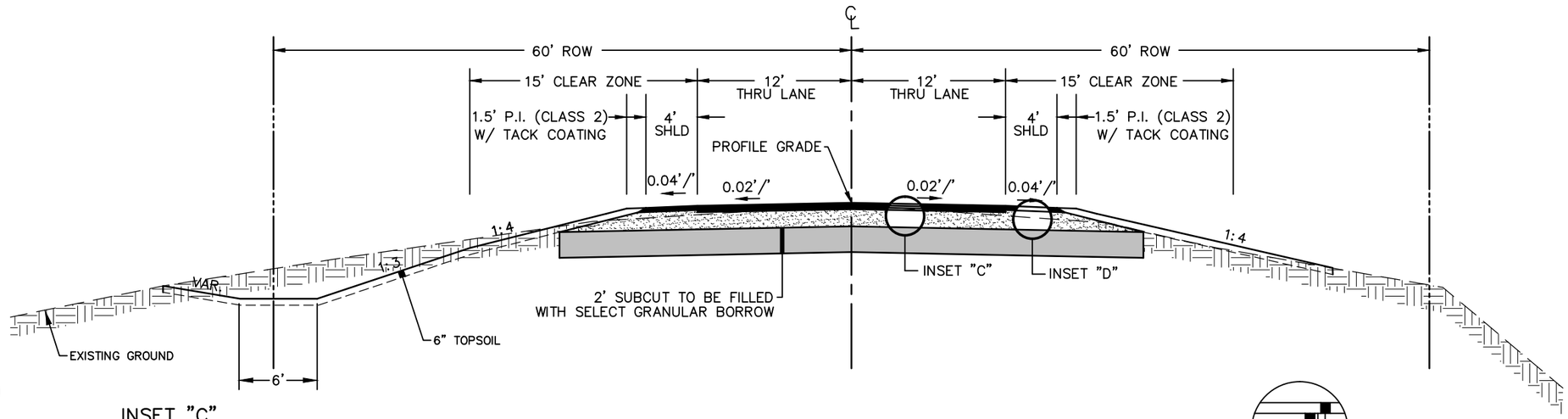


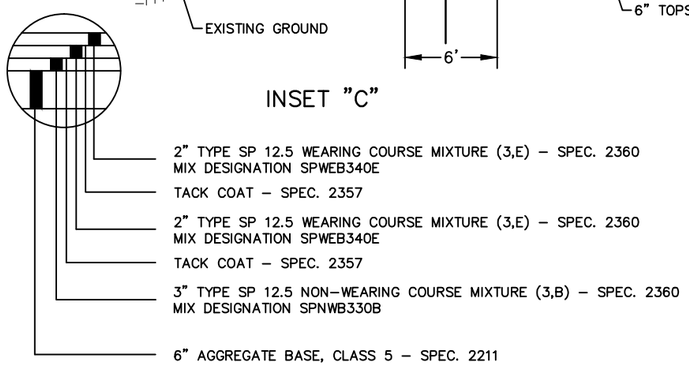


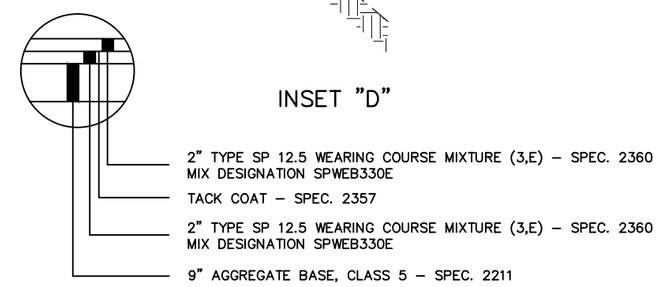


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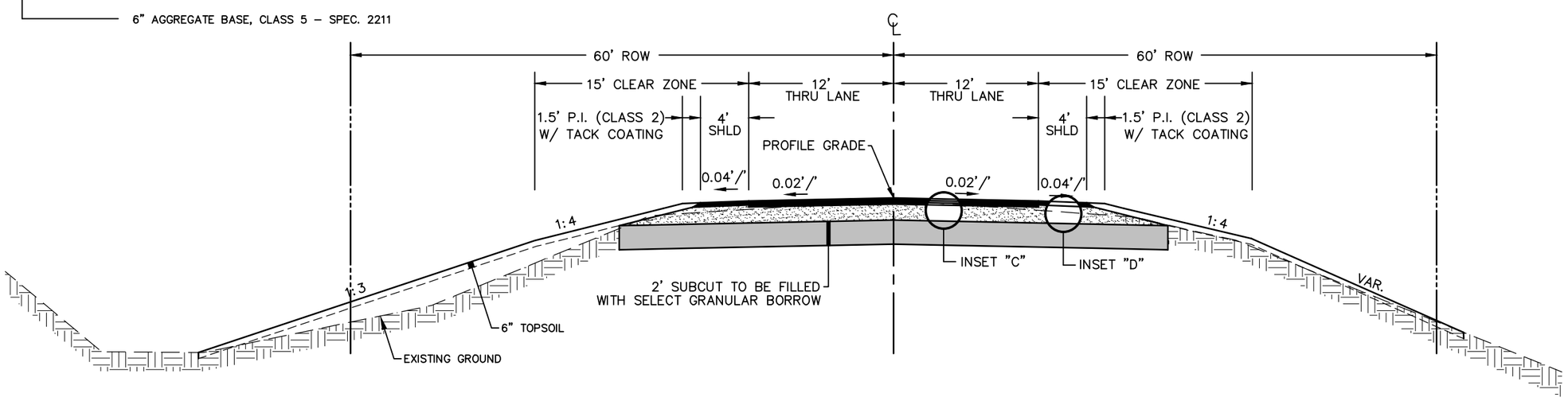


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Curt Kobilarcsik

Date 02/10/2016
Reg. No. 24756

C.P. 60–02FL — TYPICAL SECTIONS

S.A.P. 070–593–001 — Sheet No. 7.4 of 7.7 Sheets

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# PROPOSED C.R. 60

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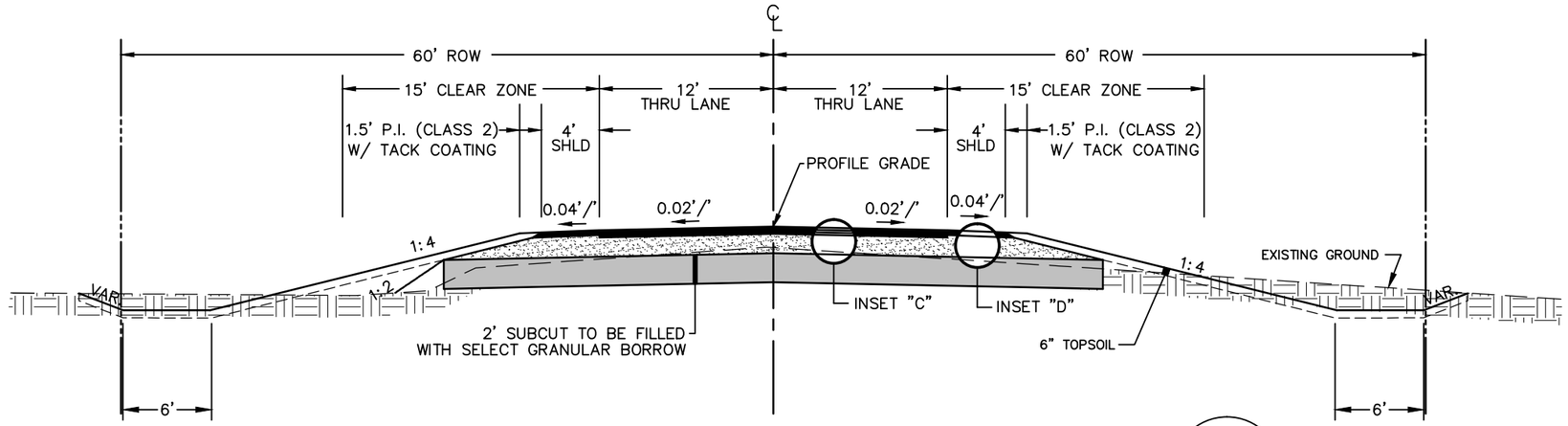
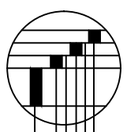
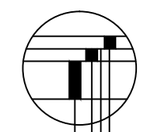


## INSET "C"

- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) – SPEC. 2360 MIX DESIGNATION SPWEB340E
- TACK COAT – SPEC. 2357
- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) – SPEC. 2360 MIX DESIGNATION SPWEB340E
- TACK COAT – SPEC. 2357
- 3" TYPE SP 12.5 NON–WEARING COURSE MIXTURE (3,B) – SPEC. 2360 MIX DESIGNATION SPNWB330B
- 6" AGGREGATE BASE, CLASS 5 – SPEC. 2211



## INSET "D"

- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) – SPEC. 2360 MIX DESIGNATION SPWEB330E
- TACK COAT – SPEC. 2357
- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) – SPEC. 2360 MIX DESIGNATION SPWEB330E
- 9" AGGREGATE BASE, CLASS 5 – SPEC. 2211

STA. 24+00 – 29+23
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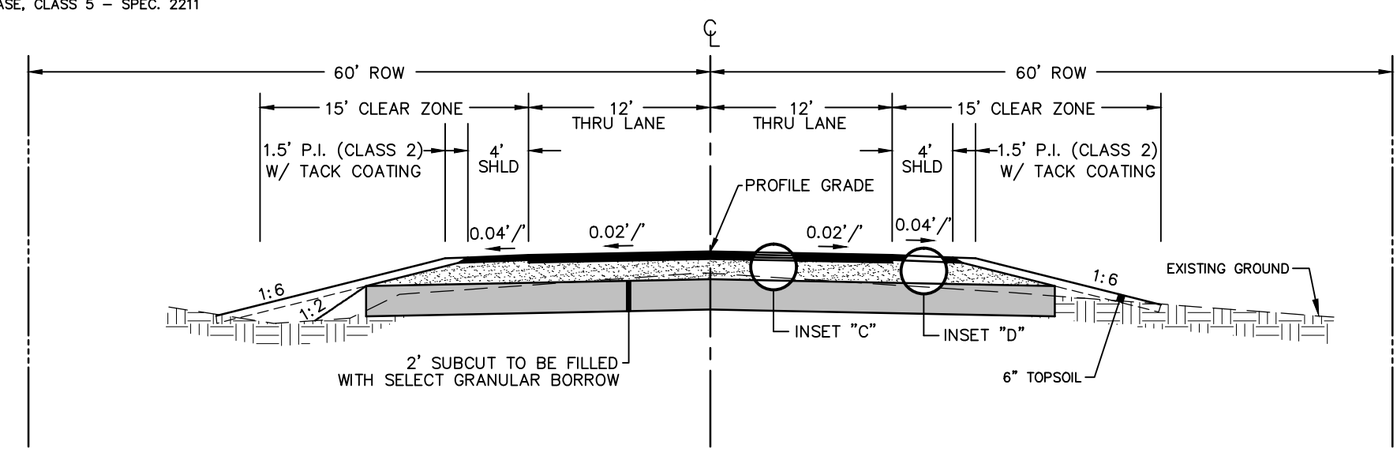


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Curt Kobilarcsik

Date 02/10/2016
Reg. No. 24756

C.P. 60–02FL

TYPICAL SECTIONS

S.A.P. 070–593–001

Sheet No. 7.5 of 7.7 Sheets

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# PROPOSED TOWNSHIP RD.

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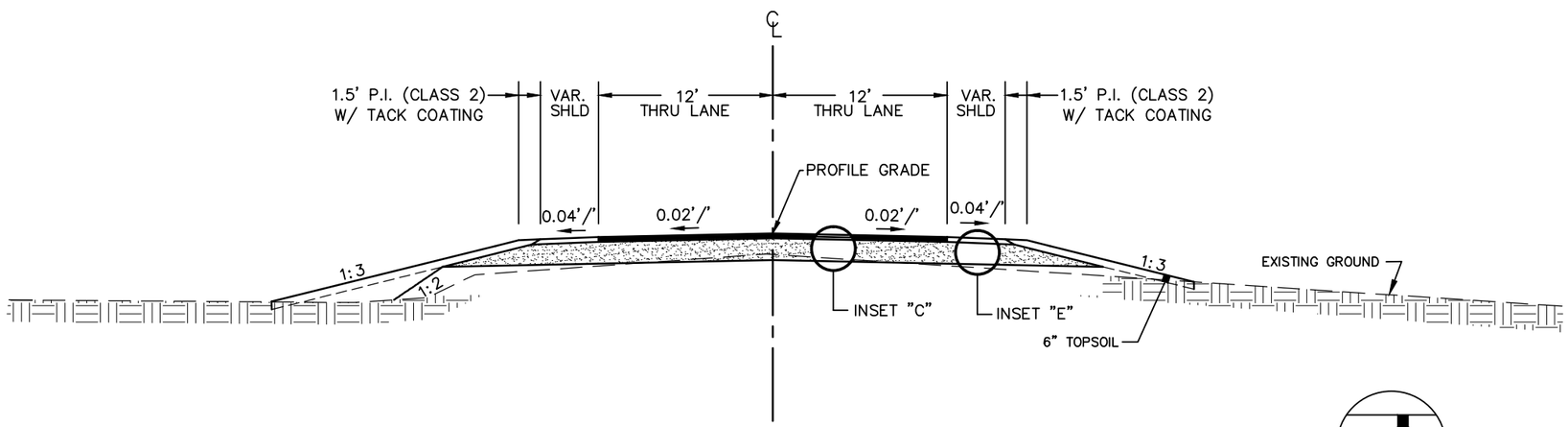
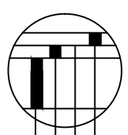
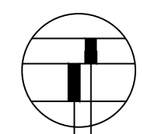


## INSET "C"

- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) – SPEC. 2360 MIX DESIGNATION SPWEB340E
- TACK COAT – SPEC. 2357
- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) – SPEC. 2360 MIX DESIGNATION SPWEB340E
- 6" AGGREGATE BASE, CLASS 5 – SPEC. 2211



## INSET "E"

- 4" SHOULDER BASE AGGREGATE CLASS 2
- 9" AGGREGATE BASE, CLASS 5 – SPEC. 2211

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Scott

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

TYPICAL SECTIONS

S.A.P. 070–593–001

Sheet No. 7.6 of 7.7 Sheets

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# PROPOSED DRIVEWAY

STA. 1+25 – 2+18

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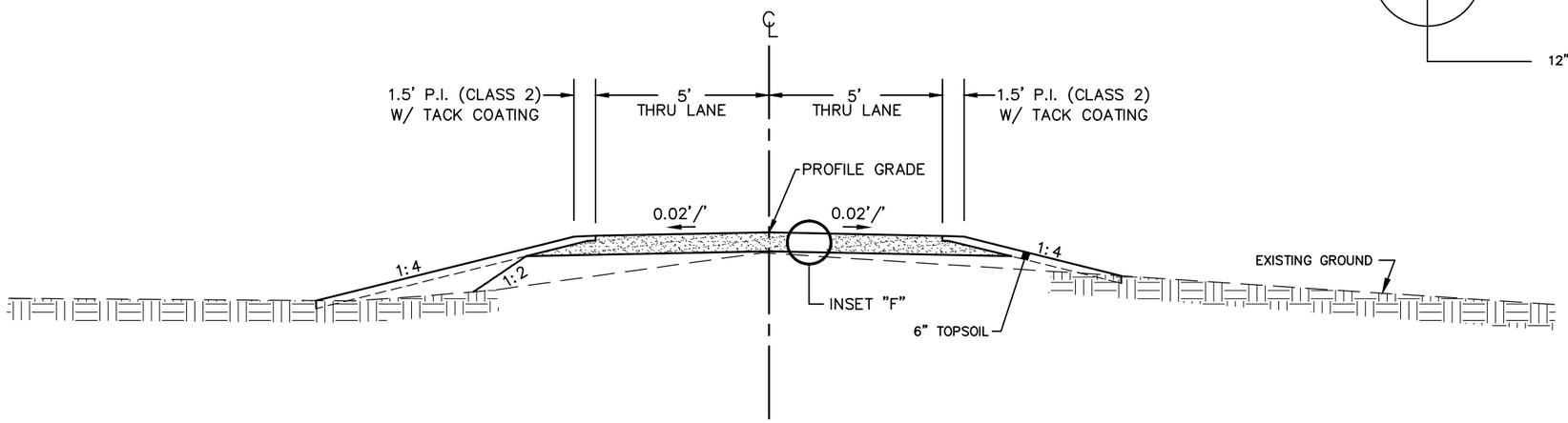


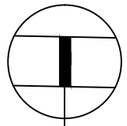

INSET "F"

12" AGGREGATE SURFACING CLASS 2

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

TYPICAL SECTIONS

S.A.P. 070–593–001

Sheet No. 7.7 of 7.7 Sheets

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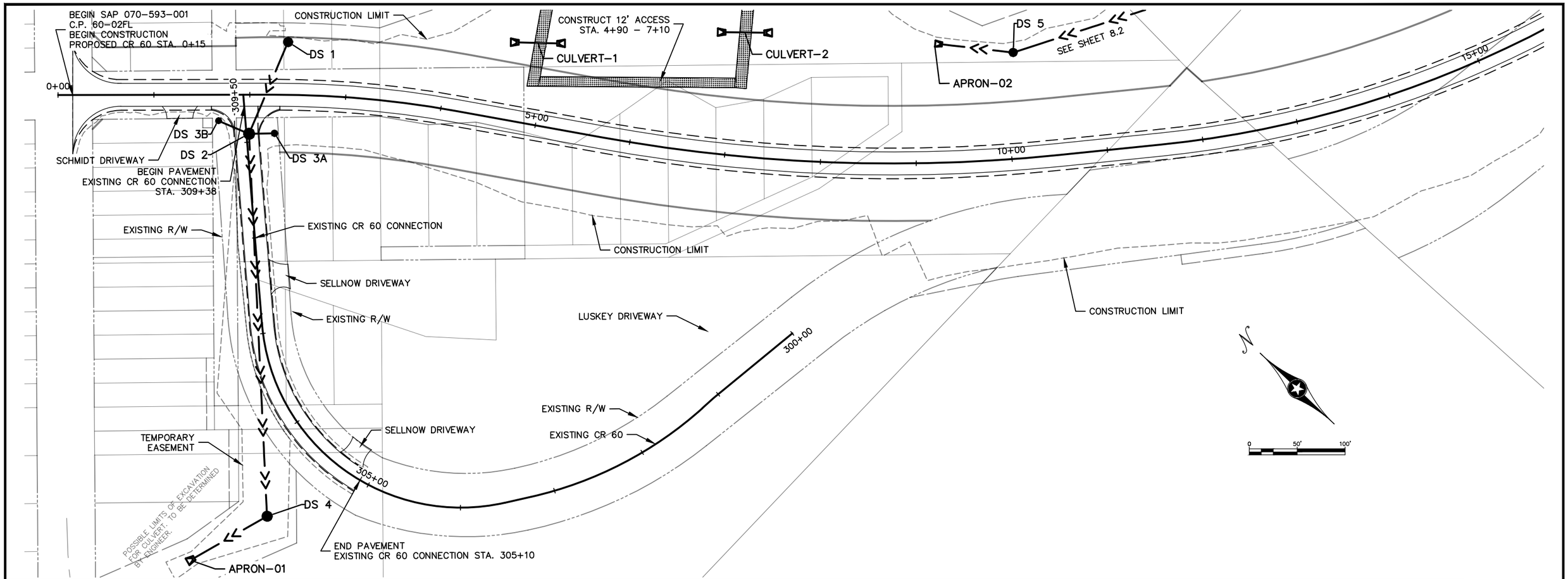


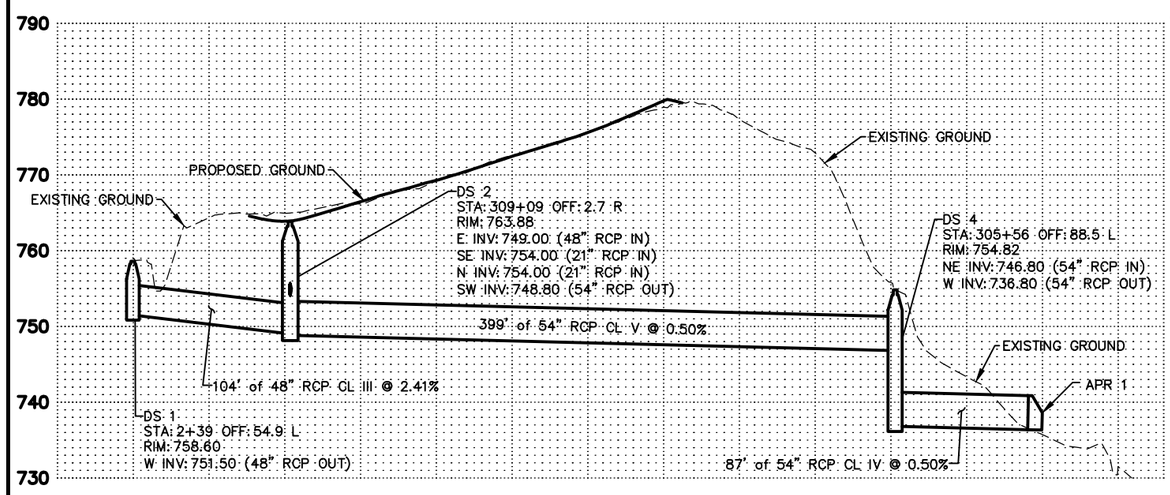


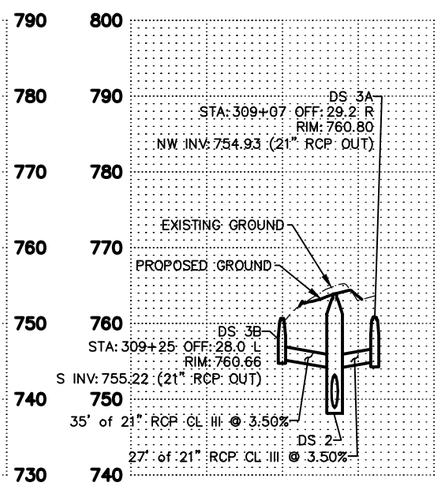


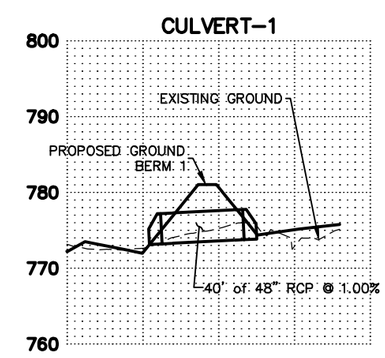


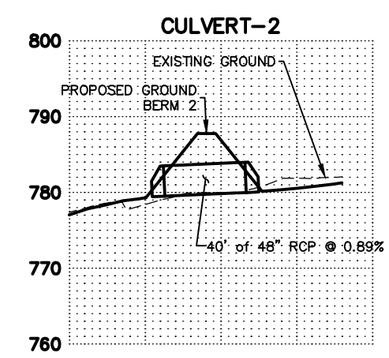


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| 5/9/2016 | NRT | CONSTRUCTION LIMITS, PARCEL 20 TE & ROW PER FEMA |

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| DRAWN: | NT |
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| APPROVED: | JS |

Scott

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Jason Swenson

Date 05/09/2016

Reg. No. 43383

C.P. 60-02FL

DRAINAGE PLANS

S.A.P. 070-593-001

Sheet No. 8.1 of 8.2 Sheets

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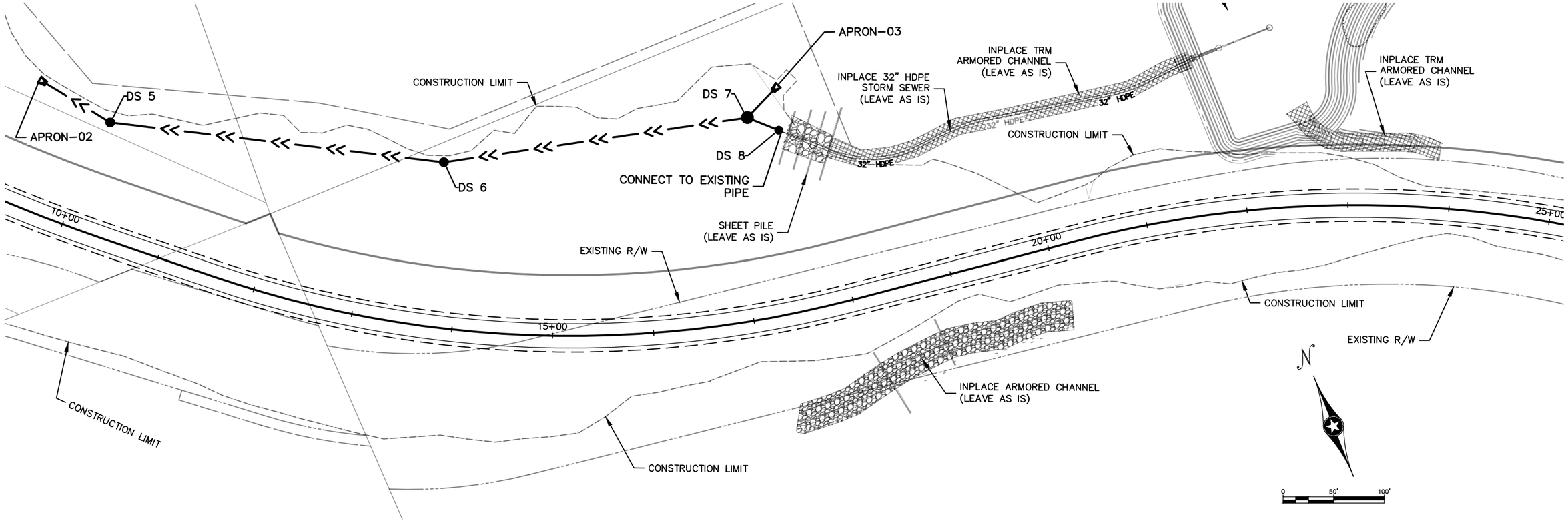


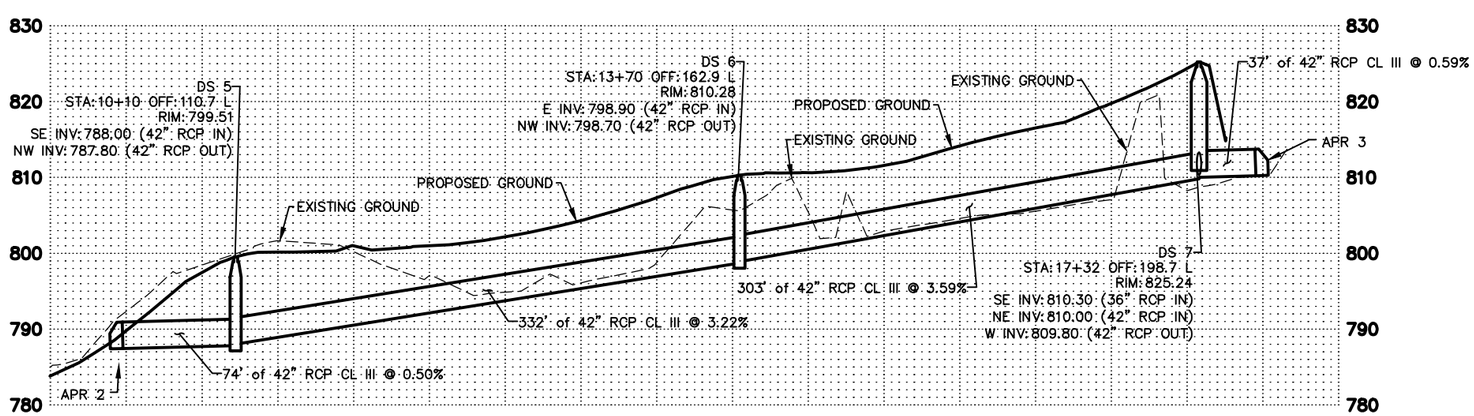


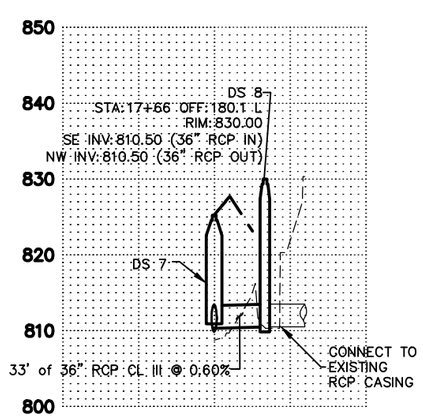


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Jason Swenson

Date 02/10/2016

Reg. No. 43383

C.P. 60-02FL

DRAINAGE PLANS

S.A.P. 070-593-001

Sheet No. 8.2 of 8.2 Sheets

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# STORMWATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE

**PROJECT SITE EVALUATION, ASSESSMENT, AND PLANNING**
THIS NARRATIVE IS TO SERVE AS A GUIDANCE PLAN AND MUST BE AMENDED AND MODIFIED AS SITE CONDITIONS CHANGE DURING CONSTRUCTION.

**PROJECT LOCATION/DESCRIPTION**
PROJECT/SITE NAME: CO. RD. 60 ROAD REALIGNMENT PROJECT
PROJECT NUMBERS: S.P. 070-593-001, CP 60-02FL
PROJECT LOCATION: STREET: CO. RD. 60 CITY/TOWNSHIP: BLAKELEY TOWNSHIP COUNTY: SCOTT
STATE: MINNESOTA ZIP: 56011
LATITUDE/LONGITUDE: 44.60834/-93.85008

**CONTACT INFORMATION/RESPONSIBLE PARTIES**
SCOTT COUNTY OWNS THE LAND, ADJACENT ROADS, AND EASEMENT AREAS ASSOCIATED WITH THE PROJECT. SCOTT COUNTY IS THE OWNER PERMITTEE APPLYING FOR PERMIT COVERAGE AND WILL BE RESPONSIBLE FOR DEVELOPING THIS SWPPP AND THE LONG-TERM MAINTENANCE PLAN OF THE PERMANENT STORMWATER MANAGEMENT SYSTEM FOR THIS PROJECT (IF APPLICABLE). THE OWNER WILL ENSURE THAT THE DESCRIBED WORK IN THE SWPPP IS BEING COMPLETED BY THE OPERATOR PERMITTEE.

OWNER/PERMITTEE: SCOTT COUNTY – FACILITIES MANAGER
200 – FOURTH AVENUE WEST
SHAKOPEE, MN 55379
952-496-8750

THE PRIMARY CONTRACTOR WILL ENTER INTO A CONTRACT WITH SCOTT COUNTY TO COMPLETE THE REQUIRED WORK FOR THIS PROJECT. THE PRIMARY CONTRACTOR WILL BECOME (UNDER CONTRACT) THE OPERATOR CO-PERMITTEE ON THE NPDES PERMIT (THROUGH EXECUTION OF A NPDES PERMIT MODIFICATION FORM), AND THEREBY AGREE TO IMPLEMENT THIS SWPPP IN COOPERATION WITH THE OWNER. THE OPERATOR IS RESPONSIBLE FOR DEVELOPING A CHAIN OF RESPONSIBILITY PRIOR TO STARTING CONSTRUCTION (REFER TO SWPPP AMENDMENT SECTION). THE NPDES PERMIT MODIFICATION FORM SHALL BE SUBMITTED TO THE MPCA AFTER THE PROJECT IS AWARDED TO THE PRIMARY CONTRACTOR, PRIOR TO LETTING THE PROJECT.

THE OPERATOR WILL INSURE THAT INDIVIDUALS OVERSEEING OR IMPLEMENTING THE SWPPP HAVE BEEN PROPERLY TRAINED AND THAT CERTIFICATIONS WILL BE MADE AVAILABLE UPON REQUEST. THIS INCLUDES ANY SUB-CONTRACTORS THAT THE OPERATOR EMPLOYS UNDER SEPARATE CONTRACT. THE OPERATOR WILL PROVIDE THE CONTACT INFORMATION FOR THE EROSION CONTROL SUPERVISOR, SITE SUPERINTENDENT/FOREMAN, AND BMP INSTALLERS. THE EROSION CONTROL SUPERVISOR SHALL BE A RESPONSIBLE EMPLOYEE OF THE PRIME CONTRACTOR AND/OR DULY AUTHORIZED BY THE PRIME CONTRACTOR TO REPRESENT THE PRIME CONTRACTOR ON ALL MATTERS PERTAINING TO THE NPDES CONSTRUCTION STORMWATER PERMIT COMPLIANCE. THE EROSION CONTROL SUPERVISOR SHALL HAVE AUTHORITY OVER ALL OPERATOR OPERATIONS WHICH INFLUENCE NPDES PERMIT COMPLIANCE, INCLUDING GRADING, EXCAVATION, BRIDGE CONSTRUCTION, CULVERT INSTALLATION, UTILITY WORK, CLEARING/GRUBBING, DEWATERING, AND ANY OTHER OPERATION THAT INCREASES THE EROSION POTENTIAL ON THE PROJECT.

THE OPERATOR WILL PERFORM A PRECONSTRUCTION SITE VISIT TO ADDRESS ANY AREAS OF CONCERN PERTAINING TO ENVIRONMENTAL COMPLIANCE. THE OPERATOR WILL IMPLEMENT AND MAINTAIN BMPS FOR THE DURATION OF CONSTRUCTION PROJECT. THE OPERATOR WILL COMPLETE THE REQUIRED SITE INSPECTIONS, AND IS RESPONSIBLE FOR NPDES PERMIT REQUIREMENTS PART II.B, II.C, III.B-F, IV, V, AND APPLICABLE CONSTRUCTION ACTIVITY REQUIREMENTS FOUND IN APPENDIX A, PART C TO REMAIN IN COMPLIANCE WITH NPDES PERMIT.

OPERATOR/PERMITTEE: (TO BE DETERMINED THROUGH TRANSFER OF NPDES-CSW PERMIT)

THIS SWPPP WAS PREPARED BY AN INDIVIDUAL THAT HAS BEEN PROPERLY TRAINED IN ACCORDANCE TO PART III.F OF THE NPDES PERMIT (CERTIFICATION CARDS ARE AVAILABLE UPON REQUEST). SCOTT COUNTY WILL OFFER GUIDANCE FOR COMPLIANCE WITH THE NPDES PERMIT BEFORE, DURING, AND AFTER CONSTRUCTION OF THE PROJECT.

SWPPP DEVELOPER:
SCOTT COUNTY PHYSICAL DEVELOPMENT DEPARTMENT
600 COUNTRY TRAIL EAST
JORDAN, MN 55352-9339

ENGINEER:
JASON SWENSON, P.E.
600 COUNTRY TRAIL EAST
JORDAN, MN 55352-9339
952-496-8881/JSWENSON@CO.SCOTT.MN.US

**AGENCY CONTACTS**

| AGENCY | PERMIT | NAME | PHONE NUMBER/E-MAIL |
|---|---|---|---|
| MPCA (EMERGENCY) | N/A | STATE DUTY OFFICER | 1-800-422-0798 |
| MPCA | OBTAINED | PAUL ERDMANN | 651-757-2883/PAUL.ERDMANN@STATE.MN.US |
| SCOTT SWCD | N/A | TODD KAVITZ | 952-492-5457/TKAVITZ@CO.SCOTT.MN.US |
| WATERSHED MANAGEMENT ORG.SCOTT COUNTY | OBTAINED | JASON SWENSON | 952-496-8881/JSWENSON@CO.SCOTT.MN.US |

**PROJECT DESCRIPTION & SCHEDULE**
THIS PROJECT CONSISTS OF CONTRSTRUCTION OF COUNTY ROAD 60 ON A NEW ALIGNMENT, CONSTRUCTION OF STORM SEWER, PONDING, AND OTHER ASSOCIATED GRADINGIN BLAKELEY TOWNSHIP, MN.

**TENTATIVE CONSTRUCTION SCHEDULE** (OPERATOR SHOULD PROVIDE ESTIMATED CONSTRUCTION SCHEDULE TO THE ENGINEER)

| CONSTRUCTION ACTIVITIES: | ESTIMATED DATES OF SOIL DISTURBANCE ACTIVITIES: |
|---|---|
| CLEARING AND GRUBBING OPERATIONS, GRADING | APRIL - OCTOBER 2016 |
| UTILITY REMOVAL AND REPLACEMENT | MAY– OCTOBER 2016 |
| PAVING | JUNE – OCTOBER 2016 |
| LANDSCAPING, FINAL TURF, MISC. | JUNE – NOVEMBER 2016 |

**PRE-CONSTRUCTION IMPERVIOUS SURFACE AND DISTURBED AREA CALCULATIONS**
TOTAL AREA TO BE DISTURBED = 12.10 ACRES
IMPERVIOUS AREA: PRE-CONSTRUCTION = 2.41 ACRES/POST-CONSTRUCTION = 2.39 ACRES
NET INCREASE OF IMPERVIOUS AREA = -0.02 ACRES

**PERMANENT STORMWATER MANAGEMENT SYSTEMS**
THE PROJECT WILL NOT ADD ANY IMPERVIOUS SURFACES, AND THUS THE PERMENANT WATER QUALITY REQUIREMENTS (PART III.D) DO NOT APPLY TO THIS PROJECT.

**LOCATION OF SWPPP COMPONENTS**

| DESCRIPTION | TITLE | LOCATION |
|---|---|---|
| SWPPP NARRATIVE | STORM WATER POLLUTION PREVENTION PLAN NARRATIVE | PLANSHEETS |
| SITE CONDITIONS | STORM WATER POLLUTION PREVENTION PLAN NARRATIVE | PLANSHEETS |
| SITE MAP (SOILS, WATER RESOURCES, POTENTIAL POLLUTANT GENERATING ACTIVITIES) | SWPPP WATER RESOURCES & SOILS MAP, SWPPP NARRATIVE | PLANSHEETS |
| CONSTRUCTION PHASING/STAGING, BUFFERS, & AREAS NOT TO BE DISTURBED | SWPPP NARRATIVE | |
| DIRECTION OF FLOW (PRE- & POST- CONSTRUCTION | DRAINAGE PLAN | PLANSHEETS |
| IMPERVIOUS SURFACES | CONSTRUCTION PLAN & PROFILE | |
| TEMPORARY EROSION & SEDIMENT CONTROL BMPS/STEEP SLOPES (3:1), DNR FISH EXCLUSION "WORK IN WATER RESTRICTIONS- REFER TO SWPPP", | EROSION CONTROL PLAN, SWPPP NARRATIVE | PLANSHEETS |
| PERMANENT EROSION CONTROL BMPS | EROSION CONTROL PLAN, SWPPP NARRATIVE | PLANSHEETS |
| STORM SEWER | DRAINAGE PLAN | PLANSHEETS |
| GRADING | GRADING PLAN | PLANSHEETS |
| ESTIMATED BMP QUANTITIES | ESTIMATED QUANTITIES | PLANSHEETS |
| BMP DETAILS/SPECIFICATIONS | MISC. DETAILS, SWPPP NARRATIVE | PLANSHEETS |

**EXISTING SITE CONDITIONS, SOILS, & WATER RESOURCES**

SOILS AND NATIVE TOPSOIL: NATIVE TOPSOIL WILL BE STRIPPED AND STOCKPILED FOR FINAL GRADING OPERATIONS, WHERE INDICATED IN THE CONSTRUCTION PLANS AND SPECIFICATIONS. METHODS AND EQUIPMENT TO MINIMIZE SOIL COMPACTION (IN PROPOSED INFILTRATION AREAS, DRIP LINE OF TREES TO BE PRESERVED, ETC.) SHALL BE DETERMINED BY THE OPERATOR'S SWPPP AMENDMENT. TRACKED VEHICLES ARE PREFERRED AND WHEELED VEHICLES ARE DISCOURAGED IN THESE AREAS.

THE FOLLOWING USDA-NRCS MAPPED SOILS ARE SHOWN AS HIGHLY ERODIBLE" ON THE SWPPP SITE MAP.

| USDA-NRCS MAPPED SOIL SURVEY UNIT NO., NAME, TEXTURE, SLOPE PERCENTAGE | PERCETAGE OF PROJECT AREA | APPROXIMATE PARTICLE SIZE RANGE *(MM)* | | |
|---|---|---|---|---|
| | | SAND (0.05-2.00+) | SILT (0.002-0.05) | CLAY (<0.002) |
| Sb - Steep Land, Hayden-Lester | **30%** | 60-75% | 0-5% | 0-5% |
| Ta - Terrace Escarpments | **35%** | 60-75% | 0-5% | 0-5% |

DESCRIPTION OF RECEIVING WATERS (LOCATED WITHIN 1-MILE): STORMWATER FROM THIS PROJECT WILL BE CONVEYED THROUGH CULVERTS AND OVERLAND CHANNELS TO THE MINNESOTA RIVER.

DESCRIPTION OF IMPAIRED WATERS OR WATER SUBJECT TO TMDLS: A SPECIAL AND IMPAIRED WATERS SEARCH WAS COMPLETED USING THE MPCA SEARCH ENGINE (HTTP://PCA-GIS02.PCA.STATE.MN.US/CSW/INDEX.HTML) ON 10/9/2015. BASED ON THIS REVIEW, THERE ARE NO SPECIAL OR IMPAIRED WATERS (WITH CONSTRUCTION RELATED IMPAIRMENTS) LOCATED WITHIN ONE MILE OF THE PROJECT LOCATION. THEREFORE, APPENDIX A REQUIREMENTS DO NOT APPLY TO THIS PROJECT.

**POTENTIAL FOR SEDIMENT AND/OR OTHER POLLUTANT(S) DISCHARGING FROM THE PROJECT SITE**
THE TEMPORARY EROSION AND SEDIMENT CONTROL BMPS IN THIS SWPPP HAVE BEEN DESIGNED TO MINIMIZE THE POTENTIAL OF SEDIMENTS DISCHARGING OFF-SITE FROM A 0.5 INCH RAINFALL WITHIN A 24 HOUR PERIOD. THE NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATE FOR THE PROJECT LOCATION WAS REVIEWED AND USED FOR ANTICIPATED INSPECTION FREQUENCY, BMP DESIGN, AND ESTIMATING CONSTRUCTION ACTIVITIES IN THIS SWPPP. ATLAS 14 RESULTS DO NOT NECESSARILY REFLECT ANY DESIGN CRITERIA IN THE PERMANENT STORMWATER MANAGEMENT SYSTEM.

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DRAWN: NT
CHECKED: JS
APPROVED: JS

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Jason Swenson
Date 02/10/2016
Reg. No. 43383

C.P. 60–02FL SWPPP
S.A.P. 070–593–001 Sheet No. 9.1 of 9.11 Sheets

ROUTINE INSPECTION AND BMP MAINTENANCE BY THE OPERATOR IS CRUCIAL IN ENSURING THE FUNCTIONALITY OF EACH BMP. STEEP SLOPES AND OTHER ENVIRONMENTALLY SENSITIVE AREAS THAT ARE AT A HIGHER RISK OF SEDIMENTATION ARE DEFINED IN THE SWPPP (IF APPLICABLE).

**CONSTRUCTION PHASING/STAGING, BUFFERS, & AREAS NOT TO BE DISTURBED**

THE PRESERVED AREAS OF EXISTING VEGETATION WILL BE IDENTIFIED ON THE PLAN SHEETS AS "DO NOT DISTURB AREA". THE OPERATOR IS RESPONSIBLE FOR PRESERVING A 50 FOOT NATURAL BUFFER OR (IF INFEASIBLE) PROVIDE REDUNDANT SEDIMENT CONTROL BMPS, WHEN A SURFACE WATER IS LOCATED WITHIN 50 FEET AND RECEIVES DRAINAGE FROM THE PROJECT'S GRADING LIMITS. THIS REQUIREMENT DOES NOT APPLY TO ADJACENT ROAD SIDE DITCHES, JUDICIAL/COUNTY DITCHES, STORMWATER CONVEYANCES, STORM DRAIN INLETS, AND SEDIMENT BASINS.

THERE IS NO CONSTRUCTION PHASING OR STAGING DEFINED BY THE OWNER FOR THIS PROJECT. THE SCHEDULE FOR INSTALLING TEMPORARY BMPS SHALL BE INCORPORATED INTO THE OPERATOR'S WEEKLY SCHEDULE FOR EACH CONSTRUCTION STAGE AND PRESENTED TO THE OWNER'S REPRESENTATIVE (PER MNDOT SPEC 1717). THE PROJECT'S CONSTRUCTION PHASING AND STAGING IS DEFINED BY THE "CONSTRUCTION STAGING & TRAFFIC CONTROL PLAN" AND PROJECT SPECIFICATIONS.

**ENVIRONMENTALLY SENSITIVE AREAS**

STEEP SLOPES: MULTIPLE LOCATIONS IN THE CORRIDOR ARE IN EXCESS OF 1 IN 3 IN THE EXISTING CONDITION. ALTHOUGH THE PROPOSED PROJECT WILL NOT RESULT IN THE CREATION OF PERMANENT ADDITIONAL AREAS THIS STEEP, STEEP SLOPES MAYBE TEMPORARILY CREATED DURING GRADING OPERATIONS, AT WHICH TIME TEMPORARY BMPS MUST BE IMPLEMENTED BY THE OPERATOR (THROUGH AN APPROVED SWPPP AMENDMENT) WITHIN 14 DAYS OF NO LONGER WORKING THE STEEP SLOPE.

CONTAMINATED PROPERTIES: THE MPCA'S "WHAT'S IN MY NEIGHBORHOOD" DATABASE (PCA-GIS02.PCA.STATE.MN.US/WIMN2/INDEX.HTML) WAS REVIEWED ON 12/28/2015. THE RESULTS OF THIS REVIEW SHOW NO KNOWN CONTAMINATED PROPERTIES OR LEAK SOURCES LOCATED WITHIN THE PROJECT LIMITS.

STORMWATER POLLUTION MITIGATION MEASURES (AS IDENTIFIED FROM ENVIRONMENTAL REVIEW): AN ENVIRONMENTAL ASSESSMENT WAS PREPARED FOR THIS PROJECT AND ALL FEATURES DISCUSSED IN THE EA HAVE BEEN IMPLEMENTED IN THIS PLAN
KARST AREAS: THERE ARE NO KNOWN KARST AREAS WITHIN OR ADJACENT TO THE PROJECT LIMITS.

SITE PLAN REQUIRED AREAS: NO AREAS OF "HIGH ENVIRONMENTAL RISKS" ARE KNOWN TO BE LOCATED WITHIN OR IMMEDIATELY ADJACENT TO THE PROJECT LIMITS.

FISH EXCLUSION DATES: NO IN-STREAM WORK IS PROPOSED WITH THIS PROJECT. OPERATOR IS PROHIBITED FROM CONDUCTING IN-STREAM WORK DURING THE FISH SPAWNING AND MIGRATION DATES OF APRIL 15 TO JUNE 30 FOR NON-TROUT WATERS. IF WORK MUST BE CONDUCTING DURING THIS TIMEFRAME, CONTRACTOR SHALL CONTACT THE LOCAL DNR FISHERIES MANAGER FOR WRITTEN APPROVAL PRIOR TO CONDUCTING THE IN-STREAM WORK.

AQUATIC INVASIVE SPECIES: ALL IN-STREAM AND DEWATERING EQUIPMENT SHALL BE DECONTAMINATED OF ALL AQUATIC PLANTS AND PROHIBITED INVASIVE SPECIES PRIOR TO USING WITHIN SURFACE WATERS ON-SITE AND TRANSPORTING OFF-SITE. ALL DECONTAMINATION ACTIVISITES SHALL MEET THE CHAPTER 1 STANDARDS OF THE MINNESOTA DNR'S BEST PRACTICES MANUAL FOR MEETING DNR GENERAL PUBLIC WATERS WORK PERMIT GP 2004-0001.

WETLANDS
THERE ARE NO WETLANDS WITHIN THE PROJECT LIMITS.

APPLICABLE FEDERAL, TRIBAL, STATE OR LOCAL PROGRAMS
THE PROJECT FALLS UNDER THE JURISDICTION OF MULTIPLE ENTITIES, AS IDENTIFIED IN THE "AGENCY CONTACTS' TABLE OF PAGE 1 OF THE SWPPP. THE MORE STRINGENT OF LOCAL VS. STATE VS. FEDERAL RULES SHALL APPLY WHERE THEY CONFLICT. INFORMATION PERTAINING TO THE STATE NPDES PERMIT CAN BE FOUND AT: (HTTP://WWW.PCA.STATE.MN.US/INDEX.PHP/WATER/WATER-TYPES-AND-PROGRAMS/STORMWATER/CONSTRUCTION-STORMWATER/INDEX.HTML). THE OPERATOR IS RESPONSIBLE TO COMPLY WITH ALL APPLICABLE PERMITS, MNDOT SPECIAL PROVISION, MNDOT SPEC BOOK (2016 EDITION), MNDOT SPECIFICATIONS 1717.

**SEQUENCE OF CONSTRUCTION/TIMING OF BMP INSTALLATION**

NO CONSTRUCTION OPERATIONS, INCLUDING REMOVALS, THAT REQUIRE EROSION & SEDIMENT CONTROL PER THE SWPPP CAN COMMENCE UNTIL THE OPERATOR'S EROSION CONTROL SUPERVISOR CERTIFIES THE PROPER INSTALLATION OF BMP'S AND A CHAIN OF RESPONSIBILITY FOR SWPPP IMPLEMENTATION IS CREATED FOR ALL OPERATORS ON THE SITE. PERIMETER SEDIMENT CONTROLS (SILT FENCE, INLET PROTECTION, CONSTRUCTION ENTRANCES, ETC.) SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION. THESE PRACTICES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION IS ACHIEVED. OPERATOR SHALL IMPLEMENT THE NECESSARY ON SITE BMP'S IN ACCORDANCE WITH THE NPDES PERMIT REQUIREMENTS TO PREVENT NUISANCE CONDITIONS (MN RULES 7050.2010) FROM ANY DISCHARGES UNDER COVERAGE OF THE NPDES PERMIT. IN SOME CASES, MULTIPLE OR REDUNDANT APPLICATIONS OF SOME BMP'S MAY BE NEEDED TO MEET THESE REQUIREMENTS.

**INSPECTION, SWPPP AMENDMENTS, RECORD KEEPING, & TRAINING**

1. THE SWPPP CHAIN OF RESPONSIBILITY MUST BE AMENDED BY THE OPERATOR WHEN THE IDENTITY OF RESPONSIBLE SITE OPERATORS (EROSION CONTROL SUPERVISOR, SUB-CONTRACTORS, ETC.) ARE KNOWN.

2. THE OPERATOR MUST INSPECT THE ENTIRE CONSTRUCTION SITE AT LEAST ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. THE OPERATOR SHALL PROVIDE A RAINFALL GAUGE ON-SITE, WITHIN ONE MILE OF THE SITE, OR SOURCE OF THE WEATHER REPORTING SYSTEM THAT USES SITE SPECIFIC RAINFALL DATA FROM RADAR SUMMARIES. THE LOCATION AND SOURCE OF THE RAINFALL GAUGE OR REPORTING SYSTEM MUST BE DOCUMENT IN THE FIRST SWPPP INSPECTION REPORT. THE INSPECTION FREQUENCY MAY BE REDUCED TO ONCE PER MONTH, IF SITE CONDITIONS MEET PART IV.E.3 OF THE NPDES PERMIT. ALL INSPECTIONS AND MAINTENANCE CONDUCTED MUST BE RECORDED IN WRITING BY THE OPERATOR AND RETAINED WITH THE SWPPP. RECORDS OF EACH INSPECTION AND MAINTENANCE ACTIVITY SHALL INCLUDE:
   A. DATE, TIME, AND NAME OF PERSON(S) CONDUCTING INSPECTIONS;
   B. FINDINGS OF INSPECTIONS, INCLUDING RECOMMENDATIONS FOR CORRECTIVE ACTIONS;
   C. CORRECTIVE ACTIONS TAKEN (INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES); INCLUDING DOCUMENTATION/PHOTOS OF IMPLEMENTED BMPS INTENDED TO CORRECT A PROBLEM BUT FAILED.
   D. DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 1/2 INCH (0.5 INCHES) IN 24 HOURS;
   E. DOCUMENTATION OF CHANGES MADE TO THE SWPPP.

3. SWPPP AMENDMENTS AND SITE PLANS WILL BE PREPARED BY THE OPERATOR AND SUBMITTED TO THE OWNER FOR REVIEW AND WRITTEN APPROVAL BY THE PROJECT OWNER (OR DESIGNATED REPRESENTATIVE). ALL OWNER ACCEPTED AND DENIED SWPPP AMENDMENTS AND SITE PLANS MUST BE RECORDED IN WRITING AND RETAINED WITH THE SWPPP.

4. THE SWPPP SHALL BE AMENDED TO INCLUDE ADDITIONAL OR MODIFIED BMPS, DESIGNED TO CORRECT IDENTIFIED PROBLEMS OR ADDRESS SITUATIONS (UNDER PART III.B OF THE NPDES PERMIT), PRIOR TO CONDUCTING SPECIFIC STAGES/PHASES OF THE PROJECT, AS REQUIRED BY THE OWNER AND DEFINED IN THIS PROJECT SWPPP.

**SUMMARY OF OPERATOR PREPARED SWPPP AMENDMENTS (REQUIRED BY OWNER)**

| SWPPP AMENDMENT NAME | SWPPP AMENDMENT DETAILS | SUBMITTAL TIMEFRAME |
|---|---|---|
| OPERATOR CHAIN OF RESPONSIBILITY | REFER TO "CONTACT INFORMATION/RESPONSIBLE PARTIES" SECTION | 7 DAY PRIOR TO INITIATING WORK |
| BMP AMENDMENTS | SUBSTITUTED, ADDITIONAL, OR REDUNDANT BMPS TO COMPENSATE FOR FAILING/FAILED BMPS | DURING/AFTER CONSTRUCTION ACTIVITIES |
| METHODS TO MINIMIZE SOIL COMPACTION | REFER TO "EXISTING SITE CONDITIONS, SOILS, AND WATER RESOURCES" SECTION | 7 DAYS PRIOR TO WORK WITHIN INFILTRATION BASINS AND PRESERVED TREE AREAS |
| STEEP SLOPES PHASING PLAN | REFER TO "ENVIRONMENTALLY SENSITIVE AREAS" SECTION | |
| SPILL PREVENTION & RESPONSE PLAN | REFER TO "POLLUTION PREVENTION MEASURES" | 7 DAY PRIOR TO INITIATING WORK |
| DEWATERING PLAN | REFER TO "DEWATERING" SECTION | 7 DAYS PRIOR TO ACTIVITY |

5. THE SWPPP (ORIGINAL OR COPIES), ALL CHANGES TO THE SWPPP, PROJECT MANUAL, AND INSPECTIONS/MAINTENANCE RECORDS MUST BE KEPT AT THE SITE DURING CONSTRUCTION BY THE OPERATOR WHO HAS OPERATIONAL CONTROL OF THAT PORTION OF THE SITE. THE SWPPP CAN BE KEPT IN THE FIELD OFFICE OR ON SITE VEHICLE DURING NORMAL WORKING HOURS.

6. THE OPERATOR MUST ASSIGN A TRAINED INDIVIDUAL(S) (PURSUANT TO PARTS III.A.3 & III.F) TO OVERSEE THE IMPLEMENTATION, MAINTENANCE, AND REPAIR OF BMPS. THIS INDIVIDUAL(S) SHALL ALSO PERFORM INSPECTIONS, REVISE/AMEND THE SWPPP (DOCUMENT IN SWPPP AS NECESSARY), AND BE AVAILABLE FOR AN ONSITE INSPECTION WITHIN 72 HOURS UPON REQUEST BY THE PERMITTED OWNER (OR ITS DESIGNEE), LOCAL GOVERNMENT UNITS, OR MPCA.

**POLLUTION PREVENTION MANAGEMENT MEASURES**

POTENTIAL SOURCES OF POLLUTANTS FROM CONSTRUCTION ACTIVITIES INCLUDE:

- SEDIMENT AND FUGITIVE DUST GENERATED FROM CLEARING AND GRUBBING, IMPORT/EXPORT OPERATIONS, REMOVALS/COMPACTION, MASS/FINE GRADING, EXCAVATIONS, TRENCHING, TOPSOIL STRIPING STOCKPILING, WET/DRY PAVEMENT CUTTING, STREET CONSTRUCTION.
- BASIC/ACIDIC PH LEVELS FROM CURB AND GUTTER, MANHOLE STRUCTURES, SIDEWALKS, DRIVEWAY APRONS, FOUNDATIONS, BRIDGE ABUTMENTS, WET/DRY PAVEMENT CUTTING, MASONRY WASHOUT/CLEANOUT.
- EXCESS NUTRIENTS FROM LANDSCAPING INSTALLATIONS, SOIL ADDITIVES, FERTILIZATION, MULCHING
- HYDROCARBONS FROM STREET CONSTRUCTION, DEMOLITION/REMOVALS, WET/DRY PAVEMENT CUTTING

OPERATOR WILL COMPLY WITH ALL OF THE POLLUTION PREVENTION AND MANAGEMENT MEASURES IDENTIFIED IN THE NPDES-CSW PERMIT. OPERATOR WILL SUBMIT A SPILL PREVENTION AND RESPONSE PLAN (SPRP) TO THE ENGINEER PRIOR TO ANY CONSTRUCTION ACTIVITY. THE SPRP MUST SATISFACTORILY ADDRESS (AT A MINIMUM) THE FOLLOWING NPDES REQUIREMENTS BY THE PROPOSED IMPLEMENTATION AND MAINTENANCE OF APPROPRIATE BMPS:

NO-EXPOSURE: CONSTRUCTION AND BUILDING PRODUCTS (THAT HAVE THE POTENTIAL TO LEACH POLLUTANTS), PESTICIDES, HERBICIDES, INSECTICIDES, FERTILIZERS, TREATMENT CHEMICALS, AND LANDSCAPING MATERIALS MUST BE UNDER COVER (PLASTIC SHEETING OR TEMPORARY ROOFS) TO MINIMIZE CONTACT WITH STORMWATER AND PRECIPITATION.

SOLID WASTE: (SEDIMENT, ASPHALT, CONCRETE MILLINGS, CONSTRUCTION, AND DEMOLITION DEBRIS) AND OTHER WASTES MUST BE DISPOSED OF PROPERLY AND SHALL COMPLY WITH MPCA DISPOSAL REQUIREMENTS (CH. 7035).

HAZARDOUS MATERIALS: (E.G. GAS, DIESEL, OIL, ANTIFREEZE, PAINT SOLVENTS, SOAPS, DETERGENTS, WOOD PRESERVATIVES, CLEANING SOLVENTS, CURING COMPOUNDS, ACIDS, ETC.) MUST BE STORED IN SEALED CONTAINERS IN RESTRICTED ACCESS AREAS TO PREVENT VANDALISM. SECONDARY SPILL CONTAINMENT IS REQUIRED FOR ALL MATERIALS IF STORED ON-SITE FOR MORE THAN 24 CONSECUTIVE HOURS (DOUBLE WALLED TANKS ARE ACCEPTABLE FOR SECONDARY CONTAINMENT). STORAGE AND DISPOSAL OF HAZARDOUS WASTES AND MATERIALS MUST BE IN COMPLIANCE WITH MPCA REGULATIONS (CH. 7045).

PORTABLE TOILETS: MUST BE POSITIONED AND SECURED SO THEY ARE NOT TIPPED OR KNOCKED OVER.

EQUIPMENT/VEHICLE FUELING, EXTERNAL WASHING, AND MAINTENANCE PRACTICES: WHEN VEHICLE FUELING, MAINTENANCE, OR EXTERNAL WASHING MUST OCCUR ON-SITE, THE ACTIVITY IS LIMITED TO A CONTAINED PORTION OF THE STAGING AREA, UNLESS INFEASIBLE THROUGH A SWPPP AMENDMENT. PROCEDURES FOR SPILL RESPONSE AND MATERIALS FOR CONTAINMENT AND CLEAN UP (DRIP PANS, DRY ABSORBENTS, AND SPILL KITS) WILL BE AVAILABLE AT ALL TIMES ON-SITE. ENGINE DEGREASING IS PROHIBITED ON-SITE.

| DATE | BY | REVISIONS |
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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Jason Swenson

Date 02/10/2016
Reg. No. 43383

C.P. 60-02FL — SWPPP

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CONCRETE, STUCCO, PAINT, CURING COMPOUNDS, SOLVENTS, AND OTHER WASHOUT WASTES: TEMPORARY OR LONG-TERM STORAGE OF WASHOUT WASTE IS PROHIBITED ON-SITE (SLURRY MUST BE HAULED IMMEDIATELY OFF-SITE). OPERATOR MUST SUBMIT A CONCRETE WASHOUT PLAN TO THE PROJECT ENGINEER FOR APPROVAL OF ALL ON-SITE WASHOUT LOCATIONS. ON-SITE WASHOUT LOCATIONS MUST BE LOCATED 200 FEET FROM AN ENVIRONMENTALLY SENSITIVE AREA AND SURFACE WATERS, HAVE "CONCRETE WASHOUT AREA" SIGNAGE, AND BE CONTAINED IN A LEAK PROOF CONTAINER OR IMPERMEABLE LINER. LIQUID AND SOLID WASTES SHOULD NOT CONTACT THE GROUND (UNLESS PERMITTED IN THE CONCRETE WASHOUT PLAN), BE CONTAINED TO PREVENT RUNOFF FROM THE WASHOUT LOCATION, AND MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH MPCA REGULATIONS.

BURNING: BURNING OF GARBAGE, CONSTRUCTION DEBRIS, TREES, BRUSH, OR OTHER VEGETATIVE MATERIAL IS NOT ALLOWED ON SITE, UNLESS PRIOR APPROVAL IS GRANTED BY THE OWNER.

**CONSTRUCTION ACTIVITY REQUIREMENTS (PART IV.): EROSION CONTROL PRACTICES, PROCEDURES, & MAINTENANCE STANDARDS**

THE OPERATOR IS RESPONSIBLE FOR THE INSTALLATION, OPERATION, AND CONTINUED MAINTENANCE OF ALL TEMPORARY AND PERMANENT WATER QUALITY MANAGEMENT BMPS, AS WELL AS ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS, FOR THE DURATION OF THE CONSTRUCTION WORK AT THE SITE, UNTIL FINAL STABILIZATION IS ACHIEVED. ALL BMPS MUST BE ADEQUATELY LOCATED, DESIGNED, INSTALLED, AND MAINTAINED TO PREVENT EROSION FROM A MINIMUM 0.5 INCH TOTAL RAINFALL EVENT WITHIN 24 HOURS.

ALL NONFUNCTIONAL BMPS MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMPS BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS UNLESS ANOTHER TIME FRAME IS SPECIFIED IN THE SWPPP. ALL ERODED MATERIAL THAT LEAVES THE SITE SHALL BE COLLECTED BY THE OPERATOR AND RETURNED TO THE SITE AT THE OPERATOR'S EXPENSE AND INCIDENTAL TO THE PROJECT COST.

TEMPORARY OR PERMANENT STABILIZATION SHALL BE INITIATED AS SOON AS POSSIBLE, BUT NO LATER THAN THE END OF THE NEXT WORK DAY FOLLOWING THE DAY EARTH-DISTURBING ACTIVITIES IN THAT PORTION OF THE SITE HAS TEMPORARILY OF PERMANENTLY CEASED. ALL EXPOSED SOIL AREAS SHALL BE STABILIZED WITHIN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. INITIATED STABILIZATION IS DEFINED AS COMPLETING ONE (OR MORE) OF THE FOLLOWING: SOIL PREPARATION FOR VEGETATION, MULCHING (OR OTHER TEMPORARY NON-VEGETATIVE BMP), SEEDING/PLANTING, OR SCHEDULING STABILIZATION MEASURES TO BE FULLY INSTALLED AND COMPLETED WITHIN THE 7 DAY TIMEFRAME.

ALL EXPOSED SOILS WITHIN 200 FEET AND DRAINING TO A DNR PUBLIC WATERS MUST BE STABILIZED WITHIN 24 HOURS OF TEMPORARILY OR PERMANENTLY CEASING WORK, DURING THE FISH SPAWNING PERIOD. TEMPORARY STOCKPILES WITHOUT SIGNIFICANT SILT, CLAY OR ORGANIC COMPONENTS (E.G., CLEAN AGGREGATE STOCKPILES, DEMOLITION CONCRETE STOCKPILES, SAND STOCKPILES) AND THE CONSTRUCTED BASE COMPONENTS OF ROADS, PARKING LOTS AND SIMILAR SURFACES ARE EXEMPT FROM THIS REQUIREMENT.

TEMPORARY STABILIZATION BMPS SHALL ONLY BE IMPLEMENTED WHEN PERMANENT STABILIZATION BMPS CANNOT BE IMPLEMENTED WITHIN THE 7 DAY TIMEFRAME FOR EXPOSED SOILS.

TEMPORARY/PERMANENT DRAINAGE DITCHES & SWALES: THE NORMAL WETTED PERIMETER (2-YEAR, 24-HOUR PRECIPITATION EVENT) OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH, CHANNEL, OR SWALE THAT DRAINS WATER FROM ANY PORTION OF THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE SITE, MUST BE STABILIZED WITHIN THE LAST 200 LINEAL FEET FROM THE PROPERTY EDGE, OR FROM THE POINT OF DISCHARGE INTO ANY SURFACE WATER WITHIN 24 HOURS OF CONNECTION. STABILIZATION REMAINING OF THE REMAINING PORTIONS OF THE CHANNEL MUST BE STABILIZED WITHIN 14 DAYS. ALL STORMWATER CONVEYANCE CHANNELS MUST USE EROSION CONTROL AND VELOCITY DISSIPATION DEVICES WITHIN AND ALONG THE LENGTH OF THE CHANNEL AND AT ANY OUTLETS. TEMPORARY OR PERMANENT DITCHES OR SWALES THAT ARE BEING USED AS A TEMPORARY SEDIMENT CONTAINMENT SYSTEM (WITH PROPERLY DESIGNED ROCK DITCH CHECKS, BIO ROLLS, SILT DIKES ETC.) DO NOT NEED TO BE STABILIZED. THESE AREAS MUST BE STABILIZED WITHIN 24 HOURS AFTER NO LONGER BEING USED AS A SEDIMENT CONTAINMENT SYSTEM. MULCH, HYDROMULCH, TACKIFIER, OR POLYARCRYLAMIDE BELOW THE WETTED PERIMETER OF A DITCH, SWALE, OR OTHER SURFACE WATER CONVEYANCE IS NOT ACCEPTABLE STABILIZATION.

EROSION CONTROL BLANKETS/MATS: OPERATOR SHALL VERIFY DURING REGULAR INSPECTIONS THAT NO GULLIES, RILLS, OR SCOUR HOLES HAVE FORMED UNDER EROSION CONTROL BLANKETS AND MATS. ALL REPAIRS MUST BE COMPLETED WITHIN 24 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.

MULCH: OPERATOR MUST APPLY MULCH IN A UNIFORM PATTERN OVER THE DISTURBED SOILS, TO ACHIEVE A MINIMUM OF 90% GROUND COVER.

DUST CONTROL: DUST FROM THE SITE WILL BE CONTROLLED BY INCREASED STREET SWEEPING AND/OR USING A MOBILE PRESSURE-TYPE DISTRIBUTOR TRUCK TO APPLY POTABLE WATER TO DISTURBED AREAS. THE MOBILE UNIT WILL APPLY WATER AT A RATE NECESSARY TO PREVENT RUNOFF AND PONDING.

STORM SEWER OUTLETS: PIPE OUTLETS MUST HAVE TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS AFTER HYDRAULIC CONNECTION TO A RECEIVING SURFACE WATER.

**TEMPORARY & PERMANENT EROSION CONTROL BMPS**

RAPID STABILIZATION METHOD #3: THIS WORK SHALL CONSIST OF OPERATIONS NECESSARY TO RAPIDLY STABILIZE SMALL CRITICAL AREAS WITHIN 200FT OF SURFACE WATERS, TO PREVENT OFF SITE SEDIMENTATION AND OR TO COMPLY WITH PERMIT REQUIREMENTS. INSTALL PER MNDOT SPECIFICATIONS 2575.3N.

**CONSTRUCTION ACTIVITY REQUIREMENTS (PART IV.): SEDIMENT CONTROL PRACTICES, PROCEDURES, & MAINTENANCE STANDARDS**

DOWN GRADIENT SYSTEMS: IF THE DOWN GRADIENT TREATMENT SYSTEM IS OVERLOADED, ADDITIONAL UP GRADIENT SEDIMENT CONTROL PRACTICES OR REDUNDANT BMPS MUST BE INSTALLED TO ELIMINATE THE OVERLOADING, AND THE SWPPP MUST BE AMENDED TO IDENTIFY THESE ADDITIONAL PRACTICES.

PERIMETER CONTROL BMPS (SILT FENCES, CHIP/SLASH MULCH SACKS, BIOROLLS, FLOATING SILT CURTAIN, ETC.): PERIMETER CONTROL BMPS SHALL BE INSTALLED ON ALL DOWN GRADIENT PERIMETERS AND UPGRADIENT OF ANY BUFFER AREAS, PRIOR TO INITIATING UPGRADIENT LAND DISTURBANCE ACTIVITIES. UPLAND PERIMETER CONTROLS BMPS SHALL BE PLACED AS CLOSE AS POSSIBLE TO FOLLOW A SINGLE CONTOUR ELEVATION. ALL SILT FENCES MUST BE REPAIRED, REPLACED, OR MAINTAINED WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES 1/2 OF THE HEIGHT OF THE FENCE. ALL REPAIRS MUST BE COMPLETED BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS. FLOATING SILT CURTAIN SHALL BE INSTALLED AS CLOSE TO THE SHORELINE AS POSSIBLE FOR SHORELAND/IN-WATER SHORT-TERM CONSTRUCTION ACTIVITIES. AFTER THE SHORT-TERM ACTIVITY IN COMPLETE, AN UPLAND PERIMETER CONTROL MUST BE INSTALLED IF EXPOSED SOILS CONTINUE TO DRAIN TO THE SURFACE WATER.

50 FOOT NATURAL BUFFER(S): REFER TO "CONSTRUCTION PHASING/STAGING, BUFFERS, & AREAS NOT TO BE DISTURBED" SECTION OF THIS SWPPP.

TEMPORARY SEDIMENTATION BASINS: WHERE TEN (10) OR MORE ACRES OF DISTURBED SOIL DRAIN TO A COMMON LOCATION, A TEMPORARY SEDIMENT BASIN MUST BE PROVIDED PRIOR TO RUNOFF LEAVING THE CONSTRUCTION SITE OR ENTERING SURFACE WATERS. ALL TEMPORARY BASINS SHALL BE CONSTRUCTED AND OPERATIONAL PRIOR TO GRADING TEN (10) OR MORE ACRES. BASINS MUST PROVIDE A LIVE STORAGE VOLUME FROM A TWO YEAR 24-HOUR STORM EVENT FROM EACH ACRE (DISTURBED AND UNDISTURBED) DRAINING TO THE BASIN. AT A MINIMUM, IF CALCULATIONS ARE NOT PERFORMED THE BASIN SHALL PROVIDE 3,600 CUBIC FEET OF LIVE STORAGE FROM EACH ACRE. THE BASIN INTAKE MUST BE DESIGNED TO WITHDRAW WATER FROM THE SURFACE, PREVENT SHORT CIRCUITING AND THE DISCHARGE OF FLOATING DEBRIS, INCLUDE AN EMERGENCY OVERFLOW ABOVE THE LIVE STORAGE ELEVATION, AND PROVIDE ENERGY DISSIPATION AT THE BASIN OUTLET. BASINS MUST BE DRAINED AND SEDIMENT REMOVED WHEN THE DEPTH OF COLLECTED SEDIMENT IN THE BASIN REACHES 1/2 THE LIVE STORAGE VOLUME. DRAINAGE AND REMOVAL MUST BE COMPLETED WITHIN 72 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS. IF A BASIN IS INFEASIBLE WITHIN THE PROJECT LIMITS, EQUIVALENT SEDIMENT CONTROL BMPS MUST BE IMPLEMENTED AND DOCUMENTED IN THE SWPPP OR SWPPP AMENDMENT.

TEMPORARY STOCKPILES: ALL STOCKPILES MUST HAVE SILT FENCE OR EQUIVALENT PERIMETER SEDIMENT CONTROLS IMPLEMENTED AND MAINTAINED AT ALL TIMES. PILES CANNOT BE PLACED IN BUFFER AREAS OR SURFACE WATERS, INCLUDING STORMWATER CONVEYANCES SUCH AS CURB AND GUTTER SYSTEMS, OR CONDUITS AND DITCHES UNLESS THERE IS A BYPASS IN PLACE TO PREVENT STORMWATER RUN-ON INTO THE STOCKPILE.

CONSTRUCTION SITE ENTRANCE/VEHICLE TRACKING: OPERATOR MUST MINIMIZE SEDIMENT FROM LEAVING THE CONSTRUCTION SITE (OR ONTO STREETS WITHIN THE SITE) BY IMPLEMENTING BMPS SUCH AS ROCK PADS, SLASH MULCH, CONCRETE OR STEEL WASH RACKS, OR EQUIVALENT SYSTEMS. STREET SWEEPING MUST BE USED DAILY DURING CONSTRUCTION OPERATIONS IF SUCH BMPS ARE NOT ADEQUATE TO PREVENT SEDIMENT FROM BEING TRACKED ONTO THE STREET. TRACKED SEDIMENT MUST BE REMOVED FROM ALL PAVED SURFACES (ON AND OFF-SITE) WITHIN 24 HOURS OF DISCOVERY, OR SOONER AS DIRECTED BY THE PROJECT OWNER. MULTIPLE STREET SWEEPINGS AT THE OPERATOR'S EXPENSE MAY BE REQUIRED ON ALL ENTRY/EXIT POINTS TO THE SITE AT THE DISCRETION OF THE PROJECT OWNER.

SURFACE WATERS: INCLUDING OFF-SITE AND DOWNSTREAM DRAINAGE DITCHES, CATCH BASINS, AND CONVEYANCE SYSTEMS, MUST BE INSPECTED FOR EVIDENCE OF EROSION AND SEDIMENT DEPOSITION. THE REMOVAL AND STABILIZATION OF EXPOSED SOILS MUST TAKE PLACE WITHIN SEVEN (7) DAYS OF DISCOVERY UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS. IF PRECLUDED, REMOVAL AND STABILIZATION MUST TAKE PLACE WITHIN SEVEN (7) CALENDAR DAYS OF OBTAINING ACCESS. THE PERMITTEES ARE RESPONSIBLE FOR CONTACTING ALL LOCAL, REGIONAL, STATE AND FEDERAL AGENCIES AND RECEIVING ANY APPLICABLE PERMITS, PRIOR TO CONDUCTING ANY WORK.

INLET PROTECTION: ALL STORM DRAIN INLETS (INCLUDING DOWN GRADIENT, OFF-SITE) MUST BE PROTECTED BY APPROPRIATE BMPS DURING CONSTRUCTION UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STABILIZED. SILT FENCE IS NOT AN ACCEPTABLE CATCH BASIN INLET PROTECTION BMP. CONTACTOR SHALL CLEAN, REMOVE AND DISPOSE OF SEDIMENT, AND/OR REPLACE STORM DRAIN INLET PROTECTION ON A ROUTINE BASIS TO ENSURE THE DEVICE IS FULLY FUNCTIONAL PRIOR TO THE NEXT FORECASTED PRECIPITATION EVENT (30% OR GREATER). INLET PROTECTION MAY BE REMOVED FOR A PARTICULAR INLET IF A SPECIFIC SAFETY CONCERN (STREET FLOODING/FREEZING) HAS BEEN IDENTIFIED AND THE PERMITTEE(S) HAVE RECEIVED WRITTEN

CORRESPONDENCE FROM THE JURISDICTIONAL AUTHORITY (E.G. CITY/COUNTY/TOWNSHIP/MNDOT ENGINEER) VERIFYING THE NEED FOR REMOVAL. WRITTEN CORRESPONDENCE MUST BE DOCUMENTED IN THE SWPPP AND AVAILABLE WITHIN 72 HOURS UPON REQUEST. PERMISSION TO REMOVE INLET PROTECTION BASED ON A SPECIFIC SAFETY CONCERN MUST STILL BE OBTAINED FROM THE LOCAL JURISDICTIONAL AUTHORITY WITHIN 30 DAYS OF REMOVAL.

CHEMICAL TREATMENTS: OPERATOR MUST AMEND THE SWPPP TO INCLUDE THE INTENDED USES AND LOCATIONS OF FLOCCULANTS, POLYMERS, AND OTHER SEDIMENTATION TREATMENT CHEMICALS. CHEMICAL TREATMENTS MAY ONLY BE APPLIED IN AREAS WHERE TREATED STORMWATER IS DIRECTED TO A RECEIVING SEDIMENT CONTROL SYSTEM (NOT DIRECTLY DISCHARGED TO NATURAL WATER BODIES). THIS INCLUDES DOCUMENTING THE EXPECTED SOIL TYPES, MANUFACTURER'S RECOMMENDED DOSING, APPLICATION RATES/QUANTITIES, AND MONITORING RESULTS (TURBIDITY, PH).

**DEWATERING, STREAM DIVERSION, AND BASIN DRAINING**

WHEN DEWATERING OR BASIN DRAINING IS REQUIRED, THE CONTRACTOR SHALL SUBMIT A DEWATERING PLAN AND NARRATIVE TO THE PROJECT ENGINEER FOR APPROVAL PRIOR TO UNDERTAKING THESE ACTIVITIES. DEWATERING PLAN MUST INCLUDE BMP'S TO PREVENT SEDIMENT TRANSPORT, EROSION, AND ADVERSE IMPACTS TO DOWNSTREAM RECEIVING WATERS. THE DEWATERING PLAN MUST ALSO INCLUDE ANY SPECIFIC CHEMICAL TREATMENTS (FLOC, POLYMERS, ETC.) THAT WILL BE USED. IF AN APPROVED TMDL WASTE LOAD ALLOCATION IS ESTABLISHED FOR CONSTRUCTION ACTIVITIES ON A RECEIVING WATERBODY, THE OPERATOR MUST IMPLEMENT ALL NECESSARY BMP'S TO MEET THE ASSIGNED WLA. THE DEWATERING PLAN AND DNR APPROPRIATIONS PERMIT WILL BECOME PART OF THE SWPPP. WATER THAT IS TURBID OR HAS SEDIMENT MUST BE DISCHARGED TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN (AND/OR OTHER APPROPRIATE BMPS) ON THE PROJECT SITE WHENEVER POSSIBLE. DISCHARGE FROM THE TEMPORARY OR PERMANENT SEDIMENTATION BASIN MUST BE VISUALLY CHECKED TO ENSURE ADEQUATE TREATMENT IS OBTAINED IN THE BASIN AND THAT NUISANCE CONDITIONS (SEE MINN. R. 7050.0210, SUBP. 2), IMPACTS TO WETLANDS, AND EROSION IN RECEIVING CHANNELS OR ON DOWNSLOPE PROPERTIES WILL NOT RESULT FROM THE DISCHARGE. THE DISCHARGE MUST BE DISPERSED OVER NATURAL ROCK RIPRAP, SAND BAGS, PLASTIC SHEETING, OR OTHER ACCEPTED ENERGY DISSIPATION MEASURES. ADEQUATE SEDIMENTATION CONTROL MEASURES AND ADDITIONAL FILTRATION BMPS ARE REQUIRED FOR DISCHARGE WATER THAT CONTAINS SUSPENDED SOLIDS, OIL, OR GREASE.

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| APPROVED: | JS |

Scott

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Jason Swenson

Date 02/10/2016

Reg. No. 43383

C.P. 60-02FL

SWPPP

S.A.P. 070-593-001

Sheet No. 9.3 of 9.11 Sheets

**FINAL STABILIZATION**

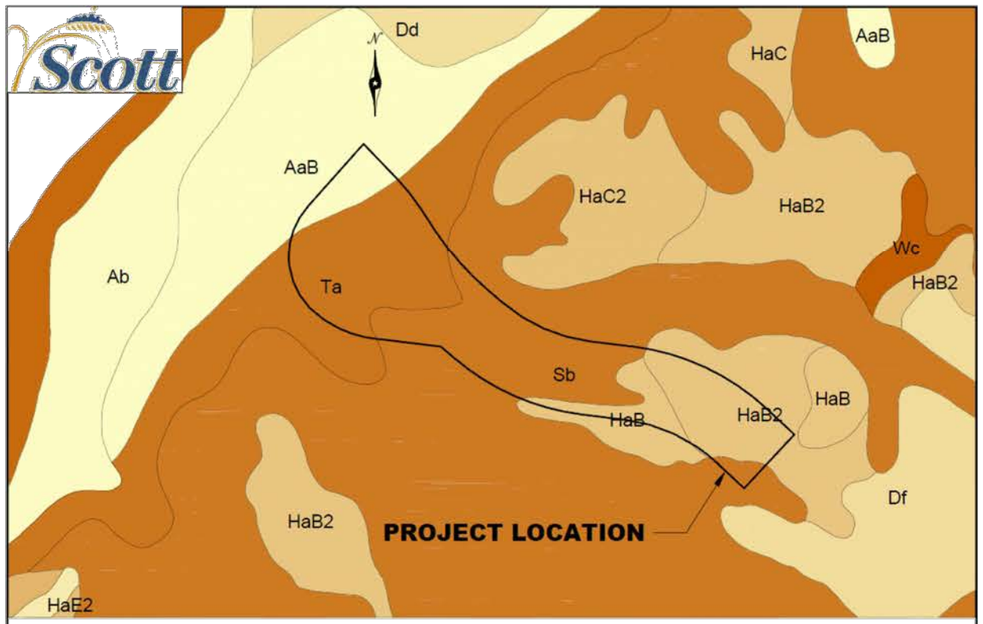
FINAL STABILIZATION IS ACHIEVED WHEN THE FOLLOWING FOUR PARAMETERS ARE COMPLETED, PRIOR TO SUBMISSION OF THE NOTICE OF TERMINATION TO MPCA. SEE PERMANENT EROSION CONTROL PRACTICES FOR SPECIFIC METHODS AND APPLICATIONS.

1. 70% VEGETATIVE COVER: ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND ALL EXPOSED SOILS ARE STABILIZED BY A UNIFORM, LIVE PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70% OVER THE ENTIRE PERVIOUS SURFACE AREA, OR OTHER EQUIVALENT MEANS NECESSARY TO PREVENT SOIL FAILURE UNDER EROSIVE CONDITIONS. REFER TO PART IV.G.5 IF THE PROJECT IS ON AGRICULTURAL LAND.

2. FINAL CLEAN OUT OF PERMANENT STORMWATER MANAGEMENT SYSTEMS & CONVEYANCE SYSTEMS: ALL SEDIMENT MUST BE REMOVED FROM PERMANENT STORMWATER MANAGEMENT SYSTEMS, CONVEYANCE SYSTEMS, AND DITCHES MUST BE STABILIZED WITH PERMANENT COVER.

3. REMOVAL OF ALL TEMPORARY SYNTHETIC BMPS: ALL TEMPORARY SYNTHETIC AND STRUCTURAL EROSION PREVENTION AND SEDIMENT CONTROL BMPS (SUCH AS SILT FENCE) MUST BE REMOVED ON THE PORTIONS OF THE SITE FOR WHICH THE PERMITTEE IS RESPONSIBLE. BMPS DESIGNED TO DECOMPOSE ON SITE (SUCH AS SOME COMPOST LOGS) MAY BE LEFT IN PLACE.

4. OPERATOR PROVIDES THE OWNER ALL INSPECTION AND SWPPP AMENDMENT RECORDS FOR THE PROJECT. OWNER IS RESPONSIBLE FOR KEEPING ALL RECORDS (AS DEFINED IN PART II.E.1-5) ON FILE FOR THREE YEARS AFTER SUBMITTAL OF THE NOTICE OF TERMINATION.




**PROJECT SITE MAP**

| DATE | BY | REVISIONS |
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| APPROVED: | JS |

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Jason Swenson

Date 02/10/2016

Reg. No. 43383

C.P. 60–02FL SWPPP

S.A.P. 070–593–001 Sheet No. 9.4 of 9.11 Sheets

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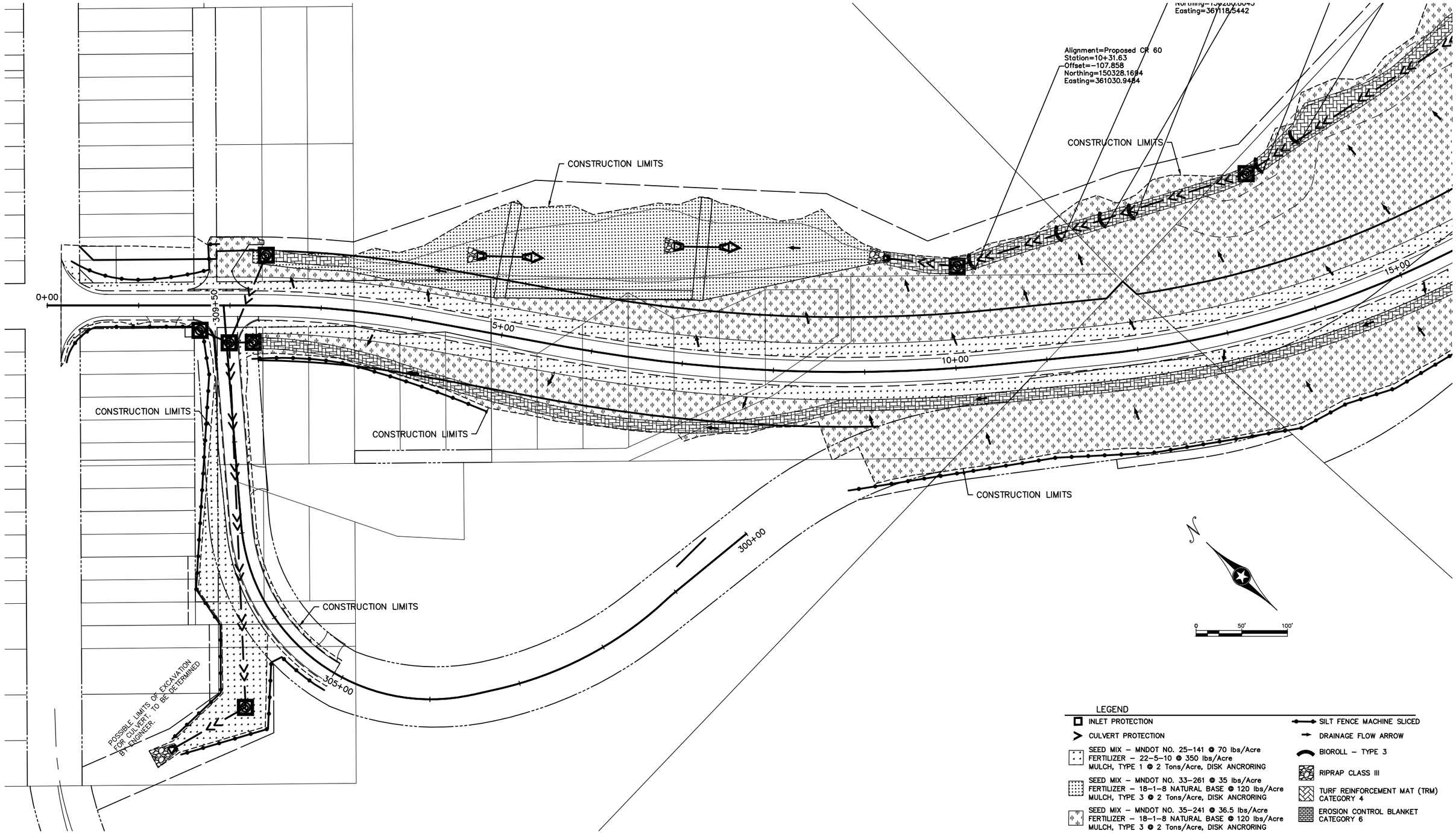


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| 5/9/2016 | NRT | CONSTRUCTION/SEEDING LIMITS PER FEMA |

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| CHECKED: | JS |
| APPROVED: | JS |

Scott

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Curt Kobilarcsik

Date 05/09/2016

Reg. No. 24756

C.P. 60–02FL

TURF ESTABLISHMENT & EROSION CONTROL

S.A.P. 070–593–001

Sheet No. 9.5 of 9.11 Sheets

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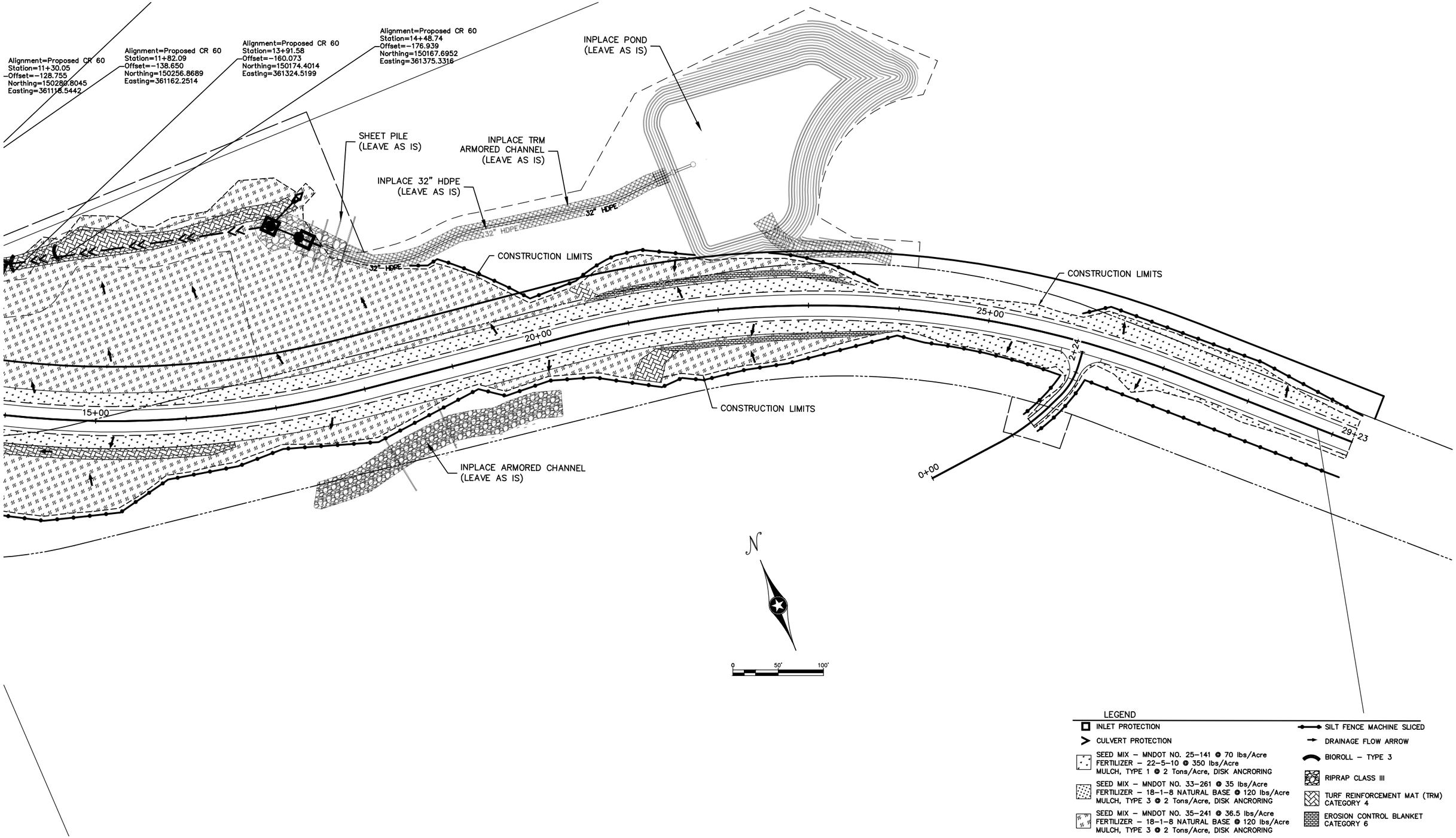


LEGEND

- INLET PROTECTION
- CULVERT PROTECTION
- SEED MIX – MNDOT NO. 25–141 @ 70 lbs/Acre
  FERTILIZER – 22–5–10 @ 350 lbs/Acre
  MULCH, TYPE 1 @ 2 Tons/Acre, DISK ANCRORING
- SEED MIX – MNDOT NO. 33–261 @ 35 lbs/Acre
  FERTILIZER – 18–1–8 NATURAL BASE @ 120 lbs/Acre
  MULCH, TYPE 3 @ 2 Tons/Acre, DISK ANCRORING
- SEED MIX – MNDOT NO. 35–241 @ 36.5 lbs/Acre
  FERTILIZER – 18–1–8 NATURAL BASE @ 120 lbs/Acre
  MULCH, TYPE 3 @ 2 Tons/Acre, DISK ANCRORING
- SILT FENCE MACHINE SLICED
- DRAINAGE FLOW ARROW
- BIOROLL – TYPE 3
- RIPRAP CLASS III
- TURF REINFORCEMENT MAT (TRM) CATEGORY 4
- EROSION CONTROL BLANKET CATEGORY 6

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| APPROVED: | JS |

Scott

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

TURF ESTABLISHMENT & EROSION CONTROL

S.A.P. 070–593–001

Sheet No. 9.6 of 9.11 Sheets

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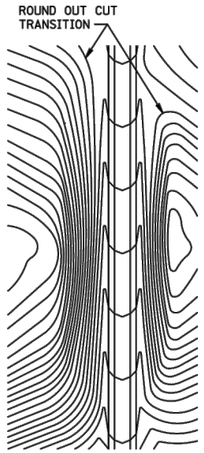
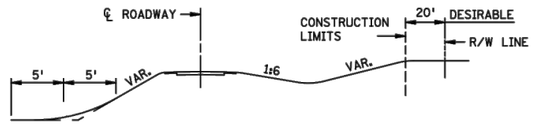
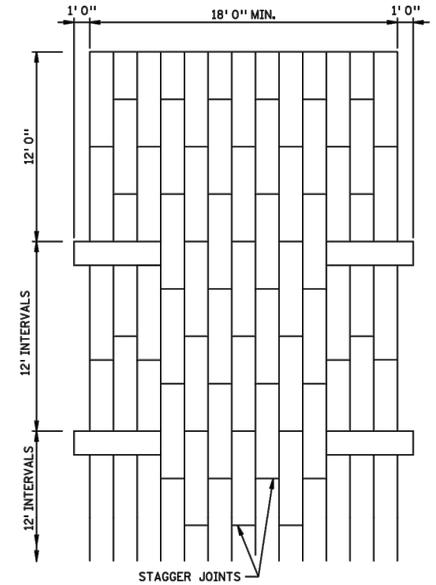


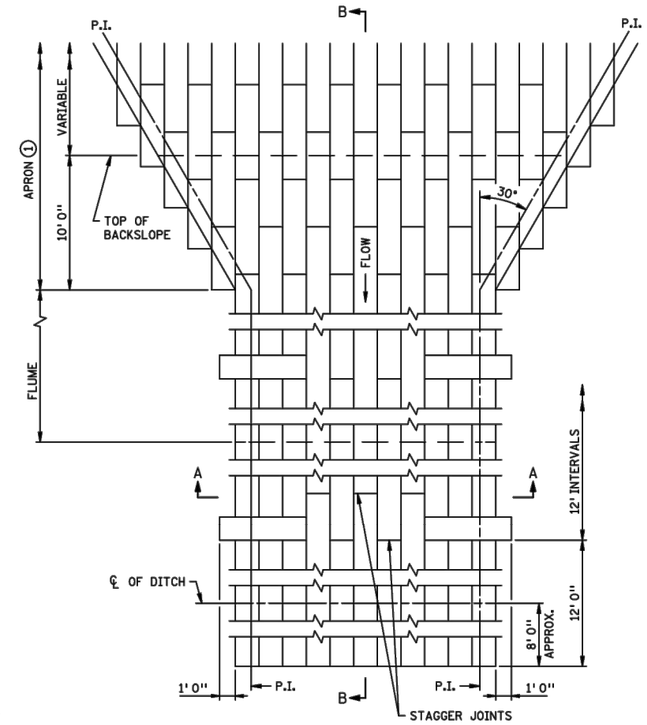

CONTOURING ROAD CUTS



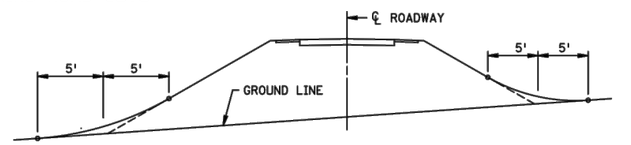

ROUNDING SHOULDERS AND BACKSLOPES



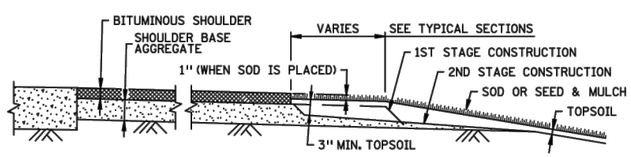

PLAN VIEW



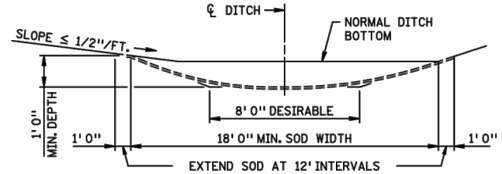

PLAN VIEW




SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES

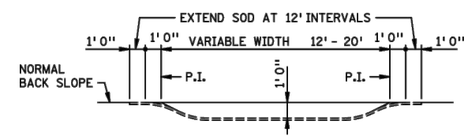



SHAPING AND TOPSOILING INSLOPES

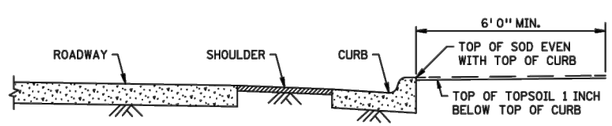



SODDED DITCH CROSS SECTION

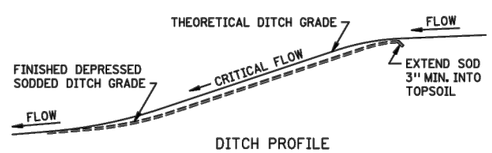
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.), FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.




SECTION A-A

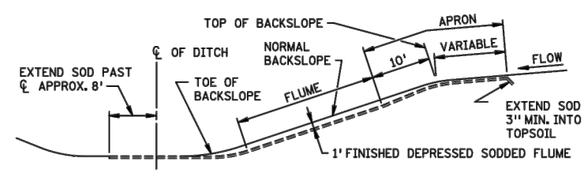



SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED




DITCH PROFILE

SODDED DITCH DETAILS




SECTION B-B

SODDED FLUME DETAILS

NOTES:

SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.

① CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

REVISION:

APPROVED: 8-6-2014

CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISED:

APPROVED: 8-6-2014

STATE DESIGN ENGINEER

PERMANENT EROSION CONTROL

ALONG ROADWAYS, DITCHES AND FLUMES

STANDARD PLAN 5-297.404 | 1 OF 1

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| APPROVED: | JS |

Scott

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60-02FL

STANDARD PLANS

S.A.P. 070-593-001

Sheet No. 9.7 of 9.11 Sheets

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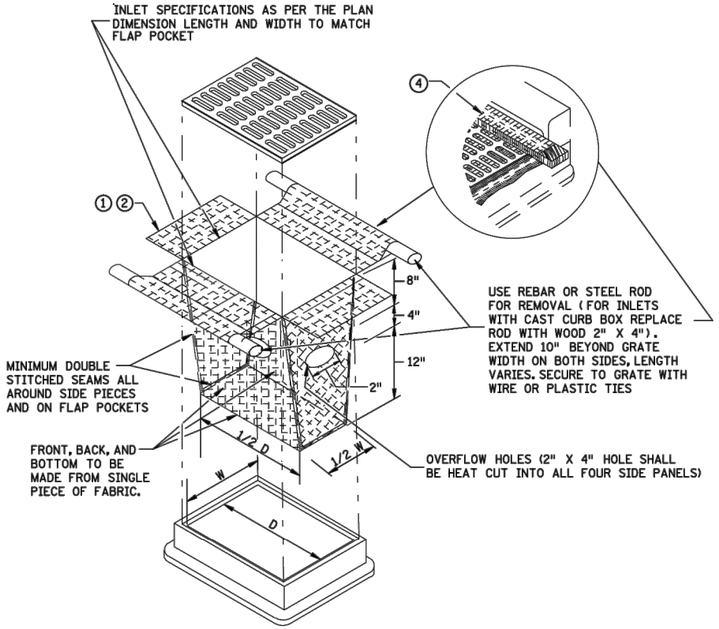
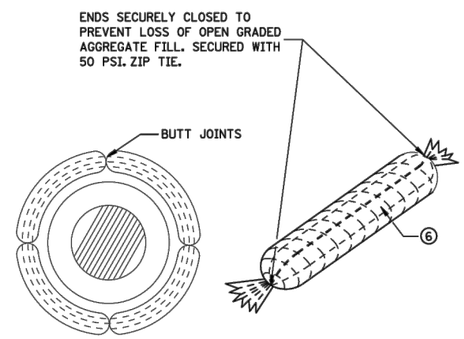
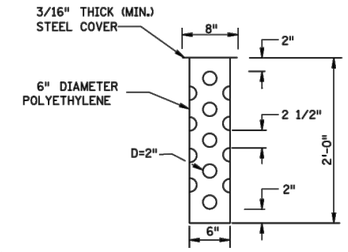



FILTER BAG INSERT ③

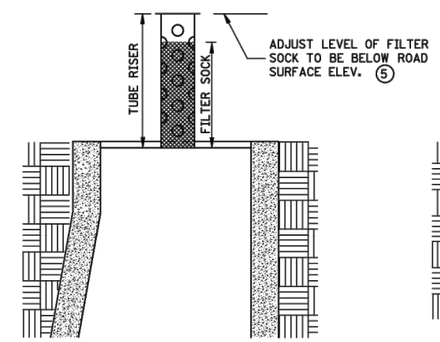
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX)



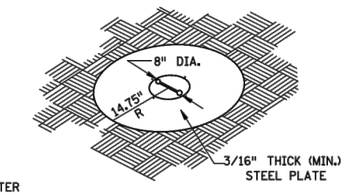

ROCK LOG/COMPOST LOG



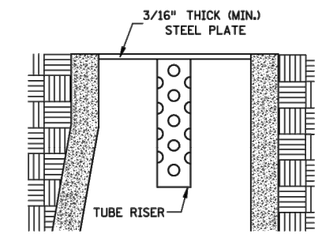

TUBE RISER




SECTION
(UP POSITION)

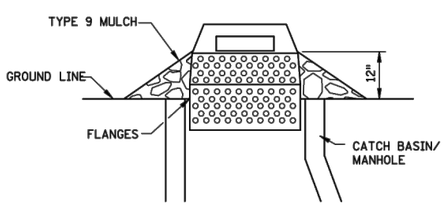



PERSPECTIVE VIEW



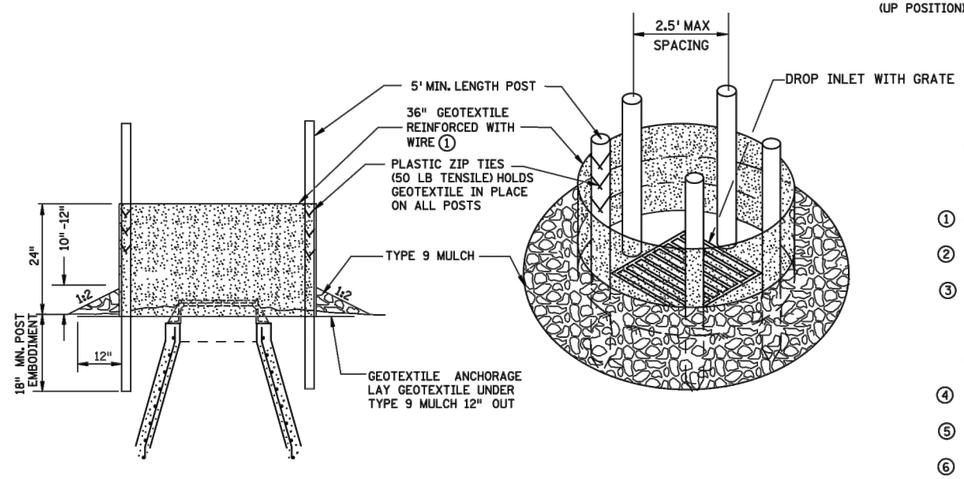

SECTION
(DOWN POSITION)

POP-UP HEAD




SEDIMENT CONTROL INLET HAT

NOTE:
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING, FLANGES AND A LID/COVER.




SILT FENCE RING AND ROCK FILTER BERM

USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 or LESS

## NOTES:

SEE SPECS. 2573, 3137, & 3886.

DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEED TRAFFIC FLOW.

1. ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
2. FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
3. INSTALLATION NOTES:
   DO NOT PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
4. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
5. SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
6. GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

REVISION:

APPROVED: 8-6-2014
CHIEF ENVIRONMENTAL OFFICER

REVISED:

APPROVED: 8-6-2014
STATE DESIGN ENGINEER

TEMPORARY SEDIMENT CONTROL
STORM DRAIN INLET PROTECTION

STANDARD PLAN 5-297.405 | 4 OF 7

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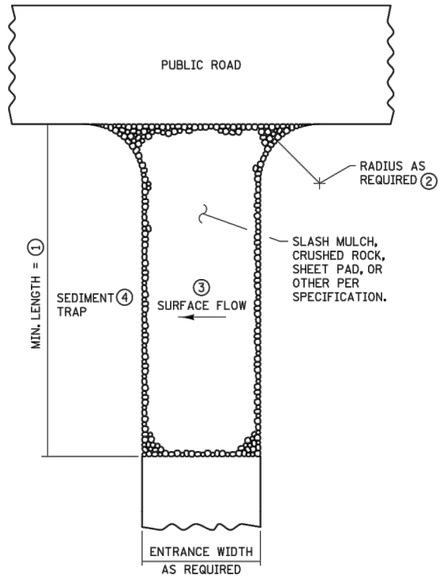
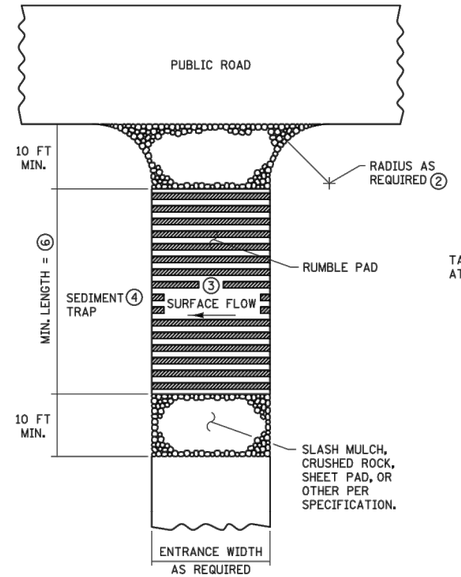
Curt Kobilarcsik
Date 02/10/2016
Reg. No. 24756

C.P. 60-02FL | STANDARD PLANS

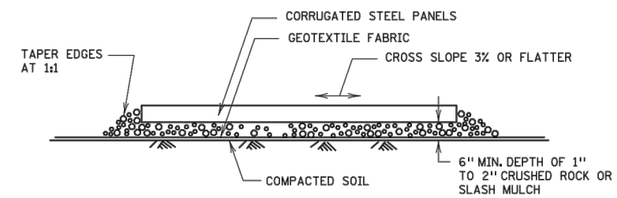
S.A.P. 070-593-001 | Sheet No. 9.8 of 9.11 Sheets



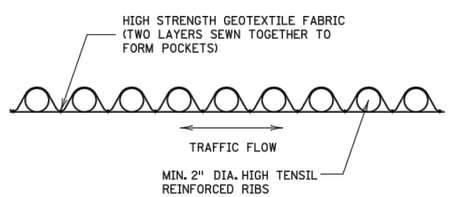

SLASH MULCH, CRUSHED ROCK, OR SHEET PAD CONSTRUCTION EXIT ⑤⑦



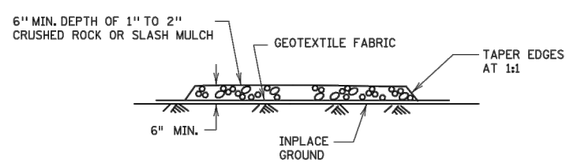

RUMBLE PAD CONSTRUCTION EXIT ⑤⑦




RUMBLE PAD




SHEET PAD




SLASH MULCH OR CRUSHED ROCK

NOTES:

SEE SPECS. 2573 & 3882.

① MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENT TO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.

② PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.

③ IF RUNOFF FROM DISTURBED AREAS FLOWS TOWARD CONSTRUCTION EXITS, PREVENT RUNOFF FROM DRAINING DIRECTLY TO PUBLIC ROAD OVER CONSTRUCTION EXIT BY CROWNING THE EXIT OR SLOPING TO ONE SIDE. IF SURFACE GRADING IS INSUFFICIENT, PROVIDE OTHER MEANS OF INTERCEPTING RUNOFF.

④ IF RUNOFF FROM CONSTRUCTION EXITS WILL DRAIN OFF OF PROJECT SITE, PROVIDE SEDIMENT TRAP WITH STABILIZED OVERFLOW.

⑤ IF A TIRE WASH OFF IS REQUIRED THE CONSTRUCTION EXITS SHALL BE GRADED TO DRAIN THE WASH WATER TO A SEDIMENT TRAP.

⑥ MINIMUM LENGTH OF RUMBLE PAD SHALL BE 20 FEET, OR AS REQUIRED TO REMOVE SEDIMENT FROM TIRES. IF SIGNIFICANT SEDIMENT IS TRACKED FROM THE SITE, THE RUMBLE PAD SHALL BE LENGTHENED OR THE DESIGN MODIFIED TO PROVIDE ADDITIONAL VIBRATION. WASH-OFF LENGTH SHALL BE AS REQUIRED TO EFFECTIVELY REMOVE CONSTRUCTION SEDIMENT FROM VEHICLE TIRES.

⑦ MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL (SLASH MULCH OR CRUSHED ROCK) OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.

REVISION:

APPROVED: 8-6-2014

CHIEF ENVIRONMENTAL OFFICER

REVISED:

APPROVED: 8-6-2014

STATE DESIGN ENGINEER

TEMPORARY SEDIMENT CONTROL

CONSTRUCTION EXITS

STANDARD PLAN 5-297.405 | 5 OF 7

| DATE | BY | REVISIONS |
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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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Curt Kobilarcsik

Date 02/10/2016

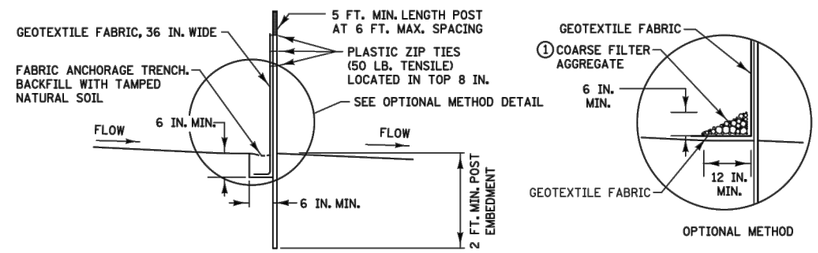
Reg. No. 24756

C.P. 60-02FL

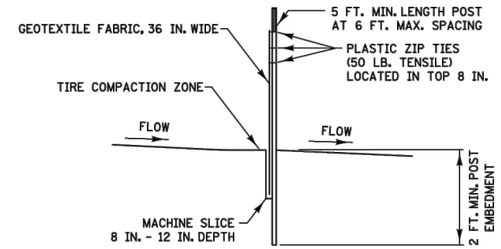
STANDARD PLANS

S.A.P. 070-593-001

Sheet No. 9.9 of 9.11 Sheets




SILT FENCE TYPE HI ②
(HAND INSTALLED)

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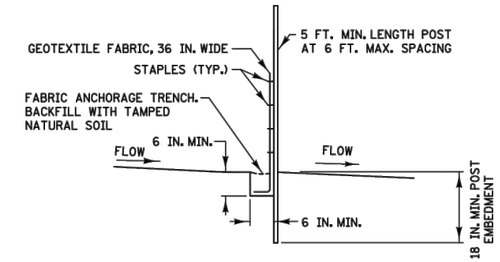
(MACHINE SLICED)

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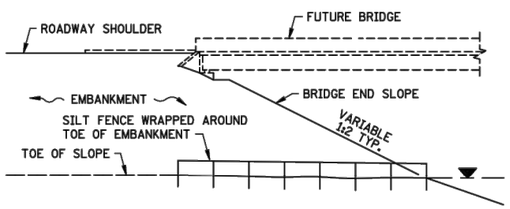
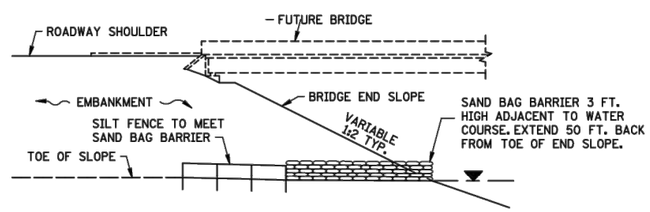
(PREASSEMBLED)

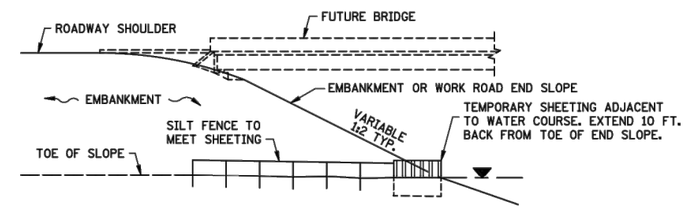



SILT FENCE ONLY ④

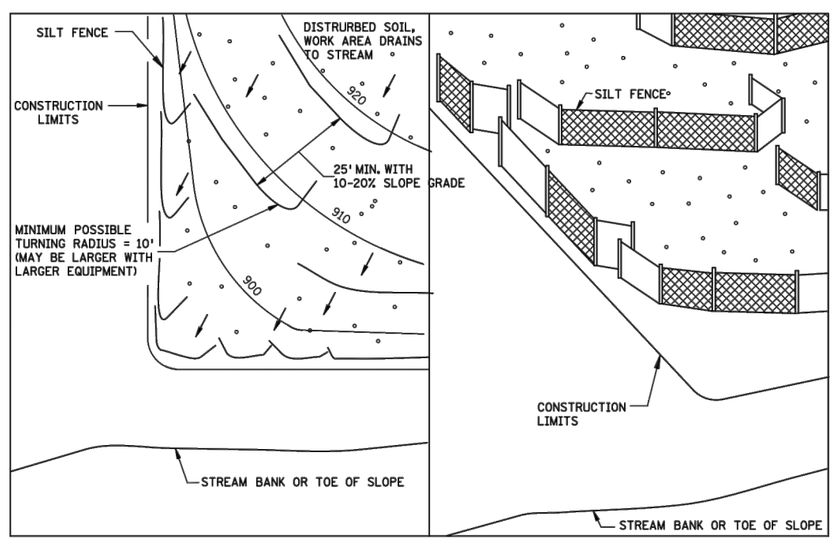



SILT FENCE WITH SAND BAGS ⑤

INSTALLATION AT BRIDGE EMBANKMENT ADJACENT TO WATER



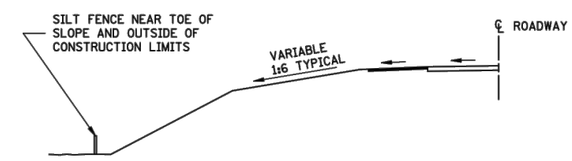

SILT FENCE WITH SHEETING ⑥




PLAN VIEW

PERSPECTIVE VIEW

J-HOOK INSTALLATION




LOCATION AT TOE OF ROADWAY EMBANKMENT

NOTES:

SEE SPECS. 2573, 3149 & 3886.

① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.

② TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 1 ACRE.

③ TO PROTECT AREAS FROM SHEET FLOW. MAXIMUM CONTRIBUTING AREA: 0.25 ACRE.

④ WATER COURSE FLOW VELOCITY: STANDING.
CONTRIBUTING SLOPE AREA: 1./2 ACRE.

⑤ WATER COURSE FLOW VELOCITY: 1 TO 7 FT./SEC.
CONTRIBUTING SLOPE AREA: 1. ACRE.

⑥ WATER COURSE FLOW VELOCITY: 8 TO 15 FT./SEC.
CONTRIBUTING SLOPE AREA: 3 ACRES.

REVISION:

APPROVED: 8-6-2014
CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISED:

STATE DESIGN ENGINEER

APPROVED: 8-6-2014

TEMPORARY SEDIMENT CONTROL
SILT FENCE

STANDARD PLAN 5-297.405 | 6 OF 7

| DATE | BY | REVISIONS |
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| CHECKED: | JS |
| APPROVED: | JS |

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Curt Kobilarcsik

Date 02/10/2016

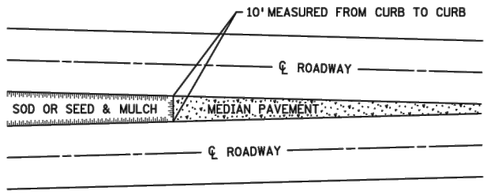
Reg. No. 24756

C.P. 60-02FL

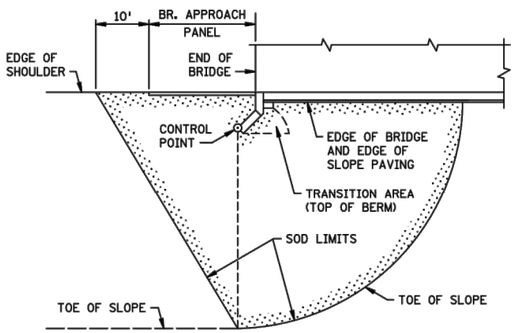
STANDARD PLANS

S.A.P. 070-593-001

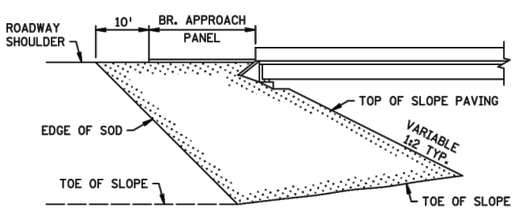
Sheet No. 9.10 of 9.11 Sheets




SODDING LIMITS AT GORE AREA

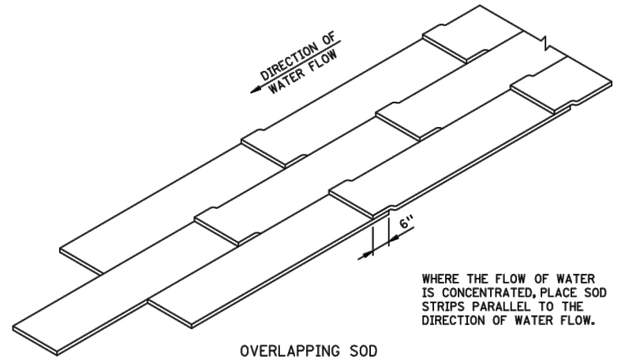



PLAN

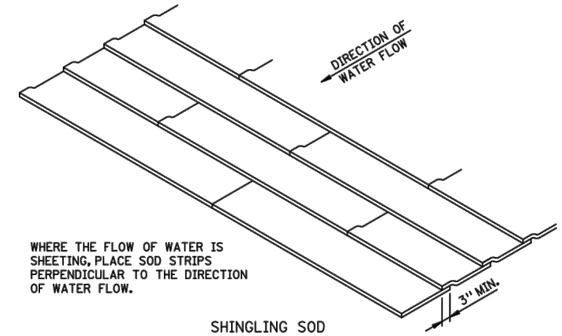



ELEVATION

SODDING LIMITS AT BRIDGE APPROACH FILLS

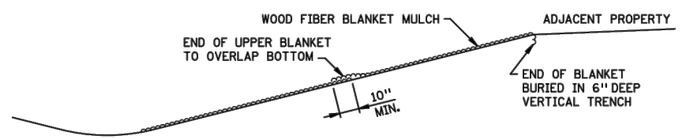



OVERLAPPING SOD

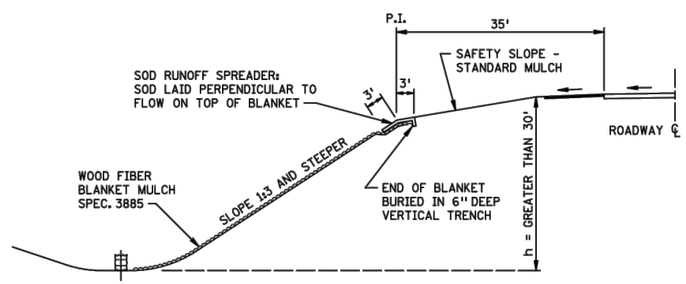



SHINGLING SOD

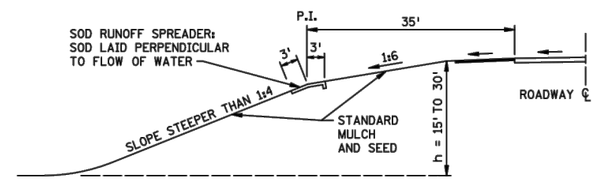
SPECIAL SOD PLACEMENT TECHNIQUES



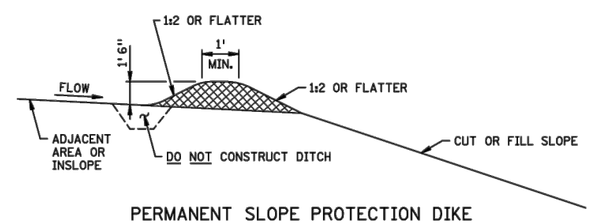

WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



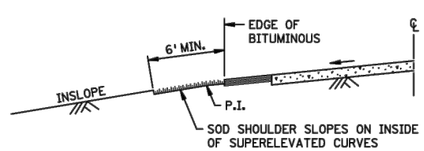

WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE
( WHEN REQUIRED )




BROKEN-BACK SAFETY FILL SLOPE




PERMANENT SLOPE PROTECTION DIKE




SODDING INSLOPES OF SUPERELEVATED CURVES

REVISION:

APPROVED: 8-6-2014

CHIEF ENVIRONMENTAL OFFICER

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISED:

STATE DESIGN ENGINEER

APPROVED: 8-6-2014

PERMANENT SEDIMENT CONTROL

ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS

STANDARD PLAN 5-297.406 | 1 OF 1

| DATE | BY | REVISIONS |
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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60-02FL

STANDARD PLANS

S.A.P. 070-593-001

Sheet No. 9.11 of 9.11 Sheets

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# PERMANENT PAVEMENT MARKING NOTES & GUIDELINES

## SYMBOLS & MATERIALS LEGEND

CROSSWALK BLOCK WHITE

PAVEMENT MESSAGE (LEFT ARROW)

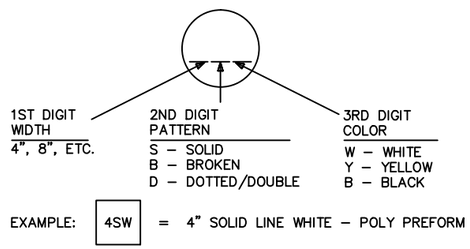
### STRIPING KEY

CIRCLE – EPOXY

SQUARE – POLY PREFORM

TRIANGLE – PAINT

PENTAGON – REMOVEABLE PREFORMED PLASTIC MARKING




EXAMPLE: 4SW = 4" SOLID LINE WHITE – POLY PREFORM

## GENERAL INFORMATION:

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. THE CONTRACTOR WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS. LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO ONE–HALF FOOT FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS. ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

MATCH EXISTING PAVEMENT MARKINGS AT PROJECT LIMITS AS DIRECTED BY THE ENGINEER.

ALL CONFLICTING PAVEMENT MARKINGS IDENTIFIED BY THE ENGINEER SHALL BE REMOVED BY A METHOD APPROVED BY THE ENGINEER.

## PAINT:

AT THE TIME OF APPLYING THE MARKING MATERIAL, THE APPLICATION AREA SHALL BE FREE OF CONTAMINATION. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE PRIOR TO THE LINE APPLICATION IN A MANNER AND TO THE EXTENT REQUIRED BY THE ENGINEER.

GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE PAINT LINE.

EXCEPT WHEN USED AS A TEMPORARY MARKING, PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR TEMPERATURE IS 50°F OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OF DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL CAN BE APPLIED.

THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.

## POLY PREFORM INLAY APPLICATION:

MAT TEMPERATURE SHALL BE CHECKED USING A THERMOMETER TO MAKE SURE THE INLAY IS BEING DONE IN THE PROPER TEMPERATURE RANGE. THE TEMPERATURE SHOULD MEASURE BETWEEN 150° F (ASPHALT FIRM ENOUGH TO WALK ON) AND 120° F. APPLICATION BELOW 120° F MAY NOT GET A PROPER INLAY. INLAYS ARE NOT RECOMMENDED AFTER SEPTEMBER 15th AS THE ASPHALT COOLS TOO FAST AT THIS TIME OF THE YEAR.

NO PRIMERS ARE USED FOR INLAY APPLICATION. DO NOT INSTALL LANE LINES ON AN ASPHALT SEAM. ROLLING OF ALL THE MARKINGS SHOULD BE LENGTHWISE IN THE DIRECTION THEY WERE SEAM. FOR CROSSWALKS AND STOP BARS, INITIAL TAMPING WITH THE TAMPING CART IS RECOMMENDED USING ONLY 100 LBS. OF WEIGHT.

USE COMPACTION ROLLER TO EMBED (INLAY) MARKINGS INTO PAVEMENT SURFACE. USE MINIMUM SPEED AND WATER ON ROLLER. DO NOT USE VIBRATOR. IF MARKING BUCKLES OR DISTORTS SEVERELY IN FRONT OF ROLLER, MAT TEMPERATURE OR ROLLER SPEED MAY BE TOO HIGH.

## POLY PREFORM GROOVED APPLICATION:

CONCRETE PAVEMENT SURFACES AND BITUMINOUS PAVEMENT SURFACES WHERE PAVEMENT MARKINGS CANNOT BE INLAID IN THE HOT MAT, SHALL BE GROOVED FOR THE INSTALLATION OF DURABLE REFLECTORIZED PAVEMENT MARKINGS. SEE SPECIAL PROVISIONS.

## EPOXY:

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON–METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE. ON LOW SPEED (SPEED LIMIT 35 OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS, SANDBLAST CLEANING SHALL BE USED FOR ALL EPOXY PAVEMENT MARKINGS.

THE EPOXY MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE EPOXY RESIN LINE TO PROVIDE AN IMMEDIATE NO–TRACK SYSTEM.

FOR 15 MIL APPLICATIONS, GLASS BEADS SHALL BE APPLIED AT A RATE OF AT LEAST 25 LB/GAL. THE "NO–TRACKING" CONDITION SHALL BE DETERMINED ON AN APPLICATION OF SPECIFIED THICKNESS TO THE PAVEMENT AND COVERED WITH GLASS BEADS AT THE RATE OF AT LEAST 25 LB/GAL.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROAD PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES °F OR GREATER.

PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.

## BROKEN LINE DETAIL

10' 40' 10'

## DOTTED LINE DETAIL

3' 12' 3'

| PAVEMENT MARKING TABULATION | | TAB H |
|---|---|---|
| DESCRIPTION | UNIT | QUANTITY |
| 6" SOLID LINE PAINT | LIN FT | 6672 |
| 4" DOUBLE SOLID LINE PAINT | LIN FT | 3332 |
| | | |

| DATE | BY | REVISIONS |
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| CHECKED: | JS |
| APPROVED: | JS |

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

STRIPING PLAN

S.A.P. 070–593–001

Sheet No. 10.1 of 10.12 Sheets

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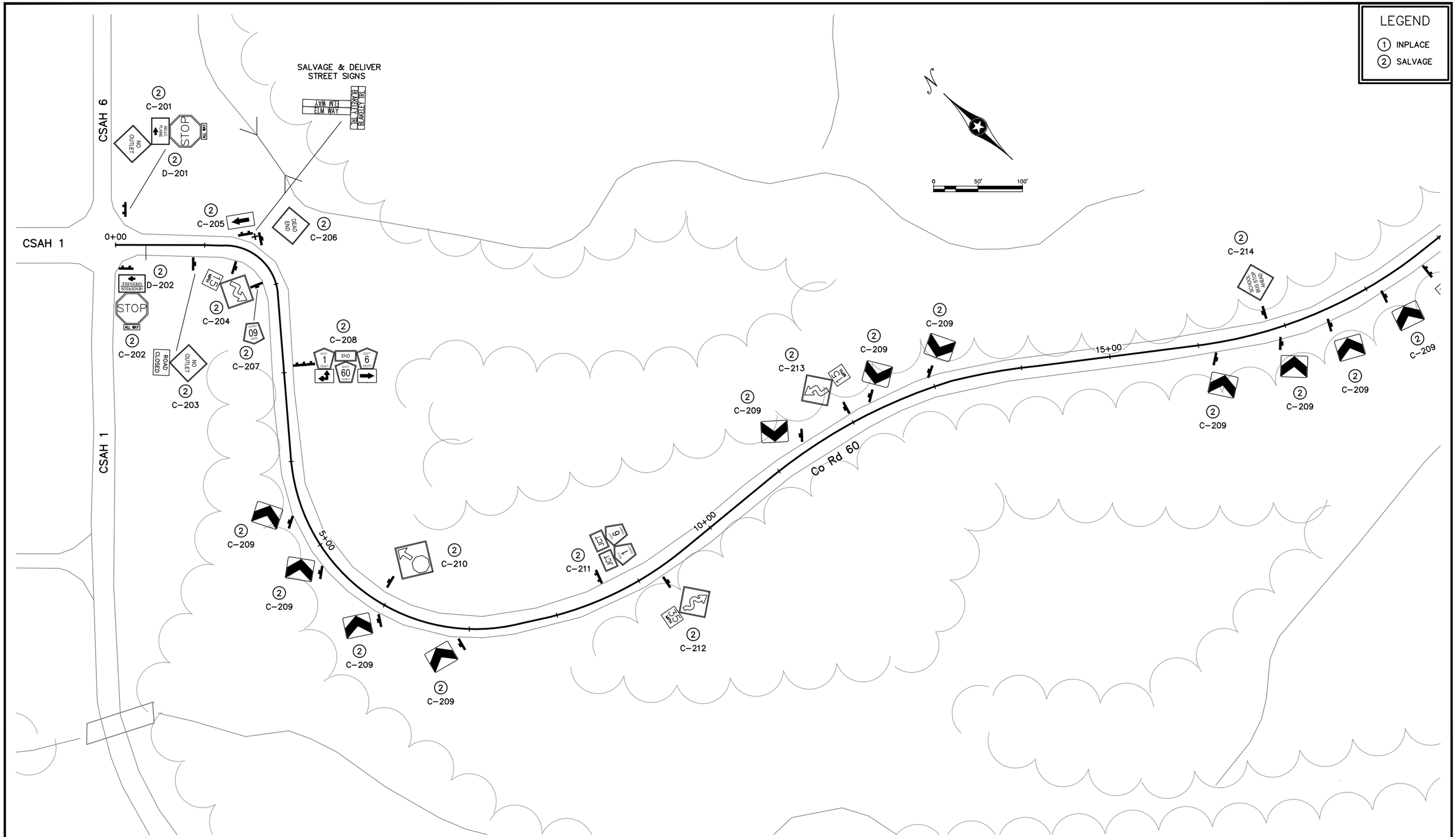


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Reg. No. 24756

C.P. 60-02FL

EXISTING SIGNS

S.A.P. 070-593-001

Sheet No. 10.2 of 10.12 Sheets

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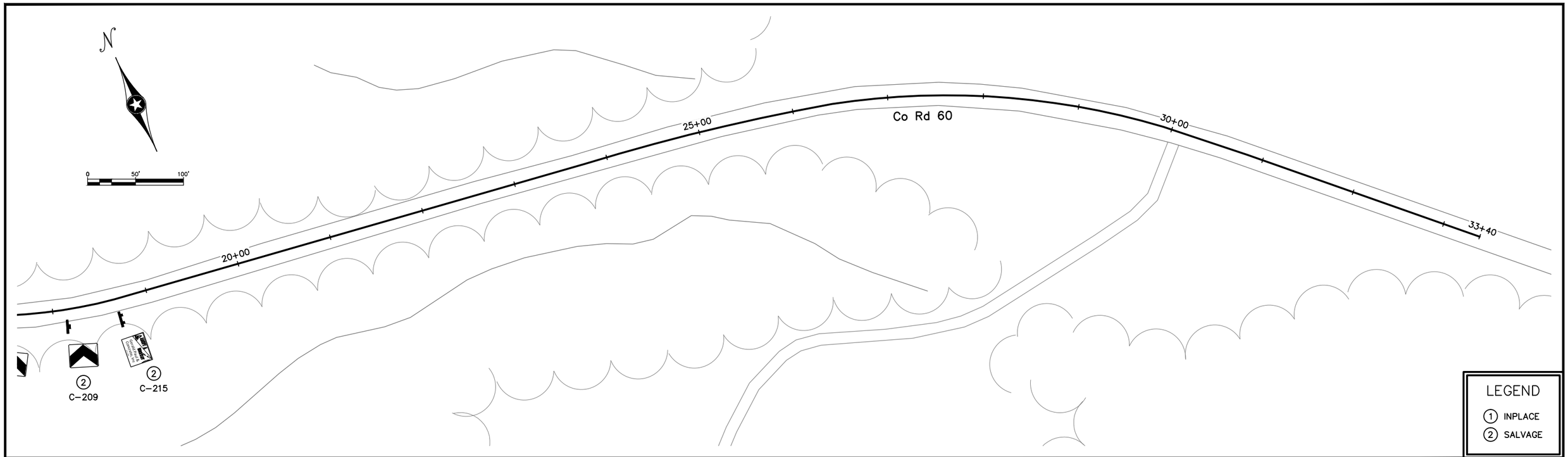


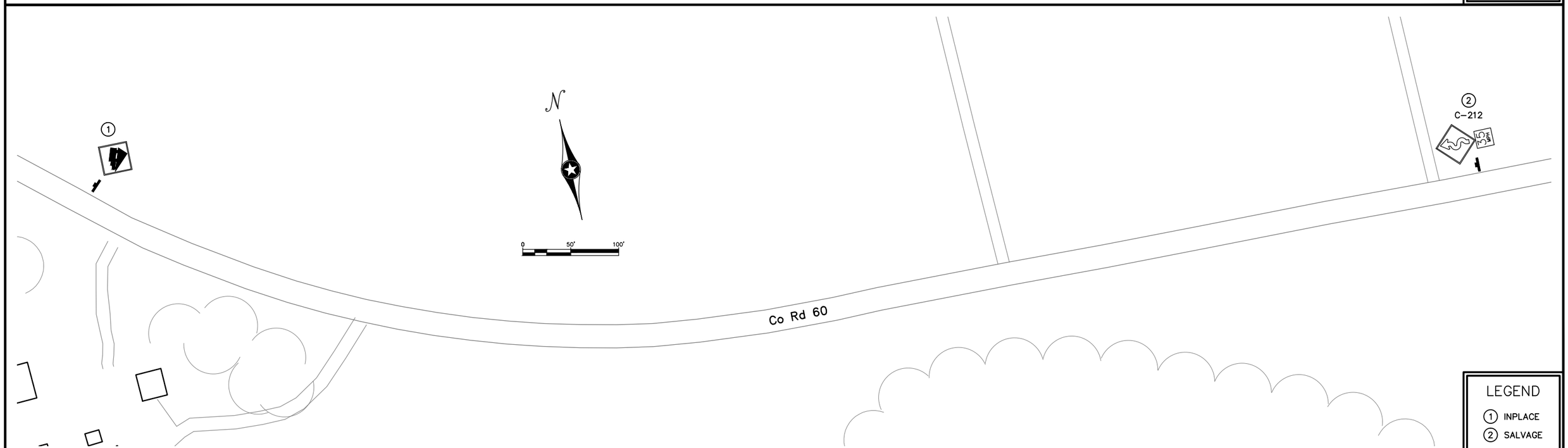


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C.P. 60-02FL

EXISTING SIGNS

S.A.P. 070-593-001

Sheet No. 10.3 of 10.12 Sheets

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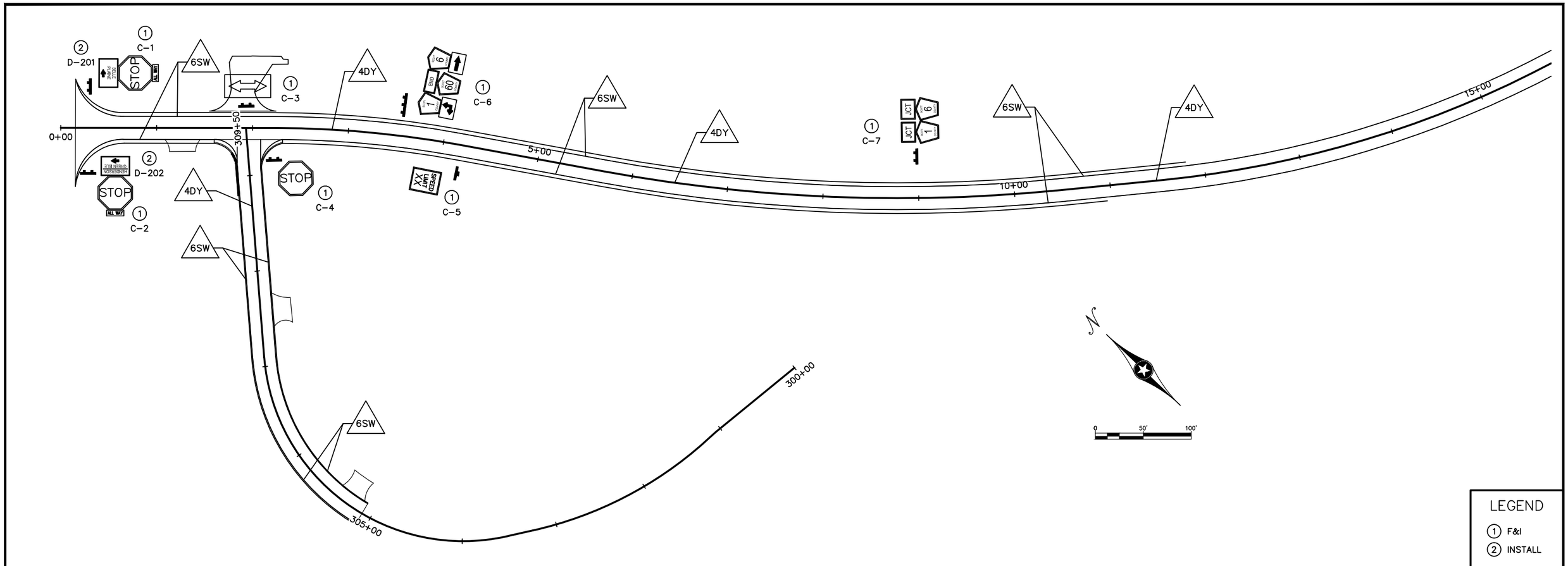


LEGEND

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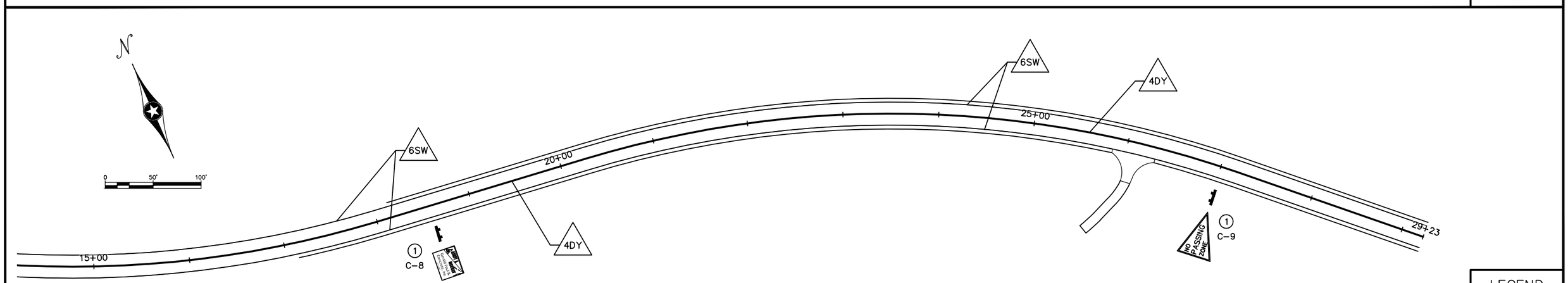


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C.P. 60-02FL

SIGNING & STRIPING PLAN

S.A.P. 070-593-001

Sheet No. 10.4 of 10.12 Sheets

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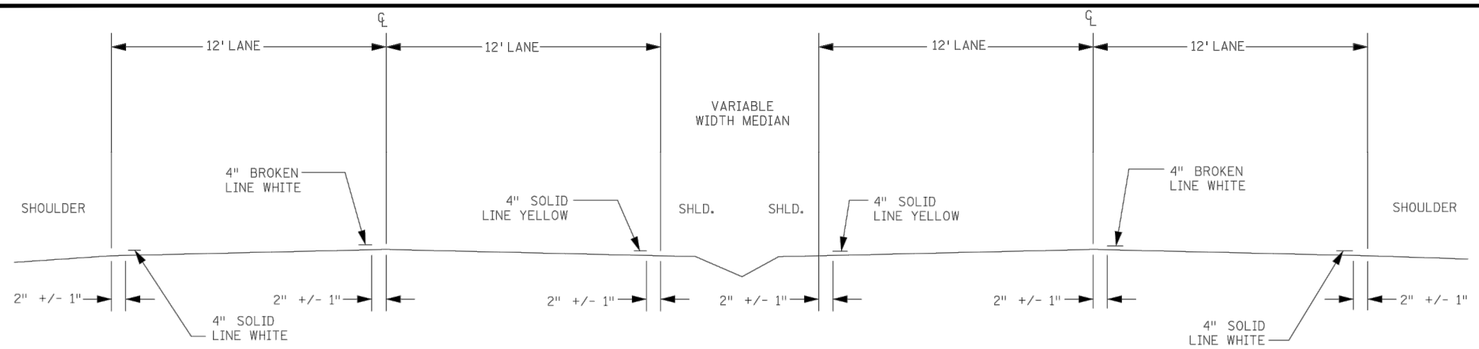
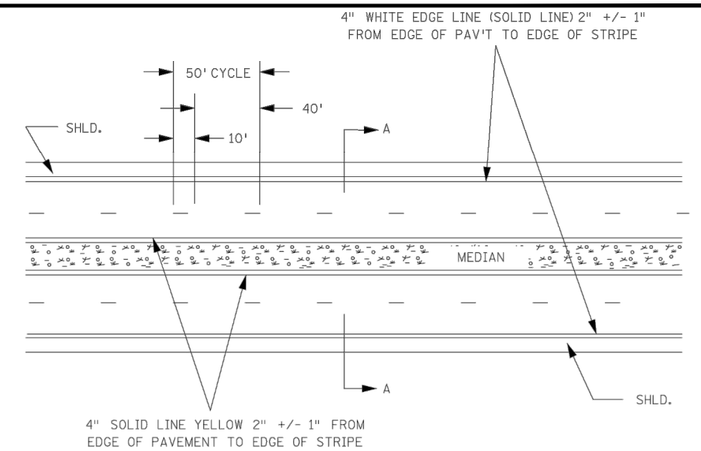
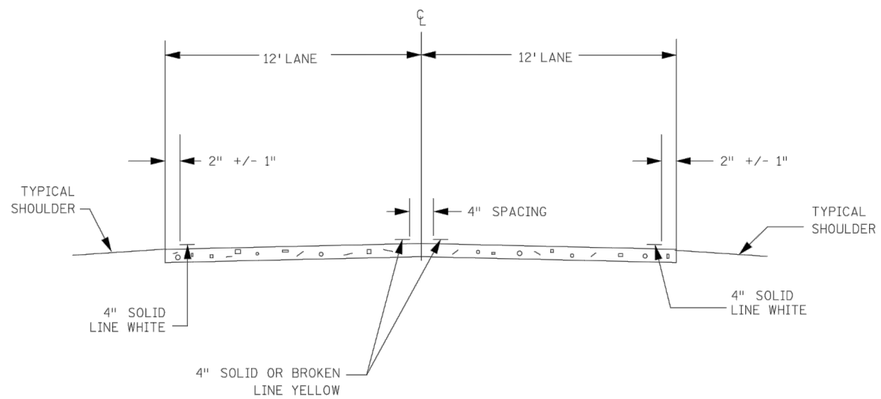


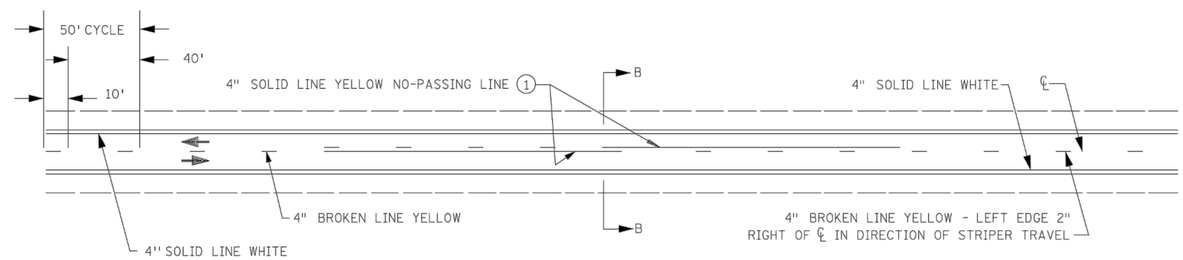

## SECTION A-A
FOUR LANES




## TYPICAL 4-LANE DIVIDED LANE MARKINGS

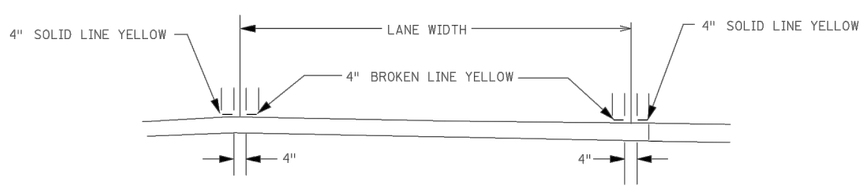



## SECTION B-B

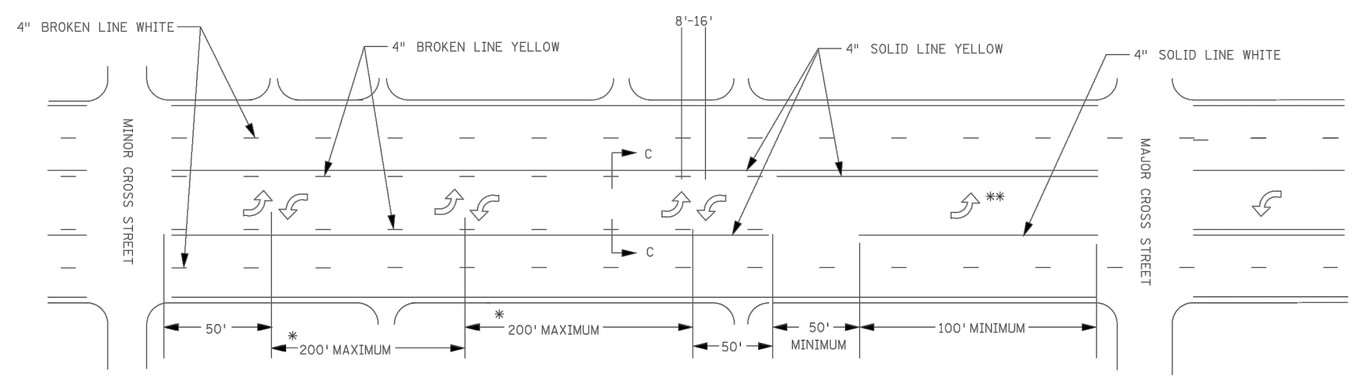



## TWO LANE-TWO WAY TRAFFIC MARKINGS

(1) CONTACT TRAFFIC ENGINEER FOR NO PASSING ZONE SURVEY.




## SECTION C-C
TWO WAY LEFT TURN LANE




* THESE DISTANCES SHOULD BE EQUAL. THE PAVEMENTARROWS ARE PLACED TO SHOW THE OPERATION AND DO NOT HAVE TO LINE UP WITH ANY OF THE DRIVEWAYS.

NOTE:
SINGLE-DIRECTION LEFT-TURN ARROWS SHALL NOT BE USED IN LANES BORDERED ON BOTH SIDES BY TWO-WAY LEFT-TURN LANE MARKINGS

## TWO WAY LEFT TURN LANE

** SEE "TYPICAL MESSAGE PLACEMENT FOR TURN LANES" FOR NUMBER AND PLACEMENT OF ARROWS.

REVISED: 20-NOV-2013

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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 02/10/2016
Reg. No. 24756

C.P. 60-02FL

STRIPING DETAILS

S.A.P. 070-593-001

Sheet No. 10.5 of 10.12 Sheets

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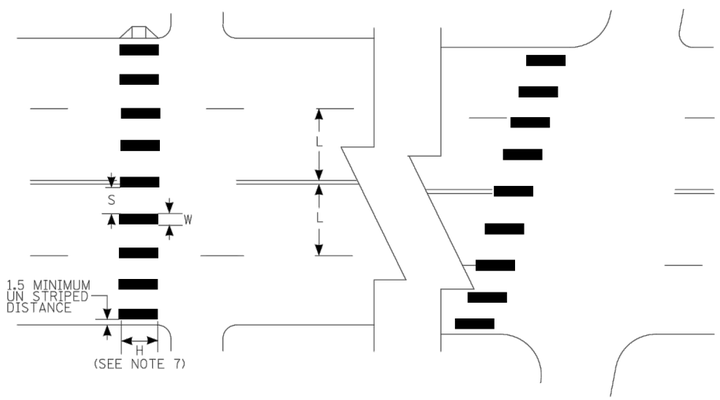
## MARKINGS FOR PEDESTRIAN CROSSWALKS

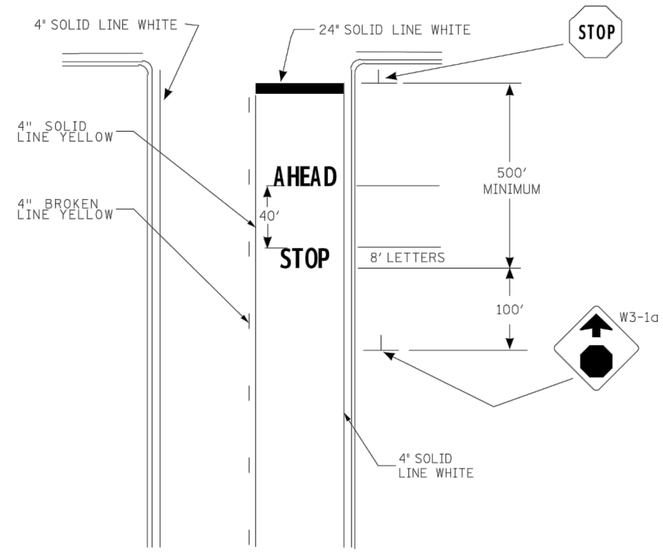
| (L) WIDTH OF INSIDE LANE | (W) WIDTH OF PAINTED AREA | (S) WIDTH OF SPACE | ALTERNATE (W) WIDTH OF PAINTED AREA | ALTERNATE (S) WIDTH OF PAINTED AREA |
|---|---|---|---|---|
| 9′ | 2.0′ | 2.5′ | — | — |
| 10′ | 2.5′ | 2.5′ | 2.0′ | 3.0′ |
| 11′ | 2.5′ | 3.0′ | 2.0′ | 3.5′ |
| 12′ | 3.0′ | 3.0′ | 2.5′ | 3.5′ |
| 13′ | 3.0′ | 3.5′ | — | — |




### NOTES:

1. PAINTED AREAS TO BE CENTERED ON CENTERLINE AND LANE LINES.
2. A MINIMUM OF 1.5 FT. CLEAR DISTANCE SHALL BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS DISTANCE IT MUST BE OMITTED.
3. ON TWO LANE TWO WAY STREETS, USE SPACING SHOWN FOR AN 11 FT. INSIDE LANE.
4. FOR DIVIDED ROADWAYS, ADJUSTMENTS IN SPACING OF THE BLOCKS SHOULD BE MADE IN THE MEDIAN SO THAT THE BLOCKS ARE MAINTAINED IN THEIR PROPER LOCATION ACROSS THE TRAVELED PORTION OF THE ROADWAY.
5. AT SKEWED CROSSWALKS, THE BLOCKS ARE TO REMAIN PARALLEL TO THE LANE LINES AS SHOWN.
6. THE BLOCKS SHALL BE PLACED SO THAT THEY ARE NOT LOCATED IN THE WHEEL PATH OF THE VEHICLES
7. THE BLOCKS SHALL BE A MINIMUM OF 6′ LONG AND AT LEAST AS LONG AS THE TRUNCATED DOMES. FOR FANNED TRUNCATED DOMES THE BLOCKS SHALL BE AT LEAST AS LONG AS THE APPROACHING SIDEWALK OR SHARED USE PATH.
8. THE ALTERNATE (W) AND (S) MAY BE USED WHEN BLOCKS LONGER THAN 6′ (H) ARE USED.

## PLACEMENT FOR "STOP AHEAD" MARKINGS AND STOP LINES

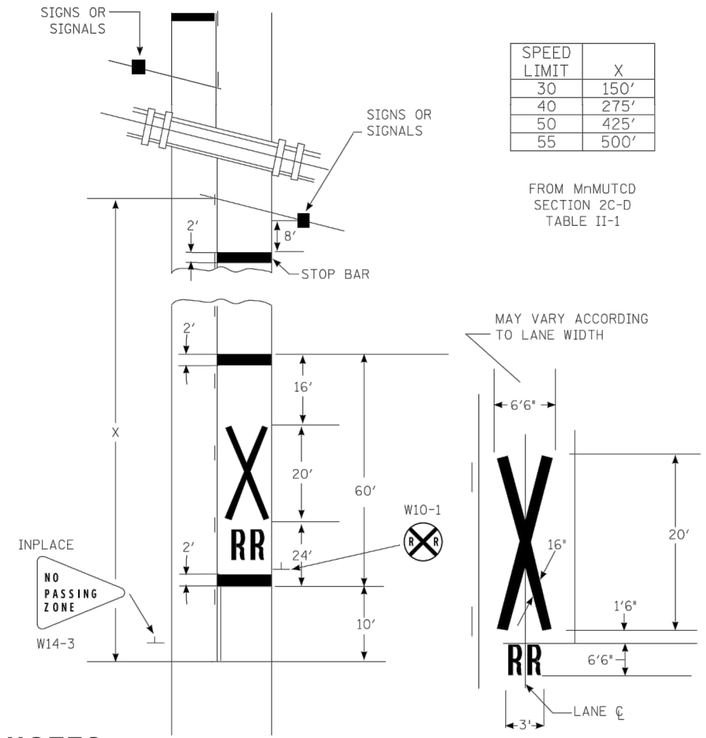



### NOTES:

1. DO NOT INSTALL A STOP AHEAD PAVEMENT MESSAGE IF THE INTERSECTION HAS ADEQUATE LIGHTING
2. INSTALL ONLY ONE SET OF STOP AHEAD PAVEMENT MESSAGES. IF A STOP AHEAD SIGN NEEDS TO BE INSTALLED MORE THAN 1000 FEET FROM THE STOP SIGN, CONTACT DISTRICT TRAFFIC ENGINEER TO DETERMINE IF, AND WHERE, A SECOND SET OF STOP AHEAD PAVEMENT MESSAGES SHOULD BE INSTALLED.
3. THE STOP LINE SHOULD ORDINARILY BE PLACED 4 FEET IN ADVANCE OF AND PARALLEL TO THE NEAREST CROSSWALK LINE. IN THE ABSENCE OF A MARKED CROSSWALK, THE STOP LINE SHOULD BE PLACED AT THE DESIRED STOPPING POINT, AND IN NO CASE NO MORE THAN 30 FEET OR LESS THAN 4 FEET FROM THE NEAREST EDGE OF THE INTERSECTING CURB LINE OR THE NEAR EDGE OF THE THRU LANE.
4. IF A STOP LINE IS USED IN CONJUNCTION WITH A STOP SIGN, IT SHOULD ORDINARILY BE PLACED IN LINE WITH THE STOP SIGN. HOWEVER, IF THE SIGN CANNOT BE LOCATED EXACTLY WHERE VEHICLES ARE EXPECTED TO STOP, THE STOP LINE SHOULD BE PLACED AT THE STOPPING POINT.
5. IF THE DISTANCE BETWEEN THE BEGINNING OF THE SOLID LINE YELLOW IS LESS THAN THE DISTANCES IN THE CHART BELOW FROM THE END OF A PRECEDING SOLID LINE YELLOW IN THE SAME LANE, THE SOLID LINE SHALL BE EXTENDED BETWEEN THEM.

35 MPH SPEED LIMIT OR LESS
40-50 MPH SPEED LIMIT
55 MPH SPEED LIMIT

## MARKINGS FOR RAILROAD CROSSINGS




| SPEED LIMIT | X |
|---|---|
| 30 | 150′ |
| 40 | 275′ |
| 50 | 425′ |
| 55 | 500′ |

FROM MnMUTCD SECTION 2C-D TABLE II-1

### NOTES:

1. THE DISTANCE FROM THE RAILROAD CROSSING MARKING TO THE NEAREST TRACK WILL VARY ACCORDING TO THE APPROACH SPEED AND SIGHT DISTANCE OF THE VEHICULAR TRAFFIC APPROACHING, BUT SHOULD NOT BE LESS THAN 50 FEET.
2. ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.
3. THE STOP LINE MAY BE PARALLEL TO AND 15 FEET FROM THE TRACKS WHERE THERE ARE RAILROAD CROSSBUCK SIGNS.

DOUBLE PAVEMENT MESSAGE AS SHOWN SHOULD BE INSTALLED WHENEVER THE STOP AHEAD SIGN IS PLACED A MINIMUM OF 1100′ IN ADVANCE OF THE STOP SIGN

IF THE DISTANCE BETWEEN THE BEGINNING OF THE SOLID LINE YELLOW IS LESS THAN THE DISTANCES IN THE CHART BELOW FROM THE END OF A PRECEDING SOLID LINE YELLOW IN THE SAME LANE, THE SOLID LINE SHALL BE EXTENDED BETWEEN THEM.

35 MPH SPEED LIMIT OR LESS .....500′
40-50 MPH SPEED LIMIT .....650′
55 MPH SPEED LIMIT .....800′

REVISED: 10-JUL-2014

| DATE | BY | REVISIONS |
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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 02/10/2016
Reg. No. 24756

C.P. 60-02FL

STRIPING DETAILS

S.A.P. 070-593-001

Sheet No. 10.6 of 10.12 Sheets

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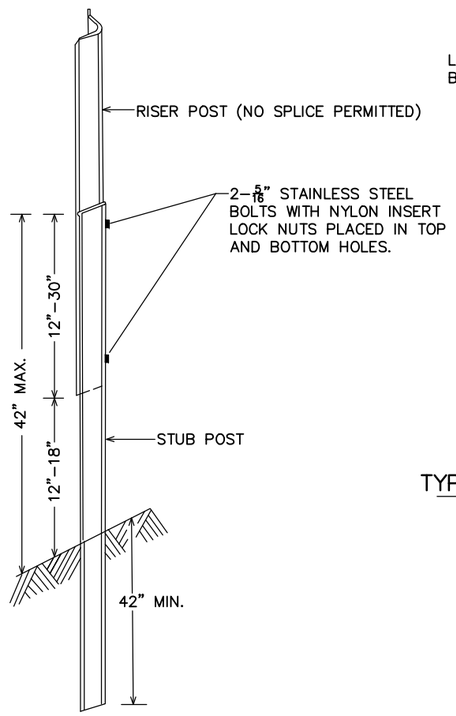
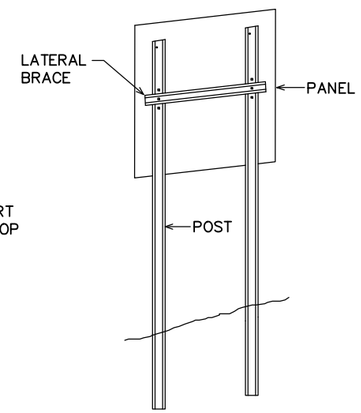
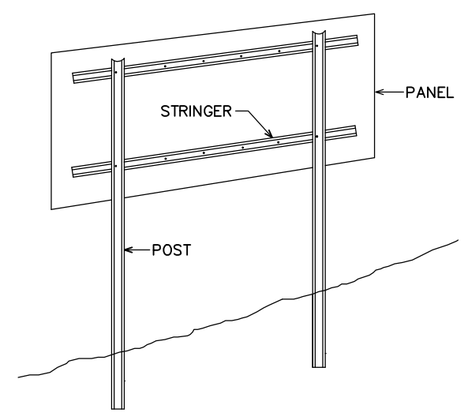
## TYPE C & D POST



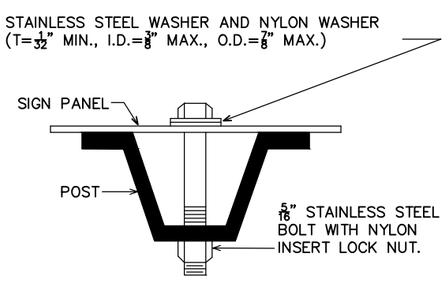

## U POST BREAKAWAY SPLICE



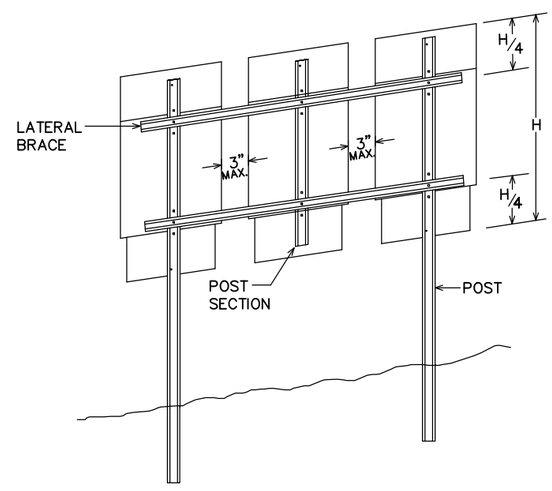

## TYPICAL TYPE C INSTALLATION




## TYPICAL TYPE D INSTALLATION




## U POST MOUNTING TYPE C SIGNS




## MODIFIED TYPE C INSTALLATION

NOTES:

1. USE 3 LB/FT STUB POSTS. SHALL CONFORM TO MNDOT 3401.

2. USE 2.5 LB/FT RISER POSTS, STRINGERS, KNEE BRACES AND LATERAL BRACES. ALL SHALL CONFORM TO MNDOT 3401.

3. SEE SIGN DATA SHEETS FOR NUMBER OF POSTS, KNEE BRACES, POST LENGTHS AND SPACINGS, AS DETERMINED FROM TEM CHARTS 6.3 AND 6.4.

4. IF MORE THAN TWO POSTS ARE NEEDED, THE MINIMUM SPACING SHALL BE 45" BETWEEN POSTS.

5. TYPE D SIGN PANELS SHALL BE BOLTED TO STRINGERS AT 24" MAXIMUM INTERVALS IN ACCORDANCE WITH THE TYPE D STRINGER AND PANEL–JOINT DETAIL (SEE STANDARD SIGNS MANUAL).

6. MOUNTING (PUNCH CODE) FOR TYPE C SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.

7. ALL RISER (VERTICAL) U POSTS SHALL BE SPLICED. DRIVEN STUB POSTS SHALL BE AT LEAST 7' LONG.

8. USE STAINLESS STEEL 5/16" BOLTS, WASHERS AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED AND OVERHEAD MOUNTED SIGNS.

9. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.

10. BRACING STUBS SHALL BE NO MORE THAN 4" ABOVE GROUND AND EMBEDDED AT LEAST 42".

11. A–FRAME BRACKET SHALL BE STEEL CONFORMING TO MNDOT 3306 AND GALVANIZED IN ACCORDANCE WITH MNDOT 3394.

12. COLLARS SHALL BE USED TO SHIM OVERLAYS AND LEGEND COMPONENTS AWAY FROM PANEL WHERE INTERFERENCE WITH BOLT HEADS IS ENCOUNTERED. MNDOT 3352.2A6.

13. 2 POST TYPE C SIGNS SHALL BE REINFORCED WITH AT LEAST ONE LATERAL BRACE. INSTALLATIONS WHERE THE TOTAL PANEL HEIGHT IS 60" OR MORE SHALL HAVE TWO LATERAL BRACES LOCATED APPROXIMATELY AT THE QUARTER POINTS.

14. WHERE 2 SINGLE POST TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED LATERALLY BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND LOCATED APPROXIMATELY AT THE QUARTER POINTS.

15. WHERE 3 OR MORE TYPE C SIGNS ARE INSTALLED SIDE BY SIDE, THEY SHALL BE REINFORCED LATERALLY BY AT LEAST 2 BRACES, BOLTED AT EACH POST AND POST SECTION AND LOCATED APPROXIMATELY AT THE QUARTER POINTS AS SHOWN IN MODIFIED TYPE C INSTALLATION.

# TYPE C & D SIGN STRUCTURAL DETAILS

Sheet 1 of 3

REVISED: 3–7–2014

| DATE | BY | REVISIONS |
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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL — TYPE C & D SIGN DETAILS

S.A.P. 070–593–001 — Sheet No. 10.7 of 10.12 Sheets

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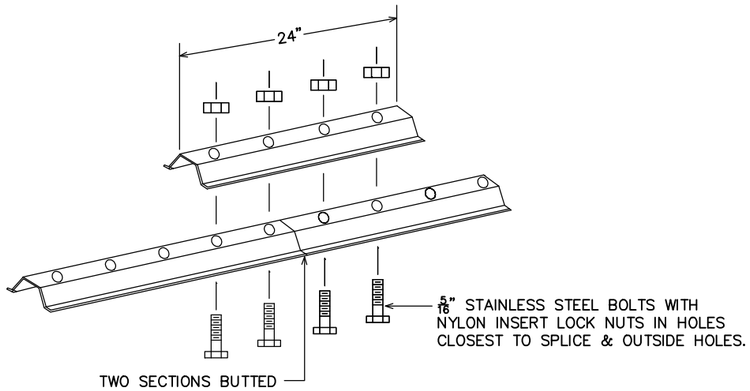
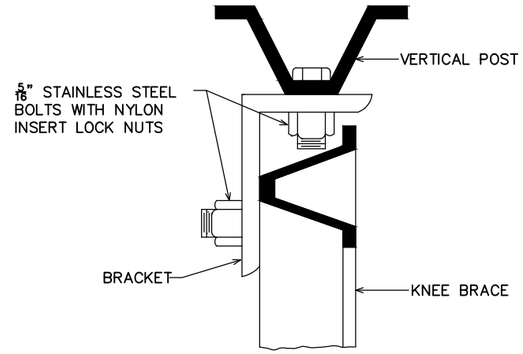
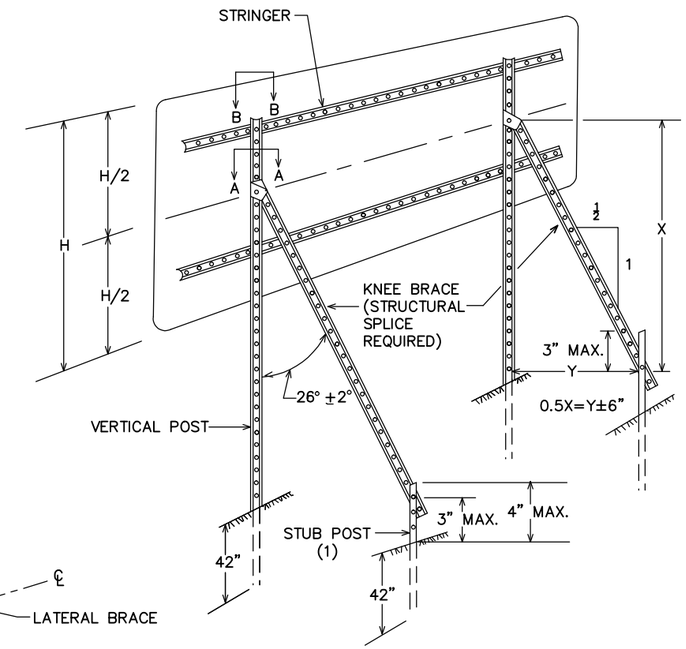


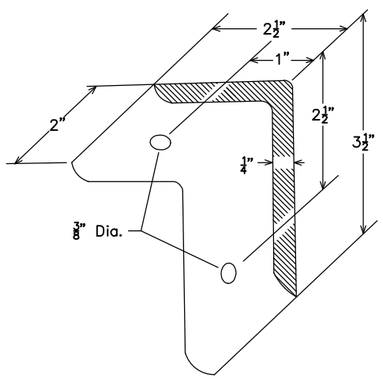

LATERAL BRACE OR STRINGER SPLICE DETAIL (EXPLODED VIEW)




SECTION A–A

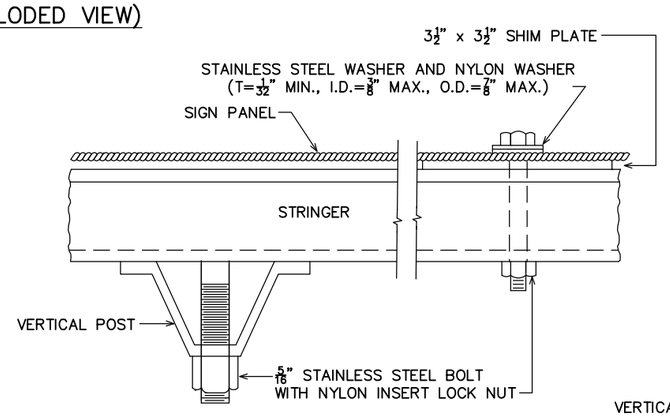



TYPICAL "A–FRAME" INSTALLATION TYPE "D" SIGNS

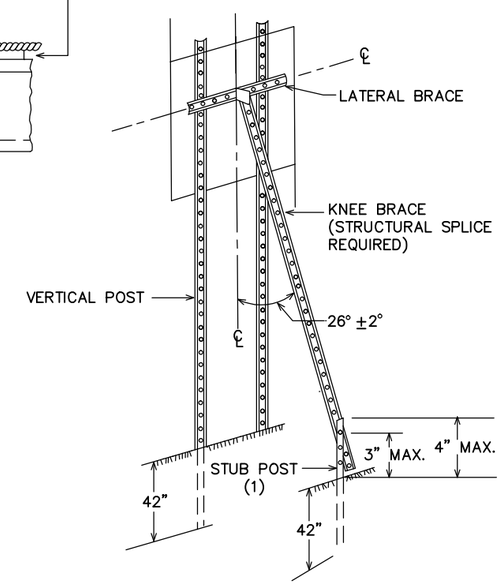



A–FRAME BRACKET

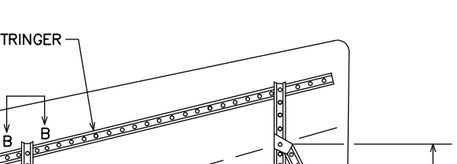
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)




SECTION B–B

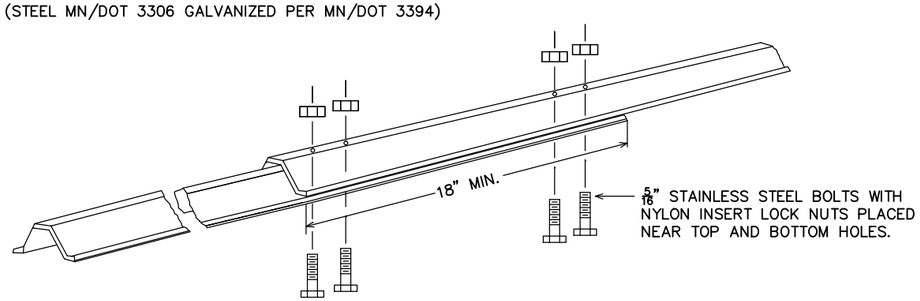



TYPICAL "A–FRAME" INSTALLATION TYPE "C" SIGNS




TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY RELATIVE TO VERTICAL POST. ATTACH STUB POST AND KNEE BRACE BACK TO BACK.




KNEE BRACE STRUCTURAL SPLICE

REVISED: 12–4–2013

# TYPE C & D SIGN

# STRUCTURAL DETAILS

Sheet 2 of 3

| DATE | BY | REVISIONS |
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| APPROVED: | JS |

Scott

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

TYPE C & D SIGN DETAILS

S.A.P. 070–593–001

Sheet No. 10.8 of 10.12 Sheets

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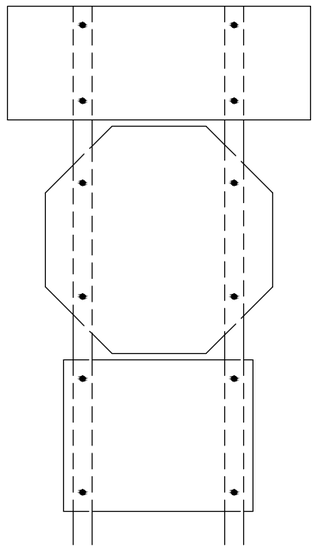
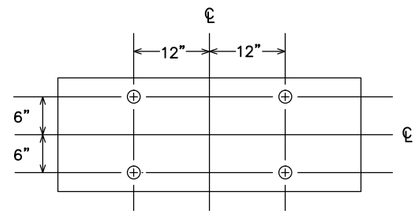
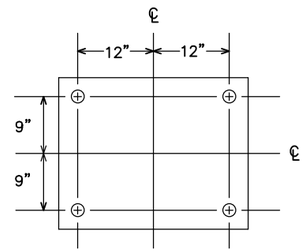


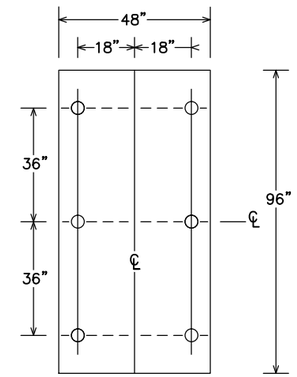
R6-1, R1-1 & (R6-3 OR R6-3a)
MOUNTING



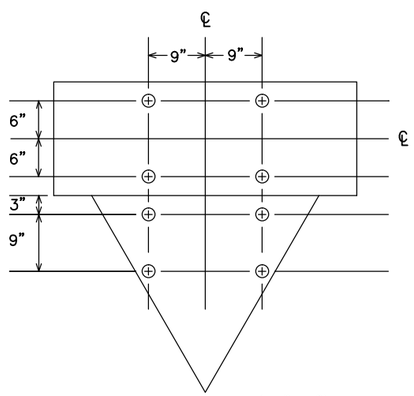

PUNCHING FOR R6-1(54"x18")



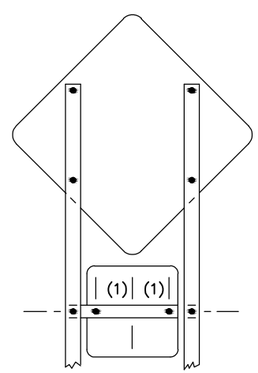

PUNCHING FOR R6-3 OR R6-3a(30"x24")




PUNCHING FOR R2-4b
SPEED LIMIT

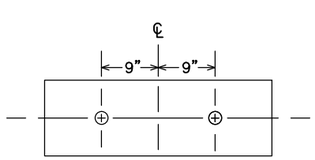



PUNCHING FOR R6-1(54"x18")
& R1-2(36"x36"x36")




WARNING SIGN [30"x30 OR 48"X48"] AND
WARNING PLAQUE [18"x18" OR 30"x30"]
PUNCHING AND MOUNTING

(1) 6" FOR WARNING PLAQUE (18"x18")
12" FOR WARNING PLAQUE (30"x30")




PUNCHING FOR R6-1(36"x12")

REVISED: 10-2-2013

# TYPE C & D SIGN
# STRUCTURAL DETAILS

Sheet 3 of 3

| DATE | BY | REVISIONS |
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| DRAWN: | NT |
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| APPROVED: | JS |

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60-02FL — TYPE C & D SIGN DETAILS

S.A.P. 070-593-001 — Sheet No. 10.9 of 10.12 Sheets

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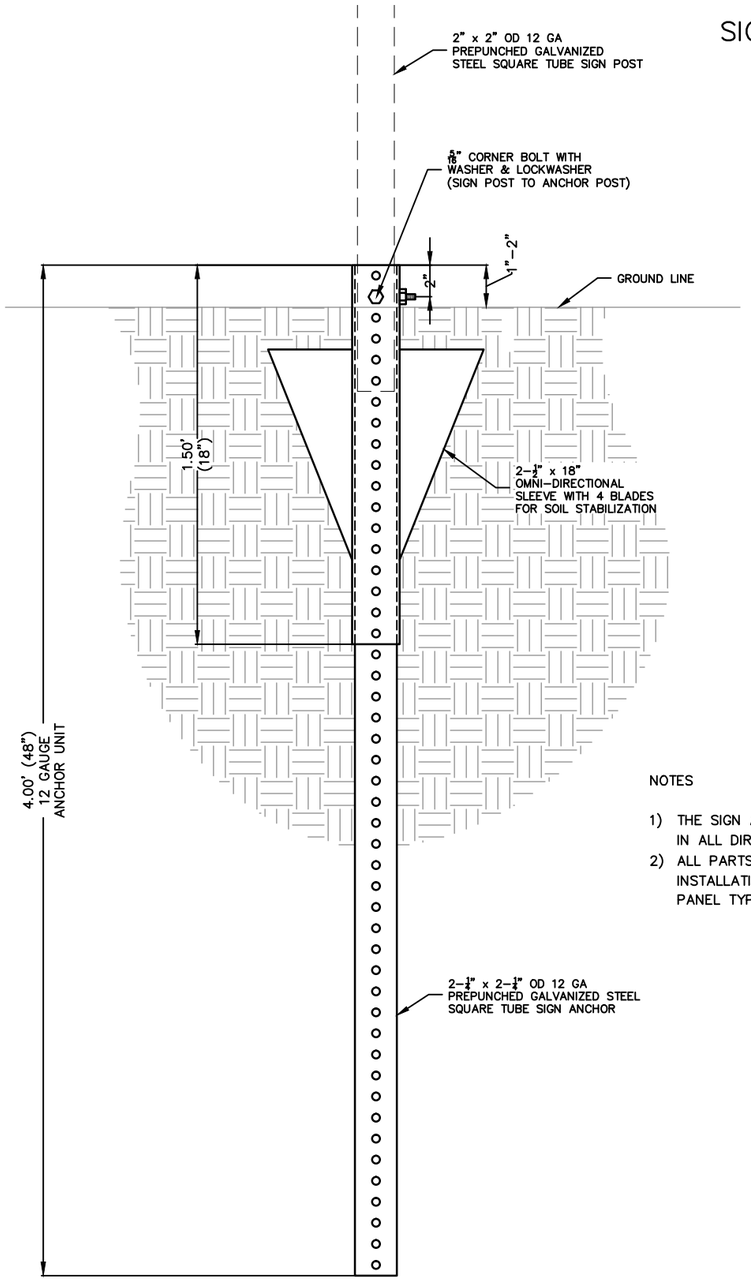
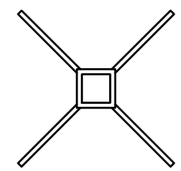
# SIGN ANCHOR WITH OMNI SLEEVE




## OMNI SLEEVE TOP VIEW

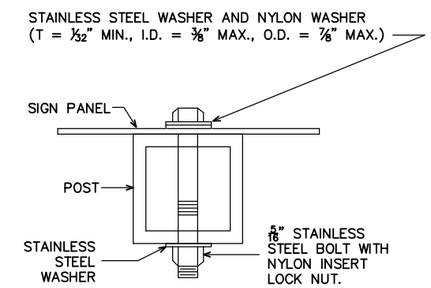


NOTES

1) THE SIGN ANCHOR & OMNI–DIRECTIONAL SLEEVE SHOULD BE PLUMB IN ALL DIRECTIONS.
2) ALL PARTS FOR THE SIGN ANCHOR AND OMNI SLEEVE AND THE INSTALLATION WILL BE PAID FOR UNDER SPEC. 2564.531 SIGN PANEL TYPE C PER SQUARE FOOT.

REVISED: 09–25–2012

# SQUARE TUBE POST MOUNTING – TYPE C SIGNS




NOTE: USE 2" x 2" O.D. 12 GAUGE PREPUNCHED GALVINIZED SQUARE TUBE SIGN POSTS FOR GROUND MOUNTING. ALL SHALL CONFORM TO MnDOT APPROVED PRODUCTS.

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| CHECKED: | JS |
| APPROVED: | JS |

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

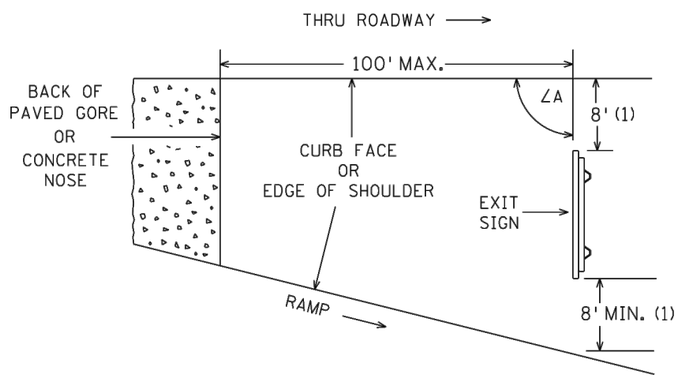
C.P. 60–02FL

SIGN ANCHOR WITH OMNI SLEEVE

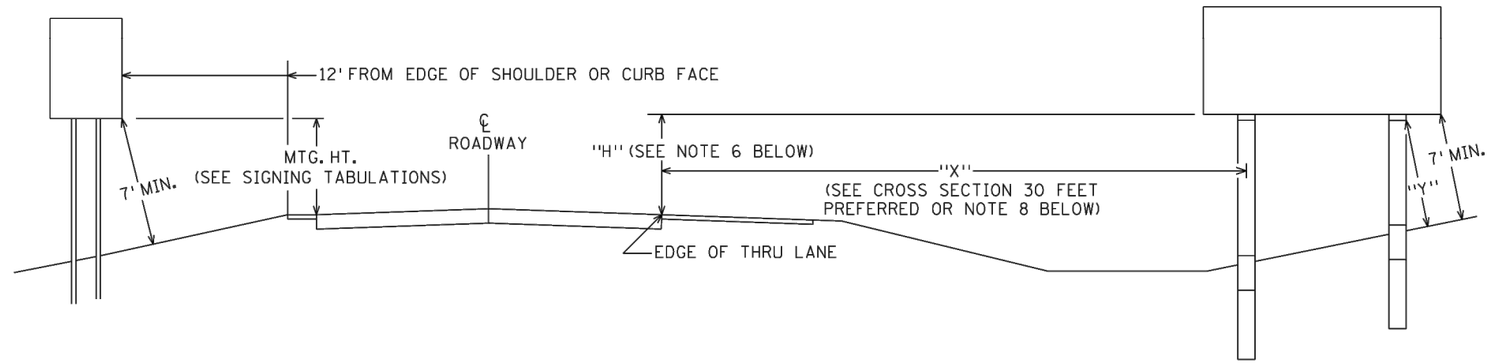
S.A.P. 070–593–001

Sheet No. 10.10 of 10.12 Sheets

## GORE PLACEMENT

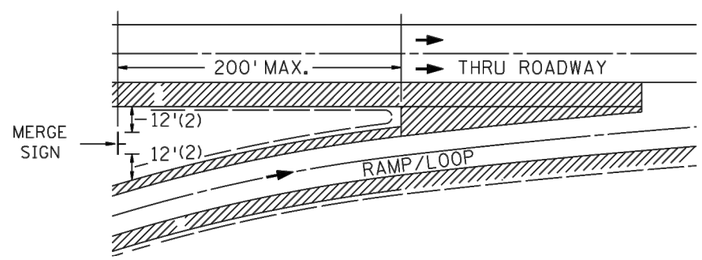



## ROADSIDE PLACEMENT




ROUTE MARKER, REGULATORY & WARNING SIGNS - TYPE C
GUIDE SIGNS - TYPE D

GUIDE SIGN - TYPE A




SPECIFIC NOTES:

(1) EXIT SIGNS
IF THESE OFFSETS CANNOT BE ATTAINED WITHIN 100 FEET OF THE PAVED GORE, A 4 FOOT OFFSET IS ACCEPTABLE. IF THE 4 FOOT OFFSETS CANNOT BE ATTAINED WITHIN 100 FEET OF THE PAVED GORE, CONTACT THE PROJECT ENGINEER.

(2) MERGE SIGNS
IF THESE OFFSETS CANNOT BE ATTAINED WITHIN 200 FEET OF THE PAVED GORE, A 4 FOOT OFFSET IS ACCEPTABLE. IF THE 4 FOOT OFFSETS CANNOT BE ATTAINED WITHIN 200 FEET OF THE PAVED GORE, CONTACT THE PROJECT ENGINEER.

NOTES:

1. ALL TYPE C AND D MOUNTING HEIGHTS ARE MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE ELEVATION OF THE NEAR EDGE OF PAVEMENT IN RURAL AREAS OR TO THE TOP OF THE CURB OR IN THE ABSCENCE OF CURB, TO THE NEAR EDGE OF THE TRAVELED WAY.
2. SIGN FACES SHALL BE VERTICAL.
3. OVERHEAD SIGNS SHALL BE POSITIONED AT RIGHT ANGLES TO THE THRU ROADWAY UNLESS OTHERWISE NOTED.
4. TO AVOID SPECULAR GLARE, ∠A SHALL BE APPROXIMATELY 93° FOR SIGNS LOCATED LESS THAN 30' FROM THE EDGE OF THRU LANE AND APPROXIMATELY 92° FOR SIGNS LOCATED 30' OR MORE FROM EDGE OF THRU LANE. THIS APPLIES TO SIGNS TYPE A, C, & D AND INCLUDES SIGNS IN THE GORE.
5. "Y" IS THE PERPENDICULAR DISTANCE FROM THE GROUND LINE TO THE FRICTION FUSE ON THE POST. THIS DISTANCE SHALL BE AT LEAST 7'.
6. WHERE "X" IS LESS THAN 30', "H" SHALL BE 7'. WHERE "X" IS 30' OR GREATER, MINIMUM AND PREFERRED "H" IS 5'.
7. LATERAL CLEARANCES GIVEN APPLY TO RIGHT AND OR LEFT SIDE INSTALLATION.
8. WHEN A TYPE A SIGN IS INSTALLED DIRECTLY BEHIND TRAFFIC BARRIER, THE LEFT EDGE OF THE SIGN PANEL SHALL BE LOCATED A MINIMUM OF 8 FEET BEHIND THE FACE OF THE TRAFFIC BARRIER.

# SIGN PLACEMENT

REVISED: 23-JUL-2015

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Date 02/10/2016
Reg. No. 24756

C.P. 60-02FL — SIGN PLACEMENT

S.A.P. 070-593-001 — Sheet No. 10.11 of 10.12 Sheets

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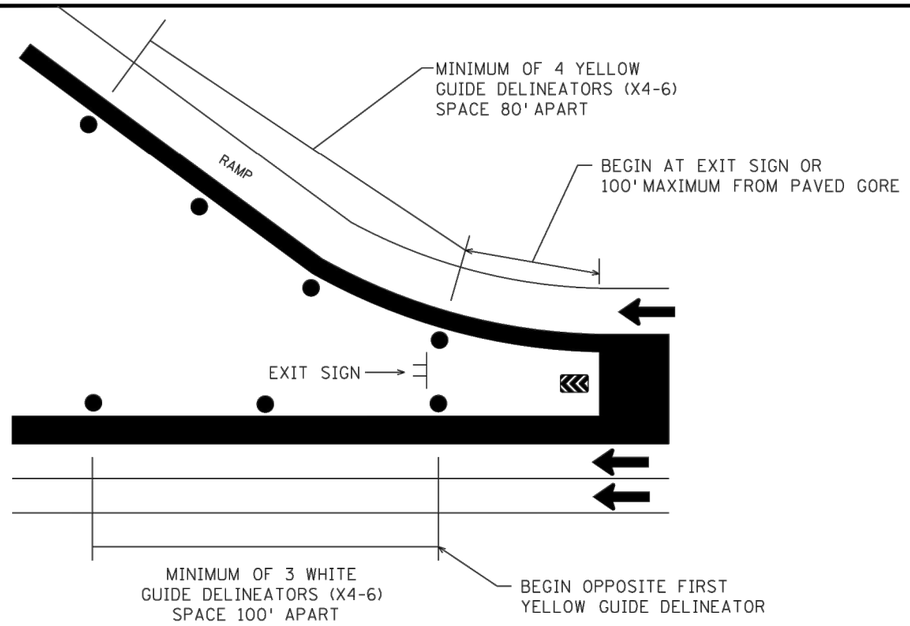
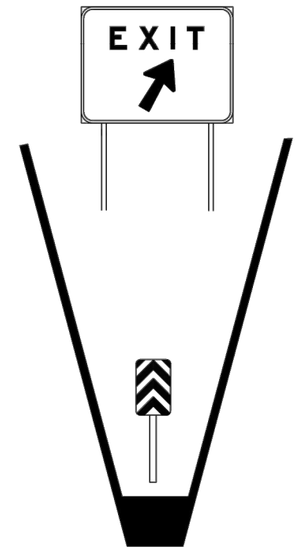
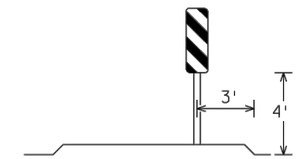


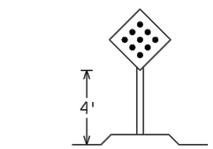

PLAN A
RAMP DELINEATION



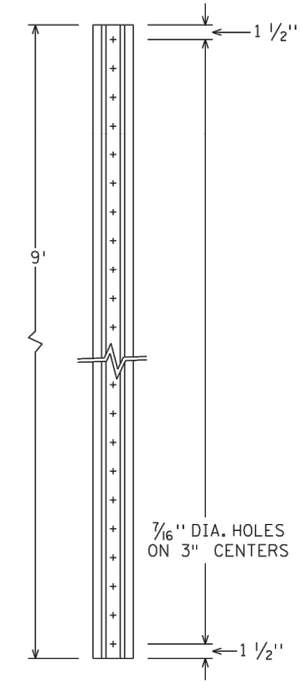

TYPE 3 OBJECT MARKER
12" X 24" (X4-4C)




RAISED ISLAND
TYPE 3 OBJECT MARKER
(X4-4)

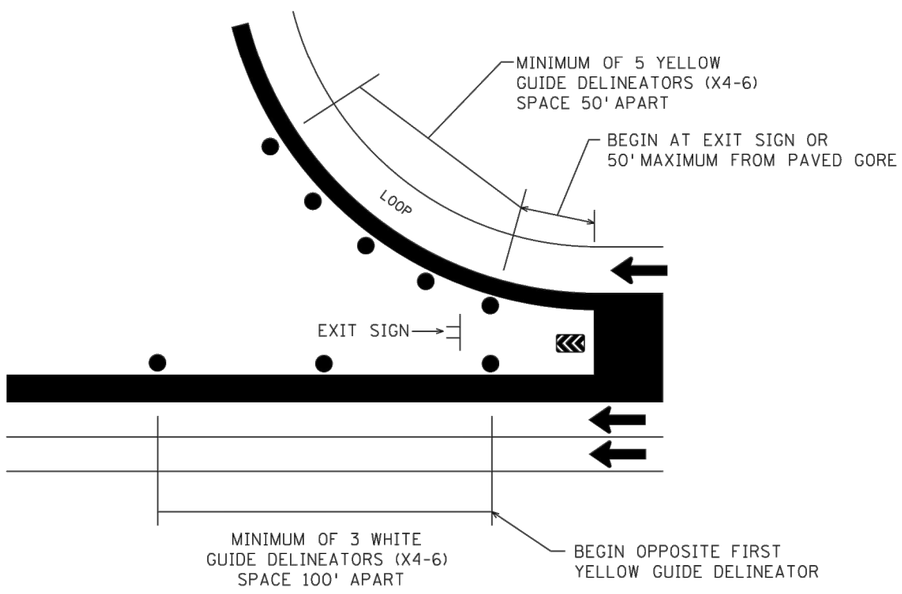



RAISED ISLAND
TYPE 2 OBJECT MARKER
(X4-2)

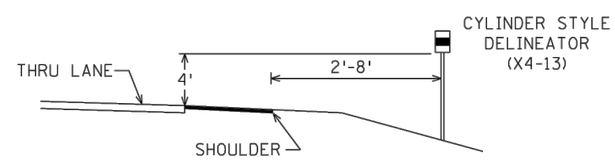


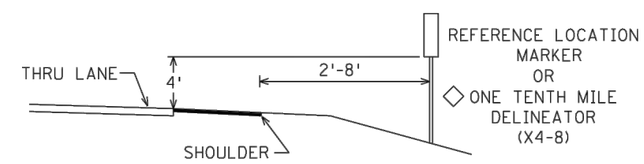

MNDOT 3401
NORMAL WEIGHT= 2 LB./FT.

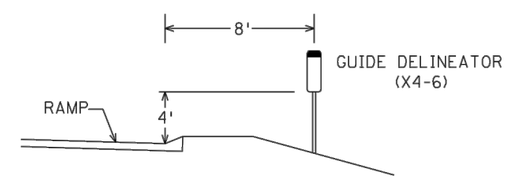
DELINEATOR POST




PLAN B
LOOP DELINEATION




TYPICAL PLACEMENT

DELINEATORS AND MARKERS

REVISED: 02-OCT-2015

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Curt Kobilarcsik

Date 02/10/2016
Reg. No. 24756

C.P. 60-02FL — MARKERS

S.A.P. 070-593-001 — Sheet No. 10.12 of 10.12 Sheets

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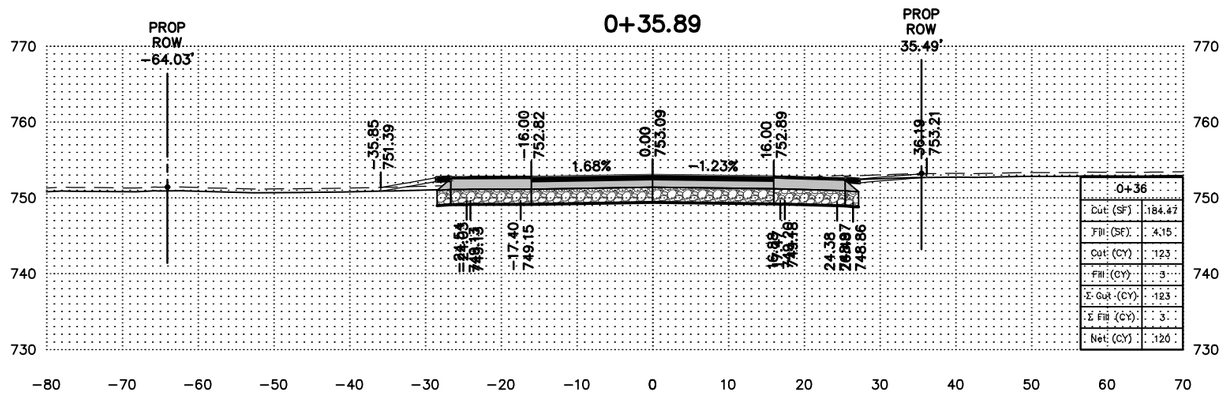


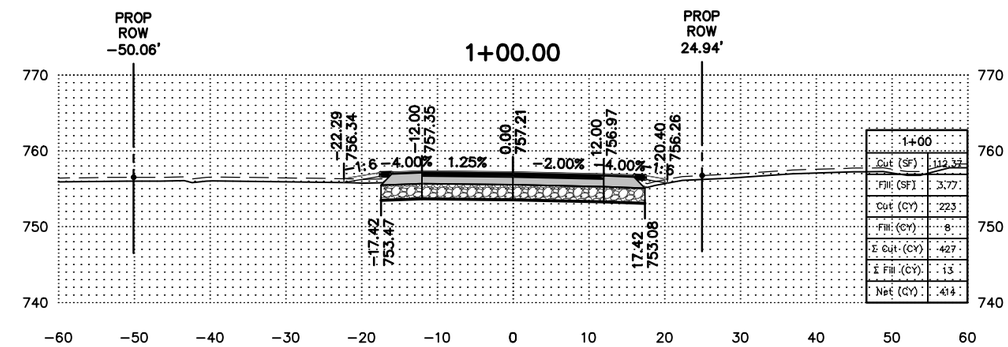


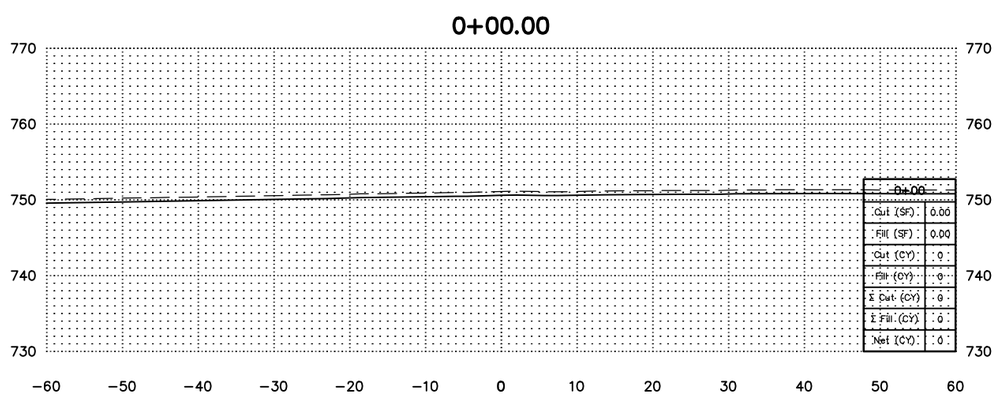


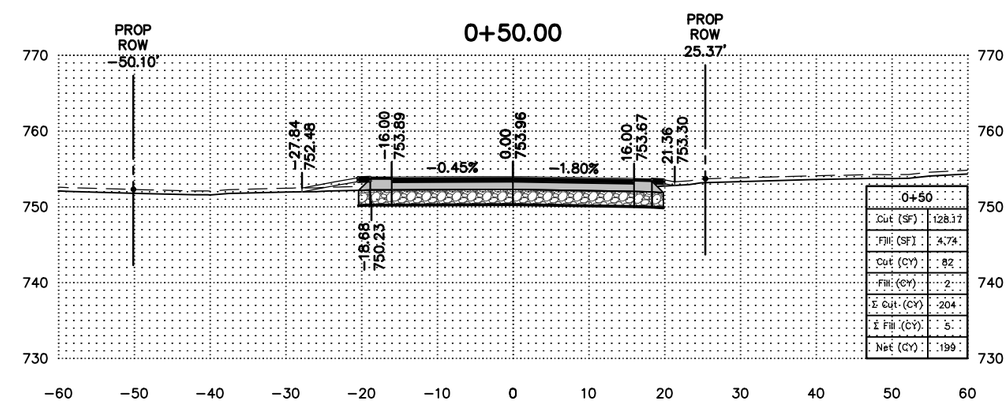


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Reg. No. 24756

C.P. 60–02FL

CR 60 CROSS SECTIONS

S.A.P. 070–593–001

Sheet No. 11.1 of 11.57 Sheets

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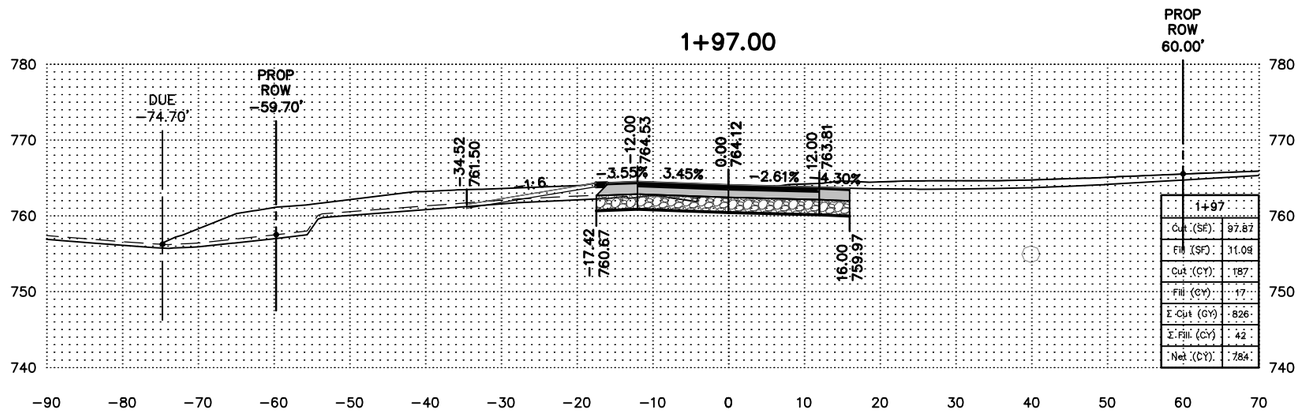


| 1+97 | |
|---|---|
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| Fill (SF) | 31.09 |
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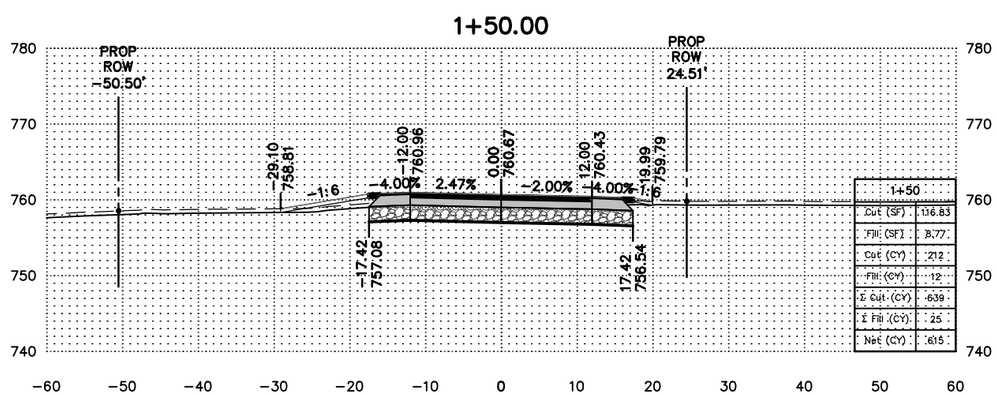


| 1+50 | |
|---|---|
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| Fill (SF) | 8.77 |
| Cut (CY) | 212 |
| Fill (CY) | 12 |
| Σ Cut (CY) | 639 |
| Σ Fill (CY) | 25 |
| Net (CY) | 615 |

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Date 02/10/2016

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C.P. 60-02FL

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S.A.P. 070-593-001

Sheet No. 11.2 of 11.57 Sheets

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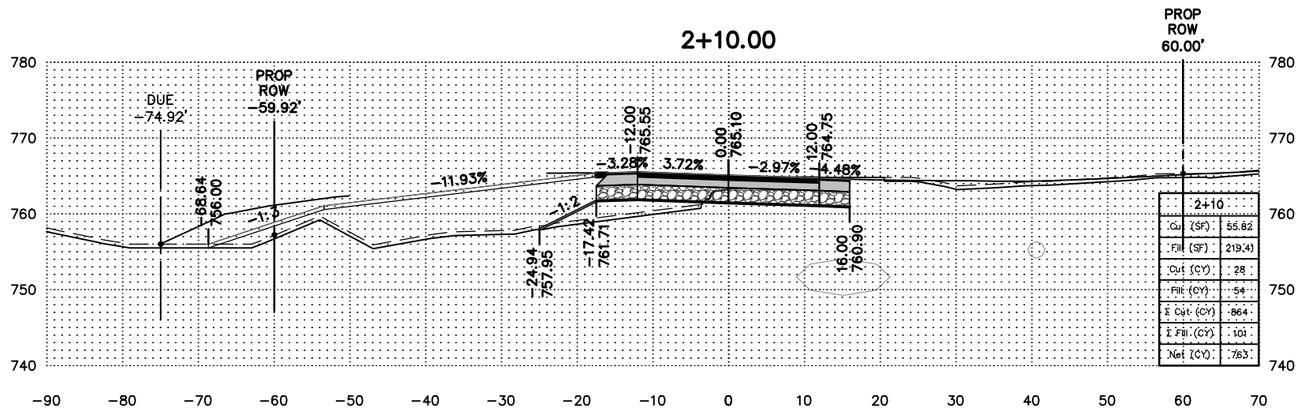


| 2+10 | |
|---|---|
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| Fill (SF) | 219.4 |
| Cut (CY) | 28 |
| Fill (CY) | 54 |
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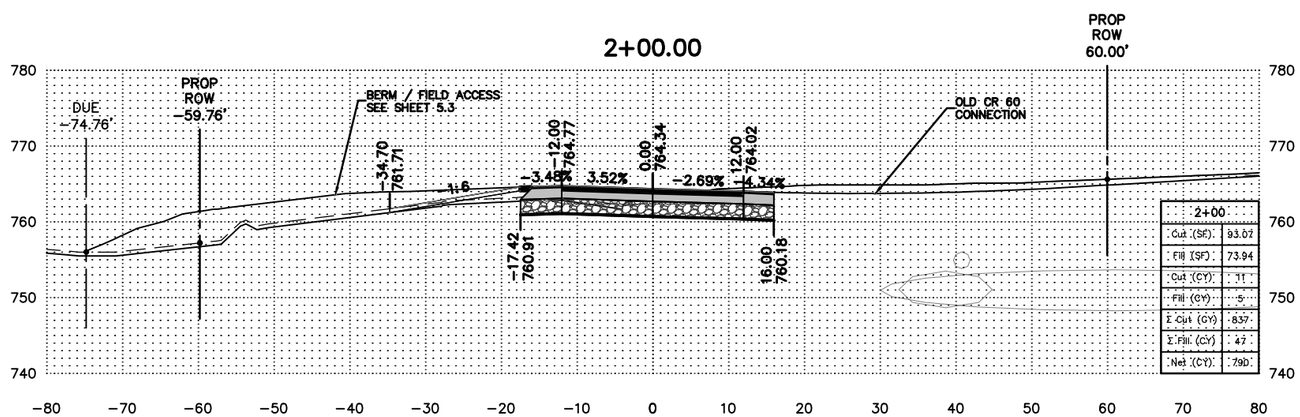


| 2+00 | |
|---|---|
| Cut (SF) | 93.07 |
| Fill (SF) | 73.94 |
| Cut (CY) | 11 |
| Fill (CY) | 5 |
| Σ Cut (CY) | 837 |
| Σ Fill (CY) | 47 |
| Net (CY) | 790 |

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| APPROVED: | JS |

Scott

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Date 02/10/2016

Reg. No. 24756

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S.A.P. 070-593-001

Sheet No. 11.3 of 11.57 Sheets

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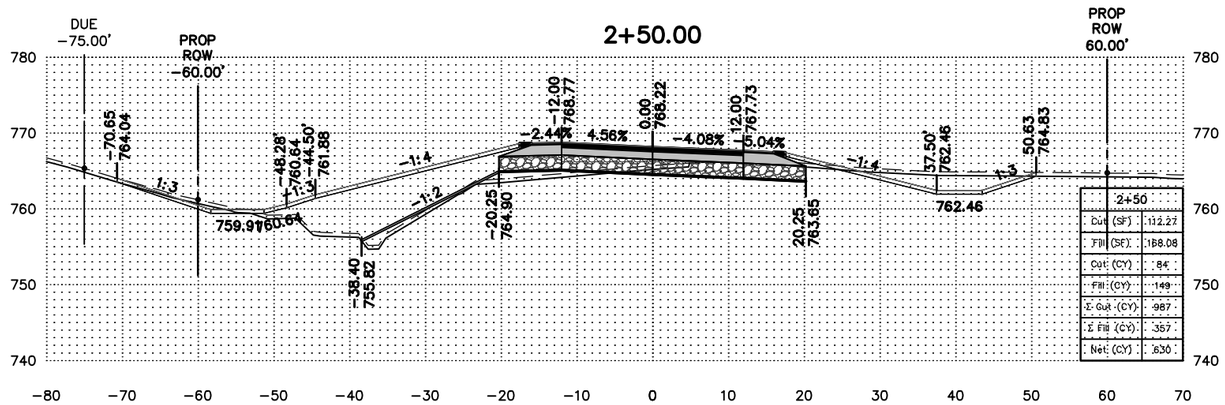


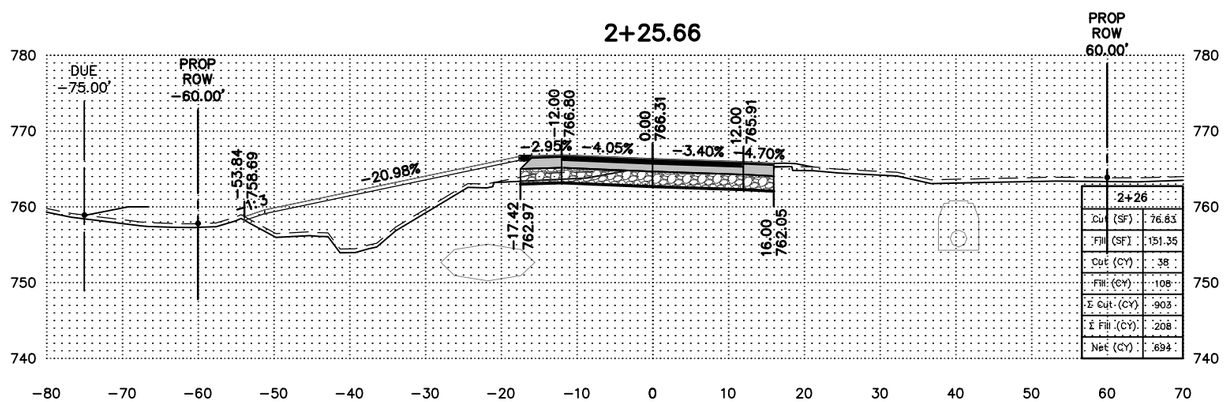


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C.P. 60-02FL

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S.A.P. 070-593-001

Sheet No. 11.4 of 11.57 Sheets

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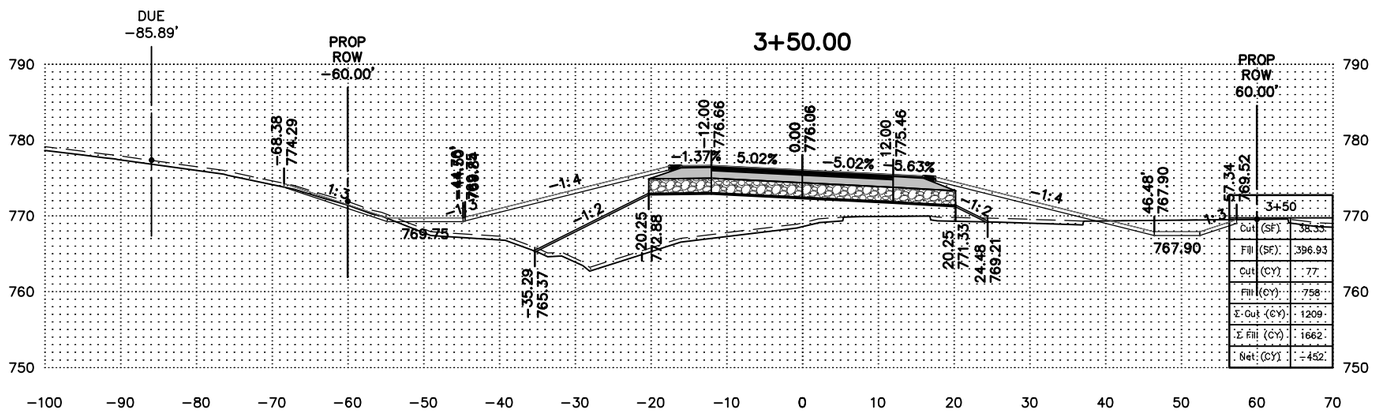


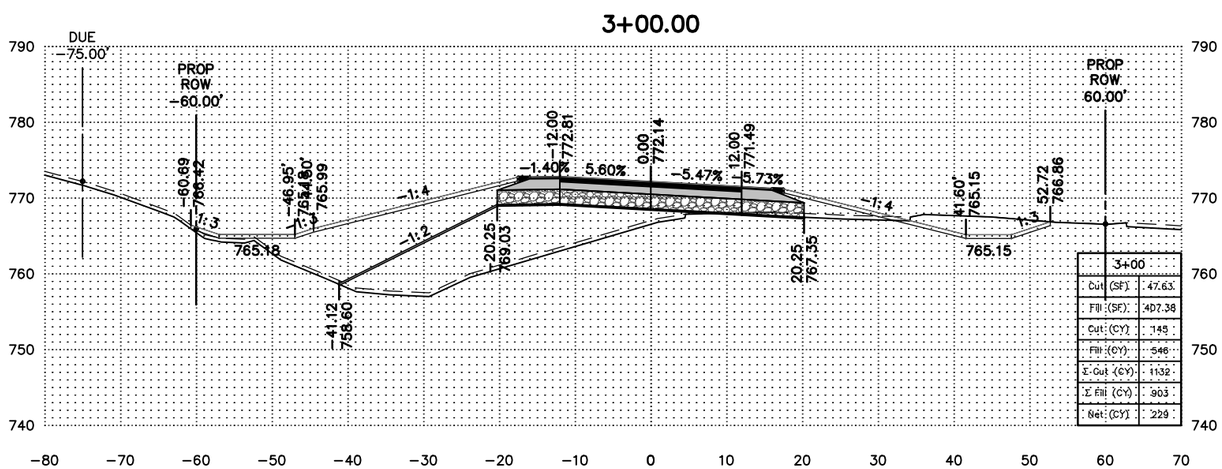


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C.P. 60-02FL

CR 60 CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.5 of 11.57 Sheets

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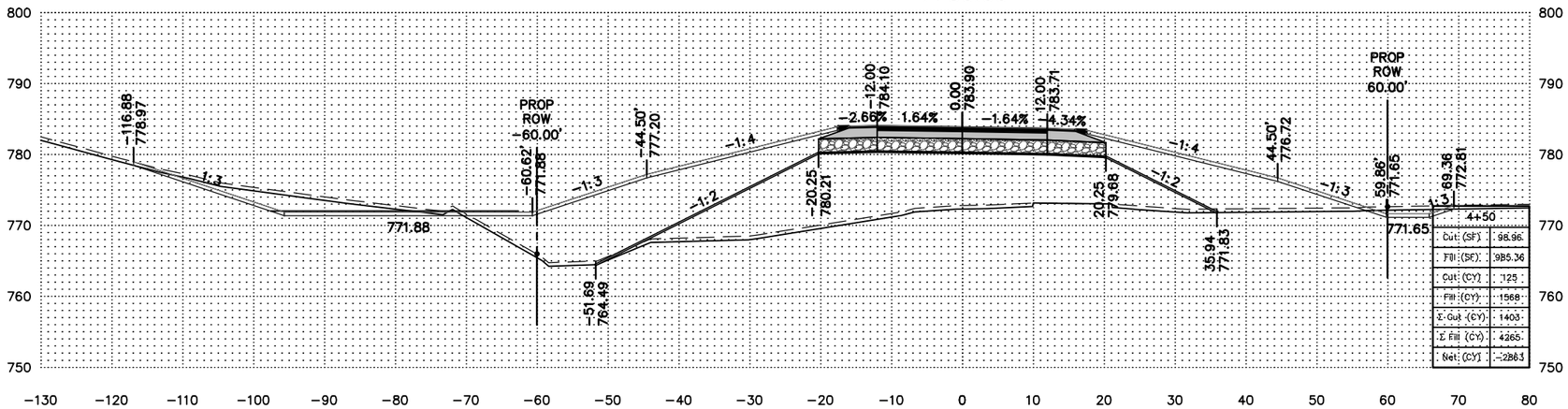
## 4+50.00




| 4+50 | |
|---|---|
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| Cut (CY) | 125 |
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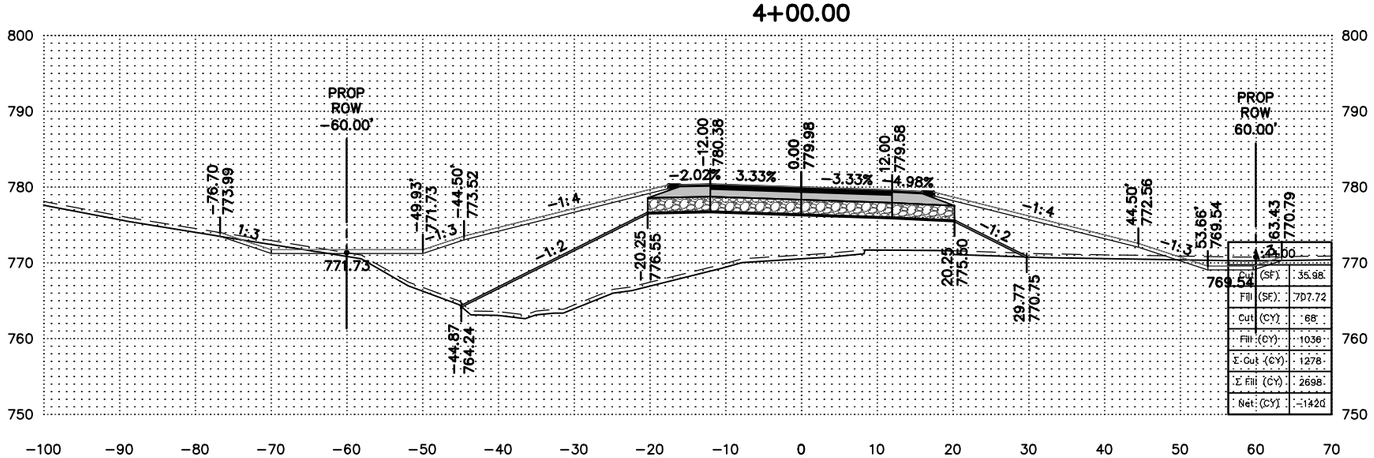
## 4+00.00

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C.P. 60-02FL

CR 60 CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.6 of 11.57 Sheets

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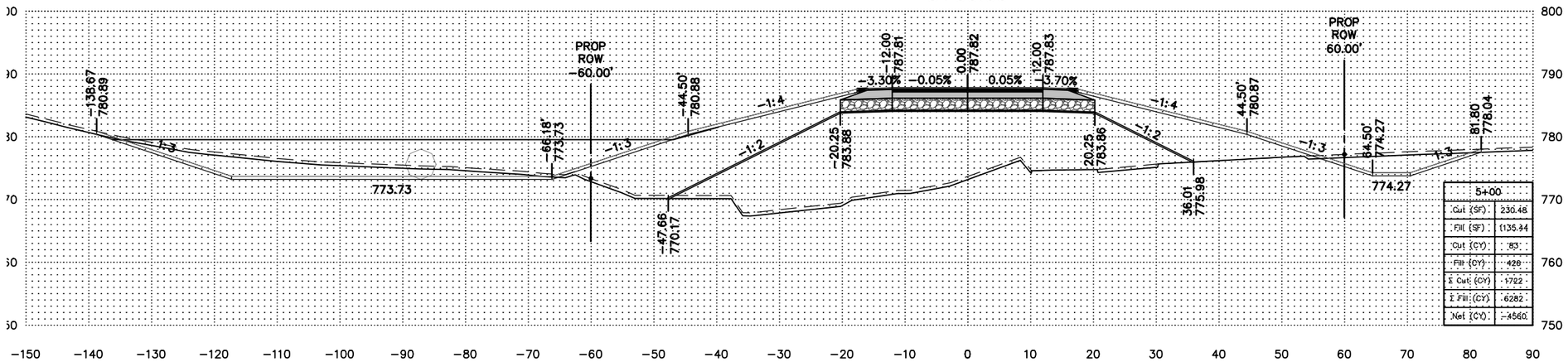
## 5+00.00




| 5+00 | |
|---|---|
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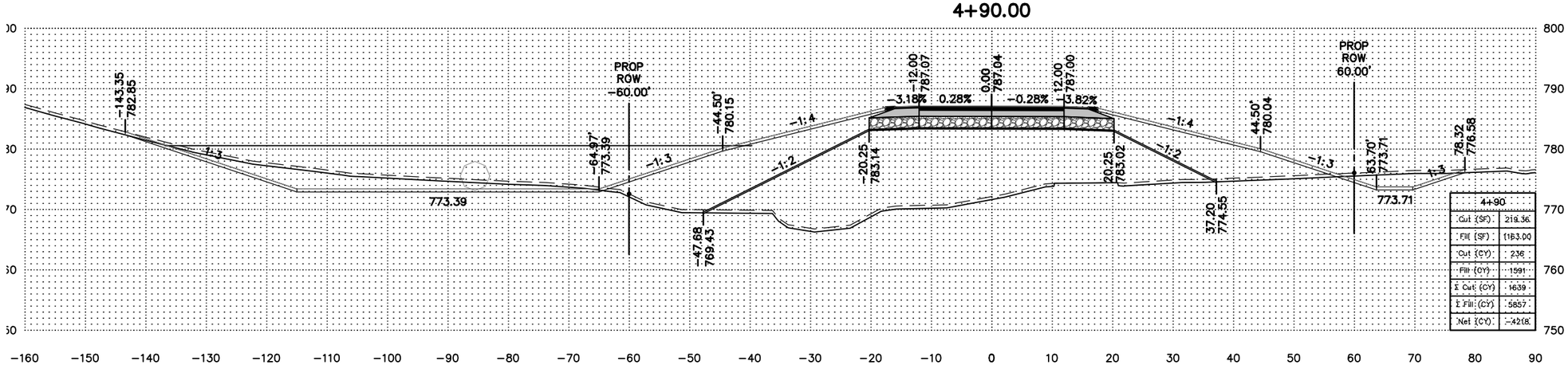


| 4+90 | |
|---|---|
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| Cut (CY) | 236 |
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| Σ Cut (CY) | 1639 |
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| Net (CY) | -4218 |

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C.P. 60-02FL

CR 60 CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.7 of 11.57 Sheets

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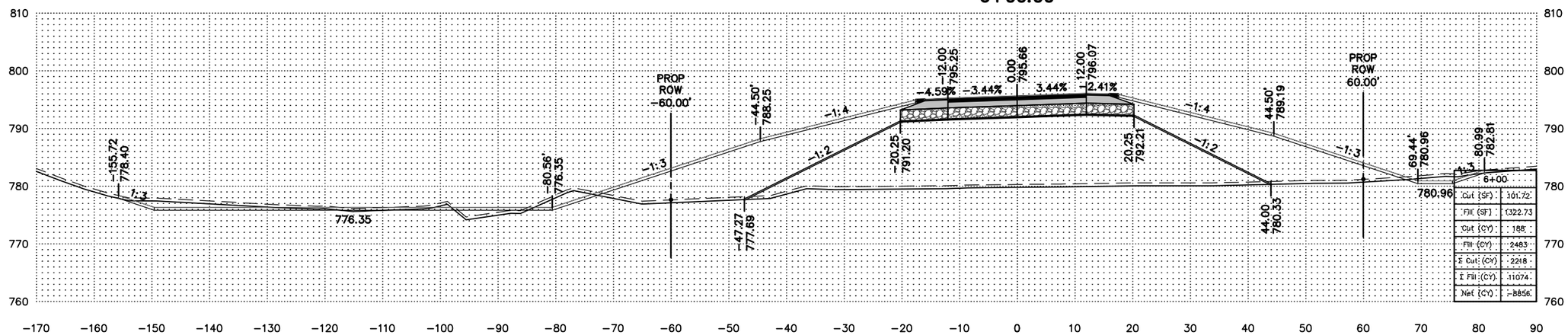


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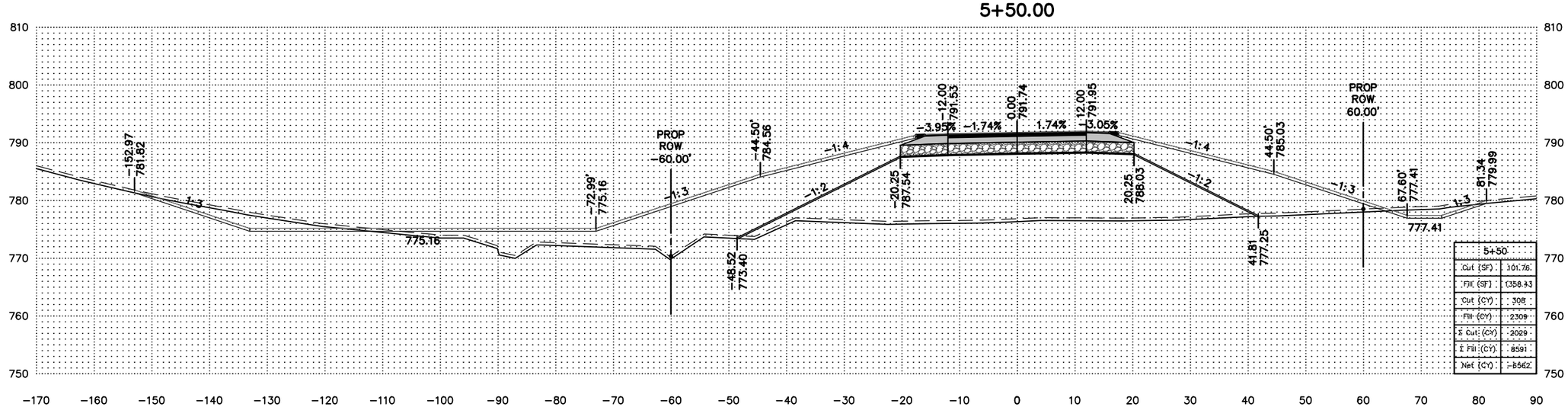


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| Σ Fill (CY) | 8591 |
| Net (CY) | -8562 |

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60-02FL

CR 60 CROSS SECTIONS

S.A.P. 070-593-001

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\\HWYGIS\hwydata\P\6002FL\CAD\Production Drawings\Xsec's\6002FL_ProposedCR60 X-Sections.dwg (2/10/2016 4:39 PM)

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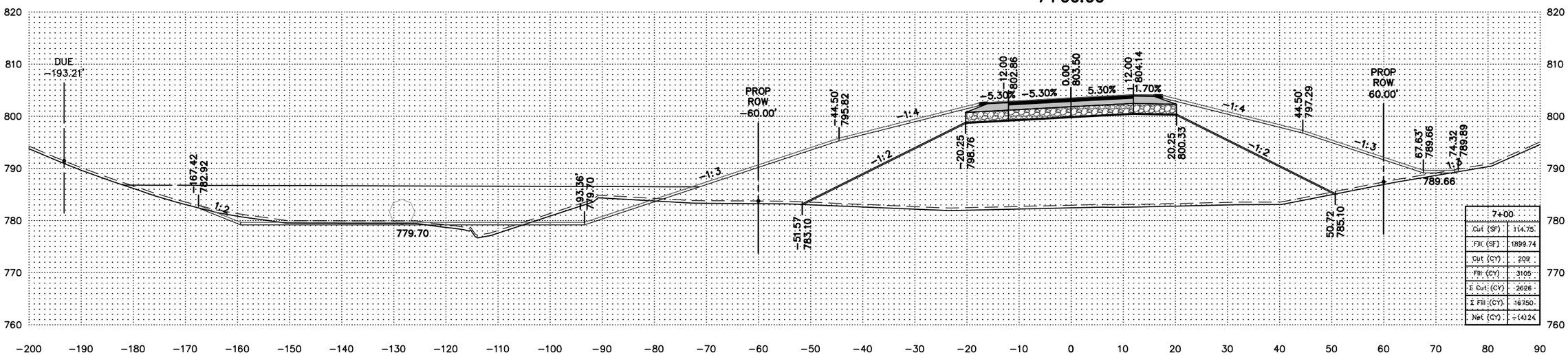
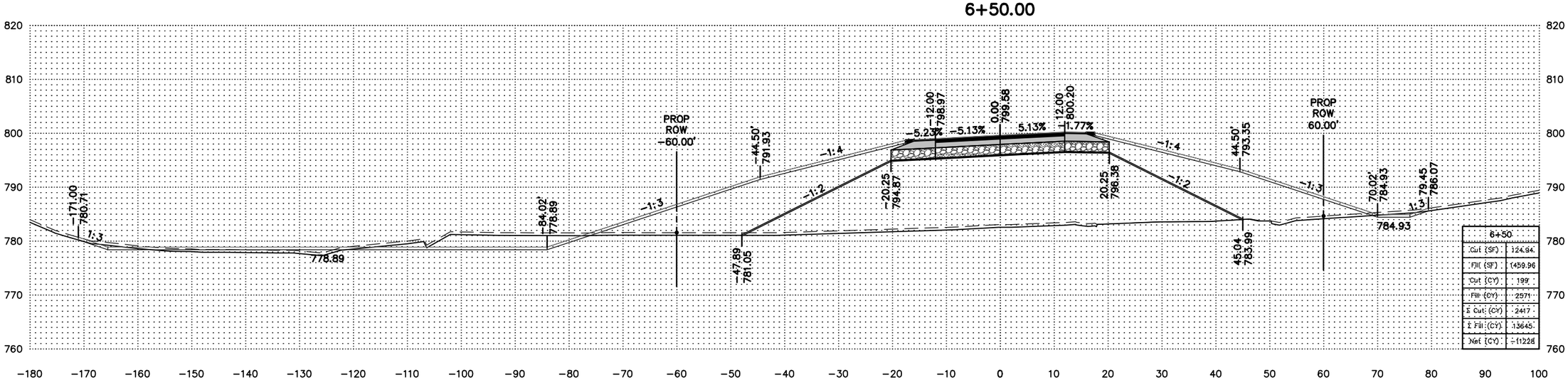



| 7+00 | |
|---|---|
| Cut (SF) | 114.75 |
| Fill (SF) | 1899.74 |
| Cut (CY) | 209 |
| Fill (CY) | 3105 |
| Σ Cut (CY) | 2626 |
| Σ Fill (CY) | 16750 |
| Net (CY) | -14124 |

## 6+50.00




| 6+50 | |
|---|---|
| Cut (SF) | 124.94 |
| Fill (SF) | 1459.96 |
| Cut (CY) | 199 |
| Fill (CY) | 2571 |
| Σ Cut (CY) | 2417 |
| Σ Fill (CY) | 13645 |
| Net (CY) | -11228 |

| DATE | BY | REVISIONS |
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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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CR 60 CROSS SECTIONS

S.A.P. 070-593-001

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\\HWYGIS\hwydata\P\6002FL\CAD\Production Drawings\Xsec's\6002FL_ProposedCR60 X-Sections.dwg (2/10/2016 4:39 PM)

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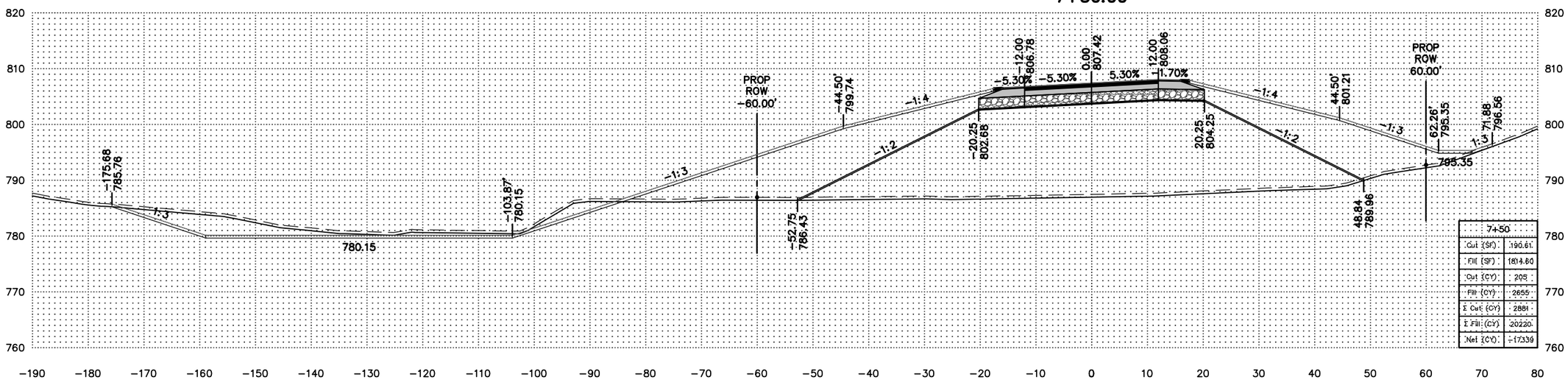
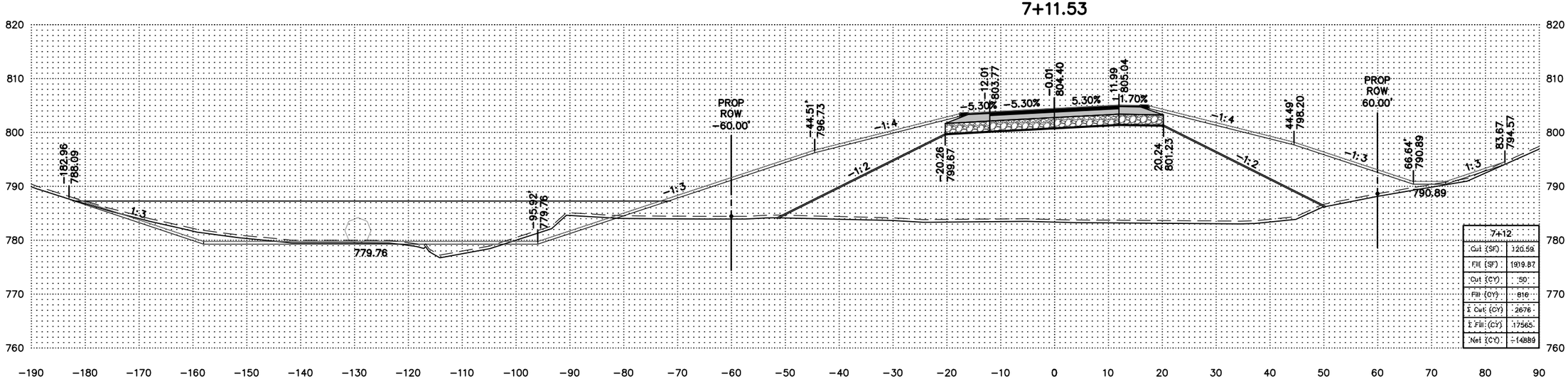



| 7+50 | |
|---|---|
| Cut (SF) | 190.61 |
| Fill (SF) | 1814.60 |
| Cut (CY) | 205 |
| Fill (CY) | 2655 |
| Σ Cut (CY) | 2881 |
| Σ Fill (CY) | 20220 |
| Net (CY) | -17339 |

## 7+11.53




| 7+12 | |
|---|---|
| Cut (SF) | 120.59 |
| Fill (SF) | 1919.87 |
| Cut (CY) | 50 |
| Fill (CY) | 816 |
| Σ Cut (CY) | 2676 |
| Σ Fill (CY) | 17565 |
| Net (CY) | -14889 |

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| DRAWN: | NT |
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| APPROVED: | JS |

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CR 60 CROSS SECTIONS

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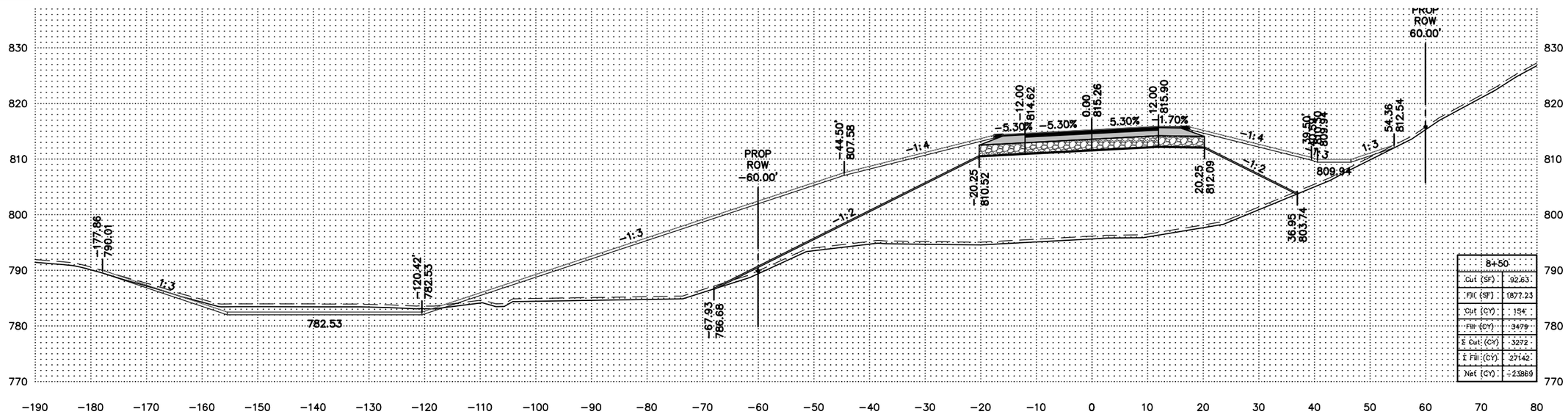


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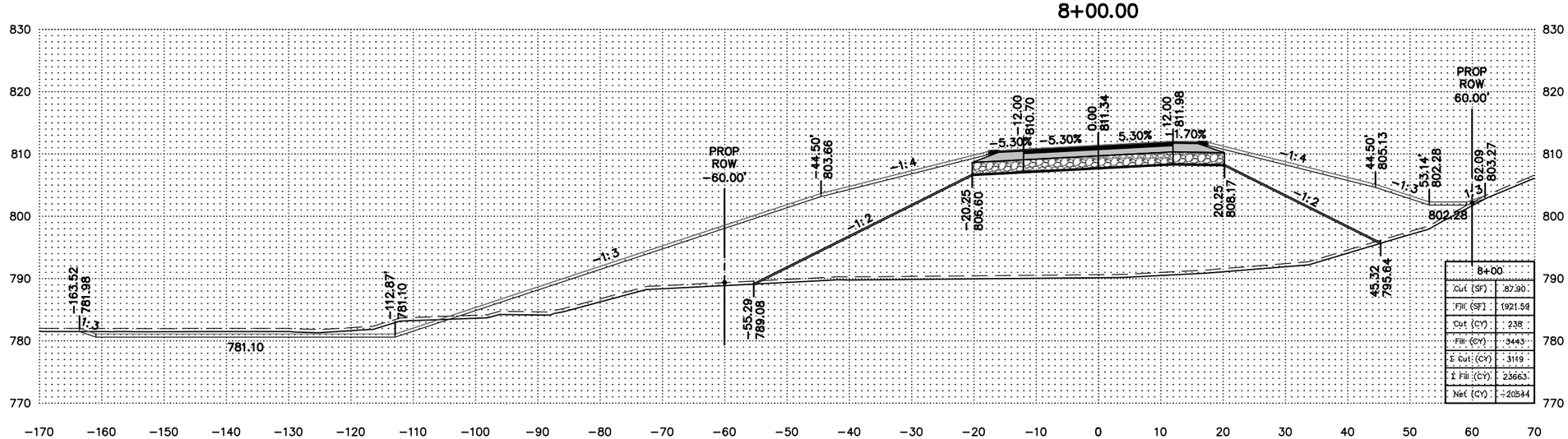


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CR 60 CROSS SECTIONS

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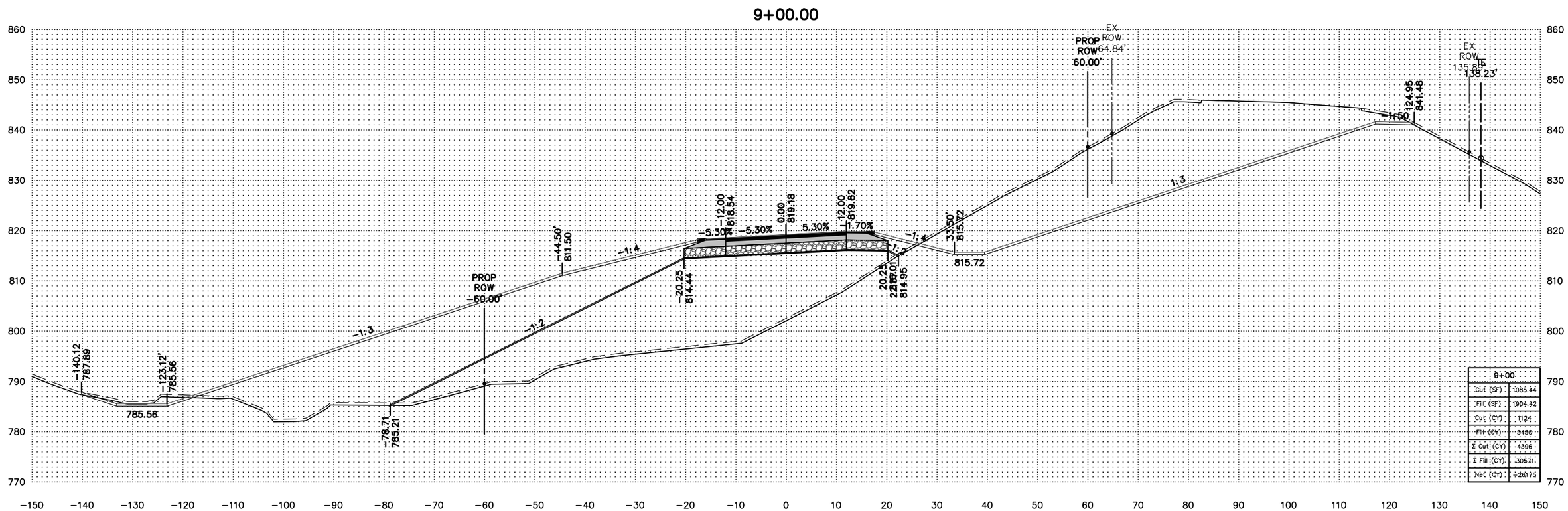


| 9+00 | |
|---|---|
| Cut (SF) | 1085.44 |
| Fill (SF) | 1904.32 |
| Cut (CY) | 1124 |
| Fill (CY) | 3430 |
| Σ Cut (CY) | 4396 |
| Σ Fill (CY) | 30571 |
| Net (CY) | -26175 |

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| DRAWN: | NT |
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| APPROVED: | JS |

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CR 60 CROSS SECTIONS

S.A.P. 070-593-001

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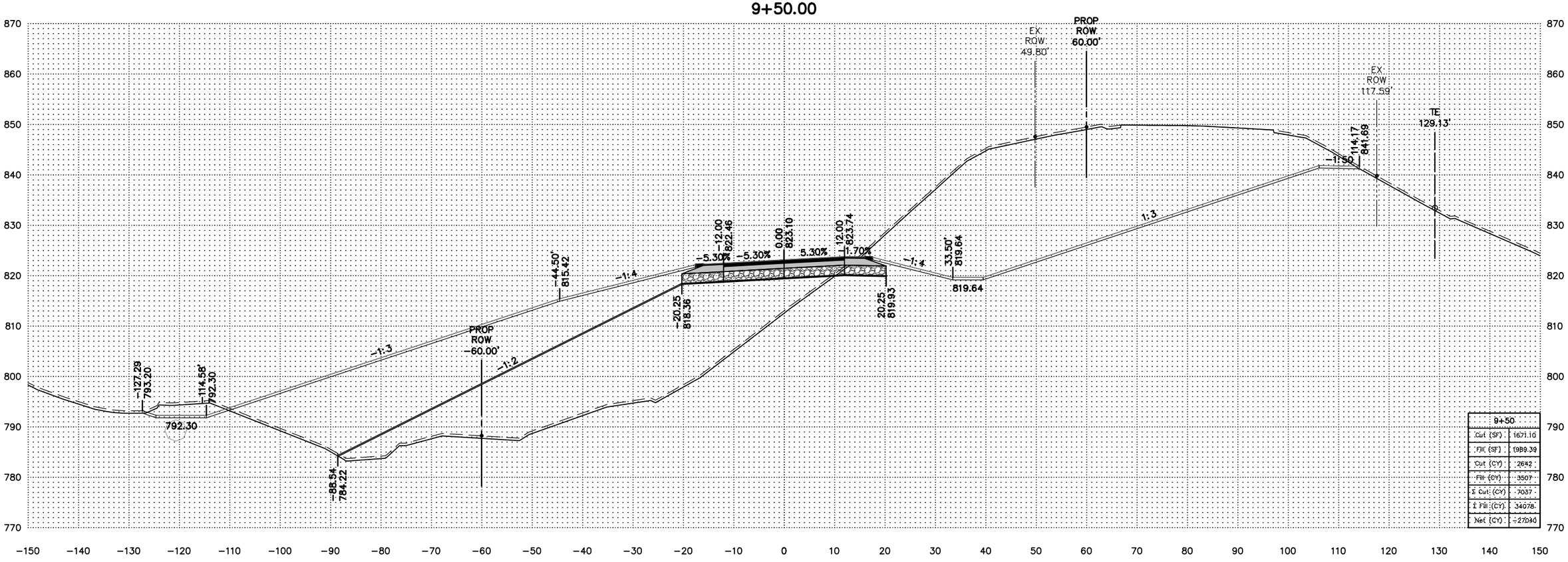
## 9+50.00




| 9+50 | |
|---|---|
| Cut (SF) | 1671.16 |
| Fill (SF) | 1989.39 |
| Cut (CY) | 2642 |
| Fill (CY) | 3507 |
| Σ Cut (CY) | 7037 |
| Σ Fill (CY) | 34078 |
| Net (CY) | −27040 |

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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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CR 60 CROSS SECTIONS

S.A.P. 070−593−001

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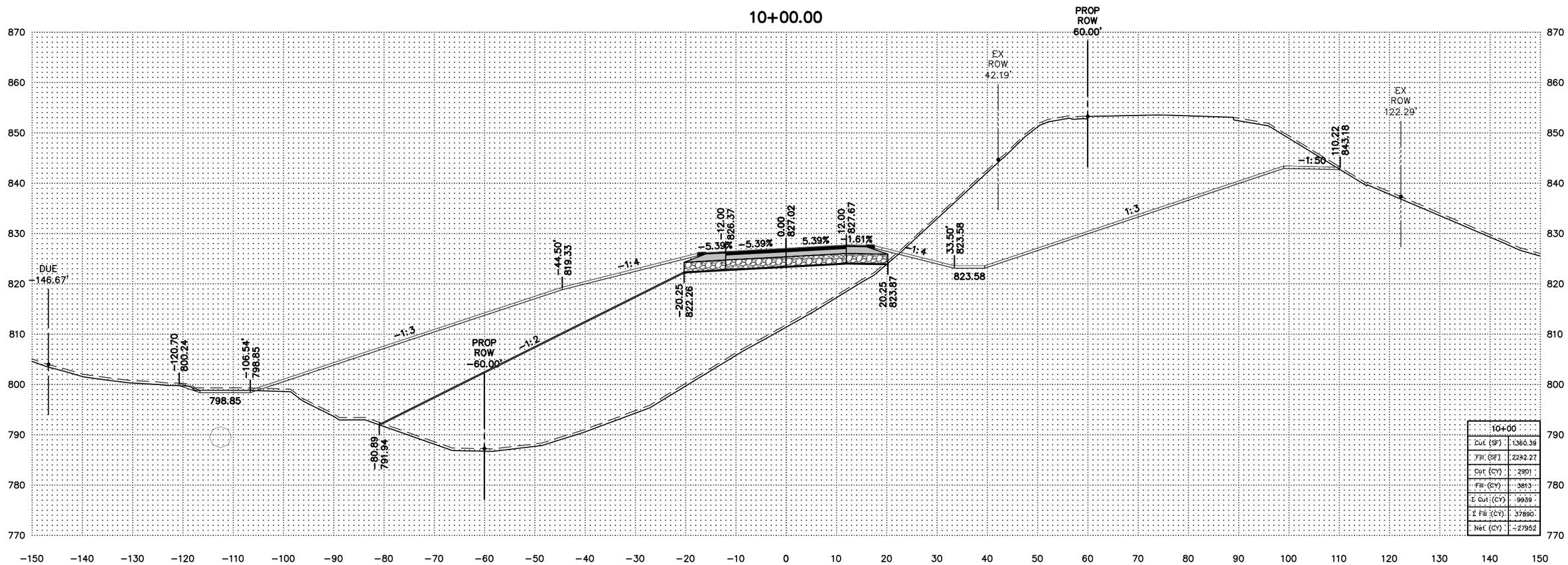


| 10+00 | |
|---|---|
| Cut (SF) | 1360.39 |
| Fill (SF) | 2282.27 |
| Cut (CY) | 2901 |
| Fill (CY) | 3813 |
| Σ Cut (CY) | 9939 |
| Σ Fill (CY) | 37890 |
| Net (CY) | -27952 |

| DATE | BY | REVISIONS |
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| DRAWN: | NT |
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| APPROVED: | JS |

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S.A.P. 070-593-001

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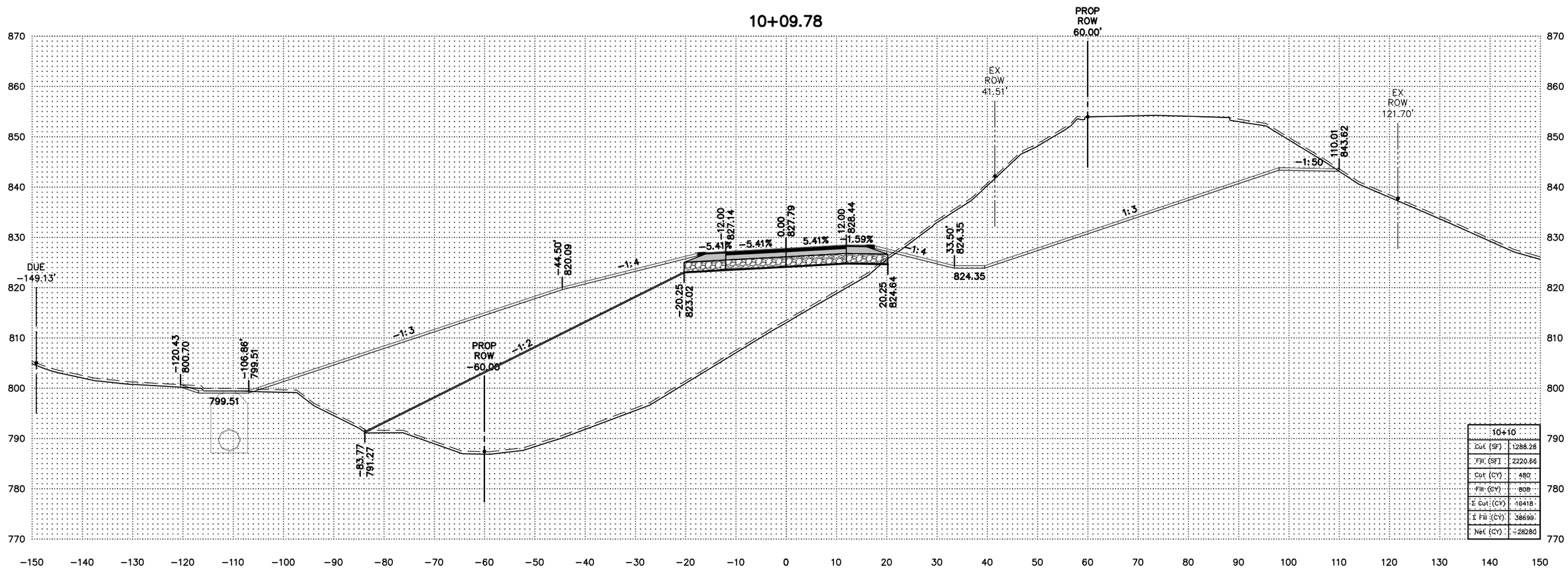


| 10+10 | |
|---|---|
| Cut (SF) | 1288.26 |
| Fill (SF) | 2220.86 |
| Cut (CY) | 480 |
| Fill (CY) | 808 |
| Σ Cut (CY) | 10418 |
| Σ Fill (CY) | 38699 |
| Net (CY) | -28280 |

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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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S.A.P. 070-593-001

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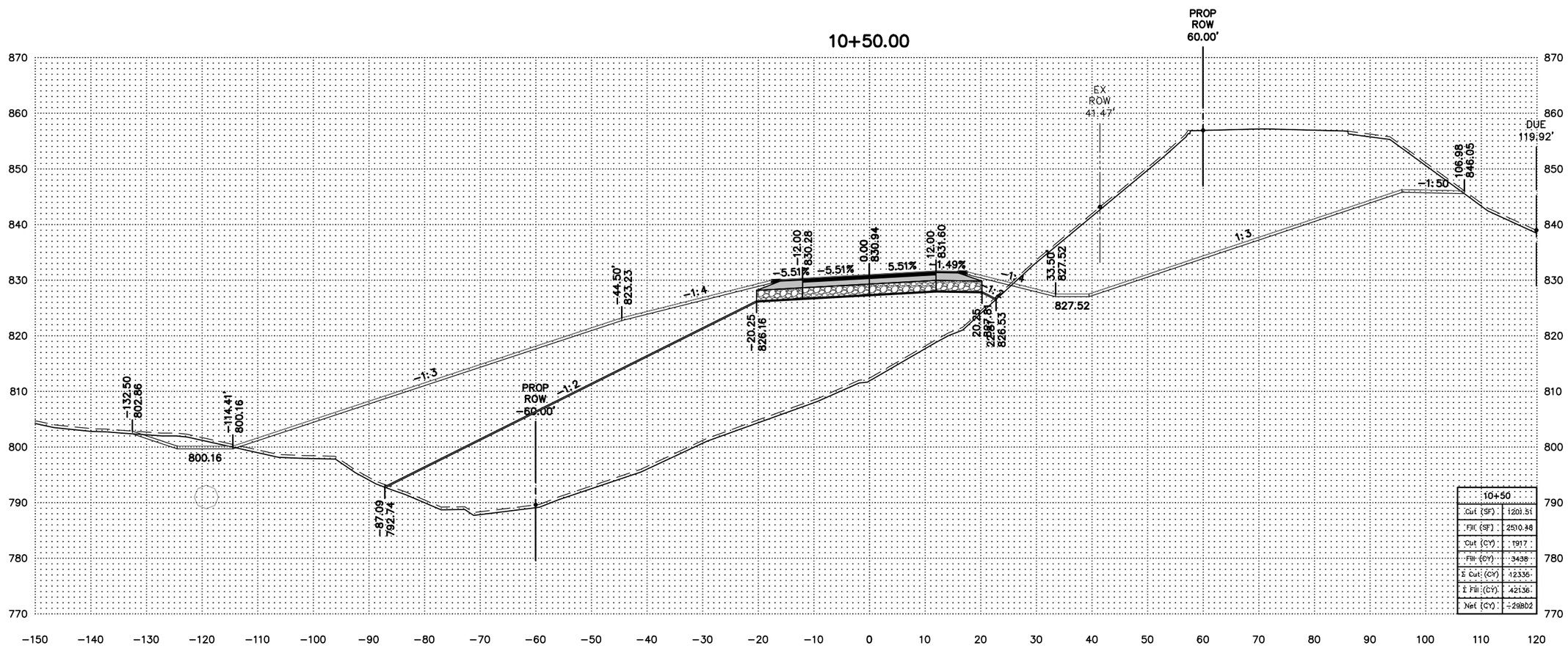


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C.P. 60-02FL

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S.A.P. 070-593-001

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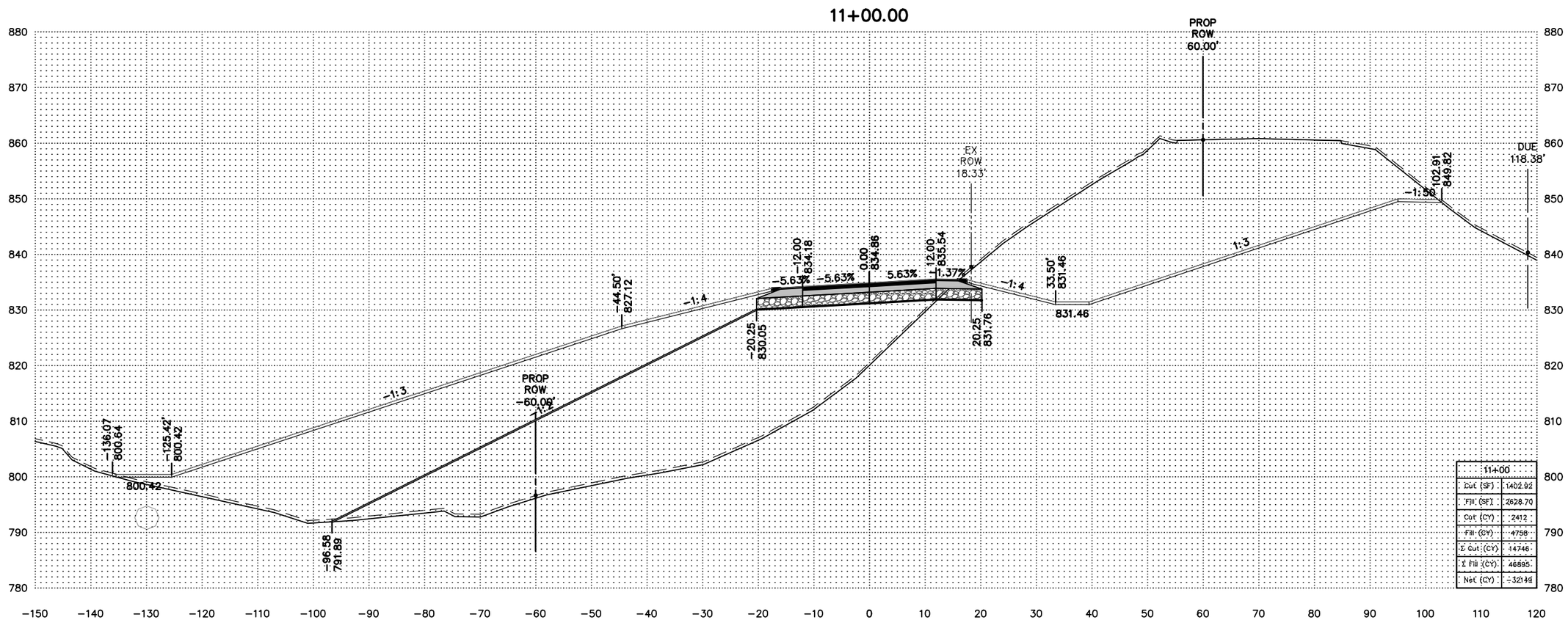


| 11+00 | |
|---|---|
| Cut (SF) | 1402.92 |
| Fill (SF) | 2628.70 |
| Cut (CY) | 2412 |
| Fill (CY) | 4758 |
| Σ Cut (CY) | 14746 |
| Σ Fill (CY) | 46895 |
| Net (CY) | -32149 |

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| DRAWN: | NT |
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| APPROVED: | JS |

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S.A.P. 070-593-001

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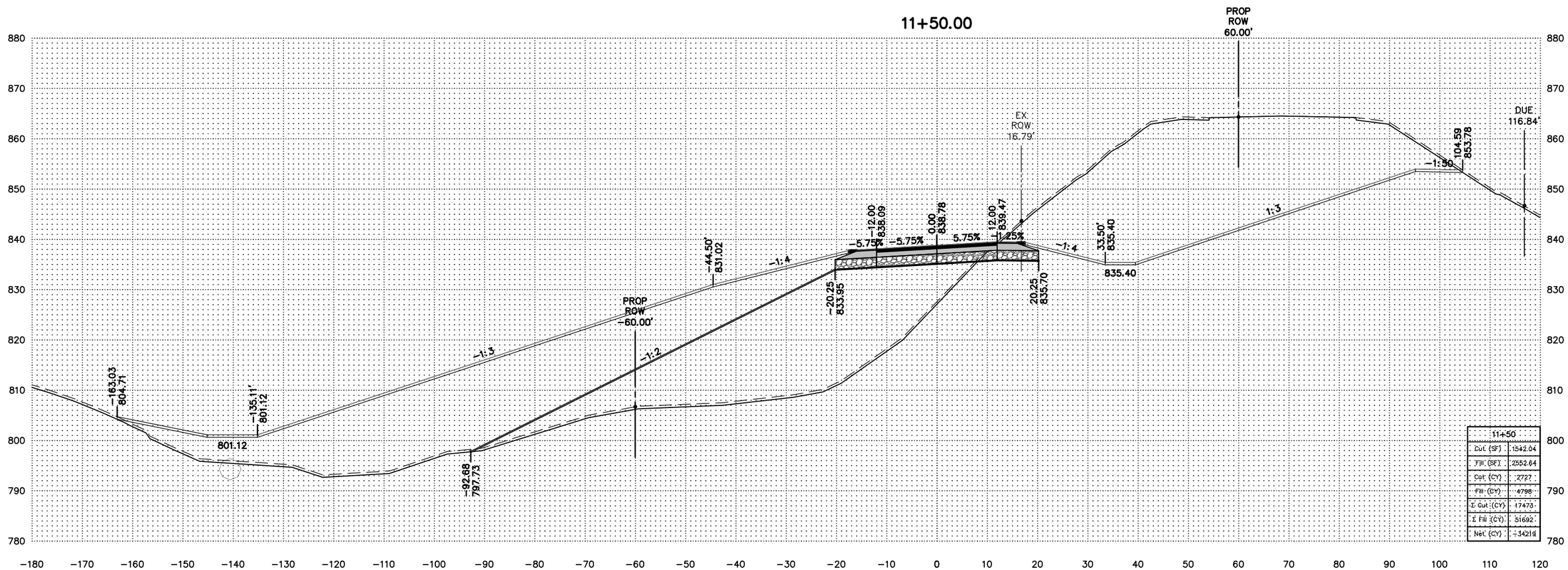


| 11+50 | |
|---|---|
| Cut (SF) | 1542.04 |
| Fill (SF) | 2552.64 |
| Cut (CY) | 2727 |
| Fill (CY) | 4798 |
| Σ Cut (CY) | 17473 |
| Σ Fill (CY) | 51692 |
| Net (CY) | -34219 |

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|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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S.A.P. 070-593-001

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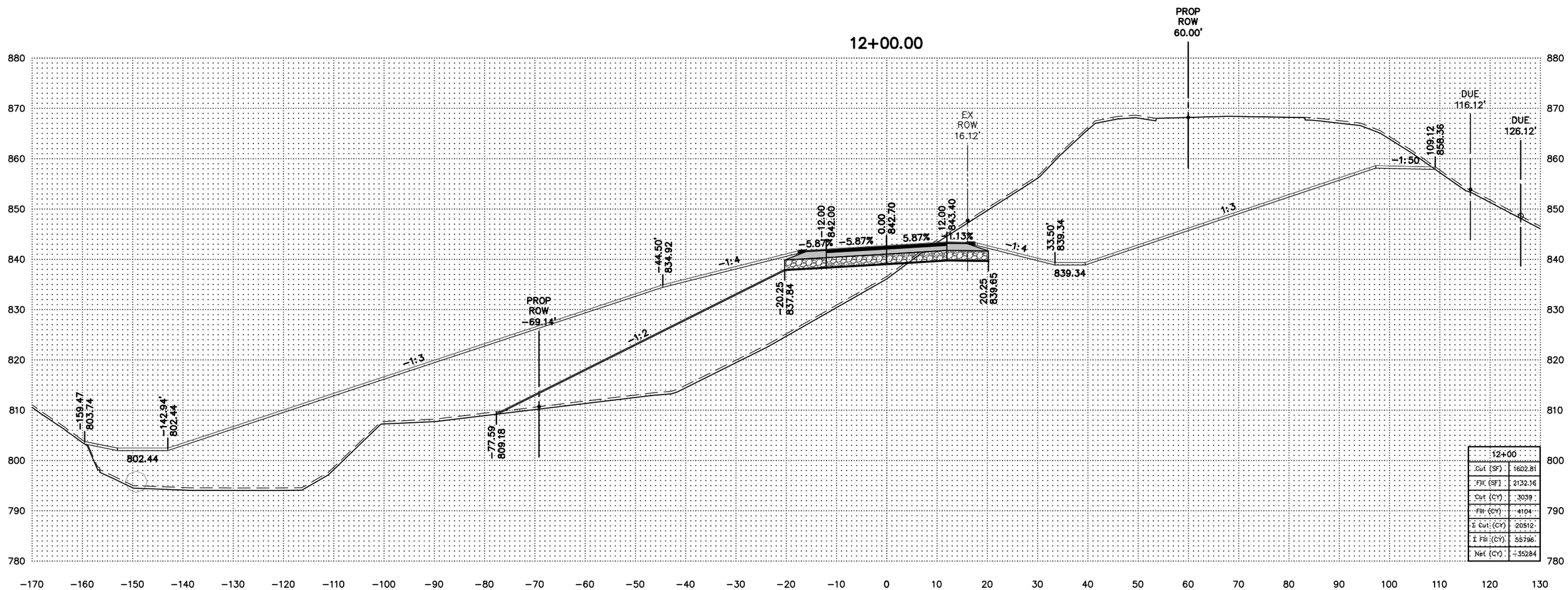


| 12+00 | |
|---|---|
| Cut (SF) | 1602.81 |
| Fill (SF) | 2132.16 |
| Cut (CY) | 3039 |
| Fill (CY) | 4104 |
| Σ Cut (CY) | 20512 |
| Σ Fill (CY) | 55796 |
| Net (CY) | -35284 |

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| DRAWN: | NT |
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| APPROVED: | JS |

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S.A.P. 070-593-001

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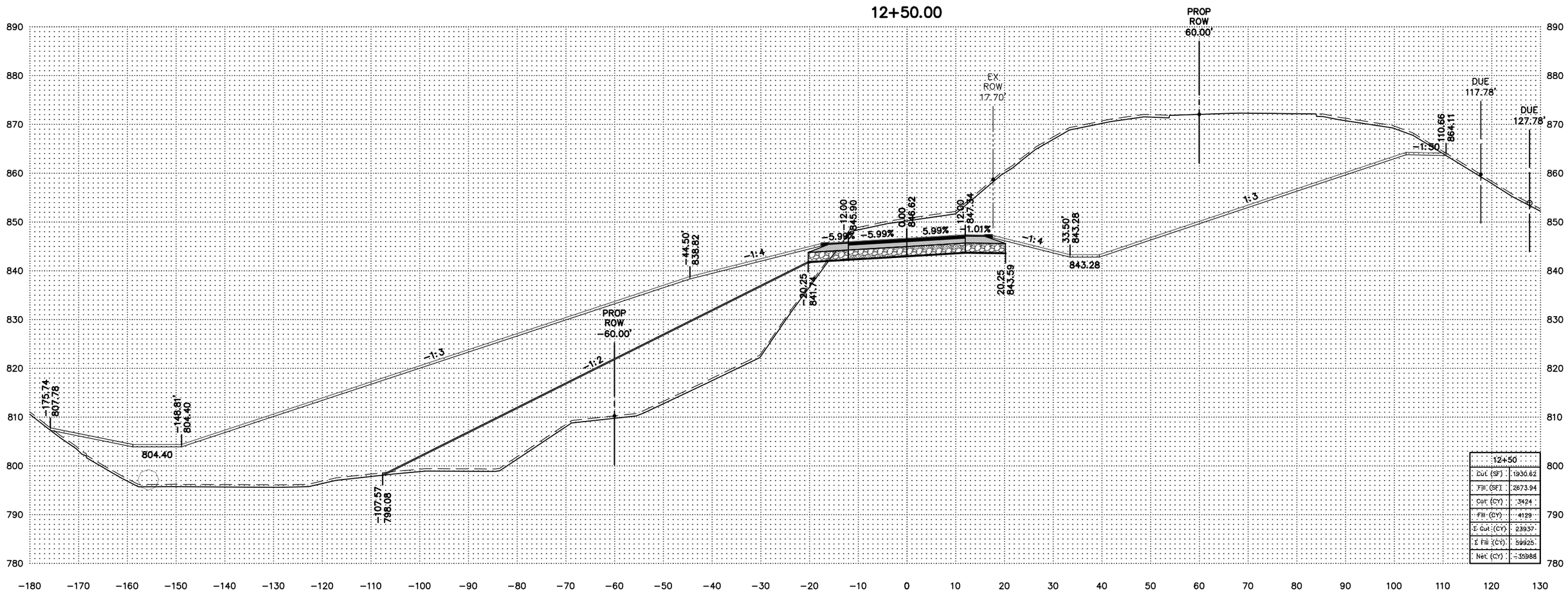


| 12+50 | |
|---|---|
| Cut (SF) | 1930.62 |
| Fill (SF) | 2673.94 |
| Cut (CY) | 3424 |
| Fill (CY) | 4129 |
| Σ Cut (CY) | 23937 |
| Σ Fill (CY) | 59925 |
| Net (CY) | -35988 |

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| CHECKED: | JS |
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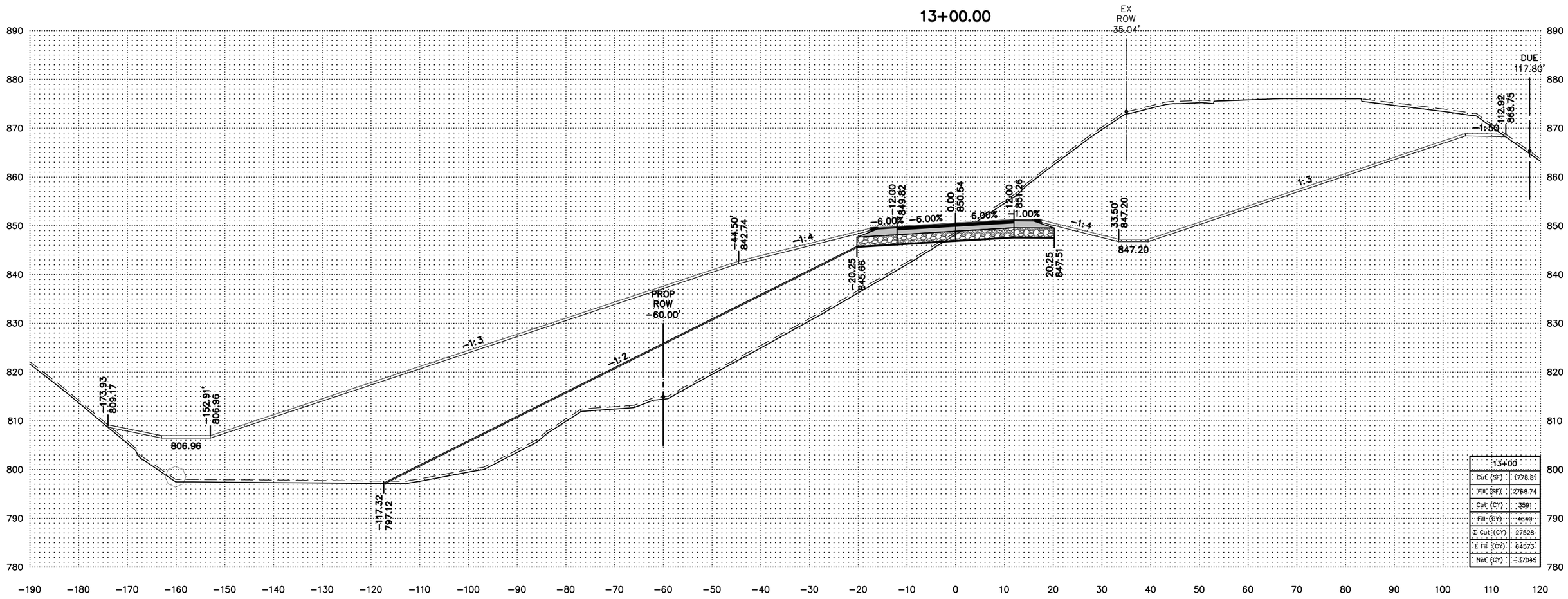


| 13+00 | |
|---|---|
| Cut (SF) | 1778.81 |
| Fill (SF) | 2768.74 |
| Cut (CY) | 3591 |
| Fill (CY) | 4649 |
| Σ Cut (CY) | 27528 |
| Σ Fill (CY) | 64573 |
| Net (CY) | -37045 |

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| DRAWN: | NT |
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| APPROVED: | JS |

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S.A.P. 070-593-001

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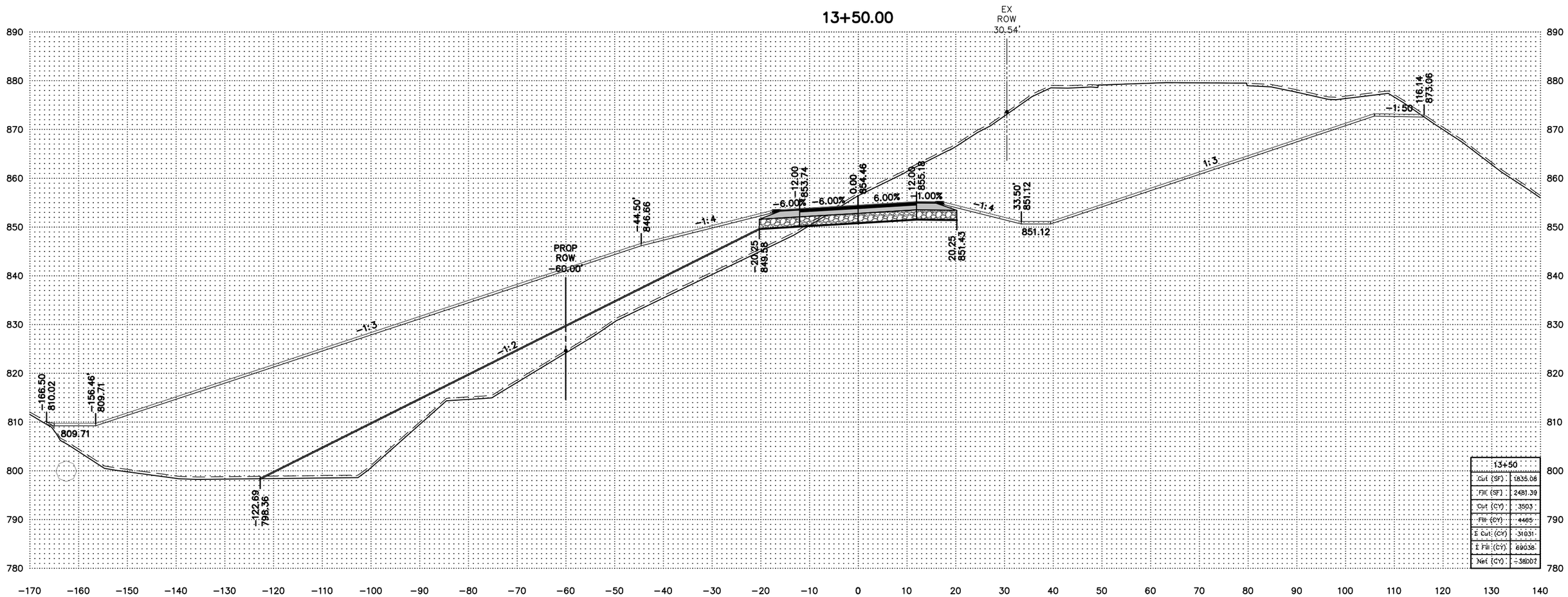


| 13+50 | |
|---|---|
| Cut (SF) | 1835.08 |
| Fill (SF) | 2481.39 |
| Cut (CY) | 3503 |
| Fill (CY) | 4465 |
| Σ Cut (CY) | 31031 |
| Σ Fill (CY) | 69038 |
| Net (CY) | -38007 |

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| DRAWN: | NT |
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| APPROVED: | JS |

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S.A.P. 070-593-001

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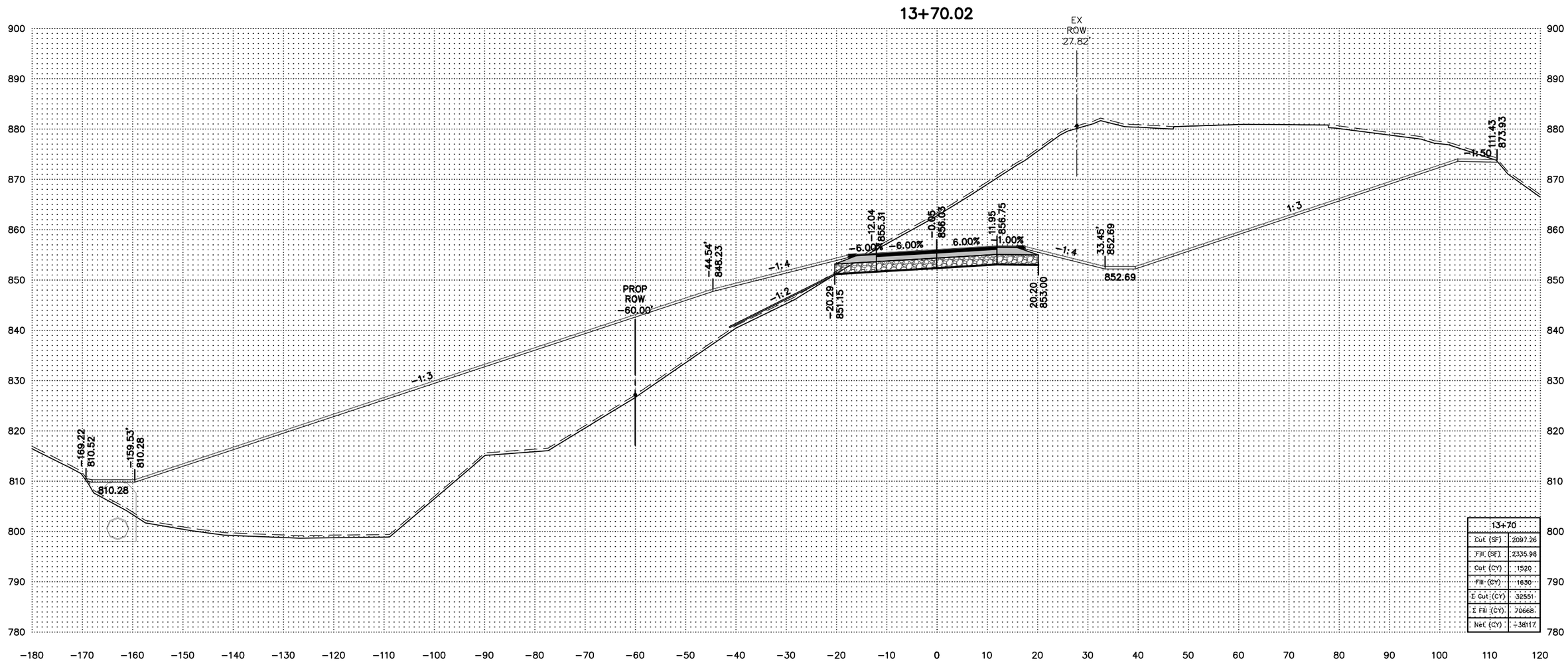


| 13+70 | |
|---|---|
| Cut (SF) | 2097.26 |
| Fill (SF) | 2335.98 |
| Cut (CY) | 1520 |
| Fill (CY) | 1630 |
| Σ Cut (CY) | 32851 |
| Σ Fill (CY) | 70668 |
| Net (CY) | -38117 |

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S.A.P. 070-593-001

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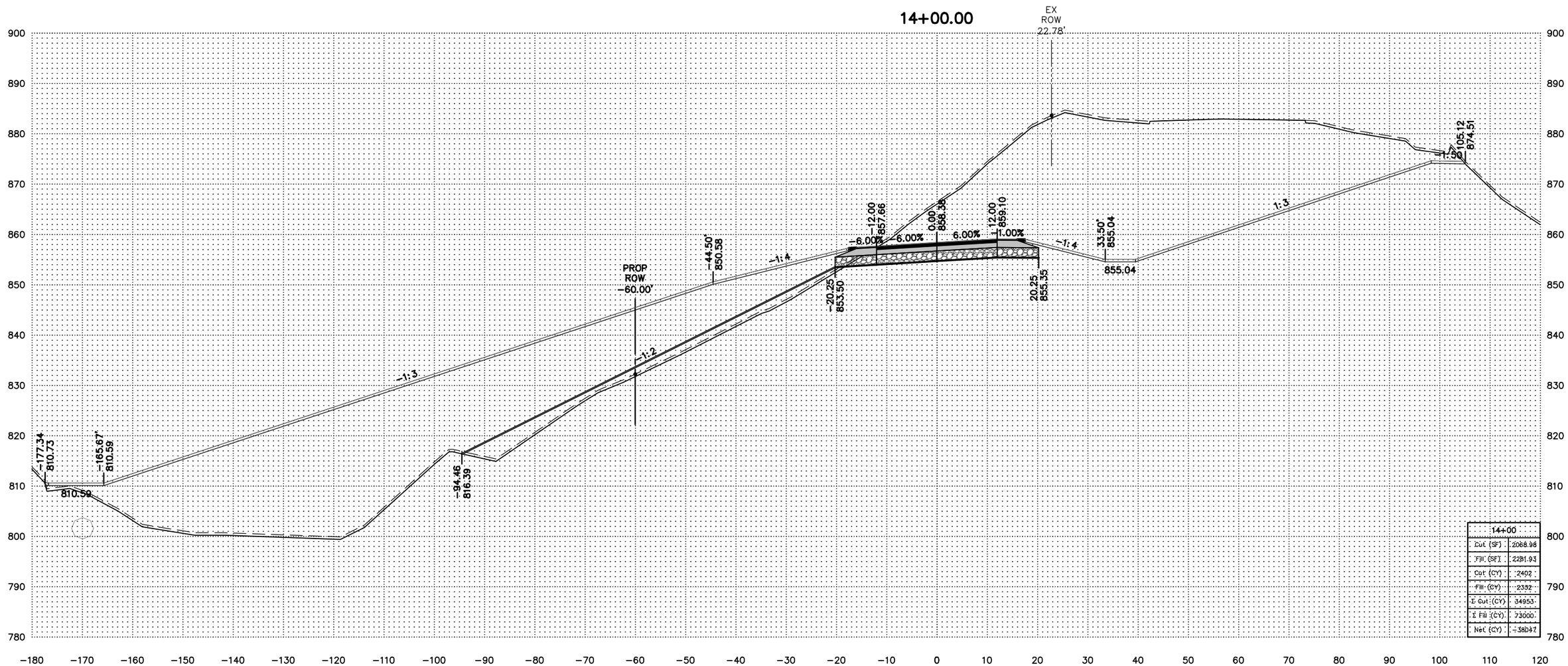


| 14+00 | |
|---|---|
| Cut (SF) | 2088.98 |
| Fill (SF) | 2281.93 |
| Cut (CY) | 2402 |
| Fill (CY) | 2332 |
| Σ Cut (CY) | 34953 |
| Σ Fill (CY) | 73000 |
| Net (CY) | -38047 |

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| APPROVED: | JS |

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CR 60 CROSS SECTIONS

S.A.P. 070-593-001

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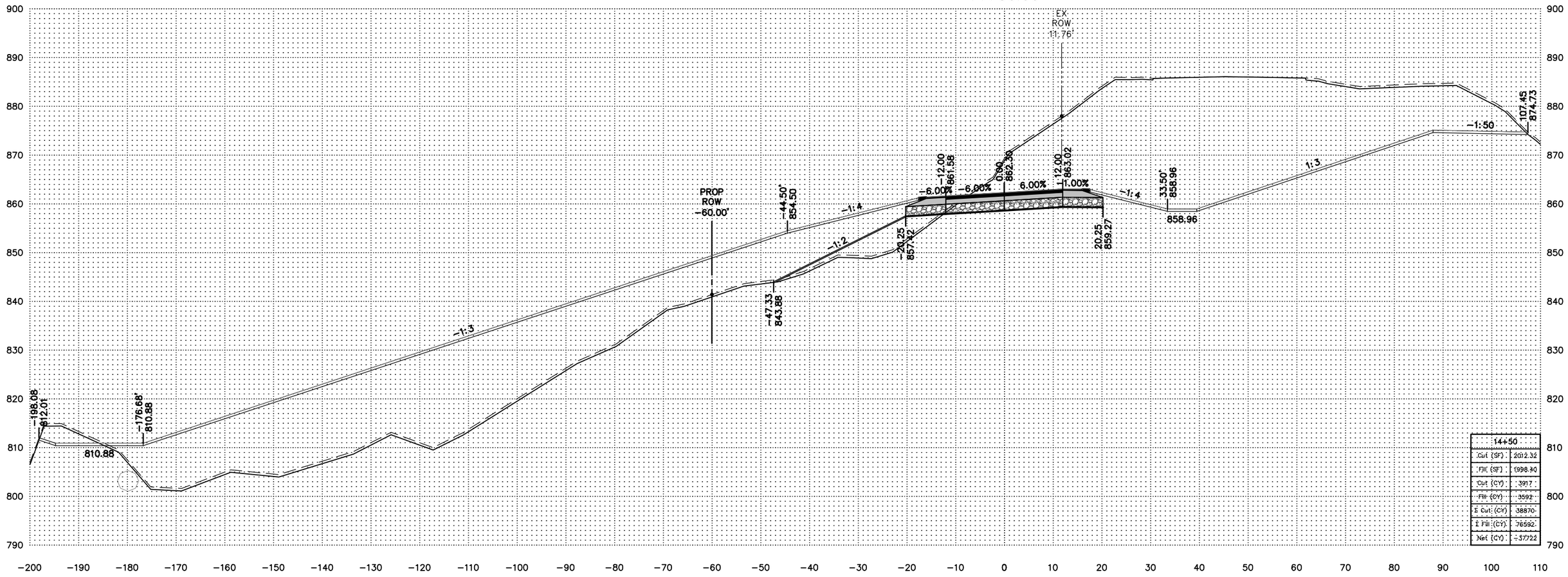


| 14+50 | |
|---|---|
| Cut (SF) | 2012.32 |
| Fill (SF) | 1998.40 |
| Cut (CY) | 3917 |
| Fill (CY) | 3592 |
| Σ Cut (CY) | 38870 |
| Σ Fill (CY) | 76592 |
| Net (CY) | -37722 |

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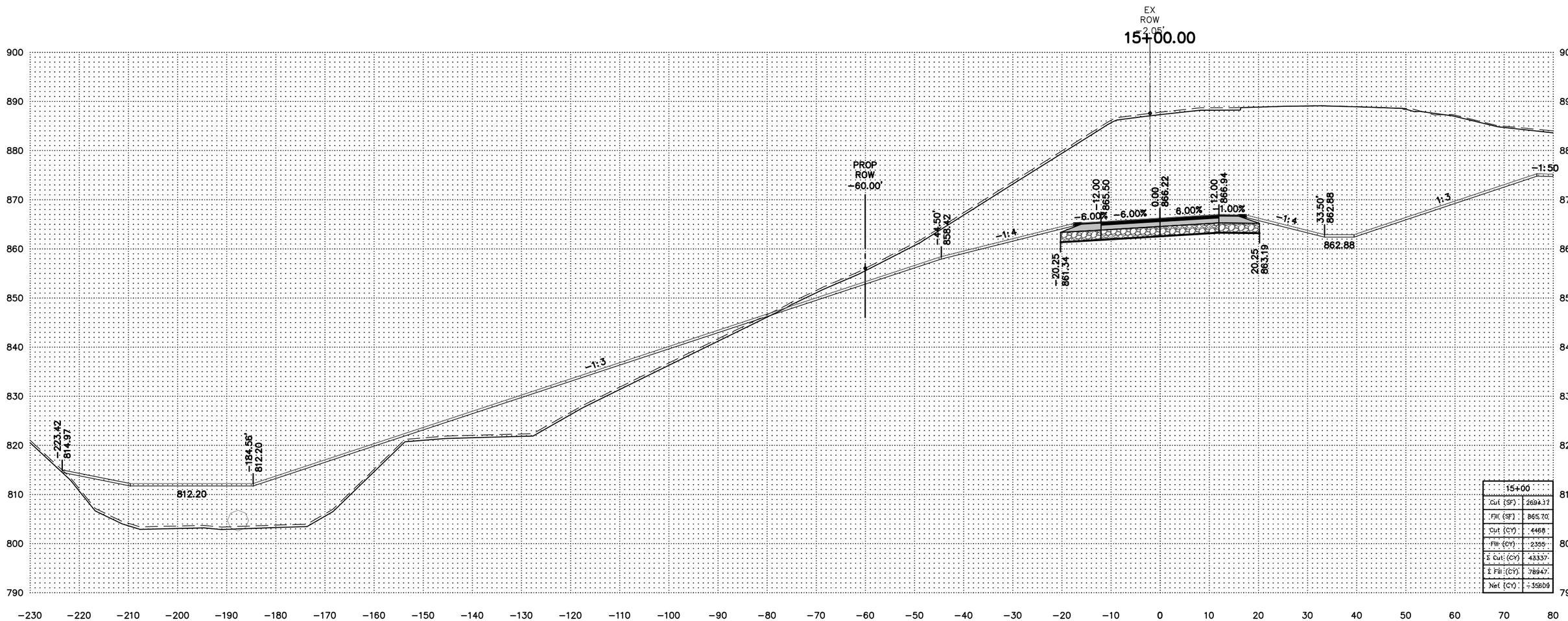
CR 60 CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.25 of 11.57 Sheets

\\HWYGIS\hwydata\P\6002FL\CAD\Production Drawings\Xsec's\6002FL_ProposedCR60 X-Sections.dwg (2/10/2016 4:43 PM)




| 15+00 | |
|---|---|
| Cut (SF) | 2694.17 |
| Fill (SF) | 865.70 |
| Cut (CY) | 4468 |
| Fill (CY) | 2355 |
| Σ Cut (CY) | 43337 |
| Σ Fill (CY) | 78947 |
| Net (CY) | -35609 |

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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60-02FL

CR 60 CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.26_A of 11.57 Sheets

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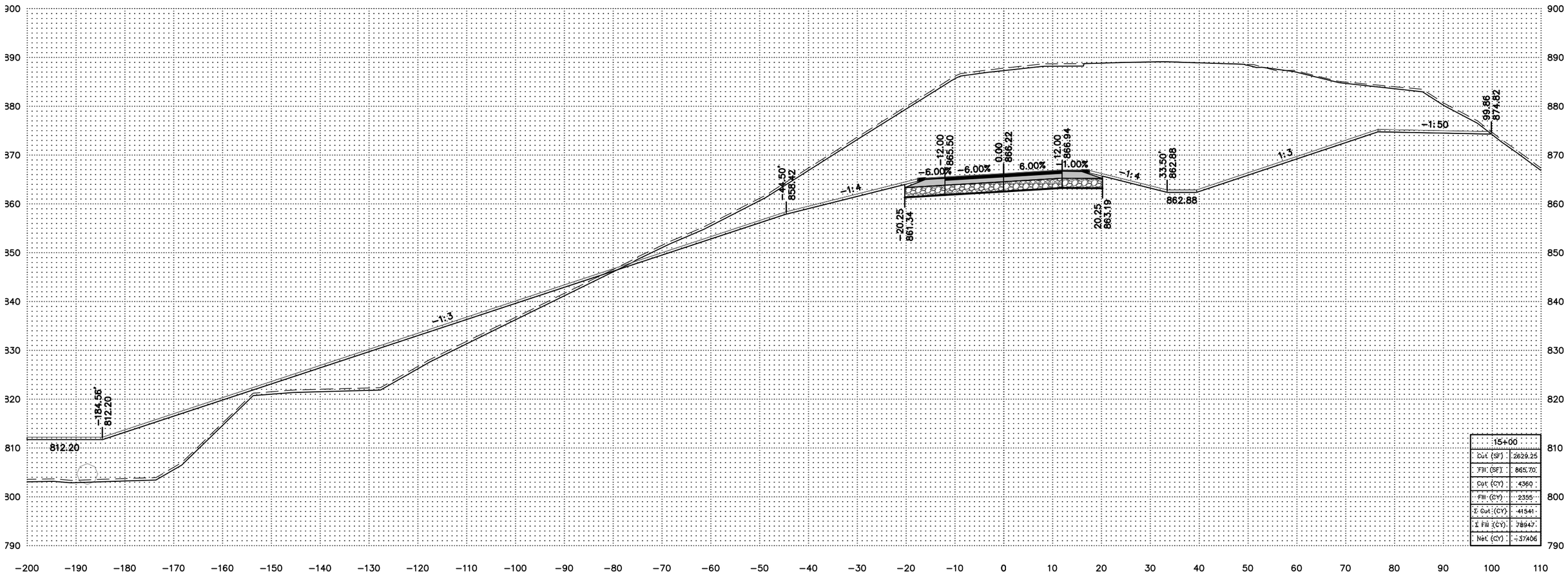


| 15+00 | |
|---|---|
| Cut (SF) | 2629.25 |
| Fill (SF) | 865.70 |
| Cut (CY) | 4360 |
| Fill (CY) | 2355 |
| Σ Cut (CY) | 41541 |
| Σ Fill (CY) | 78947 |
| Net (CY) | -37406 |

| DATE | BY | REVISIONS |
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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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Date 02/10/2016

Reg. No. 24756

C.P. 60-02FL

CR 60 CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.26_B of 11.57 Sheets

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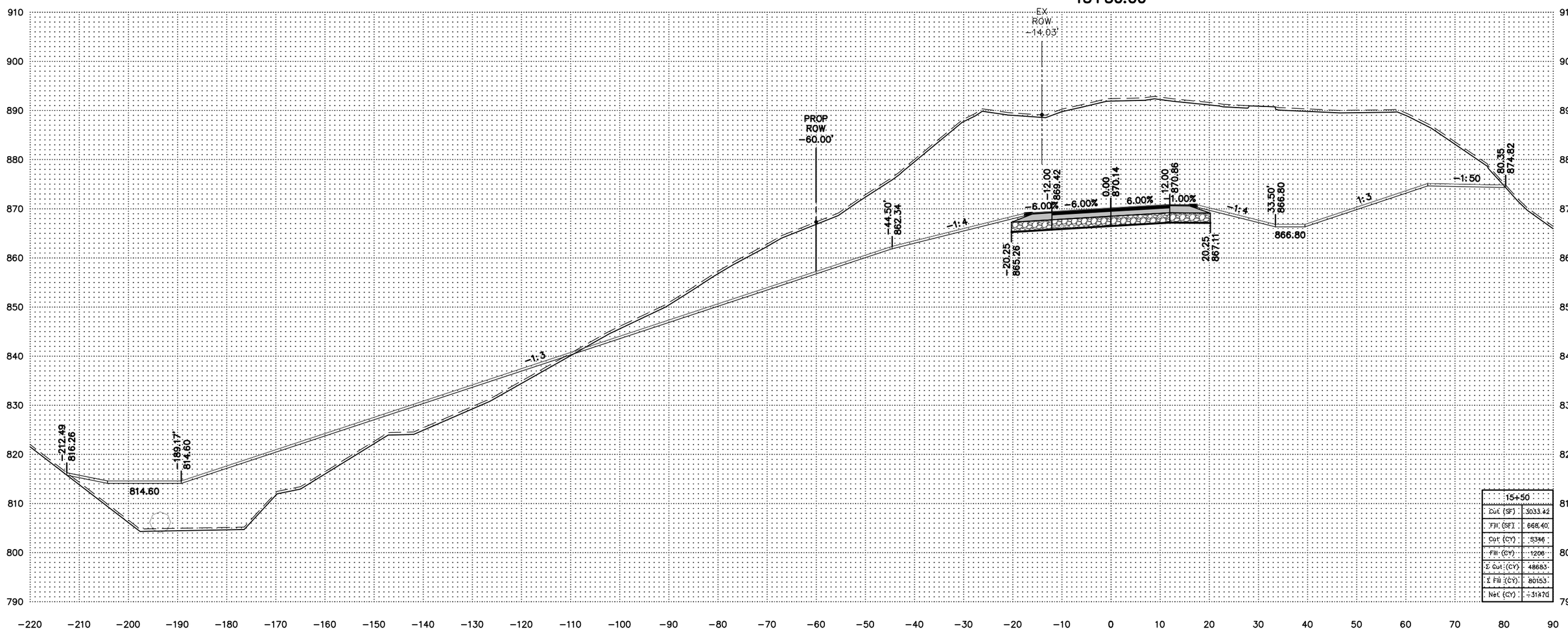


| 15+50 | |
|---|---|
| Cut (SF) | 3033.42 |
| Fill (SF) | 668.40 |
| Cut (CY) | 5346 |
| Fill (CY) | 1206 |
| Σ Cut (CY) | 48683 |
| Σ Fill (CY) | 80153 |
| Net (CY) | -31470 |

| DATE | BY | REVISIONS |
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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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Reg. No. 24756

C.P. 60–02FL

CR 60 CROSS SECTIONS

S.A.P. 070–593–001

Sheet No. 11.27 of 11.57 Sheets

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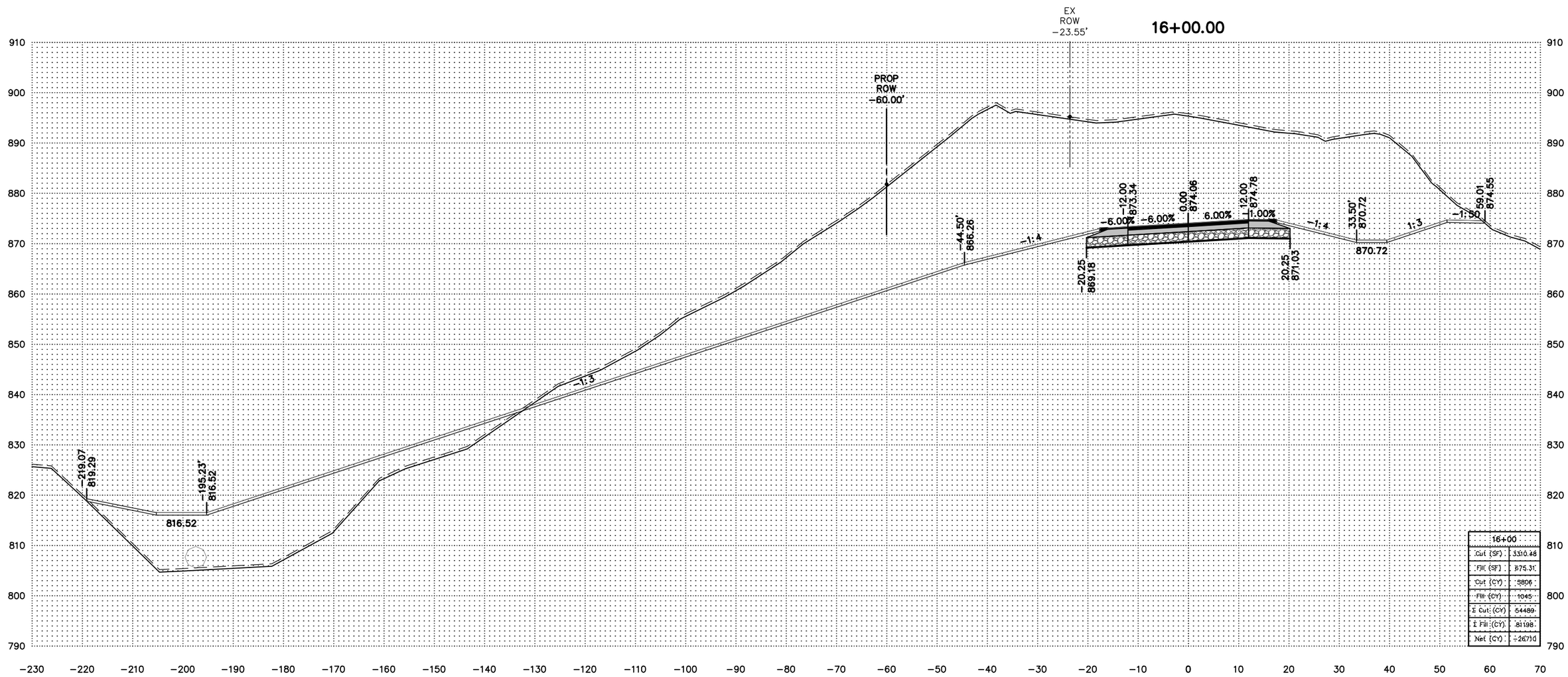


| 16+00 | |
|---|---|
| Cut (SF) | 3310.48 |
| Fill (SF) | 875.31 |
| Cut (CY) | 5806 |
| Fill (CY) | 1045 |
| Σ Cut (CY) | 54489 |
| Σ Fill (CY) | 81198 |
| Net (CY) | -26710 |

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| DRAWN: | NT |
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| APPROVED: | JS |

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Reg. No. 24756

C.P. 60-02FL

CR 60 CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.28 of 11.57 Sheets

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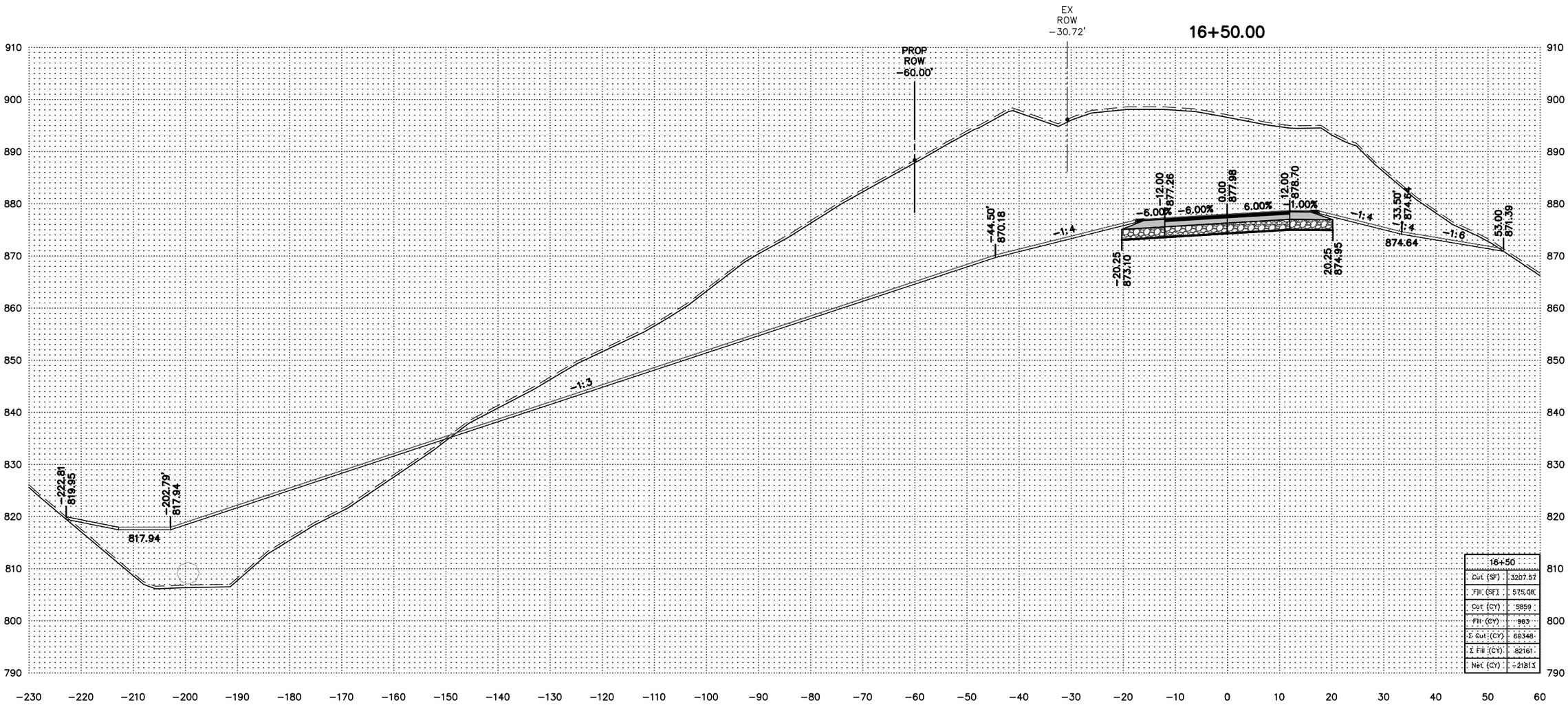


| 16+50 | |
|---|---|
| Cut (SF) | 3207.57 |
| Fill (SF) | 575.08 |
| Cut (CY) | 5859 |
| Fill (CY) | 963 |
| Σ Cut (CY) | 60348 |
| Σ Fill (CY) | 82161 |
| Net (CY) | -21813 |

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| DRAWN: | NT |
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| APPROVED: | JS |

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C.P. 60-02FL

CR 60 CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.29 of 11.57 Sheets

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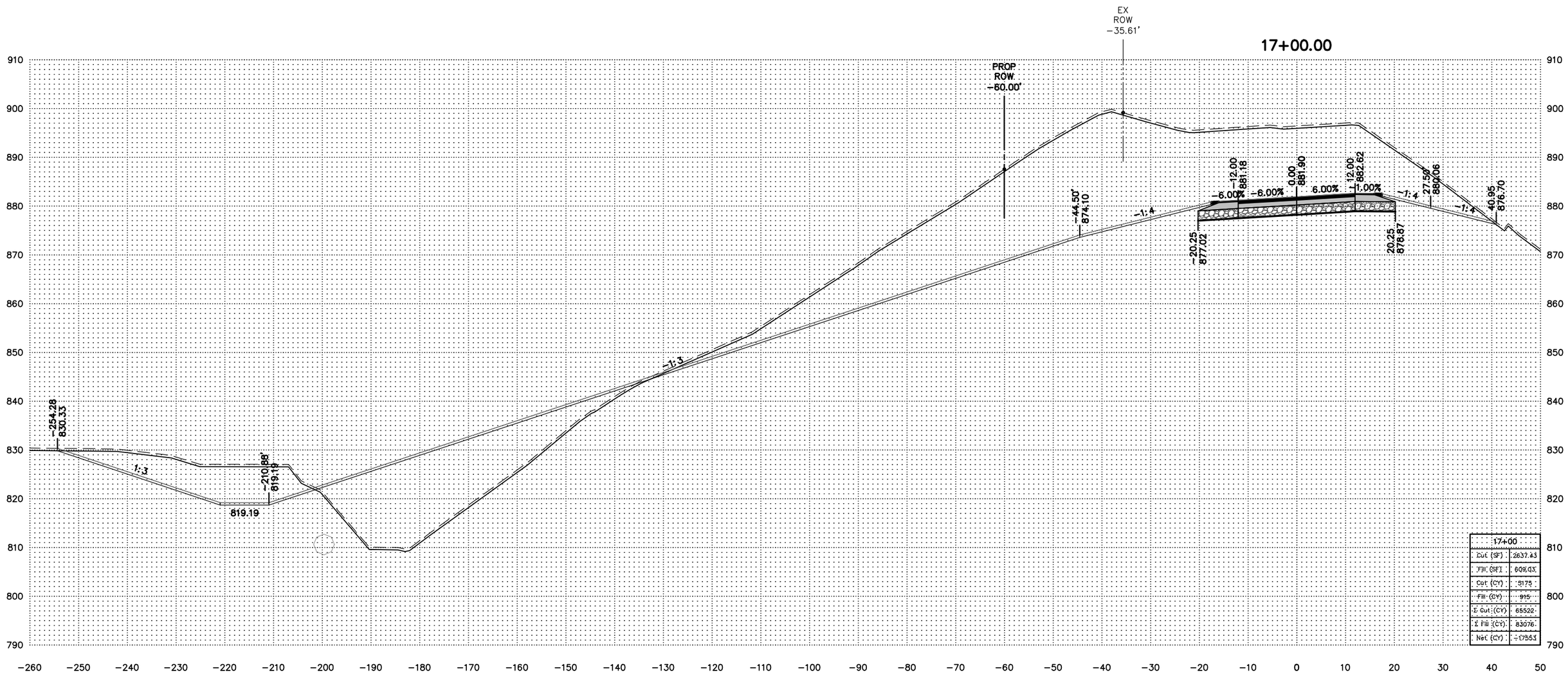


| 17+00 | |
|---|---|
| Cut (SF) | 2637.43 |
| Fill (SF) | 608.03 |
| Cut (CY) | 5175 |
| Fill (CY) | 915 |
| Σ Cut (CY) | 65522 |
| Σ Fill (CY) | 83076 |
| Net (CY) | -17553 |

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| DRAWN: | NT |
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| APPROVED: | JS |

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C.P. 60-02FL

CR 60 CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.30 of 11.57 Sheets

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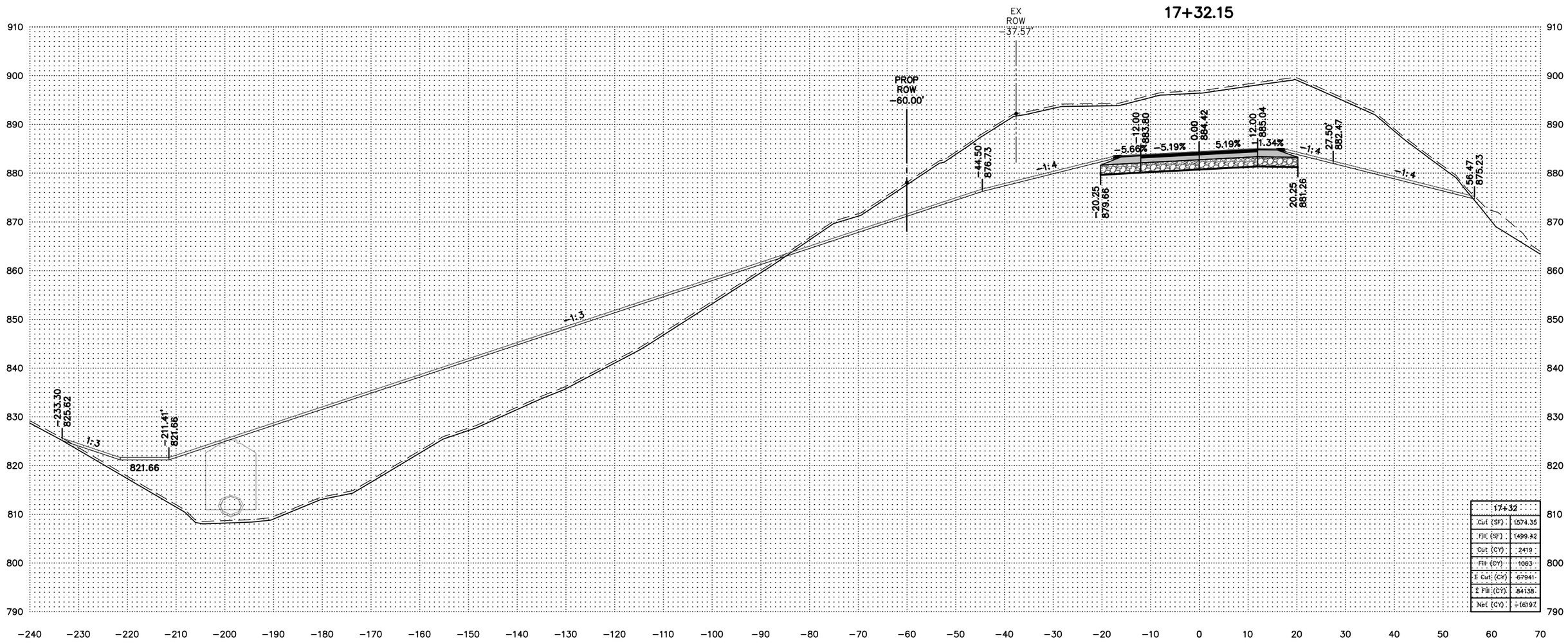


| 17+32 | |
|---|---|
| Cut (SF) | 1574.35 |
| Fill (SF) | 1499.82 |
| Cut (CY) | 2419 |
| Fill (CY) | 1063 |
| Σ Cut (CY) | 67941 |
| Σ Fill (CY) | 84138 |
| Net (CY) | -16197 |

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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60-02FL

CR 60 CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.31 of 11.57 Sheets

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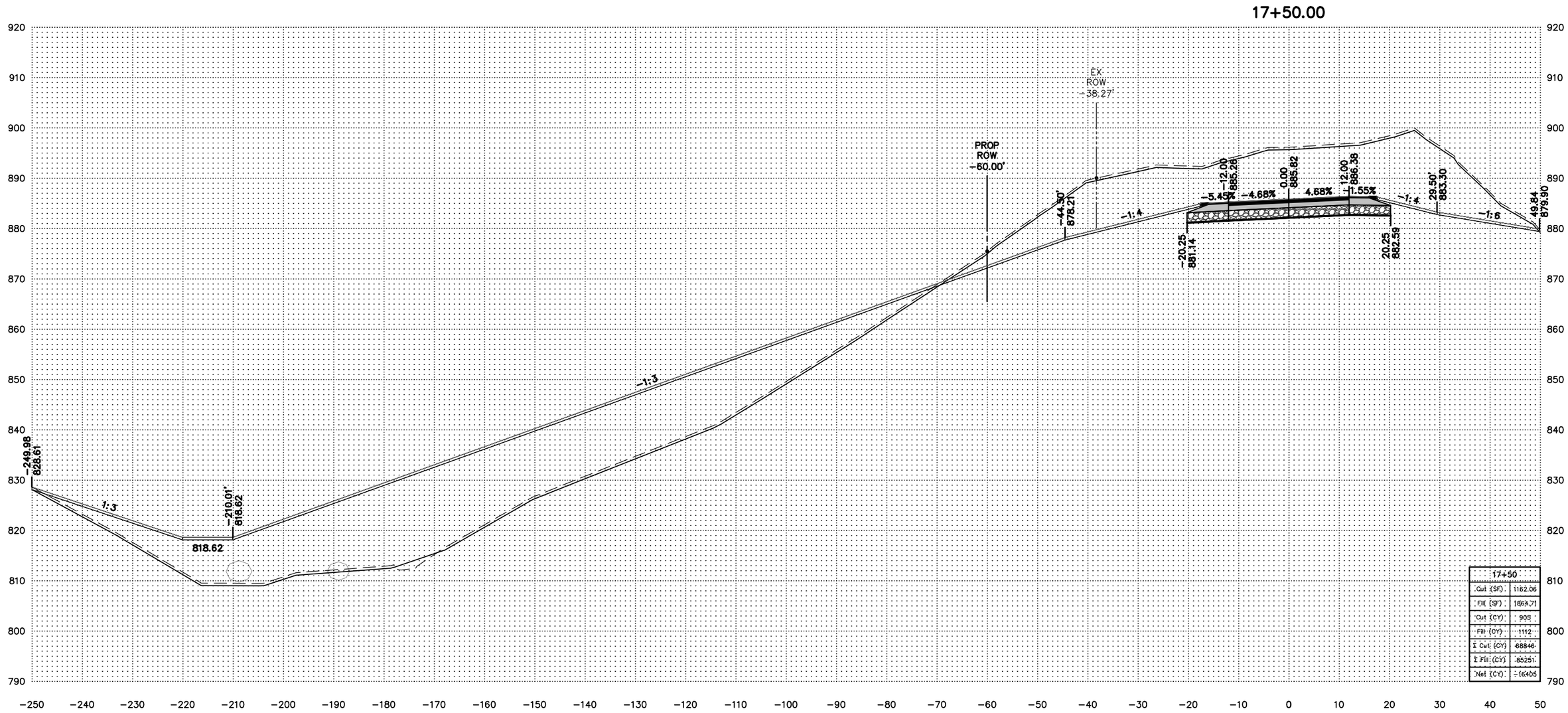


| 17+50 | |
|---|---|
| Cut (SF) | 1162.06 |
| Fill (SF) | 1864.71 |
| Cut (CY) | 905 |
| Fill (CY) | 1112 |
| Σ Cut (CY) | 68846 |
| Σ Fill (CY) | 85251 |
| Net (CY) | -16405 |

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| DRAWN: | NT |
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| APPROVED: | JS |

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Date 02/10/2016

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C.P. 60-02FL

CR 60 CROSS SECTIONS

S.A.P. 070-593-001

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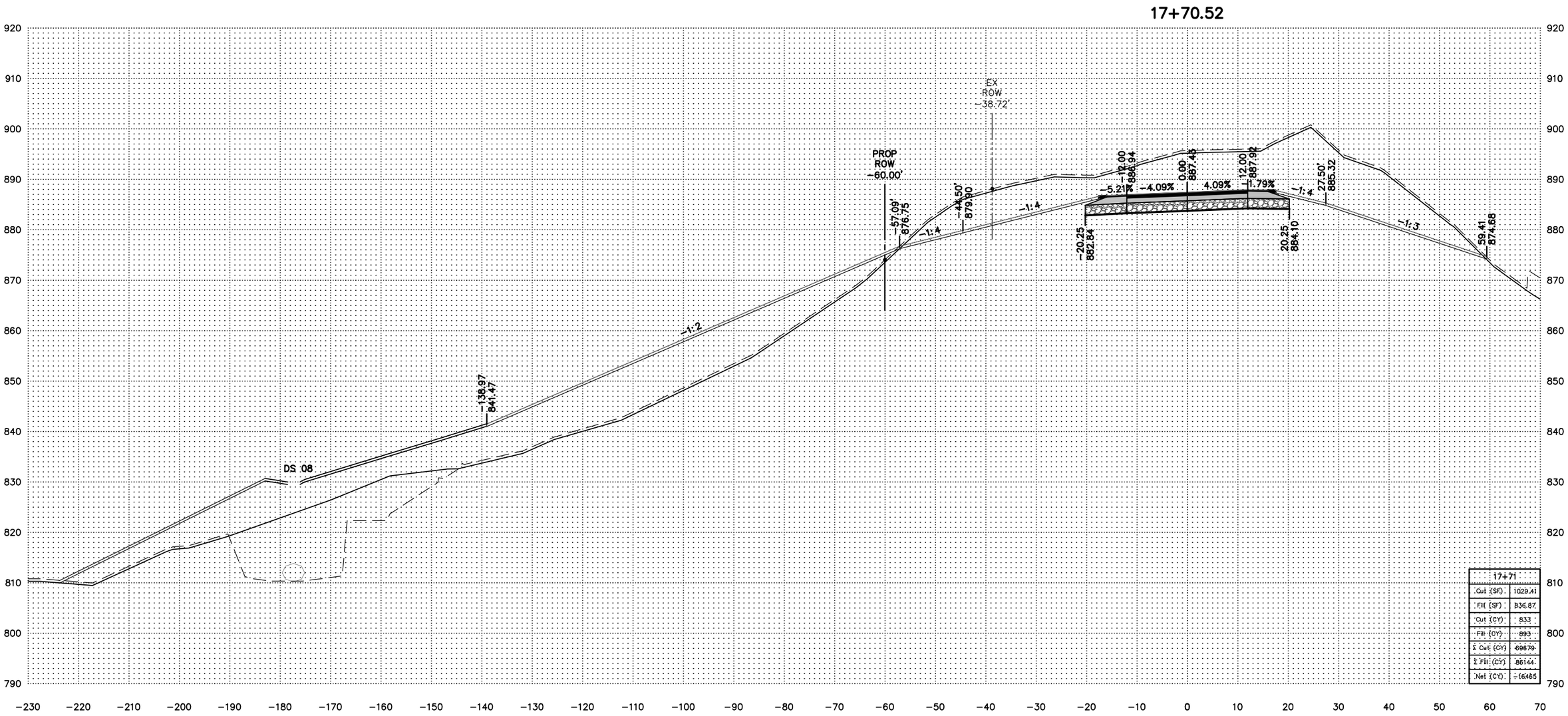


| 17+71 | |
|---|---|
| Cut (SF) | 1029.41 |
| Fill (SF) | 836.87 |
| Cut (CY) | 833 |
| Fill (CY) | 893 |
| Σ Cut (CY) | 69679 |
| Σ Fill (CY) | 86144 |
| Net (CY) | -16465 |

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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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C.P. 60-02FL

CR 60 CROSS SECTIONS

S.A.P. 070-593-001

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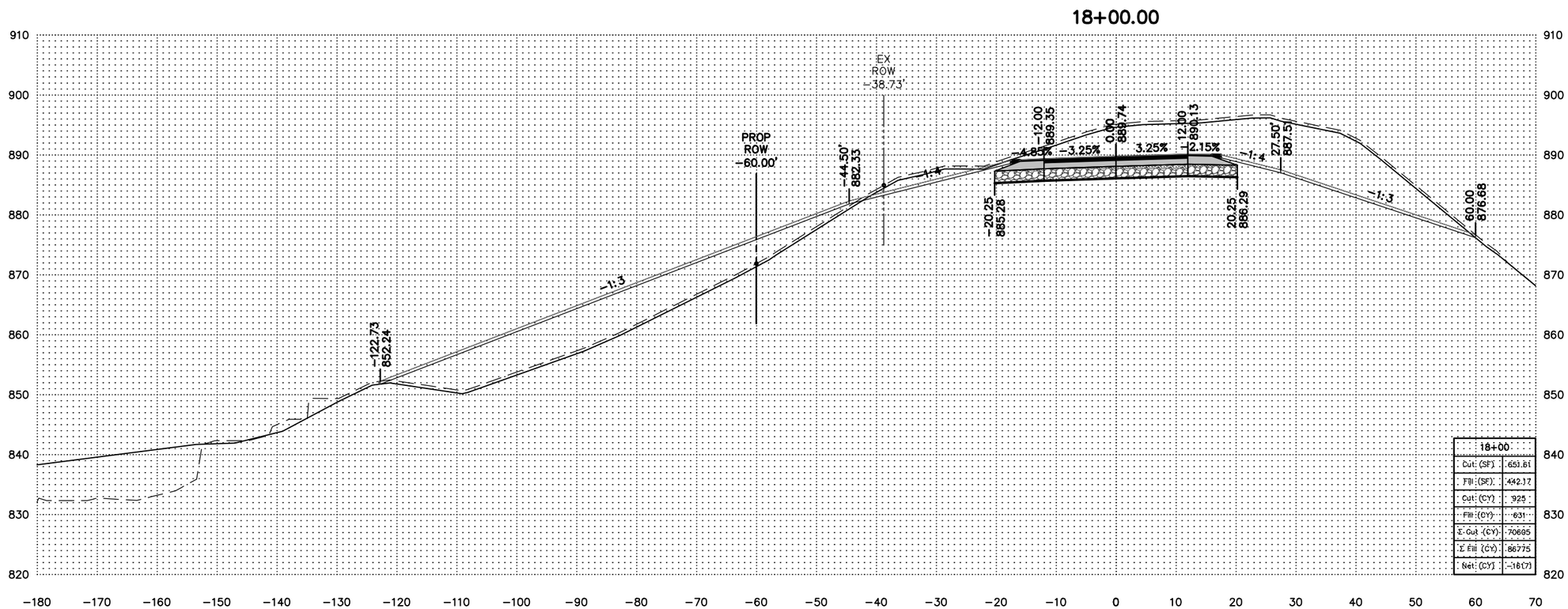


| 18+00 | |
|---|---|
| Cut (SF) | 651.81 |
| Fill (SF) | 442.17 |
| Cut (CY) | 925 |
| Fill (CY) | 631 |
| Σ Cut (CY) | 70685 |
| Σ Fill (CY) | 86775 |
| Net (CY) | -16(7) |

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| DRAWN: | NT |
| CHECKED: | JS |
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CR 60 CROSS SECTIONS

S.A.P. 070-593-001

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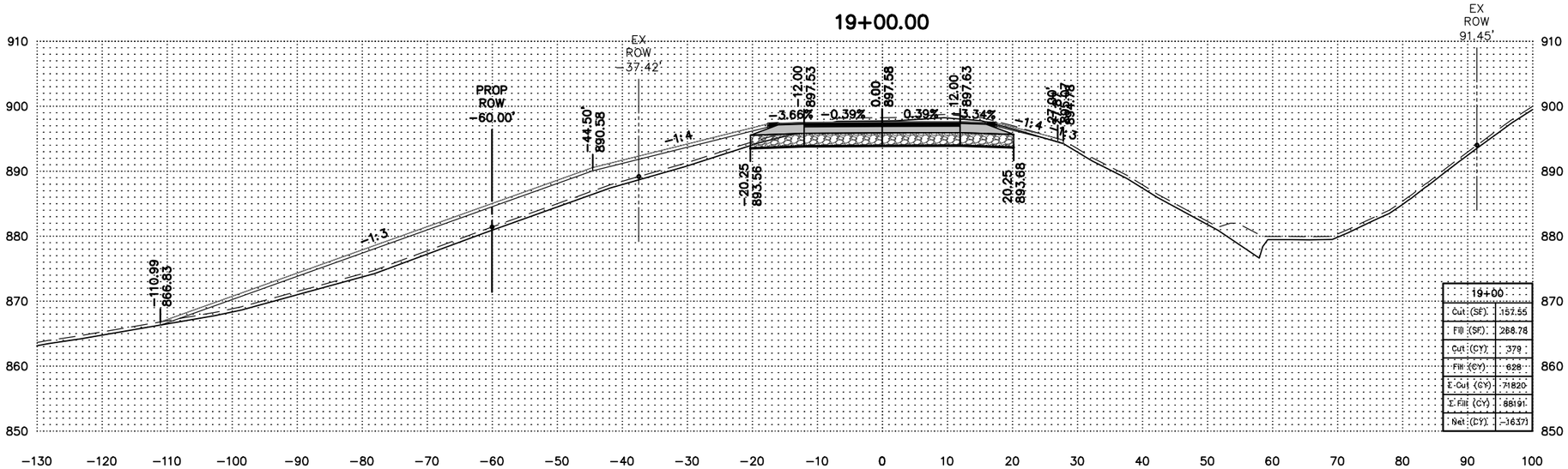
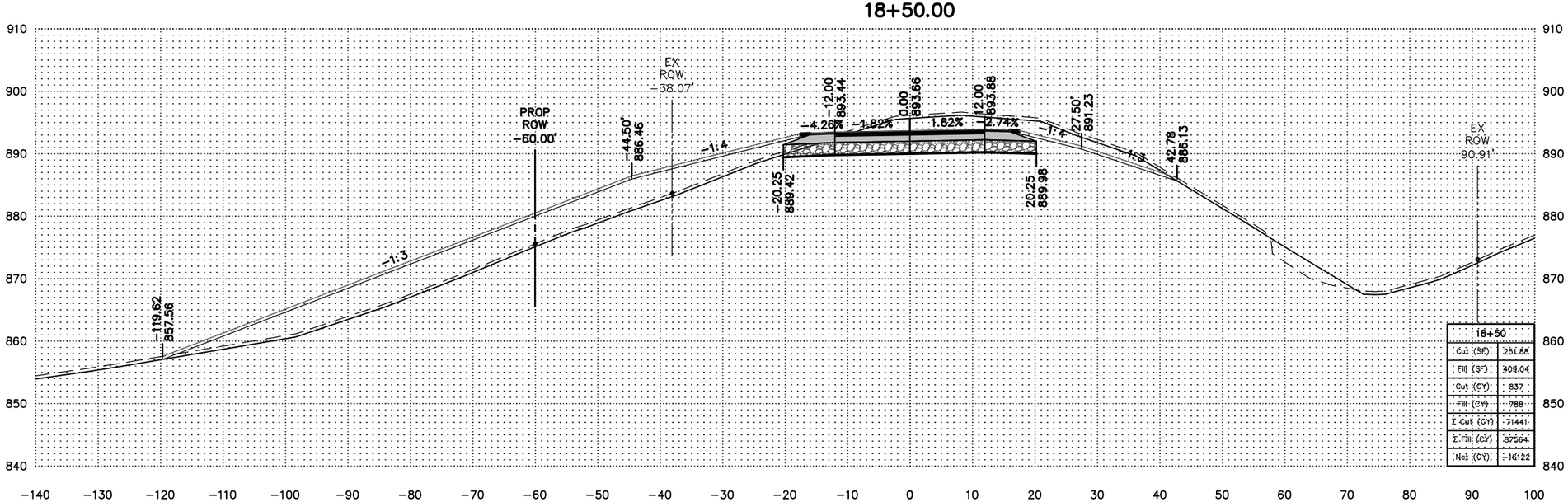
## 19+00.00




| 19+00 | |
|---|---|
| Cut (SF) | 157.55 |
| Fill (SF) | 268.78 |
| Cut (CY) | 379 |
| Fill (CY) | 628 |
| Σ Cut (CY) | 71820 |
| Σ Fill (CY) | 88191 |
| Net (CY) | -16371 |

## 18+50.00




| 18+50 | |
|---|---|
| Cut (SF) | 251.88 |
| Fill (SF) | 409.04 |
| Cut (CY) | 837 |
| Fill (CY) | 788 |
| Σ Cut (CY) | 71441 |
| Σ Fill (CY) | 87564 |
| Net (CY) | -16122 |

| DATE | BY | REVISIONS |
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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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CR 60 CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.35 of 11.57 Sheets

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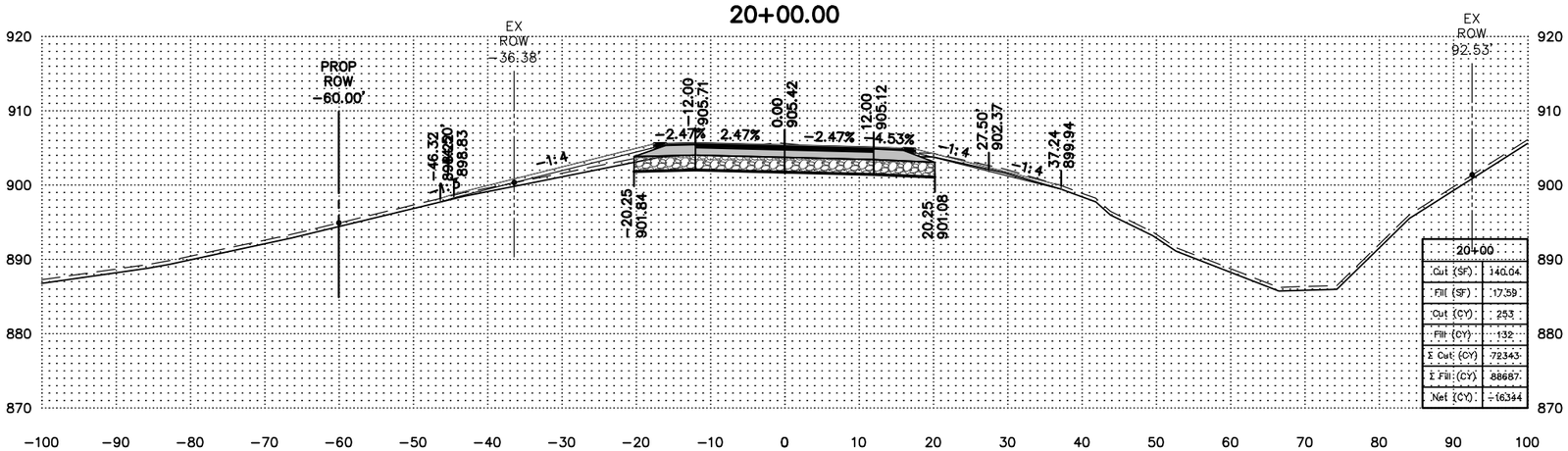
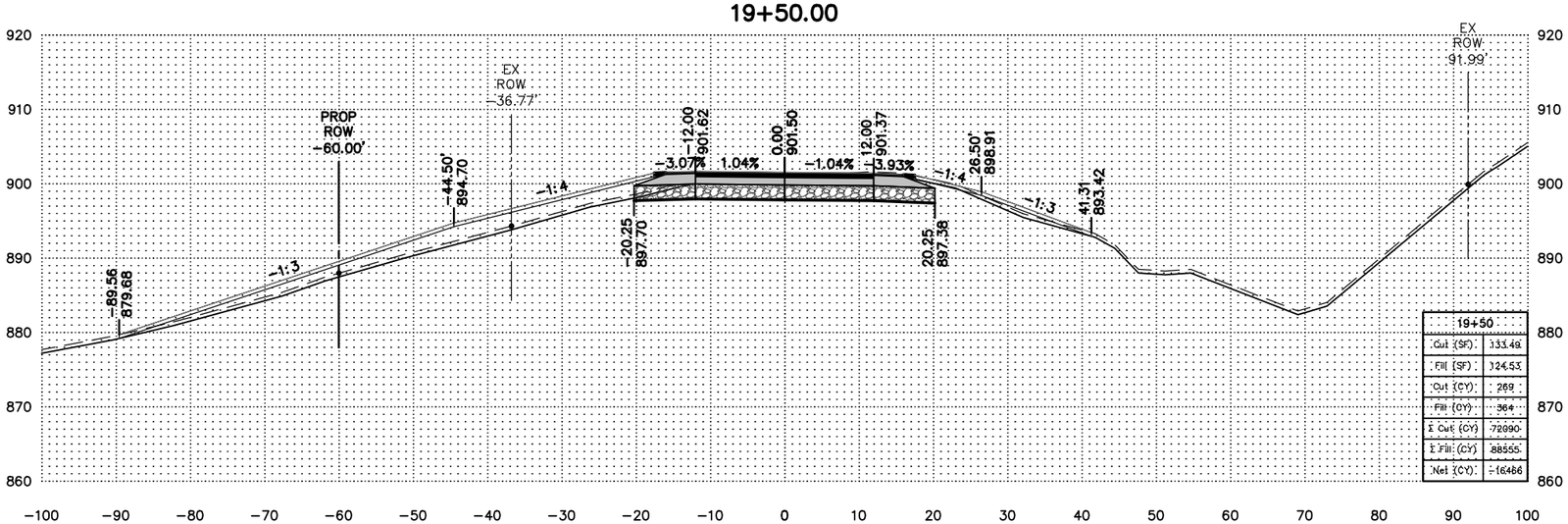
## 20+00.00




| 20+00 | |
|---|---|
| Cut (SF) | 140.04 |
| Fill (SF) | 17.59 |
| Cut (CY) | 253 |
| Fill (CY) | 132 |
| Σ Cut (CY) | 72343 |
| Σ Fill (CY) | 88687 |
| Net (CY) | -16344 |

## 19+50.00




| 19+50 | |
|---|---|
| Cut (SF) | 133.49 |
| Fill (SF) | 124.53 |
| Cut (CY) | 269 |
| Fill (CY) | 364 |
| Σ Cut (CY) | 72090 |
| Σ Fill (CY) | 88555 |
| Net (CY) | -16486 |

| DATE | BY | REVISIONS |
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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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C.P. 60-02FL

CR 60 CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.36 of 11.57 Sheets

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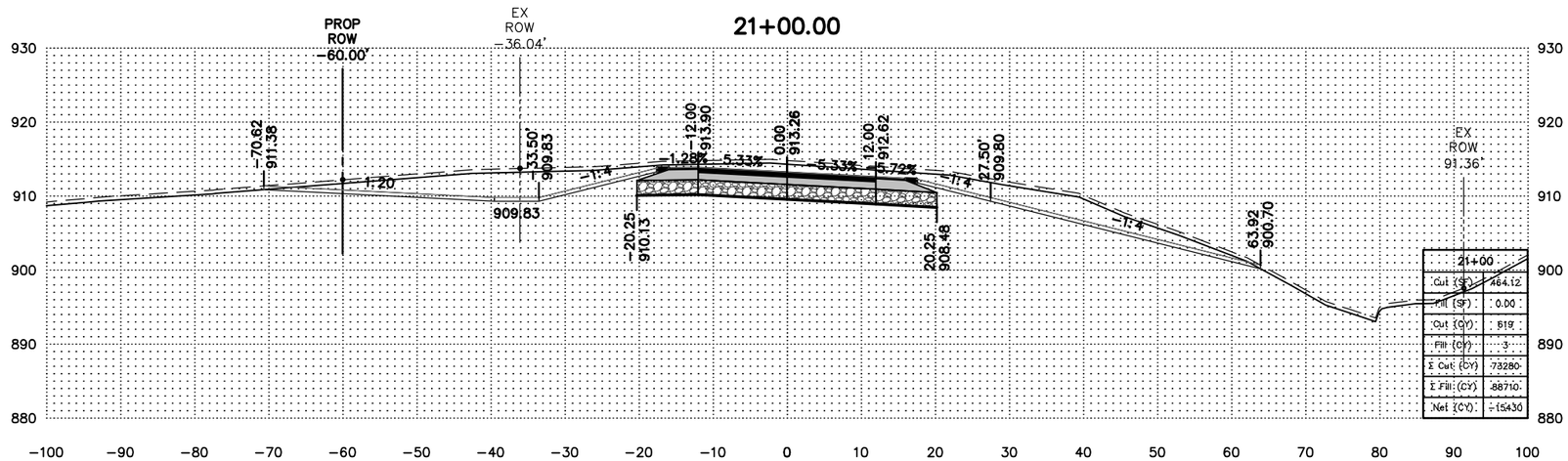
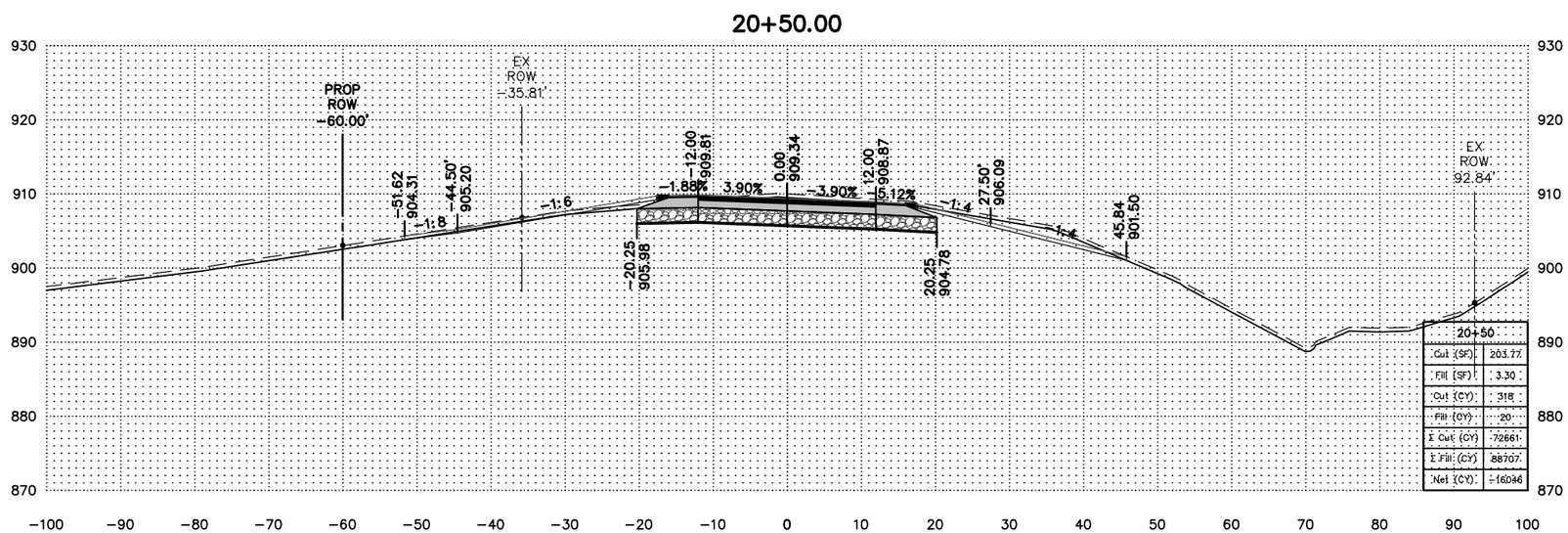



| 21+00 | |
|---|---|
| Cut (SF) | 464.12 |
| Fill (SF) | 0.00 |
| Cut (CY) | 619 |
| Fill (CY) | 3 |
| Σ Cut (CY) | 73280 |
| Σ Fill (CY) | 88710 |
| Net (CY) | -15430 |




| 20+50 | |
|---|---|
| Cut (SF) | 203.77 |
| Fill (SF) | 3.30 |
| Cut (CY) | 318 |
| Fill (CY) | 20 |
| Σ Cut (CY) | 72661 |
| Σ Fill (CY) | 88707 |
| Net (CY) | -16046 |

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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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C.P. 60-02FL

CR 60 CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.37 of 11.57 Sheets

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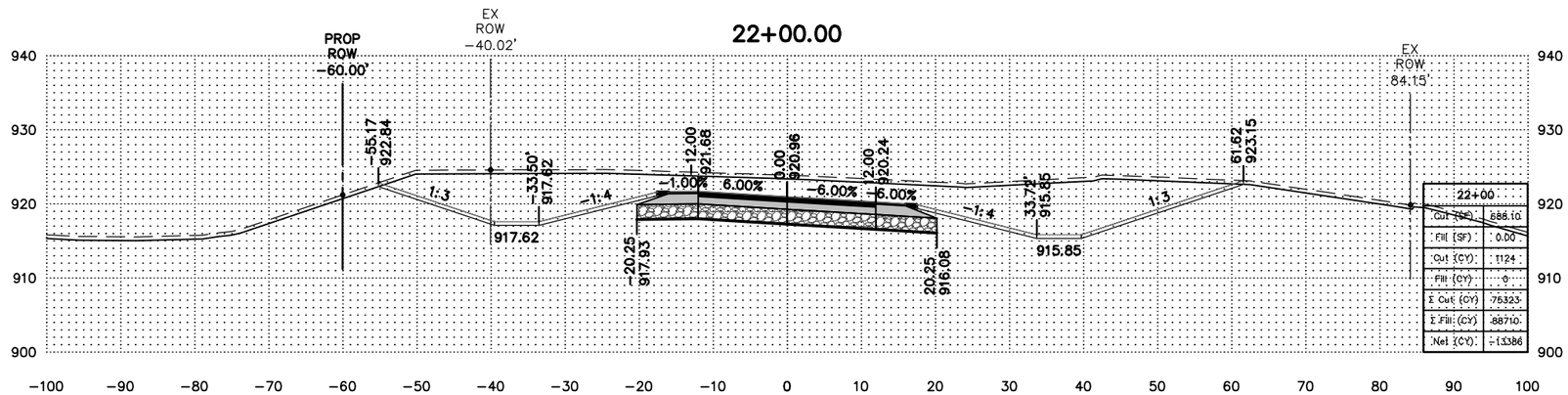
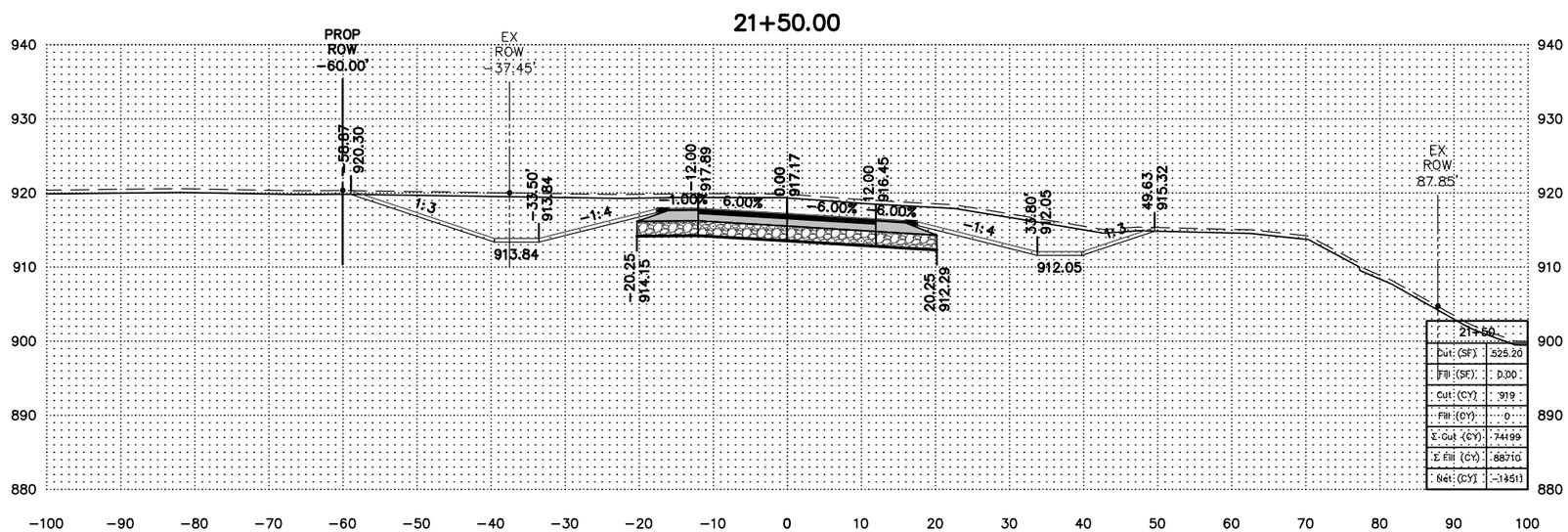



| 22+00 | |
|---|---|
| Cut (SF) | 886.10 |
| Fill (SF) | 0.00 |
| Cut (CY) | 1124 |
| Fill (CY) | 0 |
| Σ Cut (CY) | 75323 |
| Σ Fill (CY) | 88710 |
| Net (CY) | -13386 |




| 21+50 | |
|---|---|
| Cut (SF) | 525.20 |
| Fill (SF) | 0.00 |
| Cut (CY) | 919 |
| Fill (CY) | 0 |
| Σ Cut (CY) | 74199 |
| Σ Fill (CY) | 88710 |
| Net (CY) | -14511 |

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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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C.P. 60-02FL

CR 60 CROSS SECTIONS

S.A.P. 070-593-001

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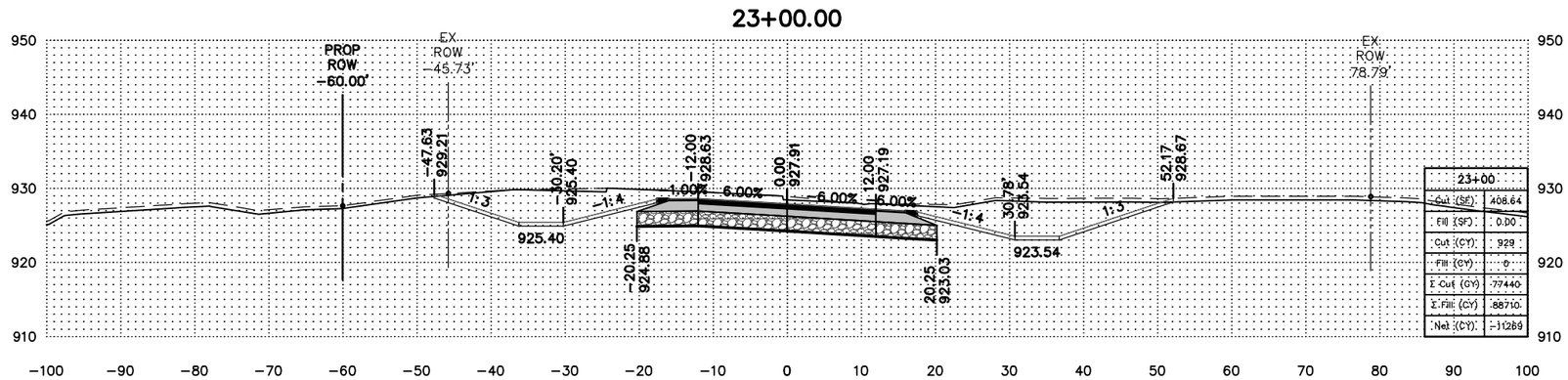


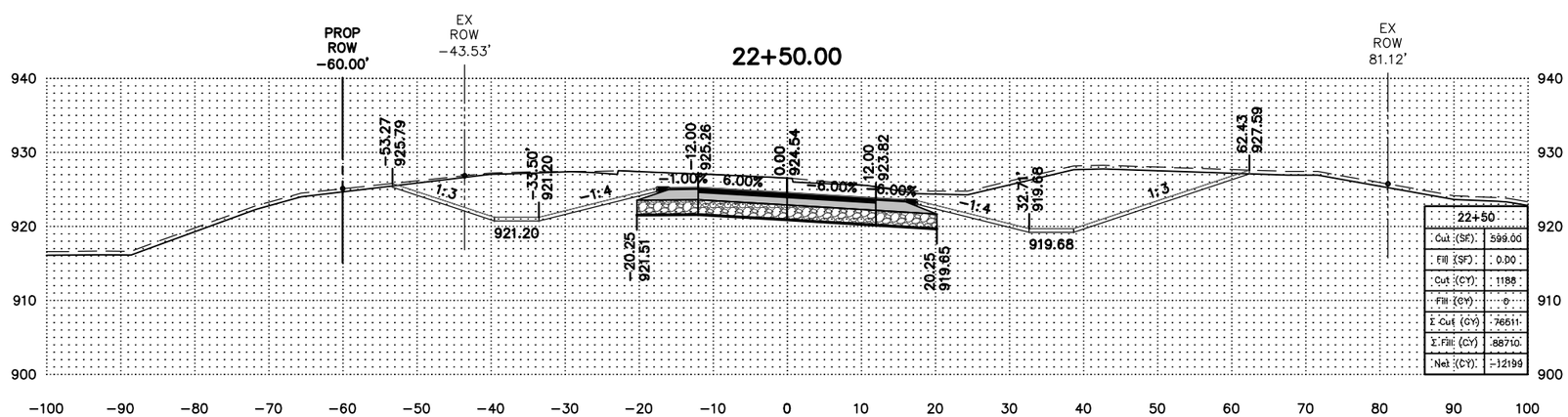


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| APPROVED: | JS |

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C.P. 60-02FL

CR 60 CROSS SECTIONS

S.A.P. 070-593-001

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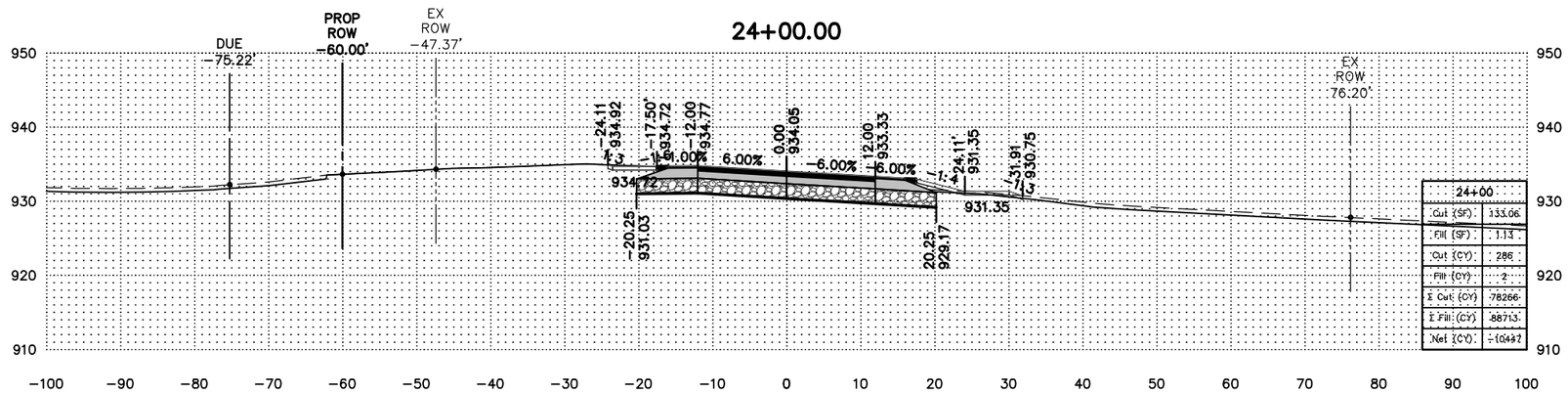
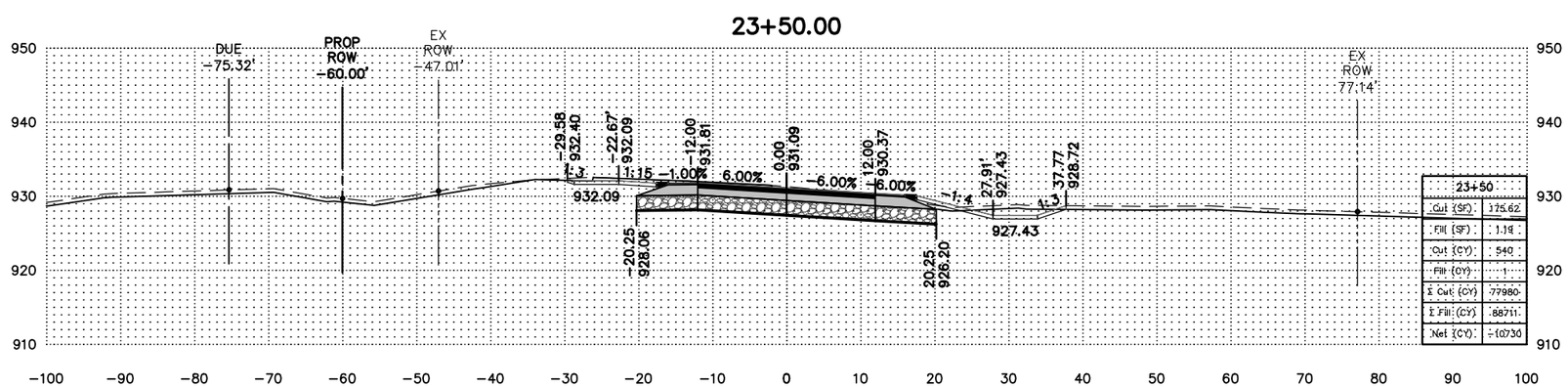



| 24+00 | |
|---|---|
| Cut (SF) | 133.06 |
| Fill (SF) | 1.13 |
| Cut (CY) | 286 |
| Fill (CY) | 2 |
| Σ Cut (CY) | 78266 |
| Σ Fill (CY) | 88713 |
| Net (CY) | -10447 |




| 23+50 | |
|---|---|
| Cut (SF) | 175.62 |
| Fill (SF) | 1.19 |
| Cut (CY) | 540 |
| Fill (CY) | 1 |
| Σ Cut (CY) | 77980 |
| Σ Fill (CY) | 88711 |
| Net (CY) | -10730 |

| DATE | BY | REVISIONS |
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|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60-02FL

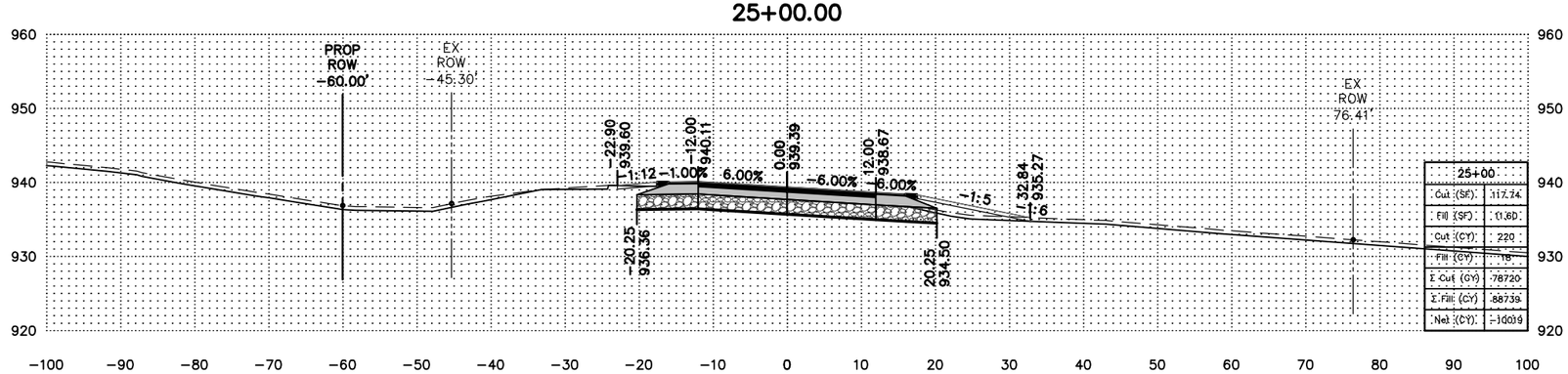
CR 60 CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.40 of 11.57 Sheets

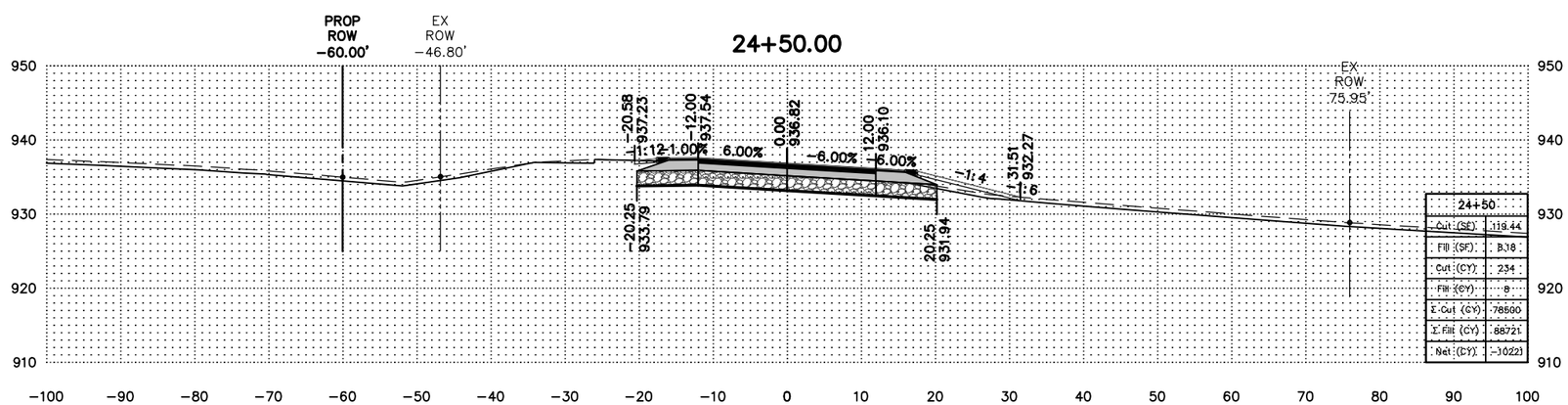
\\HWYGIS\hwydata\P\6002FL\CAD\Production Drawings\Xsec's\6002FL_ProposedCR60 X-Sections.dwg (2/10/2016 4:47 PM)

## 25+00.00




| 25+00 | |
|---|---|
| Cut (SF) | 117.74 |
| Fill (SF) | 11.60 |
| Cut (CY) | 220 |
| Fill (CY) | 18 |
| Σ Cut (CY) | 78720 |
| Σ Fill (CY) | 88739 |
| Net (CY) | -10019 |

## 24+50.00




| 24+50 | |
|---|---|
| Cut (SF) | 119.44 |
| Fill (SF) | 8.18 |
| Cut (CY) | 234 |
| Fill (CY) | 8 |
| Σ Cut (CY) | 78500 |
| Σ Fill (CY) | 88721 |
| Net (CY) | -10221 |

| DATE | BY | REVISIONS |
|---|---|---|
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|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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Date 02/10/2016

Reg. No. 24756

C.P. 60-02FL

CR 60 CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.41 of 11.57 Sheets

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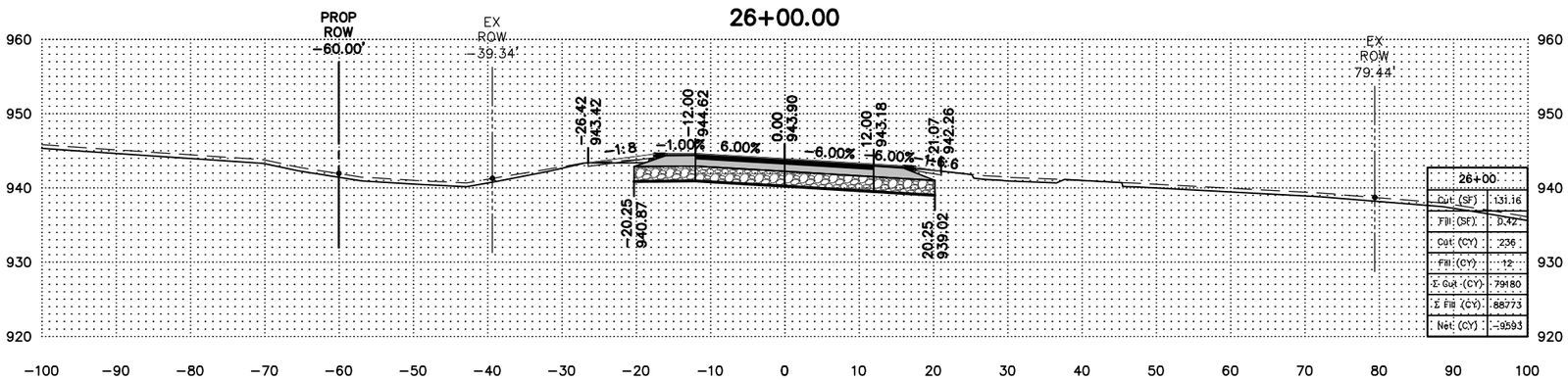
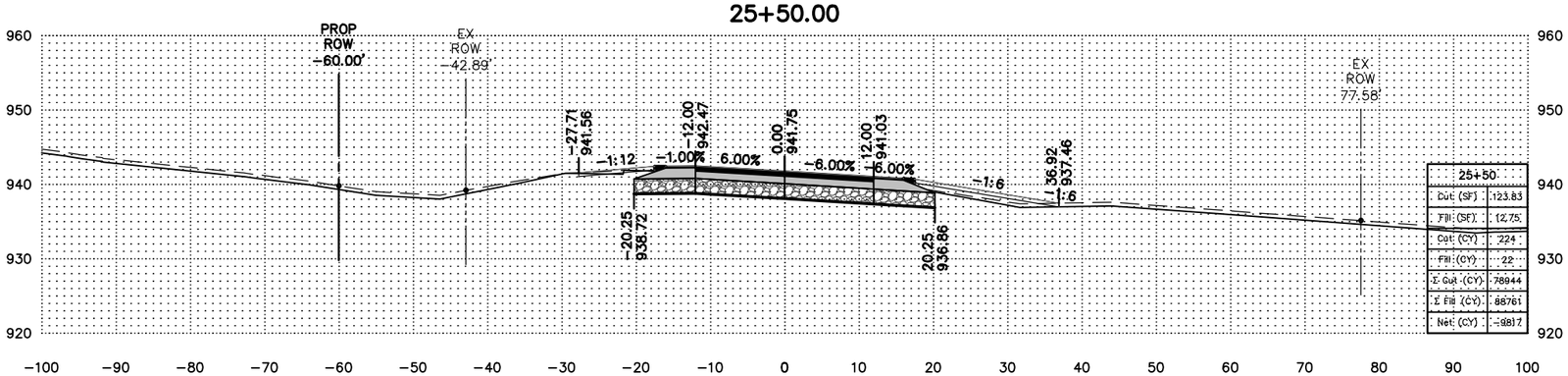
## 26+00.00




| 26+00 | |
|---|---|
| Cut (SF) | 131.16 |
| Fill (SF) | 0.42 |
| Cut (CY) | 236 |
| Fill (CY) | 12 |
| Σ Cut (CY) | 79180 |
| Σ Fill (CY) | 88773 |
| Net (CY) | -9593 |

## 25+50.00




| 25+50 | |
|---|---|
| Cut (SF) | 123.83 |
| Fill (SF) | 12.75 |
| Cut (CY) | 224 |
| Fill (CY) | 22 |
| Σ Cut (CY) | 78944 |
| Σ Fill (CY) | 88761 |
| Net (CY) | -9817 |

| DATE | BY | REVISIONS |
|---|---|---|
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|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

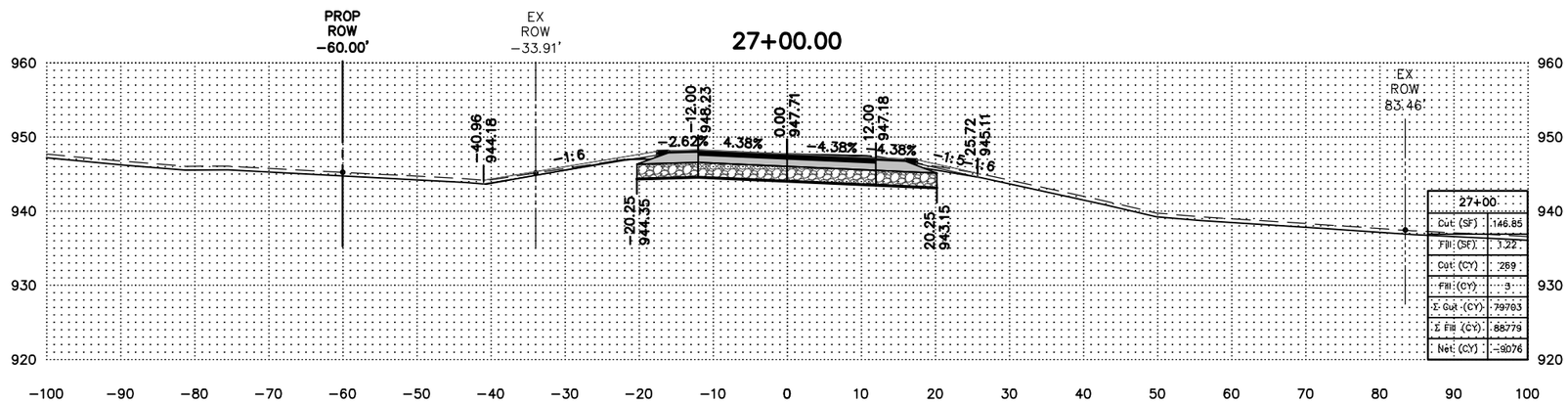
C.P. 60-02FL

CR 60 CROSS SECTIONS

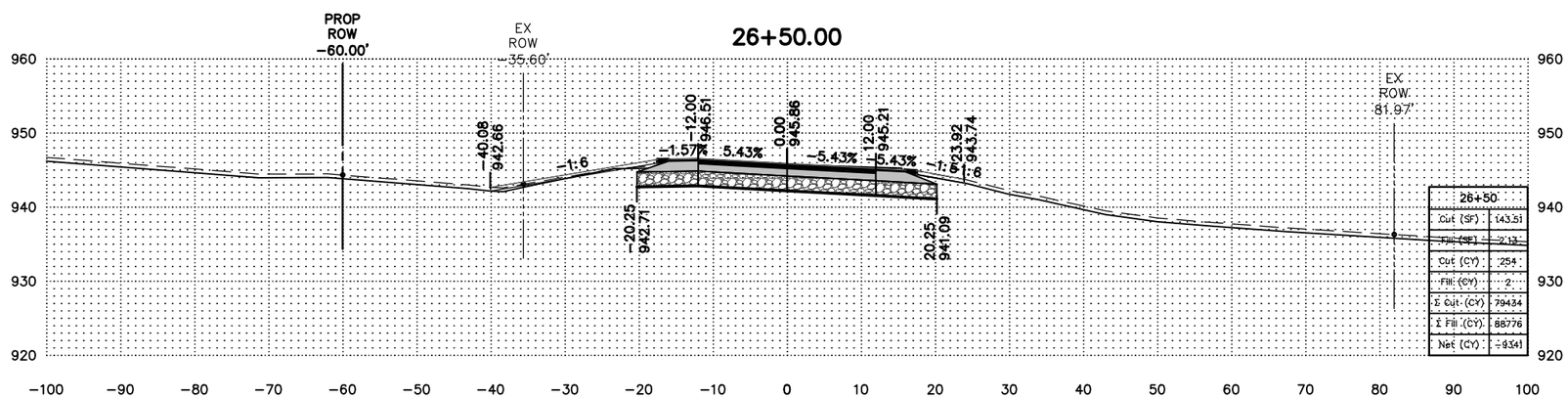
S.A.P. 070-593-001

Sheet No. 11.42 of 11.57 Sheets

\\HWYGIS\hwydata\P\6002FL\CAD\Production Drawings\Xsec's\6002FL_ProposedCR60 X-Sections.dwg (2/10/2016 4:48 PM)




| 27+00 | |
|---|---|
| Cut (SF) | 146.85 |
| Fill (SF) | 1.22 |
| Cut (CY) | 269 |
| Fill (CY) | 3 |
| Σ Cut (CY) | 79763 |
| Σ Fill (CY) | 88779 |
| Net (CY) | −9076 |




| 26+50 | |
|---|---|
| Cut (SF) | 143.51 |
| Fill (SF) | 2.13 |
| Cut (CY) | 254 |
| Fill (CY) | 2 |
| Σ Cut (CY) | 79434 |
| Σ Fill (CY) | 88776 |
| Net (CY) | −9341 |

| DATE | BY | REVISIONS |
|---|---|---|
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|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60−02FL

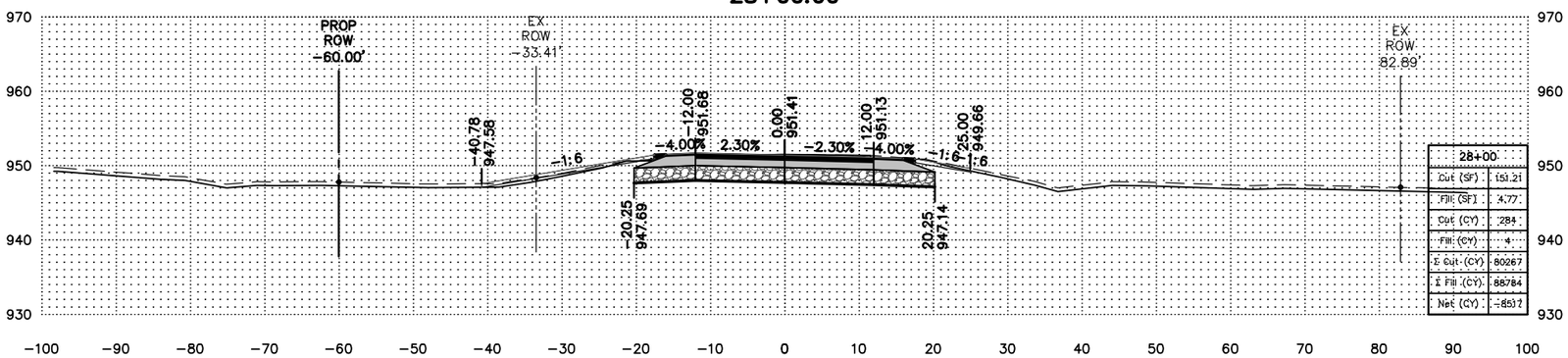
CR 60 CROSS SECTIONS

S.A.P. 070−593−001

Sheet No. 11.43 of 11.57 Sheets

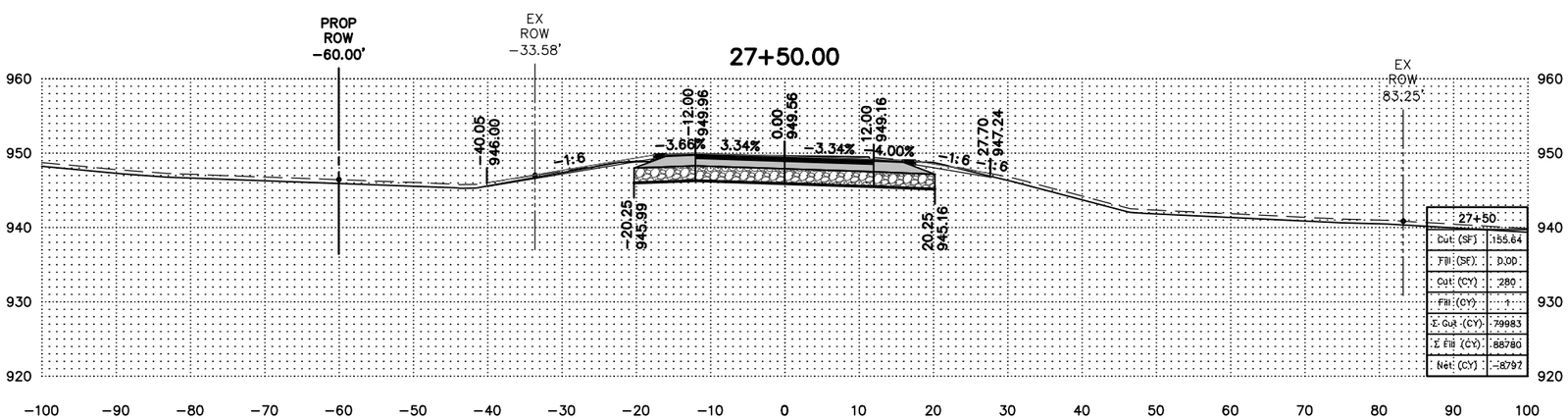
\\HWYGIS\hwydata\P\6002FL\CAD\Production Drawings\Xsec's\6002FL_ProposedCR60 X-Sections.dwg (2/10/2016 4:48 PM)

## 28+00.00




| 28+00 | |
|---|---|
| Cut (SF) | 151.21 |
| Fill (SF) | 4.77 |
| Cut (CY) | 284 |
| Fill (CY) | 4 |
| Σ Cut (CY) | 80267 |
| Σ Fill (CY) | 88784 |
| Net (CY) | -8517 |

## 27+50.00




| 27+50 | |
|---|---|
| Cut (SF) | 155.64 |
| Fill (SF) | 0.00 |
| Cut (CY) | 280 |
| Fill (CY) | 1 |
| Σ Cut (CY) | 79983 |
| Σ Fill (CY) | 88780 |
| Net (CY) | -8797 |

| DATE | BY | REVISIONS |
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|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

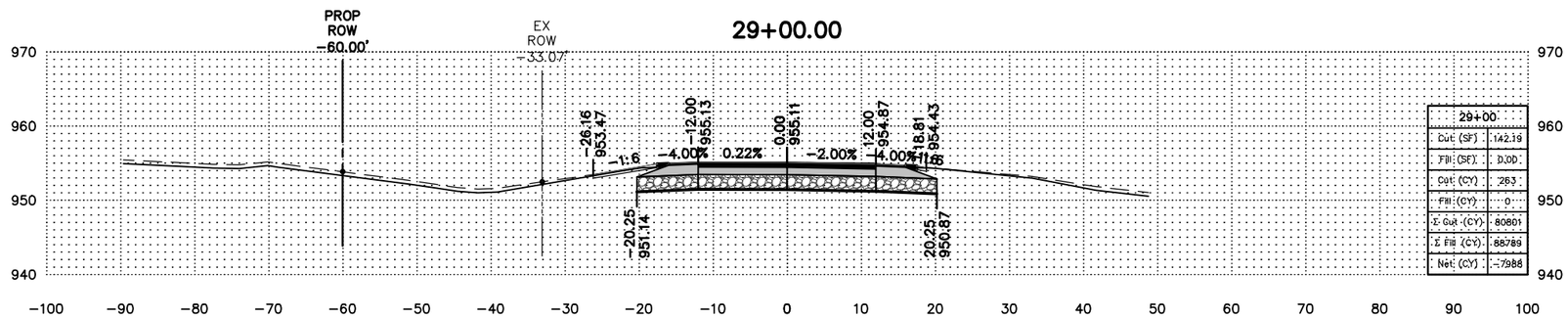
C.P. 60-02FL

CR 60 CROSS SECTIONS

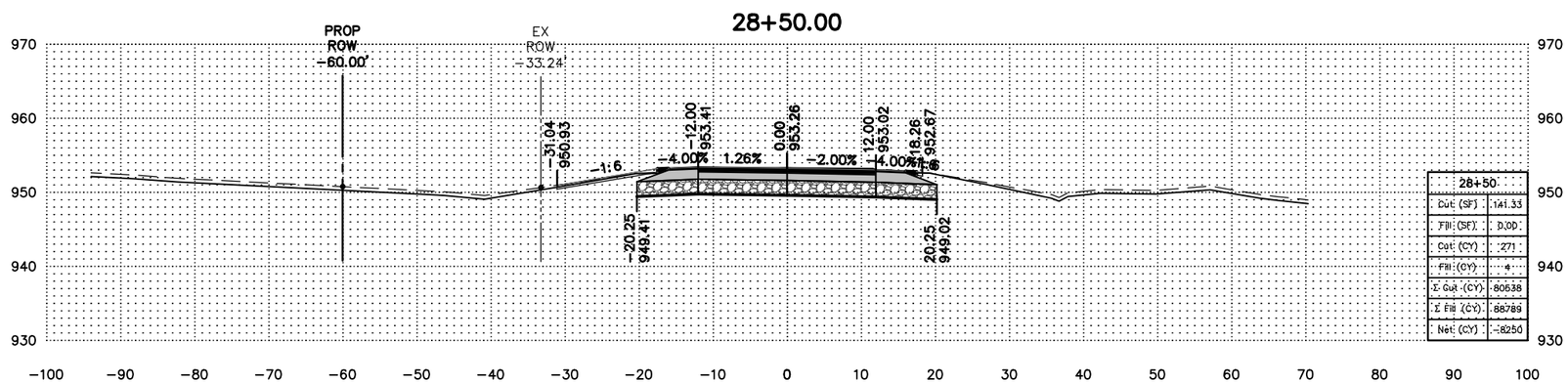
S.A.P. 070-593-001

Sheet No. 11.44 of 11.57 Sheets

\\HWYGIS\hwydata\P\6002FL\CAD\Production Drawings\Xsec's\6002FL_ProposedCR60 X-Sections.dwg (2/10/2016 4:48 PM)




| 29+00 | |
|---|---|
| Cut (SF) | 142.19 |
| Fill (SF) | 0.00 |
| Cut (CY) | 263 |
| Fill (CY) | 0 |
| Σ Cut (CY) | 80801 |
| Σ Fill (CY) | 88789 |
| Net (CY) | -7988 |




| 28+50 | |
|---|---|
| Cut (SF) | 141.33 |
| Fill (SF) | 0.00 |
| Cut (CY) | 271 |
| Fill (CY) | 4 |
| Σ Cut (CY) | 80538 |
| Σ Fill (CY) | 88789 |
| Net (CY) | -8250 |

| DATE | BY | REVISIONS |
|---|---|---|
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|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

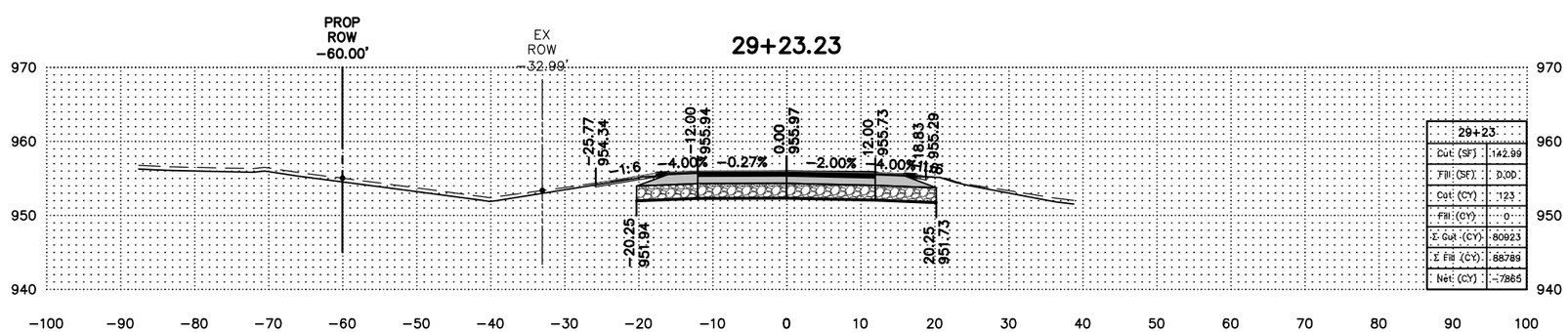
C.P. 60-02FL

CR 60 CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.45 of 11.57 Sheets

\\HWYGIS\hwydata\P\6002FL\CAD\Production Drawings\Xsec's\6002FL_ProposedCR60 X-Sections.dwg (2/10/2016 4:49 PM)




| 29+23 | |
|---|---|
| Cut (SF) | 142.99 |
| Fill (SF) | 0.00 |
| Cut (CY) | 123 |
| Fill (CY) | 0 |
| Σ Cut (CY) | 80923 |
| Σ Fill (CY) | 88789 |
| Net (CY) | -7865 |

| DATE | BY | REVISIONS |
|---|---|---|
| | | |

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|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

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Date 02/10/2016

Reg. No. 24756

C.P. 60-02FL

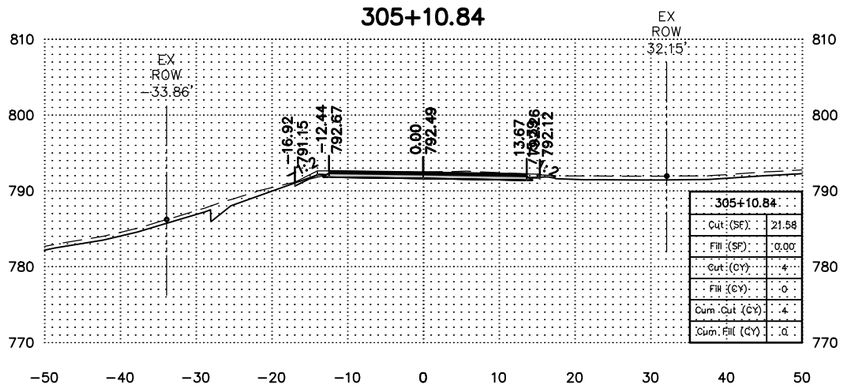
CR 60 CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.46 of 11.57 Sheets

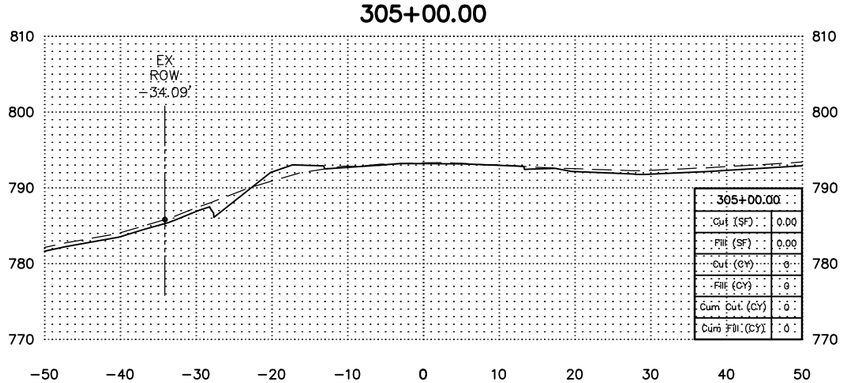
\\HWYGIS\hwydata\P\6002FL\CAD\Production Drawings\Xsec's\6002FL_ProposedCR60 X-Sections.dwg (2/10/2016 4:49 PM)

## 305+10.84



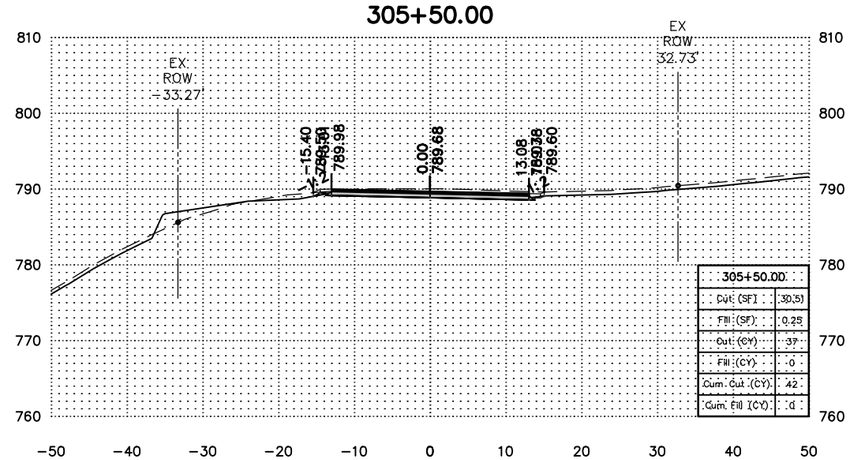

| 305+10.84 | |
|---|---|
| Cut (SF) | 21.58 |
| Fill (SF) | 0.00 |
| Cut (CY) | 4 |
| Fill (CY) | 0 |
| Cum Cut (CY) | 4 |
| Cum Fill (CY) | 0 |

## 305+00.00




| 305+00.00 | |
|---|---|
| Cut (SF) | 0.00 |
| Fill (SF) | 0.00 |
| Cut (CY) | 0 |
| Fill (CY) | 0 |
| Cum Cut (CY) | 0 |
| Cum Fill (CY) | 0 |

## 305+50.00




| 305+50.00 | |
|---|---|
| Cut (SF) | 30.51 |
| Fill (SF) | 0.25 |
| Cut (CY) | 37 |
| Fill (CY) | 0 |
| Cum Cut (CY) | 42 |
| Cum Fill (CY) | 0 |

| DATE | BY | REVISIONS |
|---|---|---|
| 1/8/2016 | JCS | ADDITION OF C&G IN SE QUAD. AND REALIGNMENT OF SECTION VIEWS. |

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|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

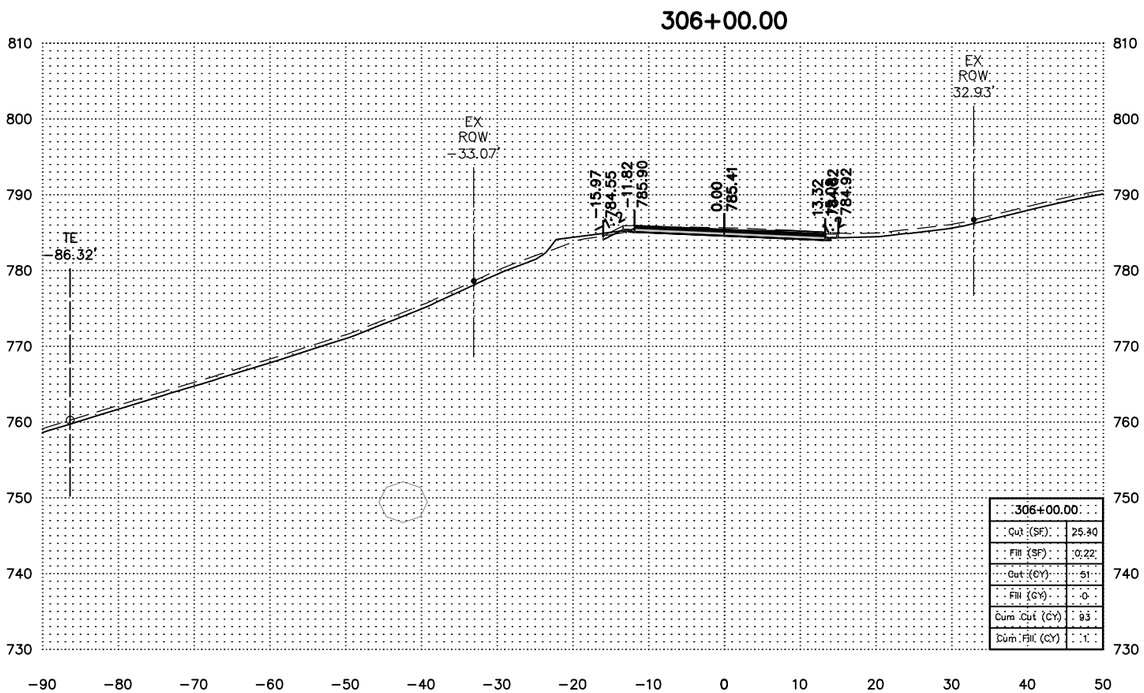
C.P. 60-02FL

OLD CR 60 CROSS SECTIONS

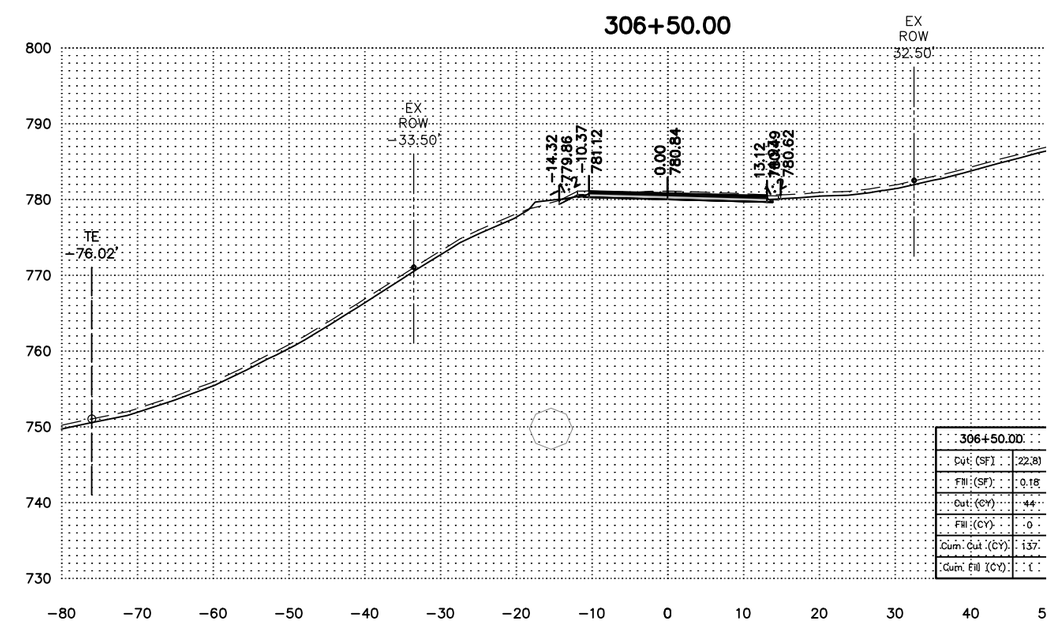
S.A.P. 070-593-001

Sheet No. 11.47 of 11.57 Sheets

\\HWYGIS\hwydata\P\6002FL\CAD\Production Drawings\Xsec's\6002FL_ProposedOldCR60 and Berm X-Sections.dwg (2/10/2016 4:37 PM)




| 306+00.00 | |
|---|---|
| Cut (SF) | 25.80 |
| Fill (SF) | 0.22 |
| Cut (CY) | 51 |
| Fill (CY) | 0 |
| Cum Cut (CY) | 93 |
| Cum Fill (CY) | 1 |




| 306+50.00 | |
|---|---|
| Cut (SF) | 22.8 |
| Fill (SF) | 0.18 |
| Cut (CY) | 44 |
| Fill (CY) | 0 |
| Cum Cut (CY) | 137 |
| Cum Fill (CY) | 1 |

| DATE | BY | REVISIONS |
|---|---|---|
| 1/8/2016 | JCS | ADDITION OF C&G IN SE QUAD. AND REALIGNMENT OF SECTION VIEWS. |

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|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

OLD CR 60 CROSS SECTIONS

S.A.P. 070–593–001

Sheet No. 11.48 of 11.57 Sheets

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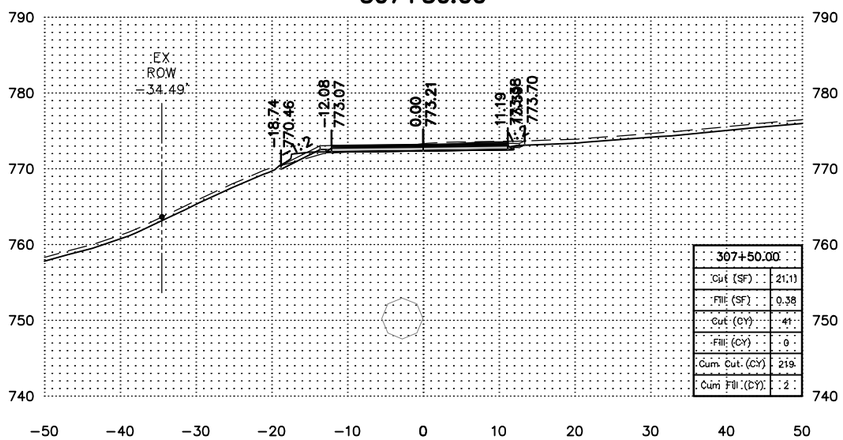
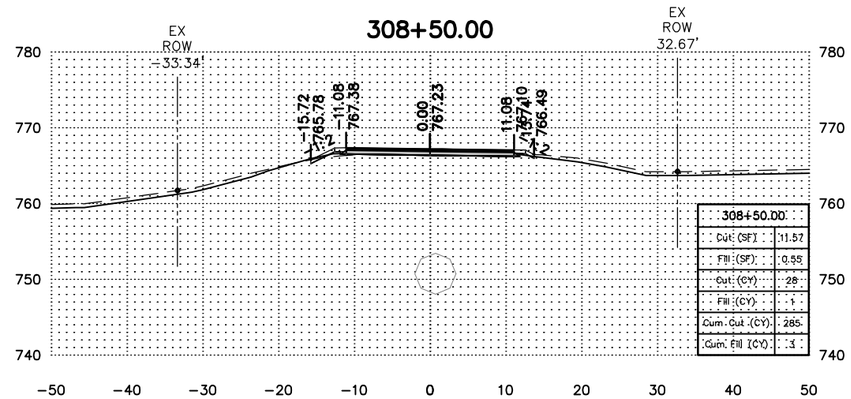
## 307+50.00



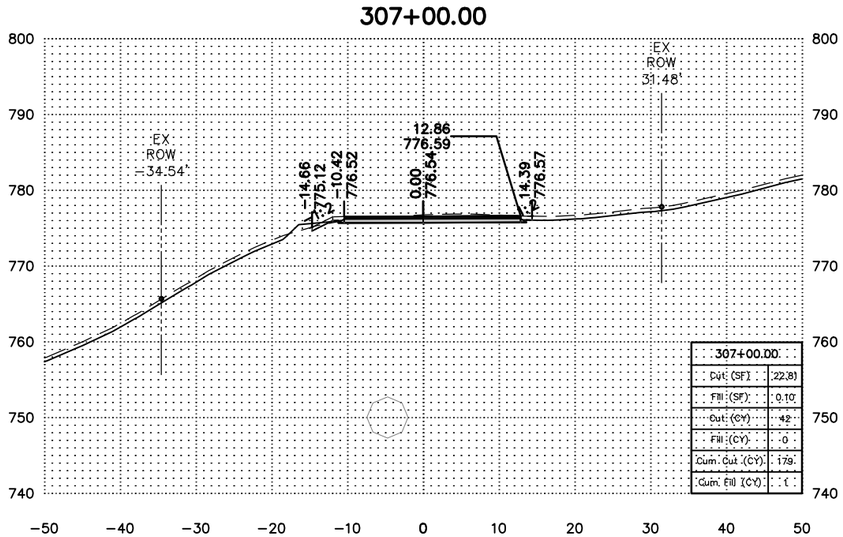

| 307+50.00 | |
|---|---|
| Cut (SF) | 21.1 |
| Fill (SF) | 0.38 |
| Cut (CY) | 41 |
| Fill (CY) | 0 |
| Cum. Cut (CY) | 219 |
| Cum. Fill (CY) | 2 |

## 308+50.00



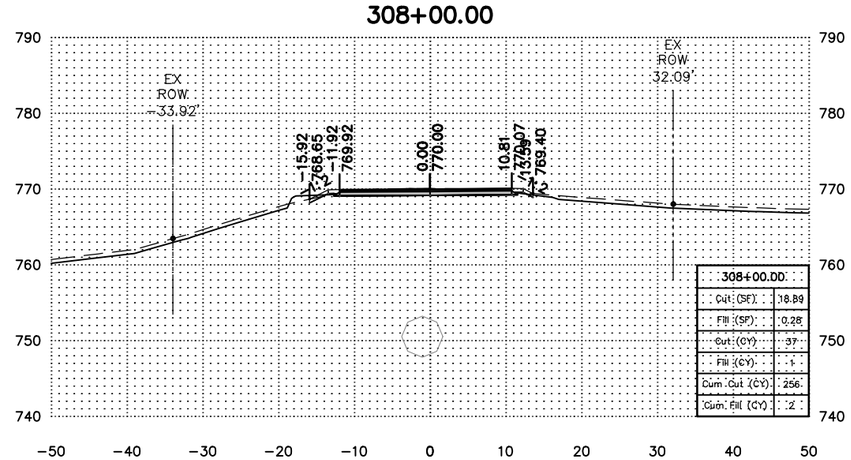

| 308+50.00 | |
|---|---|
| Cut (SF) | 11.57 |
| Fill (SF) | 0.55 |
| Cut (CY) | 28 |
| Fill (CY) | 1 |
| Cum. Cut (CY) | 285 |
| Cum. Fill (CY) | 3 |

## 307+00.00




| 307+00.00 | |
|---|---|
| Cut (SF) | 22.8 |
| Fill (SF) | 0.10 |
| Cut (CY) | 42 |
| Fill (CY) | 0 |
| Cum. Cut (CY) | 179 |
| Cum. Fill (CY) | 1 |

## 308+00.00




| 308+00.00 | |
|---|---|
| Cut (SF) | 18.89 |
| Fill (SF) | 0.28 |
| Cut (CY) | 37 |
| Fill (CY) | 1 |
| Cum. Cut (CY) | 256 |
| Cum. Fill (CY) | 2 |

| DATE | BY | REVISIONS |
|---|---|---|
| 1/8/2016 | JCS | ADDITION OF C&G IN SE QUAD. AND REALIGNMENT OF SECTION VIEWS. |

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|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

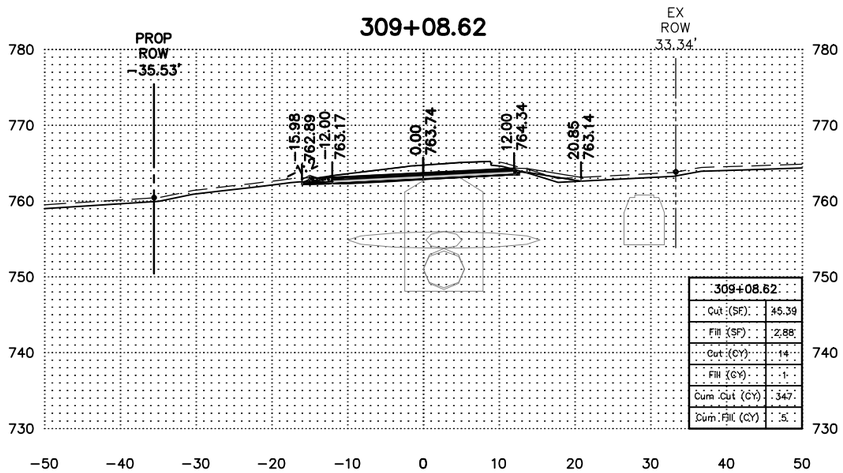
C.P. 60–02FL

OLD CR 60 CROSS SECTIONS

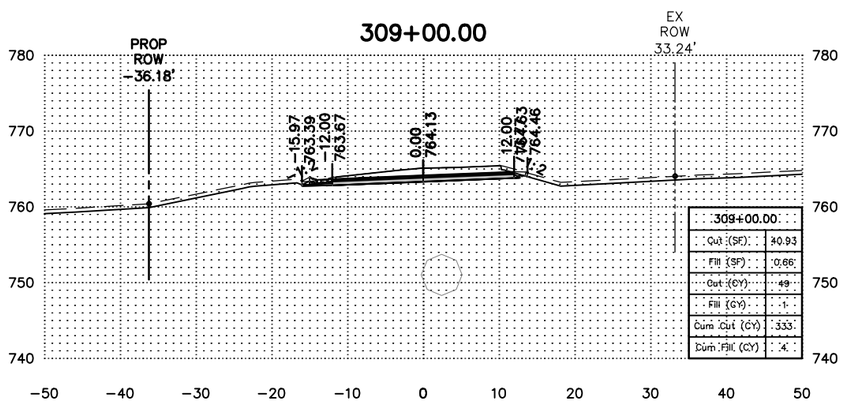
S.A.P. 070–593–001

Sheet No. 11.49 of 11.57 Sheets

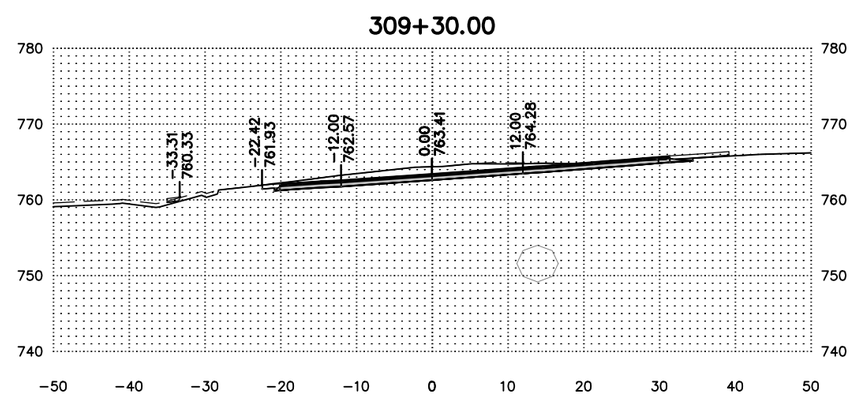
\\HWYGIS\hwydata\P\6002FL\CAD\Production Drawings\Xsec's\6002FL_ProposedOldCR60 and Berm X-Sections.dwg (2/10/2016 4:38 PM)




| 309+08.62 | |
|---|---|
| Cut (SF) | 45.39 |
| Fill (SF) | 2.88 |
| Cut (CY) | 14 |
| Fill (CY) | 1 |
| Cum Cut (CY) | 347 |
| Cum Fill (CY) | 5 |




| 309+00.00 | |
|---|---|
| Cut (SF) | 40.93 |
| Fill (SF) | 0.66 |
| Cut (CY) | 49 |
| Fill (CY) | 1 |
| Cum Cut (CY) | 333 |
| Cum Fill (CY) | 4 |




| DATE | BY | REVISIONS |
|---|---|---|
| 1/8/2016 | JCS | ADDITION OF C&G IN SE QUAD. AND REALIGNMENT OF SECTION VIEWS. |

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|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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Date 02/10/2016

Reg. No. 24756

C.P. 60-02FL

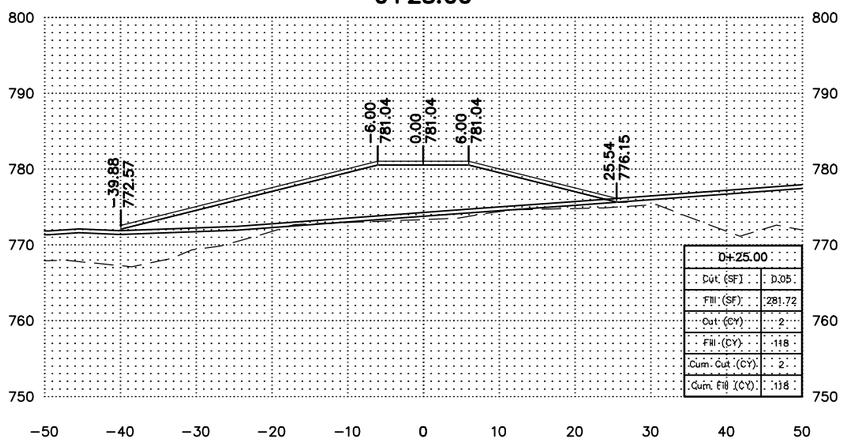
OLD CR 60 CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.50 of 11.57 Sheets

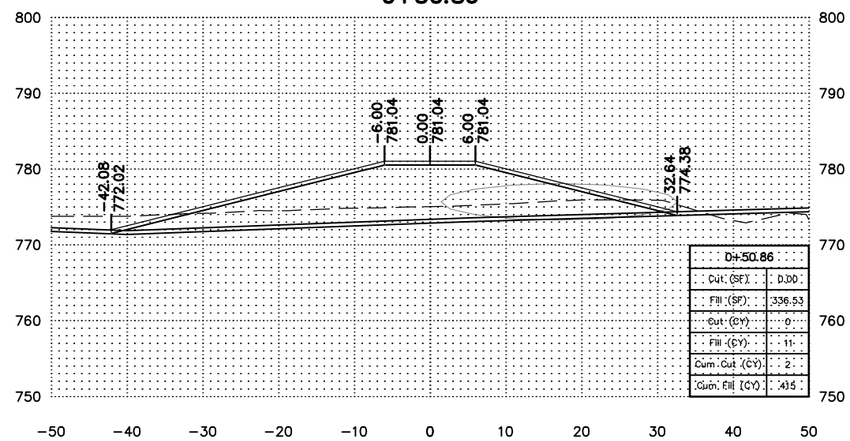
\\HWYGIS\hwydata\P\6002FL\CAD\Production Drawings\Xsec's\6002FL_ProposedOldCR60 and Berm X-Sections.dwg (2/10/2016 4:38 PM)

## 0+25.00



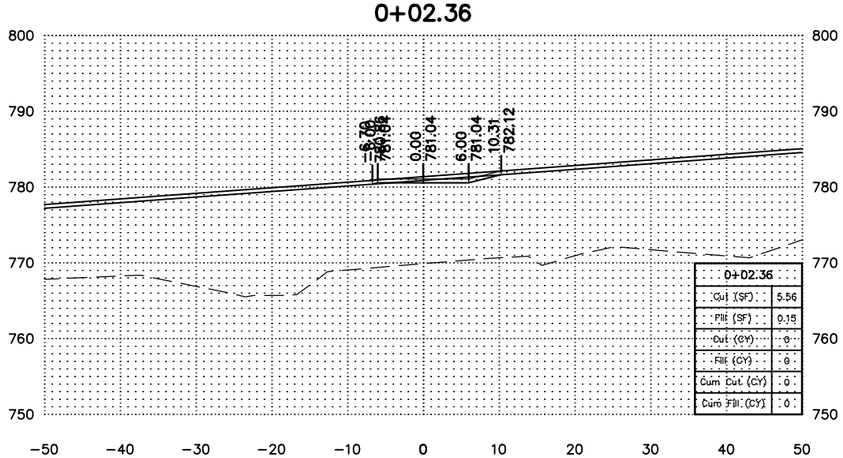

| 0+25.00 | |
|---|---|
| Cut (SF) | 0.05 |
| Fill (SF) | 281.72 |
| Cut (CY) | 2 |
| Fill (CY) | 118 |
| Cum Cut (CY) | 2 |
| Cum Fill (CY) | 118 |

## 0+50.86



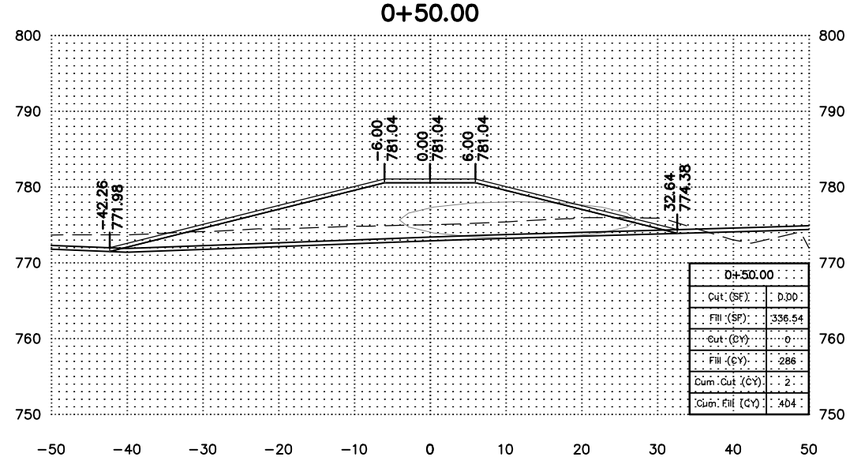

| 0+50.86 | |
|---|---|
| Cut (SF) | 0.00 |
| Fill (SF) | 336.53 |
| Cut (CY) | 0 |
| Fill (CY) | 11 |
| Cum Cut (CY) | 2 |
| Cum Fill (CY) | 415 |

## 0+02.36




| 0+02.36 | |
|---|---|
| Cut (SF) | 5.56 |
| Fill (SF) | 0.15 |
| Cut (CY) | 0 |
| Fill (CY) | 0 |
| Cum Cut (CY) | 0 |
| Cum Fill (CY) | 0 |

## 0+50.00




| 0+50.00 | |
|---|---|
| Cut (SF) | 0.00 |
| Fill (SF) | 336.54 |
| Cut (CY) | 0 |
| Fill (CY) | 286 |
| Cum Cut (CY) | 2 |
| Cum Fill (CY) | 404 |

| DATE | BY | REVISIONS |
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| | | |

| | |
|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60-02FL

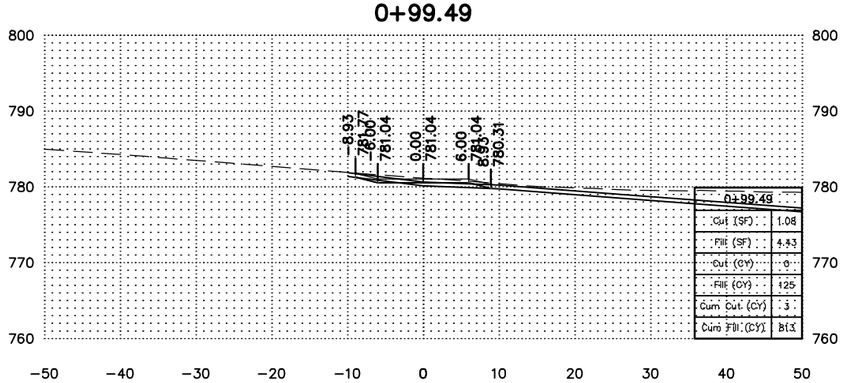
BERM 1 CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.51 of 11.57 Sheets

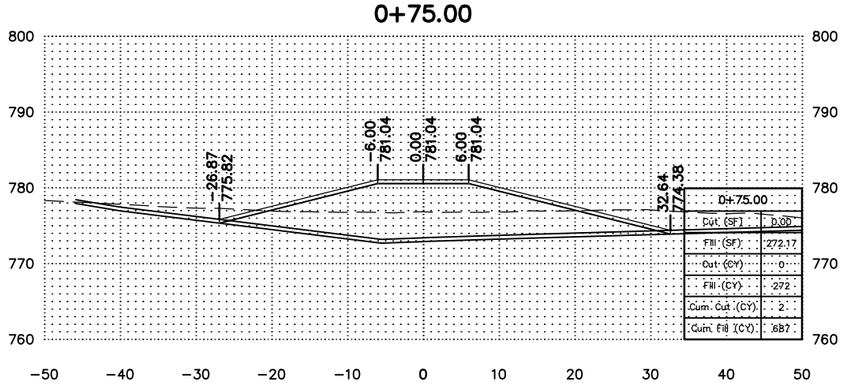
\\HWYGIS\hwydata\P\6002FL\CAD\Production Drawings\Xsec's\6002FL_ProposedOldCR60 and Berm X-Sections.dwg (2/10/2016 4:38 PM)

## 0+99.49



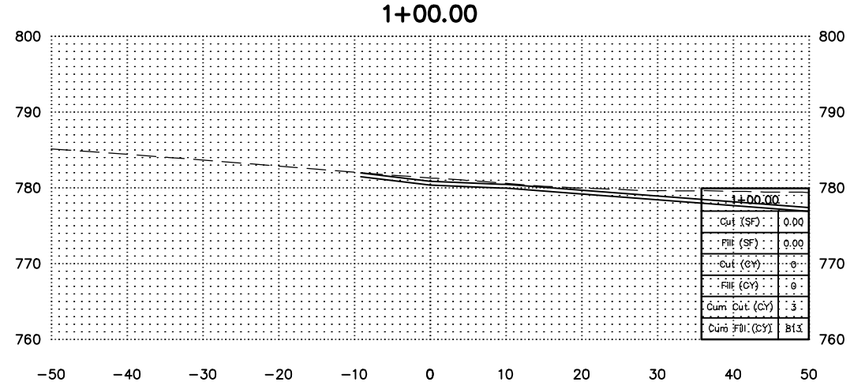

| 0+99.49 | |
|---|---|
| Cut (SF) | 1.06 |
| Fill (SF) | 4.43 |
| Cut (CY) | 0 |
| Fill (CY) | 125 |
| Cum Cut (CY) | 3 |
| Cum Fill (CY) | 813 |

## 0+75.00




| 0+75.00 | |
|---|---|
| Cut (SF) | 0.00 |
| Fill (SF) | 272.17 |
| Cut (CY) | 0 |
| Fill (CY) | 272 |
| Cum Cut (CY) | 2 |
| Cum Fill (CY) | 687 |

## 1+00.00




| 1+00.00 | |
|---|---|
| Cut (SF) | 0.00 |
| Fill (SF) | 0.00 |
| Cut (CY) | 0 |
| Fill (CY) | 0 |
| Cum Cut (CY) | 3 |
| Cum Fill (CY) | 813 |

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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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Reg. No. 24756

C.P. 60–02FL

BERM 1 CROSS SECTIONS

S.A.P. 070–593–001

Sheet No. 11.52 of 11.57 Sheets

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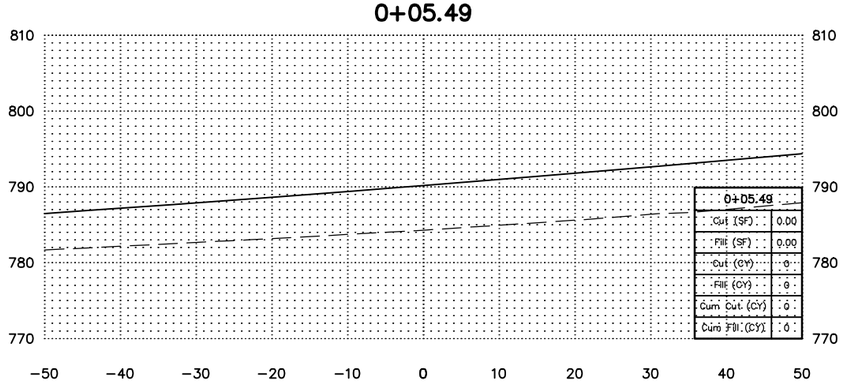
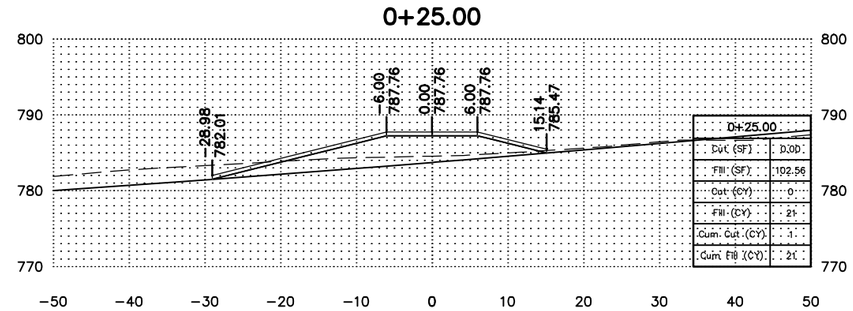
## 0+05.49




## 0+25.00

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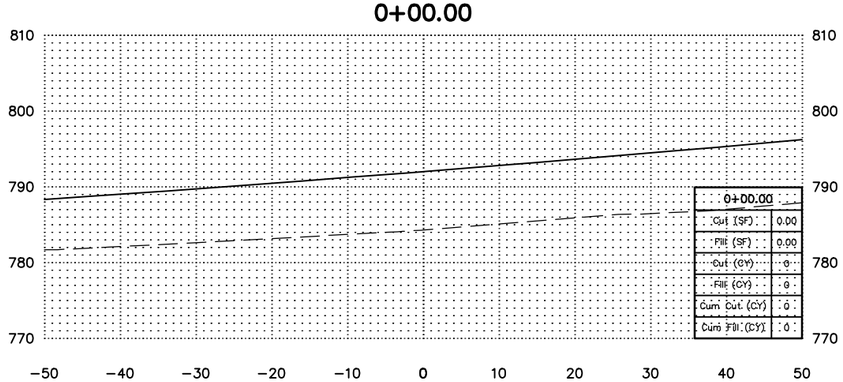
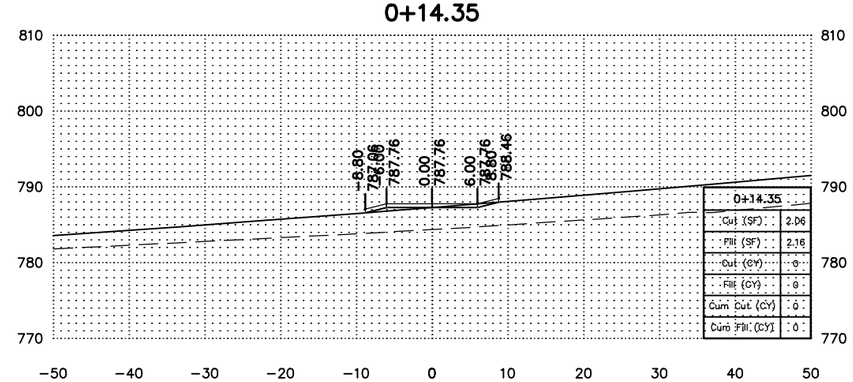



## 0+14.35




| DATE | BY | REVISIONS |
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|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

BERM 2 CROSS SECTIONS

S.A.P. 070–593–001

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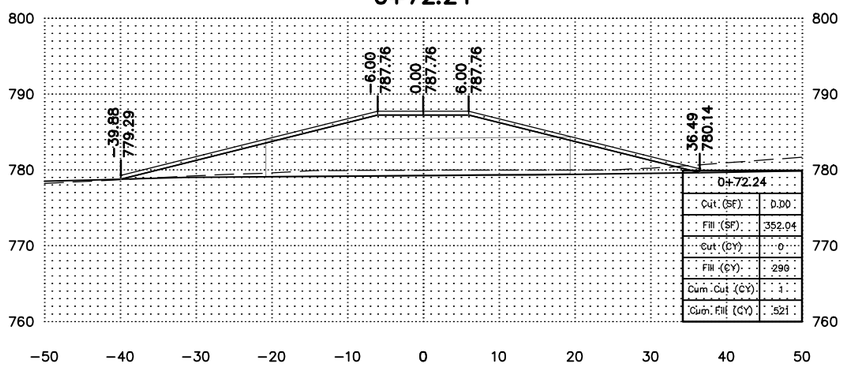
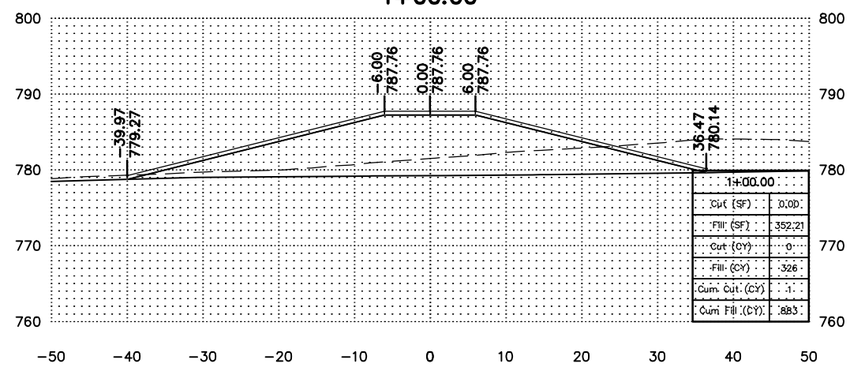
## 0+72.24



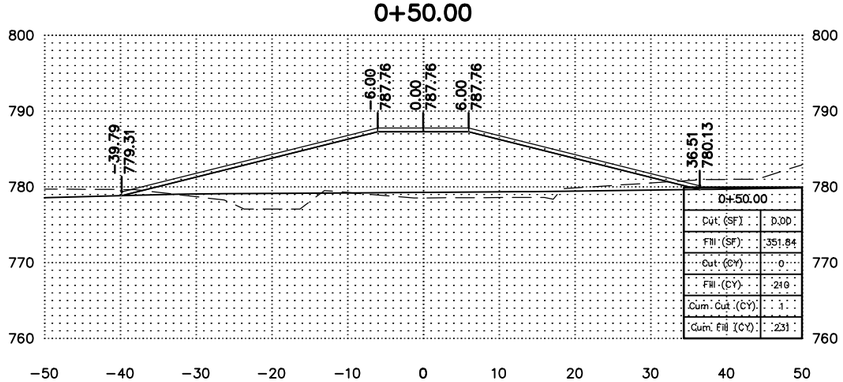

| 0+72.24 | |
|---|---|
| Cut (SF) | 0.00 |
| Fill (SF) | 352.04 |
| Cut (CY) | 0 |
| Fill (CY) | 299 |
| Cum Cut (CY) | 1 |
| Cum Fill (CY) | 521 |

## 1+00.00



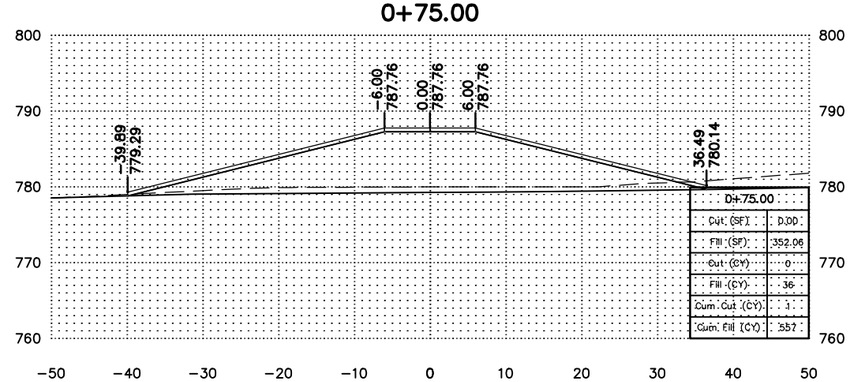

| 1+00.00 | |
|---|---|
| Cut (SF) | 0.00 |
| Fill (SF) | 352.21 |
| Cut (CY) | 0 |
| Fill (CY) | 326 |
| Cum Cut (CY) | 1 |
| Cum Fill (CY) | 883 |

## 0+50.00




| 0+50.00 | |
|---|---|
| Cut (SF) | 0.00 |
| Fill (SF) | 351.84 |
| Cut (CY) | 0 |
| Fill (CY) | 246 |
| Cum Cut (CY) | 1 |
| Cum Fill (CY) | 231 |

## 0+75.00




| 0+75.00 | |
|---|---|
| Cut (SF) | 0.00 |
| Fill (SF) | 352.06 |
| Cut (CY) | 0 |
| Fill (CY) | 36 |
| Cum Cut (CY) | 1 |
| Cum Fill (CY) | 557 |

| DATE | BY | REVISIONS |
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|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60–02FL

BERM 2 CROSS SECTIONS

S.A.P. 070–593–001

Sheet No. 11.54 of 11.57 Sheets

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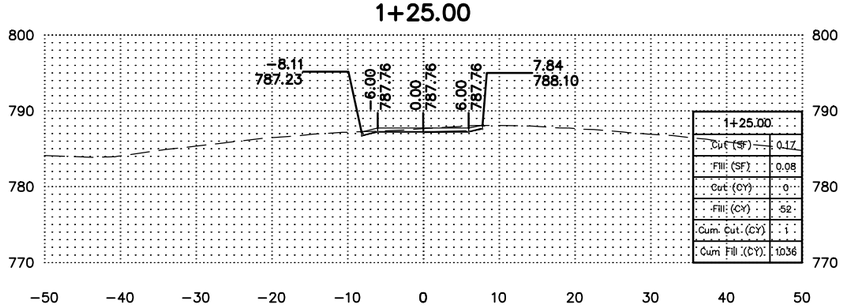
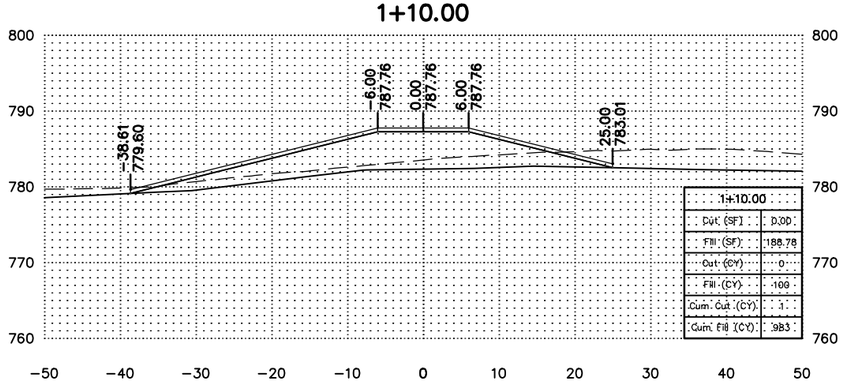
## 1+25.00




| 1+25.00 | |
|---|---|
| Cut (SF) | 0.17 |
| Fill (SF) | 0.08 |
| Cut (CY) | 0 |
| Fill (CY) | .52 |
| Cum. Cut (CY) | 1 |
| Cum. Fill (CY) | 10.36 |

## 1+10.00




| 1+10.00 | |
|---|---|
| Cut (SF) | 0.00 |
| Fill (SF) | 188.78 |
| Cut (CY) | 0 |
| Fill (CY) | 100 |
| Cum. Cut (CY) | 1 |
| Cum. Fill (CY) | 983 |

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|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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Reg. No. 24756

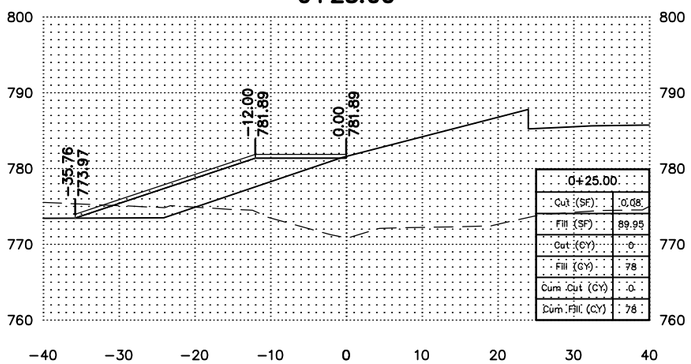
C.P. 60-02FL

BERM 2 CROSS SECTIONS

S.A.P. 070-593-001

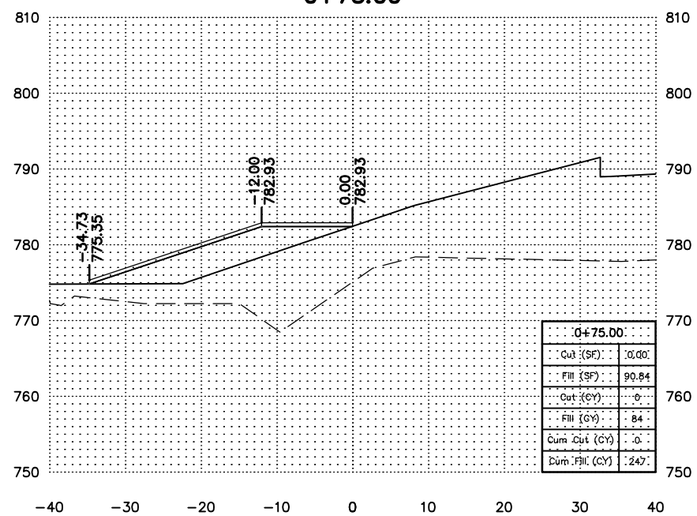
Sheet No. 11.55 of 11.57 Sheets

## 0+25.00



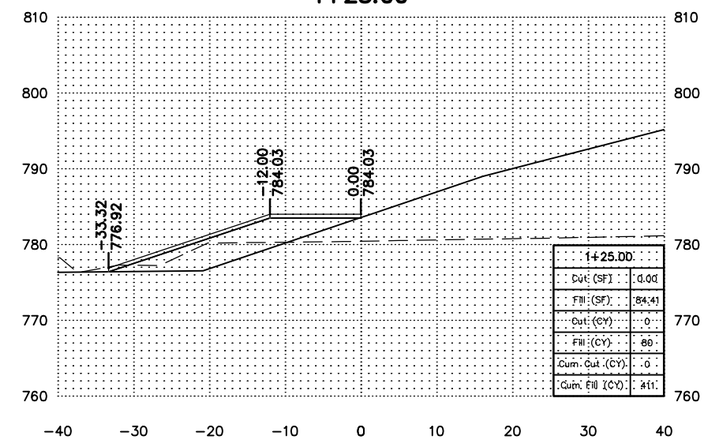

| 0+25.00 | |
|---|---|
| Cut (SF) | 0.00 |
| Fill (SF) | 89.95 |
| Cut (CY) | 0 |
| Fill (CY) | 78 |
| Cum Cut (CY) | 0 |
| Cum Fill (CY) | 78 |

## 0+75.00



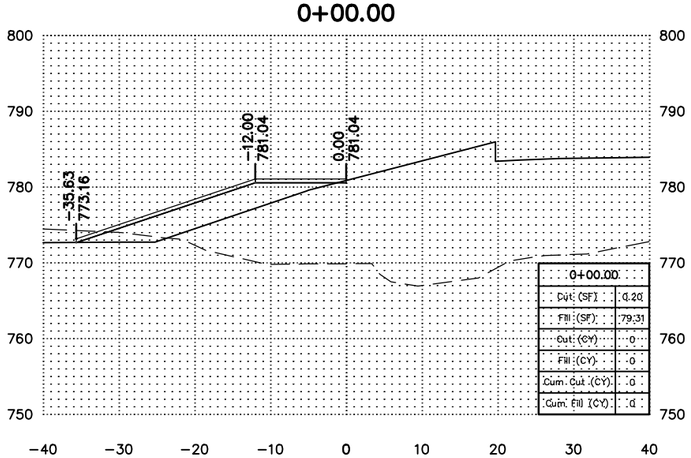

| 0+75.00 | |
|---|---|
| Cut (SF) | 0.00 |
| Fill (SF) | 90.84 |
| Cut (CY) | 0 |
| Fill (CY) | 84 |
| Cum Cut (CY) | 0 |
| Cum Fill (CY) | 247 |

## 1+25.00



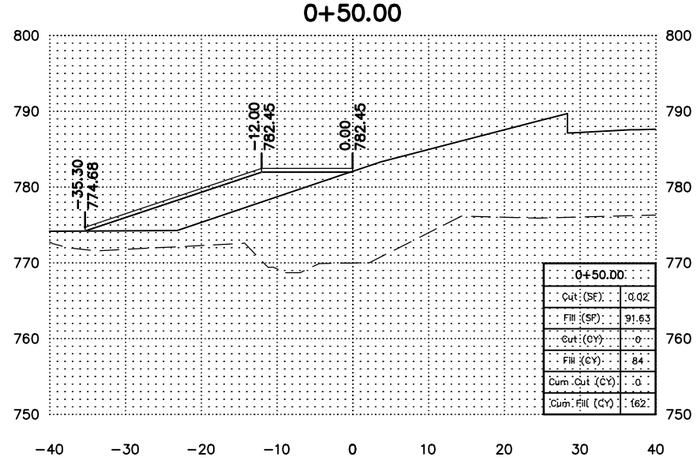

| 1+25.00 | |
|---|---|
| Cut (SF) | 0.00 |
| Fill (SF) | 84.41 |
| Cut (CY) | 0 |
| Fill (CY) | 80 |
| Cum Cut (CY) | 0 |
| Cum Fill (CY) | 411 |

## 0+00.00



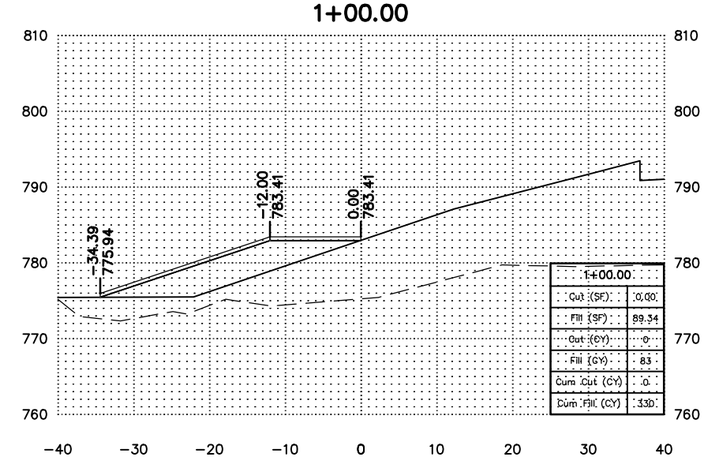

| 0+00.00 | |
|---|---|
| Cut (SF) | 0.20 |
| Fill (SF) | 79.31 |
| Cut (CY) | 0 |
| Fill (CY) | 0 |
| Cum Cut (CY) | 0 |
| Cum Fill (CY) | 0 |

## 0+50.00




| 0+50.00 | |
|---|---|
| Cut (SF) | 0.02 |
| Fill (SF) | 91.63 |
| Cut (CY) | 0 |
| Fill (CY) | 84 |
| Cum Cut (CY) | 0 |
| Cum Fill (CY) | 162 |

## 1+00.00




| 1+00.00 | |
|---|---|
| Cut (SF) | 0.00 |
| Fill (SF) | 89.34 |
| Cut (CY) | 0 |
| Fill (CY) | 83 |
| Cum Cut (CY) | 0 |
| Cum Fill (CY) | 330 |

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|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

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Curt Kobilarcsik

Date 02/10/2016

Reg. No. 24756

C.P. 60-02FL

POND ACCESS ROAD CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.56 of 11.57 Sheets

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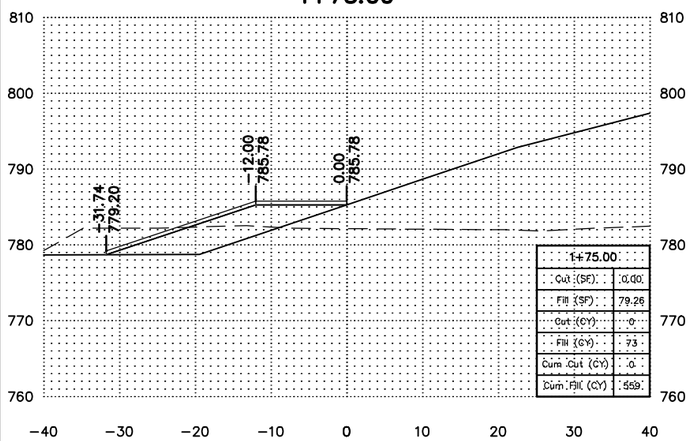
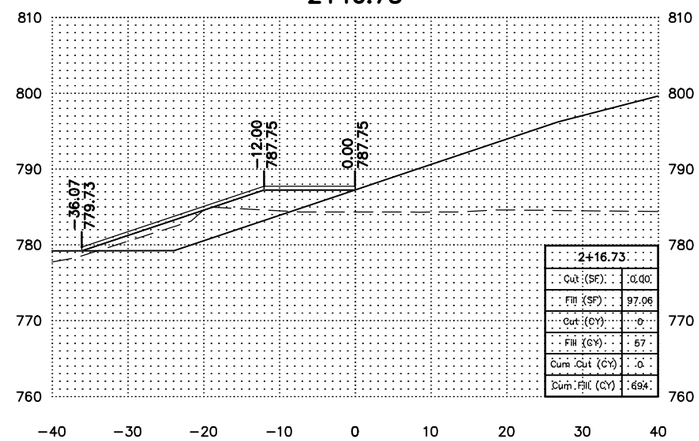
## 1+75.00



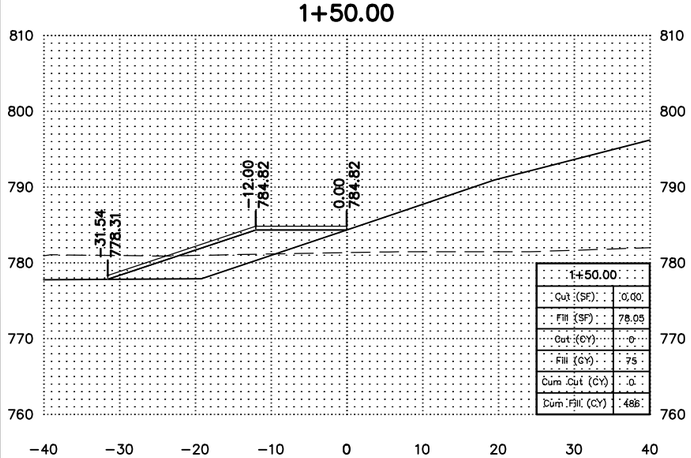

| 1+75.00 | |
|---|---|
| Cut (SF) | 0.00 |
| Fill (SF) | 79.26 |
| Cut (CY) | 0 |
| Fill (CY) | 73 |
| Cum Cut (CY) | 0 |
| Cum Fill (CY) | 559 |

## 2+16.73



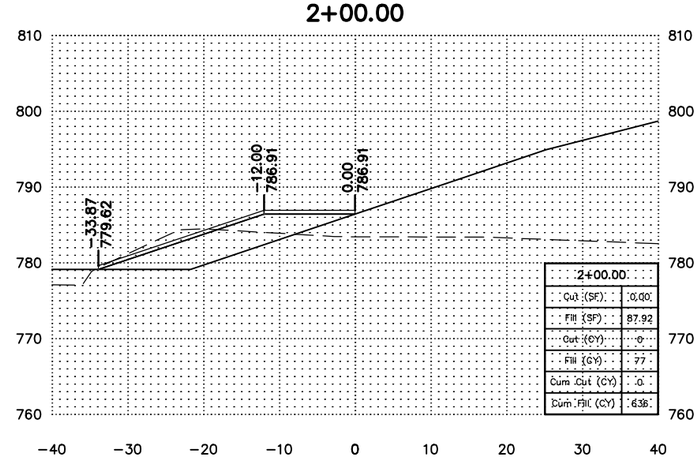

| 2+16.73 | |
|---|---|
| Cut (SF) | 0.00 |
| Fill (SF) | 97.06 |
| Cut (CY) | 0 |
| Fill (CY) | 57 |
| Cum Cut (CY) | 0 |
| Cum Fill (CY) | 694 |

## 1+50.00




| 1+50.00 | |
|---|---|
| Cut (SF) | 0.00 |
| Fill (SF) | 78.05 |
| Cut (CY) | 0 |
| Fill (CY) | 75 |
| Cum Cut (CY) | 0 |
| Cum Fill (CY) | 488 |

## 2+00.00




| 2+00.00 | |
|---|---|
| Cut (SF) | 0.00 |
| Fill (SF) | 87.92 |
| Cut (CY) | 0 |
| Fill (CY) | 77 |
| Cum Cut (CY) | 0 |
| Cum Fill (CY) | 638 |

| DATE | BY | REVISIONS |
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| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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Date 02/10/2016

Reg. No. 24756

C.P. 60-02FL

POND ACCESS ROAD CROSS SECTIONS

S.A.P. 070-593-001

Sheet No. 11.57 of 11.57 Sheets

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## ESTIMATED QUANTITIES

| NOTE NUMBER | SPEC. NUMBER | ITEM | UNIT | TOTAL EST. QUANT. | FINAL QUANT. |
|---|---|---|---|---|---|
| | 2021.501 | MOBILIZATION | LUMP SUM | 0.31 | |
| 1 | 2104.503 | REMOVE BITUMINOUS PAVEMENT | SQ FT | 283,815 | |
| 2 | 2104.513 | SAWING BITUMINOUS PAVEMENT (FULL DEPTH) | LIN FT | 70 | |
| 3 | 2112.603 | SHOULDER PREPARATION | LIN FT | 20,050 | |
| | 2221.501 | SHOULDER BASE AGGREGATE CLASS 2 | TON | 760 | |
| 4 | 2360.501 | TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) | TON | 5,095 | |
| 4 | 2360.502 | TYPE SP 19.0 NON WEARING COURSE MIXTURE (3,B) | TON | 5,885 | |
| 5,7 | 2540.602 | MAIL BOX | EACH | 1 | |
| 5,6 | 2540.602 | MAIL BOX SUPPORT | EACH | 11 | |
| | 2563.601 | TRAFFIC CONTROL | LUMP SUM | 0.31 | |
| 8 | 2574.525 | COMMON TOPSOIL BORROW | CU YD | 175 | |
| | 2582.502 | 4" SOLID LINE PAINT | LIN FT | 5,950 | |
| | 2582.502 | 6" SOLID LINE PAINT | LIN FT | 20,105 | |
| | 2582.502 | 4" BROKEN LINE PAINT | LIN FT | 7,930 | |
| | 2582.502 | 4" DOUBLE SOLID LINE PAINT | LIN FT | 2,130 | |

| | |
|---|---|
| Note 1. | REMOVE BITUMINOUS PAVEMENT SHALL INCLUDE SHAPING & COMPACTING OR REMOVING OF THE EXISTING AGGREGATE BASE. |
| Note 2: | SAWING PAVEMENT IS AT THE BEGIN & END OF PROJ. ALL APPROACHES AND BIT. DWYS OR AS DIRECTED BY THE ENGINEER. |
| Note 3. | SHOULDER PREPARATION SHALL INCLUDE SHAPING & COMPACTING OR REMOVING OF THE EXISTING AGGREGATE SHOULDER. |
| Note 4: | SEE BASIS FOR ESTIMATED QUANTITIES ON SHEET 12.1. |
| Note 5: | THE SALVAGED MAILBOX SUPPORTS & ANY REPLACED MAILBOXES WILL BE OFFERED TO THE PROPERTY OWNERS |
| Note 6: | WORK INCLUDES FURNISHING & INSTALLING A NEW MAIL BOX SUPPORT. REMOVING THE EXISTING SUPPORT. |
| | SALVAGING THE EXISTING MAIL BOX AND INSTALLING ON THE NEW SUPPORT |
| Note 7. | THIS ITEM WILL BE USED ONLY IF THE ENGINEER DETERMINES THAT THE SALVAGED MAILBOX DOES NOT MEET |
| | THE LOCAL POSTMASTER'S STANDARDS AND CANNOT BE USED. SPEC. 1903 WILL NOT APPLY TO THIS ITEM. |
| Note 8: | TO BE USED IN PLACE OF AGG SHOULDERING ALONG DWYS AND FRONT YARDS AS DIRECTED BY THE ENGINEER |
| | SEED MIXTURE 260 & FERTILIZER 22-5-10 WILL BE APPLIED TO ALL AREAS AND CONSIDERED INCIDENTAL TO 2574.525. |

## STANDARD PLATES

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT.

| PLATE NUMBER | STANDARD PLATE |
|---|---|
| 8000 J | CHANNELIZERS |
| 9350 A | MAILBOX SUPPORT |

| PROJECT NUMBER | PROJECT YEAR | PROJECT DESCRIPTION |
|---|---|---|
| 90-60-01 | 1990 | BASE & BITUMINOUS |
| CP 80-60 | 1979 | GRADING |
| 33-51 | 1933 | GRADING |

## BASIS FOR ESTIMATED QUANTITIES

(For Informational Purposes Only)

BITUMINOUS MATERIAL FOR TACK COAT, SPEC. 2357

COMPUTED AT 0.085 GAL/SY FOR MILLED SURFACES AND 0.05 GAL/SY FOR UNMILLED SURFACES - CONSIDERED INCIDENTAL.

PLANT MIXED BITUMINOUS PAVEMENT, SPEC 2360

TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB340E)

Bituminous Mixture -113 lbs/sq.yd./in.

| | | | |
|---|---|---|---|
| MAINLINE & SHOULDERS | | 4,670 | |
| ROAD APPROACHES ( 1 ) | | 35 | |
| DRIVEWAYS ( 13 ) | | 290 | |
| FIELD ENT ( 9 ) & MAILBOXES ( 4 ) | | 100 | |
| | TOTAL | 5,095 | TONS |

TYPE SP 19.0 NON WEARING COURSE MIXTURE (SPNWC330B)

Bituminous Mixture -113 lbs/sq.yd./in.

| | | | |
|---|---|---|---|
| MAINLINE | | 5,830 | |
| ROAD APPROACHES ( 1 ) | | 55 | |
| | TOTAL | 5,885 | TONS |

SEED, MIXTURE 260, SPEC. 2375

100 Pounds Per Acre

FERTILIZER, TYPE 3, ANALYSIS 22-5-10, SPEC. 2575

350 Pounds Per Acre

## STRIPING TABULATION

| ITEM | YELLOW (LIN FT) | WHITE (LIN FT) |
|---|---|---|
| 4" SOLID LINE PAINT | 5,950 | |
| 6" SOLID LINE PAINT | 0 | 20,105 |
| 4" BROKEN LINE PAINT | 7,930 | 0 |
| 4" DOUBLE SOLID LINE PAINT | 2,130 | 0 |

| DATE | BY | REVISIONS |
|---|---|---|
| 5/9/2016 | NRT | REVISED OVERLAY QUANTITIES |

| | |
|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

Scott

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

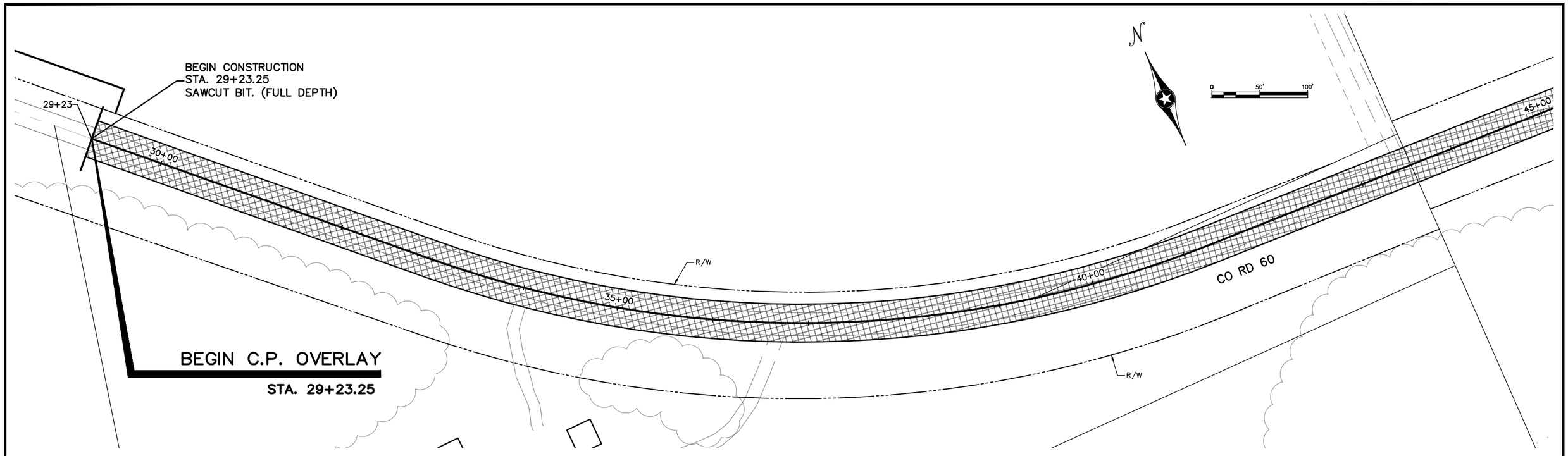
Curt Kobilarcsik

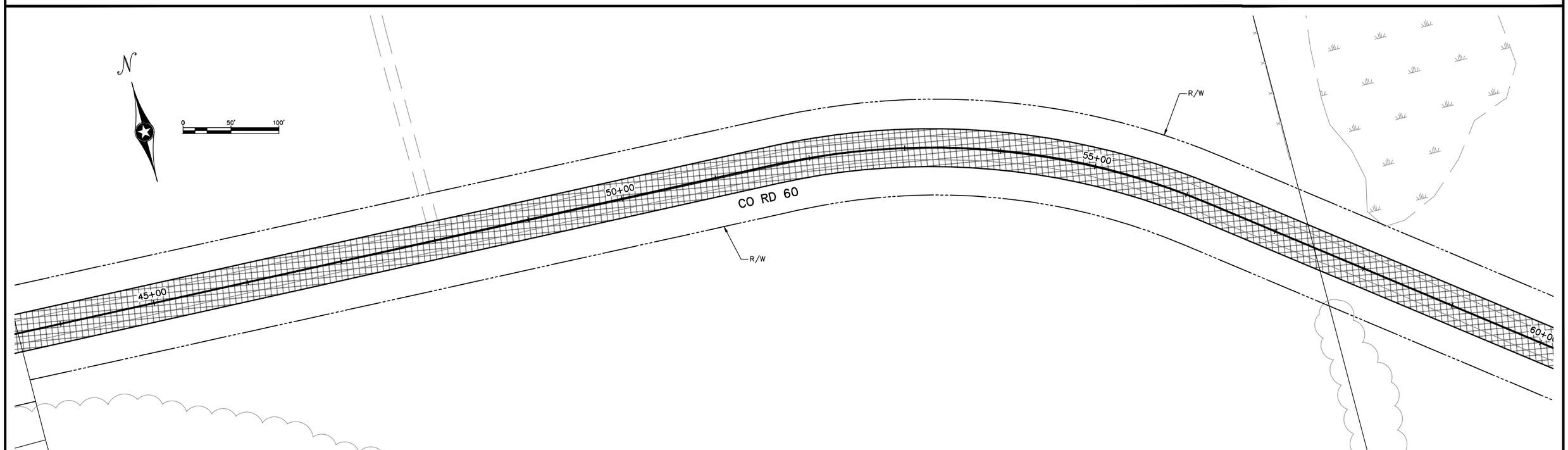
Date 05/09/2016

Reg. No. 24756

C.P. 60–03/60–04 ESTIMATED QUANTITIES

END OF C.P. 60–02FL TO US HIGHWAY 169 Sheet No. 12.1 of 12.7 Sheets




| DATE | BY | REVISIONS |
|---|---|---|
| 5/9/2016 | NRT | REMOVED FDR NOTES |

| | |
|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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Reg. No. 24756

C.P. 60–03/60–04

CR 60 OVERLAY CONST. PLAN

END OF C.P. 60–02FL TO US HIGHWAY 169

Sheet No. 12.2 of 12.7 Sheets

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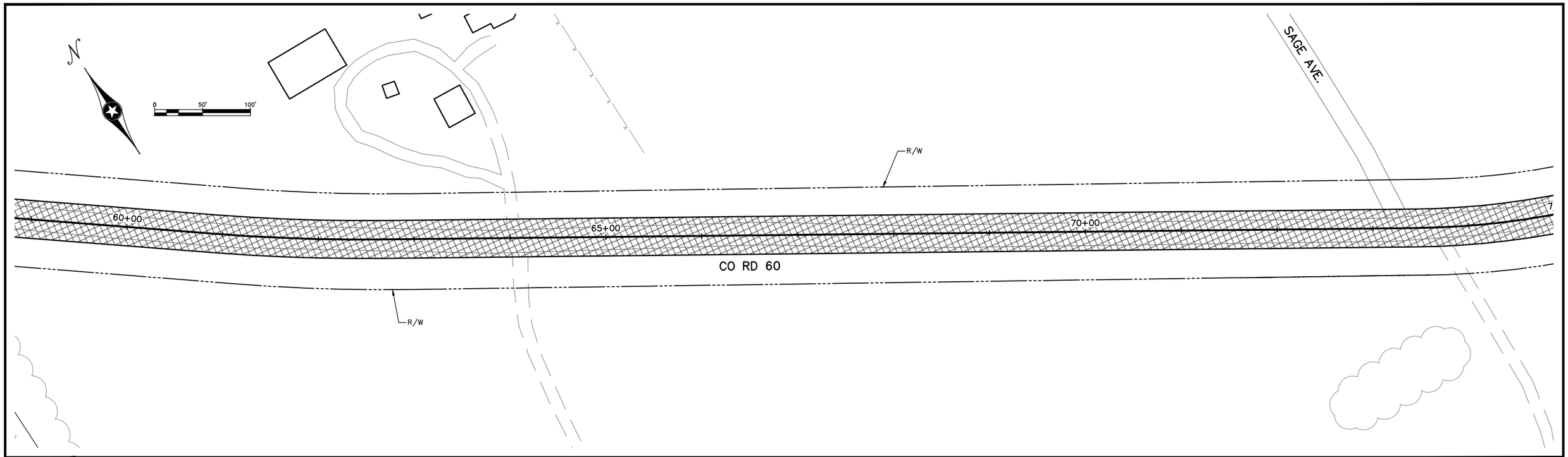


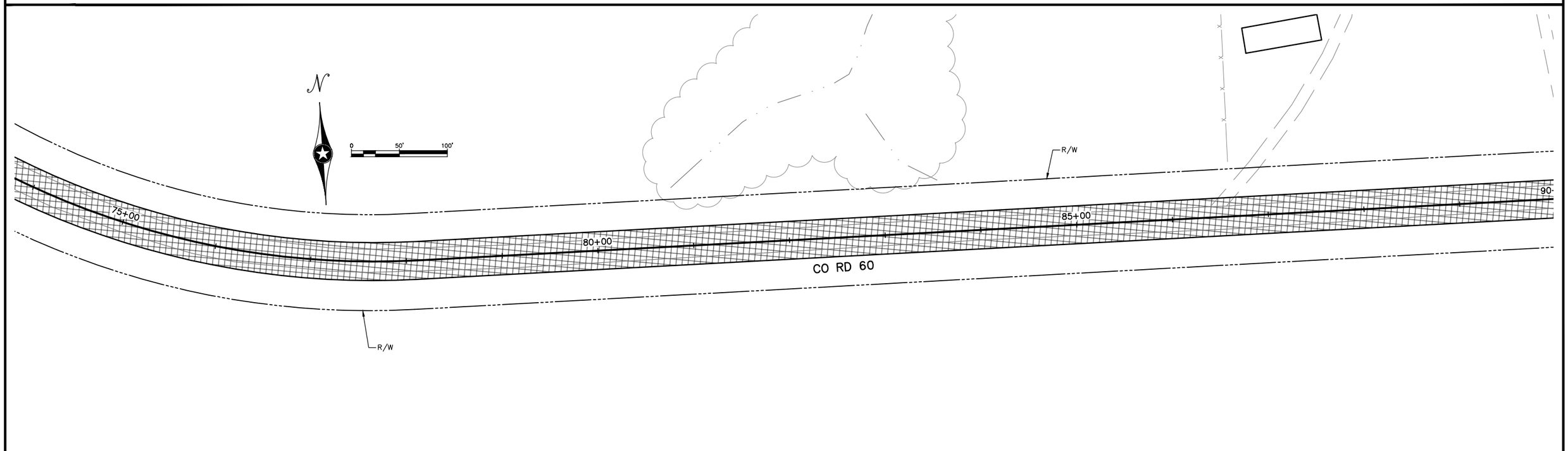


| DATE | BY | REVISIONS |
|---|---|---|
| 5/9/2016 | NRT | REMOVED FDR NOTES |

| | |
|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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Date 05/09/2016

Reg. No. 24756

C.P. 60–03/60–04

CR 60 OVERLAY CONST. PLAN

END OF C.P. 60–02FL TO US HIGHWAY 169

Sheet No. 12.3 of 12.7 Sheets

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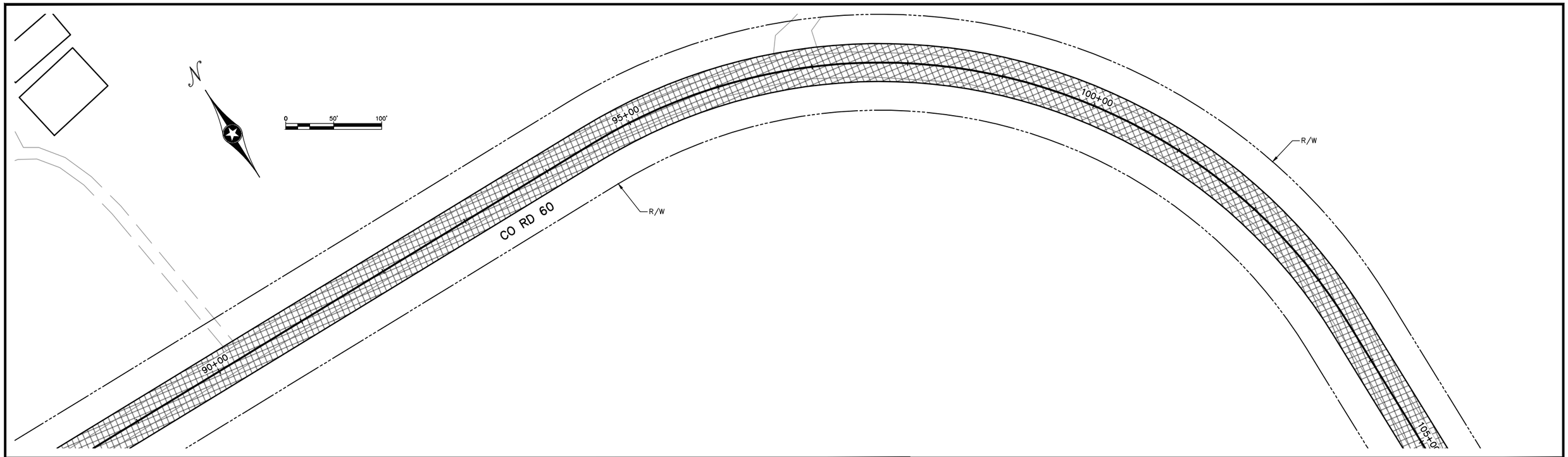


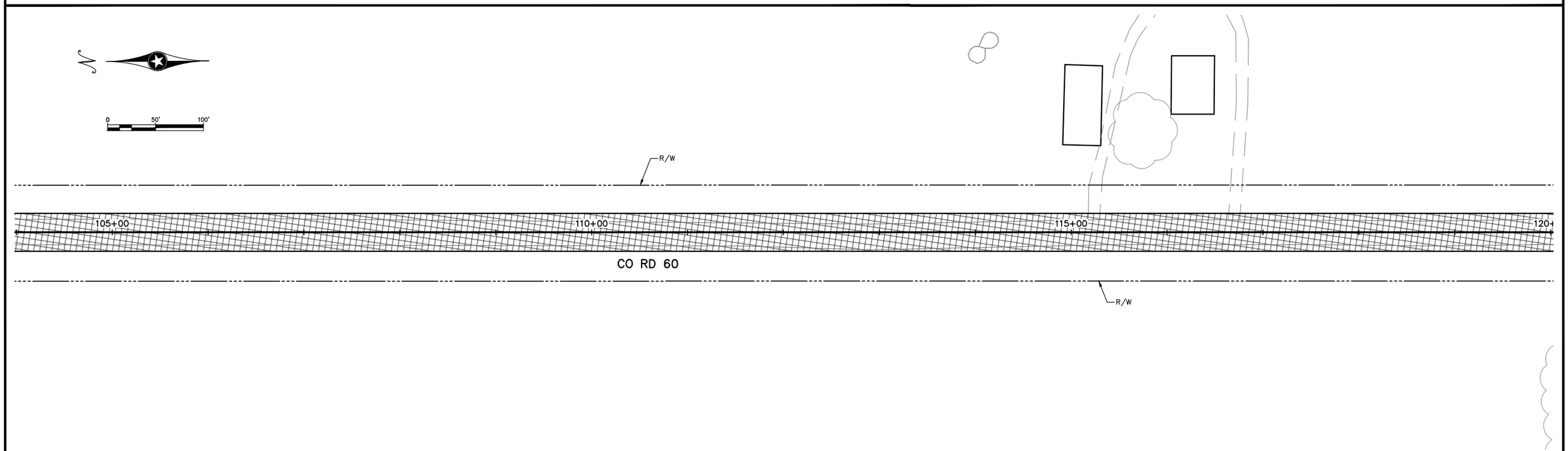


| DATE | BY | REVISIONS |
|---|---|---|
| 5/9/2016 | NRT | REMOVED FDR NOTES |

| | |
|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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Curt Kobilarcsik

Date 05/09/2016

Reg. No. 24756

C.P. 60–03/60–04

CR 60 OVERLAY CONST. PLAN

END OF C.P. 60–02FL TO US HIGHWAY 169

Sheet No. 12.4 of 12.7 Sheets

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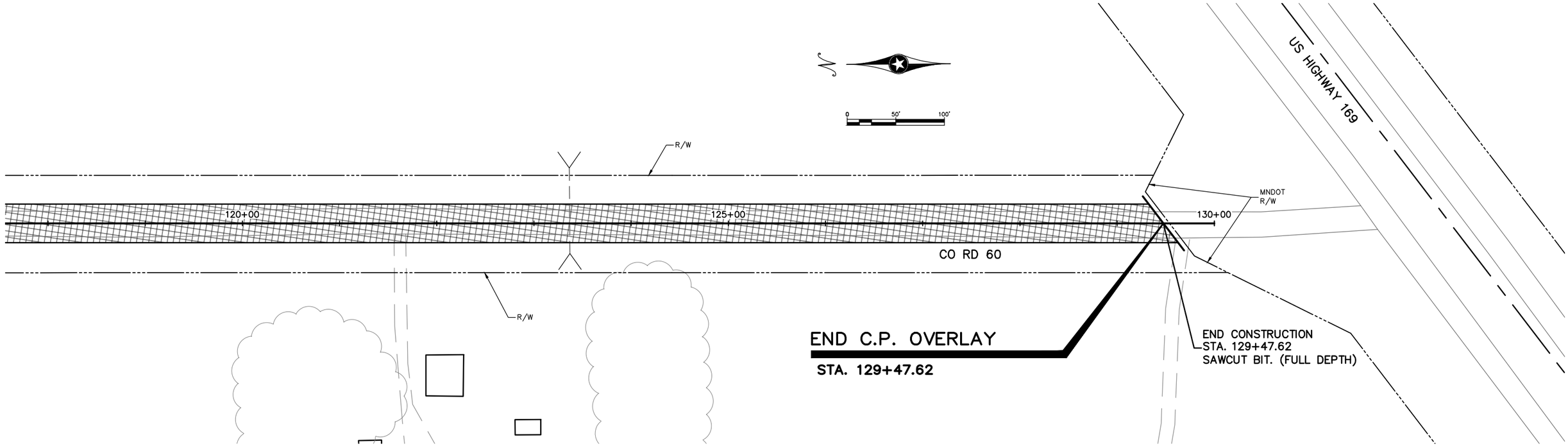


| DATE | BY | REVISIONS |
|---|---|---|
| 5/9/2016 | NRT | REMOVED FDR NOTES |

| | |
|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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Curt Kobilarcsik

Date 05/09/2016

Reg. No. 24756

C.P. 60–03/60–04

CR 60 OVERLAY CONST. PLAN

END OF C.P. 60–02FL TO US HIGHWAY 169

Sheet No. 12.5 of 12.7 Sheets

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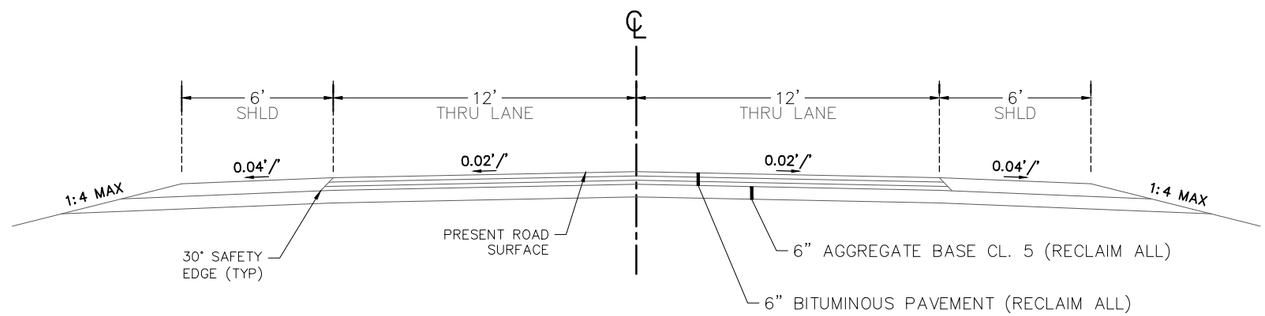
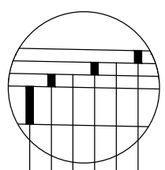
# INPLACE C.R. 60

STA 29+23 to 129+47

NO SCALE




*RECLAIM 45.5 FT WIDE AT 12" DEPTH



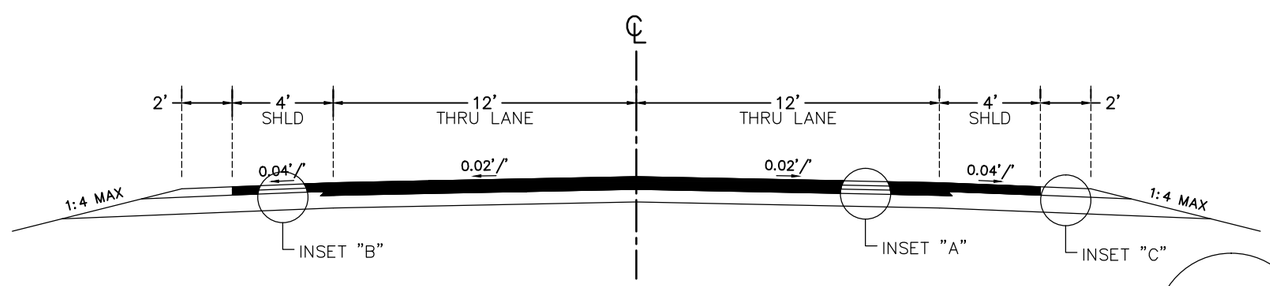
## INSET "A"

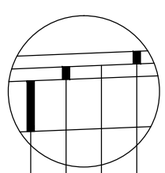
- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) – SPEC. 2360
- TACK COAT – SPEC. 2357
- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) – SPEC. 2360
- TACK COAT – SPEC. 2357
- 3" TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,B) – SPEC. 2360
- 6" RECLAIMED MATERIAL

# PROPOSED C.R. 60

STA 29+23 to 129+47

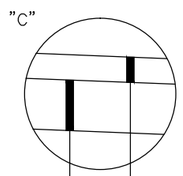
NO SCALE



## INSET "B"

- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) – SPEC. 2360
- TACK COAT – SPEC. 2357
- 2" TYPE SP 12.5 WEARING COURSE MIXTURE (3,E) – SPEC. 2360
- 9" RECLAIMED MATERIAL



## INSET "C"

- 4" SHOULDER BASE AGGREGATE CLASS 2 – SPEC. 2221
- 9" RECLAIMED MATERIAL

| DATE | BY | REVISIONS |
|---|---|---|
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|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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Curt Kobilarcsik

Date 02/10/2016

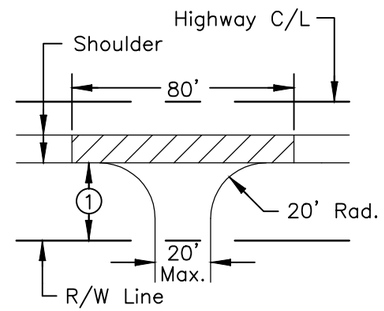
Reg. No. 24756

C.P. OVERLAY — CR 60 RECLAMATION TYPICAL SECTION

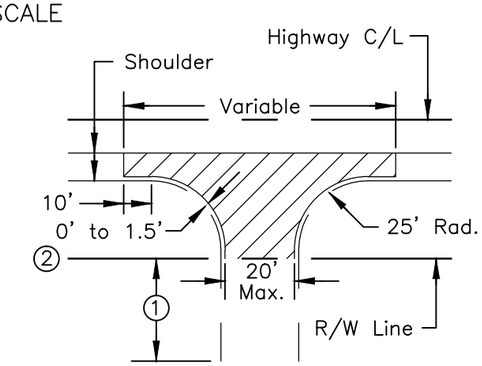
END OF C.P. 60–02FL TO US HIGHWAY 169 — Sheet No. 12.6 of 12.7 Sheets

# ENTRANCE & APPROACH DETAIL

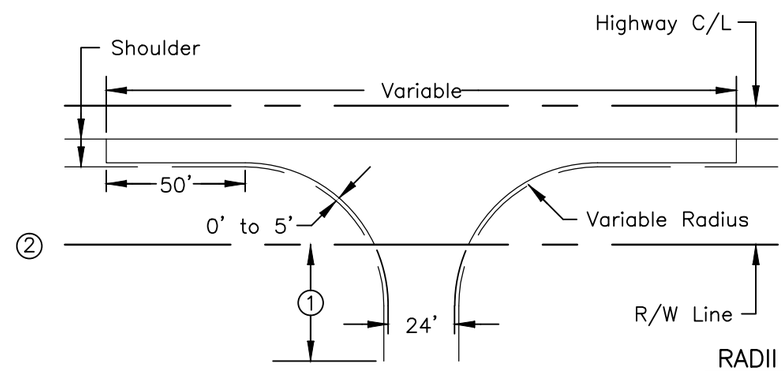
NO SCALE




FIELD ENTRANCES
AND
MAILBOX AREAS




FARM AND OTHER ENTRANCES
DOUBLE ENTRANCES – 32' MAX. WIDTH




ROAD APPROACH

| RADII | |
|---|---|
| C.S.A.H. / C.R. | 50' |
| TOWNSHIP RD. | 40' |
| MAJOR CITY STR. | 30' |
| LOCAL CITY STR. | 25' |

DESIGNATES BITUMINOUS SURFACING

1. PLACE AGGREGATE SHOULDERING BEYOND THE BITUMINOUS SURFACING TO MATCH THE EXISTING SURFACING.

2. IF THE NEW BITUMINOUS ABUTS EXISTING BITUMINOUS, THEN AN AREA 2' WIDE ACROSS THE EXISTING BITUMINOUS SHALL BE MILLED TO A DEPTH EQUAL TO THE FINAL BITUMINOUS COURSE IN ORDER TO CREATE A FLUSH JOINT BETWEEN THE EXISTING AND NEW BITUMINOUS. THIS WORK WILL BE CONSIDERED INCIDENTAL.

3. THE DIMENSIONS SHOWN ABOVE ARE GUIDELINES ONLY AND MAY REQUIRE FIELD ADJUSTMENT, IF DEEMED NECESSARY BY THE ENGINEER.

| DATE | BY | REVISIONS |
|---|---|---|
| | | |

| | |
|---|---|
| DRAWN: | NT |
| CHECKED: | JS |
| APPROVED: | JS |

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Date 02/10/2016

Reg. No. 24756

C.P. OVERLAY — ENTRANCE DETAIL

END OF C.P. 60–02FL TO US HIGHWAY 169 — Sheet No. 12.7 of 12.7 Sheets