

MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY TRANSPORTATION DIVISION

CONSTRUCTION PLAN FOR ADA AND SIGNAL IMPROVMENTS.

LOCATED ON CSAH 11 FROM 90' WEST OF RAVEN ST TO 100' EAST OF RAVEN STREET

LOCATED ON RAVEN ST FROM 85' SOUTH OF CSAH 11 TO 40' NORTH OF CSAH 11

COUNTY STATE AID PROJ. NO. 002-611-042

COON RAPIDS STATE AID PROJ. NO. 114-020-068

GOVERNING SPECIFICATIONS

THE 2025 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

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

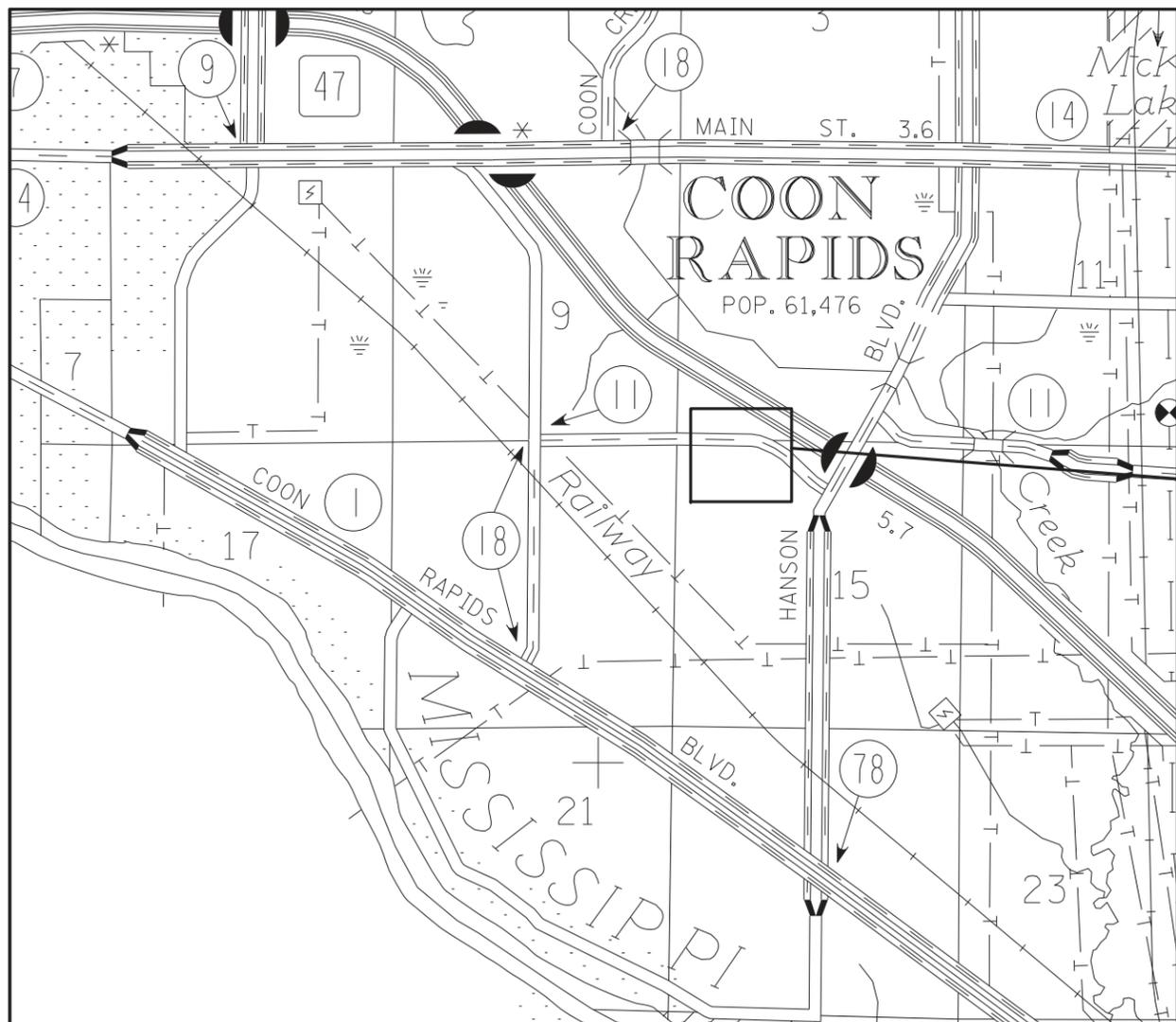
THE PLAN INDICATES THE GENERAL LOCATION OF KNOWN UTILITIES ON THE PROJECT. ALL UTILITY LOCATIONS ARE APPROXIMATE. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITY LOCATIONS AND ELEVATIONS WITH THE UTILITY COMPANIES

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-22, ENTITLED "STANDARD GUIDELINES FOR INVESTIGATING AND DOCUMENTING EXISTING UTILITIES."

INDEX

- 1 TITLE SHEET
- 2 STATEMENT OF ESTIMATED QUANTITIES
- 3 STANDARD PLATES & CONSTRUCTION NOTES
- 4 - 5 TABULATION QUANTITIES
- 6 INPLACE UTILITY & TOPOGRAPHY
- 7 TYPICAL SECTIONS
- 8 REMOVAL PLANS
- 9 CONSTRUCTION PLANS
- 10 ADA PLANS
- 11 INTERSECTION DETAILS
- 12 TURF ESTABLISHMENT & EROSION CONTROL PLAN
- 13 - 14 SWPPP
- 15 - 23 TRAFFIC CONTROL PLANS
- 24 - 36 SIGNING AND PAVEMENT MARKING PLANS
- 37 - 59 TRAFFIC CONTROL SIGNAL SYSTEM PLANS

THIS PLAN CONTAINS 59 SHEETS



SAP 002-611-042
SAP 114-020-068

ASSOCIATED PROJ. NO.

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: BRIAN K. VILLA, P.E. LIC. NO. 56090

DATE: 12/02/2025 SIGNATURE: *Brian K. Villa*

PROJECT LOCATION
COUNTY: ANOKA
DISTRICT: METRO
CITY: COON RAPIDS

FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL

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

DESIGN DESIGNATION (CSAH 11)

ADT (2023) 13,100 FUNCTIONAL CLASSIFICATION MINOR ARTERIAL
 PROJ. ADT (2040) 16,300 NO. OF TRAFFIC LANES 2 NO. OF PARKING LANES 0
 DESIGN SPEED 35 MPH
 STOPPING SIGHT DISTANCE BASED ON:
 HEIGHT OF EYE 3.5' HEIGHT OF OBJECT 2.0'

DESIGN DESIGNATION (RAVEN ST)

ADT (2023) 3000 FUNCTIONAL CLASSIFICATION LOCAL
 PROJ. ADT (2040) 4140 NO. OF TRAFFIC LANES 2 NO. OF PARKING LANES 0
 DESIGN SPEED 30 MPH
 STOPPING SIGHT DISTANCE BASED ON:
 HEIGHT OF EYE 3.5' HEIGHT OF OBJECT 2.0'



TITLE SHEET

SAP 002-611-042
SAP 114-020-068

SHEET NO. 1
TOTAL SHEETS 59

CSAH11 Title Sheet.dgn
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12/2/2025

| STATEMENT OF ESTIMATED QUANTITIES | | | | | | |
|-----------------------------------|----------|---|----------|--------------------------|------------------------------|-------------------------------------|
| TAB | ITEM NO. | ITEM DESCRIPTION | UNIT | TOTAL ESTIMATED QUANTITY | SAP 002-611-042 ANOKA COUNTY | SAP 114-020-068 CITY OF COON RAPIDS |
| | 2021.501 | MOBILIZATION | LUMP SUM | 1 | 0.73 | 0.27 |
| PM | 2102.503 | PAVEMENT MARKING REMOVAL | LIN FT | 710 | 710 | |
| PM | 2102.518 | PAVEMENT MARKING REMOVAL | SQ FT | 515 | 515 | |
| D | 2104.502 | REMOVE CATCH BASIN | EACH | 1 | 1 | |
| D | 2104.502 | REMOVE HYDRANT | EACH | 1 | | 1.00 |
| ST | 2104.502 | REMOVE SIGN | EACH | 3 | 3 | |
| SS | 2104.502 | REMOVE SIGNAL SYSTEM A | EACH | 1 | 1 | |
| ST | 2104.502 | SALVAGE SIGN | EACH | 2 | 2 | |
| D | 2104.503 | SAWING BITUMINOUS PAVEMENT (FULL DEPTH) | LIN FT | 250 | 250 | |
| D | 2104.503 | REMOVE SEWER PIPE (STORM) | LIN FT | 28 | 28 | |
| D | 2104.503 | REMOVE CURB AND GUTTER | LIN FT | 232 | 232 | |
| D | 2104.504 | REMOVE CONCRETE WALK | SQ YD | 233 | 233 | |
| D | 2104.504 | REMOVE BITUMINOUS PAVEMENT | SQ YD | 52 | 52 | |
| | 2106.507 | EXCAVATION - COMMON (1) | CU YD | 47 | 47 | |
| | 2106.507 | COMMON EMBANKMENT (CV) (1) | CU YD | 53 | 53 | |
| | 2106.601 | DEWATERING | LUMP SUM | 1 | | 1 |
| C,E | 2211.507 | AGGREGATE BASE (CV) CLASS 5 | CU YD | 77 | 77 | |
| E | 2302.502 | DRILL AND GROUT REINF BAR (EPOXY COATED) | EACH | 115 | 115 | |
| C | 2360.509 | TYPE SP 12.5 WEARING COURSE MIXTURE (3,C) | TON | 18 | 18 | |
| F | 2503.602 | CONNECT TO EXISTING STORM SEWER | EACH | 1 | 1 | |
| H | 2504.602 | CONNECT TO EXISTING WATER MAIN | EACH | 1 | | 1 |
| H | 2504.602 | HYDRANT | EACH | 1 | | 1 |
| H | 2504.602 | 6" SLEEVE | EACH | 1 | | 1 |
| H | 2504.602 | 6" GATE VALVE AND BOX | EACH | 1 | | 1 |
| H | 2504.603 | 6" WATERMAIN DUCTILE IRON CL 52 | LIN FT | 6 | | 6 |
| F | 2506.502 | CASTING ASSEMBLY | EACH | 1 | 1 | |
| F | 2506.502 | ADJUST FRAME AND RING CASTING | EACH | 1 | 1 | |
| F | 2506.603 | CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL | LIN FT | 5 | 5 | |
| E | 2521.518 | 4" CONCRETE WALK | SQ FT | 2755 | 2755 | |
| E | 2521.618 | CONCRETE CURB RAMP WALK | SQ FT | 965 | 965 | |
| E | 2531.503 | CONCRETE CURB AND GUTTER DESIGN B618 | LIN FT | 232 | 232 | |
| E | 2531.618 | TRUNCATED DOMES | SQ FT | 80 | 80 | |
| SS | 2545.502 | SERVICE CABINET | EACH | 1 | 0.67 | 0.33 |
| SS | 2550.502 | CCTV ASSEMBLY | EACH | 1 | 0.67 | 0.33 |
| | 2563.601 | TRAFFIC CONTROL SUPERVISOR | LUMP SUM | 1 | 0.73 | 0.27 |
| | 2563.601 | TRAFFIC CONTROL | LUMP SUM | 1 | 0.73 | 0.27 |
| | 2563.601 | ALTERNATE PEDESTRIAN ROUTE | LUMP SUM | 1 | 0.73 | 0.27 |
| ST | 2564.602 | INSTALL SIGN | EACH | 2 | 2 | |
| ST | 2564.602 | DELINEATOR / MARKER PANEL | EACH | 2 | 2 | |
| ST | 2564.618 | SIGN | SQ FT | 35 | 35 | |
| SS | 2565.501 | EMERGENCY VEHICLE PREEMPTION SYSTEM A | LUMP SUM | 1 | | 1 |
| SS | 2565.501 | TRAFFIC CONTROL INTERCONNECT SYSTEM A | LUMP SUM | 1 | 1 | |
| SS | 2565.516 | TRAFFIC CONTROL SIGNAL SYSTEM A | SYSTEM | 1 | 0.67 | 0.33 |

| STATEMENT OF ESTIMATED QUANTITIES | | | | | | |
|-----------------------------------|----------|--|--------|--------------------------|------------------------------|-------------------------------------|
| TAB | ITEM NO. | ITEM DESCRIPTION | UNIT | TOTAL ESTIMATED QUANTITY | SAP 002-611-042 ANOKA COUNTY | SAP 114-020-068 CITY OF COON RAPIDS |
| G | 2573.502 | STORM DRAIN INLET PROTECTION | EACH | 3 | 3 | |
| G | 2573.503 | SILT FENCE, TYPE MS | LIN FT | 438 | 438 | |
| G | 2575.505 | SEEDING | ACRE | 0.1 | 0.1 | |
| G | 2575.508 | SEED MIXTURE 25-131 | POUND | 20 | 20 | |
| G | 2575.508 | HYDRAULIC MULCH MATRIX | POUND | 180 | 180 | |
| TC | 2581.503 | 4" REMOVABLE PREFORMED PAVEMENT MARKING TAPE | LIN FT | 1140 | 1140 | |
| TC | 2581.603 | REMOVABLE PREFORMED PLASTIC MASK (BLACK) | LIN FT | 1910 | 1910 | |
| TC | 2581.618 | REMOVABLE PREFORMED PLASTIC MASK (BLACK) | SQ FT | 565 | 565 | |
| PM | 2582.503 | 4" SOLID LINE MULTI-COMPONENT | LIN FT | 4650 | 4650 | |
| PM | 2582.503 | 8" SOLID LINE MULTI-COMPONENT | LIN FT | 300 | 300 | |
| PM | 2582.503 | 4" BROKEN LINE MULTI-COMPONENT | LIN FT | 160 | 160 | |
| PM | 2582.503 | 8" DOTTED LINE MULTI-COMPONENT | LIN FT | 102 | 102 | |
| PM | 2582.503 | 4" DOUBLE SOLID LINE MULTI-COMPONENT | LIN FT | 1400 | 1400 | |
| PM | 2582.503 | 24" SOLID LINE PREFORM THERMO GROUND IN | LIN FT | 225 | 225 | |
| PM | 2582.518 | PAVEMENT MESSAGE PREFORM THERMOPLASTIC | SQ FT | 31 | 31 | |
| PM | 2582.518 | CROSSWALK PREFORM THERMOPLASTIC GROUND IN | SQ FT | 378 | 378 | |

SPECIFIC NOTES:

(1) = QUANTITY IS FOR SIDEWALK RECONSTRUCTION AND SLOPE GRADING

IFILESS
\$TIMES
SDATES

| NO. | DATE | DWN | CKD | REVISIONS |
|-----|------|-----|-----|-----------|
| | | | | |

DESIGNED BY: MBG
DRAWN BY: MMD
CHECKED BY: BKV
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.
CERTIFIED BY: *[Signature]* LIC NO: 56090
PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025



STATEMENT OF ESTIMATED QUANTITIES

SAP 002-611-042
SAP 114-020-068

SHEET NO. 2
TOTAL SHEETS 59

SOIL AND CONSTRUCTION NOTES

1. TOP OF THE GRADE IS DEFINED AS THE BOTTOM OF THE CLASS 5 AGGREGATE BASE.
2. COMMON EMBANKMENT SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF DEBRIS, PEAT, MUCK, AND OTHER ORGANIC OR UNSTABLE MATERIAL
3. WHERE CONNECTING TO IN-PLACE PAVEMENT AT THE TERMINI OF PROPOSED NEW CONSTRUCTION, CUT VERTICALLY TO THE BOTTOM OF THE IN-PLACE SURFACING, THEN AT A 1(V):20(H) TAPER TO THE BOTTOM OF THE RECOMMENDED SUBGRADE EXCAVATION.
4. THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF PRIVATE UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATIONS AS TO THE TYPE AND LOCATION OF PRIVATE UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTRACTOR WILL CALL GOPHER STATE ONE ONE A MINIMUM OF 48 HOURS PRIOR TO EXCAVATION.
5. THE CONSTRUCTION LIMITS AS SHOWN IN THE PLANS REPRESENT THE POINT OF INTERSECTION BETWEEN THE REQUIRED FILL OR CUT SLOPE AND THE EXISTING GROUND LINE. ON THE CONSTRUCTION LIMITS DO NOT INCLUDE AREAS REQUIRED FOR SLOPE ROUNDING.
6. ANY DEBRIS WHICH MAY BE ENCOUNTERED DURING GRADING SHALL BE DISPOSED OF BY THE CONSTRUCTOR OFF THE PROJECT RIGHT OF WAY IN A SUITABLE DISPOSAL AREA AS APPROVED BY THE ENGINEER (INCIDENTAL).
7. OBTAIN COMPACTION OF THE GRADING PORTIONS OF CONSTRUCTION IN ACCORDANCE WITH THE "SPECIFIED DENSITY METHOD" REQUIREMENTS AS INDICATED IN 2106.
8. OBTAIN COMPACTION OF THE AGGREGATE PORTIONS OF CONSTRUCTION IN ACCORDANCE WITH THE "SPECIFIED DENSITY METHOD" REQUIREMENTS INDICATED IN 2211.
9. NO EXTRA PAYMENT WILL BE MADE FOR MOVING, PLACING, OR TEMPORARY STOCKPILING OF EXCAVATION, EMBANKMENT AND/OR BORROW MATERIAL.
10. UNLESS OTHERWISE SPECIFICALLY ALLOWED OR REQUIRED BY THE CONTRACT, BITUMINOUS AND CONCRETE ITEMS DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND MAY BE RECYCLED OR DISPOSED OF OFF THE RIGHT OF WAY. BITUMINOUS MATERIAL CANNOT BE USED AS EMBANKMENT.
11. MINIMUM 4" SLOPE DRESSING TO BE PLACED IN ALL DISTURBED AREAS OUTSIDE ROADWAY, PAID FOR AS COMMON EMBANKMENT.
12. PROVIDE A UNIFORM TACK COAT AS DOCUMENTED IN THE MOST CURRENT SPEC. 2357 - BITUMINOUS TACK COAT REQUIREMENTS.
13. PIPE SEWERS CONNECTING MANHOLES AND CATCH BASINS SHALL BE IN ACCORDANCE WITH SPEC. 2503 UNLESS OTHERWISE NOTED.
14. TEMPORARY EROSION CONTROL DEVICES AND THEIR SUGGESTED LOCATIONS HAVE BEEN SHOWN IN THE PLANS ALONG WITH PAY ITEMS FOR THEIR USE. THIS DOES NOT HOWEVER RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES TO CONDUCT HIS CONSTRUCTION IN A MANNER THAT WILL CONTROL AS EROSION. RESPONSIBILITY FOR CONTROLLING EROSION AND MAINTENANCE OF EROSION CONTROL AS SET IN MNDOT SPECIFICATIONS 1717, 1803, 2101, 2573, 2575, AND IS AMENDED BY THE SPECIAL PROVISIONS.
15. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
16. ALL STRIPPED TOPSOIL SHALL BE PAID FOR AS COMMON EXCAVATION.
17. ALL TOPSOIL PROPOSED FOR USE, WHETHER AVAILABLE FROM THE SITE OR IMPORTED, SHALL MEET THE REQUIREMENTS OF SPEC. 3877.2. SEED FERTILIZER, AND HYDRAULIC STABILIZED FIBER MATRIX OR BLANKET SHALL BE PLACED OVER TOPSOIL IN ACCORDANCE WITH THE PROJECT PLANS.
18. IN PREPARATION FOR SEED, FERTILIZER AND HYDRAULIC STABILIZED FIBER MATRIX PLACEMENT, THE BEDDING SHALL BE FREE OF ALL STONES, DEBRIS, AND CLODS LARGER THAN TWO INCHES (2").
19. OBTAIN COMPACTION OF ALL BITUMINOUS PORTIONS OF CONSTRUCTION IN ACCORDANCE WITH THE REQUIREMENT OF SPEC. 2360 "MAXIMUM DENSITY METHOD."
20. NO OVER-EXCAVATION WILL BE ALLOWED ON THIS PROJECT.

| MNDOT STANDARD PLATES | |
|--|--|
| THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT | |
| PLATE NO. | DESCRIPTION |
| 4006L | MANHOLE OR CATCH BASIN PRECAST - DESIGNS G AND H |
| 4010I | CONCRETE ADJUSTING RINGS |
| 4011E | PRECAST CONCRETE BASE |
| 4020J | MANHOLE OR CATCH BASIN (FOR USE WITH OR WITHOUT TRAFFIC LOADS) (2 SHEETS) |
| 4022A | MANHOLE OR CATCH BASIN COVER (3 FT. X 2 FT. OPENING) |
| 4026B | 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 |
| 4180J | MANHOLE OR CATCH BASIN STEP |
| 7038A | DETECTABLE WARNING SURFACE TRUNCATED DOMES |
| 7100H | CONCRETE CURB AND GUTTER (DESIGN B AND DESIGN V) |
| 7113A | CONCRETE APPROACH NOSE DETAIL |
| 8127E | LIGHT FOUNDATION - DESIGN E PRECAST/CAST-IN-PLACE (40 FT. POLE OR LESS) (2 SHEETS) |
| 8129A | SHIM AND WASHER (TRAFFIC CONTROL SIGNALS AND ROADWAY LIGHTING) |

| CITY OF COON RAPIDS STANDARD PLATES | |
|-------------------------------------|--|
| PLATE NO. | DESCRIPTION |
| WM-1 | HYDRANT DETAIL WB67 PACER 8'-6" BURY/MECH. JOINT BASE |
| WM-2 | TYPICAL WATER SERVICE LAYOUT & HYDRANT REPLACEMENT (ONLY) LAYOUT |
| WM-4 | CURB STOP BOX WITH ROD |
| WM-5 | CLASS C PIPE BEDDING |
| WM-6 | VERTICAL BENDS DETAIL |
| WM-7 | METER BOX COVER |

THE LISTED STANDARD PLANS AND/OR PLATES ARE INCORPORATED BY REFERENCE INTO THE PLAN SET. THE CERTIFICATION ON THIS SHEET SIGNIFIES THE ENGINEER SELECTED THE STANDARD PLANS AND PLATES AS APPROPRIATE FOR USE ON THE PROJECT.

| THE FOLLOWING STANDARD PLANS, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT | | | |
|---|--|------------|------------|
| STANDARD PLANS | | | |
| INDEX NO. | SUBJECT | APPROVED | REVISED |
| 5-297.115 (1 of 2) | STAKING INFORMATION SHEET | 08-06-2014 | |
| 5-297.115 (2 of 2) | STAKING INFORMATION SHEET | 08-06-2014 | |
| 5-297.250 (1 of 6) | PEDESTRIAN CURB RAMP DETAILS | 11-04-2021 | |
| 5-297.250 (2 of 6) | PEDESTRIAN CURB RAMP DETAILS | 11-04-2021 | |
| 5-297.250 (3 of 6) | PEDESTRIAN CURB RAMP DETAILS | 11-04-2021 | |
| 5-297.250 (4 of 6) | PEDESTRIAN CURB RAMP DETAILS | 11-04-2021 | |
| 5-297.250 (5 of 6) | PEDESTRIAN CURB RAMP DETAILS | 11-04-2021 | |
| 5-297.250 (6 of 6) | PEDESTRIAN CURB RAMP DETAILS | 11-04-2021 | |
| 5-297.254 (1 of 4) | DRIVEWAY AND SIDEWALK DETAILS | 11-04-2021 | |
| 5-297.254 (2 of 4) | DRIVEWAY AND SIDEWALK DETAILS | 11-04-2021 | |
| 5-297.254 (3 of 4) | DRIVEWAY AND SIDEWALK DETAILS | 11-04-2021 | 12-23-2021 |
| 5-297.254 (4 of 4) | DRIVEWAY AND SIDEWALK DETAILS | 11-04-2021 | |
| 5-297.405 (4 of 8) | TEMPORARY SEDIMENT CONTROL - STORM DRAIN INLET PROTECTION | 02-28-2017 | |
| 5-297.405 (6 of 8) | TEMPORARY SEDIMENT CONTROL - SILT FENCE | 02-28-2017 | |
| 5-297.643 | MODULAR BLOCK RETAINING WALL SOIL REINFORCEMENT FOR 1V:2H FILL SLOPE, CASE 2 | 03-29-2023 | |
| 5-297.731 | SIGN MOUNTING DETAILS FOR SIGNAL MAST ARMS | 10-16-2019 | 04-17-2020 |
| 5-297.811 (1 of 2) | ALTERNATE PEDESTRIAN ROUTE (APR) LAYOUTS | 03-18-2021 | |
| 5-297.811 (2 of 2) | ALTERNATE PEDESTRIAN ROUTE (APR) LAYOUTS | 03-18-2021 | |
| 5-297.885 (1 of 2) | ACCESSIBLE PEDESTRIAN SIGNAL (APS) PUSHBUTTON STATION AND LOCATION | 02-21-2024 | |
| 5-297.885 (2 of 2) | ACCESSIBLE PEDESTRIAN SIGNAL (APS) PUSHBUTTON STATION AND LOCATION | 02-21-2024 | |

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| DESIGNED BY: JEP | <small> 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. CERTIFIED BY: <i>Bretta A. Voth</i> LIC NO: 49045 Licensed Professional Engineer PRINTED NAME: BRETTA A. VOTH, P.E. DATE: 12/03/2025 </small> |
| DRAWN BY: JEP | |
| CHECKED BY: BAV | |



STANDARD PLATES AND CONSTRUCTION NOTES

SAP 002-611-042
SAP 114-020-068

| | |
|--------------|----|
| SHEET NO. | 3 |
| TOTAL SHEETS | 59 |

| (C) AGGREGATE AND BITUMINOUS PAVEMENT | | | |
|---------------------------------------|----------|-----------------------------------|---------------------------------|
| ROADWAY | LOCATION | AGGREGATE BASE (CV) CLASS 5 | TYPE SP 12.5 |
| | | | WEARING COURSE |
| | | | MIX (3,C) (SPWEB340C) TON |
| | | CU YD | TON |
| SAP 002-611-042 | | | |
| CSAH 11 | | | |
| NW QUAD | LT/RT | 6 | 9 |
| NE QUAD | LT/RT | | |
| SW QUAD | LT/RT | 3 | 5 |
| SE QUAD | LT/RT | 3 | 4 |
| TOTAL | | 12 | 18 |

| (D) REMOVALS | | | | | | | | |
|------------------------|----------|-------------------|-------------------|---------------------|----------------|---------------------------|--------------------|---|
| STATION TO STATION | LOCATION | REMOVE | | | | | | |
| | | CURB & GUTTER (1) | CONCRETE WALK (1) | BITUMINOUS PAVEMENT | REMOVE HYDRANT | REMOVE SEWER PIPE (STORM) | REMOVE CATCH BASIN | SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH) |
| | | LIN FT | SQ YD | SQ YD | EACH | LIN FT | EACH | LIN FT |
| SAP 002-611-042 | | | | | | | | |
| CSAH 11 | | | | | | | | |
| NW QUAD | LT/RT | 120 | 90 | 27 | | 28 | 1 | 124 |
| SW QUAD | LT/RT | 58 | 64 | 13 | 1 | | | 65 |
| SE QUAD | LT/RT | 54 | 79 | 12 | | | | 61 |
| TOTAL | | 232 | 233 | 52 | 1 | 28 | 1 | 250 |

SPECIFIC NOTES:
(1) SAWING OF CURB & GUTTER AND WALK SHALL BE INCIDENTAL

| (E) CONCRETE & ADA CONSTRUCTION | | | | | | | | | | | |
|---------------------------------|-------|-----------------------------------|-----------------------|---|-----------|-----------------|--|-----------------|-----------|-------|--|
| STATION TO STATION | LT/RT | AGGREGATE BASE (CV) CLASS 5 | CONCRETE WALK 4.0" | DRILL & GROUT REINF BAR (EXPOXY COATED) (2) | | | CONCRETE CURB RAMP WALK (ADA) | TRUNCATED DOMES | | | CONCRETE CURB & GUTTER DESIGN B618 |
| | | | | BACK OF CURB | LANDING | END OF CURB TIE | | STANDARD | RADIAL | | |
| | | | | CU YD | SQ FT | EACH | | EACH | EACH | SQ FT | |
| SAP 002-611-042 | | | | | | | | | | | |
| CSAH 11 | | | | | | | | | | | |
| N HALF | LT/RT | 39 | 1714 | 41 | 10 | 4 | 375 | 24 | | | 120 |
| SW QUAD | LT/RT | 16 | 692 | 19 | 10 | 4 | 252 | 24 | | | 58 |
| SE QUAD | LT/RT | 10 | 349 | 16 | 7 | 4 | 338 | 12 | 20 | 29 | 54 |
| TOTAL | | 65 | 2755 | 76 | 27 | 12 | 965 | 60 | 20 | | 232 |
| | | | | 115 | | | 80 | | | | |

SPECIFIC NOTES:
(2) NO. 4 12" REINFORCING BARS

| (F) DRAINAGE | | | | | | | | | | | |
|----------------------------------|---------------------------|-----------|----------------------------|--------|----------------------|----------|---|-----------------------|---|---------------------------------------|-------|
| STRUCT. OR APRON POINT NO. | STRUCTURE LOCATION (A) | | TOP OF CASTING ELEV. | INVERT | CASTING ASSEMBLY (B) | | CONSTRUCT DRAINAGE DESIGN SPECIAL (D) LIN FT | STEPS REQ'D (C) | ADJUST FRAME AND RING CASTING EACH | CONNCET TO EX. STORM SEWER EACH | NOTES |
| | X | Y | | | ASSEMBLY | EACH | | | | | |
| | SAP 002-611-042 | | | | | | | | | | |
| CSAH 11 | | | | | | | | | | | |
| 5001 | 485549.32 | 153876.05 | 863.24 | 858.34 | R-3067-V | 1 | 4.7 | YES | | 1 | |
| 6001 | 485544.25 | 153876.95 | 863.12 | | | | | | 1 | | |
| TOTAL | | | | | | 1 | 5 | 0 | 1 | 1 | |

SPECIFIC NOTES:
(A) COORDINATES AND TOP OF CASTING ELEVATIONS FOR EACH POINT NUMBER ARE GIVEN AT THE CENTER OF GRATE OR COVER CASTINGS.
(B) SEE CASTING ASSEMBLY SUMMARY.
(C) STRUCTURES WITH A PAY HEIGHT GREATER THAN 3.5' MUST INCLUDE STEPS 16" ON CENTER, SEE STANDARD PLATE 4180.
(D) CONSTRUCT 2' X 3' CATCH BASIN STRUCTURE.

| CASTING ASSEMBLY SUMMARY | | | | | |
|--------------------------|--------------------------|---------------------------|----------|-----------------------|-----|
| ASSEMBLY | RING OR FRAME CASTING | COVER OR GRATE CASTING | CURB BOX | STANDARD PLATE NO. | NO. |
| R-3067-V | NEENAH R-3067 | V | YES | N/A | 1 |

| (G) | TEMPORARY EROSION CONTROL & PERMANENT TURF ESTABLISHMENT | | | | | | |
|------------------------|--|------------------------------|----------------------|-----------------------|------------|-------------------------|----------------------------|
| STATION TO STATION | SILT FENCE, TYPE MS | STORM DRAIN INLET PROTECTION | SOIL BED PREPARATION | FERTILIZER TYPE 3 (1) | SEEDING | SEED MIXTURE 25-131 (2) | HYDRAULIC MULCH MATRIX (3) |
| | LIN FT | EACH | ACRE | POUND | ACRE | POUND | POUND |
| SAP 002-611-042 | | | | | | | |
| CSAH 11 | | | | | | | |
| N HALF | 330 | 2 | 0.07 | 14 | 0.07 | 15.4 | 140 |
| SW QUAD | 108 | 1 | 0.01 | 2 | 0.01 | 2.2 | 20 |
| SE QUAD | | | 0.01 | 2 | 0.01 | 2.2 | 20 |
| TOTAL | 438 | 3 | 0.09 | 18 | 0.1 | 19.8 | 180 |

SPECIFIC NOTES:

- (1) APPLICATION RATE 200 POUNDS/ACRE
- (2) APPLICATION RATE 220 POUNDS/ACRE
- (3) APPLICATION RATE 2000 POUNDS/ACRE

| (H) | WATERMAIN | | | | |
|------------------------|-----------|-----------------------|---------------------------------|-----------|-------------------------------|
| STATION TO STATION | HYDRANT | 6" GATE VALVE AND BOX | 6" WATERMAIN DUCTILE IRON CL 52 | 6" SLEEVE | CONNECT TO EXISTING WATERMAIN |
| | EACH | EACH | LIN FT | EACH | EACH |
| SAP 002-611-042 | | | | | |
| CSAH 11 | | | | | |
| SW QUAD | 1 | 1 | 6 | 1 | 1 |
| TOTAL | 1 | 1 | 6 | 1 | 1 |

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| DESIGNED BY: <u>JEP</u> | <small>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.</small> CERTIFIED BY: <u>Bretta Voth</u> LIC NO: 49045 <small>Licensed Professional Engineer</small> PRINTED NAME: BRETTA VOTH, P.E. DATE: 12/03/2025 |
| DRAWN BY: <u>JEP</u> | |
| CHECKED BY: <u>BAV</u> | |



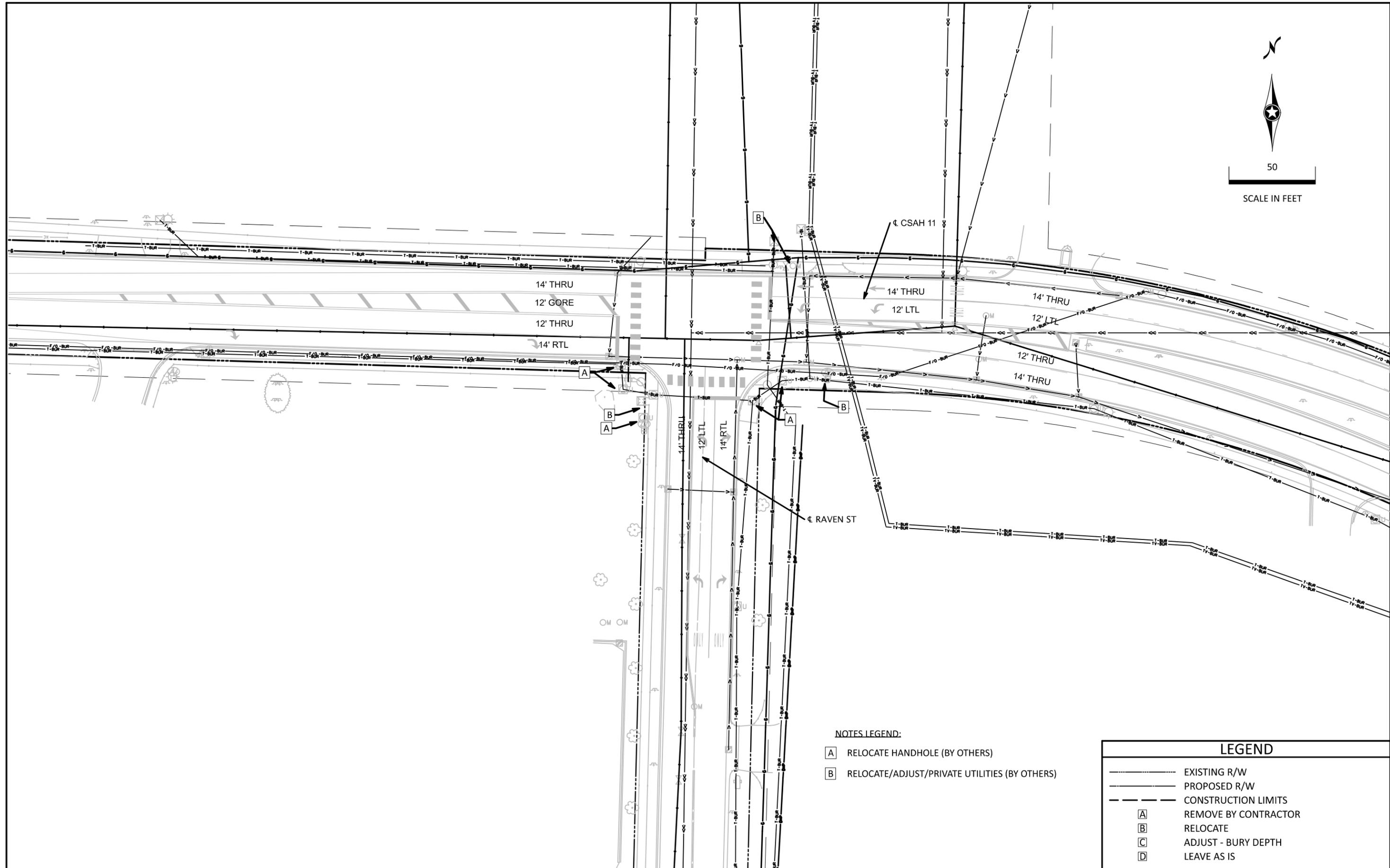
Kimley»Horn

787 EUSTIS ST. SUITE 100
SANT PAUL, MINNESOTA 55114
Ph: 651-645-4197 www.kimley-horn.com

TABULATIONS

SAP 002-611-042
SAP 114-020-068

| | |
|--------------|----|
| SHEET NO. | 5 |
| TOTAL SHEETS | 59 |



NOTES LEGEND:

- A RELOCATE HANDHOLE (BY OTHERS)
- B RELOCATE/ADJUST/PRIVATE UTILITIES (BY OTHERS)

LEGEND

- EXISTING R/W
- PROPOSED R/W
- CONSTRUCTION LIMITS
- A REMOVE BY CONTRACTOR
- B RELOCATE
- C ADJUST - BURY DEPTH
- D LEAVE AS IS

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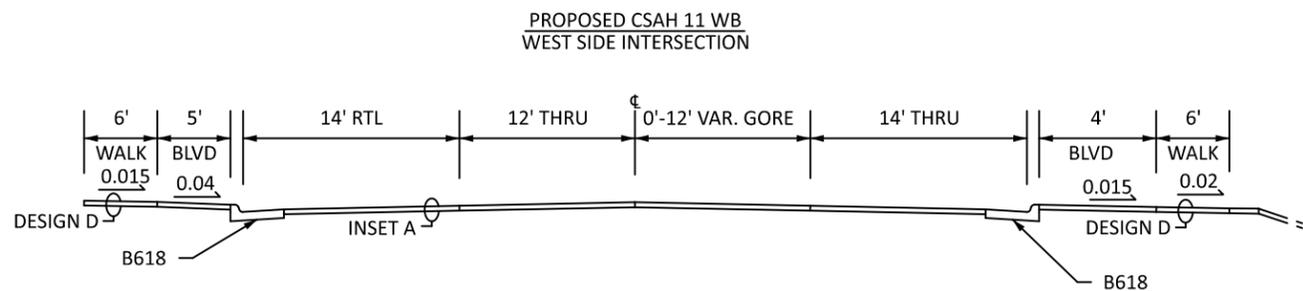
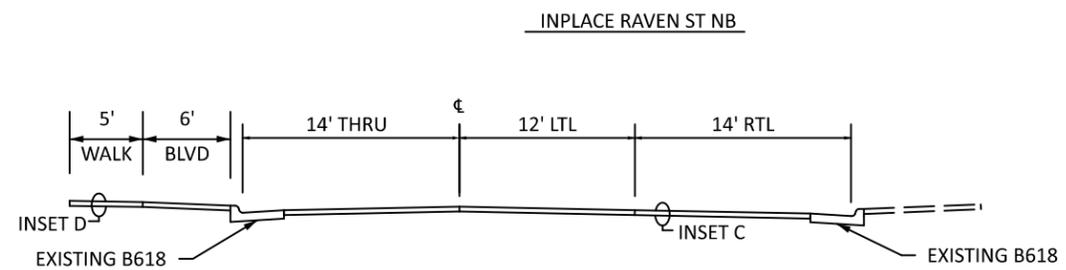
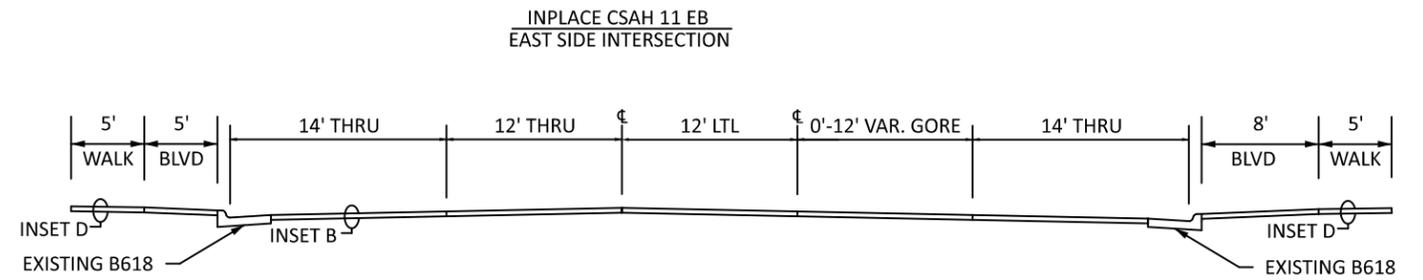
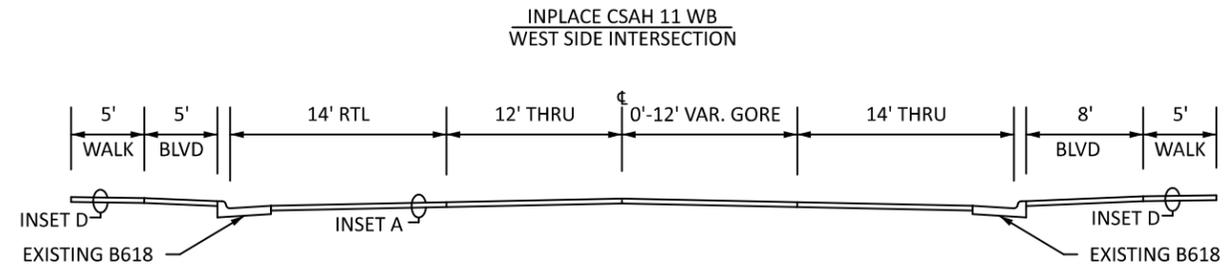
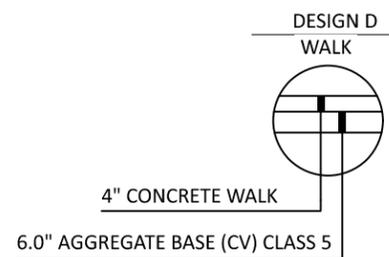
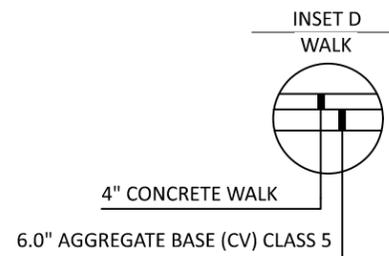
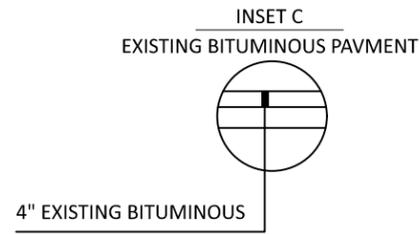
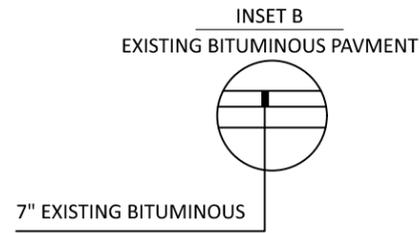
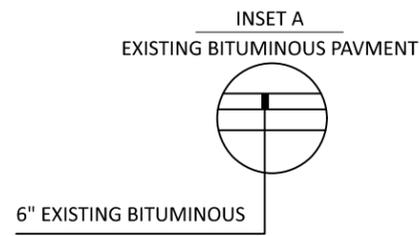
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 CERTIFIED BY: Bretta Woth LIC NO: 49045
 Licensed Professional Engineer
 PRINTED NAME: BRETTA WOTH, P.E. DATE: 12/03/2025



INPLACE UTILITY & TOPOGRAPHY PLANS

SAP 002-611-042
 SAP 114-020-068

SHEET NO. **6**
 TOTAL SHEETS **59**



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DRAWN BY: JEP
CHECKED BY: BAV

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CERTIFIED BY: *Bretta Voth* LIC NO: 49045
Licensed Professional Engineer
PRINTED NAME: BRETTA VOTH, P.E. DATE: 12/03/2025



TYPICAL SECTIONS

SAP 002-611-042
SAP 114-020-068

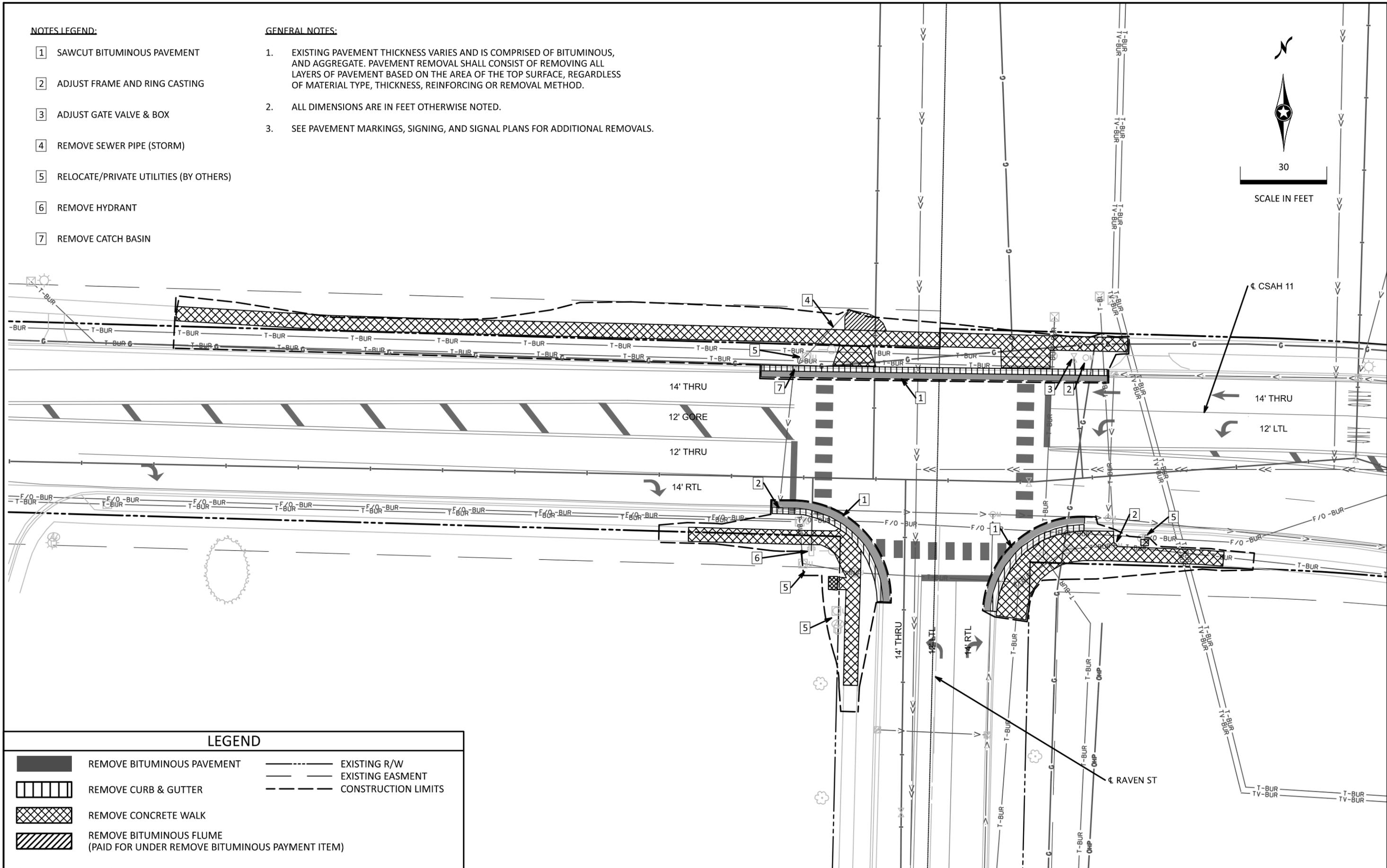
SHEET NO. 7
TOTAL SHEETS 59

NOTES LEGEND:

- 1 SAWCUT BITUMINOUS PAVEMENT
- 2 ADJUST FRAME AND RING CASTING
- 3 ADJUST GATE VALVE & BOX
- 4 REMOVE SEWER PIPE (STORM)
- 5 RELOCATE/PRIVATE UTILITIES (BY OTHERS)
- 6 REMOVE HYDRANT
- 7 REMOVE CATCH BASIN

GENERAL NOTES:

- 1. EXISTING PAVEMENT THICKNESS VARIES AND IS COMPRISED OF BITUMINOUS, AND AGGREGATE. PAVEMENT REMOVAL SHALL CONSIST OF REMOVING ALL LAYERS OF PAVEMENT BASED ON THE AREA OF THE TOP SURFACE, REGARDLESS OF MATERIAL TYPE, THICKNESS, REINFORCING OR REMOVAL METHOD.
- 2. ALL DIMENSIONS ARE IN FEET OTHERWISE NOTED.
- 3. SEE PAVEMENT MARKINGS, SIGNING, AND SIGNAL PLANS FOR ADDITIONAL REMOVALS.



LEGEND

| | | | |
|--|--|--|---------------------|
| | REMOVE BITUMINOUS PAVEMENT | | EXISTING R/W |
| | REMOVE CURB & GUTTER | | EXISTING EASMENT |
| | REMOVE CONCRETE WALK | | CONSTRUCTION LIMITS |
| | REMOVE BITUMINOUS FLUME (PAID FOR UNDER REMOVE BITUMINOUS PAYMENT ITEM) | | |

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 CHECKED BY: BAV

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CERTIFIED BY: *Bretta Voth* LIC NO: 49045
 Licensed Professional Engineer
 PRINTED NAME: BRETTA VOTH, P.E. DATE: 12/03/2025



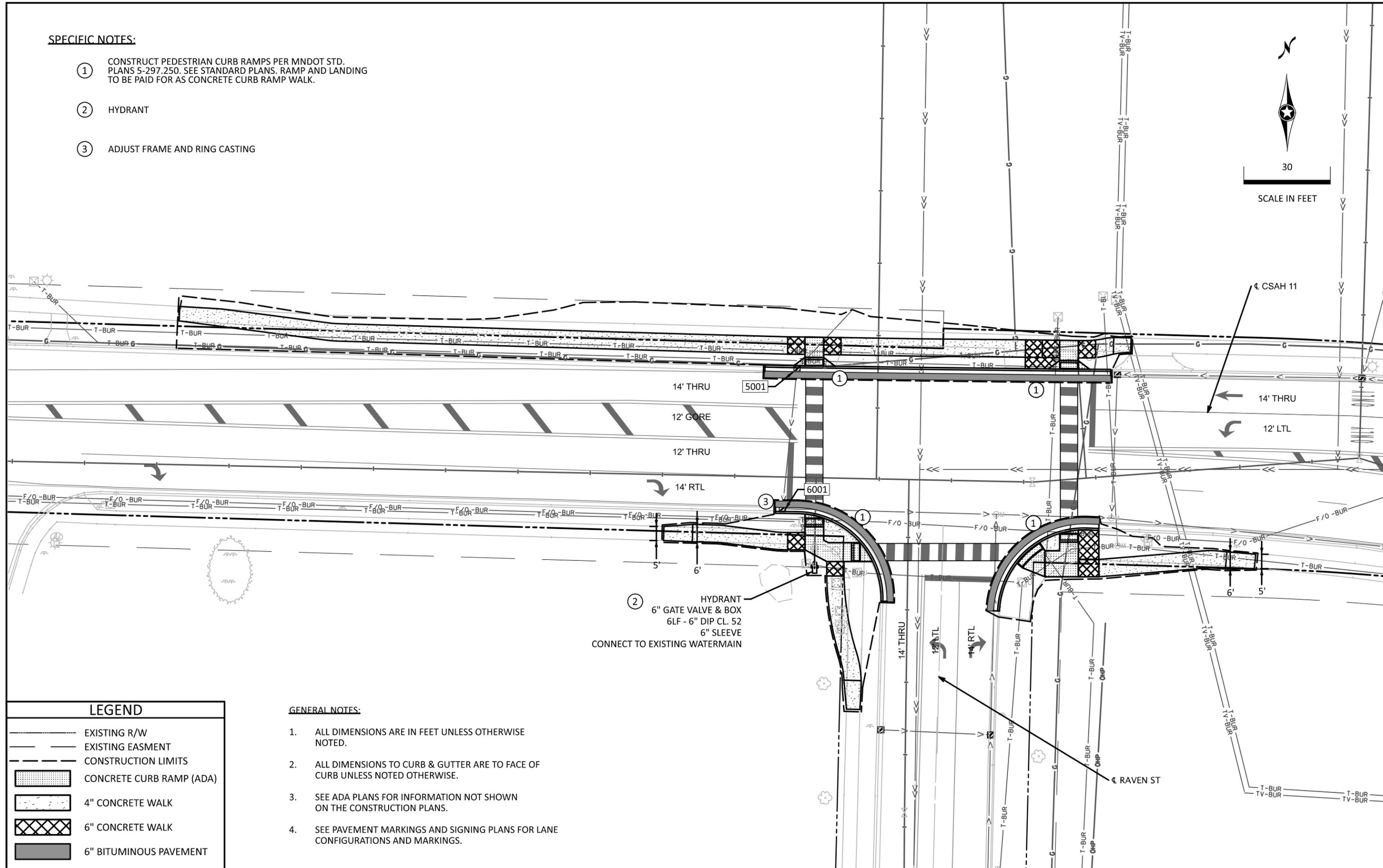
REMOVAL PLANS

SAP 002-611-042
 SAP 114-020-068

SHEET NO. 8
 TOTAL SHEETS 59

SPECIFIC NOTES:

- ① CONSTRUCT PEDESTRIAN CURB RAMP PER MNDOT STD. PLANS 5-297.250. SEE STANDARD PLANS. RAMP AND LANDING TO BE PAID FOR AS CONCRETE CURB RAMP WALK.
- ② HYDRANT
- ③ ADJUST FRAME AND RING CASTING



| LEGEND | |
|--------|--------------------------|
| | EXISTING R/W |
| | EXISTING EASMENT |
| | CONSTRUCTION LIMITS |
| | CONCRETE CURB RAMP (ADA) |
| | 4" CONCRETE WALK |
| | 6" CONCRETE WALK |
| | 6" BITUMINOUS PAVEMENT |

- GENERAL NOTES:**
- 1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.
 - 2. ALL DIMENSIONS TO CURB & GUTTER ARE TO FACE OF CURB UNLESS NOTED OTHERWISE.
 - 3. SEE ADA PLANS FOR INFORMATION NOT SHOWN ON THE CONSTRUCTION PLANS.
 - 4. SEE PAVEMENT MARKINGS AND SIGNING PLANS FOR LANE CONFIGURATIONS AND MARKINGS.

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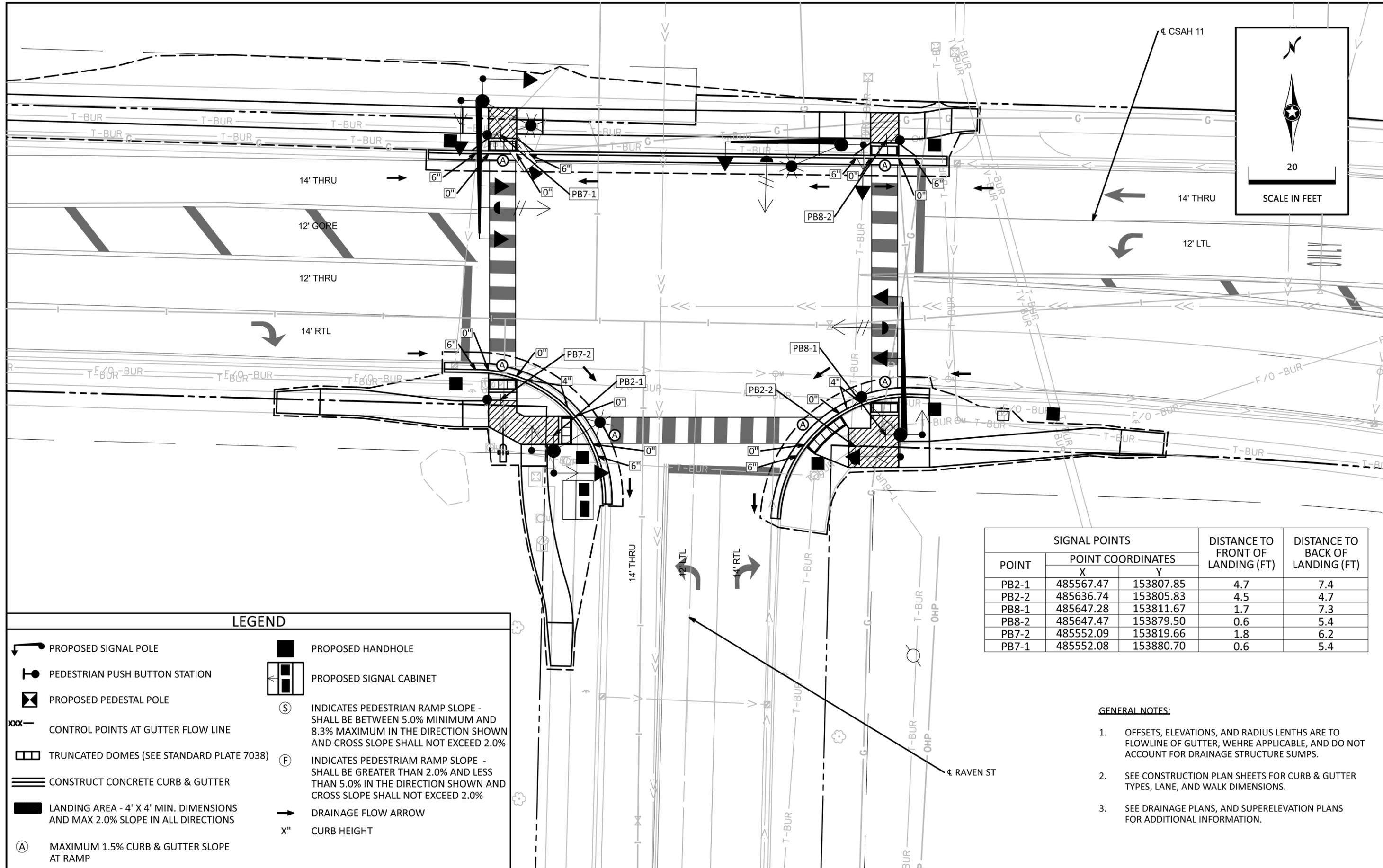
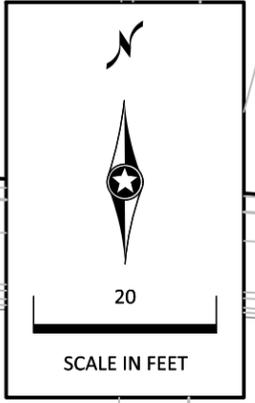
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 CERTIFIED BY: *Bretta A. Woth* LIC NO: 49045
 Licensed Professional Engineer
 PRINTED NAME: BRETT A. WOTH, P.E. DATE: 12/03/2025



CONSTRUCTION PLAN

SAP 002-611-042
 SAP 114-020-068

SHEET NO. 9
 TOTAL SHEETS 59



| POINT | POINT COORDINATES | | DISTANCE TO FRONT OF LANDING (FT) | DISTANCE TO BACK OF LANDING (FT) |
|-------|-------------------|-----------|-----------------------------------|----------------------------------|
| | X | Y | | |
| PB2-1 | 485567.47 | 153807.85 | 4.7 | 7.4 |
| PB2-2 | 485636.74 | 153805.83 | 4.5 | 4.7 |
| PB8-1 | 485647.28 | 153811.67 | 1.7 | 7.3 |
| PB8-2 | 485647.47 | 153879.50 | 0.6 | 5.4 |
| PB7-2 | 485552.09 | 153819.66 | 1.8 | 6.2 |
| PB7-1 | 485552.08 | 153880.70 | 0.6 | 5.4 |

LEGEND

- PROPOSED SIGNAL POLE
- PEDESTRIAN PUSH BUTTON STATION
- PROPOSED PEDESTAL POLE
- xxx**— CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- CONSTRUCT CONCRETE CURB & GUTTER
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- MAXIMUM 1.5% CURB & GUTTER SLOPE AT RAMP
- PROPOSED HANDHOLE
- PROPOSED SIGNAL CABINET
- INDICATES PEDESTRIAN RAMP SLOPE - SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- INDICATES PEDESTRIAN RAMP SLOPE - SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- DRAINAGE FLOW ARROW
- C" CURB HEIGHT

GENERAL NOTES:

1. OFFSETS, ELEVATIONS, AND RADIUS LENGTHS ARE TO FLOWLINE OF GUTTER, WHERE APPLICABLE, AND DO NOT ACCOUNT FOR DRAINAGE STRUCTURE SUMPS.
2. SEE CONSTRUCTION PLAN SHEETS FOR CURB & GUTTER TYPES, LANE, AND WALK DIMENSIONS.
3. SEE DRAINAGE PLANS, AND SUPERELEVATION PLANS FOR ADDITIONAL INFORMATION.

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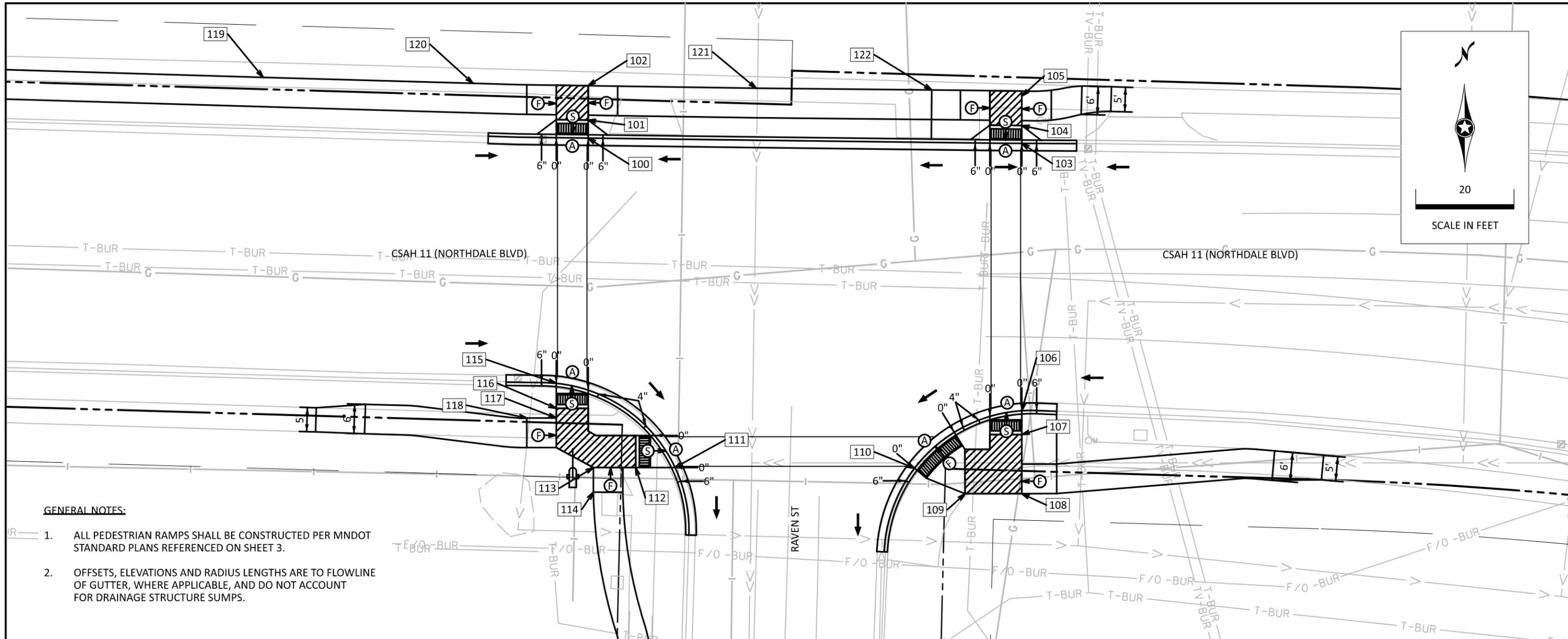
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 I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 CERTIFIED BY: *Bretta Voth* LIC NO: 49045
 LICENSED PROFESSIONAL ENGINEER
 PRINTED NAME: BRETTA VOTH, P.E. DATE: 12/03/2025



ADA PLANS

SAP 002-611-042
SAP 114-020-068

SHEET NO. 10
TOTAL SHEETS 59



GENERAL NOTES:

1. ALL PEDESTRIAN RAMPS SHALL BE CONSTRUCTED PER MNDOT STANDARD PLANS REFERENCED ON SHEET 3.
2. OFFSETS, ELEVATIONS AND RADIUS LENGTHS ARE TO FLOWLINE OF GUTTER, WHERE APPLICABLE, AND DO NOT ACCOUNT FOR DRAINAGE STRUCTURE SUMPS.

| POINT TABLE | | | | | POINT TABLE | | | | |
|-------------|-------------|-----------|-----------|--------|-------------|---------------|-----------|-----------|--------|
| POINT # | DESCRIPTION | NORTHING | EASTING | ELEV | POINT # | DESCRIPTION | NORTHING | EASTING | ELEV |
| 100 | F/L | 153874.99 | 485558.54 | 863.40 | 119 | PROPOSED WALK | 153868.68 | 485492.37 | 864.07 |
| 101 | RAMP | 153874.99 | 485558.47 | 863.64 | 120 | PROPOSED WALK | 153887.47 | 485535.1 | 863.81 |
| 102 | LANDING | 153874.99 | 485558.39 | 863.74 | 121 | PROPOSED WALK | 153886.47 | 485529.78 | 864.16 |
| | | | | | 122 | PROPOSED WALK | 153886.11 | 485628.54 | 864.36 |
| 103 | F/L | 153873.90 | 485646.83 | 863.70 | | | | | |
| 104 | RAMP | 153873.90 | 485646.77 | 863.94 | | | | | |
| 105 | LANDING | 153873.90 | 485646.39 | 864.04 | | | | | |
| 106 | F/L | 153820.97 | 485646.86 | 863.59 | | | | | |
| 107 | RAMP | 153820.94 | 485646.48 | 863.77 | | | | | |
| 108 | LANDING | 153804.12 | 485646.86 | 863.74 | | | | | |
| 109 | RAMP | 153804.12 | 485635.34 | 863.51 | | | | | |
| 110 | F/L | 153810.07 | 485625.46 | 863.28 | | | | | |
| 111 | F/L | 153810.07 | 485577.61 | 863.00 | | | | | |
| 112 | RAMP | 153814.15 | 485575.31 | 863.24 | | | | | |
| 113 | LANDING | 153824.28 | 485564.28 | 863.32 | | | | | |
| 114 | RAMP | 153814.27 | 485575.22 | 863.57 | | | | | |
| 115 | F/L | 153826.57 | 485559.03 | 863.21 | | | | | |
| 116 | RAMP | 153827.96 | 485560.84 | 863.45 | | | | | |
| 117 | LANDING | 153828.17 | 485549.50 | 863.47 | | | | | |
| 118 | RAMP | 153828.22 | 485546.17 | 863.77 | | | | | |

LEGEND

- TRUNCATED DOMES (SEE STANDARD PLATE 7038)
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- TRANSITION STANDARD GUTTER INSLOPE TO NOTED GUTTER INSLOPE
- XXX PEDESTRIAN RAMP ELEVATION POINT
- X" PROPOSED CURB HEIGHT
- (A) 2" GUTTER INSLOPE
- (S) INDICATES PEDESTRIAN RAMP SLOPE - SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- (F) INDICATES PEDESTRIAN RAMP SLOPE - SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- FL - CURB FLOWING (FACE OR CURB)
- LAND - BACK OF LANDING
- RAMP - TOP OF RAMP

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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.
 CERTIFIED BY: *Bretta Voth* LIC NO: 49045
 LICENSED PROFESSIONAL ENGINEER
 PRINTED NAME: BRETTA VOTH, P.E. DATE: 12/03/2025



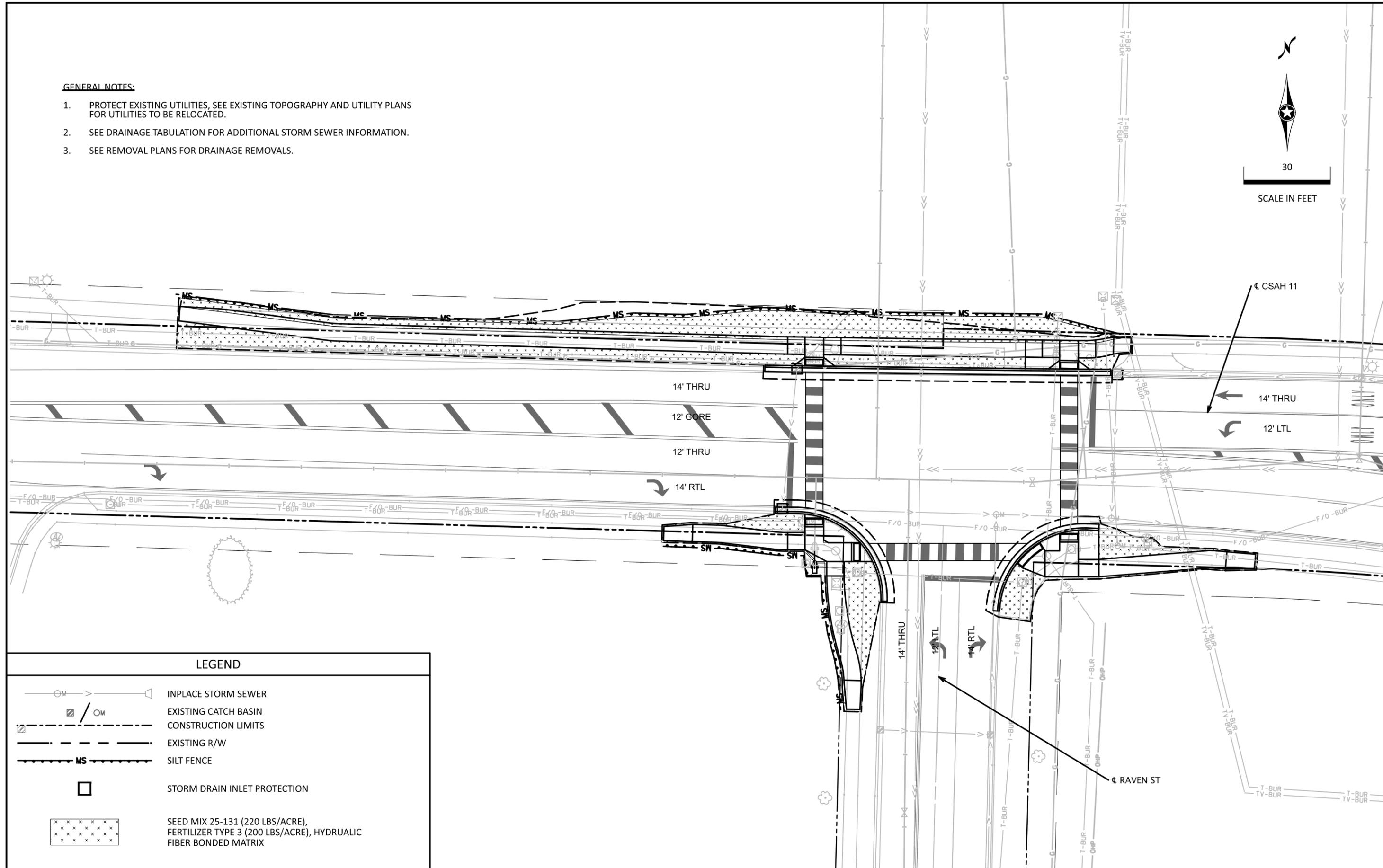
INTERSECTION DETAILS

SAP 002-611-042
 SAP 114-020-068

SHEET NO. 11
 TOTAL SHEETS 59

GENERAL NOTES:

1. PROTECT EXISTING UTILITIES, SEE EXISTING TOPOGRAPHY AND UTILITY PLANS FOR UTILITIES TO BE RELOCATED.
2. SEE DRAINAGE TABULATION FOR ADDITIONAL STORM SEWER INFORMATION.
3. SEE REMOVAL PLANS FOR DRAINAGE REMOVALS.



LEGEND

| | |
|--|---|
| | INPLACE STORM SEWER |
| | EXISTING CATCH BASIN |
| | CONSTRUCTION LIMITS |
| | EXISTING R/W |
| | SILT FENCE |
| | STORM DRAIN INLET PROTECTION |
| | SEED MIX 25-131 (220 LBS/ACRE), FERTILIZER TYPE 3 (200 LBS/ACRE), HYDRUALIC FIBER BONDED MATRIX |

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 CERTIFIED BY: *Bretta Woth* LIC NO: 49045
 LICENSED PROFESSIONAL ENGINEER
 PRINTED NAME: BRETTA WOTH, P.E. DATE: 12/03/2025



DRAINAGE, EROSION CONTROL, & TURF ESTABLISHMENT PLAN

SAP 002-611-042
 SAP 114-020-068

SHEET NO. 12
 TOTAL SHEETS 59

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE

PROJECT DESCRIPTION/LOCATION

THE PROJECT IS LOCATED COUNTY STATE AID HIGHWAY (CSAH) 11 (NORTHDALE BOULEVARD) IN THE CITY OF COON RAPIDS, ANOKA COUNTY, MINNESOTA. THE PROJECT INVOLVES THE REPLACEMENT OF THE EXISTING SIGNAL AT THE CSAH 11/RAVEN STREET NW INTERSECTION, PEDESTRIAN RAMP IMPROVEMENTS AND SIDEWALK REPLACEMENT.

ENVIRONMENTAL FEATURES

THERE ARE NO STORMWATER MITIGATION MEASURES REQUIRED AS A RESULT OF AN ENVIRONMENTAL, ARCHEOLOGICAL OR AGENCY REVIEW. ALL MITIGATION MEASURES HAVE BEEN ADDRESSED IN THIS PLAN SET OR THE SPECIAL PROVISIONS.

THIS PROJECT IS NOT LOCATED IN A WELL HEAD PROTECTION AREA.

THIS PROJECT IS LOCATED IN A DRINKING WATER SUPPLY MANAGEMENT AREA (DWSMA).

THIS PROJECT IS NOT LOCATED IN MAPPED REGIONS PRONE TO SURFACE KARST FEATURE DEVELOPMENT.

THIS PROJECT IS NOT LOCATED IN AN EMERGENCY RESPONSE AREA (ERA) PER DEPARTMENT OF HEALTH.

SPECIAL AND IMPAIRED WATERS

NO SPECIAL OR IMPAIRED WATERS ARE LOCATED ADJACENT TO THE PROJECT LIMITS. COON CREEK IS LOCATED WITHIN ONE MILE OF THE PROJECT AND IS IMPAIRED FOR ESCHERICHIA CHOLI (E COLI), FISH BIOASSESSMENTS, TSS.

SOIL INFORMATION

ACCORDING TO THE NRCS WEB SOIL SURVEY, SOILS IN THE PROJECT AREA PRIMARILY CONSIST OF FINE SANDS OR SANDY LOAMS.

LAND FEATURE CHANGES

| | |
|---|-------------|
| TOTAL DISTURBED AREA | 0.08 ACRES |
| WITHIN THE DISTURBED AREA: TOTAL EXISTING IMPERVIOUS SURFACE AREA | 0.09 ACRES |
| WITHIN THE DISTURBED AREA: TOTAL PROPOSED IMPERVIOUS SURFACE AREA | 0.08 ACRES |
| TOTAL PROPOSED NET CHANGE IN IMPERVIOUS SURFACE AREA | -0.01 ACRES |

LONG TERM MAINTENANCE AND OPERATIONS

NO PERMANENT STORMWATER TREATMENT SYSTEM IS PROPOSED. ANOKA COUNTY WILL BE RESPONSIBLE FOR THE LONG TERM OPERATION AND MAINTENANCE OF STORM SEWER AND STRUCTURES.

1440 BUNKER LAKE BOULEVARD
ANDOVER, MN 55304
PHONE: 763-324-3100

PROJECT PERSONNEL AND TRAINING

THIS SWPPP WAS PREPARED BY PERSONNEL THAT ARE CERTIFIED IN THE DESIGN OF CONSTRUCTION SWPPPS. COPIES OF THE CERTIFICATIONS ARE ON FILE WITH MNDOT AND ARE AVAILABLE UPON REQUEST.

PROVIDE A CERTIFIED EROSION CONTROL SUPERVISOR IN GOOD STANDING WHO IS KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES. THE EROSION CONTROL SUPERVISOR WILL WORK WITH THE PROJECT ENGINEER TO OVERSEE THE IMPLEMENTATION OF THE SWPPP AND THE INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPs BEFORE, DURING, AND AFTER CONSTRUCTION UNTIL THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED WITH THE MPCA. PROVIDE PROOF OF CERTIFICATION AT THE PRECONSTRUCTION MEETING. WORK WILL NOT BE ALLOWED TO COMMENCE UNTIL PROOF OF CERTIFICATION HAS BEEN PROVIDED TO THE PROJECT ENGINEER.

THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A CERTIFIED EROSION CONTROL SUPERVISOR THAT IS RESPONSIBLE FOR OVERSEEING THE IMPLEMENTATION OF THE SWPPP. THE CONTRACTOR MUST PROVIDE PROOF OF CERTIFICATION AT THE PRECONSTRUCTION MEETING AND WILL NOT BE ALLOWED TO COMMENCE WORK UNTIL PROOF OF CERTIFICATION HAS BEEN PROVIDED TO THE PROJECT MANAGER.

THE EROSION CONTROL SUPERVISOR IS INCIDENTAL.

PROVIDE AT LEAST ONE CERTIFIED INSTALLER FOR EACH CONTRACTOR OR SUBCONTRACTOR THAT PLACES THE PRODUCTS LISTED IN SPECIFICATION SECTION 2573.3.A.2. PROVIDE PROOF OF CERTIFICATION AT THE PRECONSTRUCTION MEETING. WORK WILL NOT BE ALLOWED TO COMMENCE UNTIL PROOF OF CERTIFICATION HAS BEEN PROVIDED TO THE PROJECT MANAGER.

PROJECT CONTACTS

THE PROJECT ENGINEER AND CONTRACTOR ARE RESPONSIBLE FOR IMPLEMENTATION OF THE SWPPP AND INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION CONTROL AND SEDIMENT CONTROL BMPs BEFORE, DURING, AND AFTER CONSTRUCTION UNTIL THE NOTICE OF TERMINATION HAS BEEN FILED. ANOKA COUNTY STAFF ARE ALSO AVAILABLE FOR TECHNICAL ASSISTANCE.

| PROJECT ORGANIZATION CONTACTS | | PHONE |
|--|----------------|---------------------------------|
| MPCA | MATT HOSKINS | 651-757-2864 |
| PROJECT MANAGER | AARON ANDERSON | 763-324-3189 |
| CONSTRUCTION ENGINEER | CHRIS OSTERHUS | 763-324-3199 |
| SWPPP DESIGNER | BRETT VOTH | 952-905-2879 |
| COON CREEK WATERSHED DISTRICT | ERIN MARGL | 763-755-0975 |
| CITY OF COON RAPIDS | MARK HANSEN | 763-767-6465 |
| MPCA DUTY OFFICER 24 HR EMERGENCY NOTIFICATION | | 651-649-5451 OR 1(800)-422-0798 |

LOCATION OF SWPPP REQUIREMENTS

THE REQUIRED SWPPP ELEMENTS MAY BE LOCATED IN MANY PLACES WITHIN THE PLAN SET AS WELL AS IN THE SPECIAL PROVISIONS, MNDOT SPEC BOOK (2025 EDITION) OR ON FILE WITH MNDOT. THE NOTES AND TABLE BELOW ARE INTENDED TO BE A QUICK REFERENCE FOR THE CONTRACTOR AND PROJECT ENGINEER TO USE IN THE FIELD. THERE MAY BE ADDITIONAL REQUIRED SWPPP ELEMENTS INCLUDED ON THE PROJECT THAT ARE NOT LISTED ON THIS SHEET.

| SWPPP SHEET DESCRIPTIONS | LOCATION |
|---|--------------|
| TEMPORARY EROSION CONTROL MEASURES | SHEET NO. 11 |
| PERMANENT EROSION CONTROL MEASURES | SHEET NO. 11 |
| DIRECTION OF FLOW | SHEET NO. 11 |
| FINAL STABILIZATION | SHEET NO. 11 |
| SOILS AND CONSTRUCTION NOTES | SHEET NO. 3 |
| DRAINAGE STRUCTURES | SHEET NO. 8 |
| DRAINAGE TABULATION | SHEET NO. 4 |
| EROSION AND SEDIMENT CONTROL DETAILS (STANDARD PLANS) | SHEET NO. 3 |
| EROSION CONTROL TABULATION | SHEET NO. 4 |
| TURF ESTABLISHMENT TABULATION | SHEET NO. 4 |

INSPECTION TIMEFRAMES

INSPECT THE ENTIRE CONSTRUCTION SITE A MINIMUM OF ONCE EVERY SEVEN DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. INSPECT ALL TEMPORARY AND PERMANENT WATER QUALITY MANAGEMENT, EROSION PREVENTION AND SEDIMENT CONTROL BMPs, SURFACE WATERS AND CONSTRUCTION SITE EXITS UNTIL ALL CONSTRUCTION IS COMPLETE AND THE SITE HAS UNDERGONE FINAL STABILIZATION. RECORD ALL INSPECTIONS AND MAINTENANCE ACTIVITIES IN WRITING WITHIN 24 HOURS. SUBMIT INSPECTION REPORTS IN A FORMAT THAT IS ACCEPTABLE TO THE PROJECT ENGINEER.

REPORT SHALL INCLUDE AT A MINIMUM:

- DATE AND TIME OF INSPECTION
- NAME OF PERSON RECORDING/CONDUCTING INSPECTION
- FINDINGS OF INSPECTION
- CORRECTIVE ACTIONS TAKEN INCLUDING DATES, TIMES PARTIES COMPLETING MAINTENANCE ACTIVITIES
- DATE AND AMOUNT OF RAINFALL EVENTS GREATER THAN 0.5 INCHES IN 24 HOURS
 - RAINFALL AMOUNTS MUST BE OBTAINED BY A PROPERLY MANAGED RAIN GAUGE INSTALLED ONSITE, OR BY A WEATHER STATION WITHIN 1 MILE OR BY A WEATHER REPORTING SYSTEM
- REQUIREMENTS TO OBSERVE ANY DISCHARGE THAT MAY BE OCCURRING DURING THE INSPECTION. DISCHARGE SHOULD ALSO BE DESCRIBED AND PHOTOGRAPHED

AREAS OF ENVIRONMENTAL SENSITIVITY (AES)

WETLANDS AND EXISTING STORMWATER FACILITIES ARE WITHIN AND NEAR THE PROJECT BOUNDARY. DUE TO THE NATURE OF THE PROJECT WORK, NO IMPACTS ARE ANTICIPATED.

ENVIRONMENTAL REVIEW

THERE ARE NO STORMWATER MITIGATION MEASURES REQUIRED AS A RESULT OF AN ENVIRONMENTAL, ARCHAEOLOGICAL OR AGENCY REVIEW. ALL MITIGATION MEASURES HAVE BEEN ADDRESSED IN THIS PLAN SET OR THE SPECIAL PROVISIONS.

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| DESIGNED BY: JEP | 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. CERTIFIED BY:  LIC NO: 49045 LICENSED PROFESSIONAL ENGINEER PRINTED NAME: BRETT A. VOTH, P.E. DATE: 12/03/2025 |
| DRAWN BY: JEP | |
| CHECKED BY: BAV | |




SWPPP PLANS

SAP 002-611-042
SAP 114-020-068

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| SHEET NO. | 13 |
| TOTAL SHEETS | 59 |

GENERAL SWPPP NOTES FOR CONSTRUCTION ACTIVITY

1. THIS PROJECT DOES REQUIRE A NPDES PERMIT. THE CONTRACTOR IS RESPONSIBLE TO COMPLY WITH ALL ASPECTS OF THE NPDES CONSTRUCTION STORMWATER PERMIT AT ALL TIMES PER MNDOT SPEC 1717. THE CONTRACTOR WILL DEVELOP A CHAIN OF COMMAND WITH ALL OPERATORS ON THE SITE TO ENSURE THAT THE SWPPP WILL BE IMPLEMENTED AND STAY IN EFFECT UNTIL THE CONSTRUCTION PROJECT IS COMPLETE, THE ENTIRE SITE HAS UNDERGONE FINAL STABILIZATION, AND A NOTICE OF TERMINATION (NOT) HAS BEEN SUBMITTED TO THE MPCA.
2. THE CONTRACTOR WILL PREPARE A WRITTEN, NOT ORAL, WEEKLY SCHEDULE OF PROPOSED EROSION CONTROL ACTIVITIES FOR THE PROJECT ENGINEERS APPROVAL AS PER MNDOT SPEC. 1717.
3. THE CONTRACTOR WILL COMPLY WITH THE REQUIREMENTS REGARDING POLLUTION PREVENTION MANAGEMENT DURING CONSTRUCTION, WHICH WILL INCLUDE, BUT IS NOT LIMITED TO, PROVIDING:
 - A. CONCRETE WASHOUT AREAS FOR USE BY ALL SUBCONTRACTORS AND COUNTY PERSONNEL. LOCATION OF WASHOUT AREAS MUST BE IDENTIFIED BY SIGNAGE AND MUST BE AT LEAST 200' FROM SITE PLAN REQUIREMENT AREAS OR ENVIRONMENTALLY SENSITIVE AREAS, AND UTILIZE A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER THAT PREVENTS RUNOFF ONTO ADJACENT SOILS. AN ENGINEERED COLLECTION SYSTEM CAN ALSO BE USED IF IT IS APPROVED BY THE PROJECT ENGINEER.
 - B. SOLID WASTE COLLECTION AND REMOVAL.
 - C. SECONDARY CONTAINMENT.
 - D. SECURED HAZARDOUS WASTE STORAGE CONTAINERS.
 - F. CHEMICAL SPILL KITS.
 - G. PORTABLE RESTROOM FACILITIES THAT ARE ANCHORED TO PREVENT TIPPING.
4. CHEMICALS MUST BE KEPT IN A SECURE STORAGE AREA WHEN NOT IN USE. CHEMICAL STORAGE CONTAINERS MUST HAVE SECONDARY CONTAINMENT WHEN BEING USED OR STORED ON THE PROJECT SITE. CHEMICAL SPILLS OF ANY KIND (OIL, FUEL, FERTILIZER, ETC.) MUST BE CLEANED UP AND REMOVED FROM THE SITE IMMEDIATELY. THE CONTRACTOR MUST HAVE A SPILL KIT ON SITE AT ALL TIMES.
5. THE CONTRACTOR IS RESPONSIBLE FOR CREATING AND FOLLOWING A WRITTEN DISPOSAL PLAN FOR ALL WASTE MATERIALS. THE PLAN WILL INCLUDE HOW THE MATERIAL WILL BE DISPOSED OF AND THE LOCATION OF THE DISPOSAL SITE. THE PLAN WILL BE SUBMITTED TO THE ENGINEER.
6. BURNING OF ANY MATERIAL IS NOT ALLOWED WITHIN PROJECT BOUNDARY.
7. THE EROSION PREVENTION AND SEDIMENT CONTROL BMPs WILL BE PLACED AS NECESSARY TO MINIMIZE EROSION FROM DISTURBED SURFACES AND TO CAPTURE SEDIMENT ON SITE. ALL EROSION CONTROL MEASURES WILL BE IN PLACE PRIOR TO COMMENCEMENT OF ANY REMOVAL WORK AND/OR GROUND DISTURBING ACTIVITIES AND WILL BE MAINTAINED UNTIL THE POTENTIAL FOR EROSION HAS BEEN ELIMINATED.
8. SEDIMENT CONTROL DEVICES MUST BE ESTABLISHED ON ALL DOWN GRADIENT PERIMETERS BEFORE ANY UP GRADIENT LAND DISTURBING ACTIVITIES BEGIN. SEDIMENT CONTROL DEVICES INCLUDE BUT ARE NOT LIMITED TO:
 - A. PERIMETER CONTROL SHALL BE LOCATED ON THE CONTOUR TO CAPTURE OVERLAND, LOW-VELOCITY SHEET FLOWS DOWN GRADIENT OF ALL EXPOSED SOILS AND PRIOR TO DISCHARGING TO SURFACE WATERS WITH THE BMP J-HOOKED AT A MAXIMUM OF 100 FOOT INTERVALS AND SHALL CONTAIN NO MORE THAN 1/4 ACRE OF DRAINAGE AREA.
 - B. DITCH CHECKS WILL BE PLACED AS INDICATED ON THE PLANS DURING ALL PHASES OF CONSTRUCTION.
 1. TEMPORARY DITCH CHECKS WILL CONSIST OF USING ROCK DITCH CHECKS, BIOLOGS, AND ROCK WEEPERS IN FRONT OF CULVERT INLETS. IN LIEU OF REMOVING TEMPORARY DITCH CHECKS, THE ROCK MAY BE PUSHED INTO THE GROUND.
 2. FILTER LOGS WILL BE PLACED DURING PERMANENT TURF ESTABLISHMENT AT THE INTERVALS IDENTIFIED IN THE PLAN.
 - C. SEDIMENT DAMAGE FROM STOCKPILES WILL BE MINIMIZED BY PLACING A ROW OF SILT FENCE A MINIMUM 5 FEET FROM THE TOE. IF THERE IS NOT ADEQUATE PROJECT AREA TO PLACE THE SILT FENCE MORE THAN 5 FEET FROM THE TOE OF THE SLOPE THE CONTRACTOR MAY SUBMIT AN ALTERNATIVE FOR APPROVAL BY THE PROJECT ENGINEER.
9. STORM SEWER INLETS WILL BE PROTECTED AT ALL TIMES WITH THE APPROPRIATE INLET PROTECTION FOR EACH SPECIFIC PHASE OF CONSTRUCTION. INLET PROTECTION DEVICES MAY NEED TO BE PLACED MULTIPLE TIMES IN THE SAME LOCATION OVER THE LIFE OF THE CONTRACT. INLET PROTECTION DEVICES WILL BE PAID FOR ONCE PER INLET REGARDLESS OF THE NUMBER OF TIMES THE BMP IS PLACED. ALL STORM SEWER INLET PROTECTION DEVICES WILL BE KEPT IN GOOD FUNCTIONAL CONDITION AT ALL TIMES. IF THE PROJECT ENGINEER DEEMS AN INLET PROTECTION DEVICE TO BE NONFUNCTIONAL, IN POOR CONDITION, INEFFECTIVE, OR NOT APPROPRIATE FOR THE CURRENT CONSTRUCTION ACTIVITIES IT WILL BE REPLACED WITH A SUITABLE ALTERNATIVE AT NO COST TO ANOKA COUNTY.
10. THE CONTRACTOR WILL PLACE CONSTRUCTION EXITS, AS NECESSARY, TO PREVENT TRACKING OF SEDIMENT ONTO PAVED SURFACES AND IN COMPLIANCE WITH PART IV OF THE NPDES PERMIT. CONSTRUCTION EXITS WILL BE SUFFICIENTLY SIZED AND MAINTAINED TO PREVENT TRACK OUT. TYPE 5 MULCH <SLASH MULCH> OR AN APPROVED ENGINEERED PRODUCT WILL BE ALLOWED FOR CONSTRUCTION EXITS IN LIEU OF CRUSHED ROCK.
11. THE CONTRACTOR MUST USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT DISCHARGE OR PLACEMENT OF BITUMINOUS GRINDING, CUTTINGS, MILLINGS, AND OTHER BITUMINOUS WASTES FROM AREAS OF EXISTING OR FUTURE VEGETATED SOILS AND ALL WATER CONVEYANCE SYSTEMS, INCLUDING INLETS.
12. THE CONTRACTOR MUST USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT CONCRETE DUST, PARTICLES, SAW CUT SLURRY, PLANNING WASTE AND OTHER CONCRETE WASTES FROM LEAVING ANOKA COUNTY RIGHT OF WAY, DEPOSITING IN EXISTING OR FUTURE VEGETATED AREAS, OR ENTERING STORMWATER CONVEYANCE SYSTEMS, INCLUDING INLETS AND CURB FLOW LINES.
13. DITCHES AND EXPOSED SOILS MUST BE KEPT IN AN EVEN ROUGH GRADED CONDITION IN ORDER TO BE ABLE TO APPLY EROSION CONTROL MULCHES AND BLANKETS.
14. ALL EXPOSED SOIL AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED NO MORE THAN 24 HOURS AFTER CONSTRUCTION ACTIVITY ON THAT PORTION OF THE SITE THAT HAS BEEN TEMPORARILY CEASED. IN MANY INSTANCES, THIS WILL REQUIRE STABILIZATION TO OCCUR MORE THAN ONCE DURING ROUGH GRADING. RAPID STABILIZATION METHOD 3 OR 4 WILL BE USED TO PROVIDE TEMPORARY COVER IN THESE AREAS AS APPROPRIATE.
15. THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH THAT DRAINS WATER FROM THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE CONSTRUCTION SITE, MUST BE STABILIZED WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE OR POINT OF DISCHARGE TO ANY SURFACE WATER. STABILIZATION MUST OCCUR WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER, EXISTING GUTTER, STORM SEWER INLET, DRAINAGE DITCH, OR OTHER STORMWATER CONVEYANCE SYSTEM ACCORDING TO MNDOT SPEC 1717. THE REMAINDER OF THE DITCH MUST BE STABILIZED WITHIN 7 DAYS OF CONNECTING TO THE SURFACE WATER. PERMANENT EROSION CONTROL BLANKET WILL BE USED TO STABILIZE THESE AREAS. DISC ANCHORED MULCH AND HYDRAULIC SOIL STABILIZERS ARE NOT ALLOWED FOR PERMANENT DITCH STABILIZATION.
16. OUTLETS INTO SURFACE WATERS SHALL BE STABILIZED WITH ENERGY DISSIPATION WITHIN 24 HOURS OF BEING CONSTRUCTED.
17. ALL EXPOSED SOIL AREAS WILL BE STABILIZED PRIOR TO THE ONSET OF WINTER. ANY WORK STILL BEING PERFORMED WILL BE SNOW MULCHED, SEEDED, OR BLANKETED WITHIN THE TIME FRAMES LISTED IN THE MPCA'S GENERAL NPDES CONSTRUCTION STORMWATER PERMIT.
18. ALL TOPSOIL BERMS SHALL BE STABILIZED WITH HYDROMULCH.
19. THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING INSPECTION AND MAINTENANCE REQUIREMENTS•
20. IF SEDIMENT DEPOSITS IN A WATER OF THE STATE, THE MATERIAL MUST BE REMOVED WITHIN 7 DAYS.

21. PAVEMENT SURFACES WILL BE SWEEPED WITHIN 24 HOURS OF DISCOVERY OF SEDIMENT OR TRACKING ONTO PAVEMENT THAT DRAINS TO CURB, INLETS, DITCHES, OR PONDS. PAVEMENT WILL BE LIGHTLY WETTED PRIOR TO SWEEPING. (INCIDENTAL)

22. AMEND THE SWPPP AND DOCUMENT ANY AND ALL CHANGES TO THE SWPPP AND ASSOCIATED PLAN SHEETS WITHIN 7 DAYS OF AMENDMENT. STORE THE SWPPP AND ALL AMENDMENTS ON SITE AT ALL TIMES.

23. THE PERMITTEE MUST HAVE A WRITTEN PLAN, KEPT ON SITE THAT SHOWS A PRACTICABLE MEANS OF CONTROL TO PREVENT AN INCREASE IN TSS IN THE WATER. IT MUST INCLUDE METHODS TO MINIMIZE DEGRADATION OF WATER, INCLUDING AVOIDANCE OF IMPACTS, CONSTRUCTION-PHASING, SEASONAL CONSTRUCTION WHERE PRACTICABLE, MINIMIZING THE LENGTH OF TIME SOIL AREAS ARE EXPOSED, PROHIBITIONS, POLLUTION PREVENTION THROUGH ADEQUATE BMPs, AND OTHER MANAGEMENT PRACTICES PUBLISHED BY STATE AGENCIES. THE MPCA IS RESPONSIBLE FOR INTERPRETATION OF THE REQUIREMENTS OF THIS CONDITION INDEPENDENT OF THE RGPS. IF THERE ARE QUESTIONS REGARDING PROPER IMPLEMENTATION OF THIS CONDITION, THE MPCA WILL DETERMINE COMPLIANCE, AS NEEDED, ON A CASE-BY-CASE BASIS. THE POINT OF CONTACT AT THE MPCA FOR QUESTIONS REGARDING THIS CONDITION IS 401CERTIFICATION.PCAGSTATE.MN.US.

24. WHERE PRACTICABLE, THE PERMITTEE MUST ESTABLISH AND MAINTAIN AN UNDISTURBED BUFFER ZONE OF AT LEAST 100 LINEAR FEET FROM THE RESTRICTED ORVWS, EXCEPT IN THE IMMEDIATE AREA OF THE IN-WATER WORK.

25. WHENEVER ANY CONSTRUCTION ACTIVITY IS WITHIN 200 FEET OF A RESTRICTED ORVW., THE PERMITTEE MUST STABILIZE ALL EXPOSED SOILS WITHIN 24 HOURS AFTER COMPLETING THE CONSTRUCTION ACTIVITY.

DEWATERING
IT IS ANTICIPATED THAT CULVERT CONSTRUCTION WILL REQUIRE DEWATERING. THE CONTRACTOR SHALL DEVELOP A DEWATERING PLAN IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS. THE DEWATERING PLAN MUST BE SUBMITTED TO AND APPROVED BY COON CREEK WATERSHED DISTRICT PRIOR TO THE START OF DEWATERING. DEWATERING SHALL BE INCIDENTAL IF DEEMED NECESSARY BY THE ENGINEER.

SOIL & EROSION CONTROL SCHEDULE
THE CONTRACTOR WILL PREPARE A WRITTEN, WEEKLY SCHEDULE OF PROPOSED EROSION CONTROL ACTIVITIES FOR THE PROJECT ENGINEERS APPROVAL AS PER MNDOT SPEC. 1717. THE EROSION PREVENTION AND SEDIMENT CONTROL BMPs WILL BE PLACED AS NECESSARY TO MINIMIZE EROSION FROM DISTURBED SURFACES AND TO CAPTURE SEDIMENT ON SITE. SEDIMENT CONTROL DEVICES WILL BE ESTABLISHED ON ALL DOWN GRADIENT PERIMETERS BEFORE ANY UP GRADIENT LAND DISTURBING ACTIVITIES BEGIN. ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES WILL REMAIN IN PLACE AND WILL BE MAINTAINED UNTIL THE POTENTIAL FOR UP GRADIENT EROSION HAS BEEN ELIMINATED. ALL EXPOSED SOIL AREAS WILL BE TEMPORARILY OR PERMANENTLY STABILIZED NO MORE THAN 24 HOURS AFTER CONSTRUCTION ACTIVITY ON THAT PORTION OF THE SITE THAT HAS BEEN TEMPORARILY OR PERMANENTLY CEASED.

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| DESIGNED BY: | JEP | <small>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.</small> <small>CERTIFIED BY: <i>Brett A. Voth</i> LIC NO: 49045</small> <small>PRINTED NAME: BRETT A. VOTH, P.E. DATE: 12/03/2025</small> |
| DRAWN BY: | JEP | |
| CHECKED BY: | BAV | |




787 EUSTIS ST. SUITE 100
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SWPPP PLANS

SAP 002-611-042
SAP 114-020-068

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| SHEET NO. | 14 |
| TOTAL SHEETS | 59 |

NOTES & GUIDELINES

GENERAL INFORMATION:

- ALL DISTANCES ARE APPROXIMATE.

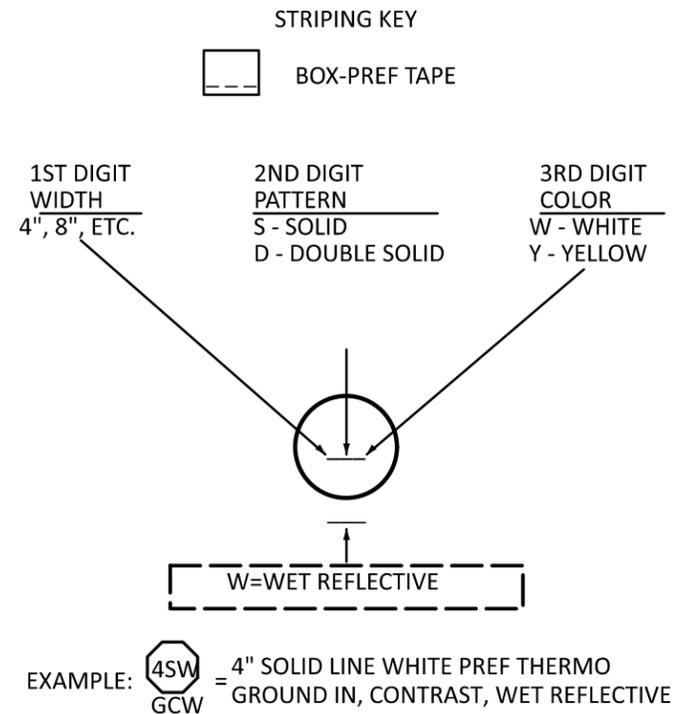
SIGNING:

- ALL TEMPORARY SIGNS ARE REQUIRED TO BE CRASHWORTHY PER THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE 2016 (MASH-2016).
- THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE PLACED AS NEEDED, OR PROVIDE TEMPORARY SIGNING UNTIL THE FINAL SIGNING IS PLACED.
- WHEN MULTIPLE GROUND MOUNTED SIGN STRUCTURES ARE PLACED ADJACENT TO EACH OTHER THERE SHOULD BE NO MORE THAN 2 POSTS WITHIN 84" OF EACH OTHER. WHEN THIS SPACING CAN NOT BE MAINTAINED, THEN SIGN STRUCTURES SHALL BE OFFSET, AND STAGGERED WITH A MINIMUM OF 4' BETWEEN SIGN STRUCTURES BOTH Laterally and Longitudinally. EXAMPLE SHOWS DETOUR SIGNAGE, BUT THIS REQUIREMENT APPLIES TO ALL SIGNAGE.
- WHEN A SIGN OR BARRICADE IS ORIENTED SUCH THAT VISIBILITY TO ROAD USERS INCLUDING BIKES AND PEDESTRIANS IS REDUCED ENOUGH TO CAUSE A HAZARD, DELINEATE THE SIGN/BARRICADE WITH APPROPRIATE DEVICES.
- TEMPORARY SIGNS SHALL BE PLACED SUCH THAT OBSTACLES DO NOT BLOCK THEM FROM BEING VIEWED BY APPROACHING ROAD USERS. OBSTACLES MAY INCLUDE, BUT ARE NOT LIMITED TO, LIGHT POLES, TREES, SIGNS, AND BUILDINGS.
- TEMPORARY SIGNS SHALL BE PLACED AND ORIENTED APPROXIMATELY AS SHOWN IN THE PLAN, AT RIGHT ANGLES TO DIRECTION OF AND FACING THE TRAFFIC THEY ARE INTENDED TO SERVE, UNLESS OTHERWISE SPECIFIED.
- LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE "MINNESOTA TEMPORARY TRAFFIC CONTROL FIELD MANUAL" PAGES (6K-aj) THRU (6K-al) UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
- AFTER REMOVAL OF SIGN AND/OR SIGN BASE, BACK FILL, COMPACT, AND LEVEL SOIL TO MATCH SURROUNDING SOIL.

PAVEMENT MARKING:

- MASK OR REMOVE ANY CONFLICTING PAVEMENT MARKINGS AS SHOWN IN THE PLAN OR APPROVED BY THE ENGINEER.
- ALL TEMPORARY PAVEMENT MARKINGS SHALL BE WET REFLECTIVE.
- SEE 2582 IN THE SPECIAL PROVISIONS FOR PAVEMENT MARKING SPOTTING RESPONSIBILITIES.

PAVEMENT MARKING SYMBOLS AND MATERIALS LEGEND



INDEX

| TRAFFIC CONTROL SHEET NO. | DESCRIPTIONS |
|---------------------------|--------------------------------------|
| 15 | TITLE SHEET |
| 16 | SIGN TABULATIONS & STAGING NARRATIVE |
| 17 - 22 | TRAFFIC CONTROL LAYOUTS |
| 23 | DETOURS |

TRAFFIC CONTROL TABULATION

TC

| ITEM NO | ITEM DESCRIPTION | UNIT | SAP 002-611-042 CSAH 11 QUANTITIES | TOTAL TRAFFIC CONTROL QUANTITIES |
|----------|--|--------|------------------------------------|----------------------------------|
| (1) 2581 | 4" REMOVABLE PREFORMED PAVEMENT MARKING TAPE | LIN FT | 1140 | 1140 |
| 2581 | REMOVABLE PREFORMED PLASTIC MASK (BLACK) | LIN FT | 1910 | 1910 |
| 2581 | REMOVABLE PREFORMED PLASTIC MASK (BLACK) | SQ FT | 565 | 565 |

SPECIFIC NOTES:

- (1) 680 LIN FT WHITE, 460 LIN FT YELLOW

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL DESCRIPTION

| | |
|---|--|
|  | AREA CLOSED TO TRAFFIC / WORK AREA |
| | DETOUR ROUTE |
| ← | TRAFFIC FLOW ARROW |
| ┆ | TRAFFIC CONTROL SIGN |
| ┌ | TYPE III BARRICADE =  |
| ● | DRUM-LIKE CHANNELIZER (TYPE B) =  |
| Ⓢ | TYPE A FLASHING WARNING LIGHT |

| NO. | DATE | DWN | CKD | REVISIONS |
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| DEVICES | | | |
|---------|------------------|-----------------|--------|
| ITEM | SIGN NO. | COLOR | SIZE |
| | TYPE B | WHITE ON ORANGE | |
| | TYPE C | WHITE ON ORANGE | 6' MIN |
| | TYPE "A" FLASHER | | |

| "R" SERIES | | | | | | |
|------------|----------|----------------|------------------------|----------------------------|----------------|---------------------|
| SIGN | SIGN NO. | COLOR | SIZE (IN. X IN.) (WxH) | ASSEMBLY (IN. X IN.) (WxH) | NUMBER OF POST | POST SPACING INCHES |
| | R3-5a | BLACK ON WHITE | 30" X 36" | 30" X 36" | 1 ① | |
| | R3-6 | BLACK ON WHITE | 30" X 36" | 30" X 36" | 1 ① | |
| | R4-7 | BLACK ON WHITE | 24" X 30" | 24" X 30" | 1 ① | |

| "W" SERIES | | | | | | |
|------------|---------------|------------------------------------|------------------------|----------------------------|----------------|---------------------|
| SIGN | SIGN NO. | COLOR | SIZE (IN. X IN.) (WxH) | ASSEMBLY (IN. X IN.) (WxH) | NUMBER OF POST | POST SPACING INCHES |
| | W1-4 | BLACK ON ORANGE | 36" X 36" | 36" X 36" | 1 ① | |
| | W4-2R | BLACK ON ORANGE | 36" X 36" | 36" X 36" | 1 ① | |
| | W20-1 | BLACK ON ORANGE | 36" X 36" | 36" X 36" | 1 ① | |
| | W20-3 | BLACK ON ORANGE | 36" X 36" | 36" X 36" | 1 ① | |
| | W20-X3L | BLACK ON ORANGE | 36" X 36" | 36" X 36" | 1 ① | |
| | W20-X5 | BLACK ON ORANGE | 36" X 36" | 36" X 36" | 1 ① | |
| | WZ-1 W20-2 | BLACK ON ORANGE BLACK ON ORANGE | 30" X 12" 36" X 36" | 36" X 48" | 1 | |
| | WZ-1 W20-3 | BLACK ON ORANGE BLACK ON ORANGE | 30" X 12" 36" X 36" | 36" X 48" | 1 | |

| BARRICADE MOUNTED SIGNS | | | |
|-------------------------|----------|-----------------|------------------------|
| SIGN | SIGN NO. | COLOR | SIZE (IN. X IN.) (WxH) |
| | R11-2M | BLACK ON WHITE | 48" X 30" |
| | R11-4 | BLACK ON WHITE | 60" X 30" |
| | W1-6 | BLACK ON ORANGE | 48" X 24" |
| | W1-7 | BLACK ON ORANGE | 48" X 24" |

| "M" SERIES | | | | | | |
|------------|----------|-----------------|------------------------|----------------------------|----------------|---------------------|
| SIGN | SIGN NO. | COLOR | SIZE (IN. X IN.) (WxH) | ASSEMBLY (IN. X IN.) (WxH) | NUMBER OF POST | POST SPACING INCHES |
| | WZ-1 | BLACK ON ORANGE | 30" X 12" | | | |
| | M4-9M | BLACK ON ORANGE | 30" X 24" | 30" X 36" | 1 ① | |



1.5" Radius, 0.6" Border, 0.4" Indent, Black on Orange;
"Raven St", C 2K;

SPECIFIC NOTES:

- ① MAY USE 2" SQUARE TUBE WITH FIN BASE

GENERAL NOTES

- CONTRACTOR SHALL COMPLETE WORK DURING SUMMER MONTHS WHILE SCHOOL IS NOT IN SESSION.
- CONTRACTOR SHALL PLACE SIGNAL SYSTEM IN RECALL WHEN LOOPS ARE DOWN.

STAGE 1 CONSTRUCTION

- CONSTRUCT INTERSECTION IMPROVEMENTS.
- CONSTRUCT SIGNAL FOUNDATIONS.

STAGE 1 TRAFFIC

- MAINTAIN TRAFFIC AT ALL INTERSECTION APPROACHES.
- CLOSE EB RIGHT TURN LANE ON NORTHDAL BLVD.
- CLOSE WB THRU LANE ON NORTHDAL BLVD.
- CLOSE BOTH SHOULDERS ON RAVEN ST.
- MAINTAIN OPERATION OF EXISTING SIGNAL SYSTEM.

STAGE 2 CONSTRUCTION

- CONSTRUCT SIGNAL POLES AND MAST ARMS.
- REMOVE EXISTING SIGNAL SYSTEM.
- FINISH CONSTRUCTION INTERSECTION IMPROVEMENTS.

STAGE 2 TRAFFIC

- CLOSE ACCESS TO RAVEN ST FROM NORTHDAL BLVD.
- CLOSE EB RIGHT TURN LANE ON NORTHDAL BLVD.
- CLOSE WB THRU LANE ON NORTHDAL BLVD.
- DETOUR SB RAVEN ST TRAFFIC VIA NORTHDAL AVE AND 115TH AVE.

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| DESIGNED BY: MBG | <small> 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. CERTIFIED BY: Licensed Professional Engineer LIC NO: 56090 PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025 </small> |
| DRAWN BY: MMD | |
| CHECKED BY: BKV | |

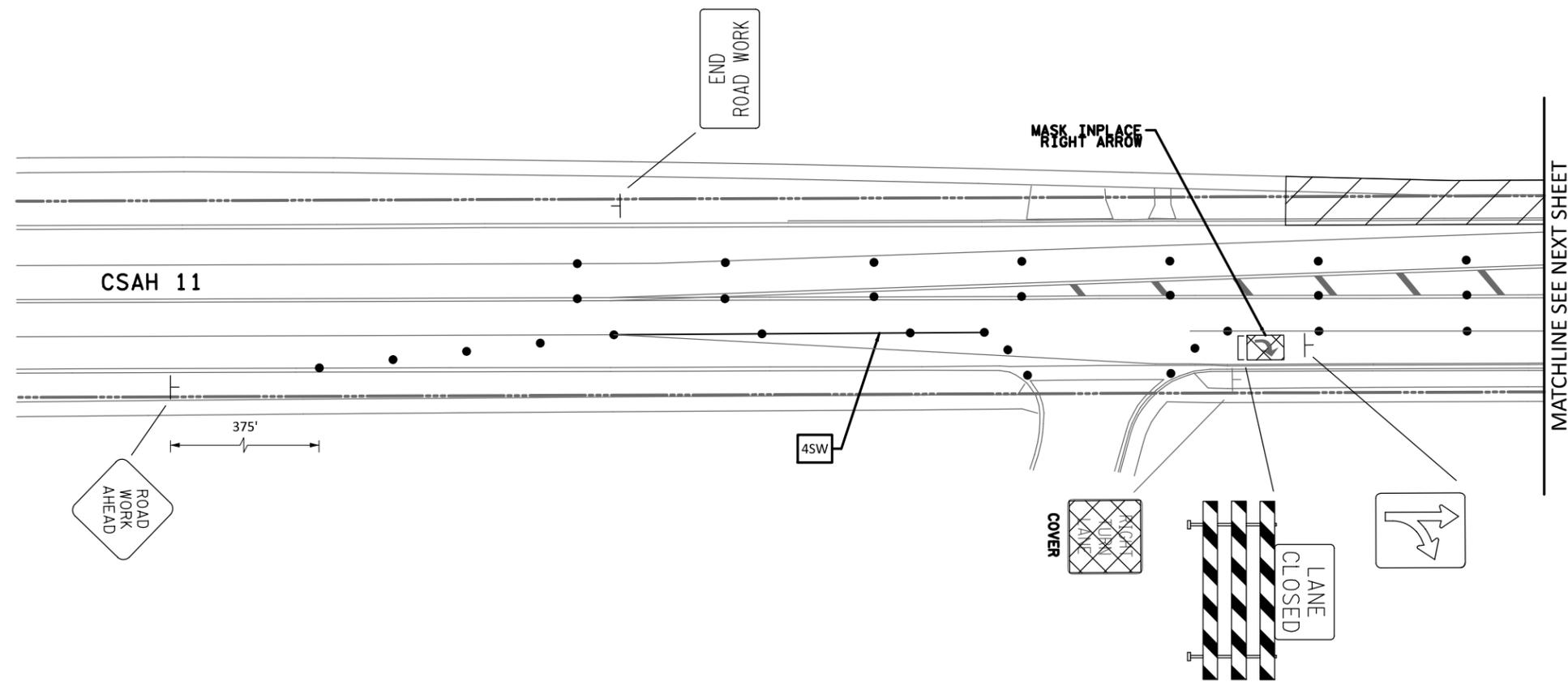
TRAFFIC CONTROL PLANS
SIGN TABULATIONS & STAGING NARRATIVE

SAP 002-611-042
SAP 114-020-068

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| SHEET NO. | 16 |
| TOTAL SHEETS | 59 |

GENERAL NOTES:

1. CONTRACTOR SHALL COVER ALL CONFLICTING PAVEMENT MARKINGS.

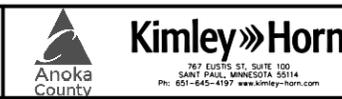


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DESIGNED BY: MBG
 DRAWN BY: MMD
 CHECKED BY: BKV

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.
 CERTIFIED BY: [Signature] LIC NO: 56090
 PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025



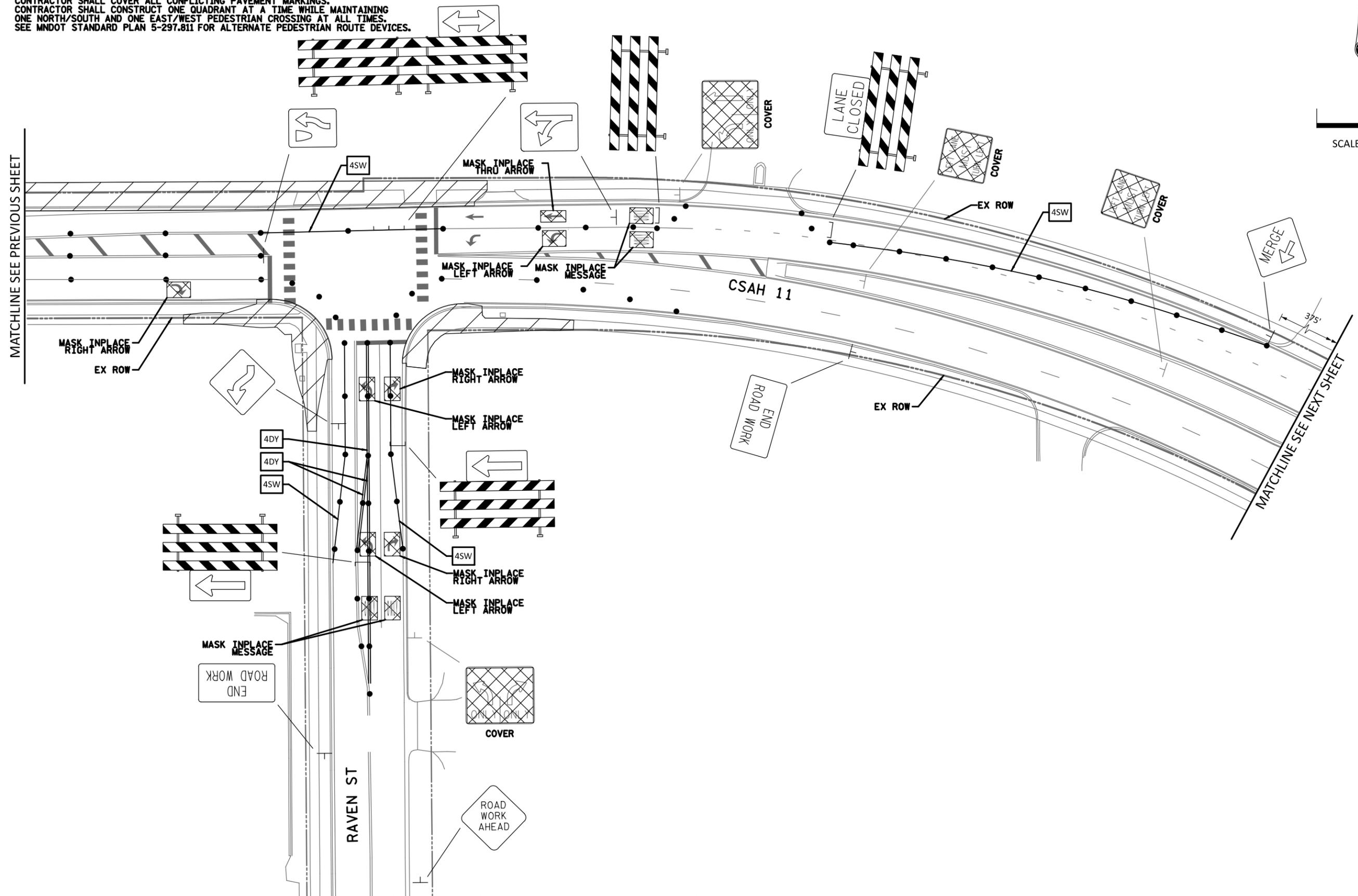
TRAFFIC CONTROL PLANS
TRAFFIC CONTROL LAYOUTS - STAGE 1

SAP 002-611-042
 SAP 114-020-068

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| SHEET NO. | 17 |
| TOTAL SHEETS | 59 |

GENERAL NOTES:

1. CONTRACTOR SHALL COVER ALL CONFLICTING PAVEMENT MARKINGS.
2. CONTRACTOR SHALL CONSTRUCT ONE QUADRANT AT A TIME WHILE MAINTAINING ONE NORTH/SOUTH AND ONE EAST/WEST PEDESTRIAN CROSSING AT ALL TIMES. SEE MNDOT STANDARD PLAN 5-297.811 FOR ALTERNATE PEDESTRIAN ROUTE DEVICES.



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 CHECKED BY: BKV
 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.
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 PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025

Kimley»Horn
 787 EUSTIS ST. SUITE 100
 SAINT PAUL, MINNESOTA 55114
 Ph: 651-645-4197 www.kimley-horn.com

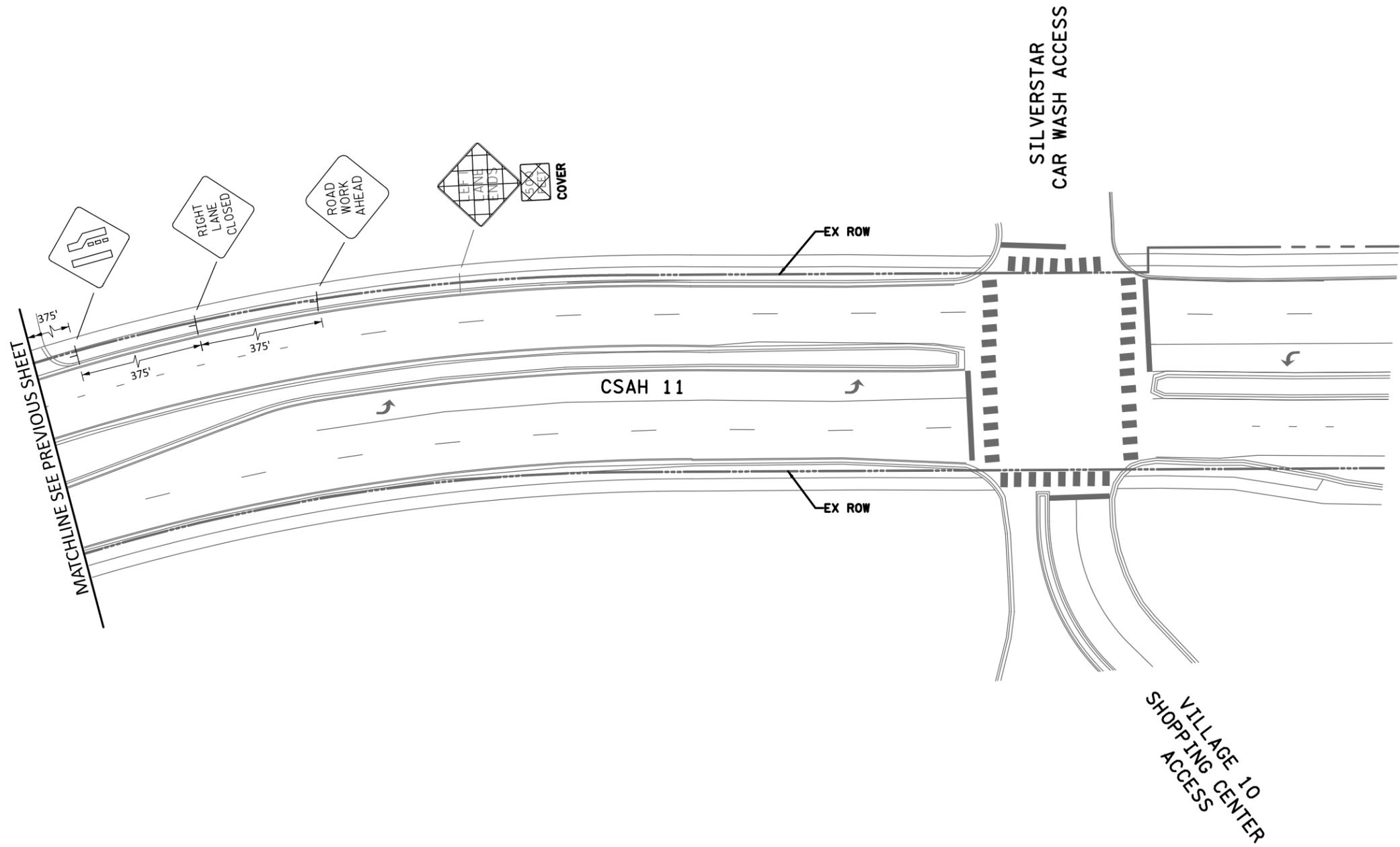
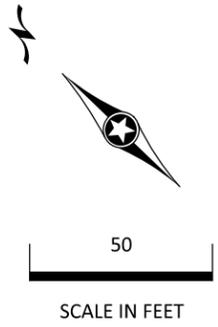
TRAFFIC CONTROL PLANS
 TRAFFIC CONTROL LAYOUTS - STAGE 1

SAP 002-611-042
 SAP 114-020-068

SHEET NO. 18
 TOTAL SHEETS 59

GENERAL NOTES:

1. CONTRACTOR SHALL COVER ALL CONFLICTING PAVEMENT MARKINGS.



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 DRAWN BY: **MMD**
 CHECKED BY: **BKV**

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 CERTIFIED BY: *[Signature]* LIC NO: 56090
 Licensed Professional Engineer
 PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025



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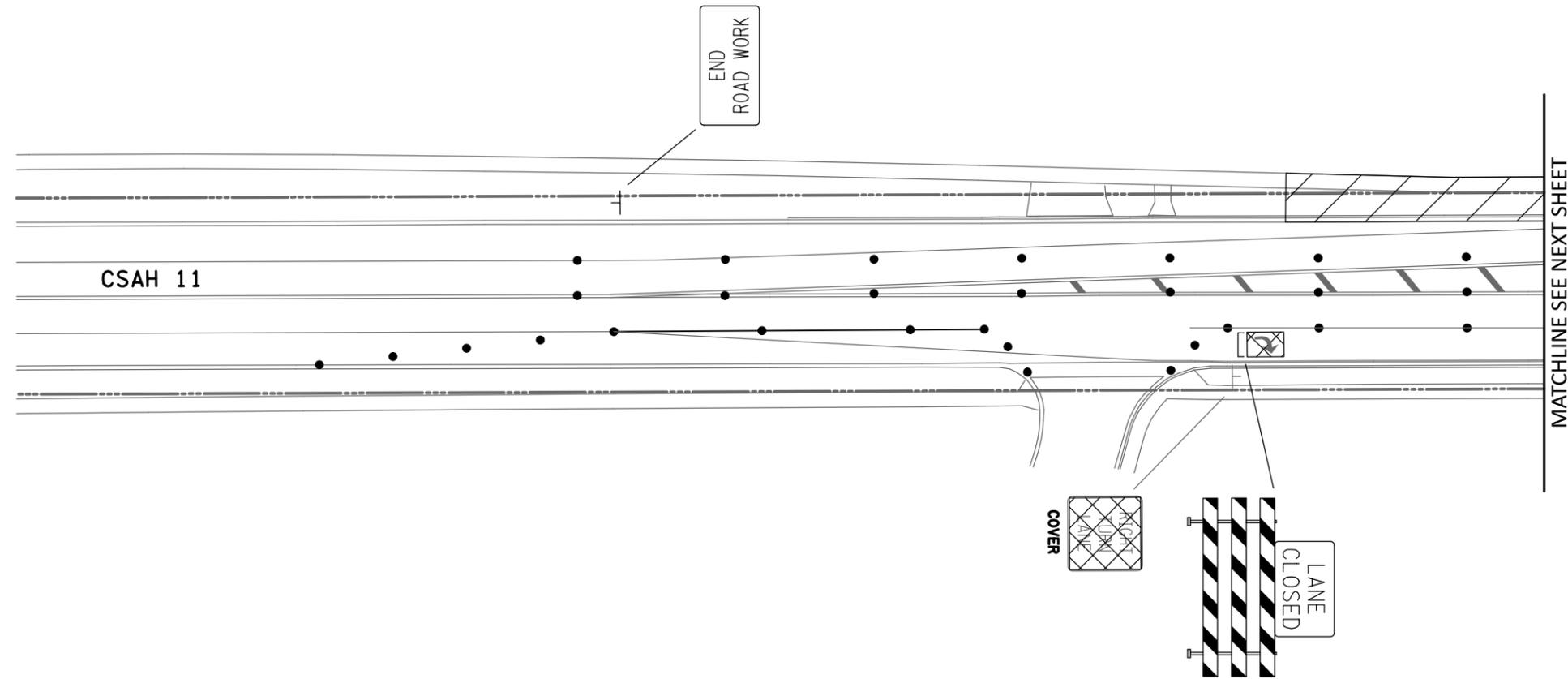
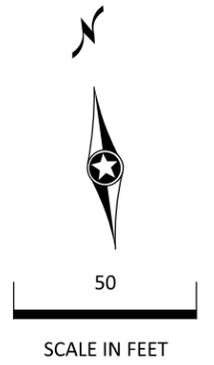
TRAFFIC CONTROL PLANS
TRAFFIC CONTROL LAYOUTS - STAGE 1

SAP 002-611-042
 SAP 114-020-068

SHEET NO. **19**
 TOTAL SHEETS **59**

GENERAL NOTES:

1. TEMPORARY PAVEMENT MARKINGS AND MASKING ARE INPLACE FROM STAGE 1.



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 DRAWN BY: MMD
 CHECKED BY: BKV

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 CERTIFIED BY: [Signature] LIC NO: 56090
 Licensed Professional Engineer
 PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025



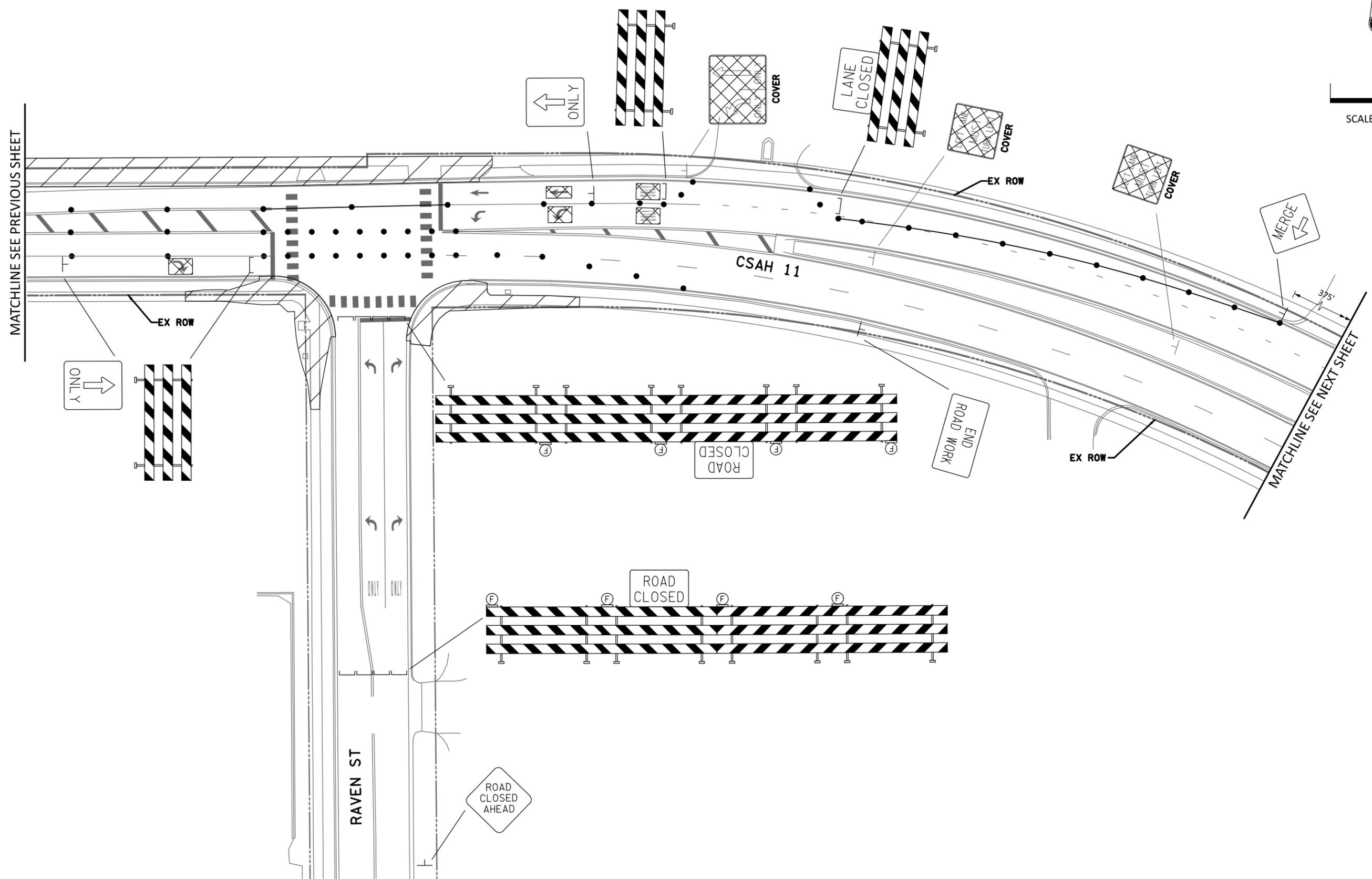
Traffic Control Plans
 TRAFFIC CONTROL LAYOUTS - STAGE 2

SAP 002-611-042
 SAP 114-020-068

SHEET NO. 20
 TOTAL SHEETS 59

GENERAL NOTES:

1. TEMPORARY PAVEMENT MARKINGS AND MASKING ARE INPLACE FROM STAGE 1.



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 CHECKED BY: **BKV**

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 CERTIFIED BY: *[Signature]* LIC NO: 56090
 PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025



TRAFFIC CONTROL PLANS
 TRAFFIC CONTROL LAYOUTS - STAGE 2

SAP 002-611-042
 SAP 114-020-068

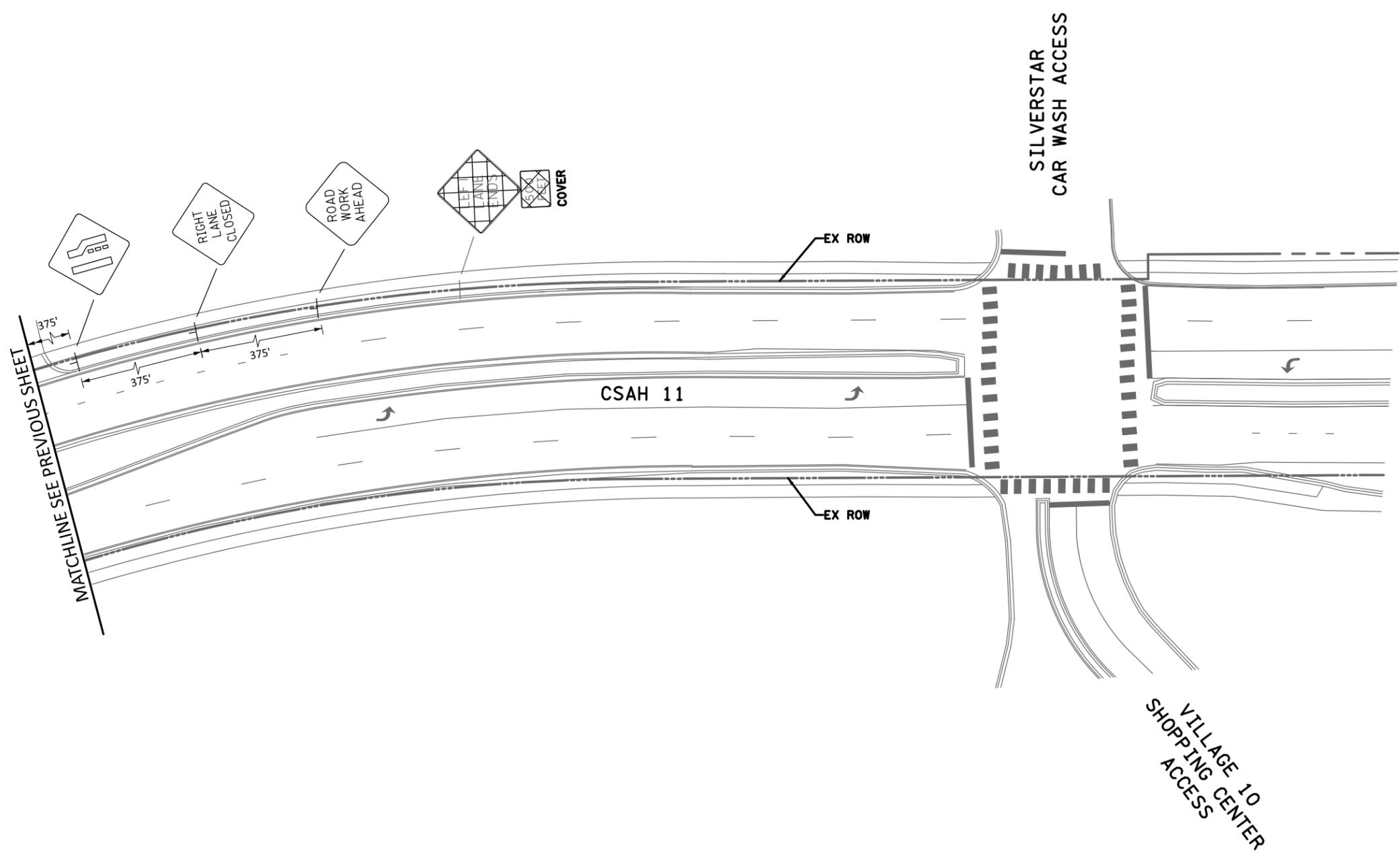
SHEET NO. 21
 TOTAL SHEETS 59

GENERAL NOTES:

1. TEMPORARY PAVEMENT MARKINGS AND MASKING ARE INPLACE FROM STAGE 1.



50
SCALE IN FEET



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 DRAWN BY: **MMD**
 CHECKED BY: **BKV**

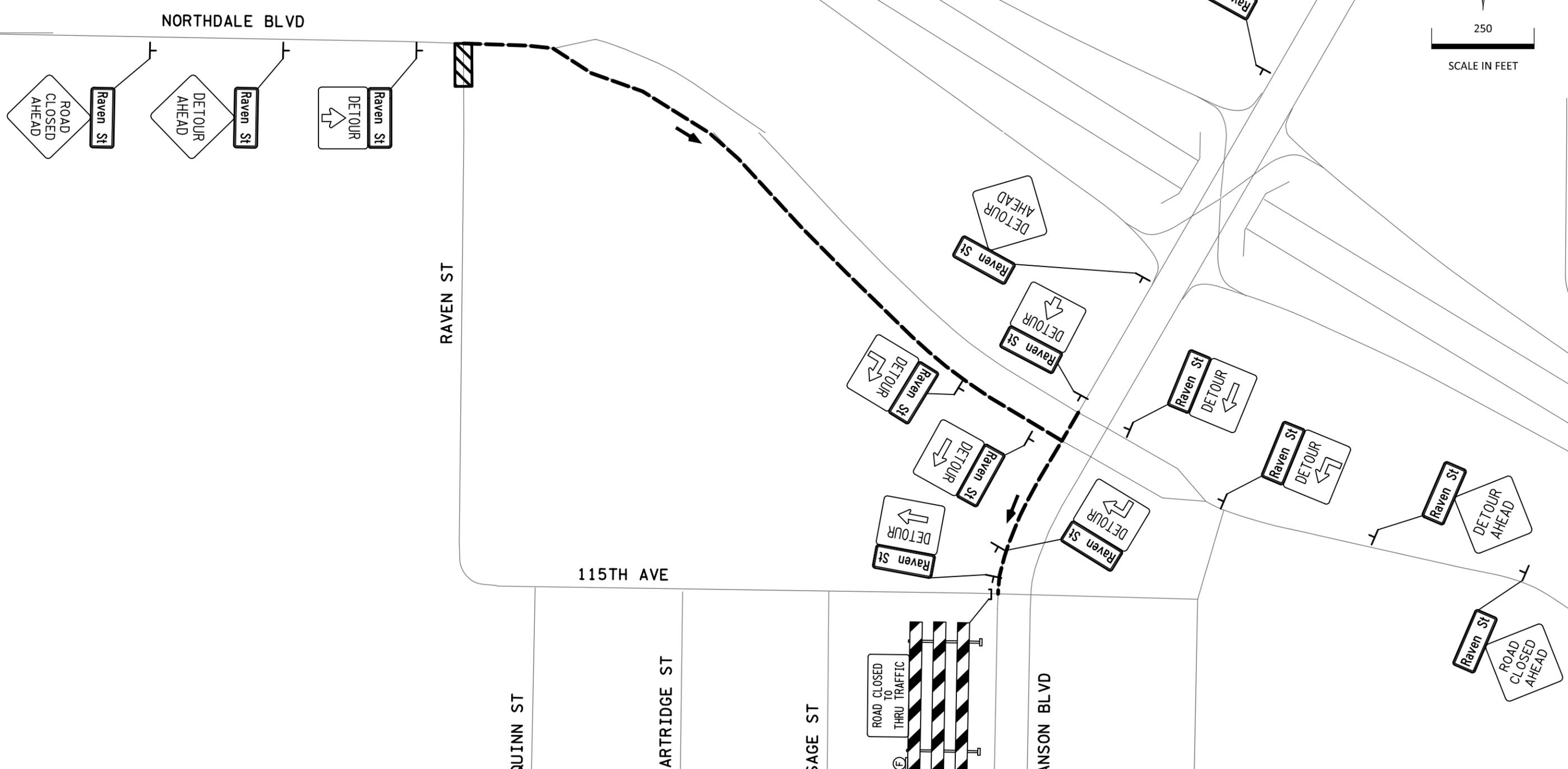
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 CERTIFIED BY: *[Signature]* LIC NO: 56090
 PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025



TRAFFIC CONTROL PLANS
TRAFFIC CONTROL LAYOUTS - STAGE 2

SAP 002-611-042
 SAP 114-020-068

SHEET NO. 22
 TOTAL SHEETS 59



LEGEND

- DETOUR ROUTE
- WORK ZONE

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 CHECKED BY: **BKV**

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 CERTIFIED BY: *[Signature]* LIC NO.: 56090
 LICENSED PROFESSIONAL ENGINEER
 PRINTED NAME: **BRIAN K. VILLA, P.E.** DATE: 12/03/2025



TRAFFIC CONTROL PLANS
DETOUR - STAGE 2

SAP 002-611-042
 SAP 114-020-068

SHEET NO. **23**
 TOTAL SHEETS **59**

SIGNING AND PAVEMENT MARKING PLAN

NOTES & GUIDELINES

GENERAL INFORMATION:

- SEE 2582 IN THE SPECIAL PROVISIONS FOR PAVEMENT MARKING SPOTTING RESPONSIBILITIES.
- EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS, AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY AN AGENCY PLACED YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE MAINLINE RADIUS.
- DO NOT APPLY THE PAVEMENT MARKINGS WHEN WEATHER AND OTHER CONDITIONS CAUSE A FILM OF DUST OR DEBRIS TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL IS APPLIED.
- THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.
- MOUNTING HEIGHT IS MINIMUM (WITH A + 6 INCH TOLERANCE).
- SEE MNDOT STANDARD SIGNS AND MARKINGS MANUAL FOR STANDARD SIGN DESIGNS, SPLICE PLATES, STRINGERS AND PUNCHING CODES.
- SEE PANEL LAYOUTS FOR SIGNS WITH THE CODE "DESIGN".
- SEE STANDARD PLANS AND DETAILS FOR SIGN STRUCTURE INSTALLATION AND PLACEMENT.
- STANDARD SIGN PANELS ARE LISTED IN THE TABULATIONS WITH TWO DIMENSIONS THAT MAY NOT BE THEIR ACTUAL WIDTH OR HEIGHT, BUT INSTEAD ARE LENGTHS OF THEIR SIDES OR DIAMETER. SEE THE MNDOT STANDARD SIGNS AND MARKINGS MANUAL FOR ACTUAL DIMENSIONS OF THESE PANELS BASED UPON THE CORRESPONDING DIMENSIONS FROM THE TABULATIONS.
- SIGNS AND DELINEATOR/MARKER TABULATIONS DISPLAY SIGN PANEL AND SUPPORT INFORMATION FOR NEW SIGNS. SIGNS BEING REMOVED OR SALVAGED MAY NOT INCLUDE PANEL OR SUPPORT INFORMATION IN THE TABULATION.
- PLACE SIGNS AFTER FINAL GRADING IS COMPLETE.
- PLACE NEW REFERENCE LOCATION SIGNS AT THE SAME LOCATION OF THE EXISTING REFERENCE LOCATION SIGNS BEING REPLACED. IF LOCATION CAN NO LONGER BE USED CONTACT ENGINEER ON SITE FOR GUIDANCE ON PLACEMENT.

SIGNING AND PAVEMENT MARKING PLAN INDEX

| | |
|---------|---|
| 24 | SIGNING AND PAVEMENT MARKING TITLE SHEET |
| 25 | TABULATIONS |
| 26 - 29 | SIGNING DETAILS |
| 30 | PAVEMENT MARKING DETAILS |
| 31 - 33 | EXISTING SIGNING AND PAVEMENT MARKING LAYOUTS |
| 34 - 36 | PROPOSED SIGNING AND PAVEMENT MARKING LAYOUTS |

SYMBOLS & MATERIALS LEGEND

X X X PAVEMENT MARKING REMOVAL

--- DOTTED LINE-15' CYCLE (3' LINE, 12' GAP)

- - - BROKEN LINE-50' CYCLE (10' LINE, 40' GAP)

█ CROSSWALK BLOCK

STRIPING KEY

○ CIRCLE-MULTI COMP ◡ OCTAGON-PREF THERMO

1ST DIGIT WIDTH 4", 8", ETC.

2ND DIGIT PATTERN
S - SOLID
B - BROKEN
T - DOTTED
D - DOUBLE SOLID

3RD DIGIT COLOR
W - WHITE
Y - YELLOW

EXAMPLE: = 4" SOLID LINE WHITE PREF THERMO GROUND IN, CONTRAST, WET REFLECTIVE

G=GROUND IN W=WET REFLECTIVE
C=CONTRAST E=ENHANCED SKID RESISTANCE

| PERMANENT SIGNING SUMMARY | | | | | ST |
|---------------------------|---------|---------------------------|-------|------------------------------------|--------------------------|
| TAB | ITEM NO | ITEM | UNIT | SAP 002-611-042 CSAH 11 QUANTITIES | TOTAL SIGNING QUANTITIES |
| ST-A | 2104 | REMOVE SIGN | EACH | 3 | 3 |
| ST-A | 2104 | SALVAGE SIGN | EACH | 2 | 2 |
| ST-A | 2564 | INSTALL SIGN | EACH | 2 | 2 |
| ST-A | 2564 | DELINEATOR / MARKER PANEL | EACH | 2 | 2 |
| ST-A | 2564 | SIGN | SQ FT | 35.25 | 35.25 |

| PERMANENT PAVEMENT MARKING TABULATION | | | | PM |
|---------------------------------------|---|--------|------------------------------------|-----------------------------------|
| ITEM NO | ITEM | UNIT | SAP 002-611-042 CSAH 11 QUANTITIES | TOTAL PAVEMENT MARKING QUANTITIES |
| 2102 | PAVEMENT MARKING REMOVAL | LIN FT | 710 | 710 |
| 2102 | PAVEMENT MARKING REMOVAL | SQ FT | 515 | 515 |
| 2582 | 4" SOLID LINE MULTI-COMPONENT | LIN FT | 4650 | 4650 (1) |
| 2582 | 8" SOLID LINE MULTI-COMPONENT | LIN FT | 300 | 300 (2) |
| 2582 | 4" BROKEN LINE MULTI-COMPONENT | LIN FT | 160 | 160 (2) |
| 2582 | 8" DOTTED LINE MULTI-COMPONENT | LIN FT | 102 | 102 (2) |
| 2582 | 4" DOUBLE SOLID LINE MULTI-COMPONENT | LIN FT | 1400 | 1400 (3) |
| 2582 | 24" SOLID LINE PREFORM THERMO GROUND IN | LIN FT | 225 | 225 (4) |
| 2582 | PAVEMENT MESSAGE PREFORM THERMOPLASTIC | SQ FT | 31 | 31 (2) |
| 2582 | CROSSWALK PREFORM THERMOPLASTIC GROUND IN | SQ FT | 378 | 378 (5) |

- SPECIFIC NOTES:
- 3325 LIN FT WHITE, 1325 LIN FT YELLOW
 - WHITE
 - YELLOW
 - 75 LIN FT WHITE, 150 LIN FT YELLOW
 - 378 SQ FT WHITE (6' X 3' BLOCK)

GENERAL NOTES:
1. LENGTHS ARE APPROXIMATE AND DO NOT INCLUDE GAPS.

SIGNING ABBREVIATIONS

| | |
|---------|-------------------------|
| R | ROUND POST |
| SQ-CONC | SQUARE TUBE ON CONCRETE |
| SQ-SOIL | SQUARE TUBE IN SOIL |
| U | U CHANNEL |

SIGNING LEGEND

| | |
|---|-------------------|
| ⊥ | SIGN |
| ≡ | SIGN BACK TO BACK |

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DESIGNED BY: **MBG**
 DRAWN BY: **MMD**
 CHECKED BY: **BKV**

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 CERTIFIED BY: *[Signature]* LIC NO: 56090
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SIGNING AND PAVEMENT MARKING PLANS
TITLE SHEET

SAP 002-611-042
SAP 114-020-068

SHEET NO. 24
TOTAL SHEETS 59

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| SIGN AND DELINEATOR / MARKER | | | | | | | | | | | | ST-A |
|---------------------------------|------------|---------------------------|--------------|-----------------|---------|-----------------|-----------------|---------------------|---------------|----------------------|----------------------|-----------------------------------|
| SIGN NUMBER | PANEL | | | | SUPPORT | | | REMOVE SIGN EACH | SIGN SQ FT | SALVAGE SIGN EACH | INSTALL SIGN EACH | DELINEATOR / MARKER PANEL EACH |
| | PANEL CODE | LEGEND | SIZE (W x H) | MOUNTING HEIGHT | TYPE | RISER POST SIZE | NUMBER OF POSTS | | | | | |
| | | | INCHES | FEET | | INCHES | | | | | | |
| SAP 002-611-042 (CSAH 11) | | | | | | | | | | | | |
| S-1 | R3-7R | RIGHT TURN LANE | 36 x 36 | | | | | 1 | | | | |
| S-2 | | BUS STOP | 18 x 24 | | | | | | | 1 | | |
| S-3 | | BUS STOP | 18 x 24 | | | | | | | 1 | | |
| S-4 | W1-7 | DOUBLE ARROW (YELLOW) | 48 x 24 | | | | | 1 | | | | |
| | OM1-1 | OBJECT 3 DELINEATOR | 18 x 18 | | | | | | | | | |
| | OM1-1 | OBJECT 3 DELINEATOR | 18 x 18 | | | | | | | | | |
| S-5 | R3-7L | LEFT TURN LANE | 36 x 36 | | | | | 1 | | | | |
| S-6 | R3-7R | RIGHT LANE MUST TURN LEFT | 36 x 36 | 7 | U-SOIL | | 2 | | 9.00 | | | |
| S-7 | | BUS STOP | 18 x 24 | 7 | U-SOIL | | 1 | | | | 1 | |
| S-8 | | BUS STOP | 18 x 24 | 7 | U-SOIL | | 1 | | | | 1 | |
| S-9 | W1-7 | DOUBLE ARROW (YELLOW) | 48 x 24 | 7 | U-SOIL | | 2 | | 8.00 | | | 1 |
| | OM1-1 | OBJECT 3 DELINEATOR | 18 x 18 | 4 | | | | | | | | |
| | OM1-1 | OBJECT 3 DELINEATOR | 18 x 18 | | | | | | | | | |
| S-10 | R3-7L | LEFT LANE MUST TURN LEFT | 36 x 36 | 7 | SQ-CONC | | 2 | 1 | 9.00 | | | 1 |
| S-11 | W9-1L | LEFT LANE ENDS | 30 x 30 | 7 | SQ-CONC | | 2 | 1 | 6.25 | | | |
| | W16-2P | 500 FEET | 24 x 18 | | | | | | 3.00 | | | |
| SAP 002-611-042 (CSAH 11) TOTAL | | | | | | | | 3 | 35.25 | 2 | 2 | 2 |

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DESIGNED BY: MBG
DRAWN BY: MMD
CHECKED BY: BKV

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CERTIFIED BY:  LIC NO: 56090
Licensed Professional Engineer
PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025



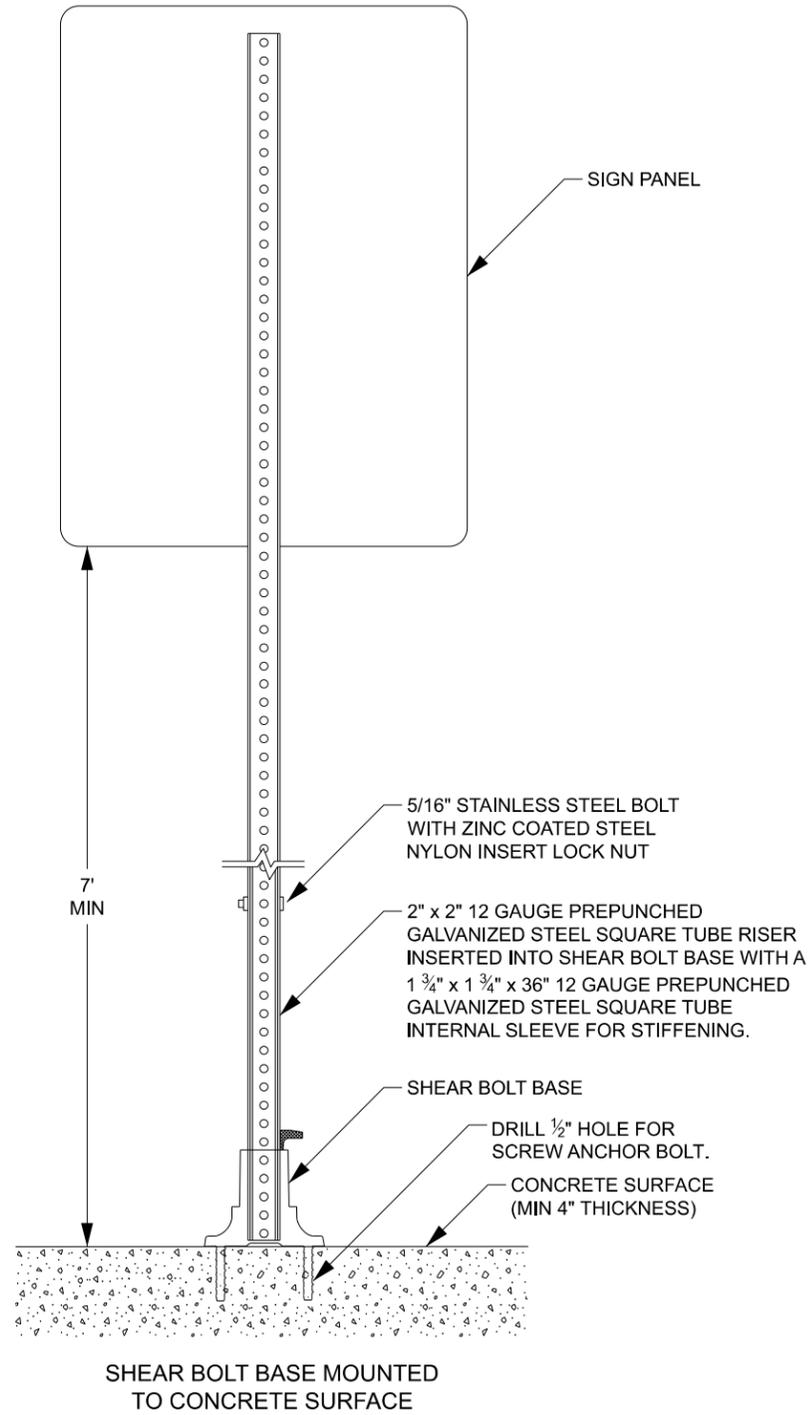
SIGNING AND PAVEMENT MARKING PLANS
TABULATIONS

SAP 002-611-042
SAP 114-020-068

SHEET NO. 25
TOTAL SHEETS 59

SIGN INSTALLATION TYPICALS

**ISLAND MOUNT
SQUARE TUBE SHEAR BOLT BASE
SIGN INSTALLATION TYPICAL**

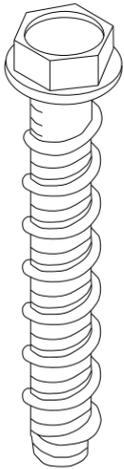


SIGN NOTES:

1. TO MEET CRASHWORTHY REQUIREMENTS THE DISTANCE BETWEEN THE BOTTOM OF THE SIGN PANEL AND THE GROUND SURFACE BELOW ANY PORTION OF THE PRIMARY SIGN PANEL MUST BE A MINIMUM OF 7 FEET. SEE TABULATIONS FOR MOUNTING HEIGHT.
2. INSTALLATION OF SHEAR BOLT BASE MUST BE NO EARLIER THAN 3 DAYS AFTER CONCRETE IS PLACED.
3. FOR SHEAR BOLT BASE USE APPROVED PRODUCT FROM MnDOT APPROVED PRODUCTS LIST. PRODUCT MUST BE MODIFIED AS SHOWN.
4. USE ANTI SEIZE ON THE SHEAR BOLT CONNECTIONS.

INSTALLATION NEAR SHARED-USE PATHWAY (MN MUTCD):

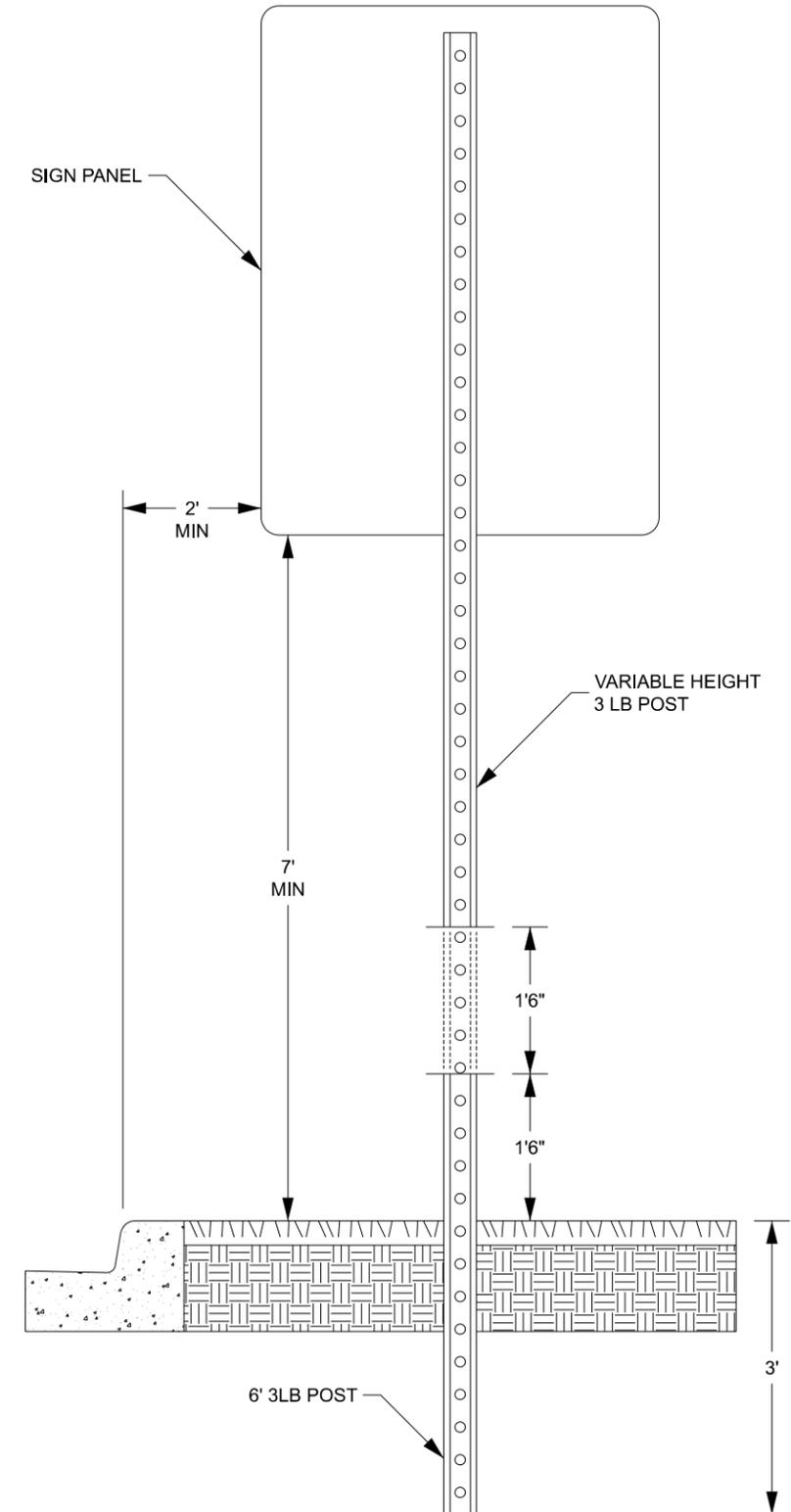
- THE MINIMUM HEIGHT MEASURED VERTICALLY FROM THE SHARED-USE PATHWAY TO THE BOTTOM OF THE SIGN SHALL BE 7 FEET. IF A SECONDARY SIGN IS MOUNTED BELOW THE PRIMARY SIGN AND IS MOUNTED LESS THAN 7 FEET, IT SHALL NOT PROJECT MORE THAN 4 INCHES INTO THE SHARED-USE PATHWAY.



SCREW ANCHOR BOLT

5" LONG CARBON STEEL THAT MUST MEET A MINIMUM ALLOWABLE TENSION LOAD OF 2270 PSI.

**GROUND POST MOUNT
SIGN INSTALLATION TYPICAL**



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| DESIGNED BY: | MBG | <small> 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. CERTIFIED BY: <i>[Signature]</i> LIC NO.: 56090 Licensed Professional Engineer PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025 </small> |
| DRAWN BY: | MMD | |
| CHECKED BY: | BKV | |

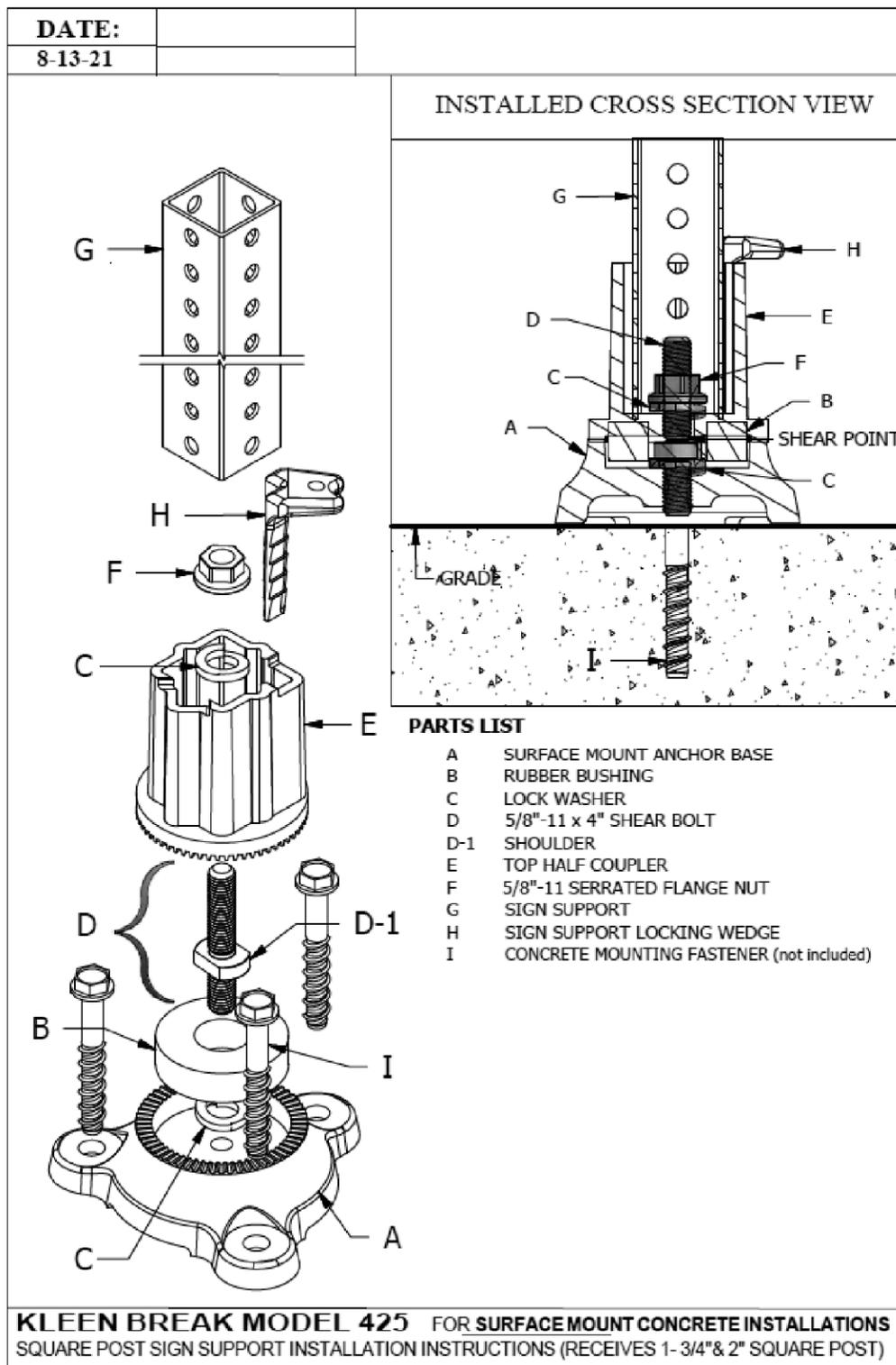


SIGNING AND PAVEMENT MARKING PLANS
SIGNING DETAILS

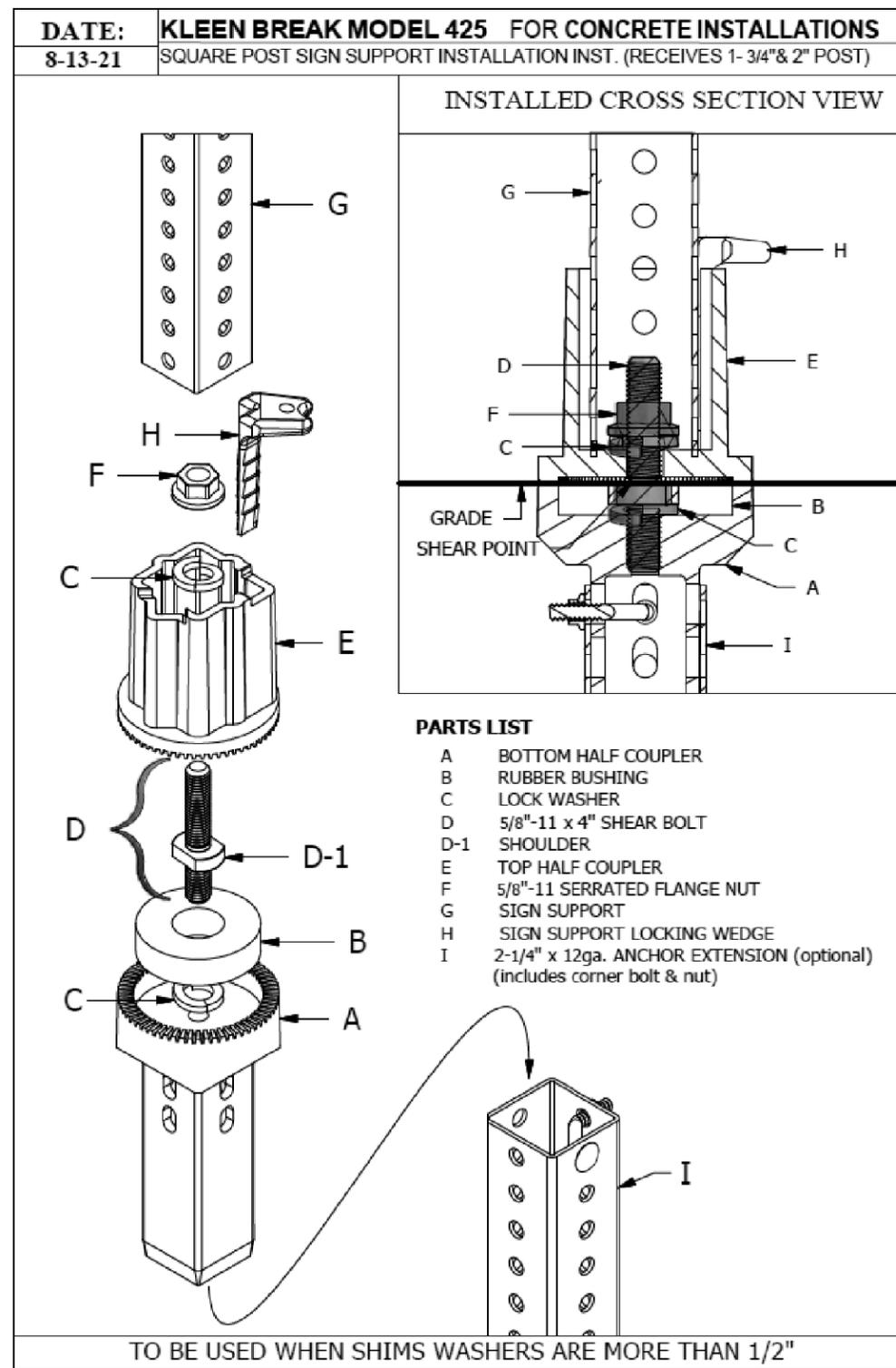
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SAP 114-020-068

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| SHEET NO. | 26 |
| TOTAL SHEETS | 59 |

MEDIAN SIGN INSTALLATION ONLY



MEDIAN SIGN INSTALLATION ONLY



NOTE: SHOULDER SIGNS AND OR SIGNS IN NON-BITUMINOUS OR CONCRETE AREA WILL BE INSTALLED WITH 3 POUND "U" CHANNEL POSTS

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| DRAWN BY: MMD | |
| CHECKED BY: BKV | |

Kimley»Horn

787 EUSTIS ST. SUITE 100
 SAINT PAUL, MINNESOTA 55114
 Ph: 651-645-4197 www.kimley-horn.com

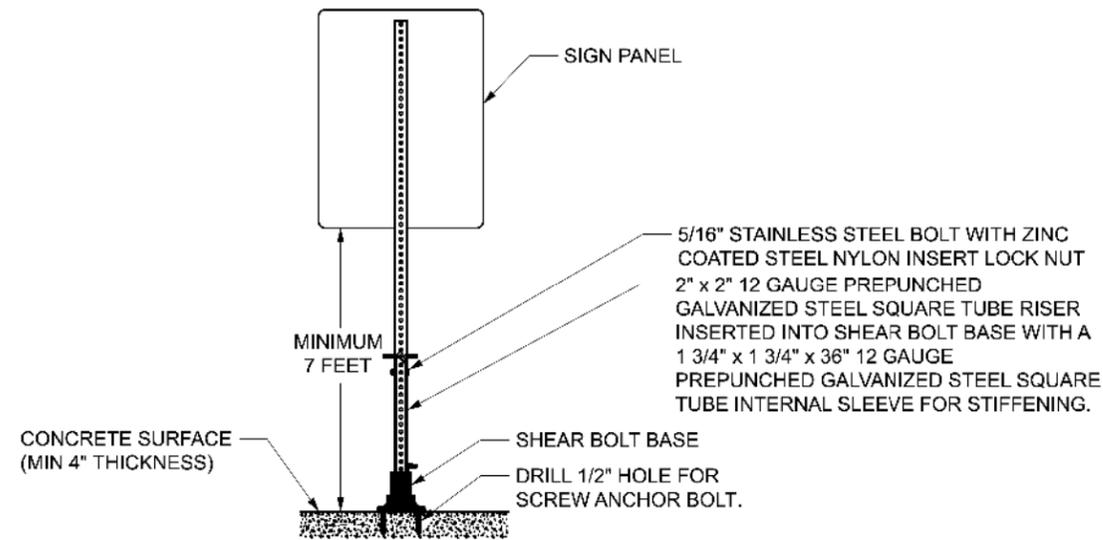
SIGNING AND PAVEMENT MARKING PLANS
SIGNING DETAILS

SAP 002-611-042
SAP 114-020-068

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| SHEET NO. 27 | TOTAL SHEETS 59 |
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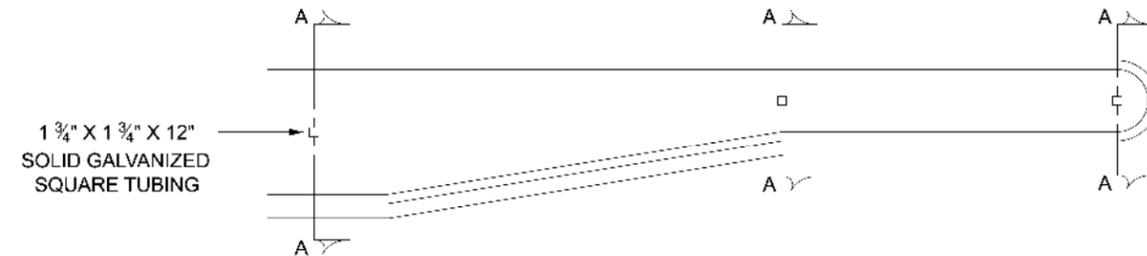
SIGN INSTALLATION TYPICALS

SHEAR BOLT BASE MOUNTED TO CONCRETE SURFACE

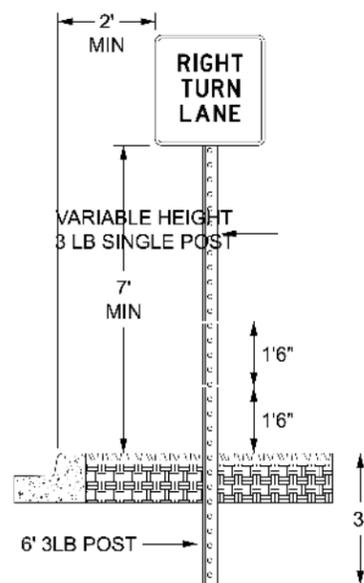


RISER POSTS TO BE MOUNTED CLOSE TO PLUMB. UP TO A MAXIMUM OF 1/2\"/>

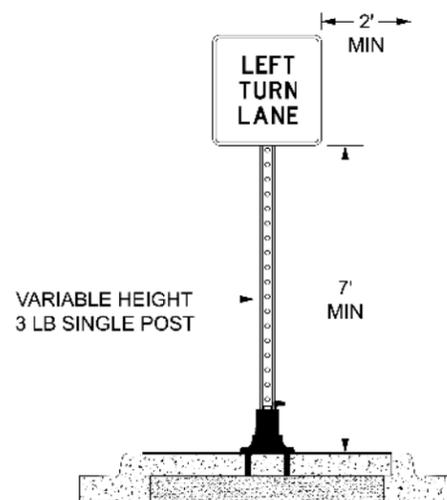
SECTION A-A



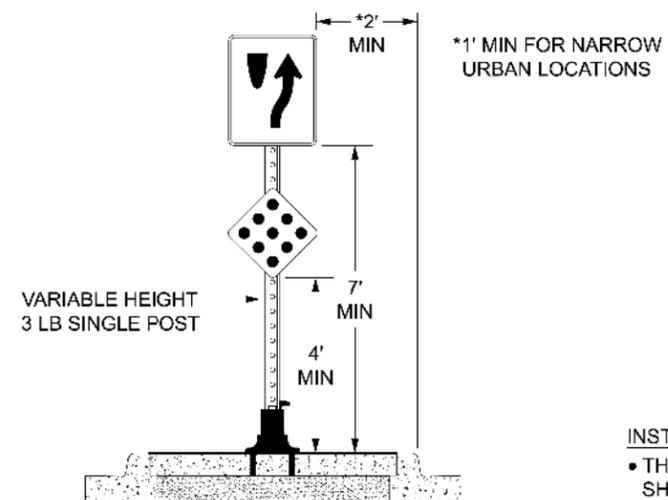
GROUND POST MOUNT SIGN INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN INSTALLATION TYPICAL



ISLAND MOUNT BREAK-AWAY SIGN INSTALLATION KEEP RIGHT/CLUSTER TYPICAL



INSTALLATION NEAR SHARED-USE PATHWAY (MN MUTCD):
 • THE MINIMUM HEIGHT MEASURED VERTICALLY FROM THE SHARED-USE PATHWAY TO THE BOTTOM OF THE SIGN SHALL BE 7 FEET. IF A SECONDARY SIGN IS MOUNTED BELOW THE PRIMARY SIGN AND IS MOUNTED LESS THAN 7 FEET, IT SHALL NOT PROJECT MORE THAN 4 INCHES INTO THE SHARED-USE PATHWAY.

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| DESIGNED BY: MBG | 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. CERTIFIED BY: <i>[Signature]</i> LIC NO: 56090 Licensed Professional Engineer PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025 |
| DRAWN BY: MMD | |
| CHECKED BY: BKV | |

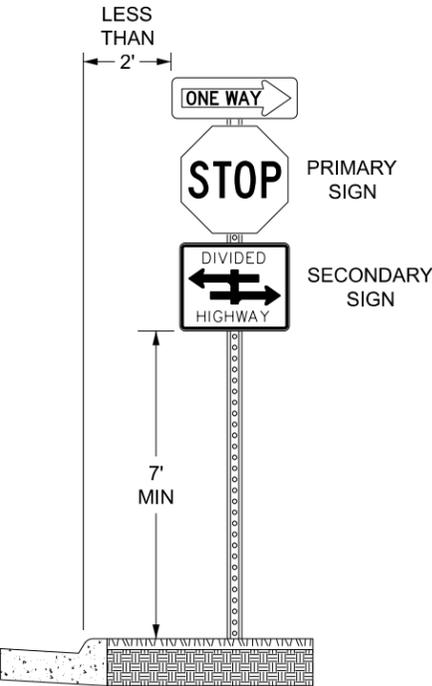
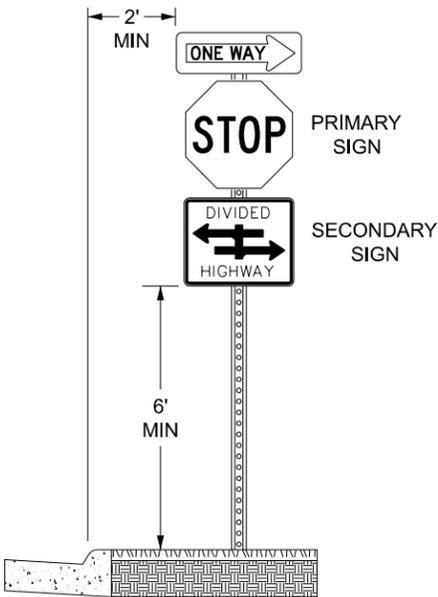
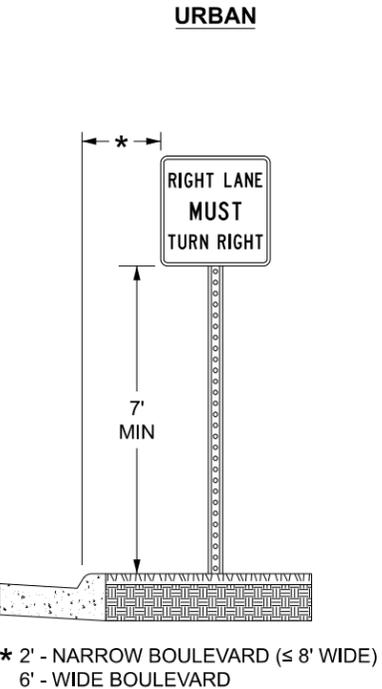
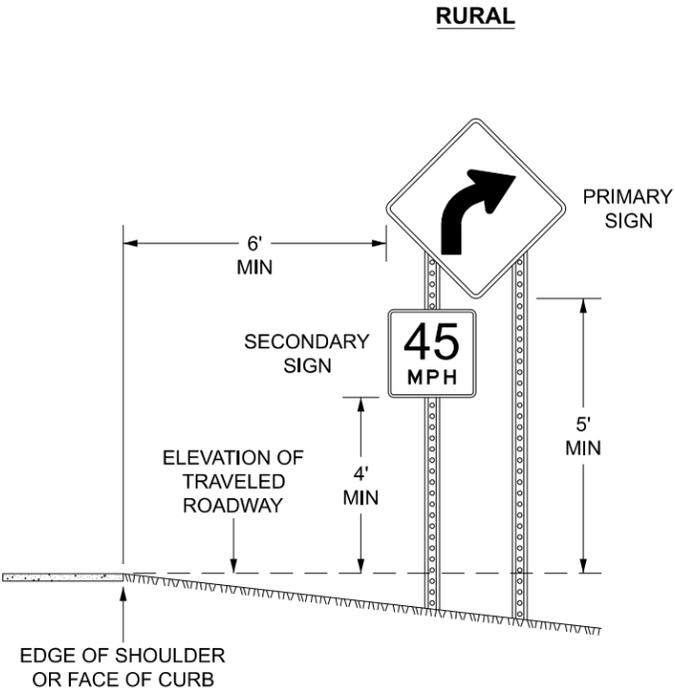
Kimley»Horn
 787 EUSTIS ST. SUITE 100
 SAINT PAUL, MINNESOTA 55114
 Ph: 651-645-4197 www.kimley-horn.com

SIGNING AND PAVEMENT MARKING PLANS
 SIGNING DETAILS

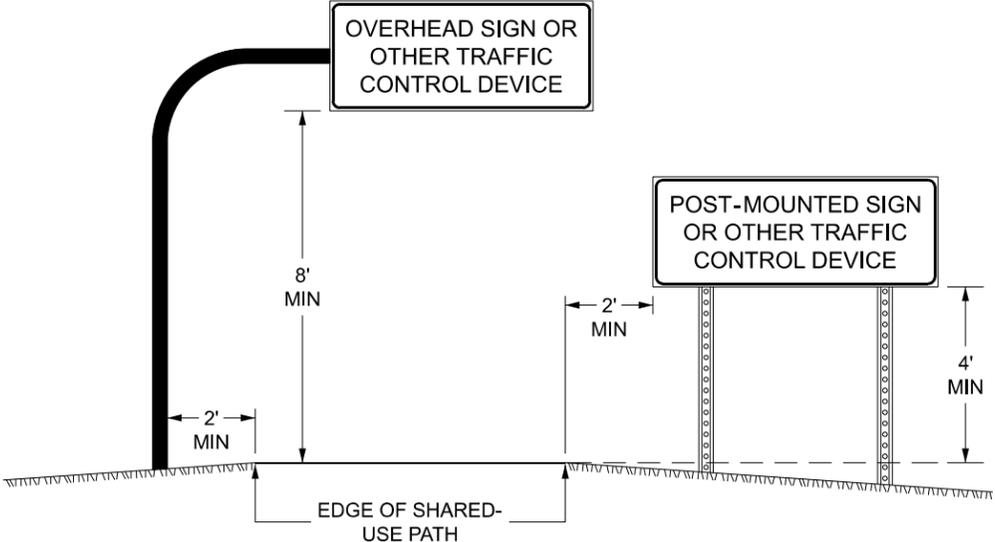
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 SAP 114-020-068

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| SHEET NO. | 28 |
| TOTAL SHEETS | 59 |

SIGN PLACEMENT TYPICALS



SHARED-USE PATH



- NOTES:**
- ALL DIMENSIONS ARE MINIMUMS.
 - MAINTAIN A DISTANCE OF 2' BETWEEN TRAFFIC CONTROL DEVICE AND SHARED-USE PATH.
 - 7' SIGN CLEARANCE IF 2' DISTANCE BETWEEN SIGN AND SHARED-USE PATH CANNOT BE MAINTAINED.

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 PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025



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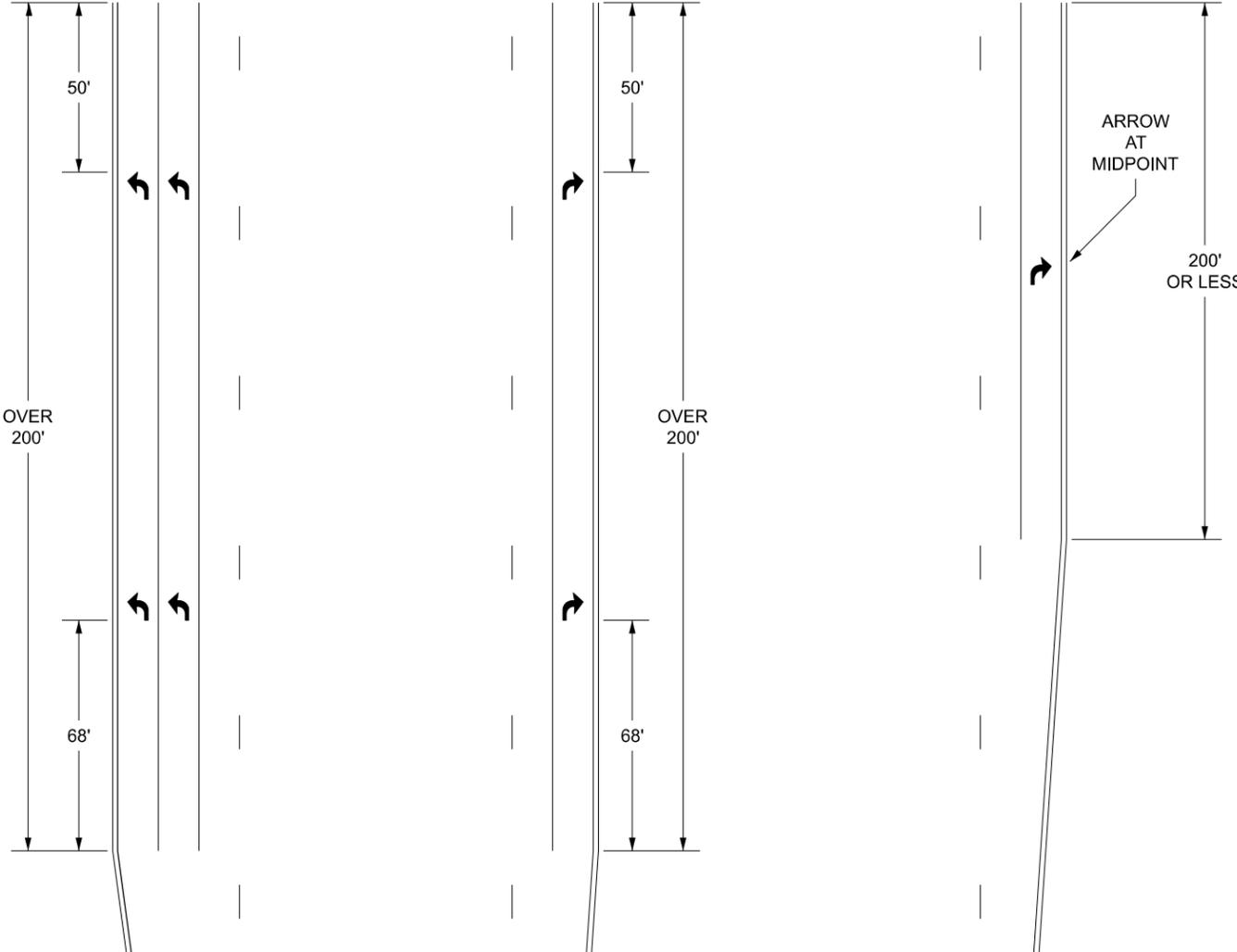
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SHEET NO. 29
 TOTAL SHEETS 59

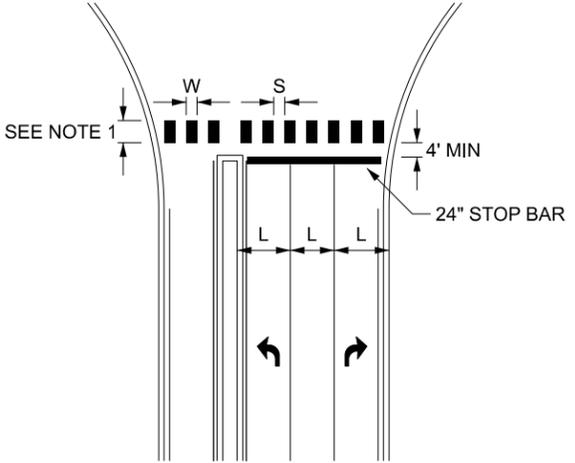
PAVEMENT MARKING TYPICALS

TURN LANE ARROW PLACEMENT

ARROWS ARE ONLY PLACED AT SIGNALS OR WHEN LANE DESIGNATION SIGNS ARE PRESENT

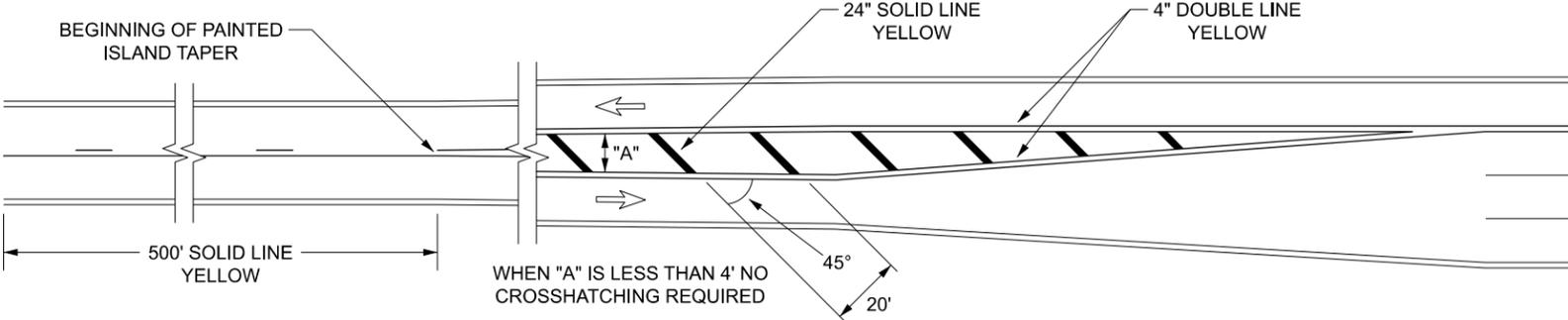


PEDESTRIAN CROSSWALK



| (L) WIDTH OF INSIDE LANE | (W) WIDTH OF PAINTED AREAS | (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' |

LEFT TURN ISLAND MARKINGS



CROSSWALK NOTES:

1. THE BLOCKS SHALL BE A MINIMUM OF 6' AND AT LEAST AS LONG AS THE TRUNCATED DOMES. FOR FANNED TRUNCATED DOMES THE BLOCKS SHALL BE AT LEAST AS LONG AS THE APPROACHING SIDEWALK OR SHARED-USE PATH.
2. BLOCKS TO BE CENTERED ON CENTERLINE AND LANE LINES.
3. A MINIMUM OF 1.5' CLEAR DISTANCE SHALL BE LEFT ADJACENT TO THE CURB FACE, IF BLOCK FALLS INTO THIS DISTANCE IT MUST BE OMITTED.
4. ON TWO LANE TWO WAY STREETS, USE SPACING SHOWN FOR AN 11' INSIDE LANE.
5. 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.
6. AT SKEWED CROSSWALKS, THE BLOCKS ARE TO REMAIN PARALLEL TO THE LANE LINES.
7. THE BLOCKS SHALL BE PLACED SO THAT THEY ARE NOT LOCATED IN THE WHEEL PATH OF THE VEHICLES.
8. LOCATION OF CROSSWALK BLOCKS, STOP BARS, SIGNAL LOOPS AND PEDESTRIAN RAMPS ARE APPROXIMATE. FINAL LOCATIONS TO BE DETERMINED AND FIELD VERIFIED DURING CONSTRUCTION BY THE FIELD ENGINEER.

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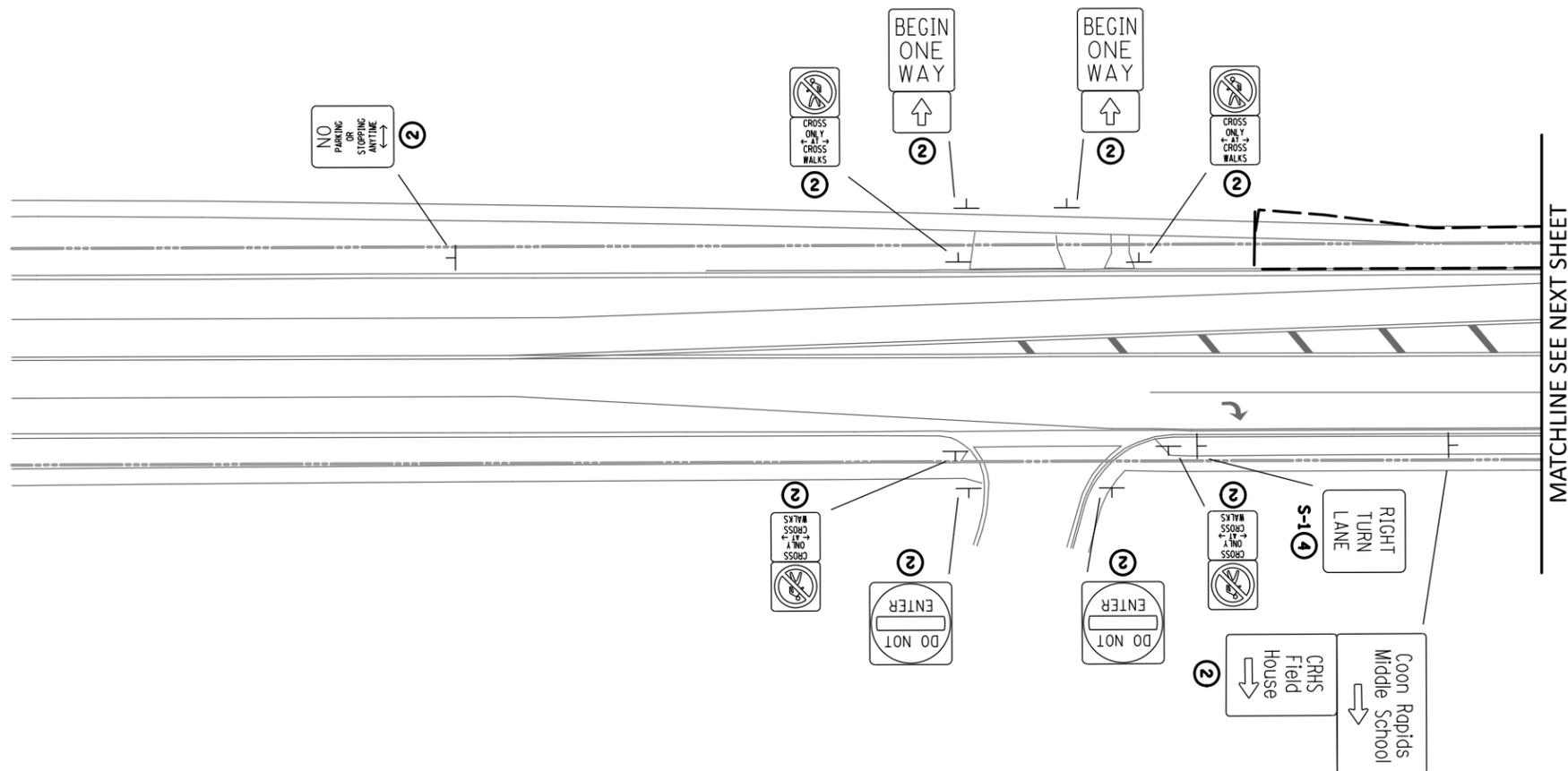
SIGNING AND PAVEMENT MARKING PLANS
 PAVEMENT MARKING DETAILS

SAP 002-611-042
 SAP 114-020-068

SHEET NO. 30
 TOTAL SHEETS 59

SPECIFIC NOTES:

- ② INPLACE
- ④ REMOVE



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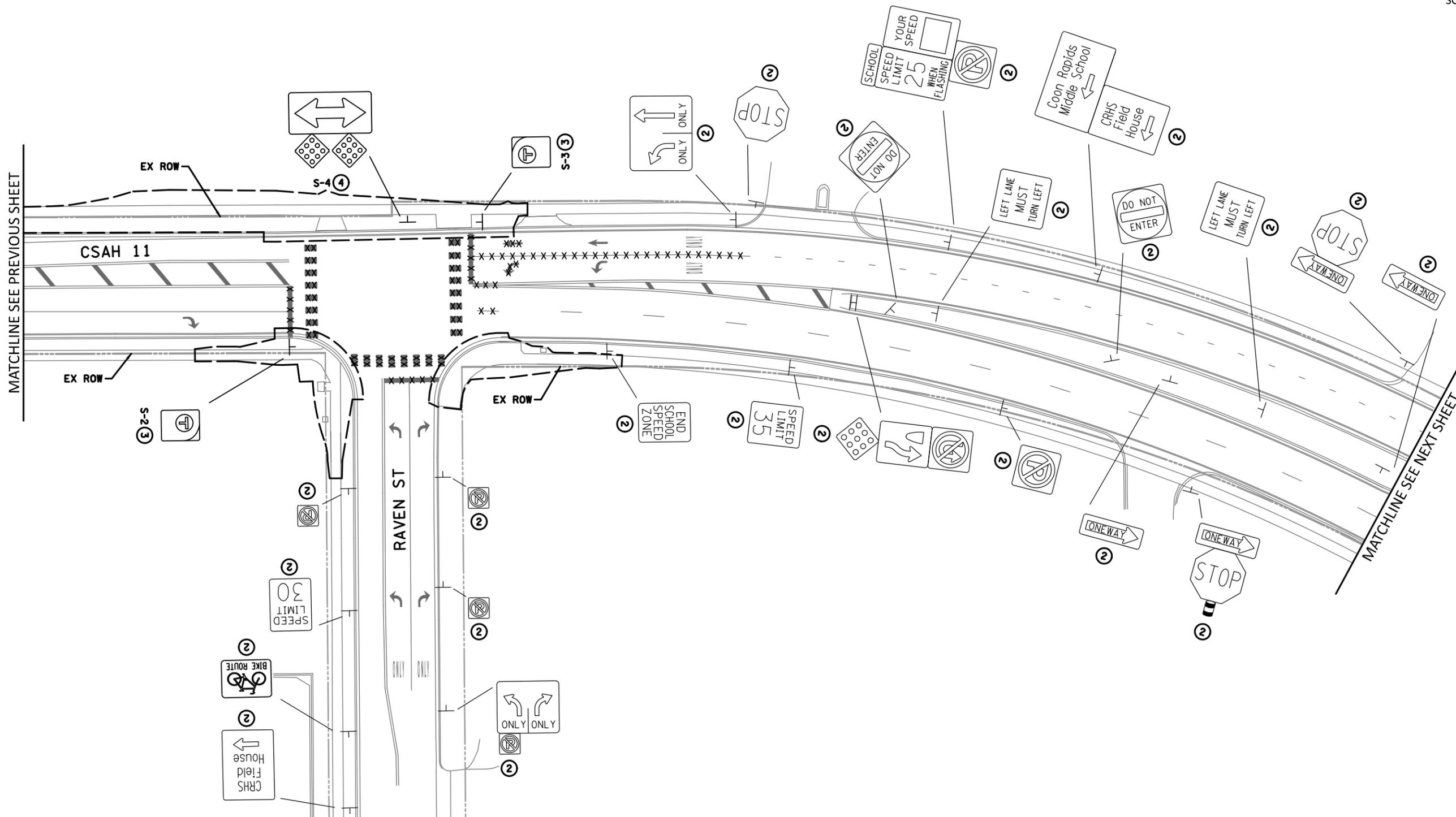
SIGNING AND PAVEMENT MARKING PLANS
EXISTING SIGNING AND PAVEMENT MARKING

SAP 002-611-042
 SAP 114-020-068

| | |
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| SHEET NO. | 31 |
| TOTAL SHEETS | 59 |

SPECIFIC NOTES:

- ② INPLACE
- ③ SALVAGE
- ④ REMOVE



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DESIGNED BY: MBG
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 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.
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SIGNING AND PAVEMENT MARKING PLANS
EXISTING SIGNING AND PAVEMENT MARKING

SAP 002-611-042
 SAP 114-020-068

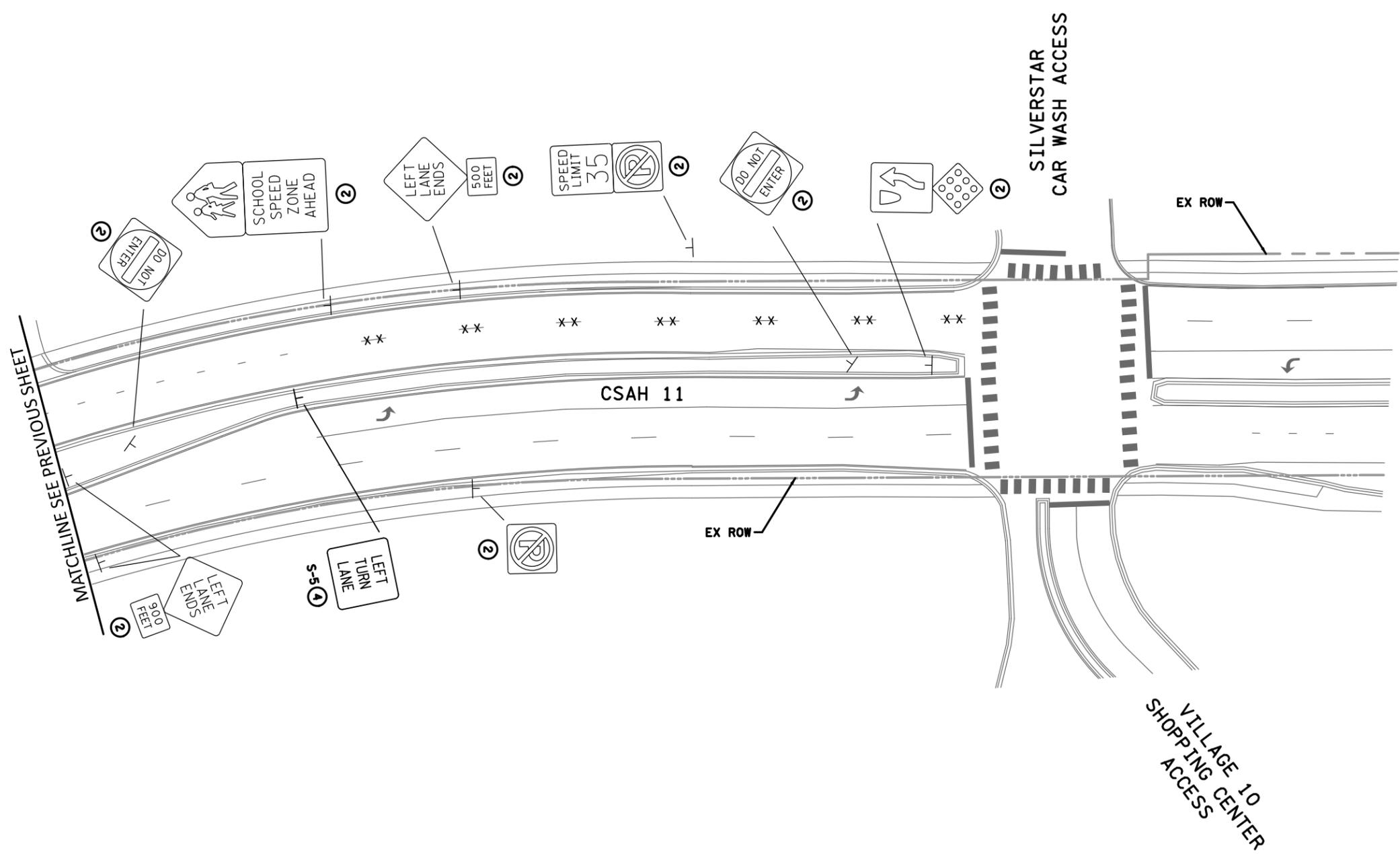
SHEET NO. 32
 TOTAL SHEETS 59

SPECIFIC NOTES:

- ② INPLACE
- ④ REMOVE



50
SCALE IN FEET



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 DRAWN BY: **MMD**
 CHECKED BY: **BKV**

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CERTIFIED BY: *[Signature]* LIC NO: 56090
 PRINTED NAME: **BRIAN K. VILLA, P.E.** DATE: 12/03/2025



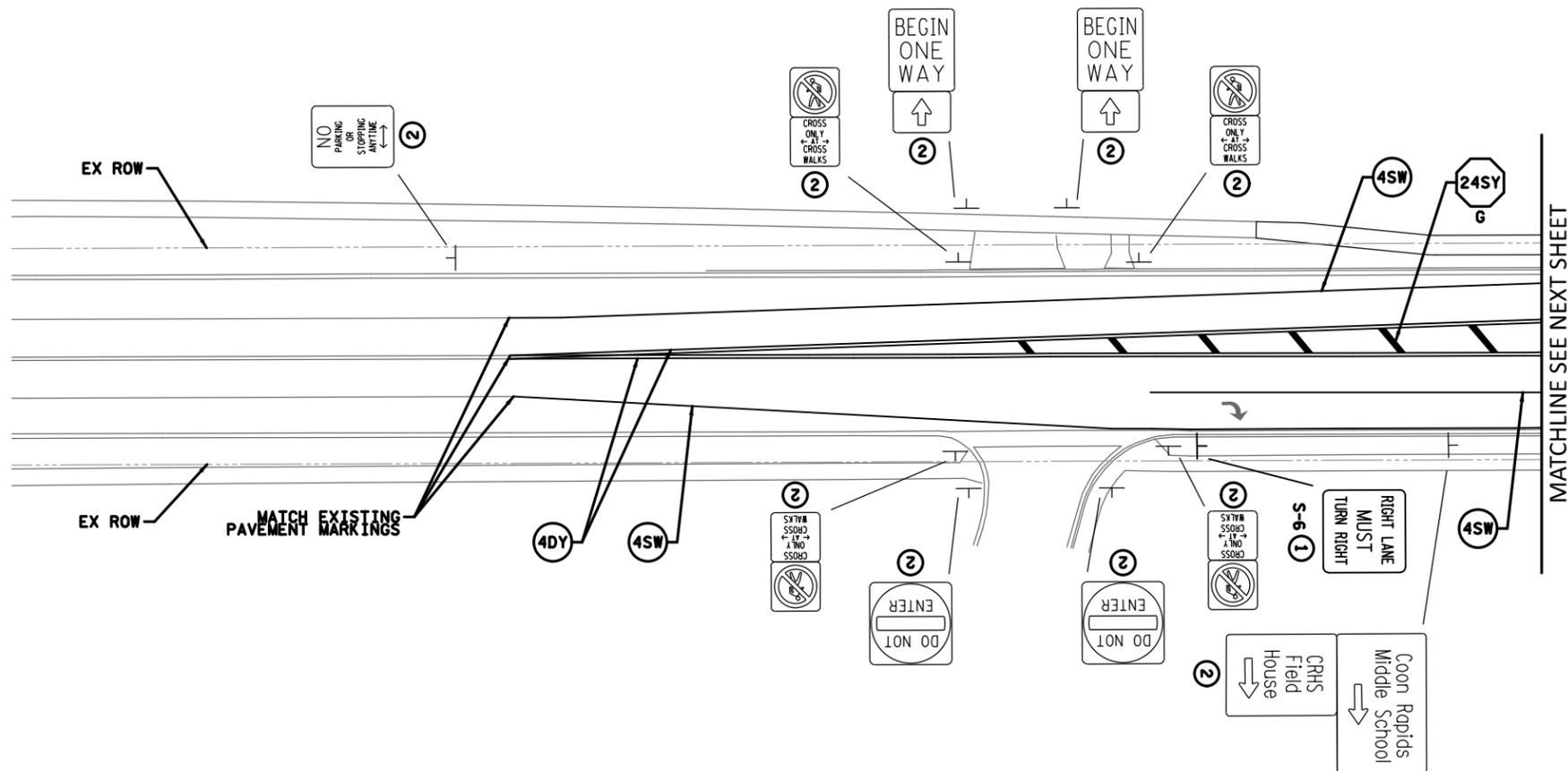
SIGNING AND PAVEMENT MARKING PLANS
EXISTING SIGNING AND PAVEMENT MARKING

SAP 002-611-042
 SAP 114-020-068

SHEET NO. 33
 TOTAL SHEETS 59

SPECIFIC NOTES:

- ① F. & I.
- ② INPLACE



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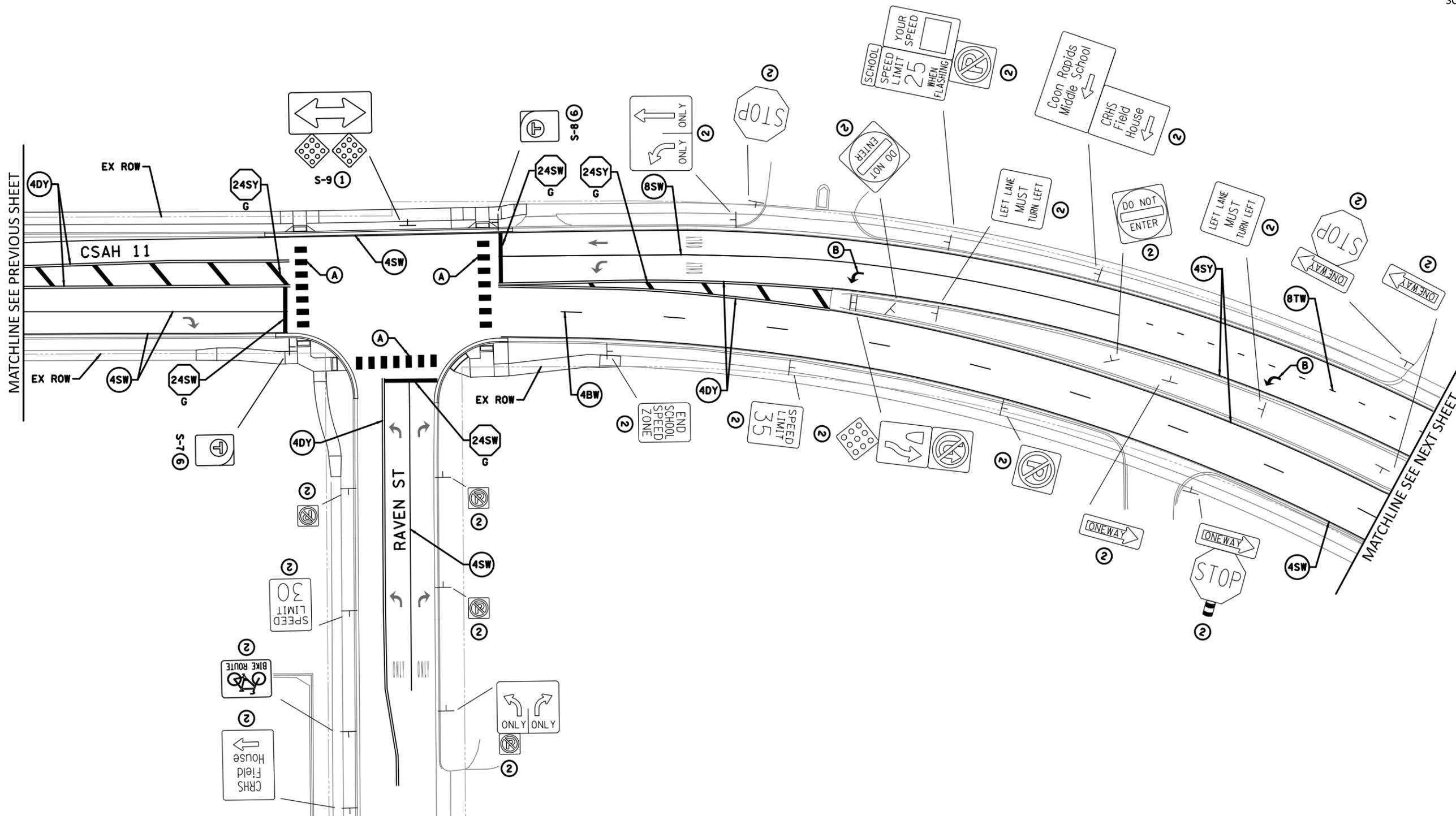
SIGNING AND PAVEMENT MARKING PLANS
PROPOSED SIGNING AND PAVEMENT MARKING

SAP 002-611-042
 SAP 114-020-068

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| SHEET NO. | 34 |
| TOTAL SHEETS | 59 |

SPECIFIC NOTES:

- ① F. & I.
- ② INPLACE
- ⑥ INSTALL
- A CROSSWALK (6' x 3') PREFORM THERMOPLASTIC GROUND IN
- B PAVEMENT MESSAGE (LEFT ARROW) PREFORM THERMOPLASTIC



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 CHECKED BY: BKV

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 PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025



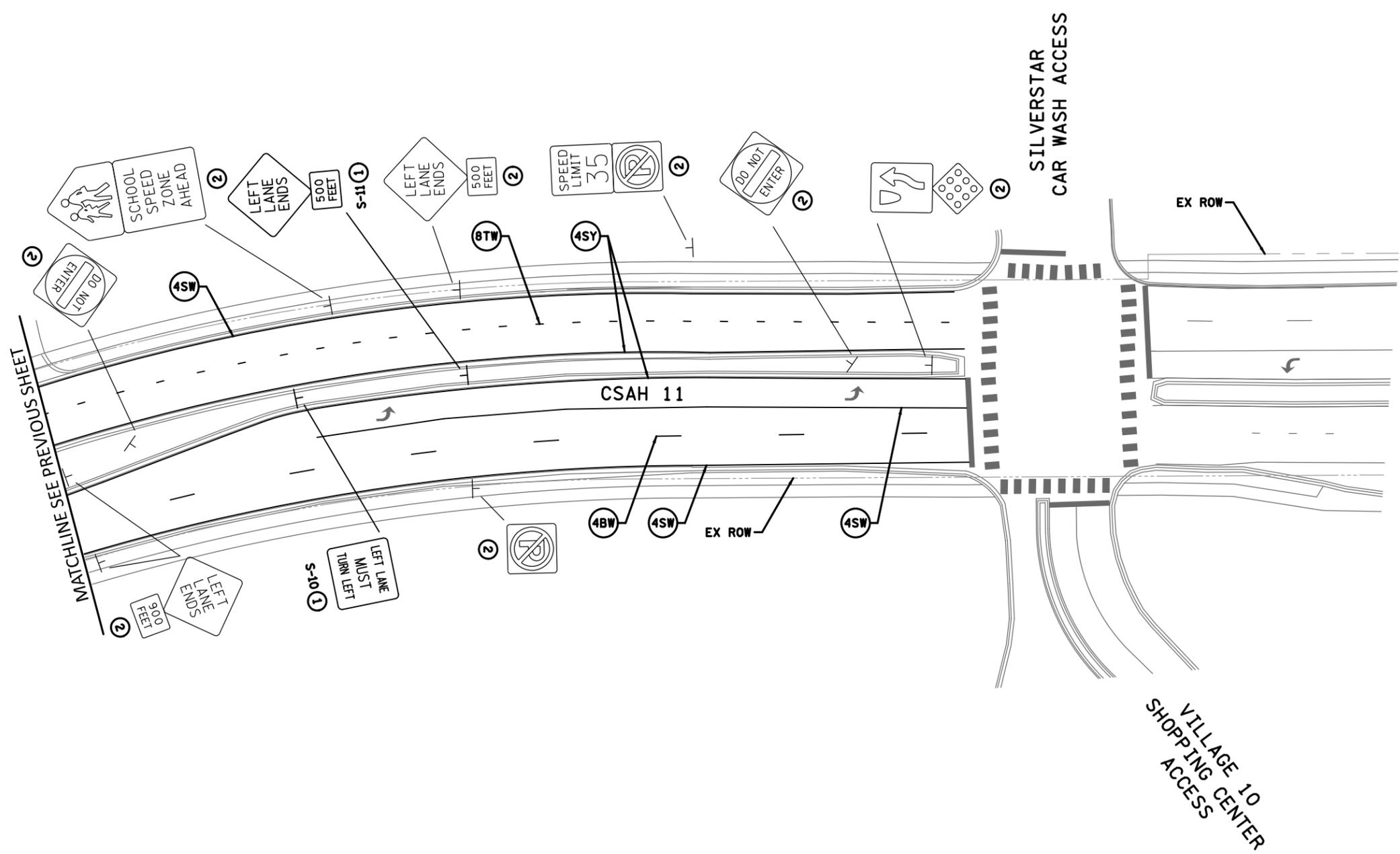
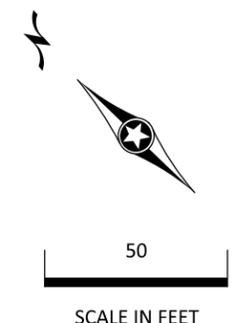
SIGNING AND PAVEMENT MARKING PLANS
 PROPOSED SIGNING AND PAVEMENT MARKING

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 SAP 114-020-068

SHEET NO. 35
 TOTAL SHEETS 59

SPECIFIC NOTES:

- ① F. & I.
- ② INPLACE



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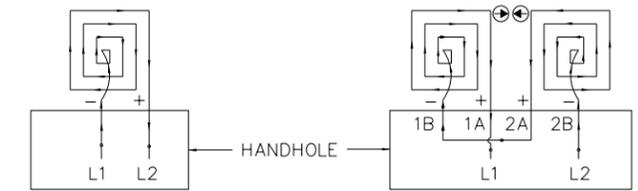
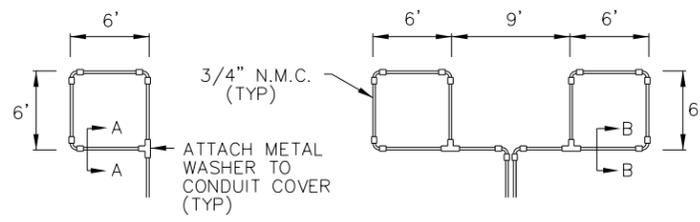
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SIGNING AND PAVEMENT MARKING PLANS
PROPOSED SIGNING AND PAVEMENT MARKING

SAP 002-611-042
 SAP 114-020-068

SHEET NO. 36
 TOTAL SHEETS 59

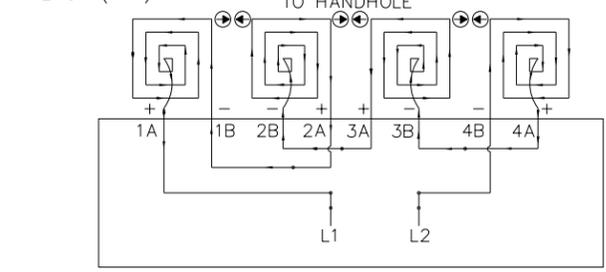
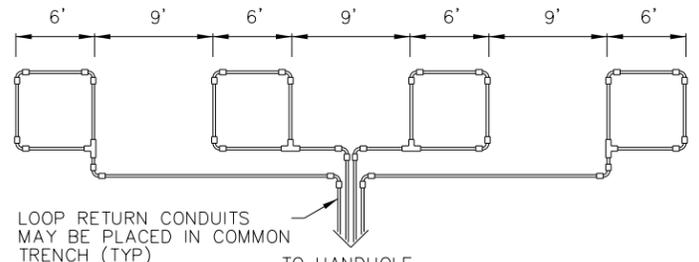


LOOP DETECTOR
DETAIL 'A'
(LOOP PHASING FOR
SINGLE CONNECTION)

LOOP CONNECTIONS SHALL BE
LABELED AND SPLICED IN THE
HANDHOLE AS FOLLOWS:

- L1 TO 1A
- 1B TO 2A
- 2B TO L2

LOOP DETECTOR
DETAIL 'B'
(LOOP PHASING FOR
SERIES CONNECTION)

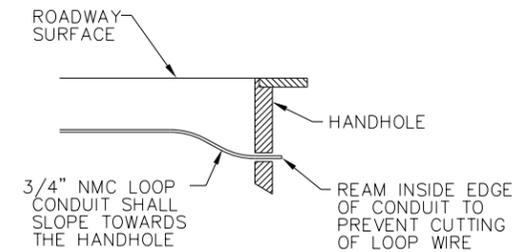
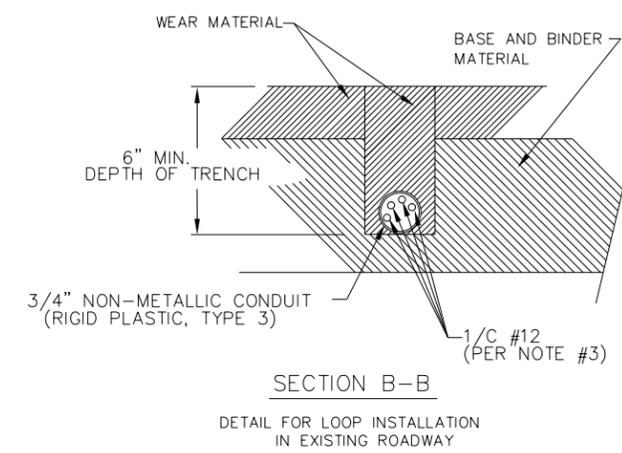
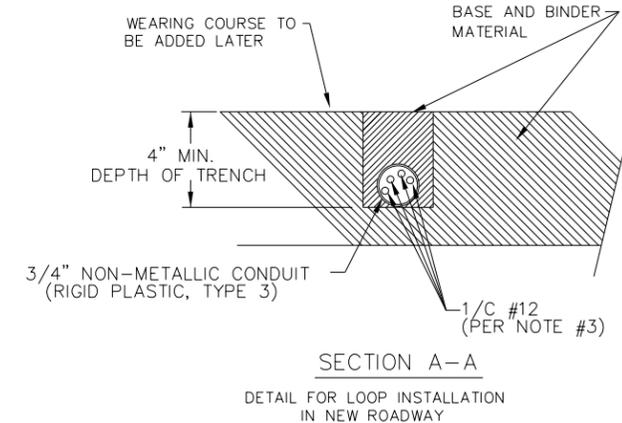


LOOP CONNECTIONS SHALL BE LABELED AND SPLICED
IN THE HANDHOLE AS FOLLOWS:

- L1 TO 1A
- 1B TO 2A
- 2B TO 3A
- 3B TO 4A
- 4B TO L2

SPLICE CONTROL CABLE TO L1 & L2 IN HANDHOLE.
ALL CONDUCTORS SHALL BE TAGGED IN HANDHOLE
(1A, 1B, ECT)

LOOP DETECTOR
DETAIL 'C'
(LOOP PHASING FOR
SERIES CONNECTION)



LOOP DETECTOR WIRING

- 1) ALL CORNERS SHALL BE 90° CONDUIT BENDS.
- 2) CONNECT WIRES IN HANDHOLES USING SPLICE KIT METHOD DESCRIBED IN THE SPECIAL PROVISIONS.
- 3) LOOP DETECTOR WIRES SHALL BE #12 AWG CROSSED LINKED POLYETHYLENE (XLP). SEE SPECIAL PROVISIONS.
- 4) LOOP LEAD IN WIRES SHALL BE TWISTED A MIN. OF (5) TURNS PER FOOT THROUGH THE CONDUIT TO THE HANDHOLE.
- 5) NMC DESIGNATES NON-METALLIC CONDUIT (SPEC. 3803)
- 6) LOOPS 6' x 6' THRU 6' x 14' SHALL HAVE (4) TURNS.
- 7) LOOPS 6' x 15' AND LARGER SHALL HAVE (2) TURNS.

LEGEND OF SYMBOLS

| | |
|---|------|
| CONTROLLER AND SERVICE EQUIP. NO.'s | (A) |
| SIGNAL BASE NO. | (B) |
| SIGNAL FACE NO. | (C) |
| LUMINAIRE NO. | (D) |
| CONTROLLER AND CABINET | (E) |
| CONTROLLER AND CABINET IN PLACE | (F) |
| HANDHOLE | (G) |
| HANDHOLE - IN PLACE | (H) |
| RIGID STEEL CONDUIT (RSC) | (I) |
| RIGID STEEL CONDUIT (RSC) IN PLACE | (J) |
| SIGNAL FACE WITH BACKGROUND SHIELD | (K) |
| SIGNAL FACE W/O BACKGROUND SHIELD | (L) |
| SIGNAL FACE - IN PLACE | (M) |
| PEDESTRIAN INDICATORS | (N) |
| PEDESTRIAN INDICATORS - IN PLACE | (O) |
| PEDESTRIAN PUSH BUTTONS ON PEDESTAL OR POLE | (P) |
| PEDESTRIAN PUSH BUTTON STATION | (Q) |
| TRAFFIC SIGNAL PEDESTAL | (R) |
| TRAFFIC SIGNAL PEDESTAL - IN PLACE | (S) |
| TRAFFIC SIGNAL POLE AND MAST ARM | (T) |
| TRAFFIC SIGNAL POLE AND MAST ARM - IN PLACE | (U) |
| STREET LIGHT POLE AND LUMINAIRE | (V) |
| STREET LIGHT POLE AND LUMINAIRE - IN PLACE | (W) |
| MAST ARM AND LUMINAIRE | (X) |
| MAST ARM AND LUMINAIRE IN PLACE | (Y) |
| WOOD POLE | (Z) |
| WOOD POLE - IN PLACE | (AA) |
| SOURCE OF POWER | (AB) |
| RAILROAD SIGNAL - IN PLACE | (AC) |
| RIGHT OF WAY LINE | (AD) |
| CENTERLINE | (AE) |
| EDGE OF ROADWAY | (AF) |
| SHOULDERLINE | (AG) |
| CURB LINE | (AH) |
| SOP BAR | (AI) |
| EMERGENCY VEHICLE PREEMPTION DETECTOR | (AJ) |

ABBREVIATIONS

| | | | |
|-----------|------------------------------|------------|------------------------------------|
| S-1 (FG) | SIGNAL - PHASE "S" - NO. "1" | P2-1 (FG) | PHI INDICATION PHASE "2" - NO. "1" |
| BR OR. | BARE GROUND | PS | PUSH-BUTTON |
| CH. SW. | CHECK SWITCH | P22-1 (EG) | PUSH-BUTTON PHASE "2" NO. "1" |
| CLR | CLEAR | PEC | PHOTO-ELECTRIC CONTROL |
| D2-1 (EG) | DETECTOR PHASE "2" - NO. "1" | PID | PEDESTRIAN |
| DWK | DOWN WALK | R | REMOVE |
| ECC | EQUIPMENT GROUND | R&S | REMOVE AND SALVAGE |
| LVP | EMERGENCY VEHICLE PREEMPTION | RLTA | RED LEFT TURN ARROW |
| F&I | FURNISH AND INSTALL | RRTA | RED RIGHT TURN ARROW |
| FL | FLASH/FLASHING | RSC | RIGID STEEL CONDUIT |
| G | GREEN | SOP | SOURCE OF POWER |
| CLTA | GREEN LEFT TURN ARROW | SPR | SPARE |
| GRN | GREEN | ST. L. T. | STREET LIGHT |
| GR. R | GREEN RIGHT TURN ARROW | SIA | SIGNAL INDICATOR |
| GRTA | GREEN RIGHT TURN ARROW | SW | SWITCH |
| GRTHRU | GREEN THRU ARROW | SWJ | SWITCHED |
| H | HAND-OPERATED | S&R | SALVAGE AND REINSTALL |
| HPS | HIGH PRESSURE SODIUM | TOW | TELEPHONE DROP WIRE |
| J.B. | JUNCTION BOX | WALK | WALK |
| LUM | LUMINAIRE | YEL | YELLOW |
| NEL | NEUTRAL | YLT | YELLOW LEFT TURN ARROW |
| NVC | NON-VOLATILE CONDUIT | YRTA | YELLOW RIGHT TURN ARROW |
| | | YTHA | YELLOW THRU ARROW |

SIGNAL SYSTEM TABULATION

| DESCRIPTION | UNIT | SS | TOTAL QUANTITY |
|---------------------------------------|----------|----|----------------|
| REMOVE SIGNAL SYSTEM A | EACH | | 1 |
| SERVICE CABINET | EACH | | 1 |
| CCTV ASSEMBLY | EACH | | 1 |
| EMERGENCY VEHICLE PREEMPTION SYSTEM A | LUMP SUM | | 1 |
| TRAFFIC CONTROL INTERCONNECT SYSTEM A | LUMP SUM | | 1 |
| TRAFFIC CONTROL SIGNAL SYSTEM A | SYSTEM | | 1 |

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| DRAWN BY: | MMD | |
| CHECKED BY: | BKV | |

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787 EUSTIS ST. SUITE 100
SANT PAUL, MINNESOTA 55114
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Anoka County

TRAFFIC SIGNAL PLANS
LEGEND / ABBREVIATIONS / LOOP
DETECTOR DETAIL

SAP 002-611-042
SAP 114-020-068

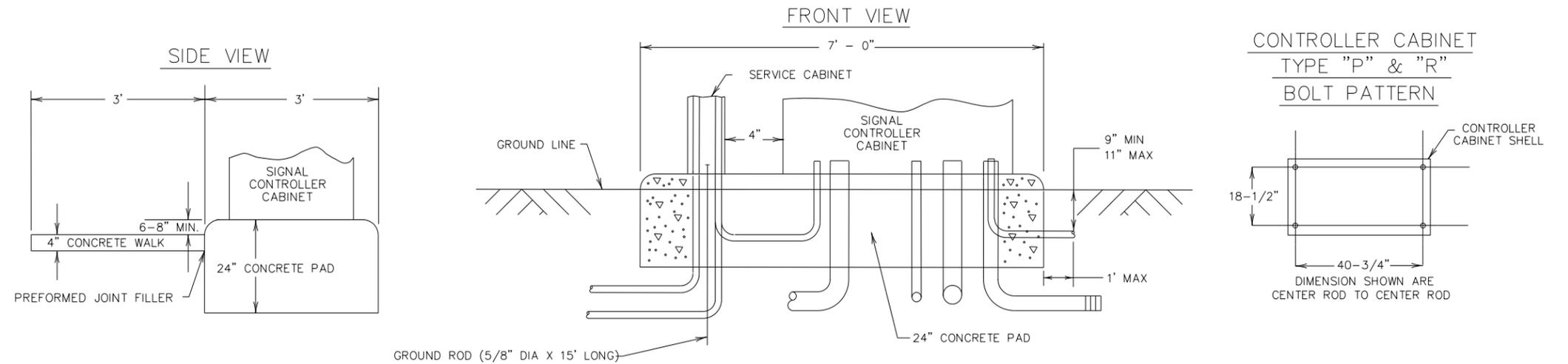
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| SHEET NO. | 37 |
| TOTAL SHEETS | 59 |

TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET

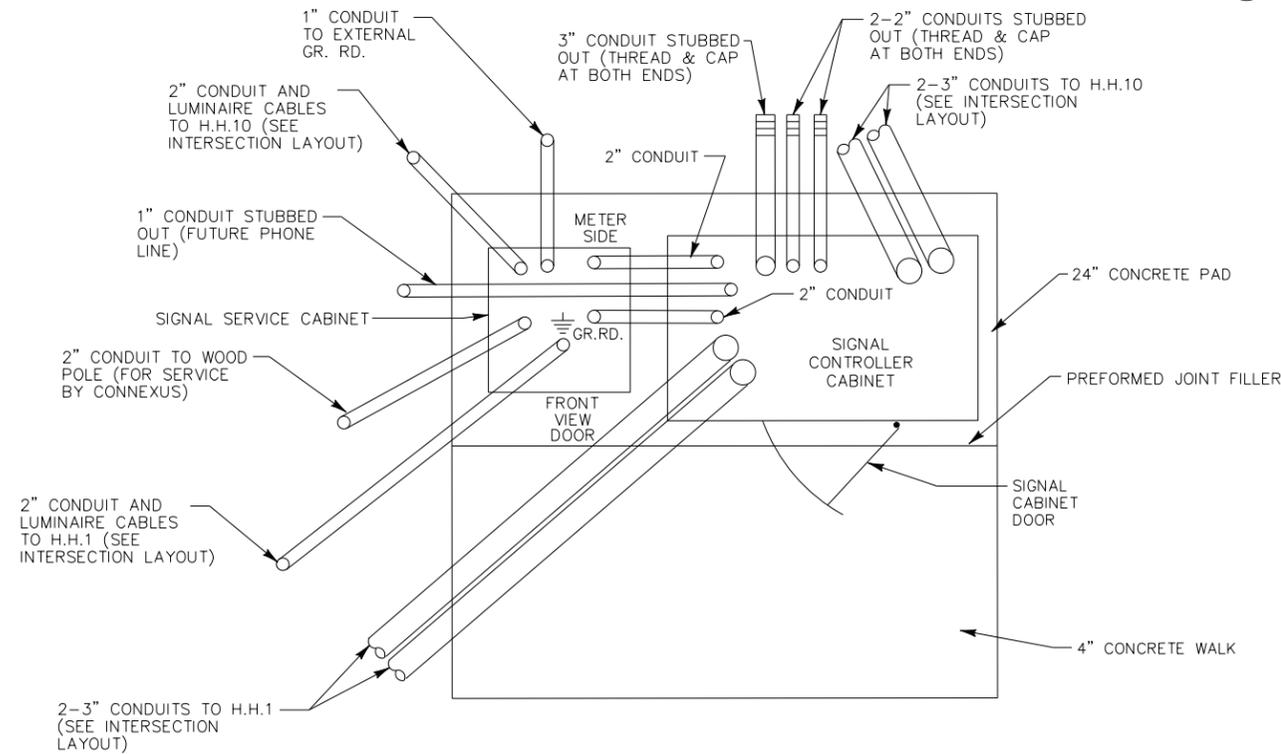
SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

NOTES:

1. THE ANCHOR RODS, NUTS AND WASHERS FOR THE COUNTY FURNISHED CONTROLLER AND CABINET SHALL BE FURNISHED BY THE COUNTY AND INSTALLED BY THE CONTRACTOR.
2. THE UPPER PART OF THE NEW 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 CONCRETE AND SHALL BE LOCATED INSIDE OF THE CABINET WHERE DIRECTED BY THE ENGINEER, BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
5. CONCRETE MIX 3F52 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. ANCHOR RODS SHALL PROJECT A MINIMUM OF 3" ABOVE THE CONCRETE BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
9. CONTRACTOR SHALL PROVIDE MINIMUM 4-INCH CLEARANCE BETWEEN CONTROLLER AND SERVICE CABINETS ON THE EQUIPMENT PAD FOUNDATION AS SHOWN.



PLAN VIEW SIGNAL SYSTEM A



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DESIGNED BY: **MBG**
 DRAWN BY: **MMD**
 CHECKED BY: **BKV**

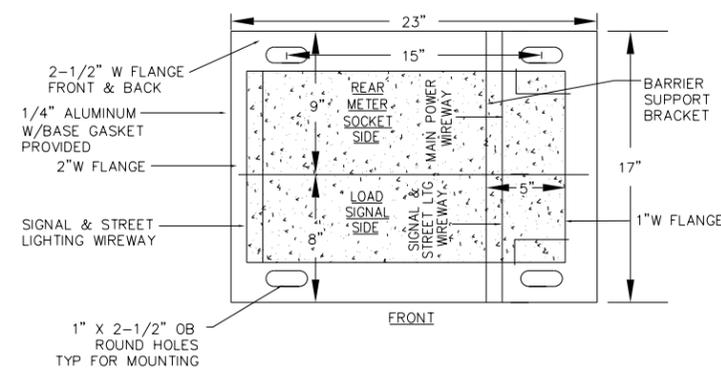
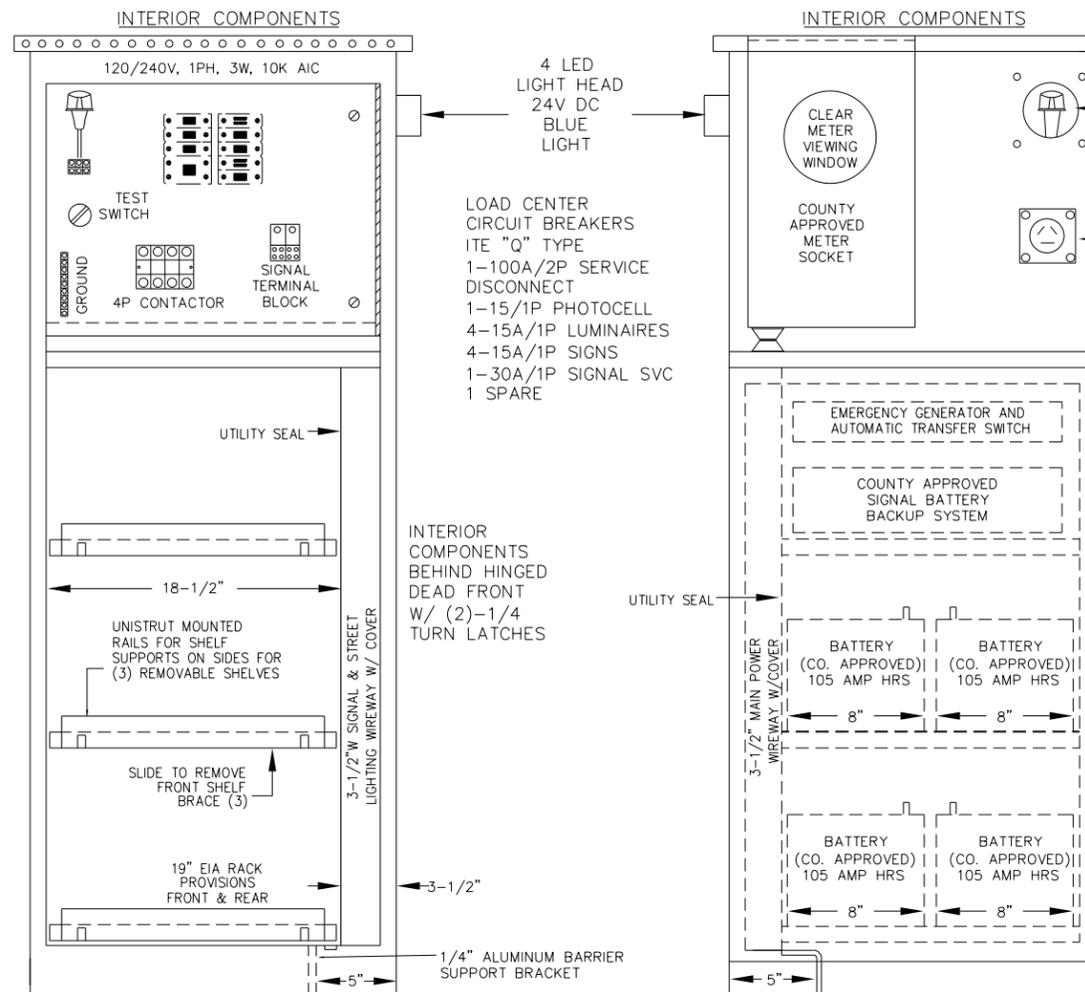
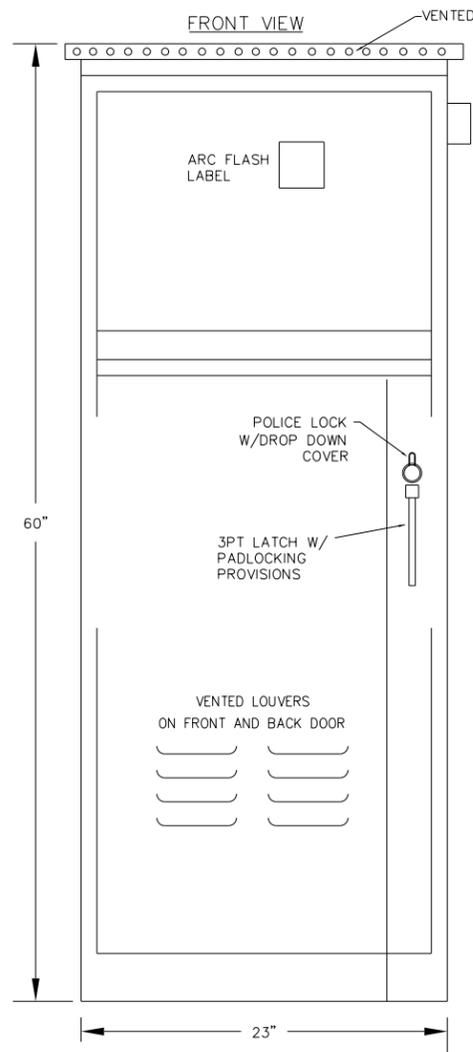
HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 CERTIFIED BY: *[Signature]* LIC NO.: 56090
 PRINTED NAME: **BRIAN K. VILLA, P.E.** DATE: 12/03/2025



TRAFFIC SIGNAL PLANS
CABINET PAD DETAIL

SAP 002-611-042
SAP 114-020-068

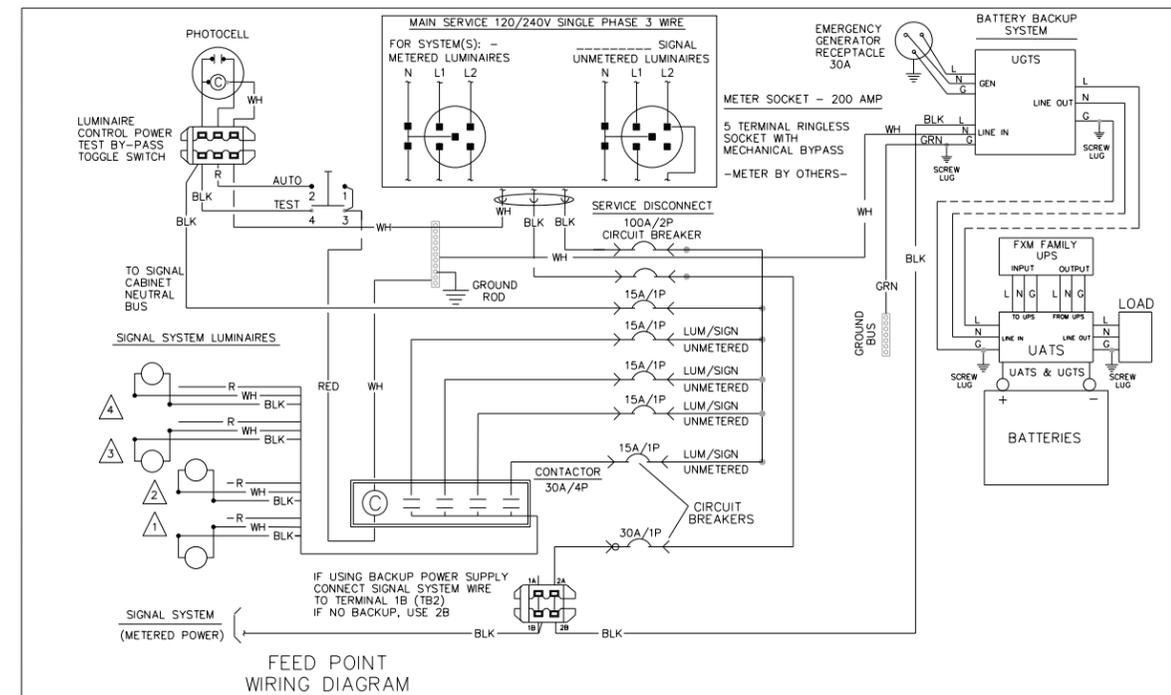
SHEET NO. 38
TOTAL SHEETS 59



CABINET CONSTRUCTION

- NEMA 3R
- 1/8\"/>
- NEOPRENE GASKETED DOORS
- NON-CORRODING HARDWARE
- ETL LISTED IN ACCORDANCE W/UL508A

SEE SPECIAL PROVISIONS AND STATEMENT OF ESTIMATED QUANTITIES REGARDING SEPARATE PAY ITEM FOR FURNISHING & INSTALLING NEW BATTERY BACK-UP SIGNAL SERVICE CABINET.



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DESIGNED BY: **MBG**
 DRAWN BY: **MMD**
 CHECKED BY: **BKV**

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.
 CERTIFIED BY: *[Signature]* LIC NO: 56090
 PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025



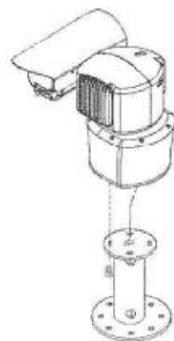
TRAFFIC SIGNAL PLANS
CABINET DETAIL

SAP 002-611-042
 SAP 114-020-068

SHEET NO. **39**
 TOTAL SHEETS **59**

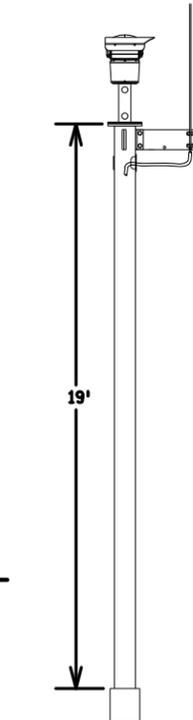
ISOMETRIC VIEW- CAMERA & MOUNT

(COUNTY FURNISHED)



X-400 CAMERA EXTENSION

(USED WHEN A LUMINAIRE IS NOT REQUIRED)



X6-300/CAM 350 EXTENSION

THE TYPICAL D40-9 LUMINAIRE EXTENSION IS NOT USED WHEN THE X6-300/CAM 400 EXTENSION IS REQUIRED

F&I LUMINAIRE/ CAMERA EXTENSION (GALVANIZED, UN-PAINTED). (INCLUDES: LIGHTNING ROD PLATE, AND LIGHTNING ROD.

F&I TINNED BRAIDED GROUND, GROUND ROD, CLAMP #230 AND ANY OTHER MISC. ITEMS REQUIRED)

INSTALL CAMERA & MOUNT (COUNTY FURNISHED)

LIGHTNING ROD & LIGHTNING ROD PLATE

7/16" TINNED BRAIDED GROUND CONDUCTOR (32 STRAND-17 GAUGE COPPER) (INSIDE MAST ARM POLE)

3" x 5" ACCESS OPENING W/COVER PLATE

6'

30' MTG HT FROM GROUND

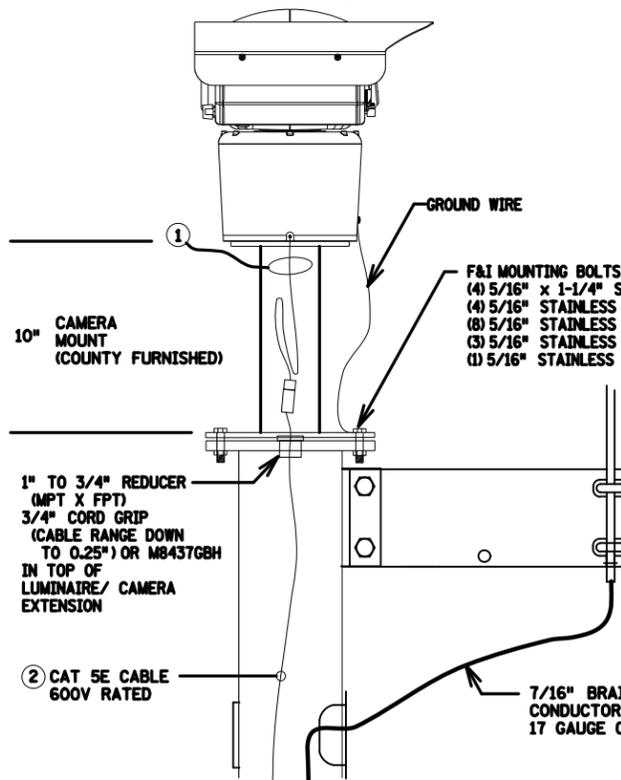
14'

8'-9"

21'

CAMERA & MOUNT AT TOP OF EXTENSION

IP CAMERA (COUNTY FURNISHED)



GROUND WIRE

F&I MOUNTING BOLTS W/ANTI-SEIZE
 (4) 5/16" x 1-1/4" STAINLESS STEEL BOLTS
 (4) 5/16" STAINLESS STEEL NUTS
 (8) 5/16" STAINLESS STEEL FLAT WASHERS
 (3) 5/16" STAINLESS STEEL LOCK WASHERS
 (1) 5/16" STAINLESS STEEL INTERNAL TOOTH LOCK WASHER

10" CAMERA MOUNT (COUNTY FURNISHED)

1" TO 3/4" REDUCER (MPT X FPT)
 3/4" CORD GRIP (CABLE RANGE DOWN TO 0.25") OR M8437GBH IN TOP OF LUMINAIRE/ CAMERA EXTENSION

2) CAT 5E CABLE 600V RATED

7/16" BRAIDED GROUND CONDUCTOR (32 STRAND-17 GAUGE COPPER)

- F&I CAT 5E (600V RATED) (WITH THE PROPER TERMINATIONS) FROM THE TOP OF THE POLE TO THE SIGNAL CABINET. (NOT TO EXCEED 250' LENGTH)

- F&I 7/16" TINNED BRAIDED GROUND CONDUCTOR (32 STRAND 17 GAUGE COPPER) FROM LIGHTNING ROD TO THE GROUND ROD IN HANDHOLE

7/16" BRAIDED GROUND CONDUCTOR (32 STRAND 17 GAUGE COPPER)

HANDHOLE (SEE LAYOUT)

CLAMP #230 (SEE APL TMS/ITS GROUNDING)

5/8" X 15' GROUND ROD

REQUIRED CABLE TERMINATION:
 COM CABLE- CAT 5E (600V RATED) SHIELDED -RJ-45 (T-568B)

PROPOSED SIGNAL CONTROL CABINET (COUNTY FURNISHED OR INPLACE)

COUNTY FURNISHED & INSTALLED:
 CAMERA POWER OVER ETHERNET (POE) INJECTOR
 PATCH CORDS
 SIGNAL CONTROLLER MMU
 ETHERNET SWITCH

CONDUIT W/6-SM F/O

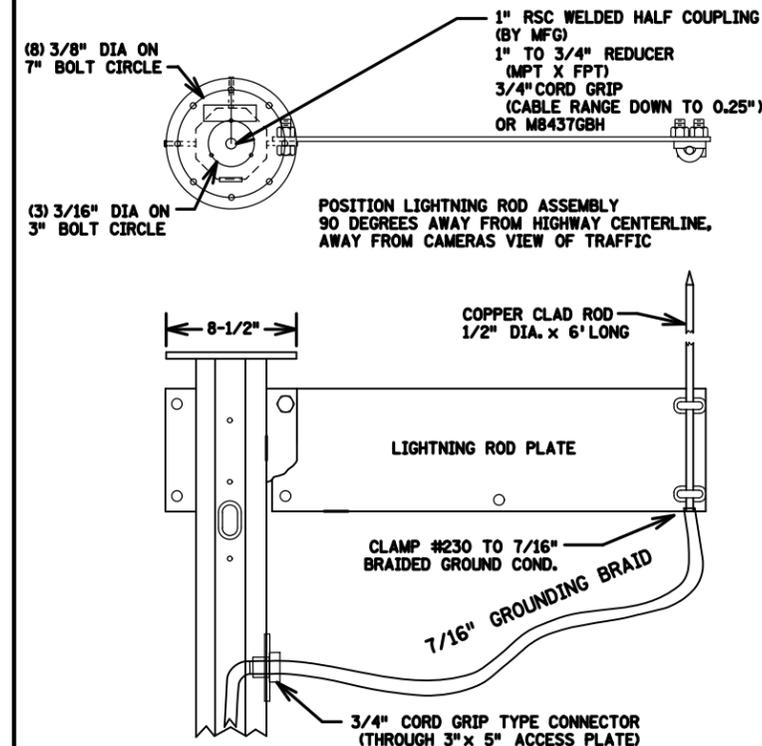
CORE DRILL FOR CONDUIT WHERE REQUIRED

CONDUITS (SEE LAYOUT)

HANDHOLE

- 1) THE CAMERA IS SUPPLIED WITH 20' CABLE PIGTAIL. IT IS TERMINATED WITH A RJ45 PLUG AS INDICATED ON THE IP CAMERA CONNECTOR DETAIL SHEET.
- 2) F&I ETHERNET CABLE IN ACCORDANCE WITH 3815.2C.6.d (CAT 5E -300V RATED), BETWEEN THE SIGNAL CONTROL CABINET AND THE TOP OF THE POLE. TERMINATE THE END OF THE CABLE WITH UNSHIELDED RJ-45 (T-568B) CONNECTORS. ALL FIELD TERMINATIONS/CONNECTORS SHALL BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER USING THE SPECIFIED INSTALLATION TOOL(S).

EXTENSION TOP & LIGHTNING PROTECTION DETAIL



(8) 3/8" DIA ON 7" BOLT CIRCLE
 (3) 3/16" DIA ON 3" BOLT CIRCLE

1" RSC WELDED HALF COUPLING (BY MFG)
 1" TO 3/4" REDUCER (MPT X FPT)
 3/4" CORD GRIP (CABLE RANGE DOWN TO 0.25") OR M8437GBH

POSITION LIGHTNING ROD ASSEMBLY 90 DEGREES AWAY FROM HIGHWAY CENTERLINE, AWAY FROM CAMERAS VIEW OF TRAFFIC

COPPER CLAD ROD 1/2" DIA. x 6' LONG

LIGHTNING ROD PLATE

CLAMP #230 TO 7/16" BRAIDED GROUND COND.

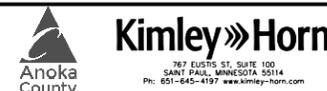
7/16" GROUNDING BRAID

3/4" CORD GRIP TYPE CONNECTOR (THROUGH 3" x 5" ACCESS PLATE)

- NOTES:
- 1) FURNISH & INSTALL 7/16" TINNED BRAIDED GROUND CONDUCTOR INSIDE MAST ARM POLE AND THROUGH INPLACE CONDUIT TO CLOSEST HANDHOLE (SEE LAYOUT).
 - 2) CONTRACTOR SHALL CLAMP #230 TO 7/16" BRAIDED GROUND WIRE TO GROUND ROD IN HANDHOLE.
 - 3) NO SPLICES ALLOWED IN 7/16" TINNED BRAIDED GROUND WIRE.
 - 4) CONTRACTOR SHALL CUT A 3/4" INCH KNOCK OUT HOLE IN THE INSPECTION PLATE NEAR THE CAMERA AND PLACE A 3/4" INCH CORD GRIP TYPE FITTING TO RUN THE 7/16" INCH TINNED BRAIDED GROUND CONDUCTOR INTO THE POLE.

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DESIGNED BY: MBG
 DRAWN BY: MMD
 CHECKED BY: BKV
 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.
 CERTIFIED BY: *Brian K. Villa* LIC NO: 56090
 LICENSED PROFESSIONAL ENGINEER
 PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025

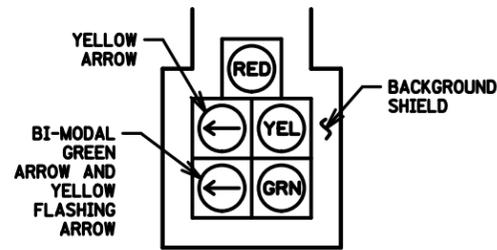


TRAFFIC SIGNAL PLANS
 CAMERA EXTENSION DETAIL

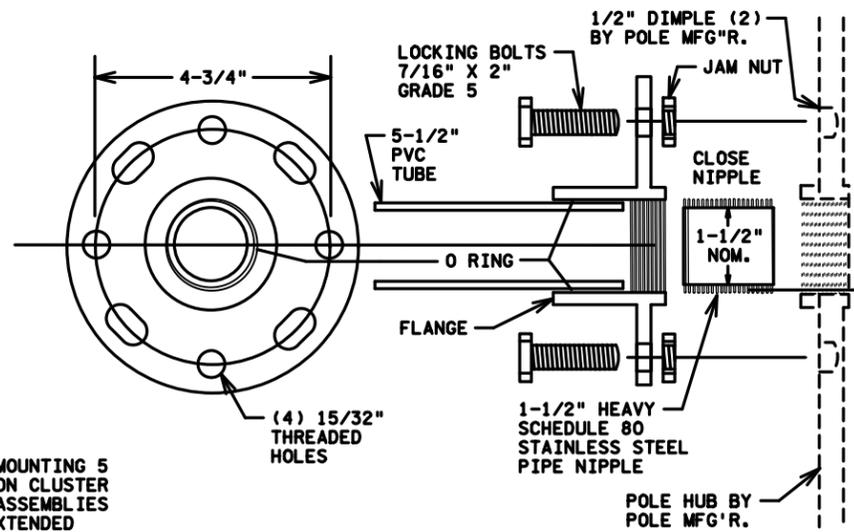
SAP 002-611-042
 SAP 114-020-068

SHEET NO. 40
 TOTAL SHEETS 59

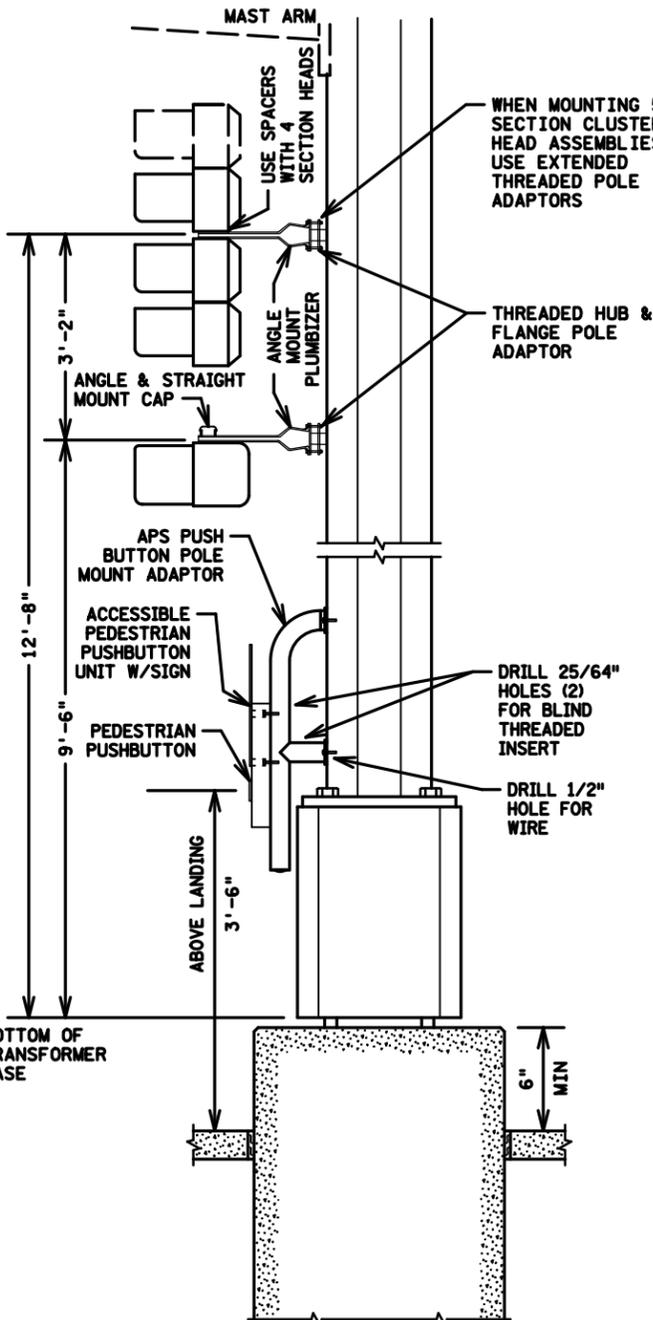
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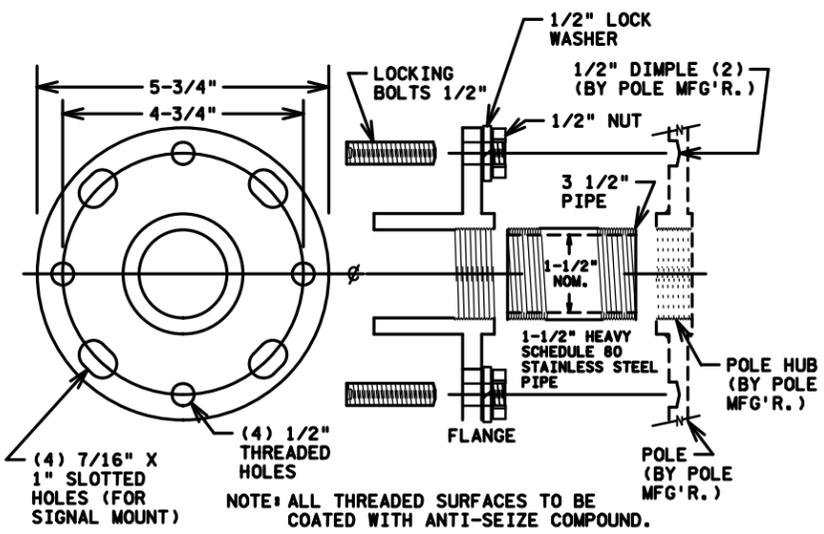
5 SECTION FYA CLUSTER HEAD DETAIL



THREADED HUB AND FLANGE POLE ADAPTOR

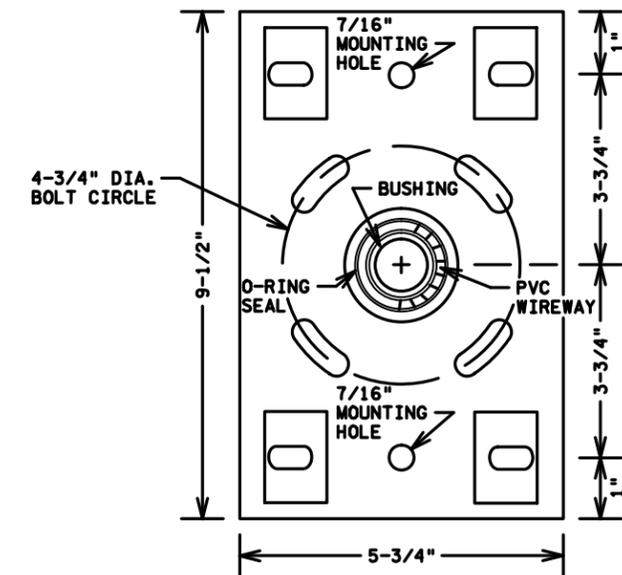


TYPICAL SIGNAL POLE MOUNTING
NOT TO SCALE

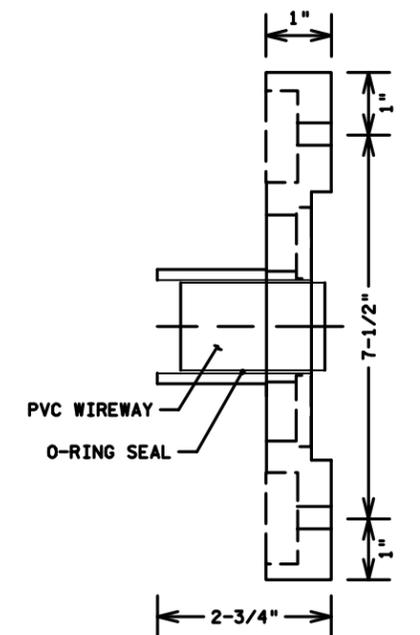


EXTENDED THREADED POLE ADAPTER

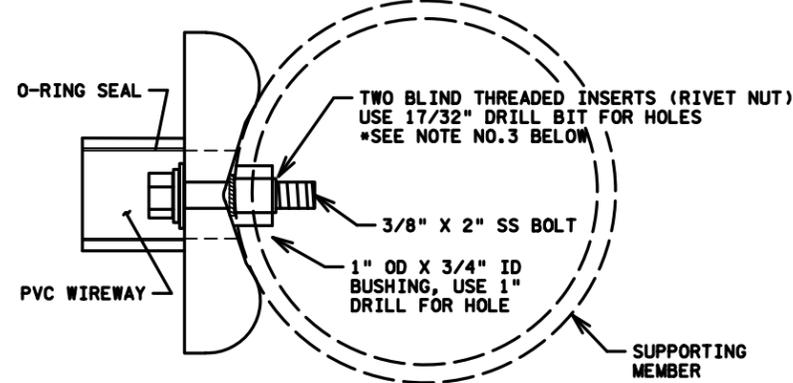
- NOTES:**
1. ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.
 2. USE SIGNAL HEAD MOUNTED SPACERS FOR 4 SECTION POLY HEADS.
 3. SEE STANDARD PLATE NUMBER 8123 FOR ADDITIONAL SIGNAL POLE DETAILS.
 4. EXTENDED THREADED POLE ADAPTOR ONLY USED WITH 5 SECTION CLUSTER HEADS.



BOLT ON HUB & FLANGE



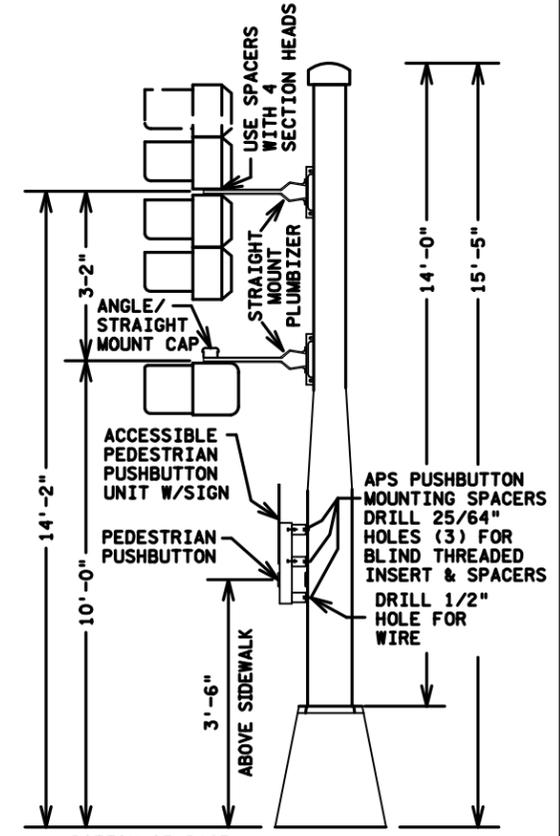
SIDE VIEW



TOP VIEW



- NOTES:**
1. ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.
 2. USE SIGNAL HEAD MOUNTED SPACERS FOR 4 SECTION POLY HEADS.
 3. BLIND THREADED INSERTS (RIVET NUT) MUST BE INSERTED USING MANUFACTURERS SPECIFIC INSERTION TOOL. NO OTHER METHOD IS ACCEPTABLE.
 4. SEE STANDARD PLATE NUMBER 8122 FOR ADDITIONAL PEDESTAL POLE DETAILS.



TYPICAL PEDESTAL MOUNTING
NOT TO SCALE

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| DESIGNED BY: | MBG | <small> 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. CERTIFIED BY: <i>[Signature]</i> LIC NO.: 56090 PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025 </small> |
| DRAWN BY: | MMD | |
| CHECKED BY: | BKV | |

Kimley»Horn
787 EUSTIS ST. SUITE 100
SANT PAUL, MINNESOTA 55114
PH: 651-845-4197 www.kimley-horn.com

Anoka County

TRAFFIC SIGNAL PLANS
POLE MOUNT DETAIL

| | | |
|-----------------|--------------|----|
| SAP 002-611-042 | SHEET NO. | 41 |
| SAP 114-020-068 | TOTAL SHEETS | 59 |

| FROM | | TO DEVICE | |
|----------------|------------------------|------------------|--|
| SIGNAL SERVICE | 1/C 6 EGC | AS SHOWN ON PLAN | |
| SOP | 3-1/C 2 R WH BLK | SIGNAL SERVICE | |
| SIGNAL SERVICE | 3-1/C 6 BLK WH G | SIGNAL CABINET | |
| SIGNAL CABINET | (6SM) CABLE | SIGNAL CABINET | |

| SIGNAL CABINET TO DEVICE | |
|---|------------------|
| 6PR 19 | AS SHOWN ON PLAN |
| COAXIAL CABLE | AS SHOWN ON PLAN |
| 4/C 18 R BLK WH G | AS SHOWN ON PLAN |
| 2/C 14 BLK WH OR CLR | AS SHOWN ON PLAN |
| 3/C 20 R OR O WH OR YEL BLK OR BL | AS SHOWN ON PLAN |
| CAT 5 | AS SHOWN ON PLAN |

| SIGNAL CABINET TO DEVICE | |
|---|--|
| 6/C 16 R O BL WH BLK/R BLK | RED/RLA YEL/YLA GRN/GLA NEU YLA/FYA GLA 4 AND 5 SECTION SIGNAL HEADS |
| 4/C 16 R BLK/R BLK WH | RED/DWK YEL/WLK GRN/SPR NEU 3 SECTION HEAD PED HEADS |
| 4/C 16 R BLK/R BLK WH | RED YEL GRN NEU 5 SECTION (CLUSTER HEADS ONLY) |
| 4/C 16 R BLK/R BLK WH | FYA YLA GLA NEU |
| 3/C 16 BLK G WH | EVP LIGHT/AWF LUMINAIRE VIDEO CAMERA ENFORCEMENT LIGHT |

NOTES:
ARRANGE AND TERMINATE CONDUCTORS AND CABLES AS SHOWN WITHOUT SPLICE.
NUMBER ONLY MEANS AWG CONDUCTOR SIZE (e.g. 14=14AWG)
1/C MEANS AN INDIVIDUAL CONDUCTOR NOT PART OF A CABLE ASSEMBLY

| CABLE LABELING ABBREVIATIONS | | |
|------------------------------|-------------------------------------|-------------------|
| ABBREVIATION | LABEL REFERENCE DSRIPTION & EXAMPLE | COMPONENT |
| X-Y | INDICATION NUMBER 2-1 | SIGNAL HEAD |
| X-Y | LOOP NUMBER D2-1 | DETECTOR |
| X-Y | PUSH BUTTON NUMBER PB2-1 | PUSH BUTTON |
| X-Y | PED INDICATION NUMBER P2-1 | PED INDICATION |
| X-Y | LUMINAIRE NUMBER L1 | LUMINAIRE |
| X-Y | EVP PHASE NUMBER EVP 2+5 | EVP DETECTOR |
| X-Y | EVP LIGHT PHASE NUMBER EVPL 2+5 | EVP CON. LIGHT |
| X-Y | VIDEO DETECTION PHASE V2-1 | VIDEO DETECTION |
| X-Y | RADAR DETECTION PHASE RD2-1 | RADAR DETECTION |
| SS | SIGNAL SERVICE | SERVICE WIRE |
| CC | CABINET COMMS | COMMS CABLE |
| FO | FIBER OPTIC | FIBER CABLE |
| SPARE Y | SPARE WIRE TO POLE NUMB. SPARE1 | SPARE WIRE |
| ELYZ * | ENFORC. LIGHT POLE & DIRECTION | ENFORCEMENT LIGHT |
| PTZ1 | PTZ CAMERA POLE NUMBER PTZ1 | PTZ CAMERA |
| IC | INTERCONNECT CABLE | INTERCONNECT |
| EGC | EQUIPMENT GROUNDING CONDUCTOR | GROUND |

X = SIGNAL SYSTEM PHASE NUMBER; REFER TO THE PLAN
Y = SIGNAL SYSTEM ASSIGNED COMPONENT NUMBER; REFER TO THE PLAN
Z * = DIRECTION
FURNISH AND INSTALL LABELS ON CABLES WITH ABBREVIATIONS SHOWN ON THIS TABLE AND IN ACCORDANCE WITH THE WIRING DIAGRAM.

| WIRE COLOR CODE KEY | |
|---------------------|--------------------------|
| R | Red |
| O | Orange |
| BL | Blue |
| WH | White |
| BLK | Black |
| BRN | Brown |
| CL | Clear |
| G | Green |
| R/BLK | Red with Black Stripe |
| O/BLK | Orange with Black Stripe |
| BL/BLK | Blue with Black Stripe |
| WH/BLK | White with Black Stripe |
| WH/R | White with Red Stripe |
| BLK/WH | Black with White Stripe |
| BLK/R | Black with Red Stripe |

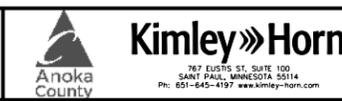
| CONDUCTOR AND CABLE SPECIFICATION CHART | | |
|---|-------------------------------|----------------------|
| NUMBER OF CONDUCTORS & AWG SIZE | TYPE | Specification Number |
| 1/C 2 | INDIVIDUAL SERVICE CONDUCTORS | 3815.2B.1 |
| 1/C 6 | FEEDER AND BRANCH CONDUCTORS | 3815.2B.1 |
| 1/C 6 INS.GR. | Grounding Conductors | 3815.2B.5 |
| 2/C 14 | Loop Detector Lead-In Cable | 3815.2C.4 |
| 3/C 16 | Signal Control Cable | SPEC. PROV. |
| 4/C 16 | Signal Control Cable | SPEC. PROV. |
| 6/C 16 | Signal Control Cable | SPEC. PROV. |
| 4PR 24 | ETHERNET CABLE | 3815.2C.6.d |
| 6PR 19 | Telephone Cables Outdoor | 3815.2C.6.b |
| 3/C 20 | EVP Detector Cable | 3815.2C.5 |

| NO. | DATE | DWN | CKD | REVISIONS |
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DESIGNED BY: MBG
DRAWN BY: MMD
CHECKED BY: BKV

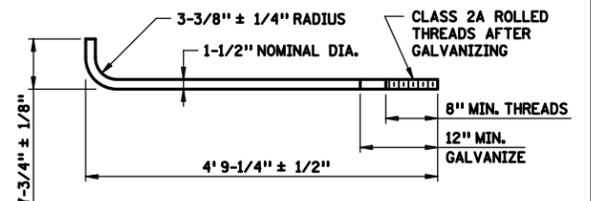
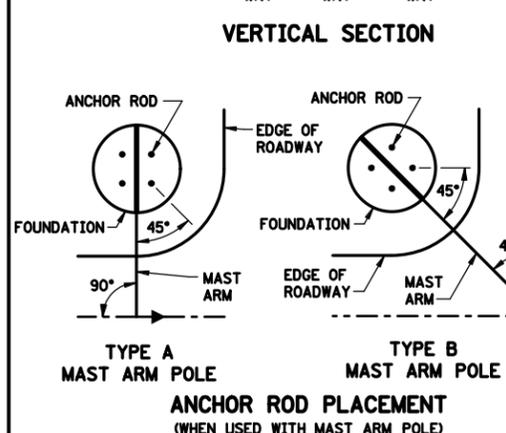
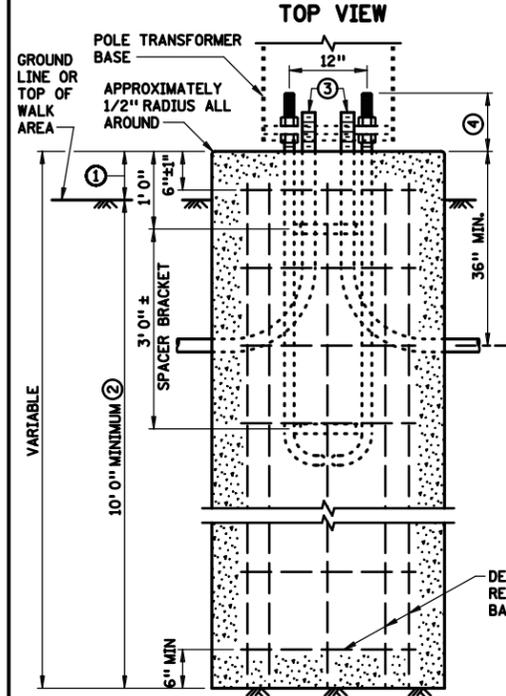
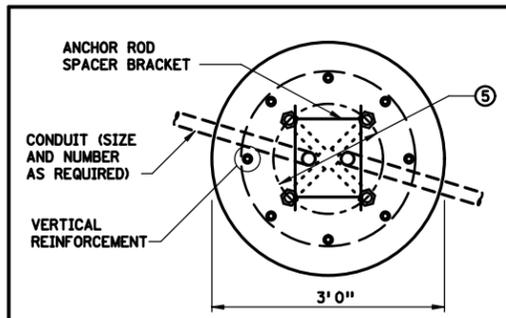
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CERTIFIED BY: *[Signature]* LIC NO: 56090
BRIAN K. VILLA, P.E. DATE: 12/03/2025



TRAFFIC SIGNAL PLANS
COLOR CODE CHART / CABLE ABBREVIATIONS

SAP 002-611-042
SAP 114-020-068



ANCHOR ROD DETAIL
(SPEC. 3385 TYPE C)

NOTES:
REINFORCING BARS SHALL BE GRADE 60 AND MEET THE REQUIREMENTS OF ASTM A 706 (WELDABLE REBARS) AND ARE IDENTIFIED BY A DISTINGUISHING MARK OF "W" ROLLED ONTO THE SURFACE OF ONE SIDE OF THE BAR. WELDING SHALL BE PER ANSI/AWS D1.4. USE 8-NO. 7 BARS FOR VERTICAL REINFORCEMENT, SPACED ON A 27" DIA. CIRCLE. HORIZONTAL (CIRCULAR) BARS TO BE NO. 4 SPACED AT 1' 0" MAXIMUM VERTICAL SPACING. SECURELY TIE OR WELD (OR COMBINATION) ALL REINFORCEMENT TOGETHER.

ANCHOR RODS SHALL BE GALVANIZED IN ACCORDANCE WITH SPEC. 3392 AND SHALL BE 1-1/2" NOMINAL DIA. AND CUT LENGTH OF 60" BEFORE BENDING. (SEE ANCHOR ROD DETAIL). ANCHOR ROD CAGES SHALL BE DESIGNED WITHOUT WELDING ONTO THE ANCHOR RODS.

ALL BACKFILLING AROUND THE FOUNDATION MUST BE IN ACCORDANCE WITH 245I.
ALL EXCAVATIONS MUST BE PROPERLY COMPACTED IN ACCORDANCE WITH 245I.
CONCRETE MIX 3G52.

PREFORMED JOINT FILLER SHALL BE USED BETWEEN FOUNDATION AND SIDEWALK OR CONCRETE AREAS.
A FIBER FORMING TUBE SHALL BE USED IN FORMING THE FOUNDATION, OR AS APPROVED BY THE ENGINEER.

OPEN ENDS OF ALL CONDUIT INTO FOUNDATION SHALL BE POSITIONED INSIDE THE ANCHOR ROD BOLT CIRCLE, AND CAPPED UNTIL CABLES ARE INSTALLED.

MAST ARM POLE STANDARDS SHALL NOT BE INSTALLED ON FOUNDATIONS UNTIL AT LEAST SEVEN DAYS OF CURING PERIOD HAVE ELAPSED.

ANTI-SEIZE COMPOUND THAT MEETS MIL-PRF-907E SPEC. SHALL BE APPLIED WITH A BRUSH TO ALL THREADS.

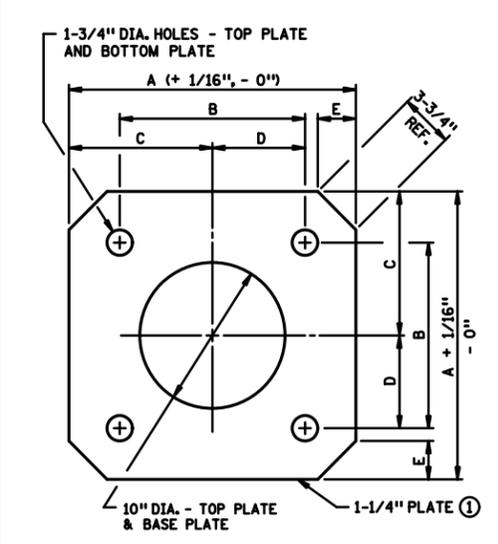
① THE ELEVATION OF THE TOP OF THE FOUNDATION SHALL ASSURE THAT THE VERTICAL CLEARANCE FROM THE BOTTOM OF ALL SIGNAL HEADS (INCLUDING BACKGROUND SHIELDS) TO THE PAVEMENT IS NOT LESS THAN 17 FT. NOR GREATER THAN 19 FT. THE TOP OF THE FOUNDATION MUST BE A MINIMUM OF 6" ABOVE THE GROUND LINE OR TOP OF SIDEWALK.

② DEPTH OF FOUNDATION MAY VARY IN PLANS OR SPECIAL PROVISIONS. DEPTH OF FOUNDATION MAY BE REDUCED 2 FEET WHEN PLACED IN SIDEWALK OR CONCRETE RAISED MEDIAN. FOUNDATION DEPTHS ARE BASED ON A SOIL FRICTION OF 30° AND A SOIL WEIGHT OF 120 LB/CF AND NO GROUNDWATER WITHIN THE GROUND SURFACE TO A DEPTH OF TWO TIMES THE WIDTH OR DIAMETER OF BOTTOM OF POLE FOUNDATION. A SOIL BORING OR CONE PENETRATION TEST (CPT) SOUNDING IS RECOMMENDED WHERE IN-SITU STRATIGRAPHY IS UNKNOWN OR QUESTIONABLE. ANY VARIATION IN THE DEPTH OF THE FOUNDATION REQUIRES AN APPROVAL BY THE DISTRICT SOILS ENGINEER.

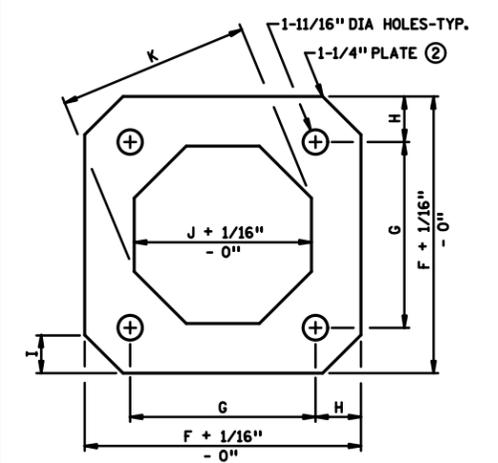
③ CONDUIT PER SPEC. 3801 OR 3803, SIZE AND NUMBER AS REQUIRED IN PLANS OR SPECIAL PROVISIONS, 4" MINIMUM AND 6" MAXIMUM PROJECTION ABOVE FOUNDATION, AND CAPPED UNTIL WIRING IS PLACED.

④ 6" ANCHOR ROD PROJECTION (THREADED). SOME POLES (SUCH AS ROTATABLE T-BASE) MAY REQUIRE GREATER PROJECTION.

⑤ FOUR ANCHOR RODS EQUALLY SPACED ON 16.97" DIA. BOLT CIRCLE (12" C. TO C.), EACH ANCHORAGE ROD SHALL HAVE TWO (2) HEAVY HEX LEVELING NUTS, AS PER ASTM A563 GRADE DH.

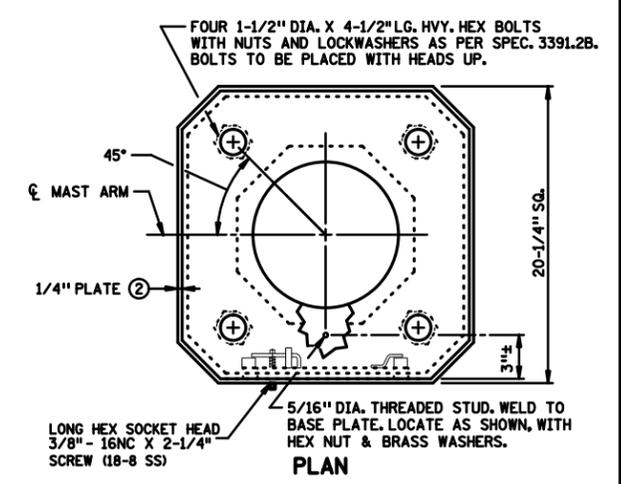


TOP & BASE PLATE DETAIL

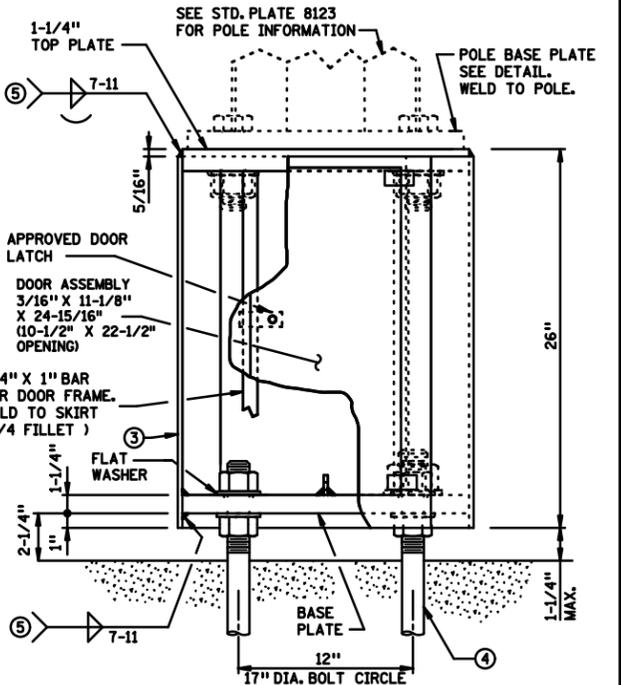


POLE BASE PLATE DETAIL

| DIMENSION | TOP PLATE ① | BASE PLATE ① | POLE BASE PLATE ② |
|-----------|-------------|--------------|-------------------|
| A | 19-3/4" | 19-3/4" | |
| B | 12-3/4" | 12" | |
| C | 9-7/8" | 9-7/8" | |
| D | 6-3/8" | 6" | |
| E | 2-5/8" | 2-5/8" | |
| F | | | 19" |
| G | | | 12-3/4" |
| H | | | 3-1/8" |
| I | | | 2-5/8" |
| J | | | 12-3/16" |
| K | | | 13-3/16" |



PLAN



ELEVATION

NOTES:
ANTI-SEIZE COMPOUND THAT MEETS MIL-PRF-907E SPEC. SHALL BE APPLIED WITH A BRUSH TO ALL THREADS.
FOR SUBSTITUTION OF MATERIALS, SEE SPEC. 1605.

① STRUCTURAL STEEL AS PER SPEC. 3306.
② STRUCTURAL STEEL AS PER SPEC. 3309.
③ GALVANIZE TRANSFORMER BASE AS PER SPEC. 3394 AFTER FABRICATION. GALVANIZE ALL HARDWARE AS PER SPEC. 3392, EXCEPT STAINLESS STEEL AND BRASS.
④ SEE STANDARD PLATE 8120 FOR POLE FOUNDATION DETAILS.
⑤ FABRICATE STRUCTURAL METALS PER SPEC. 247L.

APPROVED JULY 15, 2015
Christina Ky
STATE DESIGN ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
POLE FOUNDATION
(PA85)

SPECIFICATION REFERENCE
2565
STANDARD PLATE NO.
8120Q

APPROVED APRIL 5, 2013
Christina Ky
STATE DESIGN ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
TRANSFORMER BASE AND POLE BASE PLATE
(PA85)

SPECIFICATION REFERENCE
2565
STANDARD PLATE NO.
8121H
1 OF 2

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12/3/2025

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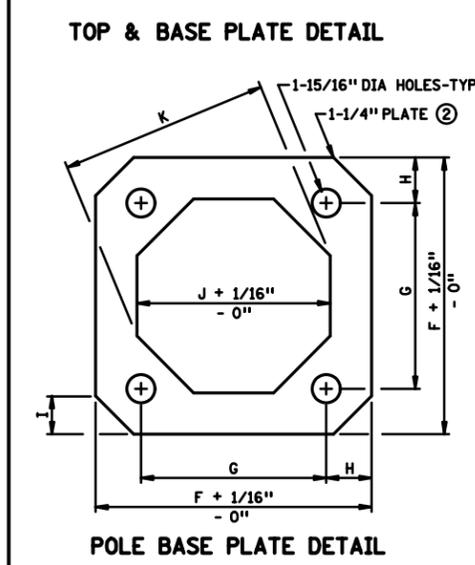
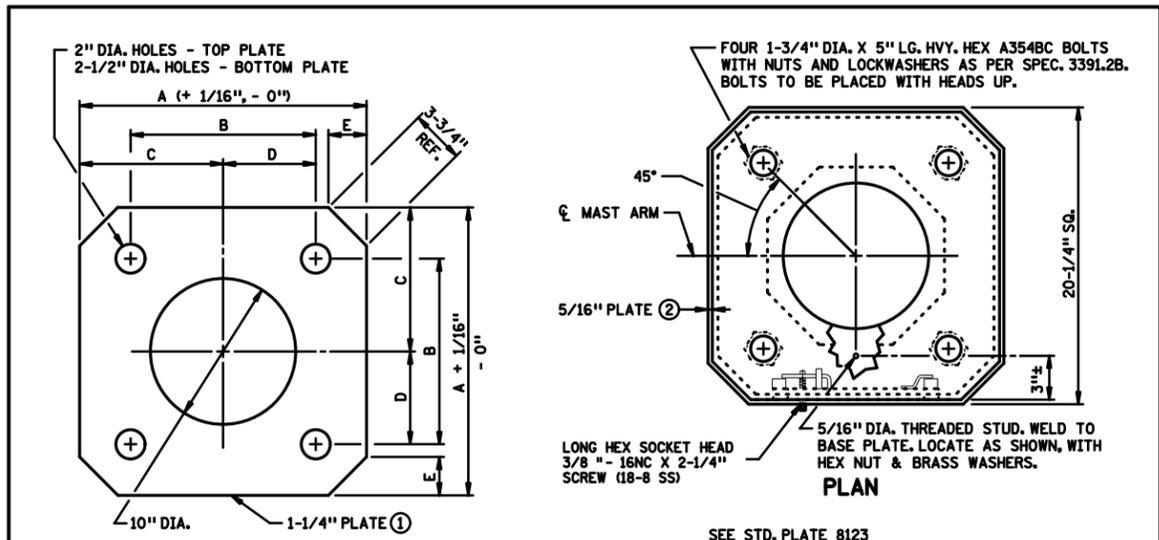
DESIGNED BY: MBG
DRAWN BY: MMD
CHECKED BY: BKV
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
CERTIFIED BY: *Brian K. Villa*
Licensed Professional Engineer
PRINTED NAME: BRIAN K. VILLA, P.E. LIC NO.: 56090
DATE: 12/03/2025

Kimley»Horn
787 EUSTIS ST. SUITE 100
SANT PAUL, MINNESOTA 55114
PH: 651-645-4197 www.kimley-horn.com

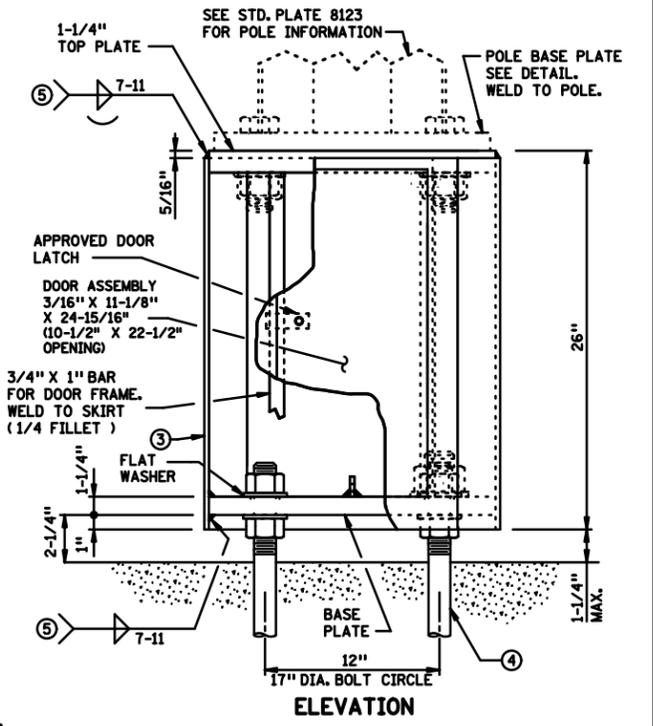
TRAFFIC SIGNAL PLANS
STANDARD PLATES

SAP 002-611-042
SAP 114-020-068

SHEET NO. 43
TOTAL SHEETS 59



| DIMENSION | TOP PLATE ① | BASE PLATE ① | POLE BASE PLATE ② |
|-----------|-------------|--------------|-------------------|
| A | 19-3/4" | 19-3/4" | |
| B | 12-3/4" | 12" | |
| C | 9-7/8" | 9-7/8" | |
| D | 6-3/8" | 6" | |
| E | 2-5/8" | 2-5/8" | |
| F | | | 19" |
| G | | | 12-3/4" |
| H | | | 3-1/8" |
| I | | | 2-5/8" |
| J | | | 13-3/16" |
| K | | | 14-5/16" |



NOTES:
ANTI-SEIZE COMPOUND THAT MEETS MIL-PRF-907E SPEC. SHALL BE APPLIED WITH A BRUSH TO ALL THREADS.
FOR SUBSTITUTION OF MATERIALS, SEE SPEC. 1605.

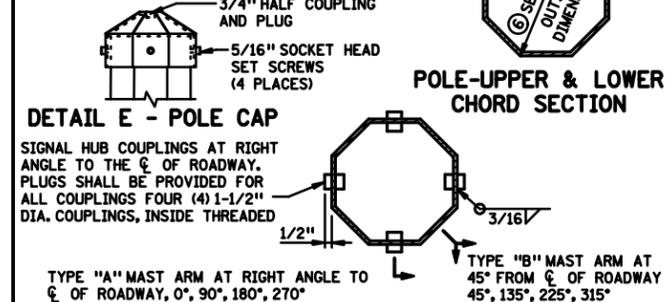
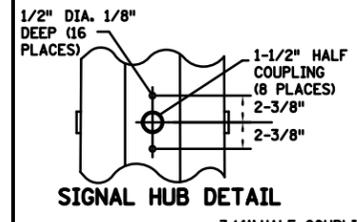
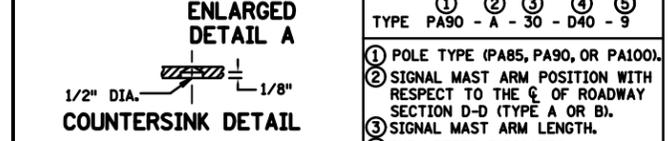
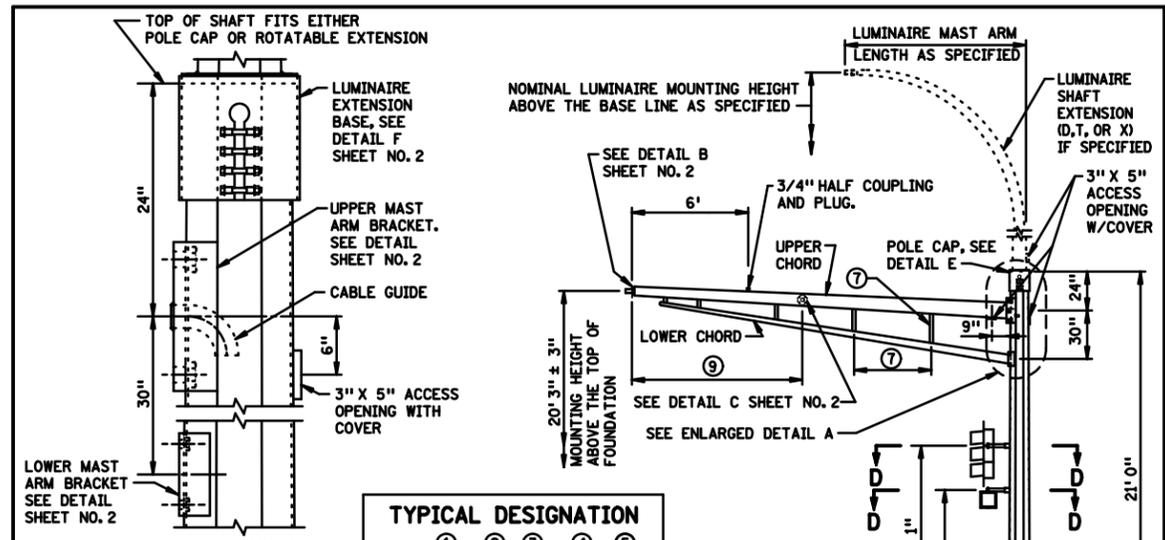
① STRUCTURAL STEEL AS PER SPEC. 3306.
② STRUCTURAL STEEL AS PER SPEC. 3309.
③ GALVANIZE TRANSFORMER BASE AS PER SPEC. 3394 AFTER FABRICATION. GALVANIZE ALL HARDWARE AS PER SPEC. 3392, EXCEPT STAINLESS STEEL AND BRASS.
④ SEE STANDARD PLATE 8126 FOR POLE FOUNDATION DETAILS.
⑤ FABRICATE STRUCTURAL METALS PER SPEC. 2471.

APPROVED APRIL 5, 2013
Christy R. Ky
STATE DESIGN ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
TRANSFORMER BASE AND POLE BASE PLATE (PA90 AND PA100)

SPECIFICATION REFERENCE
2565

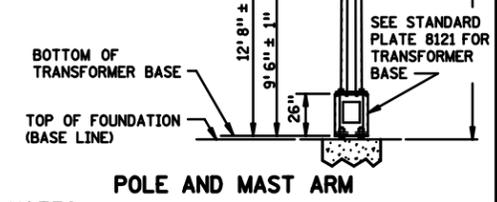
STANDARD PLATE NO.
8121H
2 OF 2



| POLE TYPE | MAST ARM LENGTH ⑧ | VERTICAL POLE ⑥ | | | UPPER CHORD ⑥ | | | LOWER CHORD ⑥ | | |
|-----------|-------------------|-----------------|-----------|------------|---------------|-----------|------------|---------------|-----------|------------|
| | | LARGE END | SMALL END | WALL THICK | LARGE END | SMALL END | WALL THICK | LARGE END | SMALL END | WALL THICK |
| PA85 | 15'-30" | 13.0" | 11.8" | 0.179" | 9.6" | 4.0" | 0.120" | 5.6" | 2.8" | 0.120" |
| PA90 | 30'-40" | 14.0" | 11.8" | 0.250" | 10.9" | 5.0" | 0.179" | 5.6" | 2.8" | 0.120" |
| PA100 | 40'-55" | 14.0" | 11.8" | 0.312" | 11.6" | 5.0" | 0.250" | 5.6" | 2.8" | 0.120" |

TYPICAL DESIGNATION
① ② ③ ④ ⑤
TYPE PA90 - A - 30 - D40 - 9

① POLE TYPE (PA85, PA90, OR PA100).
② SIGNAL MAST ARM POSITION WITH RESPECT TO THE C OF ROADWAY SECTION D-D (TYPE A OR B).
③ SIGNAL MAST ARM LENGTH.
④ THE LETTER INDICATES THE LUMINAIRE POLE/MAST ARM TYPE (D=DAVIT, T=TRUSS, X=STRAIGHT). THE NUMBER INDICATES THE NOMINAL LUMINAIRE MOUNTING HEIGHT FROM THE BASELINE.
⑤ LUMINAIRE MAST ARM LENGTH.



NOTES:
MATERIAL: HIGH STRENGTH LOW ALLOY STEEL SPEC. 3310 50,000 PSI MINIMUM YIELD.
GALVANIZED STRUCTURAL STEEL AS PER SPEC. 3394 AFTER FABRICATION. GALVANIZE ALL HARDWARE AS PER SPEC. 3392. PROVIDE VENT HOLES FOR GALVANIZING.
VERTICAL POST AND MAST ARM ELEMENTS SHALL BE OCTAGONAL TUBE FABRICATED BY LONGITUDINAL SEAM WELDING WITH 60% PENETRATION.
EACH MAST ARM POLE STANDARD CONSTRUCTED IN ACCORDANCE WITH THIS SPECIFICATION SHALL BE IDENTIFIED BY THE MARKING "PA85, PA90 OR PA100" IMPRINTED INTO THE VERTICAL POST SHAFT APPROXIMATELY 6 FEET ABOVE THE BOTTOM OF THE TRANSFORMER BASE ON THE ZERO-DEGREE FACE WITH RESPECT TO THE TRAFFIC SIGNAL TRUSS-TYPE MAST ARM. THE IMPRINTED "PA85, PA90 OR PA100" SHALL BE CLEARLY LEGIBLE AFTER GALVANIZATION.
THE BASE LINE OR TOP OF FOUNDATION IS ESTABLISHED AT TOP OF THE FINISHED PAVEMENT BENEATH THE OUTER END OF THE MAST ARM.
SEE SPEC. 1605 FOR SUBSTITUTION OF MATERIALS.
SEE SPEC. 2471 FOR FABRICATION REQUIREMENTS.
THE MOUNTING HEIGHTS OF LUMINAIRES ARE MEASURED FROM THE BASELINE, WHICH PROVIDE MOUNTING HEIGHTS OF 30' TO 50'.
⑥ DIMENSION MEASURED OUTSIDE POINT TO OUTSIDE POINT THROUGH OCTAGON CENTER, ADJUST POLE WITH LEVELING NUTS SO THAT THE POLE IS VERTICAL.
⑦ VERTICAL BRACES SHALL BE SPACED AT 5' INTERVALS. MINIMUM SECTION FOR VERTICAL BRACE SHALL BE 1" SCHEDULE 40 PIPE WITH ALLOWABLE STRESS OF 42000 PSI. PIPE ENDS SHALL BE FLATTENED TO A MAXIMUM THICKNESS OF 1" PERPENDICULAR TO THE MAST ARM AXIS.
⑧ ALL ARMS SHALL BE SUPPLIED IN FIVE-FOOT INCREMENTS OF LENGTH.
⑨ ONE MID-MAST ARM MOUNT SHALL BE PLACED AT 11' FROM THE END FOR 30', 35' AND 40' LENGTH MAST ARMS. TWO MID-MAST ARM MOUNTS SHALL BE PLACED AT 11' AND 23' FROM THE END FOR 45', 50' AND 55' LENGTH MAST ARMS. ALL MID-MAST ARMS SHALL BE CAPPED AND GALVANIZED. KEEP UNUSED MID-MAST ARM MOUNTS CAPPED AND GALVANIZED.

APPROVED DECEMBER 20, 2011
Michael J. Horn
STATE DESIGN ENGINEER

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
POLE AND MAST ARM LUMINAIRES AND TRAFFIC LIGHTS ASSEMBLY (FOR ALL POLE TYPES)

SPECIFICATION REFERENCE
2565

STANDARD PLATE NO.
8123G
1 OF 2

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DESIGNED BY: MBG
DRAWN BY: MMD
CHECKED BY: BKV

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.

CERTIFIED BY: *Brian K. Villa*
Licensed Professional Engineer
PRINTED NAME: BRIAN K. VILLA, P.E. LIC NO.: 56090
DATE: 12/03/2025

Kimley Horn
787 EUSTIS ST. SUITE 100
SAND PIA, MINNESOTA 55114
Ph: 651-645-4197 www.kimley-horn.com

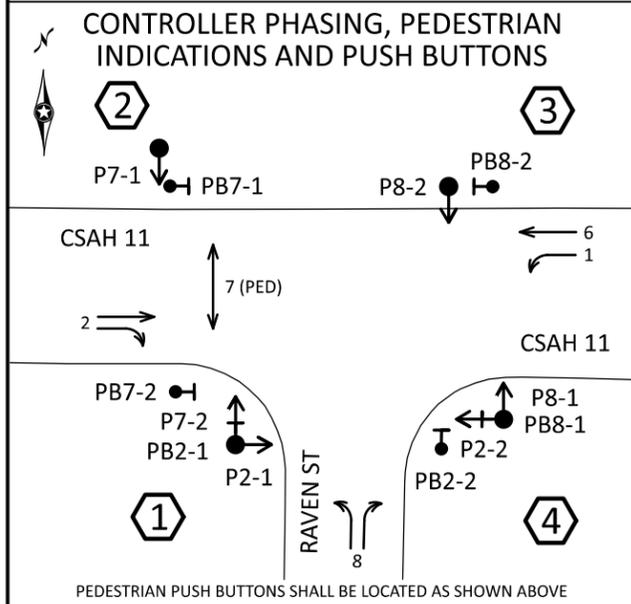
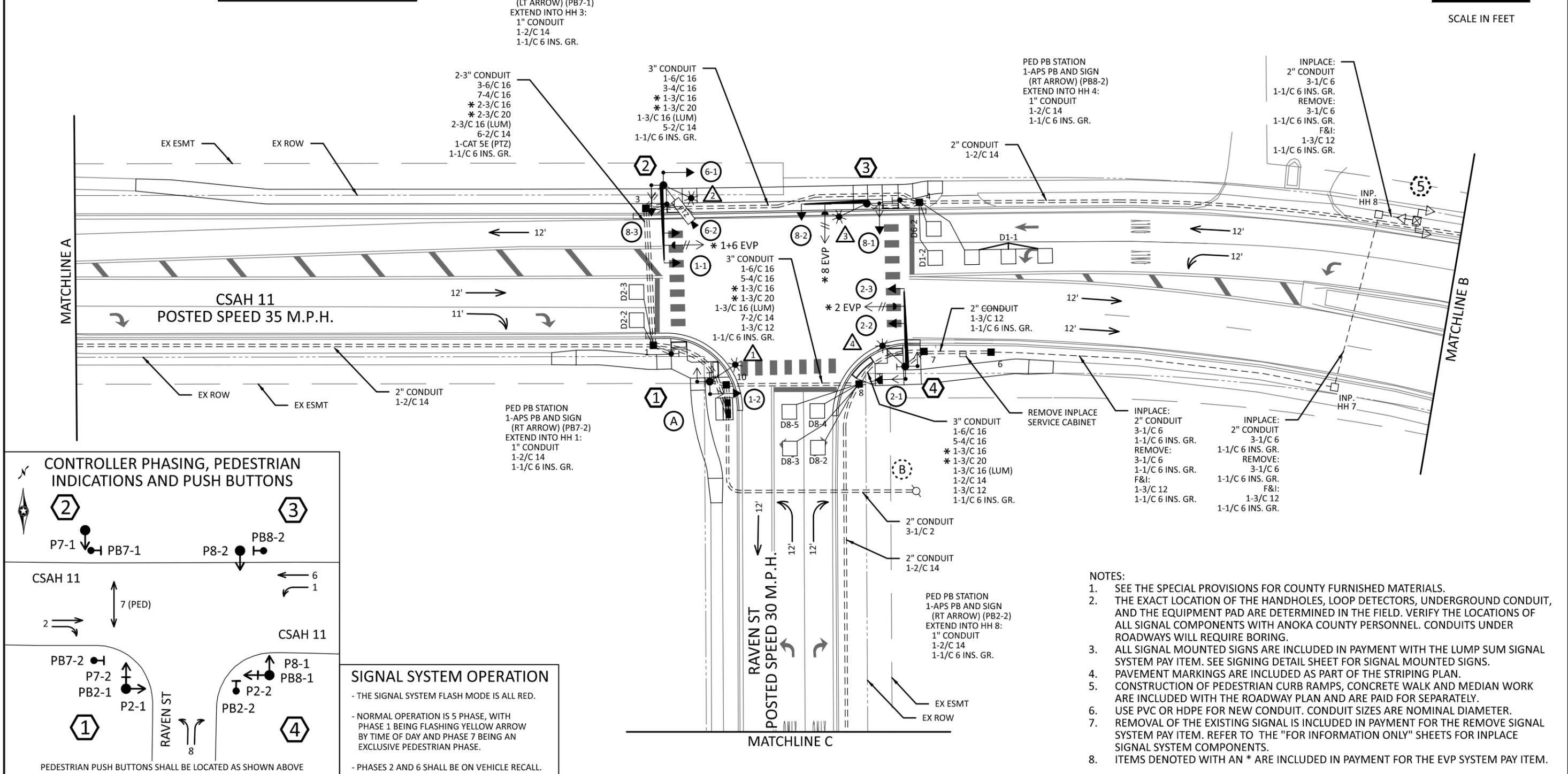
Anoka County

TRAFFIC SIGNAL PLANS
STANDARD PLATES

SAP 002-611-042
SAP 114-020-068

SHEET NO. 44
TOTAL SHEETS 59

| SIGNAL HEAD CHART | | | | LOOP DETECTOR CHART | | |
|---|---|---|-----|--|-----------|------------|
| FACE | R | Y | FYA | NUMBER | SIZE (FT) | LOCATION |
| 1-1, 1-2 | ← | ← | ← | D1-1 | 3-6x6 | 20, 35, 50 |
| 2-1, 2-2, 2-3 | ● | ● | ● | D1-2 | 6x6 | 5 |
| 6-1, 6-2 | ● | ● | ● | D2-1 | 6x6 | 450 |
| 8-1, 8-2, 8-3 | ● | ● | ● | D6-1 | 6x6 | 275 |
| - ALL SIGNAL INDICATIONS SHALL BE 12" LED - ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS AND SHALL HAVE 2" YELLOW REFLECTIVE BORDERS ON ALL SIDES OF THE BACKGROUND SHIELD - FYA DENOTES FLASHING YELLOW ARROW | | | | D2-2, D2-3, D6-2 | 6x6 | 5 |
| | | | | D8-1 | 6x6 | 230 |
| | | | | D8-2, D8-3 | 6x6 | 20 |
| | | | | D8-4, D8-5 | 6x6 | 5 |
| | | | | - ALL LOOP DETECTORS SHALL BE PVC UNLESS NOTED OTHERWISE - LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET | | |



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 5 PHASE, WITH PHASE 1 BEING FLASHING YELLOW ARROW BY TIME OF DAY AND PHASE 7 BEING AN EXCLUSIVE PEDESTRIAN PHASE.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

- NOTES:**
- SEE THE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
 - THE EXACT LOCATION OF THE HANDHOLES, LOOP DETECTORS, UNDERGROUND CONDUIT, AND THE EQUIPMENT PAD ARE DETERMINED IN THE FIELD. VERIFY THE LOCATIONS OF ALL SIGNAL COMPONENTS WITH ANOKA COUNTY PERSONNEL. CONDUITS UNDER ROADWAYS WILL REQUIRE BORING.
 - ALL SIGNAL MOUNTED SIGNS ARE INCLUDED IN PAYMENT WITH THE LUMP SUM SIGNAL SYSTEM PAY ITEM. SEE SIGNING DETAIL SHEET FOR SIGNAL MOUNTED SIGNS. PAVEMENT MARKINGS ARE INCLUDED AS PART OF THE STRIPING PLAN.
 - CONSTRUCTION OF PEDESTRIAN CURB RAMPS, CONCRETE WALK AND MEDIAN WORK ARE INCLUDED WITH THE ROADWAY PLAN AND ARE PAID FOR SEPARATELY.
 - USE PVC OR HDPE FOR NEW CONDUIT. CONDUIT SIZES ARE NOMINAL DIAMETER.
 - REMOVAL OF THE EXISTING SIGNAL IS INCLUDED IN PAYMENT FOR THE REMOVE SIGNAL SYSTEM PAY ITEM. REFER TO THE "FOR INFORMATION ONLY" SHEETS FOR INPLACE SIGNAL SYSTEM COMPONENTS.
 - ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.

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DESIGNED BY: MBG
 DRAWN BY: MMD
 CHECKED BY: BKV

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.

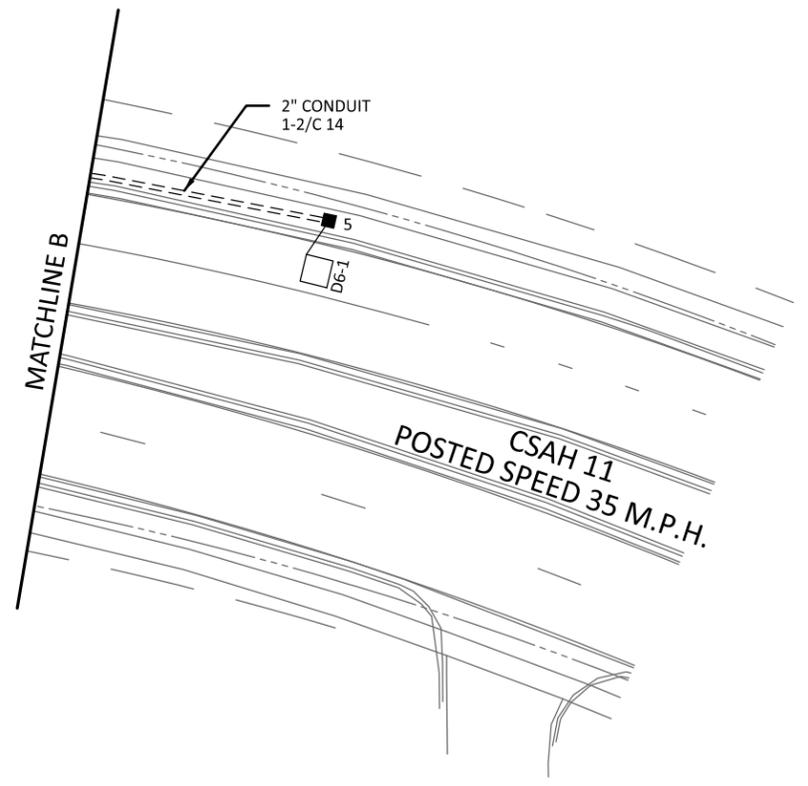
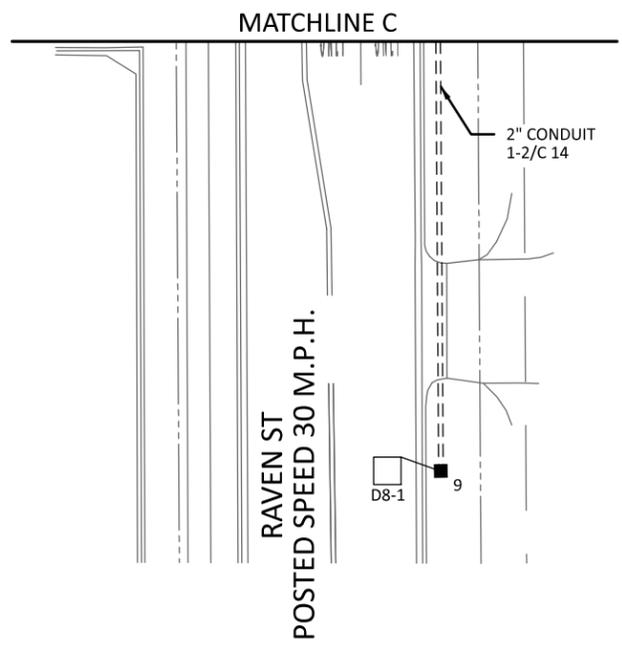
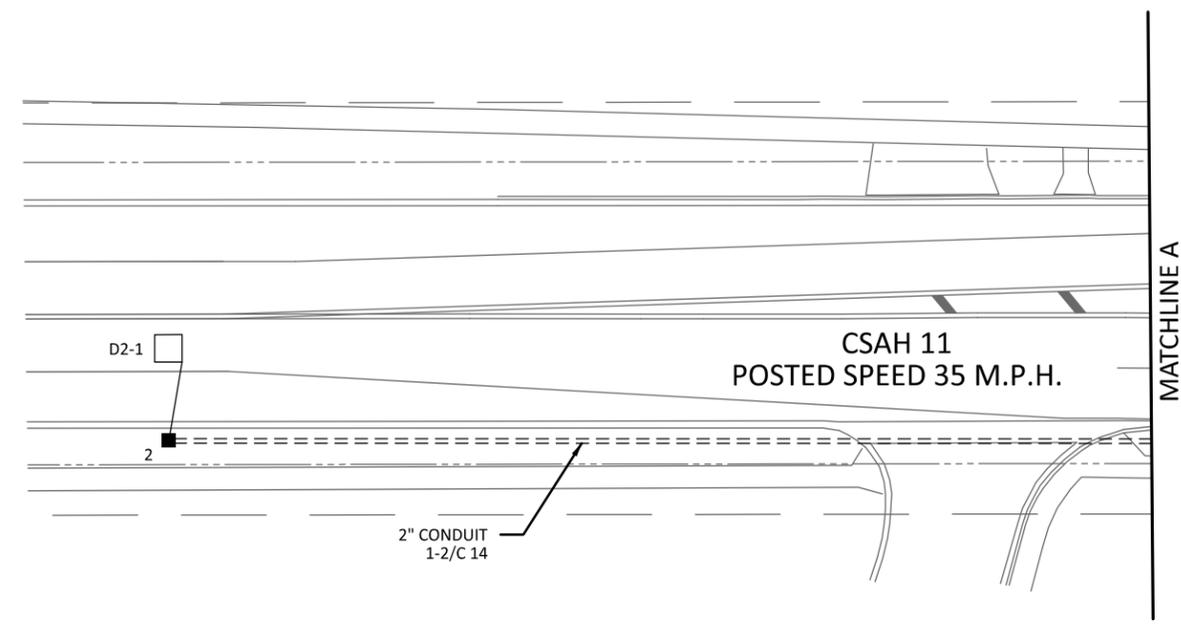
CERTIFIED BY: *[Signature]* LIC NO: 56090
 LICENSED PROFESSIONAL ENGINEER
 PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025



TRAFFIC SIGNAL PLANS
SIGNAL LAYOUT

SAP 002-611-042
SAP 114-020-068

SHEET NO. 46
TOTAL SHEETS 59



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 12/3/2025

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DESIGNED BY: **MBG**
 DRAWN BY: **MMD**
 CHECKED BY: **BKV**

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.
 CERTIFIED BY: *[Signature]* LIC NO: 56090
 PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025



TRAFFIC SIGNAL PLANS
 SIGNAL LAYOUT

SAP 002-611-042
 SAP 114-020-068

SHEET NO. 47
 TOTAL SHEETS 59

② X=485550.6406 Y=153887.9804
 PA90 POLE FOUNDATION
 TYPE PA90-A-30-X6-300/CAM 350 (MOUNTED AT 350 DEG)
 (INCLUDES LIGHTNING ROD, 7/16" GROUND BRAID AND
 GROUND ROD)
 1-PTZ VIDEO CAMERA
 1-LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (1-1)
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11' (6-2)
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG (8-3, 6-1)
 1-ANGLE MOUNT C.D. PED HEAD AT 90 DEG (P7-1)
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (PHASES 1+6)
 1-R10-X12 SIGN
 1-GUIDE SIGN (D-1) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 3:
 2-6/C 16
 4-4/C 16
 * 1-3/C 16
 * 1-2/C 20
 1-3/C 16 (LUM)
 1-CAT 5E (PTZ)
 1-1/C 6 INS. GR.

① X=485567.1444 Y=153807.9369
 PA85 POLE FOUNDATION
 TYPE PA85-D30-9
 1-LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
 1-ANGLE MOUNT SIGNAL AT 90 DEG (1-2)
 2-ANGLE MOUNT C.D. PED HEADS AT 90 AND 180 DEG
 (P2-1, P7-2)
 1-APS PB AND SIGN (LT ARROW) (PB2-1)
 AND POLE MOUNTING ADAPTOR
 3" CONDUIT TO HH 10:
 2-6/C 16
 2-4/C 16
 1-3/C 16 (LUM)
 1-2/C 14
 1-1/C 6 INS. GR.

③ X=485633.5895 Y=153878.5641
 PA85 POLE FOUNDATION
 TYPE PA85-A-25-D30-9
 1-LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (8-2)
 1-ANGLE MOUNT SIGNAL AT 180 DEG (8-1)
 1-ANGLE MOUNT C.D. PED HEAD AT 180 DEG (P8-2)
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (PHASE 8)
 1-GUIDE SIGN (D-2) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 4:
 1-6/C 16
 3-4/C 16
 * 1-3/C 16
 * 1-3/C 20
 1-3/C 16 (LUM)
 1-1/C 6 INS. GR.

④ X=485647.2803 Y=153811.6784
 PA90 POLE FOUNDATION
 TYPE PA90-A-30-D30-9
 1-LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (2-3)
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 13' (2-2)
 1-ANGLE MOUNT SIGNAL AT 180 DEG (2-1)
 2-ANGLE MOUNT C.D. PED HEADS AT 90 AND 180 DEG
 (P8-1, P2-2)
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (PHASE 2)
 1-APS PB AND SIGN (LT ARROW) (PB8-1)
 AND POLE MOUNTING ADAPTOR
 1-GUIDE SIGN (D-1) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 7:
 1-6/C 16
 5-4/C 16
 * 1-3/C 16
 * 1-3/C 20
 1-3/C 16 (LUM)
 1-2/C 14
 1-1/C 6 INS. GR.

⑤ INPLACE:
 PEDESTAL FOUNDATION
 3-LED YELLOW FLASHERS
 DYNAMIC SPEED DISPLAY SIGN
 DISPLAY DISCONNECT CABINET
 2" CONDUIT INTO INP. HH 8:
 3-1/C 6 (SPEED SIGN SERVICE)
 1-1/C 6 INS. GR.
 REMOVE:
 3-1/C 6 (SPEED SIGN SERVICE)
 1-1/C 6 INS. GR.
 F&I:
 1-3/C 12 (SPEED SIGN SERVICE)
 1-1/C 6 INS. GR.

Ⓐ EQUIPMENT PAD (SEE DETAIL SHEET)
 SERVICE CABINET WITH BATTERY BACKUP (SEE DETAIL SHEET)
 CONTROLLER AND CABINET (COUNTY PROVIDED)

2-3" CONDUITS TO HH 1:
 3-6/C 16
 7-4/C 16
 * 2-3/C 16
 * 2-3/C 20
 2-3/C 16 (LUM)
 7-2/C 14
 1-CAT 5E (PTZ)
 1-1/C 6 INS. GR.

2-3" CONDUITS TO HH 10:
 3-6/C 16
 7-4/C 16
 * 1-3/C 16
 * 1-3/C 20
 2-3/C 16 (LUM)
 8-2/C 14
 1-3/C 12 (SPEED SIGN SERVICE)
 1-1/C 6 INS. GR.

GROUND WIRE AND GROUND ROD - MIN 8' STUBBED OUT FROM PAD
 2-2" AND 1-3" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)
 1-1" CONDUIT STUBBED OUT (CAPPED BOTH ENDS) (FUTURE PHONE LINE)
 CONTROLLER CABINET TO SERVICE CABINET:

2" CONDUIT
 3-1/C 6
 CONTROLLER CABINET TO SERVICE CABINET (COMMS):
 2" CONDUIT
 1-6PR 19
 SERVICE CABINET TO POLE MOUNTED TRANSFORMER:
 2" CONDUIT
 3-1/C 2

SERVICE CABINET TO HH 1:
 2" CONDUIT
 2-3/C 16 (LUM)
 SERVICE CABINET TO HH 10:
 2" CONDUIT
 2-3/C 16 (LUM)
 SERVICE CABINET TO EXTERNAL GR. RD.:
 1" CONDUIT
 1-1/C 6 INS. GR.
 (SEE EQUIPMENT PAD LAYOUT)

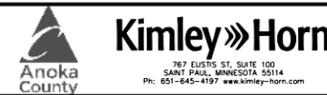
Ⓑ INPLACE SOP TRANSFORMER (CONNEXUS)

NOTES:

- 1. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.

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11:02:36 AM
12/3/2025

| | | |
|--------------|-----|---|
| DESIGNED BY: | MBG | 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. CERTIFIED BY:  LIC NO: 56090 Licensed Professional Engineer PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025 |
| DRAWN BY: | MMD | |
| CHECKED BY: | BKV | |



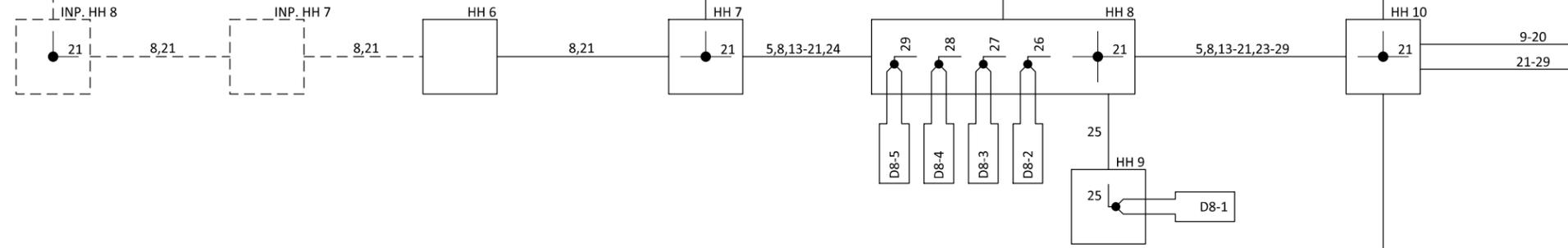
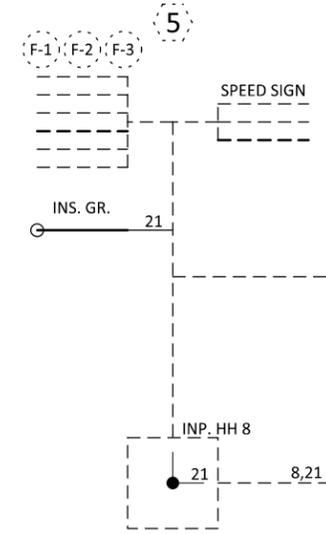
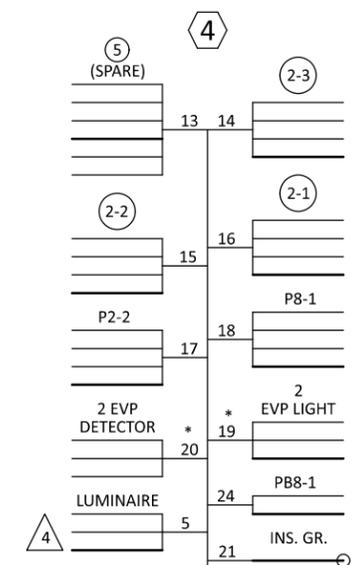
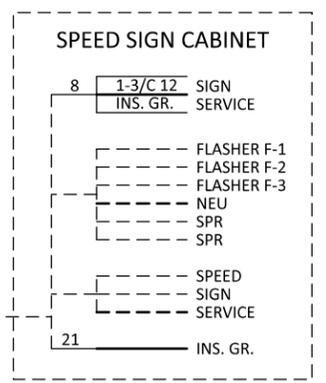
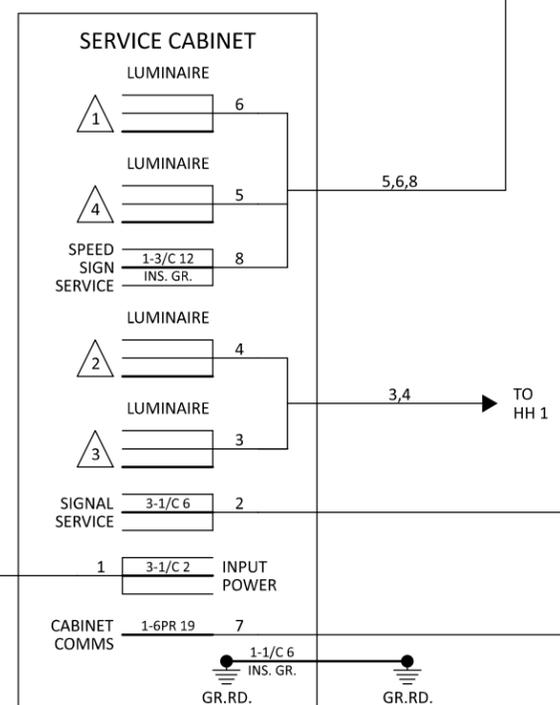
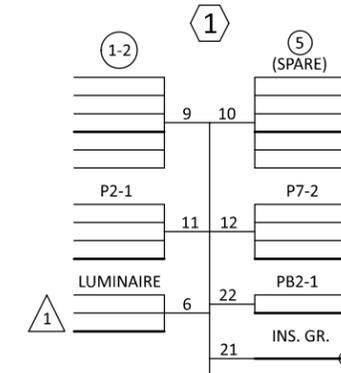
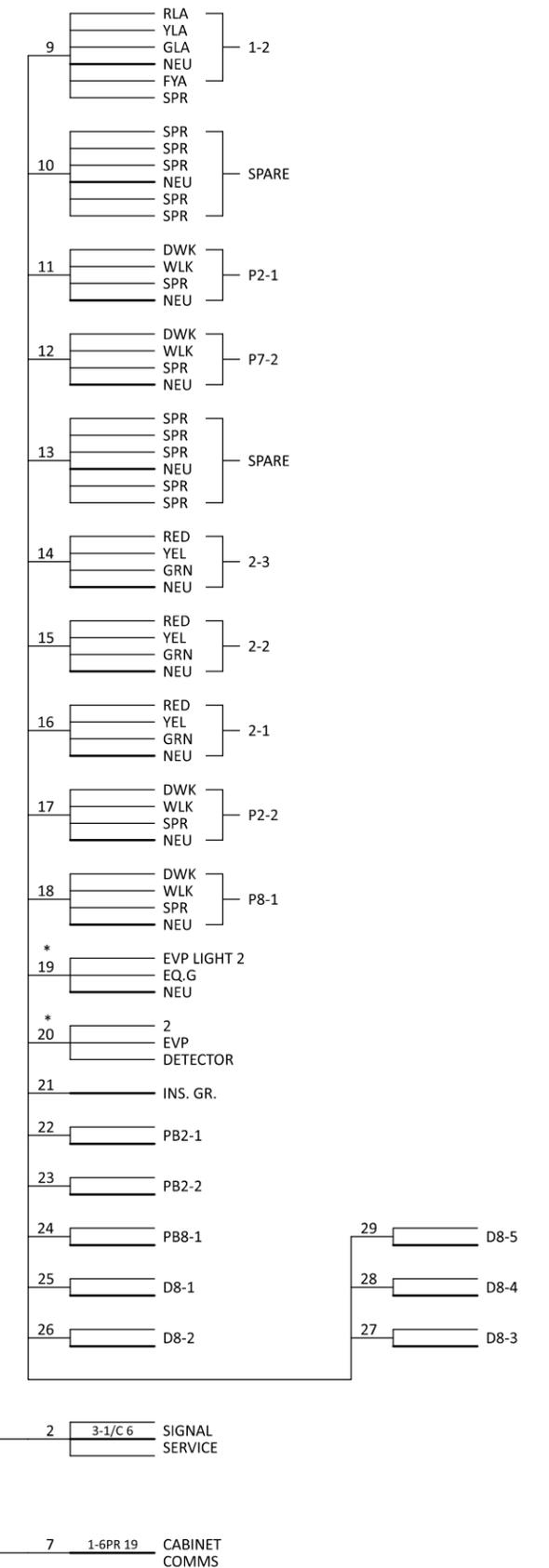
TRAFFIC SIGNAL PLANS
 INTERSECTION NOTES

SAP 002-611-042
 SAP 114-020-068

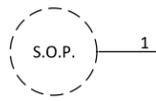
| | |
|--------------|----|
| SHEET NO. | 48 |
| TOTAL SHEETS | 59 |

| NO. | DATE | DWN | CKD | REVISIONS |
|-----|------|-----|-----|-----------|
| | | | | |

CONTROLLER CABINET



- NOTES:
- SPLICES ONLY ALLOWED IN LOOP DETECTOR CIRCUITS AND GROUND WIRES.
 - FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL COLOR CODE DETAILS
 - ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVV SYSTEM PAY ITEM.
 - ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECT PAY ITEM.
 - FOR EACH "SPARE" WIRE, COIL ENOUGH WIRE TO REACH THE END OF THE MAST ARM IN THE HANDHOLE NEAREST EACH POLE.
 - LEAVE ONE LOOP OF SLACK FOR EACH CABLE IN THE POLE BASE.
 - SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET WITH BATTERIES.



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12/3/2025

| NO. | DATE | DWN | CKD | REVISIONS |
|-----|------|-----|-----|-----------|
| | | | | |

DESIGNED BY: MBG
 DRAWN BY: MMD
 CHECKED BY: BKV

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.

CERTIFIED BY: *[Signature]* LIC NO: 56090
 Licensed Professional Engineer
 PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025

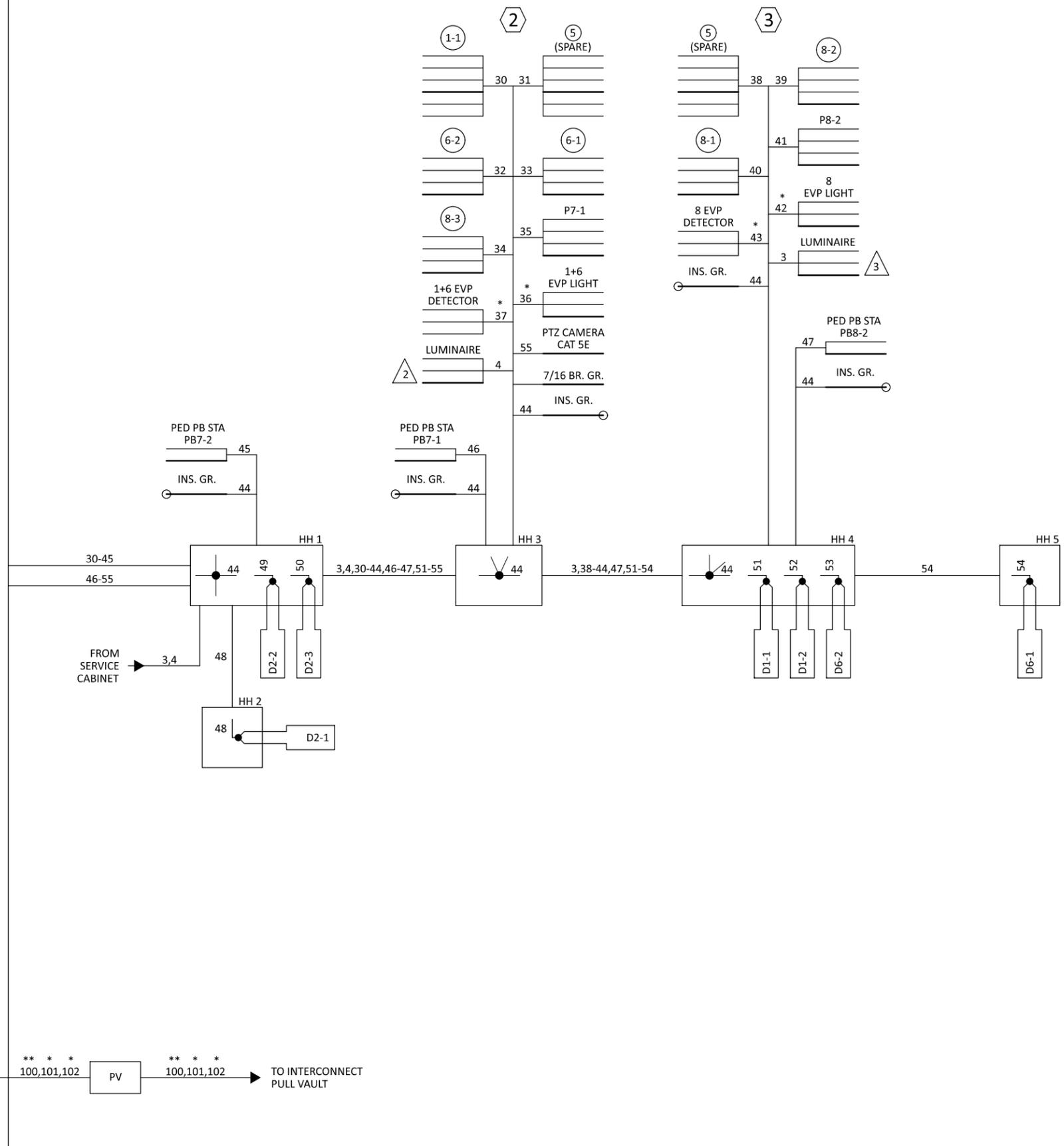
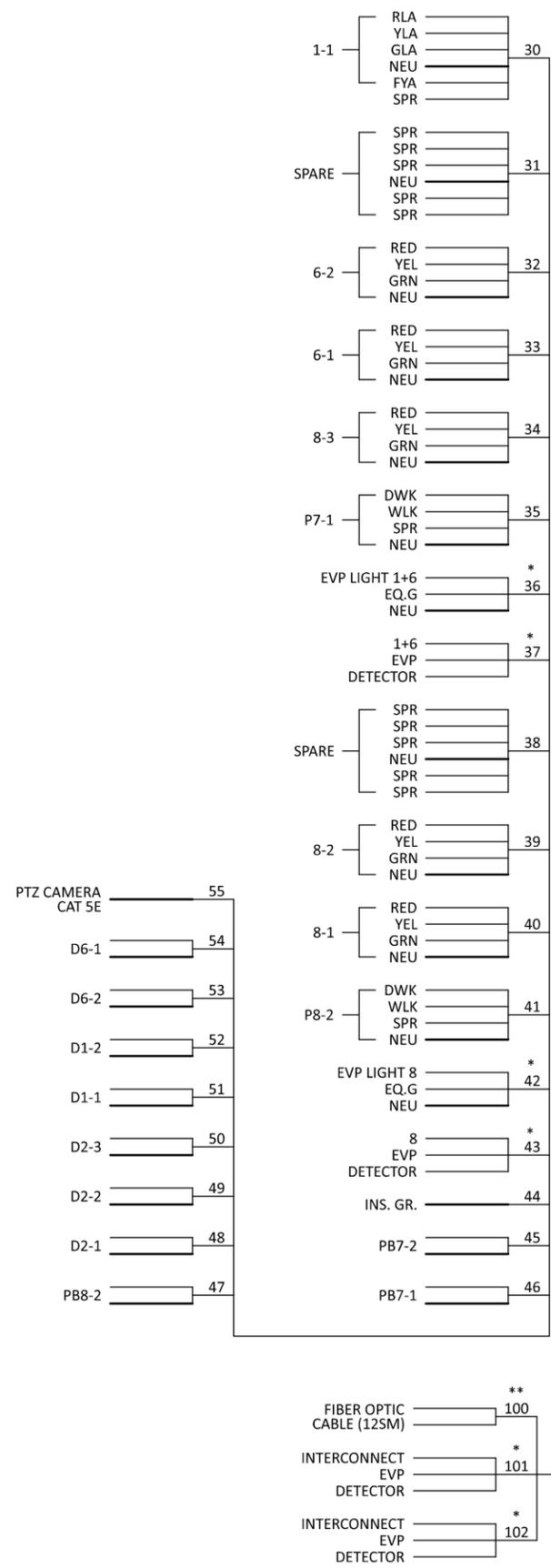


TRAFFIC SIGNAL PLANS
 FIELD WIRING DIAGRAM (1 of 2)

SAP 002-611-042
 SAP 114-020-068

SHEET NO. 49
 TOTAL SHEETS 59

CONTROLLER CABINET



- NOTES:**
1. SPLICES ONLY ALLOWED IN LOOP DETECTOR CIRCUITS AND GROUND WIRES.
 2. FOR CONDUCTOR COLOR CODE SEE TRAFFIC SIGNAL COLOR CODE DETAILS
 3. ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.
 4. ITEMS DENOTED WITH AN ** ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECT PAY ITEM.
 5. FOR EACH "SPARE" WIRE, COIL ENOUGH WIRE TO REACH THE END OF THE MAST ARM IN THE HANDHOLE NEAREST EACH POLE.
 6. LEAVE ONE LOOP OF SLACK FOR EACH CABLE IN THE POLE BASE.
 7. SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET WITH BATTERIES.

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12/3/2025

| NO. | DATE | DWN | CKD | REVISIONS |
|-----|------|-----|-----|-----------|
| | | | | |
| | | | | |

DESIGNED BY: **MBG**
 DRAWN BY: **MMD**
 CHECKED BY: **BKV**

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.

CERTIFIED BY: *[Signature]* LIC NO: 56090
 Licensed Professional Engineer
 PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025



TRAFFIC SIGNAL PLANS
FIELD WIRING DIAGRAM (2 of 2)

SAP 002-611-042
 SAP 114-020-068

SHEET NO. **50**
 TOTAL SHEETS **59**

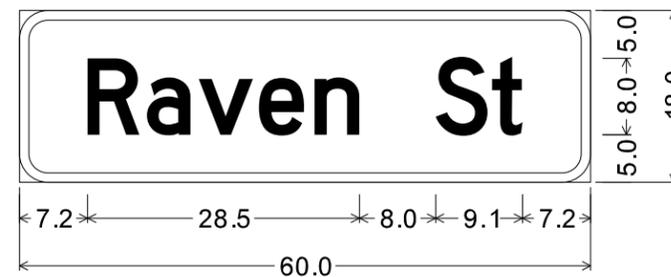
| SIGN PANELS ON SIGNALS | | | | | |
|------------------------|-----------------------------|-------------|--|---------------|--------------|
| POLE NUMBER | "A" DISTANCE (FEET) OR POLE | PANEL | | | |
| | | CODE NUMBER | LEGEND | SIZE (INCHES) | AREA (SQ FT) |
| 2 | 0 | R10-X12 | LEFT TURN YIELD ON FLASHING YELLOW ARROW | 36 x 42 | 10.50 |
| 2 | 14 | D-1 | RAVEN ST | 60 x 18 | 7.50 |
| 3 | 7 | D-2 | NORTHDALE BLVD | 90 x 18 | 11.25 |
| 4 | 14 | D-1 | RAVEN ST | 60 x 18 | 7.50 |

GENERAL NOTE(S):

- SEE MnDOT STANDARD SIGNS AND MARKINGS MANUAL FOR STANDARD SIGN DESIGNS, ARROW DETAILS AND SPLICE PLATE DETAILS.
- FOR NON STANDARD SIGN DESIGNS, LAYOUTS ARE INCLUDED. SIGN PANEL DIMENSIONS ARE IN INCHES.
- SEE STANDARD PLAN 5-297.731 FOR SIGN MOUNTING TO MAST ARM.
- SEE STANDARD PLAN 5-297.730 FOR SIGN MOUNTING TO ROUND POST.
- MOUNTING HEIGHT OF POLE MOUNTED SIGN PANELS MUST BE 7 FOOT MINIMUM.
MOUNTING HEIGHT IS MEASURED FROM BOTTOM OF SIGN PANEL TO SURFACE IMMEDIATELY BELOW THE SIGN PANEL.
- "A" DISTANCE = DISTANCE FROM THE END OF THE MAST ARM TO THE EDGE OF EACH SIGN PANEL.

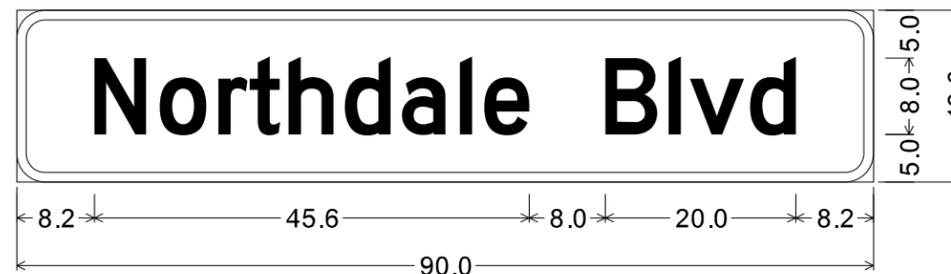
SIGN PANEL DETAILS

D-1



RAVEN ST;
3.0" Radius, 1.0" Border, White on Green;
"Raven St", D 2K;

D-2



NORTHDALE BLVD;
3.0" Radius, 1.0" Border, White on Green;
"Northdale Blvd", D 2K;

| NO. | DATE | DWN | CKD | REVISIONS |
|-----|------|-----|-----|-----------|
| | | | | |

| | |
|-------------------------|---|
| DESIGNED BY: MBG | <small>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.</small> <small>Licensed Professional Engineer LIC NO: 56090</small> <small>PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025</small> |
| DRAWN BY: MMD | |
| CHECKED BY: BKV | |

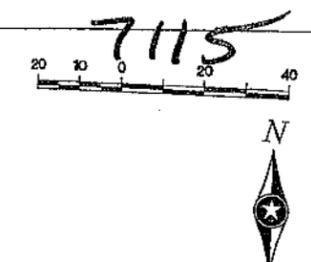
Kimley»Horn
787 EUSTIS ST. SUITE 100
SANT PAUL, MINNESOTA 55114
PH: 651-645-4197 www.kimley-horn.com

Anoka County

TRAFFIC SIGNAL PLANS
SIGN PANEL DETAILS

SAP 002-611-042
SAP 114-020-068

SHEET NO. 51
TOTAL SHEETS 59



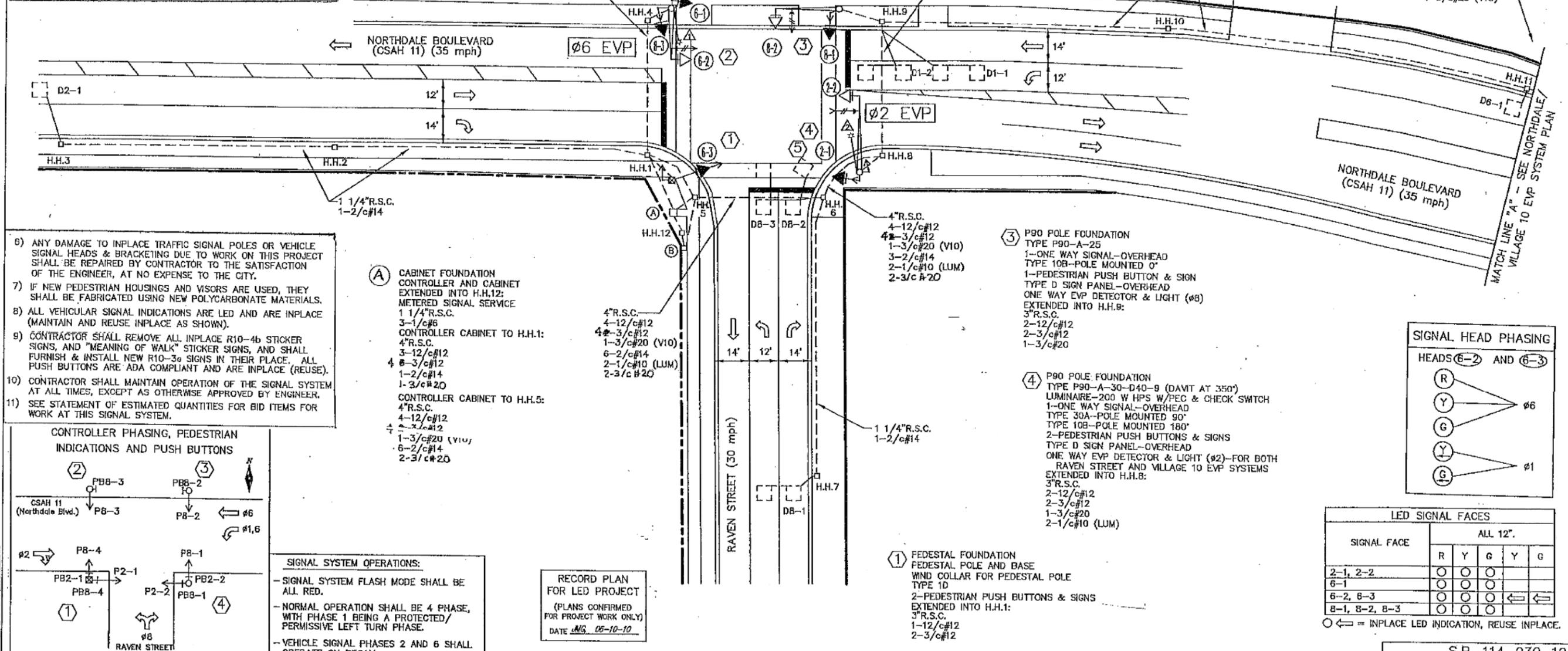
- LED RETROFIT-SYSTEM "FF" NOTES:**
- ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
 - CONTRACTOR SHALL REMOVE THE INPLACE "HAND/WALKING PERSON" LENS FROM EACH INPLACE ONE SECTION PED SIGNAL INDICATION, AND SHALL FURNISH & INSTALL A NEW COUNTDOWN TIMER LED "HAND/WALKING PERSON" LENS IN ITS PLACE.
 - CONTRACTOR SHALL PROTECT AND MAINTAIN EACH INPLACE ONE SECTION PEDESTRIAN SIGNAL HOUSING & VISOR WHEN REMOVING AND REPLACING EACH LENS, AND SHALL REPLACE THE COMPLETE PEDESTRIAN SIGNAL INDICATION UNIT (HOUSING, VISOR, AND LENS) SHOULD ANY DAMAGE BE DONE TO THE UNIT BY CONTRACTOR DURING WORK ON THIS PROJECT (INCIDENTAL).
 - IN LIEU OF THE LENS REPLACEMENT WORK DESCRIBED ABOVE, THE CONTRACTOR ALSO HAS THE OPTION OF REMOVING EACH INPLACE ONE SECTION PEDESTRIAN SIGNAL INDICATION (HOUSING, VISOR AND LENS) AND REPLACING THEM WITH NEW ONE SECTION PEDESTRIAN SIGNAL INDICATIONS (HOUSING, VISOR, AND LED LENSES), AT NO ADDITIONAL COST TO THE PROJECT.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MODIFICATIONS TO INPLACE POLE MOUNTED BRACKETING ON EACH TRAFFIC SIGNAL POLE TO ACCOMMODATE INSTALLATION OF NEW ONE SECTION PEDESTRIAN SIGNAL INDICATIONS (INCLUDING THE REPLACEMENT OF THE POLE MOUNTED BRACKETING IF NEEDED TO ACCOMMODATE EACH PEDESTRIAN SIGNAL INDICATION INSTALLATION) (INCIDENTAL).

| NUMBER | SIZE (FT.) | LOCATION | FUNCTION |
|--------|------------|-----------|----------|
| D1-1 | 2-6x6 | 35' & 50' | 1 |
| D1-2 | 2-6x6 | 5' & 20' | 1,11 |
| D2-1 | 6x6 | 280' | 1 |
| D6-1 | 6x6 | 280' | 1 |
| D8-1 | 2-6x6 | 120' | 3,8 |
| D8-2 | 2-6x6 | AS SHOWN | 7 |
| D8-3 | 2-6x6 | AS SHOWN | 1 |

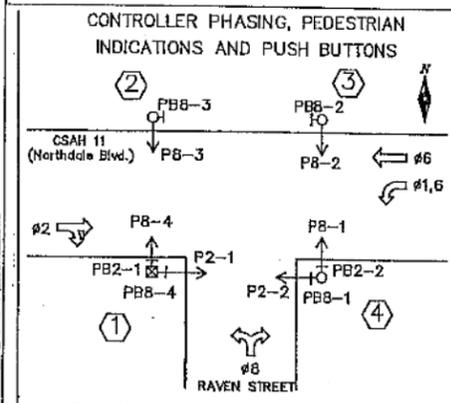
- FUNCTIONS:**
- CALL AND EXTEND
 - EXTEND ONLY
 - DELAYED CALL
 - IMMEDIATE EXTEND
 - CARRY OVER (STRETCH)
 - EXTEND PHASE 6 DURING PHASE 6 GREEN

- (B) INPLACE (MAINTAIN INPLACE)**
- CABINET FOUNDATION
SIGNAL SERVICE CABINET
STUB OUT 2"R.S.C. (FOR SERVICE BY OTHERS)
EXTENDED INTO H.H.12:
METERED SIGNAL SERVICE
1 1/4"R.S.C.
3-1/c#6
- EXTENDED INTO H.H.5:
UNMETERED STREET LIGHT SERVICE
1 1/4"R.S.C.
4-1/c#10 (LUM)
BETWEEN H.H.1 AND H.H.5:
2"R.S.C.
2-1/c#10 (LUM)

- (2) P80 POLE FOUNDATION**
TYPE P80-A-20-D40-9 (DAVT AT 350')
LUMINAIRE-200 W HPS W/PEC & CHECK SWITCH
1-ONE WAY SIGNAL-OVERHEAD
TYPE 10B-POLE MOUNTED 90'
TYPE 10A-POLE MOUNTED 180'
1-PEDESTRIAN PUSH BUTTON & SIGN
R10-12 SIGN PANEL-ADJACENT TO 6-2
TYPE D SIGN PANEL-OVERHEAD
ONE WAY EVP DETECTOR & LIGHT (#6)
EXTENDED INTO H.H.4:
3"R.S.C.
2-12/c#12
2-3/c#12
1-3/c#20
2-1/c#10 (LUM)



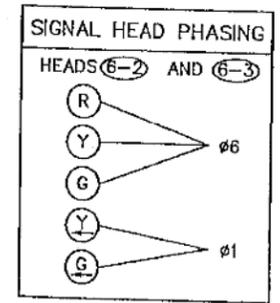
- ANY DAMAGE TO INPLACE TRAFFIC SIGNAL POLES OR VEHICLE SIGNAL HEADS & BRACKETING DUE TO WORK ON THIS PROJECT SHALL BE REPAIRED BY CONTRACTOR TO THE SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE CITY.
- IF NEW PEDESTRIAN HOUSINGS AND VISORS ARE USED, THEY SHALL BE FABRICATED USING NEW POLYCARBONATE MATERIALS.
- ALL VEHICULAR SIGNAL INDICATIONS ARE LED AND ARE INPLACE (MAINTAIN AND REUSE INPLACE AS SHOWN).
- CONTRACTOR SHALL REMOVE ALL INPLACE R10-4b STICKER SIGNS, AND "MEANING OF WALK" STICKER SIGNS, AND SHALL FURNISH & INSTALL NEW R10-3e SIGNS IN THEIR PLACE. ALL PUSH BUTTONS ARE ADA COMPLIANT AND ARE INPLACE (REUSE).
- CONTRACTOR SHALL MAINTAIN OPERATION OF THE SIGNAL SYSTEM AT ALL TIMES, EXCEPT AS OTHERWISE APPROVED BY ENGINEER.
- SEE STATEMENT OF ESTIMATED QUANTITIES FOR BID ITEMS FOR WORK AT THIS SIGNAL SYSTEM.



SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE SHALL BE ALL RED.
- NORMAL OPERATION SHALL BE 4 PHASE, WITH PHASE 1 BEING A PROTECTED/PERMISSIVE LEFT TURN PHASE.
- VEHICLE SIGNAL PHASES 2 AND 6 SHALL OPERATE ON RECALL.

RECORD PLAN FOR LED PROJECT
(PLANS CONFIRMED FOR PROJECT WORK ONLY)
DATE: MAY 05-10-10



LED SIGNAL FACES

| SIGNAL FACE | ALL 12" | | | | |
|---------------|---------|---|---|---|---|
| | R | Y | G | Y | G |
| 2-1, 2-2 | ○ | ○ | ○ | | |
| 6-1 | ○ | ○ | ○ | | |
| 6-2, 6-3 | ○ | ○ | ○ | ← | ← |
| 8-1, 8-2, 8-3 | ○ | ○ | ○ | | |

○ ← = INPLACE LED INDICATION, REUSE INPLACE.

| | | |
|-----------------|----------|----------------------------|
| DRAWN BY: JMG | JMG & AD | RECORD DRAWING FOR PROTECT |
| DESIGNER: JMG | | |
| CHECKED BY: JMG | | |
| DESIGN TEAM | NO. | BY DATE |
| | | REVISIONS |

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.

JMG
Name: John M. Gray, PE
Lic. No. 22457

DATE: MAY 18, 2009

PHONE: (651) 480-2000
3535 VADNERS CENTER DR.
ST. PAUL, MN 55110

COON RAPIDS, MINNESOTA

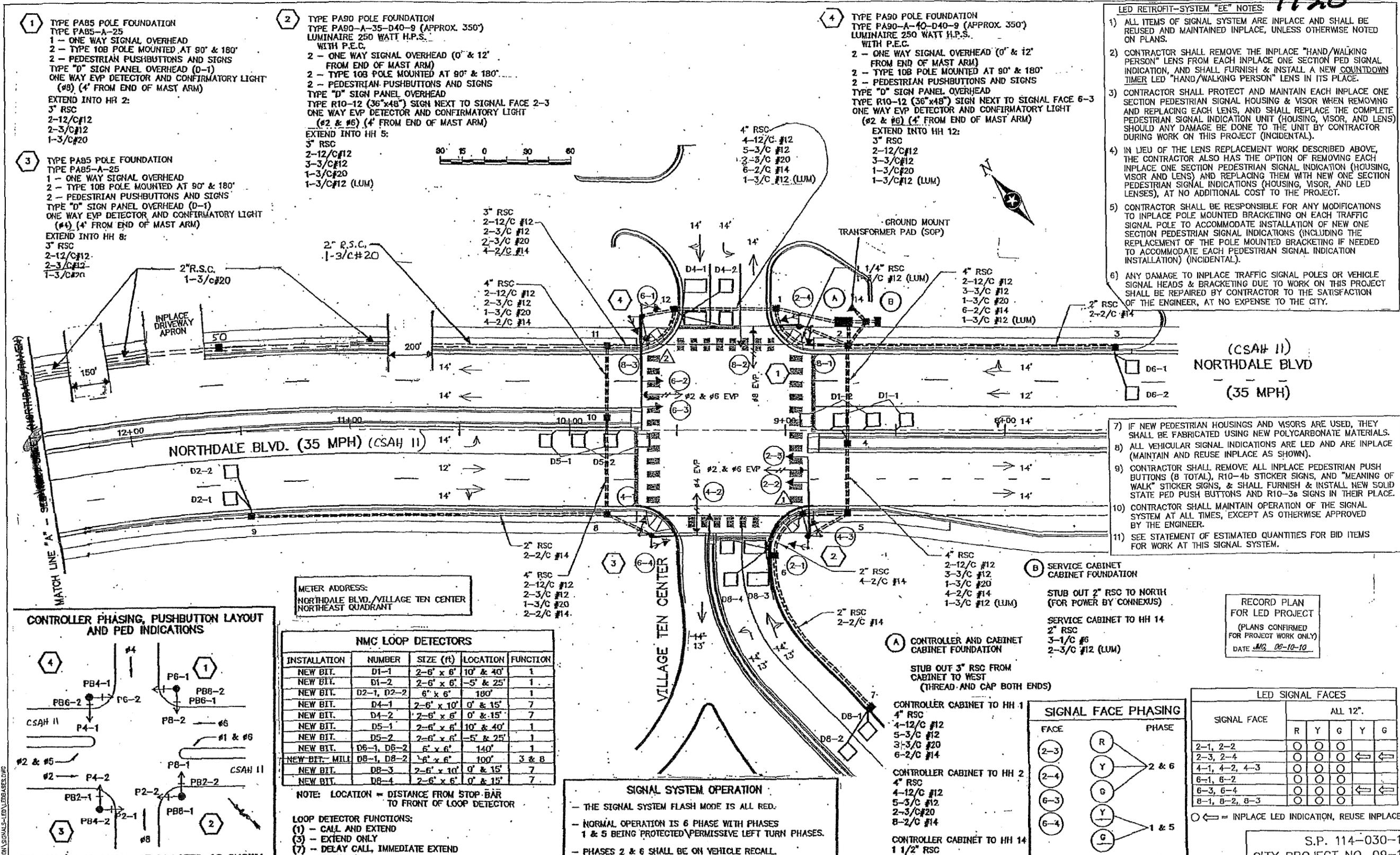
LED RETROFIT-SYSTEM "FF" INTERSECTION LAYOUT

CSAH 11 AT RAVEN STREET

S.P. 114-030-10
CITY PROJECT NO. 09-18

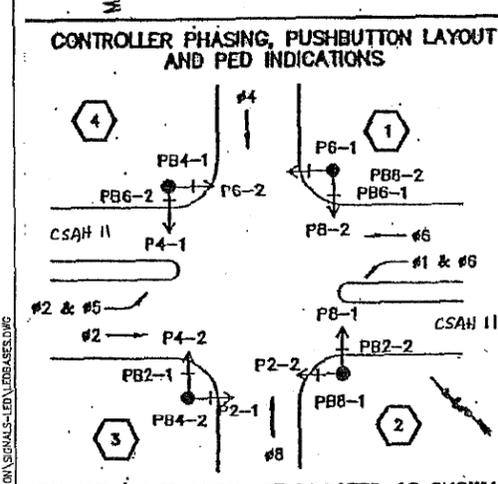
FILE NO. 107418
DATE 05/18/2009
72
131

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12/3/2005



- 1** TYPE PA85 POLE FOUNDATION
 TYPE PA85-A-25
 1 - ONE WAY SIGNAL OVERHEAD
 2 - TYPE 10B POLE MOUNTED AT 90° & 180°
 2 - PEDESTRIAN PUSHBUTTONS AND SIGNS
 TYPE "D" SIGN PANEL OVERHEAD (D-1)
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (#8) (4' FROM END OF MAST ARM)
 EXTEND INTO HH 2:
 3" RSC
 2-12/C#12
 2-3/C#12
 1-3/C#20
- 2** TYPE PA90 POLE FOUNDATION
 TYPE PA90-A-35-D40-9 (APPROX. 350')
 LUMINAIRE 250 WATT H.P.S.
 WITH P.E.C.
 2 - ONE WAY SIGNAL OVERHEAD (0' & 12'
 FROM END OF MAST ARM)
 2 - TYPE 10B POLE MOUNTED AT 90° & 180°
 2 - PEDESTRIAN PUSHBUTTONS AND SIGNS
 TYPE "D" SIGN PANEL OVERHEAD
 TYPE R10-12 (36"x48") SIGN NEXT TO SIGNAL FACE 2-3
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (#2 & #6) (4' FROM END OF MAST ARM)
 EXTEND INTO HH 5:
 3" RSC
 2-12/C#12
 3-3/C#12
 1-3/C#20
 1-3/C#12 (LUM)
- 3** TYPE PA85 POLE FOUNDATION
 TYPE PA85-A-25
 1 - ONE WAY SIGNAL OVERHEAD
 2 - TYPE 10B POLE MOUNTED AT 90° & 180°
 2 - PEDESTRIAN PUSHBUTTONS AND SIGNS
 TYPE "D" SIGN PANEL OVERHEAD (D-1)
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (#4) (4' FROM END OF MAST ARM)
 EXTEND INTO HH 8:
 3" RSC
 2-12/C#12
 2-3/C#12
 1-3/C#20
- 4** TYPE PA90 POLE FOUNDATION
 TYPE PA90-A-40-D40-9 (APPROX. 350')
 LUMINAIRE 250 WATT H.P.S.
 WITH P.E.C.
 2 - ONE WAY SIGNAL OVERHEAD (0' & 12'
 FROM END OF MAST ARM)
 2 - TYPE 10B POLE MOUNTED AT 90° & 180°
 2 - PEDESTRIAN PUSHBUTTONS AND SIGNS
 TYPE "D" SIGN PANEL OVERHEAD
 TYPE R10-12 (36"x48") SIGN NEXT TO SIGNAL FACE 6-3
 ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 (#2 & #6) (4' FROM END OF MAST ARM)
 EXTEND INTO HH 12:
 3" RSC
 2-12/C#12
 3-3/C#12
 1-3/C#20
 1-3/C#12 (LUM)

- LED RETROFIT-SYSTEM "EE" NOTES:** 1170
- ALL ITEMS OF SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
 - CONTRACTOR SHALL REMOVE THE INPLACE "HAND/WALKING PERSON" LENS FROM EACH INPLACE ONE SECTION PED SIGNAL INDICATION, AND SHALL FURNISH & INSTALL A NEW COUNTDOWN TIMER LED "HAND/WALKING PERSON" LENS IN ITS PLACE.
 - CONTRACTOR SHALL PROTECT AND MAINTAIN EACH INPLACE ONE SECTION PEDESTRIAN SIGNAL HOUSING & VISOR WHEN REMOVING AND REPLACING EACH LENS, AND SHALL REPLACE THE COMPLETE PEDESTRIAN SIGNAL INDICATION UNIT (HOUSING, VISOR, AND LENS) SHOULD ANY DAMAGE BE DONE TO THE UNIT BY CONTRACTOR DURING WORK ON THIS PROJECT (INCIDENTAL).
 - IN LIEU OF THE LENS REPLACEMENT WORK DESCRIBED ABOVE, THE CONTRACTOR ALSO HAS THE OPTION OF REMOVING EACH INPLACE ONE SECTION PEDESTRIAN SIGNAL INDICATION (HOUSING, VISOR AND LENS) AND REPLACING THEM WITH NEW ONE SECTION PEDESTRIAN SIGNAL INDICATIONS (HOUSING, VISOR, AND LED LENSES), AT NO ADDITIONAL COST TO THE PROJECT.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MODIFICATIONS TO INPLACE POLE MOUNTED BRACKETING ON EACH TRAFFIC SIGNAL POLE TO ACCOMMODATE INSTALLATION OF NEW ONE SECTION PEDESTRIAN SIGNAL INDICATIONS (INCLUDING THE REPLACEMENT OF THE POLE MOUNTED BRACKETING IF NEEDED TO ACCOMMODATE EACH PEDESTRIAN SIGNAL INDICATION INSTALLATION) (INCIDENTAL).
 - ANY DAMAGE TO INPLACE TRAFFIC SIGNAL POLES OR VEHICLE SIGNAL HEADS & BRACKETING DUE TO WORK ON THIS PROJECT SHALL BE REPAIRED BY CONTRACTOR TO THE SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE CITY.



METER ADDRESS:
 NORTHDAL BLVD/VILLAGE TEN CENTER
 NORTHEAST QUADRANT

NMC LOOP DETECTORS

| INSTALLATION | NUMBER | SIZE (ft) | LOCATION | FUNCTION |
|-----------------|------------|------------|-----------|----------|
| NEW BIT. | D1-1 | 2-6' x 6' | 10' & 40' | 1 |
| NEW BIT. | D1-2 | 2-6' x 6' | -5' & 25' | 1 |
| NEW BIT. | D2-1, D2-2 | 6' x 6' | 180' | 1 |
| NEW BIT. | D4-1 | 2-6' x 10' | 0' & 15' | 7 |
| NEW BIT. | D4-2 | 2-6' x 6' | 0' & 15' | 7 |
| NEW BIT. | D5-1 | 2-6' x 6' | 10' & 40' | 1 |
| NEW BIT. | D5-2 | 2-6' x 6' | -5' & 25' | 1 |
| NEW BIT. | D6-1, D6-2 | 6' x 6' | 140' | 1 |
| NEW BIT. - MILL | D8-1, D8-2 | 6' x 6' | 100' | 3 & B |
| NEW BIT. | D8-3 | 2-6' x 10' | 0' & 15' | 7 |
| NEW BIT. | D8-4 | 2-6' x 6' | 0' & 15' | 7 |

NOTE: LOCATION = DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR

LOOP DETECTOR FUNCTIONS:
 (1) - CALL AND EXTEND
 (3) - EXTEND ONLY
 (7) - DELAY CALL, IMMEDIATE EXTEND
 (8) - STRETCH

SIGNAL SYSTEM OPERATION

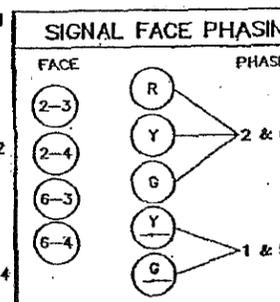
- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 6 PHASE WITH PHASES 1 & 5 BEING PROTECTED/PERMISSIVE LEFT TURN PHASES.
- PHASES 2 & 6 SHALL BE ON VEHICLE RECALL.

- IF NEW PEDESTRIAN HOUSINGS AND VISORS ARE USED, THEY SHALL BE FABRICATED USING NEW POLYCARBONATE MATERIALS.
- ALL VEHICULAR SIGNAL INDICATIONS ARE LED AND ARE INPLACE (MAINTAIN AND REUSE INPLACE AS SHOWN).
- CONTRACTOR SHALL REMOVE ALL INPLACE PEDESTRIAN PUSH BUTTONS (8 TOTAL), R10-4b STICKER SIGNS, AND "MEANING OF WALK" STICKER SIGNS, & SHALL FURNISH & INSTALL NEW SOLID STATE PED PUSH BUTTONS AND R10-3a SIGNS IN THEIR PLACE.
- CONTRACTOR SHALL MAINTAIN OPERATION OF THE SIGNAL SYSTEM AT ALL TIMES, EXCEPT AS OTHERWISE APPROVED BY THE ENGINEER.
- SEE STATEMENT OF ESTIMATED QUANTITIES FOR BID ITEMS FOR WORK AT THIS SIGNAL SYSTEM.

(B) SERVICE CABINET FOUNDATION
 CABINET FOUNDATION
 STUB OUT 2" RSC TO NORTH (FOR POWER BY CONNEXUS)
 2" RSC
 3-1/C #6
 2-3/C #12 (LUM)

(A) CONTROLLER AND CABINET CABINET FOUNDATION
 CABINET FOUNDATION
 STUB OUT 3" RSC FROM CABINET TO WEST (THREAD AND CAP BOTH ENDS)
 4" RSC
 4-12/C #12
 5-3/C #12
 3-3/C #20
 6-2/C #14
 CONTROLLER CABINET TO HH 1
 CONTROLLER CABINET TO HH 2
 CONTROLLER CABINET TO HH 14

RECORD PLAN FOR LED PROJECT
 (PLANS CONFIRMED FOR PROJECT WORK ONLY)
 DATE 06-10-10



LED SIGNAL FACES

| SIGNAL FACE | ALL 12" | | | | |
|---------------|---------|---|---|---|---|
| | R | Y | G | Y | G |
| 2-1, 2-2 | ○ | ○ | ○ | | |
| 2-3, 2-4 | ○ | ○ | ○ | ← | ← |
| 4-1, 4-2, 4-3 | ○ | ○ | ○ | | |
| 6-1, 6-2 | ○ | ○ | ○ | | |
| 6-3, 6-4 | ○ | ○ | ○ | ← | ← |
| 8-1, 8-2, 8-3 | ○ | ○ | ○ | | |

○ ← = INPLACE LED INDICATION, REUSE INPLACE.

S.P. 114-030-10
 CITY PROJECT NO. 09-18

DESIGNED BY: MBG
 DRAWN BY: MMD
 CHECKED BY: BKV

REVISIONS

| NO. | BY | DATE | REVISIONS |
|-----|-----|------|----------------------------|
| 1 | JMG | 6/10 | RECORD DRAWING FOR PROJECT |

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.

John M. Gray, PE
 License No. 22457

COON RAPIDS, MINNESOTA

LED RETROFIT-SYSTEM "EE" INTERSECTION LAYOUT

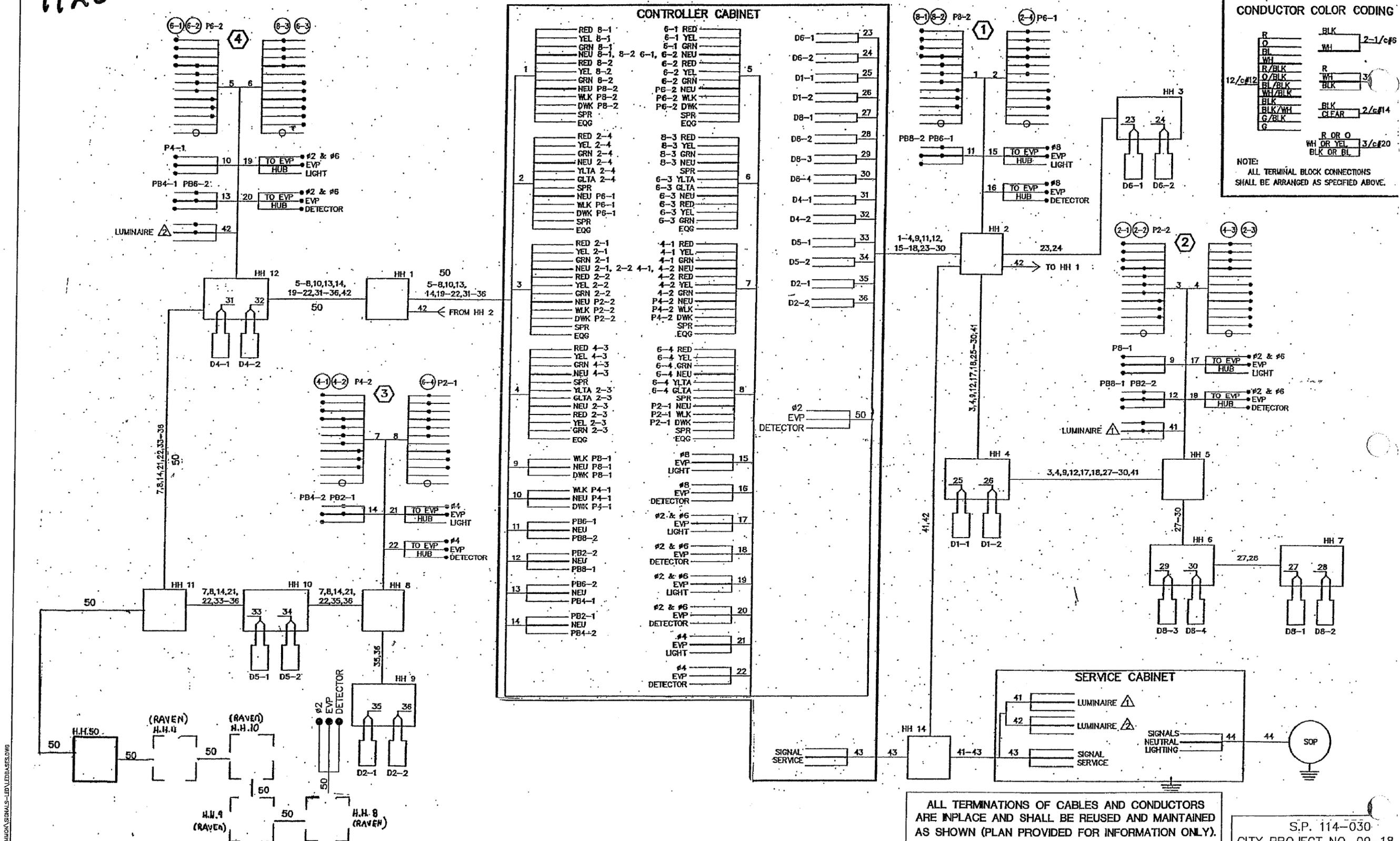
CSAH 11 AT VILLAGE 10 CENTER

FILE NO. 107418
 DATE 05/18/2009

70
 131

CSAH11_sgn118.dgn
 11:03:17 AM
 12/3/2005

7120



ALL TERMINATIONS OF CABLES AND CONDUCTORS ARE IN PLACE AND SHALL BE REUSED AND MAINTAINED AS SHOWN (PLAN PROVIDED FOR INFORMATION ONLY).

S.P. 114-030
CITY PROJECT NO. 09-18

| | | | | |
|-------------|-----|-----|----|------|
| DRAWN BY: | JMG | | | |
| DESIGNER: | JMG | | | |
| CHECKED BY: | JMG | | | |
| DESIGN TEAM | | NO. | BY | DATE |
| | | | | |
| | | | | |
| | | | | |

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.

John M. Gray
Name: John M. Gray, PE
Date: May 16, 2009
Lic. No. 22457

SEH
PHONE: (651) 480-2000
3936 MADRAIS CENTER DR.
ST. PAUL, MN 55116

COON RAPIDS, MINNESOTA

LED RETROFIT-SYSTEM 'EE'
FIELD WIRING DIAGRAM
CSAH 11 AT VILLAGE 10 CENTER

| | |
|----------|------------|
| FILE NO. | 71 |
| DATE | 06/18/2009 |

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11:03:21 AM
12/3/2005

| | |
|--------------|-----|
| DESIGNED BY: | MBG |
| DRAWN BY: | MMD |
| CHECKED BY: | BKV |

Kimley»Horn
787 EUSTIS ST. SUITE 100
SANT PAUL, MINNESOTA 55114
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TRAFFIC SIGNAL PLANS
FOR INFORMATION ONLY-WIRING DIAGRAM

SAP 002-611-042
SAP 114-020-068

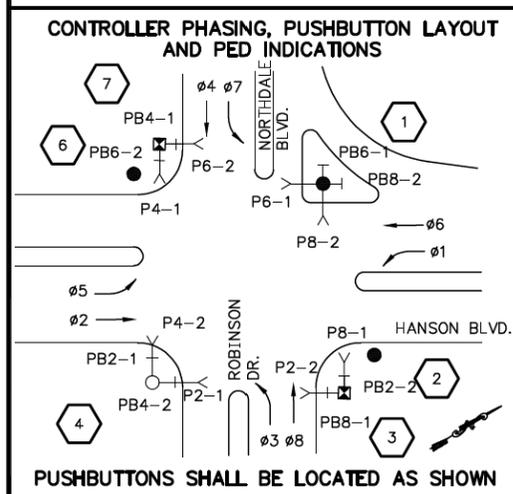
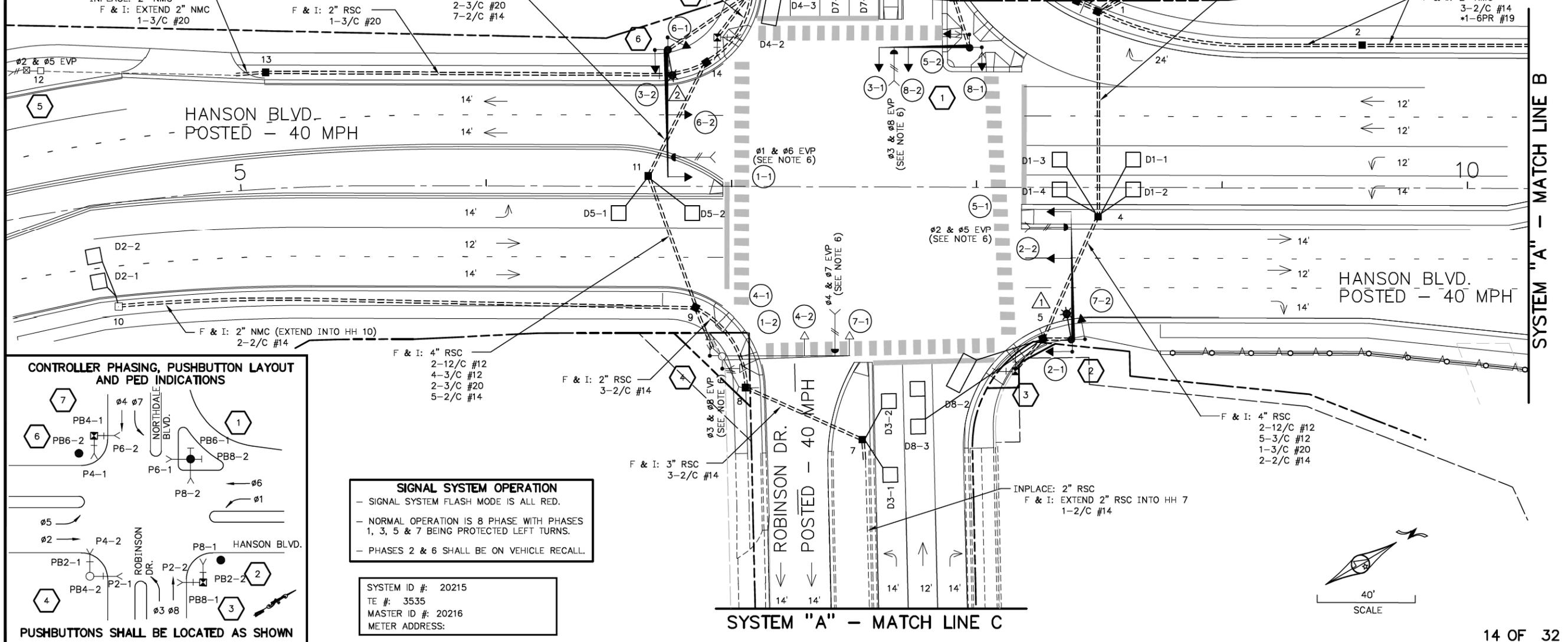
SHEET NO. 55
TOTAL SHEETS 59

| NMC LOOP DETECTORS | | | | |
|--------------------|-----------|------------------|-----------|----------|
| INSTALLATION | STATUS | NUMBER | SIZE (ft) | LOCATION |
| NMC - NEW BIT. | F & I | D1-1, D1-2 | 6' x 6' | 40' |
| NMC - NEW BIT. | F & I | D1-3, D1-4 | 6' x 6' | 10' |
| NMC - NEW BIT. | F & I | D2-1 | 6' x 6' | 250' |
| NMC - MILL | F & I | D2-2 | 6' x 6' | 250' |
| NMC - MILL | F & I | D3-1 | 6' x 6' | 40' |
| NMC - NEW BIT. | F & I | D3-2 | 6' x 6' | 10' |
| NMC - NEW BIT. | **INPLACE | D4-1 | 6' x 6' | 180' |
| NMC - NEW BIT. | F & I | D4-2 | 6' x 15' | -5' |
| NMC - NEW BIT. | F & I | D4-3 | 2-6' x 6' | 5' & 20' |
| NMC - NEW BIT. | F & I | D5-1 | 6' x 6' | 40' |
| NMC - NEW BIT. | F & I | D5-2 | 6' x 6' | 10' |
| NMC - NEW BIT. | F & I | D6-1, D6-2, D6-3 | 6' x 6' | 250' |
| NMC - NEW BIT. | F & I | D7-1, D7-2 | 6' x 6' | 40' |
| NMC - NEW BIT. | F & I | D7-3, D7-4 | 6' x 6' | 10' |
| NMC - NEW BIT. | **INPLACE | D8-1 | 6' x 6' | 180' |
| NMC - NEW BIT. | F & I | D8-2 | 6' x 15' | -5' |
| NMC - NEW BIT. | F & I | D8-3 | 2-6' x 6' | 5' & 20' |

NOTE: LOCATION = DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR. F & I: 4" RSC
 ALL NEW LOOP DETECTORS SHALL BE INSTALLED IN NMC. SEE DETAIL SHEET 488.
 ** - NMC

| SIGNAL FACES | | | | |
|---------------------|----------|---|---|---|
| STATUS | FACE | R | Y | G |
| SALVAGE & REINSTALL | 1-1 | ← | ← | ← |
| INPLACE | 1-2 | ← | ← | ← |
| SALVAGE & REINSTALL | 2-1, 2-2 | ● | ● | ● |
| SALVAGE & REINSTALL | 3-1, 3-2 | ← | ← | ← |
| INPLACE | 4-1, 4-2 | ○ | ○ | ○ |
| SALVAGE & REINSTALL | 5-1, 5-2 | ← | ← | ← |
| SALVAGE & REINSTALL | 6-1, 6-2 | ● | ● | ● |
| INPLACE | 7-1 | ← | ← | ← |
| SALVAGE & REINSTALL | 7-2 | ← | ← | ← |
| SALVAGE & REINSTALL | 8-1, 8-2 | ● | ● | ● |

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



SIGNAL SYSTEM OPERATION
 - SIGNAL SYSTEM FLASH MODE IS ALL RED.
 - NORMAL OPERATION IS 8 PHASE WITH PHASES 1, 3, 5 & 7 BEING PROTECTED LEFT TURNS.
 - PHASES 2 & 6 SHALL BE ON VEHICLE RECALL.

SYSTEM ID #: 20215
 TE #: 3535
 MASTER ID #: 20216
 METER ADDRESS:

| REV. NO. | DATE | REVISIONS DESCRIPTION |
|----------|------|-----------------------|
| | | |
| | | |
| | | |

| |
|------------------------|
| DESIGN FILE: 33889-042 |
| DRAWN BY: JAS |
| DESIGN BY: MRA |
| CHKD. BY: AJW |
| DWG. NAME: 042-TS06 |
| DATE: 01/08/07 |



I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT 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.
 John F. Crawford
 JOHN F. CRAWFORD
 DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE
 HANSON BLVD. / ROBINSON DR.
 SIGNAL SYSTEM "A"
 INTERSECTION LAYOUT
 (1 OF 2)

| | | | | | |
|--------------|-----------|------|------------|-----------|-----|
| CITY PROJECT | 01-31 | S.P. | 0215-59 | SHEET NO. | 500 |
| S.P. | 02-678-17 | S.P. | 02-611-29 | | |
| | | S.P. | 114-020-28 | | |
| | | S.P. | 114-010-14 | | 681 |

| NO. | DATE | DWN | CKD | REVISIONS |
|-----|------|-----|-----|-----------|
| | | | | |
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DESIGNED BY: MBG
 DRAWN BY: MMD
 CHECKED BY: BKV

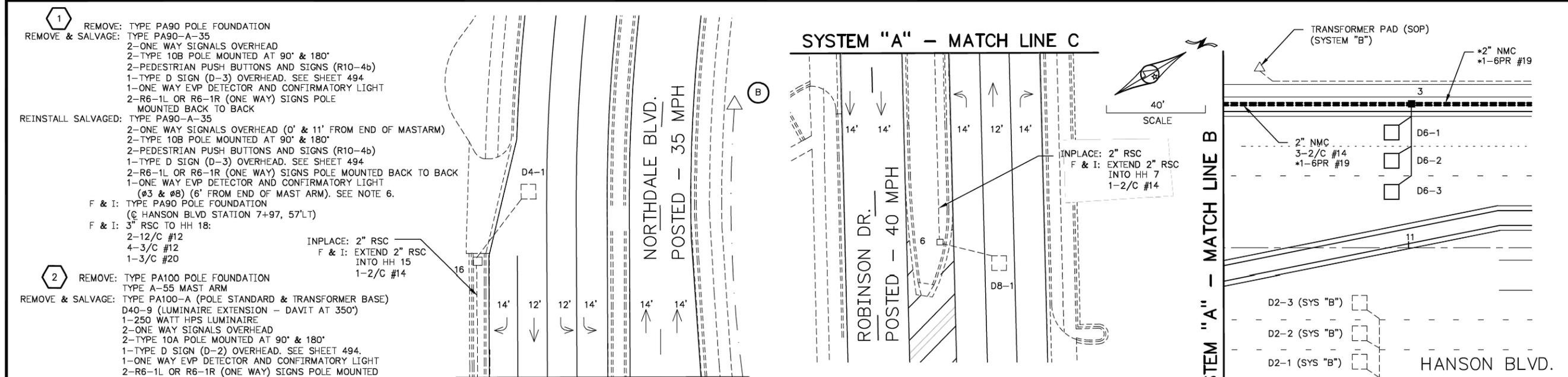


Kimley»Horn
 787 LUSTIG ST. SUITE 100
 SAINT PAUL, MINNESOTA 55114
 PH: 651-645-4197 www.kimley-horn.com

TRAFFIC SIGNAL PLANS
 FOR INFORMATION ONLY-INTERSECTION LAYOUT

SAP 002-611-042
 SAP 114-020-068
 SHEET NO. 56
 TOTAL SHEETS 59

PLOT DATE: Jan 08, 2007 9:46am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\042-TS06.dwg
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 12/3/2005



- 1** REMOVE: TYPE PA90 POLE FOUNDATION
 REMOVE & SALVAGE: TYPE PA90-A-35
 2-ONE WAY SIGNALS OVERHEAD
 2-TYPE 10B POLE MOUNTED AT 90° & 180°
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 1-TYPE D SIGN (D-3) OVERHEAD. SEE SHEET 494
 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 2-R6-1L OR R6-1R (ONE WAY) SIGNS POLE MOUNTED BACK TO BACK
- REINSTALL SALVAGED: TYPE PA90-A-35
 2-ONE WAY SIGNALS OVERHEAD (0' & 11' FROM END OF MASTARM)
 2-TYPE 10B POLE MOUNTED AT 90° & 180°
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 1-TYPE D SIGN (D-3) OVERHEAD. SEE SHEET 494
 2-R6-1L OR R6-1R (ONE WAY) SIGNS POLE MOUNTED BACK TO BACK
 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (ø3 & ø8) (6' FROM END OF MAST ARM). SEE NOTE 6.
- F & I: TYPE PA90 POLE FOUNDATION (C HANSON BLVD STATION 7+97, 57'LT)
 F & I: 3" RSC TO HH 18:
 2-12/C #12
 4-3/C #12
 1-3/C #20

- 2** REMOVE: TYPE PA100 POLE FOUNDATION
 TYPE A-55 MAST ARM
 REMOVE & SALVAGE: TYPE PA100-A (POLE STANDARD & TRANSFORMER BASE)
 D40-9 (LUMINAIRE EXTENSION - DAVIT AT 350')
 1-250 WATT HPS LUMINAIRE
 2-ONE WAY SIGNALS OVERHEAD
 2-TYPE 10A POLE MOUNTED AT 90° & 180°
 1-TYPE D SIGN (D-2) OVERHEAD. SEE SHEET 494.
 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 2-R6-1L OR R6-1R (ONE WAY) SIGNS POLE MOUNTED BACK TO BACK
- REINSTALL SALVAGED: TYPE PA100-A (POLE STANDARD & TRANSFORMER BASE)
 D40-9 (LUMINAIRE EXTENSION - DAVIT AT 350')
 1-250 WATT HPS LUMINAIRE
 2-ONE WAY SIGNALS OVERHEAD (0' & 17' FROM END OF MAST ARM)
 2-TYPE 10A POLE MOUNTED AT 90° & 180°
 1-TYPE D SIGN (D-2) OVERHEAD. SEE SHEET 494.
 2-R6-1L OR R6-1R (ONE WAY) SIGNS POLE MOUNTED BACK TO BACK
 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (ø2 & ø5) (6' FROM END OF MAST ARM). SEE NOTE 6.
- F & I: TYPE PA100 POLE FOUNDATION (C HANSON BLVD STATION 8+39, 61'RT)
 TYPE A-50 (MAST ARM - OVERHEADS AT 0' & 17' FROM END OF MAST ARM)
 F & I: 3" RSC TO HH 5:
 2-12/C #12
 2-3/C #12
 1-3/C #20

- 3** REMOVE: PEDESTAL POLE FOUNDATION
 REMOVE & SALVAGE: 8' PEDESTAL POLE AND BASE
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 1-TYPE 4B
- REINSTALL SALVAGED: 8' PEDESTAL POLE AND BASE
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 1-TYPE 4B
- F & I: PEDESTAL POLE FOUNDATION (C HANSON BLVD STATION 8+15, 74'RT)
 F & I: 2" RSC TO HH 5:
 3-3/C #12

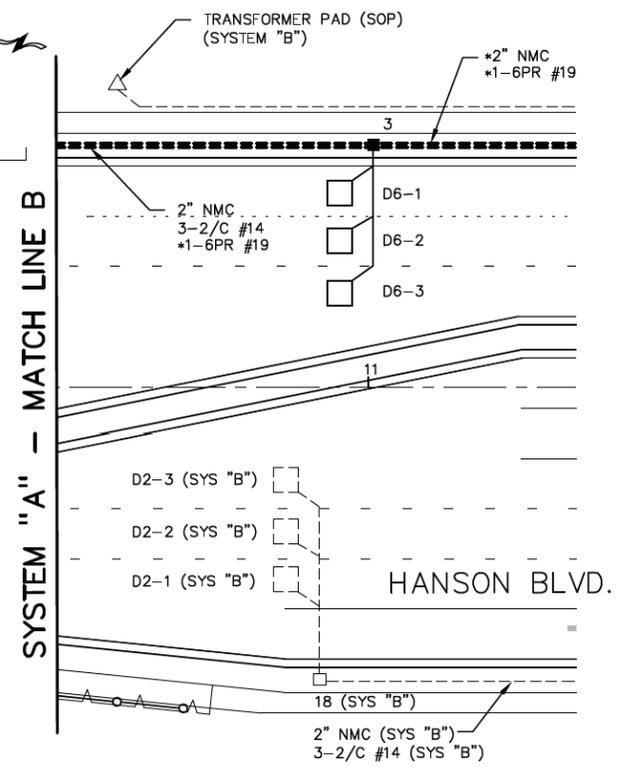
- 4** INPLACE: TYPE PA100 POLE FOUNDATION (C HANSON BLVD. STATION 6+97, 69'RT)
 TYPE PA100-A-50
 2 - ONE WAY SIGNALS OVERHEAD (0' & 17' FROM END OF MAST ARM)
 2 - TYPE 10B POLE MOUNTED AT 90° & 180°
 2 - PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 1 - TYPE D SIGN (D-3) OVERHEAD SEE SHEET 494
 2 - TYPE R6-1L OR R6-1R (ONE WAY) SIGNS POLE MOUNTED BACK TO BACK
- REMOVE & SALVAGE: 2-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 REINSTALL SALVAGED: 1 - ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (ø4 & ø7) (6' FROM END OF MAST ARM) SEE NOTE 6
 1 - ONE WAY EVP DETECTOR (ø3 & ø8) MAST ARM POLE MOUNTED. SEE NOTE 6
- INPLACE: 3" RSC:
 F & I: EXTEND 3" RSC INTO HH 9:
 2-12/C#12
 4-3/C#12
 2-3/C#20

- 5** INPLACE: PEDESTAL FOUNDATION
 10' PEDESTAL AND BASE
 1 - ONE WAY EVP DETECTOR - MOUNTED ON TOP OF PEDESTAL POLE (ø2 & ø5)
- INPLACE: 2" RSC TO HH 12:
 F & I: 1-3/C #20

- 6** REMOVE: TYPE PA100 POLE FOUNDATION
 REMOVE & SALVAGE: TYPE PA100-A-50-D40-9 (DAVIT AT 350')
 LUMINAIRE - 250W HPS
 2-ONE WAY SIGNALS OVERHEAD
 2-TYPE 10A POLE MOUNTED AT 90° & 180°
 1-TYPE D SIGN (D-1) OVERHEAD. SEE SHEET 494
 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT
 2-R6-1L OR R6-1R (ONE WAY) SIGNS POLE MOUNTED BACK TO BACK
- REINSTALL SALVAGED: TYPE PA100-A-50-D40-9 (DAVIT AT 350')
 LUMINAIRE - 250W HPS
 2-ONE WAY SIGNALS OVERHEAD (0' & 23' FROM END OF MAST ARM)
 2-TYPE 10A POLE MOUNTED AT 90° & 180°
 1-TYPE D SIGN (D-1) OVERHEAD. SEE SHEET 494
 2-R6-1L OR R6-1R (ONE WAY) SIGNS POLE MOUNTED BACK TO BACK
 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (ø1 & ø6) (6' FROM END OF MAST ARM) SEE NOTE 6
- F & I: TYPE PA100 POLE FOUNDATION (C HANSON BLVD STATION 6+74, 55' LT)
 F & I: 3" RSC TO HH 15:
 2-12/C #12
 2-3/C #12
 1-3/C #20

- 7** REMOVE: PEDESTAL POLE FOUNDATION
 REMOVE & SALVAGE: 8' PEDESTAL POLE AND BASE
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 1-TYPE 4B
- REINSTALL SALVAGED: 8' PEDESTAL POLE AND BASE
 2-PEDESTRIAN PUSH BUTTONS AND SIGNS (R10-4b)
 1-TYPE 4B
- F & I: PEDESTAL POLE FOUNDATION (C HANSON BLVD STATION 6+94, 60'LT)
 F & I: 2" RSC TO HH 15:
 3-3/C #12

- B** INPLACE: GROUND MOUNT TRANSFORMER (SOP-CONNEXUS ENERGY)
- INPLACE: METERED SIGNAL SERVICE (CONNEXUS) DIRECT BURIED POWER CABLE 3-1/C #2
- SALVAGE & REINSTALL: 3-1/C #2



- A** F&I: EQUIPMENT PAD (SEE SHEET 490)
 (C HANSON BLVD STATION 8+61, 79'LT)
 REMOVE & SALVAGE: CONTROLLER CABINET AND CONTROL EQUIPMENT (RELOCATE TO TEMPORARY SIGNAL SYSTEM)
 INSTALL: CONTROLLER CABINET AND CONTROL EQUIPMENT (FURNISHED BY MN/DOT)
 REINSTALL SALVAGED: SERVICE CABINET
 F & I: CONTROLLER CABINET TO HH 1:
 4" RSC
 2-12/C #12
 4-3/C #12
 1-3/C #20
 9-2/C #14
 *1-6PR #19
- F & I: CONTROLLER CABINET TO HH 20:
 4" RSC 3" RSC
 4-12/C #12 2-12/C #12
 8-3/C #12 4-3/C #12
 4-3/C #20 1-3/C #20
 14-2/C #14
- F & I: SERVICE CABINET TO HH 1:
 2" RSC
 2-3/C #12 (LUM)
- F & I: SERVICE CABINET TO HH 19:
 METERED SIGNAL SERVICE (POWER BY CONNEXUS)
 2" RSC
 3-1/C #2
- F & I: BETWEEN SERVICE CABINET AND CONTROLLER CABINET:
 2" RSC
 2-1/C #6
 1-1/C #6 BR GR
- F & I: EXTEND 3" RSC STUBBED OUT OF CONTROLLER CABINET (THREAD AND CAP BOTH ENDS)
 F & I: 3/4" NMC STUBBED OUT OF CONTROLLER CABINET (THREAD AND CAP BOTH ENDS) (FUTURE PHONE LINE)
 F & I: EXTEND 2" RSC STUBBED OUT OF CONTROLLER CABINET (THREAD AND CAP BOTH ENDS)

- NOTES:
- THE EXACT LOCATION OF HANDHOLES, POLES, DETECTORS AND EQUIPMENT PAD SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. MN/DOT TRAFFIC OFFICE PERSONNEL SHALL REVIEW LOCATIONS PRIOR TO INSTALLATION.
 - HANDHOLES SHALL BE PVC WITH METAL FRAMES AND COVERS, PER MN/DOT STANDARD PLATE NO. 8114.
 - A 3/4" HALF-COUPLING, 3/4" PIPE NIPPLE AND CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6' FROM THE END OF THE MAST ARM.
 - SIGNAL EQUIPMENT SHALL BE PAINTED BLUE. SEE SPECIAL PROVISIONS. THE CONTROLLER CABINET AND SERVICE CABINET SHALL NOT BE PAINTED.
 - INSTALLING SALVAGED POLE AND MAST ARM MOUNTED TYPE C AND TYPE D SIGNS SHALL BE INCIDENTAL.
 - ALL EVP EQUIPMENT (DETECTOR, INDICATOR LIGHTS AND PHASE SELECTORS) SALVAGED FROM THE TEMPORARY SIGNAL SYSTEM SHALL BE REINSTALLED AT LOCATIONS SHOWN IN THE PLANS. SEE SPECIAL PROVISIONS.
 - ALL ITEMS OF THE TEMPORARY TRAFFIC SIGNAL SHALL BE REMOVED WHEN DIRECTED BY THE ENGINEER. REFER TO THE SPECIAL PROVISIONS FOR ITEMS TO BE SALVAGED. REMOVAL AND SALVAGE OF THE TEMPORARY SIGNAL SYSTEM SHALL BE INCIDENTAL.
 - ITEMS DENOTED WITH (SYS "B") ARE PART OF SIGNAL SYSTEM "B" AND ARE INDICATED ON THIS SHEET FOR INFORMATION ONLY.
 - INSTALLING SALVAGED SIGNAL EQUIPMENT (I.E., POLES, CONTROLLER CABINET, SERVICE CABINET, VEHICLE AND PEDESTRIAN INDICATIONS) SHALL BE INCIDENTAL.
 - THE CONTRACTOR SHALL REMOVE ALL INPLACE SIGNAL CONTROL CABLE AND FURNISH AND INSTALL ALL NEW CABLE AS INDICATED IN THE PLANS.
 - THE SIGNAL CONTRACTOR SHALL COORDINATE THE CONSTRUCTION OF THE TRAFFIC SIGNAL WITH CONSTRUCTION STAGING OF THE AREA ROADWAYS.
 - ITEMS DENOTED WITH AN * ARE INCIDENTAL.
 - HANDHOLES 1,5,7-9,15,17-20 MAY BE SALVAGED AND REINSTALLED OR ADJUSTED IF DEEMED REUSABLE BY THE ENGINEER, OTHERWISE THE CONTRACTOR SHALL FURNISH AND INSTALL NEW PVC HANDHOLES (NOTE 2).
 - THE CONTRACTOR SHALL VERIFY ALL UTILITIES PRIOR TO COMMENCING WORK.
 - LUMINAIRES ARE UNMETERED.

SYSTEM ID #: 20215
 TE #: 3535
 MASTER ID #: 20216
 METER ADDRESS:

15 OF 32

| REV. NO. | BY | DATE | REVISIONS DESCRIPTION |
|----------|----|------|-----------------------|
| | | | |
| | | | |

| | | |
|---------------------------|------------------------|-------------------|
| DESIGN FILE: 33889-042 | DRAWN BY: JAS | DESIGN BY: MRA |
| CHKD. BY: AJW | DWG. NAME: 042-TS13 | |
| DATE: 01/08/07 | | |



I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT 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.

John F. Crawford
 JOHN F. CRAWFORD
 DATE: 01/08/07 MN LIC. NO. 25067

TH 10/HANSON BOULEVARD INTERCHANGE
 HANSON BLVD. / ROBISON DR.
 SIGNAL SYSTEM "A"
 INTERSECTION LAYOUT
 (2 OF 2)

| CITY PROJECT | 01-31 | S.P. | 0215-59 |
|--------------|-----------|------|------------|
| S.P. | 02-678-17 | S.P. | 02-611-29 |
| S.P. | | S.P. | 114-020-28 |
| S.P. | | S.P. | 114-010-14 |

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| SHEET NO. | 501 |
| | 681 |

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 12/3/2005

| NO. | DATE | DWN | CKD | REVISIONS |
|-----|------|-----|-----|-----------|
| | | | | |

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|--------------|-----|
| DESIGNED BY: | MBG |
| DRAWN BY: | MMD |
| CHECKED BY: | BKV |

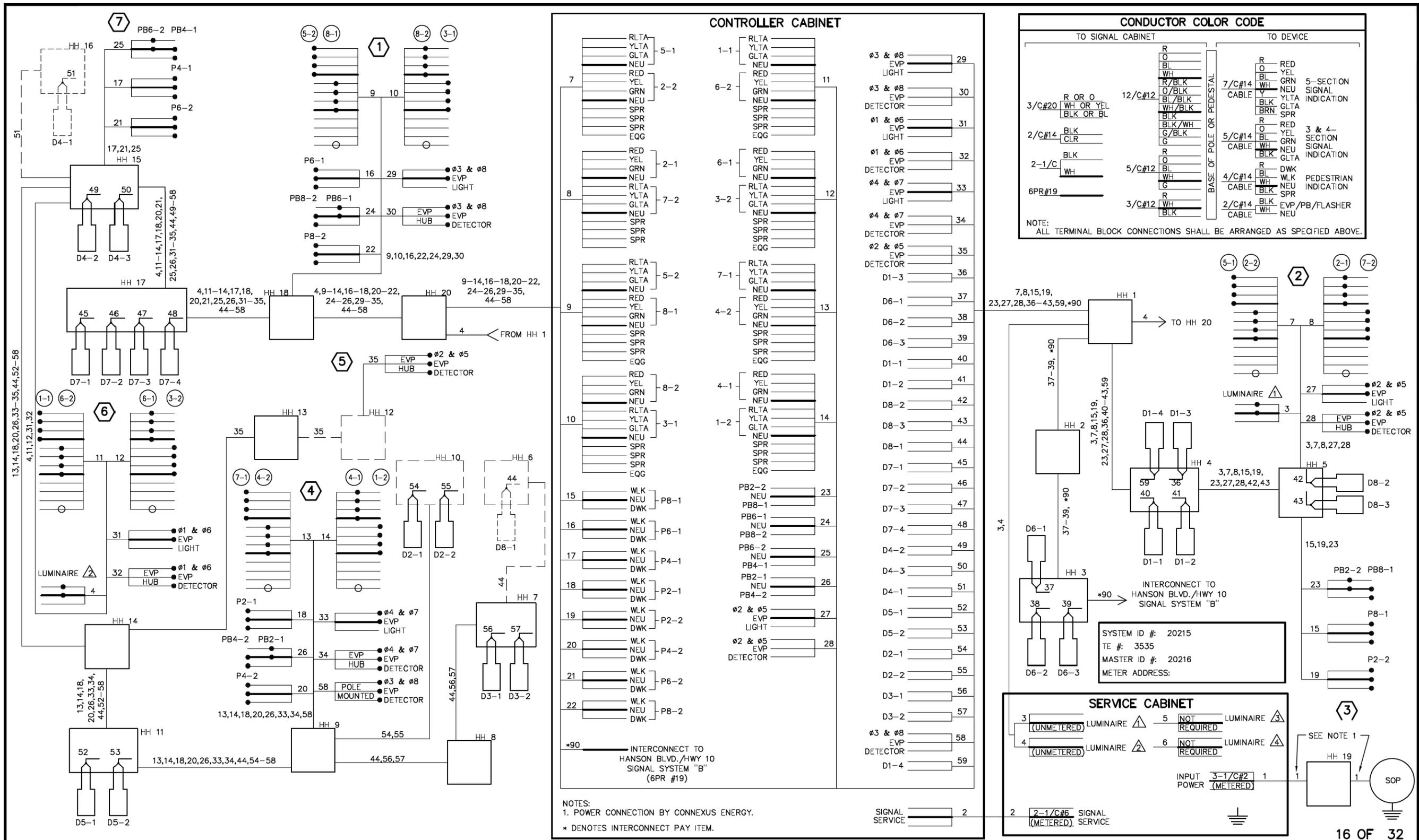


TRAFFIC SIGNAL PLANS
 FOR INFORMATION ONLY-MATCHLINE LAYOUT

SAP 002-611-042
 SAP 114-020-068

| | |
|--------------|----|
| SHEET NO. | 57 |
| TOTAL SHEETS | 59 |

PLOT DATE: Jan 08, 2007 10:02am DISK FILE NAME: (16.1) R:\33889\33889042\PLAN-SHT\TRAFFIC-SIGNALS\042-TS23.dwg



NOTES:
 1. POWER CONNECTION BY CONNEXUS ENERGY.
 * DENOTES INTERCONNECT PAY ITEM.

| REV. NO. | BY | DATE | REVISIONS DESCRIPTION |
|----------|----|------|-----------------------|
| | | | |

DESIGN FILE:
33889-042
 DRAWN BY: JAS
 DESIGN BY: MRA
 CHECKED BY: AJW
 DWG. NAME: 042-TS23
 DATE: 01/08/07



I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT 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.
 JOHN F. CRAWFORD
 DATE: 01/08/07 MN LIC. NO. 25067

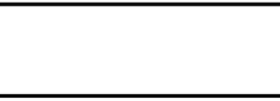
TH 10/HANSON BOULEVARD INTERCHANGE
 HANSON BLVD. / ROBINSON DR.
 SIGNAL SYSTEM "A"
 FIELD WIRING DIAGRAM

| | | | | | |
|--------------|-----------|------|------------|-----------|-----|
| CITY PROJECT | 01-31 | S.P. | 0215-59 | SHEET NO. | 502 |
| S.P. | 02-678-17 | S.P. | 02-611-29 | | |
| | | S.P. | 114-020-28 | | 681 |
| | | S.P. | 114-010-14 | | |

CSAH11_sgn122.dgn
11:03:36 AM
12/3/2005

| NO. | DATE | DWN | CKD | REVISIONS |
|-----|------|-----|-----|-----------|
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DESIGNED BY: MBG
 DRAWN BY: MMD
 CHECKED BY: BKV

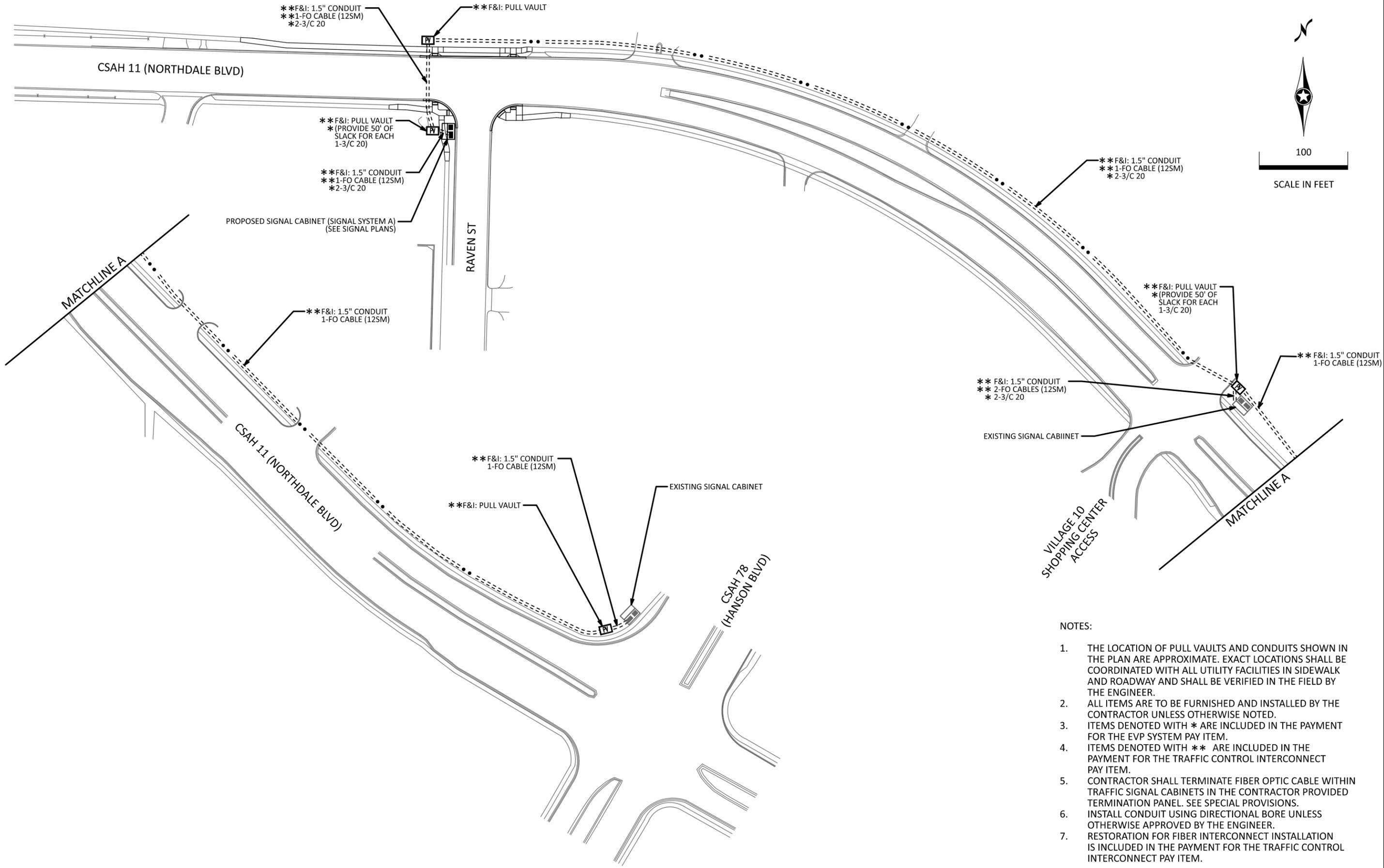


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 SAINT PAUL, MINNESOTA 55114
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TRAFFIC SIGNAL PLANS
 FOR INFORMATION ONLY-WIRING DIAGRAM

SAP 002-611-042
 SAP 114-020-068

SHEET NO. 58
 TOTAL SHEETS 59



- NOTES:
1. THE LOCATION OF PULL VAULTS AND CONDUITS SHOWN IN THE PLAN ARE APPROXIMATE. EXACT LOCATIONS SHALL BE COORDINATED WITH ALL UTILITY FACILITIES IN SIDEWALK AND ROADWAY AND SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER.
 2. ALL ITEMS ARE TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
 3. ITEMS DENOTED WITH * ARE INCLUDED IN THE PAYMENT FOR THE EVP SYSTEM PAY ITEM.
 4. ITEMS DENOTED WITH ** ARE INCLUDED IN THE PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECT PAY ITEM.
 5. CONTRACTOR SHALL TERMINATE FIBER OPTIC CABLE WITHIN TRAFFIC SIGNAL CABINETS IN THE CONTRACTOR PROVIDED TERMINATION PANEL. SEE SPECIAL PROVISIONS.
 6. INSTALL CONDUIT USING DIRECTIONAL BORE UNLESS OTHERWISE APPROVED BY THE ENGINEER.
 7. RESTORATION FOR FIBER INTERCONNECT INSTALLATION IS INCLUDED IN THE PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECT PAY ITEM.

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DESIGNED BY: **MBG**
 DRAWN BY: **MMD**
 CHECKED BY: **BKV**

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.

CERTIFIED BY: *[Signature]* LIC NO: 56090
 PRINTED NAME: BRIAN K. VILLA, P.E. DATE: 12/03/2025



TRAFFIC SIGNAL PLANS
INTERCONNECT PLAN

SAP 002-611-042
SAP 114-020-068

SHEET NO. 59
TOTAL SHEETS 59