SIGNAL CONTROL POINTS		
POLE NUMBER	X	Y
WOOD POLE 1	460729.6783	166219.6698
WOOD POLE 2	460816.14	166131.6699
WOOD POLE 3	460744.7969	166058.5405
WOOD POLE 4	460643.3885	166136.4509

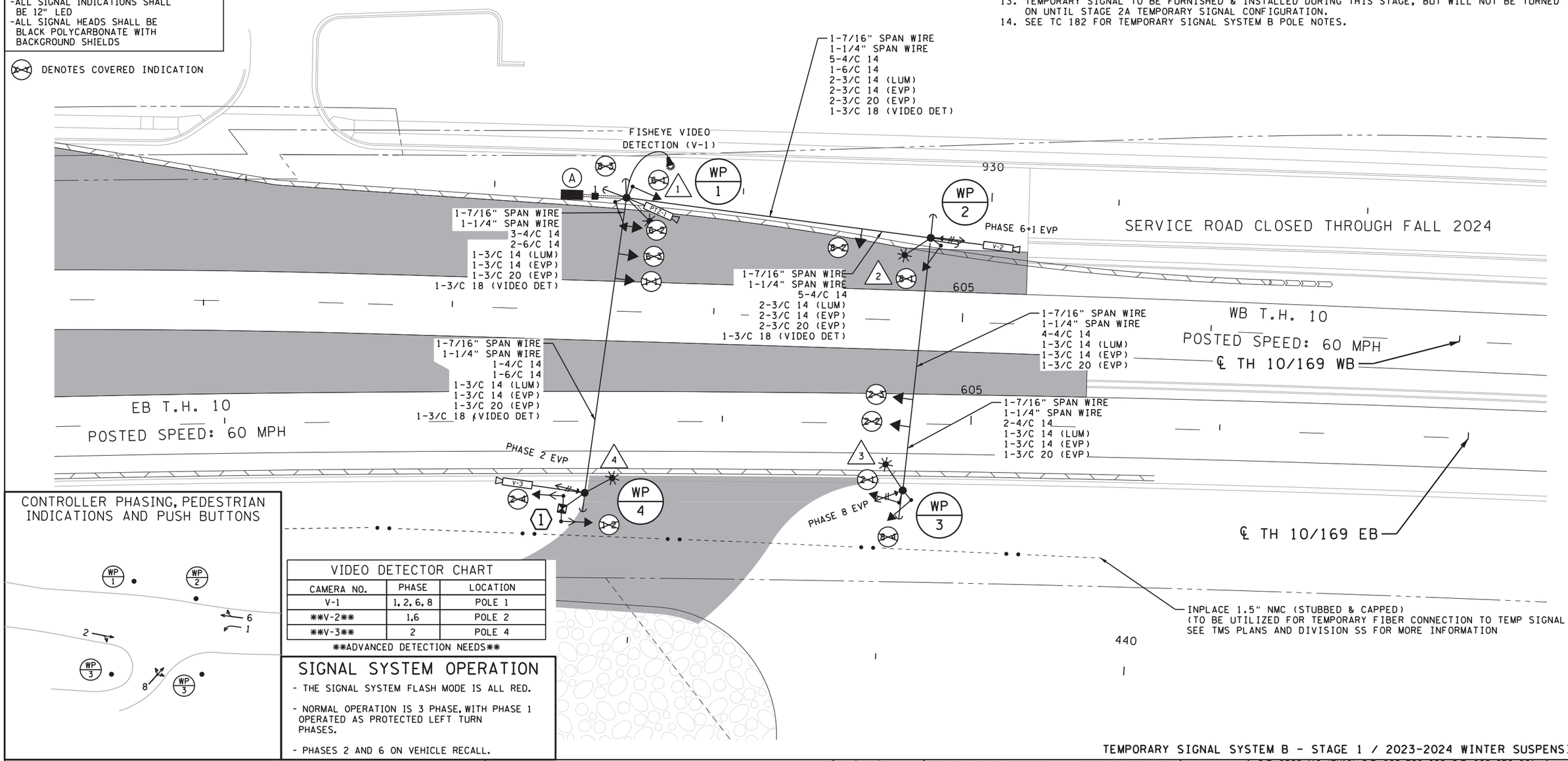
SIGNAL HEAD CHART

FACE	R	Y	FYA	G
1-1, 1-2	←	←	←	←
2-1, 2-2, 2-3, 2-4	●	●		●
6-1, 6-2, 6-3	●	●		●
8-1, 8-4	●	●		●
8-2, 8-3	←	←	←	←

-ALL SIGNAL INDICATIONS SHALL BE 12" LED
-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS

⊗ DENOTES COVERED INDICATION

NOTES:
1. SEE THE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS.
2. THE EXACT LOCATION OF HANDHOLES, POLES AND PEDESTALS SHALL BE VERIFIED IN THE FIELD BY MNDOT TRAFFIC OFFICE PERSONNEL.
3. THE CONTRACTOR SHALL LOCATE AND VERIFY INPLACE UTILITIES PRIOR TO COMMENCING WORK.
4. ALL NEW CONDUIT SHALL BE PVC - SCHEDULE 80 OR HDPE SCHEDULE 80 AND CARRY 1-1/C#6 INSULATED GROUNDING CONDUCTOR AS SHOWN IN PLAN.
5. SEE STAGING & TRAFFIC CONTROL PLANS FOR TEMPORARY PAVEMENT MARKINGS AND COMPLETE STAGING LAYOUTS.
6. COIL AS SUFFICIENT LENGTH OF CABLE AT ALL SPAN WIRE MOUNTED SIGNAL FACES AND ADJUST VIDEO DETECTION ZONES TO COORDINATE STAGING SHIFTS.
7. SEE DETAIL SHEET FOR WOOD POLE AND SPAN WIRE MOUNTING DETAILS.
8. BASED ON FIELD LOCATIONS ADDITIONAL DOWN GUYS/ANCHORS MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.
9. WOOD POLE SETTING DEPTH IS 7.5 FT, 42 FT. CLEAN.
10. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TEMPORARY TRAFFIC SIGNAL SYSTEM WITH ANOKA ELECTRIC.
11. VIDEO DETECTION SHALL USE FISHEYE STYLE CAMERAS. MOUNTING BRACKETS MUST BE GROUNDED. ADJUST CAMERAS AS DIRECTED BY MNDOT TRAFFIC OFFICE PERSONNEL.
12. CONTINUOUS CONNECTIVITY BETWEEN TEMPORARY SIGNAL SYSTEMS AND RTMC COMMUNICATIONS SHALL BE PROVIDED AND MAINTAINED AT ALL TIMES. SEE DIVISION SS AND TMS PLANS FOR MORE INFORMATION.
13. TEMPORARY SIGNAL TO BE FURNISHED & INSTALLED DURING THIS STAGE, BUT WILL NOT BE TURNED ON UNTIL STAGE 2A TEMPORARY SIGNAL CONFIGURATION.
14. SEE TC 182 FOR TEMPORARY SIGNAL SYSTEM B POLE NOTES.



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

VIDEO DETECTOR CHART

CAMERA NO.	PHASE	LOCATION
V-1	1, 2, 6, 8	POLE 1
V-2	1,6	POLE 2
V-3	2	POLE 4

ADVANCED DETECTION NEEDS

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 3 PHASE, WITH PHASE 1 OPERATED AS PROTECTED LEFT TURN PHASES.
- PHASES 2 AND 6 ON VEHICLE RECALL.

TEMPORARY SIGNAL SYSTEM B - STAGE 1 / 2023-2024 WINTER SUSPENSION

SYSTEM ID: ~~4608903~~ ID 4614517
TE #: 81596
METER ADDRESS: "CONTRACTOR TO DETERMINE"

SCALE 0 20 40 FEET

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REV.	BY	DATE

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CURT T. BREZINA
LIC. NO. 59919 DATE 03-08-2023

DESIGNED	DRAWN	CHECKED
KME	KME	CTB

S.P. 0202-116 (TH10), S.P. 002-596-026, S.P. 002-656-001, S.P. 002-657-003, S.P. 199-113-003, S.P. 199-115-006
TH 10/169 IMPROVEMENTS
TEMPORARY SIGNAL PLAN

SHEET TC180 OF TC193

curtbr 5/3/2023 pdf-B and W.pltcfg 10:38:37 AM bmi.tbl

(A) TEMPORARY SIGNAL CABINET BASE
INSTALL: TEMPORARY CABINET WITH CONTROLLER
(STATE FURNISHED)

3" CONDUIT FROM CONTROLLER CABINET TO HH 1 (POLES 1 AND 4):
4-4/C 14
3-6/C 14
2-3/C 14 (LUM)
1-3/C 14 (EVP)
1-3/C 20 (EVP)
1-CAT5E (VIDEO DET)
1-CAT5E (PTZ)
1-3/C 18 (VIDEO DET)
1-1/C 6 INS. GR.

3" CONDUIT FROM CONTROLLER CABINET TO HH 1 (POLES 2 AND 3):
5-4/C 14
1-6/C 14
2-3/C 14 (LUM)
2-3/C 14 (EVP)
2-3/C 20 (EVP)
1-3/C 18 (VIDEO DET)
1-1/C 6 INS. GR.

SERVICE CABINET TO HH 1:
2" NMC
4-3/C 14 (LUM)

(B) SOP (ANOKA ELECTRIC)
2" CONDUIT FROM SOP TO SERVICE CABINET
3-1/C #2

(1) TEMPORARY ANCHORED PEDESTAL BASE
13' PEDESTAL POLE
2-STRAIGHT MOUNT SIGNAL AT 0 AND 180 DEG
1-R9-3 SIGN FACING WP-1 AND WP-4
1-6/C 14
1-4/C 14

WP 1
45' WOOD POLE
2-DOWN GUY, GUARD AND ANCHOR
1-PTZ CAMERA (INSTALL, STATE FURNISHED) AND MOUNT
1-FISHEYE VIDEO DETECTION CAMERA (V-1)
2-ANGLE MOUNT SIGNAL AT 90 AND 180 DEG
15' MAST ARM AND LUMINAIRE (LED) WITH PEC.
1-R9-3 SIGN FACING WP-4
METAL JUNCTION BOX WITH TERMINAL BLOCK

3" CONDUIT FROM HH1 TO JUNCTION BOX:
4-4/C 14
3-6/C 14
2-3/C 14 (LUM)
1-3/C 14 (EVP)
1-3/C 20 (EVP)
1-CAT5E (VIDEO DET)
1-CAT5E (PTZ)
1-3/C 18 (VIDEO DET)
1-1/C 6 INS. GR.

3" CONDUIT RISER AND WEATHERHEAD ABOVE
JUNCTION BOX TO SPAN WIRES WITH:
3-4/C 14
2-6/C 14
2-3/C 14 (LUM)
1-3/C 14 (EVP)
1-3/C 20 (EVP)
1-CAT5E (VIDEO DET)
1-CAT5E (PTZ)
1-3/C 18 (VIDEO DET)
1-1/C 6 INS. GR.

3" CONDUIT RISER AND WEATHERHEAD FROM
HH 1 TO SPAN WIRES:
5-4/C 14
1-6/C 14
2-3/C 14 (LUM)
2-3/C 14 (EVP)
2-3/C 20 (EVP)
1-3/C 18 (VIDEO DET)
1-1/C 6 INS. GR.

1-1/2" CONDUIT RISER AND WEATHERHEAD ABOVE
SPAN WIRE WITH:
1-3/C 14 (LUM)
1-CAT5E (VIDEO DET)
1-CAT5E (PTZ)

WP 4
45' WOOD POLE
1-DOWN GUY, GUARD AND ANCHOR
1-ONE WAY EVP DETECTOR AND LIGHT (PHASE 2)
15' MAST ARM AND LUMINAIRE (LED) WITH PEC.
1-R9-3 SIGN FACING WP-1
1-R9-3 SIGN FACING WP-3

1-1/2"" CONDUIT RISER AND WEATHERHEAD ABOVE
SPAN WIRE WITH:
1-3/C 14 (LUM)
1-3/C 18 (VIDEO DET)
1-3/C 14 (EVP)
1-3/C 20 (EVP)

WP 2
45' WOOD POLE
2-DOWN GUY, GUARD AND ANCHOR
1-ONE WAY EVP DETECTOR AND LIGHT (PHASES 6+1)
1-VIDEO DETECTOR (V-2)
1-ANGLE MOUNT SIGNAL AT 90 AND 180 DEG
15' MAST ARM AND LUMINAIRE (LED) WITH PEC.
1-R9-3 SIGN FACING WP-3
METAL JUNCTION BOX WITH TERMINAL BLOCK

3" CONDUIT RISER AND WEATHERHEAD ABOVE JUNCTION
BOX TO SPAN WIRES WITH:
2-4/C 14

1-1/2" CONDUIT RISER AND WEATHERHEAD ABOVE
SPAN WIRE WITH:
1-3/C 14 (LUM)
1-3/C 18 (VIDEO DET)
1-3/C 14 (EVP)
1-3/C 20 (EVP)

WP 3
45' WOOD POLE
1-DOWN GUY, GUARD AND ANCHOR
1-ONE WAY EVP DETECTOR AND LIGHT (PHASE 8)
2-ANGLE MOUNT SIGNAL AT 90 AND 180 DEG
15' MAST ARM AND LUMINAIRE (LED) WITH PEC.
1-R9-3 SIGN FACING WP-2
1-R9-3 SIGN FACING WP-4
METAL JUNCTION BOX WITH TERMINAL BLOCK

3" CONDUIT RISER AND WEATHERHEAD ABOVE JUNCTION
BOX TO SPAN WIRES WITH:
2-4/C 14

1" CONDUIT RISER AND WEATHERHEAD ABOVE
SPAN WIRE WITH:
1-3/C 14 (LUM)
1-3/C 14 (EVP)
1-3/C 20 (EVP)

ID 4614517

TEMPORARY SIGNAL SYSTEM B - POLE NOTES (ALL STAGES)

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REV.	BY	DATE

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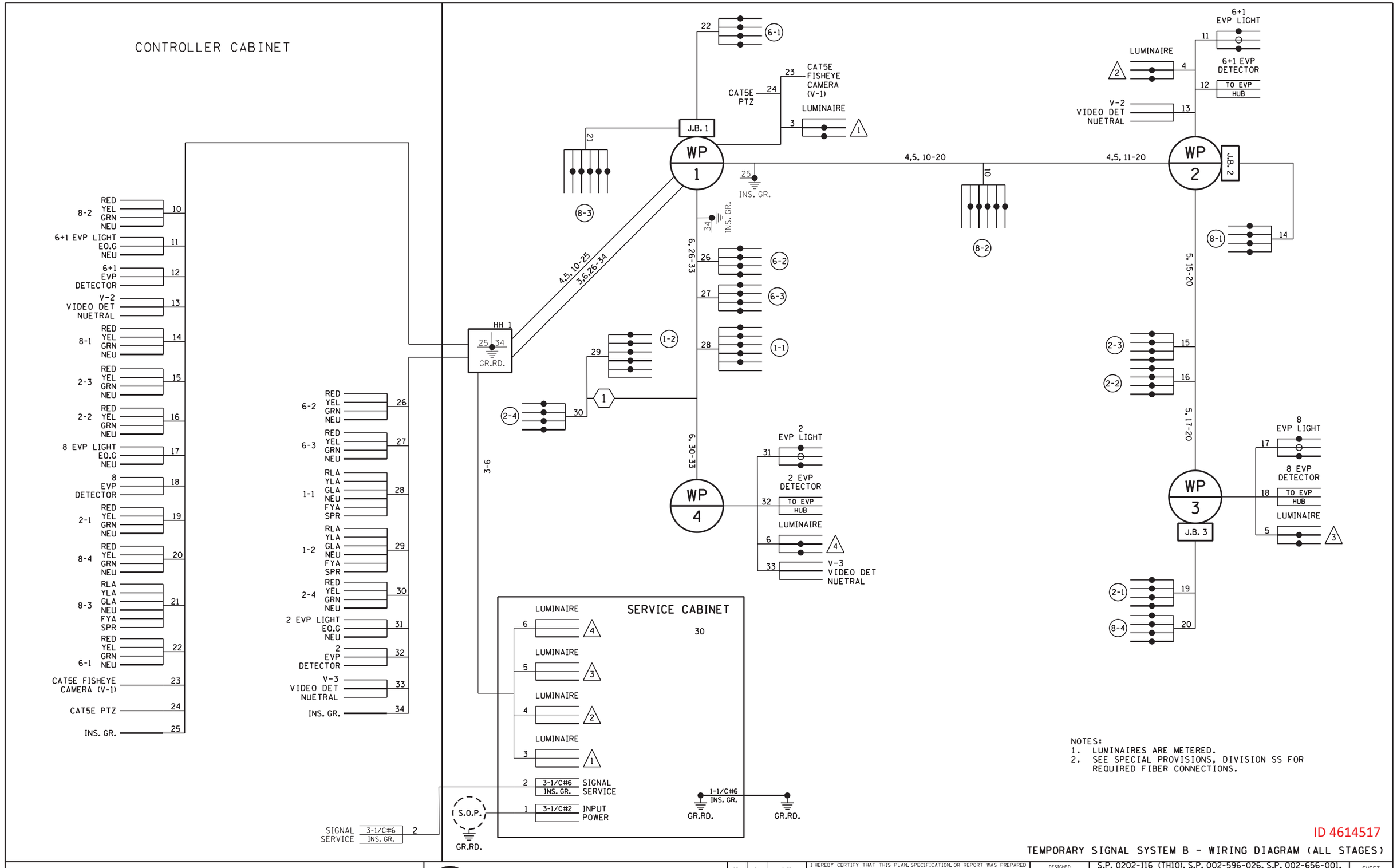
CURT T. BREZINA
LIC. NO. 59919 DATE 03-08-2023

DESIGNED	KME
DRAWN	KME
CHECKED	CTB

S.P. 0202-116 (TH10), S.P. 002-596-026, S.P. 002-656-001, S.P. 002-657-003, S.P. 199-113-003, S.P. 199-115-006
TH 10/169 IMPROVEMENTS
TEMPORARY SIGNAL PLAN

SHEET TC181 OF TC193



NOTES:
1. LUMINAIRES ARE METERED.
2. SEE SPECIAL PROVISIONS, DIVISION SS FOR REQUIRED FIBER CONNECTIONS.

ID 4614517

TEMPORARY SIGNAL SYSTEM B - WIRING DIAGRAM (ALL STAGES)

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CHECKED	CTB

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TH 10/169 IMPROVEMENTS
TEMPORARY SIGNAL PLAN

SHEET TC182 OF TC193

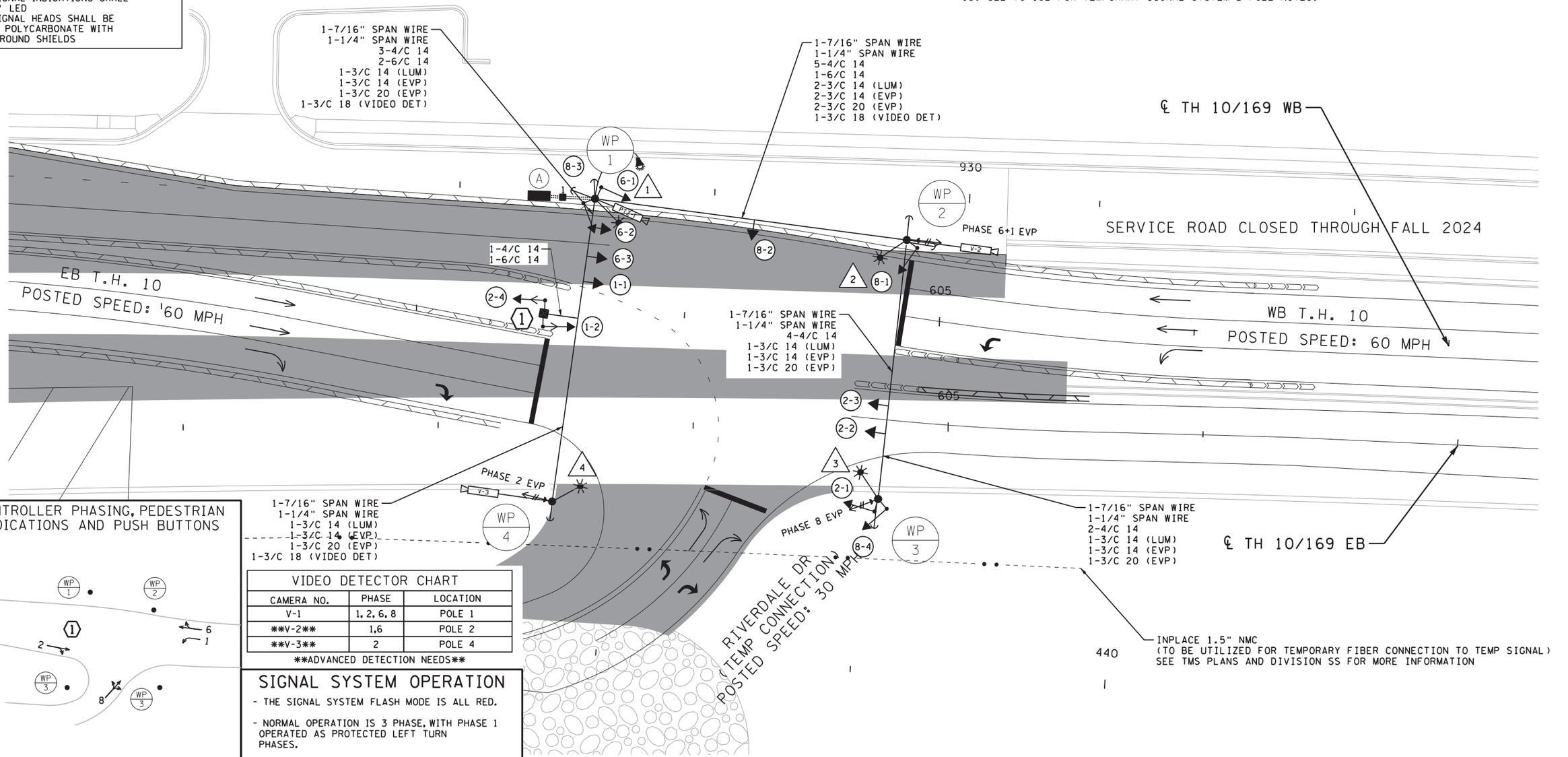
SIGNAL CONTROL POINTS		
POLE NUMBER	X	Y
WOOD POLE 1	460729.6783	166219.6698
WOOD POLE 2	4608194.7435	166130.2383
WOOD POLE 3	460744.7969	166058.5405
WOOD POLE 4	460643.3885	166136.4509

SIGNAL HEAD CHART

FACE	R	Y	FYA	G
1-1, 1-2	←	←	←	←
2-1, 2-2, 2-3, 2-4	●	●		●
6-1, 6-2, 6-3	●	●		●
8-1, 8-4	●	●		●
8-2, 8-3	←	←	←	←

-ALL SIGNAL INDICATIONS SHALL BE 12" LED
-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS

NOTES:
1. SEE THE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS.
2. THE EXACT LOCATION OF HANDHOLES, POLES AND PEDESTALS SHALL BE VERIFIED IN THE FIELD BY MNDOT TRAFFIC OFFICE PERSONNEL.
3. THE CONTRACTOR SHALL LOCATE AND VERIFY INPLACE UTILITIES PRIOR TO COMMENCING WORK.
4. ALL NEW CONDUIT SHALL BE PVC - SCHEDULE 80 OR HDPE SCHEDULE 80 AND CARRY 1-1/C#6 INSULATED GROUNDING CONDUCTOR AS SHOWN IN PLAN.
5. SEE STAGING & TRAFFIC CONTROL PLANS FOR TEMPORARY PAVEMENT MARKINGS AND COMPLETE STAGING LAYOUTS.
6. COIL AS SUFFICIENT LENGTH OF CABLE AT ALL SPAN WIRE MOUNTED SIGNAL FACES AND ADJUST VIDEO DETECTION ZONES TO COORDINATE STAGING SHIFTS.
7. SEE DETAIL SHEET FOR WOOD POLE AND SPAN WIRE MOUNTING DETAILS.
8. BASED ON FIELD LOCATIONS ADDITIONAL DOWN GUYS/ANCHORS MAY BE REQUIRED AS APPROVED BY THE ENGINEER.
9. WOOD POLE SETTING DEPTH IS 7.5 FT, 42 FT. CLEAN.
10. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TEMPORARY TRAFFIC SIGNAL SYSTEM WITH ANOKA ELECTRIC.
11. VIDEO DETECTION SHALL USE FISHEYE STYLE CAMERAS. MOUNTING BRACKETS MUST BE GROUNDED. ADJUST CAMERAS AS DIRECTED BY MNDOT TRAFFIC OFFICE PERSONNEL.
12. CONTINUOUS CONNECTIVITY BETWEEN TEMPORARY SIGNAL SYSTEMS AND RTMC COMMUNICATIONS SHALL BE PROVIDED AND MAINTAINED AT ALL TIMES. SEE DIVISION SS AND TMS PLANS FOR MORE INFORMATION.
13. SEE TC 182 FOR TEMPORARY SIGNAL SYSTEM B POLE NOTES.



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

VIDEO DETECTOR CHART

CAMERA NO.	PHASE	LOCATION
V-1	1, 2, 6, 8	POLE 1
V-2	1,6	POLE 2
V-3	2	POLE 4

ADVANCED DETECTION NEEDS

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 3 PHASE, WITH PHASE 1 OPERATED AS PROTECTED LEFT TURN PHASES.
- PHASES 2 AND 6 ON VEHICLE RECALL.

SYSTEM ID: ~~4608983~~ ID 4614517
TE #: 81596
METER ADDRESS:

SCALE 0 20 40 FEET

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CURT T. BREZINA
LIC. NO. 59919 DATE 03-08-2023

DESIGNED KME
DRAWN KME
CHECKED CTB

TEMPORARY SIGNAL SYSTEM B - STAGE 2A

S.P. 0202-116 (TH10), S.P. 002-596-026, S.P. 002-656-001, S.P. 002-657-003, S.P. 199-113-003, S.P. 199-115-006
TH 10/169 IMPROVEMENTS
TEMPORARY SIGNAL PLAN

SHEET TC183 OF TC193

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tricida 7/6/2023

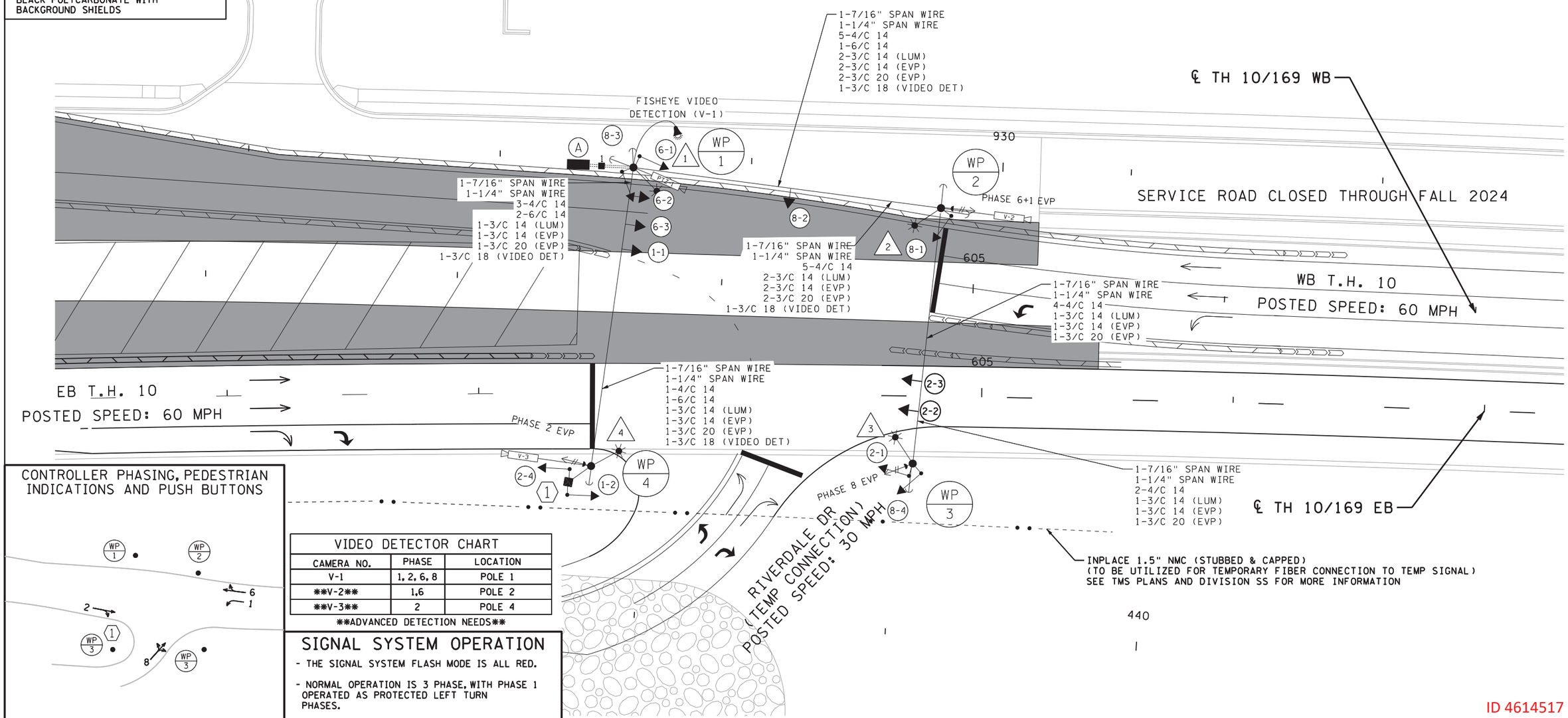
SIGNAL CONTROL POINTS		
POLE NUMBER	X	Y
WOOD POLE 1	460729.6783	166219.6698
WOOD POLE 2	4608194.7435	166130.2383
WOOD POLE 3	460744.7969	166058.5405
WOOD POLE 4	460643.3885	166136.4509

SIGNAL HEAD CHART

FACE	R	Y	FYA	G
1-1, 1-2	←	←	←	←
2-1, 2-2, 2-3, 2-4	●	●		●
6-1, 6-2, 6-3	●	●		●
8-1, 8-4	●	●		●
8-2, 8-3	←	←	←	←

-ALL SIGNAL INDICATIONS SHALL BE 12" LED
-ALL SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH BACKGROUND SHIELDS

NOTES:
1. SEE THE SPECIAL PROVISIONS FOR STATE FURNISHED MATERIALS.
2. THE EXACT LOCATION OF HANDHOLES, POLES AND PEDESTALS SHALL BE VERIFIED IN THE FIELD BY MNDOT TRAFFIC OFFICE PERSONNEL.
3. THE CONTRACTOR SHALL LOCATE AND VERIFY INPLACE UTILITIES PRIOR TO COMMENCING WORK.
4. ALL NEW CONDUIT SHALL BE PVC - SCHEDULE 80 OR HDPE SCHEDULE 80 AND CARRY 1-1/C#6 INSULATED GROUNDING CONDUCTOR AS SHOWN IN PLAN.
5. SEE STAGING & TRAFFIC CONTROL PLANS FOR TEMPORARY PAVEMENT MARKINGS AND COMPLETE STAGING LAYOUTS.
6. COIL AS SUFFICIENT LENGTH OF CABLE AT ALL SPAN WIRE MOUNTED SIGNAL FACES AND ADJUST VIDEO DETECTION ZONES TO COORDINATE STAGING SHIFTS.
7. SEE DETAIL SHEET FOR WOOD POLE AND SPAN WIRE MOUNTING DETAILS.
8. BASED ON FIELD LOCATIONS ADDITIONAL DOWN GUYS/ANCHORS MAY BE REQUIRED AS APPROVED BY THE ENGINEER.
9. WOOD POLE SETTING DEPTH IS 7.5 FT, 42 FT. CLEAN.
10. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE CONNECTION OF THE POWER FOR THE TEMPORARY TRAFFIC SIGNAL SYSTEM WITH ANOKA ELECTRIC.
11. VIDEO DETECTION SHALL USE FISHEYE STYLE CAMERAS. MOUNTING BRACKETS MUST BE GROUNDED. ADJUST CAMERAS AS DIRECTED BY MNDOT TRAFFIC OFFICE PERSONNEL.
12. CONTINUOUS CONNECTIVITY BETWEEN TEMPORARY SIGNAL SYSTEMS AND RTMC COMMUNICATIONS SHALL BE PROVIDED AND MAINTAINED AT ALL TIMES. SEE DIVISION SS AND TMS PLANS FOR MORE INFORMATION.
13. SEE TC 182 FOR TEMPORARY SIGNAL SYSTEM B POLE NOTES.



CONTROLLER PHASING, PEDESTRIAN INDICATIONS AND PUSH BUTTONS

VIDEO DETECTOR CHART		
CAMERA NO.	PHASE	LOCATION
V-1	1, 2, 6, 8	POLE 1
V-2	1,6	POLE 2
V-3	2	POLE 4

ADVANCED DETECTION NEEDS

SIGNAL SYSTEM OPERATION

- THE SIGNAL SYSTEM FLASH MODE IS ALL RED.
- NORMAL OPERATION IS 3 PHASE, WITH PHASE 1 OPERATED AS PROTECTED LEFT TURN PHASES.
- PHASES 2 AND 6 ON VEHICLE RECALL.

ID 4614517

TEMPORARY SIGNAL SYSTEM B - STAGE 2B, 2C

SCALE 0 20 40 FEET

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REV.	BY	DATE

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CURT T. BREZINA
LIC. NO. 59919 DATE 03-08-2023

DESIGNED	DRAWN	CHECKED
KME	KME	CTB

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TH 10/169 IMPROVEMENTS
TEMPORARY SIGNAL PLAN

SHEET TC184 OF TC193

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tricida 7/6/2023