

PLAN SYMBOLS

- STATE LINE. _____
 - COUNTY LINE. _____
 - TOWNSHIP OR RANGE LINE. _____
 - SECTION LINE. _____
 - QUARTER LINE. _____
 - SIXTEENTH LINE. _____
 - RIGHT-OF-WAY LINE. _____
 - PRESENT RIGHT-OF-WAY LINE. _____
 - CONTROL OF ACCESS LINE. _____
 - PROPERTY LINE (Except Land Lines). _____
 - VACATED PLATTED PROPERTY. _____
 - CORPORATE OR CITY LIMITS. _____

 - TRUNK HIGHWAY CENTER LINE. _____
 - RETAINING WALL. _____
 - RAILROAD. _____
 - RAILROAD RIGHT-OF-WAY LINE. _____
 - RIVER OR CREEK. _____
 - DRY RUN. _____
 - DRAINAGE DITCH. _____
 - DRAIN TILE. _____
 - CULVERT. _____
 - DROP INLET. _____
 - GUARD RAIL. _____
 - BARBED WIRE FENCE. _____
 - WOVEN WIRE FENCE. _____
 - CHAIN LINK FENCE. _____
 - WOODEN FENCE. _____
 - STONE WALL OR FENCE. _____
 - HEDGE. _____
 - RAILROAD CROSSING SIGN. _____
 - RAILROAD CROSSING BELL. _____
 - ELECTRIC WARNING SIGN. _____
 - CROSSING GATE. _____
 - MEANDER CORNER. _____
 - SPRINGS. _____
 - MARSH. _____
 - TIMBER ORCHARD BRUSH NURSERY. _____
 - CATCH BASIN. _____
 - FIRE HYDRANT. _____
 - CATTLE GUARD. _____
 - OVERPASS (Highway Over). _____
 - UNDERPASS (Highway Under). _____
 - BRIDGE. _____
 - BUILDING (One Story Frame). _____
 - F-FRAME C-CONCRETE
 - S-STONE T-TILE
 - B-BRICK ST-STUCCO
 - IRON PIPE OR ROD. _____
 - MONUMENT (STONE, CONCRETE, OR METAL). _____
 - WOODEN HUB. _____
 - GRAVEL PIT. _____
 - SAND PIT. _____
 - BORROW PIT. _____
 - ROCK QUARRY. _____
- UTILITY SYMBOLS
- POWER POLE LINE. _____
 - TELEPHONE OR TELEGRAPH POLE LINE. _____
 - JOINT TELEPHONE AND POWER ON POWER POLES ON TELEPHONE POLES. _____
 - ANCHOR. _____
 - STEEL TOWER. _____
 - STREET LIGHT. _____
 - PEDESTAL (TELEPHONE CABLE TERMINAL). _____
 - GAS MAIN. _____
 - WATER MAIN. _____
 - CONDUIT. _____
 - TELEPHONE CABLE IN CONDUIT. _____
 - ELECTRIC CABLE IN CONDUIT. _____
 - TELEPHONE MANHOLE. _____
 - ELECTRIC MANHOLE. _____
 - BURIED COMMUNICATION CABLE. _____
 - BURIED TELEPHONE CABLE. _____
 - BURIED ELECTRIC CABLE. _____
 - SEWER, (SANITARY). _____
 - SEWER, (STORM). _____
 - SEWER MANHOLE. _____
 - HANDHOLE. _____
 - CATCH BASIN. _____

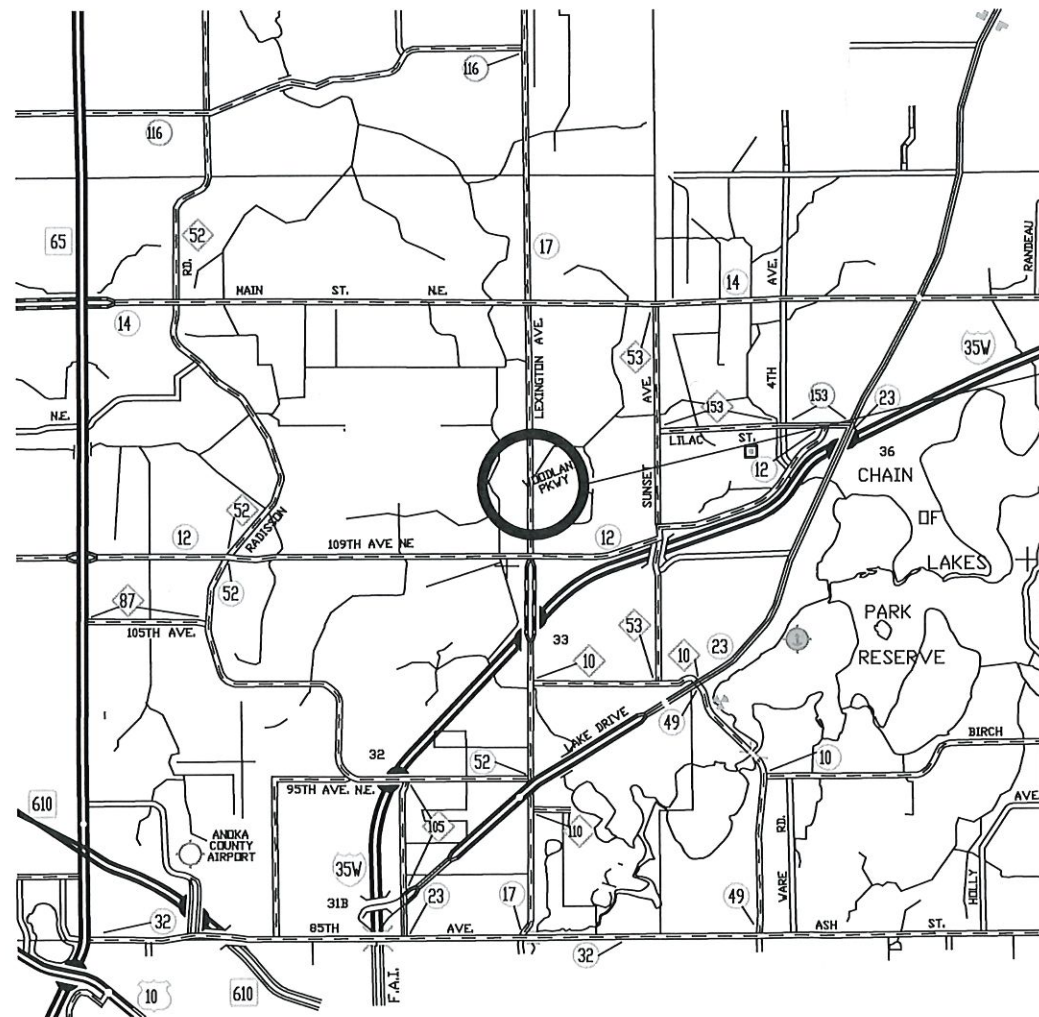
SCALE
INDEX MAP 4000'
GENERAL LAYOUT 20'

MINNESOTA DEPARTMENT OF TRANSPORTATION
ANOKA COUNTY, MINNESOTA
CITY OF BLAINE

CONSTRUCTION PLAN FOR: ONE (1) TRAFFIC CONTROL SIGNAL SYSTEM,
TURN LANE CONSTRUCTION, AND PEDESTRIAN CURB RAMP IMPROVEMENTS
CSAH 17 (LEXINGTON AVE NE) AT WOODLAND PARKWAY

STATE AID PROJECT NO. 002-617-022
STATE AID PROJECT NO. 106-142-002
CITY PROJECT NO. 18-20

GROSS LENGTH 1,077.00 FEET 0.204 MILES
BRIDGES-LENGTH FEET MILES
EXCEPTIONS-LENGTH FEET MILES
NET LENGTH 1,077.00 FEET 0.204 MILES



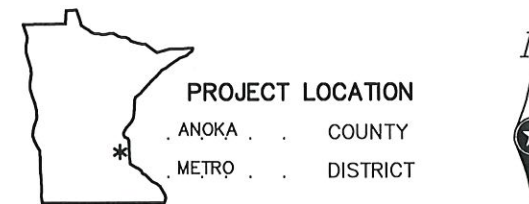
THE EXACT LOCATION OF UNDERGROUND UTILITIES SUCH AS GAS, TELEPHONE, FIBEROPTIC, ELECTRIC, CABLE TV AND PIPE LINES ARE UNKNOWN. THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL BEFORE COMMENCING EXCAVATION. GOPHER STATE ONE CALL SYSTEM - 1-800-252-1166

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL "D". THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 3802, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

DESIGN DESIGNATION
NORTHWEST TRAIL
S.A.P. 002-617-022, 106-142-002
GROSS LENGTH 380.00 FT (0.072 MI)
DESIGN SPEED 20 MPH
BASED ON SITE DISTANCE
HEIGHT OF EYE 4.5',
HEIGHT OF OBJECT 0.0'

TRAFFIC SIGNAL SYSTEM
CSAH 17 (LEXINGTON AVENUE NE)
AT WOODLAND PARKWAY
STATE AID PROJECT NO. 002-617-022
STATE AID PROJECT NO. 106-142-002
CITY PROJECT NO. 18-20

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY



GEOMETRICS
DESIGN DESCRIPTION

	CSAH 17 (LEXINGTON AVE)	WOODLAND PARKWAY
EXISTING A.D.T. (2019)	16,400	2,300
PROJECTED A.D.T. (2039)	22,100	3,400
NO. OF TRAFFIC LANES	4	2
NO. OF PARKING LANES	0	0
DESIGN SPEED (MPH)	55	30
POSTED SPEED (MPH)	55	30
ROADWAY CLASSIFICATION	ARTERIAL	COLLECTOR

GOVERNING SPECIFICATIONS

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MMUTCD) AND PART VI "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" (CURRENT EDITION).

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STANDARD PLATES/STATEMENT OF ESTIMATED QUANTITIES
3-8	TRAFFIC SIGNAL SYSTEM GENERAL NOTES AND DETAILS
9-10	SIGNING AND STRIPING PLANS & DETAILS
11-14	TRAFFIC CONTROL
15-20	PEDESTRIAN CURB RAMP DETAILS
21	TABLATIONS AND CONSTRUCTION NOTES
22	ALIGNMENTS AND TYPICAL SECTIONS
23	REMOVALS
24	STREET AND STORM SEWER PLAN
25	INTERSECTION DESIGN
26-28	CROSS SECTIONS
29-32	TRAFFIC SIGNAL SYSTEM PLANS
33-35	INPLACE SIGNAL COMPONENTS (FOR INFORMATION ONLY)

THIS PLAN CONTAINS 35 SHEETS.

DESIGN ENGINEER: 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.

SIGNATURE: *John M. Gray* DATE: 6-19-19
PRINTED NAME: JOHN M. GRAY LIC.NO. 22457

SIGNAL DESIGN ENGINEER: I HEREBY CERTIFY THAT THESE SIGNAL PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THIS PLAN CONFORMS TO THE MMUTCD (EXCEPT WHERE A VARIANCE HAS BEEN GRANTED), AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE: *John M. Gray* DATE: 6-19-19
PRINTED NAME: JOHN M. GRAY LIC.NO. 22457

APPROVED *John M. Gray* ANOKA COUNTY ENGINEER DATE 6/21/19

APPROVED *Mani K. Munder* CITY OF BLAINE ENGINEER DATE 6-25-19

APPROVED *Julie Dreal* DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY DATE 6/27/19

APPROVED *Julie Dreal* APPROVED FOR STATE AID FUNDING: STATE AID ENGINEER DATE 6/27/19

ANOKA COUNTY, MINNESOTA
CITY OF BLAINE

TITLE SHEET



PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ONE (1) TRAFFIC CONTROL SIGNAL SYSTEM, TURN LANE CONSTRUCTION AND PEDESTRIAN CURB RAMP IMPROVEMENTS

FILE NO.
ANOKC 148315

STATE AID PROJ NO: 002-617-022
STATE AID PROJ NO: 106-142-002
CITY PROJECT NO: 18-20

1
35

STATEMENT OF ESTIMATED QUANTITIES						
ITEM NO	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITY	PARTICIPATION		
				SAP 002-617-022	SAP 106-142-002	CITY PROJ 18-20
2021.501	MOBILIZATION	LUMP SUM	1	0.40	0.50	0.10
2101.524	CLEARING	TREE	5	1.5	3.5	
2101.524	GRUBBING	TREE	5	1.5	3.5	
2104.502	REMOVE CASTING	EACH	3	1.5	1.5	
2104.502	REMOVE SIGN	EACH	8	3	5	
2104.502	SALVAGE CASTING	EACH	1		1	
2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	6	3	3	
2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	558	279	279	
2104.503	REMOVE CURB & GUTTER	LIN FT	625	312.5	312.5	
2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	935	467.5	467.5	
(1) 2104.518	REMOVE BITUMINOUS WALK	SQ FT	3716	1858	1858	
2104.518	REMOVE CONCRETE WALK	SQ FT	60	30	30	
(2) 2104.618	REMOVE AND REPLACE BITUMINOUS PAVEMENT	SQ FT	200	100	100	
2105.507	COMMON EXCAVATION	CU YD	620	310	310	
2105.507	SELECT GRANULAR BORROW MOD 5% (CV)	CU YD	250	125	125	
2211.509	AGGREGATE BASE CLASS 5	TON	400	200	200	
2301.602	DRILL & GROUT DOWEL BAR (EPOXY COATED)	EACH	40	20	20	
2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	100	50	50	
(4) 2360.509	TYPE SP 9.5 WEARING COURSE MIX (2,C)	TON	91	45.5	45.5	
(2) 2360.509	TYPE SP 12.5 WEARING COURSE MIX (4,F)	TON	160	80	80	
(3) 2360.509	TYPE SP 12.5 NON WEAR COURSE MIX (4,B)	TON	80	40	40	
2503.503	15" RC PIPE SEWER DES 3006 CL V	LIN FT	55	27.5	27.5	
2503.602	CONNECT TO EXISTING STORM SEWER	EACH	5	2.5	2.5	
2506.502	CASTING ASSEMBLY	EACH	8	4	4	
2506.502	INSTALL CASTING	EACH	1		1	
2506.503	CONSTRUCT DRAINAGE STRUCTURE DESIGN H	LIN FT	16	8	8	
2506.503	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	6	3	3	

STATEMENT OF ESTIMATED QUANTITIES						
ITEM NO	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITY	PARTICIPATION		
				SAP 002-617-022	SAP 106-142-002	CITY PROJ 18-20
2521.618	CONCRETE WALK	SQ FT	1480	740	740	
2531.503	CONCRETE CURB & GUTTER DESIGN B424	LIN FT	460	230	230	
2531.603	CONCRETE CURB & GUTTER	LIN FT	165	82.5	82.5	
2531.618	TRUNCATED DOMES	SQ FT	146	73	73	
2545.502	SERVICE CABINET	EACH	1	0.25	0.50	0.25
2563.601	TRAFFIC CONTROL	LUMP SUM	1	0.40	0.50	0.10
2563.602	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	3	2	1	
2563.610	POLICE OFFICER	HOUR	8	4	4	
2564.518	SIGN PANELS TYPE C	SQ FT	96	56	40	
2564.518	SIGN PANELS TYPE D	SQ FT	80	40	40	
2565.501	EMERGENCY VEHICLE PREEMPTION SYSTEM	LUMP SUM	1		1	
2565.501	TRAFFIC CONTROL INTERCONNECT	LUMP SUM	1	1		
2565.516	TRAFFIC CONTROL SIGNAL SYSTEM	SYSTEM	1	0.25	0.50	0.25
2573.502	STORM DRAIN INLET PROTECTION	EACH	13	6.5	6.5	
2573.503	SILT FENCE TYPE HI	LIN FT	380	190	190	
(5) 2574.507	COMMON TOPSOIL BORROW	CU YD	45	22.5	22.5	
2574.508	FERTILIZER TYPE 1	LB	25	12.5	12.5	
2575.504	EROSION CONTROL BLANKETS CATEGORY 3N	SQ YD	170	85	85	
2575.505	SEEDING	ACRE	0.10	0.05	0.05	
2575.508	SEED MIXTURE 25-131	LB	50	25	25	
2575.508	HYDRAULIC STABILIZED FIBER MATRIX	LB	300	150	150	
2575.523	WATER	M GALLON	2	1	1	
2582.503	4" SOLID LINE MULTI COMP	LIN FT	550	275	275	
2582.503	24" SOLID LINE MULTI COMP	LIN FT	150	75	75	
2582.518	PAVT MSSG MULTI COMP	SQ FT	120	60	60	
2582.518	CROSSWALK PREF THERMO	SQ FT	792	396	396	

- (1) = INCLUDES REMOVAL OF ALL INPLACE PEDESTRIAN CURB RAMPS.
- (2) = MIX SPWEB440F.
- (3) = MIX SPNWB430B.
- (4) = MIX SPWEA230C.
- (5) = LOOSE VOLUME (LV) PULVERIZED.

STANDARD PLATES - SIGNAL SYSTEMS			
THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT			
PLATE NO.	DESCRIPTION	PLATE NO.	DESCRIPTION
3000 L	REINFORCED CONCRETE PIPE (5 SHEETS)	8000 J	CHANNELIZERS, TYPE A, TYPE B, TYPE C (3 SHEETS)
3006 G	GASKET JOINT FOR R.C. PIPE (2 SHEETS)	8111 E	TRAFFIC SIGNAL BRACKETING (PEDESTAL MOUNTED) (3 SHEETS)
4006 L	MANHOLE OR CATCH BASIN PRECAST-DESIGNS G & H	8112 I	PEDESTAL FOUNDATION (FOR TRAFFIC CONTROL SIGNALS)
4010 H	CONCRETE SHORT CONE & ADJUSTING RING (SECTIONAL CONCRETE)	8118 D	SERVICE EQUIPMENT & POLE-TRAFFIC CONTROL SIGNALS
4011 E	PRECAST CONCRETE BASE	8119 C	GROUND MOUNTED CABINET FOUNDATION
4020 J	MANHOLE OR CATCH BASIN FOR USE WITH OR WITHOUT TRAFFIC LOADS (2 SHEETS)	8121 H	TRANSFORMER BASE & POLE BASE PLATE (2 SHEETS)
4101 D	RING CASTING FOR MANHOLE OR CATCH BASIN	8122 F	PEDESTAL AND PEDESTAL BASE (FOR TRAFFIC CONTROL SIGNALS SUPPORT (2 SHEETS)
4110 F	COVER CASTING FOR MANHOLE (FOR USE IN ALL TRAFFIC AREAS)-CASTING NO. 715 & 716	8123 G	POLE & MAST ARM-LUMINAIRES & TRAFFIC LIGHTS ASSEMBLY (2 SHEETS)
4180 J	MANHOLE OR CATCH BASIN STEP	8126 L	POLE FOUNDATION (PA90 & PA100)
7038 A	DETECTABLE WARNING SURFACE TRUNCATED DOMES	8127 E	LIGHT FOUNDATION-DESIGN E 40' POLE OR LESS (2 SHEETS)
7100 H	CONCRETE CURB AND GUTTER (DESIGN B & V)	8129 A	SHIM AND WASHER (TRAFFIC CONTROL SIGNALS AND ROADWAY LIGHTING)
7111 J	INSTALLATION OF CATCH BASIN CASTINGS (CONCRETE CURB & GUTTER)		

S.A.P. 002-617-022
S.A.P. 106-142-002
CITY PROJECT 18-20

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG
DESIGN TEAM

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: June 4, 2019 Name: John M Gray, PE Lic. No. 22457

SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY
CITY OF BLAINE

TRAFFIC SIGNAL SYSTEM
STANDARD PLATES AND
STATEMENT OF ESTIMATED QUANTITIES
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY

FILE NO.
ANOKC 148315
DATE
06/04/2019

2
35

GENERAL NOTES:

1. THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL "D". THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 3802, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."
2. THE EXACT LOCATION OF UNDERGROUND UTILITIES SUCH AS GAS, TELEPHONE, FIBEROPTIC, ELECTRIC, CABLE TV, AND PIPE LINES ARE UNKNOWN. THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL BEFORE COMMENCING EXCAVATION. (GOPHER STATE ONE CALL SYSTEM - 1-800-252-1166).
3. THIS PROJECT DOES NOT MEET THE CRITERIA FOR A NPDES CONSTRUCTION GENERAL PERMIT INCLUDING SWPPP DEVELOPMENT. HOWEVER, THE CONTRACTOR SHALL USE ENVIRONMENTALLY FRIENDLY CONSTRUCTION TECHNIQUES WHILE PERFORMING THE WORK. THESE TECHNIQUES CAN INCLUDE BUT ARE NOT LIMITED TO: DO NOT DISTURB AREAS, PERIMETER CONTROL, INLET PROTECTION, DUST CONTROL, PROPER DEWATERING TECHNIQUES, TEMPORARY SOIL STABILIZATION, AND PERMANENT SOIL STABILIZATION.
4. THE CONTRACTOR SHALL STABILIZE ALL EXPOSED SOIL AREAS WITHIN 7 DAYS OF INACTIVITY. ALL AREAS THAT HAVE A POTENTIAL TO DISCHARGE TO AN ENVIRONMENTALLY SENSITIVE AREA MUST BE STABILIZED WITHIN 24 HOURS AS DIRECTED BY THE ENGINEER WITH CHANGING FIELD CONDITIONS.

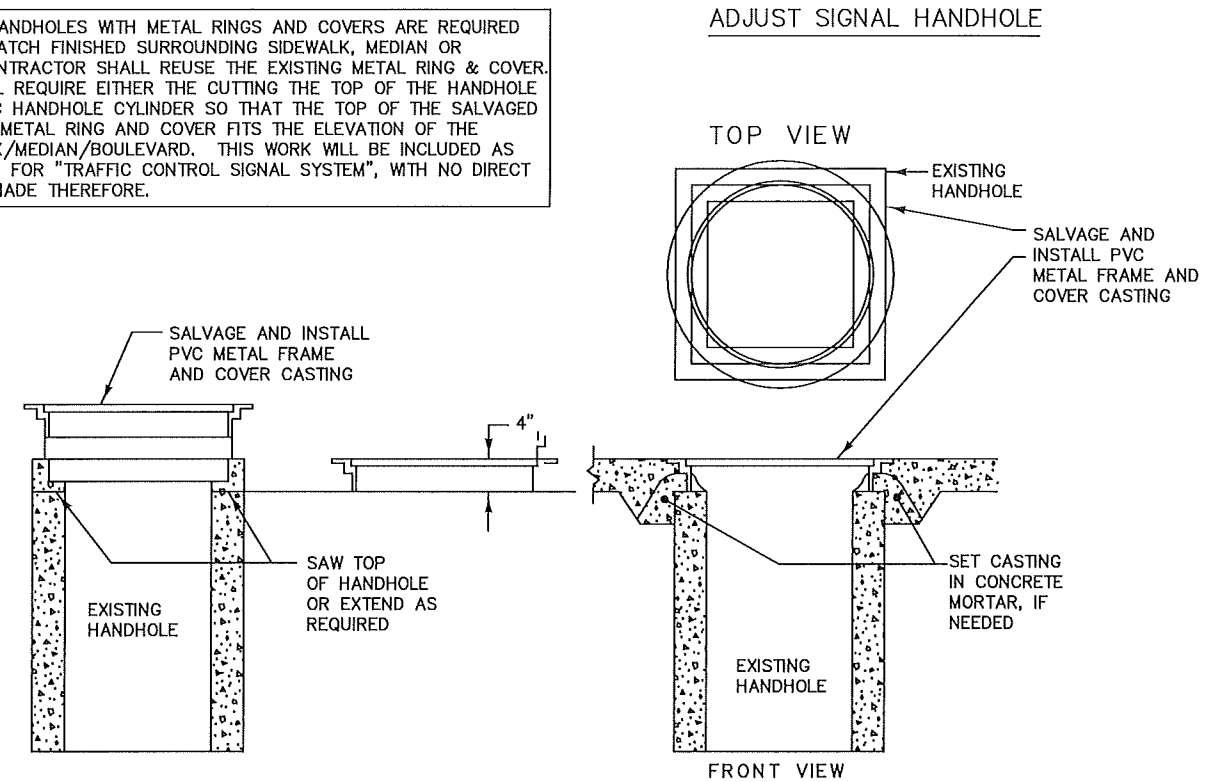
UTILITY NOTES:

- 1) THE FOLLOWING LIST SHOWS THE AGENCIES THAT MAY HAVE UTILITY FACILITIES WITHIN THE PROJECT LIMITS AREA:
 ANOKA COUNTY HIGHWAY DEPARTMENT
 CENTERPOINT ENERGY MINNESOTA GAS
 CENTURYLINK
 CITY OF BLAINE
 COMCAST CABLE, LLC
 CONNEXUS ENERGY
 GREAT RIVER ENERGY
 XCEL ENERGY
- 2) CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION COSTS REQUIRED TO WORK WITH EXISTING UTILITY COMPANIES, FOR UTILITY COMPANIES TO PROPERLY LOCATE, MAINTAIN, ADJUST & RELOCATE THEIR FACILITIES AS REQUIRED DUE TO PROJECT WORK.
- 3) ALL CONTRACTOR COSTS TO LOCATE AND WORK AROUND EXISTING UTILITIES (INCLUDING ANY CONDUIT BORING, POTHOLING, ROADWAY TRENCHING, ETC.) ARE INCIDENTAL TO THE ENTIRE PROJECT.
- 4) PROTECT ALL EXISTING PUBLIC AND PRIVATE UTILITIES AND STRUCTURES DURING CONSTRUCTION OF THE PROJECT.
- 5) PERFORM DETAILED FIELD REVIEW OF THIS INTERSECTION PRIOR TO ANY CONSTRUCTION, LOCATE ANY SPRINKLER HEADS WITHIN THE BOULEVARD AREAS, AND COORDINATE WITH ADJACENT PROPERTY OWNER TO HAVE THESE IRRIGATION SYSTEMS MARKED PRIOR TO WORKING IN THE AREA OF THESE FACILITIES. REPAIR ANY IRRIGATION FACILITIES DAMAGED DURING CONSTRUCTION TO THE SATISFACTION OF THE OWNER, CITY AND COUNTY, AT NO COST TO THE CITY, COUNTY OR OWNER.
- 6) THE CONTRACTOR SHALL BE MADE AWARE OF THE FOLLOWING UTILITIES THAT WILL REQUIRE COORDINATION DURING CONSTRUCTION:
CENTERPOINT ENERGY - THERE IS A 6" PLASTIC GAS LINE THAT IS LOCATED 13' WEST OF BACK OF EXISTING CURB ON WEST SIDE OF CSAH 17 - THIS WILL BE MAINTAINED IN ITS CURRENT LOCATION BUT WILL NEED TO BE PROTECTED DURING TURN LANE CONSTRUCTION.
CENTURYLINK - THERE IS AN EXISTING 4' x 6' x 7' VAULT ON THE WEST SIDE OF CSAH 17 (ABOUT 170 FEET NORTH OF CHURCH DRIVEWAY) THAT WILL BE IN THE NEW RIGHT TURN LANE. THIS VAULT WILL BE MAINTAINED AT ITS CURRENT LOCATION BUT WILL REQUIRE THE CONTRACTOR TO ADJUST THE CASTING AND RINGS AT STREET LEVEL TO FINISHED ROADWAY GRADE (INCIDENTAL). CENTURYLINK ALSO HAS COPPER CABLE ON WEST SIDE THAT WILL NEED TO BE RELOCATED BY CENTURYLINK, AND FIBER CABLE ON EAST SIDE OF CSAH 17 THAT WILL BE MAINTAINED INPLACE.
CITY OF BLAINE - SANITARY MANHOLE RING AND COVER ON NW CORNER WILL REQUIRE HEIGHT ADJUSTMENT BY CONTRACTOR (SEE PLANS), AND STREET LIGHT POLE ON EAST MEDIAN WILL REQUIRE REMOVAL AND SALVAGING (INCIDENTAL TO SIGNAL SYSTEM PAY ITEM).
CONNEXUS ENERGY - THERE IS AN EXISTING 750 MCM UNDERGROUND PRIMARY LINE BEHIND THE EXISTING TRAIL ON THE WEST SIDE OF CSAH 17 (MORE THAN 3.5 FEET DEEP) THAT WILL REMAIN INPLACE AND WILL REQUIRE CONTRACTOR TO LOCATE AND PROTECT.
GREAT RIVER ENERGY - THERE IS A LARGE POWER POLE ON THE NW QUADRANT THAT NEEDS TO BE PROTECTED AND MAINTAINED INPLACE. SUFFICIENT CLEARANCE UNDER THEIR OVERHEAD LINES EXISTS.

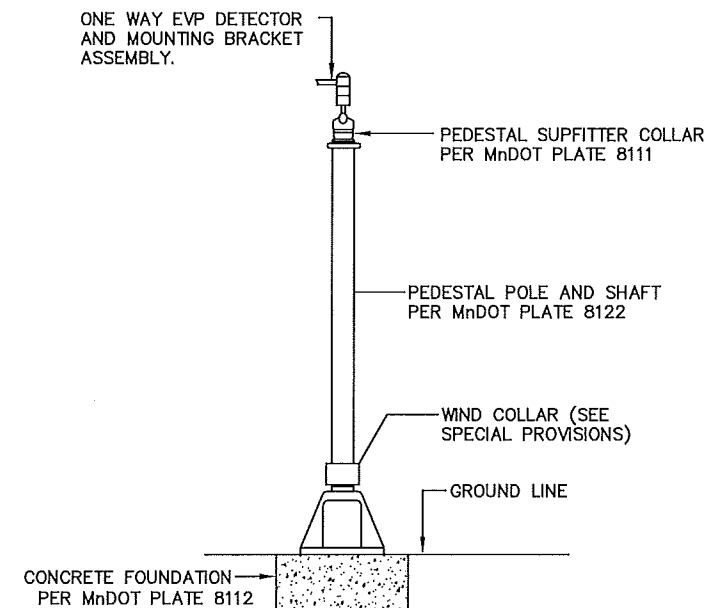
STORMWATER MANAGEMENT/EROSION CONTROL NOTES:

- 1) DUST GENERATION MUST BE MINIMIZED AND CONTROLLED DURING SAW-CUTTING AND MILLING OPERATIONS.
- 2) SAW-CUT AND MILLING DEBRIS MUST BE PICKED UP AND REMOVED AS SOON AS POSSIBLE AND ADJACENT AREAS SWEEPED. CLEAN-UP SHALL BE PERFORMED IMMEDIATELY AFTER COMPLETION OF SAWCUT AND MILLING OPERATIONS.
- 3) STORMWATER INLETS MUST BE PROTECTED FROM DEBRIS (SUCH AS FROM MILLING OPERATIONS) AND ANY DISTURBED SOIL. INLET PROTECTION SHOULD BE PROVIDED ON DOWNSTREAM INLETS IF MILLING OR SAW-CUTTING WILL OCCUR DURING WET WEATHER OR IF SOIL IS DISTURBED WHICH COULD BE WASHED INTO AN INLET PRIOR TO STABILIZATION. IF ANY SOIL OR DEBRIS INADVERTENTLY ENTERS AN INLET, IT MUST BE REMOVED IMMEDIATELY.
- 4) ANY DISTURBED TURF AREAS MUST BE RESTORED AS SOON AS POSSIBLE AFTER THE DISTURBANCE (RAPID STABILIZATION, METHOD 3).
- 5) CONCRETE WASHOUT FROM ANY CONCRETE PAVEMENT MUST BE DEALT WITH IN ACCORDANCE WITH:
<http://www.dot.state.mn.us/environment/pdf/concrete-washout.pdf>
- 6) ALL STORMWATER MANAGEMENT AND EROSION CONTROL MITIGATION (INCLUDING ALL INLET PROTECTION) AND ALL RESTORATION OF ALL ROADWAYS SHALL BE MEASURED AND PAID FOR SEPARATELY. SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.

WHERE EXISTING PVC HANDHOLES WITH METAL RINGS AND COVERS ARE REQUIRED TO BE ADJUSTED TO MATCH FINISHED SURROUNDING SIDEWALK, MEDIAN OR BOULEVARD GRADE, CONTRACTOR SHALL REUSE THE EXISTING METAL RING & COVER. ADJUSTMENT WORK WILL REQUIRE EITHER THE CUTTING THE TOP OF THE HANDHOLE OR EXTENDING THE PVC HANDHOLE CYLINDER SO THAT THE TOP OF THE SALVAGED AND REINSTALLED PVC METAL RING AND COVER FITS THE ELEVATION OF THE SURROUNDING SIDEWALK/MEDIAN/BOULEVARD. THIS WORK WILL BE INCLUDED AS PART OF THE PAY ITEM FOR "TRAFFIC CONTROL SIGNAL SYSTEM", WITH NO DIRECT COMPENSATION BEING MADE THEREFORE.



PEDESTAL POLE MOUNTED EVP DETECTOR DETAIL



S.A.P. 002-617-022
 S.A.P. 106-142-002
 CITY PROJECT 18-20

S:\NEVA\Anoka\Common\signals\17-Woodland\002-617-022_DETAILS.dwg 6/1/2019 10:35 AM jgray

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: June 4, 2019 Name: John M. Gray, PE Lic. No. 22457

SEH
 PHONE: (651) 490-2000
 3535 VADNAIS CENTER DR.
 ST. PAUL, MN 55110

**ANOKA COUNTY
 CITY OF BLAINE**

**TRAFFIC SIGNAL SYSTEM
 GENERAL NOTES AND DETAILS
 CSAH 17 (LEXINGTON AVENUE)
 AT WOODLAND PARKWAY**

FILE NO.
 ANOKC 148315
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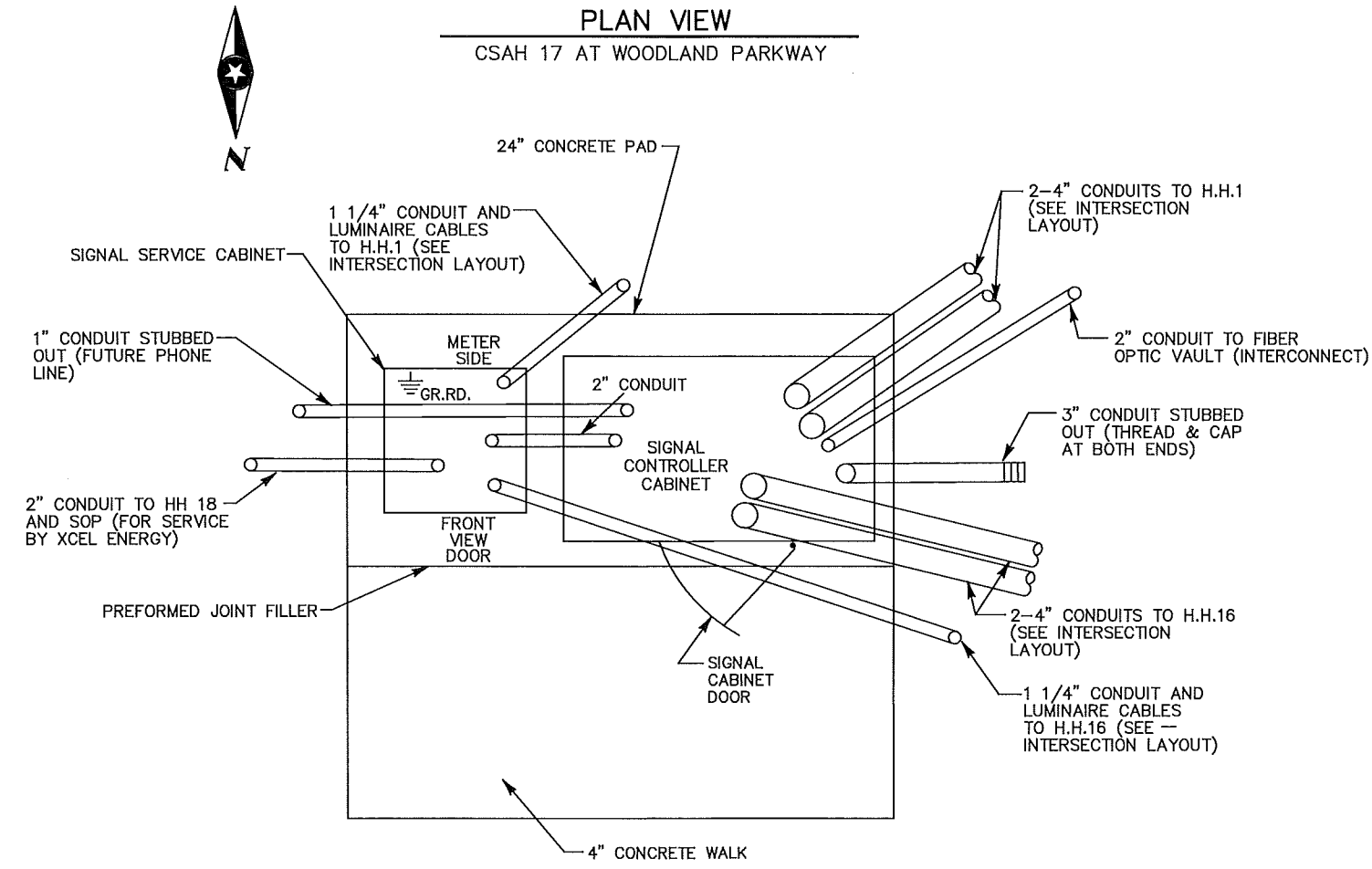
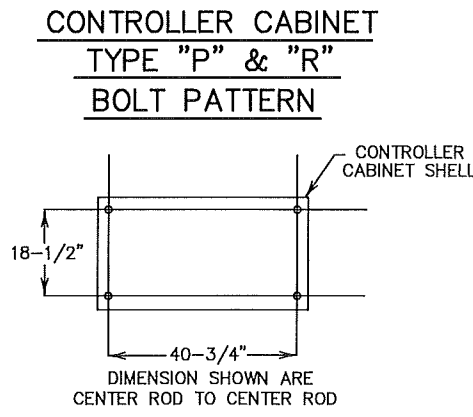
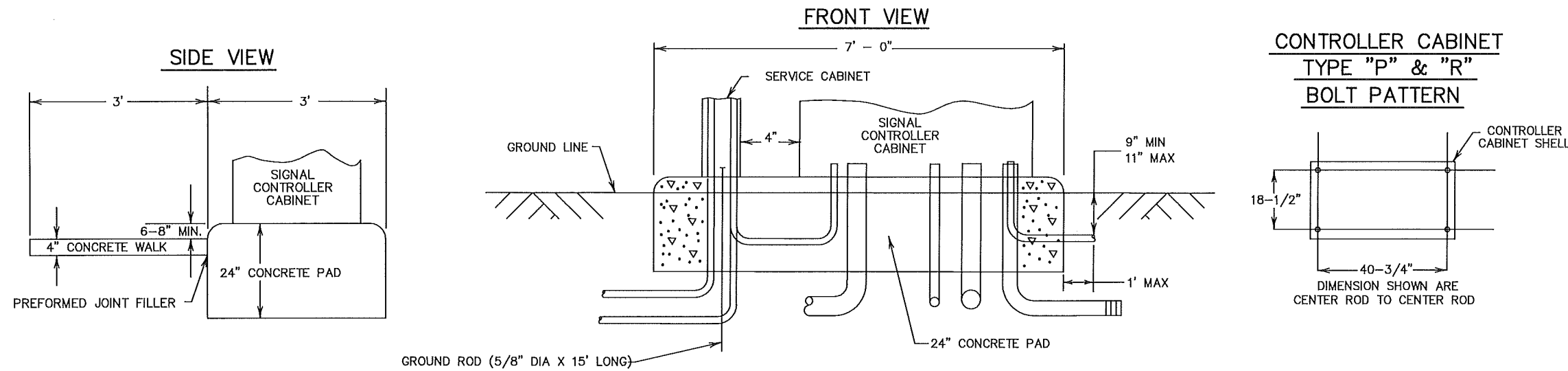
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TYPICAL PAD WITH CONTROLLER CABINET AND SERVICE CABINET

SEE INTERSECTION LAYOUT FOR CABLE INFORMATION (NOT TO SCALE)

NOTES:

1. THE ANCHOR RODS, NUTS AND WASHERS FOR THE COUNTY FURNISHED CONTROLLER AND CABINET SHALL BE FURNISHED BY THE COUNTY AND INSTALLED BY THE CONTRACTOR.
2. THE UPPER PART OF THE NEW EQUIPMENT PAD SHALL BE BEVELLED OR CHAMFERED IN A NEAT MANNER AS DIRECTED BY THE ENGINEER.
3. THE TOP OF THE CONDUITS SHALL BE THREADED AND CAPPED AFTER INSTALLATION (UNTIL CABLES ARE INSTALLED).
4. CONDUIT SHALL PROJECT A MINIMUM OF 2" ABOVE CONCRETE AND SHALL BE LOCATED INSIDE OF THE CABINET WHERE DIRECTED BY THE ENGINEER, BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
5. CONCRETE MIX 3F52 OR EQUAL SHALL BE USED FOR THE EQUIPMENT PAD AND SIDEWALK.
6. CONDUITS WITH BOTH ENDS TERMINATING WITHIN THE PAD SHALL NOT BE INSTALLED BELOW THE CONCRETE.
7. THE EXACT LOCATION OF CONDUITS WITHIN THE PAD SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
8. ANCHOR RODS SHALL PROJECT A MINIMUM OF 3" ABOVE THE CONCRETE BUT SHALL NOT INTERFERE WITH THE CABINET FUNCTIONS (SUPPORTING MEMBERS, ETC.).
9. CONTRACTOR SHALL PROVIDE MINIMUM 4-INCH CLEARANCE BETWEEN CONTROLLER AND SERVICE CABINETS ON THE EQUIPMENT PAD FOUNDATION AS SHOWN.



S.A.P. 002-617-022
S.A.P. 106-142-002
CITY PROJECT 18-20

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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.

John M. Gray
Name: John M. Gray, PE
Date: June 4, 2019 Lic. No. 22457

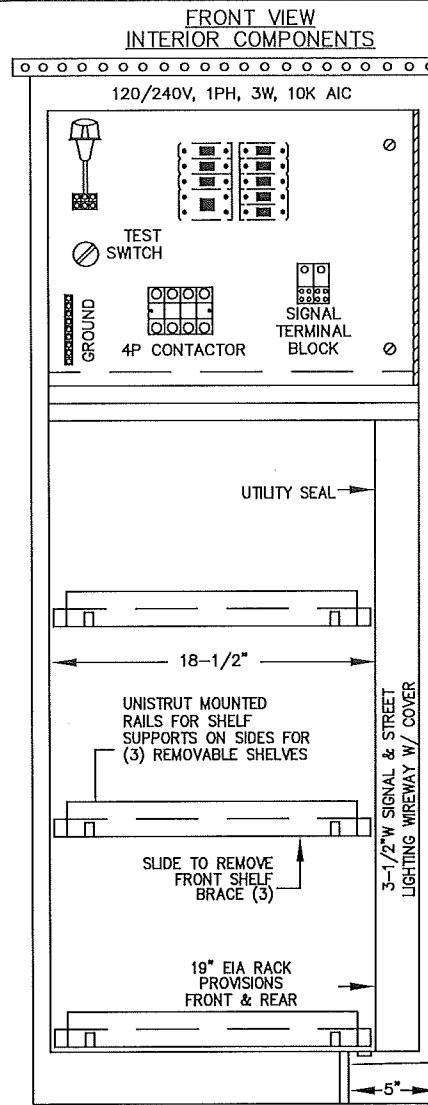
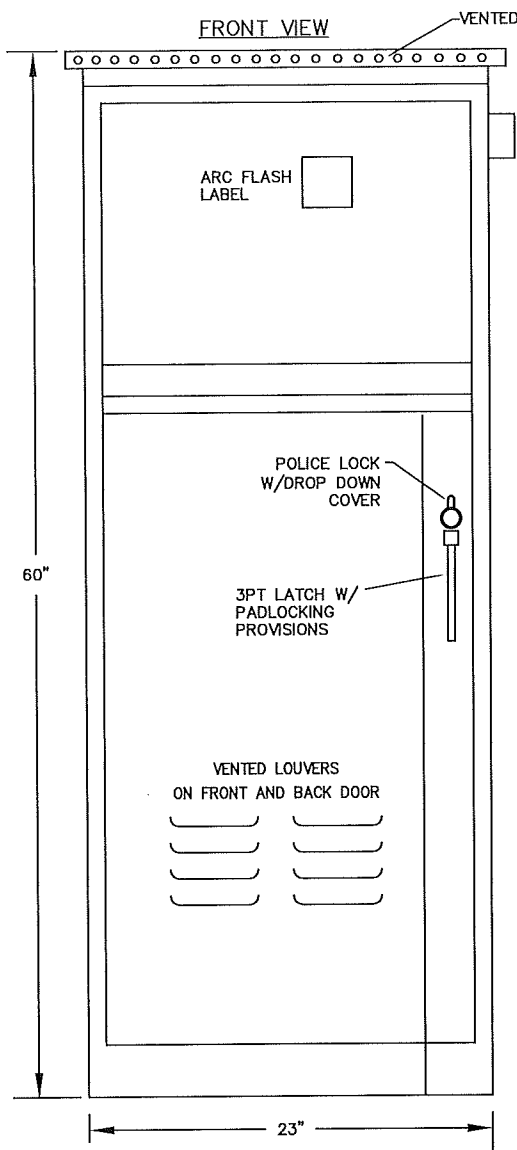
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**ANOKA COUNTY
CITY OF BLAINE**

**TRAFFIC SIGNAL SYSTEM
EQUIPMENT PAD DETAILS
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY**

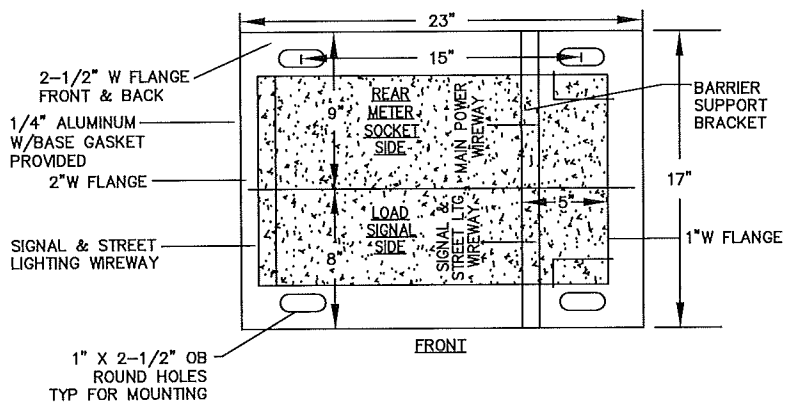
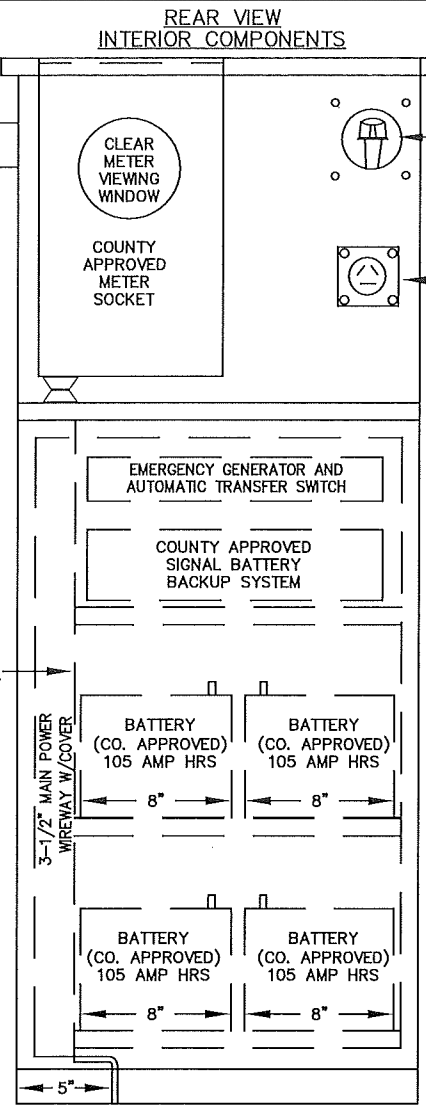
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ANOKC 148315
DATE
06/04/2019

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- LOAD CENTER
CIRCUIT BREAKERS
ITE "Q" TYPE
1-100A/2P SERVICE
DISCONNECT
1-15/1P PHOTOCELL
4-15A/1P LUMINAIRES
4-15A/1P SIGNS
1-30A/1P SIGNAL SVC
1 SPARE

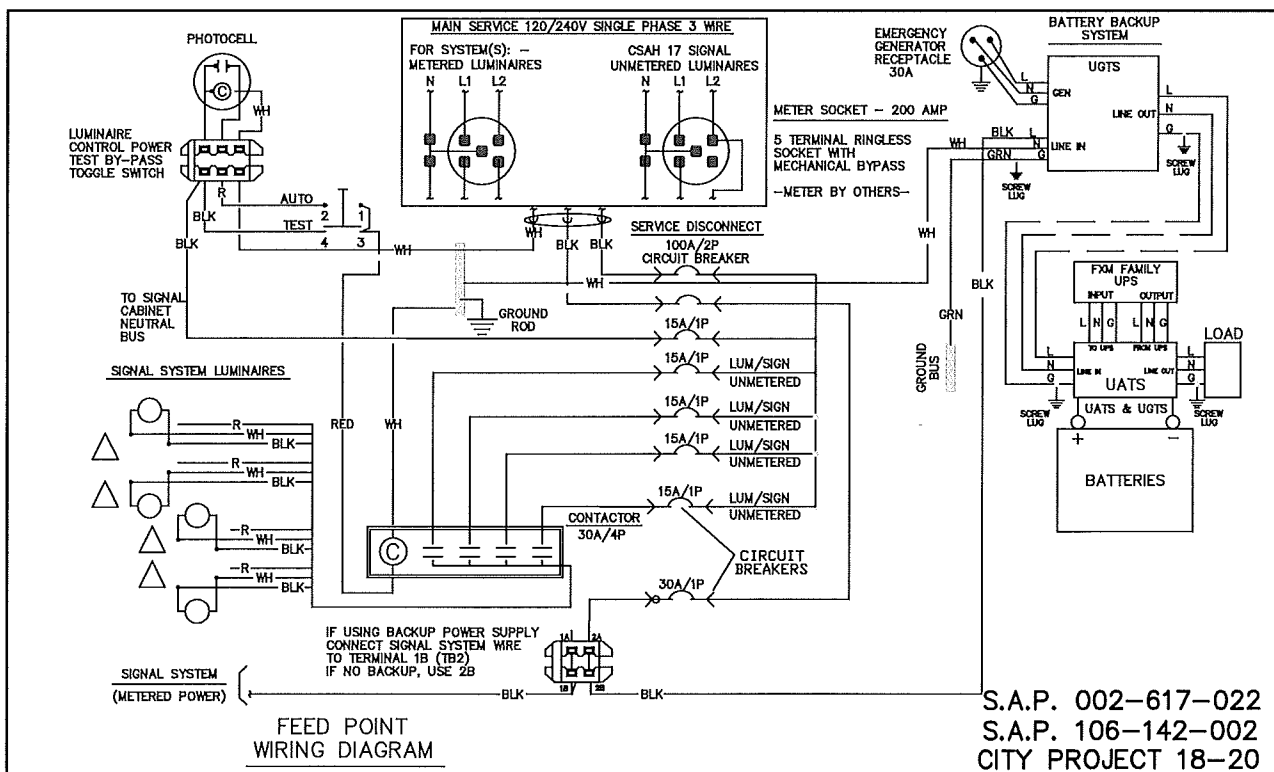
INTERIOR
COMPONENTS
BEHIND HINGED
DEAD FRONT
W/ (2)-1/4
TURN LATCHES



CABINET CONSTRUCTION

- NEMA 3R
- 1/8" ALUMINUM 5052-H32
- ANODIZED 30 MINUTE CLEAR
- NEOPRENE GASKETED DOORS
- NON-CORRODING HARDWARE
- ETL LISTED IN ACCORDANCE W/UL508A

SEE SPECIAL PROVISIONS AND STATEMENT OF ESTIMATED QUANTITIES REGARDING SEPARATE PAY ITEM FOR FURNISHING & INSTALLING NEW BATTERY BACK-UP SIGNAL SERVICE CABINET.



S.A.P. 002-617-022
S.A.P. 106-142-002
CITY PROJECT 18-20

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DESIGNER: JMG
CHECKED BY: JMG

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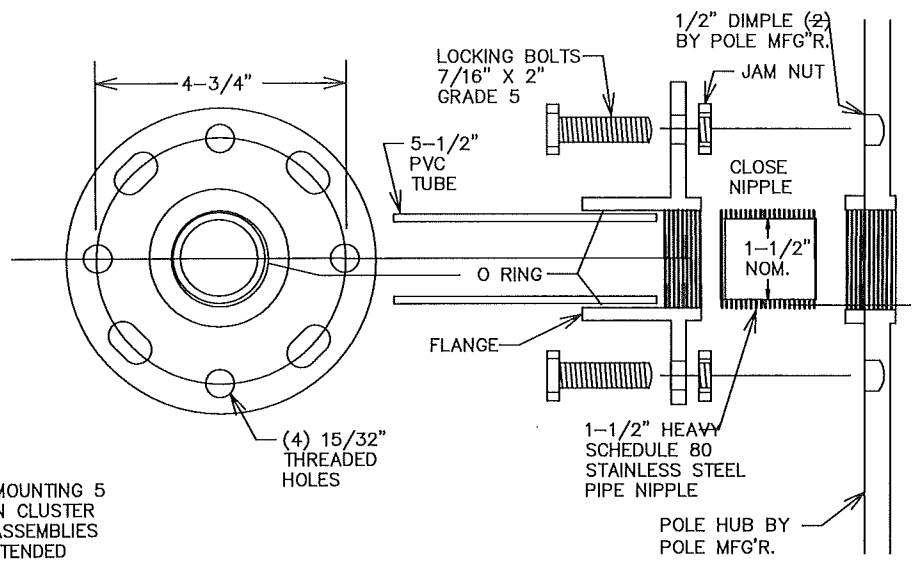
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**ANOKA COUNTY
CITY OF BLAINE**

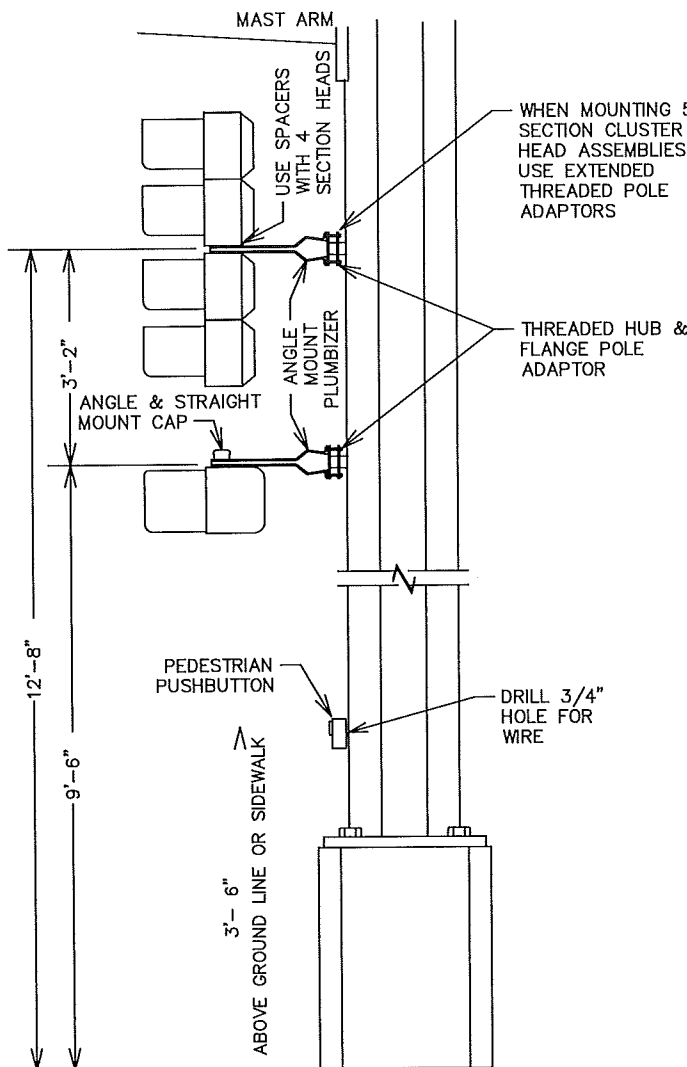
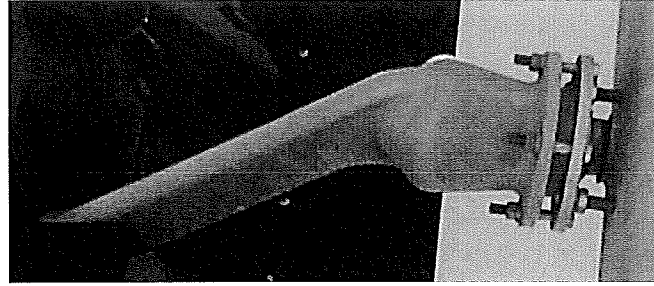
**TRAFFIC SIGNAL SYSTEM
SIGNAL SERVICE CABINET DETAILS
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY**

FILE NO.
ANOK 148315
DATE
06/04/2019
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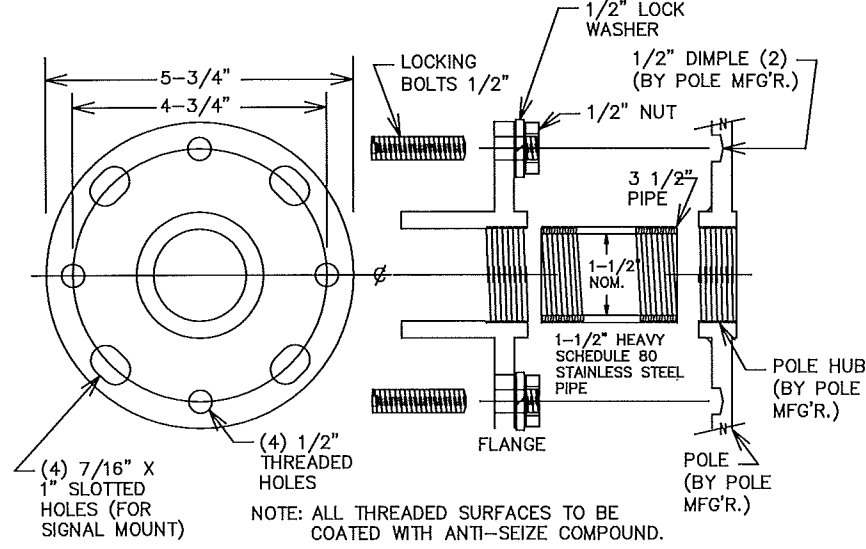
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THREADED HUB AND FLANGE POLE ADAPTOR

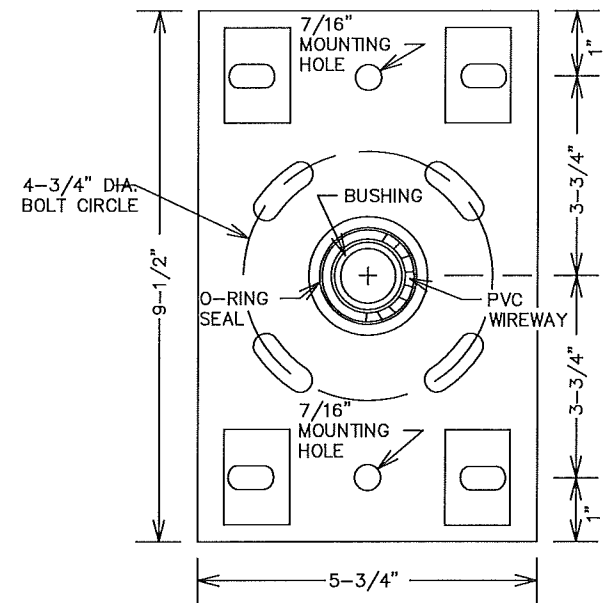


TYPICAL SIGNAL POLE MOUNTING
NOT TO SCALE

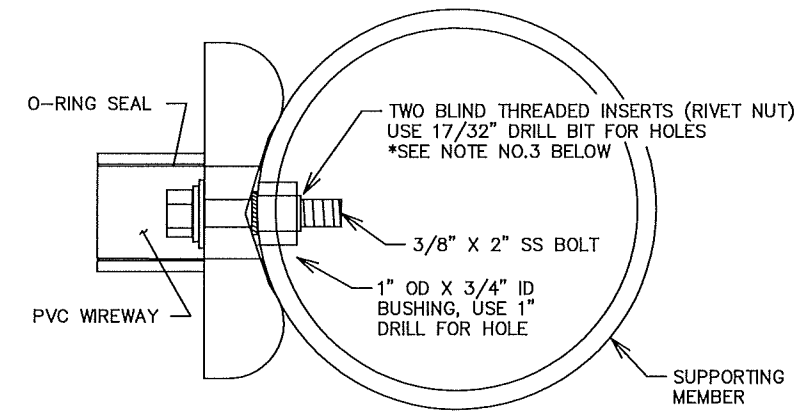


EXTENDED THREADED POLE ADAPTER

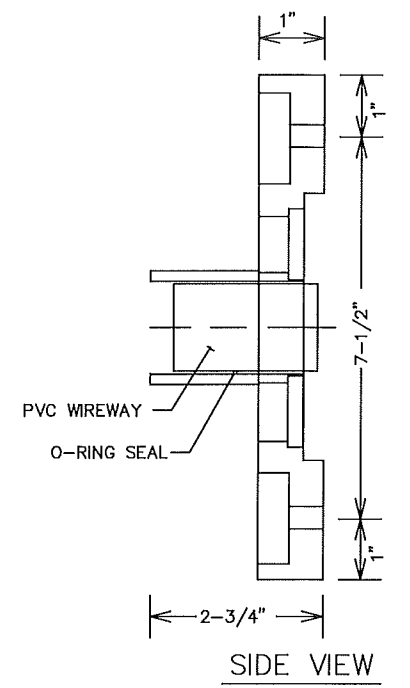
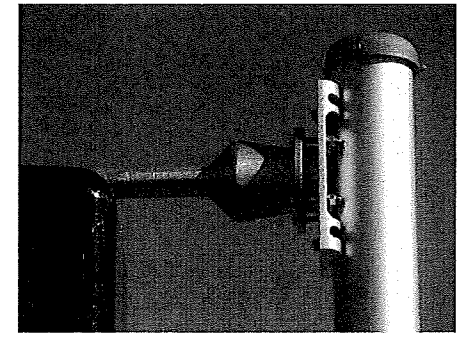
- NOTES:
1. ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.
 2. USE SIGNAL HEAD MOUNTED SPACERS FOR 4 SECTION POLY HEADS.
 3. SEE STANDARD PLATE NUMBER 8123 FOR ADDITIONAL SIGNAL POLE DETAILS.
 4. EXTENDED THREADED POLE ADAPTOR ONLY USED WITH 5 SECTION CLUSTER HEADS.



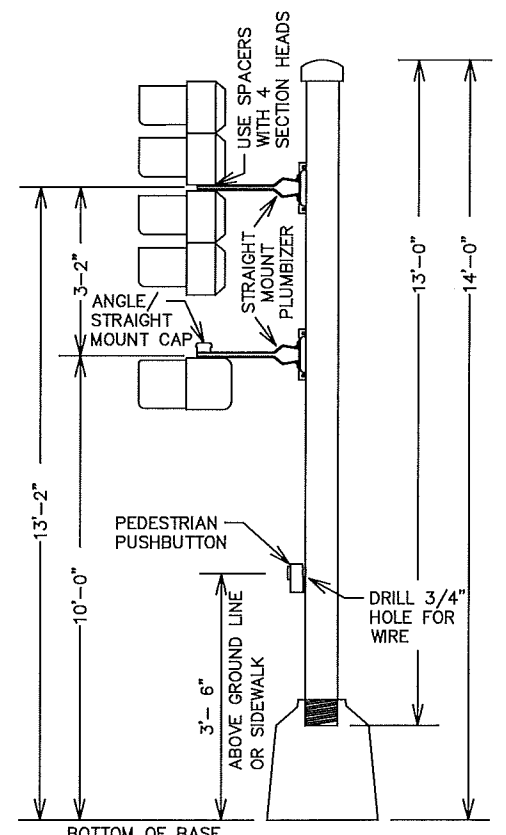
BOLT ON HUB & FLANGE



TOP VIEW



SIDE VIEW



TYPICAL PEDESTAL MOUNTING
NOT TO SCALE

- NOTES:
1. ALL THREADED SURFACES TO BE COATED WITH ANTI-SEIZE COMPOUND.
 2. USE SIGNAL HEAD MOUNTED SPACERS FOR 4 SECTION POLY HEADS.
 3. BLIND THREADED INSERTS (RIVET NUT) MUST BE INSERTED USING MANUFACTURERS SPECIFIC INSERTION TOOL. NO OTHER METHOD IS ACCEPTABLE.
 4. SEE STANDARD PLATE NUMBER 8122 FOR ADDITIONAL PEDESTAL POLE DETAILS.

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DESIGNER: JMG
CHECKED BY: JMG

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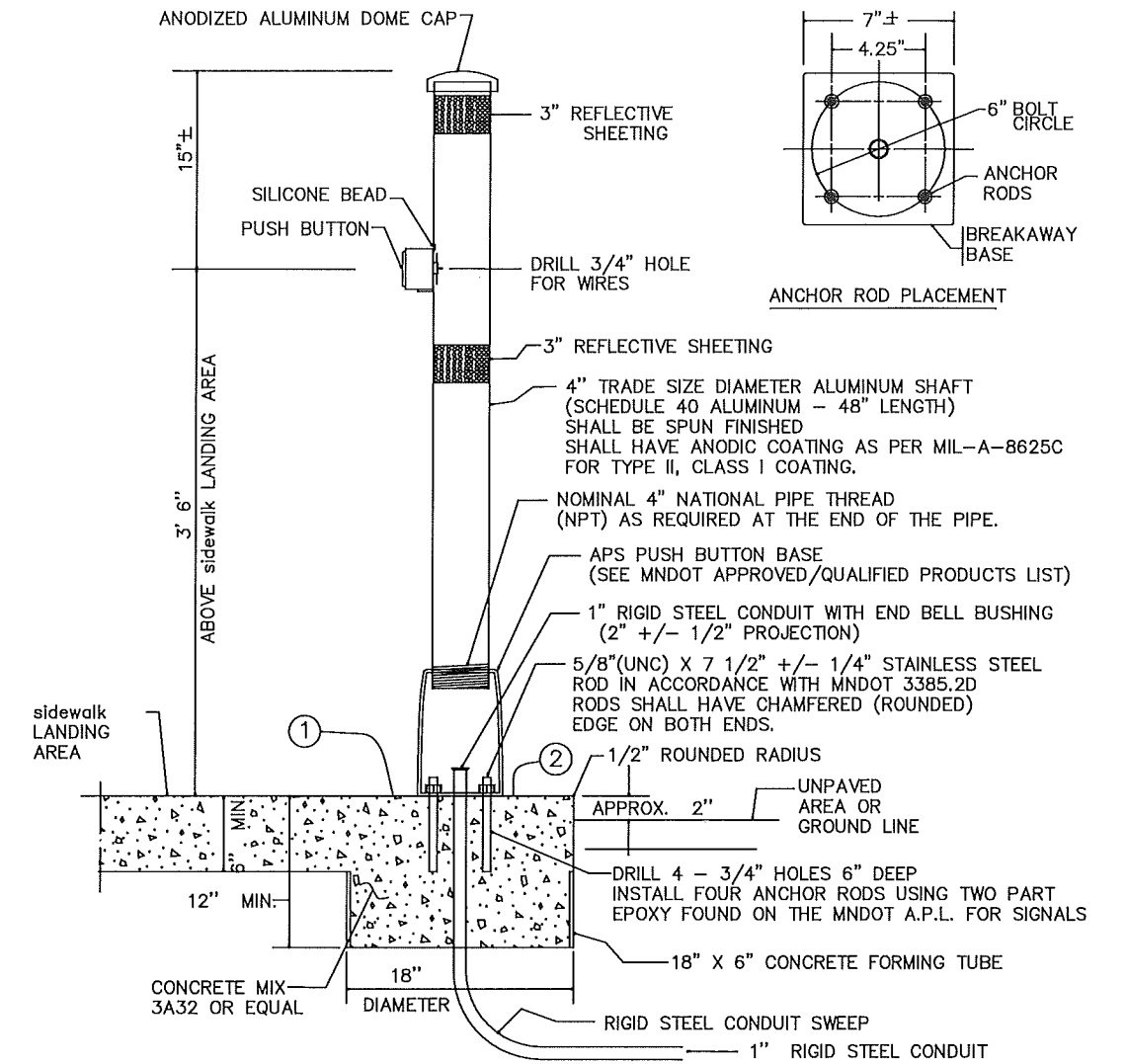
**ANOKA COUNTY
CITY OF BLAINE**

**TRAFFIC SIGNAL SYSTEM
ONE WAY POLE MOUNT DETAILS
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY**

FILE NO.
ANOKC 148315
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CITY PROJECT 18-20

PEDESTRIAN PUSH BUTTON STATION DETAILS

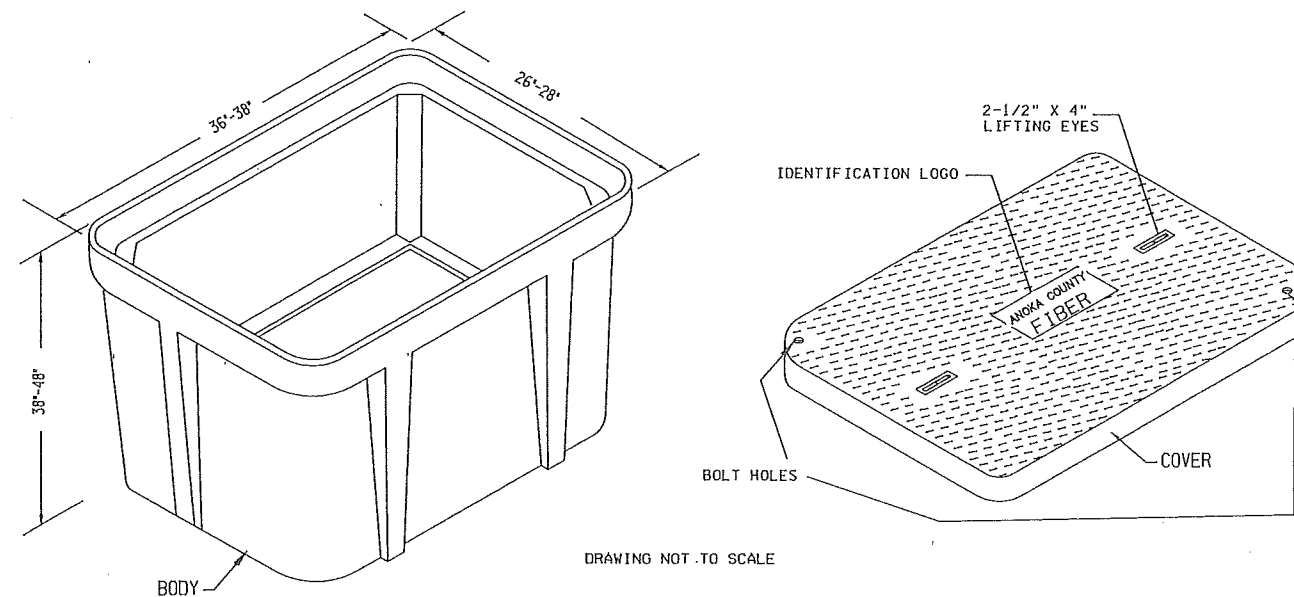


NOTES:

- PLACEMENT AND ORIENTATION OF THE PUSH BUTTON IS CRITICAL. MOUNT THE BUTTON SO THAT THE FACE IS PARALLEL WITH THE ASSOCIATED CROSSWALK. SCREW IN POST TO A TIGHTENED POSITION BEFORE MOUNTING ACCESSIBLE PEDESTRIAN PUSH BUTTON UNIT TO THE POST.
- ORIENT ACCESS OPENING ON THE BREAKAWAY PEDESTAL DIRECTLY BELOW THE APS BUTTON.
- PLUMB THE PUSH BUTTON STATION WITH LEVELING SHIMS IN ACCORDANCE WITH STANDARD PLATE 8129.
- BLIND THREADED INSERTS (RIVET NUT) MUST BE INSERTED USING MANUFACTURERS SPECIFIC INSTALLATION TOOL. NO OTHER METHOD OF INSTALLATION IS ACCEPTABLE.
- BLIND THREADED INSERTS SHALL BE ZINC PLATED STEEL WITH 1/4 - 20 UNC THREADS. INSERT SHALL BE SUITABLE FOR USE ON A MOUNTING SURFACE WALL THICKNESS OF .337". APPROVED BLIND THREADED INSERTS CAN BE FOUND ON THE MN/DOT QUALIFIED PRODUCTS LIST FOR SIGNALS.
- MOUNTING BOLTS SHALL BE 1/4 - 20 STAINLESS STEEL. APPLY BRUSH ON ANTI SEIZE COMPOUND TO BOLTS PRIOR TO ASSEMBLY.
- APPLY A BEAD OF 100% SILICONE SEALANT ALONG THE TOP OF THE PUSH BUTTON UNIT WHERE IT COMES IN CONTACT WITH THE 4" POST.
- THE REFLECTIVE SHEETING SHALL BE WHITE AT INTERSECTION CORNERS AND SHALL BE YELLOW WHEN USED IN CENTER MEDIANS. SEE MN/DOT SIGNING QUALIFIED PRODUCTS LIST (QPL) FOR APPROVED TUBE DELINEATOR SHEETING.
- ANTI-SEIZE COMPOUND MUST BE USED ON ALL THREADED BOLTS WHEN INSTALLING PEDESTRIAN PUSH BUTTON STATIONS.

- ① THE PUSH BUTTON STATION FOUNDATION IS CONSTRUCTED AS PART OF THE SIDEWALK. INCREASE THE SIDEWALK THICKNESS TO 12" THICK (MIN.) TO PROVIDE FOR THE PUSH BUTTON STATION FOUNDATION.
- ② ALL JOINTS SHALL BE A MINIMUM OF 9" FROM THE CENTER OF THE PUSH BUTTON FOUNDATION.

FIBER-OPTIC PULLING VAULT DETAIL



S.A.P. 002-617-022
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Date: June 4, 2019 Name: John M. Gray, PE Lic. No. 22457



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ANOKA COUNTY
CITY OF BLAINE

TRAFFIC SIGNAL SYSTEM
MISCELLANEOUS DETAILS
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY

FILE NO.
ANOKC 148315
DATE
06/04/2019

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DRAWN BY:	JMG
DESIGNER:	JMG
CHECKED BY:	JMG
DESIGN TEAM	

NO.	BY	DATE	REVISIONS

SIGN PANELS TYPE C (FURNISH AND INSTALL) (POST MOUNTED)										
TOTAL QUANTITY	POSTS			MTG HT. (FT)	PANELS			CODE NO.	PANEL LEGEND	
	NO. & TYPE	KNEE BRACES QUANTITY	LENGTH (FT)		SIZE (IN.)	UNIT AREA (SQ FT)	TOTAL AREA (PROJECT) (SQ FT)			
1	(B)	-	-	8	36 x 30	7.50	7.50	R3-8DA	LEFT/THRU AND RIGHT ONLY	
1	1-U	-	13.0	7	30 x 30	6.25	6.25	R3-X1	RIGHT TURN LANE	
1	(C)	-	-	7	36 x 36	9.00	9.00	W3-3	SIGNAL AHEAD	
5	2-U	-	14.0	7	36 x 36	9.00	45.00	W3-3	SIGNAL AHEAD	
8	TOTAL QUANTITIES						67.75			

SIGNS FOR TRAFFIC SIGNAL SYSTEM									
SIGN PANELS TYPE C (FURNISH & INSTALL) (OVERHEAD)									
SIGN PANEL	POLE NO.	a (FT)	b (FT)	SIZE (IN)	MOUNTING BRACKET QUANTITY	BRACKET SPACING (A)	UNIT AREA (SQ FT)	NO. REQ.	PANEL LEGEND
R10-X12	2, 5	1'	-	42 x 48	2	----	14.00	2	Left Turn Yield on Flashing Yellow Arrow
TOTAL QUANTITIES							28.00	2	

SIGNS FOR TRAFFIC SIGNAL SYSTEM									
SIGN PANELS TYPE D (FURNISH & INSTALL)									
SIGN PANEL	POLE NO.	a (FT)	b (FT)	SIZE (IN)	MOUNTING BRACKET QUANTITY	BRACKET SPACING (A)	UNIT AREA (SQ FT)	NO. REQ.	PANEL LEGEND
D-1	1	8'	-	126 x 24	5	----	21.00	1	Lexington Ave NE
D-2	2	-	38'	114 x 24	4	----	19.00	1	Woodland Pkwy
D-3	3	8'	-	126 x 24	5	----	21.00	1	Lexington Ave NE
D-4	5	-	38'	114 x 24	4	----	19.00	1	Woodland Pkwy
TOTAL QUANTITIES							80.00	4	

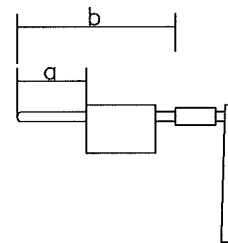
REMOVE SIGNS				
TOTAL PROJECT QUANTITY	POSTS NO. & TYPE	PANELS SIZE (IN.)	CODE NO.	PANEL LEGEND
2	1-U	30 x 30	R3-X1	STOP
1	(B)	36 x 30	R3-8AD	LEFT AND THRU/RIGHT
2	(D)	36 x 12	R6-1L	ONE WAY (LEFT)
2	(D)	36 x 12	R6-1R	ONE WAY (RIGHT)
1	1-ROUND	-	-	STREET NAME SIGNS (SE CORNER)
8				

GENERAL SIGNING NOTES:

- COLOR FOR ALL TYPE D SIGNS SHALL BE WHITE LEGEND AND BORDER ON GREEN BACKGROUND, FULLY REFLECTORIZED.
- CORNERS EXTENDING BEYOND THE BORDER SHALL NOT BE TRIMMED. CORNERS OF STANDARD SIGN PANELS WITH MARGINS SHALL BE TRIMMED.
- FOR STRUCTURAL DETAILS OF MAST ARM MOUNTED SIGNS, SEE MnDOT STANDARD SIGNS AND MARKINGS MANUAL, PAGE 105A, AND SPECIAL PROVISIONS.
- SEE MnDOT STANDARD SIGNS AND MARKINGS MANUAL FOR PUNCHING CODES AND DETAILED DRAWINGS OF TYPE C SIGN PANELS.
- FURNISHING AND INSTALLING NEW TYPE C AND TYPE D SIGNS, AND REMOVING INPLACE TYPE C SIGNS SHALL BE MEASURED AND PAID FOR SEPARATELY. SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- ALL TRAFFIC CONTROL, MOBILIZATION AND WORK RELATED TO THE INSTALLATION OF THE SIGNING AND PAVEMENT MARKINGS SHOWN IN THE PLANS IS INCIDENTAL.
- POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.
- MOUNTING HEIGHT IS MINIMUM.
- ALL SIGN DIMENSIONS ARE IN INCHES.
- CONTRACTOR SHALL PROVIDE DETAILED SHOP DRAWINGS OF THE NEW TYPE D SIGN PANELS FOR ENGINEER APPROVAL, PRIOR TO FABRICATION OF THESE SIGN PANELS.

SPECIFIC NOTES:

- (A) = SPACING BETWEEN STIFFENERS SHALL NOT EXCEED 36 INCHES AND SHALL BE UNIFORMLY SPACED. SEE MnDOT STANDARD SIGNS AND MARKINGS MANUAL (PAGE 105A) FOR BRACKET SPACING REQUIREMENTS.
- (B) = REMOVE R3-8AD SIGN AND INSTALL R3-8DA SIGN ON INPLACE POST (MAINTAIN R8-3 SIGN ON THIS POST).
- (C) = INSTALL SIGN ON INPLACE STREET LIGHT POLE (USING NEW SIGN PANEL MOUNTING HARDWARE).
- (D) = SIGN PANELS MOUNTED ABOVE R1-1 (STOP) SIGN ON SAME POST.

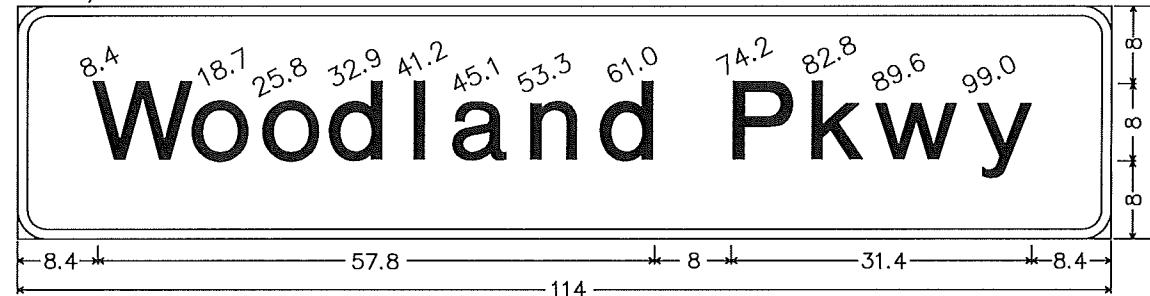


D-1, D-3



3.0" Radius, 1.0" Border, White on Green;
[Lexington Ave NE] E Mod;

D-2, D-4



3.0" Radius, 1.0" Border, White on Green;
[Woodland Pkwy] E Mod;

STRIPING NOTES & GUIDELINES

PREFORM THERMOPLASTIC APPLICATION:

MAT TEMPERATURE SHALL BE CHECKED USING A THERMOMETER TO MAKE SURE THE INLAY IS BEING DONE IN THE PROPER TEMPERATURE RANGE. THE TEMPERATURE SHOULD MEASURE BETWEEN 150 DEGREES F (ASPHALT FIRM ENOUGH TO WALK ON) AND 120 DEGREES F. APPLICATION BELOW 120 DEGREES F MAY NOT GET A PROPER INLAY. INLAYS ARE NOT RECOMMENDED AFTER SEPTEMBER 15 AS THE ASPHALT COOLS TOO FAST AT THIS TIME OF YEAR.

NO PRIMERS ARE USED FOR INLAY APPLICATION. DO NOT INSTALL LANE LINES ON AN ASPHALT SEAM. ROLLING OF ALL THE MARKINGS SHOULD BE LENGTHWISE IN THE DIRECTION THEY WERE LAID. FOR CROSSWALKS AND STOP BARS, INITIAL TAMPING WITH THE TAMPING CART IS RECOMMENDED USING ONLY 100 LBS OF WEIGHT.

USE COMPACTION ROLLER TO EMBED (INLAY) MARKINGS INTO PAVEMENT SURFACE. USE MINIMUM SPEED AND WATER ON ROLLER. DO NOT USE VIBRATOR IF MARKING BUCKLES OR DISTORTS SEVERELY IN FRONT OF ROLLER. MAT TEMPERATURE OR ROLLER SPEED MAY BE TOO HIGH.

GENERAL INFORMATION:

THE ENGINEER'S INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. THE ENGINEER WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS. LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.

EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES IF THEY ARE CONTROLLED BY A YIELD SIGN, STOP SIGN OR TRAFFIC SIGNAL. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.

A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. BROKEN LINE SEGMENTS MAY VARY UP TO ONE-HALF FOOT FROM THE SPECIFIED LENGTHS PROVIDED THE OVER AND UNDER VARIATIONS ARE REASONABLY COMPENSATORY. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS. ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.

MULTI COMP:

THE ROAD SURFACE SHALL BE CLEANED AT THE DIRECTION OF THE ENGINEER JUST PRIOR TO APPLICATION. PAVEMENT CLEANING SHALL CONSIST OF AT LEAST BRUSHING WITH A ROTARY BROOM (NON-METALLIC) OR AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER. NEW PORTLAND CEMENT CONCRETE SURFACES SHALL BE SANDBLAST CLEANED TO REMOVE ANY SURFACE TREATMENTS AND/OR LAITANCE. ON LOW SPEED (SPEED LIMIT 35 OR LESS) URBAN PORTLAND CEMENT CONCRETE ROADWAYS, SANDBLAST CLEANING SHALL BE USED FOR ALL PAVEMENT MARKINGS.

THE MARKING APPLICATION SHALL IMMEDIATELY FOLLOW THE PAVEMENT CLEANING. GLASS BEADS SHALL BE APPLIED IMMEDIATELY AFTER APPLICATION OF THE PAVEMENT MARKING LINE TO PROVIDE AN IMMEDIATE NO-TRACK SYSTEM.

FOR 15 MIL APPLICATIONS, GLASS BEADS SHALL BE APPLIED AT A RATE OF AT LEAST 25 LB/GAL. THE "NO-TRACKING" CONDITION SHALL BE DETERMINED ON AN APPLICATION OF SPECIFIED THICKNESS TO THE PAVEMENT AND COVERED WITH GLASS BEADS AT THE RATE OF AT LEAST 25 LB/GAL.

OPERATIONS SHALL BE CONDUCTED ONLY WHEN THE ROADWAY PAVEMENT SURFACE TEMPERATURES ARE 50 DEGREES F OR GREATER.

S.A.P. 002-617-022
S.A.P. 106-142-002
CITY PROJECT 18-20

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ANOKA COUNTY
CITY OF BLAINE

TRAFFIC SIGNAL SYSTEM
SIGNING/STRIPING TABULATIONS/NOTES
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY

FILE NO. ANOKC 148315	9 35
DATE 06/04/2019	

GENERAL NOTES:

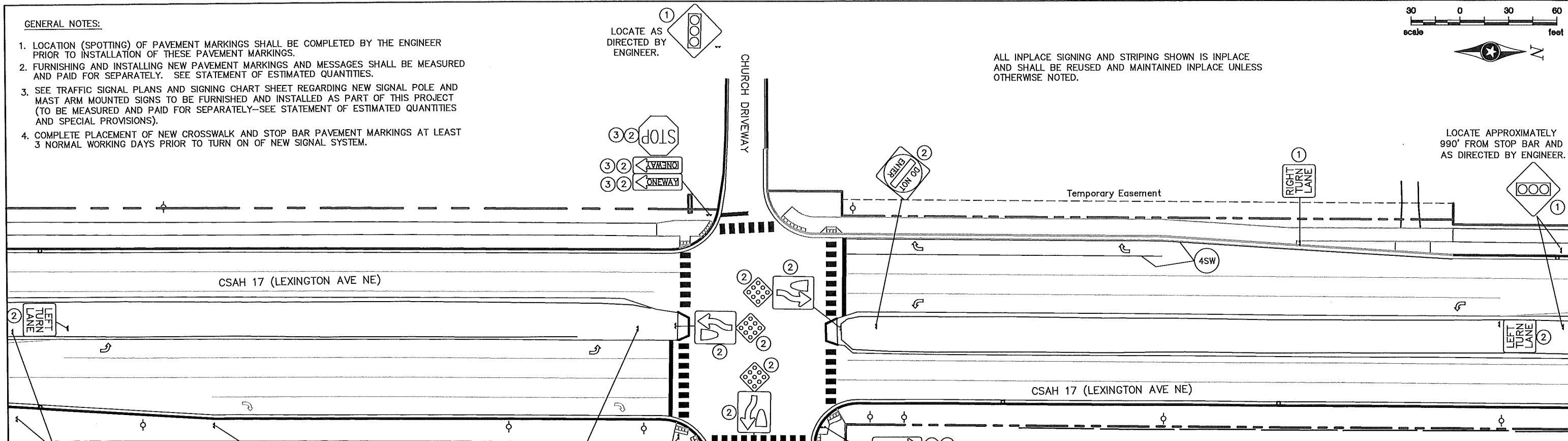
1. LOCATION (SPOTTING) OF PAVEMENT MARKINGS SHALL BE COMPLETED BY THE ENGINEER PRIOR TO INSTALLATION OF THESE PAVEMENT MARKINGS.
2. FURNISHING AND INSTALLING NEW PAVEMENT MARKINGS AND MESSAGES SHALL BE MEASURED AND PAID FOR SEPARATELY. SEE STATEMENT OF ESTIMATED QUANTITIES.
3. SEE TRAFFIC SIGNAL PLANS AND SIGNING CHART SHEET REGARDING NEW SIGNAL POLE AND MAST ARM MOUNTED SIGNS TO BE FURNISHED AND INSTALLED AS PART OF THIS PROJECT (TO BE MEASURED AND PAID FOR SEPARATELY--SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS).
4. COMPLETE PLACEMENT OF NEW CROSSWALK AND STOP BAR PAVEMENT MARKINGS AT LEAST 3 NORMAL WORKING DAYS PRIOR TO TURN ON OF NEW SIGNAL SYSTEM.



ALL INPLACE SIGNING AND STRIPING SHOWN IS INPLACE AND SHALL BE REUSED AND MAINTAINED INPLACE UNLESS OTHERWISE NOTED.

LOCATE APPROXIMATELY 990' FROM STOP BAR AND AS DIRECTED BY ENGINEER.

LOCATE AS DIRECTED BY ENGINEER.



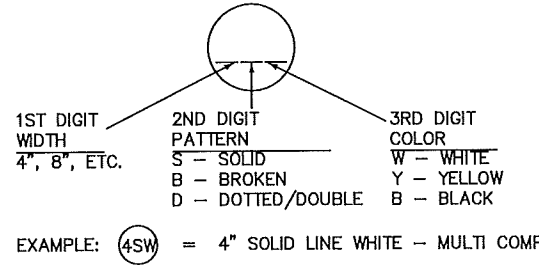
LOCATE APPROXIMATELY 990' FROM STOP BAR AND AS DIRECTED BY ENGINEER.

PAVEMENT MARKING TABULATION		
ITEM	UNIT	TOTAL ESTIMATED QUANTITY
4 INCH SOLID LINE WHITE--MULTI COMP (LANE/EDGE LINE)	LIN. FT.	550
24 INCH SOLID LINE WHITE--MULTI COMP (STOP BAR)	LIN. FT.	150
PAVEMENT MESSAGE (LT ARROW)--MULTI COMP	EACH	60
PAVEMENT MESSAGE (RT ARROW)--MULTI COMP	SQ. FT.	45
PAVEMENT MESSAGE (LT--THRU ARROW)--MULTI COMP	SQ. FT.	15
CROSSWALK PREFORM THERMOPLASTIC	SQ. FT.	792

NOTE: EACH TURN ARROW IS ASSUMED TO BE 15 SQUARE FEET FOR BIDDING PURPOSES (4 LEFT TURN ARROWS, 3 RIGHT TURN ARROWS AND 1 LT/THRU ARROW INCLUDED IN THE PLANS).

SYMBOLS & MATERIALS LEGEND

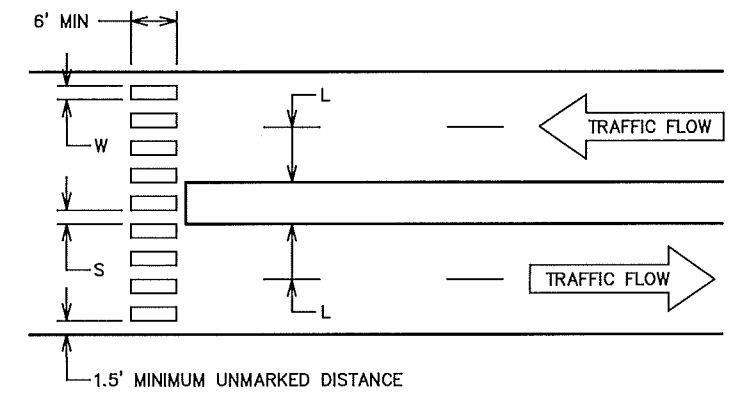
- ZEBRA CROSSWALK (WHITE) - 6' x 3' BLOCKS (PREFORM THERMO)
- PAVEMENT MESSAGE (TURN ARROW)--MULTI COMP
- 24 INCH SOLID WHITE STOP BAR--MULTI COMP
- CIRCLE - MULTI COMP



SPECIFIC NOTES:

- ① FURNISH & INSTALL
- ② INPLACE
- ③ REMOVE

CROSSWALK PAVEMENT MARKING DETAIL



WIDTH OF INSIDE LANE (L)	WIDTH OF MARKED AREA (W)	WIDTH OF SPACE (S)
9'	3'	3'
10'	3'	3'
11'	3'	3'
12'	3'	3'
13'	3'	3'

- NOTES:
1. CROSSWALK AREAS TO BE CENTERED/ALIGNED ON CENTER LINE AND LANE LINES.
 2. A MINIMUM OF 1.5' CLEAR DISTANCE MUST BE LEFT ADJACENT TO CURB. IF LAST MARKED AREA FALLS INTO THIS DISTANCE, IT MUST BE OMITTED.

S.A.P. 002-617-022
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CITY PROJECT 18-20

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DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM	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.

John M. Gray
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**ANOKA COUNTY
CITY OF BLAINE**

**TRAFFIC SIGNAL SYSTEM
SIGNING AND STRIPING LAYOUT
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY**

FILE NO.
ANOKC 148315
DATE
06/04/2019
10
35

NOTES & GUIDELINES

GENERAL INFORMATION:

1. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
2. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE ENGINEER.
3. ALL DISTANCES ARE APPROXIMATE.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MNMUTCD.
5. IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.

SIGNING:

1. ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
 2. WHEN SIGNS ARE INSTALLED, THEY SHALL BE MOUNTED ON POSTS DRIVEN INTO THE GROUND AT THE PROPER HEIGHT AND LATERAL OFFSET AS DETAILED IN THE MNMUTCD. IF THIS IS NOT POSSIBLE THEY WILL BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE ENGINEER. WHEN THE SIGNS ARE REMOVED THE SIGN POSTS SHALL ALSO BE REMOVED AS SOON AS POSSIBLE.
 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.
 4. ALL ORANGE WARNING AND ORANGE GUIDE SIGNS SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MN/DOT APPROVED PRODUCT LIST FOR "SHEETING FOR RIGID TEMPORARY WORK ZONE SIGNS".
- BARRICADES SHALL BE FABRICATED WITH SIGN SHEETING MATERIAL AS LISTED ON THE MN/DOT APPROVED PRODUCT LIST FOR BARRICADE SHEETING. NOTE THAT ASTM TYPE VII SHEETING IS NOT ALLOWED ON BARRICADES AFTER JANUARY 1, 2010.
5. LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
 6. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE PLACED AS NEEDED, OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS PLACED.

TRAFFIC CONTROL DEVICES & SYMBOLS LEGEND

SYMBOL	DESCRIPTION
	WORK AREA / AREA CLOSED TO TRAFFIC
	TRAFFIC CONTROL SIGN
	TYPE III BARRICADE =
	DRUM-LIKE CHANNELIZER = (50' SPACING UNLESS OTHERWISE NOTED).
	TYPE A FLASHING WARNING LIGHT

TRAFFIC CONTROL - QUANTITIES SUMMARY (PAY ITEMS)			
			QUANTITY
2563	TRAFFIC CONTROL	LUMP SUM	1
2563	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	3
2563	POLICE OFFICER	HOUR	8

TRAFFIC CONTROL NOTES:

- 1) ITEM NO. 2563.601 SHALL INCLUDE ALL LABOR AND MATERIALS REQUIRED TO MAINTAIN VEHICULAR AND PEDESTRIAN TRAFFIC THROUGH THE PROJECT LIMITS DURING THE ENTIRE CONSTRUCTION PERIOD. THIS INCLUDES BUT IS NOT LIMITED TO: ALL REQUIRED SIGNS AND SIGN SUPPORTS ("STOP", "STOP AHEAD", "ROAD WORK AHEAD", "LEFT/RIGHT LANE CLOSED", "SIDEWALK CLOSED", ETC.), CONES, BARRELS, STANDARD BARRICADES, ARROW BOARDS, ETC. AS WELL AS SAND BAGS NEEDED TO KEEP SIGNS UPRIGHT/VISIBLE TO ONCOMING TRAFFIC AND PEDESTRIANS AT ALL TIMES.
- 2) ALL TRAFFIC CONTROL DEVICES AND SIGNING MUST CONFORM TO AND BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MnMUTCD) AND PART IV "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" (CURRENT EDITION).
- 3) THE CONTRACTOR IS REQUIRED TO PROVIDE TO THE ENGINEER FOR REVIEW AND APPROVAL AT LEAST SEVEN (7) CALENDAR DAYS PRIOR TO COMMENCING ANY FIELD WORK A WRITTEN PLAN ON HOW THE CONTRACTOR INTENDS TO MEET THE CONTRACT REQUIREMENTS FOR MAINTENANCE OF TRAFFIC AND TRAFFIC CONTROL INCLUDING BUT NOT LIMITED TO PROVIDING TO THE ENGINEER A COMPLETE PLAN FOR WHICH MnMUTCD FIELD MANUAL LAYOUTS ARE PLANNED TO BE USED FOR EACH FIELD OPERATION. LAYOUTS MUST SHOW ALL DEVICES THE CONTRACTOR PROPOSES TO INSTALL AND MAINTAIN FOR EACH FIELD OPERATION.
- 4) CONTRACTOR MUST PROVIDE, MAINTAIN, COVER AND/OR TURN AWAY FROM TRAFFIC (WHEN NOT IN USE) ALL REQUIRED TRAFFIC CONTROL DEVICES AT ALL TIMES. NOTE THAT ENGINEER WILL SUSPEND WORK IF REQUIRED TRAFFIC CONTROL DEVICES ARE NOT INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE FIELD MANUAL OR AS OTHERWISE APPROVED BY THE ENGINEER FOR THE APPROPRIATE TRAFFIC CONTROL SITUATIONS.
- 5) ELECTRIC FLASHING ARROW BOARDS WILL BE REQUIRED TO BE PROVIDED, INSTALLED, AND MAINTAINED FOR ALL SHORT TERM LANE CLOSURES IMPLEMENTED ON EITHER APPROACH OF CSAH 17 (LEXINGTON AVENUE) (INCIDENTAL).
- 6) ALL TRAFFIC LANES MUST BE KEPT OPEN TO TRAFFIC AT ALL TIMES, EXCEPT FOR ALLOWABLE SHORT TERM LANE CLOSURES TO COMPLETE INSTALLATION OF LOOP DETECTORS AND TRAFFIC SIGNAL POLES, AND ALSO TO COMPLETE CURB AND GUTTER AND SIDEWALK REMOVAL AND INSTALLATION WORK. SHORT TERM LANE CLOSURES ARE LIMITED TO THE HOURS OF 9:00 AM TO 3:00 PM, MONDAY THROUGH THURSDAY, UNLESS OTHERWISE APPROVED BY ENGINEER FOR THESE TIME LIMITS TO BE EXTENDED TO ACCOMMODATE IMMEDIATE WORK AT THE INTERSECTION. LONG TERM LANE CLOSURES WILL NOT BE ALLOWED, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- 7) CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND REMOVE THREE (3) PORTABLE CHANGEABLE MESSAGE SIGNS (ONE ON EACH CSAH 17 APPROACH AND ONE ON WESTBOUND WOODLAND PARKWAY) FOR THE FOLLOWING PERIODS, WITH THE FOLLOWING MESSAGES (INCLUDED AS PART OF PAY ITEM FOR ITEM NO. 2563.602 - PORTABLE CHANGEABLE MESSAGE SIGN):
 - TEN (10) DAYS IN ADVANCE OF CONSTRUCTION, AND UP UNTIL WHEN THE SIGNAL SYSTEM IS TURNED OFF OR PUT INTO FLASH: "SIGNAL WORK / BEGINS (DATE) / EXPECT DELAYS"
 - FOR TWO WEEKS FOLLOWING TURN ON OF NEW SIGNAL SYSTEM, DISPLAY THE FOLLOWING MESSAGE THROUGHOUT THIS PERIOD: "TRAFFIC CONTROL CHANGE / NEW SIGNAL AHEAD"
- 8) A PAY ITEM HAS BEEN INCLUDED FOR THE CONTRACTOR TO PROVIDE THE SERVICES OF A POLICE OFFICER FOR DIRECTING TRAFFIC DURING THOSE PERIODS REQUESTED BY EITHER THE COUNTY OR THE CITY OF BLAINE. AN HOURLY RATE SHALL BE ESTABLISHED WITH THIS PAY ITEM FOR USE DURING CONSTRUCTION AT THE DISCRETION OF THE CITY OR COUNTY (ITEM NO. 2563.601 - POLICE OFFICER).
- 9) THE CONTRACTOR SHALL NOT USE THE MOBILE AND SHORT DURATION TEMPORARY TRAFFIC CONTROL LAYOUTS FROM THE MnMUTCD "FIELD MANUAL." WORK ON THIS PROJECT IS RESTRICTED TO USING SHORT TERM STATIONARY TEMPORARY TRAFFIC CONTROL LAYOUTS, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- 10) AT LEAST ONE THROUGH LANE FOR TRAFFIC IN EACH DIRECTION ON ALL ROADWAYS, AND AT LEAST ONE LEFT TURN LANE FOR EACH DIRECTION OF OF CSAH 17 TRAFFIC MUST BE MAINTAINED AT ALL TIMES.
- 11) SEE DIVISION S OF THE SPECIAL PROVISIONS FOR FURTHER INFORMATION REGARDING TRAFFIC CONTROL TO BE PROVIDED, INSTALLED, MAINTAINED AND REMOVED BY THE CONTRACTOR DURING THE ENTIRE PROJECT.
- 12) THE CONTRACTOR IS RESPONSIBLE FOR ALL SIGNS, BARRICADES, AND DEVICES NEEDED TO CLOSE THE BITUMINOUS TRAIL ON THE WEST SIDE OF CSAH 17 DURING CONSTRUCTION OF THE SOUTHBOUND RIGHT TURN LANE (CLOSE TRAIL AT NEAREST ROADWAY CROSSINGS BOTH NORTH AND SOUTH OF WOODLAND PARKWAY (INCIDENTAL).

TRAFFIC CONTROL TABULATION SHEET

"R" SERIES			
SIGN	SIGN NO.	COLOR	SIZE
	R11-2	BLACK ON WHITE	48" X 30"
	R11-2	BLACK ON WHITE	48" X 30"

"W" SERIES			
SIGN	SIGN NO.	COLOR	SIZE
	W3-X5	BLACK ON ORANGE	36" x 36"
	W4-2R	BLACK ON ORANGE	36" x 36"
	W20-1	BLACK ON ORANGE	36" x 36"
	W21-X5R	BLACK ON ORANGE	36" x 36"

DEVICES			
ITEM	SIGN NO.	COLOR	SIZE
	DLC		
	TYPE III		

"G" SERIES			
SIGN	SIGN NO.	COLOR	SIZE
	G20-2A	BLACK ON ORANGE	48" X 24"

S.A.P. 002-617-022
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CITY PROJECT 18-20

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DESIGNER: JMG				
CHECKED BY: JMG				
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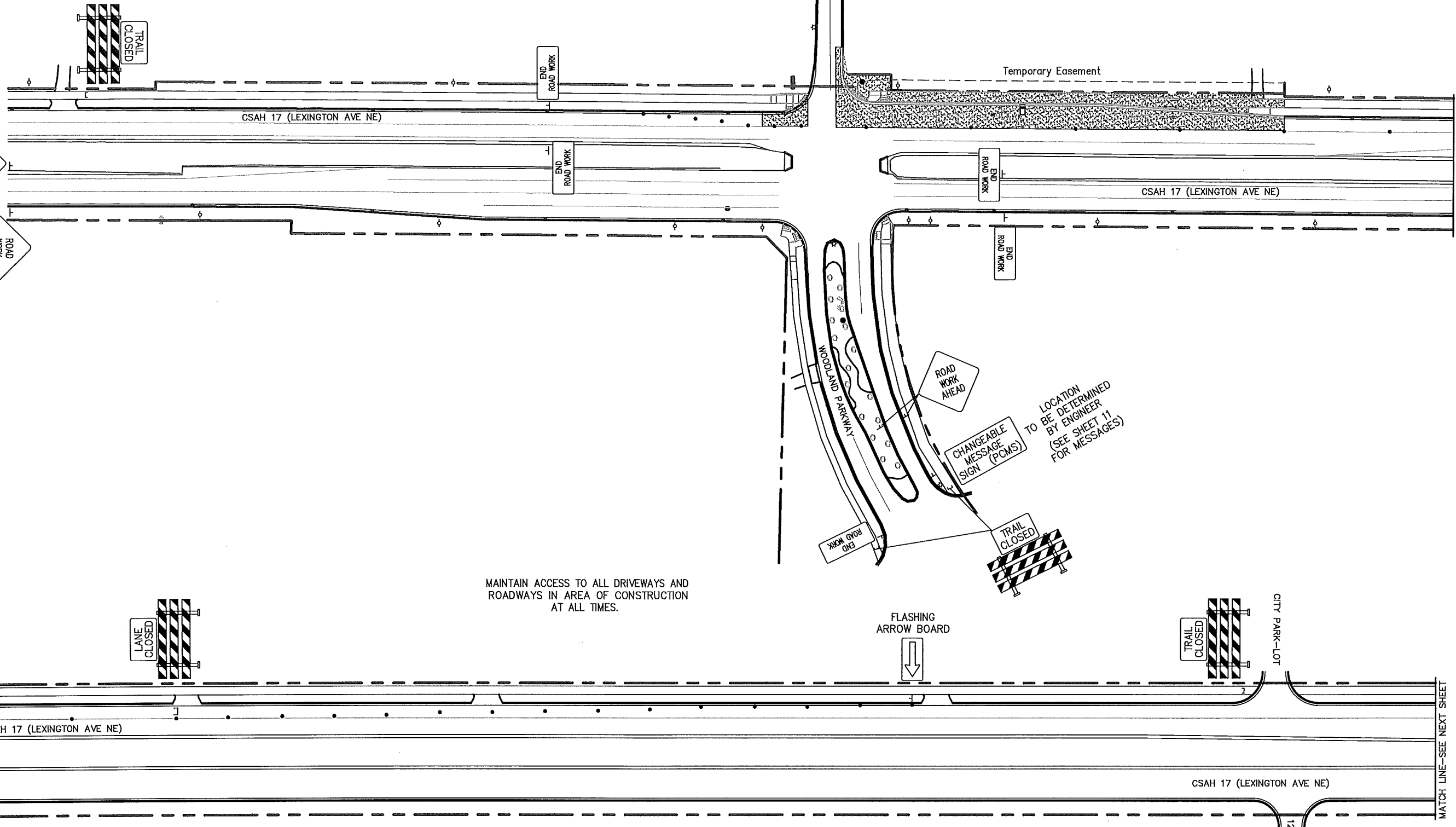
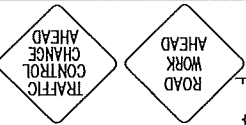
**ANOKA COUNTY
CITY OF BLAINE**

**TRAFFIC CONTROL PLAN
TITLE SHEET AND TABULATION
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY**

FILE NO. ANOKC 148315	11
DATE 06/04/2019	35



REPLACE W20-1 SIGN WITH W3-X5 SIGN WHEN SIGNAL IS MADE OPERATIONAL AND MAINTAIN W3-X5 SIGN FOR 14 CALENDAR DAYS AFTER TURN ON OF SIGNAL SYSTEM.



MAINTAIN ACCESS TO ALL DRIVEWAYS AND ROADWAYS IN AREA OF CONSTRUCTION AT ALL TIMES.

LOCATION TO BE DETERMINED BY ENGINEER (SEE SHEET 11 FOR MESSAGES)

LOCATION TO BE DETERMINED BY ENGINEER (SEE SHEET 11 FOR MESSAGES)

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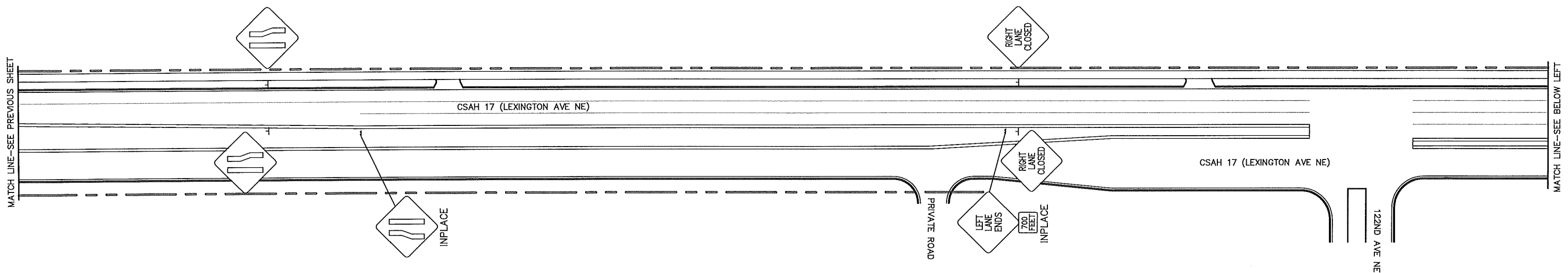
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**ANOKA COUNTY
 CITY OF BLAINE**

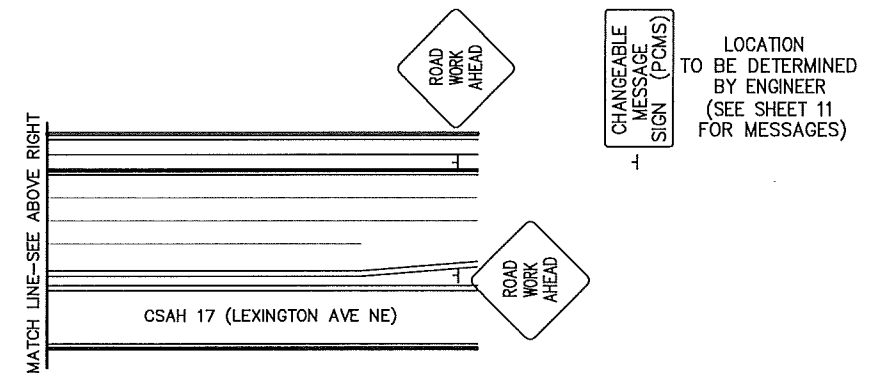
**TRAFFIC CONTROL PLAN
 CSAH 17 (LEXINGTON AVENUE)
 AT WOODLAND PARKWAY**

FILE NO. ANOKC 148315
 DATE 06/04/2019
 12 / 35

S.A.P. 002-617-022
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 CITY PROJECT 18-20



MAINTAIN ACCESS TO ALL DRIVEWAYS AND ROADWAYS IN AREA OF CONSTRUCTION AT ALL TIMES.



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CITY PROJECT 18-20

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ANOKA COUNTY
CITY OF BLAINE

TRAFFIC CONTROL PLAN
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY

FILE NO. ANOKC 148315
DATE 06/04/2019
13
35

SIGN DATA

Signs to be placed on driven u-posts shall be placed in accordance with Table 1 or 2 below. If the TTC Plan places post mounted temporary signs adjacent to existing structures there shall be no more than two u-post within 84 inches of each other aligned in the same plane so as not to compromise that structure's and the new device's crashworthiness. If it is not possible to maintain this spacing then the post mounted temporary signs shall be placed a min of 4' beyond the in place structures. Sign panels shall be placed on sign structures to meet the 5' min depicted on the typical rural design detail, the 7' min depicted on the typical urban design detail, and the 9' min depicted on the typical mounting detail on this sheet.

STANDARD CONSTRUCTION SIGNS IN MnDOT STANDARD SIGNS AND MARKINGS MANUAL

TABLE 1

PANEL SIZE (IN.)	POSTS			
	NO. & TYPE	SPACING (IN.)	KNEE BRACES QUANT.	LENGTH (FT.)
24 x 24	2-U	18		13
30 x 24	2-U	18		13
36 x 30	2-U	24		13
36 x 36	2-U	18		14
42 x 36	2-U	30		14
48 x 48	2-U	30		15
60 x 60	2-U	42	1	16
66 X 60	2-U	42	2	16
72 x 72	2-U	42	2	17
96 x 54	2-U	54	2	19
96 X 84	2-U	54	2	19
132 X 108	3-U	45	3	22
168 x 132	4-U	48	4	25

GENERAL NOTES:

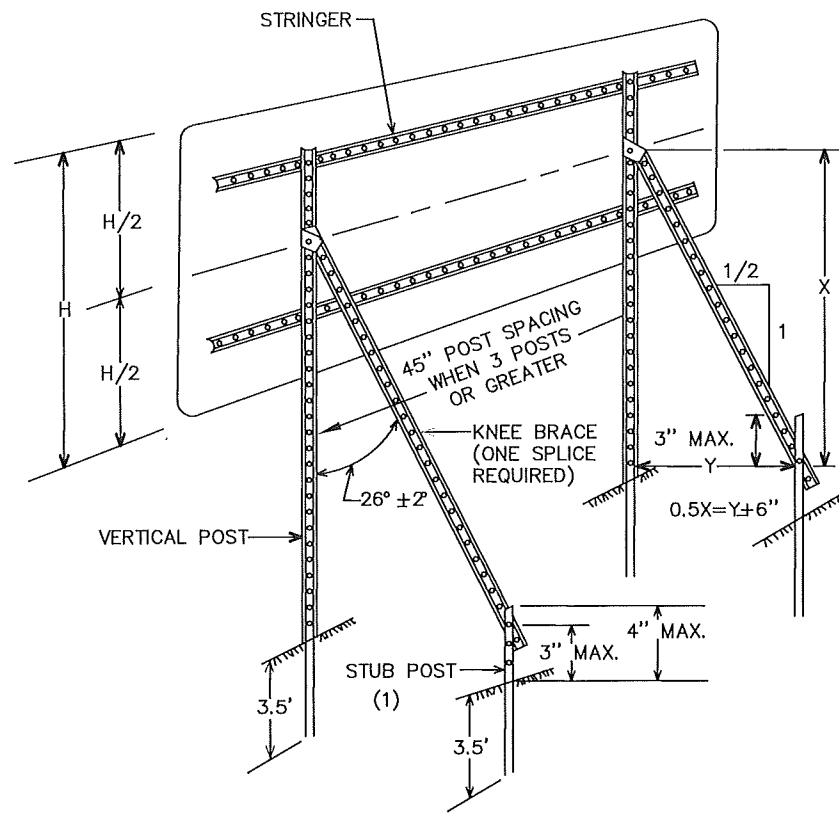
1. POST LENGTHS ARE APPROXIMATE AND INCLUDE EMBEDMENT, BUT DO NOT INCLUDE ADDITIONAL LENGTH REQUIRED FOR SPLICE.
2. SEE MnDOT STANDARD SIGNS AND MARKINGS MANUAL FOR PUNCHING HOLES.
3. MINIMUM OF 45" SPACING BETWEEN POSTS MUST BE MAINTAINED WHEN USING MORE THAN TWO POSTS.

TABLE 2
SPECIAL DESIGN CONSTRUCTION SIGNS

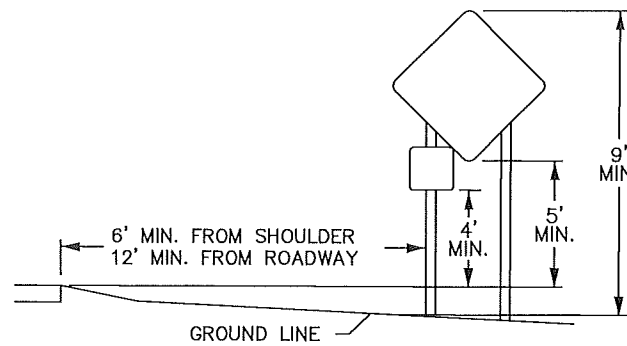
PANEL SIZE		POSTS			
LENGTH (IN.)	HEIGHT (IN.)	NO. & TYPE	SPACING (IN.)	KNEE BRACES QUANT.	LENGTH (FT.)
54 - 96	78	2-U	42	2	20
102 - 138	78	3-U	45	3	20
144 - 180	78	4-U	45	4	20

NOTES: FOR TEMPORARY CONSTRUCTION SIGN FRAMING, THE CONTRACTOR MAY USE GRADE 5 ZINC PLATED BOLTS FOR ALL BOLTED CONNECTIONS, EXCEPT FOR THE KNEE BRACE CONNECTION TO THE REAR STUB POST, WHICH SHALL UTILIZE A 5/16 INCH STAINLESS STEEL BOLT AND NYLON INSERT LOCK NUT. ADDITIONAL SIGN FRAMING DETAILS CAN BE FOUND IN THE TRAFFIC ENGINEERING MANUAL PART 6.

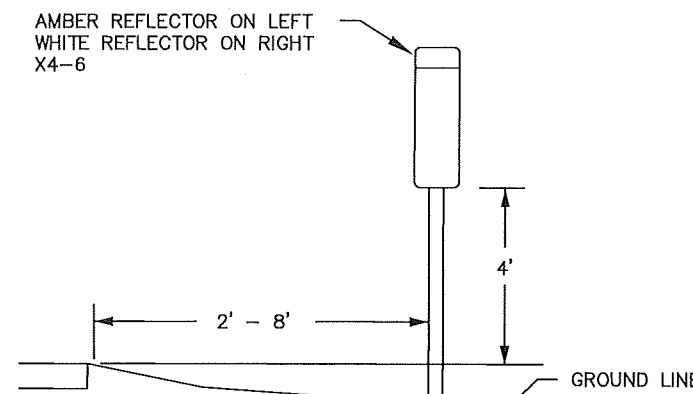
IF THE CONTRACTOR ELECTS TO USE SOME OTHER TYPE OF SIGN SUPPORT (OTHER THAN U-CHANNEL SIGN POSTS) FOR MOUNTING CONSTRUCTION SIGNS, DETAILS OF THE PROPOSED SIGN STRUCTURE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING THE SIGN STRUCTURE COMPONENTS. ANY SIGN STRUCTURE TO BE SUBMITTED TO THE ENGINEER SHALL BE AN FHWA ACCEPTED BREAKAWAY SIGN SUPPORT. SIGN STRUCTURE SHALL ALSO BE APPROVED FOR 90 MPH WIND LOAD.



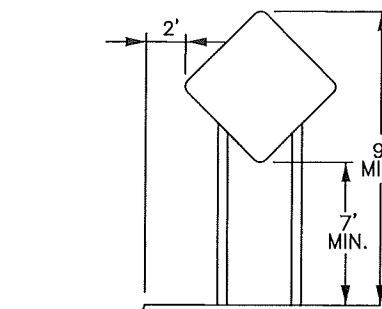
TYPICAL "A-FRAME" INSTALLATION
TYPE "D" SIGNS



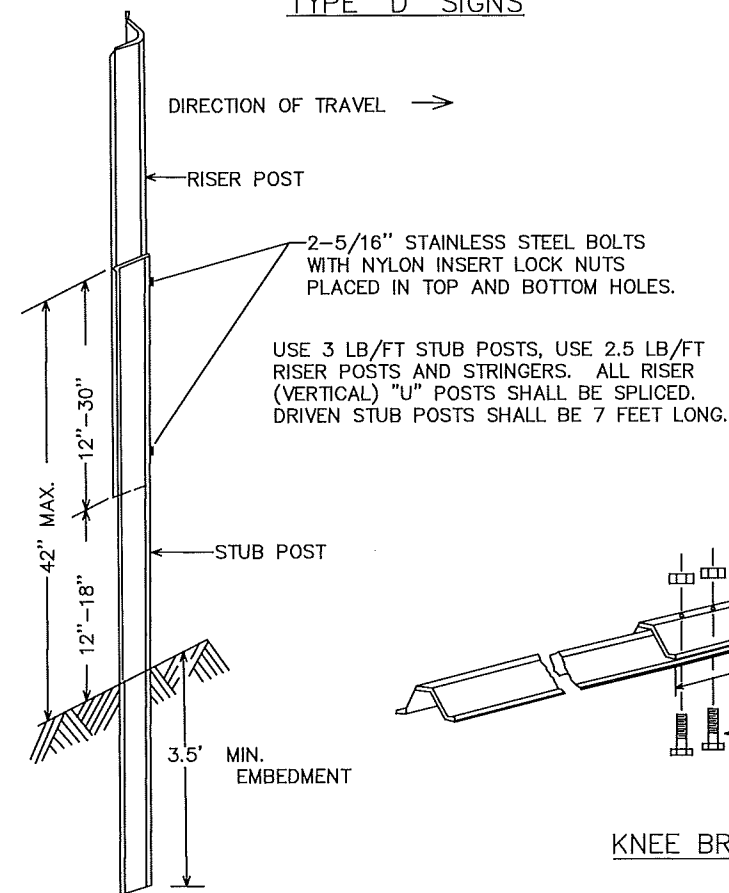
TYPICAL RURAL DESIGN



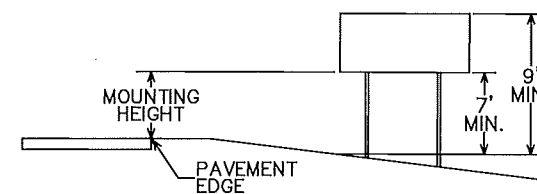
DELINEATION MOUNTING



TYPICAL URBAN DESIGN

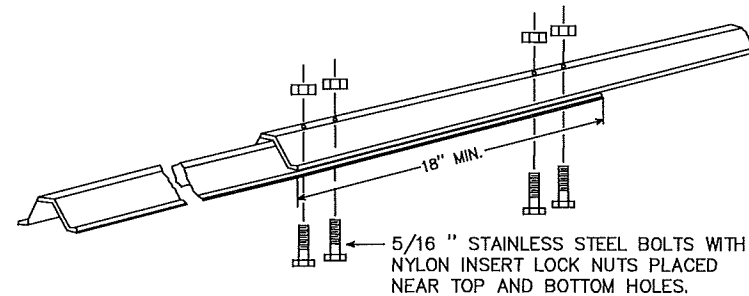


"U" POST BREAKAWAY SPLICE



TYPICAL MOUNTING

(1) OFFSET STUB POST 1' TOWARD ROADWAY RELATIVE TO VERTICAL POST.



KNEE BRACE STRUCTURAL SPLICE

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DESIGNER: JMG
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NO.	BY	DATE	REVISIONS

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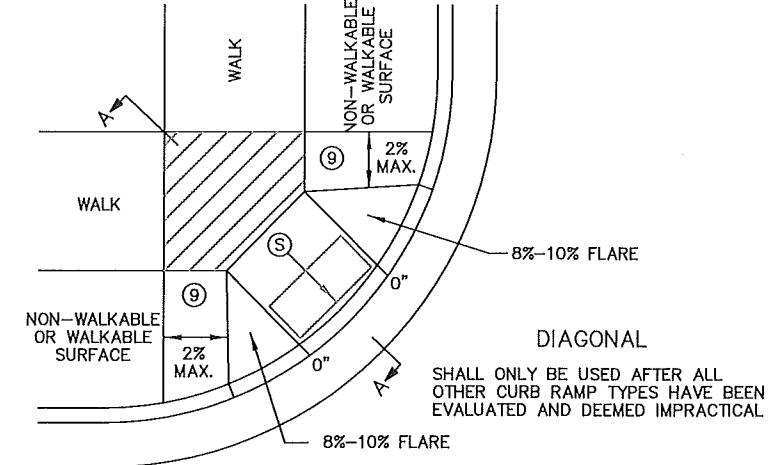
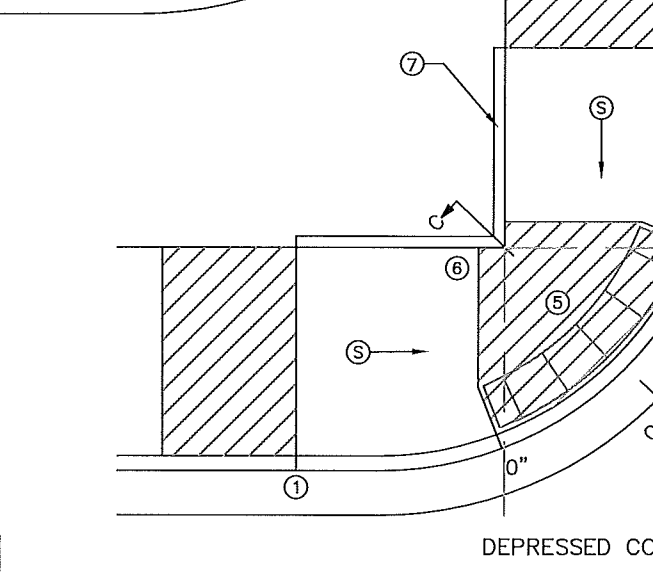
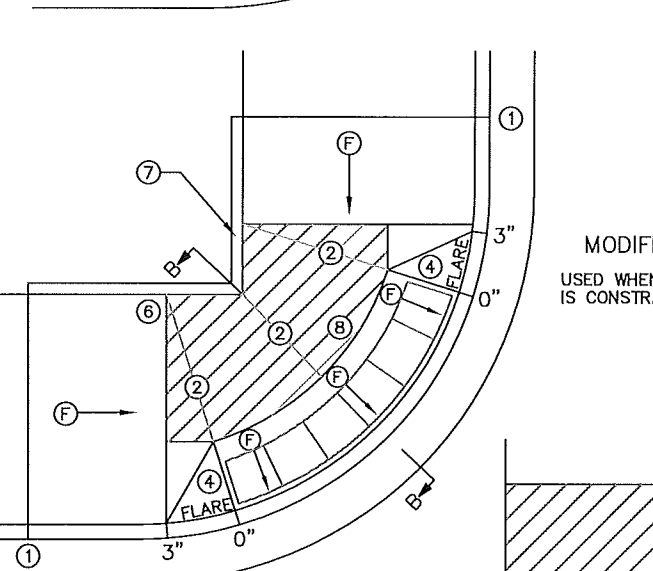
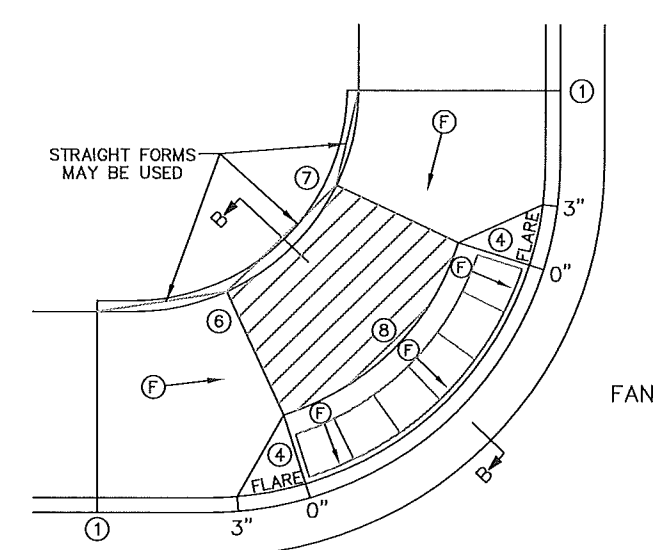
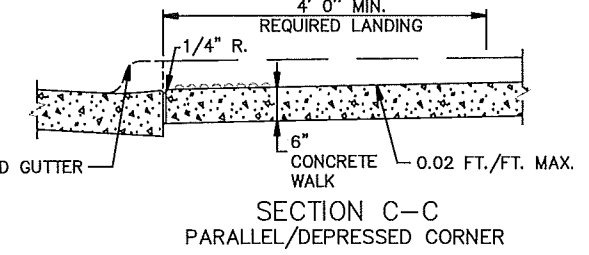
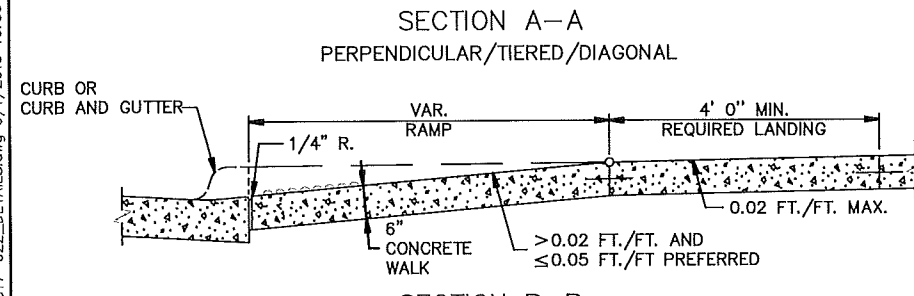
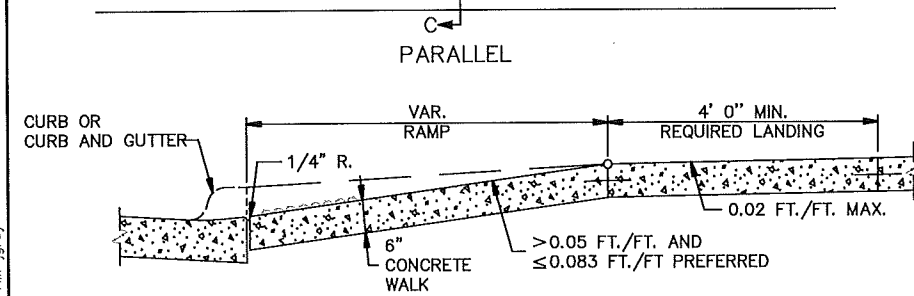
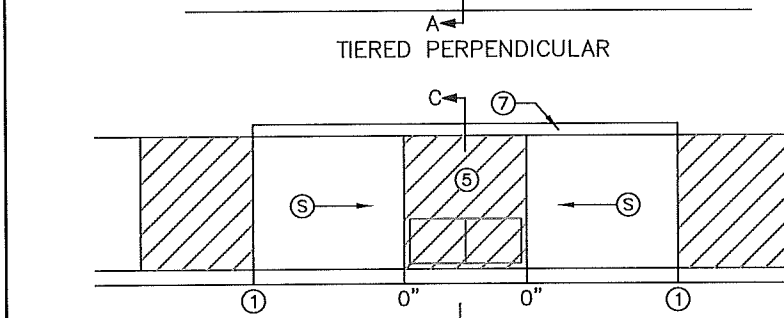
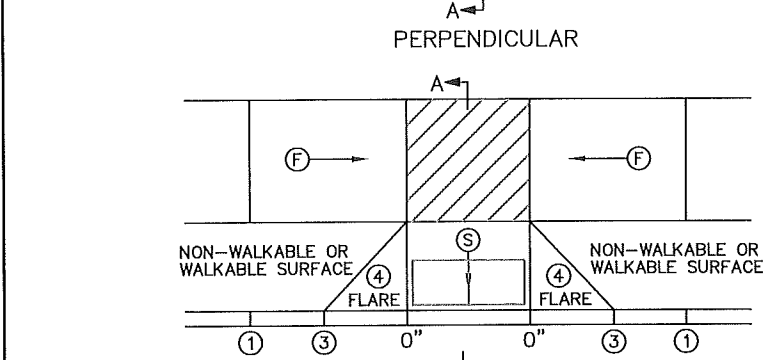
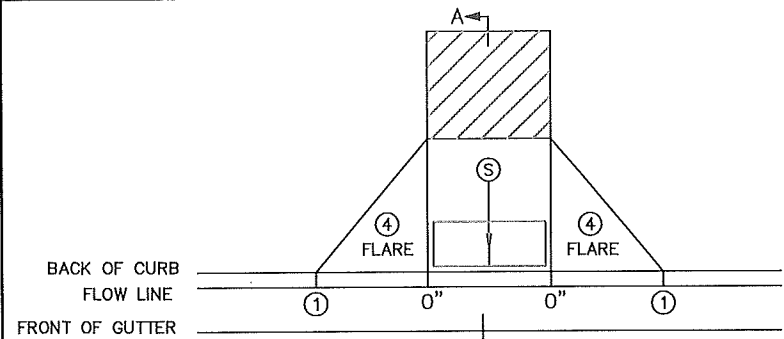
ANOKA COUNTY
CITY OF BLAINE

TRAFFIC CONTROL PLAN
TYPICAL TEMPORARY SIGN FRAMING
AND INSTALLATION DETAILS

FILE NO. ANOKC 148315
DATE 06/04/2019
14
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S.A.P. 002-617-022
S.A.P. 106-142-002
CITY PROJECT 18-20

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- NOTES:
- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.
 - INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.
 - SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30' OF VERTICAL RISE WHEN THE LONGITUDINAL RUNNING SLOPE IS GREATER THAN 5.0%.
 - CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.
 - ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH. (EXCEPT AS STATED IN 6 BELOW.)
 - TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISIONS - PROSECUTION OF WORK (ADA).
 - TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
 - WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.
 - ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.
 - 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/TRAIL WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.
 - RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.
- 1 MATCH FULL HEIGHT CURB.
 - 2 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
 - 3 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.
 - 4 SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS, WHEN INITIAL LANDING IS AT FULL CURB HEIGHT.
 - 5 DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
 - 6 THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)
 - 7 WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
 - 8 A 7' MIN TOP RADIUS GRADE BREAK REQUIRED TO BE CONSTRUCTIBLE.
 - 9 PAVE FULL WALK WIDTH.
 - 10 "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

LEGEND	
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.	
(S)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
(F)	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
[Hatched Box]	LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PAR.
X"	CURB HEIGHT

REVISION:	
APPROVED: JANUARY 23, 2017	
OPERATIONS ENGINEER	
DRAWN BY: JMG	
DESIGNER: JMG	
CHECKED BY: JMG	
DESIGN TEAM	

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STANDARD PLAN 5-297.250 1 OF 6

APPROVED: 1-23-2017
STATE DESIGN ENGINEER

PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

SEH

PEDESTRIAN CURB RAMP DETAILS

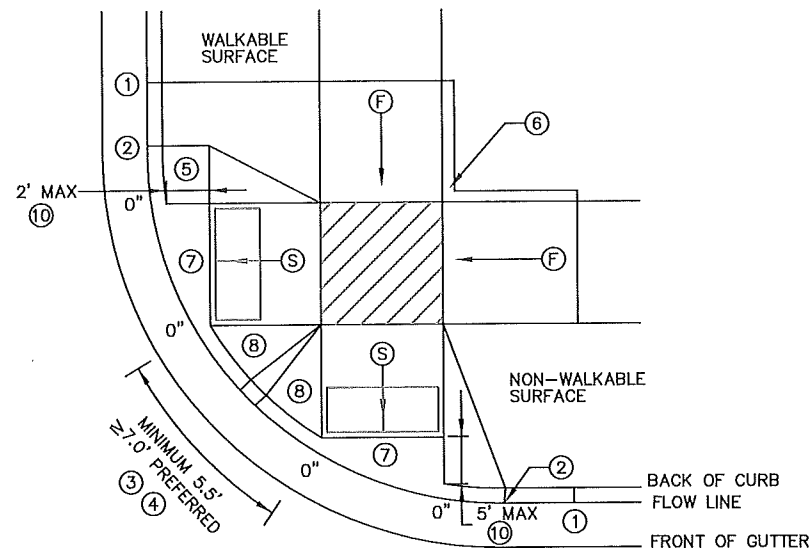
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ANOKA COUNTY
CITY OF BLAINE

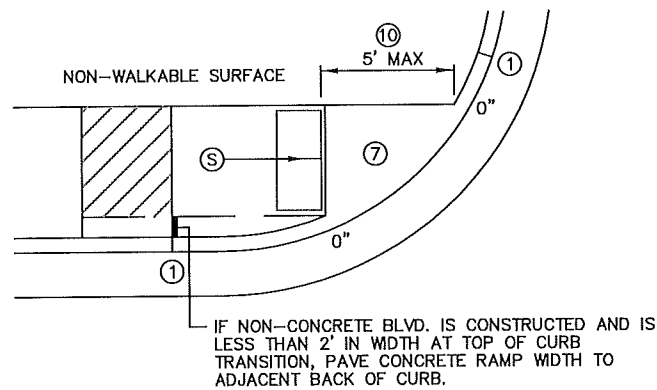
TRAFFIC SIGNAL SYSTEM
CURB RAMP DETAILS
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY

FILE NO. ANOKC 148315
DATE 06/04/2019

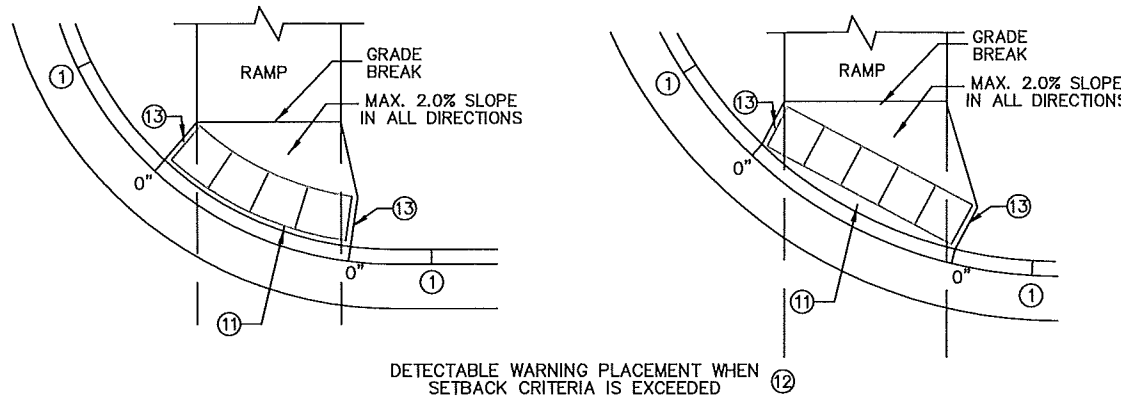
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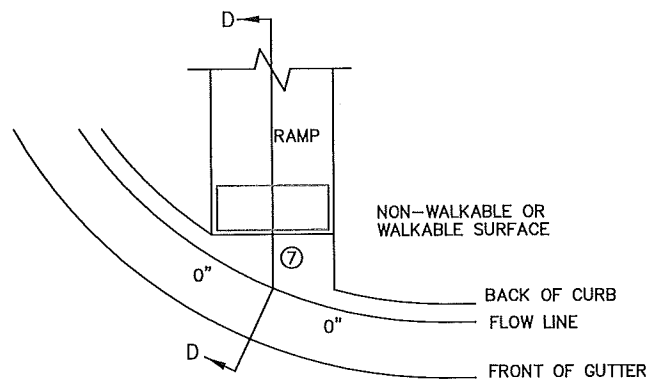
COMBINED DIRECTIONAL ⑨



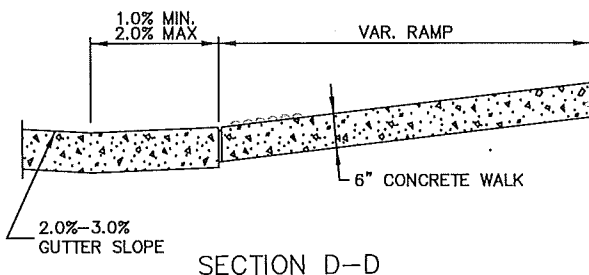
STANDARD ONE-WAY DIRECTIONAL ⑨



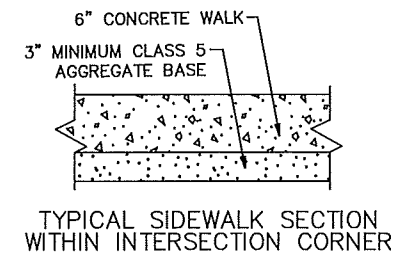
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB



CURB FOR DIRECTIONAL RAMPS ⑭



SECTION D-D



TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

NOTES:

- LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.
- INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.
- SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.
- CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.
- ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.
- TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).
- TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.
- WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.
- ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.
- 4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATH AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/PATH WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.
- RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES ⑩ & ⑪ FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.
- ① MATCH FULL CURB HEIGHT.
- ② 3" HIGH CURB WHEN USING A 3' LONG RAMP
4" HIGH CURB WHEN USING A 4' LONG RAMP.
- ③ 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).
- ④ THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.
- ⑤ WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHOULD BE USED. SEE THE DETAIL ON THIS SHEET.
- ⑥ GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
- ⑦ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.
- ⑧ 8% TO 10% WALKABLE FLARE.
- ⑨ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.
- ⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
- ⑪ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.
- ⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.
- ⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGES AND EDGE OF CONCRETE.
- ⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.

LEGEND	
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.	
Ⓢ	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
Ⓣ	INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.
▨	LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PAR.
X"	CURB HEIGHT

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REVISION:	
APPROVED: JANUARY 23, 2017	
OPERATIONS ENGINEER	
DRAWN BY: JMG	
DESIGNER: JMG	
CHECKED BY: JMG	
DESIGN TEAM	

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STANDARD PLAN 5-297.250 2 OF 6

APPROVED: 1-23-2017
STATE DESIGN ENGINEER

PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
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SEH

PEDESTRIAN CURB RAMP DETAILS

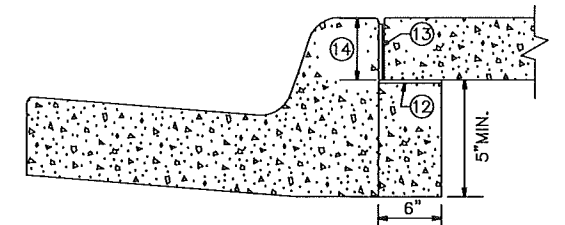
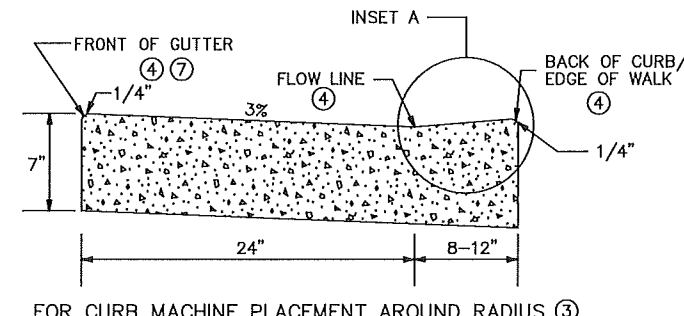
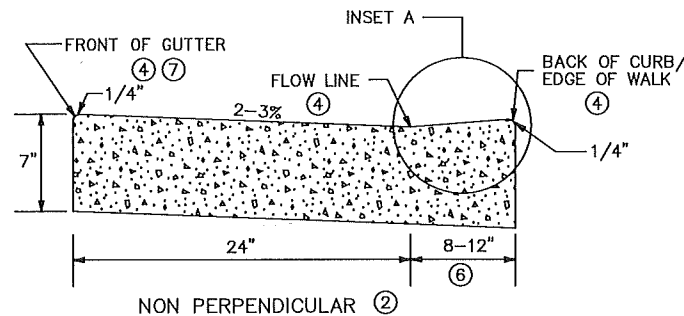
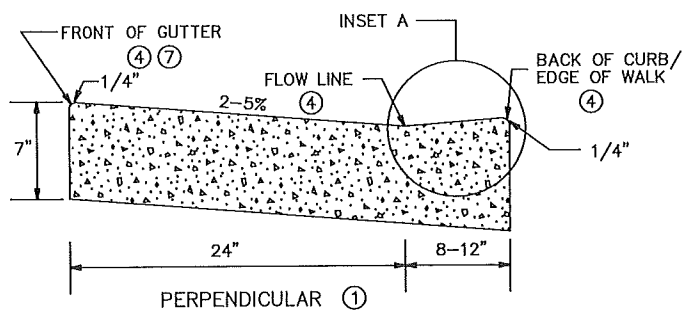
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ANOKA COUNTY CITY OF BLAINE

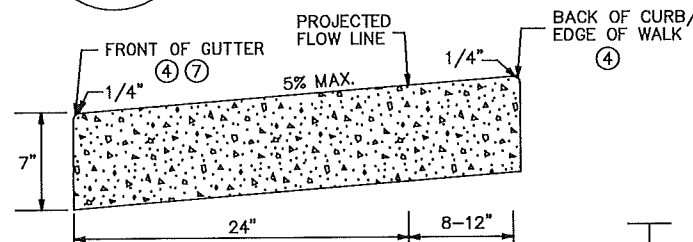
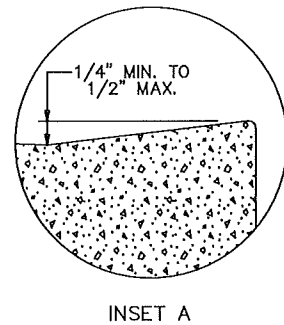
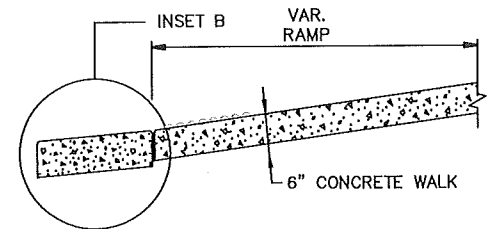
TRAFFIC SIGNAL SYSTEM CURB RAMP DETAILS
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY

FILE NO. ANOKC 148315
DATE 06/04/2019

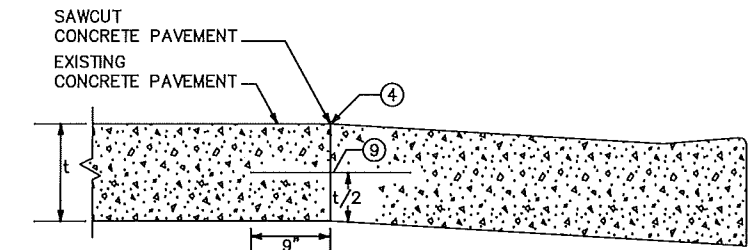
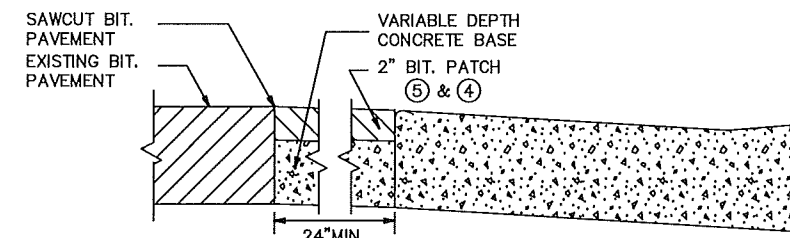
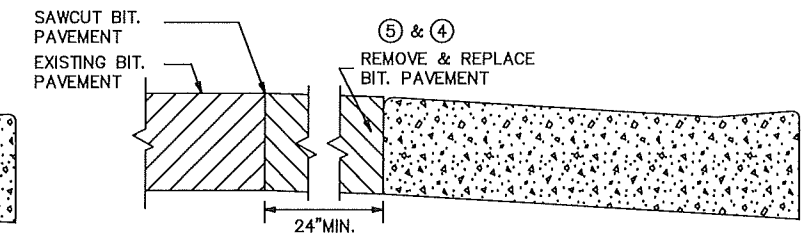
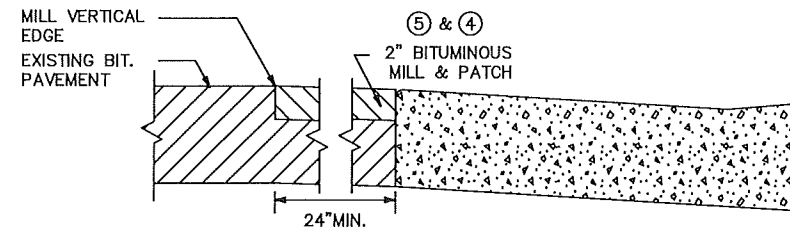
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PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL

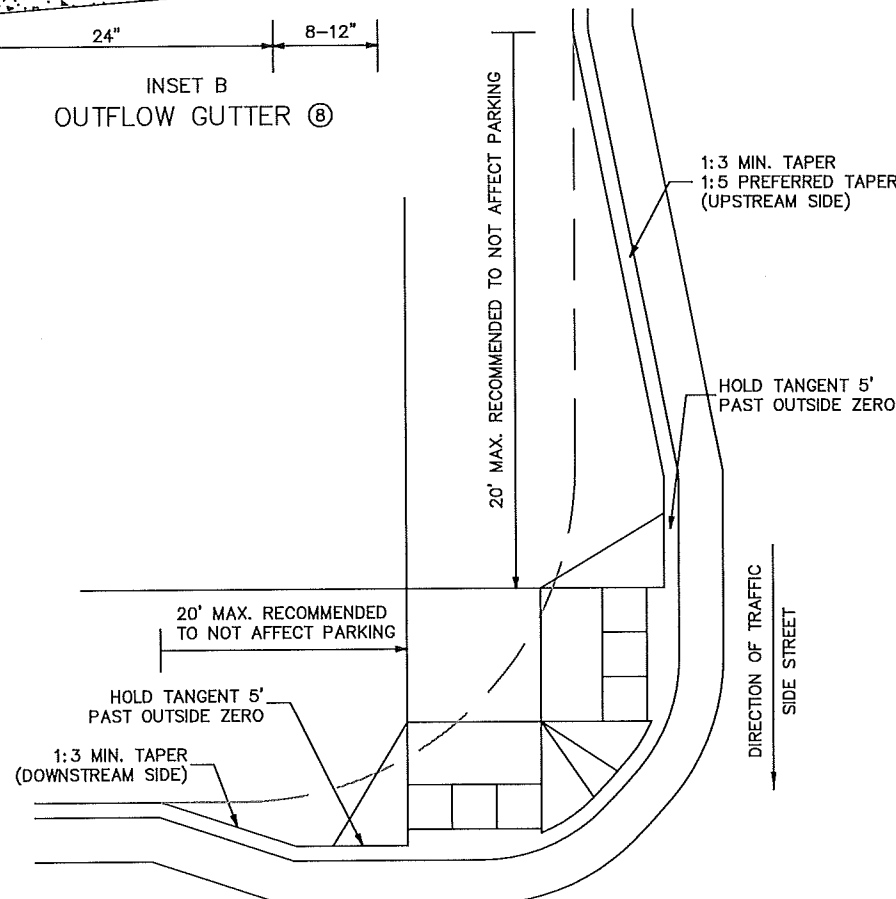


INSET B
OUTFLOW GUTTER ⑥

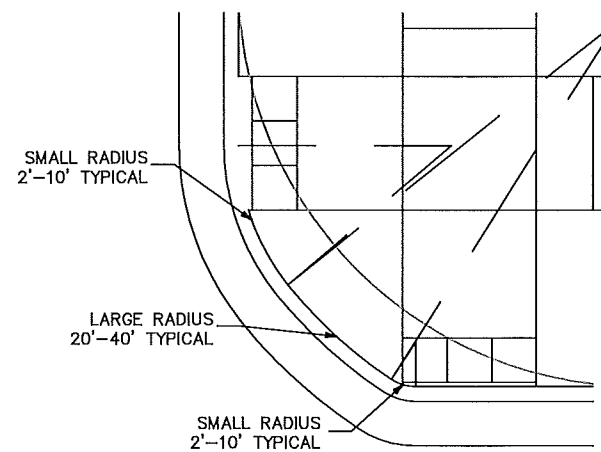


ONLY ALLOWED PER ENGINEER'S APPROVAL

PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER
FOR USE ON CURB RAMP RETROFITS



ADA CURB EXTENSION WITH COMPOUND RADIUS (BUMP OUT) ⑩



COMBINED DIRECTIONAL ⑩
(COMPOUND RADIUS)

NOTES:

- POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM. NO PONDING SHALL BE PRESENT IN THE PAR.
- ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.
- ① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMP.
- ② FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.
- ③ BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.
- ④ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".
- ⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.
- ⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.
- ⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAID.
- ⑧ SHOULD BE USED AT VERTICALLY CONSTRAINED AREAS WHEN AT A DRAINAGE HIGH POINT OR SUPER ELEVATED ROADWAY SEGMENTS
- ⑨ DRILL AND GROUT NO. 4 EPOXY-COATED 18" LONG TIE BARS AT 30" CENTER TO CENTER INTO EXISTING CONCRETE PAVEMENT 1" MINIMUM FROM ALL JOINTS.
- ⑩ HELPS PROVIDE TWO SEPARATE RAMPS, REDUCES THE DOME SETBACK LENGTH AND MINIMIZES DIRECTIONAL CURB. THIS RADIUS DESIGN CLOSELY FOLLOWS THE TURNING VEHICLE PATH WHILE OPTIMIZING CURB RAMP LENGTH.
- ⑪ CURB EXTENSIONS SHOULD BE USED IN VERTICALLY CONSTRAINED AREAS, USUALLY IN DOWNTOWN ROADWAY SEGMENTS WHERE ON-STREET PARKING IS AVAILABLE. CURB EXTENSIONS SHOULD BE CONSIDERED FOR APS INTERSECTIONS WHERE SPACE IS LIMITED. PUSH BUTTONS MUST MEET APS CRITERIA AS DESCRIBED IN THE PUSH BUTTON LOCATION DETAIL SHEET.
- ⑫ PLACE BOND BREAKER BETWEEN WALK AND TOP OF SILL.
- ⑬ 1/2" PREFORMED JOINT FILLER PER MNDOT SPEC. 3702.
- ⑭ DIMENSION TO BE SAME AS SIDEWALK THICKNESS, 4" MIN.

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REVISION:
APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

DRAWN BY: JMG
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CHECKED BY: JMG
DESIGN TEAM

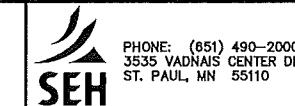
NO.	BY	DATE	REVISIONS



STANDARD PLAN 5-297.250 3 OF 6
APPROVED: 1-23-2017
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PEDESTRIAN CURB RAMP DETAILS

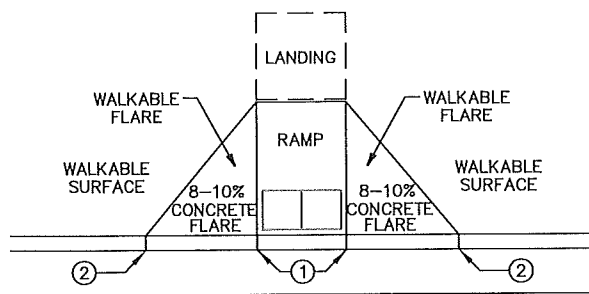
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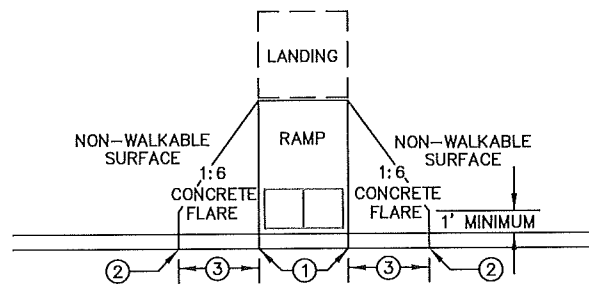
ANOKA COUNTY
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TRAFFIC SIGNAL SYSTEM
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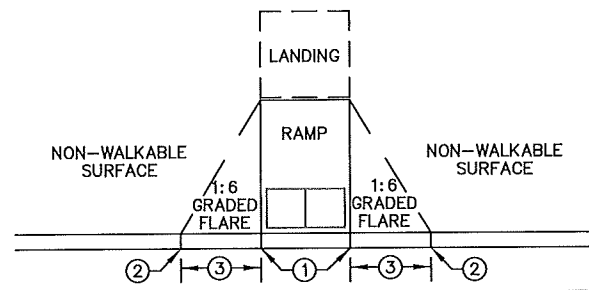
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DATE 06/04/2019
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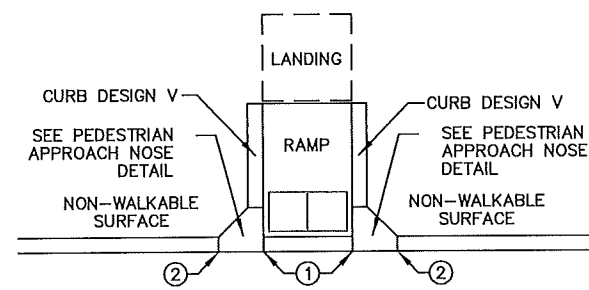
PAVED FLARES ADJACENT TO WALKABLE SURFACE



PAVED FLARES ADJACENT TO NON-WALKABLE SURFACE

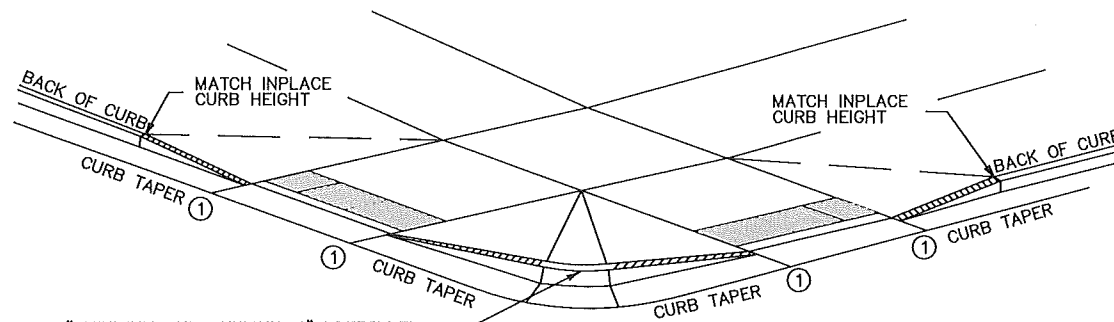


GRADED FLARES



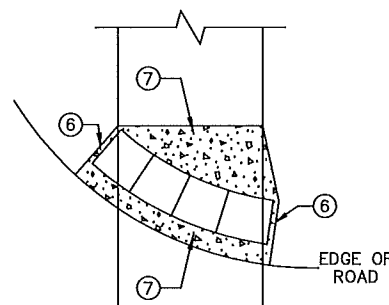
RETURNED CURB ⑤

TYPICAL SIDE TREATMENT OPTIONS ④ ⑪

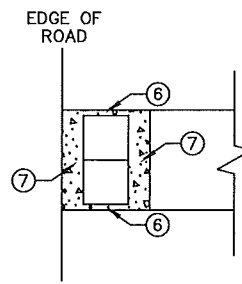


3" MINIMUM CURB HEIGHT, 4" PREFERRED (MEASURED AT FRONT FACE OF CURB) FOR A MIN. 6" LENGTH (MEASURED ALONG FLOW LINE)

DETECTABLE EDGE WITH CURB AND GUTTER ⑧

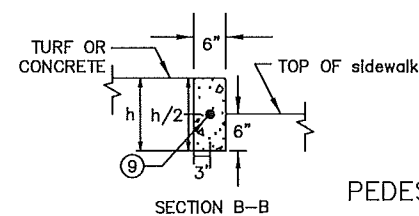
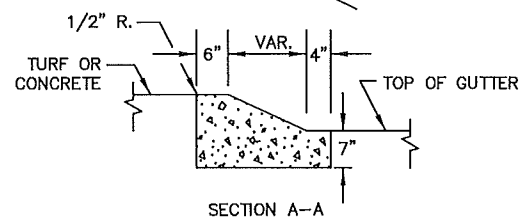
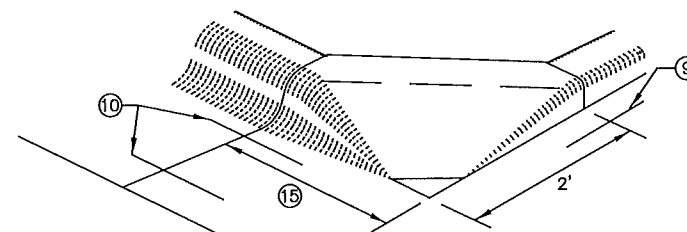


RADIAL DETECTABLE WARNING

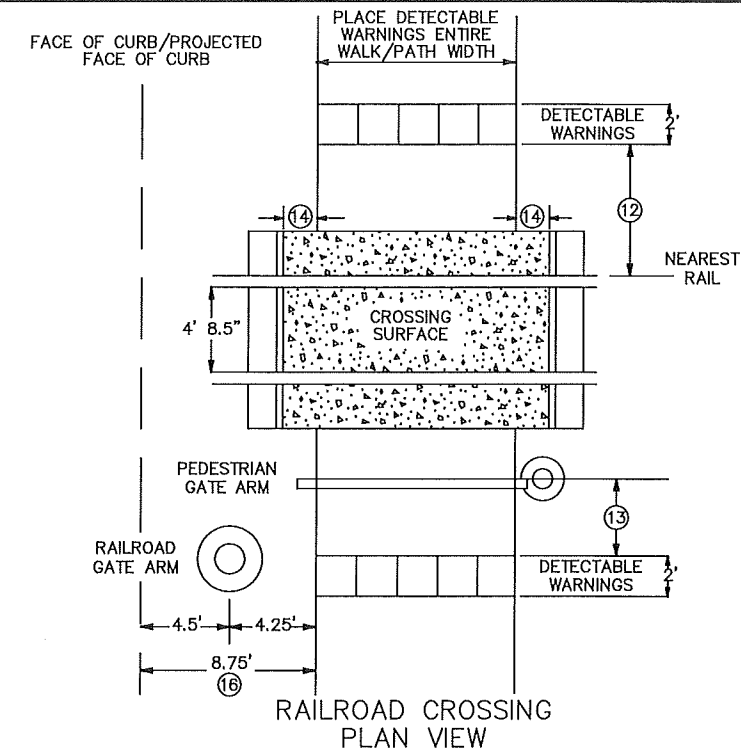


RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER



PEDESTRIAN APPROACH NOSE DETAIL (FOR RETURNED CURB SIDE TREATMENT)



NOTES:

- SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.
- A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
- CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.
- ① 0" CURB HEIGHT.
- ② FULL CURB HEIGHT.
- ③ 2' FOR 4" HIGH CURB AND 3' FOR 6" HIGH CURB.
- ④ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.
- ⑤ TYPICALLY USED FOR MEDIANS AND ISLANDS.
- ⑥ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.
- ⑦ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.
- ⑧ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.
- ⑨ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.
- ⑩ DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.
- ⑪ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6" LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE.
- ⑫ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.
- ⑬ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑫.
- ⑭ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.
- ⑮ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.
- ⑯ SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.

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REVISION:
APPROVED: JANUARY 23, 2017
[Signature]
OPERATIONS ENGINEER

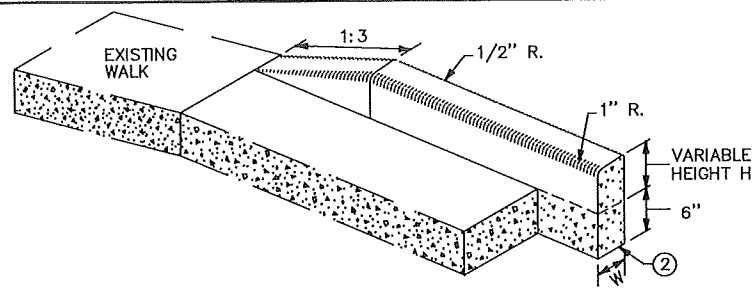
DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG
DESIGN TEAM

NO.	BY	DATE	REVISIONS

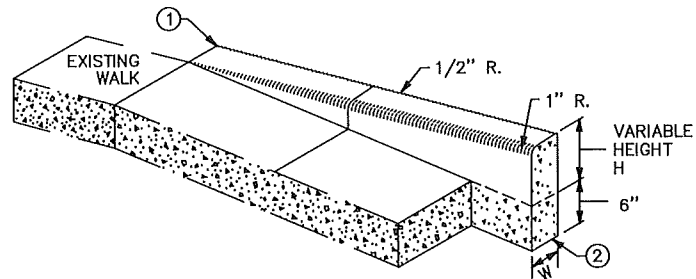
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SEH STATE DESIGN ENGINEER
 STANDARD PLAN 5-297.250 4 OF 6
 APPROVED: 1-23-2017
 REVISED:

PEDESTRIAN CURB RAMP DETAILS
 SAP 002-617-022 & 106-142-002, CITY PROJ. 18-20

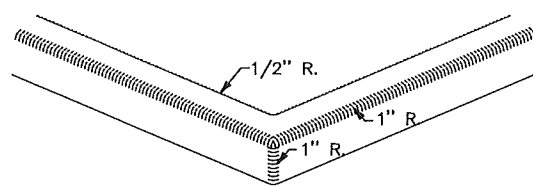
ANOKA COUNTY CITY OF BLAINE
 TRAFFIC SIGNAL SYSTEM CURB RAMP DETAILS
 CSAH 17 (LEXINGTON AVENUE) AT WOODLAND PARKWAY
 PHONE: (651) 490-2000
 3535 VADNAIS CENTER DR. ST. PAUL, MN 55110
 FILE NO. ANOKC 148315
 DATE 06/04/2019
 18
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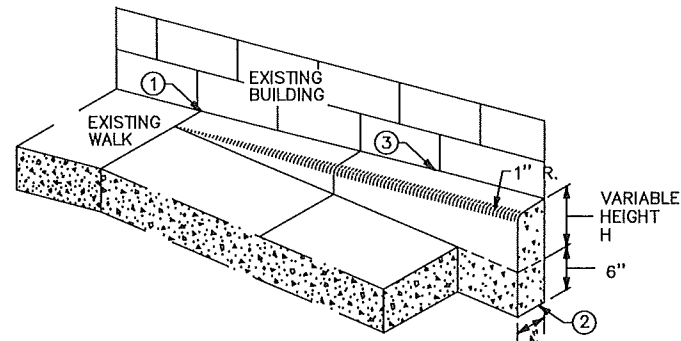
V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS



V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS

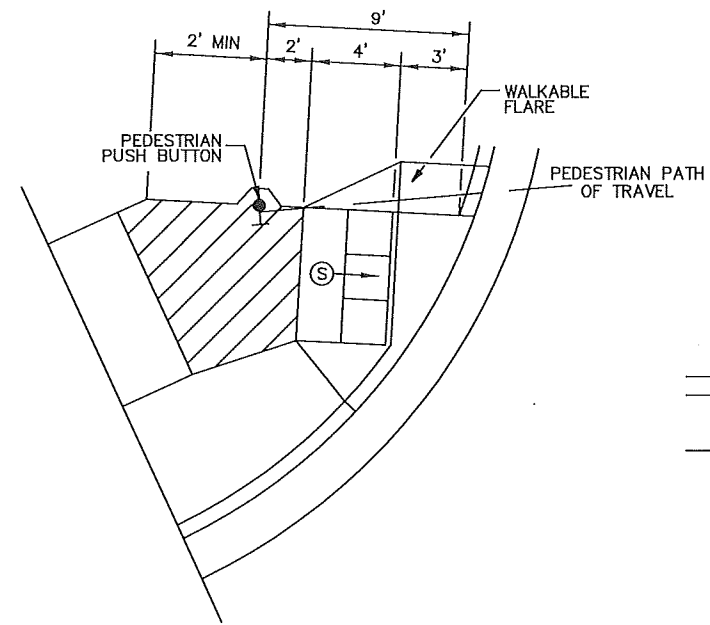


V CURB INTERSECTION



V CURB ADJACENT TO BUILDING
OR BARRIER

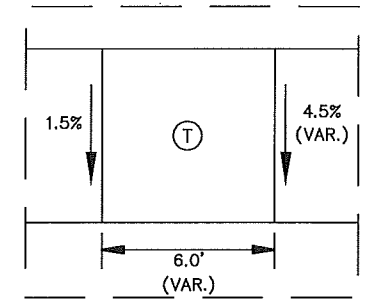
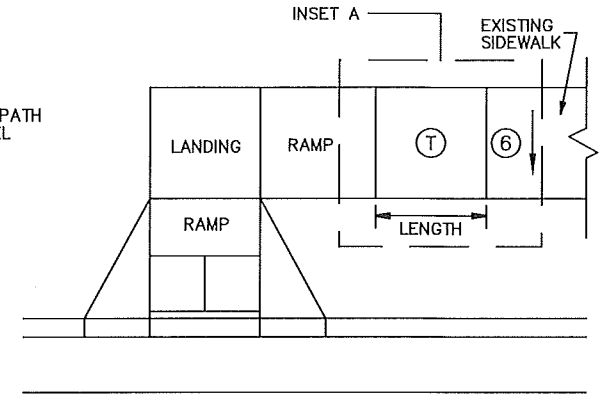
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



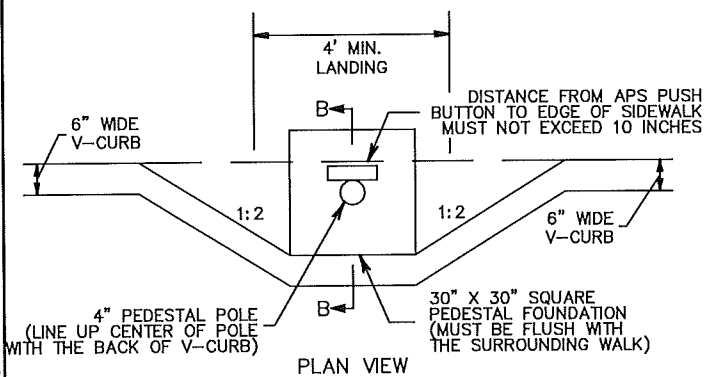
SEMI-DIRECTIONAL RAMP (3,4,9)

3' DOME SETBACK, 4' LONG RAMP AND
PUSH BUTTON 9' FROM THE BACK OF CURB

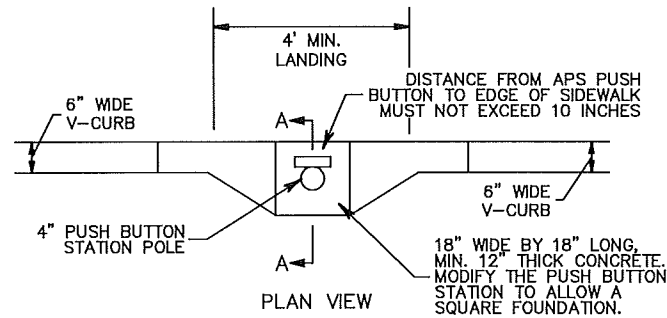
PRIMARYLY USED FOR APS APPLICATIONS
WHERE THE PAR DOES NOT CONTINUE PAST
THE PUSH BUTTON (DEAD-END SIDEWALK)



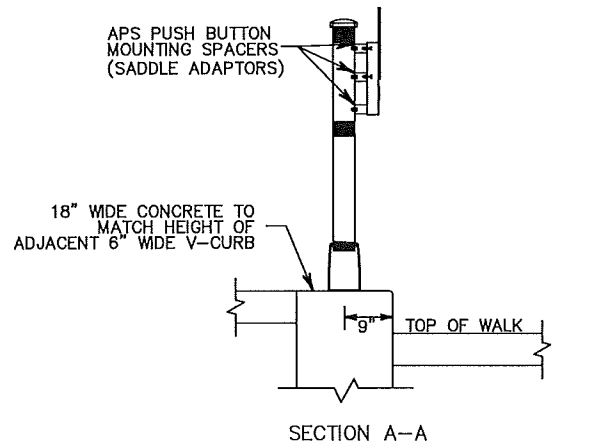
TRANSITION PANEL (4,5)



SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)



PUSH BUTTON STATION (V-CURB)



PUSH BUTTON STATION (V-CURB)

NOTES:

- A WALKABLE FLARE IS AN 8-10% CONCRETE FLARE THAT IS REQUIRED WHEN THE FLARE IS ADJACENT TO A WALKABLE SURFACE, OR WHEN THE PEDESTRIAN PATH OF TRAVEL OF A PUSH BUTTON TRAVERSES THE FLARE.
- ALL V CURB CONTRACTION JOINTS SHALL MATCH CONCRETE WALK JOINTS.
- WHERE RIGHT-OF-WAY ALLOWS, USE OF V CURB SHOULD BE MINIMIZED. GRADING ADJACENT TURF OR SLOPING ADJACENT PAVEMENT IS PREFERRED.
- V CURB SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS.
- V CURB NEXT TO BUILDING SHALL BE A 4" WIDTH AND SHALL MATCH PREVIOUS TOP OF SIDEWALK ELEVATIONS.
- END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.
- ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.
- EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.
- THE MAX. RATE OF CROSS SLOPE TRANSITIONING IS 1' LINEAR FOOT OF SIDEWALK PER HALF PERCENT CROSS SLOPE. WHEN PAR WIDTH IS GREATER THAN 6' OR THE RUNNING SLOPE IS GREATER THAN 5%, DOUBLE THE CALCULATED TRANSITION LENGTH.
- TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).
- EXISTING CROSS SLOPE GREATER THAN 2.0%.

LEGEND

- THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.
- LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
- TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.

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REVISION:
APPROVED: JANUARY 23, 2017
OPERATIONS ENGINEER

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG
DESIGN TEAM

NO.	BY	DATE	REVISIONS



STANDARD PLAN 5-297.250 5 OF 6
APPROVED: 1-23-2017
STATE DESIGN ENGINEER

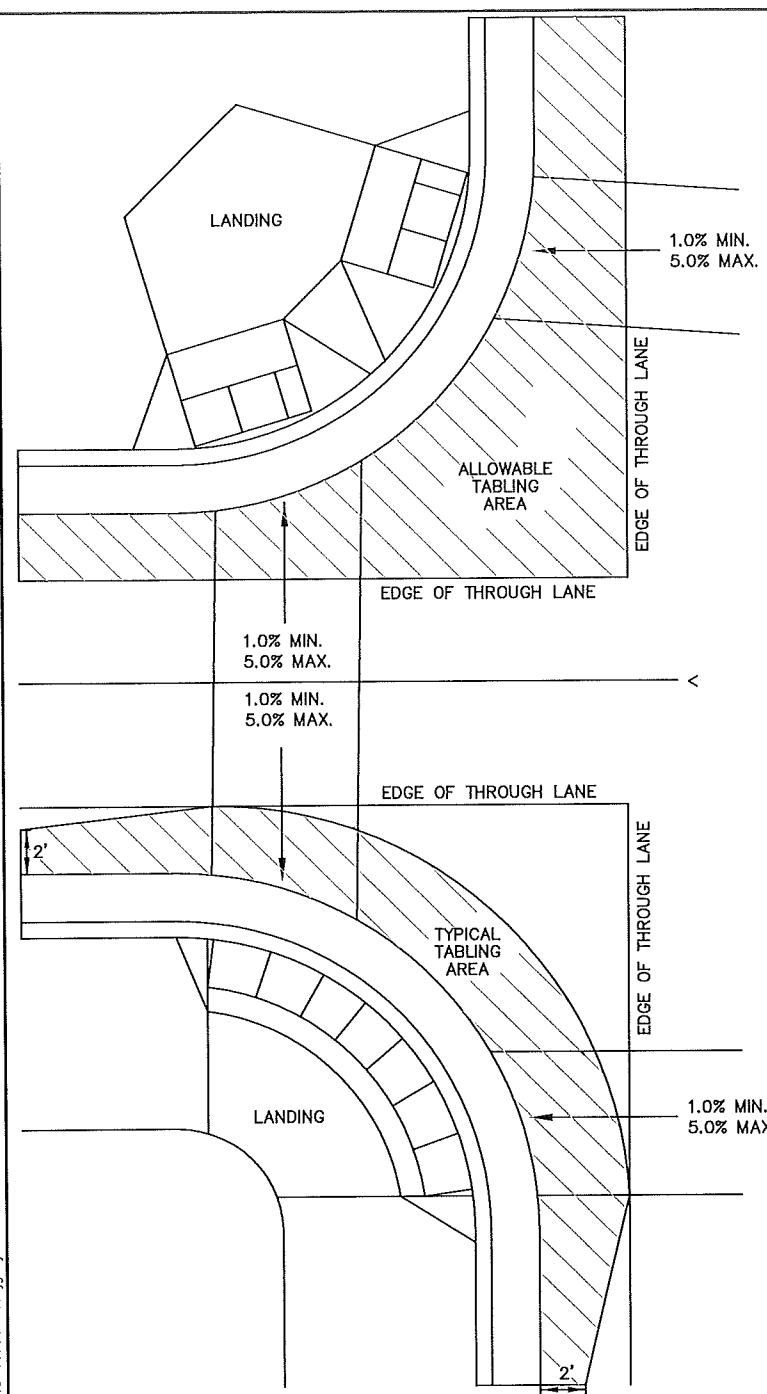


ANOKA COUNTY
CITY OF BLAINE

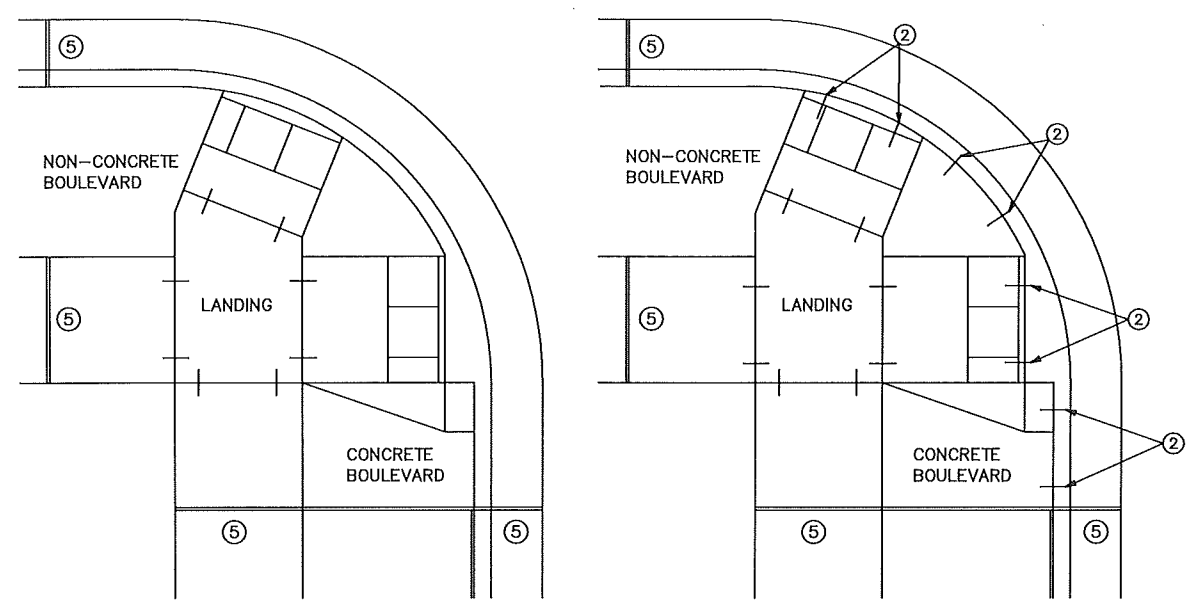
PEDESTRIAN CURB RAMP DETAILS
SAP 002-617-022 & 106-142-002, CITY PROJ. 18-20

TRAFFIC SIGNAL SYSTEM
CURB RAMP DETAILS
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY
FILE NO. ANOKC 148315
DATE 06/04/2019
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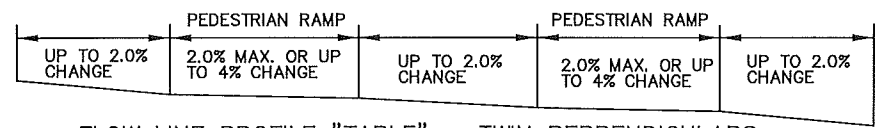


CURB LINE AND ROAD CROSSING ADJUSTMENTS

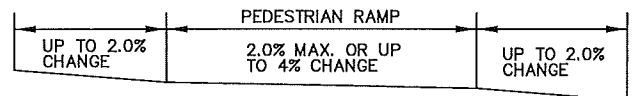


EXPANSION MATERIAL PLACEMENT FOR CONCRETE AND BITUMINOUS ROADWAYS

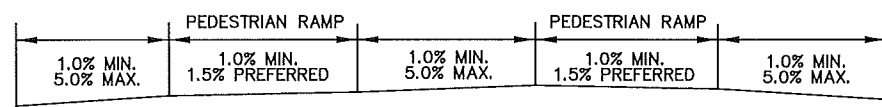
OPTIONAL CURB LINE REINFORCEMENT PLACEMENT ON BITUMINOUS ROADWAYS



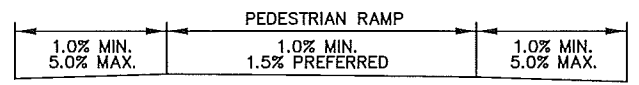
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



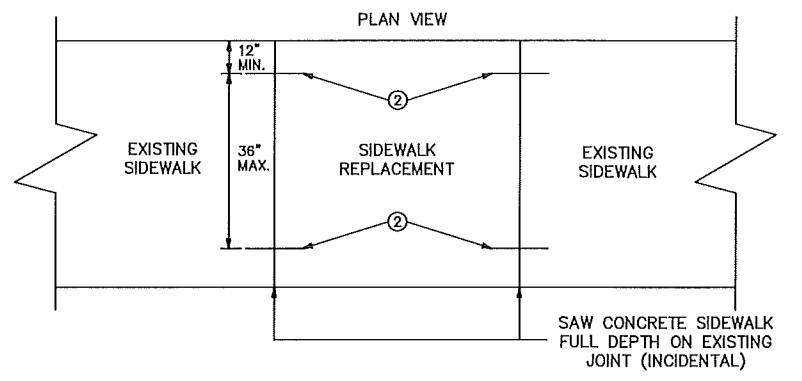
FLOW LINE PROFILE "TABLE" - FAN



FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS

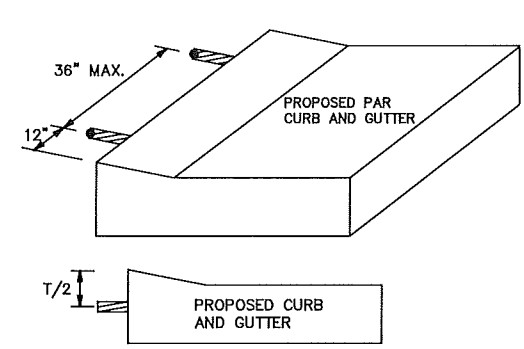


FLOW LINE PROFILE RAISE - FAN

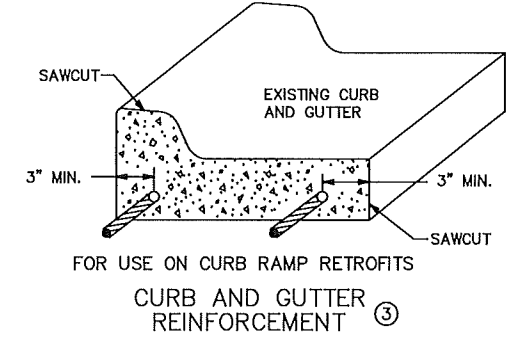


OPTIONAL SIDEWALK REINFORCEMENT

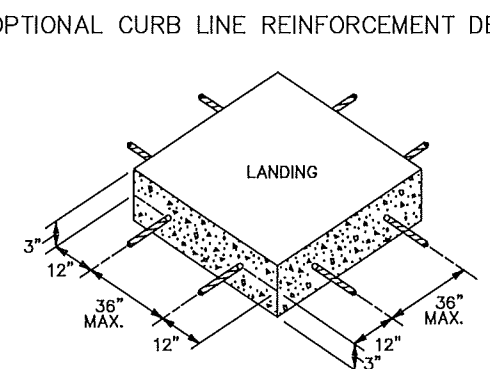
SIDEWALK REINFORCEMENT TO BE USED ONLY WHEN SPECIFIED IN THE PLAN.



OPTIONAL CURB LINE REINFORCEMENT DETAILS



CURB AND GUTTER REINFORCEMENT



SEPARATE LANDING POUR REINFORCEMENT

"TABLING" OF CROSSWALKS MEANS MAINTAINING LESS THAN 2% CROSS SLOPE WITHIN A CROSSWALK, IS REQUIRED WHEN A ROADWAY IS IN A STOP OR YIELD CONDITION AND THE PROJECT SCOPE ALLOWS.

RECONSTRUCTION PROJECTS: ON FULL PAVEMENT REPLACEMENT PROJECTS "TABLING" OF ENTIRE CROSSWALK SHALL OCCUR WHEN FEASIBLE.

MILL & OVERLAY PROJECTS: "TABLING" OF FLOW LINES, IN FRONT OF THE PEDESTRIAN RAMP, IS REQUIRED WHEN THE EXISTING FLOW LINE IS GREATER THAN 2%. WARPING OF THE BITUMINOUS PAVEMENT CAN NOT EXTEND INTO THE THROUGH LANE. TABLE THE FLOW LINE TO 2% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA;

- 1) 1.0% MIN. CROSS-SLOPE OF THE ROAD
- 2) 5.0% MAX. CROSS-SLOPE OF THE ROAD
- 3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT OF PEDESTRIAN RAMP
- 4) UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP

STAND-ALONE ADA RETROFITS: FOLLOW MILL & OVERLAY CRITERIA ABOVE HOWEVER ALL PAVEMENT WARPING IS DONE WITH BITUMINOUS PATCHING ON BITUMINOUS ROADWAYS AND FULL-DEPTH APRON REPLACEMENT ON CONCRETE ROADWAYS.

RAISING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA;

- 1) 1.0% MIN. AND 5.0% MAXIMUM CROSS-SLOPE OF THE ROAD
- 2) 1.0% MIN. FLOW LINE (ON EITHER SIDE OF PEDESTRIAN RAMP) TO MAINTAIN POSITIVE DRAINAGE
- 3) 5.0% RECOMMENDED MAX. FLOW LINE
- 4) LONGITUDINAL THROUGH LANE ROADWAY TAPERS SHOULD BE 1" VERTICAL PER 15' HORIZONTAL

NOTES:

- ① TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY Poured INITIAL LANDINGS.
- ② DRILL AND GROUT NO. 4 12" LONG REINFORCEMENT BARS AT 36" MAXIMUM CENTER TO CENTER (EPOXY COATED). BARS TO BE ADJUSTED TO MATCH RAMP GRADE.
- ③ DRILL AND GROUT 2 - NO. 4 X 12" LONG REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS WITHIN RADIUS.
- ④ THIS OPTIONAL CURB LINE REINFORCEMENT DETAIL SHOULD ONLY BE USED ON BITUMINOUS ROADWAYS WHEN SPECIFIED IN THE PLAN.
- ⑤ 1/2 IN. PREFORMED JOINT FILLER MATERIAL PER MNDOT SPEC. 3702.

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

DRAWN BY: JMG

DESIGNER: JMG

CHECKED BY: JMG

DESIGN TEAM

NO.	BY	DATE	REVISIONS



STANDARD PLAN 5-297.250 6 OF 6

APPROVED: 1-23-2017

STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

SAP 002-617-022 & 106-142-002, CITY PROJ. 18-20



ANOKA COUNTY CITY OF BLAINE

TRAFFIC SIGNAL SYSTEM CURB RAMP DETAILS CSAH 17 (LEXINGTON AVENUE) AT WOODLAND PARKWAY

FILE NO. ANOKC 148315

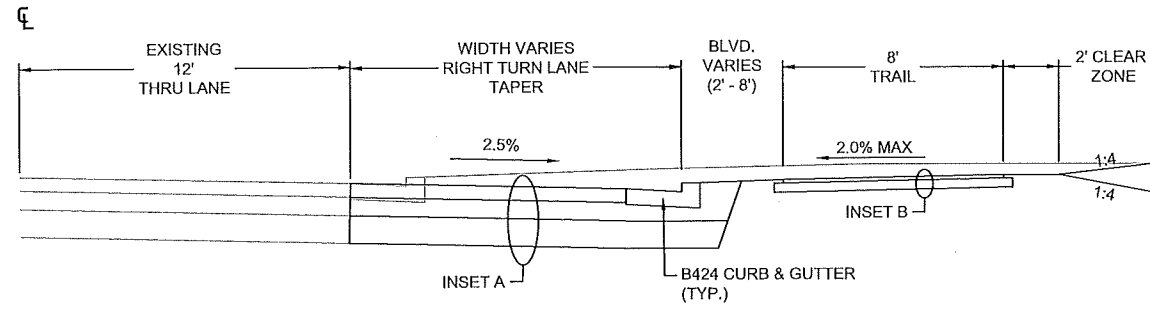
DATE 06/04/2019

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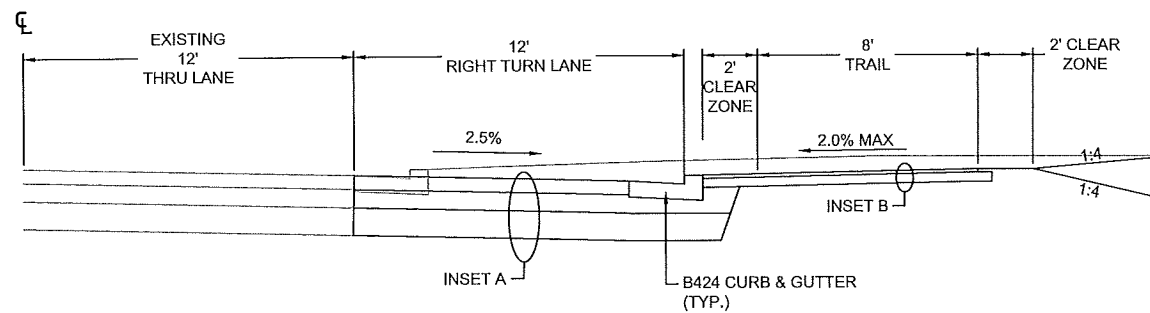
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TYPICAL SECTIONS

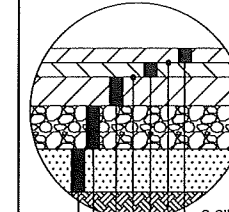
STA. 1+00 TO STA. 2+80



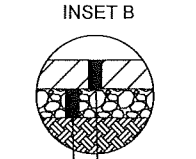
STA. 2+80 TO STA. 5+25



INSET A



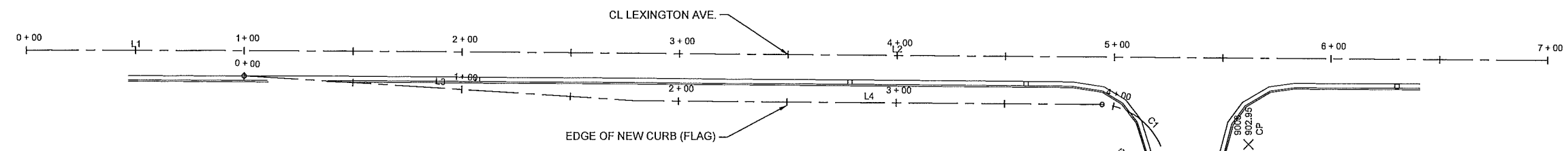
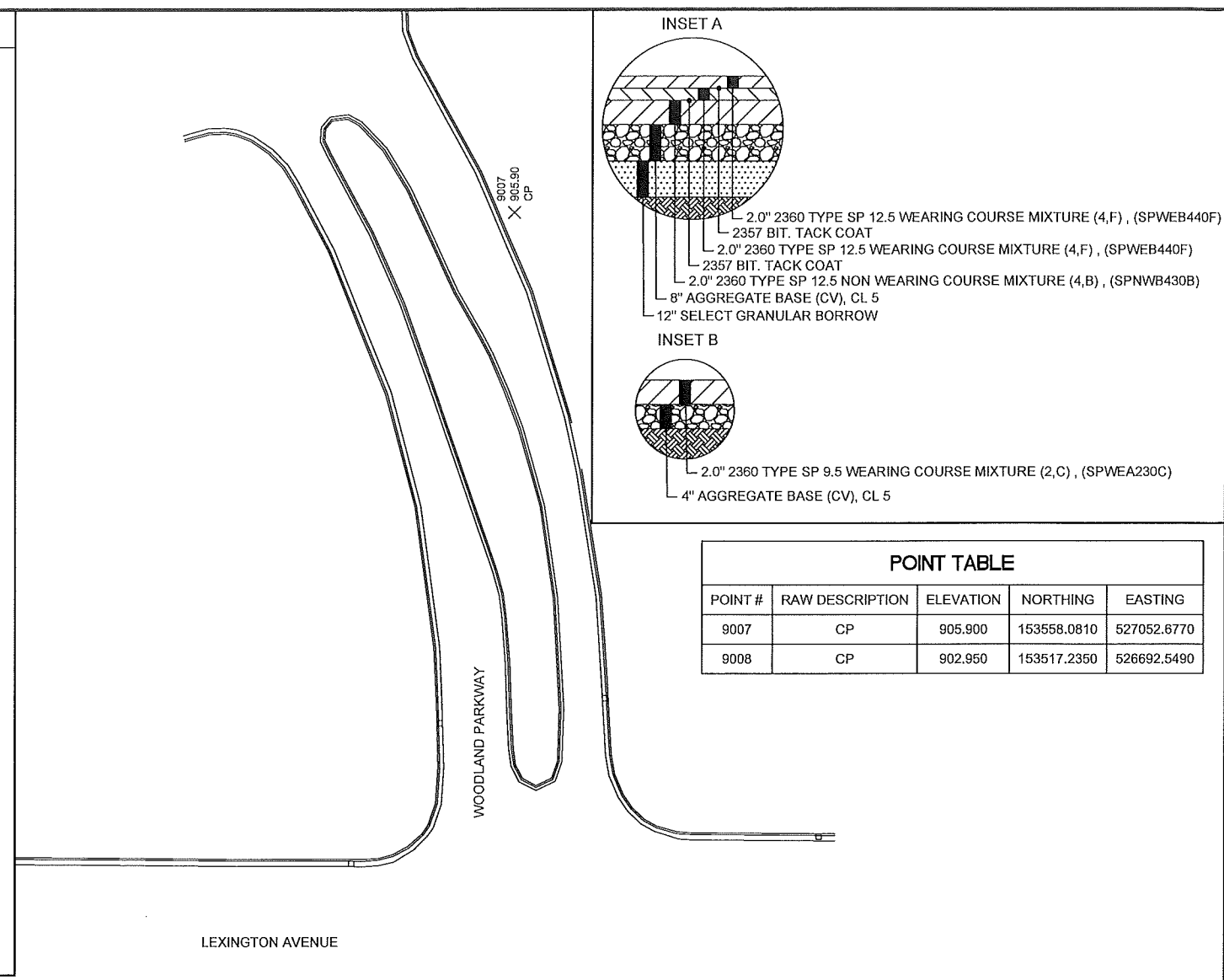
- 2.0" 2360 TYPE SP 12.5 WEARING COURSE MIXTURE (4,F), (SPWEB440F)
- 2357 BIT. TACK COAT
- 2.0" 2360 TYPE SP 12.5 WEARING COURSE MIXTURE (4,F), (SPWEB440F)
- 2357 BIT. TACK COAT
- 2.0" 2360 TYPE SP 12.5 NON WEARING COURSE MIXTURE (4,B), (SPNWB430B)
- 8" AGGREGATE BASE (CV), CL 5
- 12" SELECT GRANULAR BORROW



- 2.0" 2360 TYPE SP 9.5 WEARING COURSE MIXTURE (2,C), (SPWEA230C)
- 4" AGGREGATE BASE (CV), CL 5

POINT TABLE

POINT #	RAW DESCRIPTION	ELEVATION	NORTHING	EASTING
9007	CP	905.900	153558.0810	527052.6770
9008	CP	902.950	153517.2350	526692.5490



ALIGNMENT TABULATION - CL LEXINGTON AVE

POINT ID	POINT	STATION	DELTA	RADIUS	TANGENT	LENGTH	NORTHING	EASTING	BEARING	START STATION	END STATION	START NORTHING	START EASTING	END NORTHING	END EASTING
L1		0+00.00				100.00	154079.0373	526737.0200	S 00° 29' 02" W	0+00.00	1+00.00	154079.0373	526737.0200	153979.0377	526736.1754
L2		1+00.00				600.00	153979.0377	526736.1754	S 00° 30' 20" W	1+00.00	7+00.00	153979.0377	526736.1754	153379.0599	526730.8821

ALIGNMENT TABULATION - EDGE OF NEW CURB (FLAG)

POINT ID	POINT	STATION	DELTA	RADIUS	TANGENT	LENGTH	NORTHING	EASTING	BEARING	START STATION	END STATION	START NORTHING	START EASTING	END NORTHING	END EASTING
L3		0+00.00				180.21	153979.1391	526724.5659	S 03° 44' 27" W	0+00.00	1+80.21	153979.1391	526724.5659	153799.3139	526712.8086
L4		1+80.21				214.62	153799.3139	526712.8086	S 00° 29' 50" W	1+80.21	3+94.83	153799.3139	526712.8086	153584.6991	526710.9459
C1		3+94.83	085° 55' 30"	32.00	29.80	47.99	153584.6991	526710.9459		3+94.83	4+42.82	153584.6991	526710.9459	153554.9730	526679.0267
L5		4+42.82				22.51	153554.9730	526679.0267	N 89° 59' 51" W	4+42.82	4+65.33	153554.9730	526679.0267	153554.9740	526656.5160

S.A.P. 002-617-022
S.A.P. 106-142-002
CITY PROJECT 18-20

DRAWN BY: JMG				
DESIGNER: JMG				
CHECKED BY: JMG				
DESIGN TEAM	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.

John M. Gray
Name: John M. Gray, PE
Date: June 4, 2019
Lic. No. 22457

SEH
PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110



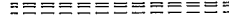
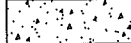
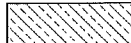
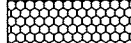



**ANOKA COUNTY
CITY OF BLAINE**

**TRAFFIC SIGNAL SYSTEM
ALIGNMENTS AND TYPICAL SECTIONS
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY**

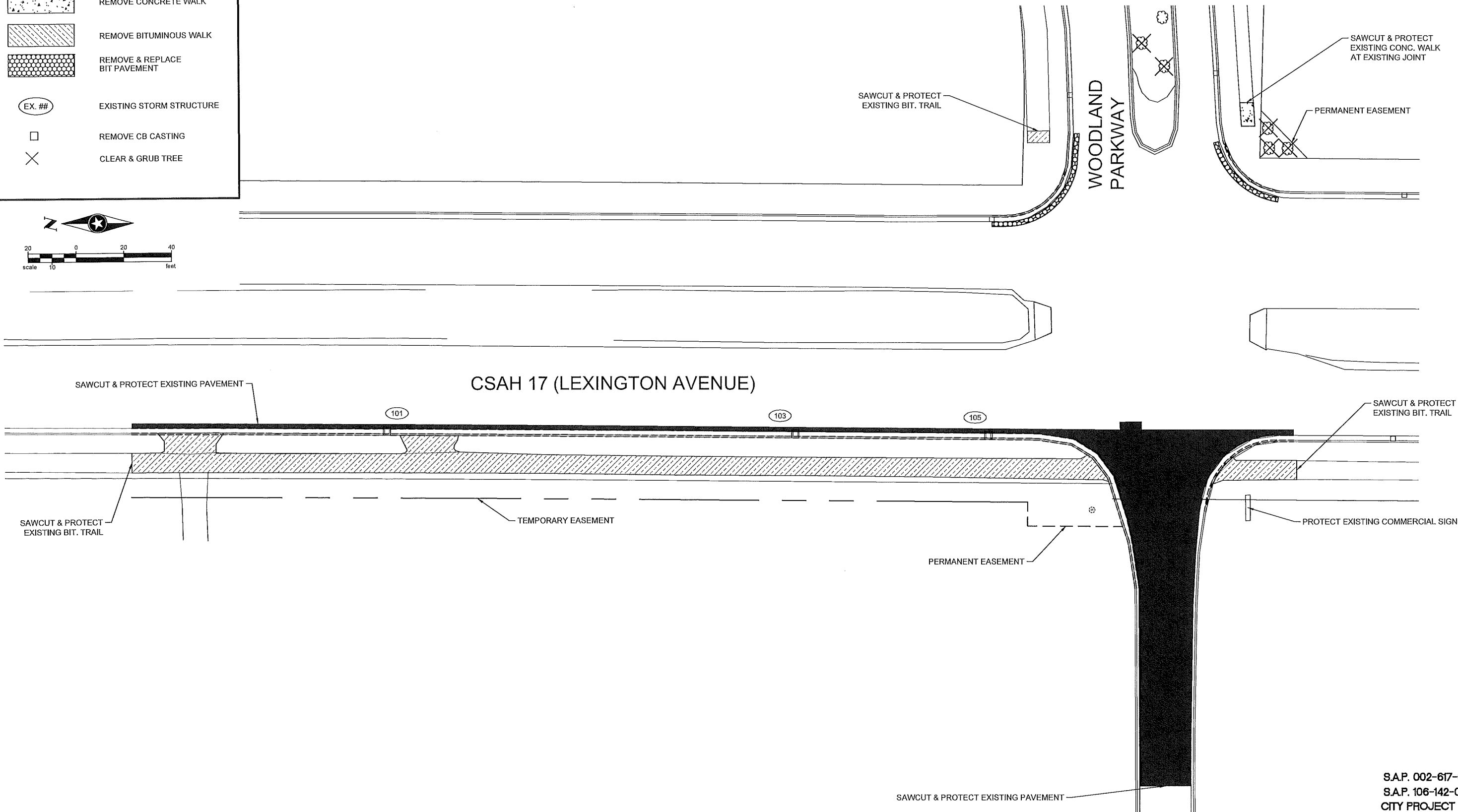
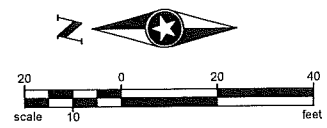
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REMOVALS

-  REMOVE BITUMINOUS PAVEMENT
-  SAWCUT
-  REMOVE CURB & GUTTER
-  REMOVE CONCRETE WALK
-  REMOVE BITUMINOUS WALK
-  REMOVE & REPLACE BIT PAVEMENT
-  EXISTING STORM STRUCTURE
-  REMOVE CB CASTING
-  CLEAR & GRUB TREE

- NOTES:
1. EROSION CONTROL IS NEEDED PRIOR TO BEGINNING WORK. (SEE SHEET 24)
 2. REMOVE TREES WITHIN WOODLAND PARKWAY BOULEVARD AS DIRECTED.
 3. SAWCUT EXISTING CONCRETE WALK AND CURB & GUTTER AT EXISTING JOINTS.



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S.A.P. 002-617-022
S.A.P. 106-142-002
CITY PROJECT 18-20

DRAWN BY:	JMG				
DESIGNER:	JMG				
CHECKED BY:	JMG				
DESIGN TEAM	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.

John M. Gray
Name: John M. Gray, PE
Date: June 4, 2019
Lic. No. 22457

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**ANOKA COUNTY
CITY OF BLAINE**

**TRAFFIC SIGNAL SYSTEM
REMOVALS
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY**

FILE NO. ANOKC 148315	23
DATE 06/04/2019	35

LEGEND

- PROPOSED SIGNAL POLE
- PEDESTRIAN PUSH BUTTON STATION
- PEDESTRIAN PUSH BUTTON
- CONTROL POINTS AT GUTTER FLOW LINE
- TRUNCATED DOMES (SEE STANDARD PLATE 703B)
- CONSTRUCT CONCRETE CURB & GUTTER
- PAVEMENT PATCH (MATCH EXISTING SECTION)
- REMOVE & REPLACE BIT PAVEMENT
- BITUMINOUS TRAIL
- CURB HEIGHT
- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%
- DRAINAGE FLOW ARROW

POINT TABLE

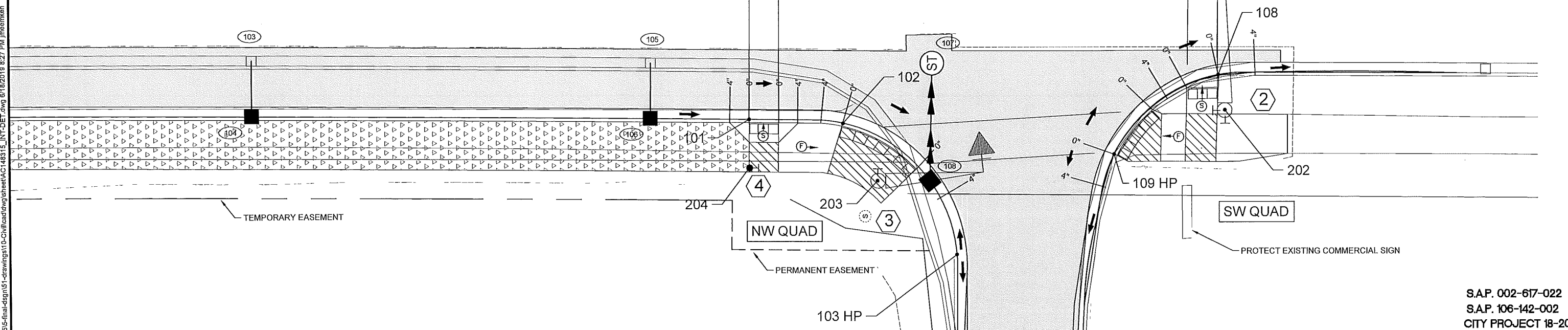
POINT #	RAW DESCRIPTION	ELEVATION	NORTHING	EASTING
1	101	902.70	153599.5000	526709.0575
2	102	902.59	153580.4754	526708.3134
3	103 HP	902.60	153557.0704	526681.5321
4	104	903.20	153599.9585	526815.6390
5	105 HP	903.31	153586.9980	526831.5286
6	106	902.77	153519.1373	526838.9679
7	107	902.43	153501.7656	526823.6682
8	108	902.53	153503.5463	526718.0601
9	109 HP	902.75	153524.9714	526701.9685
10	201		153512.8496	526841.4400
11	202		153502.2866	526710.8683
12	203		153573.3218	526696.5631
13	204		153599.4517	526699.0635
14	205		153604.2357	526825.6867
15	206		153593.1724	526840.4028

- NOTES:
1. FOR STORM SEWER INFORMATION SEE SHEET 24.
 2. TAPER CURB TO MATCH EXISTING CURB TYPE WHERE CONNECTING TO EXISTING.



CSAH 17 (LEXINGTON AVENUE)

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DESIGNER:	JMG
CHECKED BY:	JMG

NO.	BY	DATE	REVISIONS

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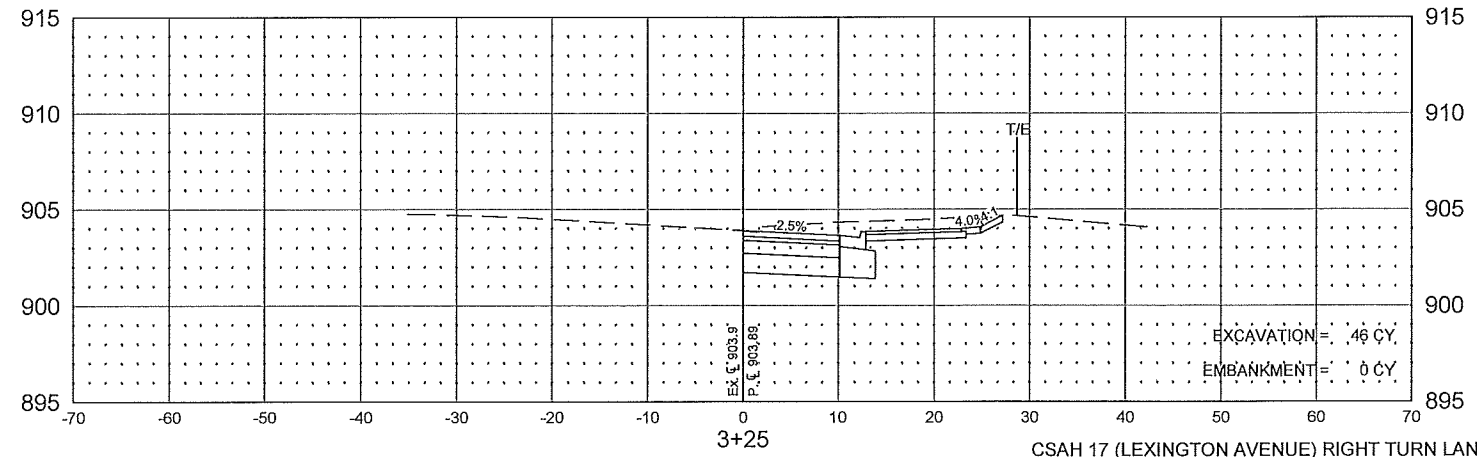
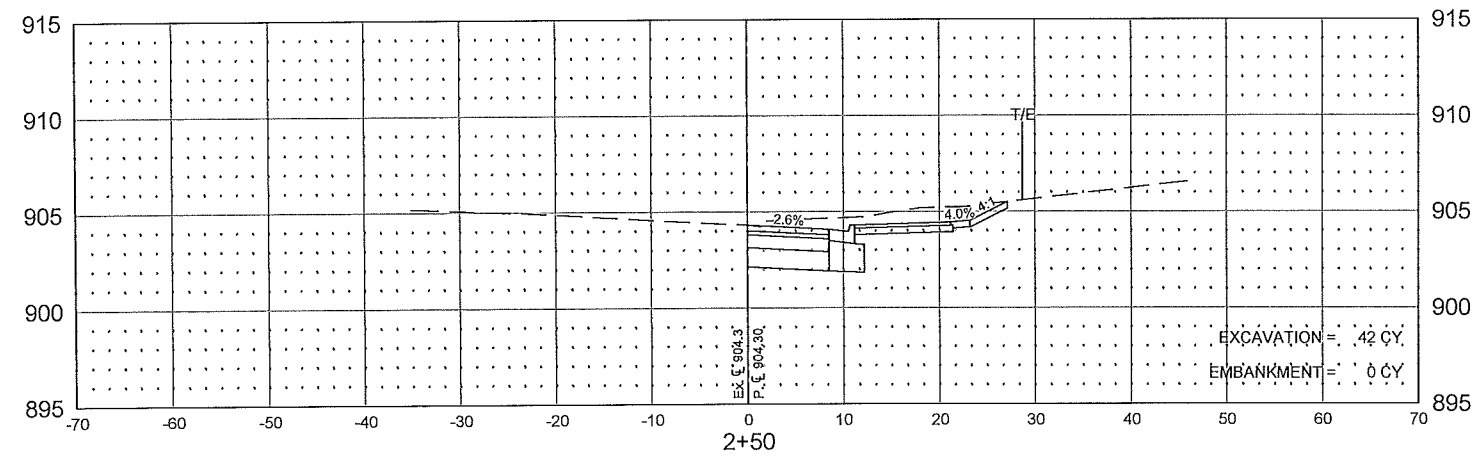
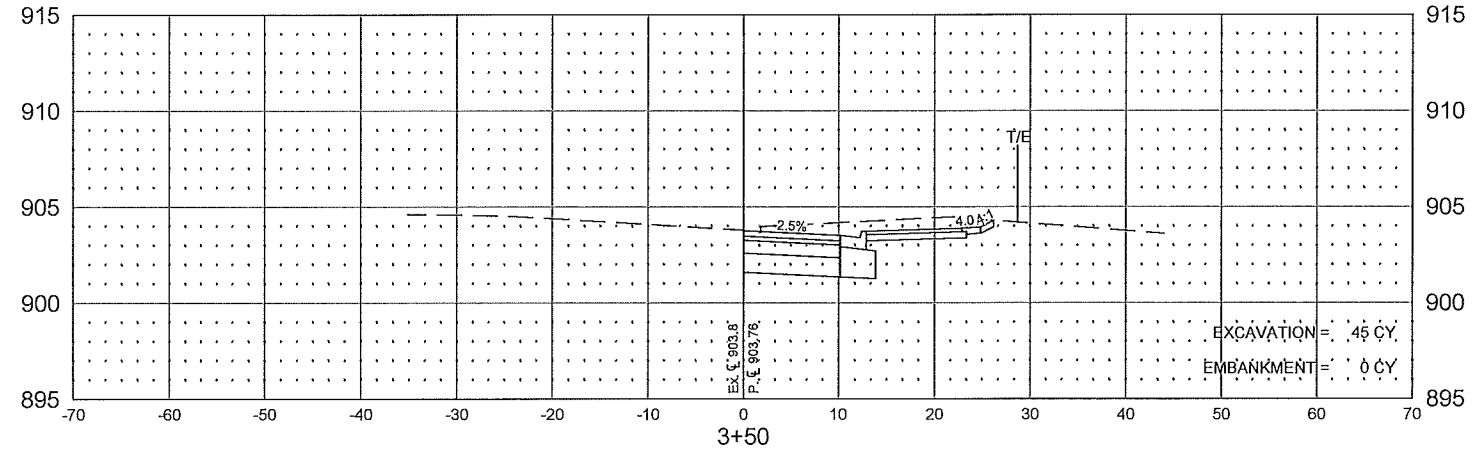
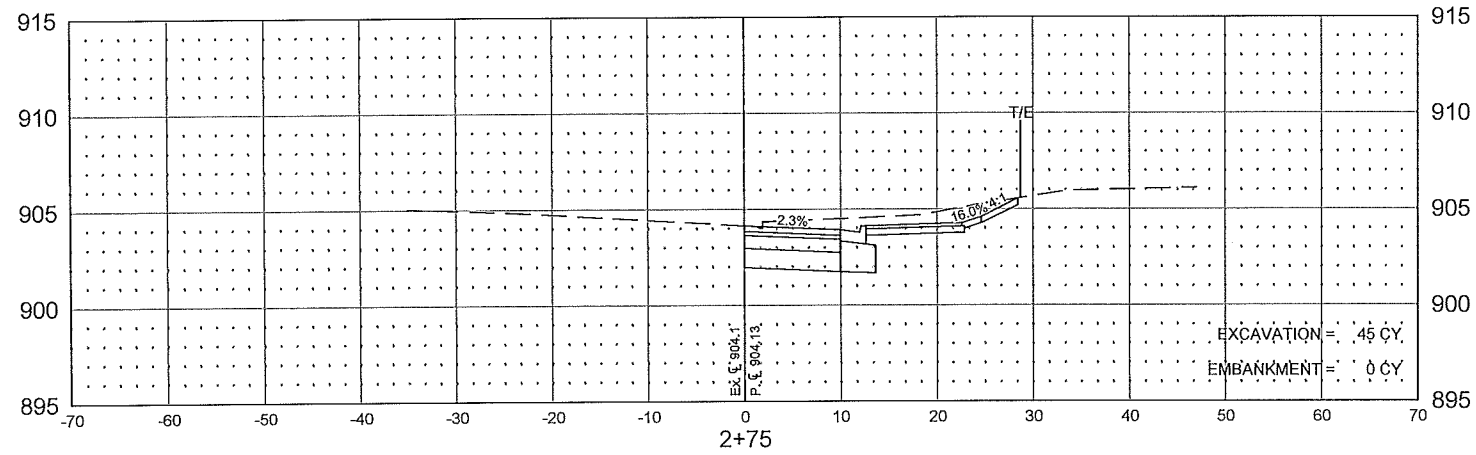
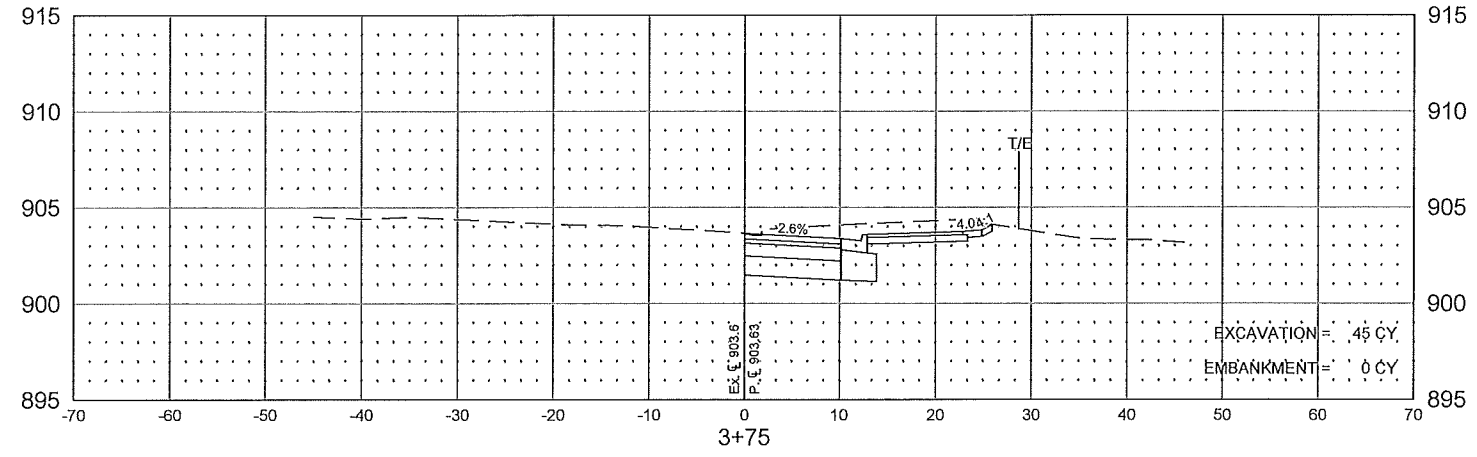
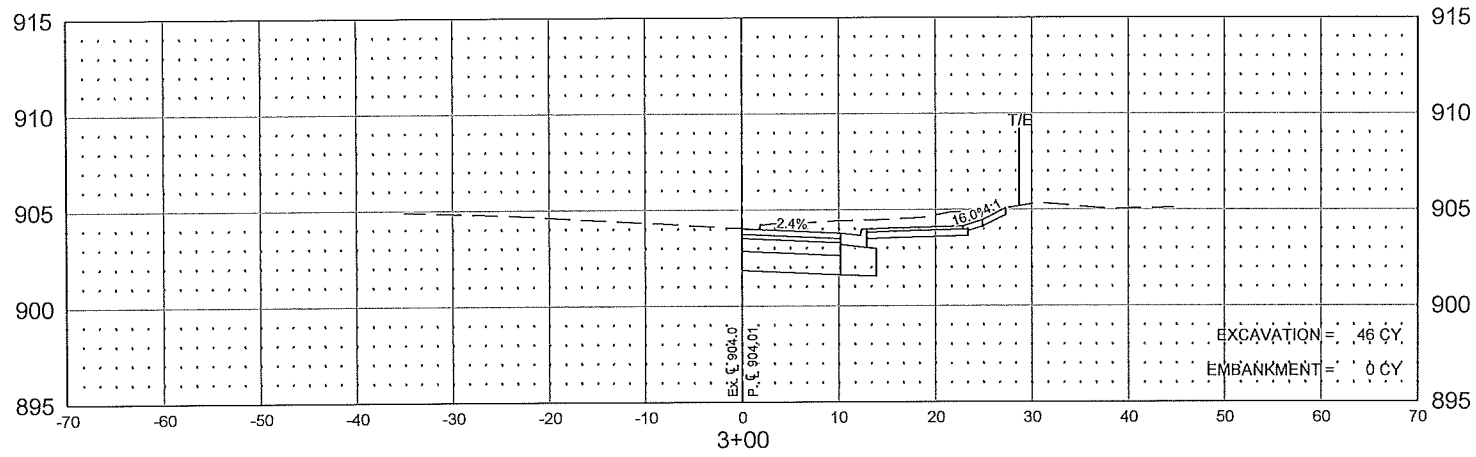
**ANOKA COUNTY
CITY OF BLAINE**

**TRAFFIC SIGNAL SYSTEM
INTERSECTION DESIGN
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY**

FILE NO. ANOKC 148315	25
DATE 06/04/2019	35

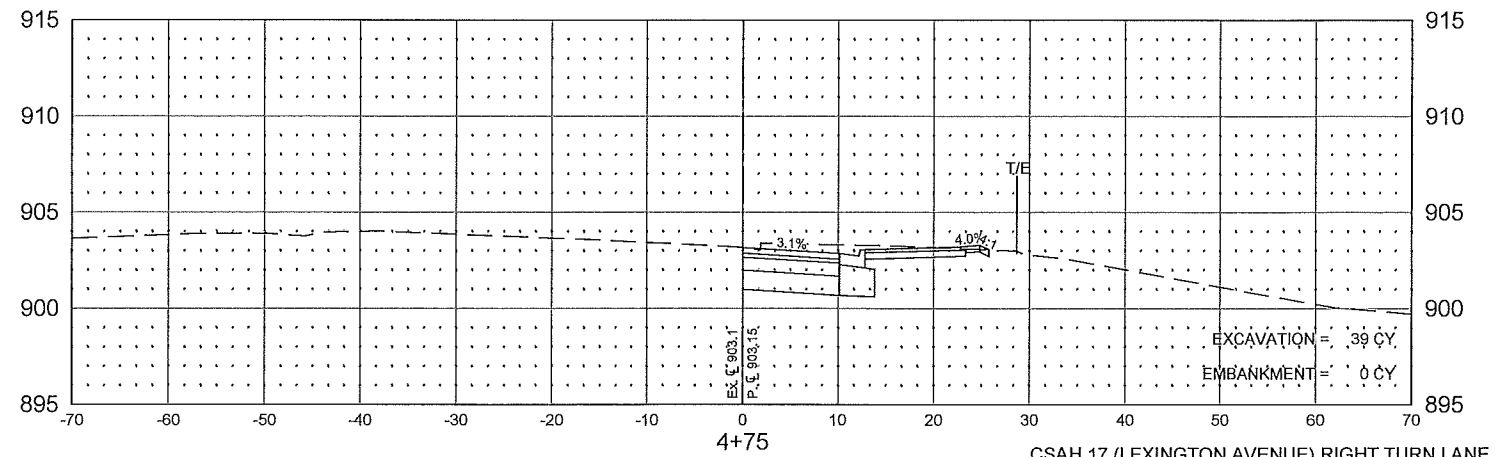
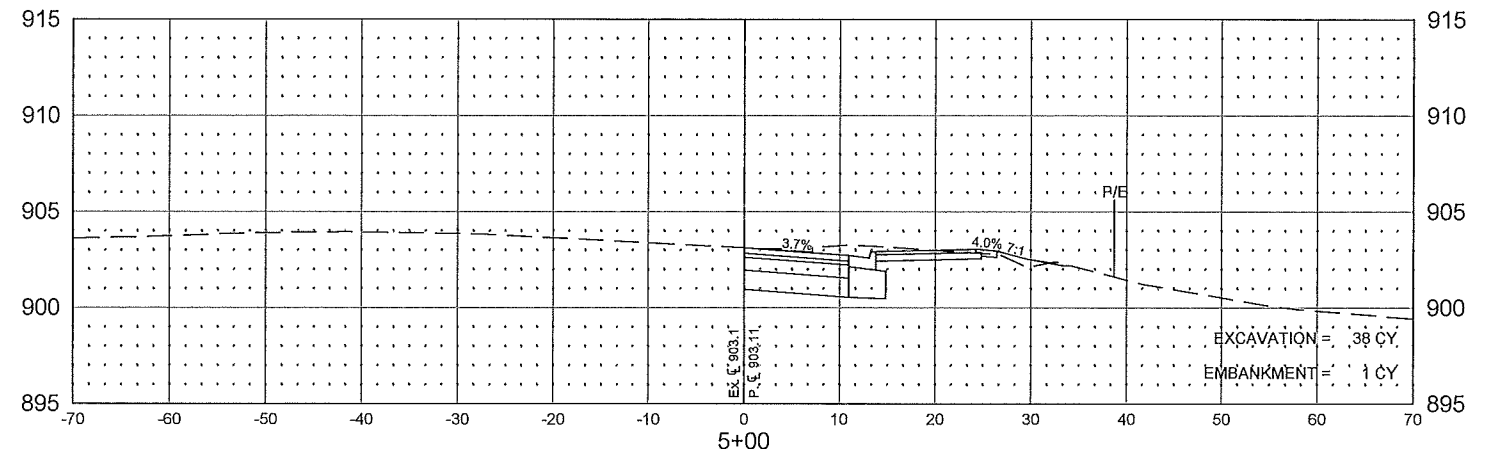
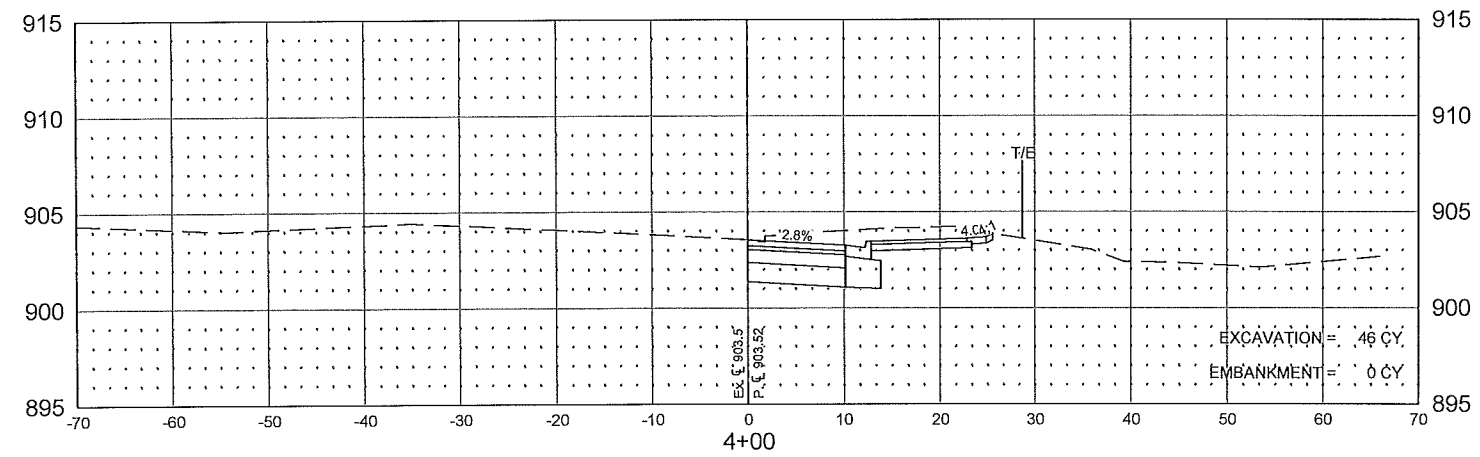
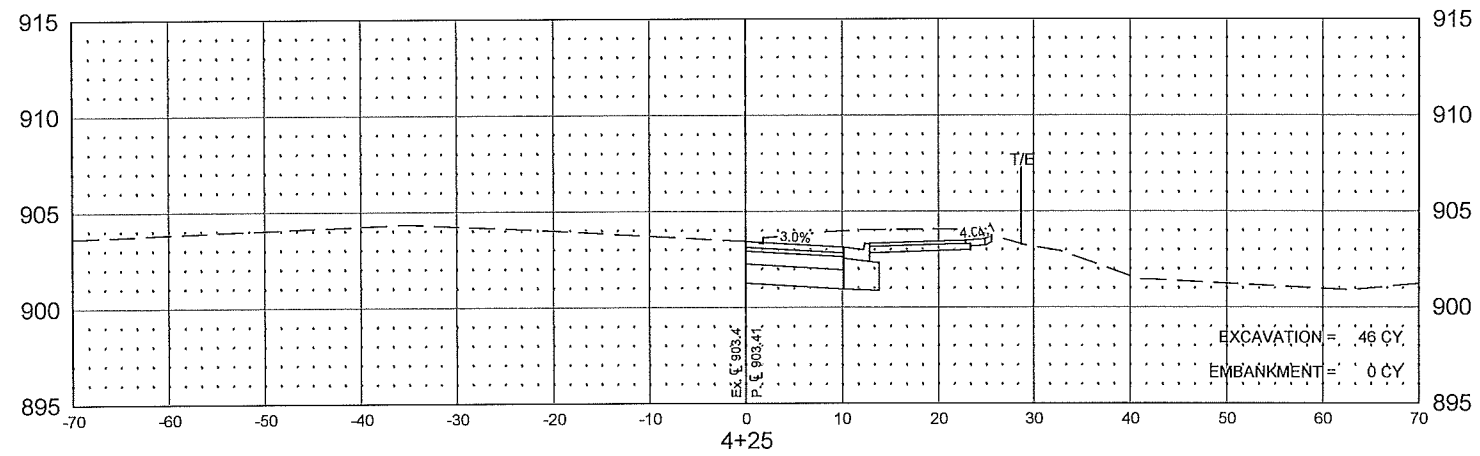
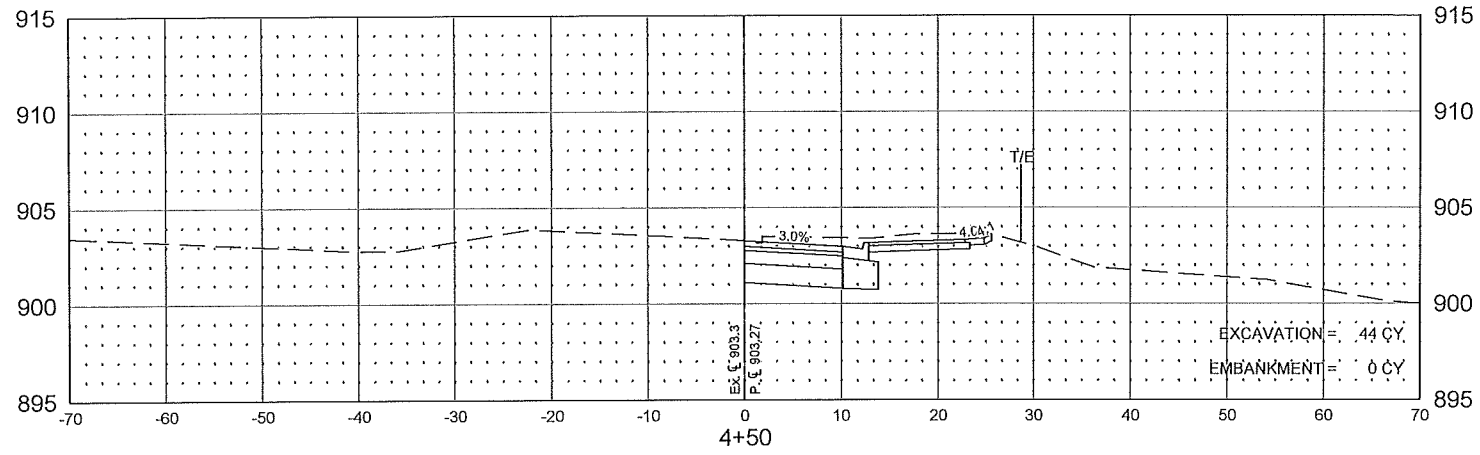
S.A.P. 002-617-022
S.A.P. 106-142-002
CITY PROJECT 18-20

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CSAH 17 (LEXINGTON AVENUE) RIGHT TURN LANE
STA 2+50 - STA 3+75

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CSAH 17 (LEXINGTON AVENUE) RIGHT TURN LANE
STA 4+00 - STA 5+00

F & I	N.M.C. LOOP DETECTORS	LOOP DETECTORS FUNCTIONS:	
NUMBER	SIZE (FT.)	LOCATION	FUNCTION
D1-1	2-6x6	15' & 45'	1
D1-2	2-6x6	0' & 30'	1
D2-1	6x6	475'	1
D2-2	6x6	475'	1
D2-3	FUTURE	475'	1
D4-1	6x6	120'	3,8
D4-2	2-6x6	0' & 15'	7
D5-1	2-6x6	15' & 45'	1
D5-2	2-6x6	0' & 30'	1
D6-1	6x6	475'	1
D6-2	6x6	475'	1
D6-3	FUTURE	475'	1
D8-1	6x6	120'	3,8
D8-2	2-6x6	0' & 15'	7
D8-3	2-6x6	15' & 45'	1
D8-4	2-6x6	0' & 30'	1

- 1) CALL AND EXTEND
- 3) EXTEND ONLY
- 7) DELAYED CALL, IMMEDIATE EXTEND
- 8) CARRY OVER (STRETCH)

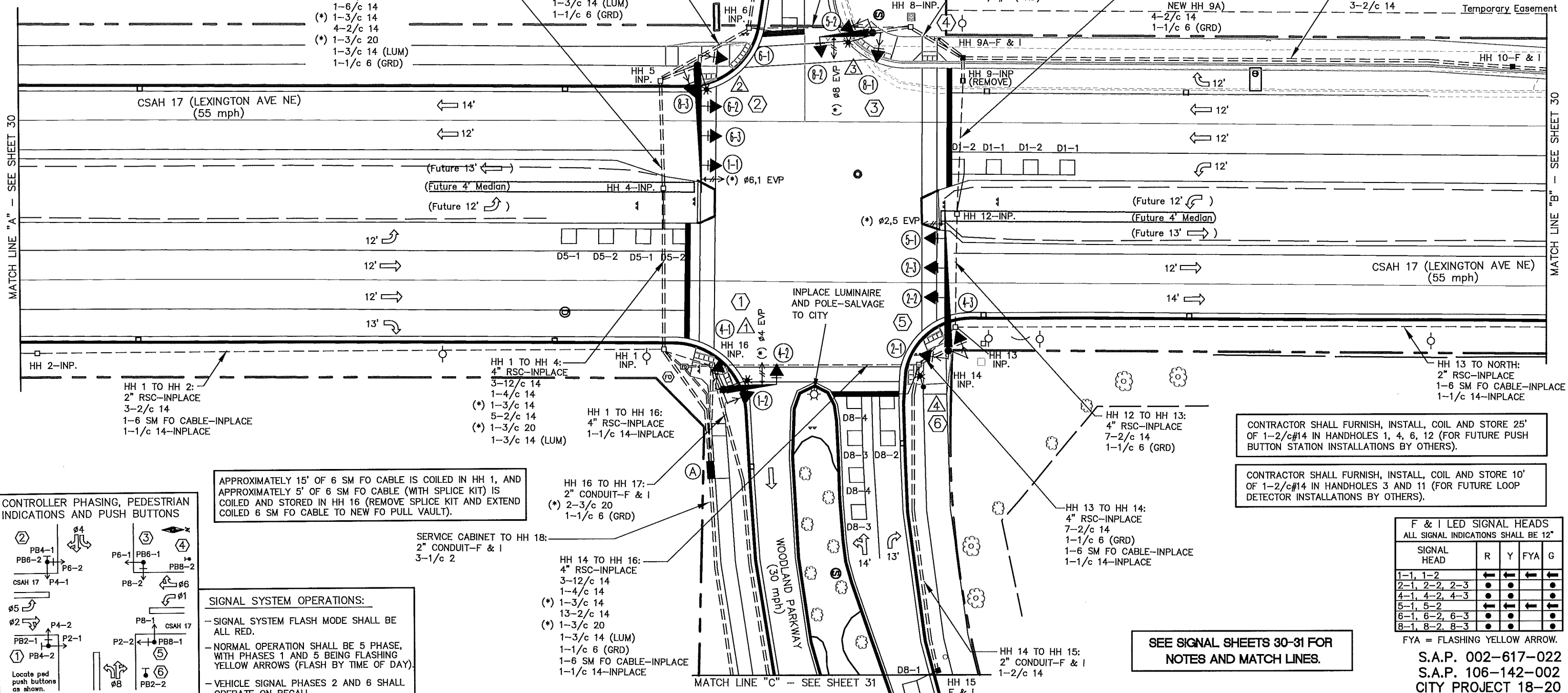
NOTE: LOCATION=DISTANCE FROM STOP BAR TO FRONT OF LOOP DETECTOR.

HH 4 TO HH 5:
4" RSC-INPLACE
3-12/c 14
1-4/c 14
(*) 1-3/c 14
2-2/c 14
(*) 1-3/c 20
1-3/c 14 (LUM)
HH 1 TO HH 5:
4" CONDUIT-F & I
(BORE UNDER ROAD)
2-12/c 14
1-6/c 14
(*) 1-3/c 14
4-2/c 14
(*) 1-3/c 20
1-3/c 14 (LUM)
1-1/c 6 (GRD)

HH 5 TO HH 6:
4" CONDUIT-F & I
(*) 1-3/c 14
4-2/c 14
(*) 1-3/c 20
1-3/c 14 (LUM)
1-1/c 6 (GRD)

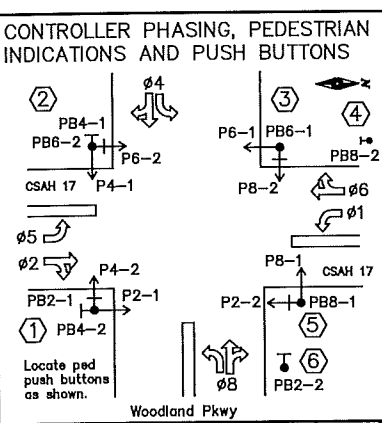
4 F & I
APS PUSH BUTTON STATION (SEE DETAILS)
1-PEDESTRIAN PUSH BUTTON & SIGN (R10-3e)
EXTEND INTO HH 9:
1" CONDUIT
1-2/c 14
1-1/c 6 (GRD)

FO F & I (**)
FIBER OPTIC PULL VAULT (SEE DETAILS)
EXTEND TO CONTROLLER CABINET:
(**) 2" CONDUIT (SEE A NOTES)
(**) 1-6 SM FO PIGTAIL (SEE A NOTES)
(**) SPLICE NEW 6 SM FO PIGTAIL CABLE ONTO INPLACE 2-6 SM FO CABLES
EXTEND INTO HH 1:
(**) 2" CONDUIT
(**) 1-6 SM FO CABLE - INPLACE (UNCOIL SLACK CABLE IN HH 1 AND EXTEND INTO SPLICE VAULT)
EXTEND INTO HH 16:
(**) 2" CONDUIT
(**) 1-6 SM FO CABLE - INPLACE (UNCOIL SLACK CABLE IN HH 16 AND EXTEND INTO SPLICE VAULT)



MATCH LINE "A" - SEE SHEET 30

MATCH LINE "B" - SEE SHEET 30



SIGNAL SYSTEM OPERATIONS:

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

APPROXIMATELY 15' OF 6 SM FO CABLE IS COILED IN HH 1, AND APPROXIMATELY 5' OF 6 SM FO CABLE (WITH SPLICE KIT) IS COILED AND STORED IN HH 16 (REMOVE SPLICE KIT AND EXTEND COILED 6 SM FO CABLE TO NEW FO PULL VAULT).

CONTRACTOR SHALL FURNISH, INSTALL, COIL AND STORE 25' OF 1-2/c#14 IN HANDHOLES 1, 4, 6, 12 (FOR FUTURE PUSH BUTTON STATION INSTALLATIONS BY OTHERS).

CONTRACTOR SHALL FURNISH, INSTALL, COIL AND STORE 10' OF 1-2/c#14 IN HANDHOLES 3 AND 11 (FOR FUTURE LOOP DETECTOR INSTALLATIONS BY OTHERS).

SEE SIGNAL SHEETS 30-31 FOR NOTES AND MATCH LINES.

F & I LED SIGNAL HEADS				
ALL SIGNAL INDICATIONS SHALL BE 12"				
SIGNAL HEAD	R	Y	FYA	G
1-1, 1-2	←	←	←	←
2-1, 2-2, 2-3	•	•	•	•
4-1, 4-2, 4-3	•	•	•	•
5-1, 5-2	←	←	←	←
6-1, 6-2, 6-3	•	•	•	•
8-1, 8-2, 8-3	•	•	•	•

FYA = FLASHING YELLOW ARROW.
S.A.P. 002-617-022
S.A.P. 106-142-002
CITY PROJECT 18-20

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DESIGN TEAM	NO.	BY DATE

REVISIONS		
NO.	BY	DATE

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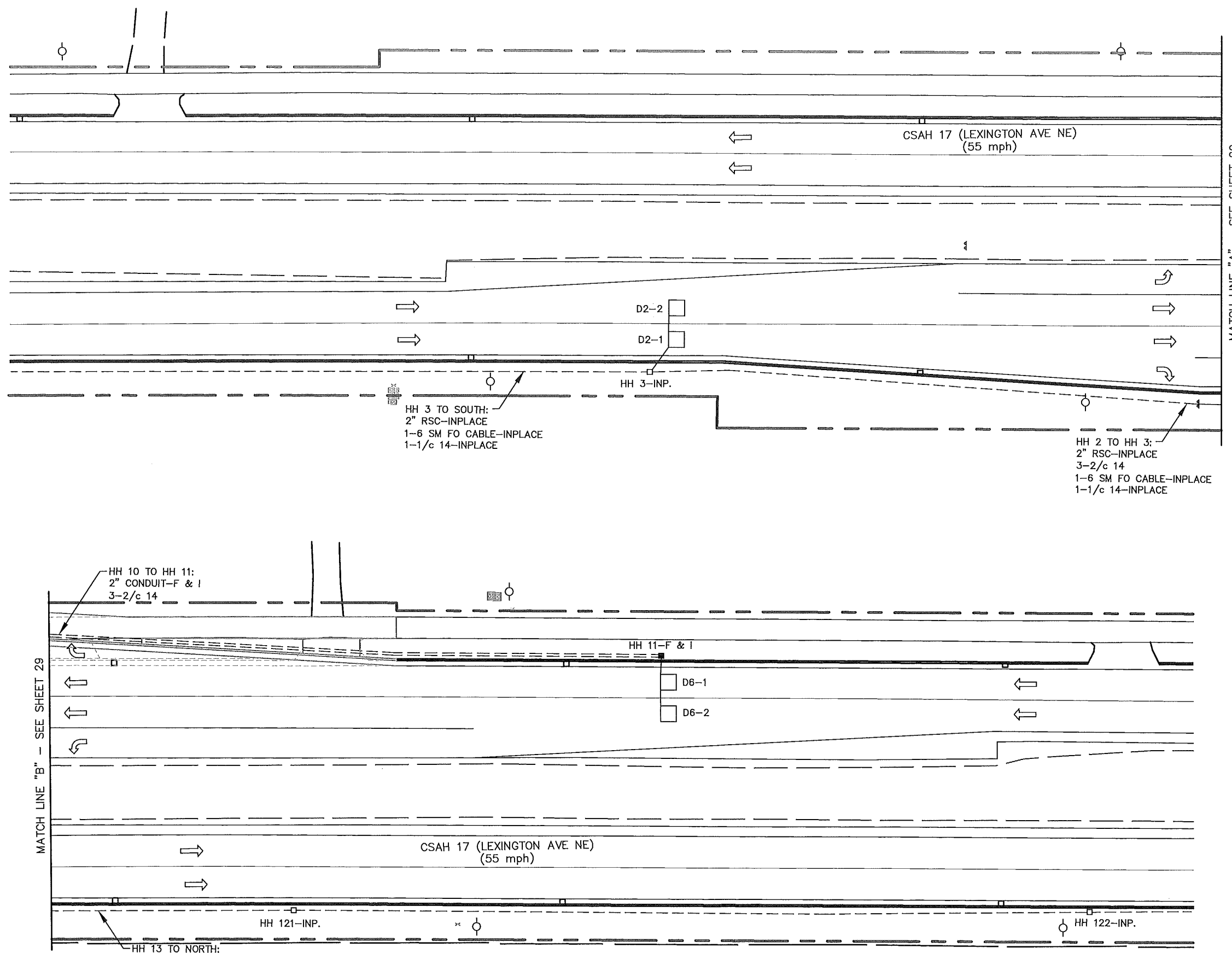
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ANOKA COUNTY
CITY OF BLAINE

TRAFFIC SIGNAL SYSTEM
INTERSECTION LAYOUT
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY

FILE NO. ANOK 148315	29
DATE 06/04/2019	35



MATCH LINE "A" - SEE SHEET 29

MATCH LINE "B" - SEE SHEET 29

S.A.P. 002-617-022
 S.A.P. 106-142-002
 CITY PROJECT 18-20

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**ANOKA COUNTY
 CITY OF BLAINE**

**TRAFFIC SIGNAL SYSTEM
 INTERSECTION LAYOUT
 CSAH 17 (LEXINGTON AVENUE)
 AT WOODLAND PARKWAY**

FILE NO. ANOKC 148315	30
DATE 06/04/2019	
35	

NOTES:

- 1) LOCATION OF FOUNDATIONS, LOOP DETECTORS, AND HANDHOLES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 2) SEE SPECIAL PROVISIONS FOR COUNTY FURNISHED MATERIALS.
- 3) NEW HANDHOLES 7, 9A, 10, 11, 15, 17, AND 18 SHALL BE PVC HANDHOLES WITH METAL FRAMES & COVERS (SEE SPECIAL PROVISIONS).
INPLACE HANDHOLES 1, 2, 3, 4, 5, 6, 8, 12, 13, 14, AND 16 (PVC HANDHOLES WITH METAL FRAMES AND COVERS) SHALL BE ADJUSTED TO FINISHED SURROUNDING GRADE AFTER ALL WORK IS COMPLETED (INCIDENTAL). SEE DETAILS & SPECIAL PROVISIONS.
INPLACE HANDHOLE 9 SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
- 4) A 3/4" HALF COUPLING, 3/4" PIPE NIPPLE & CONDUIT OUTLET BODY SHALL BE FURNISHED AND INSTALLED 6 FEET FROM END OF EACH MAST ARM (FOR EVP).
- 5) THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE POWER COMPANY TO ARRANGE FOR THE POWER CONNECTION (XCEL ENERGY). SEE SPECIAL PROVISIONS.
- 6) SEE SPECIAL PROVISIONS AND DETAILS REGARDING SIGNS TO BE FURNISHED AND INSTALLED BY CONTRACTOR (TO BE MEASURED AND PAID FOR SEPARATELY FROM TRAFFIC SIGNAL SYSTEM PAY ITEM).
- 7) EACH PEDESTRIAN INDICATION SHALL BE ONE SECTION LED FILLED COUNTDOWN TIMER "HAND/WALKING PERSON" INDICATION.
- 8) EACH SIGNAL FACE SHALL HAVE A BACKGROUND SHIELD.
- 9) SEE DETAILS, SPECIAL PROVISIONS & STATEMENT OF ESTIMATED QUANTITIES REGARDING BATTERY BACK-UP SIGNAL SERVICE CABINET TO BE FURNISHED AND INSTALLED BY CONTRACTOR (SEPARATE FROM ITEM NO. 2565 FOR THIS SIGNAL SYSTEM).
- 10) LOOP DETECTOR WIRES SHALL BE CROSS-LINKED POLYETHYLENE (XLP) #12 AWG IN 3/4" N.M.C. SEE SPECIAL PROVISIONS.
- 11) (*) DENOTES ITEMS TO BE INCLUDED AS PART OF THE PAY ITEM FOR ITEM NO. 2565 (EMERGENCY VEHICLE PREEMPTION SYSTEM). SEE STATEMENT OF ESTIMATED AND SPECIAL PROVISIONS.
- 12) (**) DENOTES ITEMS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER ITEM NO. 2565 (TRAFFIC CONTROL INTERCONNECT). SEE STATEMENT OF ESTIMATED QUANTITIES AND SPECIAL PROVISIONS.
- 13) SEE SHEETS 33-35 FOR FURTHER INFORMATION REGARDING INPLACE CONDUIT, HANDHOLES & FIBER OPTIC CABLE TO BE INCORPORATED INTO NEW TRAFFIC SIGNAL INSTALLATION.
- 14) SOIL BORINGS NEAR PROPOSED NEW SIGNAL POLE FOUNDATION LOCATIONS INDICATE THAT SOILS GENERALLY CONSIST OF POORLY GRADED SAND WITH SILT MATERIAL, WITH A WATER TABLE AT AROUND 5 FEET AT SOME LOCATIONS. SOILS SHOULD BE SUFFICIENT FOR SUPPORTING ALL FOUNDATION INSTALLATIONS, BUT CONTRACTOR SHALL PLAN FOR ADDITIONAL ENCASEMENT OF ALL POLE FOUNDATIONS TO ACCOUNT FOR SHALLOW WATER TABLE AND TO STABILIZE SOILS AROUND FOUNDATIONS (INCIDENTAL).
- 15) ALL CABLES AND CONDUCTORS SHALL BE NEW (FURNISHED AND INSTALLED BY CONTRACTOR), EXCEPT FOR INTERCONNECT CABLES NOTED TO BE REUSED AS PART OF NEW SIGNAL INSTALLATION.

① F & I PA90 POLE FOUNDATION
LUMINAIRE-LED
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)
TYPE D SIGN PANEL-OVERHEAD (D-1)
(*) INSTALL ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (Ø4)
(*) ONE WAY EVP MOUNTING HARDWARE (FOR COUNTY FURNISHED DETECTOR AND CONFIRMATION LIGHT)
EXTEND INTO HH 16:
3" CONDUIT
2-12/c 14
1-6/c 14
1-3/c 14
2-2/c 14
(*) 1-3/c 20
1-3/c 14 (LUM)
2-1/c 6 (GRD)
INSTALL (FURNISHED BY COUNTY) TYPE PA90-A-20-D30-9 (DAVIT AT 350 DEG) ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (Ø4)

② F & I PA100 POLE FOUNDATION
LUMINAIRE-LED
CAP END OF MAST ARM (FOR FUTURE USE)
3-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11', 23', 35'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
2-PEDESTRIAN PUSH BUTTONS & SIGNS (R10-3e)
R10-X12 SIGN PANEL-ADJACENT TO 1-1
TYPE D SIGN PANEL-OVERHEAD (D-2)
(*) INSTALL ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (Ø6,1)
(*) ONE WAY EVP MOUNTING HARDWARE (FOR COUNTY FURNISHED DETECTOR AND CONFIRMATION LIGHT)
EXTEND INTO HH 5:
3" CONDUIT
3-12/c 14
1-4/c 14
1-3/c 14
2-2/c 14
(*) 1-3/c 20
1-3/c 14 (LUM)
2-1/c 6 (GRD)
INSTALL (FURNISHED BY COUNTY) TYPE PA100-A-50-D30-9 (DAVIT AT 350 DEG) ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (Ø6,1)

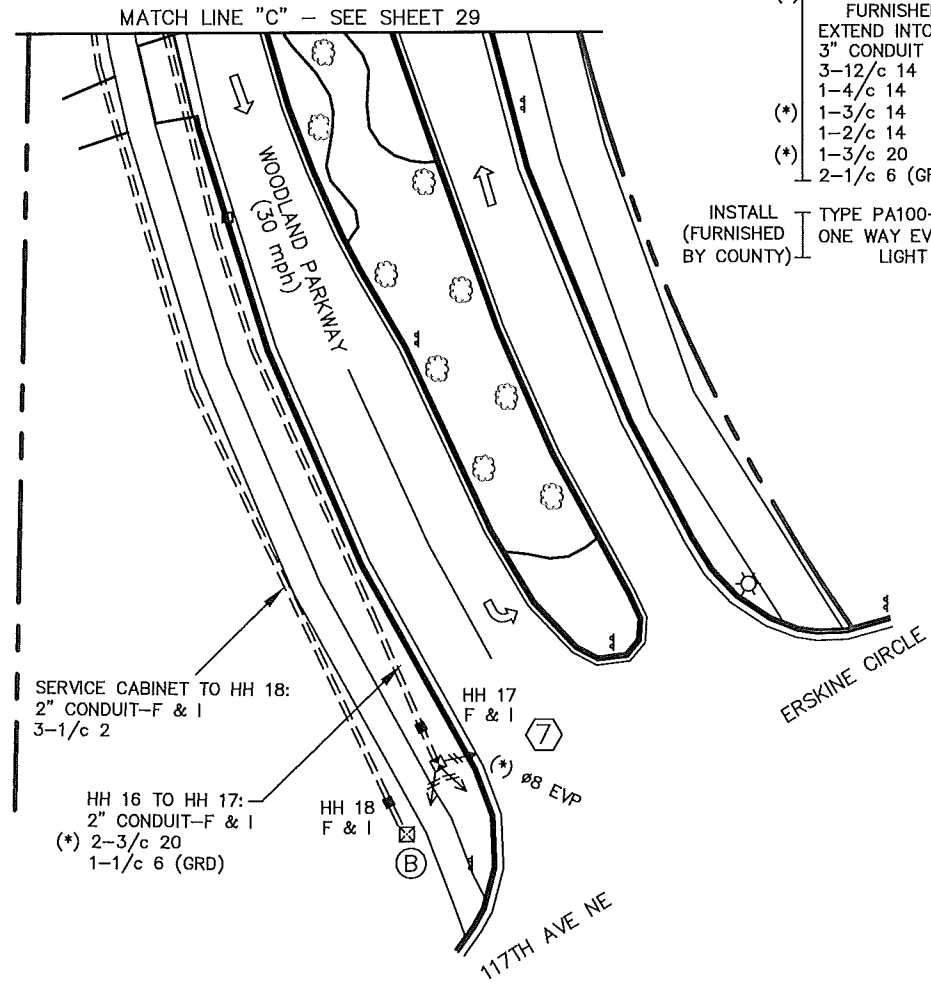
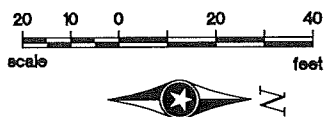
③ F & I PA90 POLE FOUNDATION
LUMINAIRE-LED
1-ANGLE MOUNT SIGNAL-OVERHEAD AT 0'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
1-PEDESTRIAN PUSH BUTTON & SIGN (R10-3e)
TYPE D SIGN PANEL-OVERHEAD (D-3)
(*) INSTALL ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (Ø8)
(*) ONE WAY EVP MOUNTING HARDWARE (FOR COUNTY FURNISHED DETECTOR AND CONFIRMATION LIGHT)
EXTEND INTO HH 8:
3" CONDUIT
2-12/c 14
1-6/c 14
1-3/c 14
1-2/c 14
(*) 1-3/c 20
1-3/c 14 (LUM)
1-1/c 6 (GRD)
INSTALL (FURNISHED BY COUNTY) TYPE PA90-A-20-D30-9 (DAVIT AT 350 DEG) ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (Ø8)

⑤ F & I PA100 POLE FOUNDATION
CAP END OF MAST ARM (FOR FUTURE USE)
3-STRAIGHT MOUNT SIGNALS-OVERHEAD AT 11', 23', 35'
2-ANGLE MOUNT SIGNALS-POLE MOUNTED 90 DEG AND 180 DEG
2-ANGLE MOUNT C.D. PED INDICATIONS-POLE MOUNTED 90 DEG AND 180 DEG
1-PEDESTRIAN PUSH BUTTON & SIGN (R10-3e)
R10-X12 SIGN PANEL-ADJACENT TO 5-1
TYPE D SIGN PANEL-OVERHEAD (D-4)
(*) INSTALL ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (Ø2,5)
(*) ONE WAY EVP MOUNTING HARDWARE (FOR COUNTY FURNISHED DETECTOR AND CONFIRMATION LIGHT)
EXTEND INTO HH 14:
3" CONDUIT
3-12/c 14
1-4/c 14
1-3/c 14
1-2/c 14
1-3/c 20
2-1/c 6 (GRD)
INSTALL (FURNISHED BY COUNTY) TYPE PA100-A-55 ONE WAY EVP DETECTOR & LED CONFIRMATION LIGHT (Ø2,5)

⑥ F & I STREET LIGHT POLE FOUNDATION
LUMINAIRE-LED
1-PEDESTRIAN PUSH BUTTON & SIGN (R10-3e)
EXTEND INTO HH 14:
3" CONDUIT
1-2/c 14
1-3/c 14 (LUM)
1-1/c 6 (GRD)
INSTALL (FURNISHED BY COUNTY) TYPE D30-9 LUMINAIRE POLE AND DAVIT ARM (AT 315 DEG)

② F & I INPLACE GROUND MOUNTED TRANSFORMER (SOP) (XCEL ENERGY)
EXTEND INTO HH 18:
2" CONDUIT
3-1/c 2

⑦ F & I (*) PEDESTAL FOUNDATION
(*) 10' PEDESTAL POLE, BASE, WIND COLLAR
(*) SLIPFITTER COLLAR ATOP POLE
(*) INSTALL 1-ONE WAY AND 1-TWO WAY EVP DETECTORS ATOP POLE (BOTH Ø8)
EXTEND INTO HH 17:
(*) 2" CONDUIT
(*) 2-3/c 20
(*) 1-1/c 6 (GRD)
INSTALL (FURNISHED BY COUNTY) 1-ONE WAY AND 1-TWO WAY EVP DETECTORS (BOTH Ø8)



① INSTALL - CONTROLLER AND CABINET (FURNISHED BY COUNTY)

F & I EQUIPMENT PAD FOUNDATION
BBU SIGNAL SERVICE CABINET
BETWEEN CONTROLLER CABINET AND SERVICE CABINET:
METERED SIGNAL SERVICE
2" CONDUIT
3-1/c 6
CONTROLLER CABINET TO HH 1:
4" CONDUIT
3-12/c 14
1-4/c 14
1-3/c 14
9-2/c 14
(*) 1-3/c 20
CONTROLLER CABINET TO HH 16:
4" CONDUIT
3-12/c 14
1-4/c 14
1-3/c 14
(*) 1-3/c 20
CONTROLLER CABINET TO HH 1:
4" CONDUIT
2-12/c 14
1-6/c 14
1-3/c 14
(*) 1-3/c 14
4-2/c 14
(*) 1-3/c 20
1-1/c 6 (GRD)
1-3/c 14
(*) 1-3/c 14
2-2/c 14
(*) 3-3/c 20
1-1/c 6 (GRD)

F & I SERVICE CABINET TO HH 1:
1 1/4" CONDUIT
UNMETERED STREET LIGHT SERVICE
2-3/c 14 (LUM)
SERVICE CABINET TO HH 16:
1 1/4" CONDUIT
UNMETERED STREET LIGHT SERVICE
2-3/c 14 (LUM)
SERVICE CABINET TO HH 18:
2" CONDUIT
3-1/c 2
STUB OUT 3" CONDUIT FROM CONTROLLER CABINET TO WEST (THREAD AND CAP-FOR FUTURE USE)
STUB OUT 1" CONDUIT FROM CONTROLLER CABINET (FOR FUTURE PHONE LINE BY OTHERS)
CONTROLLER CABINET TO FO VAULT:
(**) 2" CONDUIT
(**) 1-6 SM FIBER-OPTIC PIGTAIL

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG

DESIGN TEAM	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: June 4, 2019 Name: John M. Gray, PE Lic. No. 22457

SEH PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

ANOKA COUNTY
CITY OF BLAINE

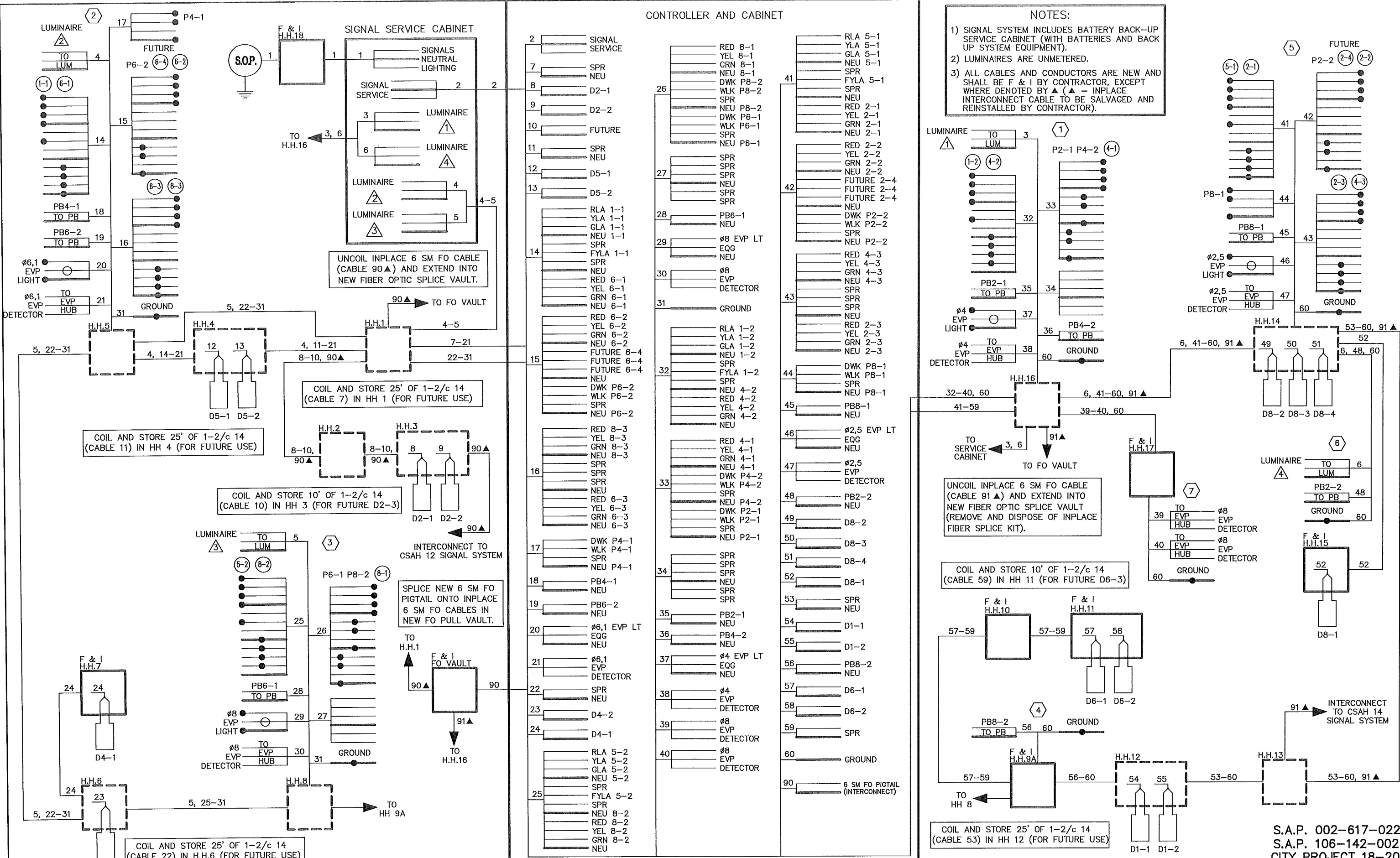
TRAFFIC SIGNAL SYSTEM
NOTES
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY

FILE NO. ANOKC 148315
DATE 06/04/2019
31
35

S.A.P. 002-617-022
S.A.P. 106-142-002
CITY PROJECT 18-20

CONTROLLER AND CABINET

- NOTES:
- 1) SIGNAL SYSTEM INCLUDES BATTERY BACK-UP SERVICE CABINET (WITH BATTERIES AND BACK UP SYSTEM EQUIPMENT).
 - 2) LUMINAIRES ARE UNMETERED.
 - 3) ALL CABLES AND CONDUCTORS ARE NEW AND SHALL BE F & I BY CONTRACTOR, EXCEPT WHERE DENOTED BY ▲ (▲ = INPLACE INTERCONNECT CABLE TO BE SALVAGED AND REINSTALLED BY CONTRACTOR).



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 DESIGNER: JMG
 CHECKED BY: JMG

NO.	BY	DATE	REVISIONS

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 CITY OF BLAINE

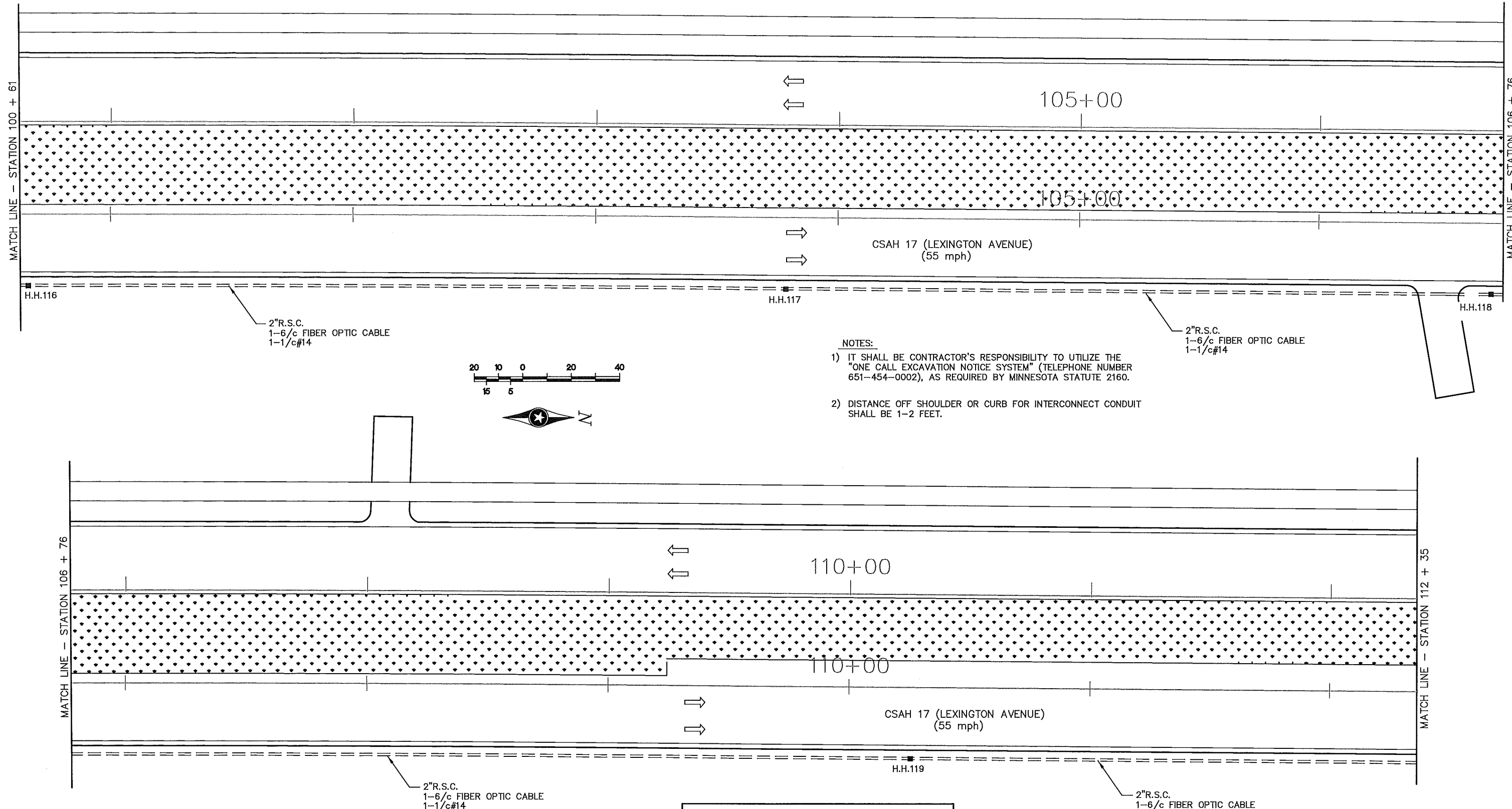
TRAFFIC SIGNAL SYSTEM
 FIELD WIRING DIAGRAM
 CSAH 17 (LEXINGTON AVENUE)
 AT WOODLAND PARKWAY

FILE NO.
 ANOKC 148315
 DATE
 06/04/2019

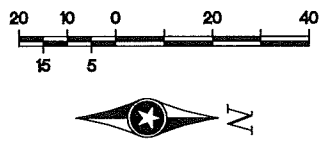
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S.A.P. 002-617-022
 S.A.P. 106-142-002
 CITY PROJECT 18-20

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- NOTES:**
- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
 - 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.



NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

S.A.P. 002-617-022
 S.A.P. 106-142-002
 CITY PROJECT 18-20

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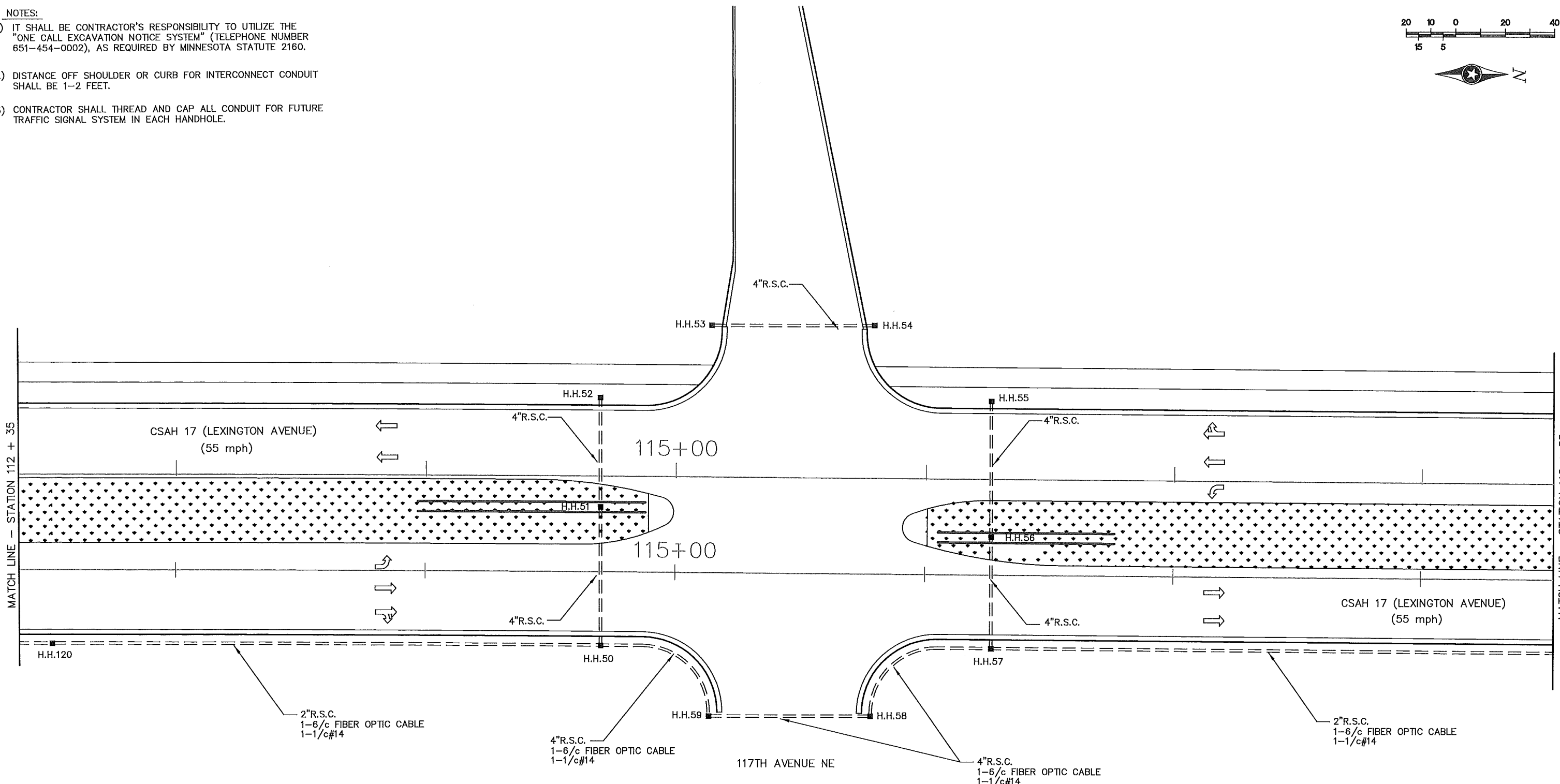
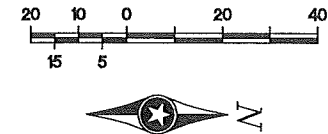
**ANOKA COUNTY
 CITY OF BLAINE**

**INPLACE SIGNAL COMPONENTS
 'FOR INFORMATION ONLY'
 CSAH 17 (LEXINGTON AVENUE)
 AT WOODLAND PARKWAY**

FILE NO. ANOKC 148315	33
DATE 06/04/2019	35

NOTES:

- 1) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0002), AS REQUIRED BY MINNESOTA STATUTE 2160.
- 2) DISTANCE OFF SHOULDER OR CURB FOR INTERCONNECT CONDUIT SHALL BE 1-2 FEET.
- 3) CONTRACTOR SHALL THREAD AND CAP ALL CONDUIT FOR FUTURE TRAFFIC SIGNAL SYSTEM IN EACH HANDHOLE.



NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

S.A.P. 002-617-022
S.A.P. 106-142-002
CITY PROJECT 18-20

DRAWN BY: JMG
DESIGNER: JMG
CHECKED BY: JMG

NO.	BY	DATE	REVISIONS

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PHONE: (651) 490-2000
3535 VADNAIS CENTER DR.
ST. PAUL, MN 55110

**ANOKA COUNTY
CITY OF BLAINE**

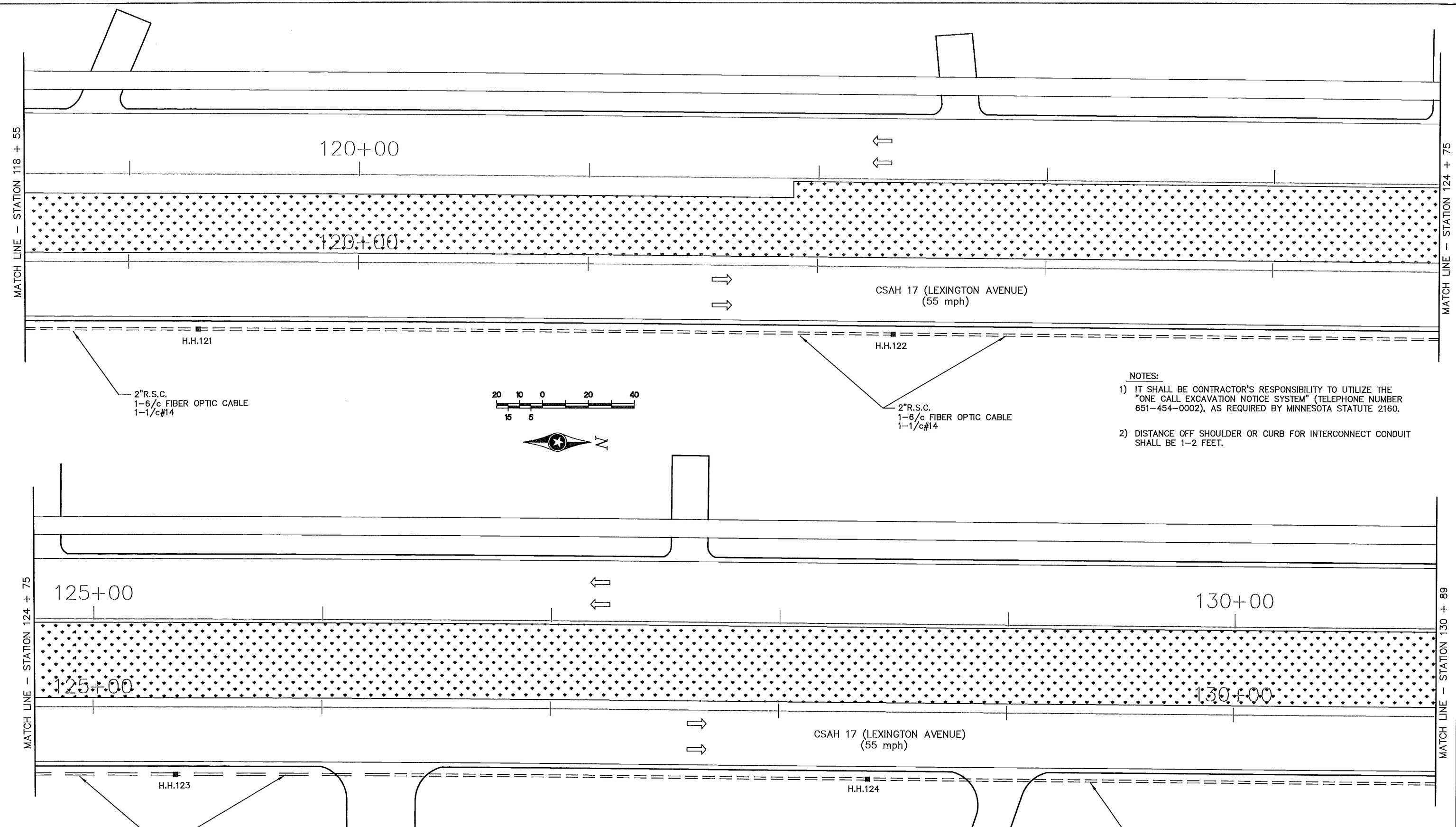
**INPLACE SIGNAL COMPONENTS
"FOR INFORMATION ONLY"
CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY**

FILE NO.
ANOKC 148315
DATE
06/04/2019

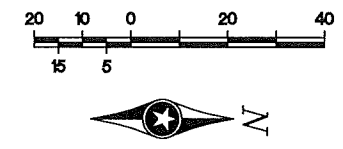
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2"R.S.C.
1-6/c FIBER OPTIC CABLE
1-1/c#14



2"R.S.C.
1-6/c FIBER OPTIC CABLE
1-1/c#14

- NOTES:**
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H.H.123
2"R.S.C.
1-6/c FIBER OPTIC CABLE
1-1/c#14

NOTE: THIS PLAN SHEET IS BEING PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

2"R.S.C.
1-6/c FIBER OPTIC CABLE
1-1/c#14

S.A.P. 002-617-022
S.A.P. 106-142-002
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**INPLACE SIGNAL COMPONENTS
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CSAH 17 (LEXINGTON AVENUE)
AT WOODLAND PARKWAY**

FILE NO. ANOKC 148315	35
DATE 06/04/2019	35