

All items per plan except where marked in red

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

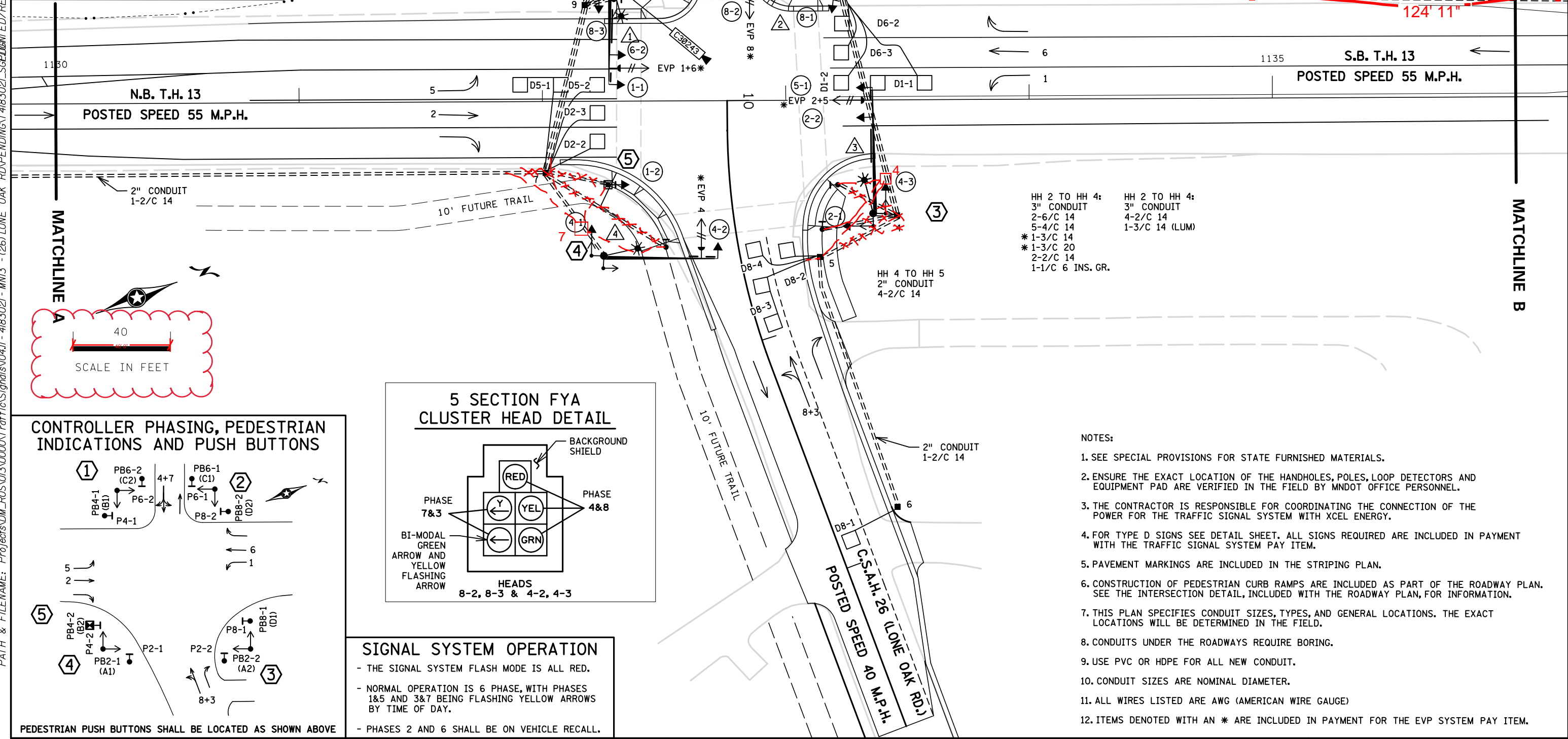
-ALL SIGNAL INDICATIONS SHALL BE 12" LED
 -ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS
 -FYA DENOTES FLASHING YELLOW ARROW
 -INDICATES BI-MODAL SIGNAL INDICATION

HH 9 TO HH 7:
 3" CONDUIT
 2-6/C 14
 5-4/C 14
 *1-3/C 14
 *1-3/C 20
 1-2/C 14
 1-1/C 6 INS. GR.

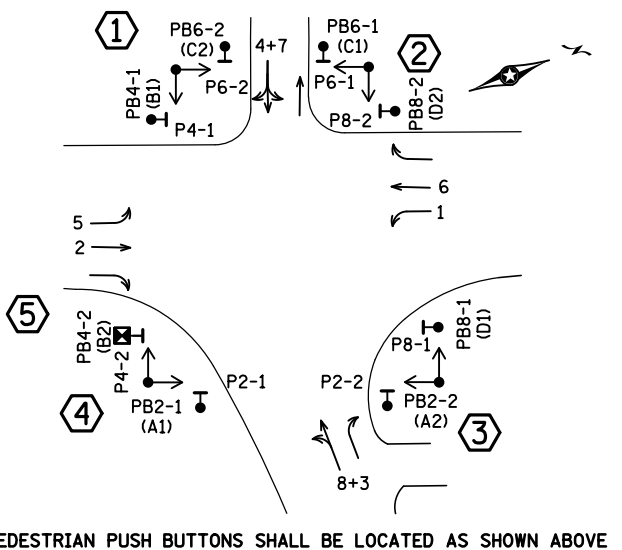
HH 9 TO HH 7:
 3" CONDUIT
 5-2/C 14
 1-3/C 14 (LUM)

LOOP DETECTOR CHART		
NUMBER	SIZE (FT)	LOCATION
D5-2, D2-3, D2-2	6x6	5
D1-2, D6-2, D6-3	6x6	5
D1-1, D5-1, D8-3	2-6x6	20 & 35
D6-1, D2-1	6x6	400
D4-1, D8-2, D8-4	6x6	5
D8-1	6x6	120

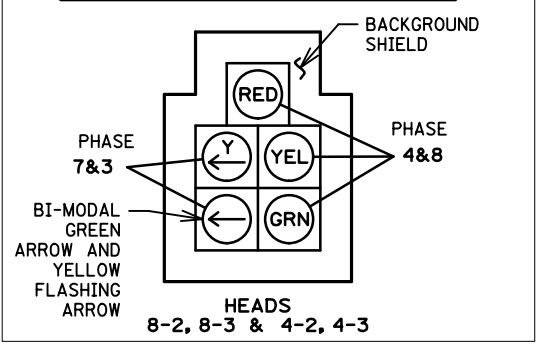
-ALL LOOP DETECTORS SHALL BE PVC
 -LOCATION: DISTANCE FROM CROSSWALK/STOP BAR IN FEET



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS



5 SECTION FYA CLUSTER HEAD DETAIL



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
 - NORMAL OPERATION IS 6 PHASE, WITH PHASES 1&5 AND 3&7 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
 - PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

NOTES:

- SEE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS.
- ENSURE THE EXACT LOCATION OF THE HANDHOLES, POLES, LOOP DETECTORS AND EQUIPMENT PAD ARE VERIFIED IN THE FIELD BY MNDOT OFFICE PERSONNEL.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TRAFFIC SIGNAL SYSTEM WITH XCEL ENERGY.
- FOR TYPE D SIGNS SEE DETAIL SHEET. ALL SIGNS REQUIRED ARE INCLUDED IN PAYMENT WITH THE TRAFFIC SIGNAL SYSTEM PAY ITEM.
- PAVEMENT MARKINGS ARE INCLUDED IN THE STRIPING PLAN.
- CONSTRUCTION OF PEDESTRIAN CURB RAMPS ARE INCLUDED AS PART OF THE ROADWAY PLAN. SEE THE INTERSECTION DETAIL, INCLUDED WITH THE ROADWAY PLAN, FOR INFORMATION.
- THIS PLAN SPECIFIES CONDUIT SIZES, TYPES, AND GENERAL LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD.
- CONDUITS UNDER THE ROADWAYS REQUIRE BORING.
- USE PVC OR HDPE FOR ALL NEW CONDUIT.
- CONDUIT SIZES ARE NOMINAL DIAMETER.
- ALL WIRES LISTED ARE AWG (AMERICAN WIRE GAUGE)
- ITEMS DENOTED WITH AN * ARE INCLUDED IN PAYMENT FOR THE EVP SYSTEM PAY ITEM.

DISTRICT #: Metro
 IPLOT NAME: Layout
 PATH & FILENAME: Projects\DM_R05\013\00000\Traffic\Signals\04\I - 4183021 - MN13 - (26) LONE OAK RD\PENDING\T4183021-SIGNAL\REVISED: 28-OCT-2021

BY	DATE	REVISIONS	SYSTEM ID: 4183021	T.E. 35227	S.A.P. NO. 019-626-029, 195-020-040	DRAWN BY: JAR	CKD BY: CDB	DATE: 08/10/21
			METER ADDRESS: 2997 SIBLEY MEMORIAL HWY		CERTIFIED BY: <i>Gregory Kern</i>	LIC. NO. 26829	DATE: 10/28/2021	
			OLD SYSTEM ID:		STATE PROJ. NO. 1901-192 (T.H.13)		SHEET NO. SS9 OF SS12 SHEETS	

**INTERSECTION LAYOUT
 TRAFFIC CONTROL SIGNAL SYSTEM
 T.H. 13 AT C.S.A.H. 26 (LONE OAK ROAD)
 IN EAGAN, DAKOTA COUNTY**

INTERSECTION NOTES

① X=534668.1185 Y=237135.0496
 PA100 POLE FOUNDATION
 TYPE PA100-A-40-X6-350/CAM 400 EXTENTION (MOUNTED AT 350 DEG) (INCLUDES LIGHTNING ROD, 7/16" GROUND BRAID AND GROUND ROD)
 1-PAIR SWING AWAY HINGES
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (1-1)
 1- VIDEO CAMERA (STATE FURNISHED)
 1-STRAIGHT MOUNT SIGNAL OVERHEAD AT 11' (6-2)
 1-ANGLE MOUNT SIGNAL AT 90 DEG (6-1)
 1-ANGLE MOUNT SIGNAL (WITH CLUSTER ADAPTOR) AT 180 DEG (8-3)
 2-ANGLE MOUNT C. D. PED HEADS AT 90 AND 180 DEG (P4-1) (P6-2)
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 1+6)
 LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-R10-X12 SIGN ADJACENT TO HEAD (1-1)
 1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 9:
 2-6/C 14
 6-4/C 14
 * 1-3/C 14
 * 1-3/C 20
 1-3/C 14 (LUM)
 1-COM CABLE (CAT 5E) (PTZ)
 1-7/16" GROUNDING BRAID (LIGHTNING ROD TO GROUND ROD)
 1-1/C 6 INS. GR.

PED PB STATION 1-APS PB AND SIGN (LT ARROW) (PB4-1) EXTEND INTO HH 9: 1" CONDUIT 1-2/C 14 1-1/C 6 INS. GR.	PED PB STATION 1-APS PB AND SIGN (RT ARROW) (PB6-2) EXTEND INTO HH 1: 1" CONDUIT 1-2/C 14 1-1/C 6 INS. GR.
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⑤ X=534744.9912 Y=237103.7366
 PEDESTAL FOUNDATION (DESIGN 8127- LIGHT FOUNDATION DESIGN E)
 PEDESTAL POLE WITH BASE
 1-STRAIGHT MOUNT SIGNAL (1-2)
 1-APS PB AND SIGN (RT ARROW) (PB4-2)
 3" CONDUIT TO HH 7:
 1-6/C 14
 1-4/C 14
 1-2/C 14
 1-1/C 6 INS. GR.

④ X=534771.6651 Y=237091.6835
 PA100 POLE FOUNDATION
 TYPE PA100-A-45-D40-9 (DAVIT AT 350 DEG)
 1-ANGLE MOUNT SIGNAL OVERHEAD (WITH CLUSTOR ADAPTOR) AT 0' (4-2)
 1-ANGLE MOUNT SIGNALS AT 180 DEG (4-1)
 2-ANGLE MOUNT C. D. PED HEADS (P2-1) (P4-2) AT 90 AND 180 DEG
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 4)
 LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-R10-X12 SIGN ADJACENT TO HEAD (4-2)
 1-TYPE D SIGN (D-3) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 7:
 1-6/C 14
 4-4/C 14
 * 1-3/C 14
 * 1-3/C 20
 1-3/C 14 (LUM)
 1-1/C 6 INS. GR.

PED PB STATION 1-APS PB AND SIGN (LT ARROW) (PB2-1) EXTEND INTO HH 7: 1" CONDUIT 1-2/C 14 1-1/C 6 INS. GR.

① EQUIPMENT PAD (SEE DETAIL SHEET)
 SERVICE CABINET (SSB) NO BATTERY BACKUP SYSTEM OR BATTERIES
 CONTROLLER AND CABINET (STATE FURNISHED)
 3" CONDUIT TO HH 9:
 2-6/C 14
 6-4/C 14
 1-2/C 14
 1-COM CABLE (CAT 5E) (PTZ)
 * 1-3/C 14
 * 1-3/C 20
 1-1/C 6 INS. GR.

3" CONDUIT TO HH 9:
 1-6/C 14
 4-4/C 14
 * 1-3/C 14
 * 1-3/C 20
 1-2/C 14

3" CONDUIT TO HH 9:
 6-2/C 14

3" CONDUIT TO HH 1:
 1-6/C 14
 6-4/C 14
 * 1-3/C 14
 * 1-3/C 20
 3-2/C 14

3" CONDUIT TO HH 1:
 3-6/C 14
 4-4/C 14
 1-3/C 14
 * 1-3/C 20
 * 2-2/C 14
 1-1/C 6 INS. GR.

3" CONDUIT TO HH 1:
 10-2/C 14

GROUND WIRE AND GROUND ROD - MIN 8' OUT FROM PAD
 2-2" AND 1-3" CONDUIT STUBBED OUT (CAPPED BOTH ENDS)
 1-1/2" CONDUIT TO TMS VAULT (SEE TMS PLAN):
 1-FO PIGTAIL (6-SM) (SEE TMS PLAN)

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 PEDESTAL AT POLE MOUNTED TRANSFORMER:
 2" CONDUIT
 3-1/C 2

SERVICE CABINET TO HH 9:
 2" CONDUIT
 2-3/C 14 (LUM)

SERVIVICE CABINET TO HH 1:
 2" CONDUIT
 2-3/C 14 (LUM)

SERVICE CABINET TO EXTERNAL GR. RD.:
 1" CONDUIT
 1-1/C 6 INS. GR.
 (SEE EQUIPMENT PAD LAYOUT)

② SOP- INPLACE POLE MOUNTED TRANSFORMER (XCEL ENERGY)
 PEDESTAL AT BASE OF POLE
 2" CONDUIT FROM PEDESTAL TO SERVICE CABINET:
 3-1/C 2

② X=534668.3536 Y=237216.1087
 PA90 POLE FOUNDATION
 TYPE PA90-A-35-D40-9 (DAVIT AT 350 DEG)
 1-ANGLE MOUNT SIGNAL (WITH CLUSTER ADAPTOR) AT 0' (8-2)
 2-ANGLE MOUNT SIGNALS AT 90 AND 180 DEG (5-2) (8-1)
 2-ANGLE MOUNT C.D. PED HEADS AT 90 AND 180 DEG (P8-2) (P6-1)
 * 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASES 8)
 LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-R10-X12 SIGN ADJACENT TO HEAD (8-2)
 1-TYPE D SIGN (D-3) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 2:
 2-6/C 14
 5-4/C 14
 * 1-3/C 14
 * 1-3/C 20
 1-3/C 14 (LUM)
 1-1/C 6 INS. GR.

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

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

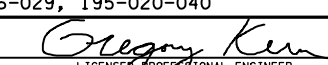
③ X=534795.1146 Y=237201.2024
 PA100 POLE FOUNDATION
 TYPE PA100-A-50-D40-9 (DAVIT AT 350 DEG)
 1-PAIR SWING AWAY HINGES
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (5-1)
 1-STRAIT MOUNT SIGNAL OVERHEAD AT 11' (2-2)
 1-ANGLE MOUNT SIGNAL (WITH CLUSTOR ADAPTOR) AT 90 DEG (4-3)
 1-ANGLE MOUNT SIGNAL AT 180 DEG (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 (PHASES 2+5)
 1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-R10-X12 SIGN ADJACENT TO HEAD (5-1)
 1-TYPE D SIGN (D-1) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 4:
 2-6/C 14
 6-4/C 14
 * 1-3/C 14
 * 1-3/C 20
 1-3/C 14 (LUM)
 1-1/C 6 INS. GR.

PED PB STATION 1-APS PB AND SIGN (RT ARROW) (PB2-2) EXTEND INTO HH 4: 1" CONDUIT 1-2/C 14 1-1/C 6 INS. GR.

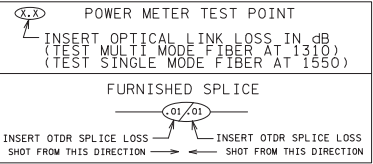
PED PB STATION 1-APS PB AND SIGN (LT ARROW) (PB8-1) EXTEND INTO HH 4: 1" CONDUIT 1-2/C 14 1-1/C 6 INS. GR.

PLOTTED/REVISED: 28-OCT-2021

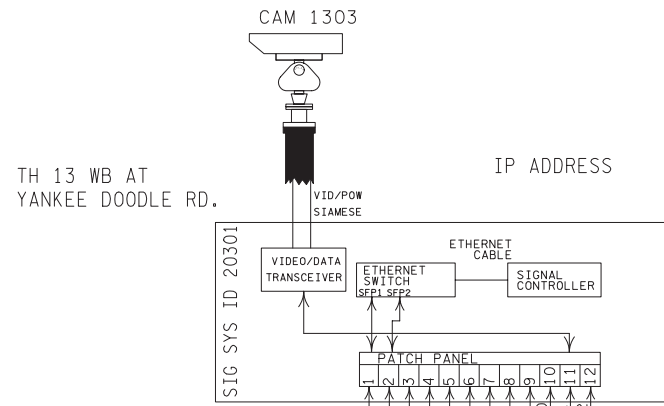
DISTRICT *: Metro
 IPLOT NAME: Notes
 FILENAME: Projects\DM_FROSV013\0000\Traffic\Signals\04\11 - #183021 - MNI3 - (26) LONE OAK RD\ENDINGT#183021_SGL.DGN

BY	DATE	REVISIONS	SYSTEM ID: 4183021	T.E. 35227	INTERSECTION NOTES TRAFFIC CONTROL SIGNAL SYSTEM T.H. 13 AT LONE OAK ROAD IN EAGAN, DAKOTA COUNTY	S.A.P. NO. 019-626-029, 195-020-040	DRAWN BY:HRL	CKD BY:CDB	DATE:08/10/21
			METER ADDRESS: 2997 SIBLEY MEMORIAL HWY			CERTIFIED BY 	LIC. NO. 26829	DATE: 10/28/2021	
			OLD SYSTEM ID:			STATE PROJ.NO. 1901-192 (T.H.13)	SHEET NO. SS11 OF SS12 SHEETS		

U = FURNISHED SPLICE NO SPLICE OTRD READING REQUIRED AT THIS LOCATION



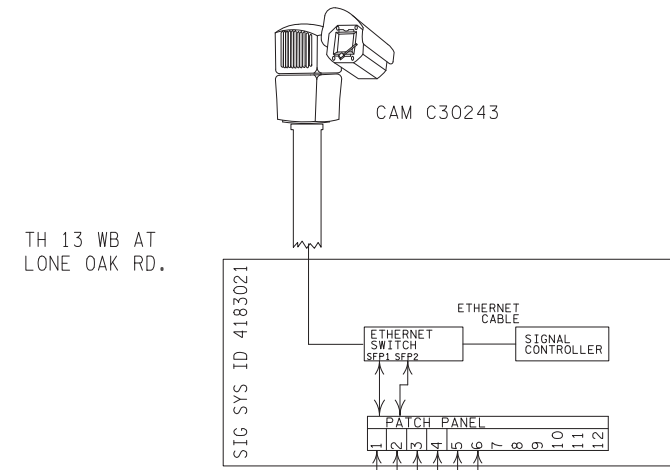
INDEX OF REFRACTION



PIGTAIL ID#: CAM1303

94 m B

41 m E



PIGTAIL ID#: SIG 4183021



TRUNK ID# 13-18

TRUNK ID# 13-16

TRUNK ID# 13-17

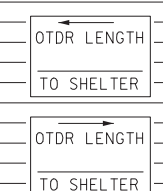
- 1 CAMERA 1305 BU
- 2 CAMERA 1304 BU
- 3 CAMERA 1303
- 4
- 5
- 6
- 7
- 8
- 9 CAM TO CAM
- 10 DATALINK BACKUP SERIAL RING
- 11 DATALINK CABINET SERIAL RING
- 12
- 13 ETHERNET RING-TMC
- 14 ETHERNET RING-SIGNALS
- 15 ETHERNET RING-SIGNALS BACKUP
- 16 DTX 38 TX-B*
- 17
- 18
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FIBER OPTIC CABLE MARKINGS @
 SPLICE ENCLOSURE 7024m
 VAULT ENTRY 7058m

FIBER OPTIC CABLE MARKINGS @
 SPLICE ENCLOSURE 3357m
 VAULT ENTRY 3389m

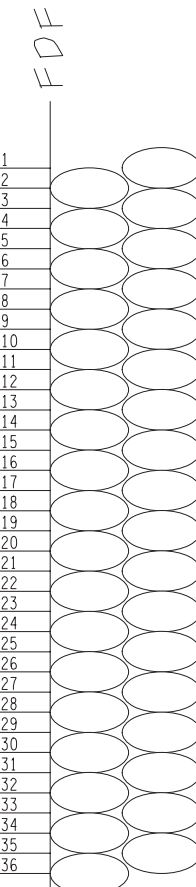
FIBER OPTIC CABLE MARKINGS @
 SPLICE ENCLOSURE 5274m
 VAULT ENTRY 5231m

FIBER OPTIC CABLE MARKINGS @
 SPLICE ENCLOSURE 7006m
 VAULT ENTRY 6960m



SPLICE VAULT TH 13YANKEE DOODLE

SPLICE VAULT TH 13LONE OAK



SELTOR TH13 AT TH494