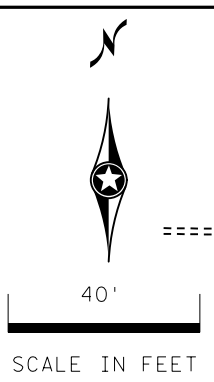


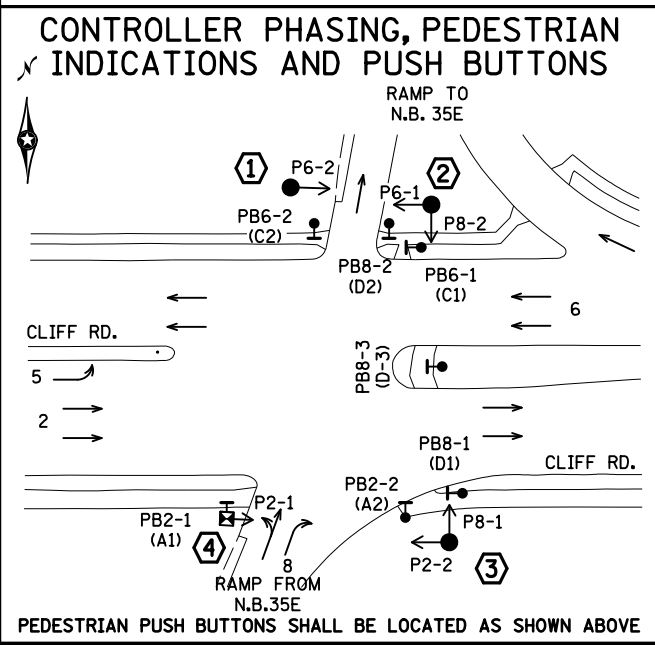
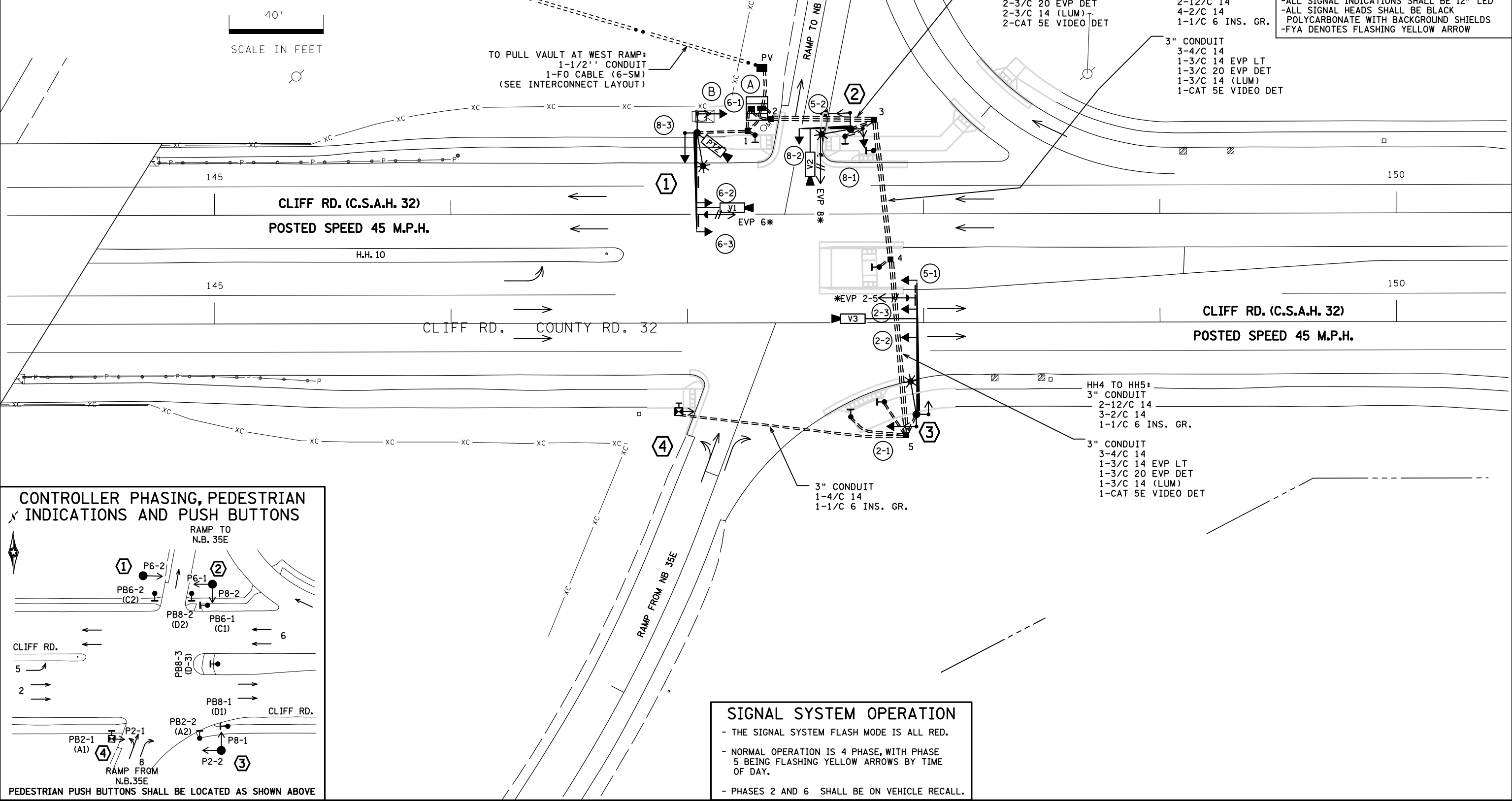
VIDEO DETECTOR CHART		
CAMERA NO.	LOCATION	PHASE
V-1	POLE 1	6
V-2	POLE 2	8
V-3	POLE 3	2

-ALL VIDEO DETECTORS SHALL BE MAST ARM MOUNTED UNLESS NOTED OTHERWISE



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

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



SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 4 PHASE, WITH PHASE 5 BEING FLASHING YELLOW ARROWS BY TIME OF DAY.
- PHASES 2 AND 6 SHALL BE ON VEHICLE RECALL.

DISTRICT *: Metro
 IPLOT NAME: TT35243sgl
 PATH & FILENAME: Projects\DM_R05\035E\0000\Traffic\Signals\93.84_(32) CLIFF RD E RAMP-381604\TIT35243sgl.dgn
 PLOTTED/REVISED: 8-DEC-2021

BY	DATE	REVISIONS	SYSTEM ID: 3816047	T.E. 17866	S.A.P. NO. 019-632-046	DRAWN BY:HRL	CKD BY:CDB	DATE:7/10/20		
HRL	07-26-21	RECORD PLAN	METER ADDRESS:		CERTIFIED BY			LIC. NO. 19863	DATE: 7/16/20	
SJK	12/8/21	AS-BUILT PLAN	OLD SYSTEM ID: 20531 1735243		INTERSECTION LAYOUT TRAFFIC CONTROL SIGNAL SYSTEM B T.H. 35E AT C.S.A.H.32 (CLIFF ROAD) E. RAMP IN EGAN, DAKOTA COUNTY				STATE PROJ.NO.1982-206 (T.H.35E)	SHEET NO. 37 OF 50 SHEETS

DISTRICT *: Metro
 PLOT NAME: TIT35243sgl
 PATH & FILENAME: Projects\DM_R05\035E\0000\Traffic\Signals\93.B4_132\CLIFF RD E RAMP-381604\TIT35243sgl.dgn
 PLOTTED/REVISED: 8-DEC-2021

1 PA100 POLE FOUNDATION
 TYPE PA100-A-40-X6-350/CAM (AT 350 DEG)
 1-PAIR SWING AWAY HINGES
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (6-3)
 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 180 DEG (P6-2)
 1-ONE WAY EVP DETECTOR AND CONFIRMATORY LIGHT (PHASE 6)
 1-VIDEO DETECTION CAMERA (V-1)(STATE FURNISHED)
 MOUNTED ON 6' EXTENSION AT 8' FROM END OF MAST ARM
 1-LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-PTZ VIDEO CAMERA W/MOUNT (STATE FURNISHED)
 2-TYPE D SIGNS (D-4, D-5) (SEE SIGN DETAILS)
 1-R9-3 (NO PED) SIGN (FACING POLE 4)(SEE SIGN DETAILS)
 3" CONDUIT TO HH 1:
 2-12/C 14
 1-4/C 14
 1-3/C 14
 1-3/C 20
 1-3/C 14 (LUM)
 1-CAT 5E (VIDEO DET)
 1-CAT 5E (PTZ CAM.)
 1-7/16" GROUND BRAID TO GROUND ROD
 1-1/C 6 INS. GR.

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

2 PA85 POLE FOUNDATION
 TYPE P85-A-20-D40-9 (DAVIT AT 350 DEG)
 1-ANGLE MOUNT SIGNAL OVERHEAD 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 (P6-1, P8-2)
 1-ONE WAY EVP DETECTOR AND
 CONFIRMATORY LIGHT (PHASE 8)
 1-VIDEO DETECTION CAMERA (V-2)(STATE FURNISHED)
 MOUNTED ON 6' EXTENSION AT 5' FROM END OF MAST ARM
 LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 2-SIGNS (ONE-WAY) R6-1R & R6-2L (SEE SIGN DETAILS)
 3" CONDUIT TO HH 3:
 2-12/C 14
 2-4/C 14
 1-3/C 14
 1-3/C 20
 1-3/C 14 (LUM)
 1-CAT 5E VIDEO DET
 1-1/C 6 INS. GR.

PED PB STATION
 1- APS PB AND SIGN
 (LT ARROW) (PB6-1)
 EXTEND INTO HH 3:
 1" NOM.DIA. 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 3:
 1" NOM.DIA. CONDUIT
 1-2/C 14
 1-1/C 6 INS.GR.

PED PB STATION
 1- APS PB AND SIGN
 (RT & LT ARROW) (PB8-3)
 EXTEND INTO HH 4:
 1" NOM.DIA. 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 5:
 1" NOM.DIA. CONDUIT
 1-2/C 14
 1-1/C 6 INS.GR.

4 PEDESTAL FOUNDATION
 TYPE 4A - 1-C.D. PED HEAD (P2-1)
 8' PEDESTAL POLE PLUS BASE
 1-APS PB AND SIGN (LT ARROW) (PB2-1)
 AND APS PB MOUNTING SPACERS
 1-R9-3 (NO PED) SIGN (FACING POLE 1)
 (SEE SIGN DETAILS)
 3" CONDUIT TO HH 5:
 1-4/C 14
 1-2/C 14
 1-1/C 6 INS. GR.

PED PB STATION
 1- APS PB AND SIGN
 (RT ARROW) (PB2-2)
 EXTEND INTO HH 5:
 1" NOM.DIA. CONDUIT
 1-2/C 14
 1-1/C 6 INS.GR.

3 PA100 POLE FOUNDATION
 TYPE P100-A-55-D40-9 (DAVIT AT 350 DEG)
 1-PAIR SWING AWAY HINGES
 1-ANGLE MOUNT SIGNAL OVERHEAD AT 0' (5-1)
 2-STRAIGHT MOUNT SIGNAL OVERHEAD
 AT 11' AND 23' (2-3, 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 (PHASES 2+5)(EXTEND ABOVE SIGN)
 1-VIDEO DETECTION CAMERA (STATE FURNISHED)
 MOUNTED ON 6' EXTENSION AT 17' FROM END OF MAST ARM
 LUMINAIRE-LED (FOR 40' MOUNTING HEIGHT)
 1-R10-X12 SIGN ADJACENT TO HEAD (5-1)(SEE SIGN DETAILS)
 1-TYPE D SIGN (D-6) (SEE SIGN DETAILS)
 3" CONDUIT TO HH 5:
 2-12/C 14
 2-4/C 14
 1-3/C 14
 1-3/C 20
 1-3/C 14 (LUM)
 1-CAT 5E VIDEO DET
 1-1/C 6 INS. GR.

A EQUIPMENT PAD (SEE DETAIL SHEET)
 SERVICE CABINET (SSB) NO BATTERY BACKUP SYSTEM OR BATTERIES
 CONTROLLER AND CABINET (STATE FURNISHED)
 3" CONDUIT TO HH 2: 3" CONDUIT TO HH 1:
 4-12/C 14 2-12/C 14
 6-2/C 14 1-4/C 14
 1-1/C 6 INS. GR. 1-2/C 14
 3" CONDUIT TO HH 2: 1-3/C 14 EVP LT
 4-4/C 14 1-3/C 20 EVP DET
 2-3/C 14 EVP LT 1-CAT 5E VIDEO DET
 2-3/C 20 EVP DET 1-CAT 5E PTZ CAM
 2-CAT 5E VIDEO DET 1-1/C 6 INS. GR.

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 PULL VAULT:
 1-FO PIGTAIL (6-SM) (SEE INTERCONNECT LAYOUT)

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 HH1:
 2" CONDUIT
 1-3/C 14 (LUM)

SERVICE CABINET TO HH2:
 2" CONDUIT
 2-3/C 14 (LUM)

SERVICE CABINET TO GROUND MOUNTED TRANSFORMER:
 2" CONDUIT
 3-1/C 2

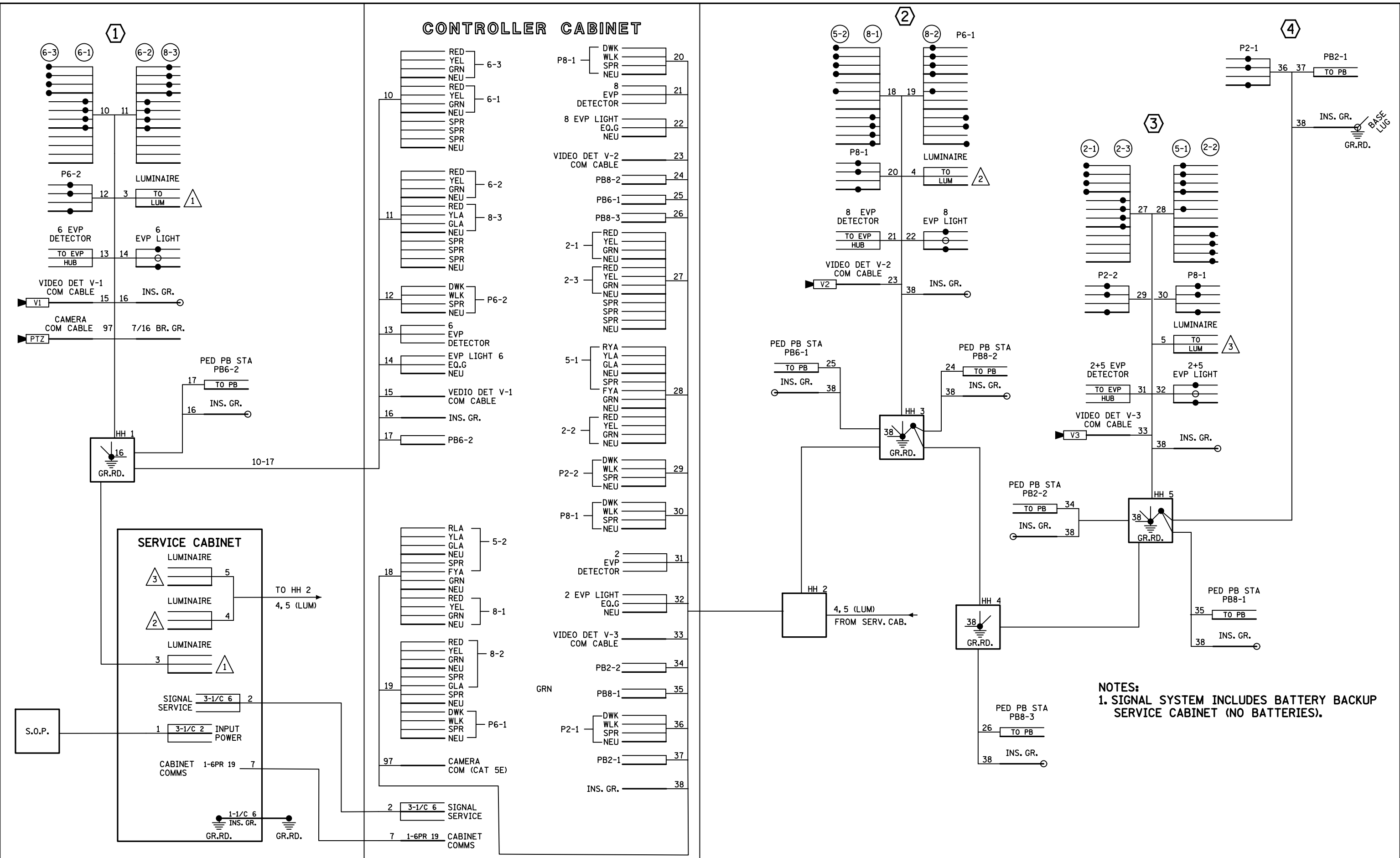
SERVICE CABINET TO EXTERNAL GR. RD.:
 1" CONDUIT
 1-1/C 6 INS. GR.

B SOP-INPLACE 120/240V GROUND MOUNTED
 TRANSFORMER (DAKOTA ELECTRIC)
 2" CONDUIT INTO SERVICE CABINET:
 3-1/C 2

NOTE: POWER FOR THE PROPOSED SIGNAL WILL BE PROVIDED BY THE
 EXISTING 120/240V GROUND MOUNTED TRANSFORMER THAT IS
 PROVIDING POWER TO THE EXISTING SIGNAL. COORDINATE WITH
 DAKOTA ELECTRIC.

BY	DATE	REVISIONS	SYSTEM ID: 3816047	T.E. 17866	INTERSECTION NOTES TRAFFIC CONTROL SIGNAL SYSTEM B T.H. 35E AT C.S.A.H.32 (CLIFF ROAD) E. RAMP IN EGAN, DAKOTA COUNTY	S.A.P. NO. 019-632-046	DRAWN BY:HRL	CKD BY:CB	DATE:7/10/20
HRL	7-26-21	RECORD PLAN	METER ADDRESS:			CERTIFIED BY <i>Michael P. Gubernsky</i>	LIC. NO. 19863	DATE: 7/16/20	
SJK	12/8/21	AS-BUILT PLAN	OLD SYSTEM ID: 20531 1735243			LICENSED PROFESSIONAL ENGINEER			
						STATE PROJ.NO.1982-206 (T.H.35E)	SHEET NO.	38 OF	50 SHEETS

DISTRICT #: Metro
 IPLOT NAME: T1735243sgl
 PATH & FILENAME: Projects\DM_ROS\035E\0000\TrafficSignals\93.84_132\CLIFF RD E RAMP-381604\T1735243sgl.dgn
 PLOTTED/REVISED: 8-DEC-2021



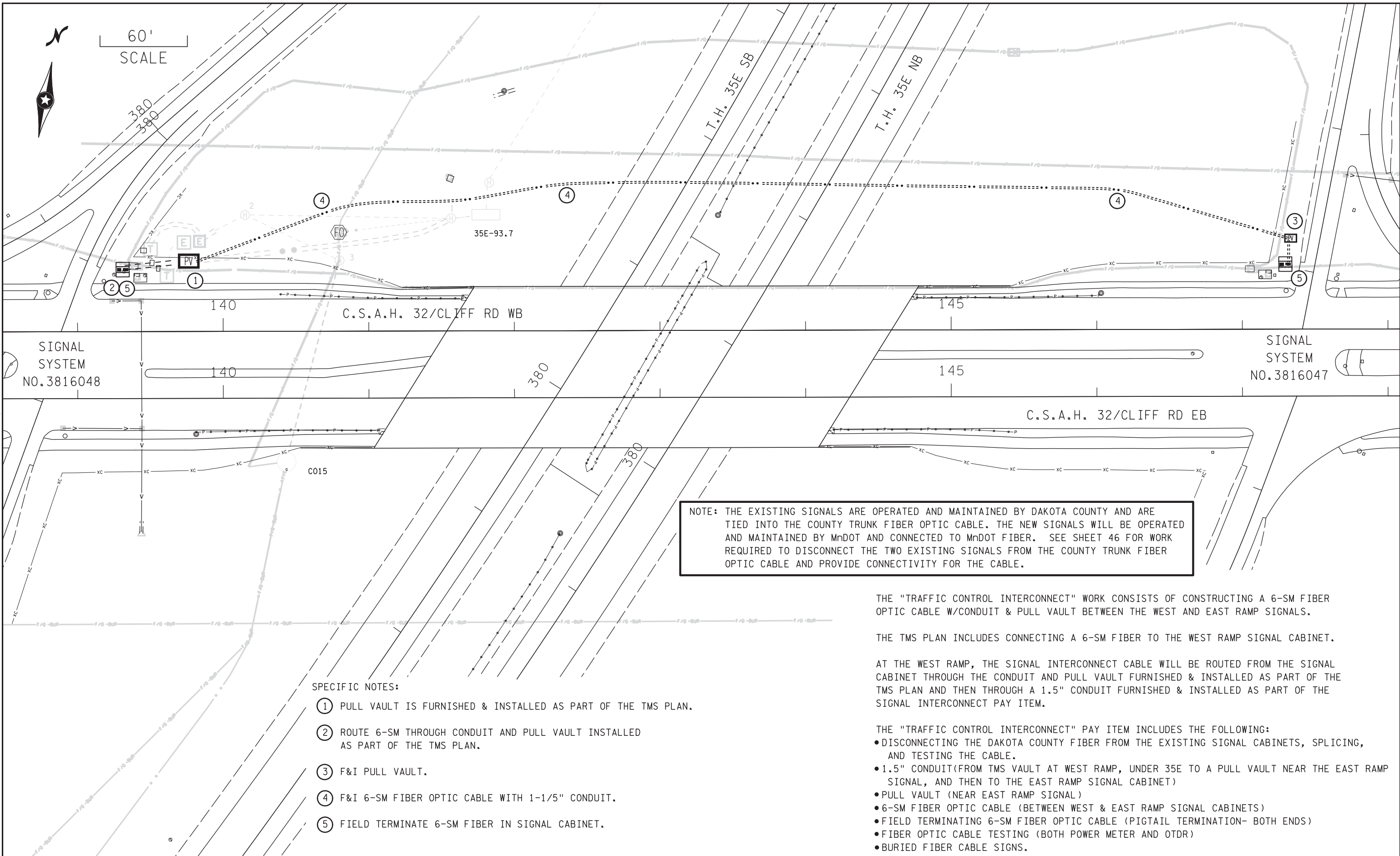
NOTES:
 1. SIGNAL SYSTEM INCLUDES BATTERY BACKUP SERVICE CABINET (NO BATTERIES).

BY	DATE	REVISIONS	SYSTEM ID: 3816047	T.E. 17866	S.A.P. NO. 019-632-046	DRAWN BY:HRL	CKD BY:CDB	DATE:7/10/20
HRL	07-26-21	RECORD PLAN	METER ADDRESS:		CERTIFIED BY <i>Michael P. Subramany</i>	LIC. NO. 19863	DATE: 7/16/20	
SJK	12/8/21	AS-BUILT PLAN	OLD SYSTEM ID: 20531 1735243		STATE PROJ.NO. 1982-206(T.H.35E) SHEET NO. 39 OF 50 SHEETS			

FIELD WIRING DIAGRAM
TRAFFIC CONTROL SIGNAL SYSTEM B
T.H. 35E AT C.S.A.H. 32 (CLIFF ROAD) E. RAMP
IN EAGAN, DAKOTA COUNTY

PLOTTED/REVISED: 7-AUG-2020

DISTRICT *: Metro
I/PLOT NAME: Fiber Interconnect Layout44
PATH & FILENAME: Projects\DM_ROS\035E\1982\206\Traffic\Signals\Fiber Interconnect Layout.dgn



NOTE: THE EXISTING SIGNALS ARE OPERATED AND MAINTAINED BY DAKOTA COUNTY AND ARE TIED INTO THE COUNTY TRUNK FIBER OPTIC CABLE. THE NEW SIGNALS WILL BE OPERATED AND MAINTAINED BY MnDOT AND CONNECTED TO MnDOT FIBER. SEE SHEET 46 FOR WORK REQUIRED TO DISCONNECT THE TWO EXISTING SIGNALS FROM THE COUNTY TRUNK FIBER OPTIC CABLE AND PROVIDE CONNECTIVITY FOR THE CABLE.

SPECIFIC NOTES:

- ① PULL VAULT IS FURNISHED & INSTALLED AS PART OF THE TMS PLAN.
- ② ROUTE 6-SM THROUGH CONDUIT AND PULL VAULT INSTALLED AS PART OF THE TMS PLAN.
- ③ F&I PULL VAULT.
- ④ F&I 6-SM FIBER OPTIC CABLE WITH 1-1/5" CONDUIT.
- ⑤ FIELD TERMINATE 6-SM FIBER IN SIGNAL CABINET.

THE "TRAFFIC CONTROL INTERCONNECT" WORK CONSISTS OF CONSTRUCTING A 6-SM FIBER OPTIC CABLE W/CONDUIT & PULL VAULT BETWEEN THE WEST AND EAST RAMP SIGNALS.

THE TMS PLAN INCLUDES CONNECTING A 6-SM FIBER TO THE WEST RAMP SIGNAL CABINET.

AT THE WEST RAMP, THE SIGNAL INTERCONNECT CABLE WILL BE ROUTED FROM THE SIGNAL CABINET THROUGH THE CONDUIT AND PULL VAULT FURNISHED & INSTALLED AS PART OF THE TMS PLAN AND THEN THROUGH A 1.5" CONDUIT FURNISHED & INSTALLED AS PART OF THE SIGNAL INTERCONNECT PAY ITEM.

- THE "TRAFFIC CONTROL INTERCONNECT" PAY ITEM INCLUDES THE FOLLOWING:
- DISCONNECTING THE DAKOTA COUNTY FIBER FROM THE EXISTING SIGNAL CABINETS, SPLICING, AND TESTING THE CABLE.
 - 1.5" CONDUIT (FROM TMS VAULT AT WEST RAMP, UNDER 35E TO A PULL VAULT NEAR THE EAST RAMP SIGNAL, AND THEN TO THE EAST RAMP SIGNAL CABINET)
 - PULL VAULT (NEAR EAST RAMP SIGNAL)
 - 6-SM FIBER OPTIC CABLE (BETWEEN WEST & EAST RAMP SIGNAL CABINETS)
 - FIELD TERMINATING 6-SM FIBER OPTIC CABLE (PIGTAIL TERMINATION- BOTH ENDS)
 - FIBER OPTIC CABLE TESTING (BOTH POWER METER AND OTDR)
 - BURIED FIBER CABLE SIGNS.

BY	DATE	REVISIONS

SYSTEM ID: 3816047, 3816048
T.E. 17867, 17866

TRAFFIC CONTROL INTERCONNECT

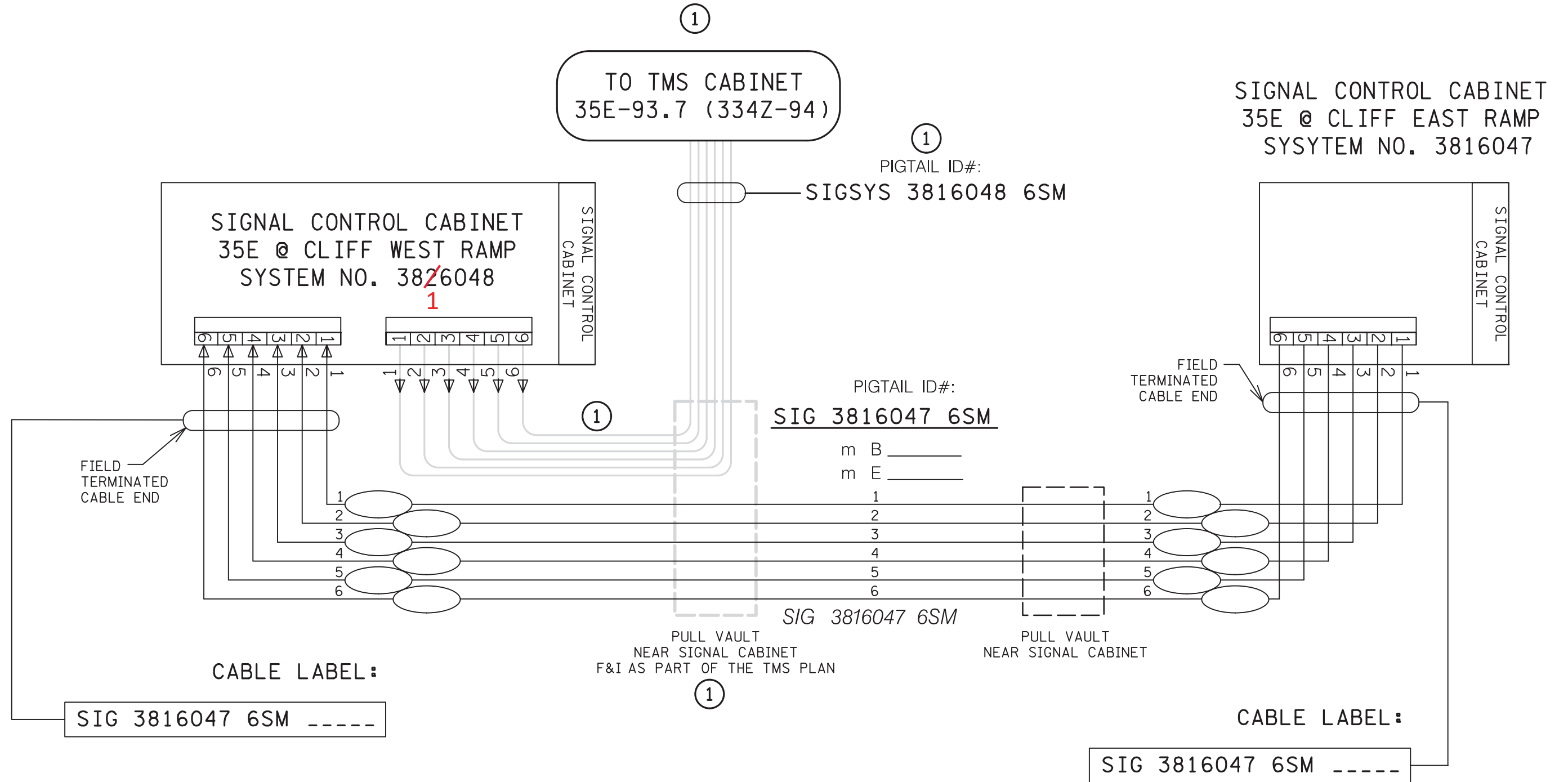
S.A.P. NO. 019-632-046 DRAWN BY: CDB CKD BY: CDB DATE: 5/30/20

CERTIFIED BY: *Michael P. Selinsky* LIC. NO. 19863 DATE: 8/6/20
LICENSSED PROFESSIONAL ENGINEER

STATE PROJ. NO. 1982-206 (T.H.35E) SHEET NO. 44 OF 50 SHEETS

FIBER OPTIC SCHEMATIC
(FOR SIGNAL COMMUNICATIONS)

① THE PIGTAIL FROM TMS CABINET TO SIGNAL CABINET AND THE PULL VAULT IS INCLUDED AS PART OF THE TMS PLAN.



DISTRICT #: Metro
 PLOT NAME: 1982-206_tst45
 PATH & FILENAME: Projects\DM_R0S\035E\1982\206\Traffic\Signal\1982-206_tshdgn

BY	DATE	REVISIONS	SYSTEM ID: 3816048, 3816047 T.E. METER ADDRESS: OLD SYSTEM ID: 1735244, 1735243	FIBER OPTIC SCHEMATIC TRAFFIC CONTROL SIGNAL SYSTEM T.H. 35E AT CLIFF ROAD WEST & EAST RAMPS IN EAGAN, DAKOTA COUNTY	S.A.P. NO. 019-632-046 CERTIFIED BY: <i>Michael P. Gubinsky</i> LIC. NO. 19863 DATE: 7/16/20	DRAWN BY: HRL CKD BY: CDB DATE: 7/10/20
			STATE PROJ. NO. 1982-206 (T.H. 35E)		SHEET NO. 45 OF 50 SHEETS	