

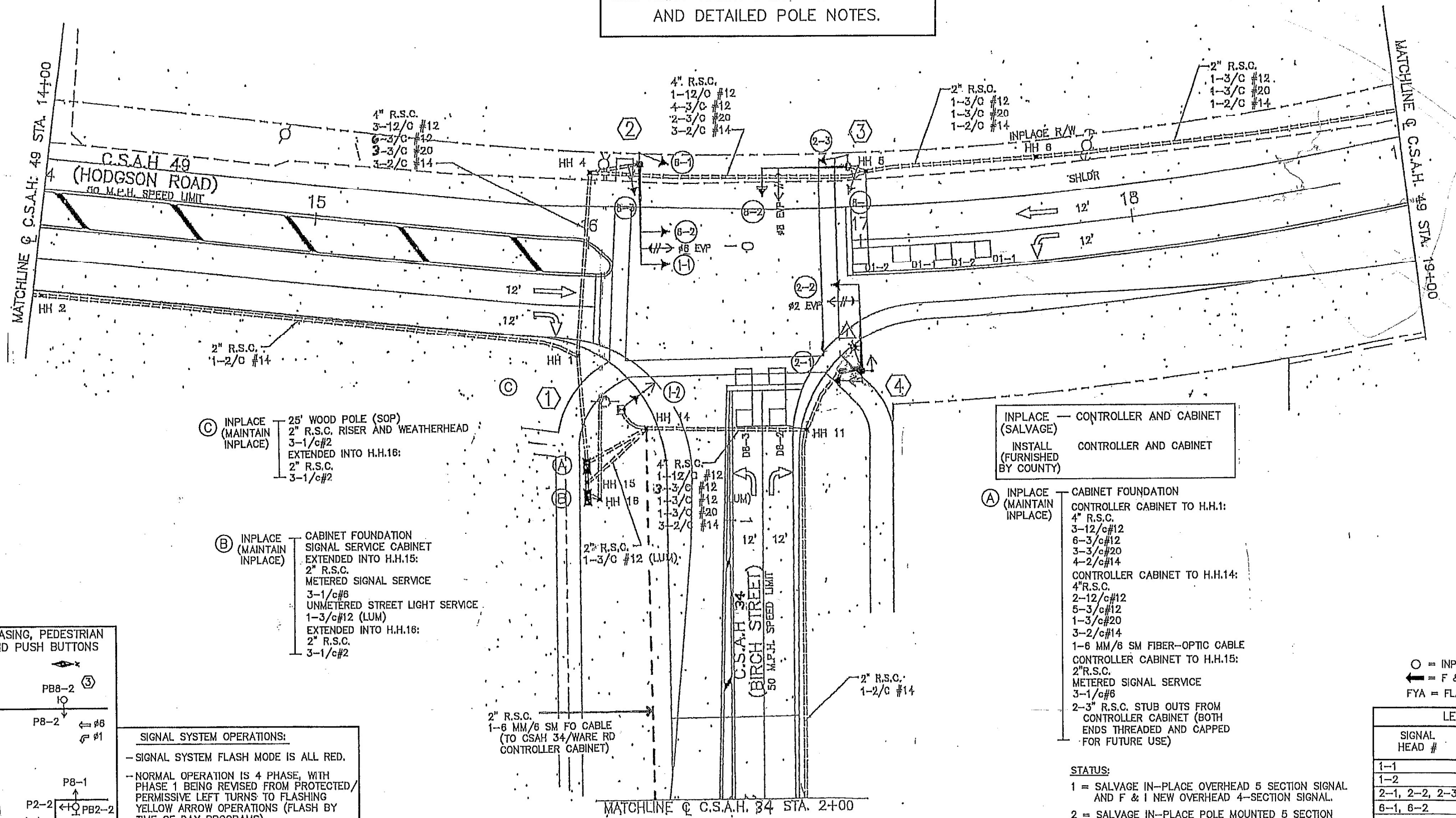


PVC LOOP DETECTORS				
NUMBER	SIZE (FT)	LOCATION	FUNCTION	STATUS
D1-1	2-6 x 6	15' & 45'	1	INPLACE
D1-2	2-6 x 6	0' & 30'	1	INPLACE
D2-1	6 x 6	400'	1	INPLACE
D6-1	6 x 6	400'	1	INPLACE
D8-1	6 x 6	400'	3,8	INPLACE
D8-2	2-6 x 6	0' & 10'	7	INPLACE
D8-3	2-6 x 6	0' & 10'	1	INPLACE

- FUNCTIONS:**
- 1) CALL & EXTEND
 - 3) EXTEND ONLY
 - 7) DELAYED CALL, IMMEDIATE EXTEND
 - 8) DENSITY ONLY

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

SEE NEXT SHEET FOR GENERAL NOTES AND DETAILED POLE NOTES.



(C) INPLACE (MAINTAIN INPLACE) — 25' WOOD POLE (SOP)
 2" R.S.C. RISER AND WEATHERHEAD
 3-1/c#2
 EXTENDED INTO H.H.16:
 2" R.S.C.
 3-1/c#2

(B) INPLACE (MAINTAIN INPLACE) — CABINET FOUNDATION
 SIGNAL SERVICE CABINET
 EXTENDED INTO H.H.15:
 2" R.S.C.
 METERED SIGNAL SERVICE
 3-1/c#8
 UNMETERED STREET LIGHT SERVICE
 1-3/c#12 (LUM)
 EXTENDED INTO H.H.16:
 2" R.S.C.
 3-1/c#2

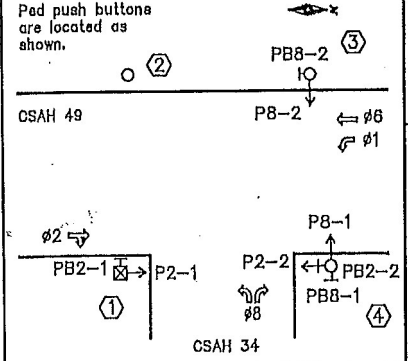
INPLACE (SALVAGE) — CONTROLLER AND CABINET
INSTALL (FURNISHED BY COUNTY) — CONTROLLER AND CABINET

(A) INPLACE (MAINTAIN INPLACE) — CABINET FOUNDATION
 CONTROLLER CABINET TO H.H.1:
 4" R.S.C.
 3-12/c#12
 6-3/c#12
 3-3/c#20
 4-2/c#14
 CONTROLLER CABINET TO H.H.14:
 4" R.S.C.
 2-12/c#12
 5-3/c#12
 1-3/c#20
 3-2/c#14
 1-6 MM/8 SM FIBER-OPTIC CABLE
 CONTROLLER CABINET TO H.H.15:
 2" R.S.C.
 METERED SIGNAL SERVICE
 3-1/c#6
 2-3" R.S.C. STUB OUTS FROM CONTROLLER CABINET (BOTH ENDS THREADED AND CAPPED FOR FUTURE USE)

○ = INPLACE LED (REUSE INPLACE)
 ← = F & I NEW LED INDICATION
 FYA = FLASHING YELLOW ARROW

LED SIGNAL HEADS					
SIGNAL HEAD #	ALL 12" INDICATIONS				STATUS
	R	Y	FYA	G	
1-1	←	←	←	←	1
1-2	←	←	←	←	2
2-1, 2-2, 2-3	○	○	○	○	INPLACE
6-1, 6-2	○	○	○	○	INPLACE
8-1, 8-2, 8-3	○	○	○	○	INPLACE

CONTROLLER PHASING, PEDESTRIAN INDICATORS AND PUSH BUTTONS



SIGNAL SYSTEM OPERATIONS:

- SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 4 PHASE, WITH PHASE 1 BEING REVISED FROM PROTECTED/PERMISSIVE LEFT TURNS TO FLASHING YELLOW ARROW OPERATIONS (FLASH BY TIME OF DAY PROGRAMS).
- VEHICLE SIGNAL PHASES 2 & 6 OPERATE ON RECALL.

DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

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.

Name: John M. Gray, PE
 Date: September 23, 2016
 Lic. No. 22467

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 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

ANOKA COUNTY
 CITY OF LINO LAKES, MN

REVISE SIGNAL SYSTEM 'C'
 INTERSECTION LAYOUT
 CBAH 34 (BRCH ST) AT CBAH 49 (HODGSON RD)

FILE NO. ANOKG 136739
 DATE 09/23/2016
 18
 60

NOTES:

- 1) ALL ITEMS OF THIS SIGNAL SYSTEM ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE, UNLESS OTHERWISE NOTED ON PLANS.
- 2) ALL HANDHOLES ARE PVC HANDHOLES WITH METAL FRAMES AND COVERS AND ARE INPLACE (REUSE AND MAINTAIN INPLACE).
- 3) CONTRACTOR SHALL REMOVE ALL INPLACE "HAND/WALKING PERSON" LENSES FROM EXISTING ONE-SECTION McCAIN PEDESTRIAN SIGNAL HOUSINGS, AND SHALL FURNISH AND INSTALL NEW COUNTDOWN TIMER LED "HAND/WALKING PERSON" LENSES IN THEIR PLACE (REUSE HOUSINGS AND VISORS AS DENOTED IN THE PLANS). SEE SPECIAL PROVISIONS.
- 4) ALL LOOP DETECTORS ARE INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE AND OPERATIONAL.
- 5) ANY DAMAGE TO INPLACE TRAFFIC SIGNAL FACILITIES (CONDUIT, CABLES, HANDHOLES, SIGNAL POLES, ETC.), DUE TO TRAFFIC SIGNAL REVISION WORK, SHALL BE REPAIRED BY CONTRACTOR TO SATISFACTION OF THE ENGINEER, AT NO EXPENSE TO THE COUNTY.
- 6) CONTRACTOR SHALL MAINTAIN OPERATION OF THE SIGNAL SYSTEM AT ALL TIMES, EXCEPT AS OTHERWISE APPROVED BY ENGINEER.
- 7) ALL NEW VEHICULAR SIGNAL HEADS SHALL HAVE BACKGROUND SHIELDS FURNISHED & INSTALLED BY CONTRACTOR. ALL INPLACE VEHICULAR SIGNAL HEADS BEING REUSED AS PART OF REVISE SIGNAL SYSTEM "C" HAVE BACKGROUND SHIELDS (REUSE AND MAINTAIN INPLACE).
- 8) F & I = NEW, FURNISH AND INSTALL.
S & I = INPLACE, SALVAGE AND INSTALL.
- 9) ALL NEW VEHICULAR SIGNAL HOUSINGS, BACKGROUND SHIELDS AND VISORS SHALL BE FABRICATED USING BLACK POLYCARBONATE MATERIALS. SEE SPECIAL PROVISIONS.
- 10) SEE SPECIAL PROVISIONS REGARDING NEW TYPE C SIGN PANELS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (INCLUDED AS PART OF PAY ITEM FOR "REVISE SIGNAL SYSTEM C").
- 11) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS TO BE INSTALLED AND MADE OPERATIONAL BY CONTRACTOR.
- 12) CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAKING OPERATIONAL A NEW COUNTY FURNISHED CONTROLLER CABINET COMPLETE WITH NEW CONTROL EQUIPMENT ON THE INPLACE CABINET FOUNDATION & FOR SALVAGING THE EXISTING CONTROLLER AND CABINET TO THE COUNTY. SEE SPECIAL PROVISIONS (INCIDENTAL).

① INPLACE (MAINTAIN INPLACE) PEDESTAL FOUNDATION
10' PEDESTAL POLE AND BASE
1-PEDESTRIAN PUSH BUTTON
EXTENDED INTO H.H.14:
3" R.S.C.
1-12/c#12
2-3/c#12

INPLACE (SALVAGE) — ONE WAY SIGNAL-POLE MOUNTED (OLD 6-4)
INPLACE (REMOVE) — TYPE 1C BRACKETING
"HAND/WALKING PERSON" LENS
R10-4b PEDESTRIAN INSTRUCTION STICKER SIGN
INPLACE — 1-SET PEDESTRIAN SIGNALS (HOUSING AND VISOR) (P2-1) (S & I)
F & I — 1-ONE WAY SIGNAL AND STRAIGHT MOUNT-POLE MOUNTED (NEW 1-2)
1-STRAIGHT MOUNT-POLE MOUNTED (FOR P2-1)
1-SET LED CD "HAND/WALKING PERSON" LENS (FOR P2-1)
R10-3e PEDESTRIAN INSTRUCTION STICKER SIGN
R9-3 SIGN PANEL-FACING POLE 2
CAP OPEN HUBS ON SLIPFITTER COLLAR
WIND COLLAR FOR PEDESTAL POLE

② INPLACE (MAINTAIN INPLACE) PA100 POLE FOUNDATION
TYPE PA100-A-35
1-ONE WAY SIGNAL-OVERHEAD AT 11' (8-2)
2-TYPE 10A-POLE MOUNTED 90 DEG (8-3)
AND 180 DEG (8-1)
TYPE D SIGN PANEL-OVERHEAD AT 20'
EXTENDED INTO H.H.4:
3" R.S.C.
2-12/c#12
2-3/c#12
1-3/c#20

INPLACE (SALVAGE) — ONE WAY SIGNAL AND MOUNT-OVERHEAD AT 0' (OLD 6-3)
INPLACE (REMOVE) — R10-12 SIGN PANEL-OVERHEAD
INPLACE — ONE WAY EVP DETECTOR AND LIGHT (RELOCATE FROM 4' TO (S & I) 8' FROM END OF MAST ARM ONTO EXISTING HUB) (#6,1)
F & I — 1-ONE WAY SIGNAL AND ANGLE MOUNT-OVERHEAD AT 0' (NEW 1-1)
R9-3 SIGN PANEL-FACING POLE 1
R10-X12 SIGN PANEL-ADJACENT TO 1-1

③ INPLACE (MAINTAIN INPLACE) PA90 POLE FOUNDATION
TYPE PA90-A-30
1-ONE WAY SIGNAL-OVERHEAD AT 0' (8-2)
1-TYPE 10A-POLE MOUNTED 90 DEG (2-3)
1-TYPE 10B-POLE MOUNTED 180 DEG (8-1, P8-2)
(LEAVE PED SIGNAL HOUSING/VISOR INPLACE)
1-PEDESTRIAN PUSH BUTTON
TYPE D SIGN PANEL-OVERHEAD AT 14'
ONE WAY EVP DETECTOR AND LIGHT AT 4' (#8)
EXTENDED INTO H.H.5:
3" R.S.C.
1-12/c#12
3-3/c#12
1-3/c#20

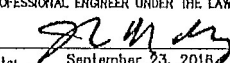
INPLACE (REMOVE) — "HAND/WALKING PERSON" LENS
R10-4b PEDESTRIAN INSTRUCTION STICKER SIGN
F & I — 1-SET LED CD "HAND/WALKING PERSON" LENS (FOR P8-2)
R10-3e PEDESTRIAN INSTRUCTION STICKER SIGN


④ INPLACE (MAINTAIN INPLACE) PA90 POLE FOUNDATION
TYPE PA90-A-30-D40-9 (DAVIT AT 350 DEG)
LUMINAIRE-200 W HPS
1-ONE WAY SIGNAL-OVERHEAD AT 0' (2-2)
1-TYPE 30A-POLE MOUNTED 90 DEG (P8-1)
1-TYPE 10B-POLE MOUNTED 180 DEG (2-1, P2-2)
(LEAVE PED SIGNAL HOUSINGS/VISORS INPLACE)
2-PEDESTRIAN PUSH BUTTONS
TYPE D SIGN PANEL-OVERHEAD AT 14'
ONE WAY EVP DETECTOR AND LIGHT AT 4' (#2)
EXTENDED INTO H.H.11:
3" R.S.C.
1-12/c#12
3-3/c#12
1-3/c#20
1-3/c#12 (LUM)

INPLACE (REMOVE) — 2-"HAND/WALKING PERSON" LENSES
2-R10-4b PEDESTRIAN INSTRUCTION STICKER SIGNS
F & I — 2-SETS LED CD "HAND/WALKING PERSON" LENSES (FOR P2-2, P8-1)
2-R10-3e PEDESTRIAN INSTRUCTION STICKER SIGNS

20167A-BASE.DWG

DRAWN BY: JMG				
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM	NO.	BY	DATE	REVISIONS

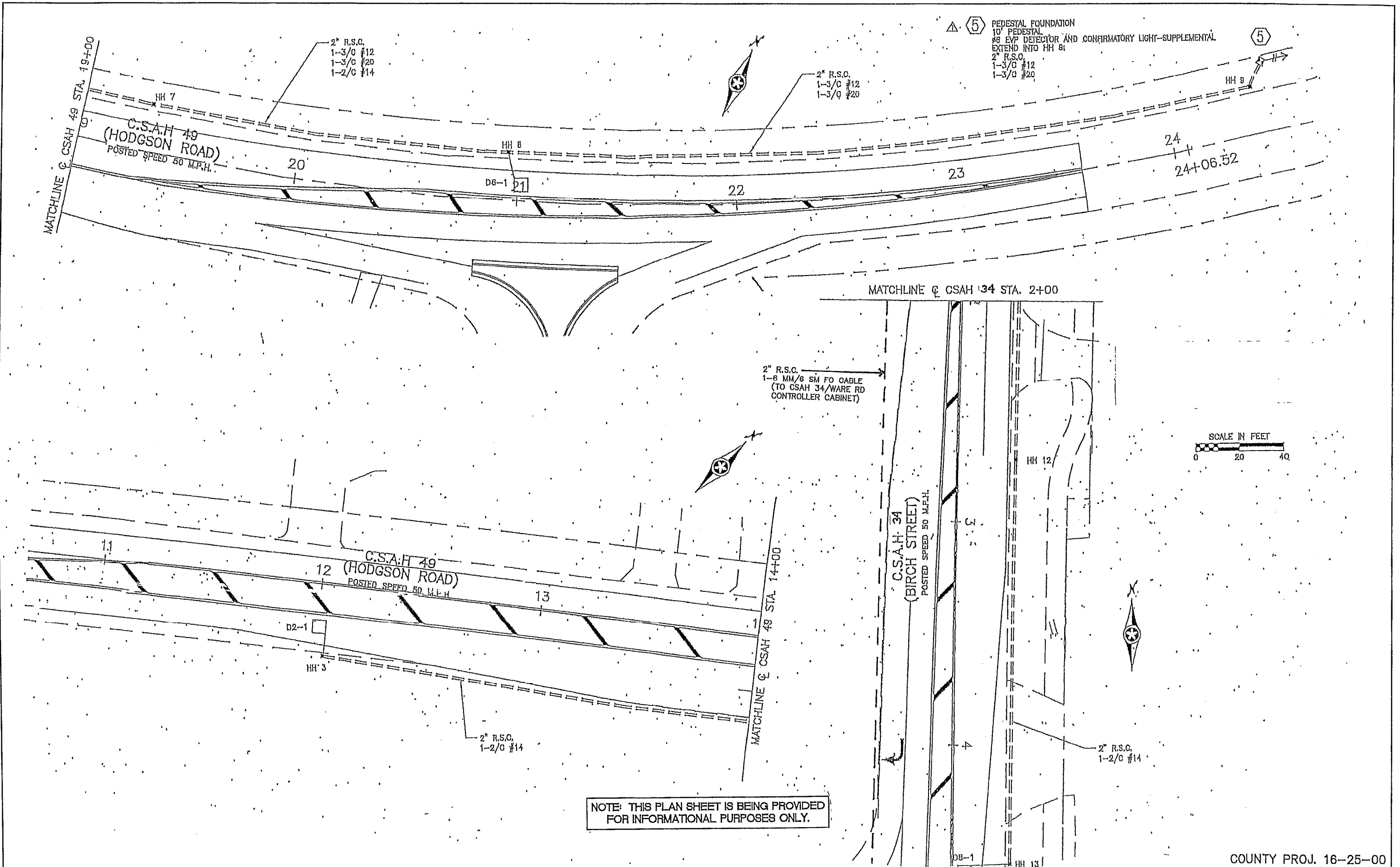
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 Name: John M. Gray, PE
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ANOKA COUNTY
CITY OF LINO LAKES, MN

REVISE SIGNAL SYSTEM "C"
GENERAL NOTES AND POLE NOTES
CSAH 34 (BIRCH ST) AT CSAH 49 (HODGSON RD)

FILE NO. ANOKC 136739	19
DATE 09/23/2018	60



2016TYA-RAISE.DWG	DRAWN BY: JMG			
	DESIGNER: JMG			
	CHECKED BY: JMG			
	DESIGN TEAM	NO.	BY	DATE
				REVISIONS

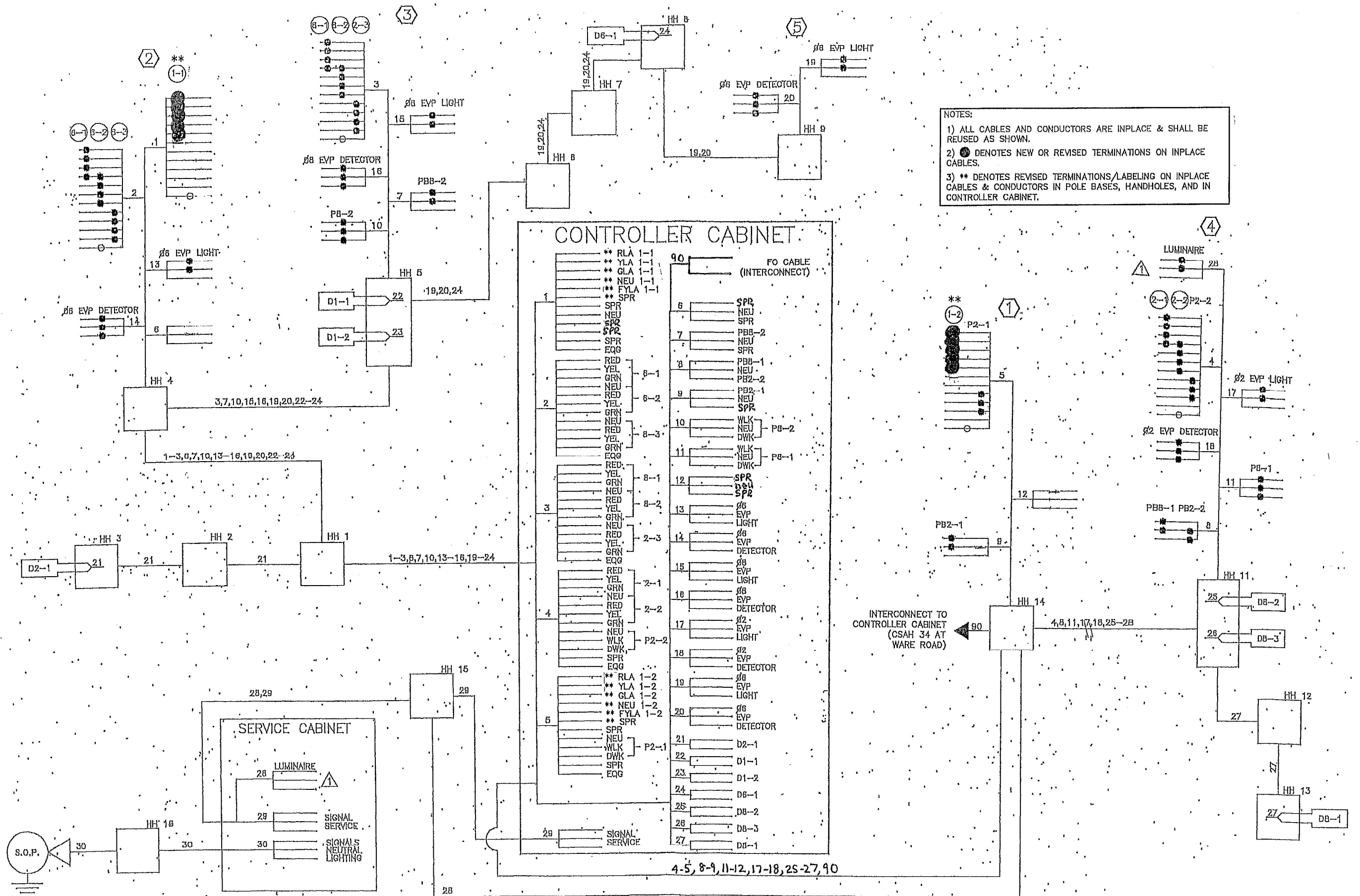
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ANOKA COUNTY
CITY OF LINO LAKES, MN

INPLACE SIGNAL SYSTEM 'C'
'FOR INFORMATION ONLY'
CSAH 34 (BIRCH ST) AT CSAH 49 (HODGSON RD)

FILE NO. ANOKC 138739	22
DATE 09/23/2016	60



NOTES:
 1) ALL CABLES AND CONDUCTORS ARE INPLACE & SHALL BE REUSED AS SHOWN.
 2) ● DENOTES NEW OR REVISED TERMINATIONS ON INPLACE CABLES.
 3) ** DENOTES REVISED TERMINATIONS/LABELING ON INPLACE CABLES & CONDUCTORS IN POLE BASES, HANDHOLES, AND IN CONTROLLER CABINET.

2016TA-BASED.WG
 DRAWN BY: JMG
 DESIGNER: JMG
 CHECKED BY: JMG

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.
 Date: September 23, 2016 Name: John M. Gray, PE Lta. No. 22457

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ANOKA COUNTY
 CITY OF LINO LAKES, MN

REVISE SIGNAL SYSTEM 'C'
 FIELD WIRING DIAGRAM
 CSAH 34 (BRCH ST) AT CSAH 49 (HODGSON RD)

FILE NO. ANOKC 136739
 DATE 09/23/2016
 20
 60