

MINNESOTA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLAN FOR GRADING, AGGREGATE BASE, PAVING, STORM SEWER, CURB & GUTTER AND TRAFFIC CONTROL SIGNALS

LOCATED ON T.H. 10 FROM 1000 FT. WEST OF RAMSEY BLVD. TO 1200 FEET EAST OF RAMSEY BLVD. AND
 LOCATED ON RAMSEY BLVD. FROM 450 FT. SOUTH OF T.H. 10 TO 450 FT. NORTH OF T.H. 10

STATE PROJ. NO. 0202-81
 GROSS LENGTH 2200.00 FEET 0.417 MILES
 BRIDGES-LENGTH 0 FEET 0 MILES
 EXCEPTIONS-LENGTH 0 FEET 0 MILES
 NET LENGTH 2200.00 FEET 0.417 MILES
 REF. POINT 221+00.263 TO REF. POINT 221+00.680

FED. PROJ. NO. STATE FUNDS.

GOVERNING SPECIFICATIONS

THE 2000 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

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THIS PLAN CONTAINS 94 SHEETS

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.

PRINT NAME: STEVEN N. BOWERS LICENSE # 21817

DATE: 11/29/05 SIGNATURE: *Steven N. Bowers*

DESIGN SQUAD M. KRIER, M. KOSHALSKY, J. KOERTING

APPROVED *[Signature]* AND COUNTY

APPROVED *[Signature]* 11/29/05 CITY OF RAMSEY

RECOMMENDED FOR APPROVAL *[Signature]* 11/29/05 DISTRICT TRANSPORTATION ENGINEER

RECOMMENDED FOR APPROVAL *[Signature]* 11/29/05 DISTRICT MATERIALS ENGINEER

RECOMMENDED FOR APPROVAL *[Signature]* 11-29 20 05 DISTRICT WATER RESOURCES/HYDRAULICS ENGINEER

RECOMMENDED FOR APPROVAL *[Signature]* 11-29 20 05 DISTRICT TRAFFIC ENGINEER

RECOMMENDED FOR APPROVAL _____ 20 STATE PRE-LETTING ENGINEER

OFFICE OF LAND MANAGEMENT APPROVAL _____ 20 DIRECTOR, LAND MANAGEMENT

APPROVED _____ 20 STATE DESIGN ENGINEER

I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, WERE 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.

PRINT NAME: _____ LICENSE # _____

DATE: _____ SIGNATURE: _____

THIS PLAN SUBJECT TO MINOR REVISIONS
 2-24-06

SCALES

| | |
|-----------|---------------------|
| PLAN | 50' |
| PROFILE | 50' HORIZ. 5' VERT. |
| INDEX MAP | 500' |

DESIGN DESIGNATION

| | |
|--|----------|
| Design ESALS | = 11.14M |
| ADT (Current Year) 2005 | = 48000 |
| ADT (Future Year) 2025 | = 65000 |
| DHV (Design Hr. Vol.) | = 5200 |
| D (Directional Distr.) | = 55 % |
| T (Heavy Commercial) | = 5.5 % |
| Design Speed | 65 MPH |
| Based on STOPPING Sight Distance | |
| Height of eye 3.50' Height of object 2.00' | |
| Design Speed not achieved at: N.A. | |
| STA. TO STA. MPH | |
| STA. TO STA. MPH | |

PLAN REVISIONS

| DATE | SHEET NO. | APPROVED BY |
|------|-----------|-------------|
| | | |
| | | |
| | | |
| | | |

FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL

STATE PROJ. NO. 0202-81 CHARGE IDENTIFIER T51125

PROJECT LOCATION
 COUNTY: ANOKA
 DISTRICT: METRO

ANOKA COUNTY PROJ. NO. 03-24-56 CITY OF RAMSEY PROJ. NO. 05-39
 STATE PROJ. NO. 0202-81 (TH 10=003) SHEET NO. 1 OF 85 SHEETS

DISTRICT #: METRO
 PLOT NAME: NONE
 PATH & FILENAME: S:\DESIGN\010202-81\Final\020281_1.sxdgn
 PLOTTED/REVISED: 28-NOV-2005 10:51

PLOTTED/REVISED: 29-NOV-2005 09:40

STATEMENT OF ESTIMATED QUANTITIES

| TAB. | SHEET NO. | ITEM NO. | DESCRIPTION | UNITS | TOTAL ESTIMATED QUANTITIES ⁽¹⁾ |
|------|-----------|----------|--|----------|---|
| | | 2021.501 | MOBILIZATION | LUMP SUM | 1 |
| | | 2051.501 | MAINT & RESTORATION OF HAUL ROADS | LUMP SUM | 1 |
| F | 9 | 2101.501 | CLEARING (P) | ACRE | 0.1 |
| F | 9 | 2101.502 | CLEARING | TREE | 3 |
| F | 9 | 2101.506 | GRUBBING (P) | ACRE | 0.1 |
| F | 9 | 2101.507 | GRUBBING | TREE | 3 |
| Q | 52 | 2102.502 | PAVEMENT MARKING REMOVAL | LIN FT | 9350 |
| F | 9 | 2104.501 | REMOVE PIPE CULVERTS | LIN FT | 377 |
| F | 9 | 2104.501 | REMOVE CURB AND GUTTER | LIN FT | 115 |
| F | 9 | 2104.505 | REMOVE BITUMINOUS PAVEMENT (3) | SQ YD | 2534 |
| S | 66 | 2104.509 | REMOVE SIGN TYPE C | EACH | 5 |
| F | 9 | 2104.513 | SAWING BITUMINOUS PAVEMENT (FULL DEPTH) | LIN FT | 3466 |
| F | 9 | 2104.521 | SALVAGE FENCE | LIN FT | 520 |
| S | 66 | 2104.523 | SALVAGE SIGN TYPE C | EACH | 8 |
| T | 75 | 2104.601 | REMOVE TEMPORARY SIGNAL SYSTEM (4) | LUMP SUM | 1 |
| A | 5 | 2105.607 | EXCAVATION SPECIAL (P) (5) (12) (14) | CU YD | 17437 |
| A | 5 | 2105.607 | EMBANKMENT SPECIAL (P) (13) (15) | CU YD | 14058 |
| | | 2105.607 | HAUL & DISPOSE OF CONTAMINATED MATERIAL (2) | CU YD | 1020 |
| D | 7 | 2211.503 | AGGREGATE BASE (CV) CLASS 5 (P) | CU YD | 2190 |
| D | 7 | 2221.503 | AGGREGATE SHOULDERING (CV) CLASS 2 | CU YD | 276 |
| | | 2231.501 | BITUMINOUS PATCHING MIXTURE (6) | TON | 10 |
| E | 8 | 2232.501 | MILL BITUMINOUS SURFACE (1.5") (7) | SQ YD | 13238 |
| C | 7 | 2357.502 | BITUMINOUS MATERIAL FOR TACK COAT (8) | GALLON | 3282 |
| C | 7 | 2360.501 | TYPE SP 12.5 WEARING COURSE MIXTURE (3,B) | TON | 629 |
| C | 7 | 2360.501 | TYPE SP 12.5 WEARING COURSE MIXTURE (3,H) | TON | 2755 |
| C | 7 | 2360.501 | TYPE SP 12.5 WEARING COURSE MIXTURE (5,H) | TON | 3613 |
| I | 42 | 2501.511 | 15" CS PIPE CULVERT | LIN FT | 10.5 |
| I | 42-43 | 2501.511 | 18" CS PIPE CULVERT | LIN FT | 20.5 |
| I | 43 | 2501.511 | 15" RC PIPE CULVERT | LIN FT | 4 |
| J | 44 | 2501.511 | 15" RC PIPE CULVERT CLASS III | LIN FT | 174 |
| J | 44-45 | 2501.515 | 15" RC PIPE APRON | EACH | 2 |
| J | 44-45 | 2501.525 | 22" SPAN RC PIPE-ARCH APRON | EACH | 2 |
| J | 44 | 2501.567 | 15" CS SAFETY APRON & GRATE DESIGN 3128 | EACH | 2 |
| I | 42 | 2501.569 | 15" CS SAFETY APRON | EACH | 1 |
| I | 42-43 | 2501.569 | 18" CS SAFETY APRON | EACH | 3 |
| I | 43 | 2501.569 | 15" RC SAFETY APRON | EACH | 1 |
| J | 44-45 | 2501.569 | 18" RC SAFETY APRON | EACH | 2 |
| J | 45 | 2503.511 | 12" RC PIPE SEWER CLASS III | LIN FT | 53 |
| J | 44-45 | 2503.511 | 15" RC PIPE SEWER | LIN FT | 334 |
| J | 44-45 | 2503.511 | 15" RC PIPE SEWER CLASS III | LIN FT | 162 |
| J | 44-45 | 2503.511 | 18" RC PIPE SEWER | LIN FT | 241 |
| J | 45 | 2503.511 | 21" RC PIPE SEWER | LIN FT | 35 |
| J | 44-45 | 2503.521 | 22" SPAN RC PIPE-ARCH SEWER CLASS IIA | LIN FT | 348 |
| H | 10 | 2504.602 | RELOCATE HYDRANT (9) | EACH | 2 |
| H | 10 | 2504.602 | ADJUST VALVE BOX | EACH | 5 |
| J | 45 | 2506.501 | CONSTRUCT DRAINAGE STRUCTURE DESIGN A OR F | LIN FT | 13.1 |
| J | 44-45 | 2506.501 | CONSTRUCT DRAINAGE STRUCTURE DESIGN C OR G | LIN FT | 29.8 |
| J | 44-45 | 2506.501 | CONSTRUCT DRAINAGE STRUCTURE DESIGN C G OR H | LIN FT | 12.5 |
| J | 44-45 | 2506.501 | CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020 | LIN FT | 30.9 |
| J | 44-45 | 2506.516 | CASTING ASSEMBLY (10) | EACH | 23 |
| J | 44 | 2511.501 | RANDOM RIPRAP CLASS I | CU YD | 15 |
| J | 44 | 2511.515 | GEOTEXTILE FILTER TYPE III (11) | SQ YD | 45 |

(P) = PLAN QUANTITY ITEM

INDEX OF TABULATIONS

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| T | 75 | TABULATED TRAFFIC SIGNAL QUANTITIES |

NOTES:

- ① FUNDING IS 100% STATE FUNDS. CITY AND COUNTY COSTS ASSOCIATED WITH WORK BEING DONE UNDER THIS CONTRACT ON THE CITY AND COUNTY PORTIONS OF RAMSEY BLVD. ARE BEING RECOVERED THROUGH A 'LUMP SUM BASED ON BID' TYPE COOPERATIVE CONSTRUCTION AGREEMENT.
- ② CONSISTS OF EXCAVATED SOILS CONTAINING POWDERED ARSENIC. SEE SPECIAL PROVISIONS FOR INFORMATION REGARDING THE REMOVAL AND DISPOSAL OF THESE MATERIALS.
- ③ CONSISTS OF PAVEMENTS WITH AN APPROXIMATE AVERAGE THICKNESS OF 8.5 INCHES. PAVEMENTS CONTAIN ROAD TAR MIX AND ARE TO BE ADDRESSED AS SPECIFIED IN THE SOILS AND CONSTRUCTION NOTES.
- ④ WOOD POLE AND SPAN WIRE TRAFFIC SIGNAL SYSTEM LOCATED AT THE INTERSECTION OF T.H. 10 AND RAMSEY BLVD.
- ⑤ ITEM INCLUDES APPROXIMATELY 780 CUBIC YARDS OF BITUMINOUS PAVEMENT WITH AN APPROXIMATE THICKNESS OF 5 INCHES.
- ⑥ SHALL MEET THE REQUIREMENTS OF THE FIRST COURSE OF BITUMINOUS MATERIAL TO BE PLACED OVER THE PATCHED SURFACE. QUANTITY PROVIDED FOR USE AS DIRECTED BY THE ENGINEER.
- ⑦ ITEM CONTAINS SOME VARIABLE DEPTH MILLING PAID AS EQUIVALENT 1.5" MILLING. SEE CONSTRUCTION PLANS, INTERSECTION DETAILS AND TYPICAL SECTIONS FOR INFORMATION. QUANTITY INCLUDES 500 SQ YDS FOR CROSS SLOPE CORRECTION ON SHOULDER / TURN LANE OVERLAY-ONLY AREAS.
- ⑧ SEE QUANTITIES TABULATIONS FOR APPLICATION RATE INFORMATION.
- ⑨ TO BE RELOCATED WHERE AND AS DIRECTED BY THE CITY OF RAMSEY. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
- ⑩ SEE DRAINAGE TABULATIONS FOR CASTING TYPES.
- ⑪ FOR PLACEMENT UNDER RIPRAP. GRANULAR FILTER MATERIAL SHALL NOT BE ALLOWED.
- ⑫ ALL EXCAVATION SHALL BE PAID UNDER ITEM 2105.607 'EXCAVATION SPECIAL (CU YD)' REGARDLESS OF BEING ABOVE OR BELOW THE GROUND GRADE. SEE EARTHWORK TABULATION AND SUMMARY SHEET AND SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
- ⑬ ALL EMBANKMENT (CONSISTING OF SUITABLE GRADING MATERIAL, SELECT GRANULAR MATERIAL, AND TOPSOIL) SHALL BE CONSTRUCTED AS IDENTIFIED IN THE PLANS AND SHALL BE PAID UNDER ITEM 2105.607 'EMBANKMENT SPECIAL (CU YD)' REGARDLESS OF MATERIAL TYPE. SEE EARTHWORK TABULATION AND SUMMARY AND SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
- ⑭ QUANTITY INCLUDES 5 CU YDS OF SPECIAL EXCAVATION FOR EACH OF THE FIVE DRIVEWAY CULVERT END REPLACEMENT SITES. ANY ADDITIONAL QUANTITY REQUIRED SHALL BE CONSIDERED INCIDENTAL TO THE CULVERT WORK.
- ⑮ QUANTITY INCLUDES 10 CU YDS OF SPECIAL EMBANKMENT FOR EACH OF THE FIVE DRIVEWAY CULVERT END REPLACEMENT SITES. ANY ADDITIONAL QUANTITY REQUIRED SHALL BE CONSIDERED INCIDENTAL TO THE CULVERT WORK.

ESTIMATED QUANTITIES

DRAWN BY: MK

CHECKED BY: SNB

CERTIFIED BY

John M. Brown
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 21817

DATE 11/29/05

STATE PROJ. NO. 0202-81 (T.H. 10) SHEET NO. 2 OF 85 SHEETS

DISTRICT #: METRO
PLOT NAME: SHEET 1
PATH & FILENAME: S:\DESIGN\010\0202-81\T.H.10\020281_001.dgn

PLOTTED/REVISED: 29-NOV-2005 09:40

DISTRICT #: METRO
 PLOT NAME: SHEET 2
 PATH & FILENAME: S:\DESIGN\01\0202\81\Final\020281_est.dgn

STATEMENT OF ESTIMATED QUANTITIES

| TAB. | SHEET NO. | ITEM NO. | DESCRIPTION | UNITS | TOTAL ESTIMATED QUANTITIES ⁽¹⁾ |
|------|-----------|----------|---|----------|---|
| E | 8 | 2521.501 | 3" CONCRETE WALK | SQ FT | 1655 |
| E | 8 | 2521.501 | 4" CONCRETE WALK | SQ FT | 3789 |
| E | 8 | 2521.501 | 6" CONCRETE WALK | SQ FT | 87 |
| E | 8 | 2531.501 | CONCRETE CURB & GUTTER DESIGN B424 | LIN FT | 2337 |
| E | 8 | 2531.501 | CONCRETE CURB & GUTTER DESIGN B612 | LIN FT | 25 |
| E | 8 | 2531.501 | CONCRETE CURB & GUTTER DESIGN B618 | LIN FT | 70 |
| E | 8 | 2531.501 | CONCRETE CURB & GUTTER DESIGN B624 | LIN FT | 120 |
| E | 8 | 2531.507 | 8" CONCRETE DRIVEWAY PAVEMENT | SQ YD | 69 |
| E | 8 | 2531.618 | TRUNCATED DOMES | SQ FT | 80 |
| Q | 52 | 2533.603 | RELOCATE CONCRETE MEDIAN BARRIER | LIN FT | 2350 |
| Q | 52 | 2533.603 | CONCRETE MEDIAN BARRIER DESIGN 8337 (2) | LIN FT | 2350 |
| G | 9 | 2540.602 | MAIL BOX SUPPORT | EACH | 3 |
| G | 9 | 2540.602 | MAIL BOX SUPPORT (MULTIPLE) | EACH | 1 |
| G | 9 | 2540.602 | RELOCATE MAIL BOX | EACH | 6 |
| J | 44-45 | 2554.509 | GUIDE POST TYPE B | EACH | 8 |
| Q | 52 | 2554.615 | IMPACT ATTENUATOR (3) | ASSEMBLY | 2 |
| Q | 52 | 2554.615 | RELOCATE IMPACT ATTENUATOR | ASSEMBLY | 2 |
| E | 8 | 2557.603 | INSTALL FENCE (4) | LIN FT | 520 |
| Q | 52 | 2563.601 | TRAFFIC CONTROL | LUMP SUM | 1 |
| Q | 52 | 2563.602 | RAISED PAVEMENT MARKER TEMPORARY | EACH | 320 |
| Q | 52 | 2563.602 | MEDIAN BARRIER DELINEATOR | EACH | 156 |
| Q | 52 | 2563.613 | PORTABLE CHANGEABLE MESSAGE SIGN | UNIT DAY | 10 |
| S | 66 | 2564.531 | SIGN PANELS TYPE C (8) | SQ FT | 93 |
| S | 66 | 2564.536 | INSTALL SIGN PANEL TYPE C | EACH | 8 |
| S | 66 | 2564.552 | HAZARD MARKER X4-2 (8) | EACH | 6 |
| R | 59 | 2564.602 | PAVEMENT MESSAGE (LEFT ARROW) EPOXY | EACH | 6 |
| R | 59 | 2564.602 | PAVEMENT MESSAGE (RIGHT ARROW) EPOXY | EACH | 2 |
| R | 59 | 2564.602 | PAVEMENT MESSAGE (RR CROSSING) EPOXY | EACH | 2 |
| R | 59 | 2564.602 | PAVEMENT MESSAGE (LEFT ARROW) POLY PREFORMED | EACH | 6 |
| R | 59 | 2564.602 | PAVEMENT MESSAGE (RIGHT ARROW) POLY PREFORMED | EACH | 6 |
| R | 59 | 2564.603 | 4" SOLID LINE WHITE-POLYMER PREFORMED | LIN FT | 2280 |
| R | 59 | 2564.603 | 24" SOLID LINE WHITE-POLYMER PREFORMED | LIN FT | 65 |
| R | 59 | 2564.603 | 4" BROKEN LINE WHITE-POLYMER PREFORMED | LIN FT | 840 |
| R | 59 | 2564.603 | 4" SOLID LINE WHITE-EPOXY | LIN FT | 6868 |
| R | 59 | 2564.603 | 4" BROKEN LINE WHITE-EPOXY | LIN FT | 70 |
| R | 59 | 2564.603 | 4" SOLID LINE YELLOW-EPOXY | LIN FT | 4852 |
| R | 59 | 2564.603 | 4" DOUBLE SOLID LINE YELLOW-EPOXY | LIN FT | 845 |
| R | 59 | 2564.603 | 24" SOLID LINE YELLOW-EPOXY | LIN FT | 299 |
| R | 59 | 2564.618 | ZEBRA CROSSWALK-WHITE POLY PREFORM | SQ FT | 828 |
| T | 75 | 2565.511 | FULL TACT CONTROL SIGNAL SYSTEM | SIG SYS | 1 |
| B | 6 | 2573.502 | SILT FENCE, TYPE HEAVY DUTY | LIN FT | 794 |
| B | 6 | 2573.601 | EROSION CONTROL SUPERVISOR | LUMP SUM | 1 |
| B | 6 | 2573.602 | INLET PROTECTION (5) | EACH | 24 |
| B | 6 | 2573.603 | BIDROLL | LIN FT | 2170 |
| B | 6 | 2573.603 | ROCK LOG | LIN FT | 171 |
| B | 6 | 2575.501 | SEEDING (P) | ACRE | 4.4 |
| B | 6 | 2575.511 | MULCH MATERIAL TYPE 1 (6)(9) | TON | 7 |
| B | 6 | 2575.519 | DISK ANCHORING (P) (10) | ACRE | 4 |
| B | 6 | 2575.523 | EROSION CONTROL BLANKETS CATEGORY 4 | SQ YD | 97 |
| B | 6 | 2575.532 | COMMERICAL FERTILIZER ANALYSIS 22-5-10 (6) | POUND | 1509 |
| B | 6 | 2575.533 | AGRICULTURAL LIME (6) | TON | 14 |
| B | 6 | 2575.604 | EROSION CONTROL BLANKET (7) | SQ YD | 11513 |
| B | 6 | 2575.608 | SEED MIXTURE 240 (6) | POUND | 256 |
| B | 6 | 2575.608 | SEED MIXTURE 260 (6) | POUND | 91 |
| Q | 52 | 2581.501 | REMOVABLE PREFORMED PLASTIC MARKING | LIN FT | 18700 |

(P) = PLAN QUANTITY ITEM

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NOTES:

- (1) FUNDING IS 100% STATE FUNDS. CITY AND COUNTY COSTS ASSOCIATED WITH WORK BEING DONE UNDER THIS CONTRACT ON THE CITY AND COUNTY PORTIONS OF RAMSEY BLVD. ARE BEING RECOVERED THROUGH A 'LUMP SUM BASED ON BID' TYPE COOPERATIVE CONSTRUCTION AGREEMENT.
- (2) BARRIER TO REMAIN THE PROPERTY OF THE CONTRACTOR.
- (3) SEE THE TRAFFIC CONTROL PLANS FOR INFORMATION REGARDING IMPACT ATTENUATOR TYPE.
- (4) ITEM CONSISTS OF INSTALLING CHAIN LINK FENCING (INCLUDING POSTS) SALVAGED UNDER THIS CONTRACT AND INCLUDES ALL NECESSARY HARDWARE, LABOR AND MATERIALS REQUIRED TO ESTABLISH THE NEW INSTALLATION.
- (5) ALL INLETS ARE TO BE PROTECTED AT ALL TIMES. ALTHOUGH PROTECTION TYPES MAY CHANGE DURING THE CONTRACT, PAYMENT UNDER THIS ITEM SHALL OCCUR ONLY ONCE FOR EACH INLET.
- (6) SEE QUANTITIES TABULATIONS FOR APPLICATION RATE INFORMATION.
- (7) ITEM CONSISTS OF CATEGORY 00 EROSION CONTROL BLANKET (SEE SPECIAL PROVISIONS). APPROXIMATELY 40% OF THE EROSION CONTROL BLANKET PAID UNDER THIS ITEM INCLUDES MAINTENANCE.
- (8) HIGH PERFORMANCE SIGN SHEETING, SEE SPECIAL PROVISIONS.
- (9) QUANTITY INCLUDES 3 TONS FOR USE AS TEMPORARY STABILIZATION PRIOR TO PLACEMENT OF PERMANENT EROSION CONTROL FOR DISTURBED AREAS DISCHARGING OFF OF PUBLIC RIGHT OF WAY.
- (10) QUANTITY INCLUDES 2 ACRES FOR USE AT THE DIRECTION OF THE ENGINEER FOR SOILS LOOSENING IN THE DITCH BOTTOMS.

ESTIMATED QUANTITIES

DRAWN BY: MK

CHECKED BY: SNB

CERTIFIED BY

Stan M. Powers
 LICENSED PROFESSIONAL ENGINEER

LIC. NO. 21817

DATE 11/29/05

STATE PROJ. NO. 0202-81 (T.H. 10) SHEET NO. 3 OF 85 SHEETS

SOILS AND CONSTRUCTION NOTES

The following standard plates, approved by the Federal Highway Administration, shall apply on this project.

STANDARD PLATES

| PLATE NO. | DESCRIPTION |
|-----------|---|
| 3000L | REINFORCED CONCRETE PIPE (5 SHEETS) |
| 3006G | GASKET JOINT FOR R.C. PIPE (2 SHEETS) |
| 3007D | SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES |
| 3014J | REINFORCED CONCRETE PIPE ARCH (2 SHEETS) |
| 3022C | PRECAST CONCRETE SAFETY APRON (3 SHEETS) |
| 3040F | CORRUGATED METAL PIPE CULVERT (STANDARD 2-2/3" X 1/2" CORRUGATION) |
| 3100G | CONCRETE APRON FOR REINFORCED CONCRETE PIPE |
| 3110G | CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH |
| 3128H | METAL SAFETY APRON & GRATE (2 SHEETS) |
| 3133C | RIPRAP AT RCP OUTLETS |
| 3145F | CONCRETE PIPE TIES |
| 3221C | CORRUGATED STEEL PIPE COUPLING BAND (3 SHEETS) |
| 4000J | MANHOLE OR CATCH BASIN (MASONRY, FIELD CONSTRUCTED) - DESIGN A |
| 4002F | MANHOLE OR CATCH BASIN (MASONRY, FIELD CONSTRUCTION) - DESIGN C) |
| 4005L | MANHOLE OR CATCH BASIN TYPE A & B CONE SECTIONS PRECAST - DESIGN F |
| 4006L | MANHOLE OR CATCH BASIN PRECAST - DESIGNS G AND H |
| 4010H | CONCRETE SHORT CONE & ADJUSTING RING (SECTIONAL CONCRETE) * |
| 4011E | PRECAST CONCRETE BASE |
| 4020J | MANHOLE OR CATCH BASIN (FOR USE WITH OR WITHOUT TRAFFIC LOADS) (2 SHEETS) |
| 4026A | CONCRETE ENCASED CONCRETE ADJUSTING RINGS |
| 4101D | RING CASTING FOR MANHOLE OR CATCH BASIN |
| 4110F | COVER CASTING FOR MANHOLE (FOR USE IN ALL TRAFFIC AREAS) -- CASTING NO. 715 AND 716 |
| 4132F | CATCH BASIN FRAME CASTING (FOR SQUARE GRATE) - CASTING NO. 805 |
| 4151B | GRATE CASTING FOR CATCH BASIN (SQUARE TYPE) - CASTING NO. 811 |
| 4154B | CATCH BASIN GRATE CASTING - CASTING NO. 816 |
| 4180J | MANHOLE OR CATCH BASIN STEP |
| 7035M | CONCRETE WALK & CURB RETURNS AT ENTRANCES |
| 7036F | PEDESTRIAN CURB RAMP (2 SHEETS) |
| 7100H | CONCRETE CURB AND GUTTER (DESIGN B and DESIGN Y) |
| 7111J | INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB AND GUTTER) |
| 7113A | CONCRETE APPROACH NOSE DETAIL |
| 8000I | STANDARD BARRICADES |
| 8114A | P.V.C. HANDHOLE/PULLBOX (NO VEHICLE LOAD) (2 SHEETS) |
| 8115D | PEDESTRIAN PUSH BUTTON INSTALLATION |
| 8119C | GROUND MOUNTED CABINET FOUNDATION |
| 8121D | TRANSFORMER BASE AND POLE BASE PLATE (PA85M, PA90 AND PA100) (2 SHEETS) |
| 8123E | POLE AND MAST ARM - LUMINAIRES AND TRAFFIC LIGHTS ASSEMBLY (2 SHEETS) |
| 8124E | MAST ARM SIGNAL HEAD MOUNTS (ONE-WAY & TWO-WAY MOUNTS) (3 SHEETS) |
| 8126G | POLE FOUNDATION (PA90 AND PA100) |
| 8150C | INSTALLATION OF CULVERT MARKERS |

* FOR CONCRETE ADJUSTING RING ONLY.

- ① TOP OF THE GRADING SUBGRADE (GRADING GRADE) IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE.
- ② SUITABLE GRADING MATERIAL ON THIS PROJECT SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF TOPSOIL, DEBRIS, ORGANIC MATERIAL AND OTHER UNSTABLE MATERIAL.
- ③ SELECT GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF SPEC. 3149.2B2.
- ④ ROAD TARS ARE PRESENT BELOW A DEPTH OF 6.5 INCHES IN THE BITUMINOUS SURFACING ON T.H. 10 BETWEEN JARVIS STREET AND FAIROAK AVENUE. THIS PROJECT IS LOCATED WITHIN THOSE LIMITS. AVERAGE DEPTH OF THE BITUMINOUS SURFACING IN THE PROJECT AREA IS 8.25 INCHES. SPECIAL HANDLING OF THESE ROAD TAR MIXES (RTM) IS REQUIRED DUE TO ITS INCOMPATIBILITY WITH ASPHALT CEMENT MIXES IN RECYCLED BITUMINOUS MIXES. IN ORDER TO MAXIMIZE THE BENEFIT TO THE STATE FROM THE USE OF THE RTM, IT SHALL BE CRUSHED SO THAT 100% PASSES THE 3 INCH SIEVE. THE MATERIAL SHALL THEN BE MIXED WITH THE GRANULAR SUBGRADE AT A RATIO OF 50/50 AND THEN USED TO CONSTRUCT THE ROADWAYS IN THIS PROJECT. IN NO CASE SHALL MATERIALS CONTAINING RTM FROM T.H. 10 BE PLACED ON CITY OR COUNTY RIGHT OF WAY. THE CONTRACTOR SHALL HAVE TWO OPTIONS TO ADDRESS THE RTM MATERIALS: I.)THE CONTRACTOR MAY REMOVE BY MILLING THE UPPER PORTION OF THE BITUMINOUS SURFACING ON T.H. 10 FOR USE AS RECYCLED ASPHALT PRODUCT (RAP). THE REMAINING RTM SHALL BE CRUSHED AND INCORPORATED INTO THE GRANULAR SUBGRADE. II.)THE CONTRACTOR MAY CRUSH THE ENTIRE BITUMINOUS SURFACE ON THE ABOVE REFERENCED ROADWAYS AND INCORPORATE IT INTO THE GRANULAR SUBGRADE. IN EITHER CASE, THE CONTRACTOR MAY NOT USE ANY RTM IN RECYCLED HOT MIXES. ALSO, THE GRADATION OF THE BLENDED MATERIAL (GRANULAR AND CRUSHED RTM) SHALL MEET THE REQUIREMENTS FOR THE GRANULAR LAYER IN WHICH IT IS USED.
- ⑤ SLOPE DRESSING ON THIS PROJECT IS DEFINED AS THE INPLACE TOPSOIL OR OTHER SOIL PLACED DURING PRIOR CONSTRUCTION TO PROVIDE A MEDIUM FOR ESTABLISHING TURF.
- ⑥ ON THIS PROJECT A MINIMUM OF 6 INCHES OF SLOPE DRESSING SHALL BE PLACED ON ALL DISTURBED AND/OR CONSTRUCTED TURF AREAS.
- ⑦ DISPOSITION OF EXCAVATED MATERIAL SHALL BE IN ACCORDANCE WITH SPEC. 2105.3D.
- ⑧ STRIP ALL INPLACE TOPSOIL AND SLOPE DRESSING IN AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING. INPLACE TOPSOIL AND SLOPE DRESSING ENCOUNTERED IN THE AREAS OF PROPOSED CONSTRUCTION HAS AN AVERAGE THICKNESS OF 6 INCHES.
- ⑨ BITUMINOUS AND CONCRETE ITEMS DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE RECYCLED TO THE EXTENT ALLOWED IN BASE AND SURFACING ITEMS OR DISPOSED OF OUTSIDE OF THE PROJECT LIMITS IN ACCORDANCE WITH MN/DOT SPEC. 2104.3C3.
- ⑩ OBTAIN COMPACTION ON THE GRADING PORTION OF THE CONSTRUCTION IN ACCORDANCE WITH THE "2005 MODIFIED PENETRATION INDEX METHOD" REQUIREMENTS.
- ⑪ OBTAIN COMPACTION ON THE AGGREGATE BASE PORTIONS OF CONSTRUCTION IN ACCORDANCE WITH THE "2005 MODIFIED PENETRATION INDEX METHOD" REQUIREMENTS. THE TESTS SHALL BE PERFORMED IN ACCORDANCE WITH SPEC. 2211.3C3.
- ⑫ THE CONTRACTOR MAY SUBSTITUTE, AT NO COST TO MN/DOT, THE AGGREGATE SHOULDERING CLASS 2 WITH AGGREGATE SHOULDERING CLASS 1 MOD. THE AGGREGATE SHOULDERING CLASS 1 MOD. SHALL BE MODIFIED TO CONTAIN 40% - 60% (BY WEIGHT) SALVAGED BITUMINOUS OR CONCRETE AGGREGATE. THE CRUSHED CONCRETE AND/OR BITUMINOUS SHALL BE BLENDED INTO A HOMOGENEOUS COMPOSITE MIXTURE. THE GRADATION OF THE COMPOSITE MIXTURE SHALL MEET THE GRADATION REQUIREMENTS OF THE CLASS 2 AGGREGATE, MN/DOT SPEC. 313B.
- ⑬ TEST ROLLING SHALL NOT BE REQUIRED.
- ⑭ IN THE PROPOSED TH 10 LEFT TURN LANE CONSTRUCTION, THE CONTRACTOR SHOULD STRIVE TO SUBSTANTIALLY MATCH THE SOILS INPLACE IN THE UPPER 4 FT. OF THE ROADWAYS TO BE WIDENED. GRANULAR BACKFILL SHALL NOT BE PERMITTED ADJACENT TO INPLACE NON-GRANULAR SOILS IN ORDER TO PREVENT AN ABRUPT SOILS DIFFERENTIAL.
- ⑮ THE BOTTOM OF ALL SUBCUTS SHALL BE SHAPED AND COMPACTED BY THE "QUALITY COMPACTION METHOD."
- ⑯ IN ANY CASE WHERE GRANULAR EMBANKMENTS OR BACKFILL JOIN NON-GRANULAR SOIL EMBANKMENTS OR BACKFILL, PROVIDE A 1(V):20(H) TRANSITION TAPER BETWEEN THE CHANGES IN MATERIAL TO PREVENT AN ABRUPT SOILS DIFFERENTIAL. THE 1(V):20(H) TAPER SHALL BE CONSTRUCTED SO THAT THE GRANULAR BACKFILL MATERIAL OVERLAYS THE ADJACENT NON-GRANULAR SOIL BACKFILL.
- ⑰ WHERE CONNECTING NEW SURFACING ADJACENT TO ANY INPLACE PAVEMENTS TO BE WIDENED, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT A 2(V):1(H) SLOPE TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
- ⑱ WHERE SUBCUTS RUN INTO ANY ROADWAY, CUT VERTICALLY TO THE BOTTOM OF THE INPLACE SURFACING OR TO THE BOTTOM OF THE NEW SURFACING DESIGN, WHICHEVER IS DEEPER, THEN AT A 1(V):4(H) TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
- ⑲ AS A PRECAUTIONARY MEASURE FROM A SOILS STANDPOINT, TRAFFIC LANES TO BE USED DURING CONSTRUCTION MUST BE DELINEATED TO KEEP VEHICLES A SAFE DISTANCE AWAY FROM THE ADJACENT EXCAVATION. THE DELINEATION SHOULD COINCIDE WITH POINTS ESTABLISHED BY PROJECTING A 1(V):2(H) OR GREATER (FLATTER) SLOPE BETWEEN THE EDGE OF THE TRAFFIC SURFACE AND THE BOTTOM OF THE EXCAVATION.
- ⑳ COMPACTION OF ALL BITUMINOUS MIXTURES SHALL BE BY THE "MAXIMUM DENSITY METHOD."
- ㉑ AFTER MILLING THE PAVEMENT TO THE REQUIRED DEPTH AND PRIOR TO OVERLAYING, AIR BLAST ANY DETEIORATED CRACKS AND JOINTS TO REMOVE LOOSE OR DETEIORATED BITUMINOUS SURFACING. THE AIR BLASTING SHALL BE DONE WITH HIGH-PRESSURE (100+ P.S.I.) EQUIPMENT. REMOVAL OF AREAS THAT THE MILLING MACHINE WAS NOT ABLE TO GET TO, FOR EXAMPLE NEAR CATCH BASINS OR MANHOLES, MAY REQUIRE THE USE OF A SMALL MILLING MACHINE OR HAND WORK, IN ADDITION TO HIGH PRESSURE AIR BLASTING AT SOME LOCATIONS AS DIRECTED BY THE ENGINEER.
- ㉒ DEPRESSIONS RESULTING AFTER AIR BLASTING, SWEEPING OR MILLING OPERATIONS, WHICH ARE GREATER THAN 2 INCHES IN DEPTH AND 4 INCHES IN WIDTH AND JOINTS AND CRACKS THAT ARE GREATER THAN ONE AND ONE-HALF INCHES IN DEPTH AND WIDTH, SHALL BE PATCHED WITH BITUMINOUS PATCHING MIXTURE AS DIRECTED BY THE ENGINEER. PATCHING OF THESE AREAS SHALL BE DONE AHEAD OF THE PAVING OPERATION AND COMPACTED WITH A SMALL VIBRATORY OR PNEUMATIC ROLLER. DEPRESSIONS OF LESSER DIMENSIONS SHALL BE FILLED WITH THE WEAR COURSE MIXTURE.
- ㉓ THE CONTRACTOR SHALL PROVIDE OUTLET TRENCHES AND TAKE MEASURES NECESSARY, AS DIRECTED BY THE ENGINEER, TO ALLOW SURFACE DRAINAGE OF THE MILLED SURFACE. PAYMENT FOR MILLING AND PATCHING THE OUTLET TRENCHES SHALL BE MADE UNDER SPECIFICATION 2231.501.
- ㉔ THE BITUMINOUS MIXTURES SHALL MEET THE MOST CURRENT SPEC. 2360 REQUIREMENTS.
- ㉕ FOR THE DRIVING LANES ON TH 10, THE BITUMINOUS SURFACES SHALL COMPLY WITH THE PAVEMENT SMOOTHNESS SPECIFICATION - IRI EQUATION B. FOR THE TH 10 LEFT TURN LANES, RAMSEY BOULEVARD, RIVERDALE DRIVE, AND OTHER PAVING ASSOCIATED WITH THE PROJECT ONLY THE REQUIREMENTS OF 2360.7 B (STRAIGHT EDGE SPECIFICATION) SHALL APPLY.
- ㉖ FOR TH 10, THE JOINT BETWEEN THE TWO DRIVING LANES SHALL COMPLY WITH THE LONGITUDINAL JOINT DENSITY REQUIREMENT FOR GYRATORY DESIGN.
- ㉗ PROVIDE A SAW WHERE PLACING NEW PAVEMENT ADJACENT TO IN-PLACE PAVEMENT TO ENSURE A UNIFORM JOINT.
- ㉘ ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION OPERATIONS THAT WILL DISTURB EXISTING GROUND COVER.
- ㉙ THE CONTRACTOR SHALL APPLY BITUMINOUS TACK COAT, IN ACCORDANCE WITH SPEC. 2357, AND THE FOLLOWING BETWEEN ALL BITUMINOUS MIXTURES AND PRIOR TO PLACING ANY BITUMINOUS MIXTURES ON MILLED EXISTING PAVEMENT. THE BITUMINOUS TACK COAT MATERIAL SHALL CONSIST OF EMULSIFIED ASPHALT (GRADE CSS-1 OR CSS-1H) AND SHALL BE APPLIED AT A UNIFORM RATE OF 0.03 TO 0.05 GAL./ SQ. YD. BETWEEN BITUMINOUS LAYERS AND 0.07 TO 0.10 GAL./ SQ. YD. ON CONCRETE OR MILLED BITUMINOUS SURFACES PRIOR TO BEING OVERLAYED. THE APPLICATION RATES ARE FOR UNDILUTED EMULSIONS (AS SUPPLIED FROM THE REFINERY) FOR MC AND RC LIQUID ASPHALTS. THE ASPHALT EMULSION MAY BE DILUTED IN THE FIELD IN ACCORDANCE WITH SPEC. 2357. FOR TACK COAT APPLIED TO MILLED BITUMINOUS SURFACE, THE ASPHALT EMULSION SHALL HAVE WATER ADDED AT A RATE OF 30 TO 40 PERCENT OF THE VOLUME OF THE EMULSION. FOR ALL DILUTIONS, THE VOLUME OF WATER ADDED SHALL BE EXCLUDED FROM THE PAY QUANTITIES.
- ㉚ WHERE MATCHING THE T.H. 10 OVERLAY INTO EXISTING PAVEMENT SURFACES AT THE ENDS OF CONSTRUCTION, MILL A NOTCH AT LEAST 1.5 INCHES DEEP TO ALLOW FOR THE PLACEMENT OF A 1.5 INCH MINIMUM THICKNESS BITUMINOUS WEARING COURSE AT THE END TRANSITIONS.
- ㉛ THE CONTRACTOR SHALL BE REQUIRED TO KEEP THE CONSTRUCTION AREA ROADWAYS FREE OF DEBRIS, STRAY SOILS AND CONSTRUCTION MATERIALS. THIS WORK SHALL INCLUDE BUT NOT LIMITED TO, THE BROOMING/SWEEPING (PICK-UP TYPE ONLY) OF PAVEMENTS ON AT LEAST A DAILY BASIS (MORE FREQUENTLY WHEN NEEDED) AND PERIODIC WASHING WHEN NEEDED TO REMOVE COMPACTED SOIL MATERIALS FROM THE ROADWAY SURFACES. ALL SUCH WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO DIRECT COMPENSATION SHALL BE PAID THEREFOR.
- ㉜ THE CONTRACTOR IS HEREBY REMINDED OF HIS/HER RESPONSIBILITY UNDER STATE LAW TO CONTACT ALL UTILITIES THAT MAY HAVE FACILITIES IN THE AREA. CONTACT MUST BE MADE THROUGH THE GOPHER STATE ONE-CALL EXCAVATION NOTICE SYSTEM.
- ㉝ WHENEVER THE WORD "INCIDENTAL" IS USED IN THIS PLAN IT SHALL MEAN THAT NO DIRECT PAYMENT WILL BE MADE.

STANDARD PLATES AND SOILS & CONSTRUCTION NOTES

DRAWN BY: JNK

CHECKED BY: SNB

CERTIFIED BY

Alan M. Benson
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 21817

DATE 11/29/05

STATE PROJ. NO. 0202-81 (T.H. 10) SHEET NO. 4 OF 85 SHEETS

PLOTTED/REVISED: 29-NOV-2005 09:42

DISTRICT: METRO
PLOT NAME: 020281.scn
PATH & FILENAME: S:\DESIGN\01\0202-81\Traf\StdPlts & S&C Notes\020281.scn.dgn

PLOTTED/REVISED: 29-NOV-2005 09:43

| EARTHWORK QUANTITIES | | | |
|------------------------|--------------------|--------------------|--|
| STATION TO STATION | EXCAVATION SPECIAL | EMBANKMENT SPECIAL | |
| | ⑥ ⑧ CU YD | ⑦ CU YD | |
| T.H. 10 EB & WB (10EB) | | | |
| 255+00.00 TO 256+00.00 | 101 | 96 | |
| 256+00.00 TO 257+00.00 | 225 | 203 | |
| 257+00.00 TO 258+00.00 | 361 | 323 | |
| 258+00.00 TO 259+00.00 | 358 | 323 | |
| 259+00.00 TO 260+00.00 | 362 | 330 | |
| 260+00.00 TO 261+00.00 | 385 | 350 | |
| 261+00.00 TO 262+00.00 | 487 | 430 | |
| 262+00.00 TO 263+00.00 | 634 | 510 | |
| 263+00.00 TO 264+00.00 | 890 | 773 | |
| 264+00.00 TO 265+00.00 | 969 | 981 | |
| 265+00.00 TO 266+00.00 | 771 | 751 | |
| 266+00.00 TO 267+00.00 | 700 | 541 | |
| 267+00.00 TO 268+00.00 | 562 | 399 | |
| 268+00.00 TO 269+00.00 | 419 | 300 | |
| 269+00.00 TO 270+00.00 | 398 | 308 | |
| 270+00.00 TO 271+00.00 | 400 | 300 | |
| 271+00.00 TO 272+00.00 | 412 | 292 | |
| 272+00.00 TO 273+00.00 | 394 | 298 | |
| 273+00.00 TO 274+00.00 | 371 | 305 | |
| 274+00.00 TO 275+00.00 | 395 | 294 | |
| 275+00.00 TO 276+00.00 | 266 | 192 | |
| 276+00.00 TO 277+00.00 | 72 | 56 | |
| TOTALS | 9932 | 8355 | |

| EARTHWORK QUANTITIES | | | |
|-----------------------|--------------------|--------------------|--|
| STATION TO STATION | EXCAVATION SPECIAL | EMBANKMENT SPECIAL | |
| | ⑥ ⑧ CU YD | ⑦ CU YD | |
| RAMSEY BLVD. (CR56SB) | | | |
| 31+64.36 TO 32+00.00 | 257 | 221 | |
| 32+00.00 TO 32+50.00 | 325 | 263 | |
| 32+50.00 TO 33+00.00 | 399 | 327 | |
| 33+00.00 TO 33+50.00 | 428 | 337 | |
| 33+50.00 TO 34+00.00 | 460 | 332 | |
| 34+00.00 TO 34+50.00 | 453 | 331 | |
| 34+50.00 TO 35+00.00 | 439 | 346 | |
| 35+00.00 TO 35+83.73 | 697 | 671 | |
| TOTALS | 3458 | 2828 | |

| EARTHWORK QUANTITIES | | | |
|-----------------------|--------------------|--------------------|--|
| STATION TO STATION | EXCAVATION SPECIAL | EMBANKMENT SPECIAL | |
| | ⑥ ⑧ CU YD | ⑦ CU YD | |
| RAMSEY BLVD. (CR56SB) | | | |
| 38+30.68 TO 39+00.00 | 756 | 613 | |
| 39+00.00 TO 39+50.00 | 585 | 382 | |
| 39+50.00 TO 39+80.00 | 399 | 246 | |
| 39+80.00 TO 40+00.00 | 251 | 165 | |
| 40+00.00 TO 40+50.00 | 519 | 416 | |
| 40+50.00 TO 41+00.00 | 441 | 506 | |
| 41+00.00 TO 41+40.00 | 291 | 497 | |
| TOTALS | 3242 | 2825 | |

| EARTHWORK SUMMARY | | | | |
|------------------------------------|------------------------|---------|--------------------|--------------------|
| ALIGNMENT | STATION TO STATION | REMARKS | EXCAVATION SPECIAL | EMBANKMENT SPECIAL |
| | | | ⑥ CU YD | ⑦ CU YD |
| 10EB (T.H. 10 EB & WB) | 255+00.00 TO 277+00.00 | | ③ 10089 | 8355 |
| CR56SB (SOUTH LEG OF RAMSEY BLVD.) | 31+64.36 TO 35+83.73 | ① | ④ 3781 | 2828 |
| CR56SB (NORTH LEG OF RAMSEY BLVD.) | 38+30.68 TO 41+40.00 | ② | ⑤ 3542 | 2825 |
| PROJECT TOTALS | | | 17412 | 14008 |

NOTES:

- ① LOCATED ON CITY OF RAMSEY RIGHT OF WAY.
- ② LOCATED ON ANOKA COUNTY RIGHT OF WAY.
- ③ INCLUDES APPROXIMATELY 157 CU YDS BITUMINOUS PAVEMENT REMOVAL LESS THAN 6" THICK.
- ④ INCLUDES APPROXIMATELY 323 CU YDS BITUMINOUS PAVEMENT REMOVAL LESS THAN 6" THICK.
- ⑤ INCLUDES APPROXIMATELY 300 CU YDS BITUMINOUS PAVEMENT REMOVAL LESS THAN 6" THICK.
- ⑥ ALL EXCAVATION SHALL BE PAID UNDER ITEM 2105.607 'EXCAVATION SPECIAL (CU YD)' REGARDLESS OF BEING ABOVE OR BELOW THE GRADING GRADE. THE CONTRACTOR IS RESPONSIBLE FOR ESTIMATING WHAT QUANTITIES OF THE EXCAVATED MATERIALS ARE AVAILABLE FOR USE AS SUITABLE GRADING OR TOPSOIL, WHAT SHRINK OR SWELL FACTORS ARE APPROPRIATE, AND WHAT ADDITIONAL MATERIAL MAY NEED TO BE BROUGHT ON SITE BY THE CONTRACTOR (BORROW) OR HAULED OFF SITE BY THE CONTRACTOR (WASTE) IN ORDER TO ACCOMPLISH THE CONSTRUCTION AS DETAILED IN THE PLANS. THE ENGINEER SHALL HAVE ULTIMATE AUTHORITY IN DETERMINING SUITABILITY OF ALL CONSTRUCTION MATERIALS FOR USE IN CONSTRUCTION, REGARDLESS OF THE SOURCE.
- ⑦ ALL EMBANKMENT (CONSISTING OF SUITABLE GRADING MATERIAL, SELECT GRANULAR MATERIAL, AND TOPSOIL) SHALL BE CONSTRUCTED AS IDENTIFIED IN THE PLANS AND SHALL BE PAID UNDER ITEM 2105.607 'EMBANKMENT SPECIAL (CU YD)' REGARDLESS OF MATERIAL TYPE.
- ⑧ EXCLUDING BITUMINOUS PAVEMENT REMOVAL QUANTITIES PAID AS EXCAVATION.

DISTRICT: METRO
 PLOT NAME: d020281_low_summary
 PATH & FILENAME: S:\DESIGN\010\020281\final\020281.tbl.dgn

TURF ESTABLISHMENT AND EROSION CONTROL

B

| STATION TO STATION | LOCATION | SEEDING ACRE | SEED MIXTURE | | AGRICULTURAL LIME ③ TON | COMMERCIAL FERTILIZER ANALYSIS 22-5-10 ④ POUND | DISK ANCHOR ACRE | MULCH MATERIAL TYPE I ⑤ TON | EROSION CONTROL BLANKET | | | INLET PROTECTION EACH | ROCK LOG LIN FT | BIOROLL LIN FT | SILT FENCE TYPE HEAVY DUTY LIN FT | REMARKS |
|--------------------|---------------------|-----------------|------------------------|------------------------|----------------------------------|---|------------------------|---|---|--|---------------------------|-----------------------------|-----------------------|-------------------|---|---------|
| | | | TYPE 260 ① POUND | TYPE 240 ② POUND | | | | | W/ MAINT. - CATEGORY 4 ⑥ SQ YD | W/ MAINT. - CATEGORY 00 ⑦ SQ YD | CATEGORY 00 ⑦ SQ YD | | | | | |
| | | | | | | | | | | | | | | | | |
| CR56NB | | | | | | | | | | | | | | | | |
| 131+79 TO 135+60 | VAR. RT. | 0.06 | 6.0 | | 0.2 | 21.0 | | | | 290 | | | | | | |
| 131+98 TO 135+39 | VAR. RT. | | | | | | | | | | | | 290 | | | |
| 131+99 TO 135+50 | VAR. RT. | 0.03 | 3.0 | | 0.1 | 10.5 | | | | 145 | | | | | | |
| 137+10 TO 139+56 | VAR. RT. | 0.10 | 10.0 | | 0.3 | 35.0 | | | | 484 | | | | | | |
| 139+86 TO 141+41 | VAR. RT. | | | | | | | | | | | | | 164 | | |
| 139+86 TO 141+41 | VAR. RT. | 0.06 | 6.0 | | 0.2 | 21.0 | | | | 290 | | | | | | |
| CR56SB | | | | | | | | | | | | | | | | |
| 31+64 | 18' LT. TO 20' RT. | | | | | | | | | | | 38 | | | | |
| 31+64 TO 35+90 | 22' LT. TO 36' LT. | | | | | | | | | | | | 340 | 120 | | |
| 31+64 TO 35+85 | VAR. LT. TO RT. | | | | | | | | | | 4 | | | | | |
| 31+64 TO 35+98 | 20' LT. TO 37' LT. | 0.12 | 12.0 | | 0.4 | 42.0 | | | | 580 | | | | | | |
| 38+30 TO 41+40 | VAR. LT. TO RT. | | | | | | | | | | 12 | | | | | |
| 38+65 TO 39+46 | 132' LT. TO 43' LT. | | | | | | | | | | | | 150 | | | |
| 38+73 TO 39+56 | 26' LT. TO 31' LT. | 0.01 | 1.0 | | 0.1 | 3.5 | | | | 48 | | | | | | |
| 40+00 TO 41+40 | 20' LT. TO 28' LT. | 0.03 | 3.0 | | 0.1 | 10.5 | | | | 145 | | | | | | |
| 40+04 TO 41+40 | 38' LT. TO 53' LT. | | | | | | | | | | | 133 | | | | |
| 40+06 TO 40+50 | 38' LT. TO 48' LT. | 0.01 | 1.0 | | 0.1 | 3.5 | | | | 48 | | | | | | |
| 40+50 TO 41+40 | 38' LT. TO 53' LT. | 0.02 | 2.0 | | 0.1 | 7.0 | | | 97 | | | | | | | |
| 10WB | | | | | | | | | | | | | | | | |
| 255+17 TO 256+60 | 22' LT. TO 42' LT. | 0.05 | 5.0 | | 0.2 | 17.5 | | | | 242 | | | | | | |
| 255+17 TO 263+66 | 16' RT. TO 32' RT. | 0.16 | | 12.0 | 0.5 | 56.0 | | | | | 774 | | | | | |
| 255+17 TO 277+00 | LT. DITCH | | | | | | | | | | 3 | | 520 | | | |
| 256+91 TO 259+08 | 22' LT. TO 52' LT. | 0.06 | 6.0 | | 0.2 | 21.0 | | | | 290 | | | | | | |
| 259+56 TO 263+53 | VAR. LT. | 0.15 | 15.0 | | 0.5 | 52.5 | | | | 726 | | | | | | |
| 265+33 TO 277+00 | 24' RT. TO 75' RT. | 0.26 | | 19.5 | 0.8 | 91.0 | | | | | 1258 | | | | | |
| 265+96 TO 277+00 | 24' RT. TO 72' RT. | 1.08 | | 81.0 | 3.2 | 378.0 | 1.1 | 2.16 | | | | | | | | |
| 266+73 TO 267+27 | 24' LT. TO 53' LT. | 0.03 | 3.0 | | 0.1 | 10.5 | | | | 145 | | | | | | |
| 267+60 TO 268+86 | 24' LT. TO 34' LT. | 0.03 | 3.0 | | 0.1 | 10.5 | | | | 145 | | | | | | |
| 269+11 TO 270+46 | 24' LT. TO 35' LT. | 0.02 | 2.0 | | 0.1 | 7.0 | | | | 97 | | | | | | |
| 270+87 TO 271+37 | 24' LT. TO 50' LT. | 0.03 | 3.0 | | 0.1 | 10.5 | | | | 145 | | | | | | |
| 271+86 TO 273+26 | 24' LT. TO 36' LT. | 0.02 | 2.0 | | 0.1 | 7.0 | | | | 97 | | | | | | |
| 273+73 TO 274+45 | 24' LT. TO 35' LT. | 0.01 | 1.0 | | 0.1 | 3.5 | | | | 48 | | | | | | |
| 274+80 TO 277+00 | 24' LT. TO 53' LT. | 0.07 | 7.0 | | 0.2 | 24.5 | | | | 338 | | | | | | |
| 10EB | | | | | | | | | | | | | | | | |
| 255+00 TO 277+00 | RT. DITCH | | | | | | | | | | 4 | | 390 | | | |
| 255+00 TO 277+00 | MEDIAN DITCH | | | | | | | | | | 1 | | 480 | | | |
| 255+17 TO 263+66 | LT. MEDIAN | 0.83 | | 62.3 | 2.5 | 290.5 | 0.8 | 1.66 | | | | | | | | |
| 255+17 TO 264+07 | 24' LT. TO 72' LT. | 0.20 | | 15.0 | 0.6 | 70.0 | | | | 968 | | | | | | |
| 255+17 TO 264+89 | VAR. RT. | 0.36 | | 27.0 | 1.1 | 126.0 | | | | 1742 | | | | | | |
| 256+30 TO 258+70 | 73' RT. | | | | | | | | | | | | | 240 | | |
| 260+00 TO 262+70 | 72' RT. | | | | | | | | | | | | | 270 | | |
| 265+75 TO 277+00 | 22' RT. TO 75' RT. | 0.30 | | 22.5 | 0.9 | 105.0 | | | | 1452 | | | | | | |
| 265+79 TO 277+00 | 16' LT. TO 22' LT. | 0.21 | | 16.0 | 0.6 | 73.5 | | | | 1016 | | | | | | |
| TOTALS | | 4.4 | 91 | 256 | 14 | 1509 | 2 | 4 | 97 | 4303 | 7210 | 24 | 171 | 2170 | 794 | |

NOTES:

- ① THE APPLICATION RATE FOR SEED MIXTURE 260 SHALL BE 100 POUNDS/ ACRE.
- ② THE APPLICATION RATE FOR SEED MIXTURE 240 SHALL BE 75 POUNDS/ ACRE.
- ③ AGRICULTURAL LIME (SPEC. 3879) SHALL BE APPLIED AT A RATE OF 3 TONS PER ACRE.
- ④ FERTILIZER SHALL BE ANALYSIS 22-5-10, 80% W.I.N. NON-CHLORINE FORM (TYPE SLOW RELEASE) AND SHALL BE APPLIED AT A RATE OF 350 POUNDS/ ACRE.
- ⑤ TYPE I MULCH SHALL BE APPLIED AT A RATE OF 2 TONS/ ACRE.
- ⑥ BLANKET SHALL HAVE A DOUBLE SET OF STAPLES TO HELP ASSURE THAT THE BLANKET REMAINS BELOW MOWER BLADE HEIGHT (INCIDENTAL).
- ⑦ ITEM TO BE PAID UNDER PAY ITEM 2575.604 'EROSION CONTROL BLANKET (SQ YD)'.

TURF ESTABLISHMENT AND EROSION CONTROL

TABULATIONS

DRAWN BY: JNK

CHECKED BY: SNB

CERTIFIED BY

Stan M. Brown
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 21817

DATE 11/29/05

STATE PROJ. NO. 0202-81

(T.H. 10) SHEET NO. 6

OF 85 SHEETS

PLOTTED/REVISED: 29-NOV-2005 09:46

DISTRICT: METRO
PLOT NAME: 020281.tbl
PATH & FILENAME: S:\DESIGN\010\0202\81\FIN\020281.tb2.dgn

PLOTTED/REVISED: 29-NOV-2005 09:46

DISTRICT: METRO
 IPLOT NAME: 0020281.jb2
 PATH & FILENAME: S:\DESIGN\010\0202-81\Tnd\020281_jb2.dgn

| BITUMINOUS SUMMARY C | | | | | | | | | | | | | |
|---|---------------------------|--|------|-------|--|------|-------|--|-----|-------|-----------|-----------|---------|
| STATION TO STATION | LOCATION | 2360 TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB540H) | | | 2360 TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB340H) | | | 2360 TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB340B) | | | TACK COAT | | REMARKS |
| | | TOTAL AREA | MIX | DEPTH | TOTAL AREA | MIX | DEPTH | TOTAL AREA | MIX | DEPTH | LIFTS | TACK COAT | |
| | | SQ YD | TON | INCH | SQ YD | TON | INCH | SQ YD | TON | INCH | EACH | GAL | |
| 10WB | | | | | | | | | | | | | |
| 255+17 TO 262+00 | 12 FT. LT. TO 24 FT. LT. | | | | | | | 828 | 98 | 2.1 | 1 | 41 | |
| 255+17 TO 277+16 | VARS. RT. TO LT. | 6553 | 1111 | 3.0 | | | | | | | 2 | 983 | |
| 256+52 TO 257+09 | 22 FT. LT. TO 32 FT. LT. | | | | | | | 47 | 4 | 1.5 | 1 | 2 | |
| 258+86 TO 259+79 | 24 FT. LT. TO 34 FT. LT. | | | | | | | 74 | 6 | 1.5 | 1 | 4 | |
| 261+88 TO 264+39 | 12 FT. RT. TO 24 FT. RT. | 196 | 72 | 6.5 | | | | | | | 2 | 20 | |
| 262+00 TO 265+45 | 12 FT. LT. TO 24 FT. LT. | 398 | 146 | 6.5 | | | | | | | 2 | 40 | |
| 263+19 TO 264+48 | 16 FT. RT. TO 72 FT. RT. | 230 | 84 | 6.5 | | | | | | | 2 | 23 | |
| 265+02 TO 265+80 | 24 FT. RT. TO 72 FT. RT. | 188 | 69 | 6.5 | | | | | | | 2 | 19 | |
| 265+02 TO 275+30 | 12 FT. RT. TO 24 FT. RT. | 1263 | 464 | 6.5 | | | | | | | 2 | 126 | |
| 265+45 TO 277+16 | 12 FT. LT. TO 24 FT. LT. | | | | | | | 1561 | 185 | 2.1 | 1 | 78 | |
| 266+32 TO 267+10 | 24 FT. LT. TO 34 FT. LT. | | | | | | | 60 | 5 | 1.5 | 1 | 3 | |
| 267+10 TO 267+72 | 24 FT. LT. TO 34 FT. LT. | | | | | | | 48 | 4 | 1.5 | 1 | 2 | |
| 268+79 TO 269+17 | 24 FT. LT. TO 34 FT. LT. | | | | | | | 32 | 3 | 1.5 | 1 | 2 | |
| 270+35 TO 271+04 | 24 FT. LT. TO 34 FT. LT. | | | | | | | 59 | 5 | 1.5 | 1 | 3 | |
| 271+13 TO 272+08 | 24 FT. LT. TO 34 FT. LT. | | | | | | | 76 | 6 | 1.5 | 1 | 4 | |
| 273+09 TO 273+90 | 24 FT. LT. TO 34 FT. LT. | | | | | | | 68 | 6 | 1.5 | 1 | 3 | |
| 274+34 TO 275+01 | 24 FT. LT. TO 34 FT. LT. | | | | | | | 60 | 5 | 1.5 | 1 | 3 | |
| 10EB | | | | | | | | | | | | | |
| 255+00 TO 263+96 | 12 FT. RT. TO 24 FT. RT. | | | | | | | 1094 | 130 | 2.1 | 1 | 55 | |
| 255+00 TO 277+00 | VARS. RT. TO LT. | 6433 | 1090 | 3.0 | | | | | | | 2 | 965 | |
| 256+20 TO 264+32 | 12 FT. LT. TO 24 FT. LT. | 969 | 356 | 6.5 | | | | | | | 2 | 97 | |
| 263+95 TO 267+62 | 12 FT. RT. TO 22 FT. RT. | 423 | 155 | 6.5 | | | | | | | 2 | 42 | |
| 264+98 TO 267+40 | 12 FT. LT. TO 24 FT. LT. | 179 | 66 | 6.5 | | | | | | | 2 | 18 | |
| 267+62 TO 277+00 | 12 FT. RT. TO 22 FT. RT. | | | | | | | 1041 | 124 | 2.1 | 1 | 52 | |
| CR565B | | | | | | | | | | | | | |
| 31+66 TO 36+67 | 60 FT. LT. TO 128 FT. RT. | | | | 3541 | 1400 | 7.0 | | | | 2 | 354 | |
| 31+97 TO 35+80 | 34 FT. RT. TO 90 FT. RT. | | | | | | | 284 | 48 | 3.0 | | 0 | |
| 37+99 TO 41+40 | 96 FT. LT. TO 112 FT. RT. | | | | 3427 | 1355 | 7.0 | | | | 2 | 343 | |
| TOTALS | | 16832 | 3613 | | 6968 | 2755 | | 5332 | 629 | | | 3282 | |

| AGGREGATE SUMMARY D | | | | |
|--|---------------------------|-----------------------------|----------------------------------|---------|
| STATION TO STATION | LOCATION | AGGREGATE BASE CLASS 5 (CV) | AGGREGATE SHOULDER CLASS II (CV) | REMARKS |
| | | CU YD | CU YD | |
| WB10 | | | | |
| 262+00 TO 265+45 | 12 FT. LT. TO 24 FT. LT. | 66 | | |
| 261+88 TO 264+39 | 12 FT. RT. TO 24 FT. RT. | 33 | | |
| 263+65 TO 264+48 | 24 FT. RT. TO 72 FT. RT. | 38 | | |
| 265+00 TO 265+80 | 24 FT. RT. TO 72 FT. RT. | 31 | | |
| 265+02 TO 275+30 | 12 FT. RT. TO 24 FT. RT. | 210 | | |
| 255+17 TO 277+16.5 | PAVE. EDGE TO SHLD P.I. | | 132 | |
| EB10 | | | | |
| 256+20 TO 264+32 | 12 FT. LT. TO 24 FT. LT. | 162 | | |
| 263+95 TO 267+62 | 12 FT. RT. TO 22 FT. RT. | 71 | | |
| 264+98 TO 267+40 | 12 FT. LT. TO 24 FT. LT. | 29 | | |
| 255+00 TO 277+00 | PAVE. EDGE TO SHLD P.I. | | 144 | |
| CR565B | | | | |
| 31+66 TO 36+67 | 60 FT. LT. TO 128 FT. RT. | 719 | | |
| 31+97 TO 35+80 | 34 FT. RT. TO 90 FT. RT. | 48 | | |
| 36+22 TO 36+39 | 24 FT. LT. TO 38 FT. LT. | 3 | | |
| 36+74 TO 37+01 | 61 FT. RT TO 78 FT. RT. | 5 | | |
| 37+47 TO 41+40 | 96 FT. LT. TO 112 FT. RT. | 731 | | |
| 37+64 TO 37+94 | 69 FT. RT. TO 92 FT. RT. | 6 | | |
| 38+43 TO 39+56 | 31 FT. LT. TO 58 FT. LT. | 18 | | |
| 39+99 TO 41+40 | 31 FT. LT. TO 38 FT. LT. | 20 | | |
| PROJECT TOTAL | | 2190 | 276 | |

BITUMINOUS
AGGREGATE

TABULATIONS

DRAWN BY: JNK

CHECKED BY: SNB

CERTIFIED BY

Steve M. Bowers
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 21817

DATE 11/29/05

STATE PROJ. NO. 0202-81 (T.H. 10) SHEET NO. 7 OF 85 SHEETS

PLOTTED/REVISED: 29-NOV-2005 09:46

DISTRICT: METRO
 IPLOT NAME: 020202BL1b3
 PATH & FILENAME: S:\DESIGN\010\0202\81\Final\020202BL1b2.dgn

| MISCELLANEOUS CONSTRUCTION | | | | | | | | | | | | | | | E |
|----------------------------|---------------------|----------------------|----------------------|----------------------|----------------------|-------------------------|-------------------------------|------------------|------------------|------------------|--------------------|------------------|-----------------|---------------|---------|
| STATION TO STATION | LOCATION | CURB & GUTTER DESIGN | CURB & GUTTER DESIGN | CURB & GUTTER DESIGN | CURB & GUTTER DESIGN | MILL BITUMINOUS SURFACE | 8" CONCRETE DRIVEWAY PAVEMENT | 3" CONCRETE WALK | 4" CONCRETE WALK | 6" CONCRETE WALK | PEDESTRIAN RAMPS | | | INSTALL FENCE | REMARKS |
| | | B424 | B612 | B618 | B624 | 1.5" | | | | | B424 CURB & GUTTER | 4" CONCRETE WALK | TRUNCATED DOMES | LIN FT | |
| | | LIN FT | LIN FT | LIN FT | LIN FT | SQ YD | SQ YD | SQ FT | SQ FT | SQ FT | LIN FT | SQ FT | SQ FT | LIN FT | |
| CR565B | | | | | | | | | | | | | | | |
| 31+64 TO 36+71 | 18' LT. TO 69' LT. | 455 | | 67 | | | | | | | | | | | |
| 31+66 TO 35+87 | 12' RT. TO 137' RT. | 406 | | 3 | | | | | | | | | | | |
| 35+54 TO 35+80 | 65' RT. TO 90' RT. | | | | | | | | 259 | | 17 | 24 | 8 | | |
| 32+58 TO 36+02 | 46' LT TO 40' LT | | | | | | | | | | | | | 370 | |
| 35+86 TO 36+16 | 48' RT. TO 71' RT. | 23 | | | | | | | 282 | 30 | 51 | 72 | 24 | | |
| 36+22 TO 36+40 | 24' LT. TO 38' LT. | | | | | | | | 116 | | 17 | 24 | 8 | | |
| 36+74 TO 37+01 | 61' RT. TO 81' RT. | | | | | | | | 282 | | | | | | |
| 37+47 TO 39+58 | 112' RT. TO 64' RT. | 204 | | | | | | | | | | | | | |
| 37+64 TO 37+94 | 62' RT. TO 92' RT. | | | | | | | | 233 | | 34 | 48 | 16 | | |
| 38+07 TO 38+37 | 16' LT. TO 39' LT. | 40 | | | | | | | 317 | 30 | 34 | 48 | 16 | | |
| 38+12 TO 41+40 | 24' RT. TO 35' RT. | | | | | | | 1655 | | 27 | | | | | |
| 38+15 TO 41+40 | 26' RT. TO 35' RT. | 530 | | | 120 | | | | | | | | | | |
| 38+36 TO 41+40 | 105' LT. TO 20' LT. | 341 | | | | | | | | | | | | | |
| 38+43 TO 39+56 | 31' LT. TO 58' LT. | | | | | | | | 959 | | 17 | 24 | 8 | | |
| 39+51 TO 40+08 | 24' LT. TO 50' LT. | | 25 | | | | 69 | | | | | | | | |
| 39+86 TO 41+38 | 62' RT. TO 85' RT. | 168 | | | | | | | | | | | | | |
| 39+96 TO 41+27 | 87' RT | | | | | | | | | | | | | 150 | |
| 39+99 TO 41+40 | 31' LT. TO 36' LT. | | | | | | | | 1101 | | | | | | |
| 10WB | | | | | | | | | | | | | | | |
| 256+79 | LT. | | | | | 47 | | | | | | | | | |
| 259+33 | LT. | | | | | 74 | | | | | | | | | |
| 266+71 | LT. | | | | | 60 | | | | | | | | | |
| 267+42 | LT. | | | | | 48 | | | | | | | | | |
| 268+99 | LT. | | | | | 32 | | | | | | | | | |
| 270+69 | LT. | | | | | 58 | | | | | | | | | |
| 271+61 | LT. | | | | | 76 | | | | | | | | | |
| 273+50 | LT. | | | | | 68 | | | | | | | | | |
| 274+67 | LT. | | | | | 59 | | | | | | | | | |
| 255+00 TO 277+00 | 12' LT. TO 12 RT. | | | | | 5873 | | | | | | | | | |
| 10EB | | | | | | | | | | | | | | | |
| 255+00 TO 277+00 | VAR. LT. TO 12' RT | | | | | 6343 | | | | | | | | | |
| TOTALS | | 2167 | 25 | 70 | 120 | 12738 | 69 | 1655 | 3549 | 87 | 170 | 240 | 80 | 520 | |

MISCELLANEOUS CONSTRUCTION
 3 OF 4

TABULATIONS

PLOTTED/REVISED: 29-NOV-2005 09:46

DISTRICT *: METRO
 IPLOT NAME: 020281.td4
 PATH & FILENAME: S:\DESIGN\020281\FIN\020281.td2.dgn

| MISCELLANEOUS REMOVAL & SALVAGE [F] | | | | | | | | | | | |
|-------------------------------------|-------------------|------------------|----------------|----------------|---------------------|---|---|--------------------------------------|------------------------|---------------|---------|
| STATION TO STATION | LOCATION | ITEM INPLACE | CLEAR AND GRUB | CLEAR AND GRUB | REMOVE PIPE CULVERT | REMOVE BITUMINOUS PAVEMENT APPROX. 8.5" THICK | REMOVE BITUMINOUS PAVEMENT APPROX. 5.0" THICK | SAW BITUMINOUS PAVEMENT (FULL DEPTH) | REMOVE CURB AND GUTTER | SALVAGE FENCE | REMARKS |
| | | | TREE | ACRE | LIN FT | SQ YD | SQ YD | LIN FT | LIN FT | LIN FT | |
| 10EB | | | | | | | | | | | |
| 256+20 TO 275+17 | 150' LT TO 75' RT | BIT. PAVE. | | | | | 1127 | | | | |
| 259+21 TO 270+58 | 120' LT TO 24' RT | BIT. PAVE. | | | | 2534 | | | | | |
| 256+20 TO 275+17 | 120' LT TO 24' RT | SAW BIT. PAVE. | | | | | | 3260 | | | |
| 264+52 TO 265+73 | 47' RT | 18" RCP | | | 120 | | | | | | |
| 10WB | | | | | | | | | | | |
| 256+93 TO 259+97 | 46' LT | 15" CMP | | | 4 | | | | | | |
| 259+58 TO 259+61 | 41' LT | 18" CMP | | | 2.5 | | | | | | |
| 263+88 TO 264+85 | 40' LT TO 42' LT | 18" RCP | | | 97 | | | | | | |
| 264+32 TO 265+12 | 49' RT TO 48' RT | 15" RCP | | | 81 | | | | | | |
| 266+88 TO 266+92 | 44' LT | 15" RCP | | | 4 | | | | | | |
| 270+88 TO 270+92 | 35' LT | 18" CMP | | | 4 | | | | | | |
| 274+88 TO 274+92 | 40' LT | 18" CMP | | | 4 | | | | | | |
| CR56SB | | | | | | | | | | | |
| 31+64.36 TO 36+41 | 20' LT TO 80' RT | BIT. PAVE. | | | | | 2320 | | | | |
| 38+31 TO 41+40 | 50' LT TO 87' RT | BIT. PAVE. | | | | | 2156 | | | | |
| 39+42 TO 40+02 | 69' RT | 15" RCP | | | 60 | | | | | | |
| 31+66.72 | 21' LT TO 20' RT | SAW BIT. PAVE. | | | | | | 41 | | | |
| 39+37 TO 40+22 | 50' LT | SAW BIT. PAVE. | | | | | | 86 | | | |
| 39+55 TO 39+86 | 86' RT | SAW BIT. PAVE. | | | | | | 31 | | | |
| 41+40 | 5' RT TO 54' RT | SAW BIT. PAVE. | | | | | | 48 | | | |
| 39+36 TO 40+30 | 20' LT TO 50' LT | B612 C&G | | | | | | | 85 | | |
| 39+44 TO 40+03 | 70' RT TO 86' RT | B612 C&G | | | | | | | 30 | | |
| 32+58 TO 36+02 | 46' LT TO 40' LT | CHAIN LINK FENCE | | | | | | | | 370 | |
| 39+96 TO 41+27 | 87' RT | CHAIN LINK FENCE | | | | | | | | 150 | |
| 40+34 | 39' LT | TREE | 1 | | | | | | | | |
| 40+88 | 38' LT | TREE | 1 | | | | | | | | |
| 41+36 | 48' LT | TREE | 1 | | | | | | | | |
| 40+00 TO 41+21 | 75' RT TO 87' RT | TREES | | 0.02 | | | | | | | |
| TOTALS | | | 3 | 0.02 | 377 | 2534 | 5603 | 3466 | 115 | 520 | |

| MAILBOX SUPPORT REPLACEMENT [G] | | | | | |
|---------------------------------|----------|------------------|-----------------|--------------------------|---------|
| STATION | LOCATION | RELOCATE MAILBOX | MAILBOX SUPPORT | MAILBOX SUPPORT MULTIPLE | REMARKS |
| | | EACH | EACH | EACH | |
| 10WB | | | | | |
| 267+77 | LT | 3 | | 1 | ② |
| 270+15 | LT | 1 | 1 | | ② |
| 273+00 | LT | 1 | 1 | | ② |
| 274+14 | LT | 1 | 1 | | ② |
| TOTALS | | 6 | 3 | 1 | |

NOTES:

- ① BITUMINOUS REMOVAL UNDER 6" THICK IS PAID AS COMMON EXCAVATION. SEE EARTHWORK SUMMARY SHEET FOR APPROXIMATE TOTAL VOLUME INFORMATION.
- ② INSTALL MAILBOXES IN THE SAME LOCATION ON NEW SUPPORTS PER MAILBOX SUPPORT DETAILS ON SHEET 21. CONTRACTOR SHALL BE REQUIRED TO KEEP ALL MAILBOXES IN SERVICE AT ALL TIMES. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORTS AS NEEDED (PAID AS 'RELOCATE MAIL BOX').

MISCELLANEOUS REMOVALS AND SALVAGE
 MAIL BOX SUPPORT REPLACEMENT

| | | | | | | |
|---------------|-----------------|--|----------------|----------------|--------------------|---|
| DRAWN BY: JNK | CHECKED BY: SNB | CERTIFIED BY: <i>Alan M. Dawson</i> <small>LICENSED PROFESSIONAL ENGINEER</small> | LIC. NO. 21817 | DATE: 11/29/05 | TABULATIONS | STATE PROJ. NO. 0202-81 (T.H. 10) SHEET NO. 9 OF 85 SHEETS |
|---------------|-----------------|--|----------------|----------------|--------------------|---|

PLOTTED/REVISED: 29-NOV-2005 09:49

DISTRICT: METRO
 IPLOT NAME: d020281_utiltab_water&gas
 PATH & FILENAME: S:\DESIGN\010\020281\Final\020281.tbl.dgn

| WATER | | | | ACTION | | | REMARKS |
|--------------------|-------------|-------------|----------------|--------|----------|-------------|---------|
| STATION TO STATION | OFFSET (FT) | DESCRIPTION | OWNER | ADJUST | RELOCATE | LEAVE AS IS | |
| CR56SB | | | | | | | |
| 31+47 - 32+67 | 2R - 19R | WATER | CITY OF RAMSEY | | | X | |
| 32+67 - 35+93 | 19R - 7L | WATER | CITY OF RAMSEY | | | X | |
| 35+32 | 5L | FIRE HYD | CITY OF RAMSEY | | X | | ② |
| 35+33 | 3L | WATER VLV | CITY OF RAMSEY | X | | | ② |
| 35+33 | 5L - 10R | WATER | CITY OF RAMSEY | | | X | |
| 35+93 - 36+17 | 7L - 62L | WATER | CITY OF RAMSEY | | | X | |
| 36+06 | 38L | WATER VLV | CITY OF RAMSEY | X | | | ② |
| 36+17 - 38+50 | 62L - 24L | WATER | CITY OF RAMSEY | | | X | |
| 38+50 | 24L | WATER VLV | CITY OF RAMSEY | X | | | ② |
| 38+50 - 40+46 | 24L - 18L | WATER | CITY OF RAMSEY | | | X | |
| 38+53 | 26L | WATER VLV | CITY OF RAMSEY | X | | | ② |
| 38+53 | 24L - 28L | WATER | CITY OF RAMSEY | | | X | |
| 38+53 | 28L | FIRE HYD | CITY OF RAMSEY | | X | | ② |
| 38+71 | 24L | WATER VLV | CITY OF RAMSEY | X | | | ② |
| 40+46 - 40+58 | 18L - 29L | WATER | CITY OF RAMSEY | | | X | |
| 40+58 - 41+83 | 29L - 32L | WATER | CITY OF RAMSEY | | | X | |

| GAS | | | | ACTION | | | REMARKS |
|--------------------|-------------|-------------|-------------|--------|----------|-------------|---------|
| STATION TO STATION | OFFSET (FT) | DESCRIPTION | OWNER | ADJUST | RELOCATE | LEAVE AS IS | |
| CR56SB | | | | | | | |
| 38+26 - 41+83 | 7L - 2L | GAS | CENTERPOINT | | X | | |
| 10WB | | | | | | | |
| 255+09 - 263+00 | 49L - 47L | GAS | CENTERPOINT | | | X | ① ② |
| 263+00 - 265+90 | 47L - 42L | GAS | CENTERPOINT | | X | | |
| 264+14 | 46L | GAS VLV | CENTERPOINT | | X | | |
| 265+00 - 277+41 | 42L - 43L | GAS | CENTERPOINT | | | X | ① ② |

| UTILITY ABBREVIATIONS | |
|-----------------------|--------------------------------------|
| WATER | = WATER MAIN |
| FIRE HYD | = FIRE HYDRANT |
| WATER VLV | = WATER VALVE |
| GAS | = NATURAL GAS PIPE |
| GAS VLV | = NATURAL GAS VALVE |
| T-BUR | = BURIED TELEPHONE LINE |
| FIBER OPTIC BURIED | = BURIED FIBER OPTIC LINE |
| TV CABLE | = BURIED CABLE TV LINE |
| TV CABLE IN COND | = BURIED CABLE TV LINE IN CONDUIT |
| TV VAULT | = BURIED TV VAULT |
| TV PED | = TV PEDESTAL |
| T-BUR IN COND | = BURIED TELEPHONE LINE IN CONDUIT |
| TEL PED | = TELEPHONE PEDESTAL |
| TEL MH | = TELEPHONE MANHOLE |
| U ST LIGHT | = UNDERGROUND STREET LIGHT |
| L POLE | = LIGHT POLE |
| P HH | = POWER HAND HOLE |
| SIG WIRE | = UNDERGROUND TRAFFIC SIGNAL WIRE |
| ANC | = POLE ANCHOR |
| P POLE | = POWER POLE |
| SIG-INT | = UNDERGROUND SIGNAL INTERCONNECTION |
| TRAFFIC SIG LIGHT | = TRAFFIC SIGNAL LIGHT |
| P PED | = POWER PEDESTAL |
| T POLE | = TELEPHONE POLE |
| P-BUR | = BURIED POWER LINE |

UTILITIES

THE FOLLOWING LIST SHOWS THE UTILITY COMPANIES INVOLVED WITH THIS PROJECT.

- QWEST CORPORATION
- COMCAST
- CENTER POINT ENERGY
- CITY OF RAMSEY
- MN/DOT
- SHAL NETWORK
- CONNEXUS ENERGY

GENERAL UTILITY NOTES:

- ALL RELOCATES AND ADJUSTMENTS ARE SUBJECT TO MN/DOT, COUNTY, OR CITY RIGHT OF WAY.
- ALL UTILITY WORK SHOWN ON THESE SHEETS SHALL BE DONE BY OTHERS UNLESS NOTED OTHERWISE.
- THE ACTIONS IDENTIFIED AS BEING REQUIRED ARE BASED ON THE INFORMATION AVAILABLE AND MAY NOT REFLECT THE ACTUAL EFFECTS ON THE UTILITIES BY CONSTRUCTION. ACTUAL DETERMINATIONS WILL BE MADE IN THE FIELD DURING CONSTRUCTION.
- THE CONTRACTOR IS HEREBY REMINDED OF HIS RESPONSIBILITY TO CONTACT ALL UTILITIES THAT MAY HAVE FACILITIES IN THE PROJECT AREA. CONTACT MUST BE MADE THROUGH GOPHER STATE ONE-CALL.
- THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY 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".

NOTES:

- ① EXPOSE AND PROTECT AS NEEDED AT THE CULVERT END REPLACEMENT SITES (INCIDENTAL TO CULVERT WORK).
- ② WORK SHALL BE PERFORMED BY THE CONTRACTOR UNDER THIS CONTRACT.

WATER
 GAS
 1 OF 2

PLOTTED/REVISED: 29-NOV-2005 09:49

| POWER | | | | | | | |
|--------------------|-------------|-------------------|-----------------|--------|----------|-------------|---------|
| STATION TO STATION | OFFSET (FT) | DESCRIPTION | OWNER | ACTION | | | REMARKS |
| | | | | ADJUST | RELOCATE | LEAVE AS IS | |
| CR56SB | | | | | | | |
| 31+47 - 32+54 | 26R - 27R | U ST LIGHT | CITY OF RAMSEY | | X | | |
| 32+54 - 35+47 | 27R - 90R | U ST LIGHT | CITY OF RAMSEY | | X | | |
| 32+54 | 27R | L POLE | CITY OF RAMSEY | | X | | |
| 34+82 | 57R | P HH | MNDOT | | X | | ⑤ |
| 34+82 - 35+58 | 57R - 88R | SIG WIRE | MNDOT | | X | | ⑤ |
| 36+30 - 39+35 | 30L - 2R | SIG WIRE | MNDOT | | X | | ⑤ |
| 39+35 | 2R | P HH | MNDOT | | X | | ⑤ |
| 40+32 | 22L | ANC | CONNEXUS ENERGY | | X | | |
| 40+35 | 12L | P POLE | CONNEXUS ENERGY | | X | | |
| 41+40 | 12L | ANC | CONNEXUS ENERGY | | X | | |
| 41+48 | 13L | ANC | CONNEXUS ENERGY | | X | | |
| 41+49 - 41+78 | 55L - 12L | P-BUR | CONNEXUS ENERGY | | | X | ⑥ |
| 41+40 | 12L | ANC | CONNEXUS ENERGY | | X | | |
| 41+78 | 12L | P POLE | CONNEXUS ENERGY | | | X | ⑥ |
| 10EB | | | | | | | |
| 254+92 - 265+86 | 22R - 62R | SIG-INT | MNDOT | | X | | ⑤ |
| 256+96 | 26R | P HH | MNDOT | | X | | ⑤ |
| 256+96 - 264+49 | 26R - 45R | SIG WIRE | MNDOT | | X | | ⑤ |
| 260+51 | 31R | P HH | MNDOT | | X | | ⑤ |
| 262+43 | 31R | P HH | MNDOT | | X | | ⑤ |
| 264+49 - 265+86 | 45R - 62R | SIG WIRE | MNDOT | | X | | ⑤ |
| 264+54 | 36R | TRAFFIC SIG LIGHT | MNDOT | | X | | ⑤ |
| 265+63 | 53R | TRAFFIC SIG LIGHT | MNDOT | | X | | ⑤ |
| 265+63 - 265+86 | 53R - 62R | SIG WIRE | MNDOT | | X | | ⑤ |
| 265+92 - 265+86 | 72R - 62R | SIG WIRE | MNDOT | | X | | ⑤ |
| 265+75 - 265+76 | 61R - 57R | SIG WIRE | MNDOT | | X | | ⑤ |
| 264+76 | 75R | P POLE | CONNEXUS ENERGY | | X | | |
| 266+36 | 76R | P POLE | CONNEXUS ENERGY | | | X | |
| 265+86 - 276+98 | 62R - 37R | SIG-INT | MNDOT | | X | | ⑤ |
| 265+75 | 61R | P HH | MNDOT | | X | | ⑤ |
| 265+76 | 57R | P HH | MNDOT | | X | | ⑤ |
| 265+86 | 62R | SIG EQUIPMENT PAD | MNDOT | | X | | ⑤ |
| 265+92 | 72R | P POLE | CITY OF RAMSEY | | | X | ④ |
| 10WB | | | | | | | |
| 263+72 | 33L | TRAFFIC SIG LIGHT | MNDOT | | X | | ⑤ |
| 264+03 | 37L | P HH | MNDOT | | X | | ⑤ |
| 264+15 | 41R | TRAFFIC SIG LIGHT | MNDOT | | X | | ⑤ |
| 264+32 | 54R | P HH | MNDOT | | X | | ⑤ |
| 264+84 | 52L | ANC | CONNEXUS ENERGY | | X | | |
| 264+92 | 53L | P POLE | CONNEXUS ENERGY | | X | | ③ |
| 264+97 | 47L | ANC | CONNEXUS ENERGY | | X | | |
| 265+03 | 49L | TRAFFIC SIG LIGHT | MNDOT | | X | | ⑤ |
| 265+06 | 37R | P HH | MNDOT | | X | | ⑤ |
| 265+06 - 265+43 | 37R - 48R | SIG WIRE | MNDOT | | X | | ⑤ |
| 265+43 - 265+43 | 48R - 28R | SIG WIRE | MNDOT | | X | | ⑤ |
| 265+43 - 272+52 | 28R - 17R | SIG WIRE | MNDOT | | X | | ⑤ |
| 265+43 | 28R | P HH | MNDOT | | X | | ⑤ |
| 267+04 | 27R | P HH | MNDOT | | X | | ⑤ |
| 269+07 | 20R | P HH | MNDOT | | X | | ⑤ |
| 271+05 | 18R | P HH | MNDOT | | X | | ⑤ |
| 272+52 | 17R | P HH | MNDOT | | X | | ⑤ |
| 265+43 | 48R | TRAFFIC SIG LIGHT | MNDOT | | X | | ⑤ |

| COMMUNICATIONS | | | | | | | |
|--------------------|-------------|--------------------|--------------|--------|----------|-------------|---------|
| STATION TO STATION | OFFSET (FT) | DESCRIPTION | OWNER | ACTION | | | REMARKS |
| | | | | ADJUST | RELOCATE | LEAVE AS IS | |
| CR56SB | | | | | | | |
| 38+09 - 38+50 | 68R - 45R | T-BUR | QWEST | | X | | |
| 38+07 - 41+83 | 75R - 68R | FIBER OPTIC BURIED | SHAL NETWORK | | X | | |
| 38+50 - 41+83 | 45R - 49R | T-BUR | QWEST | | X | | |
| 38+09 - 38+69 | 68R - 78R | T-BUR | QWEST | | X | | F/O |
| 38+69 - 41+76 | 78R - 83R | T-BUR | QWEST | | X | | F/O |
| 36+73 - 38+31 | 116L - 47L | TV CABLE | COMCAST | | X | | |
| 38+31 - 38+90 | 47L - 0L | TV CABLE | COMCAST | | X | | |
| 38+90 - 39+30 | 0L - 9L | TV CABLE | COMCAST | | X | | |
| 39+30 | 9L | TV PED | COMCAST | | X | | |
| 39+30 - 41+70 | 9L - 5L | TV CABLE | COMCAST | | X | | |
| 36+24 - 39+27 | 25L - 12L | TV CABLE IN COND | COMCAST | | X | | |
| 39+27 | 12L | TV VAULT | COMCAST | | X | | |
| 39+27 - 41+70 | 12L - 7L | TV CABLE IN COND | COMCAST | | X | | |
| 10EB | | | | | | | |
| 254+92 - 264+00 | 47R - 62R | FIBER OPTIC BURIED | SHAL NETWORK | | | X | |
| 264+00 - 265+75 | 62R | FIBER OPTIC BURIED | SHAL NETWORK | | X | | |
| 261+36 | 64R | FIBER OPTIC VAULT | SHAL NETWORK | | | X | |
| 265+68 - 265+75 | 151L - 62R | FIBER OPTIC BURIED | SHAL NETWORK | | X | | |
| 10WB | | | | | | | |
| 255+09 - 261+10 | 38L - 49L | T-BUR | QWEST | | | X | |
| 255+09 - 262+80 | 31L - 37L | T-BUR IN COND | QWEST | | | X | F/O①② |
| 262+80 - 266+00 | 37L | T-BUR IN COND | QWEST | | X | | F/O |
| 266+00 - 277+41 | 37L | T-BUR IN COND | QWEST | | | X | F/O①② |
| 258+99 - 261+10 | 56L - 49L | T-BUR | QWEST | | | X | ①② |
| 261+10 - 263+44 | 49L - 52L | T-BUR | QWEST | | X | | |
| 258+99 | 56L | TEL PED | QWEST | | | X | |
| 261+10 | 49L | TEL PED | QWEST | | | X | |
| 263+44 | 52L | TEL PED | QWEST | | X | | |
| 263+53 - 265+93 | 42R - 70R | TV CABLE | COMCAST | | X | | |
| 264+56 - 265+93 | 49R - 70R | TV CABLE IN COND | COMCAST | | X | | |
| 264+77 | 38L | TEL MH | QWEST | | X | | |
| 264+77 - 264+87 | 38L - 54L | T-BUR | QWEST | | X | | |
| 264+77 - 264+79 | 38L - 62L | T-BUR | QWEST | | X | | |
| 264+77 - 264+79 | 38L - 62L | FIBER OPTIC BURIED | QWEST | | X | | |
| 264+86 - 265+84 | 63L - 55L | FIBER OPTIC BURIED | SHAL NETWORK | | X | | |
| 264+87 | 54L | TEL PED | QWEST | | X | | |
| 264+94 | 53L | TEL PED | QWEST | | X | | |
| 264+87 - 264+94 | 54L - 53L | T-BUR | QWEST | | X | | |
| 266+93 | 48L | T POLE | QWEST | | | X | |
| 266+95 | 50L | TEL PED | QWEST | | | X | |
| 272+70 | 37L | TEL MH | QWEST | | | X | |

NOTES:

- SEE SHEET 1 OF 2 FOR GENERAL UTILITY NOTES.
- ① EXPOSE AND PROTECT AS NEEDED AT CULVERT END REPLACEMENT SITES (INCIDENTAL TO CULVERT WORK).
- ② WORK SHALL BE PERFORMED BY THE CONTRACTOR UNDER THIS CONTRACT.
- ③ QWEST FACILITIES ARE ALSO LOCATED ON THIS POLE.
- ④ COMCAST FACILITIES ARE ALSO LOCATED ON THIS POLE.
- ⑤ SEE THE TRAFFIC SIGNAL PLANS FOR WORK TO BE PERFORMED BY THE CONTRACTOR UNDER THIS CONTRACT ON EXISTING TRAFFIC SIGNAL FACILITIES, AND FOR ASSOCIATED MEASUREMENT AND PAYMENT INFORMATION.
- ⑥ SEE THE CONSTRUCTION PLANS FOR ANOKA COUNTY PROJ. NO. 04-15-56 (CITY OF RAMSEY PROJ. NO. 05-20) FOR CONSTRUCTION EFFECTS ON THIS FACILITY.

POWER
COMMUNICATIONS
2 OF 2

INPLACE UTILITIES TABULATIONS

DRAWN BY: MK

CHECKED BY: SB

CERTIFIED BY

Sam A. Bennett
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 21817

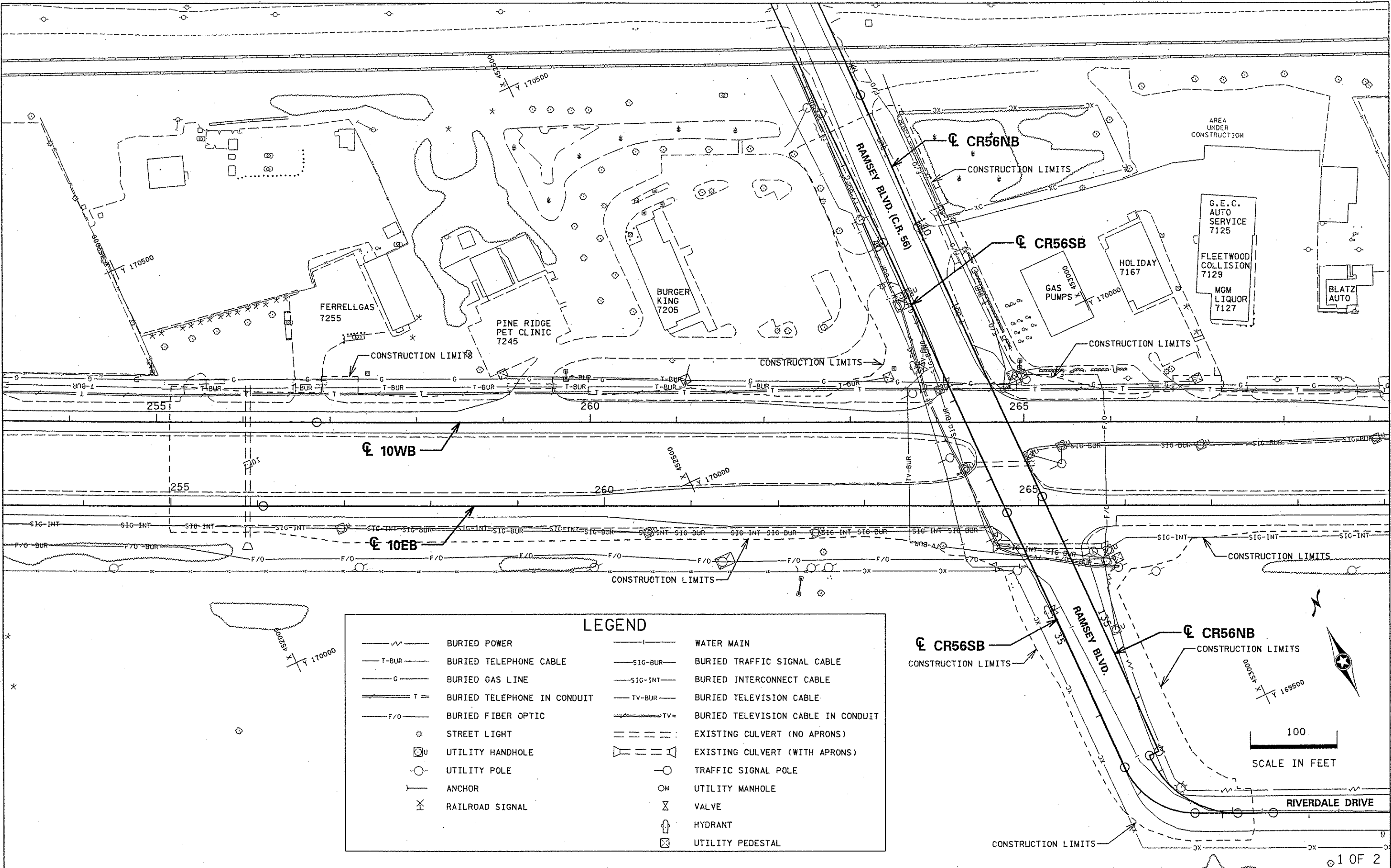
DATE 11/29/05

STATE PROJ. NO. 0202-81 (T.H.10) SHEET NO.11 OF 85 SHEETS

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| LEGEND | | | |
|--------|-----------------------------|--|------------------------------------|
| | BURIED POWER | | WATER MAIN |
| | BURIED TELEPHONE CABLE | | BURIED TRAFFIC SIGNAL CABLE |
| | BURIED GAS LINE | | BURIED INTERCONNECT CABLE |
| | BURIED TELEPHONE IN CONDUIT | | BURIED TELEVISION CABLE |
| | BURIED FIBER OPTIC | | BURIED TELEVISION CABLE IN CONDUIT |
| | STREET LIGHT | | EXISTING CULVERT (NO APRONS) |
| | UTILITY HANDHOLE | | EXISTING CULVERT (WITH APRONS) |
| | UTILITY POLE | | TRAFFIC SIGNAL POLE |
| | ANCHOR | | UTILITY MANHOLE |
| | RAILROAD SIGNAL | | VALVE |
| | | | HYDRANT |
| | | | UTILITY PEDESTAL |

INPLACE UTILITIES PLANS

DRAWN BY: MK

CHECKED BY: SNB

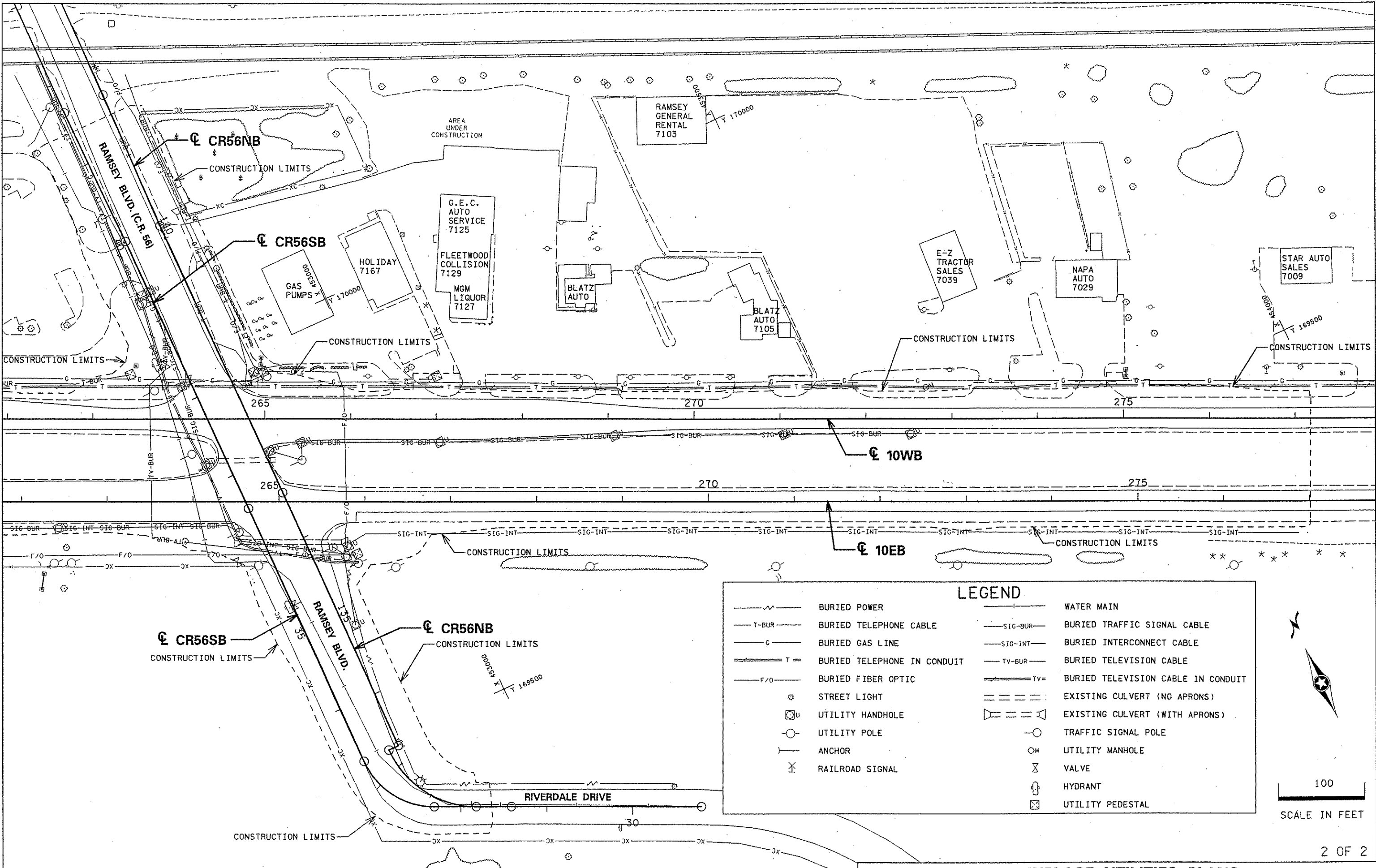
CERTIFIED BY *Stuart M. Brown*
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 21817 DATE 11/29/05

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PLOTTED/REVISED: 29-NOV-2005 09:51

DISTRICT #: METRO
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| LEGEND | | | |
|--------|-----------------------------|--|------------------------------------|
| | BURIED POWER | | WATER MAIN |
| | BURIED TELEPHONE CABLE | | BURIED TRAFFIC SIGNAL CABLE |
| | BURIED GAS LINE | | BURIED INTERCONNECT CABLE |
| | BURIED TELEPHONE IN CONDUIT | | BURIED TELEVISION CABLE |
| | BURIED FIBER OPTIC | | BURIED TELEVISION CABLE IN CONDUIT |
| | STREET LIGHT | | EXISTING CULVERT (NO APRONS) |
| | UTILITY HANDHOLE | | EXISTING CULVERT (WITH APRONS) |
| | UTILITY POLE | | TRAFFIC SIGNAL POLE |
| | ANCHOR | | UTILITY MANHOLE |
| | RAILROAD SIGNAL | | VALVE |
| | | | HYDRANT |
| | | | UTILITY PEDESTAL |

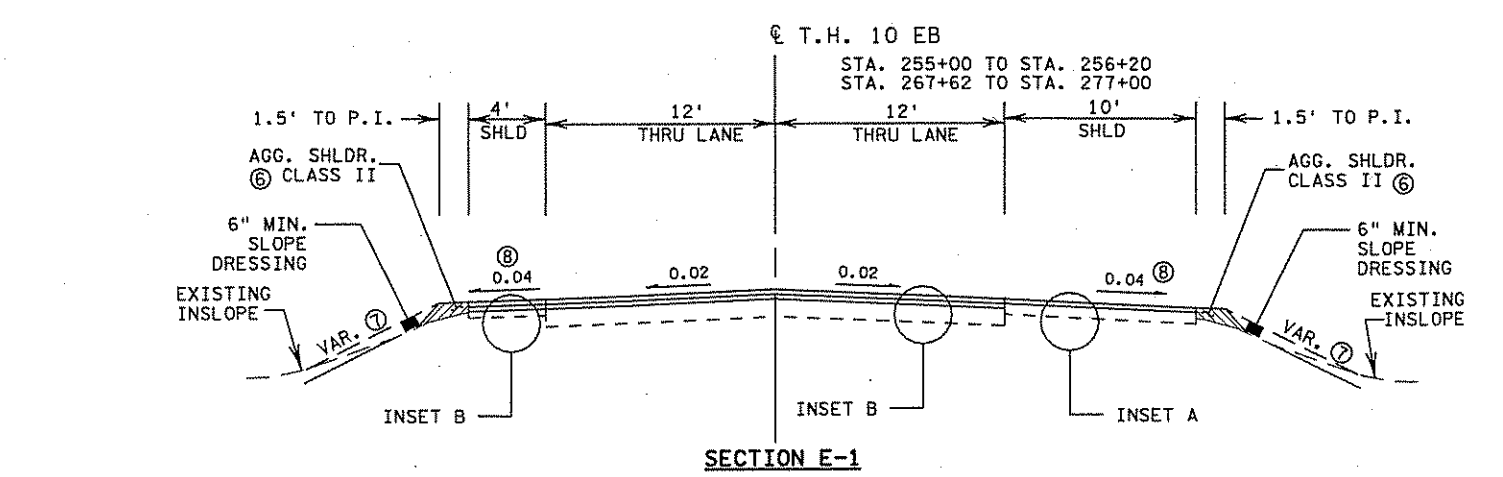
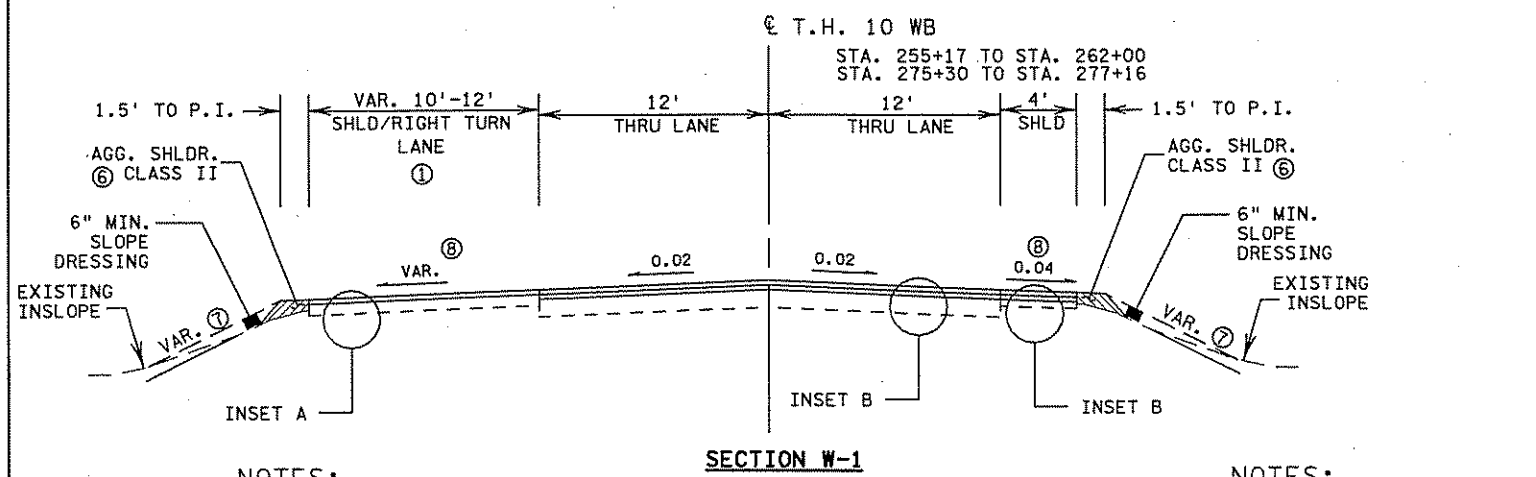
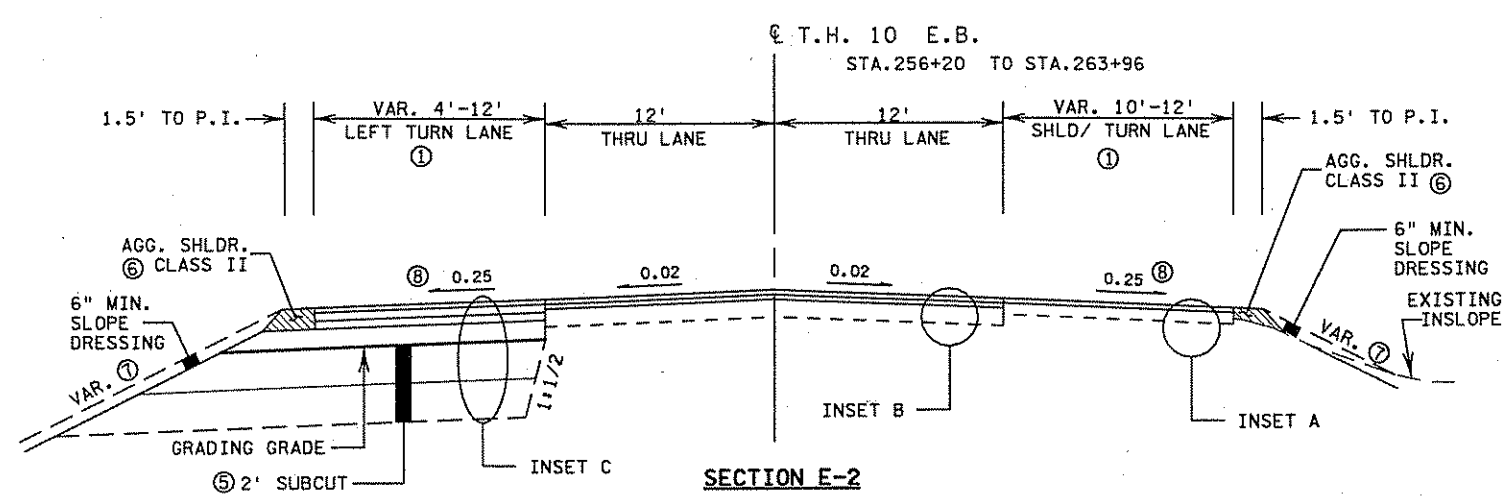
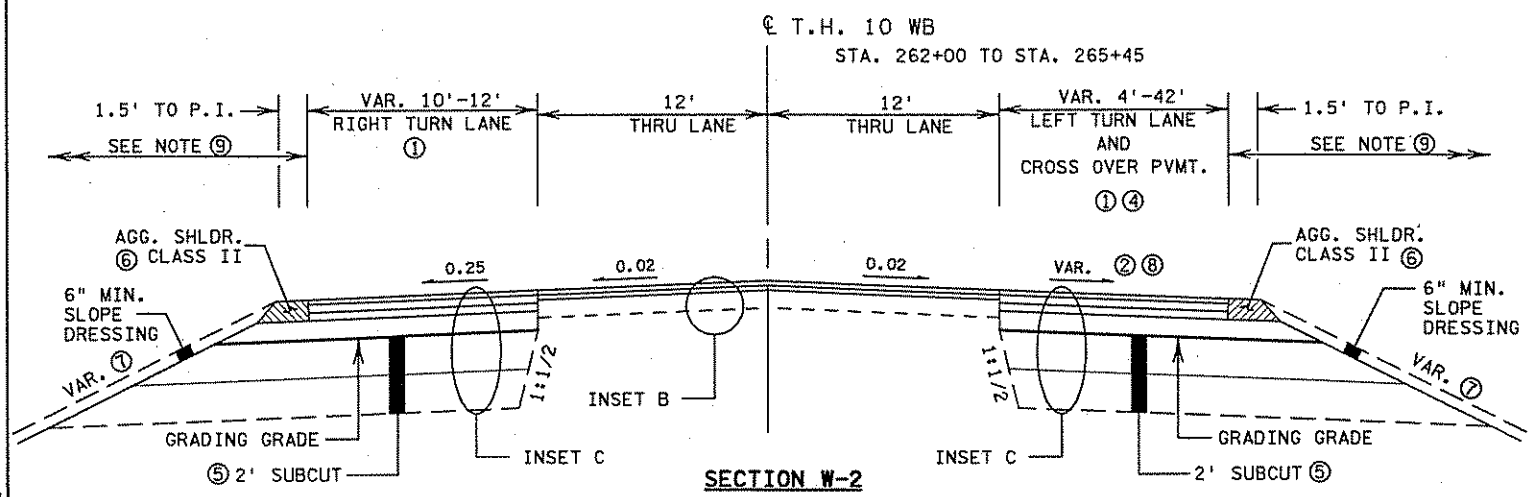
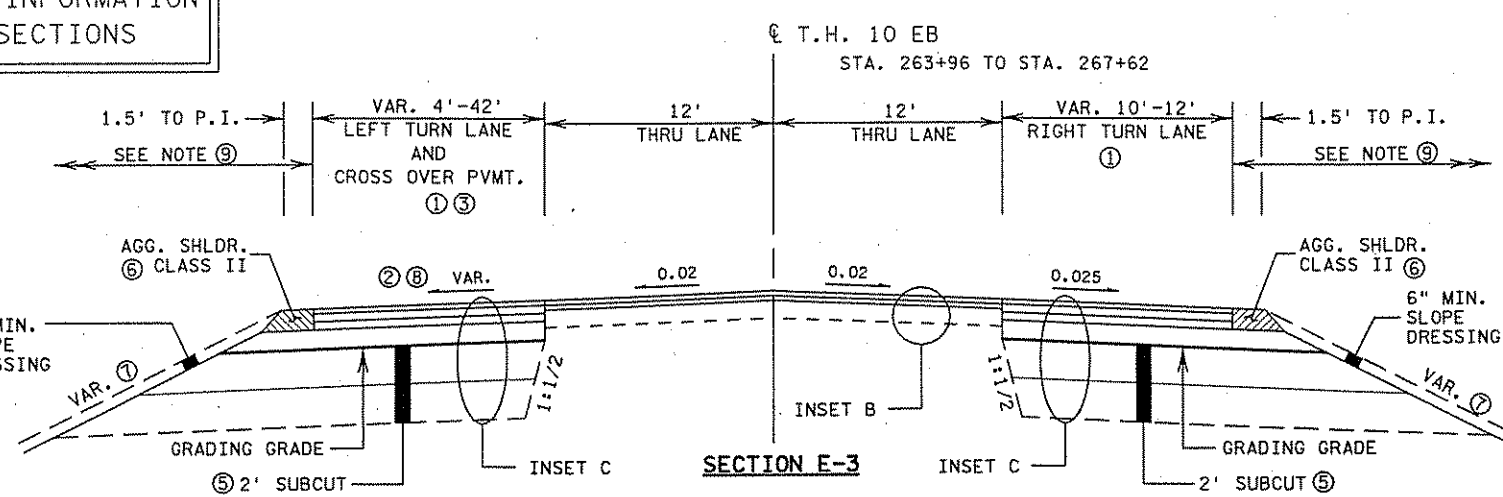
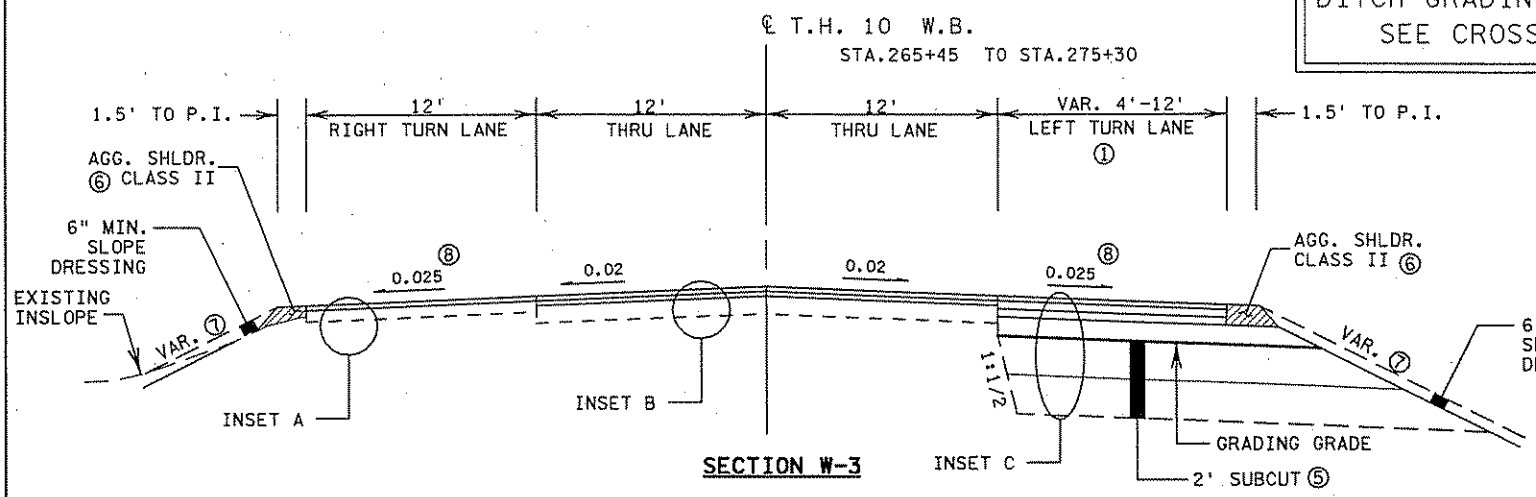


INPLACE UTILITIES PLANS

PLOTTED/REVISED: 29-NOV-2005 09:53

DISTRICT #: METRO
IPLOT NAME: 020281.tbl\T10
PATH & FILENAME: S:\DESIGN\010\020281\Final\020281.tbl.dgn

FOR SPECIFIC INSLOPE AND
DITCH GRADING INFORMATION
SEE CROSS SECTIONS



- NOTES:**
- ① SEE CONSTRUCTION PLANS FOR PAVEMENT WIDTH INFORMATION.
 - ② SEE INTERSECTION DETAIL FOR CROSS SLOPE CONTROL INFORMATION IN T.H.10 MEDIAN NOSE AREA.
 - ③ MILL AND OVERLAY ONLY (PER INSET B) T.H. 10 E.B. STA. 264+32 TO STA. 265+04. ADJUST MILL AND OVERLAY DEPTHS AS NEEDED TO ACHIEVE SURFACE ELEVATIONS SPECIFIED IN INTERSECTION DETAILS.
 - ④ MILL AND OVERLAY ONLY (PER INSET B) T.H. 10 W.B. STA. 264+39 TO STA. 265+02. ADJUST MILL AND OVERLAY DEPTHS AS NEEDED TO ACHIEVE SURFACE ELEVATIONS SPECIFIED IN INTERSECTION DETAILS.

- NOTES:**
- ⑤ SEE PAVEMENT INSETS ON TYPICAL SECTIONS SHEET 3 OF 3 FOR BACKFILL MATERIALS.
 - ⑥ AGGREGATE SHOULDERING CLASS II (SPEC. 2221). THE CONTRACTOR MAY SUBSTITUTE AGGREGATE SHOULDERING CLASS I (MOD.) AT NO COST TO MNDOT (SEE SOILS AND CONSTRUCTION NOTES). AGGREGATE SHOULDERING SHALL BE FLUSH WITH PAVEMENT.
 - ⑦ INSLOPE RATES VARY (SEE CROSS SECTIONS). SLOPE RATES SHALL NOT BE STEEPER THAN 1:4.
 - ⑧ PAVEMENT CROSS SLOPE RATES VARY (SEE SUPERELEVATION PLANS).
 - ⑨ BERM AND INSLOPE NOT APPLICABLE WITHIN RAMSEY BLVD. INTERSECTION PAVEMENT AREA.

- GENERAL NOTES:**
- SEE TYPICAL SECTIONS SHEET 3 OF 3 FOR INFORMATION REGARDING PAVEMENT CROSS SLOPE CORRECTION IN OVERLAY ONLY AREAS.
 - ALL CROSS SLOPES ARE IN FOOT PER FOOT.
 - GRADING GRADE CROSS SLOPE SHALL MATCH PAVEMENT CROSS SLOPE.
 - FOR PAVEMENT INSETS, SEE TYPICAL SECTIONS SHEET 3 OF 3.

TYPICAL SECTIONS (T.H. 10)

DRAWN BY: MRK

CHECKED BY: SNB

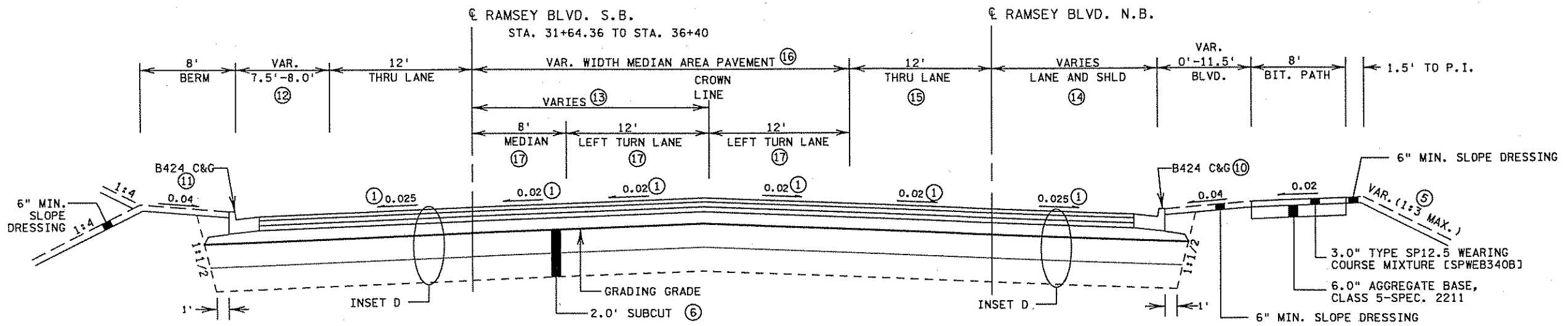
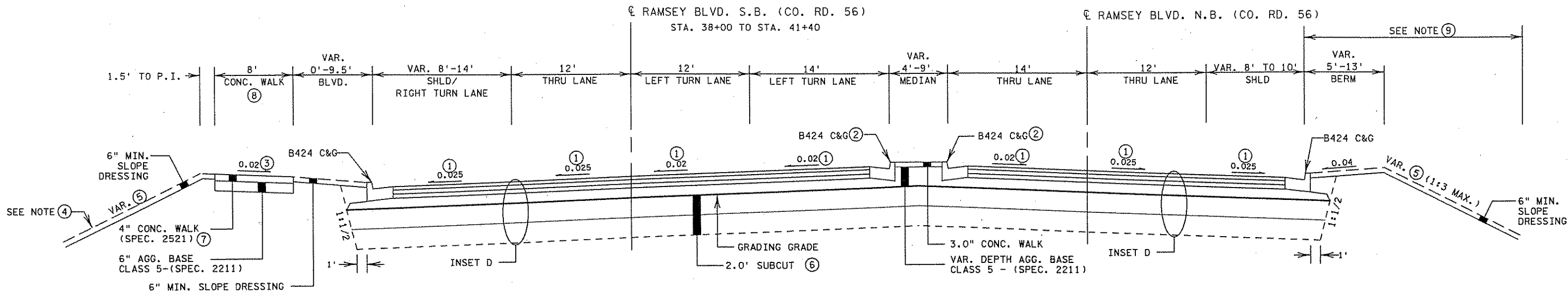
CERTIFIED BY *Alan M. Bowen*
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 21817 DATE 11/29/05

STATE PROJ. NO. 0202-81 (T.H. 10) SHEET NO. 14 OF 85 SHEETS

PLOTTED/REVISED: 29-NOV-2005 09:53

DISTRICT: METRO
PLOT NAME: d020281.tbl_Ramsey_Bldv
PATH & FILENAME: S:\DESIGN\010\0202\8N\Find\020281.tbl.dgn



GENERAL NOTES:

- ALL CROSS SLOPES ARE IN FOOT PER FOOT.
- GRADING GRADE CROSS SLOPE SHALL MATCH PAVEMENT CROSS SLOPE.
- FOR PAVEMENT INSETS, SEE TYPICAL SECTIONS SHEET 3 OF 3.
- ALL CONCRETE CURB AND GUTTER SHALL BE "GUTTER IN" TYPE.

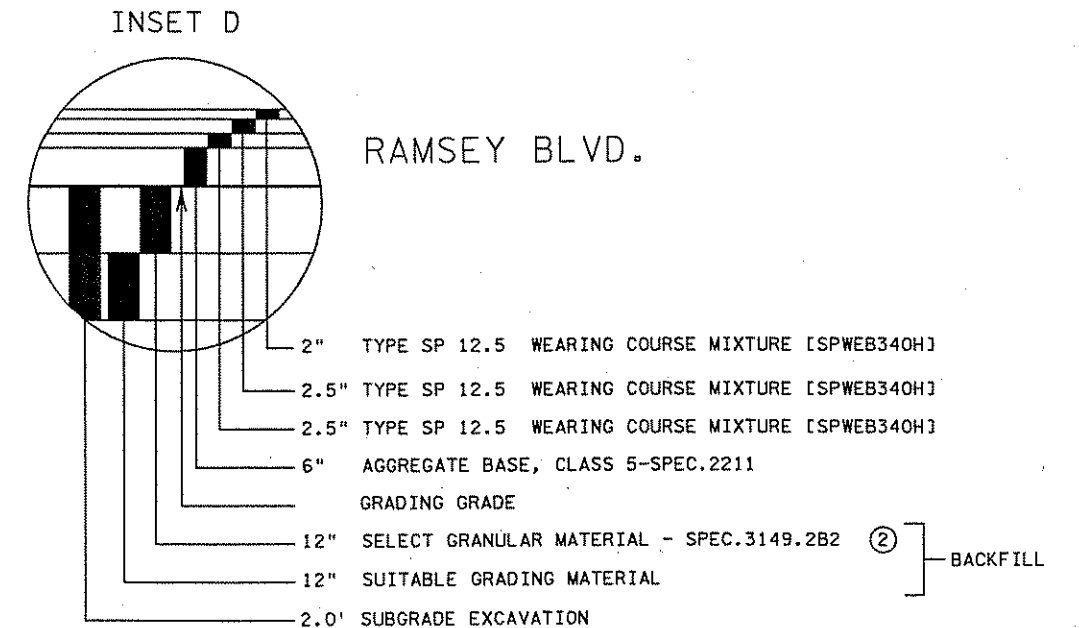
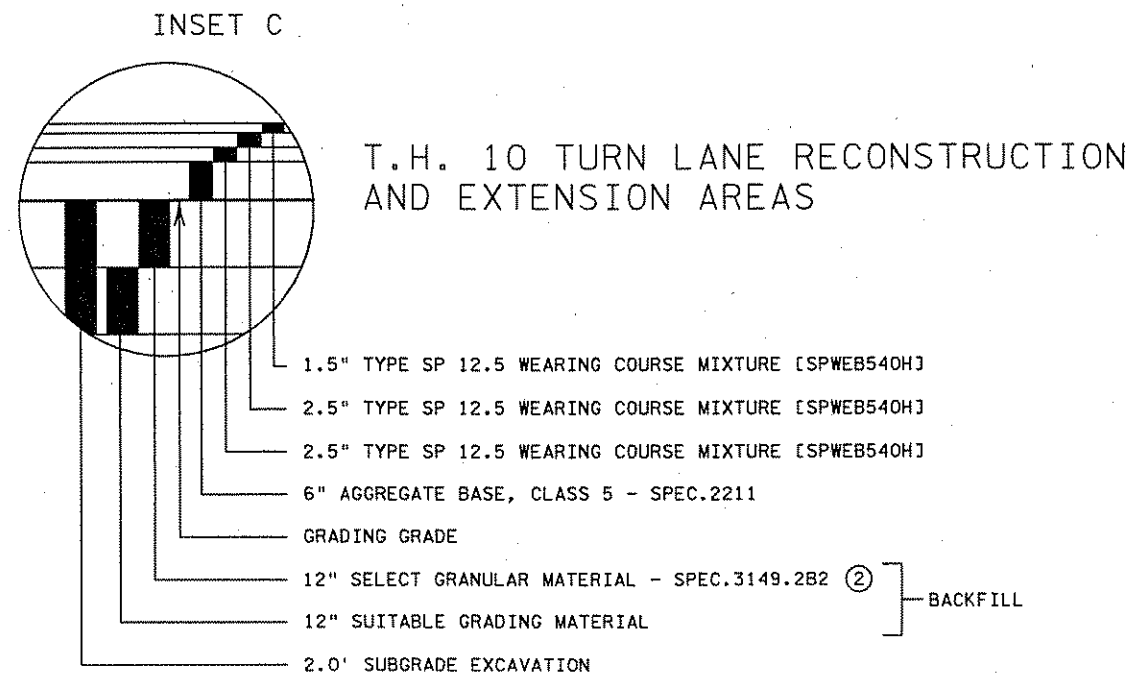
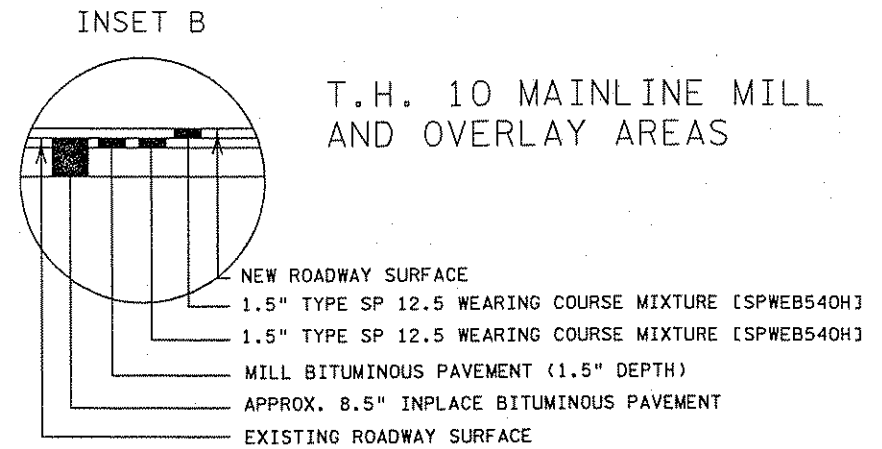
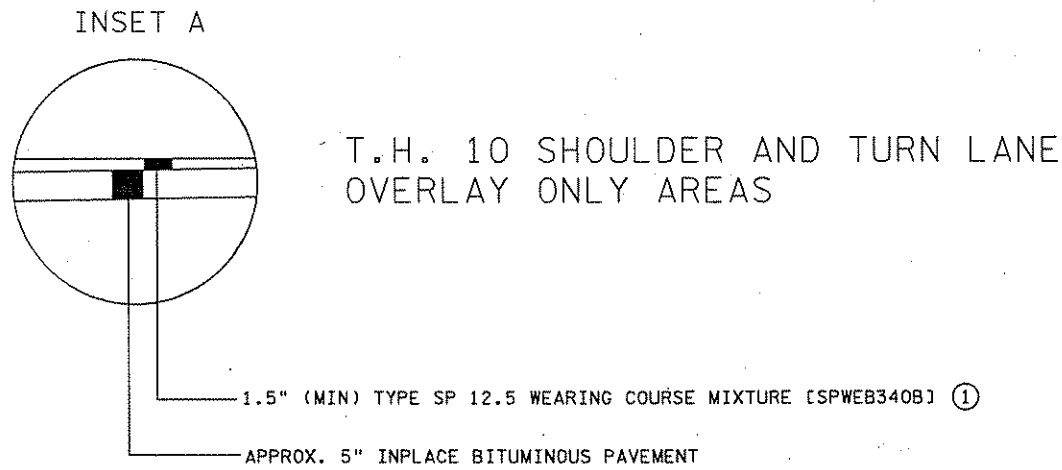
NOTES:

- ① PAVEMENT CROSS SLOPES VARY (SEE SUPERELEVATION PLANS).
- ② TRANSITION FROM B424 C&G AT C.R. 56 S.B. STA. 40+80 TO B624 C&G AT C.R. 56 S.B. STA. 40+95. CONTINUE B624 C&G C.R. 56 S.B. STA. 40+95 TO STA. 41+40.
- ③ TRANSITION WALK CROSS SLOPE TO MATCH ENTRANCE PAVEMENT THROUGH BURGER KING ENTRANCE AREA. WALK SLOPE SHALL NOT EXCEED 2.0%.
- ④ NORTH OF THE BURGER KING ENTRANCE, THE ROADWAY INSLOPE SHALL TIE TO THE BACK OF BURGER KING'S EXTERIOR PARKING LOT CURB LINE. SLOPE RATE SHALL NOT EXCEED 1:2.
- ⑤ INSLOPE RATES VARY (SEE CROSS SECTIONS).
- ⑥ SEE PAVEMENT INSETS ON TYPICAL SECTIONS SHEET 3 OF 3 FOR BACKFILL MATERIALS.
- ⑦ 8" CONCRETE DRIVEWAY PAVEMENT THROUGH BURGER KING ENTRANCE AREA.
- ⑧ WALK WIDTH SHALL BE 10.0' WHEN IMMEDIATELY ADJACENT TO CURB.
- ⑨ BERM AND INSLOPE DESIGN VARIES (SEE CROSS SECTIONS).

NOTES:

- ⑩ TRANSITION FROM B618 C&G TO B424 C&G, RAMSEY BLVD S.B. STA. 31+67 TO STA. 31+82 (PAID AS B424 C&G). CONTINUE B424 C&G RAMSEY BLVD. S.B. STA. 31+82 TO T.H. 10.
- ⑪ B618 C&G RAMSEY BLVD. S.B. STA. 31+67 TO STA. 32+31. TRANSITION FROM B618 C&G TO B424 C&G, RAMSEY BLVD. S.B. STA. 32+31 TO STA. 32+40 (PAID AS B424 C&G). CONTINUE B424 C&G RAMSEY BLVD. S.B. STA. 32+40 TO T.H. 10.
- ⑫ 7.5' RAMSEY BLVD. S.B. STA. 31+67 TO STA. 32+31, 8.0' STA. 32+40 TO STA.36+00.
- ⑬ CROWN LINE OFFSET VARIES. 0.0' RAMSEY BLVD. S.B. STA. 31+67 TO STA. 31+82, VARIES 0.0' TO 20.0' RAMSEY BLVD. S.B. STA. 31+82 TO STA. 33+34, 20.0' RAMSEY BLVD. S.B. STA 33+34 TO T.H. 10.
- ⑭ 12' THRU LANE AND VAR. WIDTH SHOULDER (7.5' TO 14.0') RAMSEY BLVD. N.B. STA. 131+79 TO STA. 133+22. 14.0' RIGHT TURN LANE RAMSEY BLVD. N.B. STA. 133+34 TO STA. 135+20.
- ⑮ 0.0' SOUTH OF RAMSEY BLVD. N.B. STA. 133+22.
- ⑯ 0.0' RAMSEY BLVD. S.B. STA. 31+67 TO STA. 31+82, VARIES 0.0' TO 32.0' RAMSEY BLVD. S.B. STA. 31+82 TO STA. 33+34, 32.0' RAMSEY BLVD. S.B. STA. 33+34 TO T.H. 10. RIGHT MOST 24.0' BECOMES DUAL 12.0' LEFT TURN LANES NORTH OF RAMSEY BLVD. S.B. STA. 33+34 (SEE STRIPING PLANS).
- ⑰ NORTH OF RAMSEY BLVD. S.B. STA. 33+34.

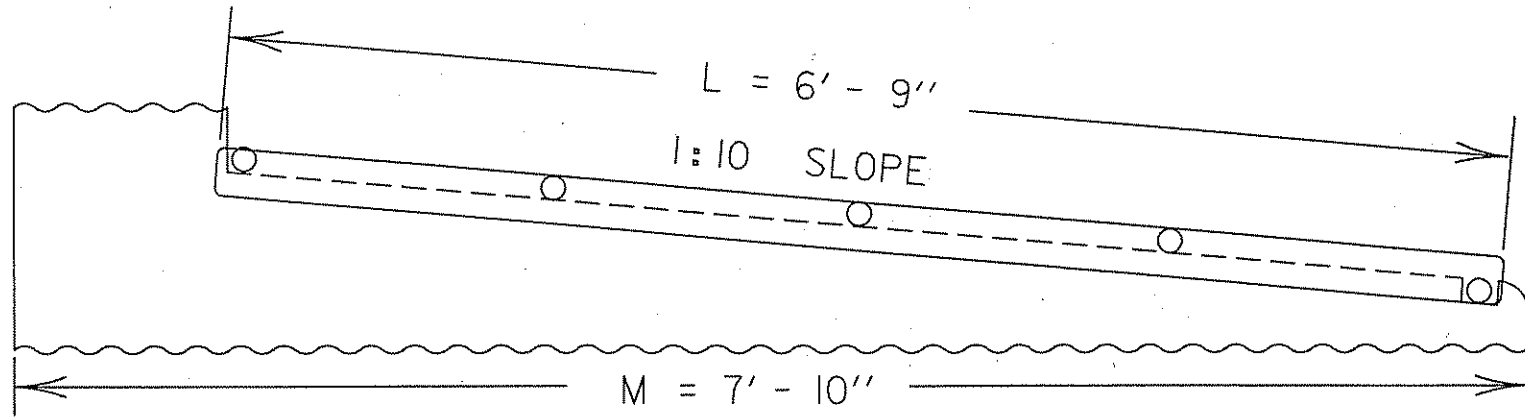
TYPICAL SECTIONS (RAMSEY BLVD.)



NOTES:

- ① EXISTING PAVEMENT CROSS SLOPES ON THE T.H. 10 OVERLAY-ONLY SHOULDER AND TURN LANE AREAS DO NOT MATCH THE PROPOSED CROSS SLOPES. GENERALLY, THE EXISTING CROSS SLOPES ARE STEEPER THAN THE PROPOSED CROSS SLOPES. THE CONTRACTOR SHALL STRIVE TO ESTABLISH CORRECT CROSS SLOPES, AS SPECIFIED IN THE SUPERELEVATION PLANS, BY VARYING THE LIFT THICKNESS ACROSS THE OVERLAYED TURN LANE OR SHOULDER. LIFT THICKNESS SHALL BE NEITHER LESS THAN 1.5" THICK NOR MORE THAN 3.0" THICK IN ANY LOCATION. LOCALIZED VARIABLE DEPTH MILLING (TO BE PAID AS EQUIVALENT AREA OF 1.5 INCH MILLING) MAY ALSO BE REQUIRED AT SOME LOCATIONS TO ACHIEVE SPECIFIED SURFACE CROSS SLOPES WHILE MAINTAINING MINIMUM OVERLAY LIFT THICKNESS.
- ② SEE THE SOILS AND CONSTRUCTION NOTES FOR INFORMATION REGARDING RE-USE OF REMOVED T.H. 10 PAVEMENTS CONTAINING ROAD TAR MIXES. NO MATERIAL CONTAINING ROAD TAR MIX FROM T.H. 10 PAVEMENTS SHALL BE USED OUTSIDE OF THE MN/DOT TRUNK HIGHWAY RIGHT OF WAY.

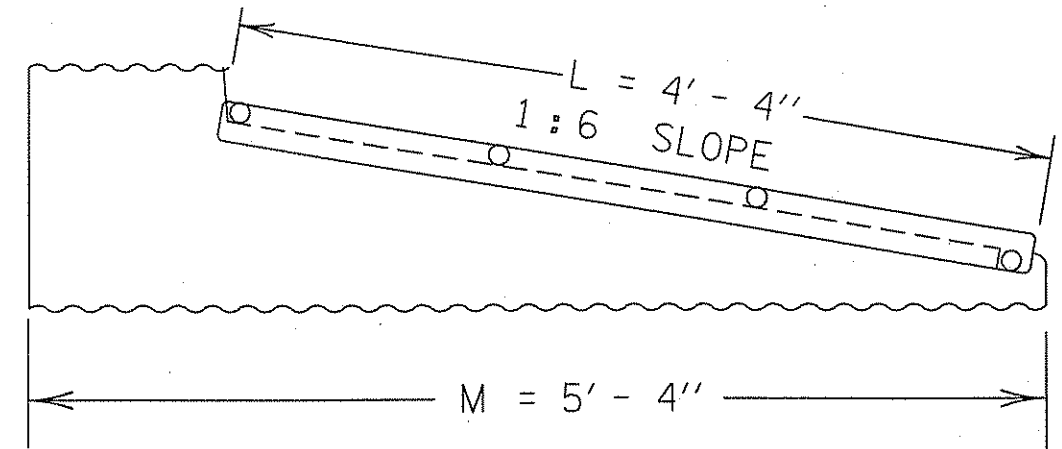
DETAIL A - 15" CS SAFETY APRON & GRATE DES 3128
 (MODIFIED TO A 1:10 SLOPE)



NUMBER OF BARS = 5 DIA OF BARS = 1-1/2"
 NUMBER OF GRATE SECTIONS = 2
 SEE STANDARD PLATE 3128 FOR OTHER DETAILS

REVISED JAN. 11, 2000

DETAIL B - 15" CS SAFETY APRON & GRATE DES 3128
 (MODIFIED TO A 1:6 SLOPE)



NUMBER OF BARS = 4 DIA OF BARS = 1-1/2"
 NUMBER OF GRATE SECTIONS = 1
 SEE STANDARD PLATE 3128 FOR OTHER DETAILS

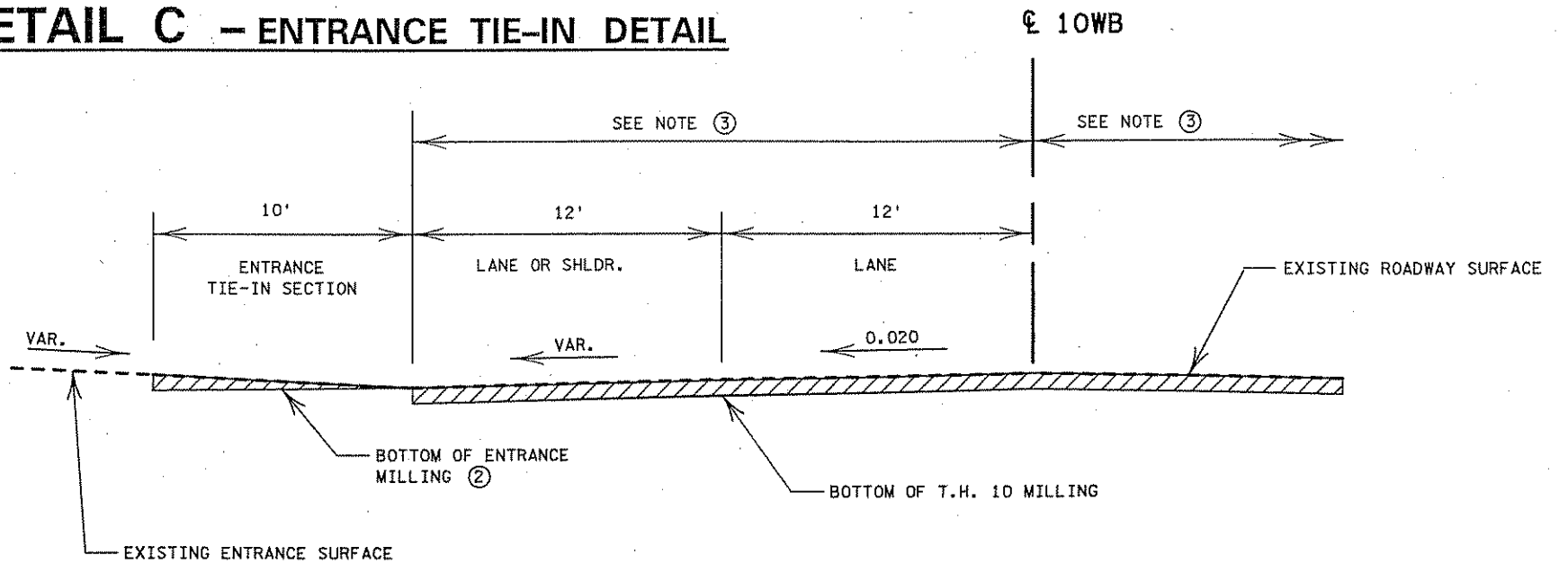
REVISED APRIL 22, 2003

PLOTTED/REVISED: 29-NOV-2005 09:55

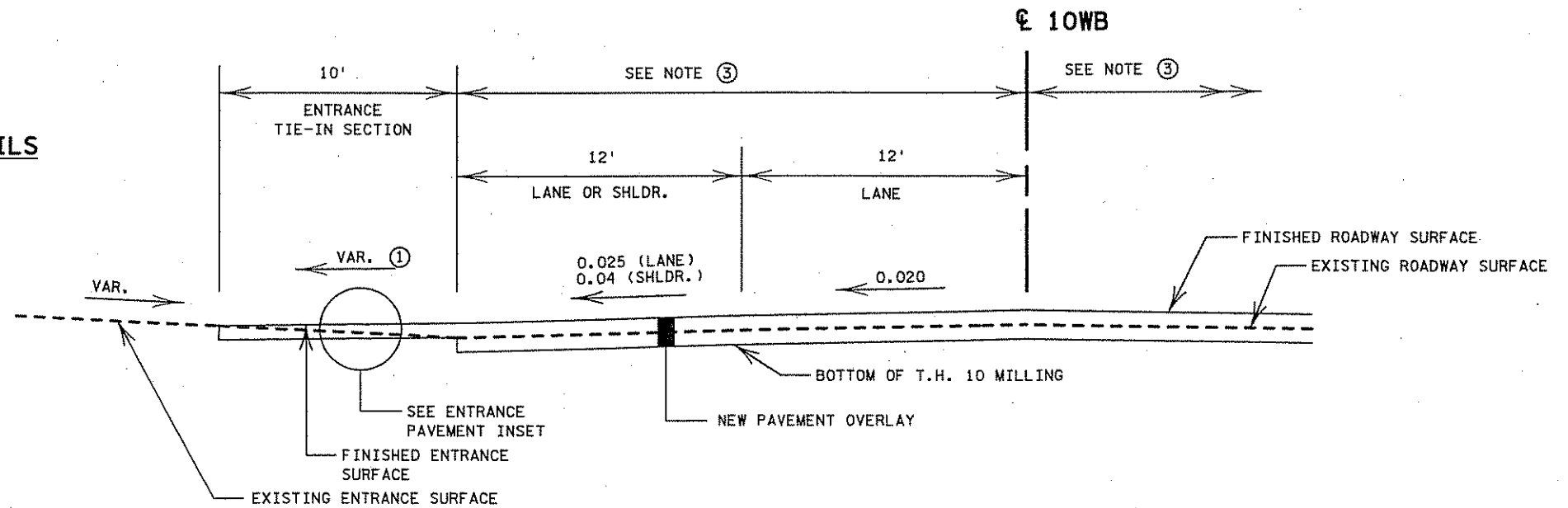
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DETAIL C - ENTRANCE TIE-IN DETAIL

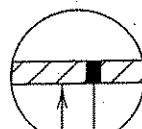
MILLING DETAILS



PAVING DETAILS



ENTRANCE PAVEMENT INSET



1.5" TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB340B)
 BOTTOM OF VARIABLE DEPTH ENTRANCE MILLING

NOTES:

- ① ENTRANCE GRADE SHALL BE LIMITED TO 5.0% MAXIMUM.
- ② PERFORM VARIABLE DEPTH MILLING (PAID AS 1.5" MILLING) TO ALLOW FOR PLACEMENT OF A UNIFORM 1.5" DEPTH OVERLAY.
- ③ MILL AND OVERLAY PER T.H. 10 TYPICAL SECTION.

MISCELLANEOUS DETAILS - ENTRANCE TIE-IN

DRAWN BY: JNK

CHECKED BY: SNB

CERTIFIED BY

Steven M. Brown
 LICENSED PROFESSIONAL ENGINEER

LIC. NO. 21817

DATE 11/29/05

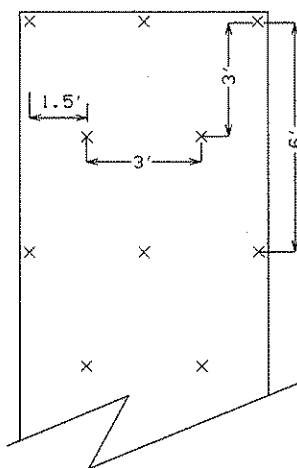
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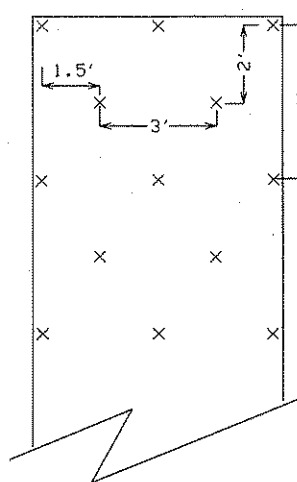
DETAIL D - EROSION CONTROL BLANKET STAPLING PATTERNS AND ANCHOR TRENCH DETAIL

SLOPES FLATTER THAN 1:2
(1.2 STAPLES PER SQ YD)



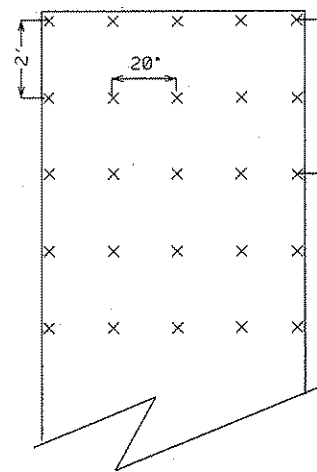
STANDARD 2.0M (6.5FT) BLANKET

SLOPES 1:2 TO 1:1
(1.7 STAPLES PER SQ YD)



STANDARD 2.0M (6.5FT) BLANKET

CHANNEL AND DITCH APPLICATIONS
(3.5 STAPLES PER SQ YD)

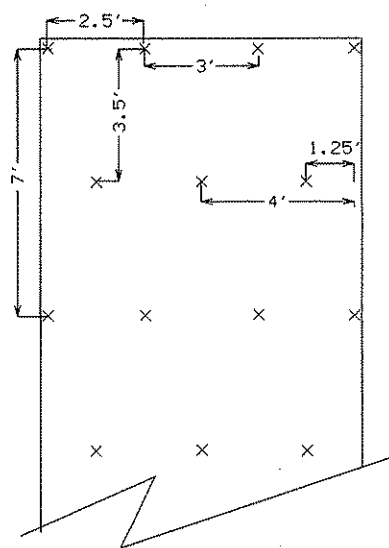


STANDARD 2.0M (6.5FT) BLANKET

GENERAL SLOPE INSTALLATION REQUIREMENTS

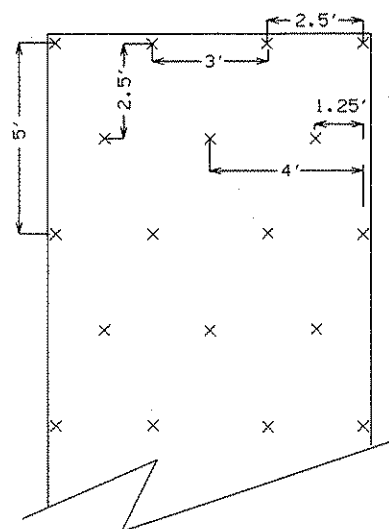
1. BLANKETS SHOULD BE LAID PARALLEL TO THE DIRECTION OF WATER FLOW.
2. ADJACENT STRIP ENDS OVERLAP A MINIMUM OF 4".
3. STRIP ENDS OVERLAP A MINIMUM OF 7" WITH THE UPGRADE END ON TOP OF THE DOWNGRADE END AND STAPLED EVERY 1.5 FT.

SLOPES FLATTER THAN 1:2
(1.2 STAPLES PER SQ YD)



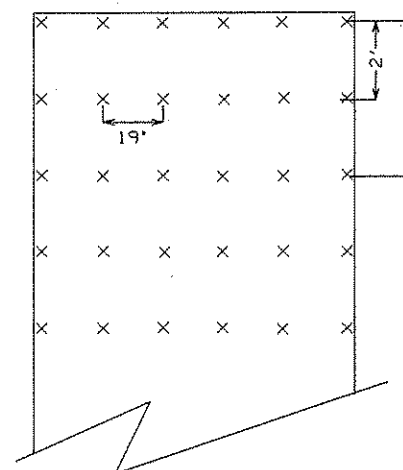
STANDARD 2.4M (8FT) BLANKET

SLOPES 1:2 TO 1:1
(1.7 STAPLES PER SQ YD)

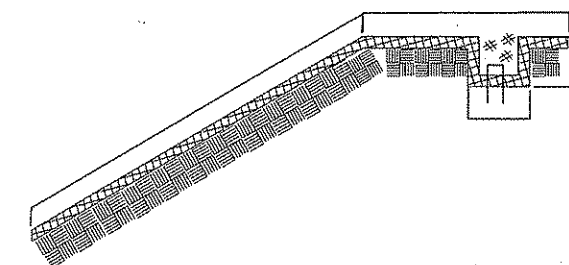


STANDARD 2.4M (8FT) BLANKET

CHANNEL AND DITCH APPLICATIONS
(3.5 STAPLES PER SQ YD)



STANDARD 2.4M (8FT) BLANKET



ANCHOR TRENCH DETAIL

1. DIG 6" X 6" TRENCH.
2. LAY BLANKET END INTO TRENCH.
3. STAPLE BLANKET IN BOTTOM OF TRENCH EVERY 1 FT.
4. BACKFILL TRENCH WITH SOIL AND COMPACT.
5. IF SLOPE LENGTH (L) IS 100 FT OR GREATER, DIG A CHECK SLOT 1/3 FROM THE BOTTOM OF THE SLOPE AND STAPLE THE BLANKET IN AS SHOWN FOR THE TOP TRENCH.

PLOTTED/REVISED: 29-NOV-2005 09:55

DISTRICT #: METRO
PLOT NAME: NONE
PATH & FILENAME: S:\DESIGN\010\0202\8V\Final\Streets\Stapling\020281.dwg

DRAWN BY: JNK

CHECKED BY: SNB

CERTIFIED BY

Robert M. Brown
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 21817 DATE 11/29/05

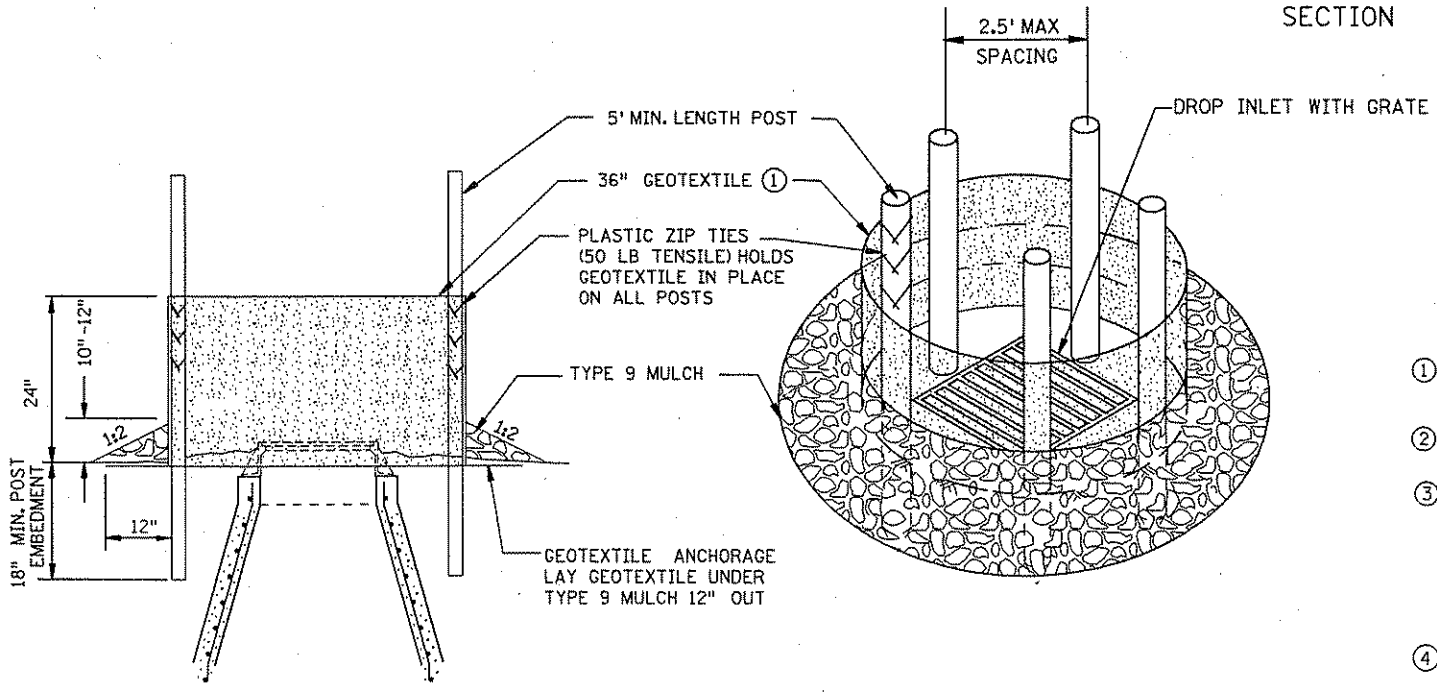
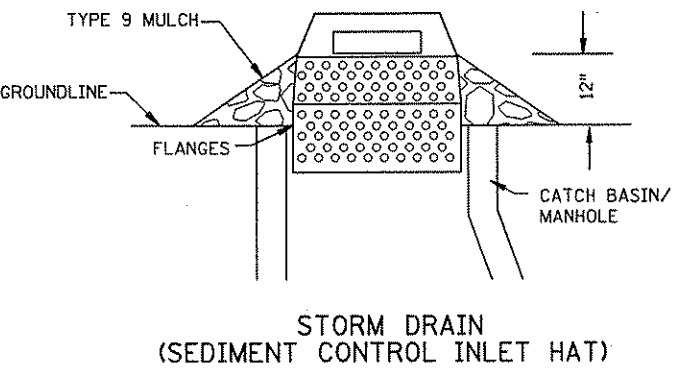
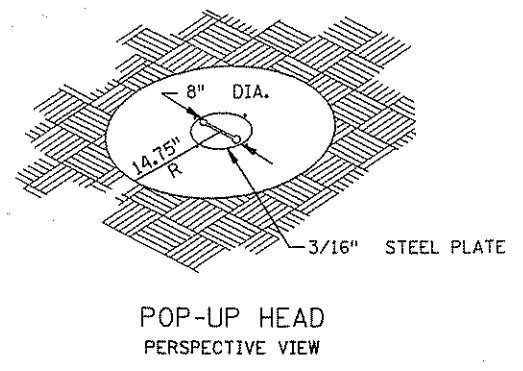
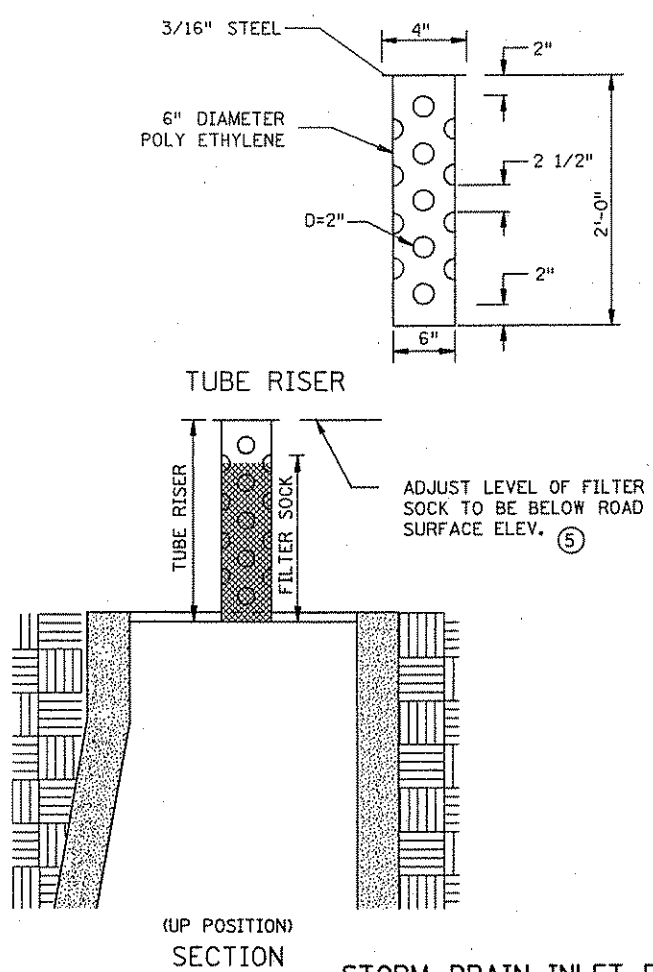
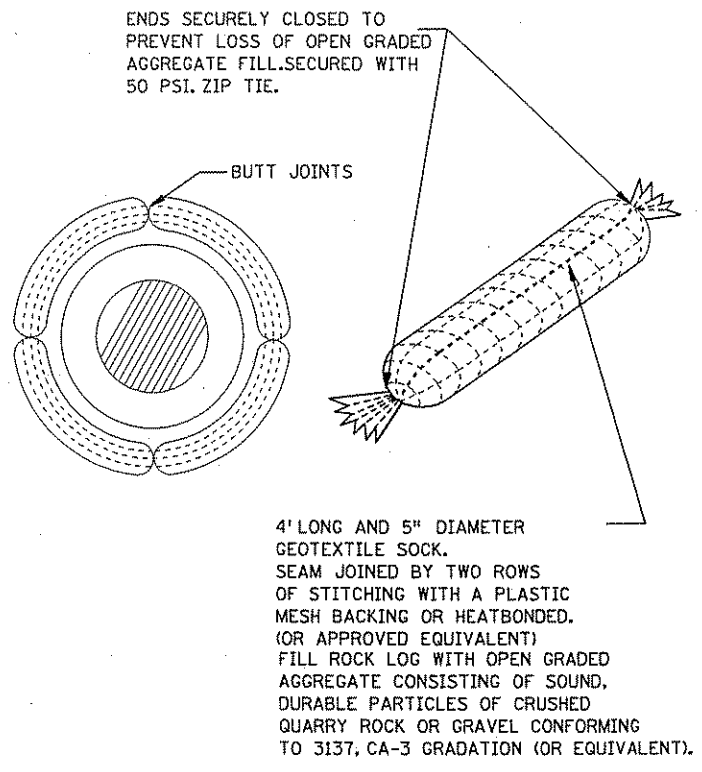
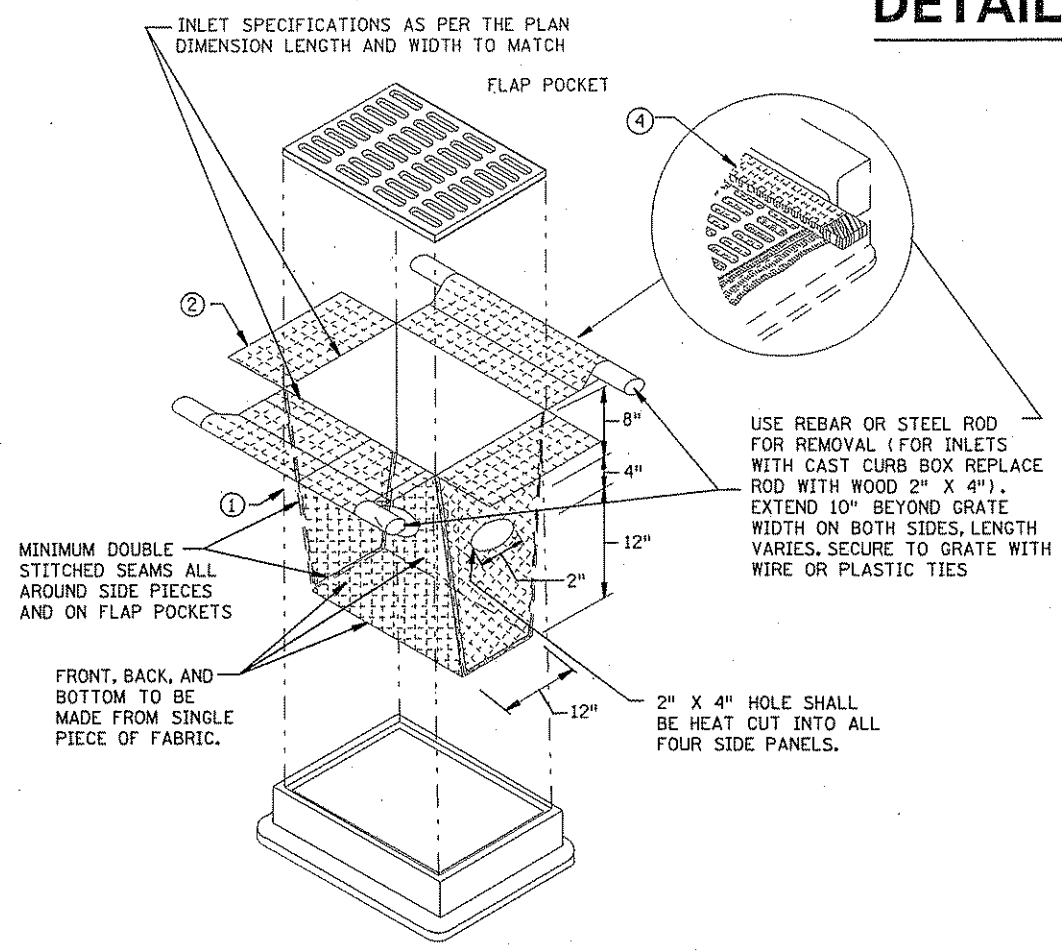
MISCELLANEOUS DETAILS - BLANKET STAPLING

STATE PROJ. NO. 0202-81 (T.H. 10) SHEET NO. 19 OF 85 SHEETS

DETAIL E - TEMPORARY SEDIMENT CONTROL INLET PROTECTION

PLOTTED/REVISED: 29-NOV-2005 10:05

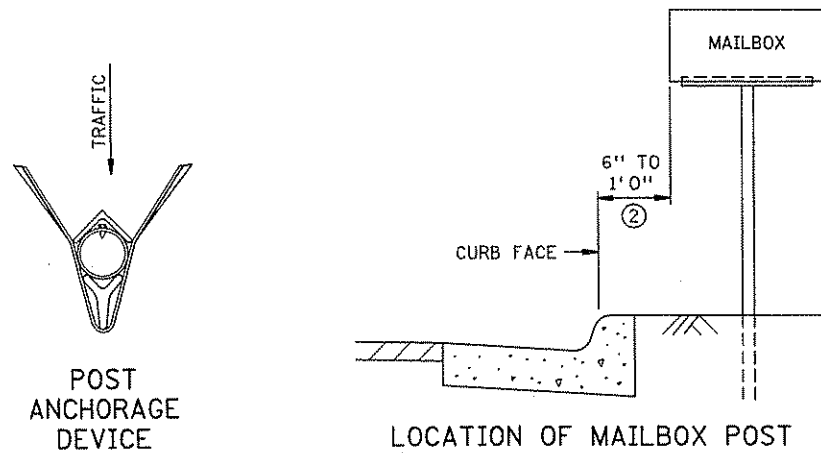
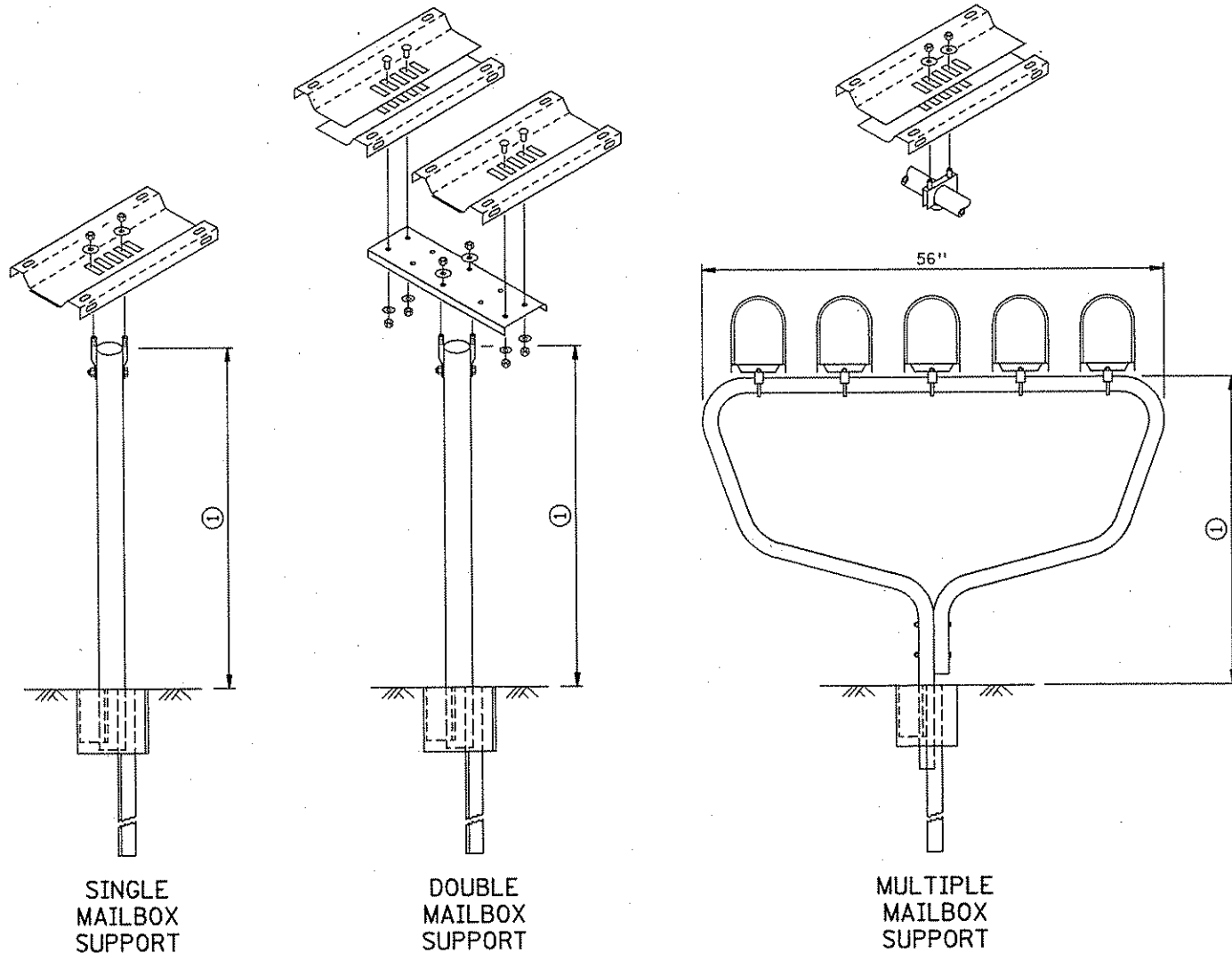
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- NOTES:**
 SEE SPECS. 2573, & 3893.
 MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED.
- ① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886 (2000 EDITION) FOR MACHINE SLICED. (MEETING SPEC. 3733 GEOTEXTILES, PROPOSED 2005 EDITION)
 - ② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
 - ③ INSTALLATION NOTES:
 DO NOT INSTALL PROTECTION IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE BETWEEN THE INLET WALLS AND THE BAG MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE.
 - ④ FLAP POCKETS, SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2" X 4" OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE WOOD 2"X4" AND FLAP POCKETS.
 - ⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION AND FLOOD ROAD.

PLOTTED/REVISED: 29-NOV-2005 10:07

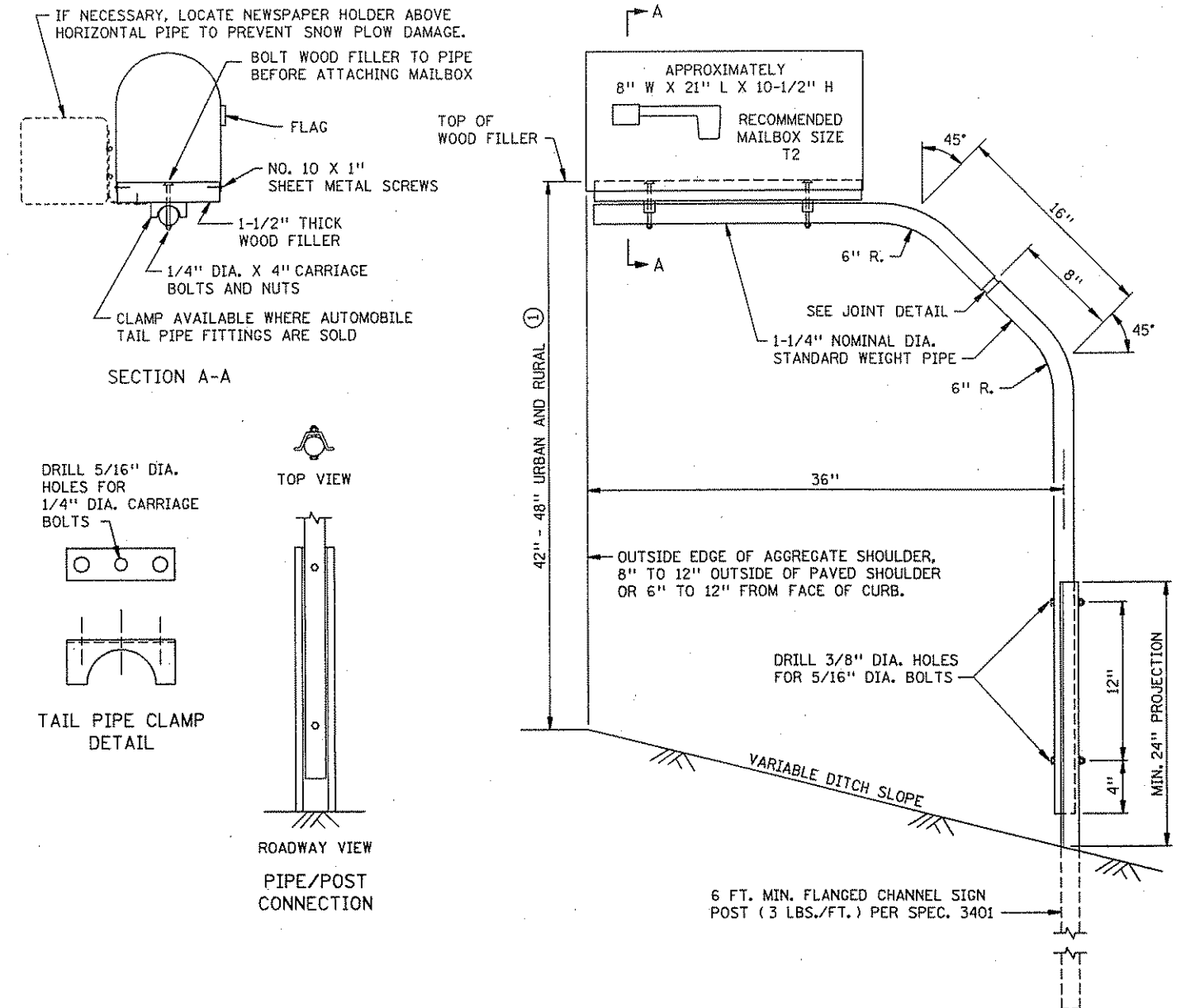
DISTRICT: METRO, I/PLOT NAME: sheet21, PATH & FILENAME: S:\DESIGN\010\0202\81\Final\Streets\Staplin\020281.dwg



NOTES:
 THIS IS A PATENTED PRODUCT. SEE SPEC. 1703. FOR MORE INFORMATION, CONTACT FORESIGHT PRODUCTS INC. PHONE: 800-325-5360
 USE THIS SUPPORT IF FOUR OR MORE MAILBOXES ARE LOCATED IN ONE AREA.

- ① POSTAL SERVICE REGULATIONS WILL DETERMINE THE HEIGHT.
- ② FOR RURAL LOCATIONS, THE FACE OF THE BOX SHALL BE 8" TO 12" FROM THE EDGE OF THE TURNOUT OR USABLE SHOULDER.

APPROVED PROPRIETARY MAILBOX SUPPORTS
 MECHANICAL TUBING



NOTES:
 NO MORE THAN THREE MAILBOXES SPACED 30" CENTER TO CENTER ARE TO BE USED IN ONE LOCATION.
 PIPE SHALL CONFORM TO SPEC. 3362
 ALL FASTENERS SHALL CONFORM TO SPEC. 3391
 PIPES AND POST SHALL BE GALVANIZED PER SPEC. 3392
 MAILBOX LOCATIONS SHOULD BE STAKED BEFORE INSTALLATION FOR PROPER HEIGHT AND DISTANCE FROM THE ROADWAY. ONCE STAKED, THE INSTALLER MUST NOTIFY THE ENGINEER AND THE POST OFFICE. THE ENGINEER AND THE POSTMASTER SHALL APPROVE THE STAKED LOCATIONS PRIOR TO FINAL INSTALLATION.
 OTHER MAILBOX SUPPORT DESIGNS MAY BE USED. THE CONTRACTOR SHALL SEND THE PROJECT ENGINEER SHOP DRAWINGS FOR APPROVAL. FOR QUESTIONS, REGARDING DESIGN ELEMENTS AND BREAKAWAY FEATURES, CONTACT THE DESIGN STANDARDS UNIT.
 ALL MAILBOX SUPPORTS MUST BE CRASHWORTHY AND MEET MINNESOTA RULES, 8818, U.S. POST OFFICE AND FEDERAL HIGHWAY ADMINISTRATION (FHWA) STANDARDS AND RECOMMENDATIONS.
 FOR MAILBOX SUPPORTS SUBMITTED FOR APPROVAL THE BASIC DESIGN DIMENSIONS SHALL BE AS SHOWN ON THIS DETAIL DRAWING
 ① ANY CHANGE IN HEIGHT MUST BE APPROVED BY LOCAL POSTMASTER.

MAILBOX SUPPORT
 BENT STEEL PIPE AND STEEL FENCE POST

MEETS NCHRP 350
 CRASH TESTING FOR SPEEDS
 40 MPH OR GREATER

DRAWN BY: JNK

CHECKED BY: SNB

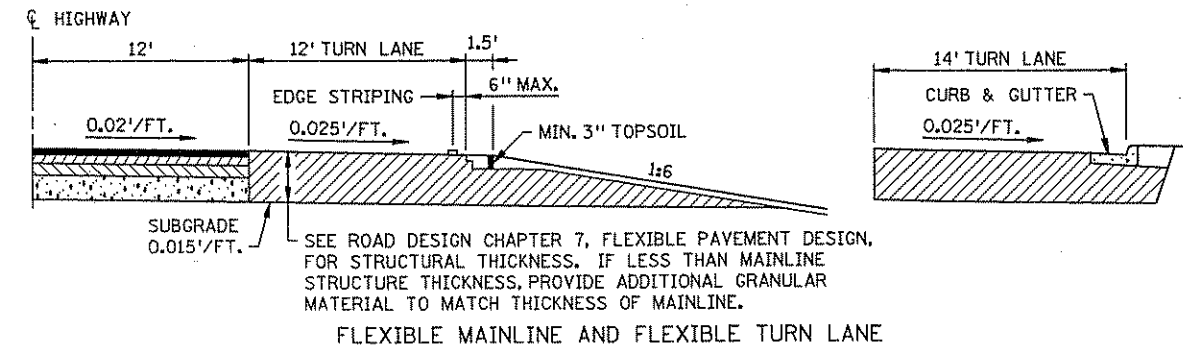
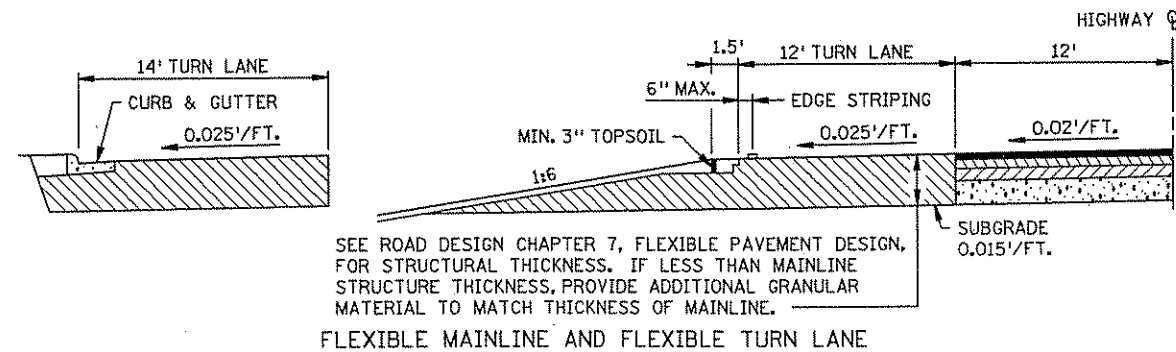
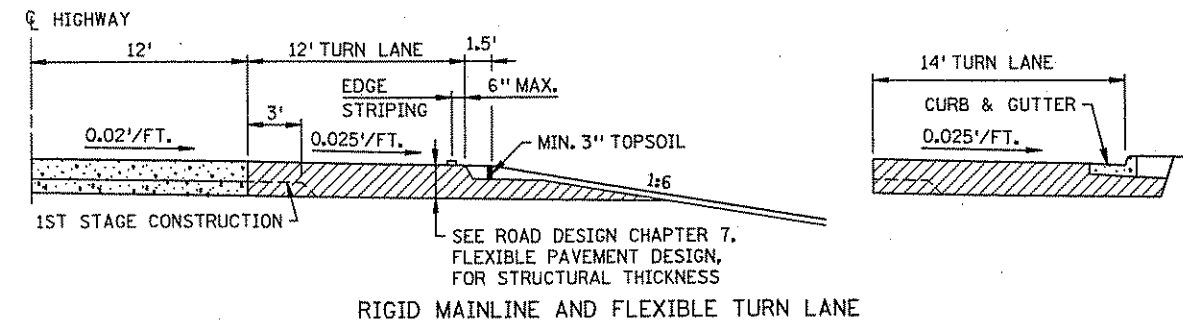
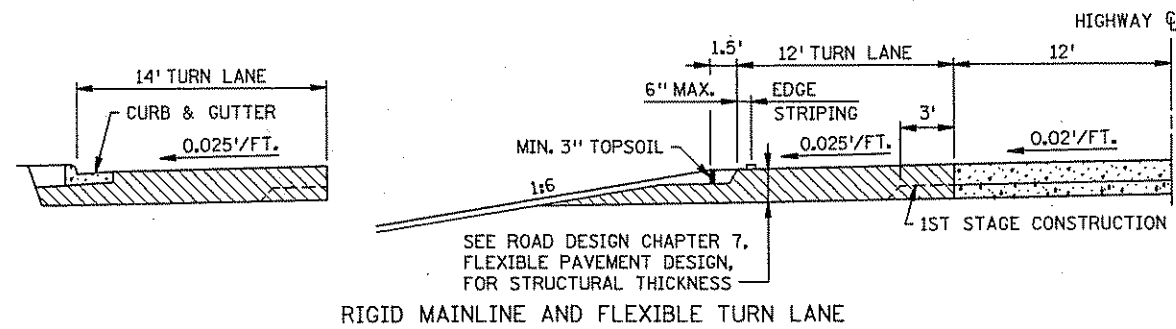
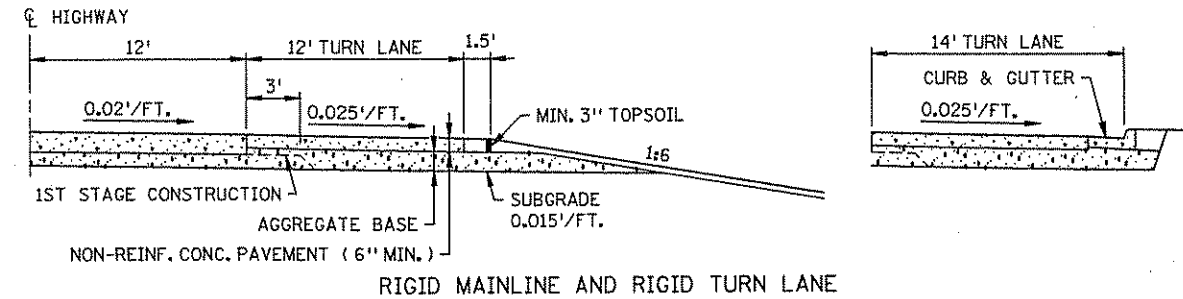
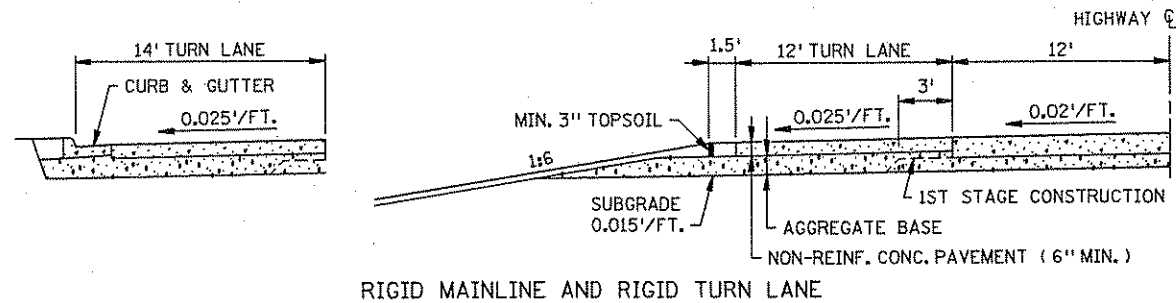
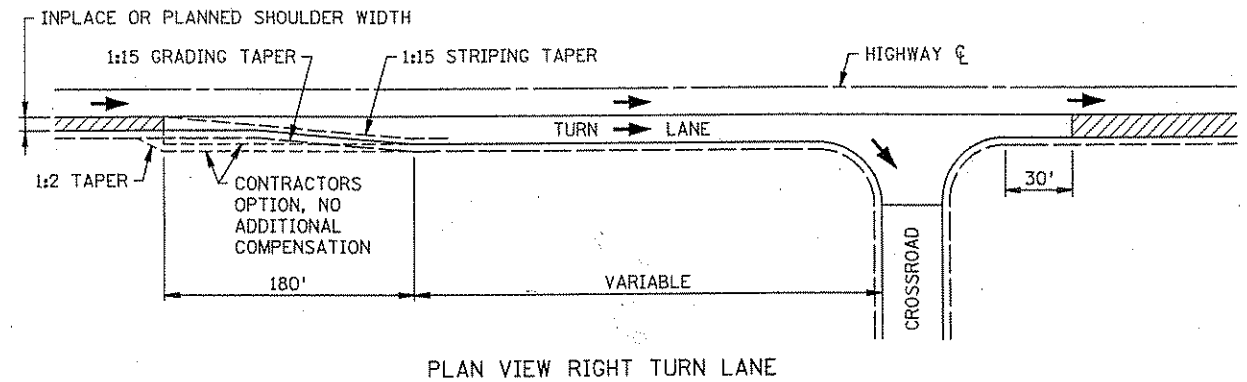
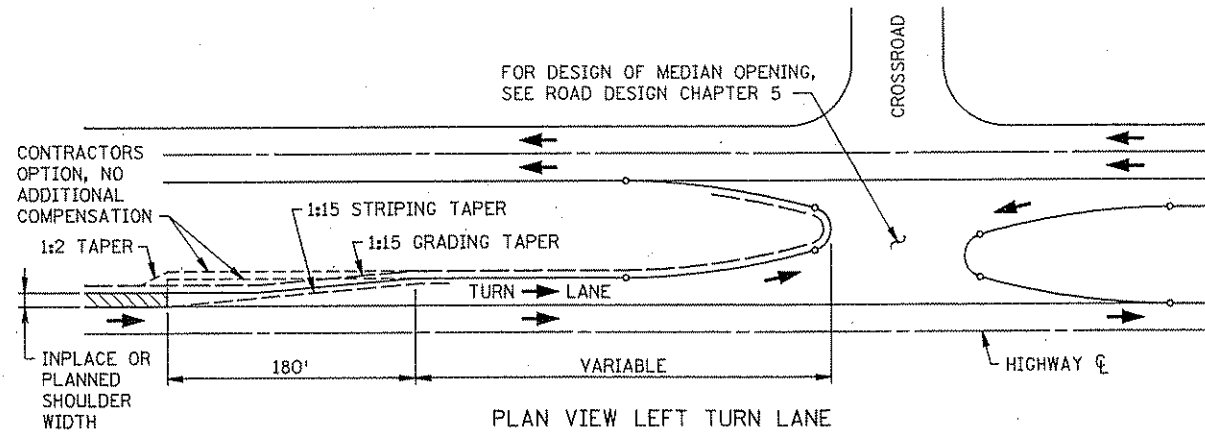
CERTIFIED BY

Harold W. Bowen
 LICENSED PROFESSIONAL ENGINEER

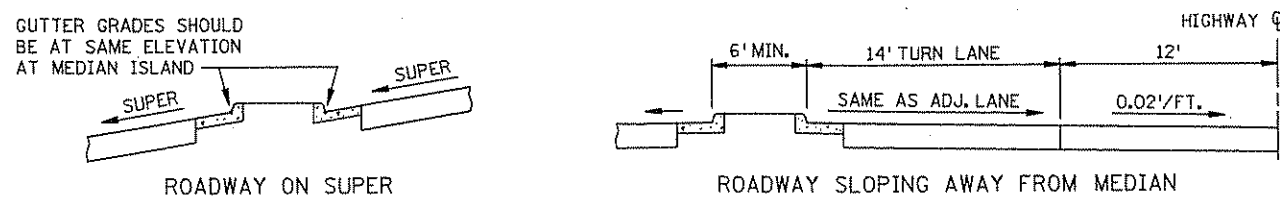
LIC. NO. 21817 DATE 11/29/05

MISCELLANEOUS DETAILS - MAILBOX SUPPORT DETAILS

STATE PROJ. NO. 0202-81 (T.H. 10) SHEET NO. 21 OF 85 SHEETS

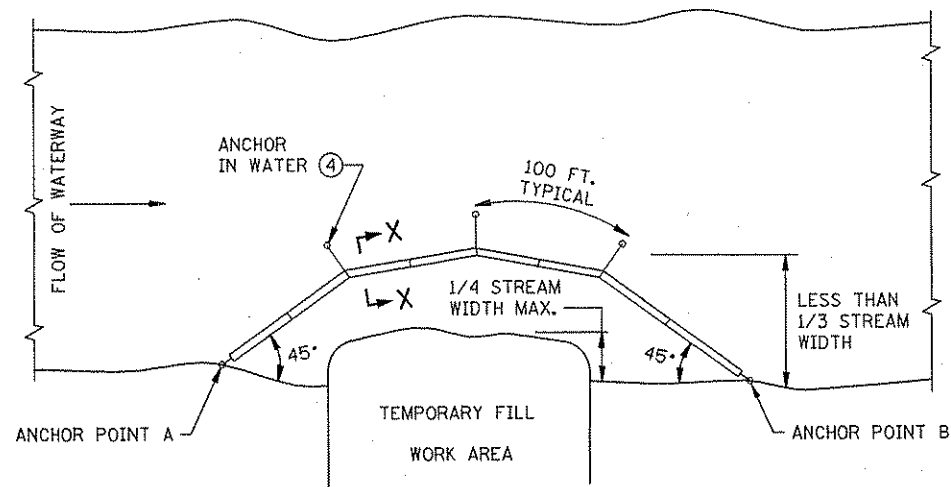


RIGHT TURN LANES



LEFT TURN LANES

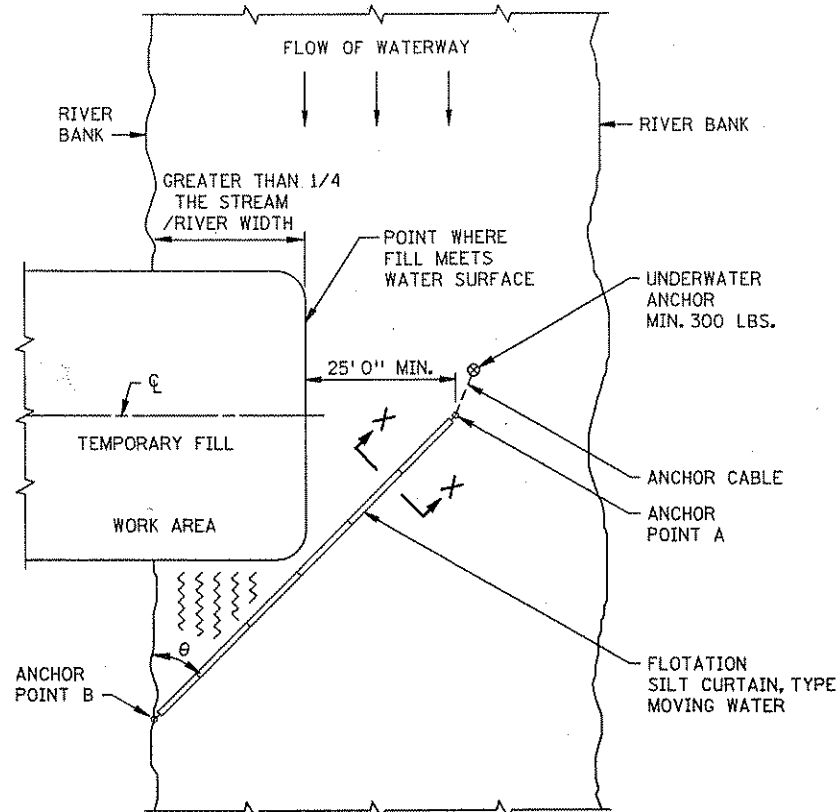
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| STANDARD SHEET NO. 5-297.111 | TITLE: RIGHT AND LEFT TURN LANES |
| STANDARD APPROVED: NOVEMBER 1, 2000 | |
| REVISION DATE 1-30-2001 | STATE PROJ. NO. 0202-81 (T.H.10) SHEET NO. 22 OF 85 SHEETS |



PLAN VIEW
FLOTATION SILT CURTAIN - TYPE WORK AREA
 (SPEC. 3887)

FOR CONTAINING OVERFLOWS FROM WEIRS, STANDPIPES, SETTLING PONDS

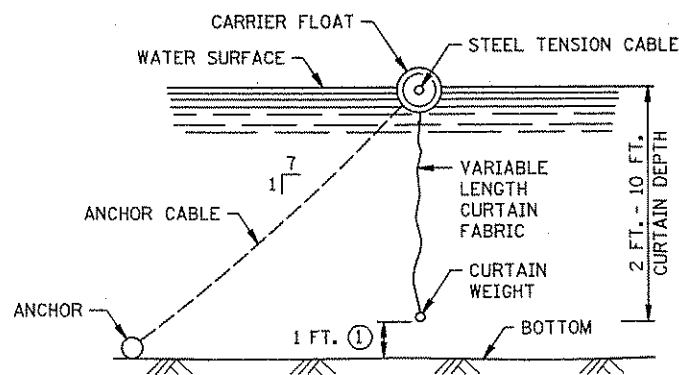
DESIGN GUIDELINES:
 WHEN TEMPORARY FILL ENCLOSES LESS THAN 1/4 OF THE WIDTH OF STREAM.
 MAXIMUM WATER VELOCITY: 5 FT./SEC.
 MAXIMUM WATER DEPTH: 11 FT.



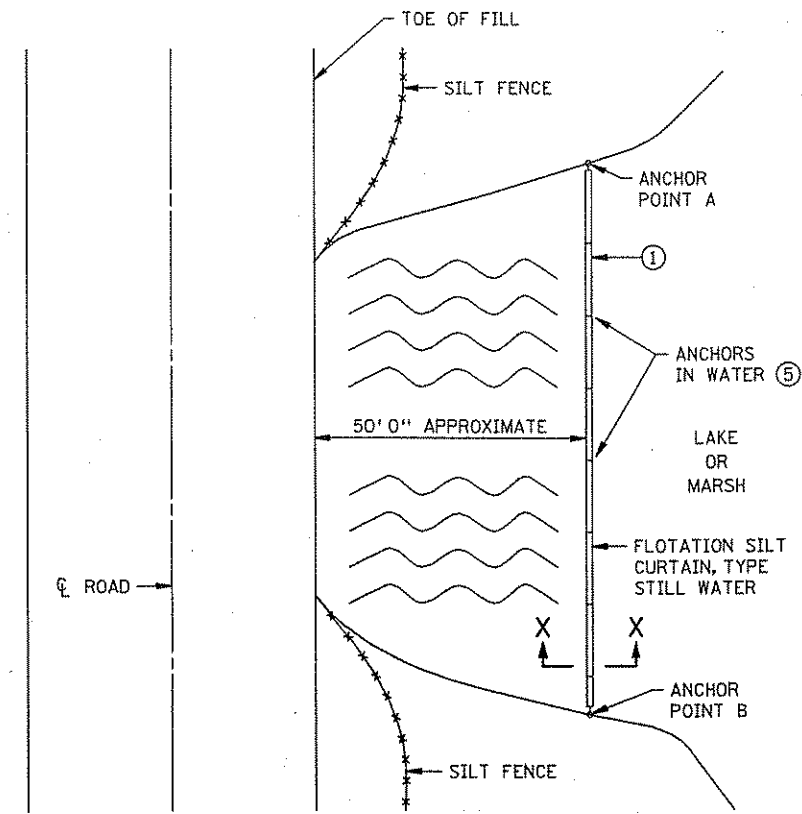
| $\angle \theta$ | RIVER VELOCITY |
|-----------------|----------------------------|
| 45° | SLOW, LESS THAN 3 FT./SEC. |
| 35° | MODERATE, 3 - 5 FT./SEC. |

PLAN VIEW
FLOTATION SILT CURTAIN - TYPE MOVING WATER
 (SPEC. 3887)

DESIGN GUIDELINES:
 WHEN TEMPORARY FILL ENCLOSES MORE THAN 1/4 BUT LESS THAN 1/3 WIDTH OF THE STREAM.
 MAXIMUM WATER DEPTH: 11 FT. ①
 MINIMUM WATER DEPTH: 3 FT.
 MAXIMUM WATER VELOCITY: 5 FT./SEC.

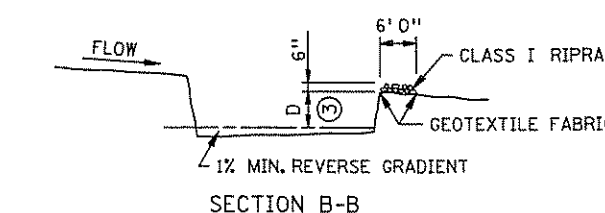
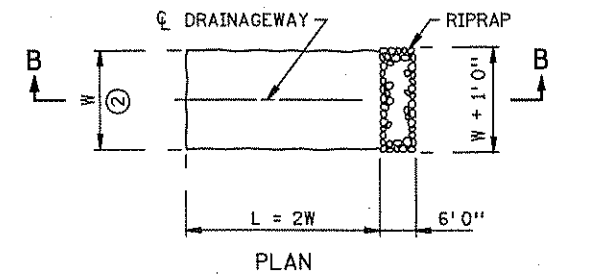


SECTION X-X
FLOTATION SILT CURTAINS
 (SPEC. 3887)



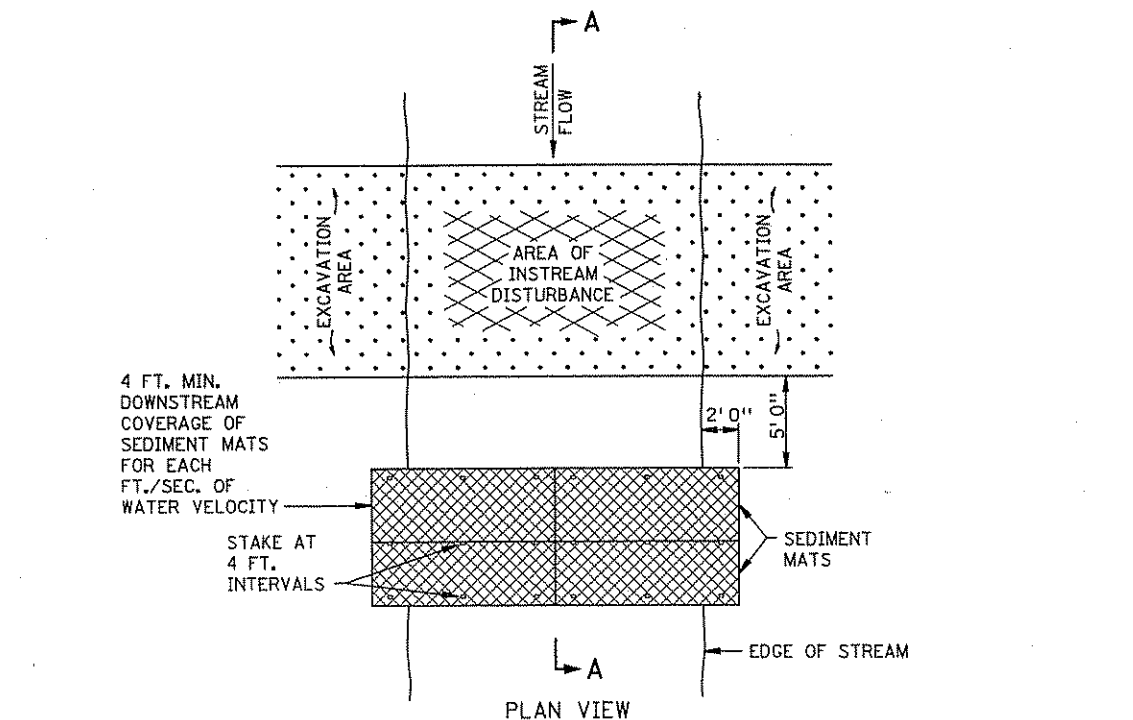
PLAN VIEW
FLOTATION SILT CURTAIN - TYPE STILL WATER
 (SPEC. 3887)

DESIGN GUIDELINES:
 MAXIMUM WATER DEPTH: 11 FT. ①
 MINIMUM WATER DEPTH: 3 FT.

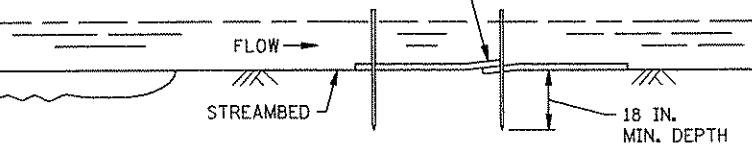


SECTION B-B
SEDIMENT TRAP DETAIL
 (SPEC. 2573)

- NOTES:
 SEE SPECS. 2573, 3887 & 3894.
- ① CURTAIN 1 FT. FROM BOTTOM
 - ② W = 10 FT. MIN., 20 FT. MAX.
 - ③ D = 2 FT.
 - ④ 100 FT. MAX. SPACING BETWEEN ANCHORS, MIN. 40 LBS.
 - ⑤ USE ENOUGH ANCHORS TO HOLD SILT CURTAIN IN PLACE.



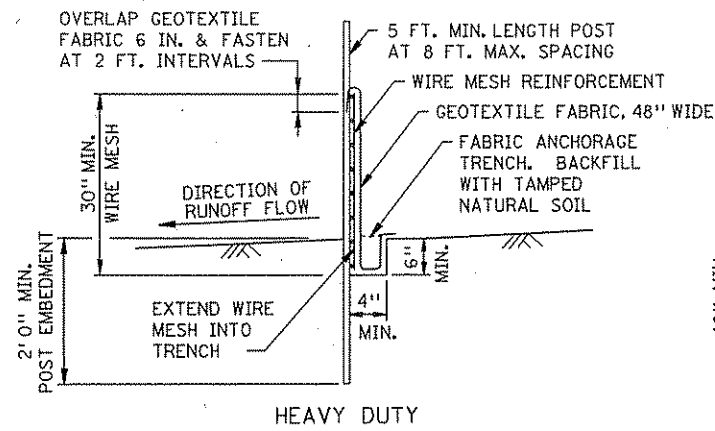
PLAN VIEW
SEDIMENT MAT
 (SPEC. 3894)



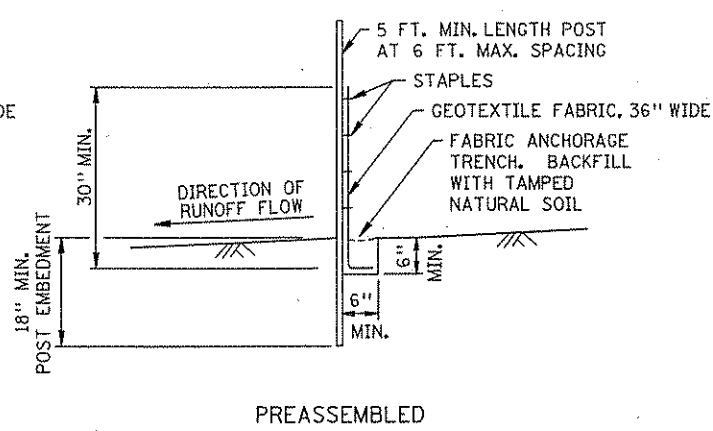
SECTION A-A
SEDIMENT MAT
 (SPEC. 3894)
 TYPICAL STREAMBED INSTALLATION

DESIGN GUIDELINES:
 MAXIMUM FLOW VELOCITY: 5 FT./SEC.
 MAXIMUM FLOW DEPTH: 2 FT.

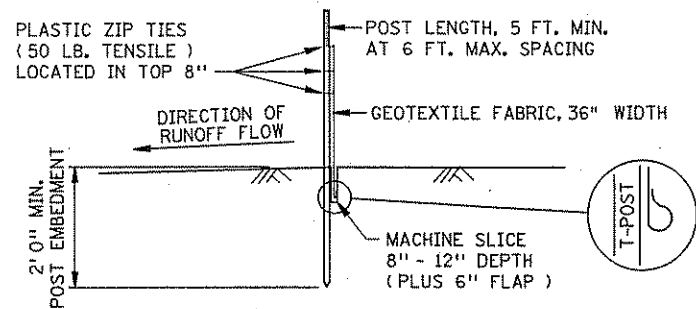
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HEAVY DUTY



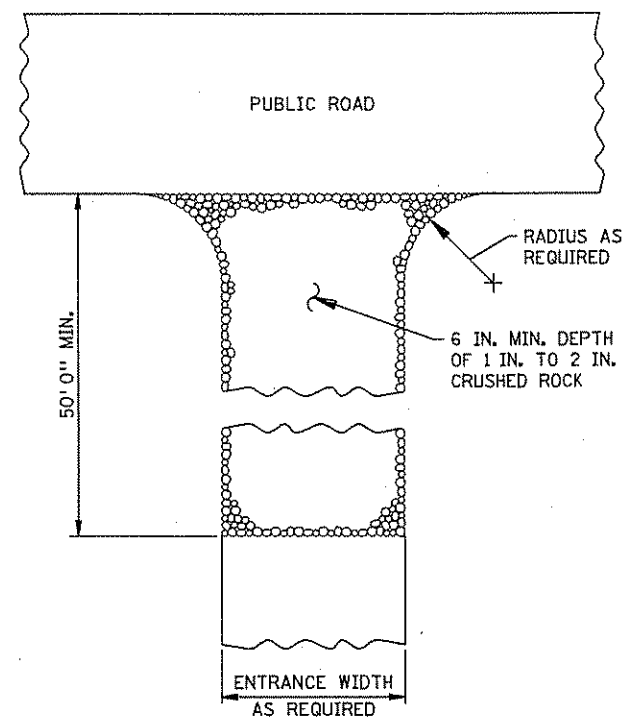
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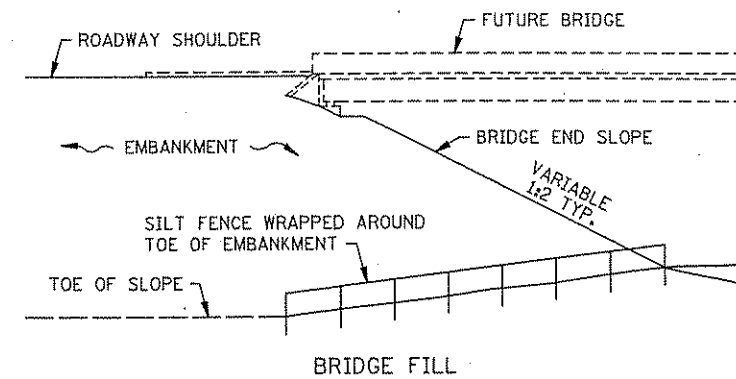
STANDARD MACHINE SLICED

DESIGN GUIDELINES:
 MAXIMUM CONTRIBUTING AREA: 3 ACRES

SILT FENCE DETAILS
 TO PROTECT AREAS FROM SHEET FLOW
 (SEE SPEC. 3886)

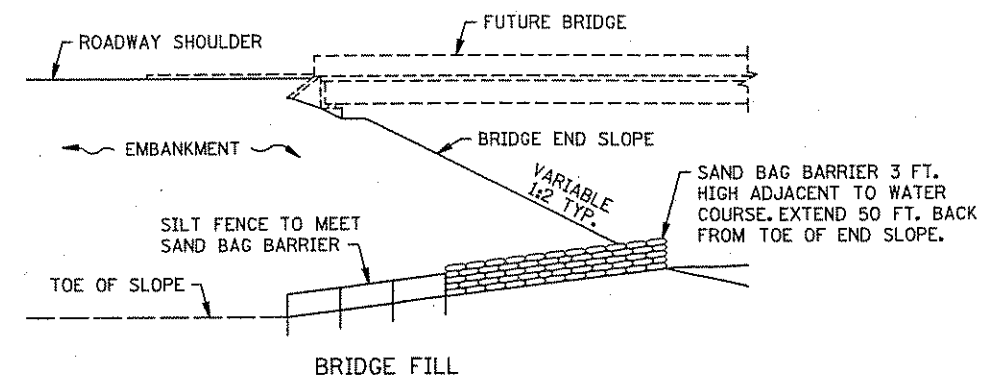


ROCK CONSTRUCTION ENTRANCE ①



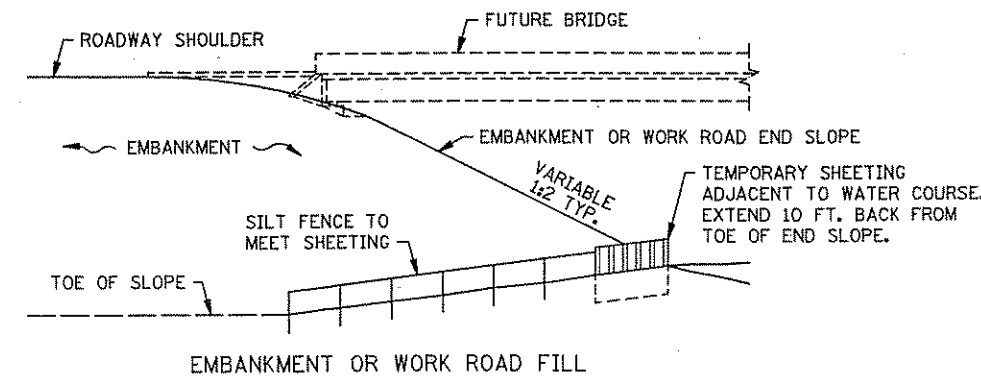
BRIDGE FILL

DESIGN GUIDELINES:
 WATER COURSE FLOW VELOCITY: STAGNANT
 CONTRIBUTING SLOPE AREA: 1/2 ACRE



BRIDGE FILL

DESIGN GUIDELINES:
 MAX. WATER COURSE FLOW VELOCITY: 7 FT./SEC.
 CONTRIBUTING SLOPE AREA: 1 ACRE



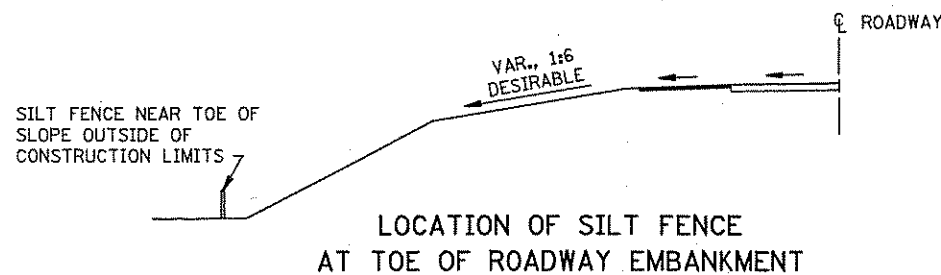
EMBANKMENT OR WORK ROAD FILL

DESIGN GUIDELINES:
 MAX. WATER COURSE FLOW VELOCITY: 15 FT./SEC.
 CONTRIBUTING SLOPE AREA: 3 ACRES

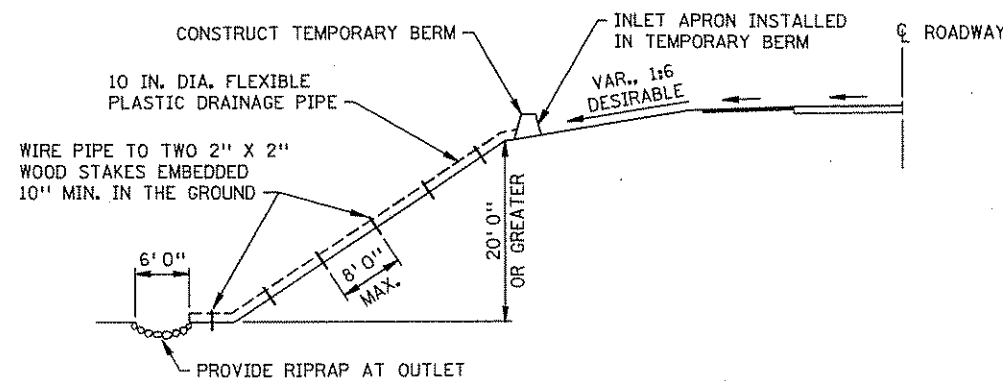
SILT FENCE AT BRIDGE EMBANKMENT

NOTES:
 SEE SPECS. 2573 & 3886.

① ROCKS AT ENTRANCE CLEAN WORKSITE MUD OFF OF TRUCK TIRES BEFORE DRIVING ON MAIN ROAD. THIS WILL PREVENT AUTO DAMAGE. WE NEED TO KEEP CONSTRUCTION SEDIMENT OUT OF DRAINAGE SYSTEMS AND WETLANDS.

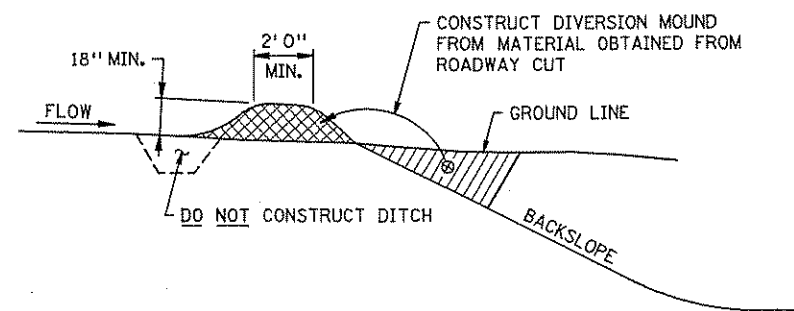


LOCATION OF SILT FENCE
 AT TOE OF ROADWAY EMBANKMENT



TEMPORARY DRAIN ON FILL SLOPE

DESIGN GUIDELINES:
 STORM FREQUENCY: 2 YEAR - 24 HOUR
 MAXIMUM DRAINAGE AREA: 3 ACRES



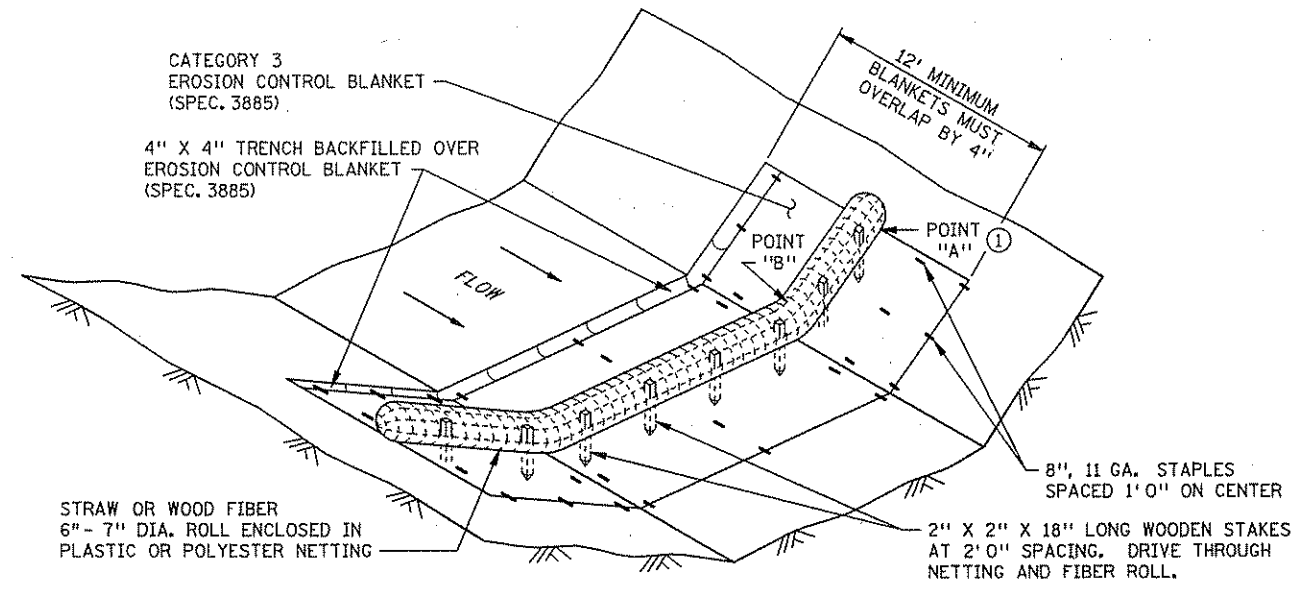
DIVERSION MOUND

DESIGN GUIDELINES:
 STORM FREQUENCY: 10 YEAR - 24 HOUR
 MAXIMUM DRAINAGE AREA: 5 ACRES
 MAXIMUM DIVERSION: GRADE 5%

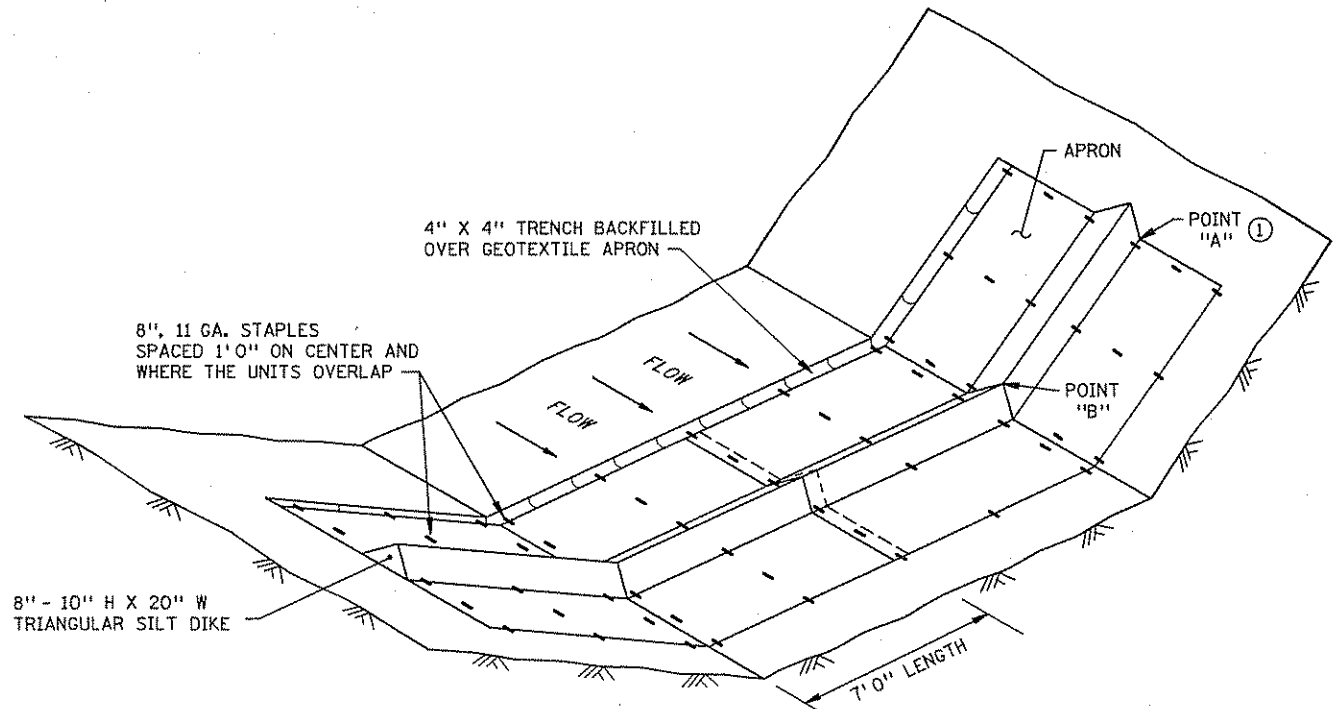
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| STANDARD SHEET NO. 5-297.405 (2 OF 4) | TITLE: TEMPORARY EROSION CONTROL |
| STANDARD APPROVED: JULY 30, 2001 | |
| STATE PROJ. NO. 0202-81 (T.H.10) SHEET NO. 24 OF 85 SHEETS | |

PLOTTED/REVISED: 29-NOV-2005 09:55

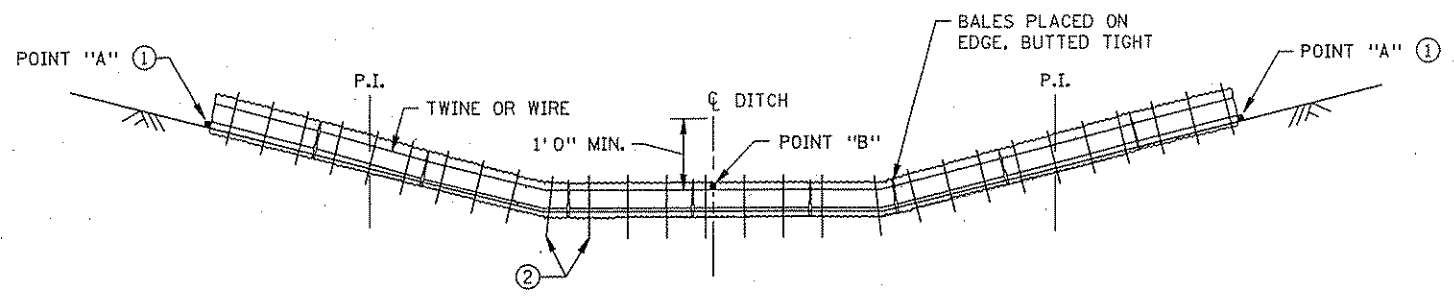
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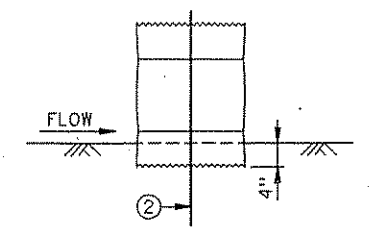
BIOROLL BLANKET SYSTEM
 (TYPE 3 SPEC. 3889)



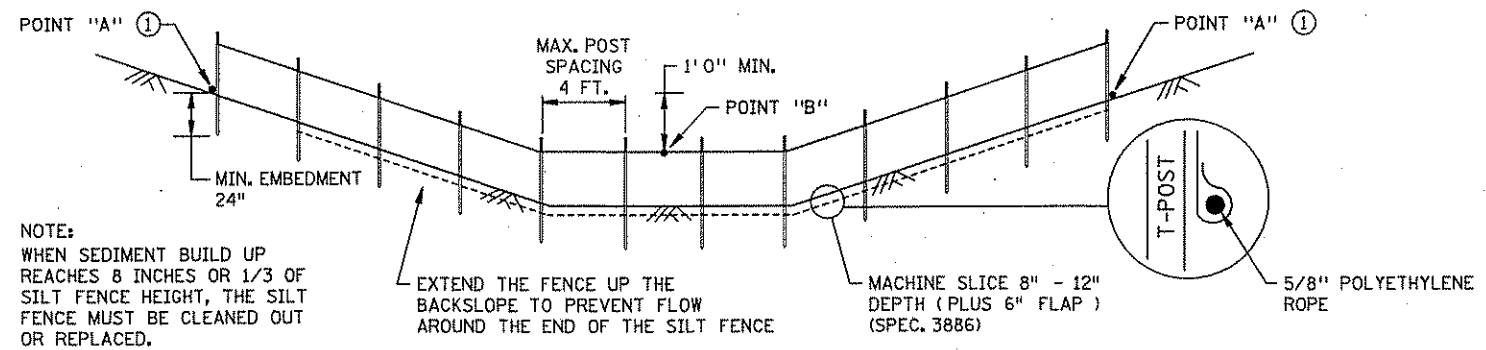
GEOTEXTILE TRIANGULAR DIKE
 (TYPE 6 SPEC. 3889)



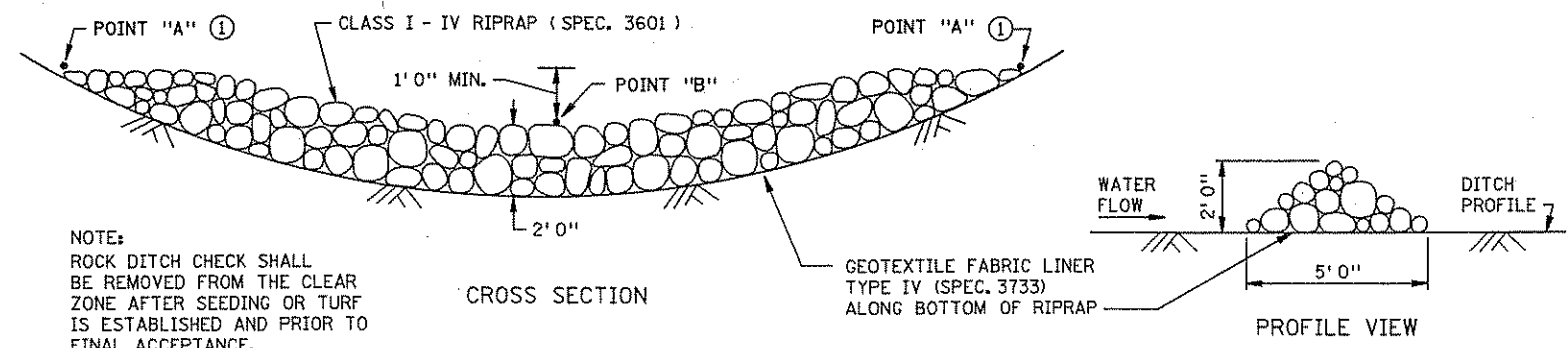
BALE DITCH CHECK
 (USED ON ROUGH GRADED SOIL. REMOVE AFTER ROUGH GRADING IS COMPLETED. CAN BE USED AT WETLAND PERIMETERS ANYTIME)



**EMBEDMENT METHOD
 BALE CHECK DETAIL**



MACHINE SLICED SILT FENCE
 (TYPE 1 SPEC. 3889)



ROCK CHECK
 (TYPE 7 SPEC. 3889)

- NOTES:**
 SEE SPECS. 2573, 3882, 3885, 3886 & 3889.
 SPACING BETWEEN EACH DITCH CHECK SHOULD BE DETERMINED FROM SPACING FORMULA:

$$\text{SPACING OF DITCH CHECKS (FT)} = \frac{\text{HEIGHT OF DITCH CHECK (FT)} \times 100}{\text{DITCH GRADE IN PERCENT}}$$

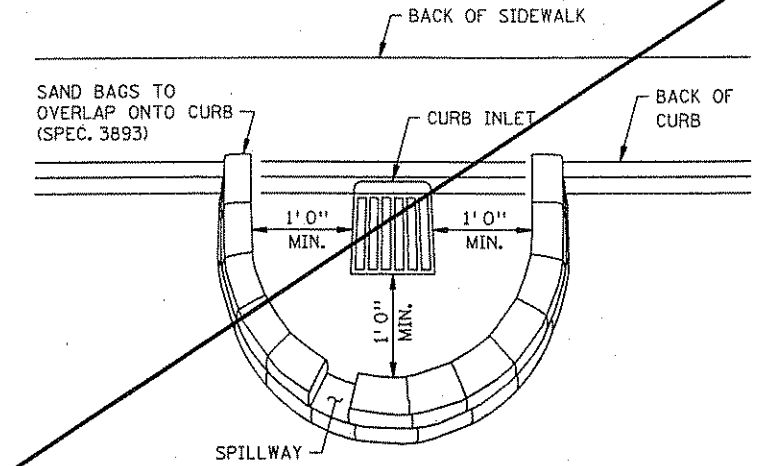
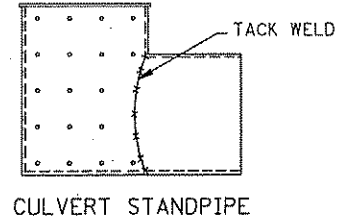
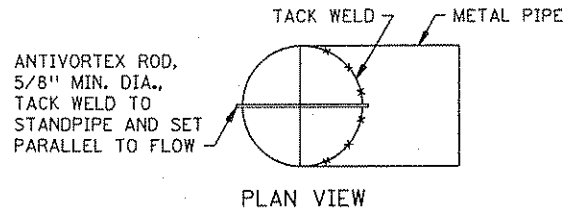
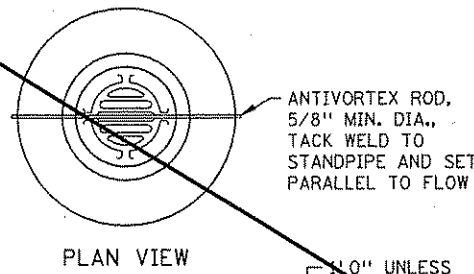
 ① POINT A MUST BE 1'0" MIN. HIGHER THAN POINT B TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
 ② TWO 2 IN. X 2 IN. WOOD STAKES OR REINFORCING BARS IN EACH BALE AND EMBEDDED IN THE GROUND 10 IN. MINIMUM.

| | |
|--|--|
| STANDARD SHEET NO. 5-297.405 (3 OF 4) | TITLE TEMPORARY EROSION CONTROL DITCH CHECKS |
| STANDARD APPROVED: NOVEMBER 5, 2002 | |
| STATE PROJ. NO. 0202-81 (T.H.10) SHEET NO. 25 OF 85 SHEETS | |

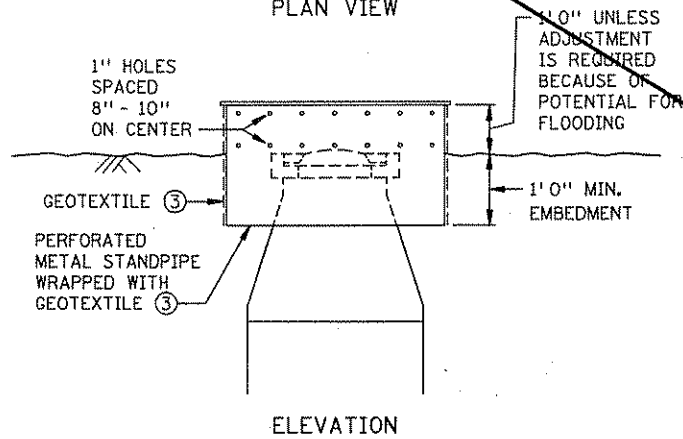
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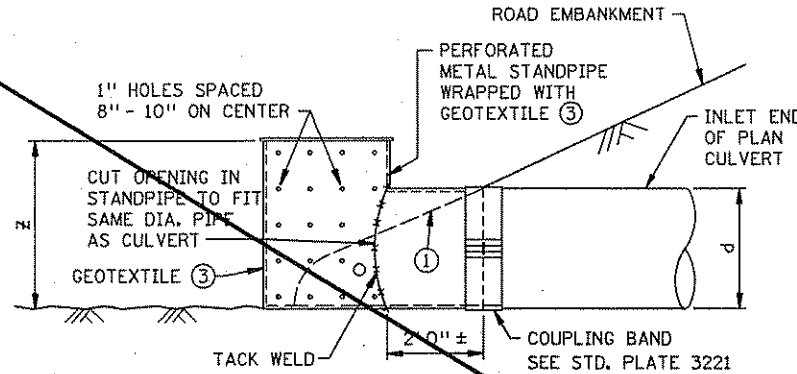
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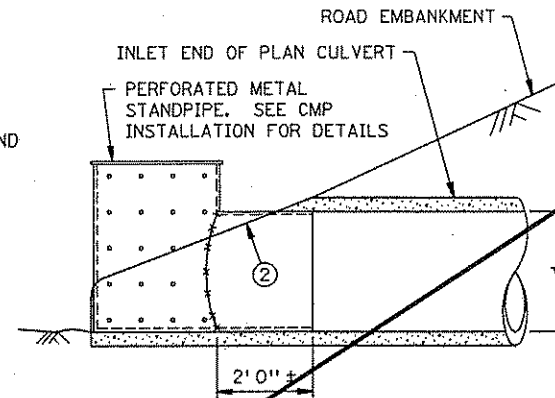
SANDBAG BARRIER AT STREET INLET
THIS INLET PROTECTION IS USED DURING ROUGH GRADING
ONLY. USE BEFORE ROAD IS OPEN TO TRAFFIC OR IS PAVED.
(SPEC. 3893)



**RISER STANDPIPE
TO PROTECT DROP INLET**



ELEVATION OF CSP INSTALLATION



ELEVATION OF RCP INSTALLATION

CULVERT STANDPIPE PROTECTION

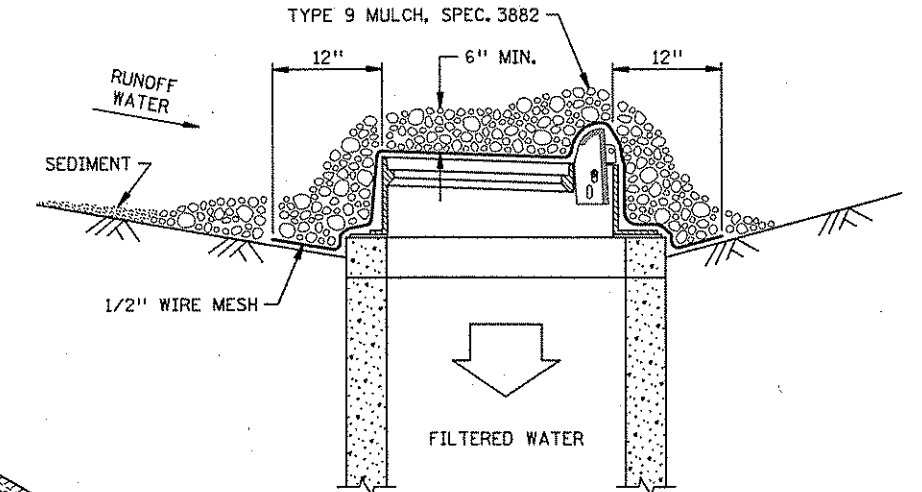
FOR SEDIMENT CONTROL ON CULVERT INLET
(TYPE D SPEC. 3891)

CULVERT SIZE: 12" - 36"

d = DIA. OF STANDPIPE EQUAL TO DIA. OF PLAN CULVERT

Z = LENGTH OF PERFORATED STANDPIPE (d + 12")

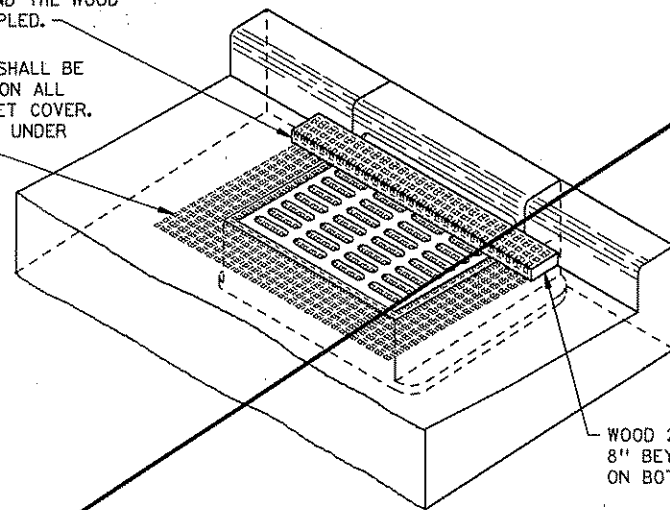
FOR APPROVED SEDIMENT CONTROL
INLET PROTECTION DETAILS
SEE DETAIL E, SHEET 20.



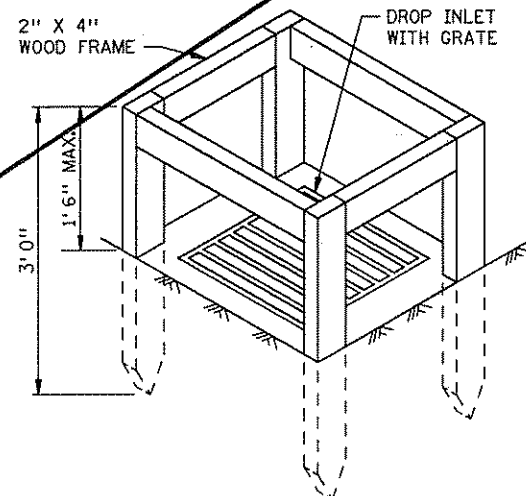
AGGREGATE FILTER AT CURB INLET
(TYPE B WITHOUT CURB SPEC. 3891)
(TYPE C WITH CURB SPEC. 3891)

AN ADDITIONAL 18" OF GEOTEXTILE
IS WRAPPED AROUND THE WOOD
2" X 4" AND STAPLED.

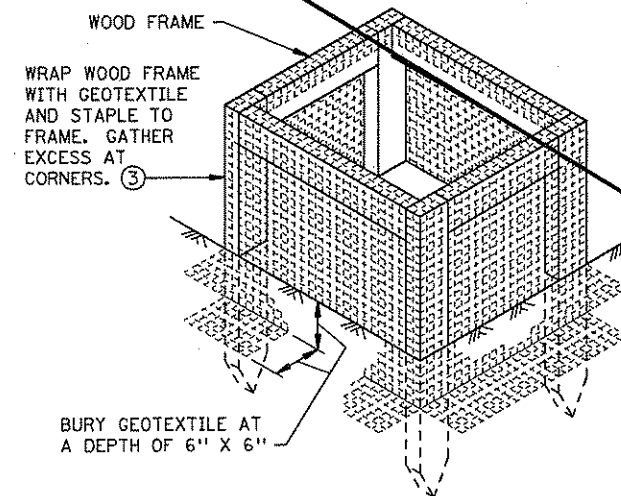
GEOTEXTILE SIZE SHALL BE
8" MIN. GREATER ON ALL
SIDES OF THE INLET COVER.
PLACE GEOTEXTILE UNDER
INLET COVER. ③



GEOTEXTILE FILTER AT STREET INLET WITH CURB BOX
TYPE C SPEC. 3891



SILT FENCE BOX TO PROTECT DROP INLETS
USE WHERE INLET DRAINS AN AREA WITH SLOPES AT 1:3 OR LESS
(TYPE A SPEC. 3891)



NOTES:
SEE SPECS. 2573, 3891 & 3893.

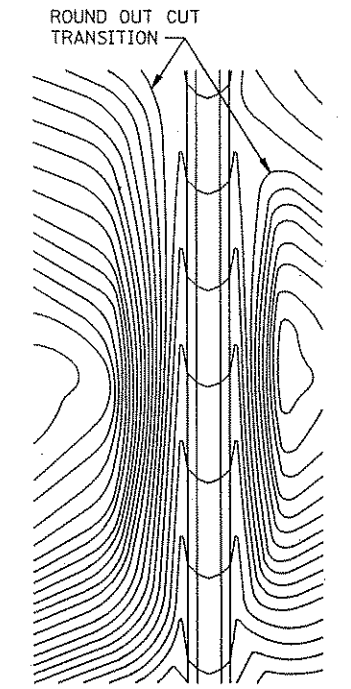
MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S
APPROVED PRODUCTS LIST MAY BE SUBSTITUTED.

- ① FOR CSP, REMOVE TEMPORARY STANDPIPE AND INSTALL
CULVERT APRON AFTER VEGETATION IS ESTABLISHED.
- ② FOR RCP, INSTALL CULVERT APRON AND SLIDE
TEMPORARY STANDPIPE INTO RCP. AFTER VEGETATION
IS ESTABLISHED REMOVE TEMPORARY STANDPIPE.
- ③ ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE
MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886
FOR MACHINE SLICED.

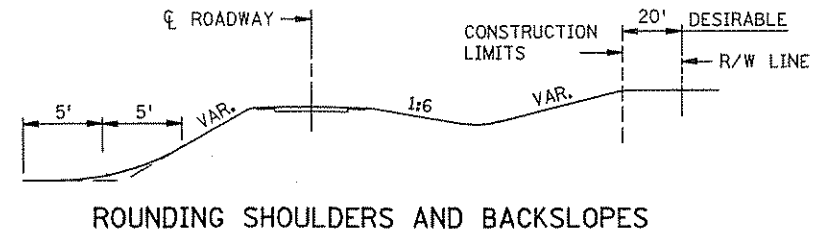
STANDARD SHEET NO.
5-297.405 (4 OF 4)
STANDARD APPROVED
NOVEMBER 5, 2002

TITLE:
**TEMPORARY EROSION CONTROL
TEMPORARY INLET PROTECTION**

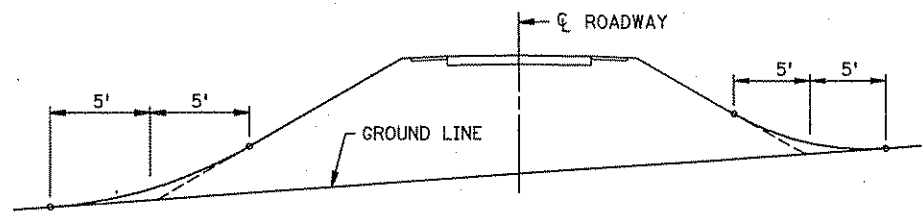
STATE PROJ. NO. 0202-81 (T.H.10) SHEET NO. 26 OF 85 SHEETS



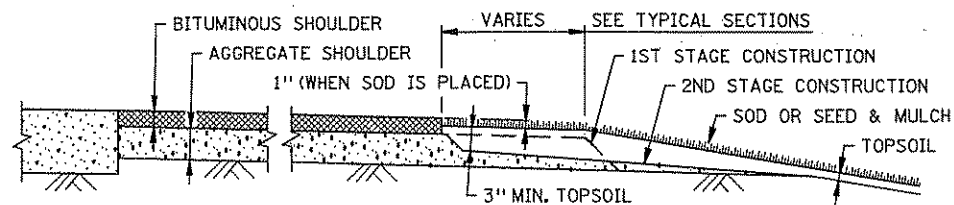
CONTOURING ROAD CUTS



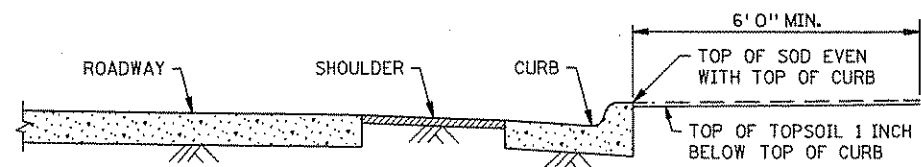
ROUNDING SHOULDERS AND BACKSLOPES



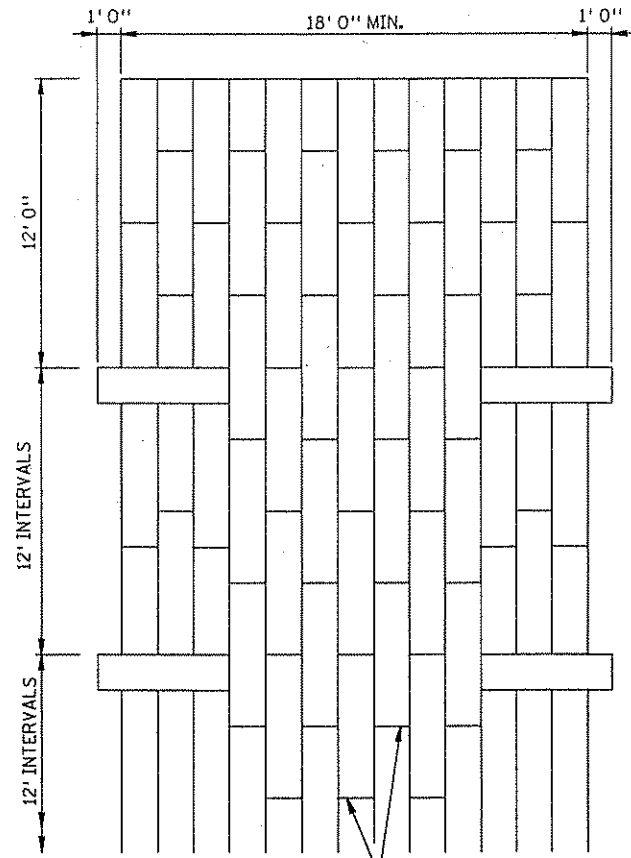
SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES



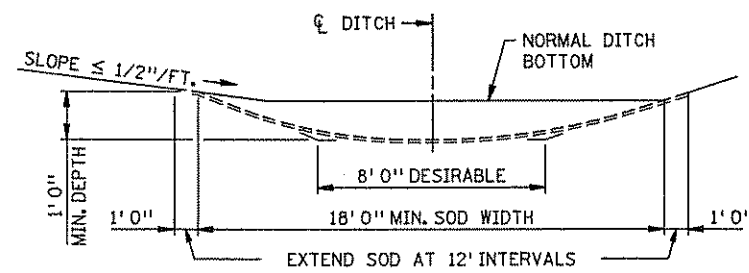
SHAPING AND TOPSOILING INSLOPES



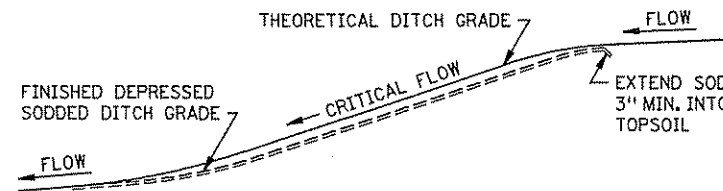
SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED



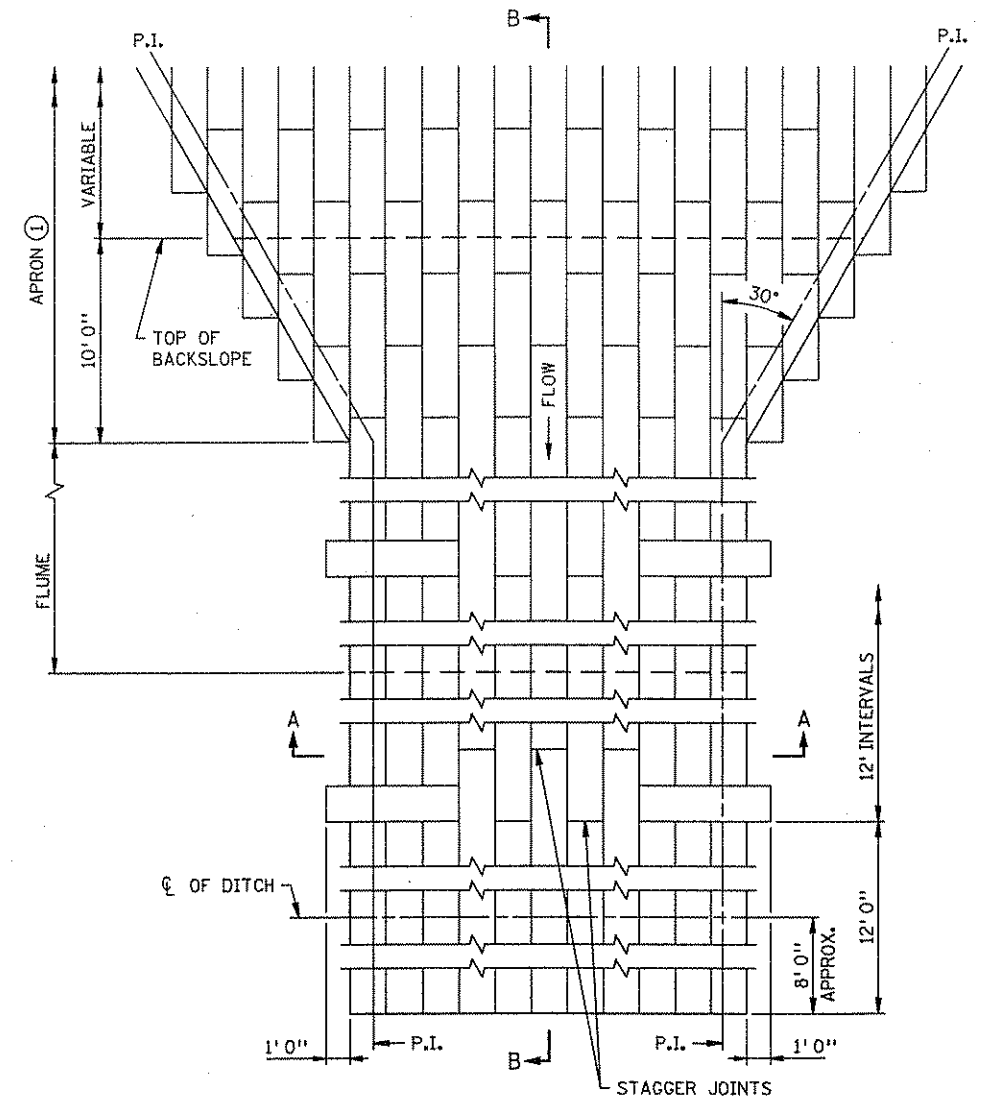
STAGGER JOINTS
PLAN VIEW



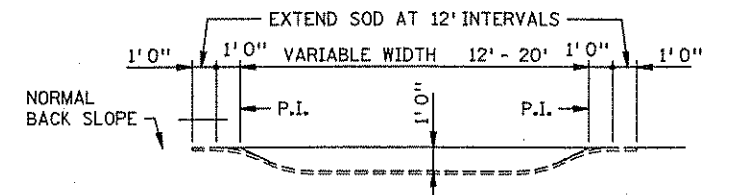
SODDED DITCH CROSS SECTION
WHERE FRONT OR BACK SLOPE IS FLAT (LESS THAN 1/2"/FT.),
FIRST NOTCH DITCH AND THEN PROVIDE ROUNDING.



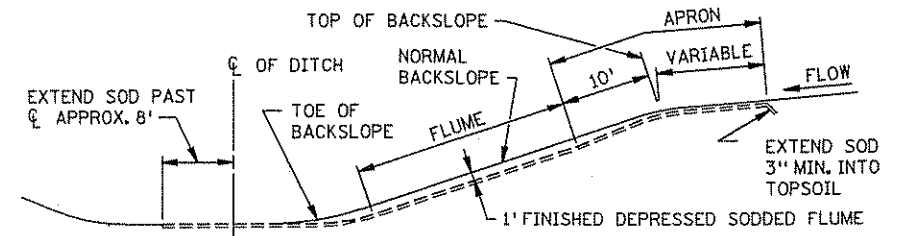
DITCH PROFILE
SODDED DITCH DETAILS



PLAN VIEW



SECTION A-A



SECTION B-B

SODDED FLUME DETAILS

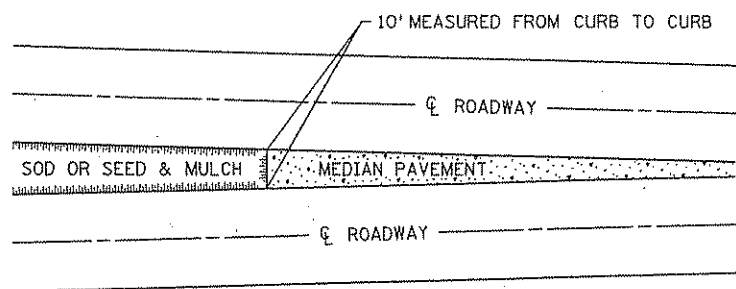
NOTES:
SEE SPEC. 2575.3 FOR ADDITIONAL INFORMATION.
① CONSTRUCT TAPER AS DIRECTED BY THE ENGINEER.

| | |
|---|--------|
| STANDARD SHEET NO. 5-297.404 | TITLE: |
| STANDARD APPROVED: NOVEMBER 20, 2002 | |

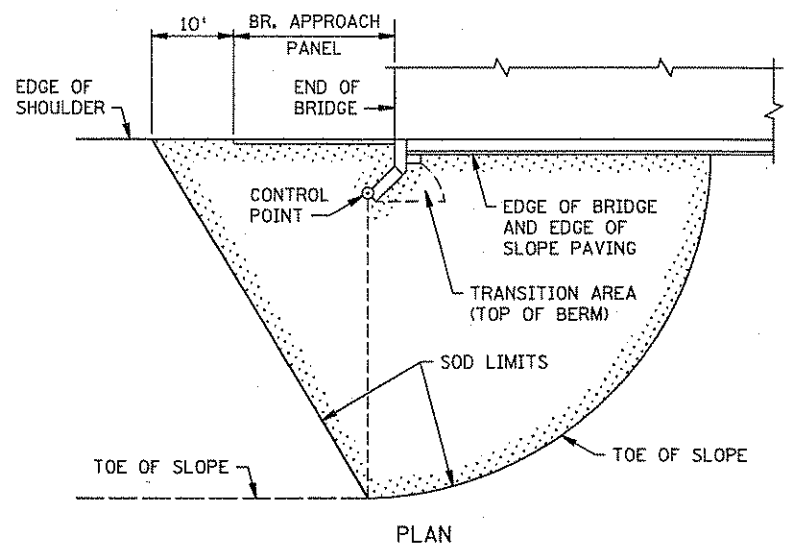
PERMANENT EROSION CONTROL
ALONG ROADWAYS, DITCHES AND FLUMES

PLOTTED/REVISED: 29-NOV-2005 09:55

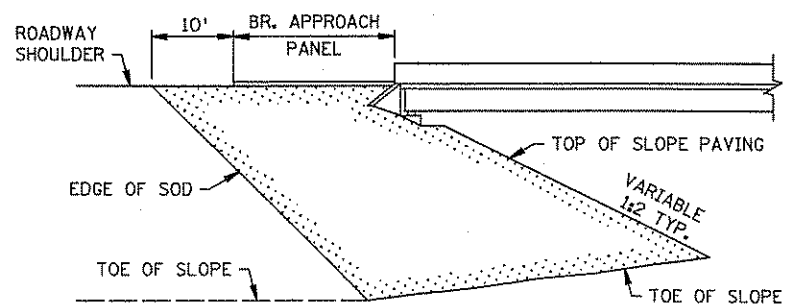
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FILE NAME: S406A85.SPN



SODDING LIMITS AT GORE AREA

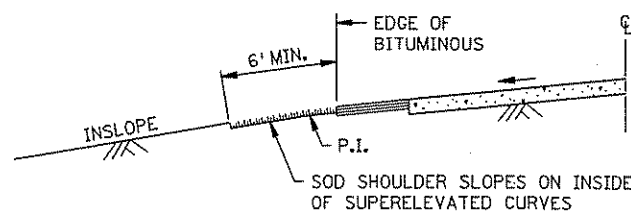


PLAN

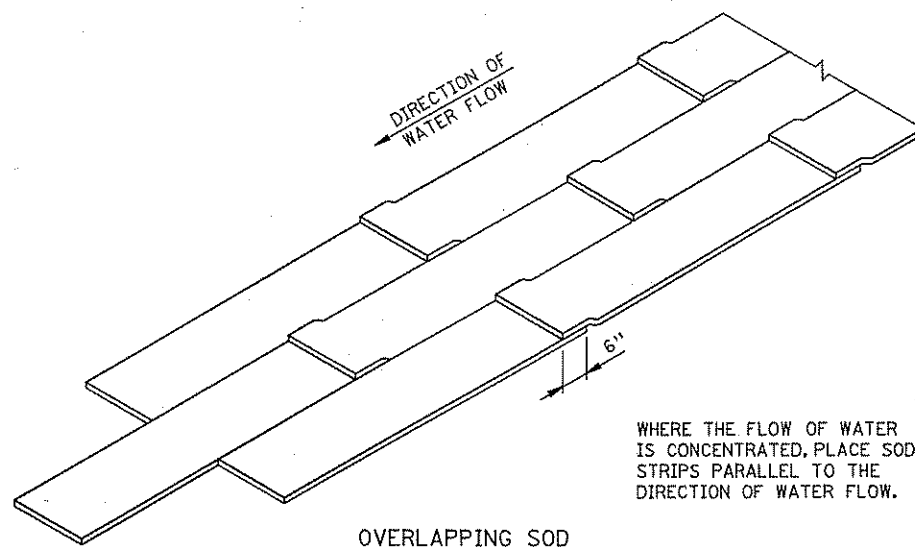


ELEVATION

SODDING LIMITS AT BRIDGE APPROACH FILLS

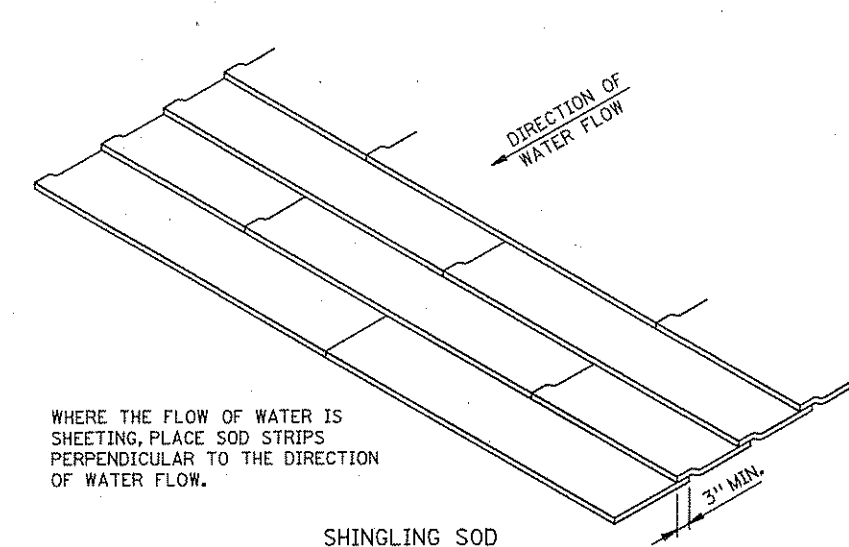


SODDING INSLOPES OF SUPERELEVATED CURVES



OVERLAPPING SOD

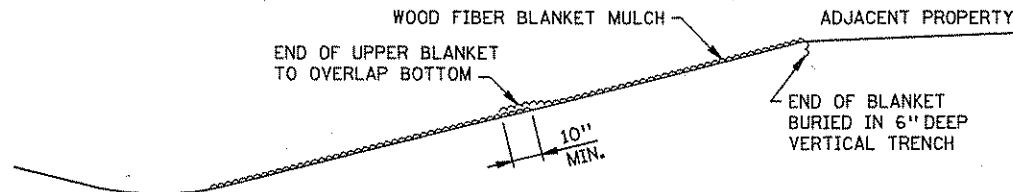
WHERE THE FLOW OF WATER IS CONCENTRATED, PLACE SOD STRIPS PARALLEL TO THE DIRECTION OF WATER FLOW.



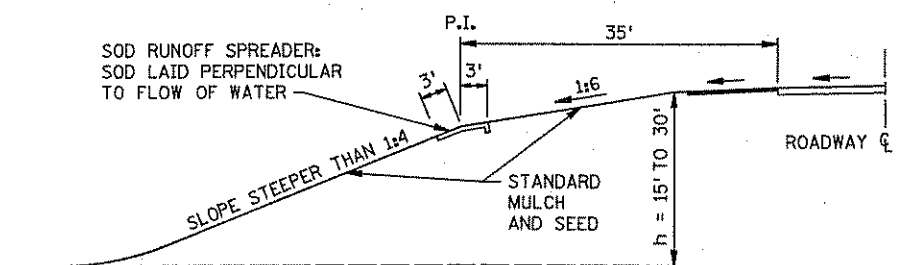
SHINGLING SOD

WHERE THE FLOW OF WATER IS SHEETING, PLACE SOD STRIPS PERPENDICULAR TO THE DIRECTION OF WATER FLOW.

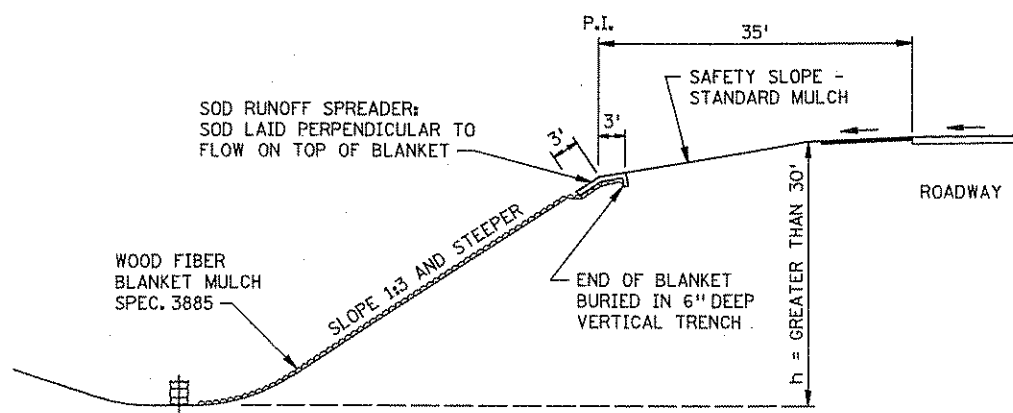
SPECIAL SOD PLACEMENT TECHNIQUES



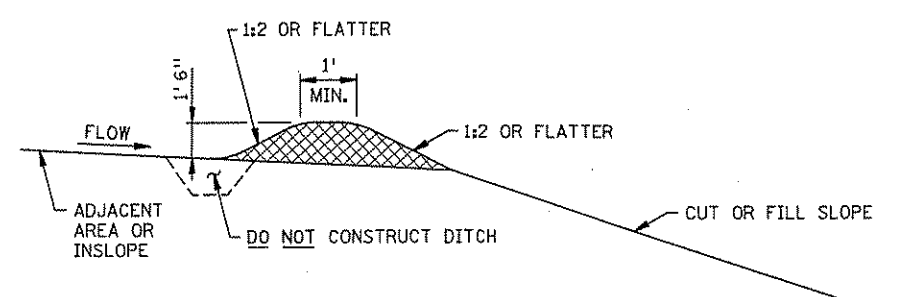
WOOD FIBER BLANKET INSTALLATION ON A CUT SLOPE



BROKEN-BACK SAFETY FILL SLOPE



WOOD FIBER BLANKET INSTALLATION ON AN INSLOPE (WHEN REQUIRED)



PERMANENT SLOPE PROTECTION DIKE

| | |
|--|---|
| STANDARD SHEET NO. 5-297.406 | TITLE: PERMANENT EROSION CONTROL ALONG ROADWAYS AND AT GORE AREAS & BRIDGE APPROACH FILLS |
| STANDARD APPROVED: JANUARY 31, 1985 | |
| STATE PROJ. NO. 0202-81 (T.H.10) | SHEET NO. 28 OF 85 SHEETS |

REVISION DATE
10-26-2000

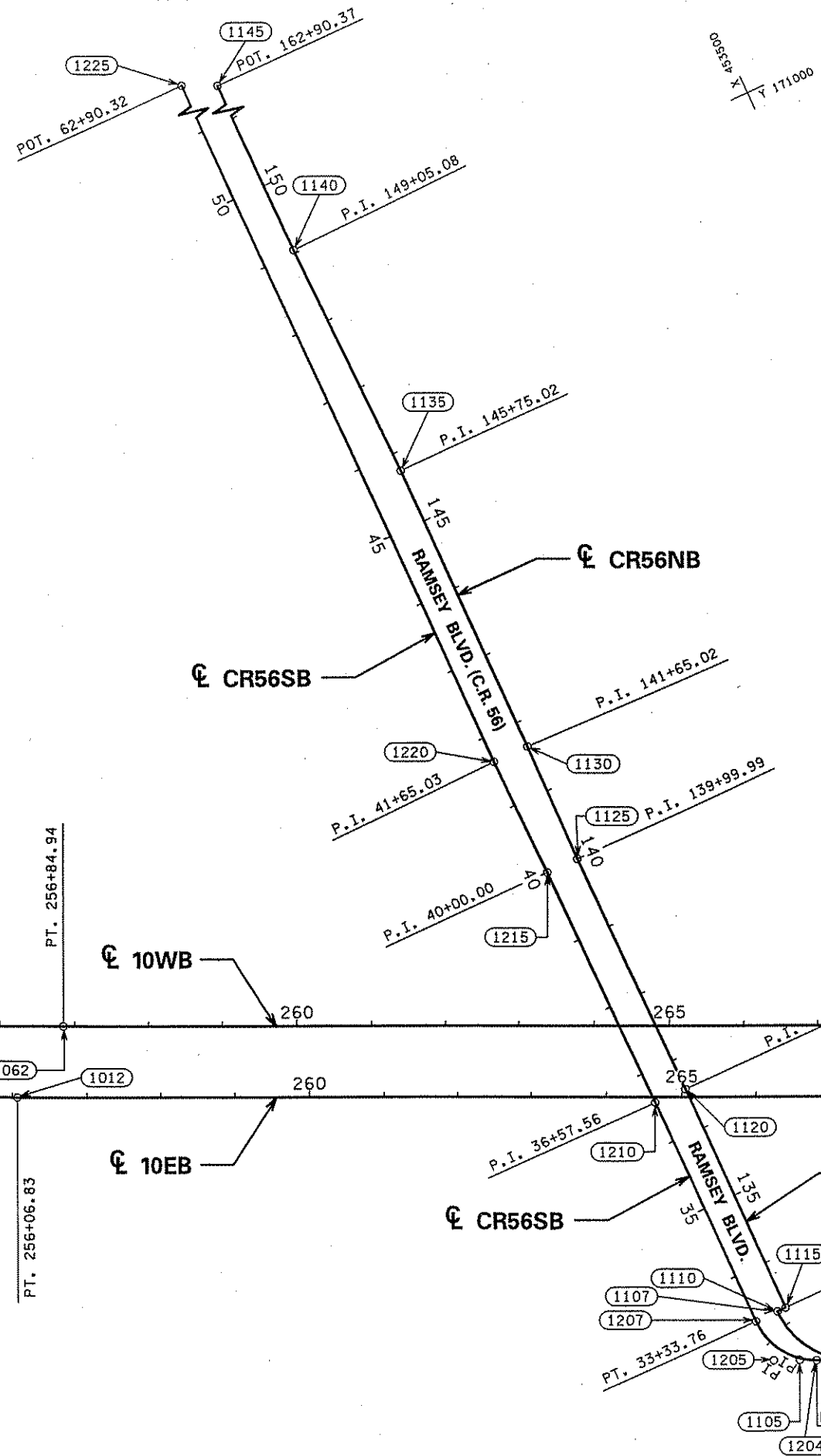
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DISTRICT: METRO

PLOT NAME: D020281.dwg

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CAUTION:

THE CONTRACTOR IS HEREBY STRONGLY CAUTIONED THAT DIFFERENT HORIZONTAL AND VERTICAL DATUMS ARE IN USE BY DIFFERENT ENTITIES WITHIN THE PROJECT AREA. ANY CONTROL OR OTHER INFORMATION FROM SOURCES OTHER THAN THIS PLAN WHICH IS UTILIZED BY THE CONTRACTOR IN CONSTRUCTING THE PROJECT SHALL BE CLOSELY EXAMINED BY THE CONTRACTOR FOR DATUM COMPATIBILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CONVERSION THAT IS REQUIRED TO USE INFORMATION FROM OTHER SOURCES. THE CONTRACTOR IS HEREBY ALSO ADVISED THAT THE CONSTRUCTION PLANS FOR CITY OF RAMSEY PROJECT NO. 05-20 (ANOKA COUNTY PROJECT NO. 04-15-56) ARE NOT ON THE SAME DATUMS AND THUS CONVERSION IS REQUIRED IN ORDER TO MAKE THE PLAN INFORMATION COMPATIBLE.

HORIZONTAL CONTROL

THE HORIZONTAL CONTROL FOR THIS PLAN IS ENGLISH IN NAD 83 DATUM (1996 HARN ADJUSTMENT), STATE PLANE MINNESOTA SOUTH ZONE, ANOKA COUNTY COORDINATES:

| NAME | X | Y |
|--------------|------------|------------|
| G-E 257 | 458186.456 | 168083.591 |
| G-G 257 | 448457.259 | 171896.615 |
| G-HYATT MNDT | 448333.483 | 172433.392 |



DRAWN BY: MRK

CHECKED BY: SNB

CERTIFIED BY: *Steven M. Bowser*

LIC. NO. 21817 DATE 11/29/05

STATE PROJ. NO. 0202-81 (T.H. 10) SHEET NO. 29 OF 85 SHEETS

ALIGNMENT PLAN

ALIGNMENT TABULATION

| POINT NUMBER | POINT | STATION | CIRCULAR CURVE DATA | | | | | COORDINATES | | AZIMUTH |
|----------------------------|-------|------------|---------------------|----------------|-------------|----------|----------|--------------|--------------|-----------------|
| | | | DELTA | DEGREE | RADIUS | TANGENT | LENGTH | X | Y | |
| | | | | | | | | | | |
| T.H. 10 E.B. (10 EB) | | | | | | | | | | |
| 1001 | POT | 223+39.561 | | | | | | 449,108.9896 | 171,621.5677 | 116° 20' 55.17" |
| 1009 | PC | 249+26.892 | | | | | | 451,427.5221 | 170,473.2265 | 116° 20' 55.17" |
| 1010 | PI | 252+66.886 | 1° 41' 34.00" LT | 0° 14' 56.26" | 23,014.000' | 339.994' | 679.938' | 451,732.1940 | 170,322.3262 | PI |
| | CC | | | | | | | 461,641.8806 | 191,096.2980 | |
| 1012 | PT | 256+06.830 | | | | | | 452,041.1906 | 170,180.4918 | 114° 39' 21.17" |
| 1020 | POT | 278+95.453 | | | | | | 454,121.1590 | 169,225.7530 | 114° 39' 21.21" |
| 1030 | POT | 302+05.771 | | | | | | 456,220.8445 | 168,261.9632 | |
| T.H. 10 W.B. (10WB) | | | | | | | | | | |
| 1050 | POT | 224+68.850 | | | | | | 449,250.5683 | 171,659.6923 | 116° 20' 55.26" |
| 1059 | PC | 249+22.518 | | | | | | 451,449.3236 | 170,570.6741 | 116° 20' 55.26" |
| 1060 | PI | 253+03.758 | 1° 41' 03.69" LT | 0° 13' 15.31" | 25,935.000' | 381.241' | 762.426' | 451,790.9569 | 170,401.4671 | PI |
| | CC | | | | | | | 462,960.1267 | 193,811.2773 | |
| 1062 | PT | 256+84.944 | | | | | | 452,137.4162 | 170,242.3749 | 114° 39' 51.58" |
| 1070 | POT | 299+01.971 | | | | | | 455,969.7159 | 168,482.6039 | |
| RAMSEY BLVD. N.B. (CR56NB) | | | | | | | | | | |
| 1101 | POT | 131+52.930 | | | | | | 452,951.0027 | 169,372.3500 | |
| 1104 | PC | 131+93.801 | | | | | | 452,913.8564 | 169,389.3956 | 295° 05' 29.70" |
| 1105 | PI | 132+65.629 | 64° 59' 06.81" RT | 50° 48' 11.46" | 112.780' | 71.828' | 127.916' | 452,848.8064 | 169,419.8556 | PI |
| | CC | | | | | | | 452,961.6825 | 169,491.5326 | |
| 1107 | PT | 133+21.716 | | | | | | 452,848.9027 | 169,491.6838 | 0° 04' 36.51" |
| 1110 | PI | 133+21.716 | | | | | | 452,848.9027 | 169,491.6838 | 90° 05' 30.33" |
| 1115 | PI | 133+33.707 | | | | | | 452,860.8940 | 169,491.6646 | 0° 04' 20.00" |
| 1120 | PI | 136+57.548 | | | | | | 452,861.3022 | 169,815.5045 | 0° 00' 18.91" |
| 1125 | PI | 139+99.992 | | | | | | 452,861.3336 | 170,157.9490 | 1° 02' 47.83" |
| 1130 | PI | 141+65.021 | | | | | | 452,864.3480 | 170,322.9500 | 0° 00' 18.97" |
| 1135 | PI | 145+75.025 | | | | | | 452,864.3857 | 170,732.9543 | 358° 57' 49.12" |
| 1140 | PI | 149+05.083 | | | | | | 452,858.4160 | 171,062.9583 | 0° 00' 18.92" |
| 1145 | POT | 162+90.367 | | | | | | 452,858.5431 | 172,448.2427 | |

ALIGNMENT TABULATION

| POINT NUMBER | POINT | STATION | CIRCULAR CURVE DATA | | | | | COORDINATES | | AZIMUTH |
|----------------------------|-------|-----------|---------------------|----------------|---------|---------|----------|--------------|--------------|-----------------|
| | | | DELTA | DEGREE | RADIUS | TANGENT | LENGTH | X | Y | |
| | | | | | | | | | | |
| RAMSEY BLVD. S.B. (CR56SB) | | | | | | | | | | |
| 1201 | POT | 29+19.760 | | | | | | 453,152.2542 | 169,280.0198 | 294° 38' 41.01" |
| 1204 | PC | 32+30.993 | | | | | | 452,869.3715 | 169,409.8008 | 294° 38' 41.01" |
| 1205 | PI | 32+88.801 | 65° 25' 34.40" RT | 63° 39' 43.12" | 90.000' | 57.808' | 102.771' | 452,816.8292 | 169,433.9062 | PI |
| | CC | | | | | | | 452,906.9007 | 169,491.6028 | |
| 1207 | PT | 33+33.764 | | | | | | 452,816.9008 | 169,491.7142 | 0° 04' 15.41" |
| 1210 | PI | 36+57.558 | | | | | | 452,817.3017 | 169,815.5086 | 0° 00' 18.97" |
| 1215 | PI | 40+00.003 | | | | | | 452,817.3332 | 170,157.9530 | 358° 57' 48.05" |
| 1220 | PI | 41+65.031 | | | | | | 452,814.3475 | 170,322.9546 | 0° 00' 18.94" |
| 1225 | POT | 62+90.324 | | | | | | 452,814.5427 | 172,448.2467 | |

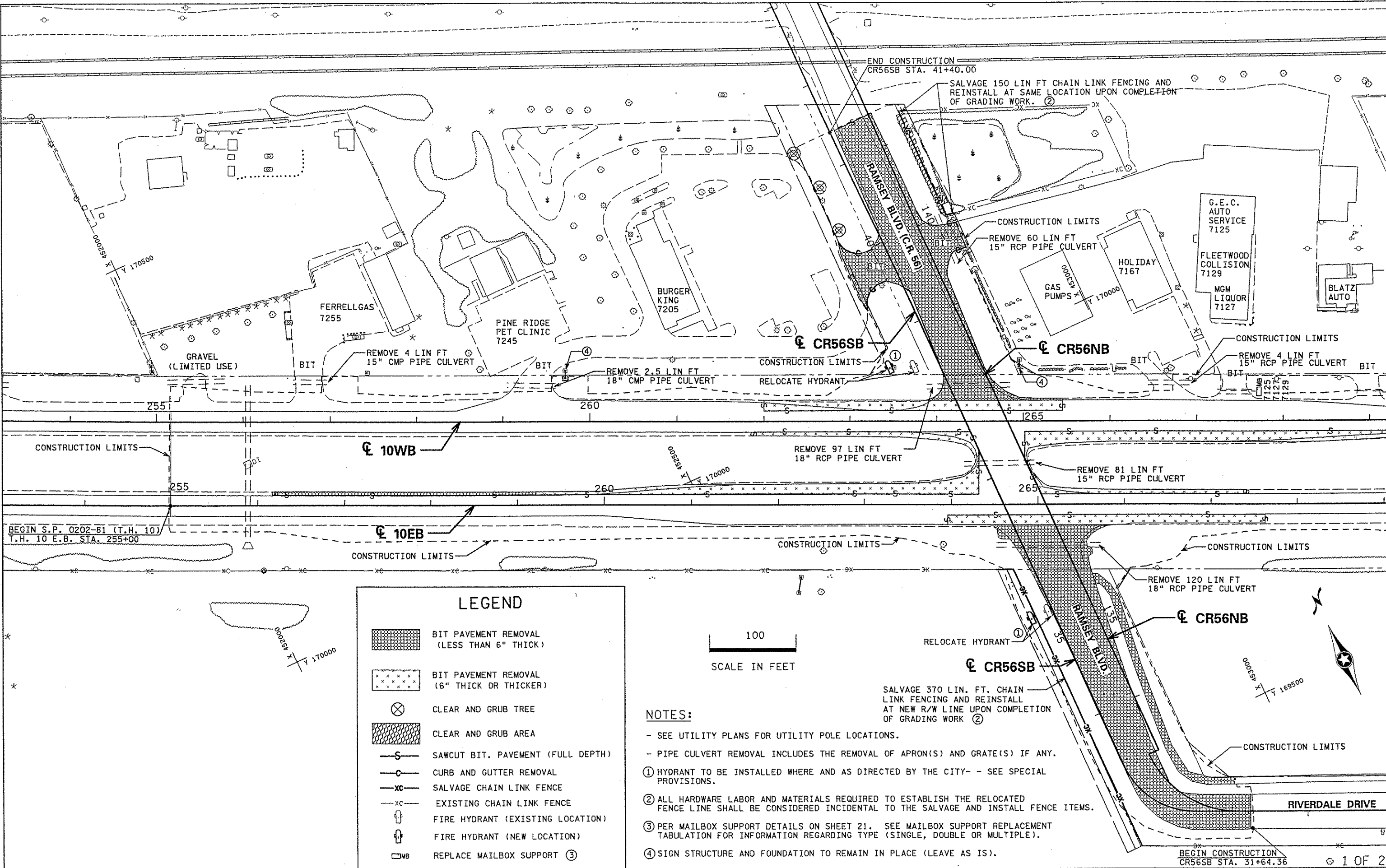
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ALIGNMENT TABULATION

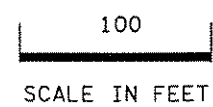
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LEGEND

| | |
|--|---------------------------------------|
| | BIT PAVEMENT REMOVAL (LESS THAN 6\"/> |
| | BIT PAVEMENT REMOVAL (6\"/> |
| | CLEAR AND GRUB TREE |
| | CLEAR AND GRUB AREA |
| | SAWCUT BIT. PAVEMENT (FULL DEPTH) |
| | CURB AND GUTTER REMOVAL |
| | SALVAGE CHAIN LINK FENCE |
| | EXISTING CHAIN LINK FENCE |
| | FIRE HYDRANT (EXISTING LOCATION) |
| | FIRE HYDRANT (NEW LOCATION) |
| | REPLACE MAILBOX SUPPORT ③ |



NOTES:

- SEE UTILITY PLANS FOR UTILITY POLE LOCATIONS.
- PIPE CULVERT REMOVAL INCLUDES THE REMOVAL OF APRON(S) AND GRATE(S) IF ANY.
- ① HYDRANT TO BE INSTALLED WHERE AND AS DIRECTED BY THE CITY-- SEE SPECIAL PROVISIONS.
- ② ALL HARDWARE LABOR AND MATERIALS REQUIRED TO ESTABLISH THE RELOCATED FENCE LINE SHALL BE CONSIDERED INCIDENTAL TO THE SALVAGE AND INSTALL FENCE ITEMS.
- ③ PER MAILBOX SUPPORT DETAILS ON SHEET 21. SEE MAILBOX SUPPORT REPLACEMENT TABULATION FOR INFORMATION REGARDING TYPE (SINGLE, DOUBLE OR MULTIPLE).
- ④ SIGN STRUCTURE AND FOUNDATION TO REMAIN IN PLACE (LEAVE AS IS).

END CONSTRUCTION
CR56SB STA. 41+40.00

BEGIN CONSTRUCTION
CR56SB STA. 31+64.36

EXISTING TOPOGRAPHY, SALVAGE & REMOVALS

DRAWN BY: MK

CHECKED BY: SNB

CERTIFIED BY *Steven W. Bowser*
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 21817 DATE 11/29/05

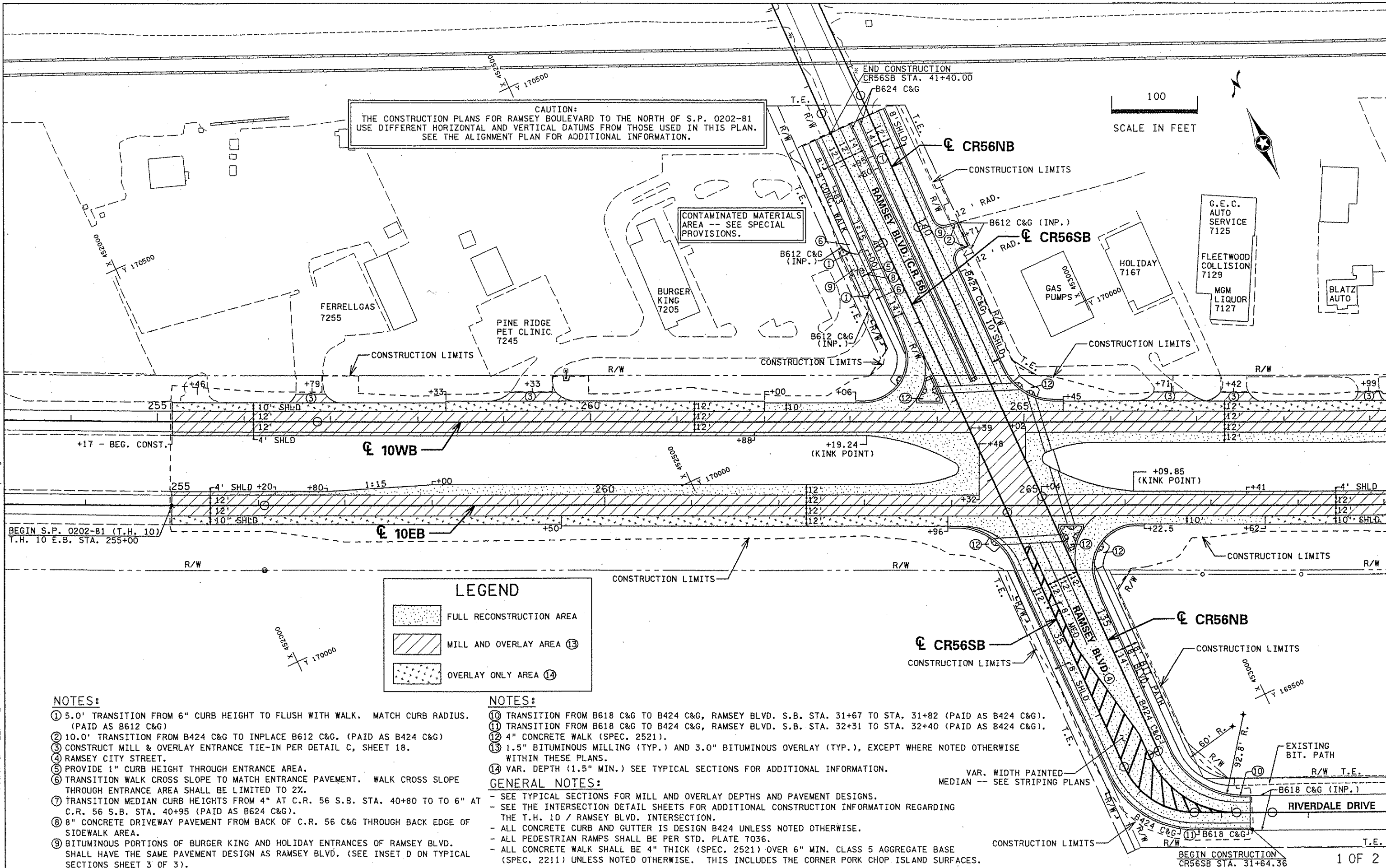
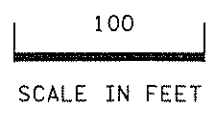
STATE PROJ. NO. 0202-81 (T.H. 10) SHEET NO. 31 OF 85 SHEETS

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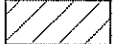

DISTRICT #: METRO
PLOT NAME: D020281_cplA
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CAUTION:
THE CONSTRUCTION PLANS FOR RAMSEY BOULEVARD TO THE NORTH OF S.P. 0202-81
USE DIFFERENT HORIZONTAL AND VERTICAL DATUMS FROM THOSE USED IN THIS PLAN.
SEE THE ALIGNMENT PLAN FOR ADDITIONAL INFORMATION.

CONTAMINATED MATERIALS
AREA -- SEE SPECIAL
PROVISIONS.



LEGEND

-  FULL RECONSTRUCTION AREA
-  MILL AND OVERLAY AREA (13)
-  OVERLAY ONLY AREA (14)

NOTES:

- ① 5.0' TRANSITION FROM 6" CURB HEIGHT TO FLUSH WITH WALK. MATCH CURB RADIUS. (PAID AS B612 C&G)
- ② 10.0' TRANSITION FROM B424 C&G TO INPLACE B612 C&G. (PAID AS B424 C&G)
- ③ CONSTRUCT MILL & OVERLAY ENTRANCE TIE-IN PER DETAIL C, SHEET 18.
- ④ RAMSEY CITY STREET.
- ⑤ PROVIDE 1" CURB HEIGHT THROUGH ENTRANCE AREA.
- ⑥ TRANSITION WALK CROSS SLOPE TO MATCH ENTRANCE PAVEMENT. WALK CROSS SLOPE THROUGH ENTRANCE AREA SHALL BE LIMITED TO 2%.
- ⑦ TRANSITION MEDIAN CURB HEIGHTS FROM 4" AT C.R. 56 S.B. STA. 40+80 TO TO 6" AT C.R. 56 S.B. STA. 40+95 (PAID AS B624 C&G).
- ⑧ 8" CONCRETE DRIVEWAY PAVEMENT FROM BACK OF C.R. 56 C&G THROUGH BACK EDGE OF SIDEWALK AREA.
- ⑨ BITUMINOUS PORTIONS OF BURGER KING AND HOLIDAY ENTRANCES OF RAMSEY BLVD. SHALL HAVE THE SAME PAVEMENT DESIGN AS RAMSEY BLVD. (SEE INSET D ON TYPICAL SECTIONS SHEET 3 OF 3).

NOTES:

- ⑩ TRANSITION FROM B618 C&G TO B424 C&G, RAMSEY BLVD. S.B. STA. 31+67 TO STA. 31+82 (PAID AS B424 C&G).
- ⑪ TRANSITION FROM B618 C&G TO B424 C&G, RAMSEY BLVD. S.B. STA. 32+31 TO STA. 32+40 (PAID AS B424 C&G).
- ⑫ 4" CONCRETE WALK (SPEC. 2521).
- ⑬ 1.5" BITUMINOUS MILLING (TYP.) AND 3.0" BITUMINOUS OVERLAY (TYP.), EXCEPT WHERE NOTED OTHERWISE WITHIN THESE PLANS.
- ⑭ VAR. DEPTH (1.5" MIN.) SEE TYPICAL SECTIONS FOR ADDITIONAL INFORMATION.

GENERAL NOTES:

- SEE TYPICAL SECTIONS FOR MILL AND OVERLAY DEPTHS AND PAVEMENT DESIGNS.
- SEE THE INTERSECTION DETAIL SHEETS FOR ADDITIONAL CONSTRUCTION INFORMATION REGARDING THE T.H. 10 / RAMSEY BLVD. INTERSECTION.
- ALL CONCRETE CURB AND GUTTER IS DESIGN B424 UNLESS NOTED OTHERWISE.
- ALL PEDESTRIAN RAMPS SHALL BE PER STD. PLATE 7036.
- ALL CONCRETE WALK SHALL BE 4" THICK (SPEC. 2521) OVER 6" MIN. CLASS 5 AGGREGATE BASE (SPEC. 2211) UNLESS NOTED OTHERWISE. THIS INCLUDES THE CORNER PORK CHOP ISLAND SURFACES.

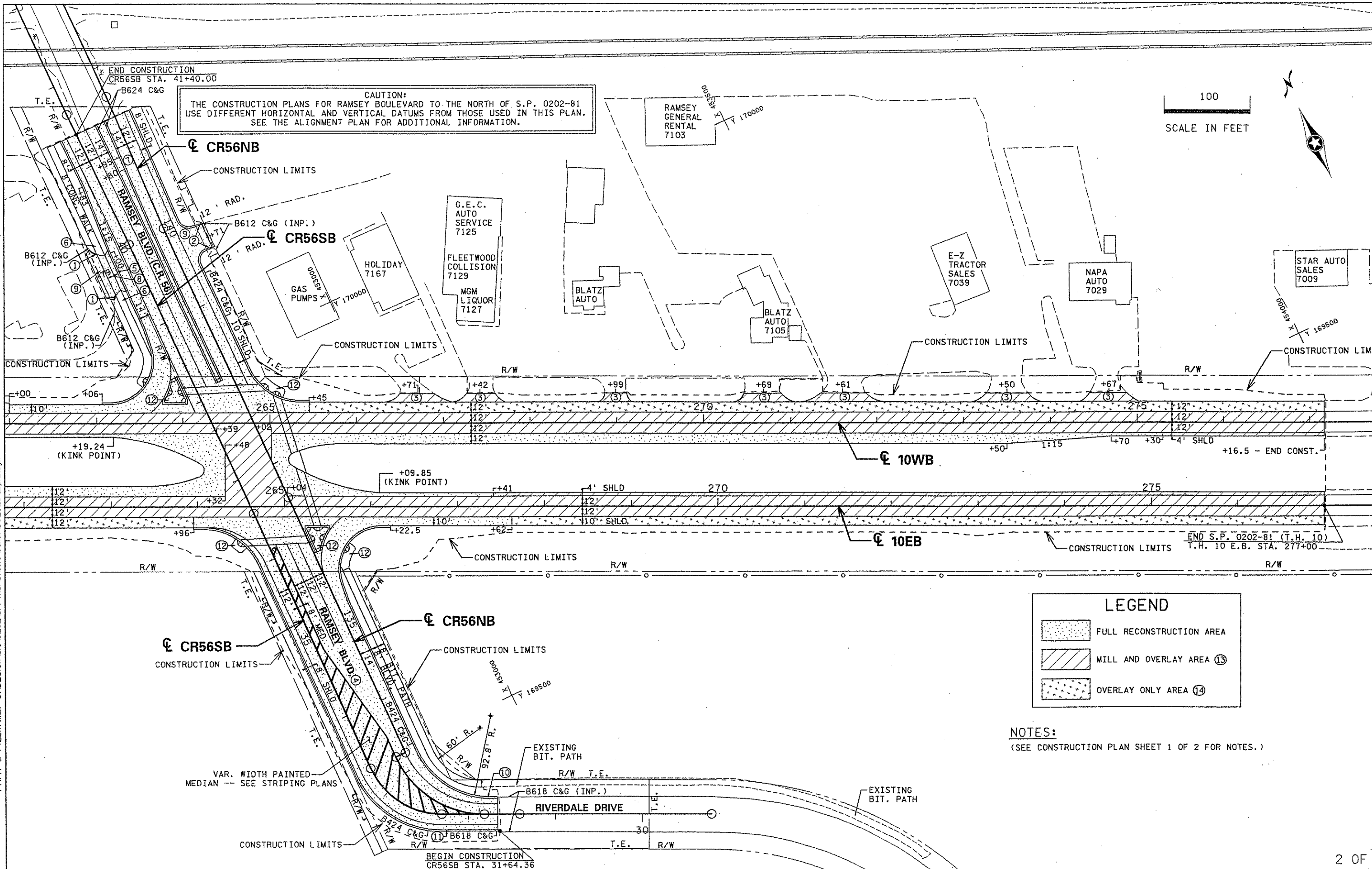
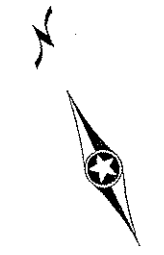
CONSTRUCTION PLAN

PLOTTED/REVISED: 29-NOV-2005 10:49




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I/PLOT NAME: D020281_cplB
PATH & FILENAME: S:\DESIGN\010\0202-81\Final\Sheet's\Cons\020281_cplB.dgn

CAUTION:
THE CONSTRUCTION PLANS FOR RAMSEY BOULEVARD TO THE NORTH OF S.P. 0202-81
USE DIFFERENT HORIZONTAL AND VERTICAL DATUMS FROM THOSE USED IN THIS PLAN.
SEE THE ALIGNMENT PLAN FOR ADDITIONAL INFORMATION.

100
SCALE IN FEET



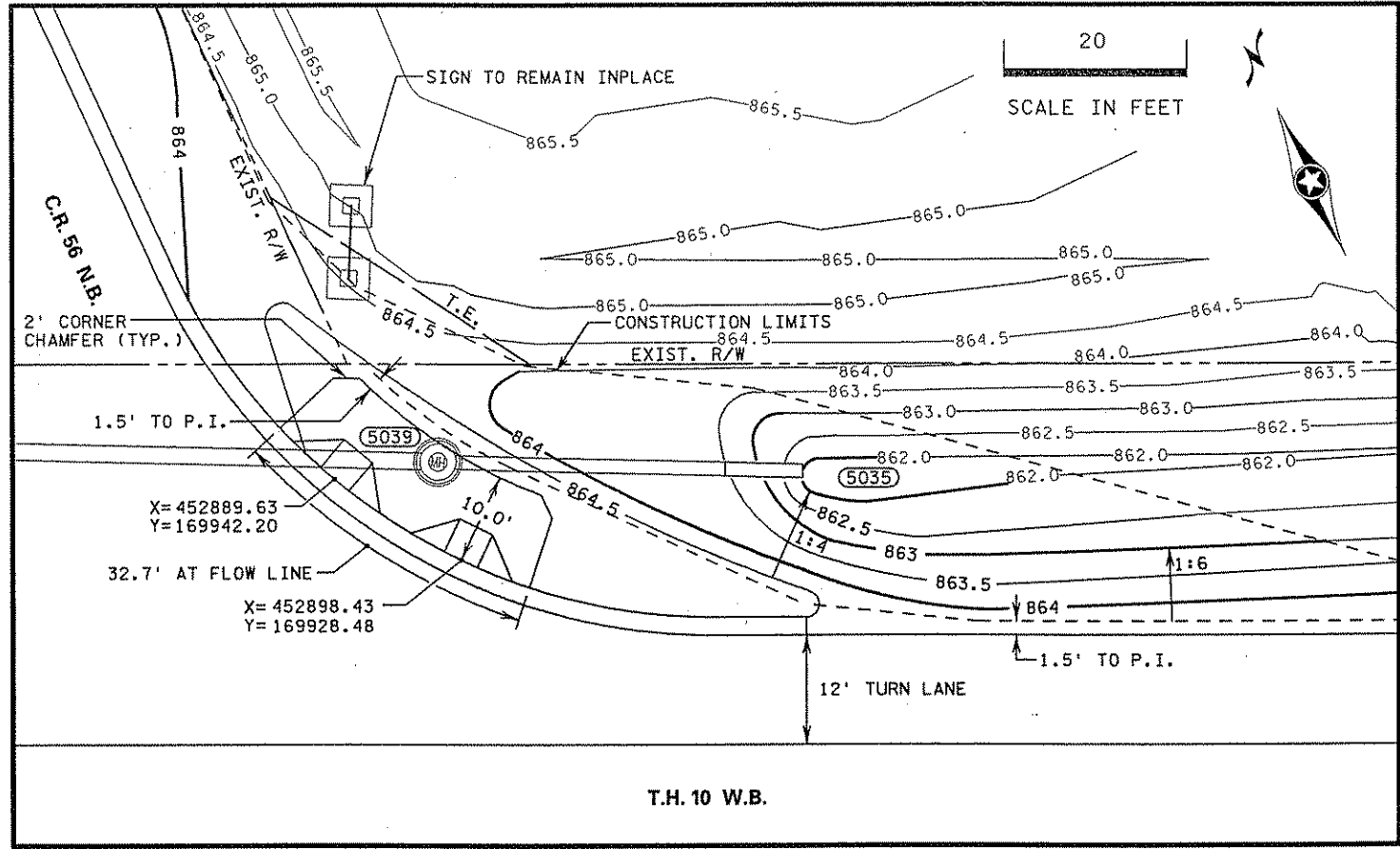
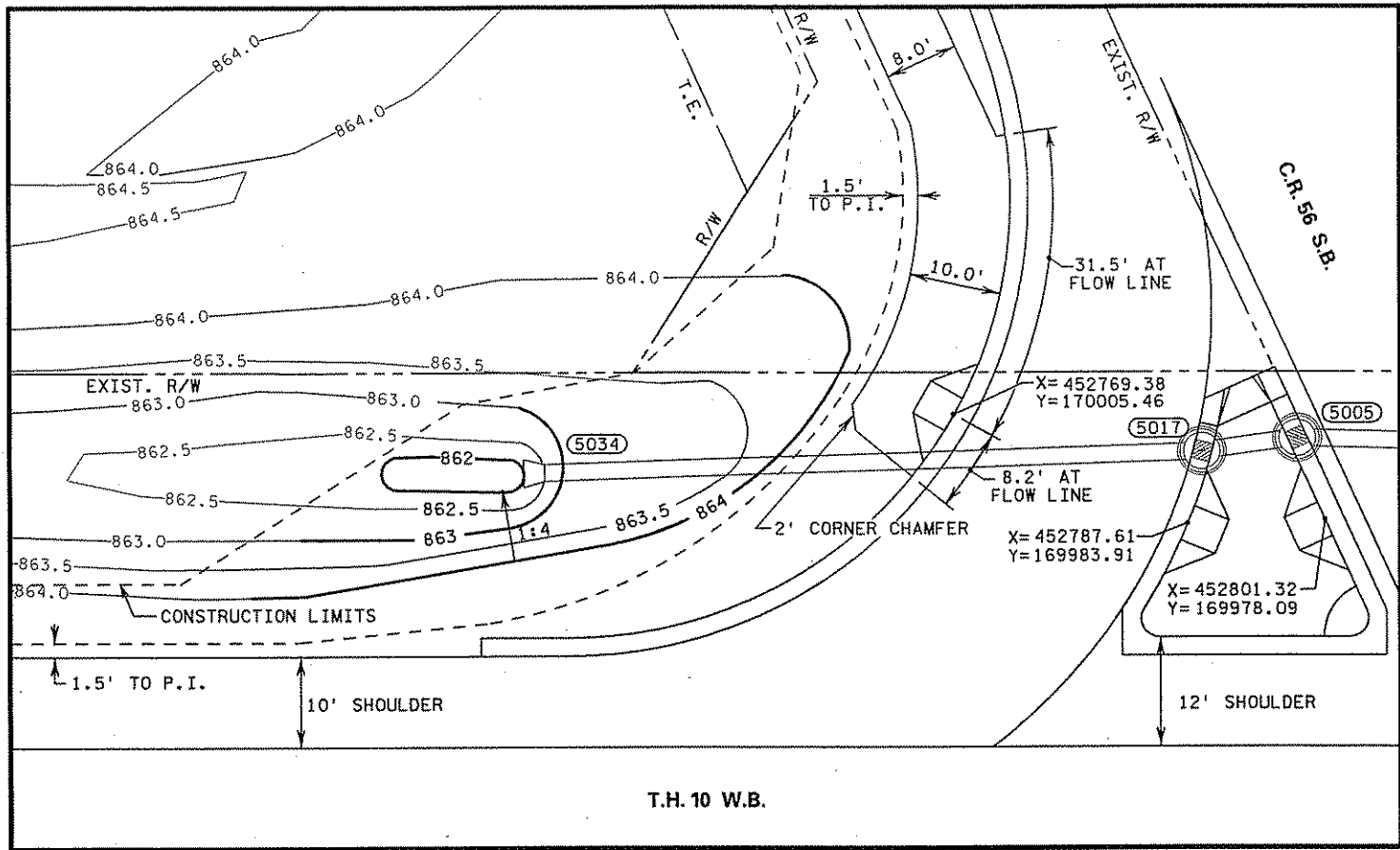
LEGEND

-  FULL RECONSTRUCTION AREA
-  MILL AND OVERLAY AREA (13)
-  OVERLAY ONLY AREA (14)

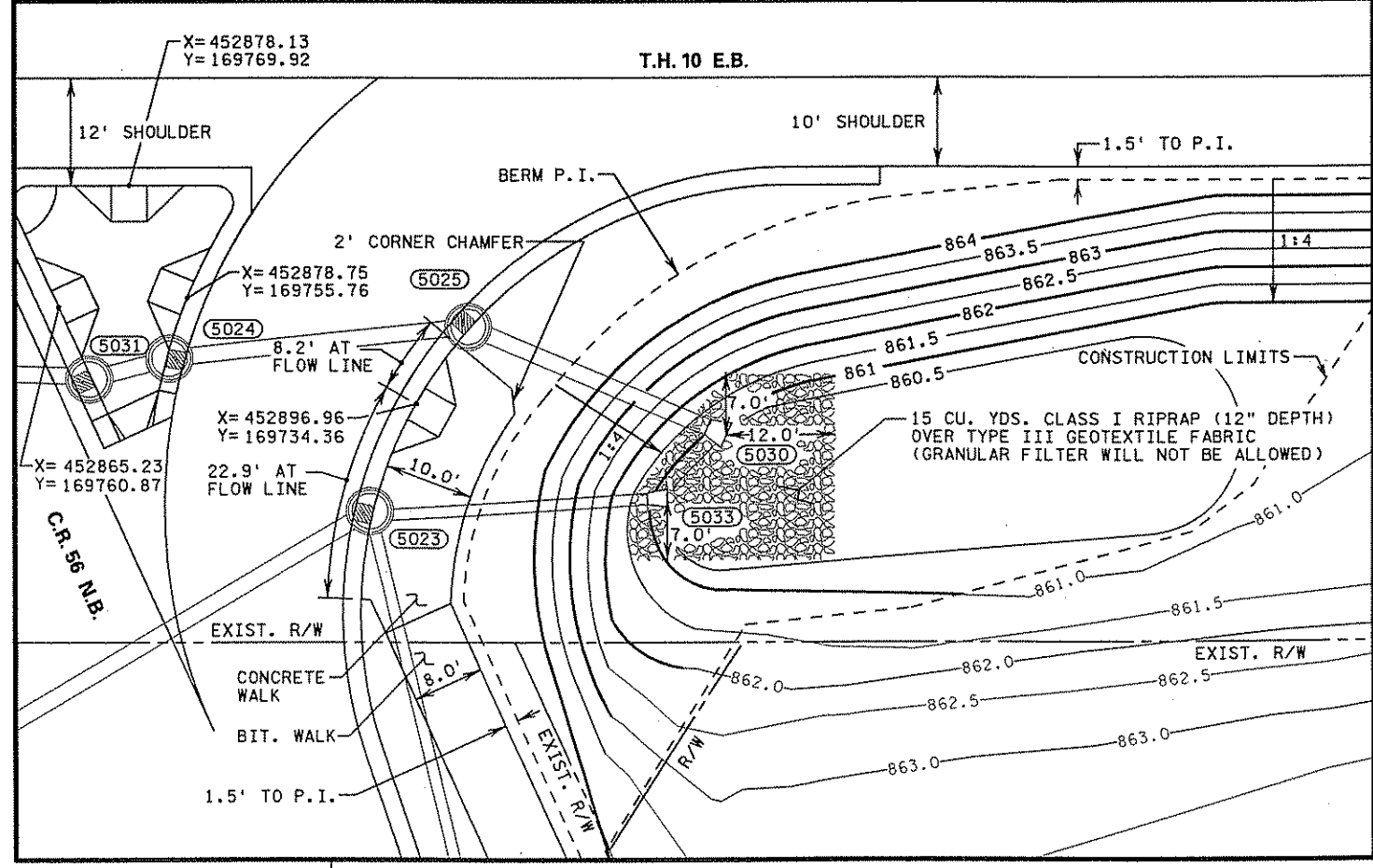
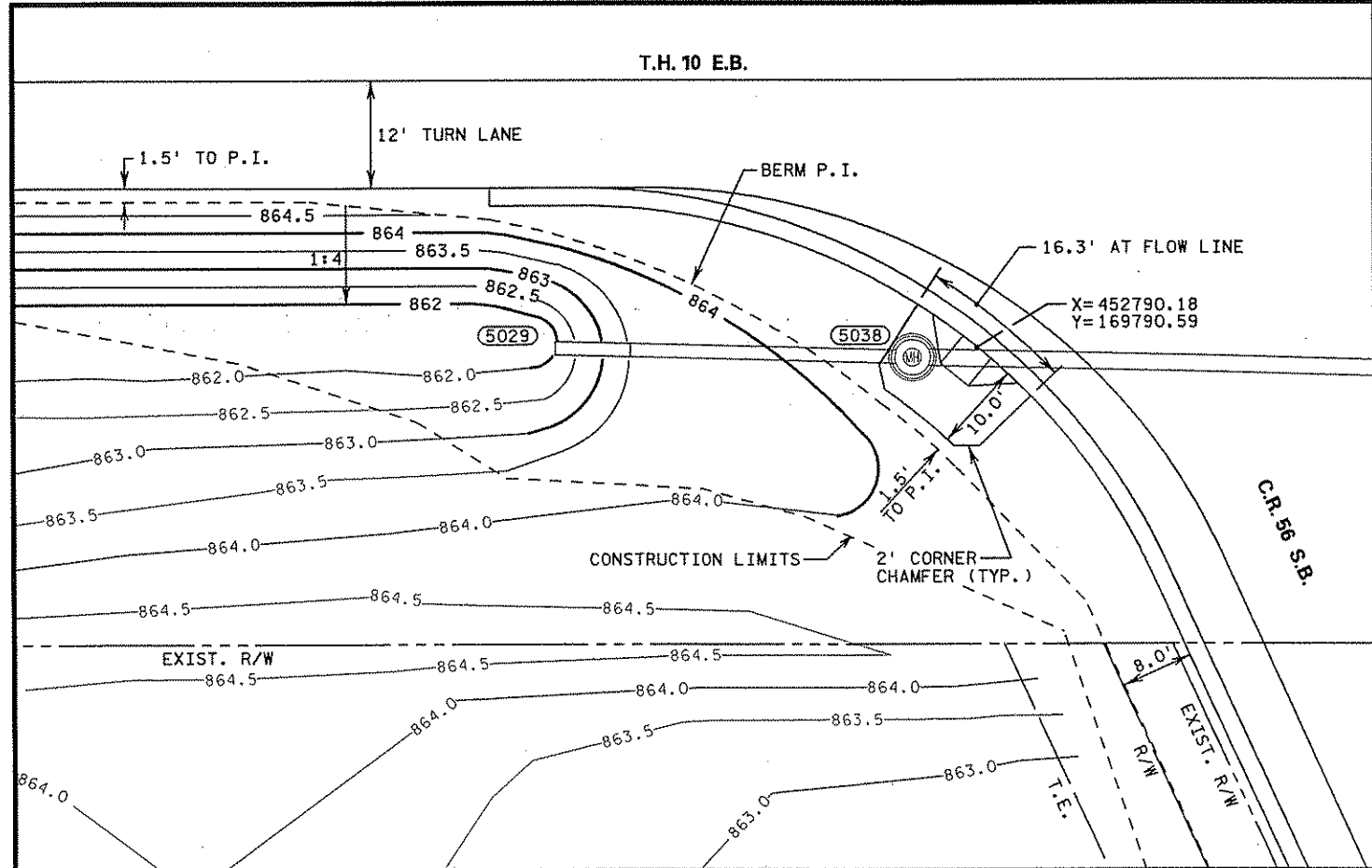
NOTES:
(SEE CONSTRUCTION PLAN SHEET 1 OF 2 FOR NOTES.)

CONSTRUCTION PLAN

PLOTTED/REVISED: 29-NOV-2005 10:49

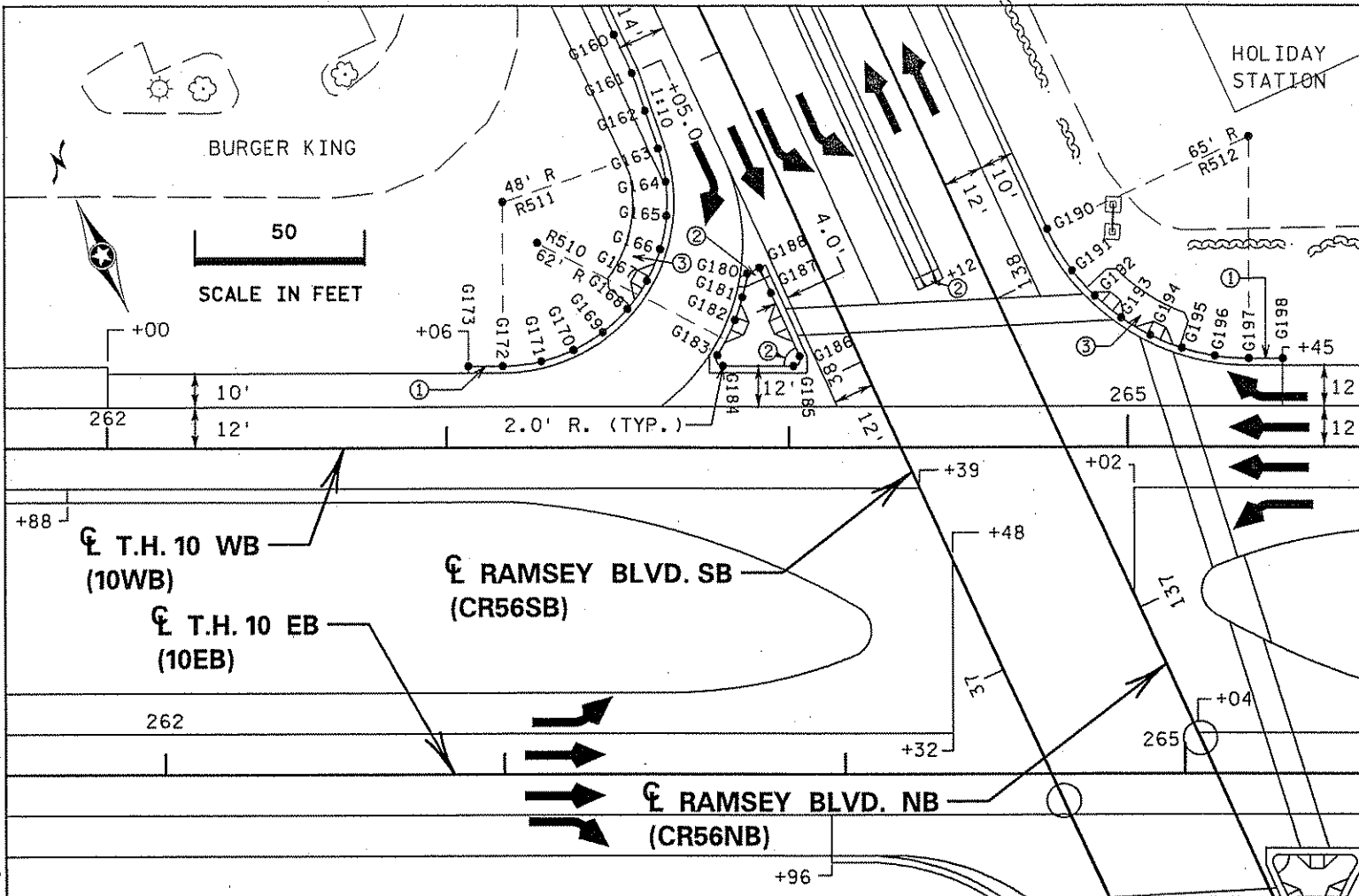


DISTRICT: METRO
PLOT NAME: 020281.ddl
PATH & FILENAME: S:\DESIGN\020281\Final\Sheet's\Detail's\020281.ddl.dgn



CORNER GRADING AND WALK DETAILS

PLOTTED/REVISED: 29-NOV-2005 10:21



| GUTTER PROFILE POINTS | | | |
|-----------------------|-------------|-------------|-----------|
| POINT NO. | X | Y | ELEVATION |
| G160 | 452791.3256 | 170075.4618 | 863.55 |
| G161 | 452791.3245 | 170062.9518 | 863.59 |
| G162 | 452790.1537 | 170051.2551 | 863.64 |
| G163 | 452788.9829 | 170039.5583 | 863.68 |
| G164 | 452786.9631 | 170029.7885 | 863.71 |
| G165 | 452782.9673 | 170020.6473 | 863.75 |
| G166 | 452777.1682 | 170012.5294 | 863.78 |
| G167 | 452769.8163 | 170005.7857 | 863.90 |
| G168 | 452761.2291 | 170000.7075 | 864.10 |
| G169 | 452751.7776 | 169997.5140 | 864.35 |
| G170 | 452741.8701 | 169996.3433 | 864.59 |
| G171 | 452731.9346 | 169997.2459 | 864.74 |
| G172 | 452721.1911 | 170000.7180 | 864.80 |
| G173 | 452712.1034 | 170004.8910 | 864.82 |
| G180 | 452797.3183 | 169995.4829 | 864.28 |
| G181 | 452793.1330 | 169989.7795 | 864.24 |
| G182 | 452788.3890 | 169984.6514 | 864.34 |
| G183 | 452779.3117 | 169977.3993 | 864.53 |
| G184 | 452779.5735 | 169973.9091 | 864.65 |
| G185 | 452798.4810 | 169965.2269 | 864.56 |
| G186 | 452801.3156 | 169967.0443 | 864.53 |
| G187 | 452801.3175 | 169987.4516 | 864.33 |
| G188 | 452801.3183 | 169995.4826 | 864.36 |
| G190 | 452883.3164 | 169970.1555 | 863.85 |
| G191 | 452884.8438 | 169956.1411 | 863.99 |
| G192 | 452887.7403 | 169946.5798 | 864.11 |

| GUTTER PROFILE POINTS | | | |
|-----------------------|-------------|-------------|-----------|
| POINT NO. | X | Y | ELEVATION |
| G193 | 452892.0677 | 169937.5752 | 864.22 |
| G194 | 452897.7239 | 169929.3402 | 864.30 |
| G195 | 452904.5753 | 169922.0692 | 864.34 |
| G196 | 452912.4600 | 169915.9340 | 864.37 |
| G197 | 452921.1918 | 169911.0796 | 864.39 |
| G198 | 452930.2795 | 169906.9066 | 864.37 |

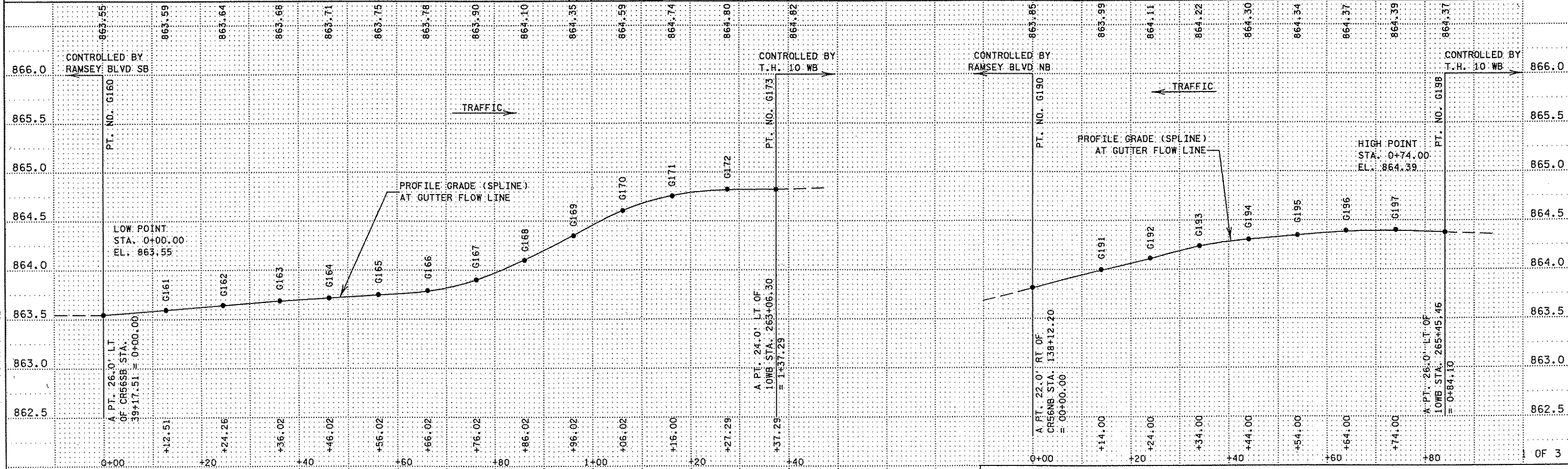
| RADIUS POINTS | | | |
|---------------|-------------|-------------|--------|
| POINT NO. | X | Y | RADIUS |
| R510 | 452745.3214 | 170029.2516 | 62' |
| R511 | 452741.2216 | 170044.3389 | 48' |
| R512 | 452948.3164 | 169970.1495 | 65' |

GENERAL NOTES:

- GUTTERLINE PROFILE ELEVATIONS DO NOT REFLECT DRAINAGE STRUCTURE SUMP.
- ALL PED RAMPS ARE PER STANDARD PLATE 7036.
- ALL CURB AND GUTTER IS DESIGN B424 (GUTTER IN) UNLESS NOTED OTHERWISE.

NOTES:

- ① 10.0' TRANSITION TO 0" CURB HEIGHT. (PAID AS B424 C&G.)
- ② CORNER ISLAND NOSE DESIGN AND MEDIAN ISLAND NOSE DESIGN PER STANDARD PLATE 7113.
- ③ CORNER WALK AREA SHALL HAVE 2.0% CROSS SLOPE DRAINING TOWARD THE CURB.

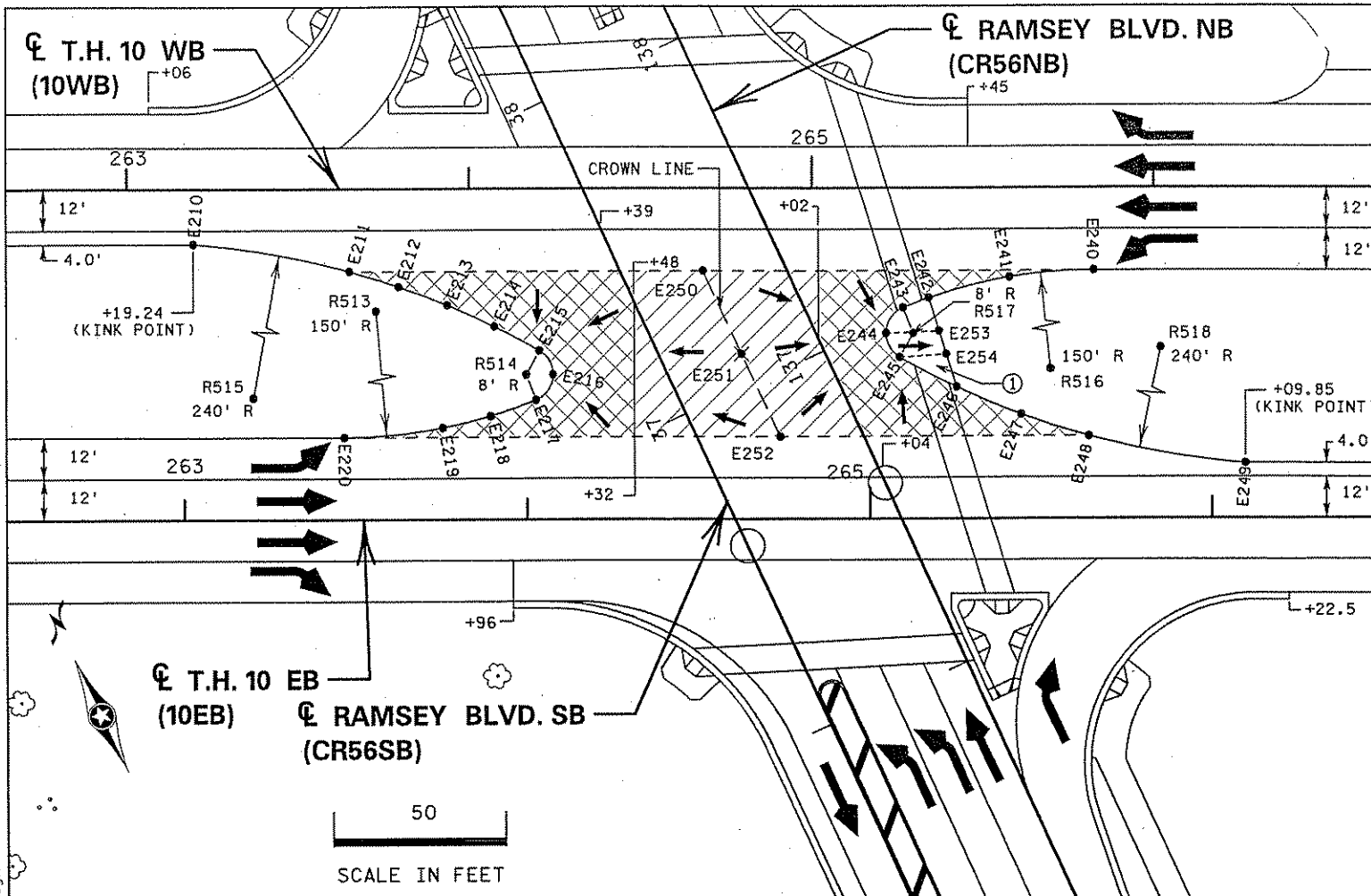


INTERSECTION DETAILS

DISTRICT #: METRO
 IPLOT NAME: 020281_Inv
 PATH & FILENAME: S:\DESIGN\010\0202-81\T.H.10\Sheets\Intersection\020281_Inv.dgn

PLOTTED/REVISED: 29-NOV-2005 10:21

DISTRICT: METRO
 IPLOT NAME: 020281_inb
 PATH & FILENAME: S:\DESIGN\010\0202-81\T.H.10\Steel\Inter section\020281_inb.dgn



| EDGE OF PVMT. PROFILE POINTS | | | |
|------------------------------|-------------|-------------|-----------|
| POINT NO. | X | Y | ELEVATION |
| E210 | 452707.1652 | 169963.1430 | 865.06 |
| E211 | 452745.3437 | 169936.8086 | 864.75 |
| E212 | 452756.5262 | 169926.7623 | 864.59 |
| E213 | 452767.0550 | 169916.0386 | 864.38 |
| E214 | 452776.8910 | 169904.6782 | 864.11 |
| E215 | 452786.0001 | 169892.7200 | 863.80 |
| E216 | 452786.7581 | 169884.7366 | 863.87 |
| E217 | 452779.1010 | 169880.0833 | 864.15 |
| E218 | 452764.9211 | 169881.4345 | 864.34 |
| E219 | 452750.9453 | 169884.1295 | 864.48 |
| E220 | 452723.7717 | 169893.5837 | 864.57 |
| E240 | 452942.7878 | 169846.1433 | 864.46 |
| E241 | 452919.7157 | 169854.5275 | 864.44 |
| E242 | 452895.5846 | 169859.0363 | 864.28 |
| E243 | 452887.5174 | 169859.6491 | 864.20 |
| E244 | 452879.8566 | 169854.9971 | 863.98 |
| E245 | 452880.6145 | 169847.0121 | 863.98 |
| E246 | 452892.1403 | 169832.1297 | 864.24 |
| E247 | 452906.0805 | 169816.8999 | 864.44 |
| E248 | 452921.2770 | 169802.9257 | 864.58 |
| E249 | 452959.4352 | 169776.6079 | 864.72 |
| E250 | 452839.3089 | 169893.6602 | 864.60 |
| E251 | 452839.3064 | 169867.1076 | 864.62 |
| E252 | 452839.3040 | 169840.5526 | 864.64 |
| E253 | 452894.3149 | 169849.1172 | 863.75 |
| E254 | 452893.4100 | 169842.0487 | 863.75 |

| RADIUS POINTS | | | |
|---------------|-------------|-------------|--------|
| POINT NO. | X | Y | RADIUS |
| R513 | 452786.3477 | 170029.9082 | 150' |
| R514 | 452779.4874 | 169888.0740 | 8' |
| R515 | 452590.6204 | 169753.3400 | 240' |
| R516 | 452880.1925 | 169709.8281 | 150' |
| R517 | 452887.1268 | 169851.6587 | 8' |
| R518 | 453075.9813 | 169986.4102 | 240' |

LEGEND

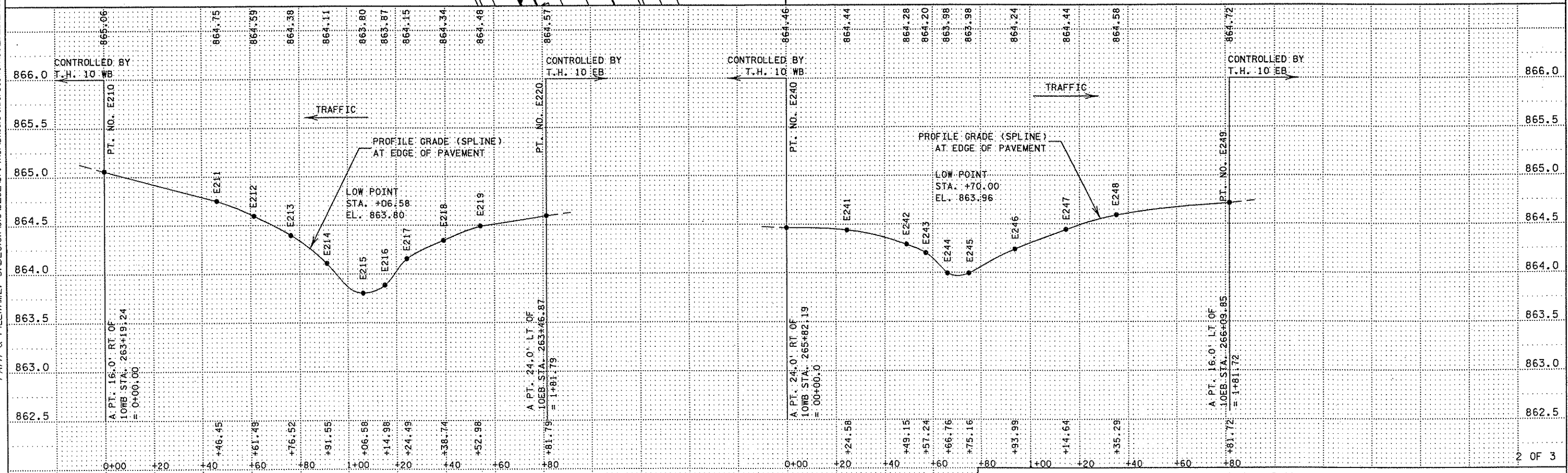
- PAVEMENT WARPING AREA (FULL RECONSTRUCTION).
- PAVEMENT WARPING AREA (VAR. DEPTH MILL & OVERLAY) ADJUST MILLING AND OVERLAY DEPTHS AS NEEDED TO ACHIEVE THE SURFACE DRAINAGE FLOW PATTERN SPECIFIED. VAR. DEPTH MILLING SHALL BE PAID AS EQUIVALENT AREA OF 1.5" MILLING.
- SURFACE DRAINAGE FLOW DIRECTION.

GENERAL NOTES:

- ALL PED RAMPS ARE PER STANDARD PLATE 7036.
- ALL CURB AND GUTTER IS DESIGN 8424 (GUTTER IN) UNLESS NOTED OTHERWISE.

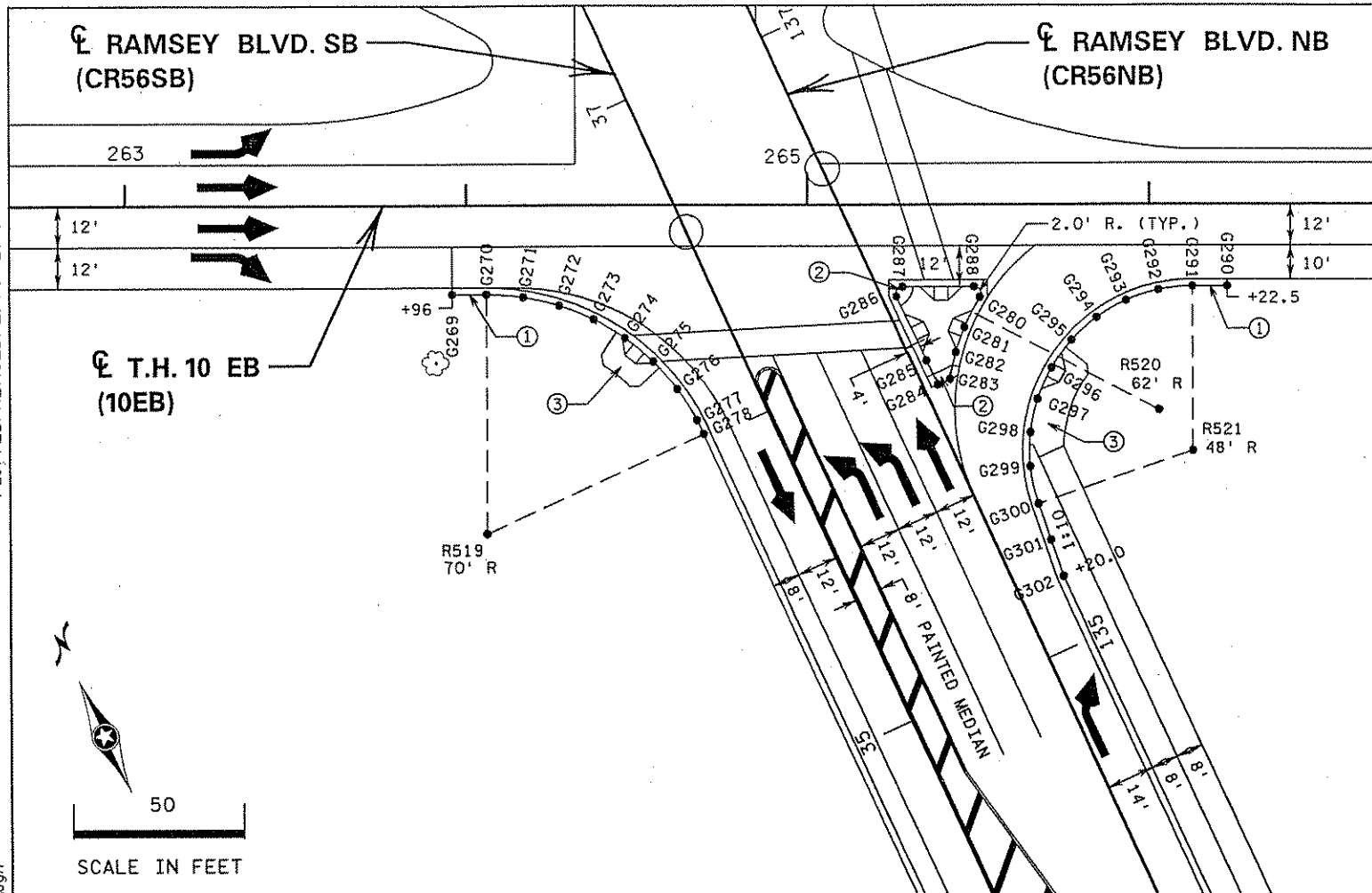
NOTES:

- ① 4" CONCRETE WALK (SPEC. 2521).



PLOTTED/REVISED: 29-NOV-2005 10:21

DISTRICT #: METRO
 PLOT NAME: d020281.dwg
 PATH & FILENAME: S:\DESIGN\010\0202-81\Final\Sheet\Inter section\020281_1.dwg

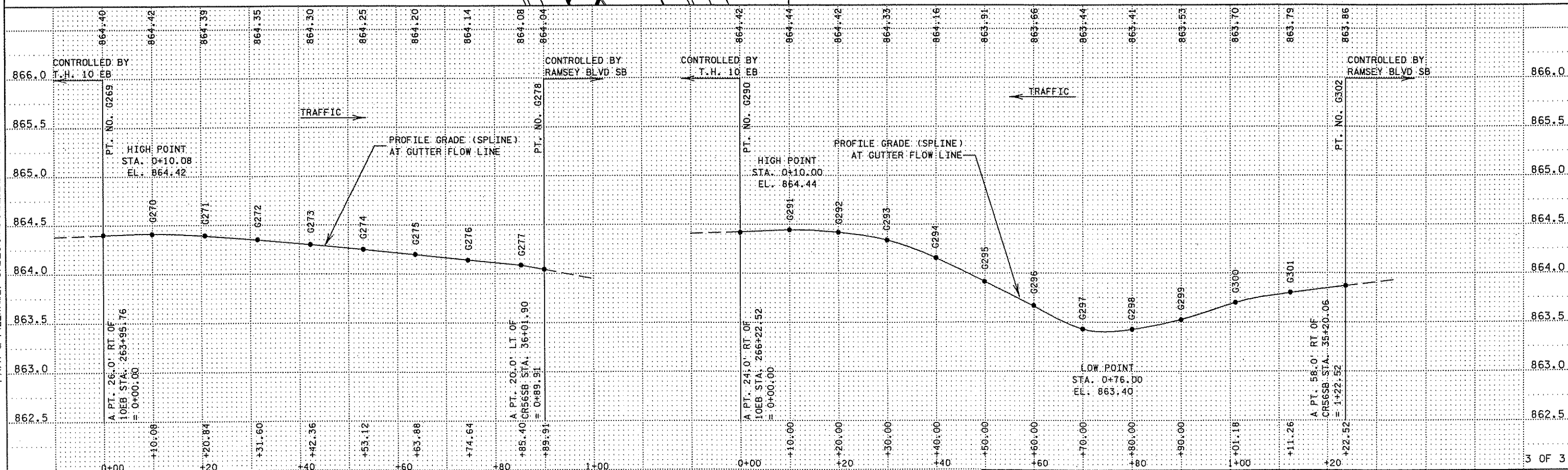


| GUTTER PROFILE POINTS | | | |
|-----------------------|-------------|-------------|-----------|
| POINT NO. | X | Y | ELEVATION |
| G269 | 452747.3463 | 169827.7468 | 864.40 |
| G270 | 452756.4346 | 169823.5752 | 864.42 |
| G271 | 452765.8398 | 169818.3480 | 864.39 |
| G272 | 452774.3328 | 169811.7412 | 864.35 |
| G273 | 452781.7128 | 169803.9108 | 864.30 |
| G274 | 452787.8056 | 169795.0418 | 864.25 |
| G275 | 452792.4671 | 169785.3438 | 864.20 |
| G276 | 452795.5873 | 169775.0460 | 864.14 |
| G277 | 452797.0922 | 169764.3916 | 864.08 |
| G278 | 452797.2328 | 169759.8704 | 864.04 |
| G280 | 452887.1739 | 169762.3946 | 864.38 |
| G281 | 452879.3406 | 169756.3093 | 864.12 |
| G282 | 452873.9383 | 169750.7095 | 863.92 |
| G283 | 452869.2125 | 169744.3739 | 863.96 |
| G284 | 452865.2125 | 169744.3789 | 864.04 |
| G285 | 452865.2223 | 169752.1080 | 864.01 |
| G286 | 452865.2483 | 169772.7124 | 864.40 |
| G287 | 452868.0826 | 169774.5275 | 864.57 |
| G288 | 452886.9115 | 169765.8848 | 864.50 |
| G290 | 452954.2667 | 169734.9677 | 864.42 |
| G291 | 452945.1784 | 169739.1394 | 864.44 |
| G292 | 452935.7227 | 169742.3376 | 864.42 |
| G293 | 452925.8100 | 169743.5111 | 864.33 |

| GUTTER PROFILE POINTS | | | |
|-----------------------|-------------|-------------|-----------|
| POINT NO. | X | Y | ELEVATION |
| G294 | 452915.8690 | 169742.6089 | 864.16 |
| G295 | 452906.3295 | 169739.6701 | 863.91 |
| G296 | 452897.6041 | 169734.8218 | 863.66 |
| G297 | 452890.0701 | 169728.2737 | 863.44 |
| G298 | 452884.0534 | 169720.3089 | 863.41 |
| G299 | 452879.8141 | 169711.2719 | 863.53 |
| G300 | 452877.3986 | 169700.3519 | 863.70 |
| G301 | 452876.2637 | 169689.1456 | 863.79 |
| G302 | 452875.1288 | 169677.9393 | 863.86 |

| RADIUS POINTS | | | |
|---------------|-------------|-------------|--------|
| POINT NO. | X | Y | RADIUS |
| R519 | 452727.2328 | 169759.9571 | 70' |
| R520 | 452921.1718 | 169710.5474 | 62' |
| R521 | 452925.1543 | 169695.5155 | 48' |

- GENERAL NOTES:**
- GUTTERLINE PROFILE ELEVATIONS DO NOT REFLECT DRAINAGE STRUCTURE SUMP.
 - ALL PED RAMPS ARE PER STANDARD PLATE 7036.
 - ALL CURB AND GUTTER IS DESIGN B424 (GUTTER IN) UNLESS NOTED OTHERWISE.
- NOTES:**
- ① 10.0' TRANSITION TO 0" CURB HEIGHT. (PAID AS B424 C&G.)
 - ② CORNER ISLAND NOSE DESIGN PER STANDARD PLATE 7113.
 - ③ CORNER WALK AREA SHALL HAVE 2.0% CROSS SLOPE DRAINING TOWARD THE CURB.

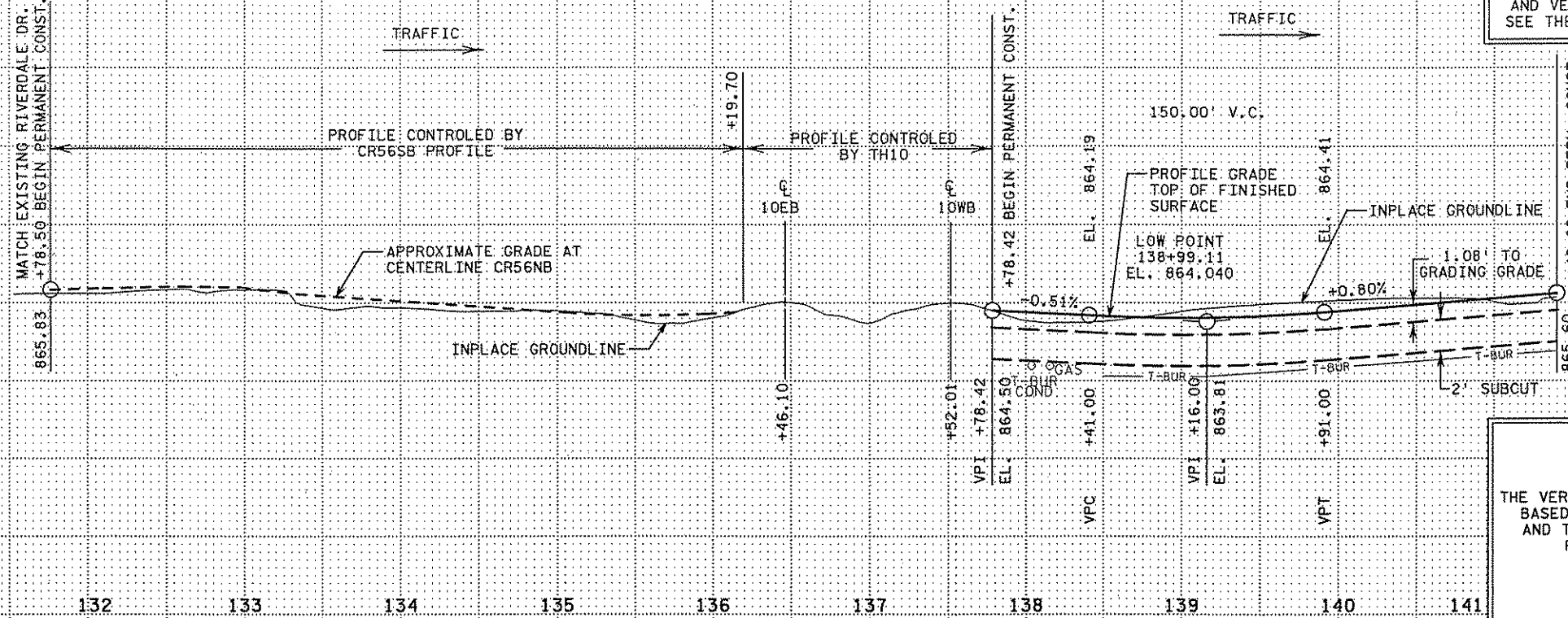


PLOTTED/REVISED: 29-NOV-2005 10:26

DISTRICT: METRO
IPLOT NAME: 020281.plt
PATH & FILENAME: S:\DESIGN\010\020281\Final\020281_pr1.dgn

CR56NB

CAUTION:
THE CONSTRUCTION PLANS FOR RAMSEY BOULEVARD TO THE NORTH OF S.P. 0202-81 USE DIFFERENT HORIZONTAL AND VERTICAL DATUMS FROM THOSE USED IN THIS PLAN. SEE THE ALIGNMENT PLAN FOR ADDITIONAL INFORMATION.



VERTICAL CONTROL

THE VERTICAL CONTROL FOR THIS PLAN IS ENGLISH AND IS BASED ON MEAN SEA LEVEL, NAVD 88 DATUM ADJUSTED, AND TIED TO THE U.S. LEVEL NETWORK THROUGH THE FOLLOWING VERTICAL CONTROL BENCH MARKS:

1. STAMPING: E 257 1970 (1994)
ELEVATION: 863.745
2. STAMPING: F 257 1970 (1995)
ELEVATION: 874.92
3. STAMPING: G 257 1970 (2001)
ELEVATION: 873.318

CR56SB

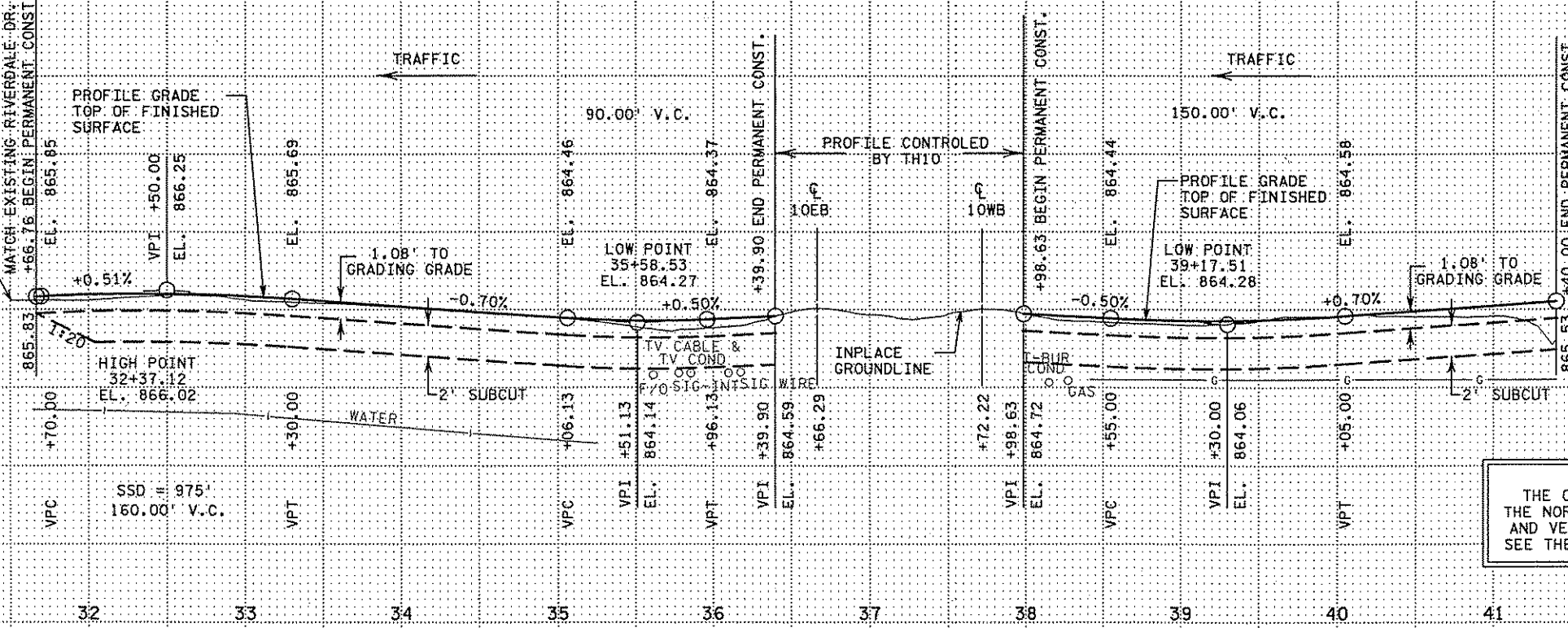
Match existing Riverdale Dr. +66.76 BEGIN PERMANENT CONST. EL. 865.85

Profile grade top of finished surface

Profile controlled by TH10

Profile grade top of finished surface

Match City of Ramsey Project No. 05-20 (Anoka Co. Proj. No. 04-15-56) +40.00 END PERM. CONST. EL. 865.53

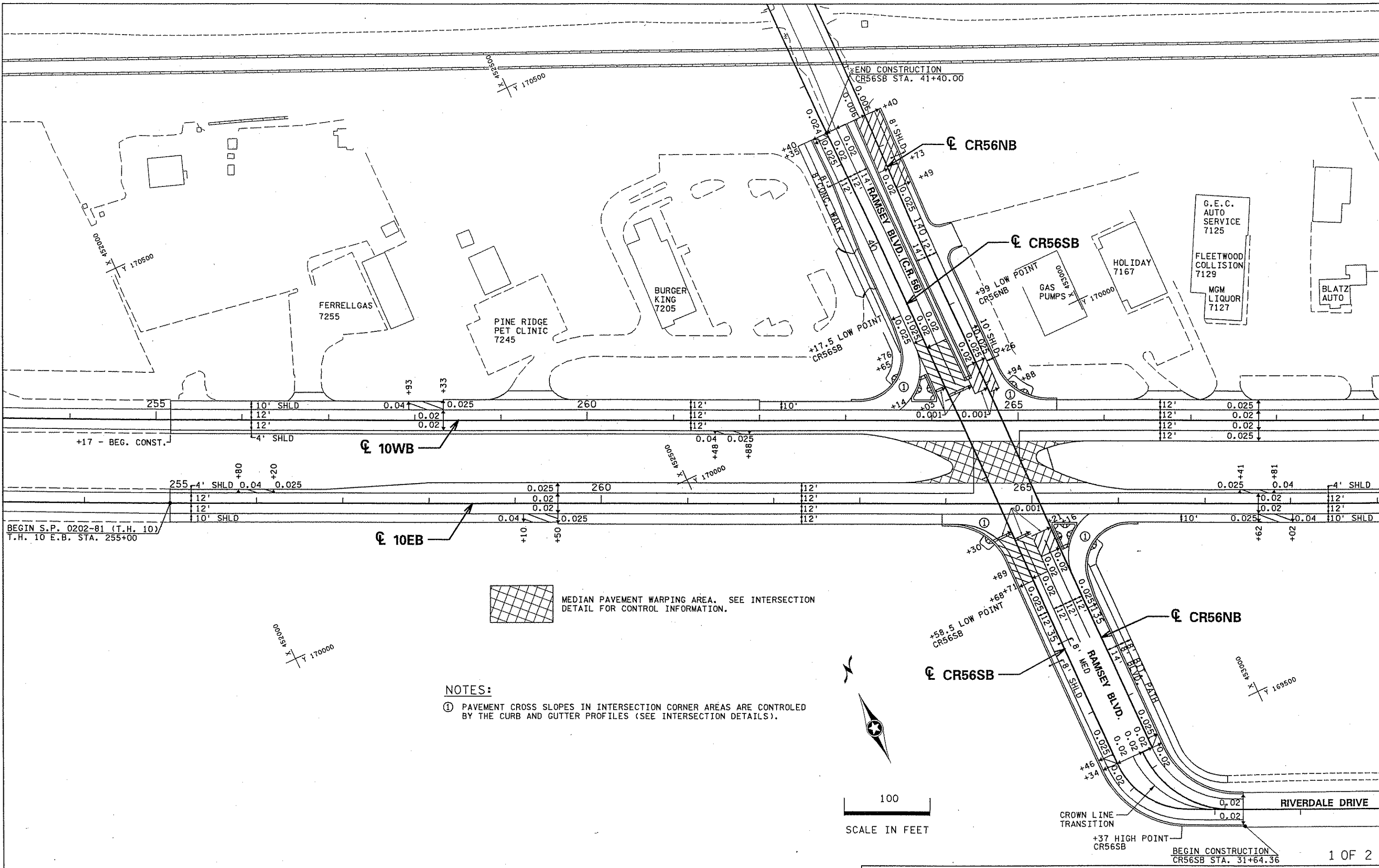


CAUTION:
THE CONSTRUCTION PLANS FOR RAMSEY BOULEVARD TO THE NORTH OF S.P. 0202-81 USE DIFFERENT HORIZONTAL AND VERTICAL DATUMS FROM THOSE USED IN THIS PLAN. SEE THE ALIGNMENT PLAN FOR ADDITIONAL INFORMATION.

PROFILES (CR56NB & CR56SB)


PLOTTED/REVISED: 29-NOV-2005 10:22

DISTRICT #: METRO
IPLOT NAME: D020281_selA
PATH & FILENAME: S:\DESIGN\010\0202-81\Final\Sheets\Super\020281_selA.dgn



NOTES:

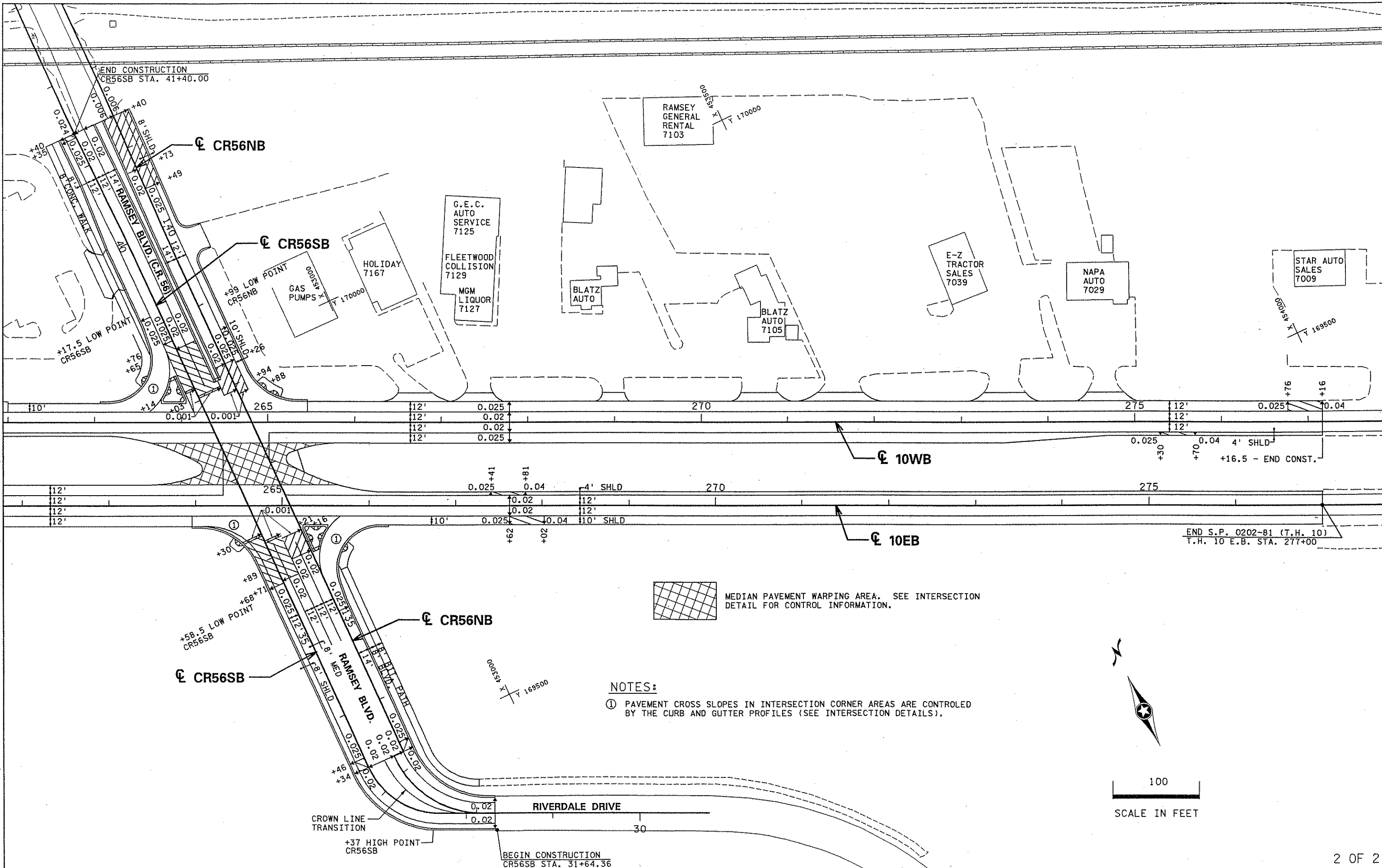
- ① PAVEMENT CROSS SLOPES IN INTERSECTION CORNER AREAS ARE CONTROLLED BY THE CURB AND GUTTER PROFILES (SEE INTERSECTION DETAILS).

 MEDIAN PAVEMENT WARPING AREA. SEE INTERSECTION DETAIL FOR CONTROL INFORMATION.

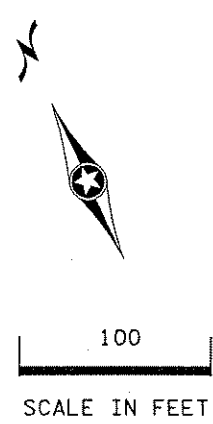
SUPERELEVATION PLANS

PLOTTED/REVISED: 29-NOV-2005 10:22

DISTRICT: METRO
PLOT NAME: D020281_selB
PATH & FILENAME: S:\DESIGN\010\0202-81\Final\Sheets\Super\020281_selB.dgn



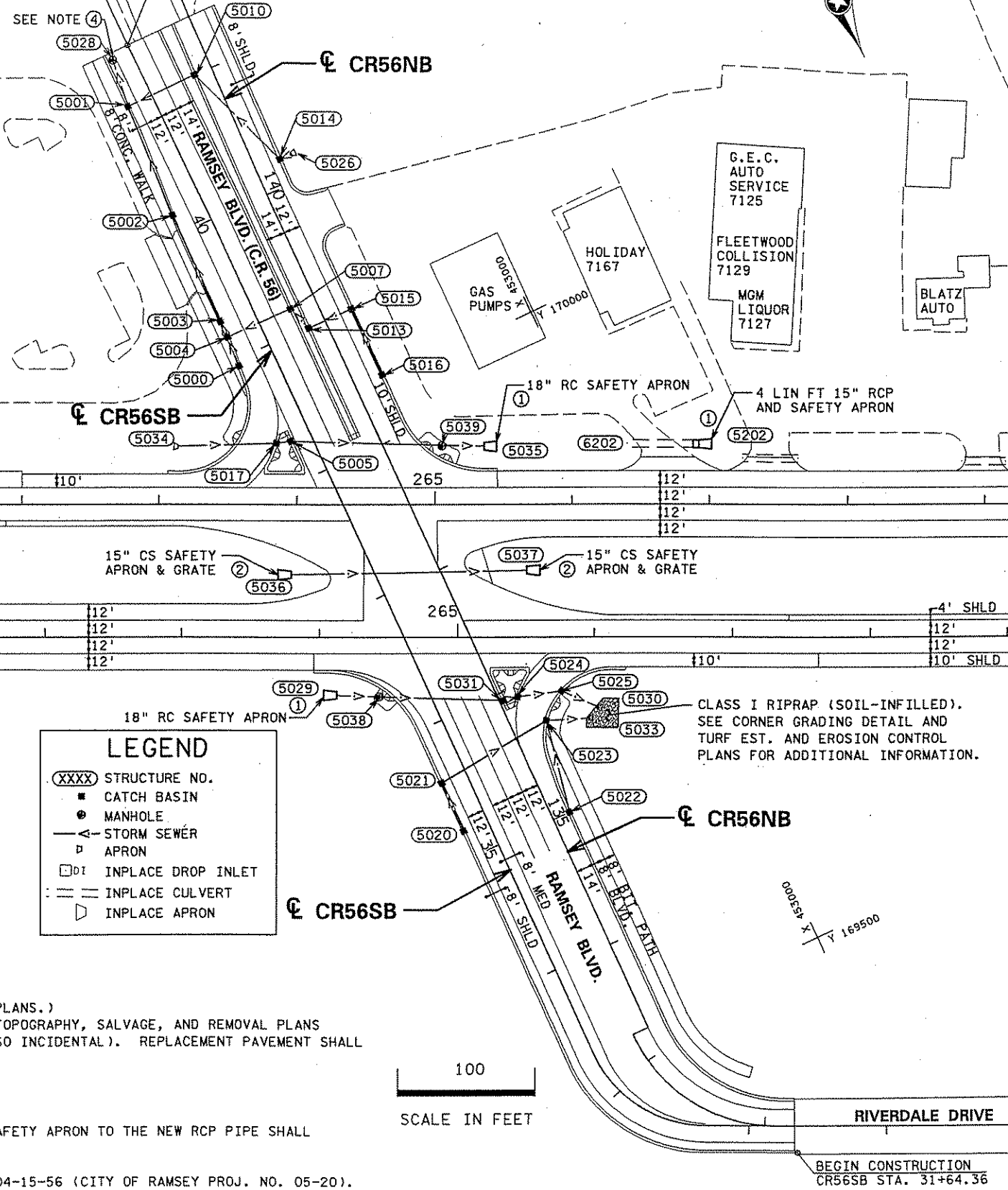
NOTES:
 ① PAVEMENT CROSS SLOPES IN INTERSECTION CORNER AREAS ARE CONTROLLED BY THE CURB AND GUTTER PROFILES (SEE INTERSECTION DETAILS).



SUPERELEVATION PLANS

CAUTION:
 THE CONSTRUCTION PLANS FOR RAMSEY BOULEVARD TO THE NORTH OF S.P. 0202-81
 USE DIFFERENT HORIZONTAL AND VERTICAL DATUMS FROM THOSE USED IN THIS PLAN.
 SEE THE ALIGNMENT PLAN FOR ADDITIONAL INFORMATION.

| DRIVEWAY CULVERT APRON REPLACEMENTS | | | | | | | | | |
|--|------------------------------------|------------------|----------|----------------------|----------------------|--|---------------|-----------|---------------------------------|
| REMAINING INPLACE CULVERT END NO. | REPLACEMENT SAFETY APRON NO. | APRON LOCATION ③ | | 15" CSP LIN FT | 18" CSP LIN FT | REPLACEMENT SAFETY APRON DESIGN TYPE | COORDINATES ③ | | NEW INVERT ELEVATION ③ |
| | | LOWB STATION | OFFSET | | | | X | Y | |
| 6200 | 5200 | 257+08.2 | 45.8' LT | 10.5 | | DETAIL B ON SHEET 17 | 452177.64 | 170274.25 | 861.13 |
| 6201 | 5201 | 259+72.6 | 41.2' LT | | 8.0 | STD. PLT. NO. 3128 | 452415.98 | 170159.78 | 861.70 |



LEGEND

- (XXXX) STRUCTURE NO.
- CATCH BASIN
- MANHOLE
- STORM SEWER
- ▴ APRON
- INPLACE DROP INLET
- ▬ INPLACE CULVERT
- ▭ INPLACE APRON

GENERAL NOTES:

- SEE TURF ESTABLISHMENT AND EROSION CONTROL PLANS FOR DRAINAGE FLOW PATTERNS.
- SOIL LOOSENING IS REQUIRED IN ALL DISTURBED DITCH BOTTOM AREAS (SEE TURF ESTABLISHMENT AND EROSION CONTROL PLANS.)
- ALL PAVEMENT REMOVAL REQUIRED FOR CULVERT REPLACEMENT THAT IS BEYOND THE LIMITS IDENTIFIED IN THE EXISTING TOPOGRAPHY, SALVAGE, AND REMOVAL PLANS SHALL BE INCIDENTAL TO THE PIPE INSTALLATION. FULL DEPTH SAWCUTS SHALL BE REQUIRED AT THE REMOVAL EDGES (ALSO INCIDENTAL). REPLACEMENT PAVEMENT SHALL BE AS DIRECTED BY THE ENGINEER (PAID PER ITEMS SPECIFIED).

NOTES:

- ① SAFETY APRON SHALL HAVE 1:6 SLOPE. (SAFETY GRATE NOT REQUIRED.)
- ② CSP SAFETY APRON SHALL HAVE A 1:10 SLOPE AND A SAFETY GRATE, PER DETAIL A ON SHEET 17. ATTACHMENT OF THE SAFETY APRON TO THE NEW RCP PIPE SHALL BE PER STD. PLATE 3128.
- ③ STATION, LOCATION, INVERT ELEVATION, AND COORDINATE DATA ARE AT THE TOE OF THE APRON.
- ④ CONSTRUCT STRUCTURE NO. 5028 OVER 24" STEEL DRAINAGE OUTLET PIPE TO BE PLACED UNDER ANOKA COUNTY PROJ. NO. 04-15-56 (CITY OF RAMSEY PROJ. NO. 05-20).

PLOTTED/REVISED: 29-NOV-2005 10:28

DISTRICT #: METRO
 I/PLOT NAME: D020281.dpl
 PATH & FILENAME: S:\DESIGN\010\0202-81\Final\Sheets\Drain\D020281.dpl\Adgn

DRAINAGE PLANS

DISTRICT #: METRO
 IPLOT NAME: D020281.dwg
 PATH & FILENAME: S:\DESIGN\010\020281\Final\Sheets\Drawn\020281.dwg

PLOTTED/REVISED: 29-NOV-2005 10:28

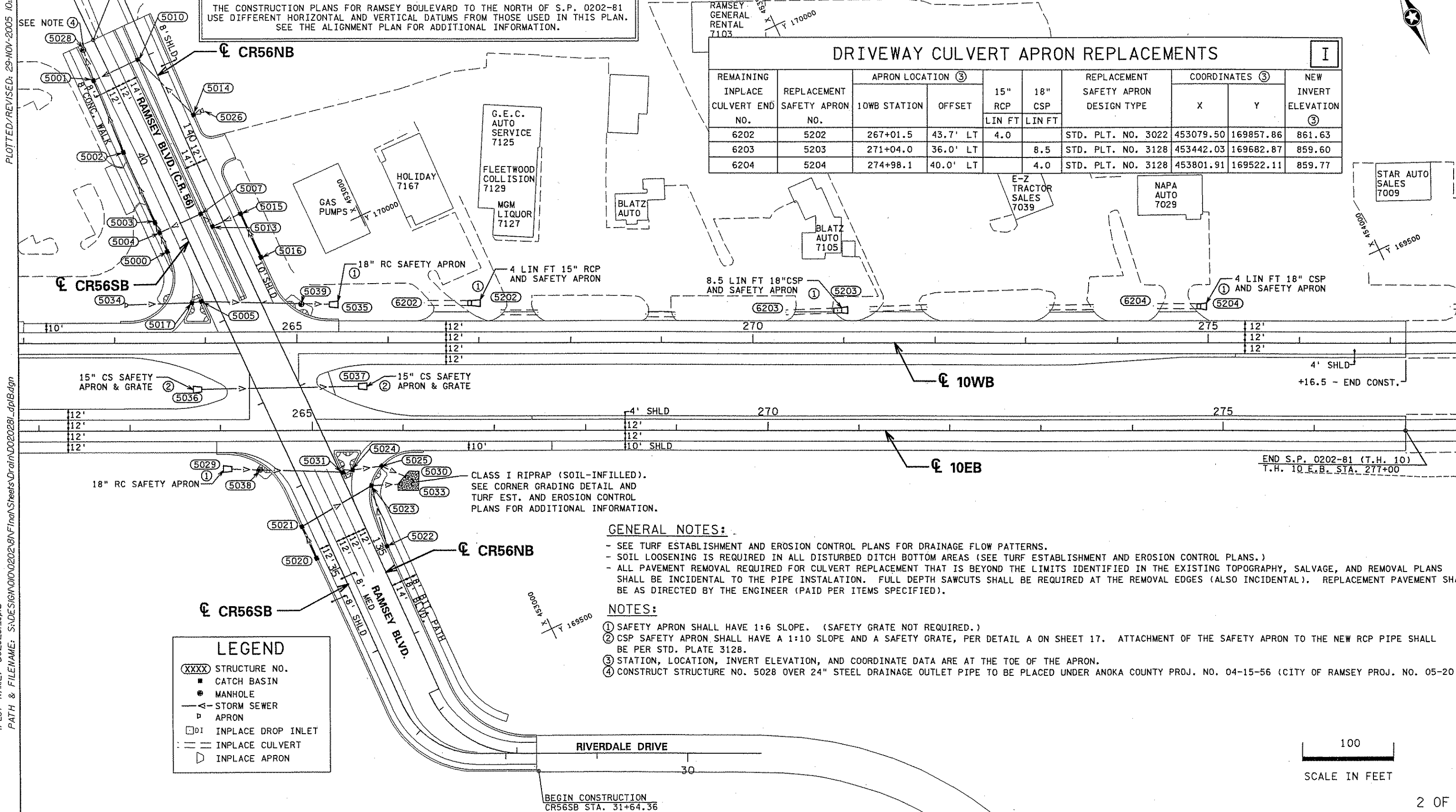
END CONSTRUCTION
CR56SB STA. 41+40.00

CAUTION:
 THE CONSTRUCTION PLANS FOR RAMSEY BOULEVARD TO THE NORTH OF S.P. 0202-81
 USE DIFFERENT HORIZONTAL AND VERTICAL DATUMS FROM THOSE USED IN THIS PLAN.
 SEE THE ALIGNMENT PLAN FOR ADDITIONAL INFORMATION.

RAMSEY
GENERAL
RENTAL
7103

DRIVEWAY CULVERT APRON REPLACEMENTS

| REMAINING INPLACE CULVERT END NO. | REPLACEMENT SAFETY APRON NO. | APRON LOCATION ③ | | 15" RCP LIN FT | 18" CSP LIN FT | REPLACEMENT SAFETY APRON DESIGN TYPE | COORDINATES ③ | | NEW INVERT ELEVATION ③ |
|--|------------------------------------|------------------|----------|----------------------|----------------------|--|---------------|-----------|---------------------------------|
| | | 10WB STATION | OFFSET | | | | X | Y | |
| 6202 | 5202 | 267+01.5 | 43.7' LT | 4.0 | | STD. PLT. NO. 3022 | 453079.50 | 169857.86 | 861.63 |
| 6203 | 5203 | 271+04.0 | 36.0' LT | | 8.5 | STD. PLT. NO. 3128 | 453442.03 | 169682.87 | 859.60 |
| 6204 | 5204 | 274+98.1 | 40.0' LT | | 4.0 | STD. PLT. NO. 3128 | 453801.91 | 169522.11 | 859.77 |



LEGEND

| | |
|------|--------------------|
| XXXX | STRUCTURE NO. |
| ■ | CATCH BASIN |
| ● | MANHOLE |
| —▲— | STORM SEWER |
| ▭ | APRON |
| □DI | INPLACE DROP INLET |
| == | INPLACE CULVERT |
| ▷ | INPLACE APRON |

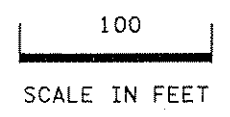
CLASS I RIPRAP (SOIL-FILLED).
 SEE CORNER GRADING DETAIL AND
 TURF EST. AND EROSION CONTROL
 PLANS FOR ADDITIONAL INFORMATION.

GENERAL NOTES:

- SEE TURF ESTABLISHMENT AND EROSION CONTROL PLANS FOR DRAINAGE FLOW PATTERNS.
- SOIL LOOSENING IS REQUIRED IN ALL DISTURBED DITCH BOTTOM AREAS (SEE TURF ESTABLISHMENT AND EROSION CONTROL PLANS.)
- ALL PAVEMENT REMOVAL REQUIRED FOR CULVERT REPLACEMENT THAT IS BEYOND THE LIMITS IDENTIFIED IN THE EXISTING TOPOGRAPHY, SALVAGE, AND REMOVAL PLANS SHALL BE INCIDENTAL TO THE PIPE INSTALLATION. FULL DEPTH SAWCUTS SHALL BE REQUIRED AT THE REMOVAL EDGES (ALSO INCIDENTAL). REPLACEMENT PAVEMENT SHALL BE AS DIRECTED BY THE ENGINEER (PAID PER ITEMS SPECIFIED).

NOTES:

- ① SAFETY APRON SHALL HAVE 1:6 SLOPE. (SAFETY GRATE NOT REQUIRED.)
- ② CSP SAFETY APRON SHALL HAVE A 1:10 SLOPE AND A SAFETY GRATE, PER DETAIL A ON SHEET 17. ATTACHMENT OF THE SAFETY APRON TO THE NEW RCP PIPE SHALL BE PER STD. PLATE 3128.
- ③ STATION, LOCATION, INVERT ELEVATION, AND COORDINATE DATA ARE AT THE TOE OF THE APRON.
- ④ CONSTRUCT STRUCTURE NO. 5028 OVER 24" STEEL DRAINAGE OUTLET PIPE TO BE PLACED UNDER ANOKA COUNTY PROJ. NO. 04-15-56 (CITY OF RAMSEY PROJ. NO. 05-20).



DRAINAGE PLANS

DRAINAGE TABULATION (THIS SHEET ONLY)

| STRUCTURE NO. | | STRUCTURE LOCATION | | | DRAINAGE STRUCTURES | | | | | | | FLOWS TO ELEV. ① | 15" RCP CL II LIN FT | 15" RCP CL III LIN FT | 18" RCP CL II LIN FT | 22" SPAN RC Pipe Arch CL II - A LIN FT | APRON EACH | APRON TYPE | RANDOM RIPRAP CLASS I CU YD | GUIDE POSTS TYPE B EACH | REMARKS | |
|---------------|------|--------------------|-----------|--------|---------------------|----------------------|---------------|----------------|-----------------------|----------------------|--------------|------------------|----------------------|-----------------------|----------------------|--|-----------------------|------------|-----------------------------|-------------------------|----------|--|
| FROM | TO | ALIGN. | STATION | OFFSET | TYPE | DESIGN / PAY HEIGHTS | | | CASTING ASSEMBLY TYPE | TOP OF CASTING ELEV. | OUTLET ELEV. | | | | | | | | | | | |
| | | | | | | C G OR H LIN FT | C OR G LIN FT | 48-4020 LIN FT | | | | | | | | | | | | | | |
| 5022 | 5023 | CR56NB | 134+99.94 | 13.0' | RT | CB | C G OR H | 3.2 | | B - 9 ⑨ | 863.96 | 860.70 | 860.37 | 69 | | | | | | | | |
| 5020 | 5021 | CR56SB | 35+20.00 | 19.0' | LT | CB | C G OR H | 2.9 | | B - 9 ⑨ | 863.76 | 860.76 | 860.67 | | 38 | | | | | | | |
| 5021 | 5023 | CR56SB | 35+58.53 | 19.0' | LT | CB | C OR G | | 2.9 | B - 6 ⑧ | 863.66 | 860.66 | 860.37 | | 90 | | | | | | | |
| 5023 | | CR56NB | 135+67.75 | 25.3' | RT | | | | | B - 6 ⑧ | 863.36 | | | | | | | | | | | |
| 15023 | 5033 | CR56NB | 135+67.64 | 26.1' | RT | CB | 48-4020 | | 2.9 | | | 860.35 | 860.20 | 27 | | | | | | | | |
| 5033 | | 10EB | 265+99.00 | 59.0' | RT | APR | | | | | | 860.20 | | | | 1 | 15" RC APRON ③ | 7.5 | 1 | ② | | |
| 5029 | 5038 | 10EB | 264+03.00 | 42.0' | RT | APR | | | | | | 862.00 | 861.87 | | | 1 | 18" RC SAFETY APRON ④ | | 1 | | | |
| 5038 | 5031 | 10EB | 264+43.00 | 43.2' | RT | MH | C OR G | | 2.9 | A - 7D ⑩ | 864.67 | 861.85 | 861.55 | | | | | | | | | |
| 5031 | | 10EB | 265+33.50 | 46.0' | RT | | | | | B - 6 ⑧ | 863.97 | | | | | | | | | | | |
| 15031 | 5024 | 10EB | 265+34.23 | 45.7' | RT | CB | 48-4020 | | 2.4 | | | 861.54 | 860.83 | | | | | | | | | |
| 5024 | | 10EB | 265+44.00 | 43.5' | RT | | | | | B - 6 ⑧ | 863.88 | | | | | | | | | | | |
| 15024 | 5025 | 10EB | 265+43.22 | 43.4' | RT | CB | 48-4020 | | 3.0 | | | 860.81 | 860.59 | | | | | | | | | |
| 5025 | | 10EB | 265+76.00 | 39.3' | RT | | | | | B - 9 ⑨ | 863.87 | | | | | | | | | | | |
| 15025 | 5030 | 10EB | 265+76.59 | 39.8' | RT | CB | 48-4020 | | 3.2 | | | 860.55 | 860.20 | | | | | | | | | |
| 5030 | | 10EB | 266+05.50 | 52.0' | RT | APR | | | | | | 860.20 | | | | 1 | 22" RCP-A APRON ⑤ | 7.5 | 1 | ② | | |
| 5036 | 5037 | 10EB | 263+70.00 | 45.3' | LT | APR | | | | | | 861.00 | 860.50 | | | 1 | 15" CS SAFETY APRON ⑥ | | 1 | | | |
| 5037 | | 10EB | 265+60.00 | 48.4' | LT | APR | | | | | | 860.50 | | | | 1 | 15" CS SAFETY APRON ⑥ | | 1 | | | |
| TOTALS | | | | | | | | | 6.1 | 5.8 | 11.5 | | | 96 | 302 | 30 | 161 | 5 | | 15.0 | 5 | |

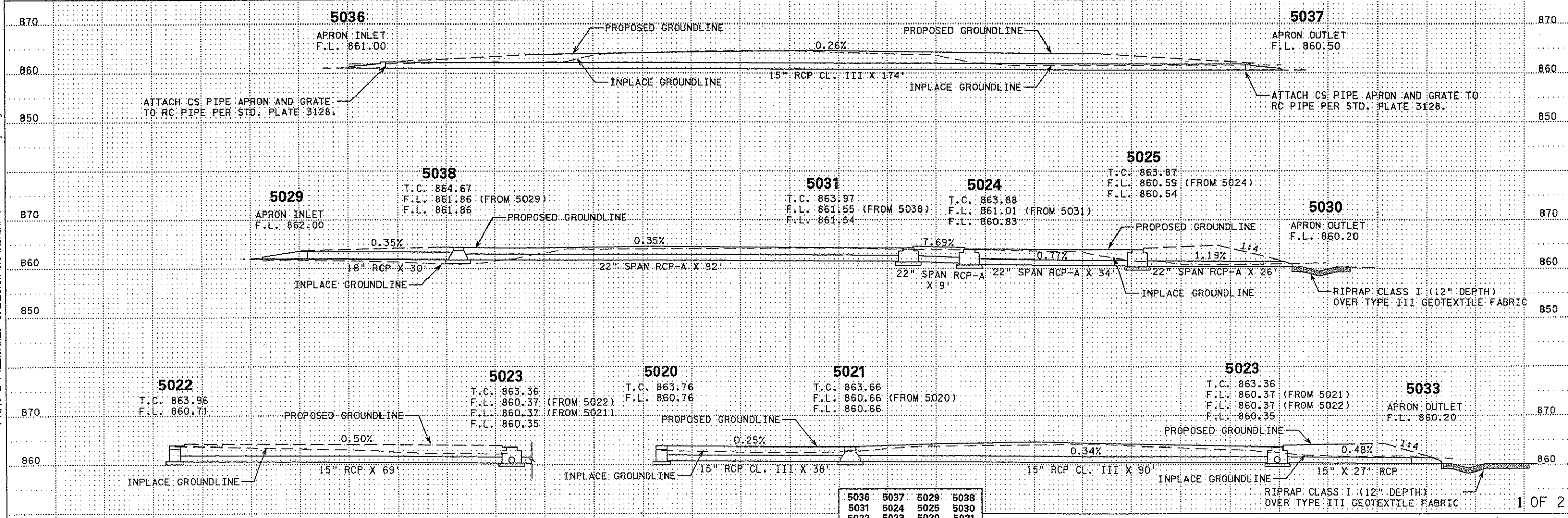
GENERAL NOTES: (FOR BOTH DRAINAGE TAB SHEETS)

- ALL CONES SHALL BE TYPE A.
- ALL CONCRETE PIPE SEWER IS DESIGN 3006 GASKET JOINT PIPE.
- ALL PIPE CULVERT AND PIPE SEWER SHALL BE OF THE TYPE SPECIFIED. PLASTIC PIPE SHALL NOT BE ALLOWED.
- STRUCTURE LOCATION INFORMATION IS GIVEN TO THE CENTER OF STRUCTURE.
- CASTING LOCATION INFORMATION (FOR 4020 STRUCTURES) IS GIVEN TO THE CENTER OF THE CASTING.
- ALL CONCRETE PIPE JOINTS SHALL BE TIED PER STD. PLATE 3145.

NOTES: (FOR BOTH DRAINAGE TAB SHEETS)

- ① DOWNSTREAM INLET ELEVATION AT EDGE OF STRUCTURE OR TOE OF APRON.
- ② 22.5 SQ YDS GEOTEXTILE FILTER MATERIAL TYPE III SHALL BE REQUIRED UNDER PERMANENT RIPRAP. GRANULAR FILTER MATERIAL SHALL NOT BE ALLOWED.
- ③ STANDARD RC PIPE APRON PER STD. PLATE 3100.
- ④ RC SAFETY APRON (1:6 SLOPE) PER STD. PLATE 3022.
- ⑤ RC PIPE - ARCH APRON PER STD. PLATE 3110.
- ⑥ CS SAFETY APRON (1:10 SLOPE) AND GRATE PER DETAIL A, SHEET 17 AND STD. PLATE 3128.

- ⑦ STEPS REQUIRED (PER STD. PLATE 4180).
- ⑧ B - 6 CASTING ASSEMBLY CONSISTS OF AN 805 FRAME CASTING (STD. PLT. 4132) AND AN 811 GRATE CASTING (STD. PLT. 4151).
- ⑨ B - 9 CASTING ASSEMBLY CONSISTS OF AN 805 FRAME CASTING (STD. PLT. 4132) AND AN 816 GRATE CASTING (STD. PLT. 4154).
- ⑩ A - 7D CASTING ASSEMBLY CONSISTS OF A 700-7 RING CASTING (STD. PLT. 4101) AND A 715 COVER CASTING (STD. PLT. 4110).
- ⑪ A - 9D CASTING ASSEMBLY CONSISTS OF A 700-9 RING CASTING (STD. PLT. 4101) AND A 715 COVER CASTING (STD. PLT. 4110).
- ⑫ PAID AS PIPE CULVERT.



| | | | |
|------|------|------|------|
| 5036 | 5037 | 5029 | 5038 |
| 5031 | 5024 | 5025 | 5030 |
| 5022 | 5023 | 5020 | 5021 |
| | | | 5033 |

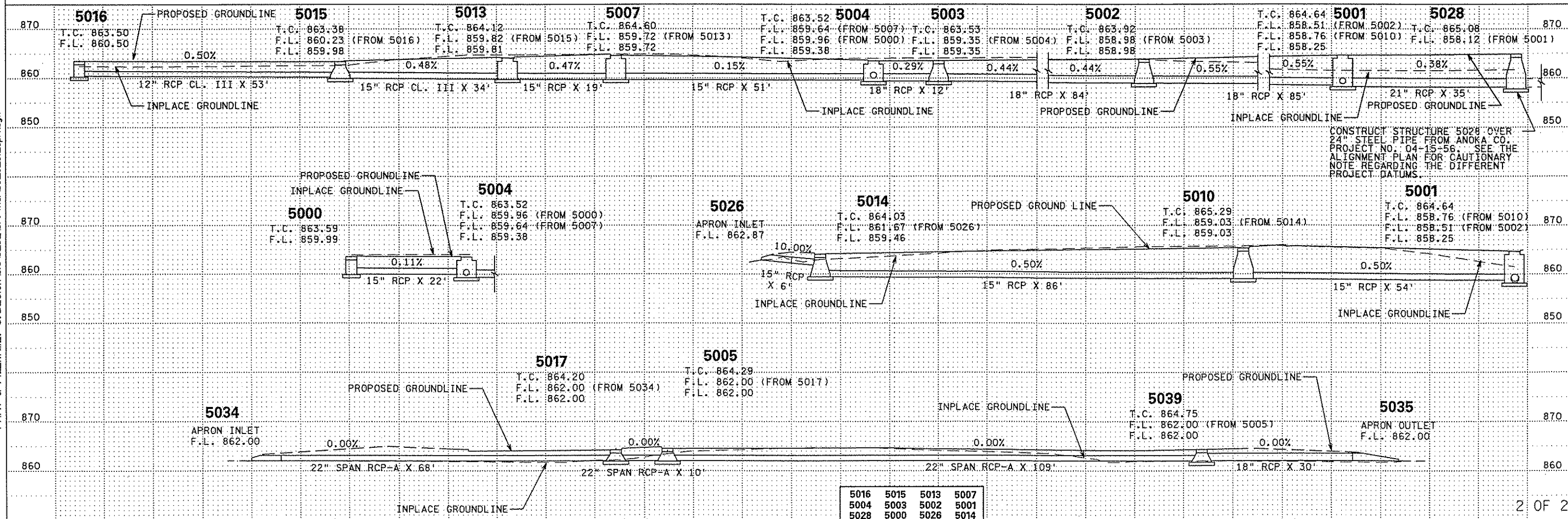
DRAINAGE PROFILES AND TABULATIONS

DRAINAGE TABULATION (THIS SHEET ONLY)

J

| STRUCTURE NO. | | STRUCTURE LOCATION | | | DRAINAGE STRUCTURES | | | | | | | FLOW TO ELEV. | 12" RCP CL III LIN FT | 15" RCP CL II LIN FT | 15" RCP CL III LIN FT | 18" RCP CL II LIN FT | 22" SPAN RC Pipe Arch CL II - A LIN FT | 21" RCP CL II LIN FT | APRON EACH | APRON TYPE | GUIDE POSTS TYPE B EACH | REMARKS |
|---------------|-------|--------------------|-----------|----------|---------------------|---------------------|---------------|----------------|---------------|-----------------------|----------------------|---------------|-----------------------|----------------------|-----------------------|----------------------|--|----------------------|-------------------------|------------|-------------------------|---------|
| FROM | TO | ALIGN. | STATION | OFFSET | TYPE | DESIGN / PAY HEIGHT | | | | CASTING ASSEMBLY TYPE | TOP OF CASTING ELEV. | | | | | | | | | | | |
| | | | | | | C G OR H LIN FT | C OR G LIN FT | 48-4020 LIN FT | A OR F LIN FT | | | | | | | | | | | | | |
| 5034 | 5017 | 10WB | 263+11.00 | 42.0' LT | APR | | | | | B - 6 (8) | 864.20 | 862.00 | 862.00 | | | 68 | | 1 | 22" RCP-A APRON (5) | 1 | | |
| 5017 | 5005 | CR56SB | 38+32.50 | 25.0' LT | CB | C OR G | 2.1 | | | B - 6 (8) | 864.29 | 862.00 | 862.00 | | | 10 | | | | | | |
| 5005 | 5039 | CR56SB | 38+29.50 | 15.0' LT | CB | C OR G | 2.2 | | | B - 6 (8) | 864.29 | 862.00 | 862.00 | | | 109 | | | | | | |
| 5039 | 5035 | 10WB | 265+05.00 | 42.5' LT | MH | C OR G | 2.9 | | | A - 7D (10) | 864.75 | 862.00 | 862.00 | | 30 | | | | | | | |
| 5035 | | 10WB | 265+45.00 | 42.0' LT | APR | | | | | | | 862.00 | | | | | | 1 | 18" RC SAFETY APRON (4) | 1 | | |
| 5016 | 5015 | CR56NB | 138+46.00 | 21.0' RT | CB | C G OR H | 2.9 | | | B - 9 (9) | 863.50 | 860.49 | 860.24 | 53 | | | | | | | | |
| 5015 | 5013 | CR56NB | 138+99.11 | 21.0' RT | CB | C OR G | | 3.3 | | B - 6 (8) | 863.38 | 859.97 | 859.82 | | 34 | | | | | | | |
| 5013 | | CR56NB | 138+99.11 | 13.0' LT | | | | | | B - 6 (8) | 864.12 | | | | | | | | | | | |
| 15013 | 5007 | CR56NB | 138+99.11 | 13.8' LT | CB | 48-4020 | | 4.2 | | | | | 859.80 | 859.73 | 19 | | | | | | (7) | |
| 5007 | | CR56SB | 39+17.51 | 25.0' RT | | | | | | B - 6 (8) | 864.60 | | | | | | | | | | | |
| 15007 | 5004 | CR56SB | 39+17.51 | 25.8' RT | CB | 48-4020 | | 4.8 | | | | | 859.71 | 859.64 | 51 | | | | | | (7) | |
| 5000 | 5004 | CR56SB | 38+95.00 | 26.0' LT | CB | C G OR H | 3.5 | | | B - 9 (9) | 863.59 | 859.98 | 859.96 | | 22 | | | | | | | |
| 5004 | | CR56SB | 39+17.51 | 25.0' LT | | | | | | B - 6 (8) | 863.52 | | | | | | | | | | | |
| 15004 | 5003 | CR56SB | 39+17.51 | 25.8' LT | CB | 48-4020 | | 4.1 | | | | | 859.38 | 859.36 | | 12 | | | | | (7) | |
| 5003 | 5002 | CR56SB | 39+30.00 | 25.0' LT | CB | C OR G | | 4.1 | | B - 9 (9) | 863.53 | 859.34 | 858.99 | | 84 | | | | | | (7) | |
| 5002 | 5001 | CR56SB | 40+15.00 | 24.0' LT | CB | C OR G | | 4.9 | | B - 9 (9) | 863.92 | 858.97 | 858.52 | | 85 | | | | | | (7) | |
| 5001 | | CR56SB | 41+00.00 | 19.0' LT | | | | | | B - 9 (9) | 864.64 | | | | | | | | | | | |
| 15001 | 5028 | CR56SB | 41+00.00 | 19.8' LT | CB | 48-4020 | | 6.3 | | | | | 858.25 | 858.12 | | | | 35 | | | (7) | |
| 5028 | NORTH | CR56SB | 41+35.00 | 14.5' LT | MH | A OR F | | | 6.9 | A - 9D (11) | 865.08 | 858.12 | | | | | | | | | (7) | |
| 5026 | 5014 | CR56NB | 140+20.00 | 31.0' RT | APR | | | | | | | | 862.87 | 861.87 | 6 | | | 1 | 15" RC APRON (3) | 1 | (7) | |
| 5014 | 5010 | CR56NB | 140+20.00 | 19.0' RT | CB | C OR G | | 4.5 | | B - 9 (9) | 864.03 | 859.45 | 859.04 | | 86 | | | | | | (7) | |
| 5010 | 5001 | CR56NB | 141+00.00 | 13.0' LT | CB | A OR F | | | 6.2 | B - 9 (9) | 865.29 | 859.02 | 858.76 | | 54 | | | | | | (7) | |
| TOTALS | | | | | | 6.4 | 24.0 | 19.4 | 13.1 | | | | | 53 | 238 | 34 | 211 | 187 | 35 | 3 | 3 | |

<< SEE SHEET 1 OF 2 FOR GENERAL AND SPECIFIC NOTES. >>



| | | | |
|------|------|------|------|
| 5016 | 5015 | 5013 | 5007 |
| 5004 | 5003 | 5002 | 5001 |
| 5028 | 5000 | 5026 | 5014 |
| 5010 | 5001 | 5034 | 5017 |
| 5005 | 5039 | 5035 | |

DRAINAGE PROFILES AND TABULATIONS

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DISTRICT #: METRO
PLOT NAME: H0202081.wrn
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These notes are intended to give information about critical features and elevations for the drainage on this project. A control is the elevation of a place or feature which determines how low a storm drain must or can be or how high the water can get in a pond.

Generally speaking storm drain ponds and ditches are located to direct the water in much the same direction it was going prior to this project. In some cases the direction has been changed to coordinate with a city project. Changing the direction of flow from what is shown on the plans could cause problems off the project. Direction changes should be reviewed with the Water Resources Designer, Brian Kelly (651) 634-2409.

- 1. The stormwater management system described in this letter has been designed to be consistent with the following plans:

Watershed District
 Construction Plans
 City
 County
 Best Management Practices

- 2. Connections to existing storm drain system are planned at the following locations:

| Structure No. | Location | Description |
|---------------|--|---|
| 5028 | SB COUNTY RD 56 STA 41+35 14.5' LT | CONNECTS PROJECT DRAINAGE TO PIPE JACKED UNDER RAIL ROAD TRACK BY OTHERS. THIS PIPE ROUTES PROJECT DRAINAGE TO CITY POND. |

- 3. The following construction permits apply:

NPDES

Please read the permit applications and the permits for any special conditions.

WATER RESOURCE NOTES

DRAWN BY: BTK

CHECKED BY: SNB

CERTIFIED BY *Steven M. Boness*
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 21817 DATE 11/29/05

STATE PROJ. NO. 0202-81 (T.H. 10) SHEET NO. 46 OF 85 SHEETS

STORM WATER POLLUTION PREVENTION PLAN NARRATIVE

PROJECT SCHEDULE

FOR PROJECT LET DATE, ESTIMATED BEGIN + END CONSTRUCTION DATES, SEE SPECIAL PROVISIONS.

PROJECT DESCRIPTION/LOCATION

SP 0202-81 IS LOCATED ON T.H. 10 AT RAMSEY BOULEVARD.

AS SHOWN ON THE TITLE SHEET (SHEET NO. 1 OF 85).

THE PROJECT INCLUDES:

- * REBUILDING TRAFFIC SIGNALS ON T.H. 10 AND RAMSEY BOULEVARD
- * RECONSTRUCTING RAMSEY BOULEVARD INCLUDING LEFT AND RIGHT TURN LANES
- * CONSTRUCTING TURN LANE EXTENSIONS ON T.H. 10
- * CONSTRUCTING SIDEWALKS ALONG RAMSEY BOULEVARD
- * STORM SEWER WORK

SITE MAPS

IN ADDITION TO WHAT IS LOCATED WITHIN THIS PLAN, EXISTING AND PROPOSED SITE MAPS HAVE BEEN CREATED IN ARC MAP AND ARE KEPT ON FILE AT THE MN/DOT OFFICE IN ROSEVILLE. THE SITE MAPS ARE ROLL MAPS (DEPENDING ON PROJECT SIZE) THAT SHOW THE PROJECT LIMITS, ALIGNMENT, SOIL TYPES, EXISTING AND PROPOSED CONTOURS, DRAINAGE AREAS, STORM SEWER LOCATIONS, FLOW ARROWS, AND IMPERVIOUS SURFACE. IF APPLICABLE, IMPAIRED WATERS AND WETLANDS ARE ALSO SHOWN. TURF ESTABLISHMENT AND EROSION CONTROL ITEMS ARE NOT PLOTTED ON THE ROLL MAPS, BUT CAN BE FOUND WITHIN THIS PLAN.

PLEASE CONTACT THE WATER RESOURCES PROJECT MANAGER, BRIAN KELLY (651) 634-2409, FOR ANY QUESTIONS REGARDING THE SITE MAPS.

ENVIRONMENTALLY SENSITIVE AREAS

THERE ARE NO WETLANDS WITHIN THE PROJECT LIMITS.

OUTSTANDING RESOURCE VALUE WATERS (ORVWs)

THERE ARE NO OUTSTANDING RESOURCE VALUE WATERS WITHIN THE PROJECT LIMITS.

CALCAREOUS FENS

THERE ARE NO CALCAREOUS FENS WITHIN THE PROJECT LIMITS.

TOTAL MAXIMUM DAILY LOAD (TMDL) WATERS

THERE ARE NO SPECIAL OR IMPAIRED WATERS WITHIN THE PROJECT BOUNDARIES, AND THE PROJECT DOES NOT DRAIN TO ANY SPECIAL OR IMPAIRED WATERS.
THERE ARE NO SPECIAL WATERS WITHIN 2,000 FEET OF THE PROJECT BOUNDARIES OR STORMWATER DISCHARGES.

LAND FEATURE CHANGES

TOTAL PROJECT AREA DISTURBED: 10.62 ACRES
TOTAL EXISTING IMPERVIOUS SURFACE AREA: 5.64 ACRES
TOTAL EXISTING PERVIOUS SURFACE AREA: 4.98 ACRES
TOTAL PROPOSED IMPERVIOUS SURFACE AREA: 6.33 ACRES
TOTAL PROPOSED PERVIOUS SURFACE AREA: 4.29 ACRES

CONSTRUCTION PLAN

THE CONSTRUCTION PLAN CAN BE FOUND ON SHEET NO. 33 TO 34.
THE CONTRACTOR IS REQUIRED TO SUBMIT SITE PLANS TO MN/DOT'S RESIDENT CONSTRUCTION ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.

DRAINAGE PLANS/COMPUTATIONS

THE DRAINAGE PLANS CAN BE FOUND ON SHEET NO. 42 TO 43. DRAINAGE FLOW ARROWS CAN BE FOUND ON THE TURF ESTABLISHMENT AND EROSION CONTROL PLANS ON SHEET NO. 49 TO 50. DRAINAGE PROFILES AND TABULATIONS CAN BE FOUND ON SHEET NO. 44 TO 45. COMPUTATIONS ARE KEPT ON FILE WITH MN/DOT METRO WATER RESOURCES. CHANGES MADE IN THE FIELD SHOULD BE DISCUSSED WITH THE WATER RESOURCES PROJECT MANAGER, BRIAN KELLY, (651) 634-2409 AND NOTED ON THE SWPPP ADDENDUM FORMS.

THIS PROJECT DRAINS TO TWO EXISTING PONDS THAT ARE SIZED TO INCLUDE THIS INTERSECTIONS RUNOFF. THESE PONDS BELONG TO AND WILL BE MAINTAINED BY THE CITY OF RAMSEY.

EROSION/SEDIMENT CONTROL PREVENTION MEASURES

THE TEMPORARY AND PERMANENT EROSION CONTROL MEASURES CAN BE FOUND ON THE TURF ESTABLISHMENT AND EROSION CONTROL PLANS ON SHEET NO. 49 TO 50. MN/DOT SPEC BOOK, STANDARD PLAN SHEETS, AND SPECIAL PROVISIONS COVER THE APPROPRIATE INSTALLATION / HANDLING METHODS. THE CONTRACTOR IS REQUIRED TO CREATE SITE MAPS, TO BE APPROVED BY MN/DOT'S RESIDENT CONSTRUCTION ENGINEER, FOR WHERE AND HOW HAZARDOUS CHEMICALS WILL BE STORED, CONCRETE TRUCK WASHOUT AREAS, ETC.

Steven M. Bonner
LICENSED PROFESSIONAL ENGINEER

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THE RESPONSIBLE PARTIES FOR IMPLEMENTATION OF THE EROSION PREVENTION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs) ARE INCLUDED IN THE TABLE BELOW.

| AGENCY | PHONE NUMBER |
|---------------------|--------------|
| MN/DOT CONSTRUCTION | 763-797-3072 |
| MN/DOT CONSTRUCTION | 763-797-3074 |
| CONTRACTOR | |

THE PARTIES TO BE NOTIFIED IF THERE IS A FAILURE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs) ARE INCLUDED IN THE TABLE BELOW.

| AGENCY | PHONE NUMBER |
|-------------------------------|--------------|
| MPCA | 651-215-6008 |
| ANOKA CONSERVATION DISTRICT | 763-434-2030 |
| DNR AREA HYDROLOGIST | 651-772-7910 |
| MN/DOT ENVIRONMENTAL SERVICES | 651-284-3787 |
| MN/DOT DESIGN PROJECT MANAGER | 651-634-2089 |
| MN/DOT WATER RESOURCES | 651-634-2409 |

TIMING OF EROSION CONTROL

GENERAL EROSION CONTROL IMPLEMENTATION:
SILT FENCE WILL BE INSTALLED PRIOR TO CONSTRUCTION. BIOROLLS AND ROCK LOGS WILL BE PLACED ACCORDING TO THE "TURF ESTABLISHMENT AND EROSION CONTROL PLAN" (SHEET NO. 49 TO 50). RIPRAP AND FILTER BLANKET WILL BE PLACED AT THE OUTLET WITHIN 24 HOURS OF THE OUTLET PLACEMENT. INLET PROTECTION WILL CHANGE DEPENDING ON WHEN THE STRUCTURE IS INSTALLED, RISER RINGS PLACED, CURB INSTALLED, ETC. STREET SWEEPING WILL BE DONE AS NEEDED THROUGHOUT THE JOB. THE DISTURBED SOILS WILL BE SEEDED / BLANKETED, WITHIN THE TIME ALLOTMENT GIVEN BY THE NPDES PERMIT, ACCORDING TO THE "TURF ESTABLISHMENT PLAN" (SHEET NO. 49 TO 50). THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN THE DISTURBED AREA UNTIL VEGETATION IS ESTABLISHED. ONCE VEGETATION IS ESTABLISHED AND CONSTRUCTION IS FINISHED IN THE AREA, THE SILT FENCE AND ANY OTHER TEMPORARY EROSION CONTROL THAT WILL NOT BIODEGRADE WILL BE REMOVED, AND ANY ADDITIONAL PERMANENT EROSION CONTROL WILL BE PLACED.

FINAL STABILIZATION

FINAL STABILIZATION FOR SP 0202-81 IS THE "TURF ESTABLISHMENT PLAN" (SHEET NO. 49 TO 50).

SOILS

SOIL TYPES WITHIN PROJECT LIMITS CAN BE FOUND ON THE SITE MAP. A TABLE INCLUDING THE SOIL TYPE, PERCENT SLOPE, HYDROLOGIC SOIL GROUP, PERMEABILITY, EROSION FACTORS (I AND K), AND WIND ERODIBILITY CAN ALSO BE FOUND ON THE SITE MAP. FURTHER INFORMATION REGARDING SOILS CAN BE FOUND IN THE SOIL SURVEY OF ANOKA COUNTY, MINNESOTA.

DEWATERING/BASIN DRAINING

SOIL BORINGS INDICATE THAT CONSTRUCTION WILL NOT BE IN THE GROUNDWATER TABLE.

POLLUTION PREVENTION MANAGEMENT MEASURES

POLLUTION PREVENTION MANAGEMENT MEASURES ARE INCLUDED IN THE SPECIAL PROVISIONS OF THE PROJECT.

ENVIRONMENTAL REVIEW / CORRESPONDENCE

AN ALTERNATIVE URBAN AREA-WIDE REVIEW (AUAR) WAS COMPLETED. A COPY MAY BE OBTAINED BY CONTACTING BRIAN OLSON AT THE CITY OF RAMSEY, 763-427-1410. WITHIN THE ENVIRONMENTAL DOCUMENTATION ARE THE LETTERS OF CORRESPONDENCE, WHICH INCLUDE LETTERS FROM THE MINNESOTA DEPARTMENT OF NATURAL RESOURCES AND THE STATE HISTORIC PRESERVATION OFFICE.

INSPECTORS LOG / MAINTENANCE

THE INSPECTORS LOG AND MAINTENANCE NEEDED WILL BE COMPLETED ACCORDING TO THE NPDES II RULES. METRO WATER RESOURCES ENGINEERING SHOULD RECEIVE A COPY OF THE INSPECTORS LOG AND ANY FIELD CHANGES.

THE COUNTY OF ANOKA IS THE RESPONSIBLE PARTY FOR THE LONG TERM MAINTENANCE WITHIN COUNTY RIGHT OF WAY ON THIS PROJECT.

MN/DOT IS THE RESPONSIBLE PARTY FOR THE LONG TERM MAINTENANCE WITHIN STATE RIGHT OF WAY ON THIS PROJECT.

THE CITY OF RAMSEY IS THE RESPONSIBLE PARTY FOR THE LONG TERM MAINTENANCE WITHIN CITY RIGHT OF WAY ON THIS PROJECT.

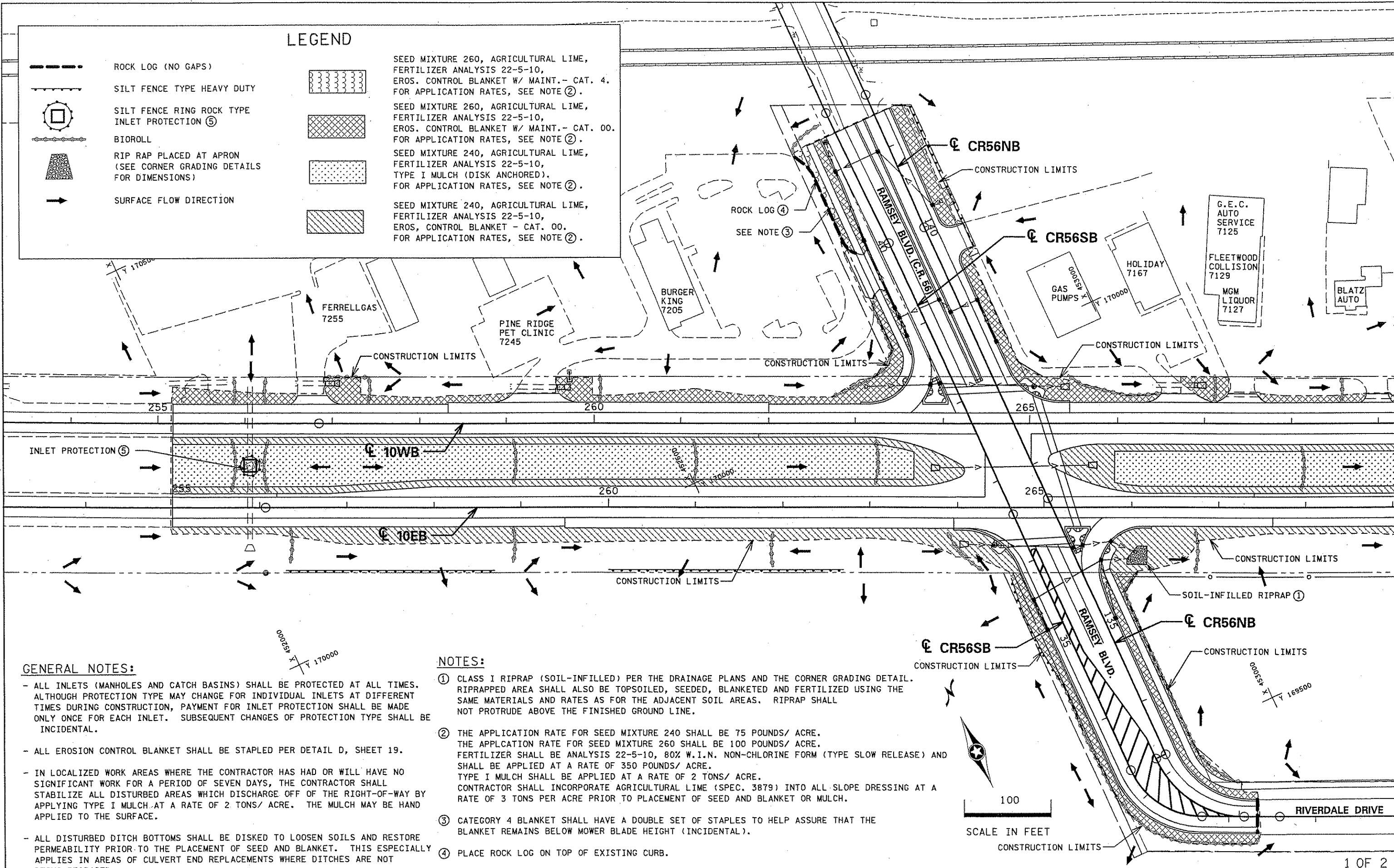
NOTICE OF TERMINATION

MN/DOT METRO CONSTRUCTION WILL FILE THE FORM, PER REGULATIONS LISTED AND SEND A COPY TO METRO WATER RESOURCES ENGINEERING, ATTENTION: BRIAN KELLY

PLOTTED/REVISED: 29-NOV-2005 10:33

LEGEND

| | | | |
|--|---|--|--|
| | ROCK LOG (NO GAPS) | | SEED MIXTURE 260, AGRICULTURAL LIME, FERTILIZER ANALYSIS 22-5-10, EROS. CONTROL BLANKET W/ MAINT.- CAT. 4. FOR APPLICATION RATES, SEE NOTE ②. |
| | SILT FENCE TYPE HEAVY DUTY | | SEED MIXTURE 240, AGRICULTURAL LIME, FERTILIZER ANALYSIS 22-5-10, EROS. CONTROL BLANKET W/ MAINT.- CAT. 00. FOR APPLICATION RATES, SEE NOTE ②. |
| | SILT FENCE RING ROCK TYPE INLET PROTECTION ⑤ | | SEED MIXTURE 240, AGRICULTURAL LIME, FERTILIZER ANALYSIS 22-5-10, TYPE I MULCH (DISK ANCHORED). FOR APPLICATION RATES, SEE NOTE ②. |
| | BIOROLL | | SEED MIXTURE 240, AGRICULTURAL LIME, FERTILIZER ANALYSIS 22-5-10, EROS. CONTROL BLANKET - CAT. 00. FOR APPLICATION RATES, SEE NOTE ②. |
| | RIP RAP PLACED AT APRON (SEE CORNER GRADING DETAILS FOR DIMENSIONS) | | |
| | SURFACE FLOW DIRECTION | | |



GENERAL NOTES:

- ALL INLETS (MANHOLES AND CATCH BASINS) SHALL BE PROTECTED AT ALL TIMES. ALTHOUGH PROTECTION TYPE MAY CHANGE FOR INDIVIDUAL INLETS AT DIFFERENT TIMES DURING CONSTRUCTION, PAYMENT FOR INLET PROTECTION SHALL BE MADE ONLY ONCE FOR EACH INLET. SUBSEQUENT CHANGES OF PROTECTION TYPE SHALL BE INCIDENTAL.
- ALL EROSION CONTROL BLANKET SHALL BE STAPLED PER DETAIL D, SHEET 19.
- IN LOCALIZED WORK AREAS WHERE THE CONTRACTOR HAS HAD OR WILL HAVE NO SIGNIFICANT WORK FOR A PERIOD OF SEVEN DAYS, THE CONTRACTOR SHALL STABILIZE ALL DISTURBED AREAS WHICH DISCHARGE OFF OF THE RIGHT-OF-WAY BY APPLYING TYPE I MULCH AT A RATE OF 2 TONS/ ACRE. THE MULCH MAY BE HAND APPLIED TO THE SURFACE.
- ALL DISTURBED DITCH BOTTOMS SHALL BE DISKED TO LOOSEN SOILS AND RESTORE PERMEABILITY PRIOR TO THE PLACEMENT OF SEED AND BLANKET. THIS ESPECIALLY APPLIES IN AREAS OF CULVERT END REPLACEMENTS WHERE DITCHES ARE NOT BEING REGRADED.

NOTES:

- ① CLASS I RIPRAP (SOIL-INFILLED) PER THE DRAINAGE PLANS AND THE CORNER GRADING DETAIL. RIPRAPPED AREA SHALL ALSO BE TOPSOILED, SEEDED, BLANKETED AND FERTILIZED USING THE SAME MATERIALS AND RATES AS FOR THE ADJACENT SOIL AREAS. RIPRAP SHALL NOT PROTRUDE ABOVE THE FINISHED GROUND LINE.
- ② THE APPLICATION RATE FOR SEED MIXTURE 240 SHALL BE 75 POUNDS/ ACRE. THE APPLICATION RATE FOR SEED MIXTURE 260 SHALL BE 100 POUNDS/ ACRE. FERTILIZER SHALL BE ANALYSIS 22-5-10, 80% W.I.N. NON-CHLORINE FORM (TYPE SLOW RELEASE) AND SHALL BE APPLIED AT A RATE OF 350 POUNDS/ ACRE. TYPE I MULCH SHALL BE APPLIED AT A RATE OF 2 TONS/ ACRE. CONTRACTOR SHALL INCORPORATE AGRICULTURAL LIME (SPEC. 3879) INTO ALL SLOPE DRESSING AT A RATE OF 3 TONS PER ACRE PRIOR TO PLACEMENT OF SEED AND BLANKET OR MULCH.
- ③ CATEGORY 4 BLANKET SHALL HAVE A DOUBLE SET OF STAPLES TO HELP ASSURE THAT THE BLANKET REMAINS BELOW MOWER BLADE HEIGHT (INCIDENTAL).
- ④ PLACE ROCK LOG ON TOP OF EXISTING CURB.
- ⑤ SILT FENCE RING ROCK BARRIER COMBINATION, PER DETAIL E ON SHEET 20.

TURF ESTABLISHMENT & EROSION CONTROL PLAN

DRAWN BY: JNK

CHECKED BY: SNB

CERTIFIED BY *Steven M. Powers*

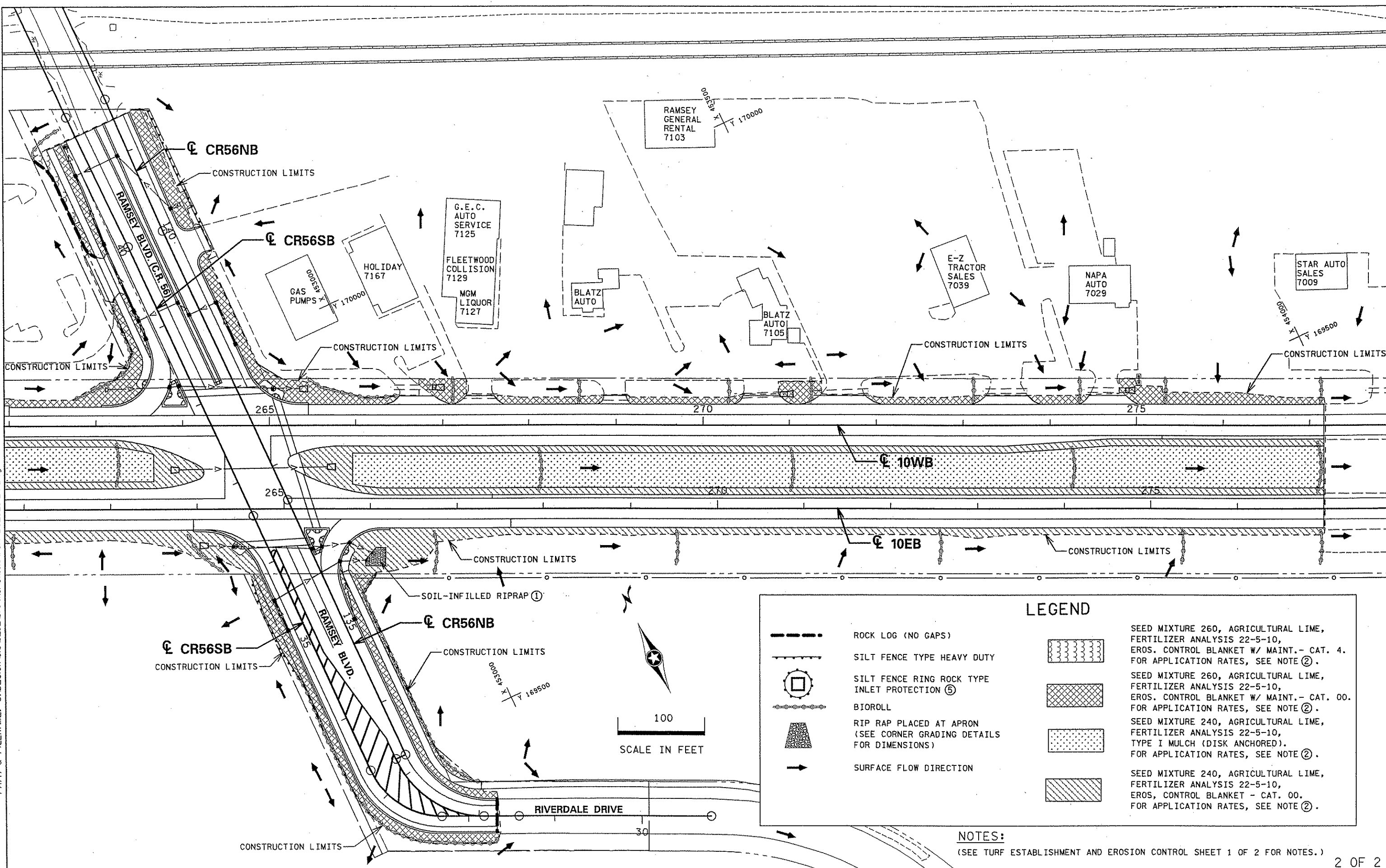
LIC. NO. 21817 DATE 11/29/05

STATE PROJ. NO. 0202-81 (T.H. 10) SHEET NO. 49 OF 85 SHEETS

DISTRICT #: METRO
IFLOT NAME: D020281_1e1a
PATH & FILENAME: S:\DESIGN\010\0202-81\Final\Sheets\Tur\02020281_1e1a.dgn

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DISTRICT #: METRO
PLOT NAME: D020281TelB
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LEGEND

| | | | |
|--|---|--|--|
| | ROCK LOG (NO GAPS) | | SEED MIXTURE 260, AGRICULTURAL LIME, FERTILIZER ANALYSIS 22-5-10, EROS. CONTROL BLANKET W/ MAINT.- CAT. 4. FOR APPLICATION RATES, SEE NOTE ②. |
| | SILT FENCE TYPE HEAVY DUTY | | SEED MIXTURE 260, AGRICULTURAL LIME, FERTILIZER ANALYSIS 22-5-10, EROS. CONTROL BLANKET W/ MAINT.- CAT. 00. FOR APPLICATION RATES, SEE NOTE ②. |
| | SILT FENCE RING ROCK TYPE INLET PROTECTION ⑤ | | SEED MIXTURE 240, AGRICULTURAL LIME, FERTILIZER ANALYSIS 22-5-10, TYPE I MULCH (DISK ANCHORED). FOR APPLICATION RATES, SEE NOTE ②. |
| | BIOROLL | | SEED MIXTURE 240, AGRICULTURAL LIME, FERTILIZER ANALYSIS 22-5-10, EROS. CONTROL BLANKET - CAT. 00. FOR APPLICATION RATES, SEE NOTE ②. |
| | RIP RAP PLACED AT APRON (SEE CORNER GRADING DETAILS FOR DIMENSIONS) | | |
| | SURFACE FLOW DIRECTION | | |

NOTES:
(SEE TURF ESTABLISHMENT AND EROSION CONTROL SHEET 1 OF 2 FOR NOTES.)

TURF ESTABLISHMENT & EROSION CONTROL PLAN

NOTES & GUIDELINES

GENERAL INFORMATION:

1. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
3. ALL DISTANCES ARE APPROXIMATE.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MNMUTCD.
5. IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.

SIGNING:

1. ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTANT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
2. WHEN SIGNS ARE 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 AS SOON AS POSSIBLE.
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. ALL ORANGE SIGNS SHALL BE MADE OF DIAMOND GRADE ORANGE REFLECTIVE SHEETING OR AN APPROVED SUBSTITUTE.
5. LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
6. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE INSTALLED AS NEEDED, OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS INSTALLED.

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, ONLY PAINT WILL BE USED BEFORE MAY 1ST OR WHEN THE OTHER MANUFACTURERS' SPECIFICATIONS CAN NOT BE MET.
3. TRPM'S (TEMPORARY RAISED PAVEMENT MARKERS) SHOULD 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. MN/DOT TRAFFIC PERSONNEL WILL ASSIST IN THE SPOTTING OF TRANSITION AREAS, GORES AND TAPERS.

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 AND ONE HALF THE BID PRICE.

CONSTRUCTION INFORMATION SIGNING:

1. THE CONTRACTOR SHALL USE CONSTRUCTION INFORMATION SIGNING AS SHOWN IN THE PLAN AND WHICH ARE TO BE USED AS FOLLOWS:
 G20-X1 CLOSURE NOTICE SIGNS PAIRED WITH G20-X3 WORK ENDS SIGNS TO DISPLAY THE CORRECT START DATE AND AN ESTIMATED FINISH DATE AS APPROVED BY THE PROJECT ENGINEER.
 G20-X2 WORK ZONE ADVANCE NOTICE SIGNS WITH THE CORRECT STARTING DATE DISPLAYED BEFORE WORK BEGINS. ONCE WORK BEGINS, THE START DATE LEGEND SHALL BE COVERED BY THE SUGGESTED PLAQUE CONTAINED IN THIS PLAN. IF NO ALTERNATE MESSAGE IS SUGGESTED OR IF DIRECTED BY THE PROJECT ENGINEER, THE CORRECT ESTIMATED FINISH DATE, MONTH, OR SEASON SHALL BE DISPLAYED.
 CONSTRUCTION INFORMATION SIGNING NOT VISIBLE TO THE MOTORING PUBLIC ONCE WORK BEGINS WILL BE MOVED BY THE CONTRACTOR TO A SITE IN ADVANCE OF THE WORK ZONE OR CLOSURE AS DIRECTED BY THE PLAN OR PROJECT ENGINEER.

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL DESCRIPTION

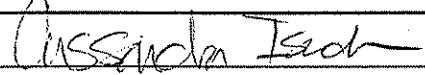
-  AREA CLOSED TO TRAFFIC / WORK AREA
-  TRAFFIC CONTROL SIGN
-  TYPE III BARRICADE = 
-  DRUM-LIKE CHANNELIZER = 
-  TYPE A FLASHING WARNING LIGHT
-  PORTABLE CHANGEABLE MESSAGE SIGN

INDEX

TRAFFIC CONTROL SHEET NO. DESCRIPTIONS

| | |
|-------|--------------------------------------|
| 51 | TITLE SHEET |
| 52 | TABULATED TRAFFIC CONTROL QUANTITIES |
| 53 | TRAFFIC CONTROL TABULATION SHEET |
| 54-55 | TRAFFIC CONTROL LAYOUTS |
| 56 | DETOUR DETAIL SHEET |
| 57 | SPECIAL SIGNS |
| 58 | TYPICAL |

I HEREBY CERTIFY THAT SHEETS 51 THROUGH 58 OF THIS PLAN WERE 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


 CASSANDRA ISACKSON
 DATE 11/28/05 LIC. NO. 26429
 DESIGNER Kenneth Pedersen

TITLE: TRAFFIC CONTROL TITLE SHEET

REVISED: 2-JAN-2004
PLOTTED: 28-NOV-2005 11:51

METRO DIVISION - TRAFFIC
 PLOT NAME: NONE
 PATH & FILENAME: \\010\0202\81\T_ttypicdis.tc.tsh.dgn

TABULATED TRAFFIC CONTROL QUANTITIES

Q

| ITEM | UNIT | STAGE ONE | STAGE TWO | TOTAL |
|---|----------|-----------|-----------|-------|
| CONCRETE MEDIAN BARRIER DESIGN 8337 | LIN FT | 2350 | | 2350 |
| RELOCATE CONCRETE MEDIAN BARRIER | LIN FT | | 2350 | 2350 |
| IMPACT ATTENUATOR | AMBY | 2 | | 2 |
| RELOCATE IMPACT ATTENUATOR | AMBY | | 2 | 2 |
| MEDIAN BARRIER DELINEATOR (1) | EACH | 78 | 78 | 156 |
| RAISED PAVEMENT MARKER TEMP. (2) | EACH | 160 | 160 | 320 |
| TRAFFIC CONTROL | LUMP SUM | .5 | .5 | 1 |
| PORTABLE CHANGEABLE MESSAGE SIGN | UNIT DAY | 5 | 5 | 10 |
| REMOVABLE PREFORMED PLASTIC MARKING (3) | LIN FT | 9350 | 9350 | 18700 |
| PAVEMENT MARKING REMOVAL | LIN FT | 4675 | 4675 | 9350 |

NOTES: (1) YELLOW

(2) 160 WHITE, 160 YELLOW

(3) 8500' 4" SOLID WHITE, 8500' 4" SOLID YELLOW, 1700' 4" BROKEN WHITE

NOTE: THE PROVISIONS OF Mn/DOT 1903 ARE MODIFIED SUCH THAT NO PRICE ADJUSTMENT WILL BE MADE IN THE EVENT OF INCREASED OR DECREASED QUANTITIES OF SEPARATE TRAFFIC CONTROL DEVICES

PAY ITEM TABULATION CHART

DRAWN BY: KP

CHECKED BY: MJR

CERTIFIED BY

Cassandra Bobb
 LICENSED PROFESSIONAL ENGINEER

LIC. NO. 26429

DATE 11/28/2005

STATE PROJ. NO. 0202-81 (TH 10) SHEET NO. 52 OF 85 SHEETS

PLOTTED/REVISED: 28-NOV-2005 13:27

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TRAFFIC CONTROL TABULATION SHEET

| "R" SERIES | | | |
|------------|----------|------------------------|-----------|
| SIGN | SIGN NO. | COLOR | SIZE |
| | R11-4 | White on Black | 60" X 30" |
| | R11-2R | White on Black | 48" X 30" |
| | R3-1 | Black and Red on White | 24" X 24" |
| | R3-2 | Black and Red on White | 24" X 24" |

| "W" SERIES | | | |
|------------|----------|-----------------|-----------|
| SIGN | SIGN NO. | COLOR | SIZE |
| | W20-3 | BLACK ON ORANGE | 48" x 48" |
| | W20-1 | BLACK ON ORANGE | 48" x 48" |
| | W1-4bR | BLACK ON ORANGE | 48" x 48" |
| | W1-4bL | BLACK ON ORANGE | 48" x 48" |

| "G" SERIES | | | |
|------------|----------|-----------------|-----------|
| SIGN | SIGN NO. | COLOR | SIZE |
| | G20-2A | BLACK ON ORANGE | 48" X 24" |
| | G20-X2 | BLACK ON ORANGE | 96" X 84" |
| | G20-X3 | BLACK ON ORANGE | 60" X 24" |

| DEVICES | | | |
|---------|----------|-----------------|------|
| ITEM | SIGN NO. | COLOR | SIZE |
| | DLC | White on Orange | |
| | TYPE III | White on Orange | |
| | FLASHER | AMBER | STD |

| "M" SERIES | | | |
|------------|----------|--------------------------|-----------|
| SIGN | SIGN NO. | COLOR | SIZE |
| | M1-6 | White and Yellow on Blue | 24" X 24" |
| | M4-8 | Black on Orange | 24" X 12" |
| | M4-8a | Black on Orange | 24" X 18" |
| | M5-1R | Black on Orange | 21" X 15" |
| | M5-1L | Black on Orange | 21" X 15" |
| | M6-1 | Black on Orange | 21" X 15" |
| | M6-3 | Black on Orange | 21" X 15" |

| "M" SERIES | | | |
|------------|----------|--------------------------|-----------|
| SIGN | SIGN NO. | COLOR | SIZE |
| | M4-9 | White and Yellow on Blue | 30" X 24" |
| | M4-9 | Black on Orange | 30" X 12" |
| | M4-9 | Black on Orange | 30" X 18" |

TRAFFIC CONTROL TABULATION CHART

DRAWN BY: KP

CHECKED BY: MJR

CERTIFIED BY

Cassandra E. Boh
 LICENSED PROFESSIONAL ENGINEER

LIC. NO. 26429

DATE 11/28/2005

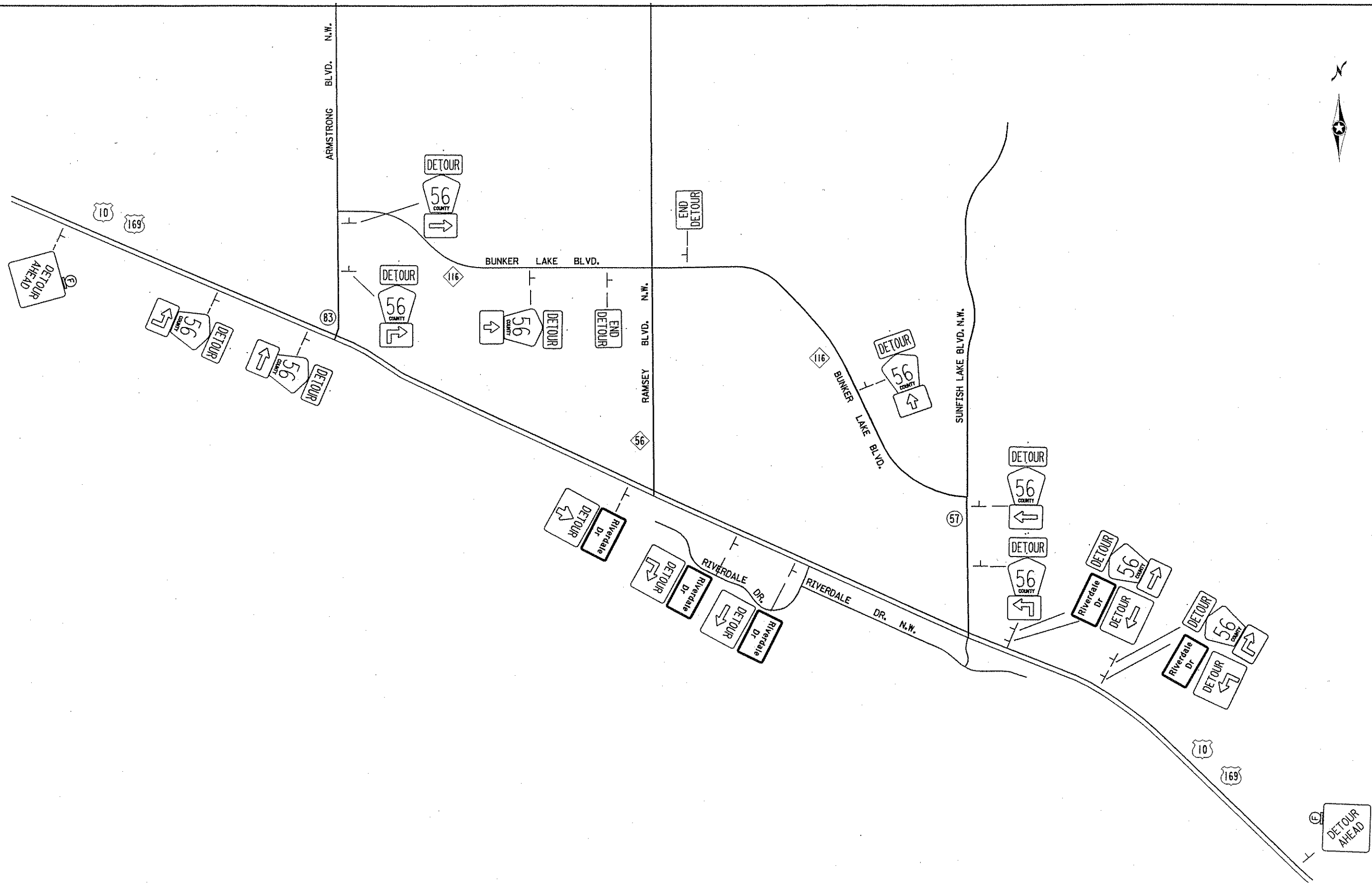
STATE PROJ. NO. 0202-81 (TH 10)

SHEET NO. 53

OF 85 SHEETS

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RAMSEY BLVD, RIVERDALE DR. DETOUR DETAIL

DRAWN BY: KP

CHECKED BY: MJR

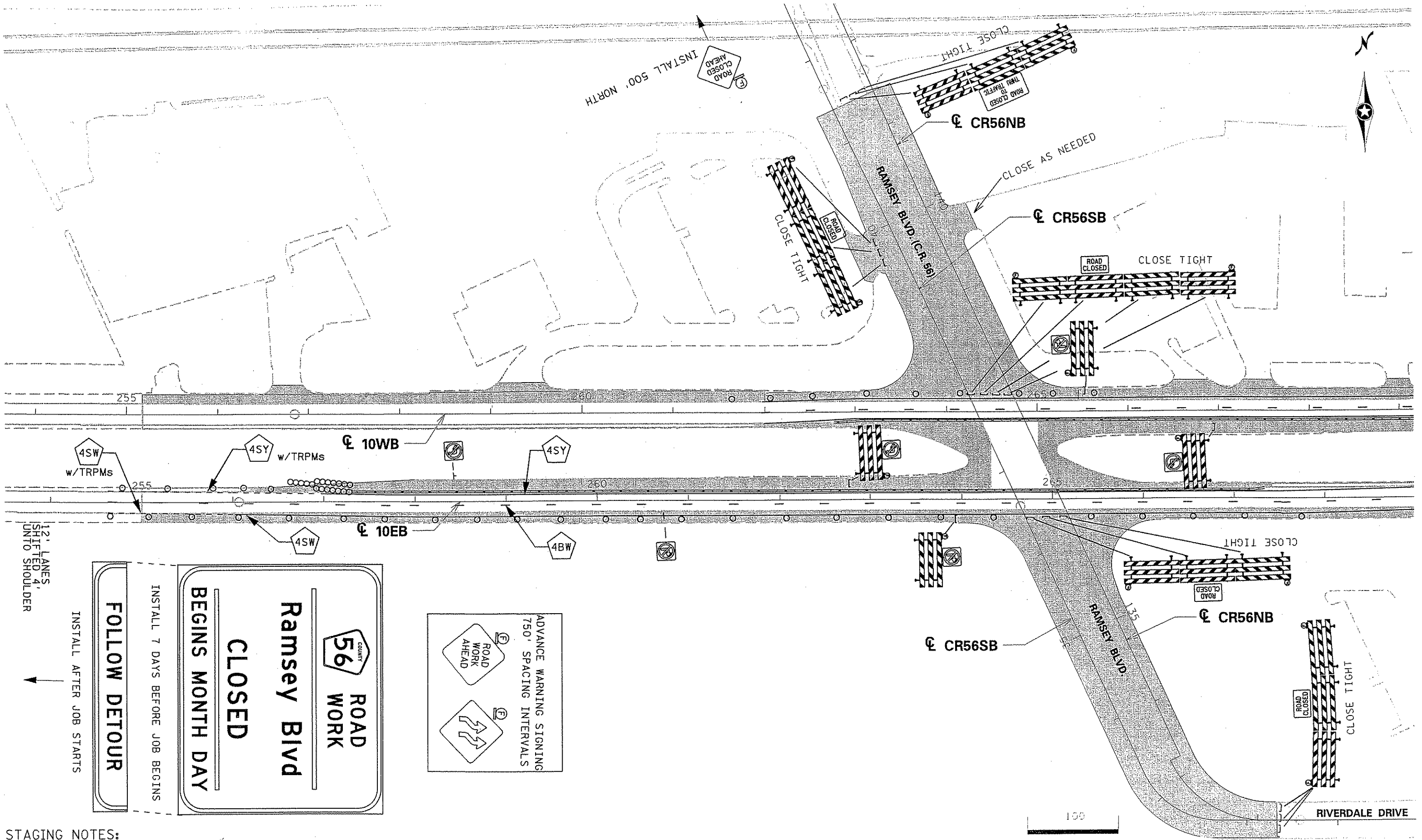
CERTIFIED BY *Cassandra Brook*
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 26429 DATE 11/28/2005

STATE PROJ. NO. 0202-81 (TH 10) SHEET NO. 54 OF 85 SHEETS

PLOTTED/REVISED: 28-NOV-2005 14:30

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INSTALL 7 DAYS BEFORE JOB BEGINS

FOLLOW DETOUR

Ramsey Blvd

CLOSED

ROAD WORK

INSTALL AFTER JOB STARTS

ADVANCE WARNING SIGNING
750' SPACING INTERVALS

ROAD WORK AHEAD

ROAD CLOSED

STAGING NOTES:
CONSTRUCT MEDIAN WORK WITH TRAFFIC SHIFTED TO THE OUTSIDE AS SHOWN.
CONSTRUCT RAMSEY BLVD WITH TRAFFIC SHIFTED TO THE INSIDE.

DRAWN BY: KP

CHECKED BY: MJR

CERTIFIED BY

Cassandra Bobb
LICENSED PROFESSIONAL ENGINEER

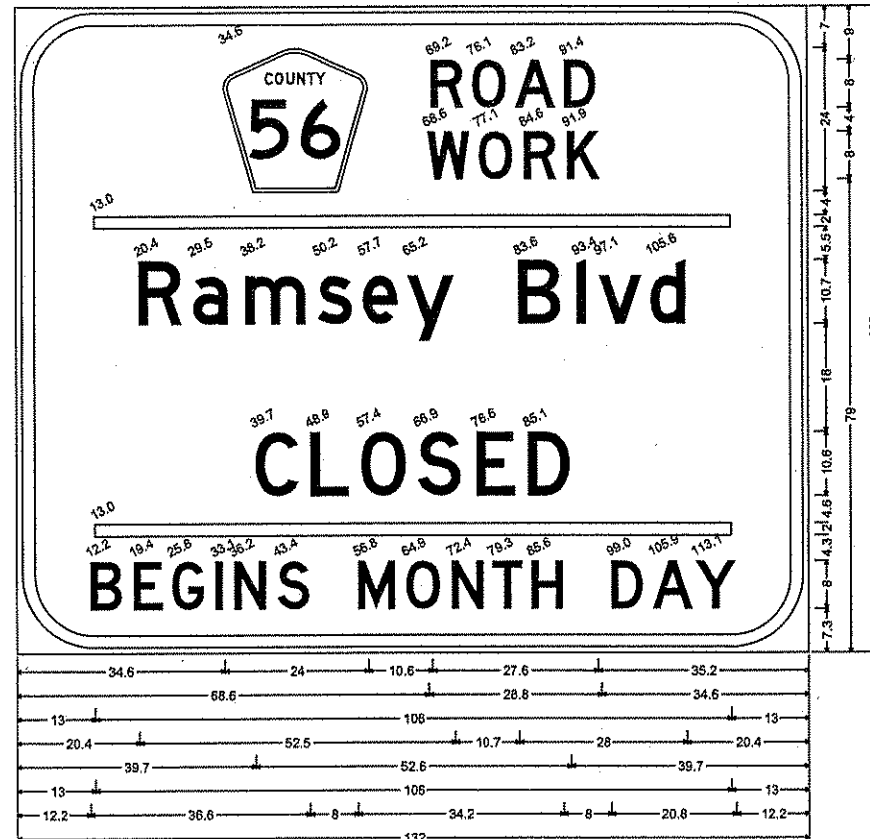
LIC. NO. 25462

DATE 11/28/2005

TRAFFIC CONTROL

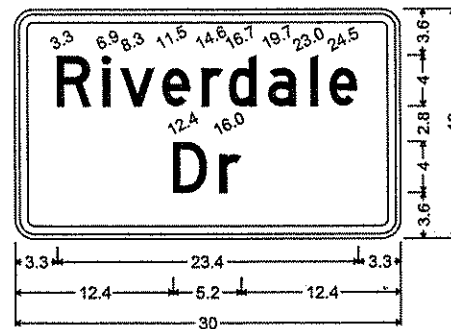
STATE PROJ. NO. 0202-81 (TH 10) SHEET NO. 55 OF 85 SHEETS

SPECIAL SIGN DETAILS



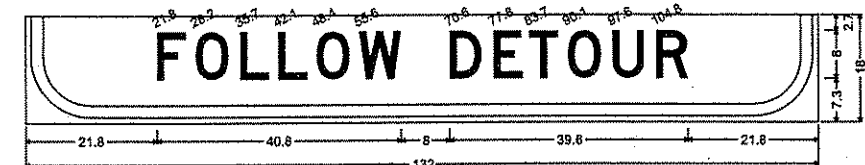
G20-X2; 13.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange;
[ROAD] D; [WORK] D; [Ramsey Blvd] D; [] D; [CLOSED] D; [BEGINS MONTH DAY] D;

(MAKE 2)



M4-9p;
1.5" Radius, 0.6" Border, 0.4" Indent, Black on Orange;
[Riverdale] D; [Dr] D;

(MAKE 5)



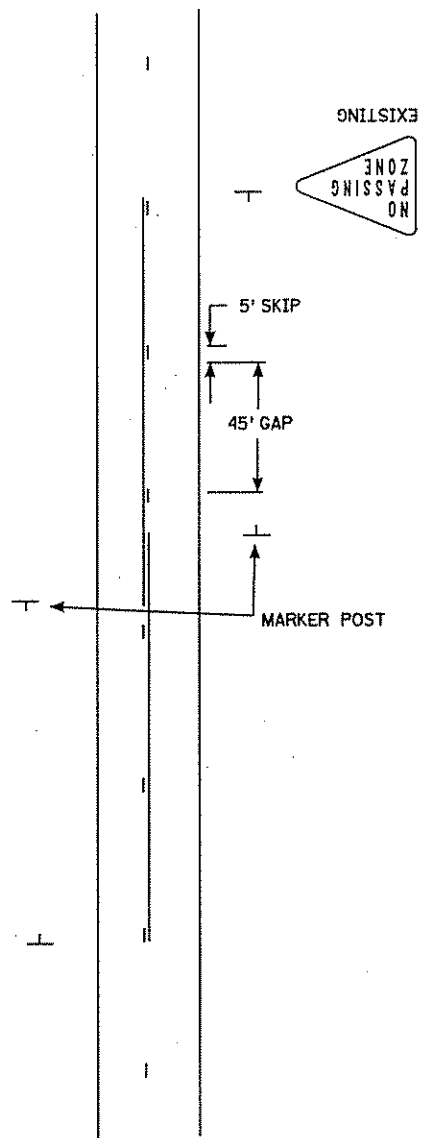
G20-X2 PANEL; 11.0" Radius, 2.0" Border, 1.0" Indent, Black on Orange;
[FOLLOW DETOUR] D;

(MAKE 2)

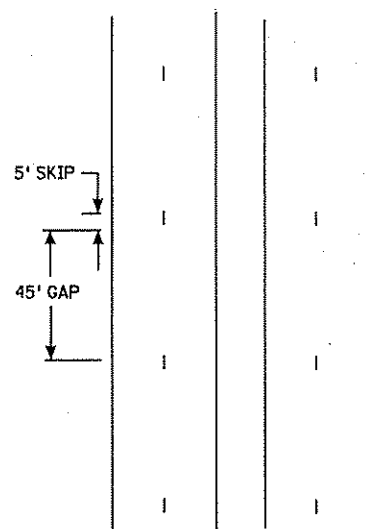
SPECIAL SIGN DETAILS

INTERIM PAVEMENT MARKING

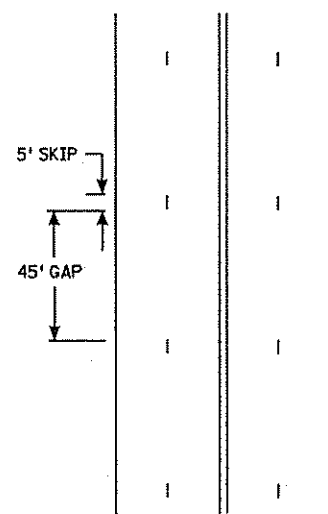
TWO LANE, TWO WAY



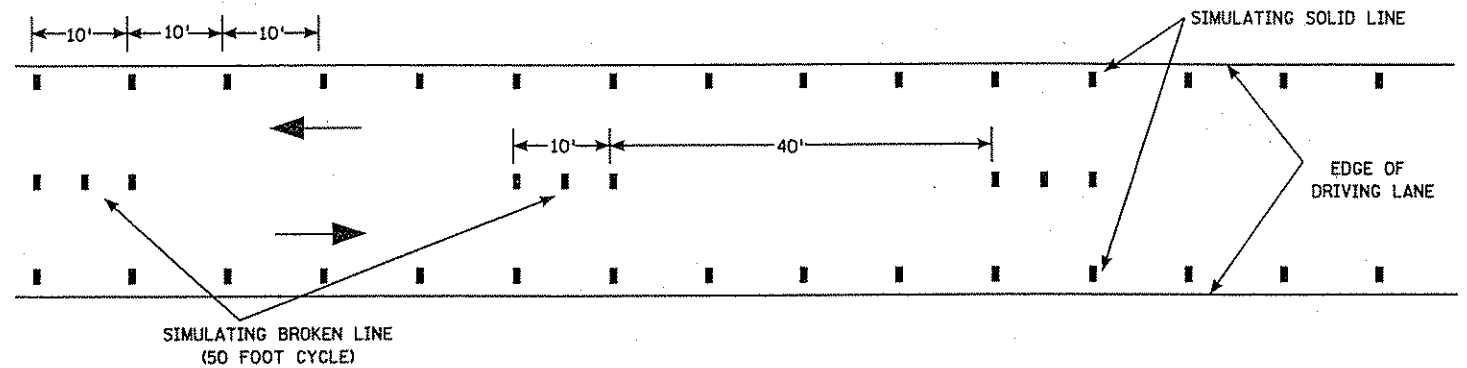
MULTI-LANE, DIVIDED



MULTI-LANE, UNDIVIDED



SIMULATING A SOLID LINE AND A BROKEN LINE (50 FOOT CYCLE) WITH TRPMS



USING TRPM'S AS INTERIM PAVEMENT MARKING

WHEN TRPM'S ARE USED TO SIMULATE A LINE THE FOLLOWING GUIDELINE APPLIES:

SKIP STRIPE - USES 3 TRPM'S PER 10' SKIP STRIPE ON 5' CENTERS WITH A 40' GAP

SOLID LINE - USES TRPM'S ON 10' CENTERS ON TANGENTS, FLATTER GRADES AND CURVES UNDER 6 DEGREES. FOR CURVES OVER 6 DEGREES AND STEEP GRADES, THIS SPACING SHALL BE REDUCED TO 5' CENTERS.

GENERAL NOTES:

SEE SPECIAL PROVISIONS FOR INTERIM PAVEMENT MARKING GUIDELINES.
 THESE INTERIM PAVEMENT MARKING GUIDELINES APPLY TO ALL TEMPORARY TRAFFIC CONTROL ZONES OF AT LEAST 300' IN LENGTH ON TANGENT AND 50' ON CURVES OF 6 DEGREES OR GREATER.

- FOR ALL PROJECTS GREATER THAN 1.25 MILES IN LENGTH, INTERIM SKIP STRIPE PAVEMENT MARKINGS SHALL USE THE SAME CYCLE LENGTH AS FINAL PAVEMENT MARKINGS (50') AND SHALL BE A MINIMUM OF 5' LENGTH.
- ON PROJECTS GREATER THAN 300' IN LENGTH, BUT LESS THAN 1.25 MILES IN LENGTH, THE INTERIM MARKING SHALL MATCH THE CYCLE LENGTH AT EITHER END OF THE PROJECT. THE INTERIM STRIPE SHALL BE 5' IN LENGTH.

ALL INTERIM MARKINGS SHALL BE INSTALLED PRIOR TO REMOVING LANE CLOSURE OR OPENING THE ROADWAY TO TRAFFIC.

GENERAL NOTES (CONTINUED):

FINAL MARKINGS AND ALL OTHER PAVEMENT MARKINGS INCLUDING EDGELINES, CHANNELIZING LINES, LANE REDUCTION TRANSITIONS, GORE MARKINGS AND OTHER LONGITUDINAL MARKINGS AND THE VARIOUS NON-LONGITUDINAL MARKINGS (STOP LINES, RAIL ROAD CROSSINGS, CROSSWALKS, WORDS, SYMBOLS, ETC) SHOULD BE INSTALLED WITHIN 14 CALENDAR DAYS.

NOTE: WHEN FINAL MARKINGS ARE TO BE EPOXY AND PAINT IS USED FOR INTERIM SOLID LINES, A 10 MIL THICK LAYER APPLICATION OF A WATER-BASED TRAFFIC MARKING PAINT SHALL BE USED. WITH A 10 MIL LAYER OF PAINT APPLIED, BEADS SHOULD BE APPLIED AT A RATE OF 6 LBS/GAL. REMOVAL OF THE 10 MIL LAYER OF PAINT IS NOT REQUIRED PRIOR TO PLACING THE EPOXY.

PLOTTED/REVISED: 11/28/2005

IFLOT NAME: 1-typicals-ic-1sh2
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PERMANENT PAVEMENT MARKING PLAN

NOTES & GUIDELINES

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.

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.

AN EPOXY RESIN LINE 4" WIDE AND 15 MILL THICKNESS (WET), REQUIRES AN APPLICATION RATE OF ONE (1) GALLON OF COMPONENTS FOR 320 FEET OF LINE. GLASS BEADS SHALL BE APPLIED AT A POUND PER GALLON RATE SUFFICIENT TO ACHIEVE AN ACCEPTABLE NO-TRACK SYSTEM.

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.

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 LAID. 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.

PERMANENT PAVEMENT MARKING PLAN INDEX

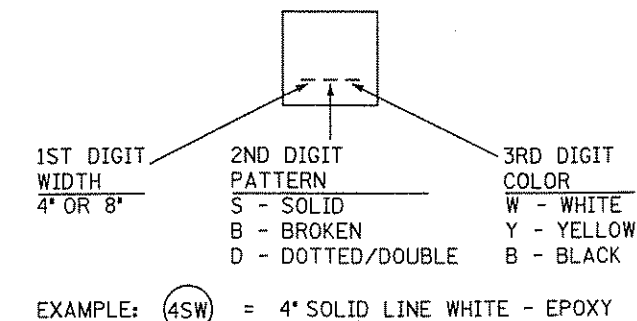
- 59 PERM PAVEMENT MARKING TITLE AND TABULATION
- 60-61 PERMANENT PAVEMENT MARKING DETAILS
- 62-65 TYPICALS

SYMBOLS & MATERIALS LEGEND

-  CROSSWALK BLOCK WHITE-POLY PREFORM
-  PAVEMENT MESSAGE (LEFT ARROW) POLY PREFORM

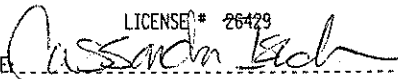
STRIPING KEY

-  CIRCLE - EPOXY
-  SQUARE - POLY PREFORM



| PAY ITEM TABULATION | | | R |
|--|--------|-------|---|
| ITEM | UNIT | TOTAL | |
| 24" SOLID LINE YELLOW-EPOXY | LIN FT | 299 | |
| PAVEMENT MESSAGE (LEFT ARROW) EPOXY | EACH | 6 | |
| PAVEMENT MESSAGE (RIGHT ARROW) EPOXY | EACH | 2 | |
| PAVEMENT MESSAGE (RR CROSSING) EPOXY | EACH | 2 | |
| PAVEMENT MESSAGE (LT ARROW) POLY PREFORM | EACH | 6 | |
| PAVEMENT MESSAGE (RT ARROW) POLY PREFORM | EACH | 6 | |
| 4" SOLID LINE WHITE-POLY PREFORM | LIN FT | 2280 | |
| 24" SOLID LINE WHITE-POLY PREFORM | LIN FT | 65 | |
| 4" BROKEN LINE WHITE-POLY PREFORM | LIN FT | 840 | |
| 4" SOLID LINE WHITE-EPOXY | LIN FT | 6868 | |
| 4" BROKEN LINE WHITE-EPOXY | LIN FT | 70 | |
| 4" SOLID LINE YELLOW-EPOXY | LIN FT | 4852 | |
| 4" DOUBLE SOLID LINE YELLOW-EPOXY | LIN FT | 845 | |
| ZEBRA CROSSWALK-WHITE POLY PREFORM | SQ FT | 828 | |

I HEREBY CERTIFY THAT SHEETS 59 THROUGH 65 OF THIS PLAN WERE 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.

PRINT NAME: CASSANDRA ISACKSON LICENSE # 26429
 DATE: 11/29/05 SIGNATURE: 
 DESIGNER: Kenneth Pedersen

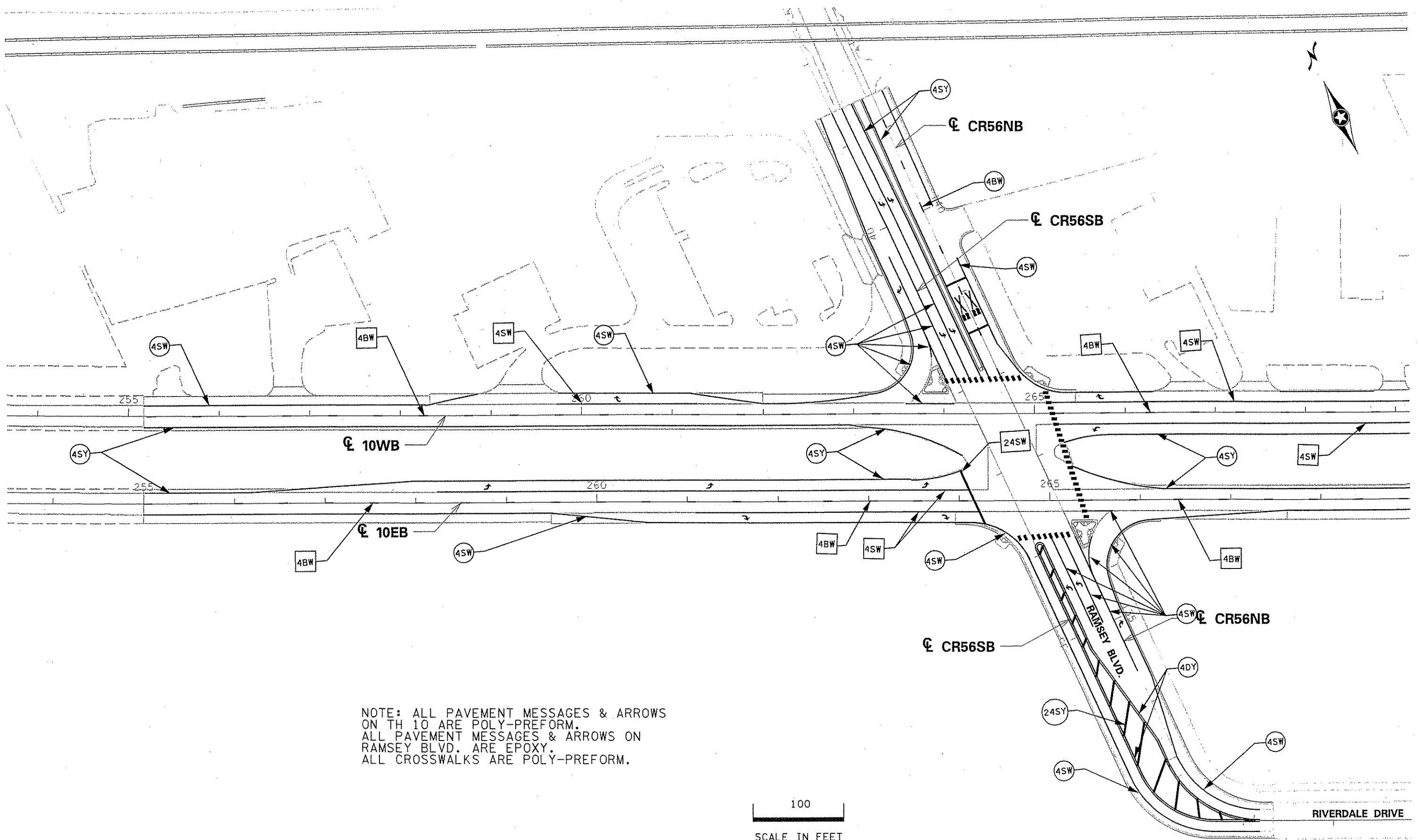
TITLE:
 PERMANENT PAVEMENT MARKING
 TITLE SHEET

REVISED: 2-JAN-2004
 PLOTTED: 29-NOV-2005 07:09

METRO DIVISION - TRAFFIC
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PLOTTED/REVISED: 28-NOV-2005 14:44

IPLOT NAME: 1020281_pml_bdr1
PATH & FILENAME: S:\TRAFFIC\TC_Signing\010\0202\81\020281_pml_bdr1.dgn



NOTE: ALL PAVEMENT MESSAGES & ARROWS
ON TH 10 ARE POLY-PREFORM.
ALL PAVEMENT MESSAGES & ARROWS ON
RAMSEY BLVD. ARE EPOXY.
ALL CROSSWALKS ARE POLY-PREFORM.

100
SCALE IN FEET

PERMANENT PAVEMENT MARKING

DRAWN BY: KP

CHECKED BY: MJR

CERTIFIED BY

Cassandra Jones
LICENSED PROFESSIONAL ENGINEER

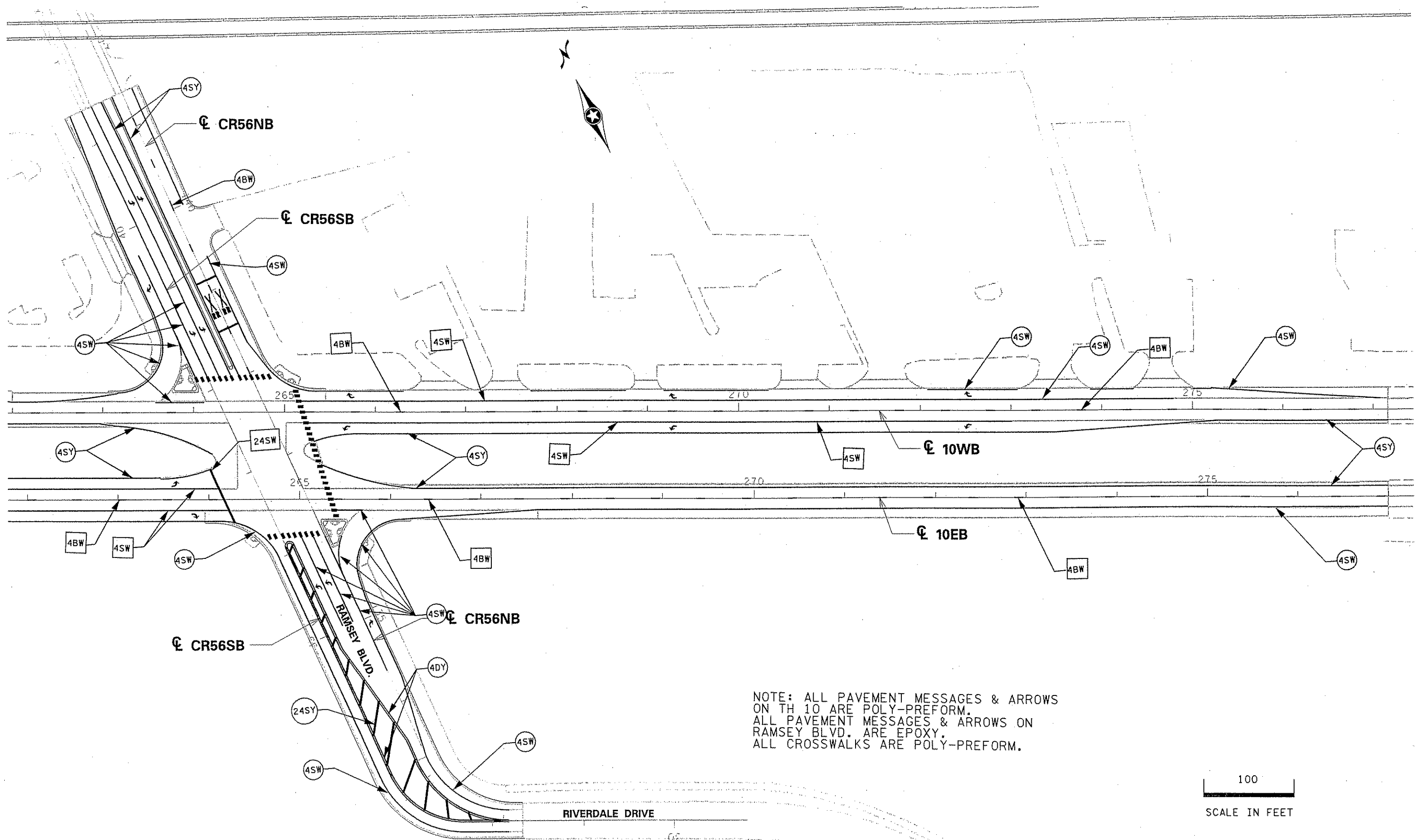
LIC. NO. 26429

DATE 11/28/2005

STATE PROJ. NO. 0202-81 (TH 10) SHEET NO. 60 OF 85 SHEETS

PLOTTED/REVISED: 28-NOV-2005 14:44

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NOTE: ALL PAVEMENT MESSAGES & ARROWS
ON TH 10 ARE POLY-PREFORM.
ALL PAVEMENT MESSAGES & ARROWS ON
RAMSEY BLVD. ARE EPOXY.
ALL CROSSWALKS ARE POLY-PREFORM.

100
SCALE IN FEET

DRAWN BY: KP

CHECKED BY: MJR

CERTIFIED BY

Cassandra Erub
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 26429

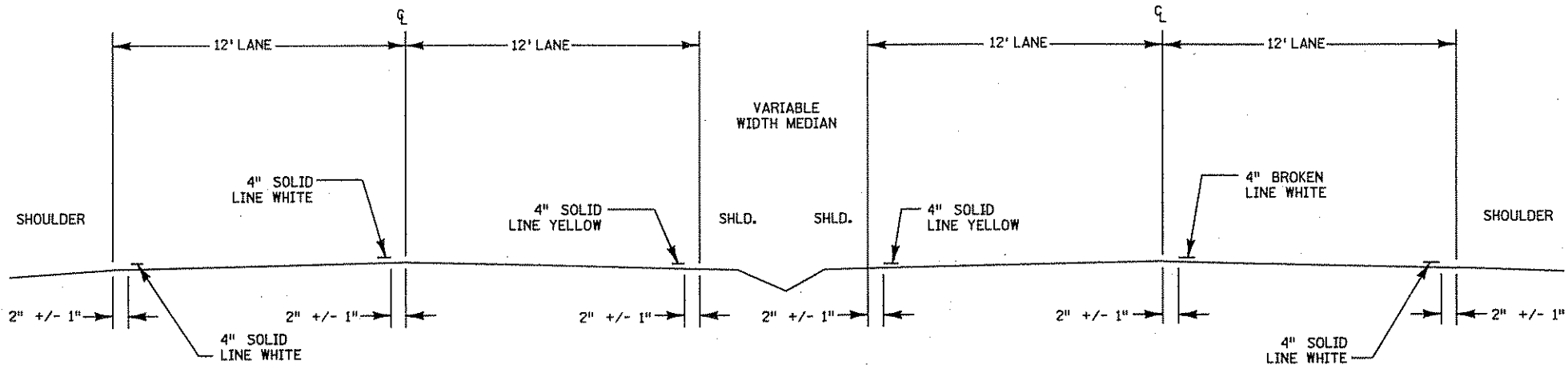
DATE 11/28/2005

PERMANENT PAVEMENT MARKING

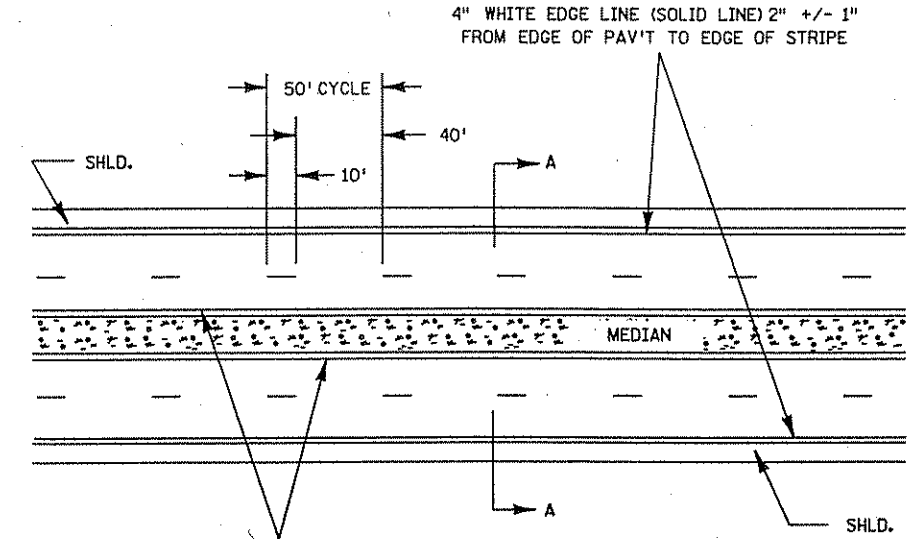
STATE PROJ. NO. 0202-81 (TH 10) SHEET NO. 61 OF 85 SHEETS

PLOTTED/REVISED: 11/28/2005

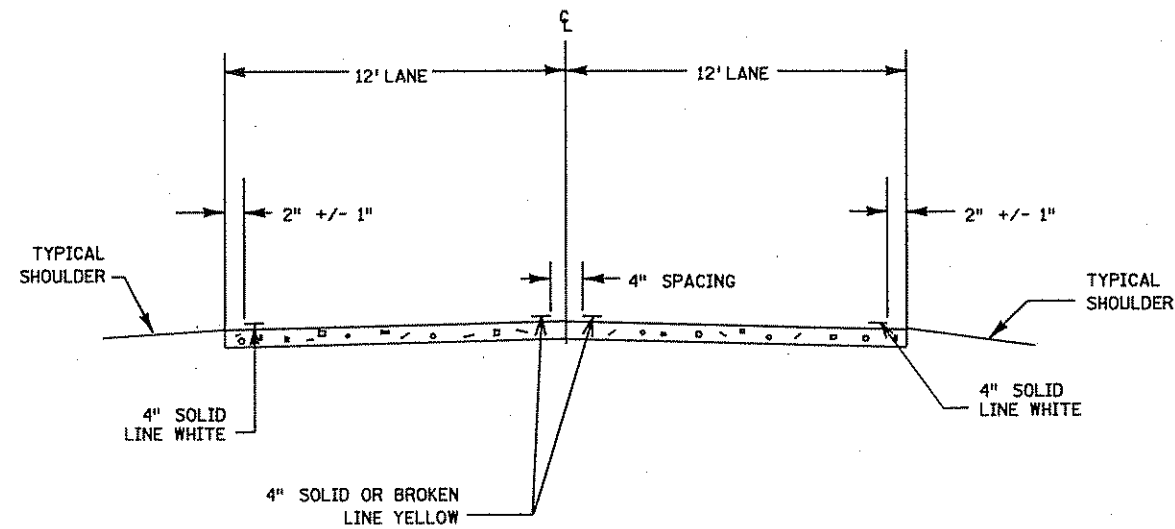
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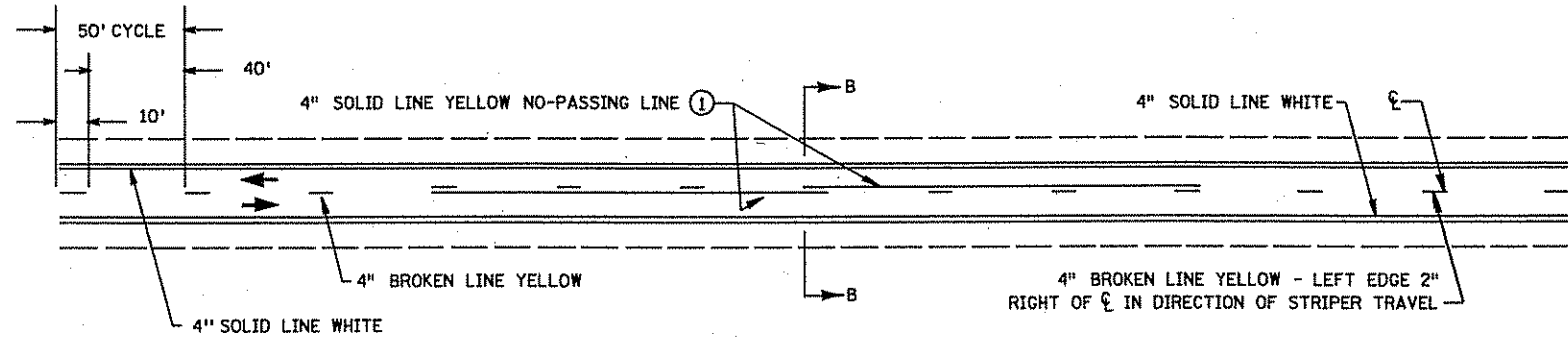
SECTION A-A
FOUR LANES



TYPICAL 4-LANE DIVIDED LANE MARKINGS

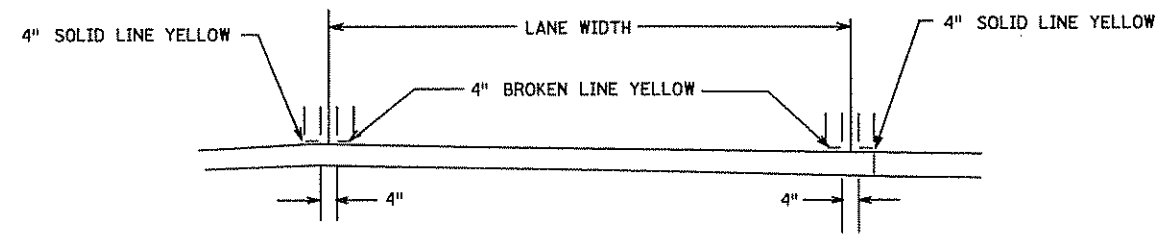


SECTION B-B

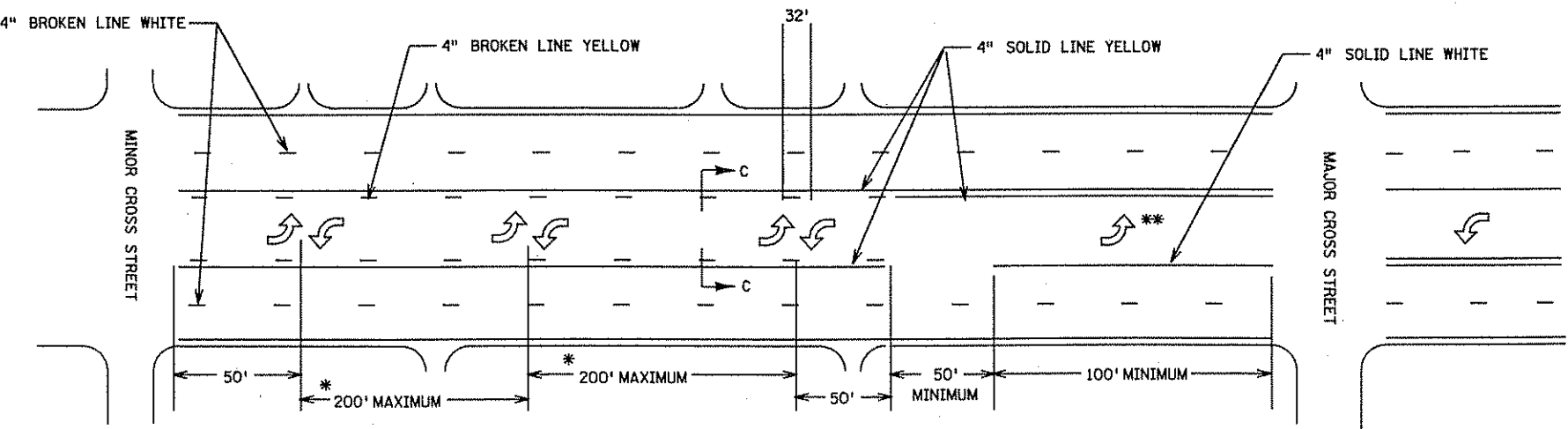


TWO LANE-TWO WAY TRAFFIC MARKINGS

① CONTACT TRAFFIC ENGINEER FOR NO PASSING ZONE SURVEY.



SECTION C-C
TWO WAY LEFT TURN LANE



TWO WAY LEFT TURN LANE

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

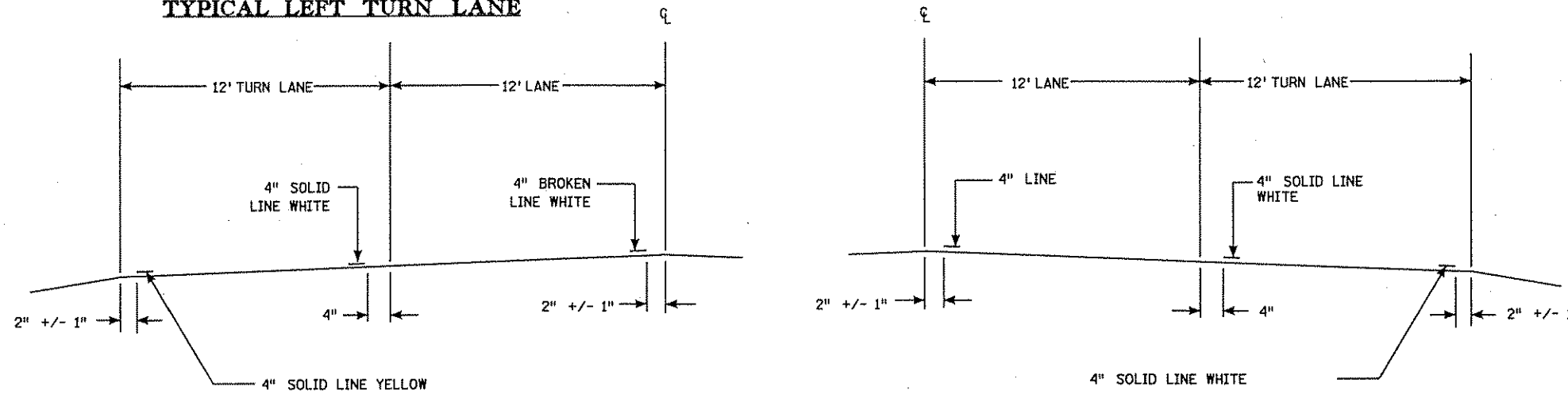
** SEE "TYPICAL MESSAGE PLACEMENT FOR TURN LANES" FOR NUMBER AND PLACEMENT OF ARROWS.

PAVEMENT MARKING TYPICALS

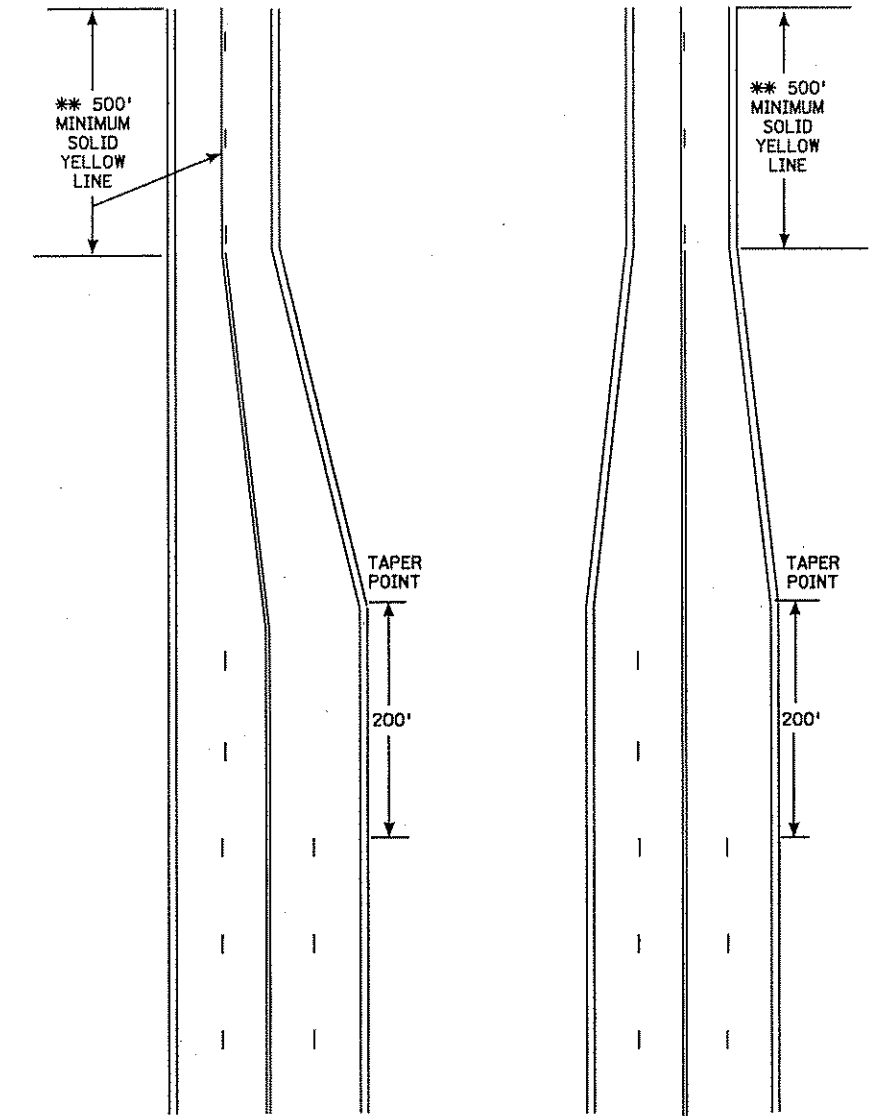
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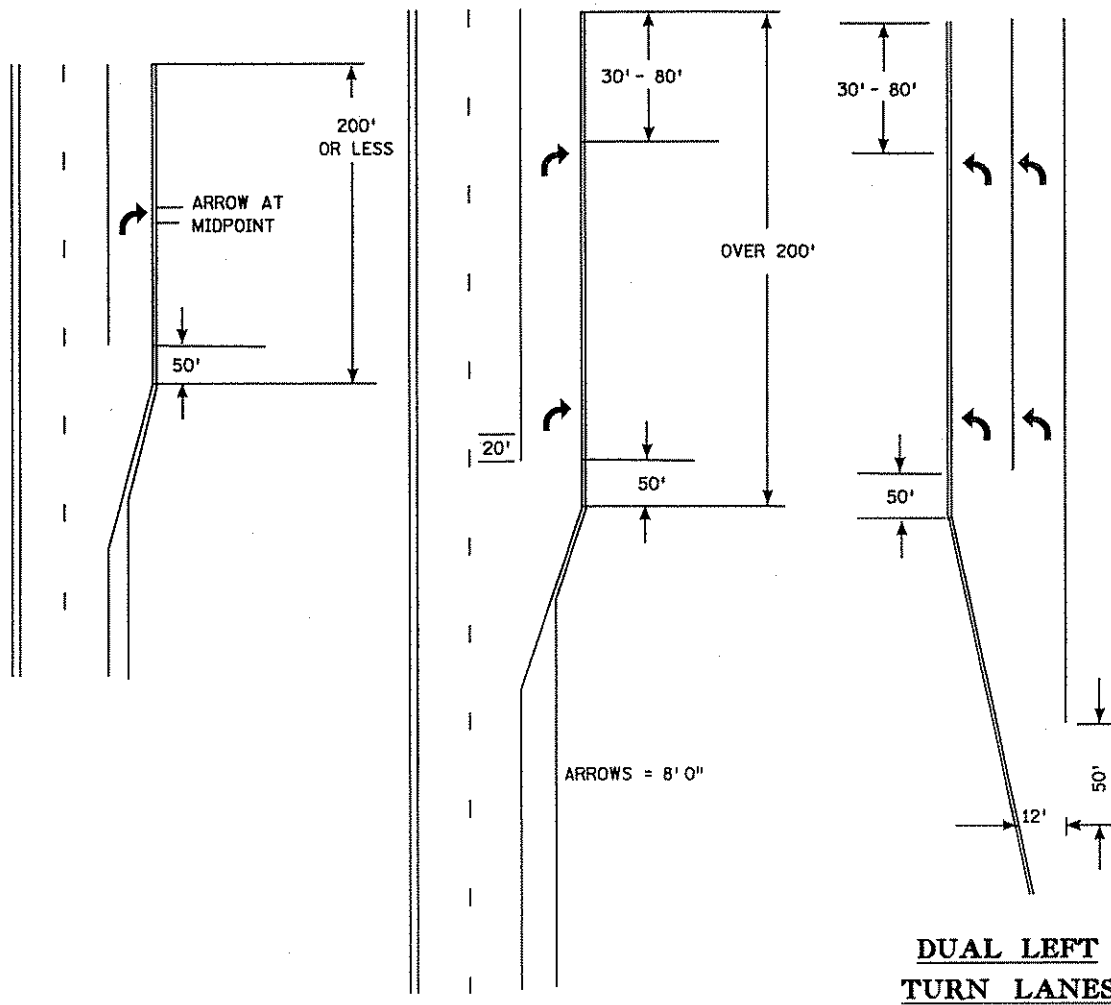
TYPICAL LEFT TURN LANE



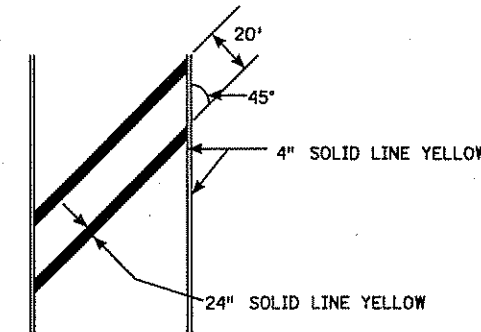
TYPICAL LANE REDUCTION TRANSITION



TYPICAL MESSAGE PLACEMENT FOR TURN LANES



TYPICAL MARKINGS FOR LEFT TURN ISLANDS



AT SPEEDS LESS THAN 40 MPH THE WIDTH OF THE CROSSHATCH LINE MAY BE REDUCED TO 12\".

AT SPEEDS 40 MPH AND OVER THE SPACING MAY BE INCREASED TO 30' BETWEEN CROSSHATCH LINES.

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

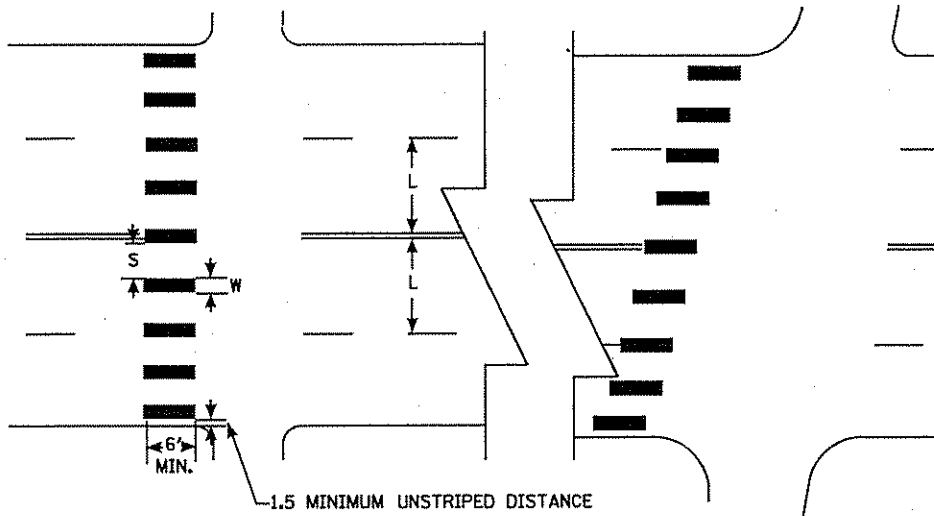
PAVEMENT MARKING TYPICALS

PLOTTED/REVISED: 11/28/2005

PLOT NAME: t:\typicals-pm-tyb3
PATH & FILENAME: S:\TRAFFIC\TC_Signing\010\0202\8V_ttypicals-pm-tyb3.dgn

MARKINGS FOR PEDESTRIAN CROSSWALKS

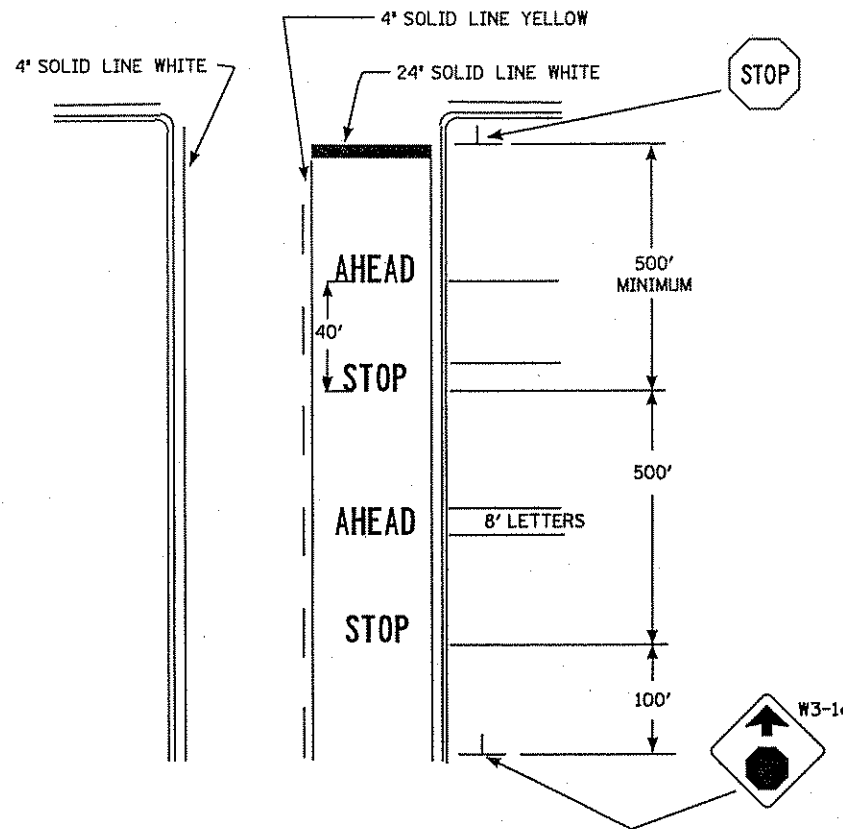
| (L) WIDTH OF INSIDE LANE | (W) WIDTH OF PAINTED AREA | (S) WIDTH OF SPACE |
|--------------------------------|---------------------------------|--------------------------|
| 9' | 2.0' | 2.5' |
| 10' | 2.5' | 2.5' |
| 11' | 2.5' | 3.0' |
| 12' | 3.0' | 3.0' |
| 13' | 3.0' | 3.5' |



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.

PLACEMENT FOR "STOP AHEAD" MARKINGS AND STOP LINES



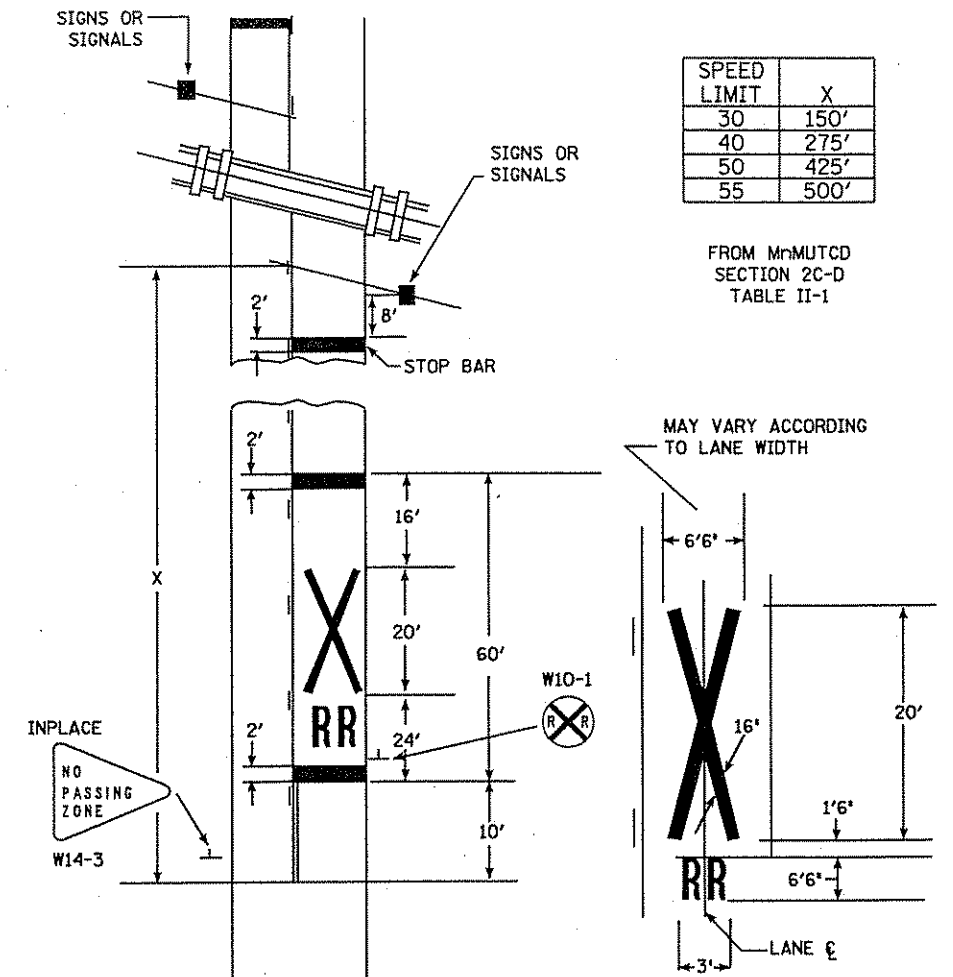
NOTES:

1. DOUBLE MESSAGE AS SHOWN SHOULD BE PLACED WHEREVER APPROACH SPEEDS ARE OVER 40 MPH.
2. 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' |
3. STOP LINES 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 NO LESS THAN 4 FEET FROM THE NEAREST EDGE OF THE INTERSECTING CURB LINE OR NEAR EDGE OR SHOULDER.

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.

MARKINGS FOR RAILROAD CROSSINGS

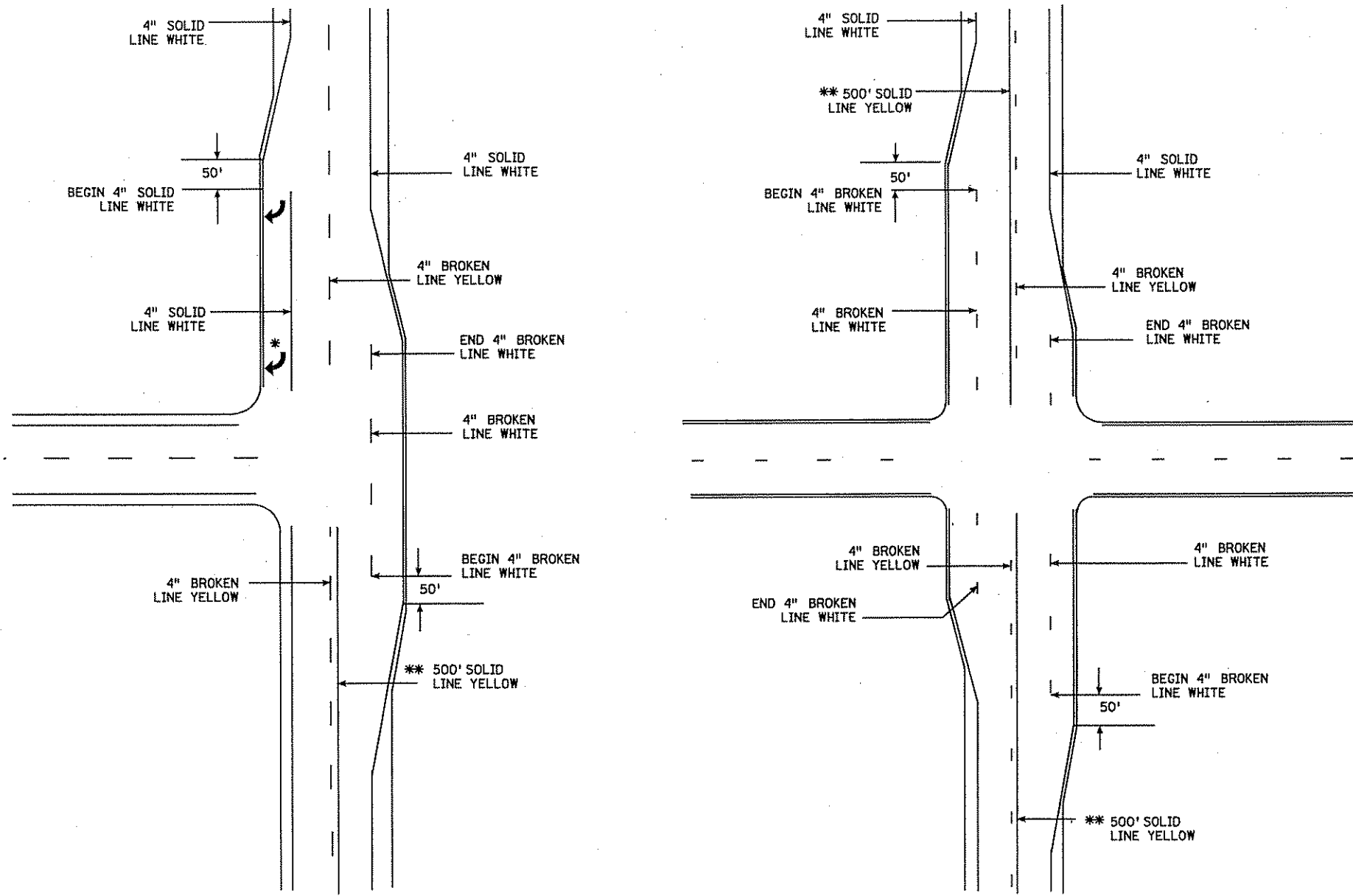


NOTES:

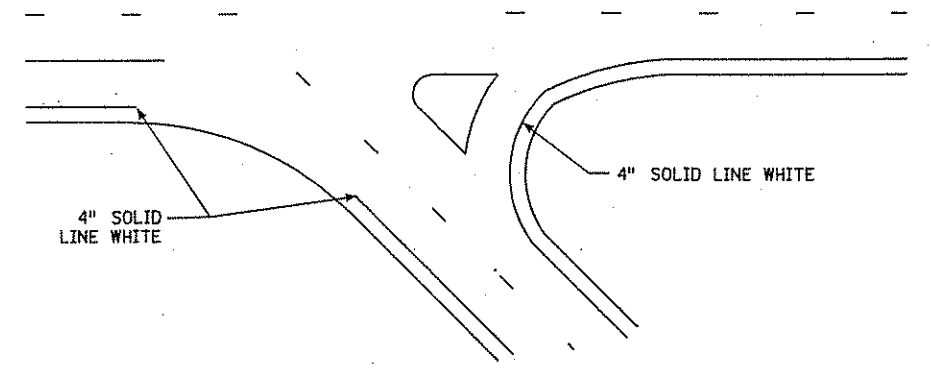
1. THE DISTANCE FROM THE RAILROAD CROSSING MARKING TO THE NEAREST TRACK WILL VARY ACCORDING TO THE APPROACH SPEED AND SIGHT DISTANCE OF THE VEHICULAR TRAFFIC APPROACHING, BUT SHOULD NOT BE LESS THAN 50 FEET.
2. ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL 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.

PAVEMENT MARKING TYPICALS

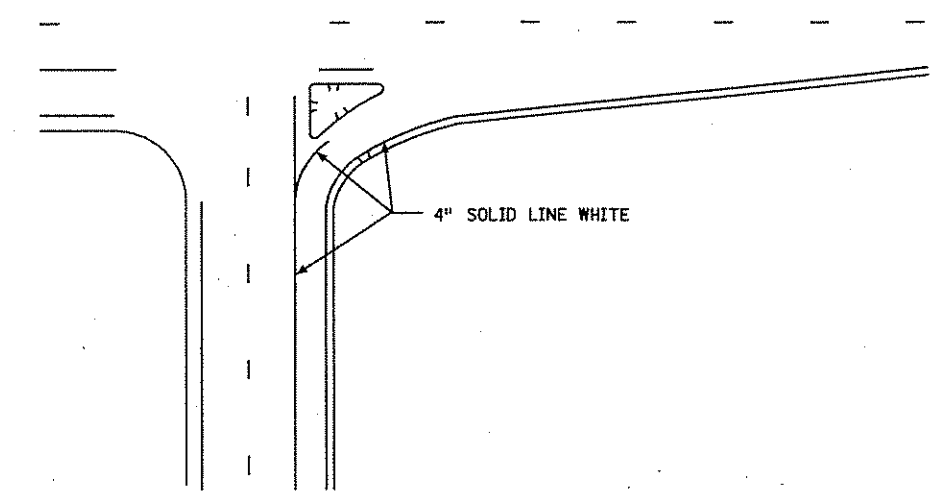
MARKINGS FOR BYPASS LANES



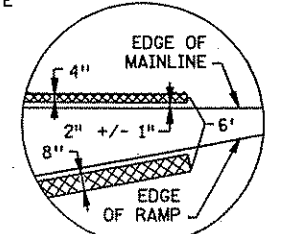
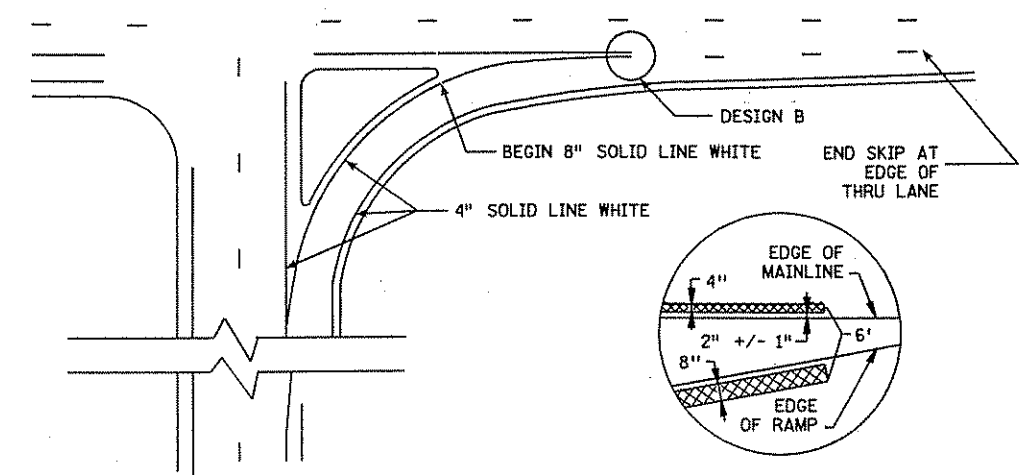
FREE RIGHT STOP CONDITION



FREE RIGHT YIELD CONDITION



FREE RIGHT MERGE CONDITION



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

PLOTTED/REVISED: 11/28/2005
 I/PLOT NAME: 1_typicals_pm_typ4
 PATH & FILENAME: S:\TRAFFIC\TC_Signing\010\0202\8N_typicals_pm_tshdgn

PLOTTED/REVISED: 28-NOV-2005 14:51

| TABULATION OF SIGNING QUANTITIES | | | S |
|----------------------------------|---------------------|-------|----------------------------|
| TAB | ITEM | UNIT | TOTAL ESTIMATED QUANTITIES |
| | REMOVE SIGN TYPE C | EACH | 5 |
| TB | SALVAGE SIGN TYPE C | EACH | 8 |
| TB | INSTALL SIGN TYPE C | EACH | 8 |
| TE | HAZARD MARKER X4-2 | EACH | 6 |
| TA | SIGN PANELS TYPE C | SQ FT | 93 |

| SHEET NO. | DESCRIPTION |
|-----------|---|
| 66 | TITLE, TABULATED QUANTITIES & SIGN TABULATION SHEET |
| 67-68 | SIGN INSTALLATION DETAILS |
| 69-74 | TYPICALS |

SIGN TABULATION CHARTS

| SIGN PANELS TYPE C | | | | | | | | | | |
|--------------------|----------|------------|-----------------------|-----------|----------------|-----------|--------------|--------------------|-----------|----------------------------|
| SIGN NO. | QUANTITY | NO. & TYPE | POST | | MTG HEIGHT (1) | PANEL | | | CODE NO. | PANEL LEGEND |
| | | | KNEE BRACE QUANTITIES | LEN. FEET | | SIZE INCH | AREA SQ. FT. | TOTAL AREA SQ. FT. | | |
| C-1 | 1 | 2-U | 2 | 13 | 7 | 66 X 30 | 13.75 | 13.75 | R3-48ABCA | LEFT-LEFT-THROUGH-RIGHT |
| C-2 | 2 | 2-U | 1 | 13 | 7 | 30 X 30 | 6.25 | 12.50 | R3-7L | LEFT LANE MUST TURN LEFT |
| C-3 | 4 | 2-U | 1 | 13 | 7 | 30 X 30 | 6.25 | 25.00 | R3-7R | RIGHT LANE MUST TURN RIGHT |
| C-4 | 1 | 2-U | 1 | 13 | 7 | 36 X 30 | 7.50 | 7.50 | R3-30AB | LEFT-LEFT |
| C-5 | 1 | 2-U | 1 | 13 | 7 | 30 X 30 | 6.25 | 6.25 | R5-1 | DO NOT ENTER |
| C-6 | 1 | 2-U | 1 | 13 | 7 | 36 X 24 | 6.00 | 6.00 | R5-1a | WRONG WAY |
| C-7 | 2 | 2-U | 1 | 13 | 7 | 24 X 30 | 5.00 | 10.00 | R4-7 | KEEP RIGHT |
| C-8 | 4 | 2-U | 1 | 12 | 7 | 36 X 12 | 3.00 | 12.00 | R6-1R | ONE WAY |
| TOTAL | | | | | | | | | 93 | |

DELINEATORS & MARKERS

| TYPE | QUANT. | LOCATION |
|--------|--------|----------|
| (X4-2) | 6 | ISLAND |

| TB SALVAGE AND INSTALL SIGN TYPE C | | | | | | | | | | |
|------------------------------------|----------|------------|-----------------------|-----------|------------|-----------|--|--------------|--|-----------------------------|
| SIGN NO. | QUANTITY | NO. & TYPE | POST | | MTG HEIGHT | PANEL | | PANEL LEGEND | | |
| | | | KNEE BRACE QUANTITIES | LEN. FEET | | SIZE INCH | | | | |
| C-201 | 1 | 2 | 1 | 13 | 7 | 24 X 24 | | | | NO PARKING |
| C-202 | 2 | 2 | 1 | 14 | 7 | 30 X 36 | | | | WATCH FOR BUSES ON SHOULDER |
| C-203 | 2 | 2 | 1 | 13 | 7 | 30 X 30 | | | | STOP |
| C-204 | 1 | 2 | 1 | 16 | 7 | 24 X 12 | | | | NORTH |
| | | | | | | 24 X 24 | | | | COUNTY 56 |
| | | | | | | 24 X 24 | | | | NO PARKING |
| C-205 | 1 | 2 | 1 | 16 | 7 | 36 X | | | | RAILROAD ADVANCE WARNING |
| | | | | | | 24 X 24 | | | | NO PARKING |
| C-206 | 1 | 2 | 1 | 16 | 7 | 30 X 36 | | | | NO PASSING ON SHOULDER |
| | | | | | | 24 X 24 | | | | NO PARKING |
| TOTAL | | 8 | | | | | | | | |

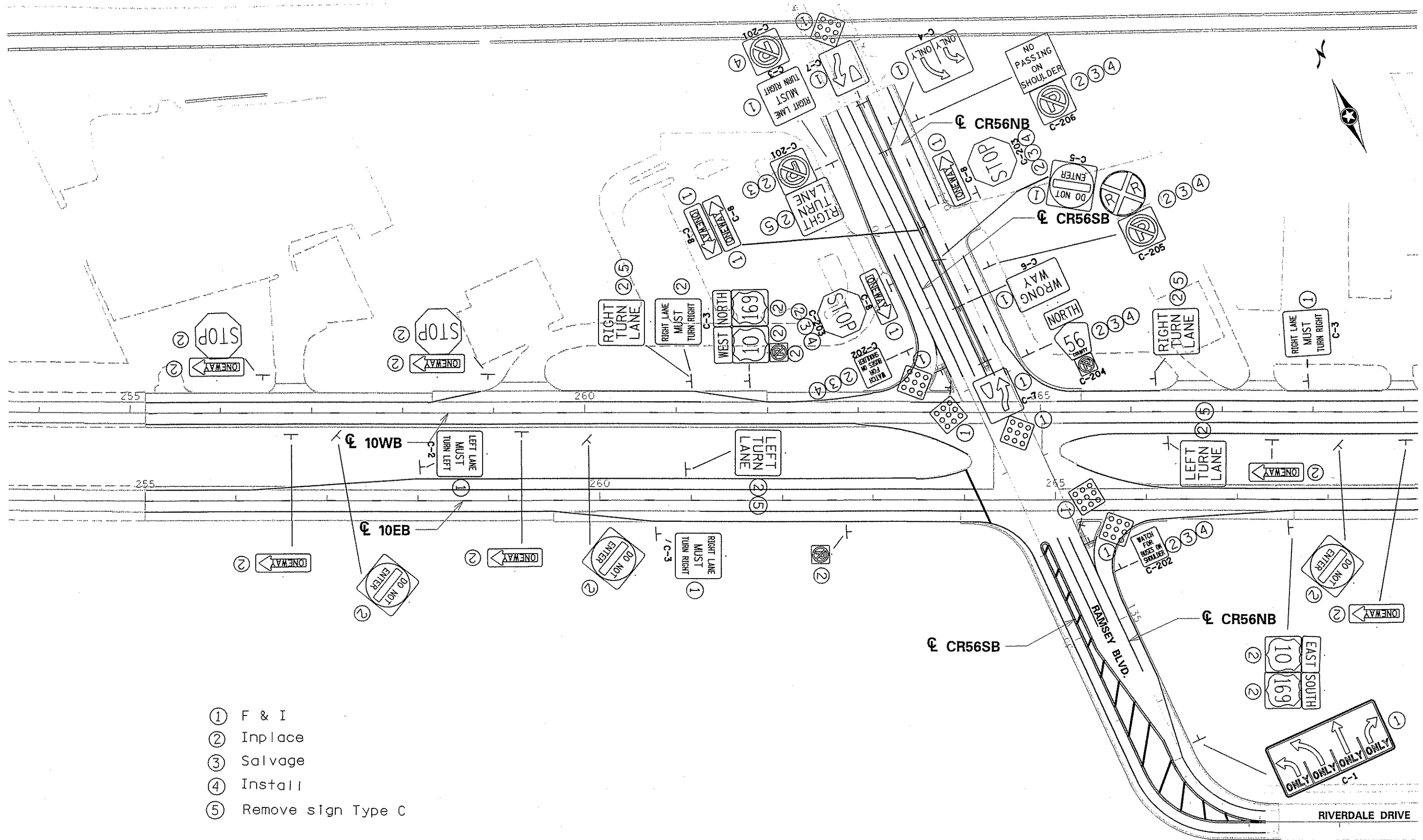
| TE DELINEATORS & MARKERS | | |
|--------------------------|--------|----------|
| TYPE | QUANT. | LOCATION |
| (X4-2) | 6 | ISLAND |

I HEREBY CERTIFY THAT SHEETS 66-74 WERE 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.

PRINT NAME: CASSANDRA ISACSON LICENSE # 26429
 DATE: 11/28/2005 SIGNATURE: *Cassandra Isacson*
 DESIGNER: Kenneth Pedersen

PERMANENT SIGNING TITLE SHEET & TABULATED SIGN QUANTITIES

DISTRICT #: METRO
 PLOT NAME: 020281_ps_1.sh
 PATH & FILENAME: S:\TRAFFIC\TC_Signing\010\0202\8N_hypocalis_ps_1.sh.dgn



- ① F & I
- ② Inplace
- ③ Salvage
- ④ Install
- ⑤ Remove sign Type C

PERMANENT SIGNING

DRAWN BY: KP

CHECKED BY: MJR

CERTIFIED BY *Cassandra Barb*

LIC. NO. 26429

DATE 11/28/2005

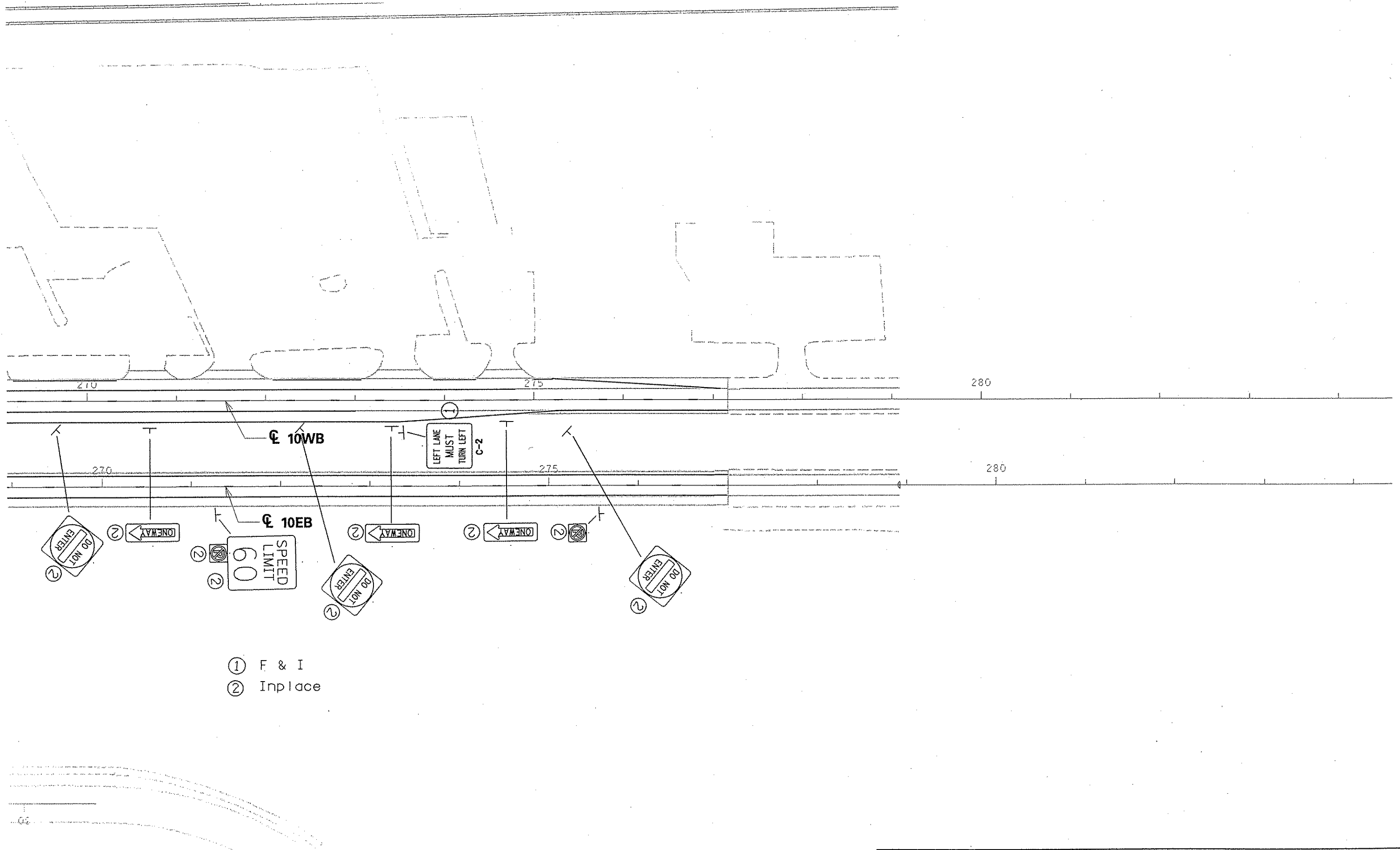
STATE PROJ. NO. 0202-81 (TH 10)

SHEET NO. 67

OF 85 SHEETS

PLOTTED/REVISED: 28-NOV-2005 13:29

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- ① F & I
- ② Inplace

DRAWN BY: KP

CHECKED BY: MJR

CERTIFIED BY

Cassandra Jacob
LICENSED PROFESSIONAL ENGINEER

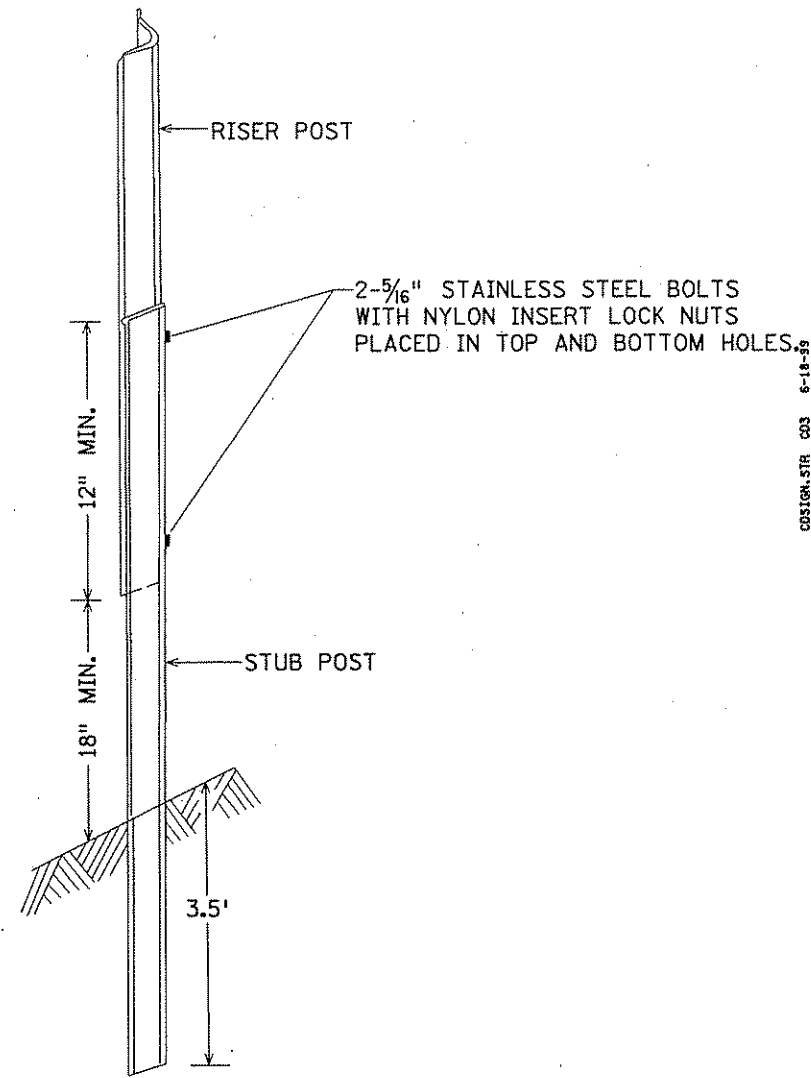
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DATE 11/28/2005

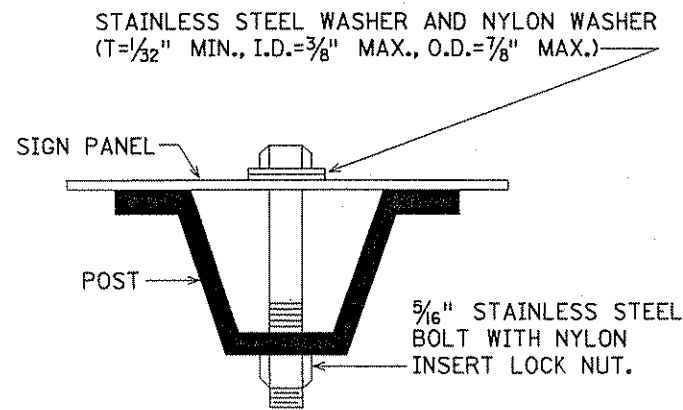
PERMANENT SIGNING

STATE PROJ. NO. 0202-81 (TH 10) SHEET NO. 68 OF 85 SHEETS

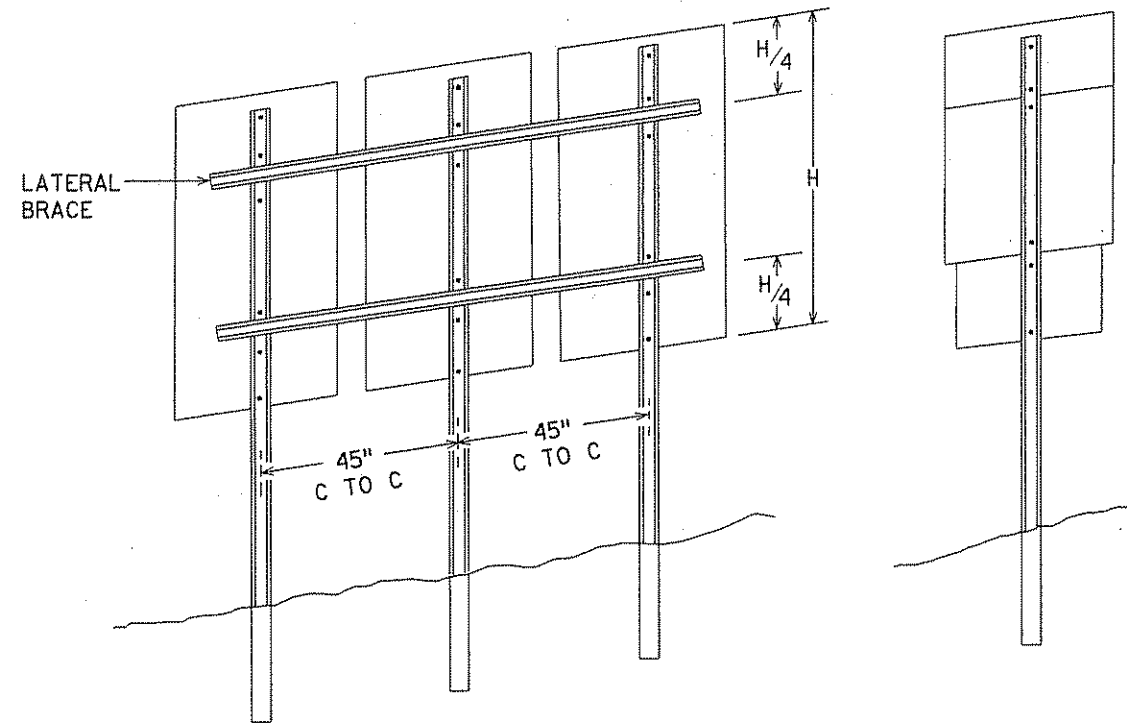
TYPE "C" & "D" POST



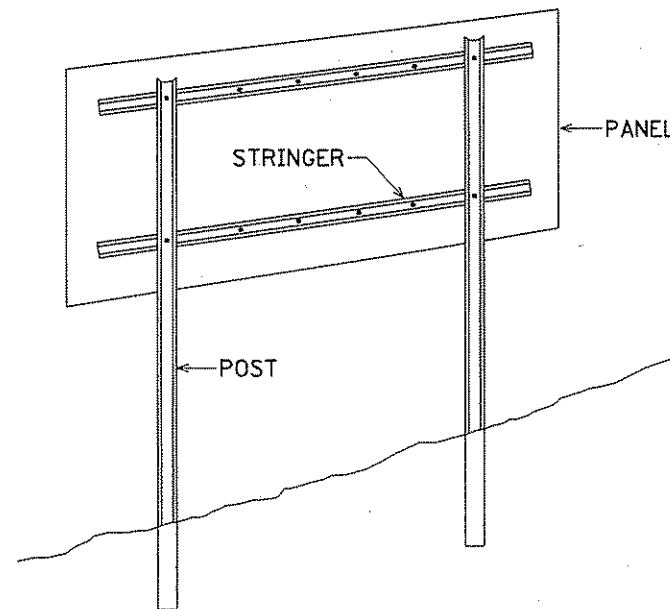
"U POST" SPLICE



"U POST" MOUNTING
TYPE "C" SIGNS



TYPICAL TYPE "C" INSTALLATIONS



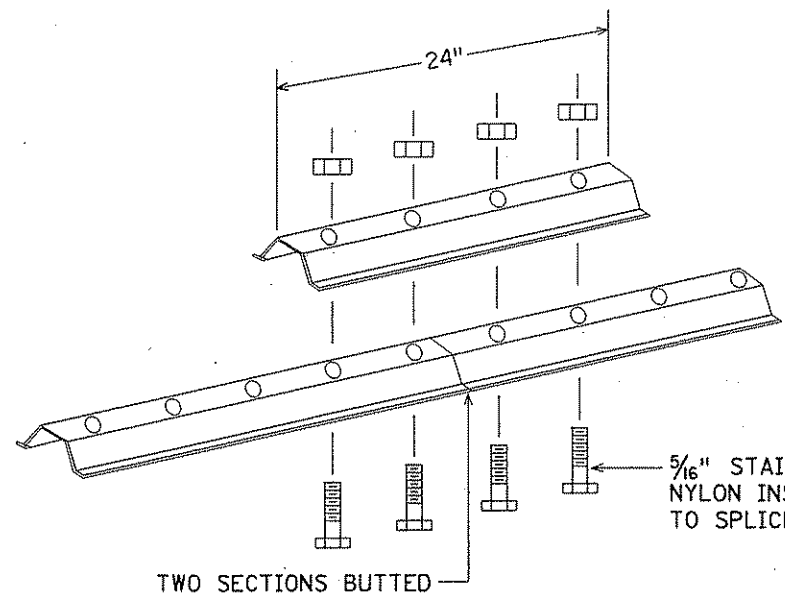
TYPICAL TYPE "D" INSTALLATION

NOTES:

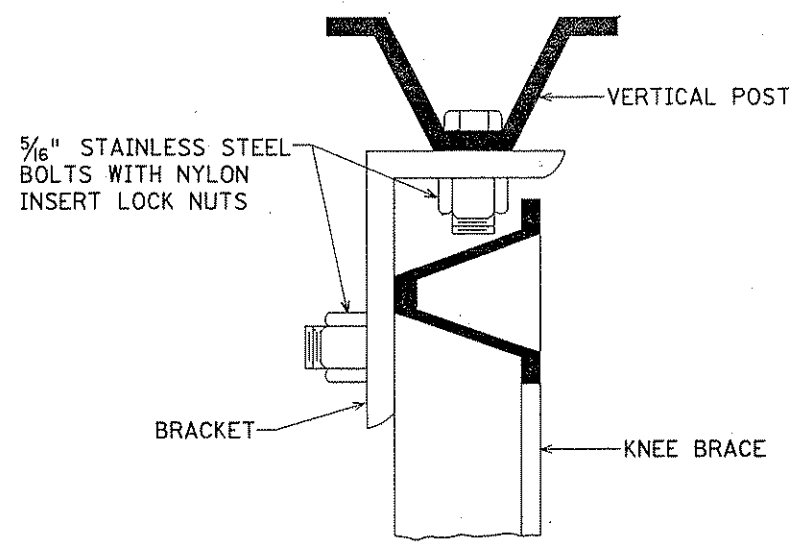
1. USE 3# STUB POSTS, RISER POSTS, STRINGERS, KNEE BRACES, LATERAL BRACES AND KNEE BRACE STUB POSTS. ALL SHALL CONFORM TO MN/DOT 3401.
2. FOR TYPE "D" SIGN POSTS LENGTHS AND SPACINGS, SEE SIGN DATA SHEET.
3. TYPE "D" SIGN PANELS SHALL BE BOLTED TO STRINGERS AT 24" MAXIMUM INTERVALS IN ACCORDANCE WITH TYPE "D" STRINGER AND PANEL-JOINT DETAIL (SEE STANDARD SIGNS MANUAL).
4. MOUNTING (PUNCHING CODE) FOR TYPE "C" SIGN PANELS SHALL BE AS INDICATED IN THE STANDARD SIGNS MANUAL UNLESS OTHERWISE SPECIFIED.
5. ALL RISER (VERTICAL) "U POSTS" SHALL BE SPLICED. DRIVEN STUB POSTS SHALL BE AT LEAST 7' LONG.
6. USE STAINLESS STEEL 5/16" BOLTS, WASHERS, AND NYLON INSERT LOCK NUTS AS SHOWN FOR ALL GROUND MOUNTED AND OVERHEAD MOUNTED SIGNS.
7. STAINLESS STEEL WASHER WITH SAME DIMENSIONS SHALL BE PROVIDED BETWEEN ALL NYLON WASHERS AND BOLT HEADS.
8. BRACING STUBS SHALL BE NO MORE THAN 4" ABOVE GROUND AND EMBEDDED AT LEAST 3 1/2'.
9. A-FRAME BRACKET SHALL BE STEEL CONFORMING TO MN/DOT 3306 AND GALVANIZED IN ACCORDANCE WITH MN/DOT 3394.
10. COLLARS SHALL BE USED TO SHIM OVERLAYS AND DEMOUNTABLE LEGEND AWAY FROM PANEL WHERE INTERFERENCE WITH BOLT HEADS IS ENCOUNTERED. MN/DOT 3352.2A5.
11. 2 AND 3 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.
12. WHERE 2 OR MORE SINGLE POST SIGNS (TYPE "C") ARE MOUNTED SIDE BY SIDE, THEY SHALL BE REINFORCED Laterally BY AT LEAST 2 POST SECTIONS, BOLTED AT EACH POST AND LOCATED APPROXIMATELY AT THE QUARTER POINTS AS SHOWN IN SKETCH.

TYPE C & D SIGN
STRUCTURAL DETAILS

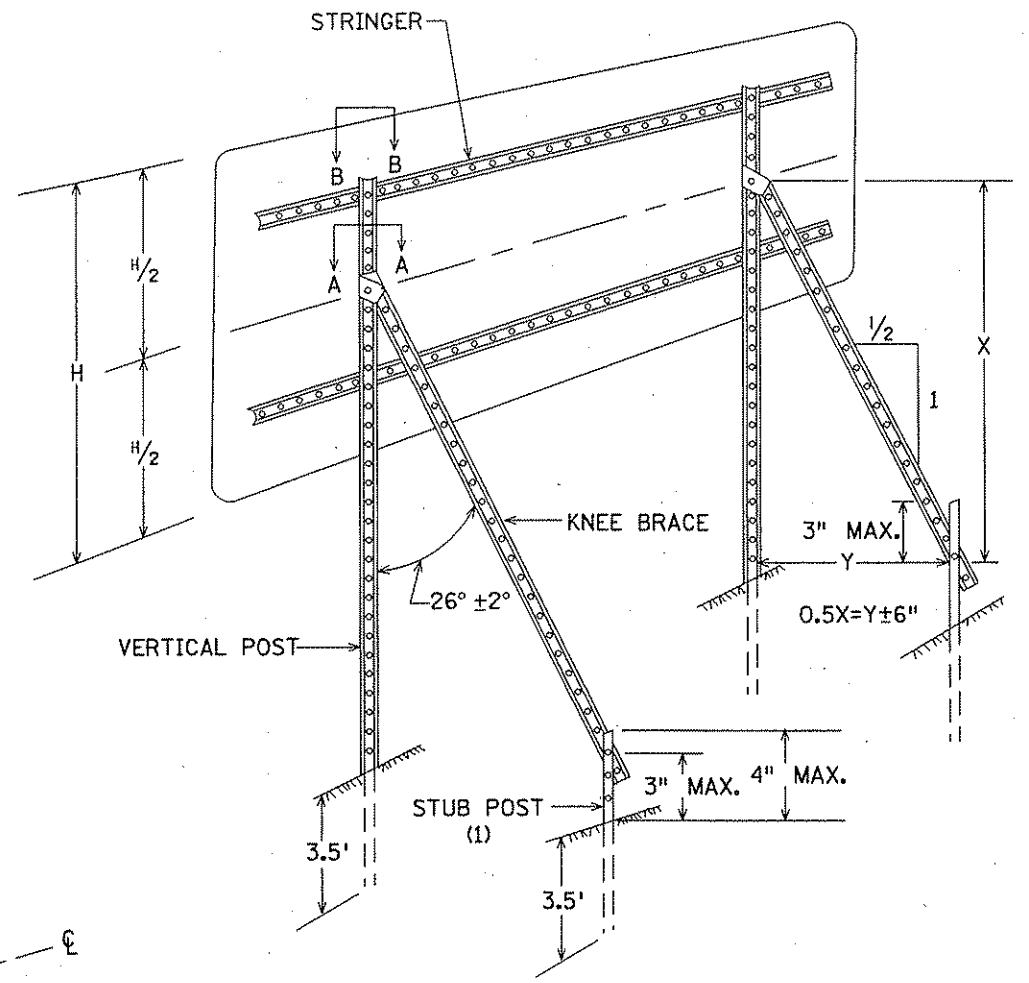
Sheet 1 of 3



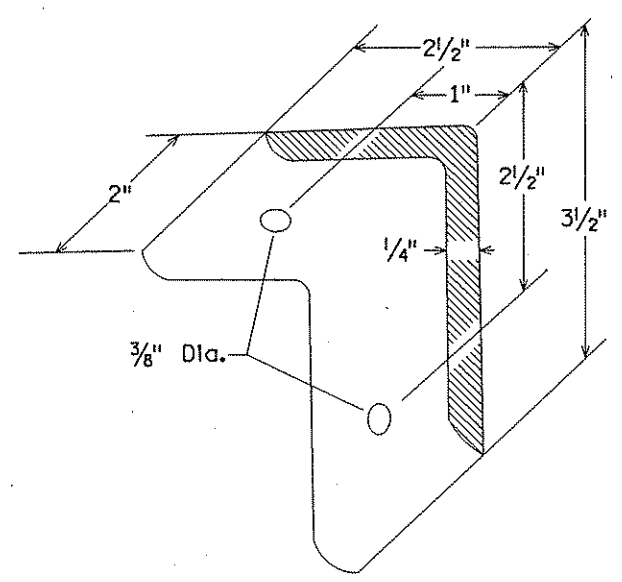
LATERAL BRACE OR STRINGER SPLICE DETAIL (EXPLODED VIEW)



SECTION A-A

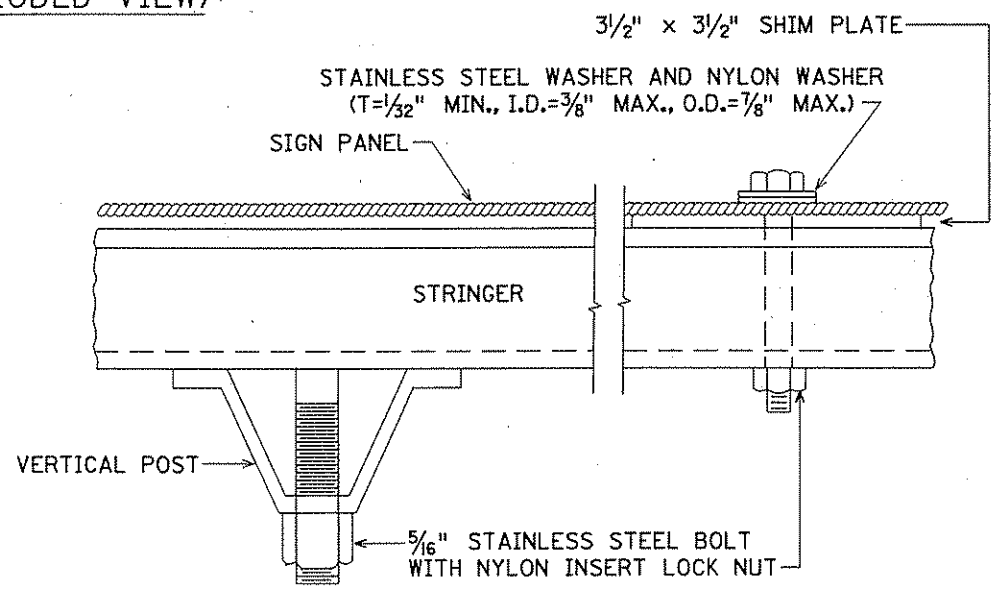


TYPICAL "A-FRAME" INSTALLATION TYPE "D" SIGNS

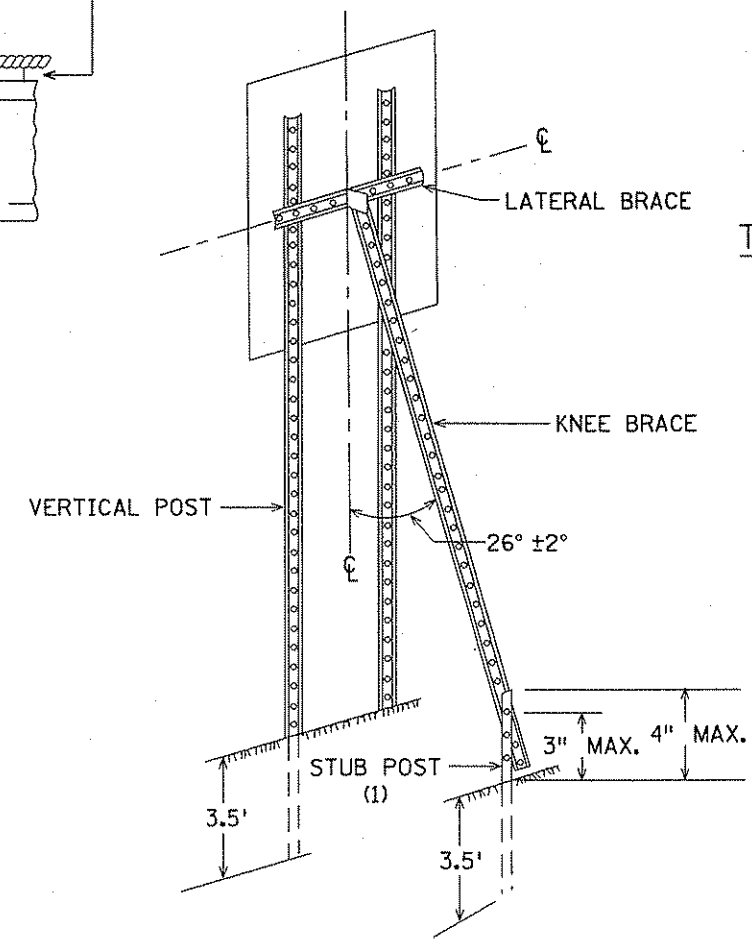


A-FRAME BRACKET

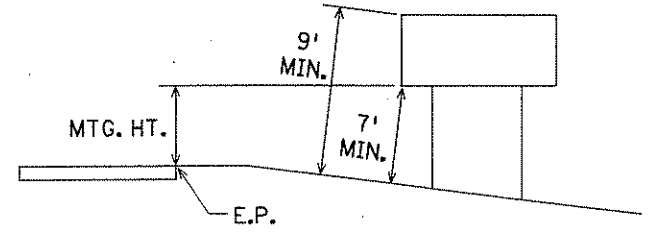
(STEEL MN/DOT 3306 GALVANIZED PER MN/DOT 3394)



SECTION B-B



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

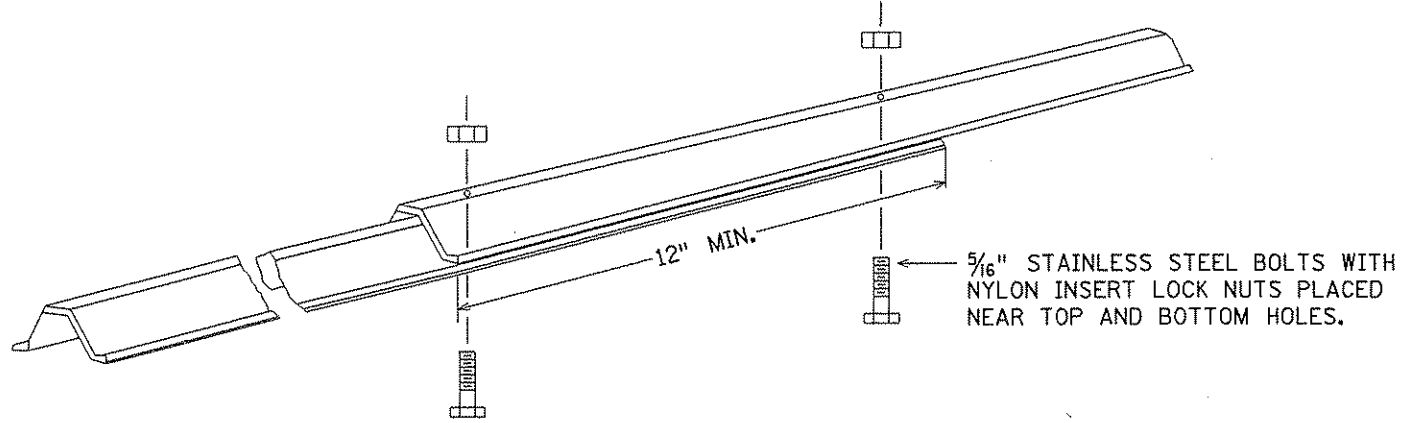


TYPICAL MOUNTING

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

TYPE C & D SIGN STRUCTURAL DETAILS

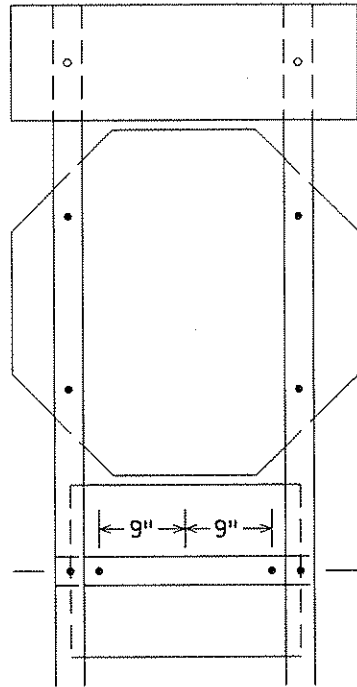
Sheet 2 of 3



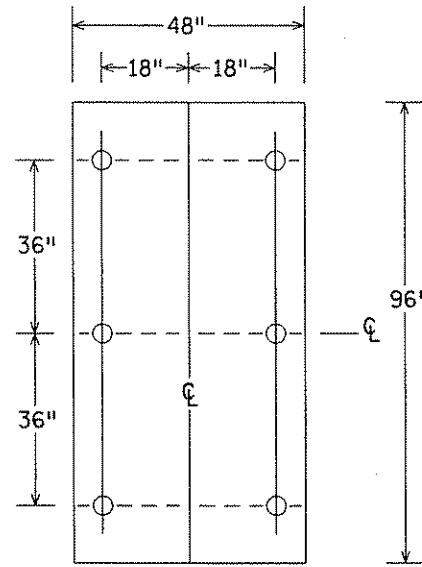
KNEE BRACE SPLICE

DESIGN STR 02 6-18-99

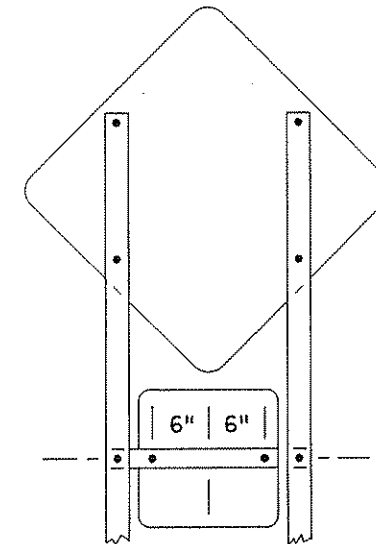
Revised 6-18-99



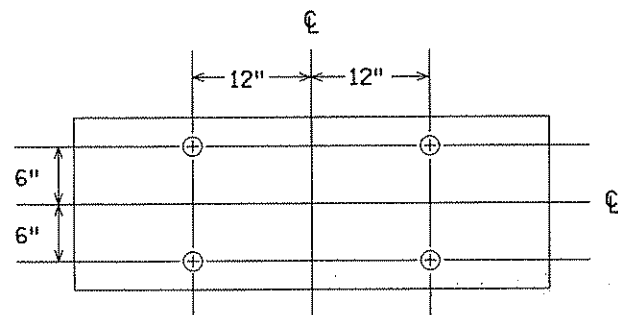
R6-1, R1-1 & (R6-3 OR R6-3a)
MOUNTING



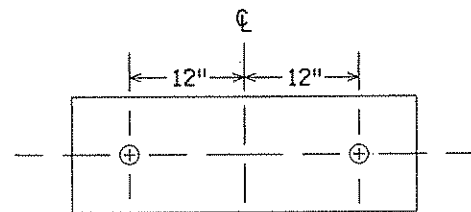
PUNCHING FOR R2-4b
SPEED LIMIT



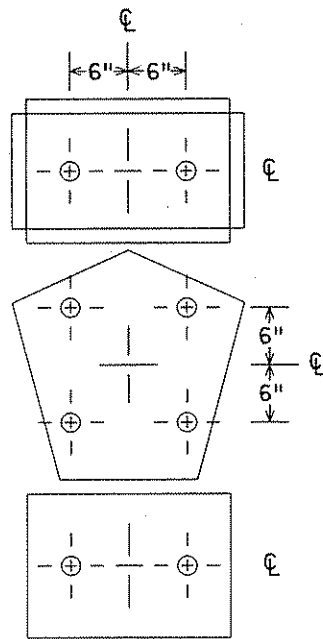
(W1-1, W1-2, W1-3, W1-4 OR W1-5) & W13-1
MOUNTING



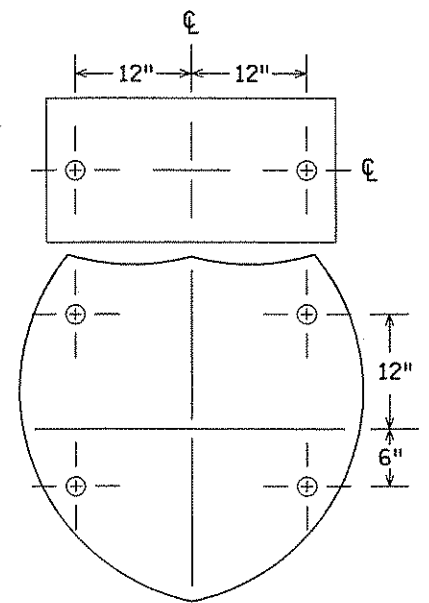
PUNCHING FOR R6-1(48" x 18")



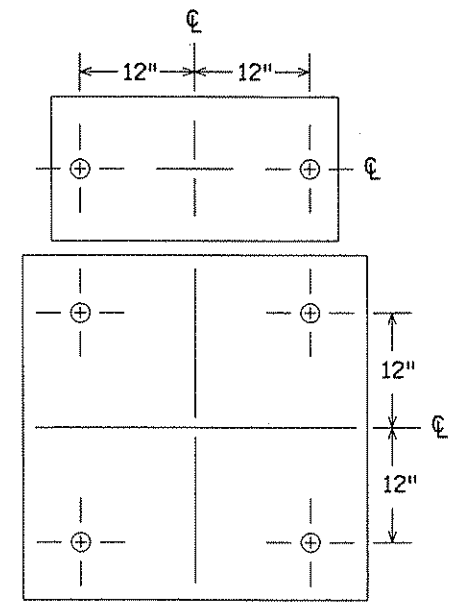
PUNCHING FOR R6-1(36" x 12")



M2-1A [21" x 15"] OR
(M3-1A, M3-2A, M3-3A OR M3-4A) [24" x 12"] AND
M1-6 [24" x 24"] AND
(M5-1A, M5-2A, M6-1A, M6-2A, M6-3A M6-4A, M6-5A OR M6-6A) [21" x 15"]
PUNCHING



(M3-1A, M3-2A, M3-3A OR M3-4A) [30" x 15"] AND
M1-1 [45" x 36" OR 36" x 36"]
PUNCHING



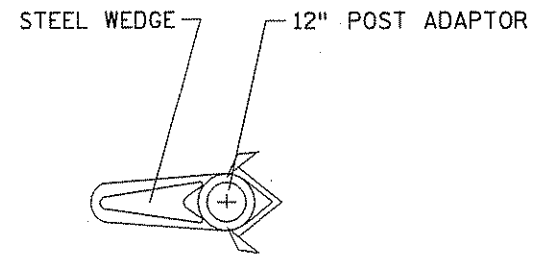
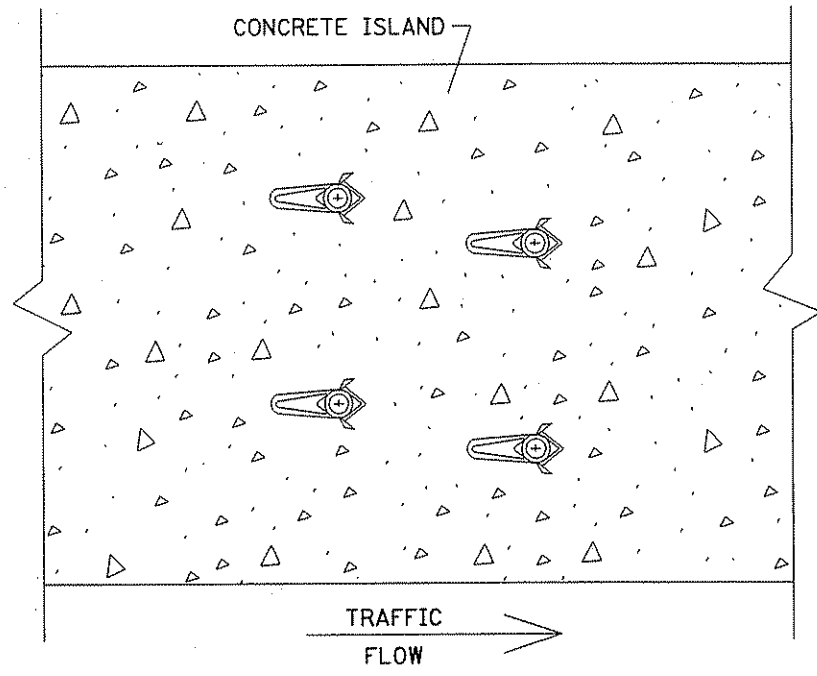
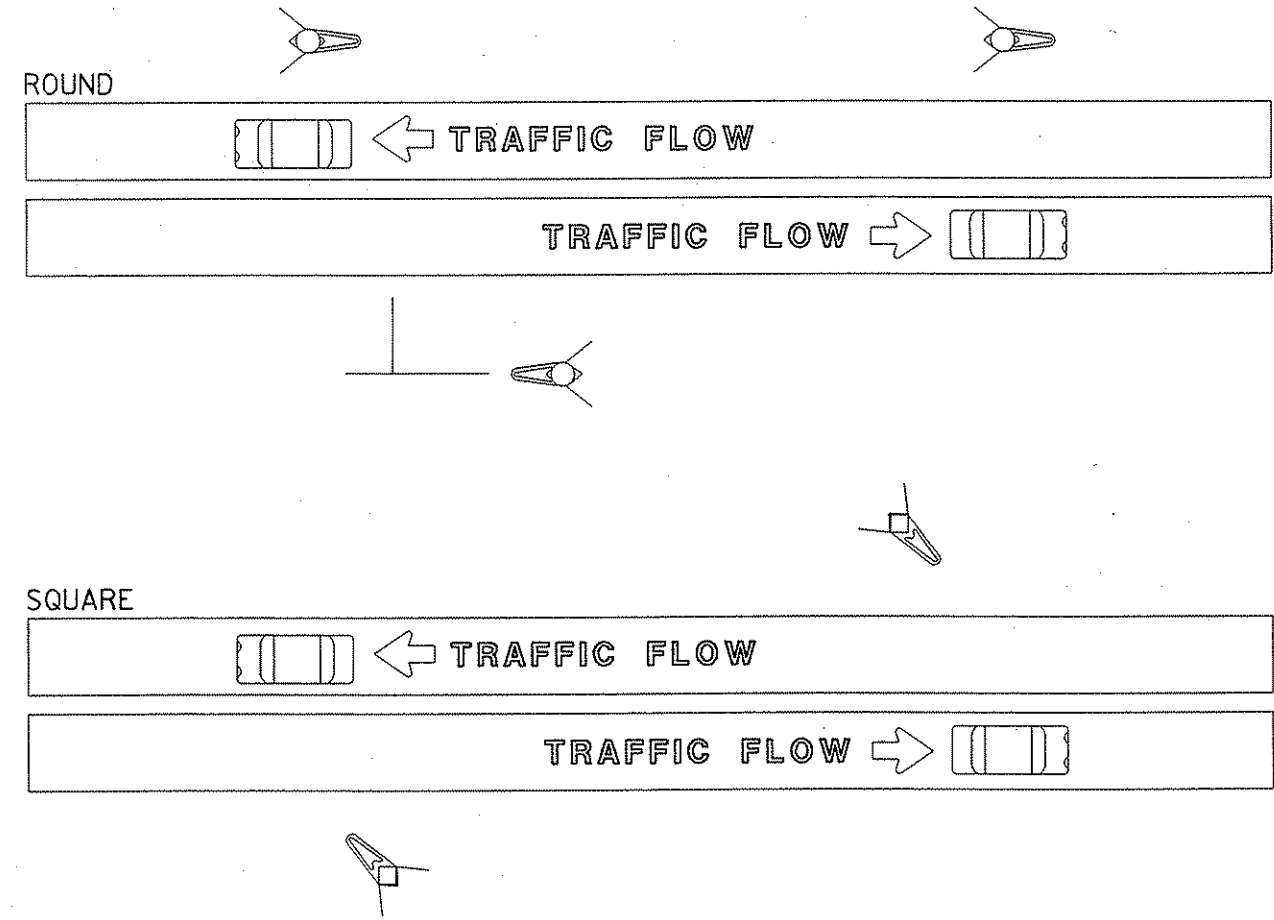
(M3-1, M3-1A, M3-2, M3-2A, M3-3, M3-3A M3-4 OR
M3-4A) [30" x 15"] AND (M1-4 OR M1-5A) [36" x 36"]
PUNCHING

TYPE C & D SIGN
STRUCTURAL DETAILS

Sheet 3 of 3

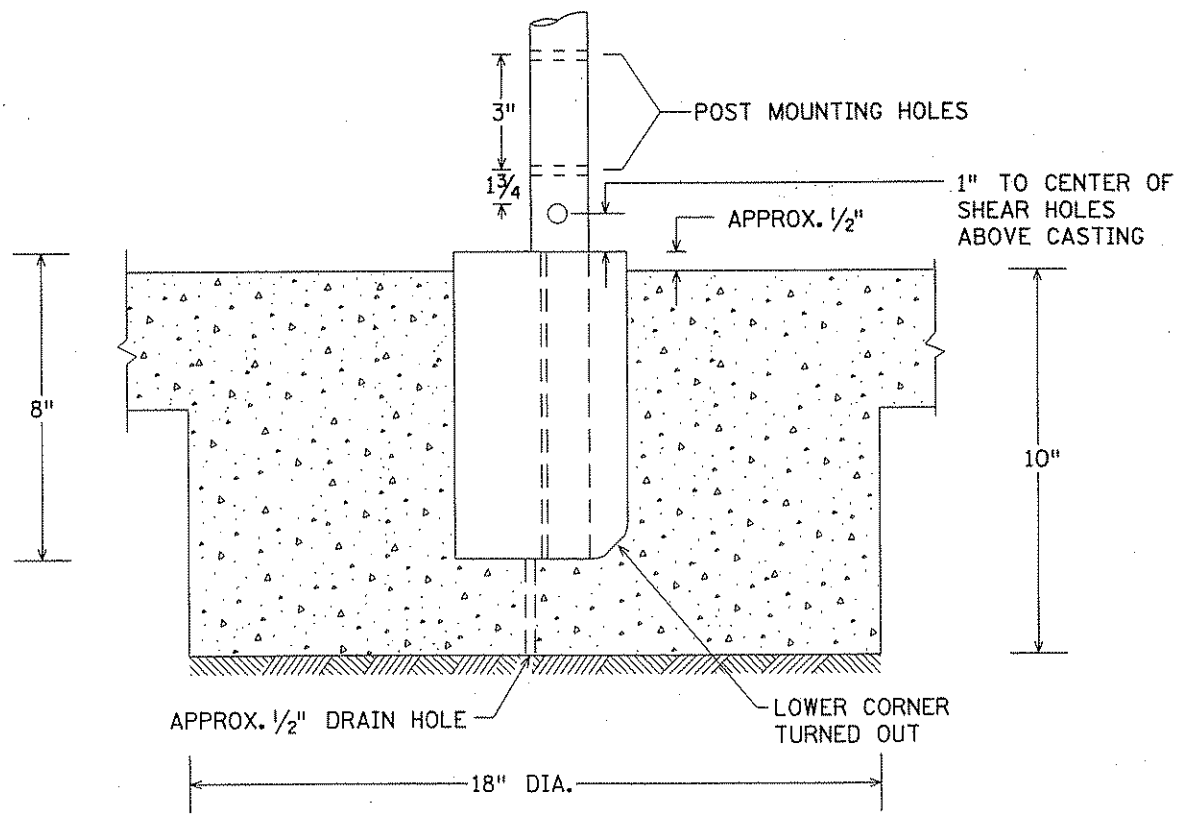
ROADSIDE OR MEDIAN PLACEMENT
FOR ROUND AND U CHANNEL SOCKETS

THE AXIS OF THE SIGNPOST SUPPORT WEDGE SHOULD ALIGN PARALLEL TO THE ROAD FOR MAXIMUM RESISTANCE TO IMPACT AS SHOWN BELOW:



TOP VIEW - LOCKING DEVICE

TOP VIEW
2 POSTS SIGN WITH 2 KNEE BRACES



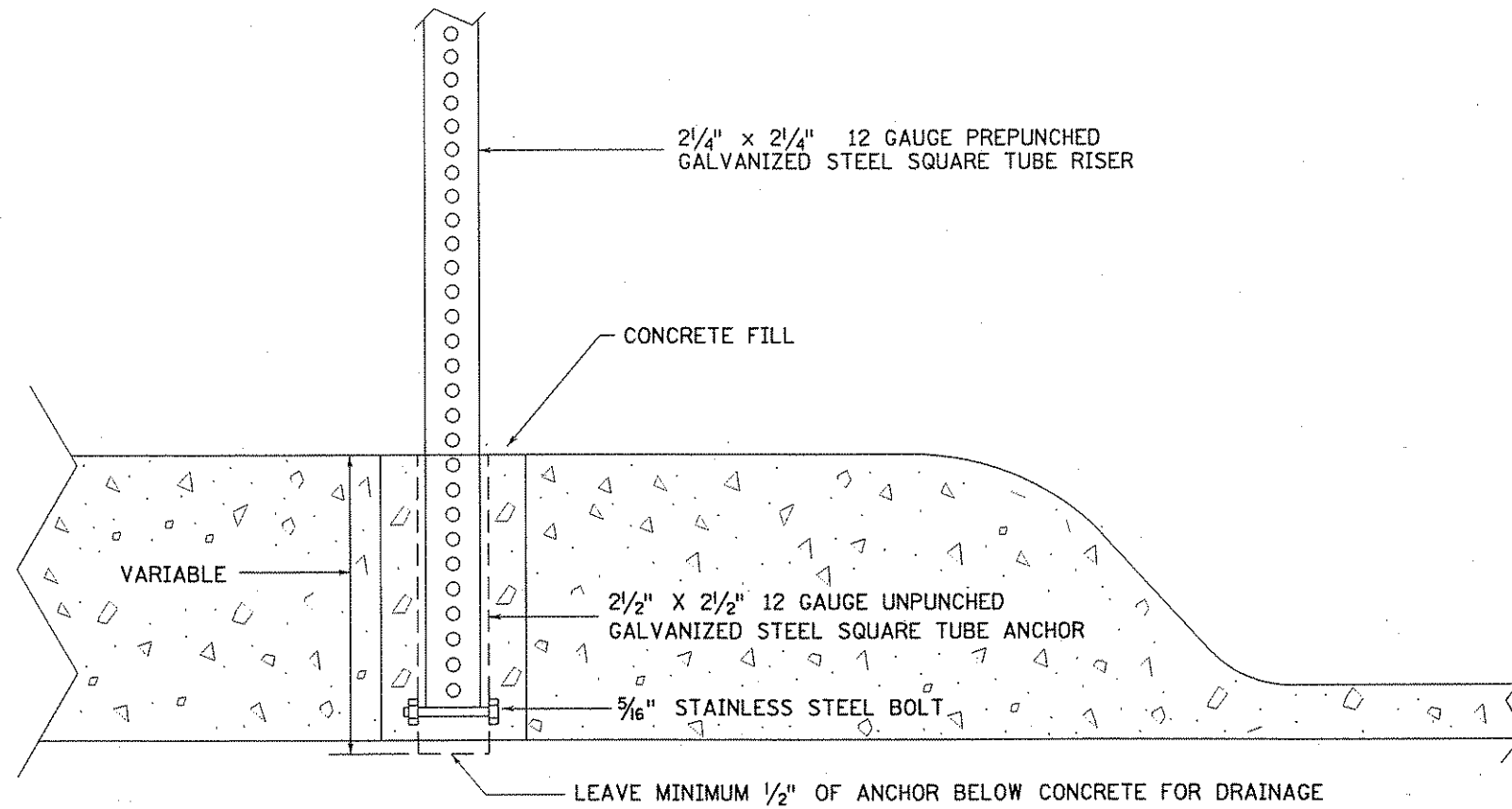
ELEVATION VIEW

GENERAL NOTES:

1. SEAL BOTTOM OF SIGNPOST SUPPORT WITH DUCT TAPE BEFORE INSTALLATION IN NEW CONCRETE.
2. SIGNPOST SUPPORTS SHALL BE INSTALLED PLUMB AND APPROXIMATELY 1/2" ABOVE THE TOP OF THE CONCRETE SURFACE.

SIGNPOST SUPPORT IN CONCRETE

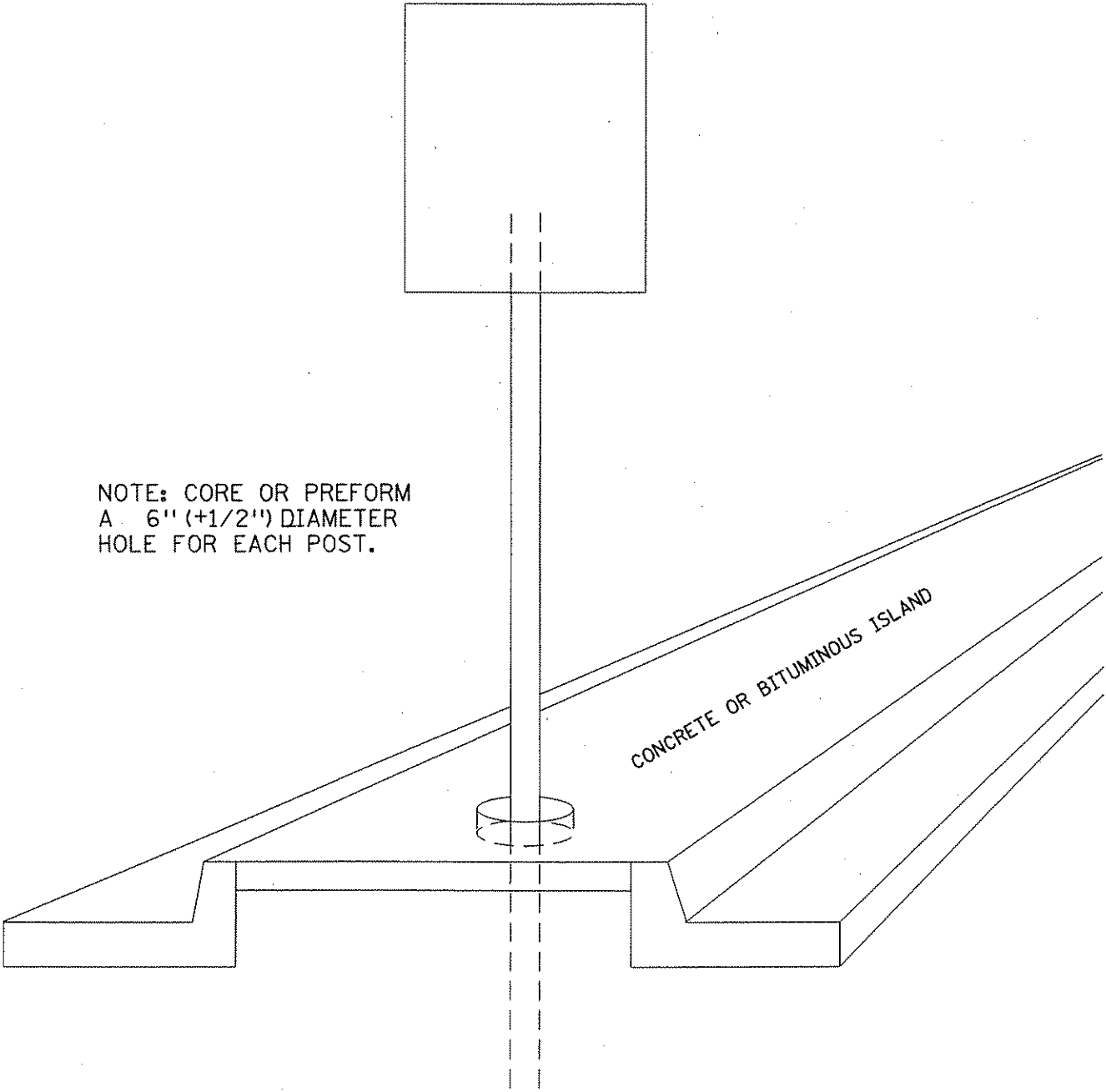
C SIGN MOUNTING COR SPSC 1-27-98



NOTES:

1. DRILL A 6" DIAMETER HOLE THE FULL DEPTH OF THE CONCRETE ISLAND.
2. DRILL $\frac{3}{8}$ " HOLES ON OPPOSITE SIDES OF THE UNPUNCHED GALVANIZED STEEL SQUARE TUBE ANCHOR APPROX. 1" FROM THE BOTTOM OF THE ANCHOR. INSERT A $\frac{5}{16}$ " STAINLESS STEEL BOLT THROUGH THE HOLES AND SECURE WITH A STAINLESS STEEL LOCK NUT WITH NYLON INSERT. THE PREPUNCHED GALVANIZED STEEL SQUARE TUBE RISER (TO BE INSERTED INSIDE THE UNPUNCHED GALVANIZED SQUARE TUBE ANCHOR) WILL REST ON BOLT.
3. INSERT THE ANCHOR IN THE PRE DRILLED HOLE IN THE CONCRETE ISLAND.
4. AFTER INSTALLATION OF THE UNPUNCHED GALVANIZED STEEL SQUARE TUBE ANCHOR, FILL THE HOLE WITH A CONCRETE MIX APPROVED BY THE ENGINEER AND LEVEL OFF THE TOP OF CONCRETE.

TYPE C SIGNS, DELINEATORS &
MARKERS IN CONCRETE



FLANGED CHANNEL POST MOUNTED THROUGH SURFACED
MEDIAN OR SIDEWALK

C SIGN (SHT. 64) 11-01-01

Revised 12-23-97

TRAFFIC CONTROL SIGNAL SYSTEM

AT THE INTERSECTIONS OF: T.H. 10 AT RAMSEY BLVD./CO RD. 56 (SYSTEM "B")

ABBREVIATIONS

| | |
|--------------|--|
| BL | BLUE |
| BL/BLK | BLUE WITH BLACK TRACER |
| BLK | BLACK |
| BLK/WH | BLACK WITH WHITE TRACER |
| CH. SW. | CHECK SWITCH |
| CLR | CLEAR |
| D2-1 (e.g.) | DETECTOR (PHASE 2, NO. 1) |
| DWK | DON'T WALK |
| EQ.G | EQUIPMENT GROUND |
| EVP | EMERGENCY VEHICLE PRE-EMPTION |
| F&I | FURNISH AND INSTALL |
| FL | FLASH/FLASHING |
| G | GREEN |
| G/BLK | GREEN WITH BLACK TRACER |
| GLTA | GREEN LEFT TURN ARROW |
| GRN | GREEN |
| GR. RD. | GROUND ROD |
| GRTA | GREEN RIGHT TURN ARROW |
| GTHA | GREEN THRU ARROW |
| HH | HANDHOLE |
| HPS | HIGH PRESSURE SODIUM |
| IMC | INTERMEDIATE METAL CONDUIT |
| INP | INPLACE |
| INS. GR. | INSULATED GROUND |
| JB | JUNCTION BOX |
| LED | LIGHT EMITTING DIODE |
| LHT | LIGHT |
| LUM | LUMINAIRE |
| NEU | NEUTRAL |
| NMC | NONMETALLIC CONDUIT |
| O | ORANGE |
| O/BLK | ORANGE WITH BLACK TRACER |
| P1-1 (e.g.) | PEDESTRIAN INDICATION (PHASE 1, NO. 1) |
| PB | PUSH BUTTON |
| PB2-1 (e.g.) | PUSH BUTTON (PHASE 2, NO. 1) |
| PEC | PHOTOELECTRIC CELL |
| PED | PEDESTRIAN |
| R | RED |
| R&S | REMOVE AND SALVAGE |
| R/BLK | RED WITH BLACK TRACER |
| RLTA | RED LEFT TURN ARROW |
| RSC | RIGID STEEL CONDUIT |
| SOP | SOURCE OF POWER |
| SPR | SPARE |
| ST LHT | STREET LIGHT |
| STA | STATION |
| SW | SWITCH |
| SWD | SWITCHED |
| TDW | TELEPHONE DROP WIRE |
| WH | WHITE |
| WH/BLK | WHITE WITH BLACK TRACER |
| WLK | WALK |
| YEL | YELLOW |
| YLTA | YELLOW LEFT TURN ARROW |
| YRTA | YELLOW RIGHT TURN ARROW |

SYMBOLS

| | |
|--|----------------------------------|
| | EQ.G CONNECTION |
| | EVP DETECTOR W/LIGHT |
| | LUMINAIRE NO. |
| | SIGNAL BASE NO. |
| | SIGNAL FACE NO./FLASHER FACE NO. |
| | SPLICE |
| | VIDEO DETECTION |
| | MICROWAVE DETECTION |
| | SONIC DETECTION |

FOR PLANS AND UTILITIES SYMBOLS
SEE TECHNICAL MANUAL

STANDARD PLATES - SIGNAL SYSTEMS

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

| PLATE NO. | DESCRIPTION | PLATE NO. | DESCRIPTION |
|-----------|--------------------------------------|-----------|--|
| 7036 F | PEDESTRIAN CURB RAMP | 8122 C | PEDESTAL AND PEDESTAL BASE |
| 8110 D | TRAFFIC SIGNAL BRACKETING | 8123 E | POLE AND MAST ARM |
| 8111 D | TRAFFIC SIGNAL BRACKETING | 8124 E | MAST ARM SIGNAL HEAD MOUNTS |
| 8112 D | PEDESTAL FOUNDATION | 8126 G | POLE FOUNDATION (PA90 AND PA100) |
| 8114 A | PVC HANDHOLE/PULLBOX | 8130 D | SAW CUT LOOP DETECTORS |
| 8115 D | PEDESTRIAN PUSH BUTTON INSTALLATION | 8140 B | ROADWAY LIGHTING SERVICE CABINET (PAD MOUNTED) |
| 8118 C | SERVICE EQUIPMENT AND POLE | | |
| 8119 C | GROUND MOUNTED CABINET FOUNDATION | | |
| 8120 L | POLE FOUNDATION (PA-85) | | |
| 8121 D | TRANSFORMER BASE AND POLE BASE PLATE | | |

▶ STANDARD PLATES APPLICABLE TO THIS PROJECT

I HEREBY CERTIFY THAT SHEETS 75 THROUGH 85 OF THIS PLAN WERE 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.

SHONGTAO DAI LIC. NO. 24475 DATE 11/21/05

DESIGN SQUAD P. SKWERES, M. SANDBERG

| TABULATED TRAFFIC SIGNAL QUANTITIES | | | T |
|-------------------------------------|--|----------|----------------------------|
| ITEM NO. | DESCRIPTION | UNIT | TOTAL ESTIMATED QUANTITIES |
| 2104.601 | REMOVE TEMPORARY SIGNAL SYSTEM | LUMP SUM | 1 |
| 2565.511 | FULL T ACT T CONTROL SIGNAL SYSTEM "B" | SYSTEM | 1 |

| | | | |
|--|------------------|------------------|------------------|
| DRAWN BY: MAS | REVISED BY: | REVISED BY: | AS BUILT BY: |
| CKD BY: POS DATE: 11/21/05 | CKD BY: DATE: | CKD BY: DATE: | CKD BY: DATE: |
| SYSTEM ID: 20200 | | T.E. 4061 | |
| METER ADDRESS: 7200 HIGHWAY 10 NORTHWEST | | | |

SIGNATURE, TABULATED QUANTITIES, ABBREVIATIONS, SYMBOLS AND STANDARD PLATES

STATE PROJ. NO. 0202-81 (T.H. 10)

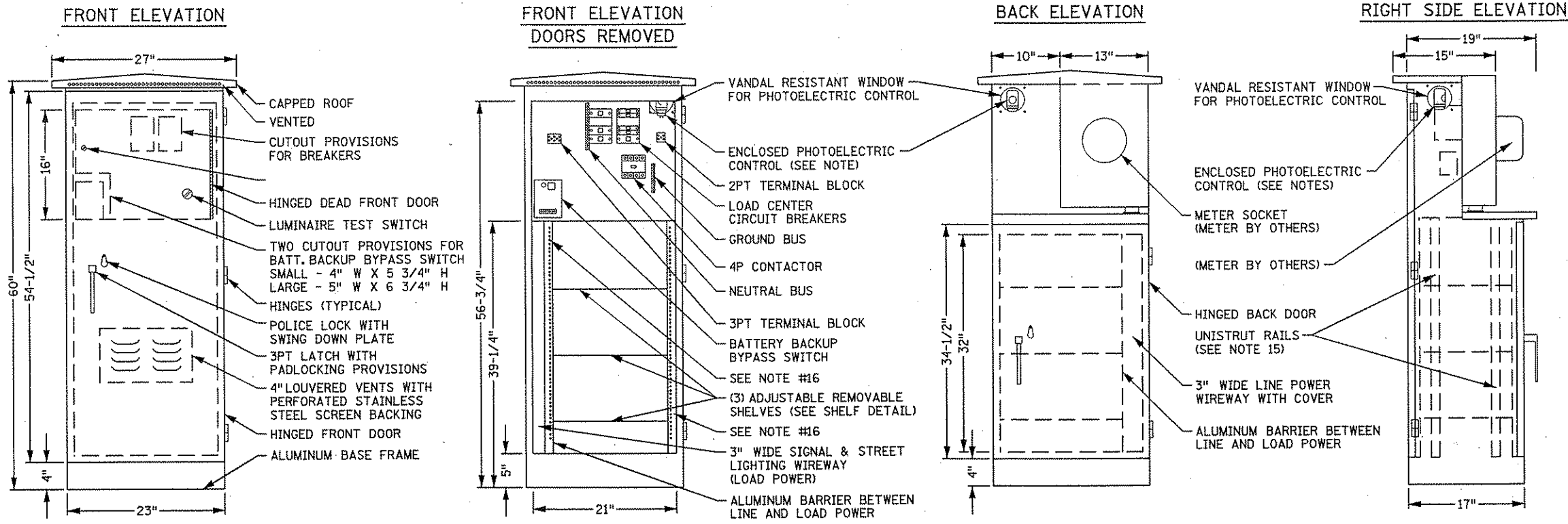
SHEET NO. 75 OF 85 SHEETS

NONE

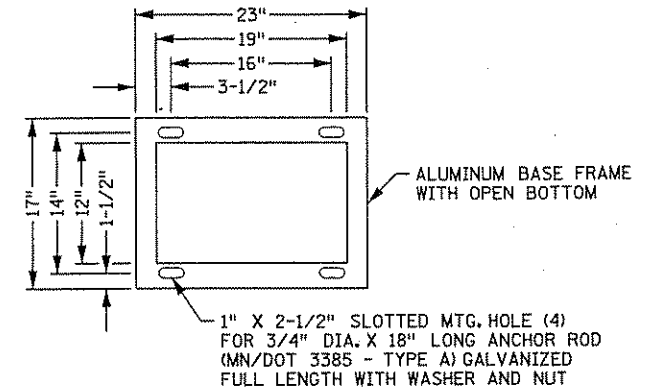
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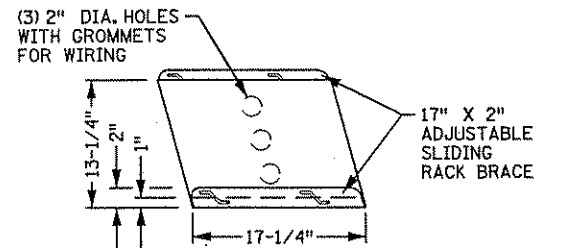
TYPICAL SERVICE CABINET DETAILS



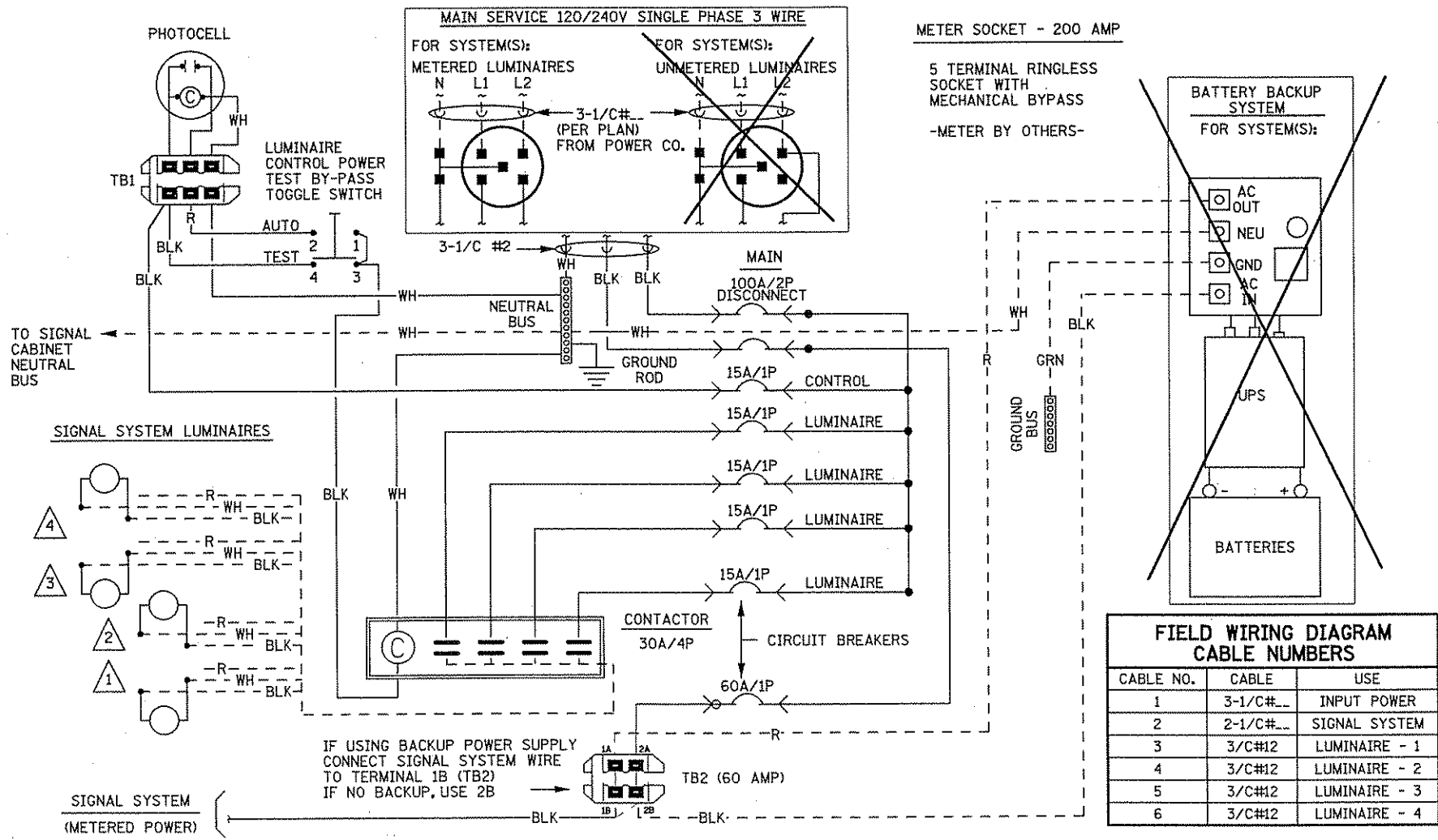
CABINET BASE DETAILS



CABINET SHELF DETAILS



FEED POINT WIRING DIAGRAM



CONSTRUCTION NOTES

1. THE SERVICE CABINET SHALL BE FABRICATED FROM 0.125" ALUMINUM FOR OUTDOOR WEATHERPROOF SERVICE. AFTER FABRICATION, THE SERVICE CABINET, BOTH INSIDE AND OUTSIDE, SHALL BE PROTECTED WITH AN EXTERNAL THIRTY MINUTE CLEAR ANODIZED FINISH.
2. ALL HINGES, HINGE PINS AND LOCKS SHALL BE OF NON-CORRODING CONSTRUCTION.
3. THE SERVICE PEDESTAL DOORS SHALL BE ATTACHED TO THE ENCLOSURE WITH LIFT-OFF PHENOLIC HINGES AND SECURED WITH A STANDARD POLICE LOCK (PROVIDE ONE (1) KEY) FOR THE SERVICE DOORS.
4. BOTH DOOR OPENINGS SHALL BE PROVIDED WITH A NEOPRENE GASKET TO FORM A COMPLETE SEAL WITH THE ENCLOSURE.
5. THE PHOTOELECTRIC CONTROL WINDOWS SHALL BE CLEAR VANDAL RESISTANT MATERIAL (FOUR INCH X FOUR INCH).
6. THE CIRCUIT BREAKERS SHALL BE 120/240 VOLT AC, 60 HZ, AND SHALL BE CLEARLY MARKED WITH THE "ON" AND "OFF" POSITIONS AND IDENTIFIED WITH THE LOAD WHICH IT IS CARRYING (E.G. "SIGNALS" OR "LUMINAIRE NUMBERS"). ALL CIRCUIT BREAKERS SHALL BE CLEARLY MARKED IN A MANNER THAT WILL NOT DETERIORATE WITH MOISTURE OR AGE.
7. SHORT CIRCUIT RATING - 10,000 AIC SYMMETRICAL.
8. PROVIDE CLEARANCE TO INSTALL OR REMOVE THE PHOTOELECTRIC CONTROL CELL.
9. THE PHOTOELECTRIC CONTROL SHALL BE ORIENTED TO ELIMINATE INTERFERENCE BY MANMADE LIGHT SOURCES. THE PHOTOELECTRIC CONTROL LENS SHALL NORMALLY FACE NORTH OR EAST.
10. ALL CONDUIT ENTERING THE FOUNDATION SHALL BE SEALED WITH AN APPROVED DUCT SEALER.
11. THE SERVICE CABINET SHALL BE U.L. LISTED AND LABELED AS "SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT" AND APPROVED FOR OUTDOOR USE.
12. THE SERVICE CABINET SHALL BE WELDED TO THE BASE IN ACCORDANCE WITH U.L. STANDARDS.
13. SEE THE INTERSECTION LAYOUT FOR THE REQUIRED NUMBER OF LUMINAIRES AT EACH INTERSECTION.
14. THE BASE GASKET SHALL CONSIST OF:
 - FOUR (4) STRIPS, SIZED TO FIT BASE
 - INCLUDE CORNER HOLE/SLOTS TO ACCOMMODATE THE 0.75 INCH ANCHOR RODS
 - GASKET MATERIAL 0.5 INCH THICK SOLID BUTYL RUBBER
 - PROVIDE 0.5 INCH GAP FOR WATER DRAINAGE
15. UNISTRUT RAILS (#4400EA OR EQUIVALENT) USED FOR SHELF SUPPORTS FOR (3) ADJUSTABLE REMOVABLE SHELVES SHALL BE MOUNTED TO THE SIDES OF THE CABINET.
16. THE 19" RACK IN THE BASE OF THE CABINET SHALL BE CONSTRUCTED TO TIA/EIA 310D STANDARDS.

| FIELD WIRING DIAGRAM CABLE NUMBERS | | |
|------------------------------------|-----------|---------------|
| CABLE NO. | CABLE | USE |
| 1 | 3-1/C#... | INPUT POWER |
| 2 | 2-1/C#... | SIGNAL SYSTEM |
| 3 | 3/C#12 | LUMINAIRE - 1 |
| 4 | 3/C#12 | LUMINAIRE - 2 |
| 5 | 3/C#12 | LUMINAIRE - 3 |
| 6 | 3/C#12 | LUMINAIRE - 4 |

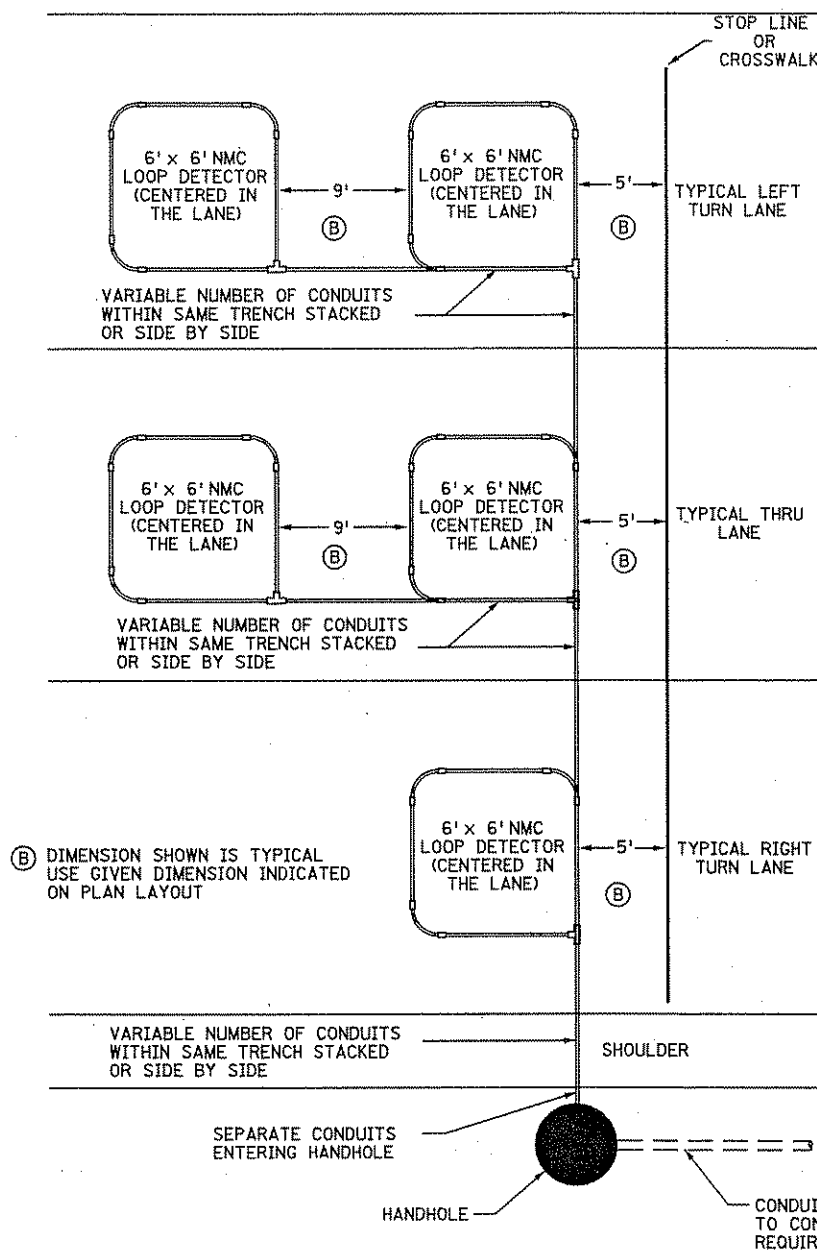
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|--|------------------|------------------|------------------|
| DRAWN BY: MAS | REVISED BY: | REVISED BY: | AS BUILT BY: |
| CKD BY: POS DATE: 11/21/05 | CKD BY: DATE: | CKD BY: DATE: | CKD BY: DATE: |
| SYSTEM ID: 20200 | | T.E. 4061 | |
| METER ADDRESS: 7200 HIGHWAY 10 NORTHWEST | | | |

SIGNAL SERVICE CABINET WITH BACKUP POWER SUPPLY DETAILS SYSTEM "B"
T.H. 10 AT RAMSEY BLVD. IN RAMSEY, ANOKA COUNTY

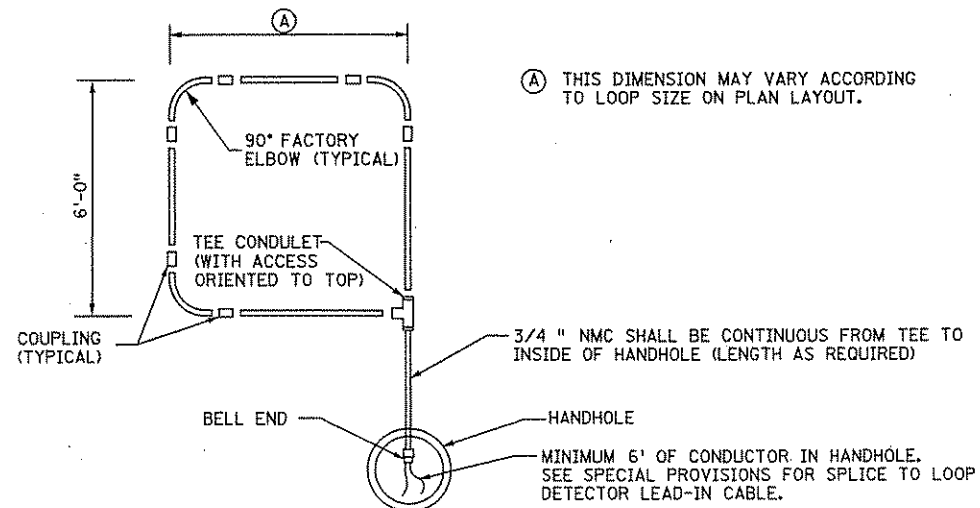
CERTIFIED BY *Shepherd* LICENSED PROFESSIONAL ENGINEER LIC. NO. 24475 DATE: 11/21/05
 STATE PROJ. NO. 0202-81 (T.H. 10) SHEET NO. 76 OF 85 SHEETS

FILENAME: S:\TRAFFIC\Signal Design\Plans\TH 10\20200\T20200.DGN
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TYPICAL CROSS STREET NMC LOOP DETECTOR LAYOUT



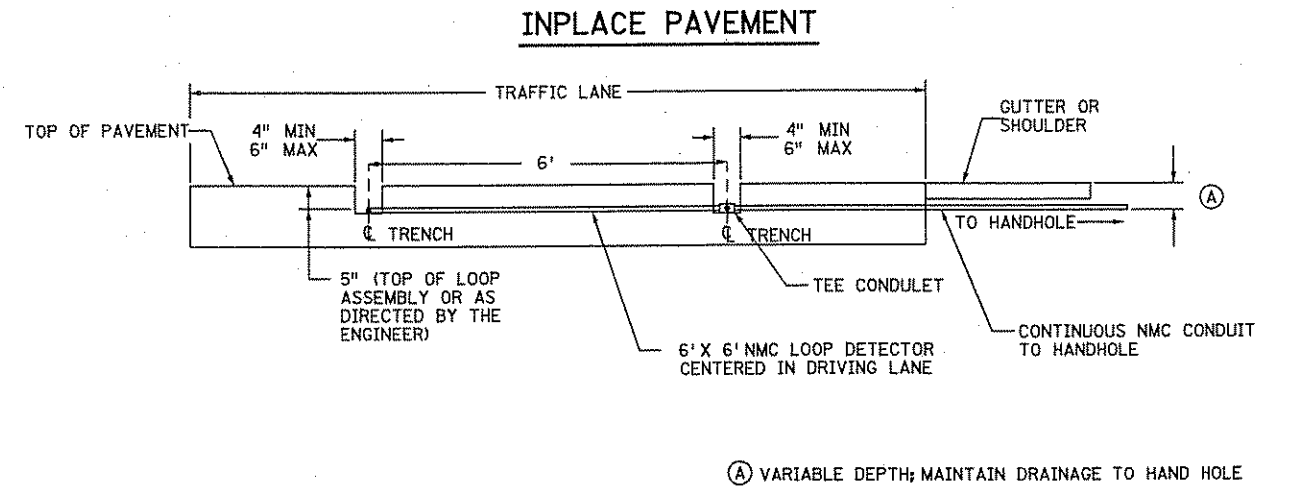
TYPICAL NMC LOOP DETECTOR DETAIL



NOTES:

- ROADWAY LOOP DETECTOR CONDUCTORS AND LOOP DETECTOR LEAD IN CABLES SHALL BE IN ACCORDANCE WITH MN/DOT SPEC 3815.
- THE 3/4" NON-METALLIC CONDUIT (NMC) AND FITTINGS SHALL BE SCHEDULE 40 HEAVY WALL RIGID POLYVINYL CHLORIDE (PVC), SEE SPEC. 3803.
- THREE CORNERS OF EACH LOOP DETECTOR SHALL BE A 90° FACTORY ELBOW (6" RADIUS), THE FOURTH SHALL BE AN NMC TEE CONDULET.
- APPROVED PVC PRIMER AND CEMENT SHALL BE USED FOR THE PVC JOINTS.
- ALL SLACK MUST BE REMOVED FROM LOOP DETECTOR CONDUCTORS WITHIN THE NMC.
- THE ROADWAY LOOP DETECTOR CONDUCTORS (1/C#14) SHALL BE TWISTED THREE TURNS PER FOOT FROM THE NMC TEE CONDULET TO THE HANDHOLE.
- ATTACH A FERROUS METAL ITEM IN OR ADJACENT TO THE TEE CONDULET COVER OR AS DIRECTED BY THE ENGINEER.
- EACH LOOP DETECTOR CONDUIT TO THE HANDHOLE SHALL BE SLOPED TOWARDS THE HANDHOLE.
- LOOP DETECTOR CONDUITS TO THE HANDHOLE MAY BE PLACED WITHIN THE SAME TRENCH.
- THE LOOP DETECTOR ROADWAY CONDUCTORS SHALL EXTEND 6' TO 10' INTO THE HAND HOLE FOR SPLICING.
- NO SPLICES ALLOWED IN CONDUIT.
- THE LOOP DETECTOR ROADWAY CONDUCTORS AND THE LOOP DETECTOR LEAD-IN CABLE CONDUCTORS SHALL BE PROPERLY PREPARED AND CLEANED BEFORE SPLICING.
- SPLICE KITS SHALL BE INSTALLED IN HANDHOLES IN SUCH A MANNER AS TO ENSURE THAT EACH SPLICE KIT IS SUSPENDED AND/OR SECURED NEAR THE TOP OF THE HANDHOLE TO THE SATISFACTION OF THE ENGINEER. (PLACING SPLICE KITS ON TOP OF THE ELECTRICAL CABLES AND CONDUCTORS IS NOT ACCEPTABLE).
- TYPICAL SIZE OF LOOP DETECTORS ARE 6' x 6' AND 6' x 10'. REFER TO INTERSECTION LAYOUT FOR SPECIFIC LOOP DETECTORS TO BE PLACED.
- ALL LOOP DETECTORS SHALL HAVE 4 TURNS OF CONDUCTORS.
- SEE SPECIAL PROVISIONS FOR APPROVED SPLICE KITS.
- PRIOR TO INSTALLING THE APPROVED SPLICE KIT, THE CONTRACTOR SHALL SOLDER THE ENDS OF THE LOOP DETECTOR LEAD IN CONDUCTOR AND SHALL FURNISH AND INSTALL AN APPROPRIATE SIZED WIRE NUT TO THE SOLDERED ENDS PRIOR TO THE INSTALLATION OF THE SPLICE KITS.
- IF BENDING OF THE NMC LOOP LEAD-IN IS REQUIRED, AN APPROPRIATE HEATING BLANKET OR DEVICE APPROVED BY THE ENGINEER SHALL BE USED. EXPOSED FLAME OR TORCHES ARE NOT ALLOWED.

TYPICAL NMC LOOP DETECTOR INSTALLATION



NOTES:

- USE THE LOOP DETECTOR TO BE INSTALLED FOR THE PURPOSE OF MARKING THE PAVEMENT LOCATION FOR THE MILLING OPERATION.
- TO ACHIEVE FULL TRENCH DEPTH FOR CONDUIT PLACEMENT, MILL BEYOND THE DESIRED PAVEMENT MARKING.
- PROVIDE A MINIMUM 5" CLEARANCE, MEASURED FROM THE TOP OF THE FINISHED PAVEMENT TO HIGHEST POINT OF LOOP ASSEMBLY (INCLUDING CONDULET).
- AN AIR COMPRESSOR UNIT (50 HP) IS REQUIRED FOR REMOVING ALL LOOSE MATERIAL FROM TRENCH PRIOR TO TACK COAT APPLICATION.
- APPLY A TACK COAT AT A UNIFORM RATE TO THE BOTTOM AND EDGES OF THE MILLED AREA. USE AN EMULSIFIED ASPHALT PER SPEC. 2357.2A
- MIXTURE USED TO FILL THE RETROFIT LOOP DETECTOR TRENCHES SHALL MEET THE REQUIREMENTS OF MNDOT SPECIFICATION 2350 OR 2360. AGGREGATE SIZE 3 OR 4 WILL BE ALLOWED WHEN 2350 IS UTILIZED AND AGGREGATE SIZE A OR B WILL BE ALLOWED WHEN 2360 IS UTILIZED. OTHER WEARING COURSE MIXTURE TYPES ARE ALLOWED WHEN APPROVED BY THE ENGINEER.
- THE USE OF PETROLEUM DISTILLATES AS AN ANTI-ADHESIVE AGENT IS NOT ALLOWED. REFER TO MN/DOT TECH. MEMO NO. 94-16-MRE-05 DATED 3/10/94 FOR ADDITIONAL INFORMATION.
- COMPACTION SHALL BE OBTAINED BY THE ORDINARY COMPACTION METHOD. BACKFILL THE TRENCH WITH A MINIMUM OF TWO LIFTS AND COMPACT EACH LIFT. BEFORE COMPACTION THE FIRST LIFT ENSURE THAT THERE IS ADEQUATE MIXTURE ON EACH SIDE AND ABOVE THE CONDUIT SO THAT THE CONDUIT IS NOT DAMAGED DURING COMPACTION OPERATIONS.
- THE COMPACTED MIXTURE IN THE TRENCH SHOULD BE LEFT 1/4" TO 1/2" ABOVE THE ADJACENT PAVEMENT SURFACE TO PROVIDE FOR ADDITIONAL COMPACTION BY TRAFFIC.
- APPLY A BITUMINOUS FOG SEAL ON THE NEWLY COMPACTED MIXTURE TO PROVIDE AN ADDITIONAL SURFACE SEAL (EMULSIFIED ASPHALT 2355.2A). DRY SAND SHALL BE SPREAD ON THE FOG SEAL TO PREVENT MATERIAL PICKUP AND TRACKING.
- WHEN INSTALLING NMC LOOPS INTO PRE-ROADWAY AGGREGATE BASE, DEPTH OF TOP OF CONDUIT TO TOP OF AGGREGATE SHALL NOT EXCEED 2".
- WHEN LOOP DETECTORS ARE MILLED INTO CONCRETE SURFACES, THE TRENCHES SHALL BE FILLED USING A GROUTING MATERIAL WHICH MEETS MN/DOT SPEC 2520 OR OTHER MATERIAL AS APPROVED BY THE ENGINEER. BITUMINOUS FILL IS ACCEPTABLE WHEN OVERLAYING CONCRETE TRENCHES.
- MILLING IS REQUIRED FOR ALL NMC LOOP INSTALLATIONS. WHEN LOOPS ARE MILLED INTO EXISTING MILLED SURFACE THAT WILL BE OVERLAYED WITH BITUMINOUS, THE MINIMUM TRENCH DEPTH SHALL BE NO LESS THAN THE HIGHEST LOOP ASSEMBLY IN THE TRENCH.

| | | | | |
|--|------------------|------------------|------------------|---|
| DRAWN BY: MAS | REVISED BY: | REVISED BY: | AS BUILT BY: | PREFORMED NON-METALLIC CONDUIT (NMC) LOOP DETECTOR DETAILS SYSTEM 'B' T.H. 10 AT RAMSEY BLVD. IN RAMSEY, ANOKA COUNTY |
| CKD BY: POS DATE: 11/21/05 | CKD BY: DATE: | CKD BY: DATE: | CKD BY: DATE: | |
| SYSTEM ID: 20200 | | T.E. 4061 | | |
| METER ADDRESS: 7200 HIGHWAY 10 NORTHWEST | | | | |
| CERTIFIED BY: <i>[Signature]</i> | | | LIC. NO. 24475 | DATE: 11/21/05 |
| STATE PROJ. NO. 0202-81 (T.H. 10) | | | | SHEET NO. 77 OF 85 SHEETS |

NONE

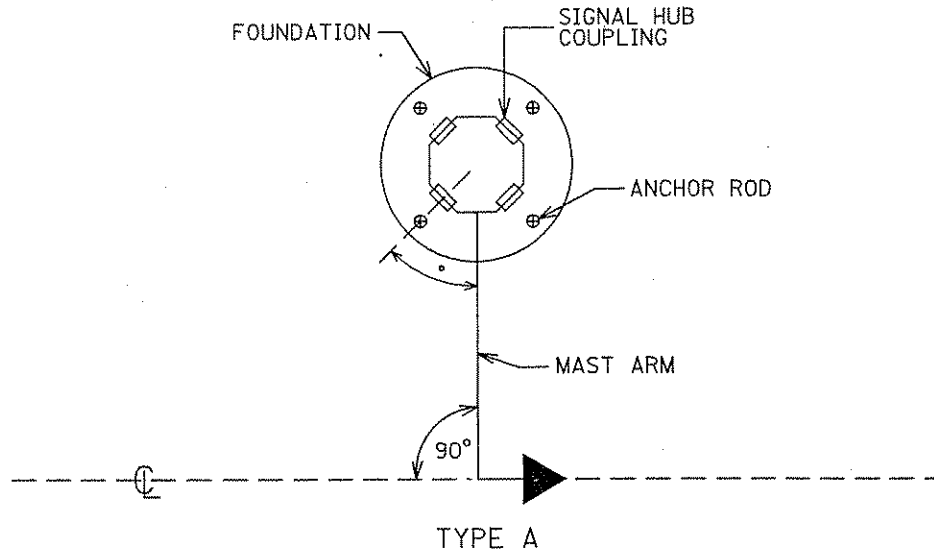
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PLOTTED: 21-NOV-2005 07:35

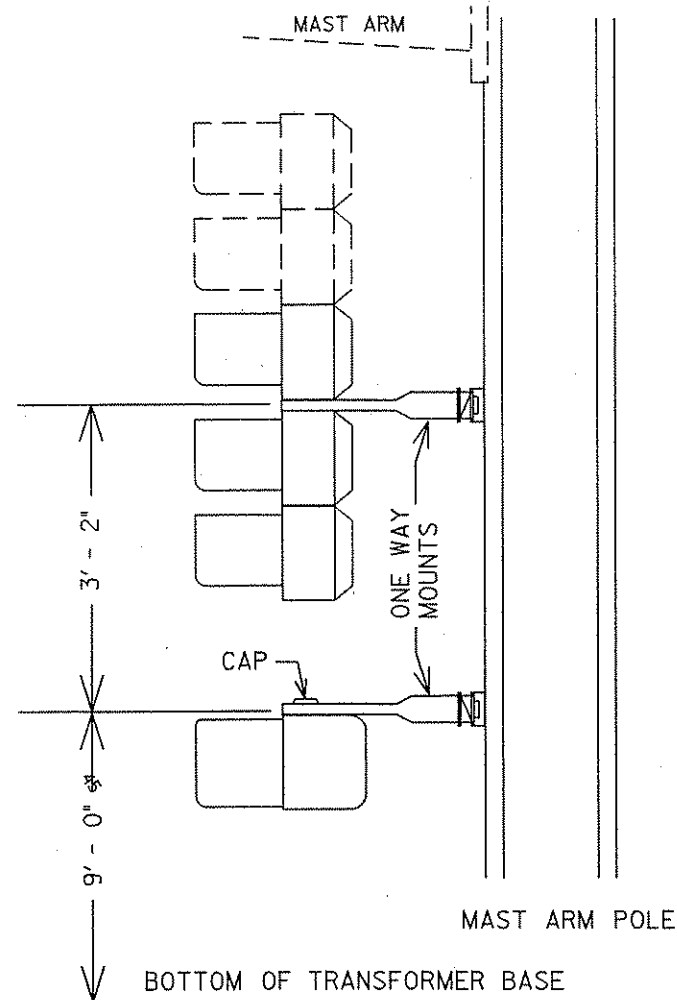
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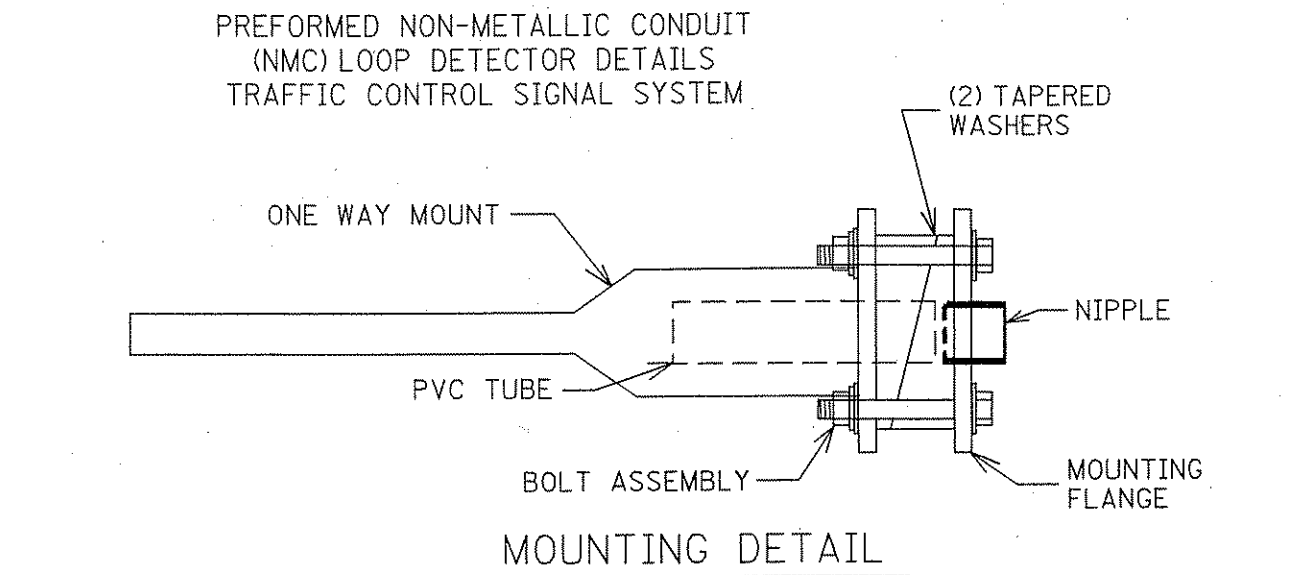


TYPE A
ANCHOR ROD PLACEMENT,
MAST ARM ORIENTATION
AND SIGNAL HUB LOCATIONS

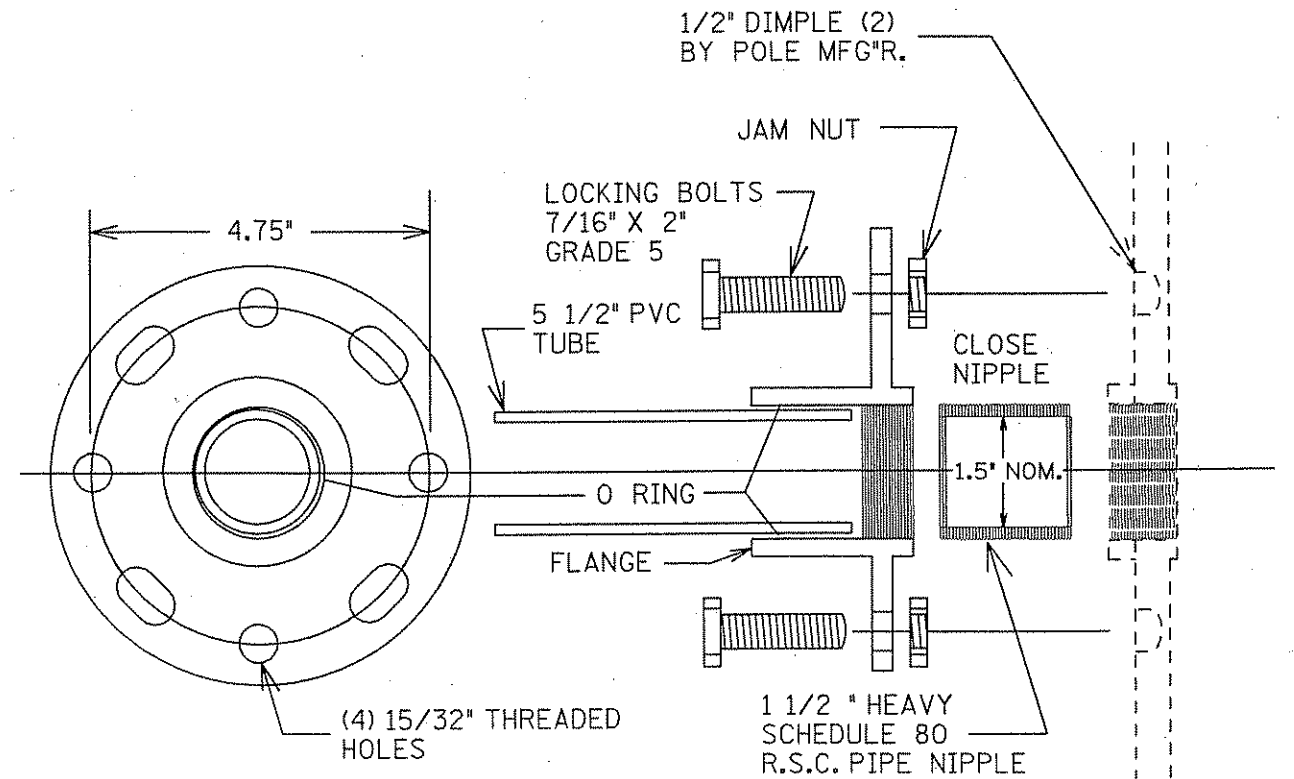


MAST ARM POLE

BOTTOM OF TRANSFORMER BASE



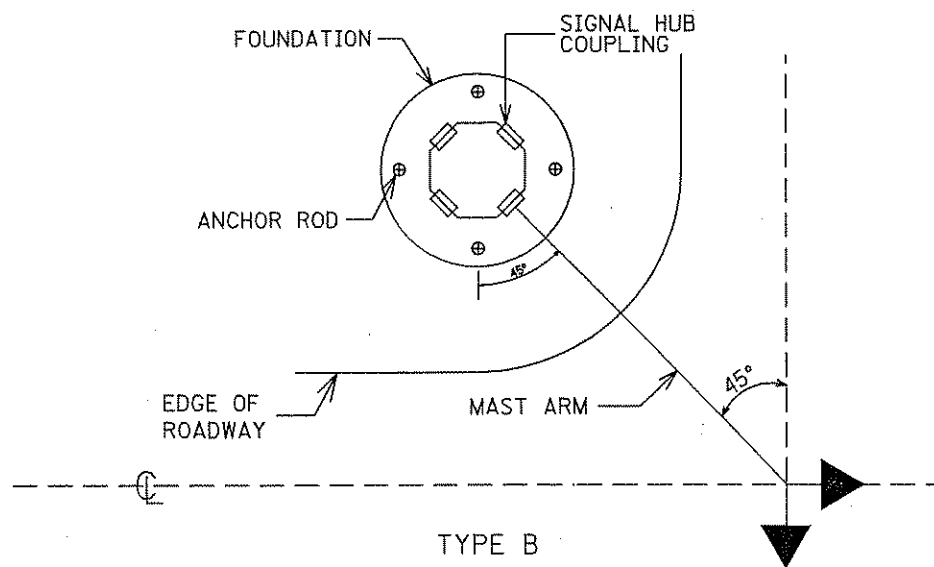
MOUNTING DETAIL



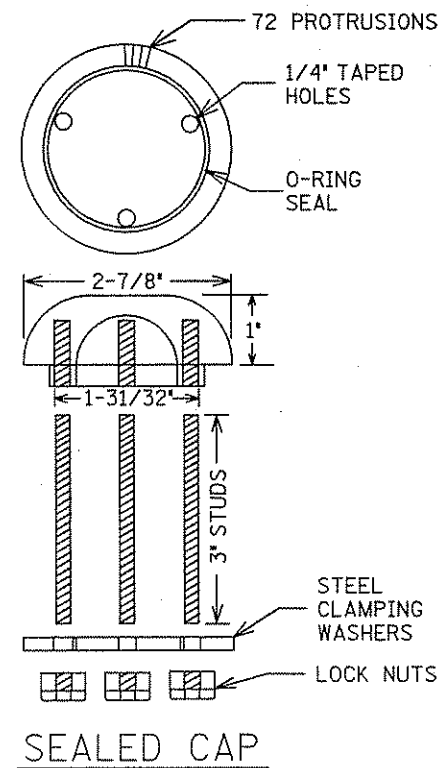
NOTE: ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND

POLE HUB BY POLE MFG'R.

MACHINE HUB & NIPPLE



TYPE B
ANCHOR ROD PLACEMENT,
MAST ARM ORIENTATION
AND SIGNAL HUB LOCATIONS



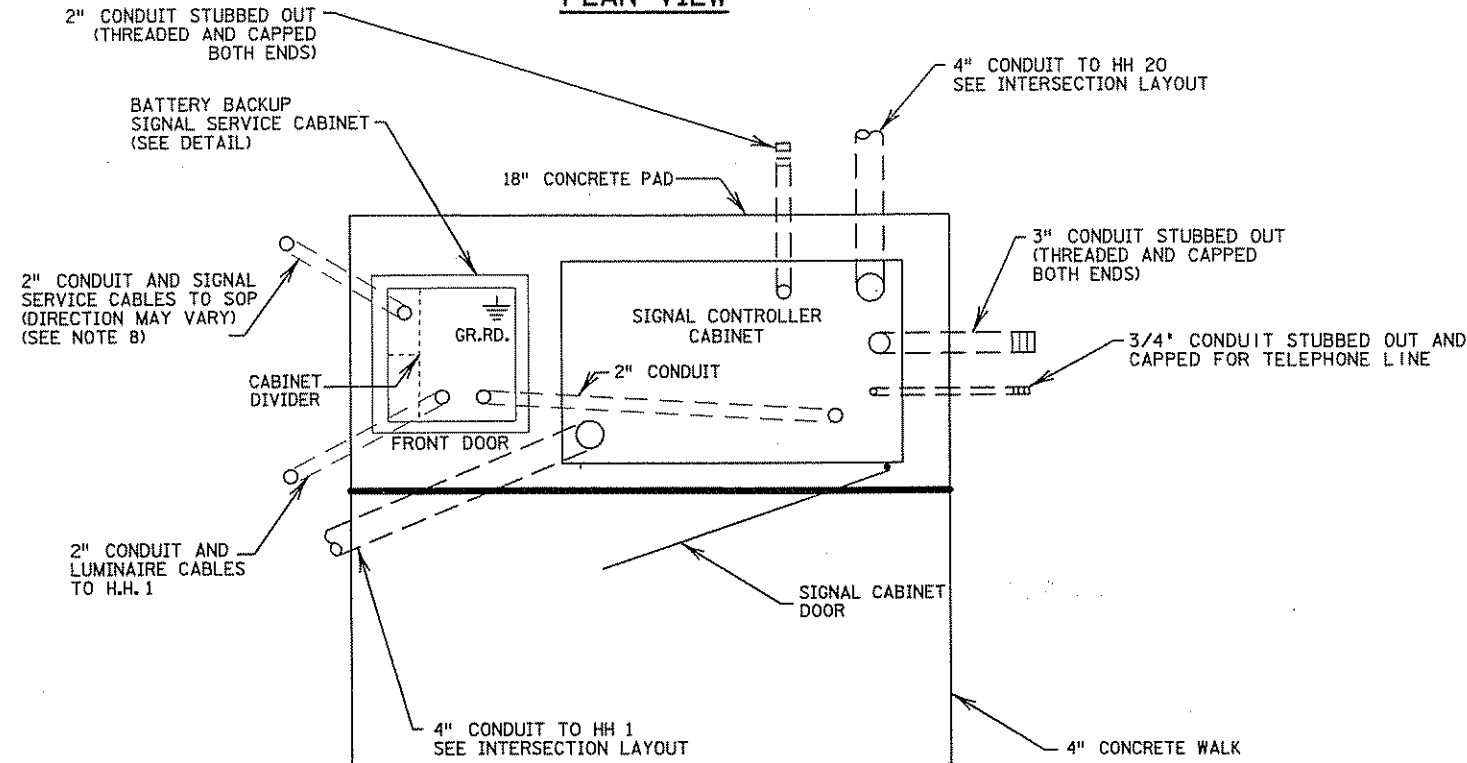
SEALED CAP

| | | | | |
|--|------------------|------------------|------------------|--|
| DRAWN BY: MAS | REVISED BY: | REVISED BY: | AS BUILT BY: | POLE MOUNTED ONE WAY SIGNAL AND PEDESTAL INDICATION SYSTEM 'B' T.H. 10 AT RAMSEY BLVD. IN RAMSEY, ANOKA COUNTY |
| CKD BY: POS DATE: 11/21/05 | CKD BY: DATE: | CKD BY: DATE: | CKD BY: DATE: | |
| SYSTEM ID: 20200 | | | T.E. 4061 | |
| METER ADDRESS: 7200 HIGHWAY 10 NORTHWEST | | | | |
| CERTIFIED BY: <i>Shepherd</i> <small>LICENSED PROFESSIONAL ENGINEER</small> | | | LIC. NO. 24475 | DATE: 11/21/05 |
| STATE PROJ. NO. 0202-81 (T.H. 10) | | | | SHEET NO. 78 OF 85 SHEETS |

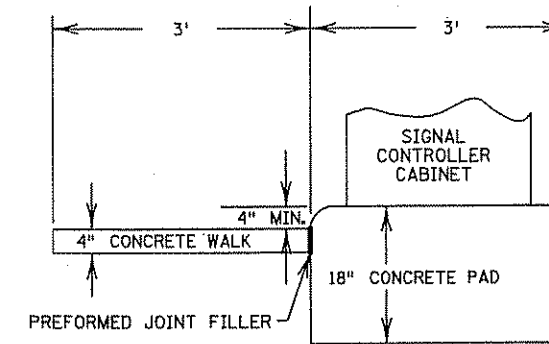
TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET

SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

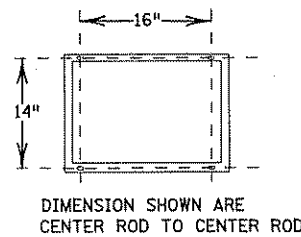
PLAN VIEW



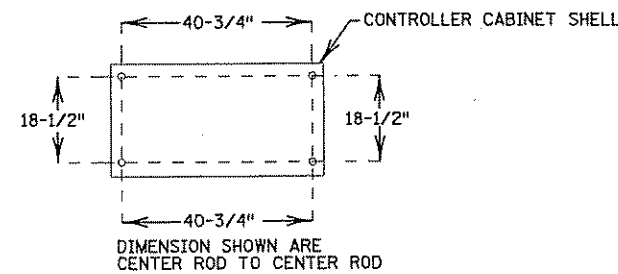
SIDE VIEW



B.B. SERVICE CABINET BOLT PATTERN



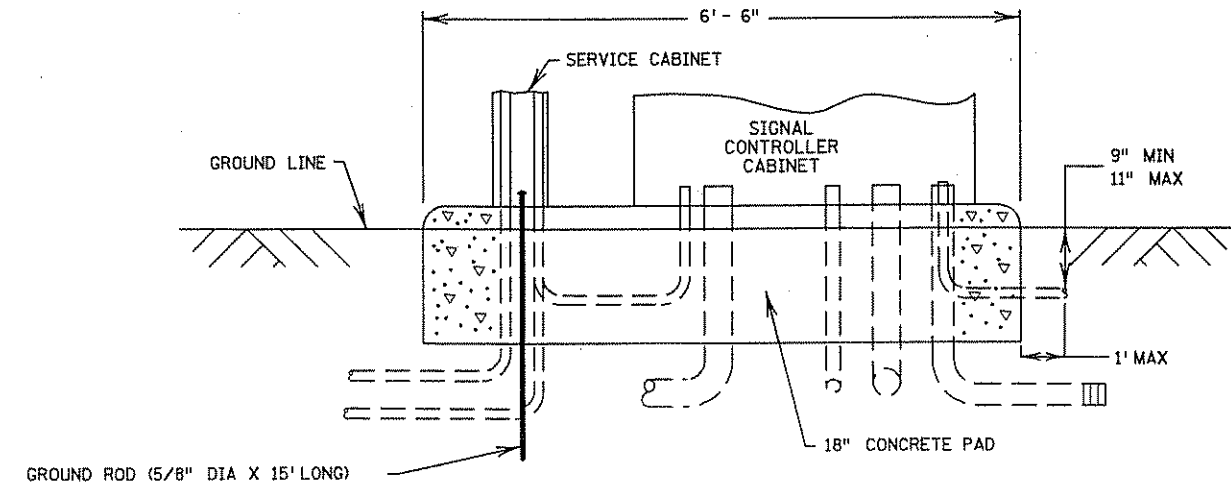
CONTROLLER CABINET TYPE "P" & "R" BOLT PATTERN



NOTES:

1. THE ANCHOR RODS, NUTS AND WASHERS FOR THE CONTROLLER CABINET SHALL BE FURNISHED BY MNDOT.
2. THE UPPER PART OF THE EQUIPMENT PAD SHALL BE BEVELLED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER.
3. THE TOP OF THE CONDUITS SHALL BE THREADED AND CAPPED AFTER INSTALLATION (UNTIL CABLES ARE INSTALLED).
4. CONDUIT SHALL PROJECT A MINIMUM OF 2" ABOVE THE CONCRETE AND SHALL BE LOCATED INSIDE THE CABINET WHERE DIRECTED BY THE ENGINEER, BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
5. CONCRETE MIX 3A32 OR EQUAL SHALL BE USED FOR THE EQUIPMENT PAD AND SIDEWALK.
6. CONDUITS WITH BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE INSTALLED BELOW THE CONCRETE.
7. THE EXACT LOCATION OF CONDUITS WITHIN THE PAD SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
8. PLACEMENT OF THIS CONDUIT IN PROPER LOCATION IS CRITICAL.

FRONT VIEW



| | | | | |
|--|------------------|------------------|---------------------------|--|
| DRAWN BY: MAS | REVISED BY: | REVISED BY: | AS BUILT BY: | EQUIPMENT PAD LAYOUT SYSTEM "B" T.H. 10 AT RAMSEY BLVD. IN RAMSEY, ANOKA COUNTY |
| CKD BY: POS DATE: 11/21/05 | CKD BY: DATE: | CKD BY: DATE: | CKD BY: DATE: | |
| SYSTEM ID: 20200 | | | T.E. 4061 | |
| METER ADDRESS: 7200 HIGHWAY 10 NORTHWEST | | | | |
| CERTIFIED BY: <i>Shane</i> | | | LIC. NO. 24475 | DATE: 01/21/08 |
| STATE PROJ. NO. 0202-81 (T.H. 10) | | | SHEET NO. 79 OF 85 SHEETS | |

NONE

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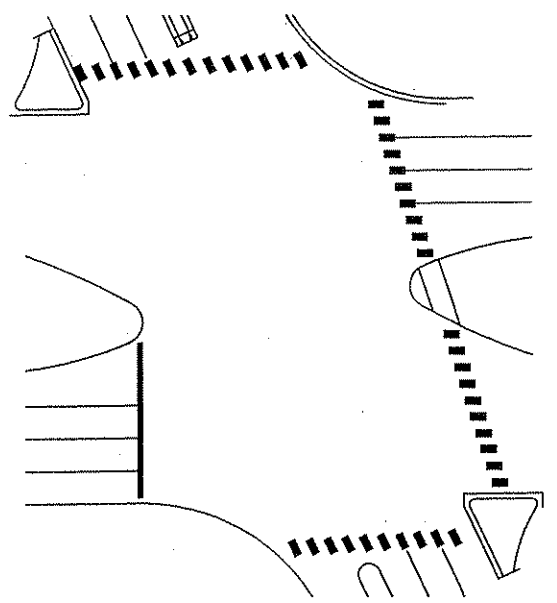
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NO SCALE

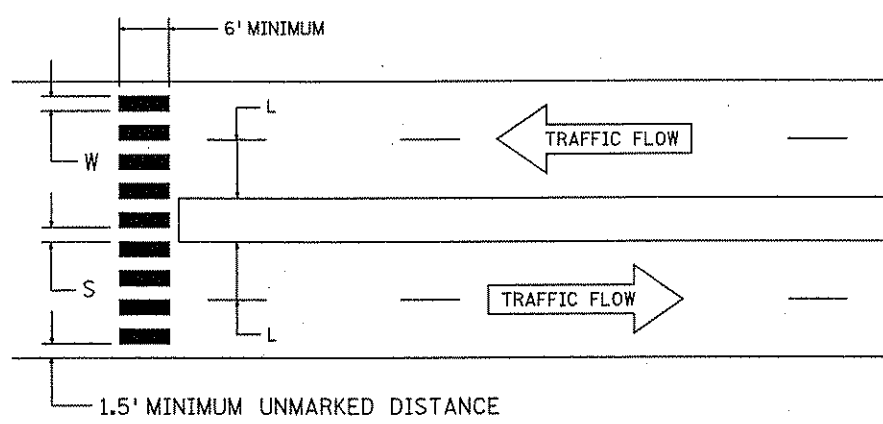
PAVEMENT MARKINGS LAYOUT



PEDESTRIAN MARKINGS - 774 SQ. FT.
STOP LINE - 57 LIN. FT.



PAVEMENT MARKINGS DETAIL



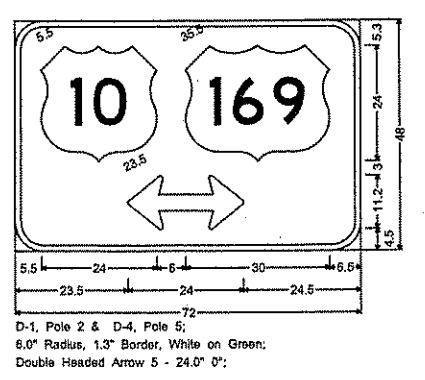
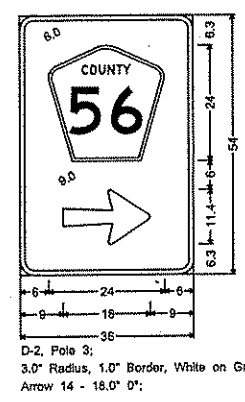
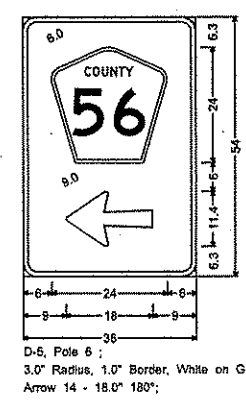
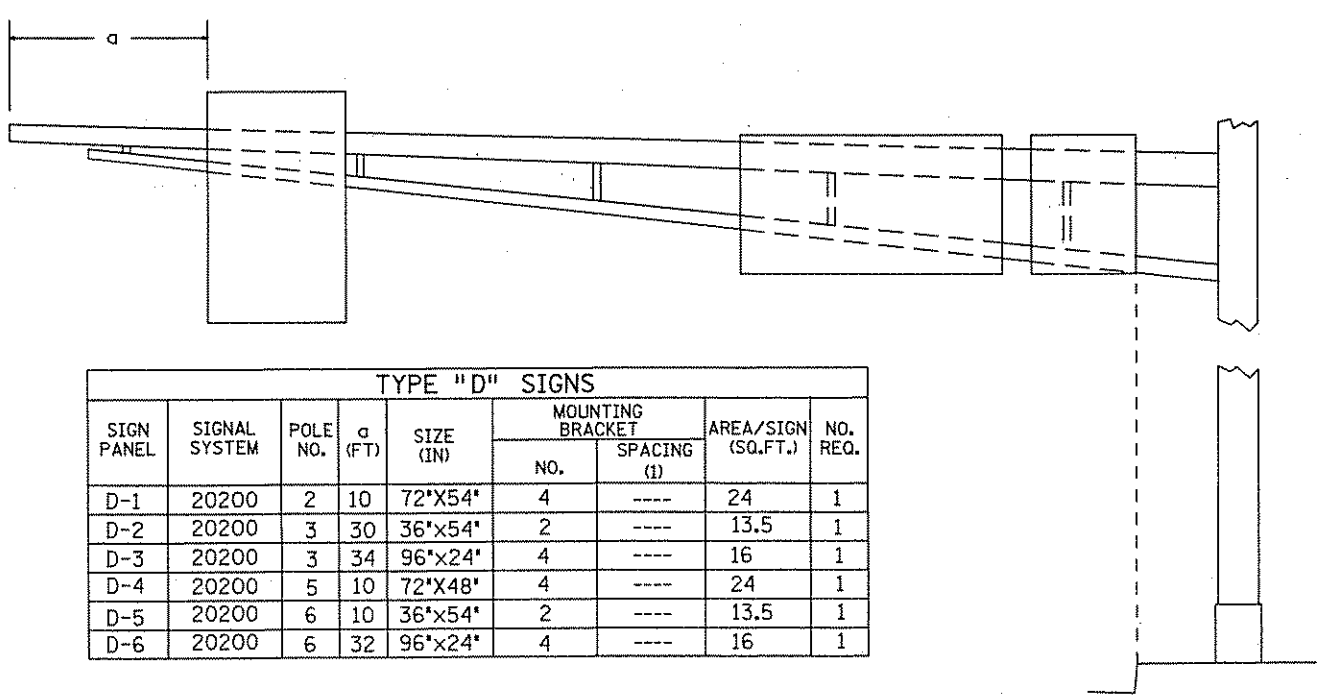
NOT TO SCALE

| WIDTH OF INSIDE LANE (L) | WIDTH OF TAPED AREA (W) | WIDTH OF SPACE (S) |
|--------------------------|-------------------------|--------------------|
| 9' | 2.0' | 2.5' |
| 10' | 2.5' | 2.5' |
| 11' | 2.5' | 3.0' |
| 12' | 3.0' | 3.0' |
| 13' | 3.0' | 3.5' |

NOTES:

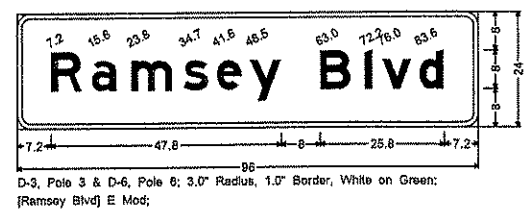
1. TAPED AREAS TO BE CENTERED AND ALIGNED ON CENTER LINE AND LANE LINES.
2. ZEBRA CROSSWALKS AND 24" STOP LINES SHALL BE REFLECTORIZED WHITE POLYMER PREFORMED TAPE.
3. A MINIMUM OF 1.5' CLEAR DISTANCE MUST BE LEFT ADJACENT TO CURB. IF LAST TAPED AREA FALLS INTO THIS DISTANCE, IT MUST BE OMITTED.
4. FURNISHING & INSTALLING PEDESTRIAN MARKINGS AND STOP LINES SHALL BE INCIDENTAL TO THE SIGNAL SYSTEM.
5. FOR DIVIDED ROADWAYS, ADJUSTMENTS IN SPACING OF THE TAPED AREAS SHOULD BE MADE IN THE MEDIAN SO THAT THE TAPED AREAS ARE MAINTAINED IN THEIR PROPER LOCATION ACROSS THE TRAVELED PORTION OF THE ROADWAY.
6. AT SKEWED CROSSWALKS, THE TAPED AREAS ARE TO REMAIN PARALLEL TO THE LANE LINES.
7. CONCRETE PAVEMENT SURFACES AND BITUMINOUS SURFACES, WHERE PAVEMENT MARKINGS CANNOT BE INLAYED IN THE HOT MAT, SHALL BE GROOVED FOR THE INSTALLATION OF THE POLY-PREFORMED MARKINGS. GROOVING SPECIFICATIONS ARE DETAILED IN MN/DOT SPECIAL PROVISIONS.

TYPE "D" SIGN DETAILS



| TYPE "D" SIGNS | | | | | | | |
|----------------|---------------|----------|--------|-----------|------------------|-------------|----------|
| SIGN PANEL | SIGNAL SYSTEM | POLE NO. | a (FT) | SIZE (IN) | MOUNTING BRACKET | | NO. REQ. |
| | | | | | NO. | SPACING (1) | |
| D-1 | 20200 | 2 | 10 | 72"x54" | 4 | ---- | 24 |
| D-2 | 20200 | 3 | 30 | 36"x54" | 2 | ---- | 13.5 |
| D-3 | 20200 | 3 | 34 | 96"x24" | 4 | ---- | 16 |
| D-4 | 20200 | 5 | 10 | 72"x48" | 4 | ---- | 24 |
| D-5 | 20200 | 6 | 10 | 36"x54" | 2 | ---- | 13.5 |
| D-6 | 20200 | 6 | 32 | 96"x24" | 4 | ---- | 16 |

| OVERLAYS | | | | |
|----------|----------|-------------|--------|---------------------|
| CODE NO. | QUANTITY | SIZE INCHES | LEGEND | SQ. FT. PER OVERLAY |
| M1-6a | 2 | 24"x24" | 56 | 4 |
| M1-4a | 2 | 24"x24" | 10 | 4 |
| M1-4a | 2 | 30"x24" | 169 | 5 |



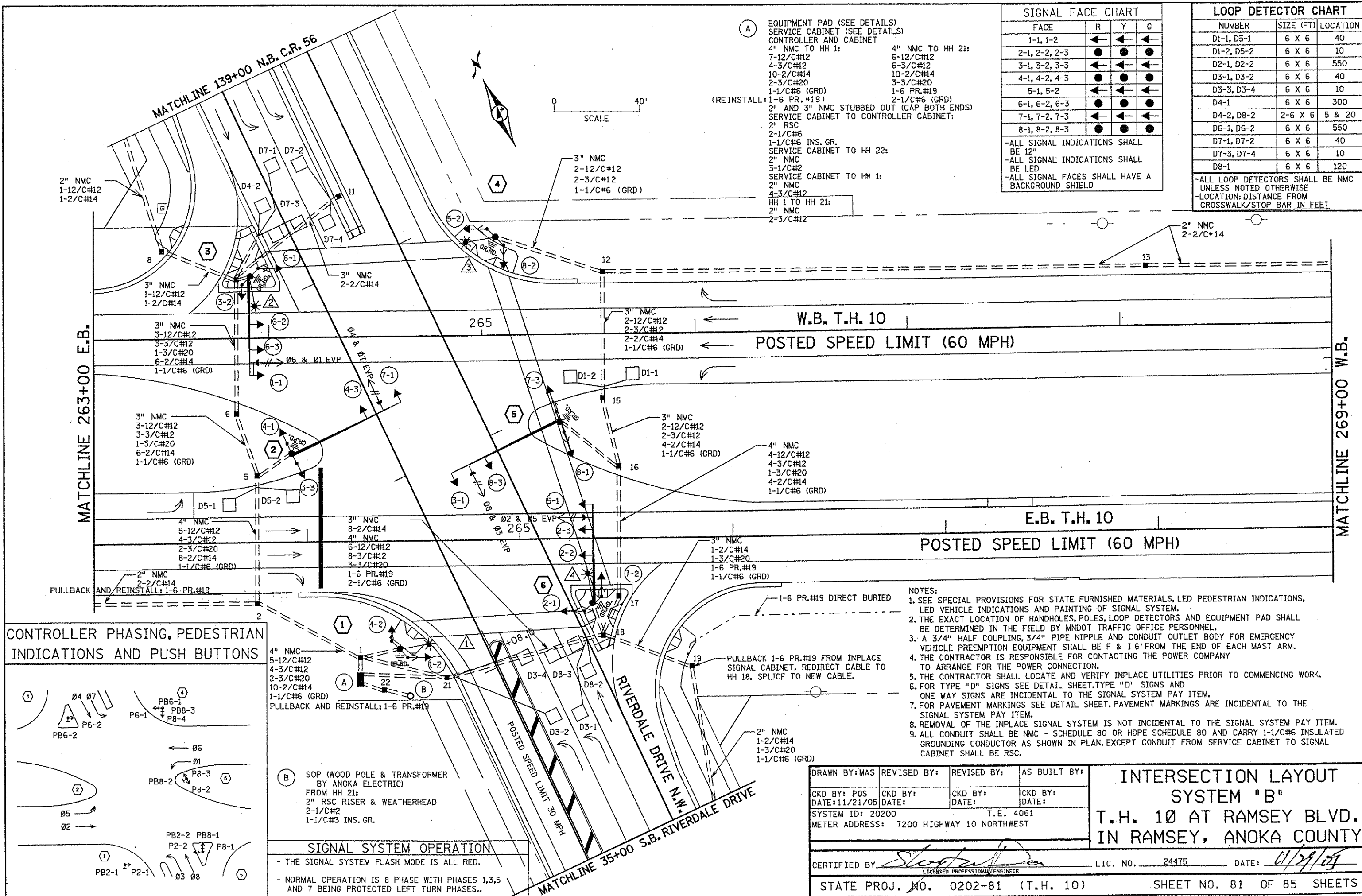
- NOTES:
1. SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED. SEE SPECIAL PROVISIONS FOR BRACKET SPACING REQUIREMENTS AND STRUCTURAL DETAILS.
 2. FURNISHING AND INSTALLING TYPE "D" SIGNS SHALL BE INCIDENTAL TO THE SIGNAL SYSTEM PAY ITEM.
 3. CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED.
 4. SEE STANDARD SIGNS MANUAL FOR ARROW AND OVERLAY DETAILS.
 5. FOR TYPE "D" STRINGER AND PANEL JOINT DETAIL, SEE STANDARD SIGNS MANUAL.

| | | | | |
|--|------------------|------------------|---------------------------|--|
| DRAWN BY: MAS | REVISED BY: | REVISED BY: | AS BUILT BY: | PAVEMENT MARKINGS LAYOUT/DETAIL AND TYPE 'D' SIGNS DETAILS SYSTEM 'B' T.H. 10 AT RAMSEY BLVD. IN RAMSEY, ANOKA COUNTY |
| CKD BY: POS DATE: 11/21/05 | CKD BY: DATE: | CKD BY: DATE: | CKD BY: DATE: | |
| SYSTEM ID: 20200 | | | T.E. 4061 | |
| METER ADDRESS: 7200 HIGHWAY 10 NORTHEAST | | | | |
| CERTIFIED BY: <i>[Signature]</i> LICENSED PROFESSIONAL ENGINEER | | | LIC. NO. 24475 | DATE: 11/21/05 |
| STATE PROJ. NO. 0202-81 (T.H. 10) | | | SHEET NO. 80 OF 85 SHEETS | |

NONE

FILENAME: S:\TRAFFIC\Signal Design\plans\TH 10\20200\T20200NEW2.DGN

PLOTTED: 28-NOV-2005 07:36



SIGNAL FACE CHART

| FACE | R | Y | G |
|---------------|---|---|---|
| 1-1, 1-2 | ← | ← | ← |
| 2-1, 2-2, 2-3 | ● | ● | ● |
| 3-1, 3-2, 3-3 | ← | ← | ← |
| 4-1, 4-2, 4-3 | ● | ● | ● |
| 5-1, 5-2 | ← | ← | ← |
| 6-1, 6-2, 6-3 | ● | ● | ● |
| 7-1, 7-2, 7-3 | ← | ← | ← |
| 8-1, 8-2, 8-3 | ● | ● | ● |

-ALL SIGNAL INDICATIONS SHALL BE 12"
-ALL SIGNAL INDICATIONS SHALL BE LED
-ALL SIGNAL FACES SHALL HAVE A BACKGROUND SHIELD

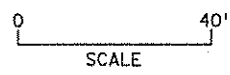
LOOP DETECTOR CHART

| NUMBER | SIZE (FT) | LOCATION |
|------------|-----------|----------|
| D1-1, D5-1 | 6 X 6 | 40 |
| D1-2, D5-2 | 6 X 6 | 10 |
| D2-1, D2-2 | 6 X 6 | 550 |
| D3-1, D3-2 | 6 X 6 | 40 |
| D3-3, D3-4 | 6 X 6 | 10 |
| D4-1 | 6 X 6 | 300 |
| D4-2, D8-2 | 2-6 X 6 | 5 & 20 |
| D6-1, D6-2 | 6 X 6 | 550 |
| D7-1, D7-2 | 6 X 6 | 40 |
| D7-3, D7-4 | 6 X 6 | 10 |
| D8-1 | 6 X 6 | 120 |

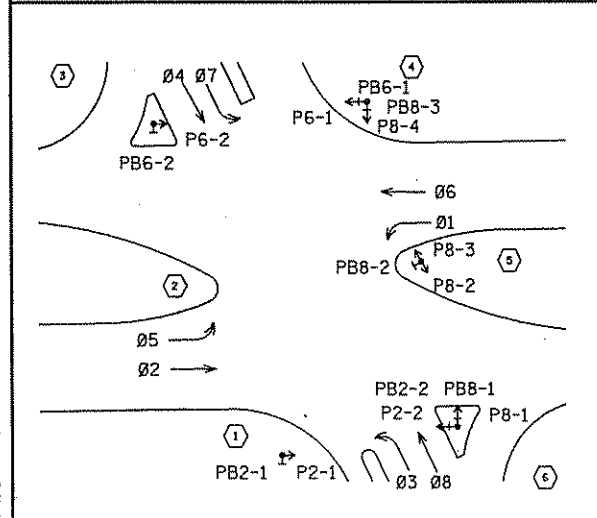
-ALL LOOP DETECTORS SHALL BE NMC UNLESS NOTED OTHERWISE
-LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET

(A) EQUIPMENT PAD (SEE DETAILS)
SERVICE CABINET (SEE DETAILS)
CONTROLLER AND CABINET
4" NMC TO HH 1:
7-12/C#12
4-3/C#12
10-2/C#14
2-3/C#20
1-1/C#6 (GRD)
1-6 PR.#19
2" AND 3" NMC STUBBED OUT (CAP BOTH ENDS)
SERVICE CABINET TO CONTROLLER CABINET:
2" RSC
2-1/C#6
1-1/C#6 INS. GR.
SERVICE CABINET TO HH 22:
2" NMC
3-1/C#2
SERVICE CABINET TO HH 1:
2" NMC
4-3/C#12
HH 1 TO HH 21:
2" NMC
2-3/C#12

(REINSTALL: 1-6 PR.#19)



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



(B) SOP (WOOD POLE & TRANSFORMER BY ANOKA ELECTRIC) FROM HH 21:
2" RSC RISER & WEATHERHEAD
2-1/C#2
1-1/C#3 INS. GR.

SIGNAL SYSTEM OPERATION
- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE WITH PHASES 1,3,5 AND 7 BEING PROTECTED LEFT TURN PHASES..

- NOTES:**
- SEE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS, LED PEDESTRIAN INDICATIONS, LED VEHICLE INDICATIONS AND PAINTING OF SIGNAL SYSTEM.
 - THE EXACT LOCATION OF HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD SHALL BE DETERMINED IN THE FIELD BY MNDOT TRAFFIC OFFICE PERSONNEL.
 - A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY FOR EMERGENCY VEHICLE PREEMPTION EQUIPMENT SHALL BE F & I 6' FROM THE END OF EACH MAST ARM.
 - THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE POWER COMPANY TO ARRANGE FOR THE POWER CONNECTION.
 - THE CONTRACTOR SHALL LOCATE AND VERIFY INPLACE UTILITIES PRIOR TO COMMENCING WORK.
 - FOR TYPE "D" SIGNS SEE DETAIL SHEET. TYPE "D" SIGNS AND ONE WAY SIGNS ARE INCIDENTAL TO THE SIGNAL SYSTEM PAY ITEM.
 - FOR PAVEMENT MARKINGS SEE DETAIL SHEET. PAVEMENT MARKINGS ARE INCIDENTAL TO THE SIGNAL SYSTEM PAY ITEM.
 - REMOVAL OF THE INPLACE SIGNAL SYSTEM IS NOT INCIDENTAL TO THE SIGNAL SYSTEM PAY ITEM.
 - ALL CONDUIT SHALL BE NMC - SCHEDULE 80 OR HDPE SCHEDULE 80 AND CARRY 1-1/C#6 INSULATED GROUNDING CONDUCTOR AS SHOWN IN PLAN, EXCEPT CONDUIT FROM SERVICE CABINET TO SIGNAL CABINET SHALL BE RSC.

| | | | |
|--|-------------|----------------|--------------|
| DRAWN BY: MAS | REVISED BY: | REVISED BY: | AS BUILT BY: |
| CKD BY: POS | CKD BY: | CKD BY: | CKD BY: |
| DATE: 11/21/05 | DATE: | DATE: | DATE: |
| SYSTEM ID: 20200 | | T.E. 4061 | |
| METER ADDRESS: 7200 HIGHWAY 10 NORTHWEST | | | |
| CERTIFIED BY: <i>[Signature]</i> | | LIC. NO. 24475 | |
| STATE PROJ. NO. 0202-81 (T.H. 10) | | DATE: 11/29/05 | |

INTERSECTION LAYOUT SYSTEM "B"
T.H. 10 AT RAMSEY BLVD. IN RAMSEY, ANOKA COUNTY
SHEET NO. 81 OF 85 SHEETS

NONE

FILENAME: S:\TRAFFIC\Signal Design\Plans\TH 10\202000\T20200NEW2.DGN

PLOTTED: 29-NOV-2005 08:46

1 PA85 POLE FOUNDATION
 (W/1" NMC STUB OUT & 5/8" X 15' GR. ROD)
 TYPE PA85-A-D40-9 (DAVIT AT 20°)
 ONE WAY SIGNAL MOUNTED AT 45° (RC DESIGN)
 ONE WAY SIGNAL MOUNTED AT 225° (RC DESIGN)
 1-PEDESTRIAN INDICATION MOUNTED AT 45°
 1-PEDESTRIAN PUSHBUTTON AND SIGN (R10-4b)
 1-NO PEDESTRIAN CROSSING SIGN (R9-3a)
 FACING POLE 2
 LUMINAIRE 250 WATT HPS
 EXTEND INTO HH 1:
 3" NMC
 2-12/C#12
 2-3/C#12
 2-1/C#6

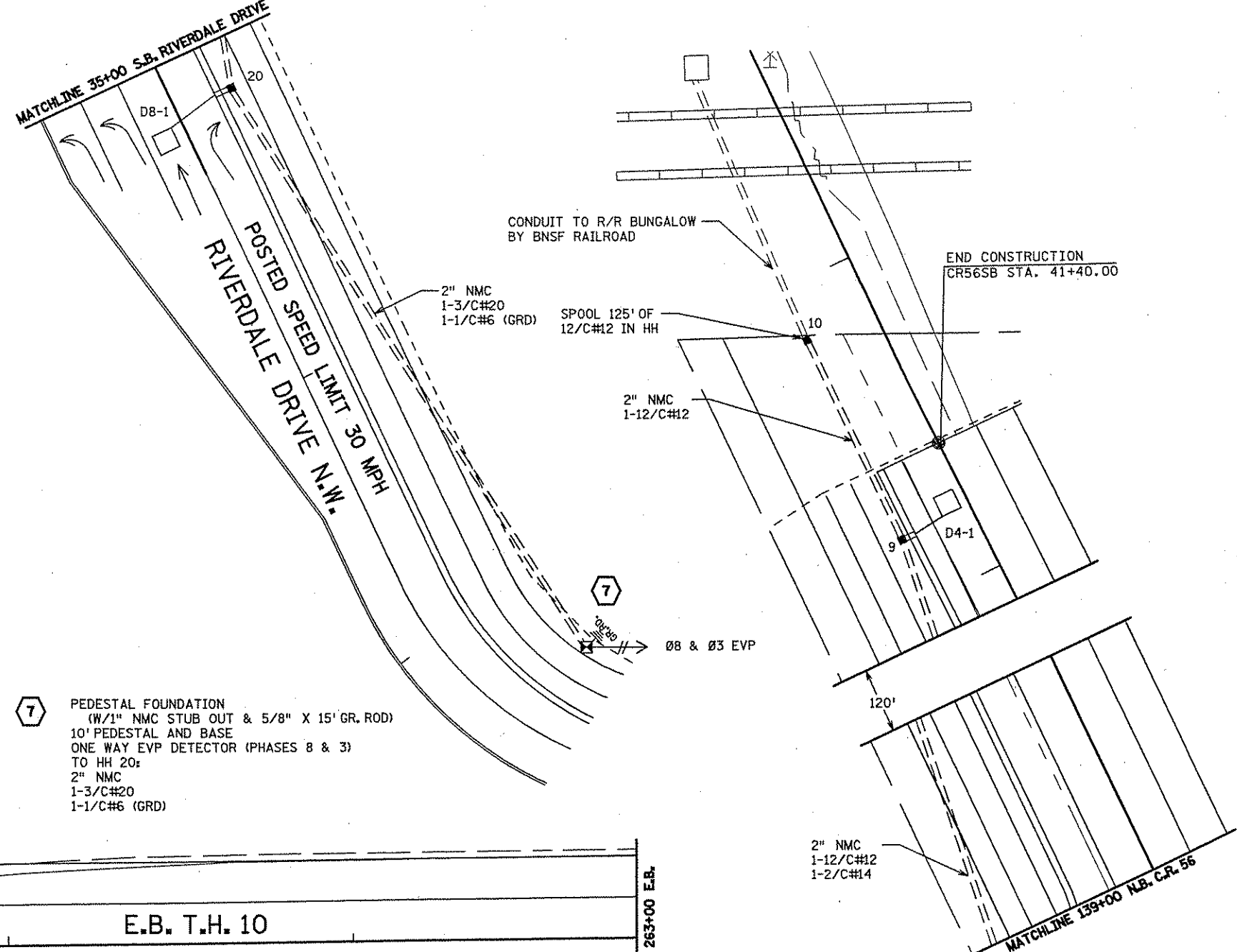
4 PA85 POLE FOUNDATION
 (W/1" NMC STUB OUT & 5/8" X 15' GR. ROD)
 TYPE PA85-A-D40-9 (DAVIT AT 20°)
 ONE WAY SIGNAL MOUNTED AT 45° (RC DESIGN)
 ONE WAY SIGNAL MOUNTED AT 225° (RC DESIGN)
 1-PEDESTRIAN INDICATION MOUNTED AT 45°
 1-PEDESTRIAN INDICATION MOUNTED AT 225°
 2-PEDESTRIAN PUSHBUTTONS AND SIGNS (R10-4b)
 LUMINAIRE 250 WATT HPS
 EXTEND INTO HH 12:
 3" NMC
 2-12/C#12
 2-3/C#12
 1-1/C#6

2 PA100 POLE FOUNDATION
 (W/1" NMC STUB OUT & 5/8" X 15' GR. ROD)
 TYPE PA100-A-55
 2-ONE WAY SIGNALS OVERHEAD AT 0' AND 11'
 FROM END OF MAST ARM
 ONE WAY SIGNAL MOUNTED AT 90° (RC DESIGN)
 ONE WAY SIGNAL MOUNTED AT 270° (RC DESIGN)
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (PHASES 4 & 7)
 2-NO PEDESTRIAN CROSSING SIGNS (R9-3a)
 FACING POLES 1 AND 3
 EXTEND INTO HH 5:
 3" NMC
 2-12/C#12
 1-3/C#12
 1-3/C#20
 2-1/C#6

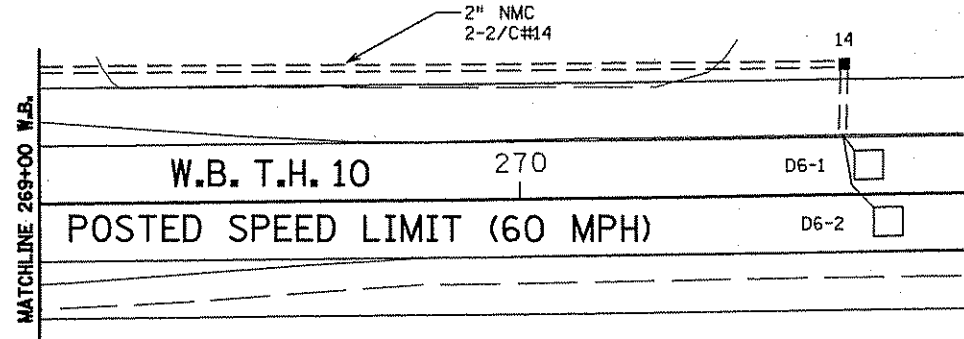
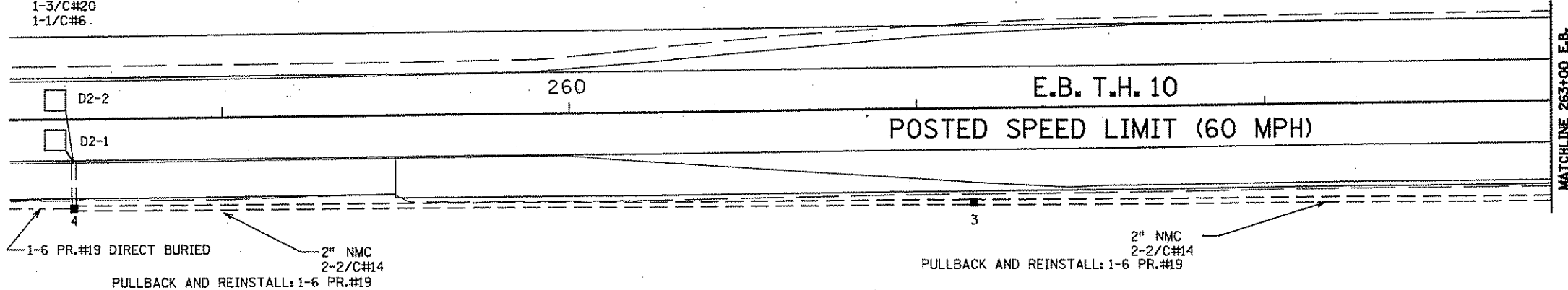
5 PA100 POLE FOUNDATION
 (W/1" NMC STUB OUT & 5/8" X 15' GR. ROD)
 TYPE PA100-A-55
 2-ONE WAY SIGNALS OVERHEAD AT 0' AND 11'
 FROM END OF MAST ARM
 ONE WAY SIGNAL MOUNTED AT 90° (RC DESIGN)
 ONE WAY SIGNAL MOUNTED AT 270° (RC DESIGN)
 1-PEDESTRIAN INDICATION MOUNTED AT 90°
 1-PEDESTRIAN INDICATION MOUNTED AT 270°
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (PHASES 8 & 3)
 1-PEDESTRIAN PUSHBUTTON AND SIGN (R10-4b)
 EXTEND INTO HH 16:
 3" NMC
 3-12/C#12
 2-3/C#12
 1-3/C#20
 2-1/C#6

3 PA100 POLE FOUNDATION
 (W/1" NMC STUB OUT & 5/8" X 15' GR. ROD)
 TYPE PA100-A-45-D40-9 (DAVIT AT 350°)
 2-SWING AWAY HINGES
 3-ONE WAY SIGNALS OVERHEAD AT 0', 11' AND 23'
 FROM END OF MAST ARM
 ONE WAY SIGNAL MOUNTED AT 45° (RC DESIGN)
 ONE WAY SIGNAL MOUNTED AT 225° (RC DESIGN)
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (PHASES 6 & 1)
 1-PEDESTRIAN INDICATION MOUNTED AT 225°
 1-PEDESTRIAN PUSHBUTTON AND SIGN (R10-4b)
 1-NO PEDESTRIAN CROSSING SIGN (R9-3a)
 FACING POLE 2
 LUMINAIRE 250 WATT HPS
 EXTEND INTO HH 7:
 3" NMC
 2-12/C#12
 3-3/C#12
 1-3/C#20
 1-1/C#6

6 PA100 POLE FOUNDATION
 (W/1" NMC STUB OUT & 5/8" X 15' GR. ROD)
 TYPE PA100-A-45-D40-9 (DAVIT AT 350°)
 2-SWING AWAY HINGES
 3-ONE WAY SIGNALS OVERHEAD AT 0', 11' AND 23'
 FROM END OF MAST ARM
 ONE WAY SIGNAL MOUNTED AT 45° (RC DESIGN)
 ONE WAY SIGNAL MOUNTED AT 225° (RC DESIGN)
 1-PEDESTRIAN INDICATION MOUNTED AT 45°
 1-PEDESTRIAN INDICATION MOUNTED AT 225°
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (PHASES 2 & 5)
 2-PEDESTRIAN PUSHBUTTONS AND SIGNS (R10-4b)
 LUMINAIRE 250 WATT HPS
 EXTEND INTO HH 18:
 3" NMC
 2-12/C#12
 4-3/C#12
 1-3/C#20
 2-1/C#6

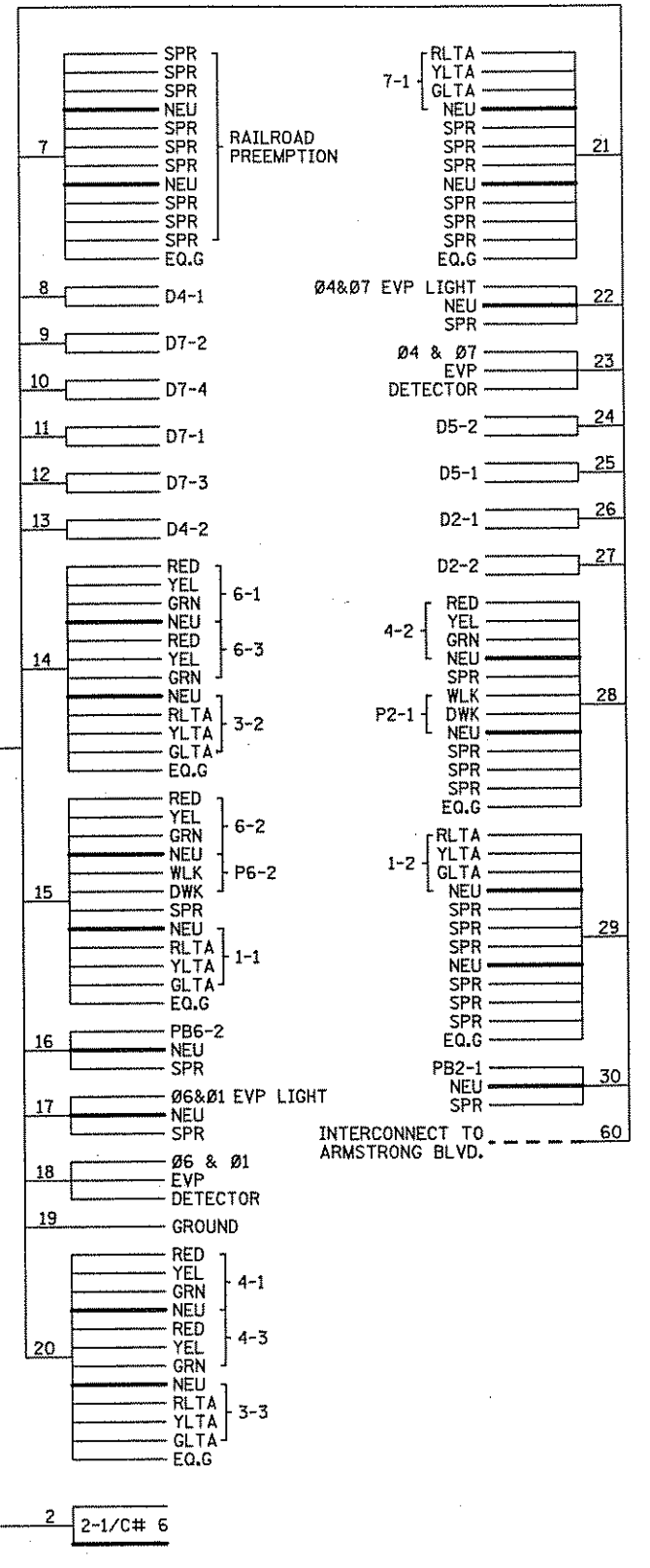
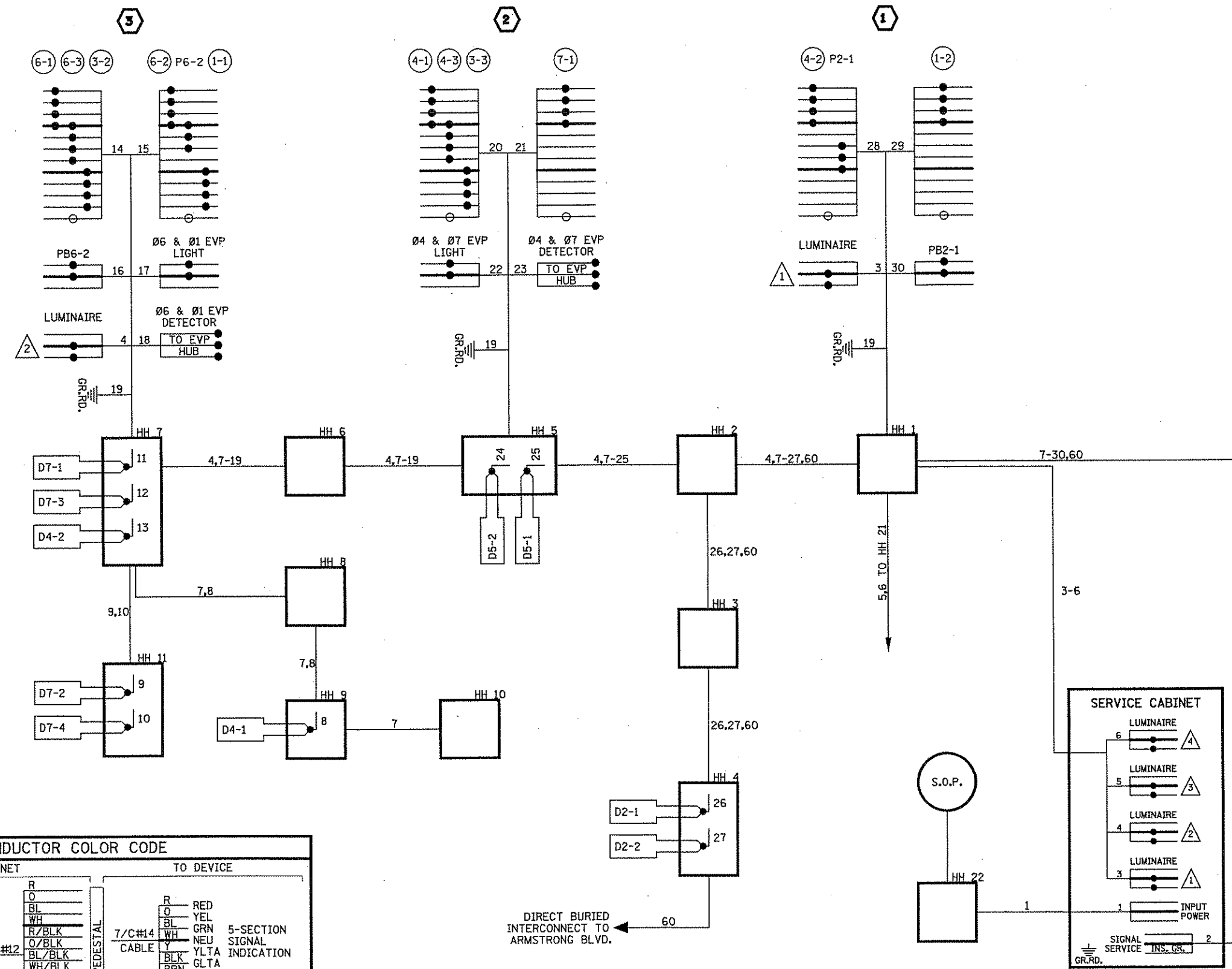


7 PEDESTAL FOUNDATION
 (W/1" NMC STUB OUT & 5/8" X 15' GR. ROD)
 10' PEDESTAL AND BASE
 ONE WAY EVP DETECTOR (PHASES 8 & 3)
 TO HH 20:
 2" NMC
 1-3/C#20
 1-1/C#6 (GRD)



| | | | | | |
|--|---------|-------------|-------------|----------------|--|
| DRAWN BY: MAS | | REVISED BY: | REVISED BY: | AS BUILT BY: | MATCHLINES AND POLE NOTES SYSTEM "B" T.H. 10 AT RAMSEY BLVD. IN RAMSEY, ANOKA COUNTY |
| CKD BY: POS | CKD BY: | CKD BY: | CKD BY: | CKD BY: | |
| DATE: 11/21/05 | DATE: | DATE: | DATE: | DATE: | |
| SYSTEM ID: 20200 | | T.E. 4061 | | | |
| METER ADDRESS: 2700 HIGHWAY 10 NORTHWEST | | | | | |
| CERTIFIED BY: <i>[Signature]</i> | | | | LIC. NO. 24475 | DATE: 4/29/05 |
| STATE PROJ. NO. 0202-81 (T.H. 10) | | | | | SHEET NO. 82 OF 85 SHEETS |

CONTROLLER CABINET



| CONDUCTOR COLOR CODE | |
|----------------------|--|
| TO SIGNAL CABINET | TO DEVICE |
| R OR O | R RED |
| 3/C#20 WH OR YEL | BL YEL |
| BLK OR BL | WH GRN |
| | R/BLK WH NEU 5-SECTION SIGNAL INDICATION |
| | O/BLK YLTA |
| | BL/BLK GLTA |
| | WH/BLK BRN SPR |
| | BLK R RED |
| | BLK/WH O YEL 3 & 4-SECTION SIGNAL INDICATION |
| | G/BLK BL GRN |
| | G WH NEU |
| | R DWK PEDESTRIAN INDICATION |
| | BL WLK |
| | WH WH NEU |
| | BLK BLK SPR |
| | R 2/C#14 BLK EVP/PB/FLASHER |
| | WH WH NEU |
| | BLK |
| | WH |

FIELD WIRING DIAGRAM (1 OF 2)
SYSTEM "B"
T.H. 10 AT RAMSEY BLVD.
IN RAMSEY, ANOKA COUNTY

DRAWN BY: MAS REVISED BY: REVISED BY: AS BUILT BY:

CKD BY: POS CKD BY: CKD BY: CKD BY:

DATE: 11/21/05 DATE: DATE: DATE:

SYSTEM ID: 20200 T.E. 4061

METER ADDRESS: 7200 HIGHWAY 10 NORTHWEST

CERTIFIED BY: *[Signature]* LIC. NO. 24475 DATE: 4/29/05

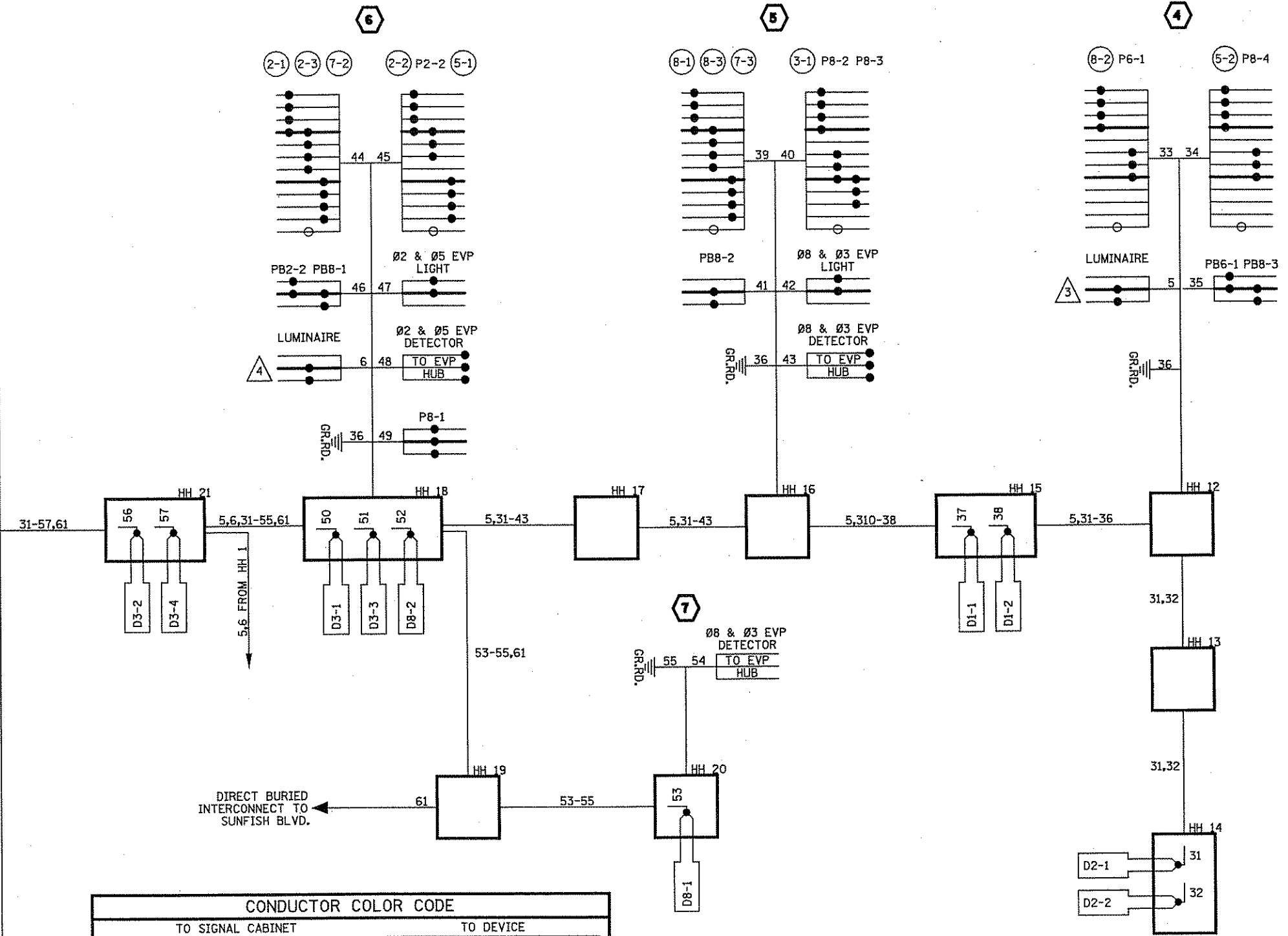
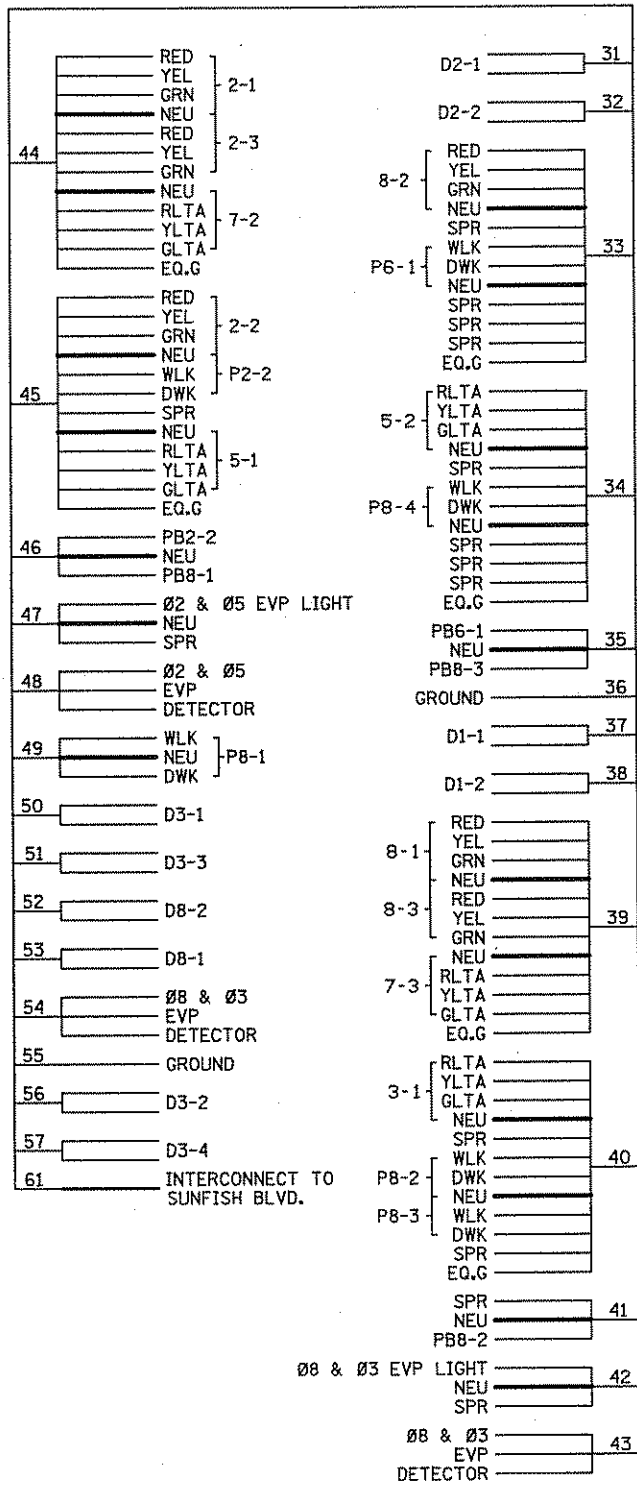
STATE PROJ. NO. 0202-81 (T.H. 10) SHEET NO. 83 OF 85 SHEETS

CONTROLLER CABINET

NONE

FILENAME: S:\TRAFFIC\Signal Design\plans\TH 10\20200\T20200NEW2.DGN

PLOTTED: 28-NOV-2005 11:49



| CONDUCTOR COLOR CODE | |
|----------------------|-----------------------|
| TO SIGNAL CABINET | TO DEVICE |
| 3/C#20 R OR O | 7/C#14 R RED |
| WH OR YEL | BL YEL |
| BLK OR BL | GRN GRN |
| | NEU NEU |
| | YLTA YLTA |
| | GLTA GLTA |
| | SPR SPR |
| | EQ.G EQ.G |
| | Ø8 & Ø3 EVP LIGHT |
| | Ø8 & Ø3 EVP DETECTOR |
| | PEDESTRIAN INDICATION |
| | EVP/PB/FLASHER |
| | NEU |

| | | | |
|--|-------------|-------------|----------------|
| DRAWN BY: MAS | REVISED BY: | REVISED BY: | AS BUILT BY: |
| CKD BY: POS | CKD BY: | CKD BY: | CKD BY: |
| DATE: 11/21/05 | DATE: | DATE: | DATE: |
| SYSTEM ID: 20200 | | T.E. 4061 | |
| METER ADDRESS: 7200 HIGHWAY 10 NORTHWEST | | | |
| CERTIFIED BY: <i>[Signature]</i> | | | LIC. NO. 24475 |
| STATE PROJ. NO. 0202-81 (T.H. 10) | | | DATE: 11/29/05 |
| SHEET NO. 84 OF 85 SHEETS | | | |

NOTE: ALL TERMINAL BLOCK CONNECTIONS SHALL BE ARRANGED AS SPECIFIED ABOVE.

45' WOOD POLE (CLASS 2)
 2-DOWN GUYS, GUARDS & ANCHORS
 1-TYPE 10A
 1-TYPE 10B
 15' MAST ARM & LUMINAIRE
 (250W HPS)
 1-R9-3A SIGNS (NO PED) FACING POLE 3
 METAL JUNCTION BOX WITH
 TERMINAL BLOCK
 2" RSC RISER & WEATHERHEAD
 ABOVE JUNCTION BOX WITH:
 1-12/C#12
 2-3/C#12
 3/4" RSC BELOW JUNCTION BOX
 WITH PED PB & 1-3/C#12
 1-R10-4B SIGN
 3/4" RSC & WEATHERHEAD ABOVE
 SPAN WIRE WITH:
 1-3/C#12 (LUM)

45' WOOD POLE (CLASS 2)
 2-DOWN GUYS, GUARDS & ANCHORS
 2-TYPE 10B
 METAL JUNCTION BOX WITH
 TERMINAL BLOCK
 2" RSC RISER & WEATHERHEAD
 ABOVE JUNCTION BOX WITH:
 1-12/C#12
 3-3/C#12
 3/4" RSC BELOW JUNCTION BOX
 WITH 2-PED PB & 2-3/C#12
 2-R10-4B SIGN

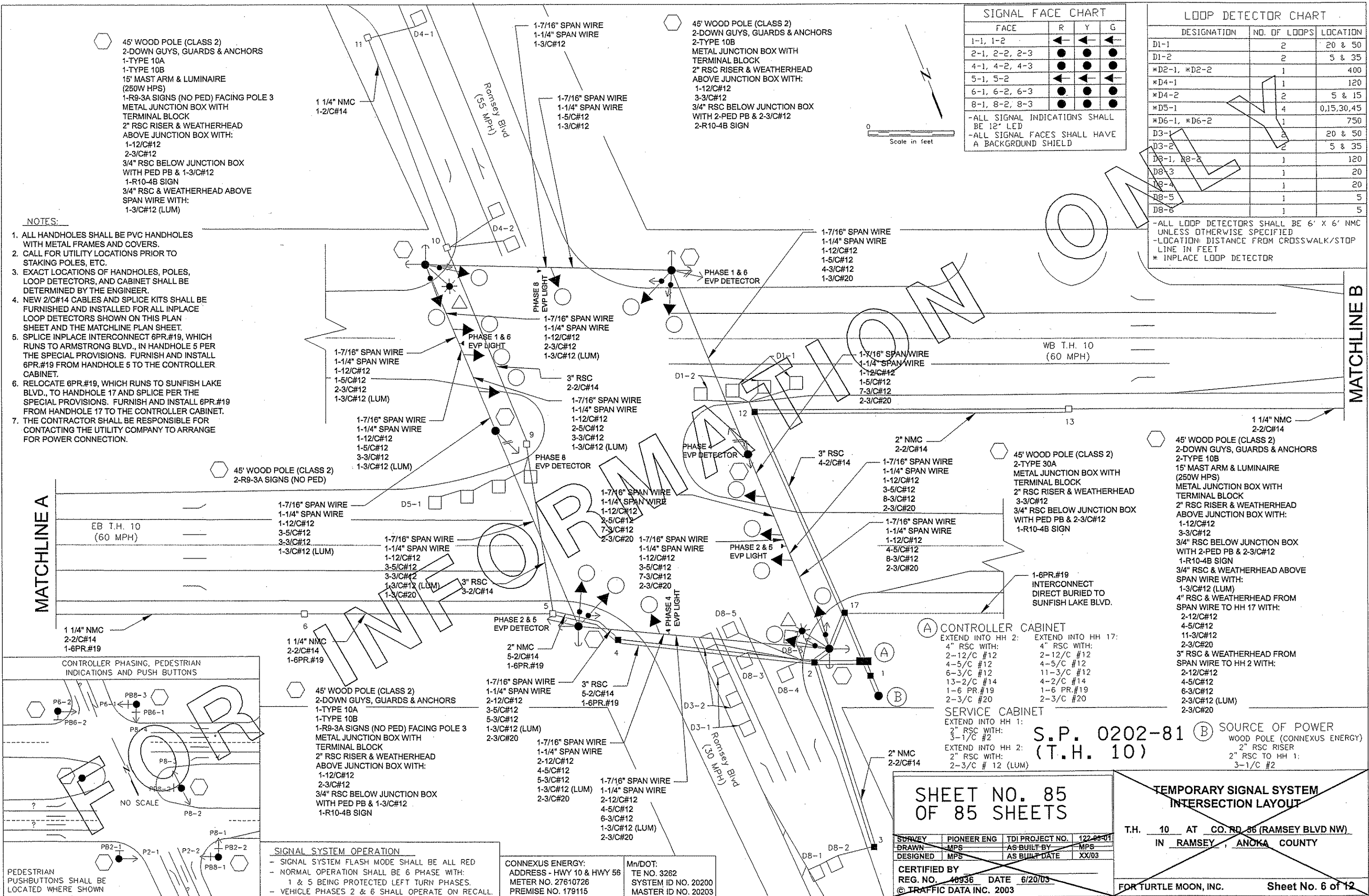
| SIGNAL FACE CHART | | | |
|-------------------|---|---|---|
| FACE | R | Y | G |
| 1-1, 1-2 | ← | ← | ← |
| 2-1, 2-2, 2-3 | ● | ● | ● |
| 4-1, 4-2, 4-3 | ● | ● | ● |
| 5-1, 5-2 | ← | ← | ← |
| 6-1, 6-2, 6-3 | ● | ● | ● |
| 8-1, 8-2, 8-3 | ● | ● | ● |

-ALL SIGNAL INDICATIONS SHALL
 BE 12" LED
 -ALL SIGNAL FACES SHALL HAVE
 A BACKGROUND SHIELD

| LOOP DETECTOR CHART | | |
|---------------------|--------------|------------|
| DESIGNATION | NO. OF LOOPS | LOCATION |
| D1-1 | 2 | 20 & 50 |
| D1-2 | 2 | 5 & 35 |
| *D2-1, *D2-2 | 1 | 400 |
| *D4-1 | 1 | 120 |
| *D4-2 | 2 | 5 & 15 |
| *D5-1 | 4 | 0,15,30,45 |
| *D6-1, *D6-2 | 1 | 750 |
| D3-1 | 2 | 20 & 50 |
| D3-2 | 2 | 5 & 35 |
| D8-1, D8-2 | 1 | 120 |
| D8-3 | 1 | 20 |
| D8-4 | 1 | 20 |
| D8-5 | 1 | 5 |
| D8-6 | 1 | 5 |

-ALL LOOP DETECTORS SHALL BE 6' X 6' NMC
 UNLESS OTHERWISE SPECIFIED
 -LOCATION: DISTANCE FROM CROSSWALK/STOP
 LINE IN FEET
 * INPLACE LOOP DETECTOR

- NOTES:**
- ALL HANDHOLES SHALL BE PVC HANDHOLES WITH METAL FRAMES AND COVERS.
 - CALL FOR UTILITY LOCATIONS PRIOR TO STAKING POLES, ETC.
 - EXACT LOCATIONS OF HANDHOLES, POLES, LOOP DETECTORS, AND CABINET SHALL BE DETERMINED BY THE ENGINEER.
 - NEW 2/C#14 CABLES AND SPLICE KITS SHALL BE FURNISHED AND INSTALLED FOR ALL INPLACE LOOP DETECTORS SHOWN ON THIS PLAN SHEET AND THE MATCHLINE PLAN SHEET.
 - SPLICE INPLACE INTERCONNECT 6PR.#19, WHICH RUNS TO ARMSTRONG BLVD., IN HANDHOLE 5 PER THE SPECIAL PROVISIONS. FURNISH AND INSTALL 6PR.#19 FROM HANDHOLE 5 TO THE CONTROLLER CABINET.
 - RELOCATE 6PR.#19, WHICH RUNS TO SUNFISH LAKE BLVD., TO HANDHOLE 17 AND SPLICE PER THE SPECIAL PROVISIONS. FURNISH AND INSTALL 6PR.#19 FROM HANDHOLE 17 TO THE CONTROLLER CABINET.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE UTILITY COMPANY TO ARRANGE FOR POWER CONNECTION.



MATCHLINE A

MATCHLINE B

SIGNAL SYSTEM OPERATION

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED
- NORMAL OPERATION SHALL BE 6 PHASE WITH: 1 & 5 BEING PROTECTED LEFT TURN PHASES.
- VEHICLE PHASES 2 & 6 SHALL OPERATE ON RECALL.

CONNEXUS ENERGY:
 ADDRESS - HWY 10 & HWY 56
 METER NO. 27610726
 PREMISE NO. 179115

Mn/DOT:
 TE NO. 3262
 SYSTEM ID NO. 20200
 MASTER ID NO. 20203

**SHEET NO. 85
 OF 85 SHEETS**

| | | | |
|----------|-------------|-----------------|-----------|
| SURVEY | PIONEER ENG | TDI PROJECT NO. | 122-95-01 |
| DRAWN | MPS | AS BUILT BY | MPS |
| DESIGNED | MPS | AS BUILT DATE | XX/03 |

CERTIFIED BY
 REG. NO. 48936 DATE 6/20/03
 © TRAFFIC DATA INC. 2003

**TEMPORARY SIGNAL SYSTEM
 INTERSECTION LAYOUT**

T.H. 10 AT CO. RD 85 (RAMSEY BLVD NW)
 IN RAMSEY, ANOKA COUNTY

FOR TURTLE MOON, INC. **Sheet No. 6 of 12**

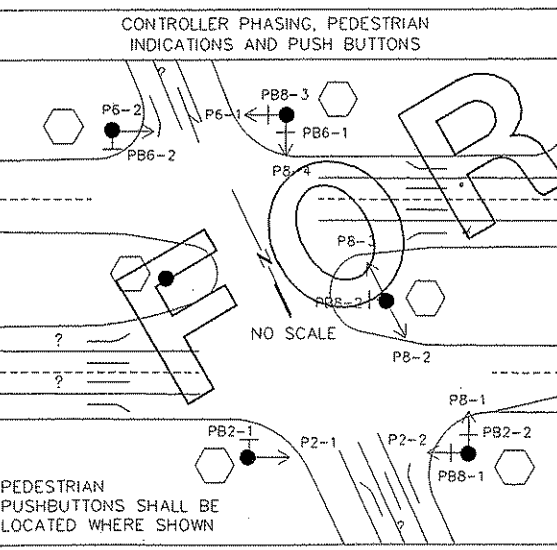
(A) CONTROLLER CABINET
 EXTEND INTO HH 2:
 4" RSC WITH:
 2-12/C #12
 4-5/C #12
 6-3/C #12
 13-2/C #14
 1-6 PR.#19
 2-3/C #20

(B) SOURCE OF POWER
 WOOD POLE (CONNEXUS ENERGY)
 2" RSC RISER
 2" RSC TO HH 1:
 3-1/C #2

S.P. 0202-81 (T.H. 10)

SERVICE CABINET
 EXTEND INTO HH 1:
 2" RSC WITH:
 3-1/C #2

EXTEND INTO HH 2:
 2" RSC WITH:
 2-3/C #12 (LUM)

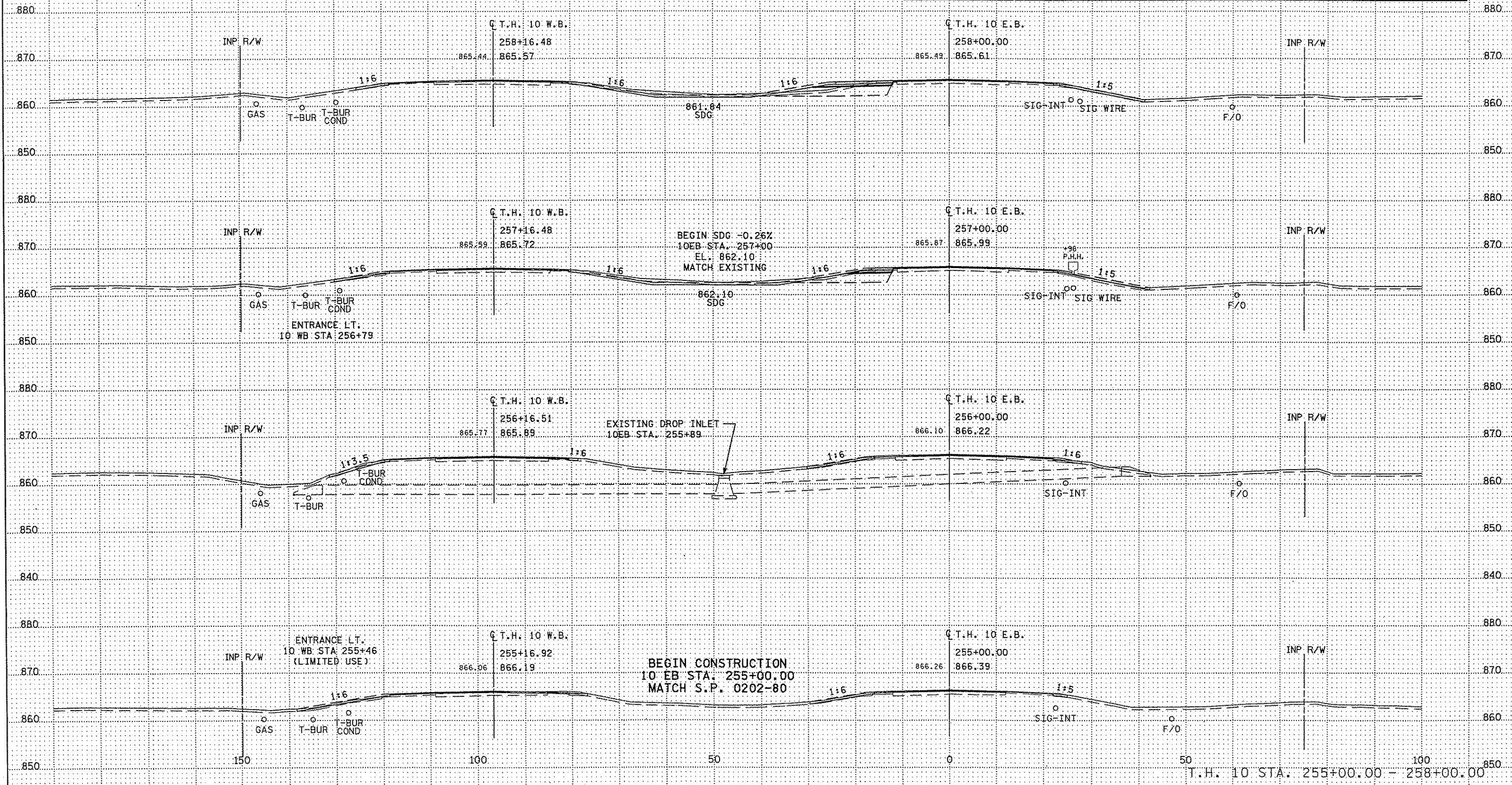


PLOTTED/REVISED: 29-NOV-2005 10:41

DISTRICT : METRO
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PATH & FILENAME: S:\DESIGN\010\0202\81\TH10\10eb_xpl.dgn

GENERAL CROSS SECTION NOTES:

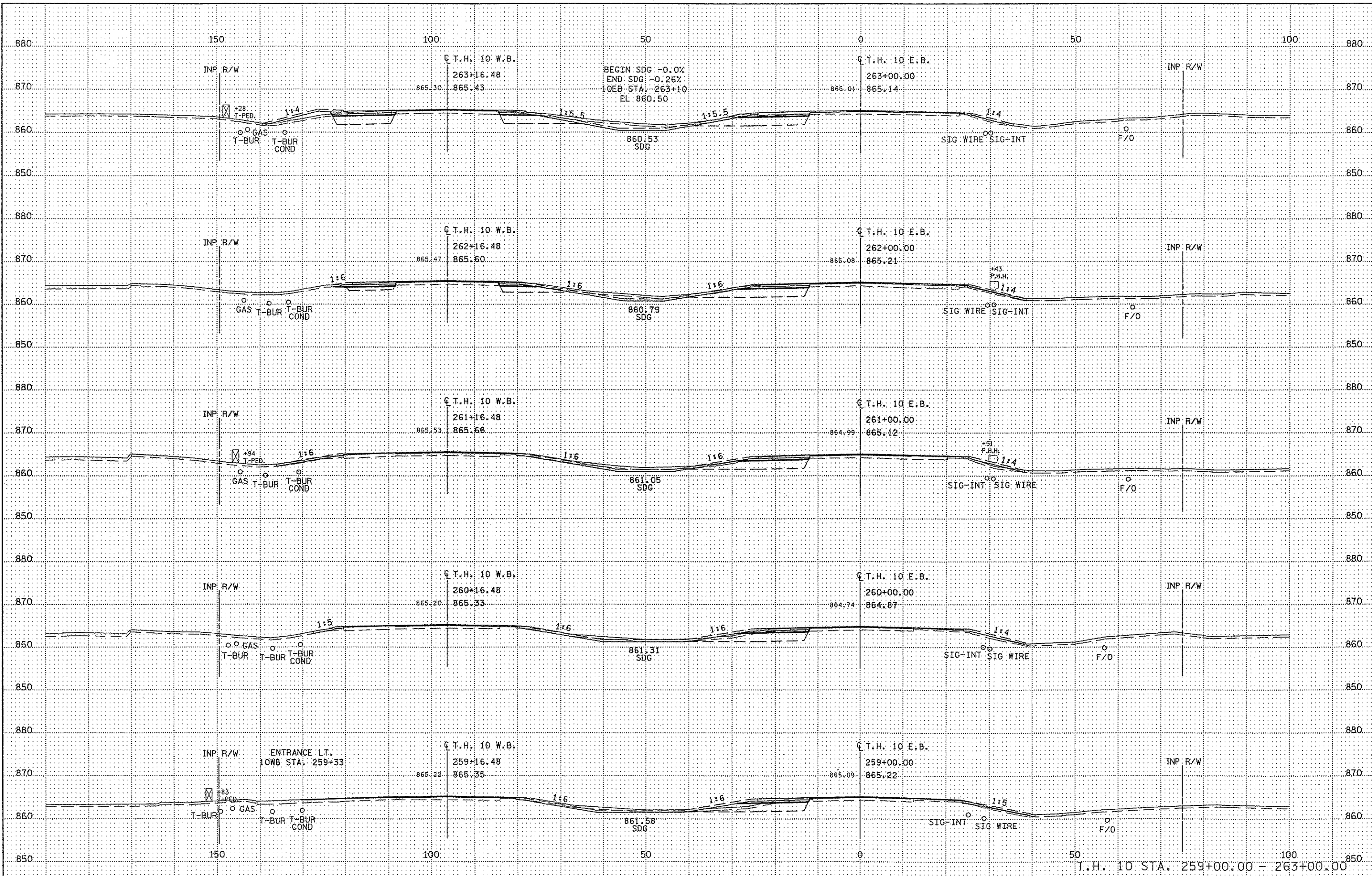
- DITCH GRADES ARE TO THE BOTTOM OF TOPSOIL.
- UTILITIES AND DRAINAGE STRUCTURES SHOWN ARE INPLACE, NOT PROPOSED.
- UTILITY ELEVATIONS AND LOCATIONS SHOWN ARE APPROXIMATE.
- SOME UTILITIES SHOWN MAY HAVE BEEN REMOVED OR ABANDONED. OTHER NEW UTILITIES MAY HAVE BEEN RECENTLY CONSTRUCTED AND MAY NOT BE SHOWN.



T.H. 10 STA. 255+00.00 - 258+00.00

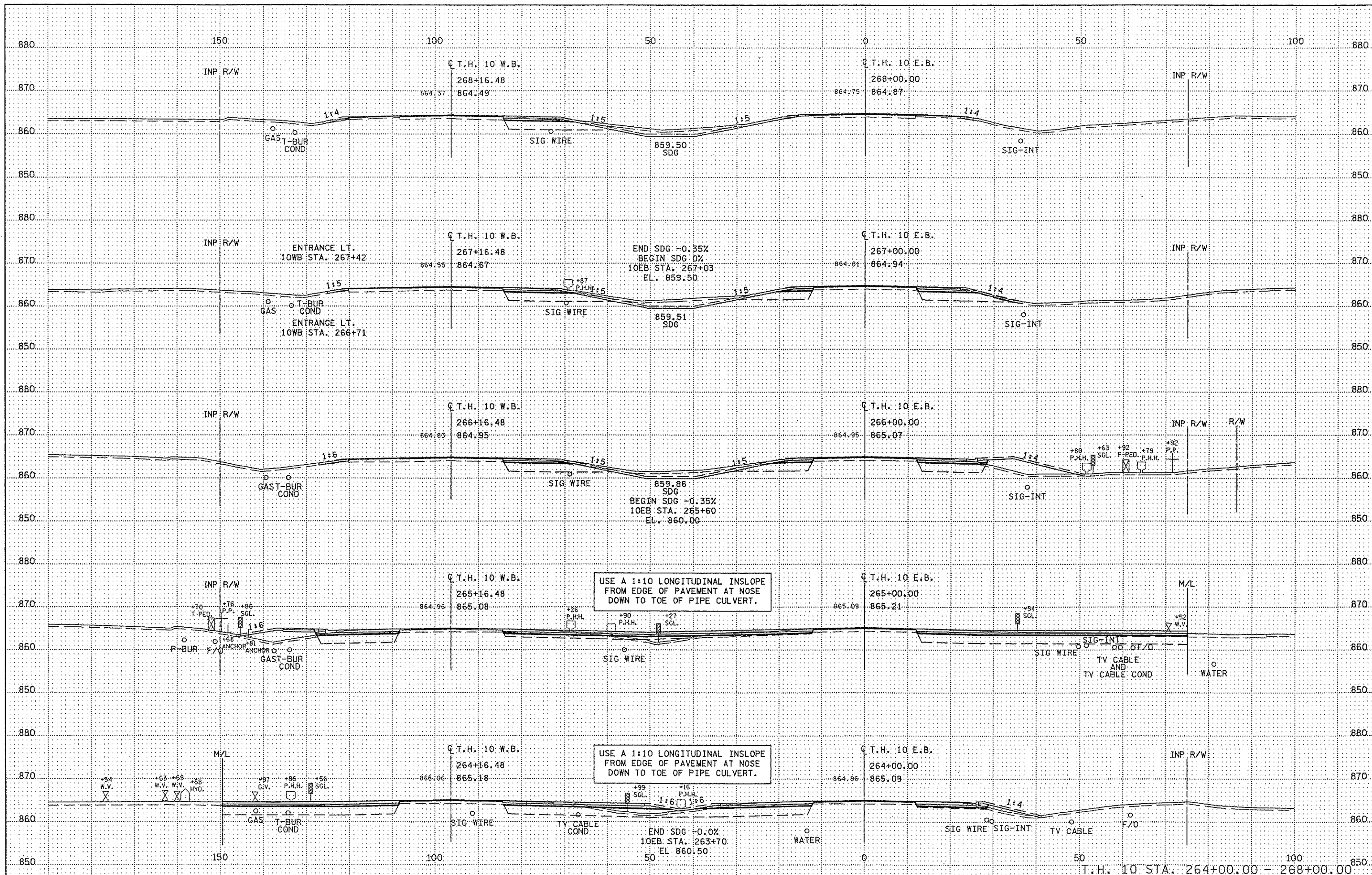
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DISTRICT : METRO
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PLOTTED/REVISED: 29-NOV-2005 10:33

DISTRICT #: METRO
I/PLOT NAME: 10eb_xpl2
PATH & FILENAME: S:\DESIGN\10\202\81\TH10\ST10\10eb_xpl.dgn



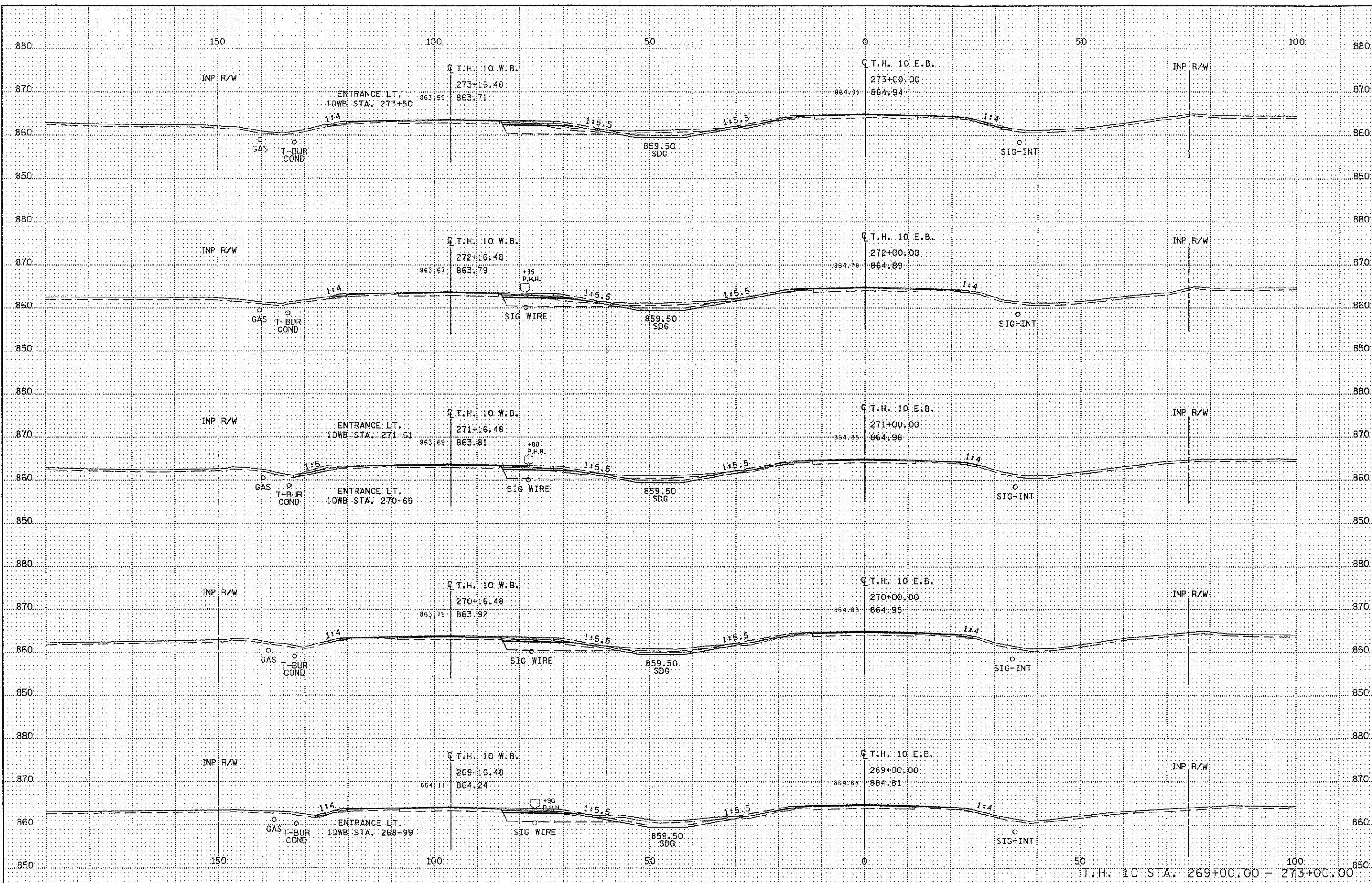
USE A 1:10 LONGITUDINAL INSLOPE
FROM EDGE OF PAVEMENT AT NOSE
DOWN TO TOE OF PIPE CULVERT.

USE A 1:10 LONGITUDINAL INSLOPE
FROM EDGE OF PAVEMENT AT NOSE
DOWN TO TOE OF PIPE CULVERT.

PLOTTED/REVISED: 29-NOV-2005 10:33

PATH & FILENAME: S:\DESIGN\010202\81\Final\XST\H10\10eb_xpl.dgn

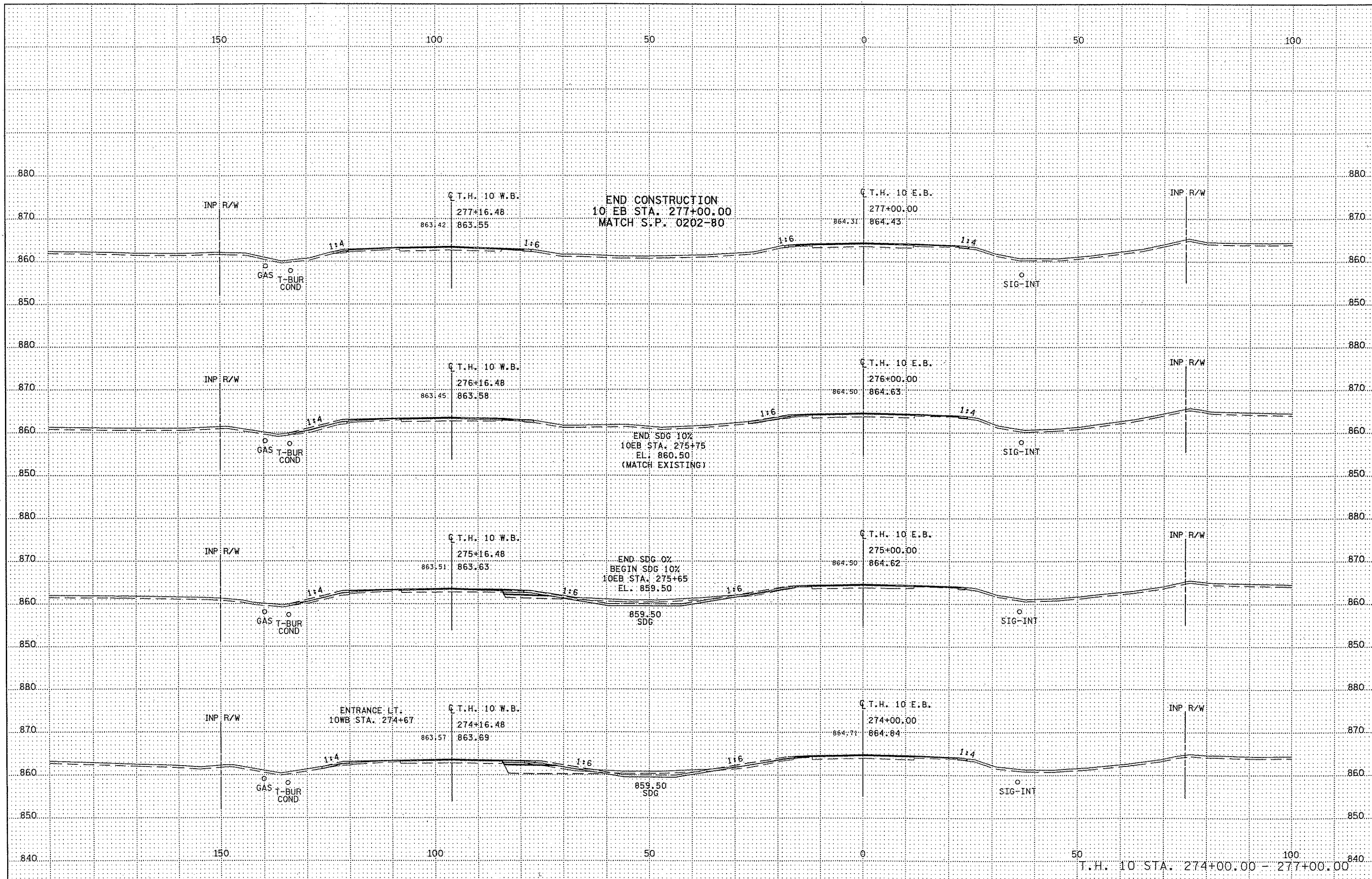
DISTRICT #: METRO
PLOT NAME: 10eb_xpl3



T.H. 10 STA. 269+00.00 - 273+00.00

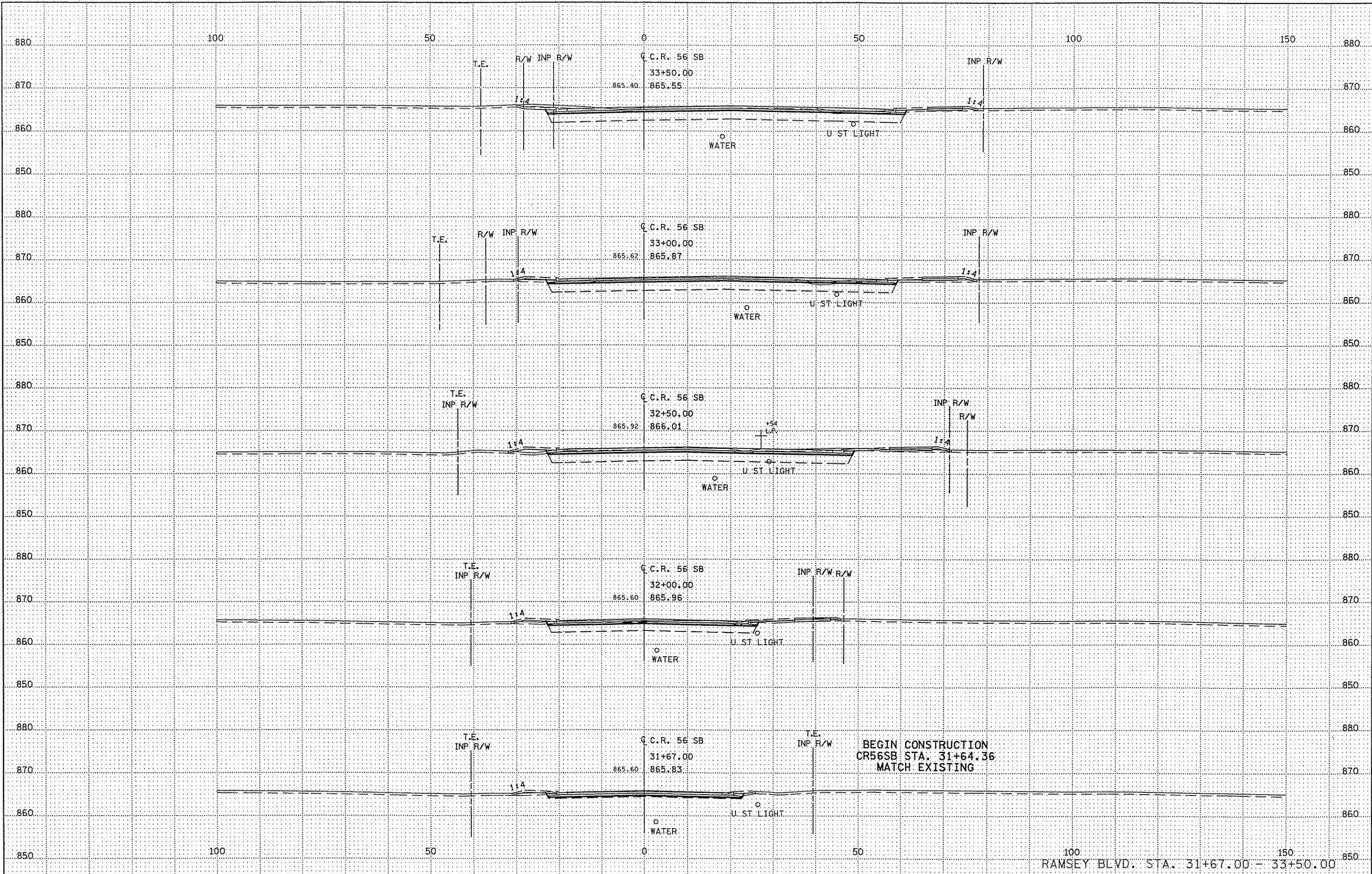
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DISTRICT # : METRO
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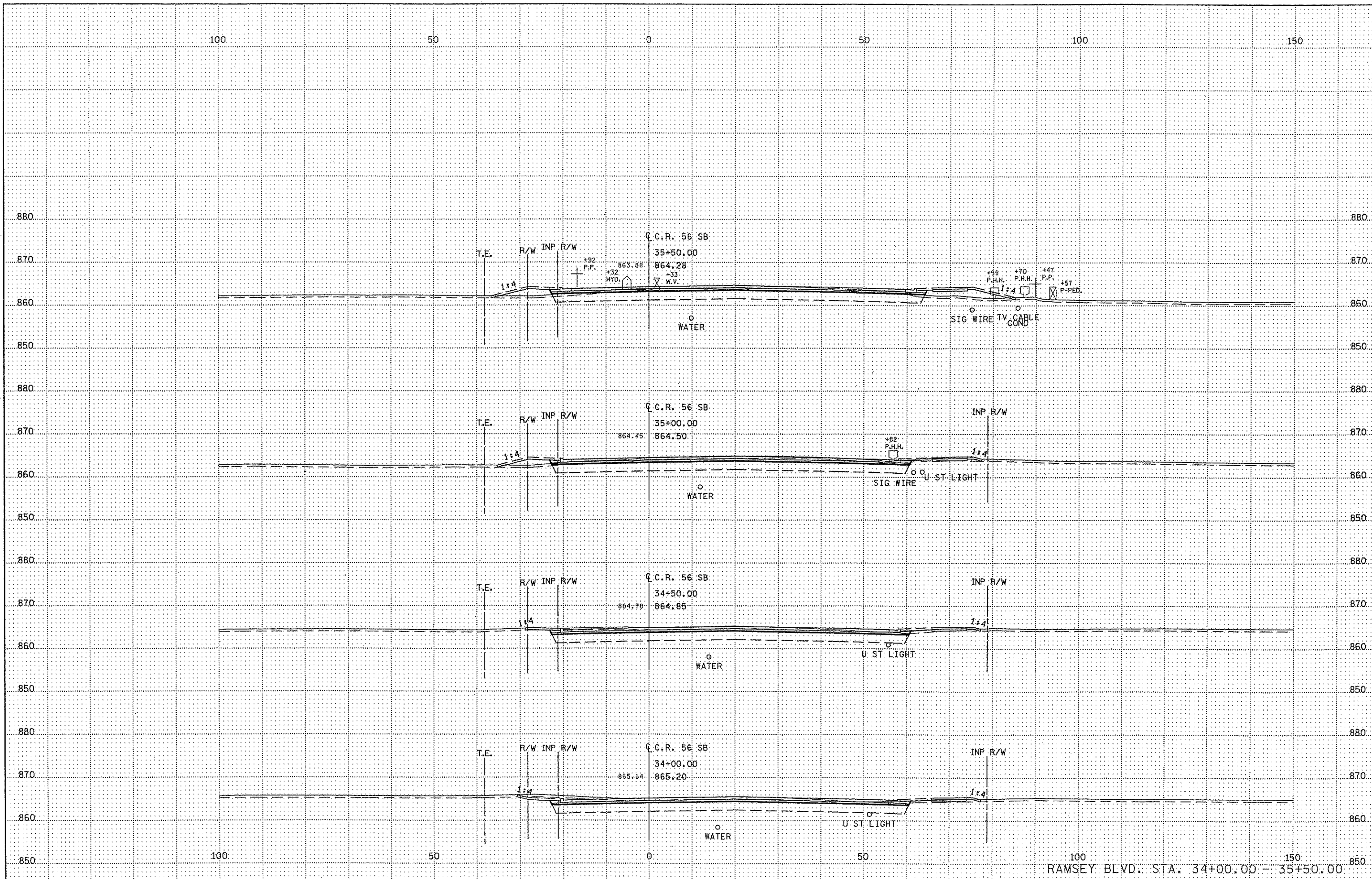
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DISTRICT #: METRO
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PLOTTED/REVISED: 29-NOV-2005 10:42

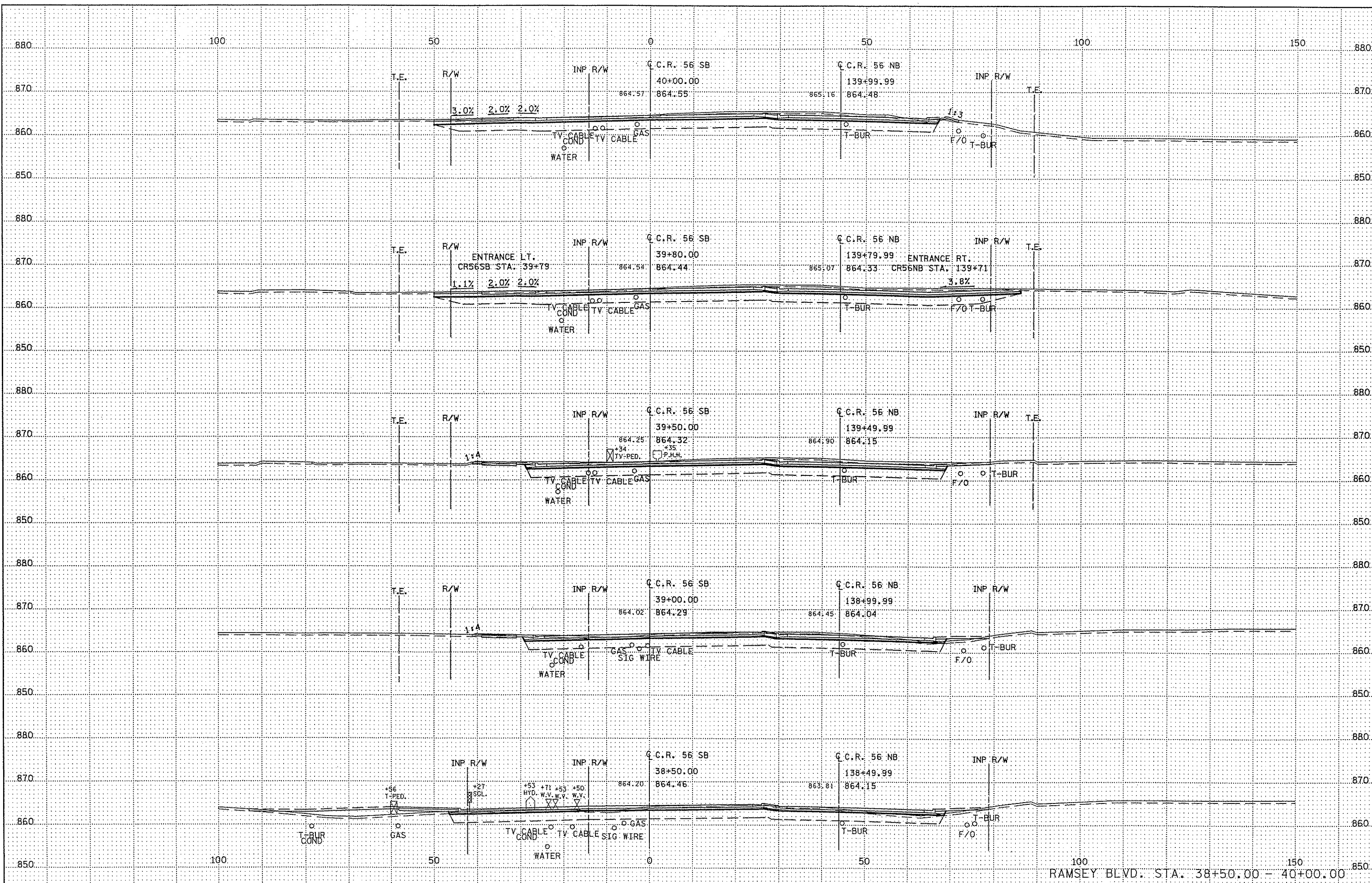
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RAMSEY BLVD. STA. 34+00.00 - 35+50.00

PLOTTED/REVISED: 29-NOV-2005 10:43

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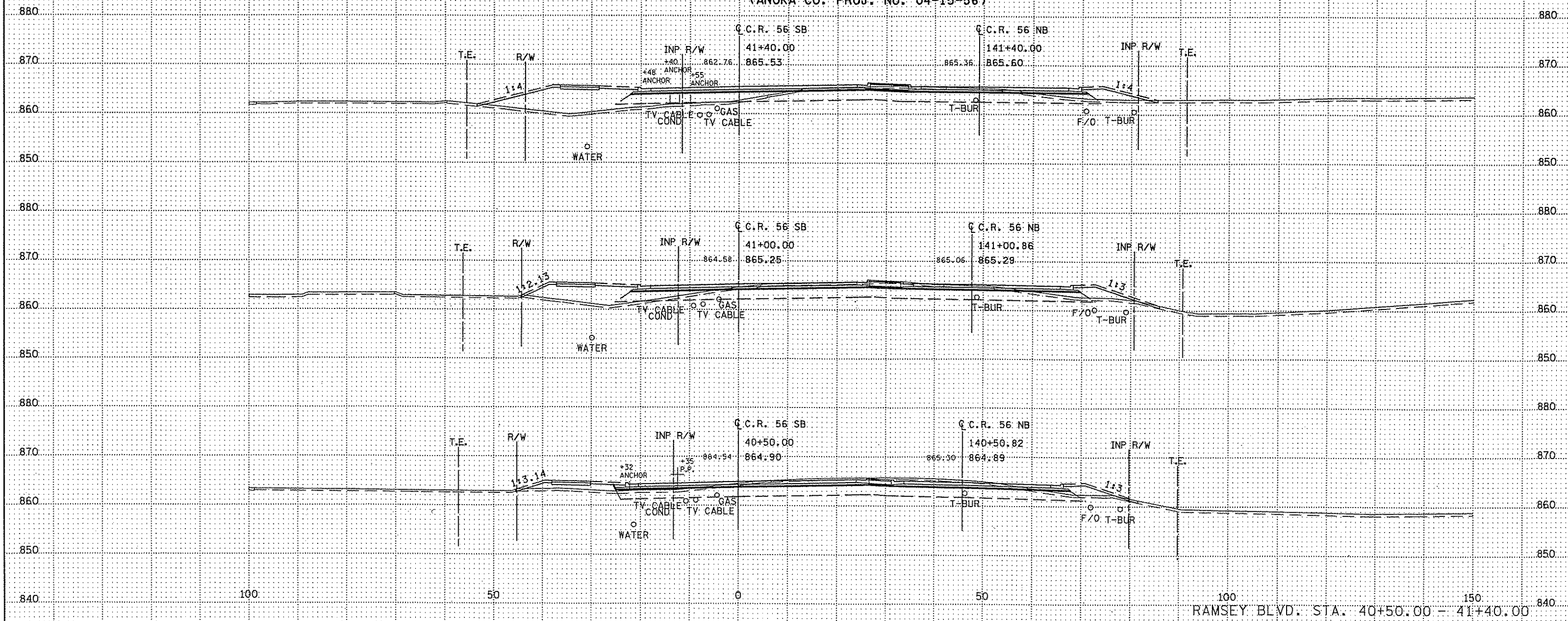
RAMSEY BLVD. STA. 38+50.00 - 40+00.00

PLOTTED/REVISED: 29-NOV-2005 10:54

DISTRICT #: METRO
PLOT NAME: cr56_b.rpt
PATH & FILENAME: S:\DESIGN\010202\BVF\In\XYS\CR56.cr56_b.rpt.dgn

CAUTION:
THE CONSTRUCTION PLANS FOR RAMSEY BOULEVARD TO THE NORTH OF S.P. 0202-81
USE DIFFERENT HORIZONTAL AND VERTICAL DATUMS FROM THOSE USED IN THIS PLAN.
SEE THE ALIGNMENT PLAN FOR ADDITIONAL INFORMATION.

END CONSTRUCTION
CR56SB STA. 41+40.00
MATCH CITY OF RAMSEY
PROJ. NO. 05-20
(ANOKA CO. PROJ. NO. 04-15-56)



RAMSEY BLVD. STA. 40+50.00 - 41+40.00

