

SIGNAL HEAD CHART				
FACE	R	Y	FYA	G
1-1, 1-2	←	←	←	←
2-1, 2-2, 2-3	●	●	●	●
3-1, 3-2	←	←	←	←
4-1, 4-2	●	●	●	●
5-1, 5-2	←	←	←	←
6-1, 6-2, 6-3	●	●	●	●
7-1, 7-2	←	←	←	←
8-1, 8-2	●	●	●	●

-ALL SIGNAL INDICATIONS SHALL BE 12" LED  
 -ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS  
 -FYA DENOTES FLASHING YELLOW ARROW

F&I: PED PB STATION  
 1-APS PB AND SIGN (RT ARROW) (PB6-2)  
 EXTEND INTO HH 14:  
 1" CONDUIT  
 1-2/C 14  
 1-1/C 6 INS. GR.

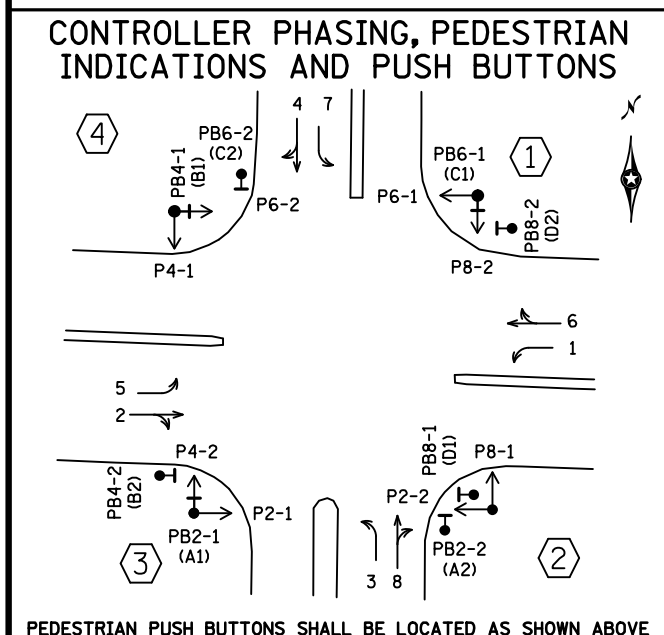
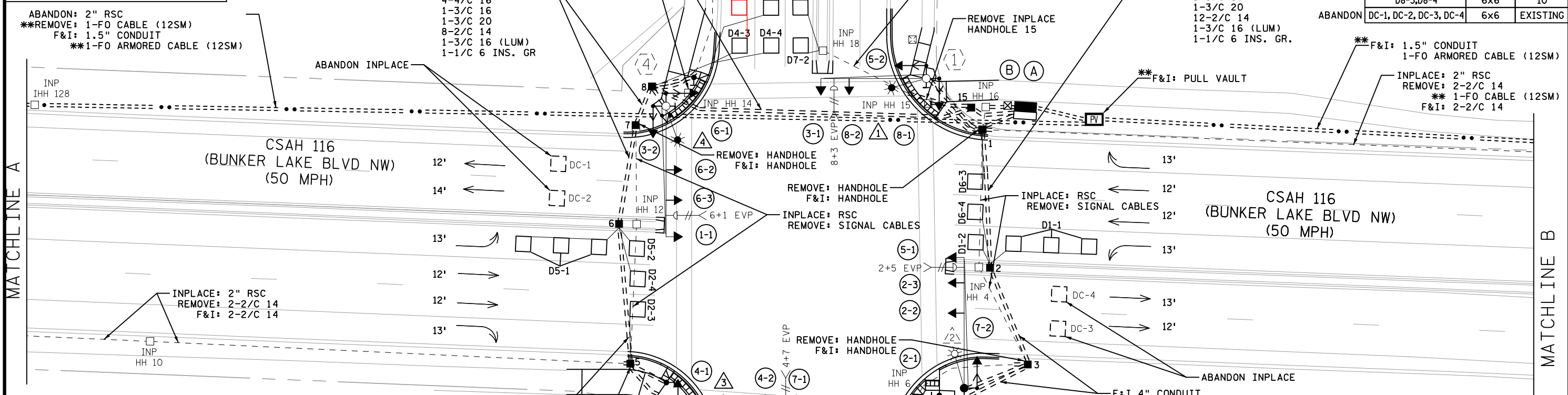
EXTEND: 1 1/4" RSC TO HH 14  
 REMOVE: 1-2/C 14  
 F&I: 1-2/C 14

F&I: 4" CONDUIT  
 6-6/C 16  
 9-4/C 16  
 2-3/C 16  
 2-3/C 20  
 14-2/C 14  
 2-3/C 16 (LUM)  
 1-1/C 6 INS. GR.

F&I: PED PB STATION  
 1-APS PB AND SIGN (RT ARROW) (PB8-2)  
 EXTEND INTO INP HH 1:  
 1" CONDUIT  
 1-2/C 14  
 1-1/C 6 INS. GR.

-ALL LOOP DETECTORS SHALL BE PVC UNLESS NOTED OTHERWISE  
 -LOCATION: DISTANCE FROM TEMPORARY CROSSWALK IN FEET

LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D1-1, D5-1	3-6x6	25, 40, 55
D1-2, D5-2	6x6	10
D2-1, D2-2	6x6	EXISTING
D2-3, D2-4	6x6	10
D3-1, D7-1	3-6x6	25, 40, 55
D3-2, D7-2	6x6	10
D4-1	6x6	EXISTING
D4-2	6x6	25
D4-3, D4-4	6x6	10
D6-1, D6-2	6x6	EXISTING
D8-1, D8-2	6x6	EXISTING
D8-2	6x6	25
D8-3, D8-4	6x6	10
DC-1, DC-2, DC-3, DC-4	6x6	EXISTING



F&I: 4" CONDUIT  
 3-6/C 16  
 4-4/C 16  
 1-3/C 16  
 1-3/C 20  
 5-2/C 14  
 1-3/C 16 (LUM)  
 1-1/C 6 INS. GR.

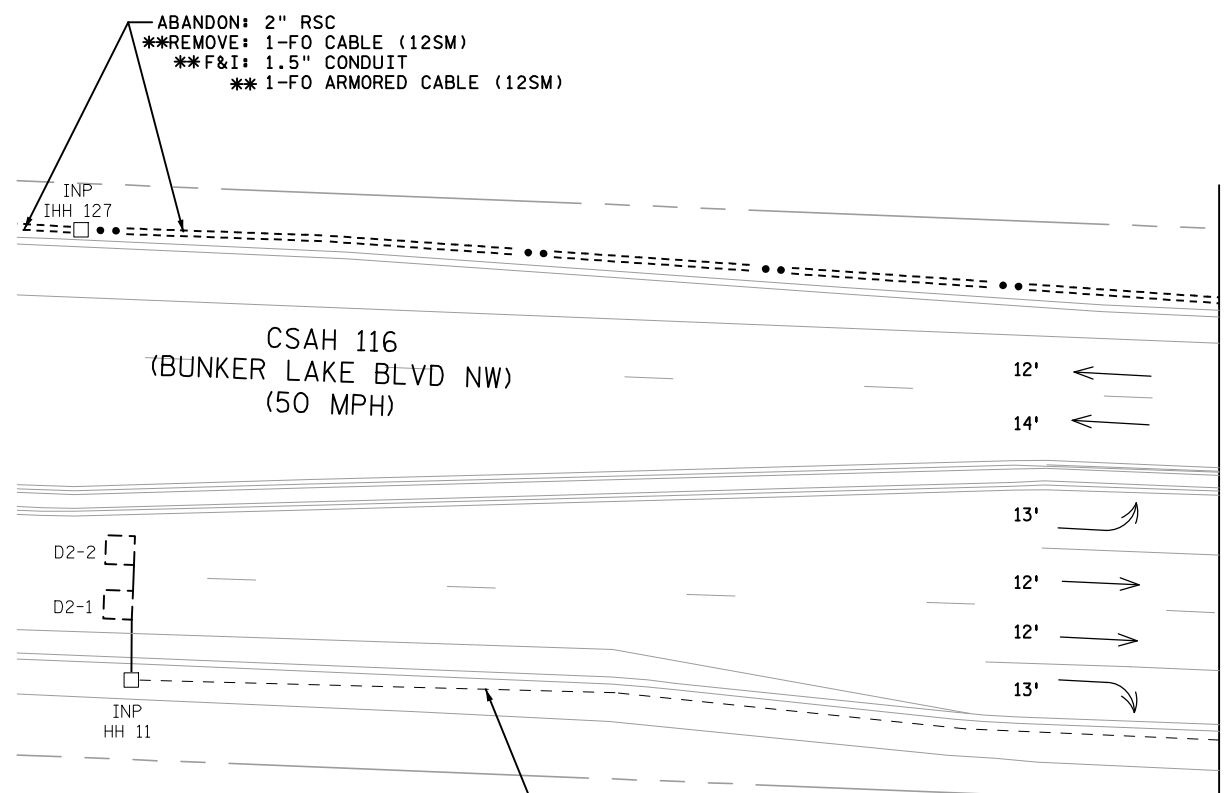
REMOVE: HANDHOLE  
 F&I: HANDHOLE

F&I: PED PB STATION  
 1-APS PB AND SIGN (RT ARROW) (PB4-2)  
 EXTEND INTO INP HH 9:  
 1" CONDUIT  
 1-2/C 14  
 1-1/C 6 INS. GR.

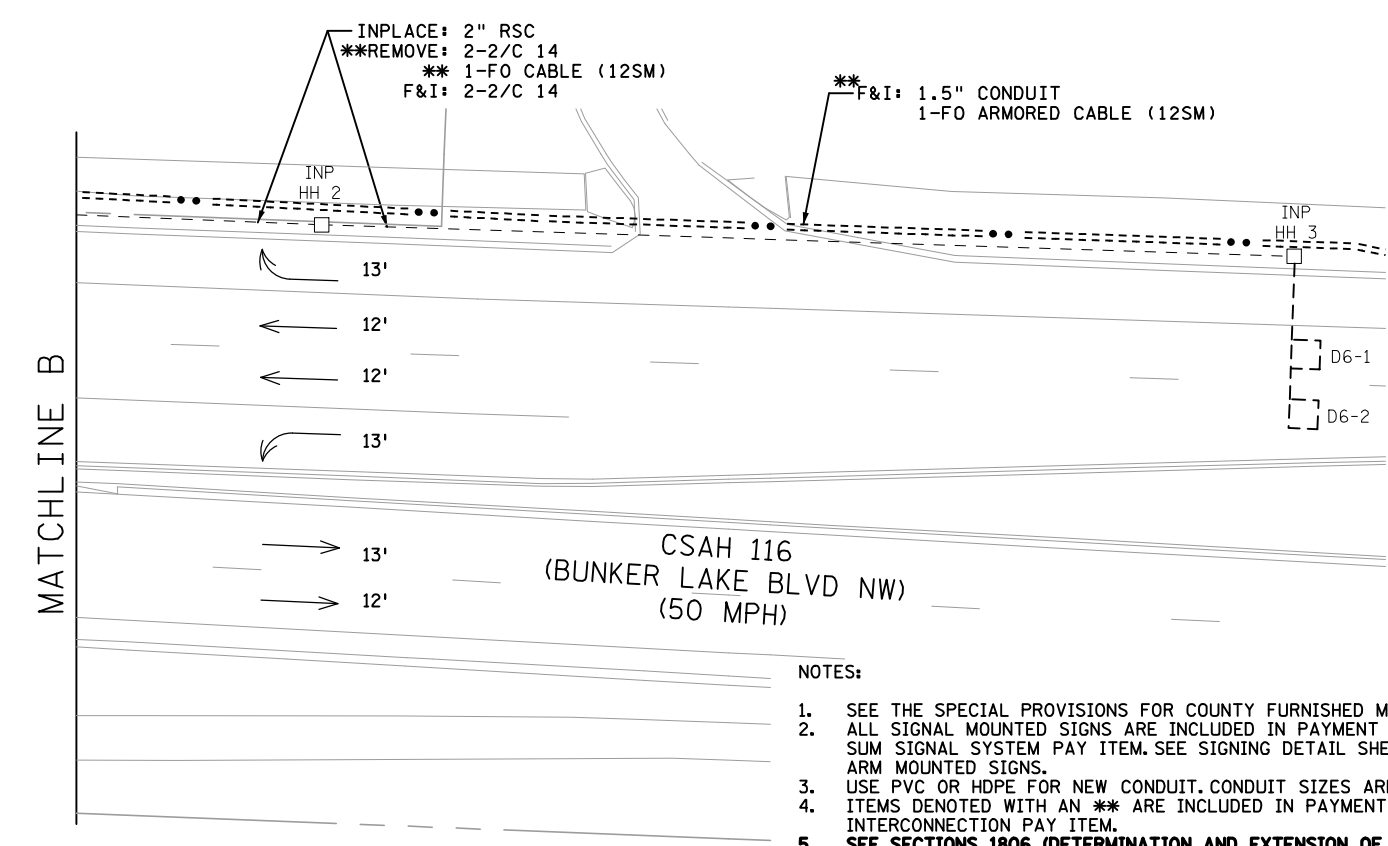
### SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 8 PHASE, WITH PHASES 1, 3, 5 AND 7 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- 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 TYPICALLY REQUIRE BORING.
  - ALL SIGNAL MOUNTED SIGNS ARE INCLUDED IN PAYMENT WITH THE LUMP SUM SIGNAL SYSTEM PAY ITEM. SEE SIGNING DETAIL SHEET FOR MAST ARM MOUNTED SIGNS.
  - SEE CONSTRUCTION PLANS FOR PAVEMENT MARKINGS.
  - CONSTRUCTION OF PEDESTRIAN CURB RAMPS, CONCRETE WALK AND MEDIAN WORK ARE INCLUDED WITH THE ADA PLAN AND ARE PAID FOR SEPARATELY.
  - USE PVC OR HDPE FOR NEW CONDUIT. CONDUIT SIZES ARE NOMINAL DIAMETER.
  - ITEMS DENOTED WITH AN \*\* ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.
  - CONTRACTOR SHALL FURNISH AND INSTALL NEW LOOP DETECTOR SPLICE KITS FOR LOCATIONS THAT INCLUDE SPLICING EXISTING LOOP DETECTION LEAD IN CABLES TO NEW 2/C 14 CABLES.
  - ALL ITEMS DENOTED WITH A ■ ARE TO BE PAID FOR AS INDIVIDUAL PAY ITEMS. SEE STATEMENT OF ESTIMATED QUANTITIES.
  - SEE SECTIONS 1806 (DETERMINATION AND EXTENSION OF CONTRACT TIME) AND 2563 (TRAFFIC CONTROL) IN THE SPECIAL PROVISIONS FOR IMPORTANT TRAFFIC SIGNAL STAGING REQUIREMENTS.



MATCHLINE A



MATCHLINE B

- NOTES:**
- SEE THE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
  - ALL SIGNAL MOUNTED SIGNS ARE INCLUDED IN PAYMENT WITH THE LUMP SUM SIGNAL SYSTEM PAY ITEM. SEE SIGNING DETAIL SHEET FOR MAST ARM MOUNTED SIGNS.
  - USE PVC OR HDPE FOR NEW CONDUIT. CONDUIT SIZES ARE NOMINAL DIAMETER.
  - ITEMS DENOTED WITH AN \*\* ARE INCLUDED IN PAYMENT FOR THE TRAFFIC CONTROL INTERCONNECTION PAY ITEM.
  - SEE SECTIONS 1806 (DETERMINATION AND EXTENSION OF CONTRACT TIME) AND 2563 (TRAFFIC CONTROL) IN THE SPECIAL PROVISIONS FOR IMPORTANT TRAFFIC SIGNAL STAGING REQUIREMENTS.

- (1) INPLACE: PA100 POLE FOUNDATION  
 TYPE PA100-A-40-D40-9 (DAVIT AT 350°)  
 2-R6-1 SIGN PANELS-POLE MOUNTED AT 0 & 180 DEG  
 ONE WAY EVP DETECTOR AND LIGHT (PHASE 8+3)  
 REMOVE: 2-ONE WAY SIGNALS-OVERHEAD (0' & 12'  
 FROM END OF MAST ARM)  
 2-TYPE 10B-POLE MOUNTED AT 90° & 180°  
 2-PEDESTRIAN PUSHBUTTONS & SIGNS & PLUG HOLE  
 LUMINAIRE-200 W HPS W/ PEC & CHECK SWITCH  
 R10-12 SIGN PANEL ADJACENT TO HEAD (8-3)  
 TYPE D SIGN PANEL-OVERHEAD  
 F&I: LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)  
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 12'  
 FROM END OF MAST ARM)  
 2-TYPE 10B-POLE MOUNTED AT 90° & 180°  
 1-APS PB AND SIGN (LT ARROW) (PB6-1)  
 AND APS PB MOUNTING SPACERS  
 1-R10-X12 SIGN ADJACENT TO HEAD (3-1)  
 1-SIGN (BUNKER LAKE BLVD) (SEE SIGN DETAILS)  
 EXTEND: 3" RSC TO INP HH 1:  
 F&I: 3-6/C 16  
 4-4/C 16  
 1-3/C 16  
 1-3/C 20  
 1-2/C 14  
 1-3/C 16 (LUM)  
 1-1/C 6 INS. GR.

- (A)(B) REMOVE: TRAFFIC SIGNAL CABINET & SERVICE CABINET  
 SERVICE CABINET AND FOUNDATION  
 F&I: EQUIPMENT PAD (SEE DETAIL SHEET)  
 SERVICE CABINET WITH BATTERY BACKUP (SEE DETAIL SHEET)  
 TS2 CABINET AND CONTROLLER (COUNTY PROVIDED)  
 1-4" NMC TO INP HH 1: 1-4" NMC TO HH 15:  
 3-6/C 16 3-6/C 16  
 5-4/C 16 5-4/C 16  
 1-3/C 16 1-3/C 16  
 1-3/C 20 1-3/C 20  
 12-2/C 14 8-2/C 14  
 1-4" NMC TO INP HH 1: 1-4" NMC TO HH 15:  
 3-6/C 16 3-6/C 16  
 4-4/C 16 4-4/C 16  
 1-3/C 16 1-3/C 16  
 1-3/C 20 1-3/C 20  
 5-2/C 14 7-2/C 14

- F&I: GROUND WIRE AND GROUND ROD - MIN 8' STUBBED OUT FROM PAD  
 2-2" AND 1-3" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)  
 \*\*1.5" CONDUIT TO TMS VAULT:  
 \*\*2-FO ARMORED CABLES (12SM)  
 CONTROLLER CABINET TO SERVICE CABINET:  
 2" CONDUIT  
 3-1/C 6  
 CONTROLLER CABINET TO TO INP HH 1 (COMMS):  
 2" CONDUIT  
 1-6PR 19  
 SERVICE CABINET TO GROUND MOUNTED TRANSFORMER:  
 2" CONDUIT  
 3-1/C 2  
 SERVICE CABINET TO INP HH 1:  
 2" CONDUIT  
 2-3/C 16 (LUM)  
 SERVICE CABINET TO HH 15:  
 2" CONDUIT  
 2-3/C 16 (LUM)  
 SERVICE CABINET TO EXTERNAL GR. RD.:  
 1" CONDUIT  
 1-1/C INS. GR.  
 (SEE EQUIPMENT PAD LAYOUT)

- (2) X:488500.9128  
 Y:167081.1028  
 REMOVE: PA100 POLE FOUNDATION  
 F&I: PA100 FOUNDATION  
 SALVAGE & REINSTALL: TYPE PA100-A-50-D40-9 (DAVIT AT 350°)  
 INPLACE: LUMINAIRE-LED  
 REMOVE: 3-ONE WAY SIGNALS-OVERHEAD (0', 11' & 23'  
 FROM END OF MAST ARM)  
 2-TYPE 10B-POLE MOUNTED AT 90° & 180°  
 2-PEDESTRIAN PUSHBUTTONS & SIGNS & PLUG HOLES  
 TYPE D SIGN PANEL-OVERHEAD  
 F&I: 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
 2-STRAIGHT MOUNT SIGNALS OVERHEAD AT 12' & 24'  
 2-TYPE 10B-POLE MOUNTED AT 90° & 180°  
 1-R10-X12 SIGN ADJACENT TO HEAD (5-1)  
 1-SIGN (JAY ST NW) (SEE SIGN DETAILS)  
 SALVAGE & REINSTALL: ONE WAY EVP DETECTOR AND LIGHT (PHASES 2+5)  
 2-R6-1 SIGN PANELS-POLE MOUNTED AT 0° & 180°  
 F&I: 3" NMC TO INP HH 5:  
 3-6/C 16  
 5-4/C 16  
 1-3/C 16  
 1-3/C 20  
 1-3/C 16 (LUM)  
 1-1/C 6 INS. GR.

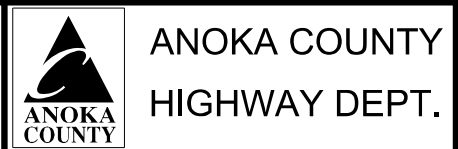
- (4) INPLACE: PA100 POLE FOUNDATION  
 TYPE PA100-A-50-D40-9 (DAVIT AT 350°)  
 2-R6-1 SIGN PANELS-POLE MOUNTED AT 0 & 180°  
 ONE WAY EVP DETECTOR AND LIGHT (PHASES 6+1)  
 REMOVE: LUMINAIRE-200 W HPS W/PEC & CHECK SWITCH  
 3-ONE WAY SIGNALS-OVERHEAD (0', 11' & 23'  
 FROM END OF MAST ARM)  
 2-TYPE 10B-POLE MOUNTED AT 90° & 180°  
 2-PEDESTRIAN PUSHBUTTONS & SIGNS & PLUG HOLES  
 TYPE D SIGN PANEL-OVERHEAD  
 F&I: LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)  
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
 2-STRAIGHT MOUNT SIGNALS OVERHEAD AT 12' & 24'  
 2-TYPE 10B-POLE MOUNTED AT 90° & 180°  
 1-APS PB AND SIGN (LT ARROW) (PB4-1)  
 AND APS PB MOUNTING SPACERS  
 1-R10-X12 SIGN ADJACENT TO HEAD (1-1)  
 1-SIGN (JAY ST NW) (SEE SIGN DETAILS)  
 EXTEND: 3" RSC TO HH 14:  
 F&I: 3-6/C 16  
 5-4/C 16  
 1-3/C 16  
 1-3/C 20  
 1-3/C 14  
 1-3/C 16 (LUM)  
 1-1/C 6 INS. GR.

- (3) X:488392.6582  
 Y:167072.0180  
 REMOVE: PA100 POLE FOUNDATION  
 PA100-A-50-D40-9  
 LUMINAIRE-200 W HPS W/PEC & CHECK SWITCH  
 2-ONE WAY SIGNALS-OVERHEAD (0' & 12'  
 FROM END OF MAST ARM)  
 2-TYPE 10B-POLE MOUNTED AT 90° & 180°  
 2-PEDESTRIAN PUSHBUTTONS & SIGNS  
 2-R6-1 SIGN PANELS-POLE MOUNTED AT 0 & 180 DEG  
 R10-12 SIGN PANEL-ADJACENT TO 4-3  
 TYPE D SIGN PANEL-OVERHEAD  
 F&I: PA100 POLE FOUNDATION  
 PA100-A-40-D30-9 (DAVIT AT 350°)  
 LUMINAIRE-LED (FOR 30' MOUNTING HEIGHT)  
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0'  
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 12'  
 2-ANGLE MOUNT SIGNALS AT 90° AND 180°  
 2-ANGLE MOUNT C.D. PED HEADS AT 90° AND 180°  
 1-APS PB AND SIGN (LT ARROW) (PB2-1)  
 AND APS PB MOUNTING SPACERS  
 1-R10-X12 SIGN ADJACENT TO HEAD (7-1)  
 1-SIGN (BUNKER LAKE BLVD) (SEE SIGN DETAILS)  
 1-R6-1L SIGN AT 0 DEG (36"x12")  
 1-R6-1R SIGN AT 180 DEG (36"x12")  
 SALVAGE & REINSTALL: ONE WAY EVP DETECTOR AND LIGHT (PHASE 4+7)  
 F&I: 3" NMC TO INP HH 9:  
 3-6/C 16  
 4-4/C 14  
 1-3/C 16  
 1-3/C 20  
 1-2/C 14  
 1-3/C 16 (LUM)  
 1-1/C 6 INS. GR.

NO	DATE	BY	CKD	APPR	REVISION
NAME: ..\Projects\2023\1230174\DESIGN\Plan Sheet Design\cd1230174_sgl51.dgn 12/13/2024 8:34:25 AM					

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: NICK VANGUNST  
 SIGNATURE: *Nick Van Gunst*  
 DATE: 11/26/24 LICENSE NO. 44683

DRAWN BY: KAS DATE 11/26/24  
 DESIGN BY: KAS DATE 11/26/24  
 CHECKED BY: NHV DATE 11/26/24



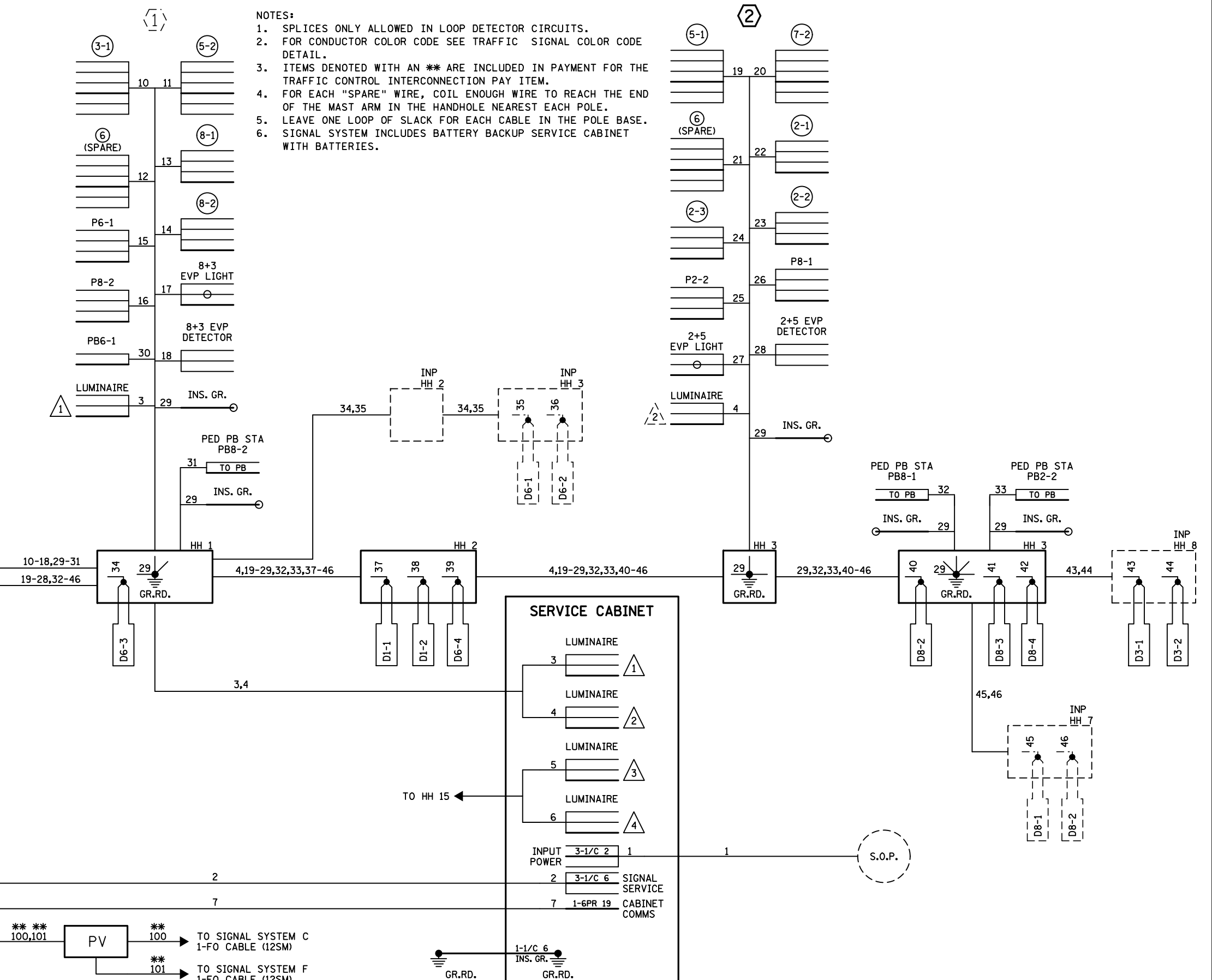
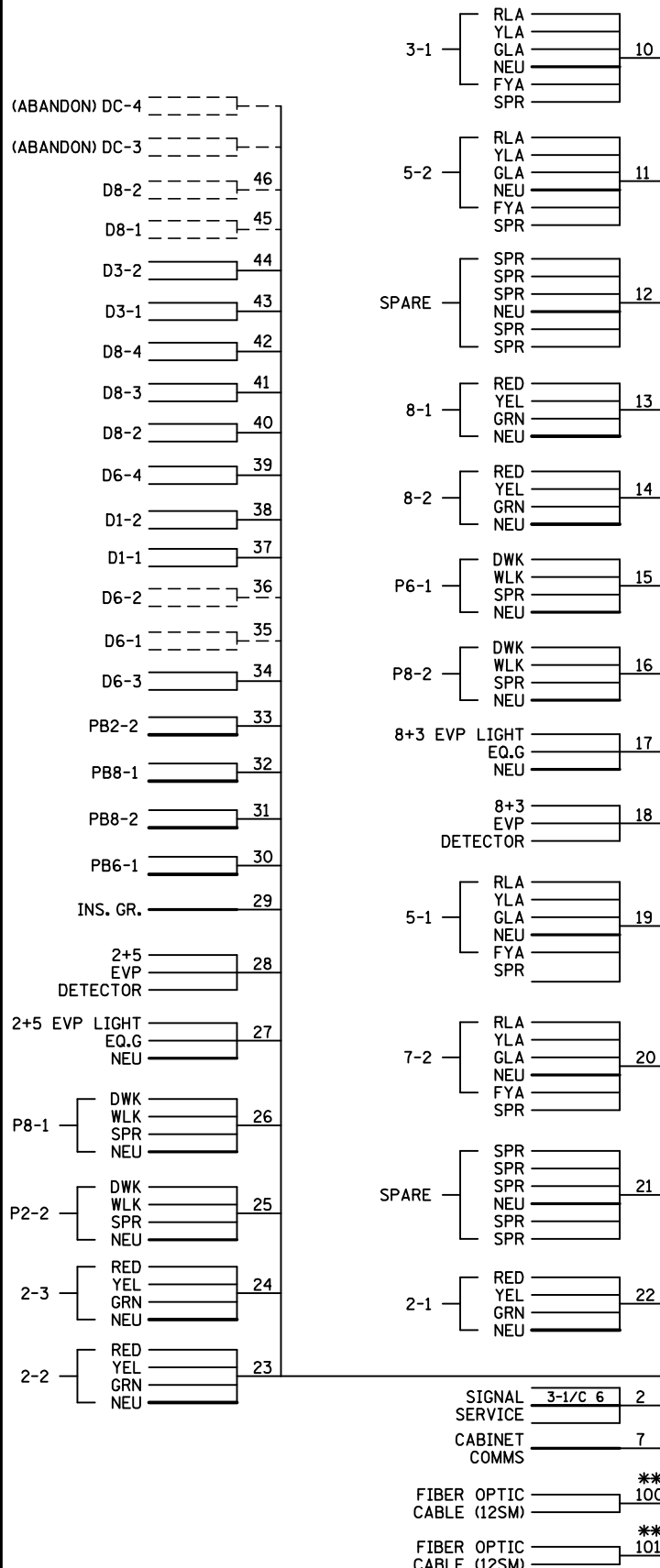
REVISE SIGNAL SYSTEM E NOTES  
 BUNKER LAKE RD & JAY ST  
 COUNTY PROJECT SAP 002-716-024  
 CITY PROJECT SAP 198-020-040

CSAH 116 (BUNKER LAKE BLVD)  
 SIGNAL MODIFICATION  
 & ADA IMPROVEMENTS  
 Sheet 125 of 174 Sheets

# CONTROLLER CABINET

**NOTES:**

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

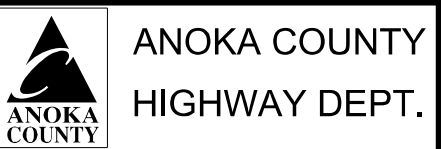


NO	DATE	BY	CKD	APPR	REVISION
NAME: ..\Projects\2023\1230174\DESIGN\Plan Sheet Design\cd1230174_sgl62.dgn 11/26/2024 3:01:30 PM					

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: NICK VANGUNST  
 SIGNATURE: *Nick Van Gunst*  
 DATE: 11/26/24 LICENSE NO. 44683

DRAWN BY: KAS DATE: 11/26/24  
 DESIGN BY: KAS DATE: 11/26/24  
 CHECKED BY: NHV DATE: 11/26/24

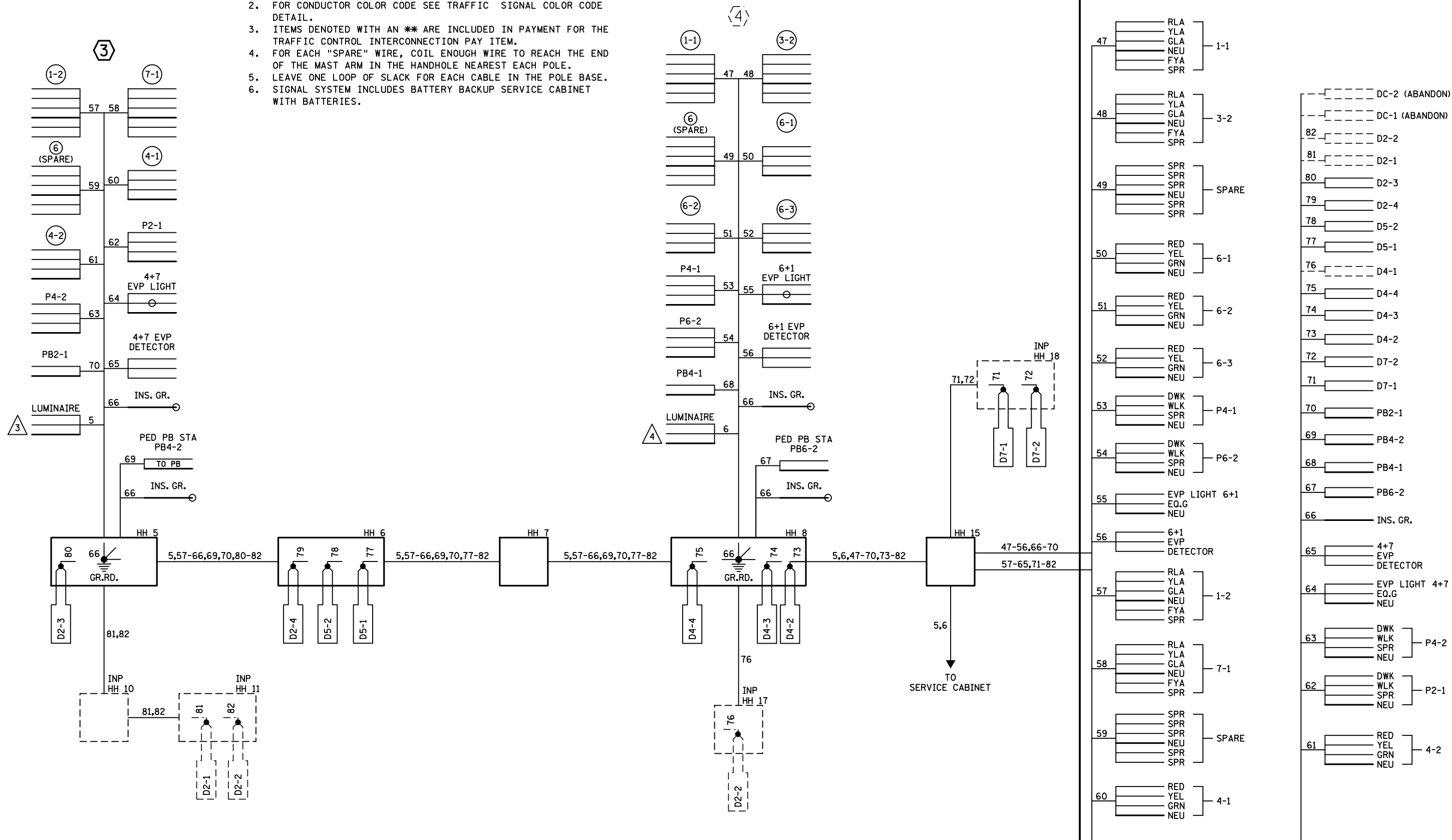


REVISE SIGNAL SYSTEM E WIRING  
 BUNKER LAKE RD & JAY ST  
 COUNTY PROJECT SAP 002-716-024  
 CITY PROJECT SAP 198-020-040

CSAH 116 (BUNKER LAKE BLVD)  
 SIGNAL MODIFICATION  
 & ADA IMPROVEMENTS  
 Sheet 126 of 174 Sheets

NOTES:

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



NO	DATE	BY	CKD	APPR	REVISION

NAME: ..\Projects\2023\1230174\DESIGN\Plan Sheet Design\cd1230174\_sgl53.dgn 11/26/2024 3:01:40 PM

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: NICK VANGUNST  
 SIGNATURE: *Nick Van Gunst*  
 DATE: 11/26/24 LICENSE NO. 44683

DRAWN BY: KAS DATE 11/26/24  
 DESIGN BY: KAS DATE 11/26/24  
 CHECKED BY: NHV DATE 11/26/24



**ANOKA COUNTY  
 HIGHWAY DEPT.**

REVISE SIGNAL SYSTEM E WIRING  
 BUNKER LAKE RD & JAY ST  
 COUNTY PROJECT SAP 002-716-024  
 CITY PROJECT SAP 198-020-040

CSAH 116 (BUNKER LAKE BLVD)  
 SIGNAL MODIFICATION  
 & ADA IMPROVEMENTS  
 Sheet 127 of 174 Sheets



ABANDON: 2" RSC  
 \*\* REMOVE: 1-FO CABLE (12SM)  
 \*\* F&I: 1.5" CONDUIT  
 1-FO ARMORED CABLE (12SM)

ABANDON: 2" RSC  
 \*\* REMOVE: 1-FO CABLE (12SM)  
 \*\* F&I: 1.5" CONDUIT  
 1-FO ARMORED CABLE (12SM)

\*\* F&I: 1.5" CONDUIT  
 2-FO ARMORED CABLE (12SM)

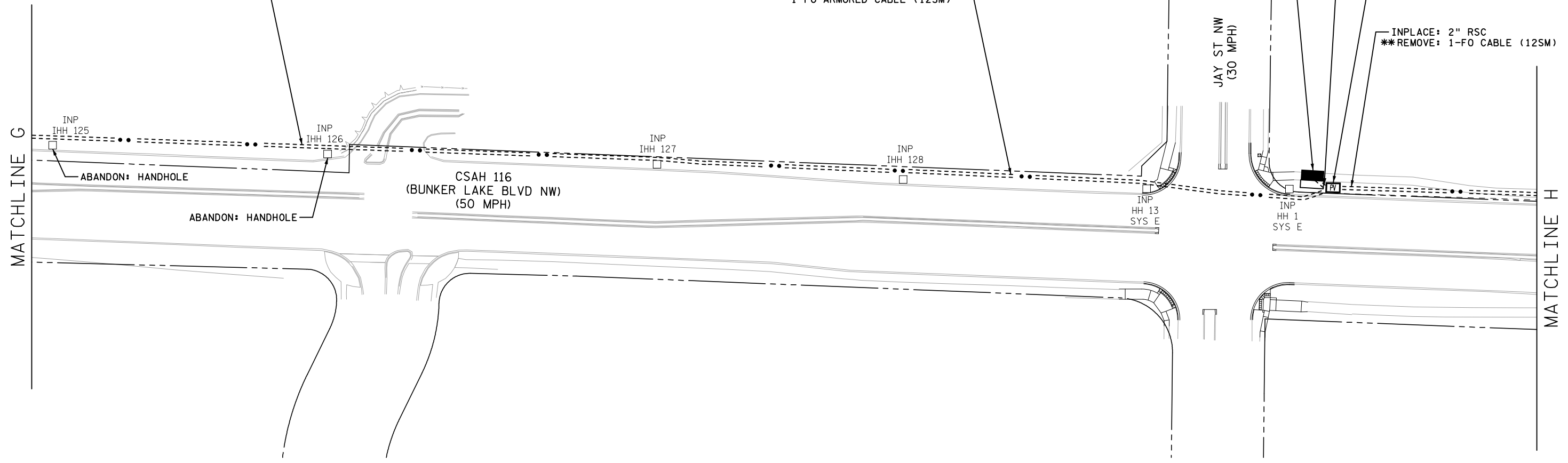
\*\* F&I: PULL VAULT

INPLACE: 2" RSC  
 \*\* REMOVE: 1-FO CABLE (12SM)

PROPOSED SIGNAL CABINET (SIGNAL SYSTEM E)  
 (SEE SIGNAL PLANS)

MATCHLINE G

MATCHLINE H



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 TRAFFIC CONTROL INTERCONNECT PAY ITEM.
4. CONTRACTOR SHALL TERMINATE FIBER OPTIC CABLE WITHIN TRAFFIC SIGNAL CABINETS IN THE CONTRACTOR PROVIDED TERMINATION PANEL. SEE SPECIAL PROVISIONS.
5. DIRECTIONAL BORE INTERCONNECT CONDUIT UNDER ALL HARD SURFACES LIKE SIDEWALKS, ROADS AND DRIVEWAYS.

NO	DATE	BY	CHKD	APPR	REVISION
NAME: ..\Projects\2023\1230174\DESIGN\Plan Sheet Design\cd1230174_ic17.dgn 11/26/2024 3:06:16 PM					

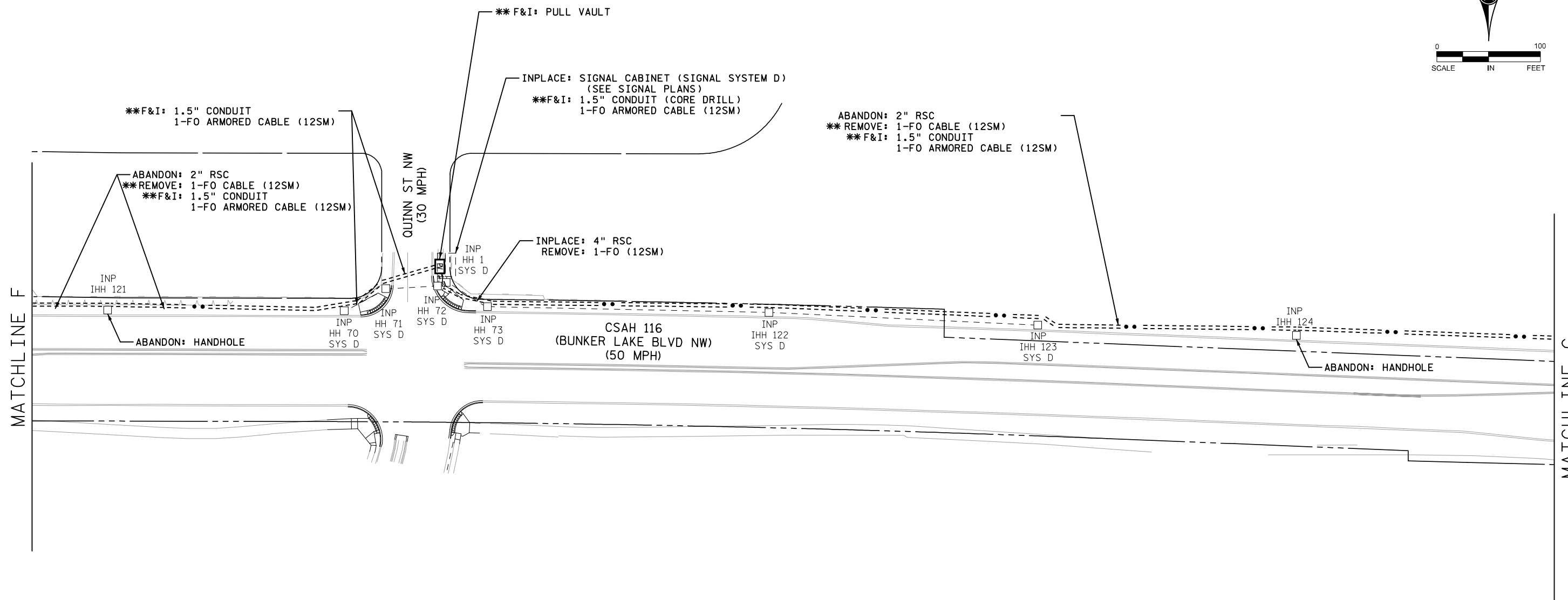
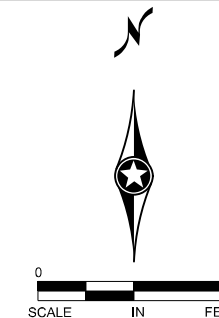
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 PRINT NAME: NICK VANGUNST  
 SIGNATURE: *Nick Van Gunst*  
 DATE: 11/26/24 LICENSE NO. 44683

DRAWN BY: KAS DATE 11/26/24  
 DESIGN BY: KAS DATE 11/26/24  
 CHECKED BY: NHV DATE 11/26/24



TRAFFIC SIGNAL SYSTEM  
 INTERCONNECT LAYOUT  
 COUNTY PROJECT SAP 002-716-024  
 CITY PROJECT SAP 198-020-040

CSAH 116 (BUNKER LAKE BLVD)  
 SIGNAL MODIFICATION  
 & ADA IMPROVEMENTS  
 Sheet 154 of 174 Sheets



**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 TRAFFIC CONTROL INTERCONNECT PAY ITEM.
4. CONTRACTOR SHALL TERMINATE FIBER OPTIC CABLE WITHIN TRAFFIC SIGNAL CABINETS IN THE CONTRACTOR PROVIDED TERMINATION PANEL. SEE SPECIAL PROVISIONS.
5. DIRECTIONAL BORE INTERCONNECT CONDUIT UNDER ALL HARD SURFACES LIKE SIDEWALKS, ROADS AND DRIVEWAYS.

NO	DATE	BY	CKD	APPR	REVISION

NAME: ..\Projects\2023\1230174\DESIGN\Plan Sheet Design\cd1230174\_ic16.dgn      11/26/2024      3:06:07 PM

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: NICK VANGUNST

SIGNATURE: *Nick Van Gunst*

DATE: 11/26/24      LICENSE NO. 44683

DRAWN BY KAS      DATE 11/26/24

DESIGN BY KAS      DATE 11/26/24

CHECKED BY NHV      DATE 11/26/24

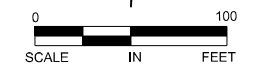


**ANOKA COUNTY**  
**HIGHWAY DEPT.**

**TRAFFIC SIGNAL SYSTEM**  
**INTERCONNECT LAYOUT**  
COUNTY PROJECT SAP 002-716-024  
CITY PROJECT SAP 198-020-040

**CSAH 116 (BUNKER LAKE BLVD)**  
**SIGNAL MODIFICATION**  
**& ADA IMPROVEMENTS**

Sheet 153 of 174 Sheets



ABANDON: 2" RSC  
 \*\* REMOVE: 1-FO CABLE (12SM)  
 \*\* F&I: 1.5" CONDUIT  
 1-FO ARMORED CABLE (12SM)

ABANDON: 2" RSC  
 \*\* REMOVE: 1-FO CABLE (12SM)  
 \*\* F&I: 1.5" CONDUIT  
 1-FO ARMORED CABLE (12SM)

\*\* F&I: 1.5" CONDUIT  
 2-FO ARMORED CABLE (12SM)

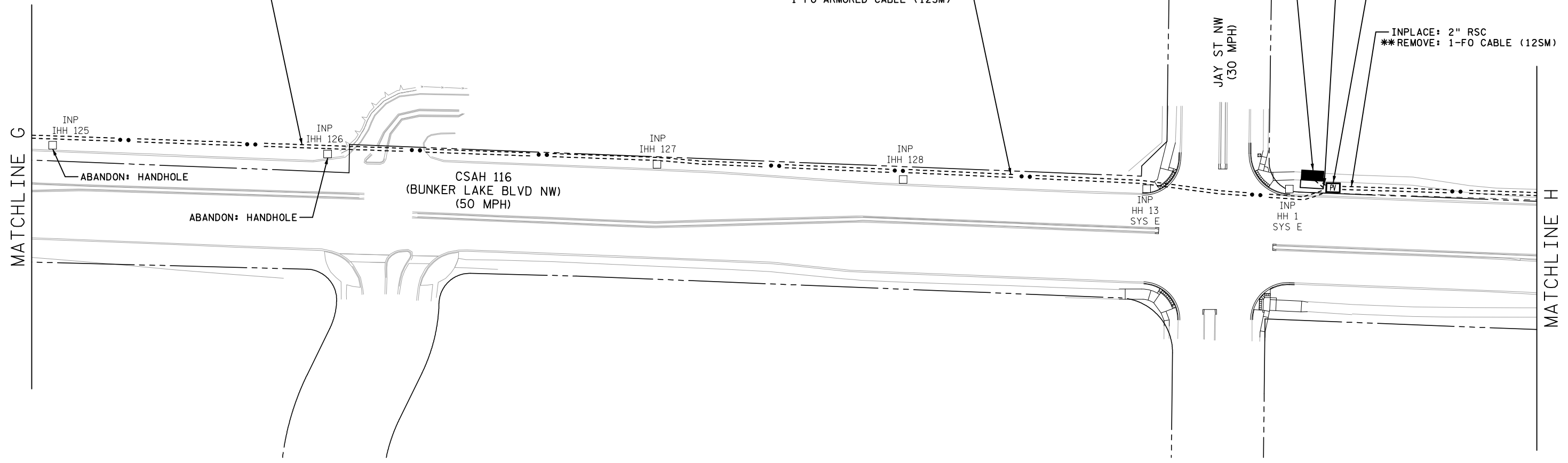
\*\* F&I: PULL VAULT

INPLACE: 2" RSC  
 \*\* REMOVE: 1-FO CABLE (12SM)

PROPOSED SIGNAL CABINET (SIGNAL SYSTEM E)  
 (SEE SIGNAL PLANS)

MATCHLINE G

MATCHLINE H



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 TRAFFIC CONTROL INTERCONNECT PAY ITEM.
4. CONTRACTOR SHALL TERMINATE FIBER OPTIC CABLE WITHIN TRAFFIC SIGNAL CABINETS IN THE CONTRACTOR PROVIDED TERMINATION PANEL. SEE SPECIAL PROVISIONS.
5. DIRECTIONAL BORE INTERCONNECT CONDUIT UNDER ALL HARD SURFACES LIKE SIDEWALKS, ROADS AND DRIVEWAYS.

NO	DATE	BY	CHKD	APPR	REVISION
NAME: ..\Projects\2023\1230174\DESIGN\Plan Sheet Design\cd1230174_ic17.dgn					
11/26/2024 3:06:16 PM					

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.

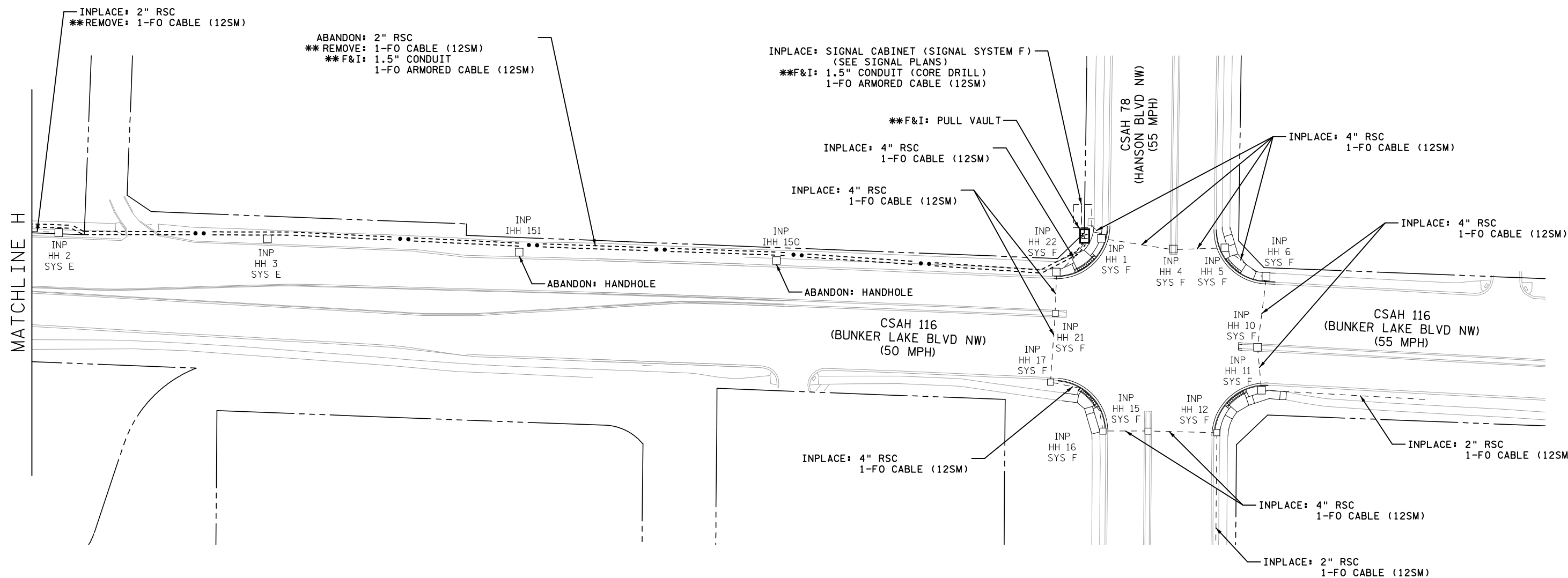
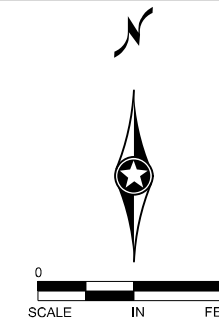
PRINT NAME: NICK VANGUNST  
 SIGNATURE: *Nick Van Gunst*  
 DATE: 11/26/24 LICENSE NO. 44683

DRAWN BY: KAS DATE 11/26/24  
 DESIGN BY: KAS DATE 11/26/24  
 CHECKED BY: NHV DATE 11/26/24



TRAFFIC SIGNAL SYSTEM  
 INTERCONNECT LAYOUT  
 COUNTY PROJECT SAP 002-716-024  
 CITY PROJECT SAP 198-020-040

CSAH 116 (BUNKER LAKE BLVD)  
 SIGNAL MODIFICATION  
 & ADA IMPROVEMENTS  
 Sheet 154 of 174 Sheets



MATCHLINE H

**NOTES:**

1. THE LOCATION OF PULL VAULTS AND CONDUITS SHOWN IN THE PLAN ARE APPROXIMATED. 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 TRAFFIC CONTROL INTERCONNECT PAY ITEM.
4. CONTRACTOR SHALL TERMINATE FIBER OPTIC CABLE WITHIN TRAFFIC SIGNAL CABINETS IN THE CONTRACTOR PROVIDED TERMINATION PANEL. SEE SPECIAL PROVISIONS.
5. DIRECTIONAL BORE INTERCONNECT CONDUIT UNDER ALL HARD SURFACES LIKE SIDEWALKS, ROADS AND DRIVEWAYS.

NO	DATE	BY	CKD	APPR	REVISION

NAME: ..\Projects\2023\1230174\DESIGN\Plan Sheet Design\cd1230174\_ic18.dgn      11/26/2024      3:06:26 PM

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: NICK VANGUNST

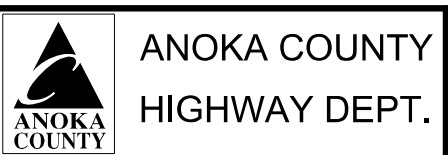
SIGNATURE: *Nick Van Gunst*

DATE: 11/26/24      LICENSE NO. 44683

DRAWN BY KAS      DATE 11/26/24

DESIGN BY KAS      DATE 11/26/24

CHECKED BY NHV      DATE 11/26/24



**TRAFFIC SIGNAL SYSTEM  
INTERCONNECT LAYOUT**

COUNTY PROJECT SAP 002-716-024  
CITY PROJECT SAP 198-020-040

**CSAH 116 (BUNKER LAKE BLVD)  
SIGNAL MODIFICATION  
& ADA IMPROVEMENTS**

Sheet 155 of 174 Sheets