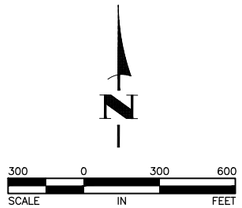
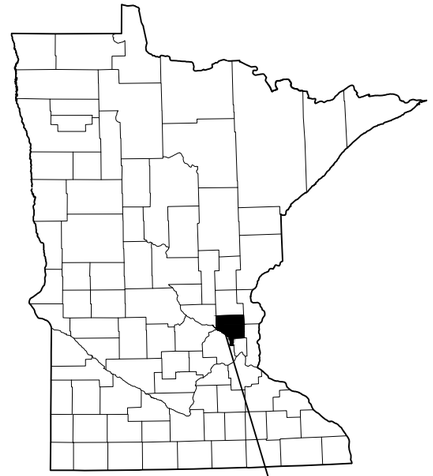
WOODBINE STREET EXTENSION PROJECT

CITY OF ST. FRANCIS, MINNESOTA





CITY OF ST.FRANCIS,
ANOKA COUNTY,
MINNESOTA

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF ASCE 38-22, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING UTILITES."

GOVERNING SPECIFICATIONS

THE 2025 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL APPLY.

THE 2023 EDITION OF THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM) STANDARD SPECIFICATIONS SHALL APPLY.

ALL FEDERAL, STATE AND LOCAL LAWS, REGULATIONS, AND ORDINANCES SHALL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

ALL REQUIREMENTS OF THE PROJECT MANUAL FOR THE WOODBINE STREET EXTENSION PROJECT.

SHEET INDEX

THIS PLAN CONTAINS 24 SHEETS

I hereby certify that this plan, specification, or report 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.

CRAIG J. JOCHUM, P.E.
HAKANSON ANDERSON
DESIGN ENGINEER

23461 LIC. NO.

DATE 3/2/26

DATE	REVISION

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763-427-5860 FAX 763-427-0520

PROJECT LEGEND

- 900 — EXISTING CONTOUR
- 900 — PROPOSED CONTOUR
- PROJECT PROPERTY LINE
- SURROUNDING PROPERTY LINE
- RIGHT OF WAY LINE
- EASEMENT LINE
- FO–BUR / FO–BUR — BURIED FIBER OPTIC CABLE
- T–BUR / T–BUR — BURIED TELEPHONE CABLE
- G / G / G — GAS MAIN
- P–BUR / P–BUR — BURIED ELECTRIC CABLE
- P–OH / P–OH — OVERHEAD ELECTRIC CABLE
- UTILITY PEDESTAL
- POWER POLE
- GUY WIRE
- LIGHT POLE
- SIGNAL POLE
- >> — STORM SEWER
- STORM SEWER MANHOLE
- CATCH BASIN
- FES
- I — WATERMAIN
- WATERMAIN MANHOLE
- HYDRANT
- GATE/BUTTERFLY VALVE
- WATER SERVICE
- > — SANITARY SEWER
- SANITARY SEWER MANHOLE
- SANITARY CLEANOUT
- SEWER SERVICE
- TRUNCATED DOMES
- CONCRETE CURB & GUTTER
- SIGN
- M MAILBOX
- 2/3 — DETAIL NUMBER / SHEET NUMBER
- SAWCUT BITUMINOUS OR CONCRETE
- W — DELINEATED WETLAND
- EXISTING TREELINE
- SB1 — SOIL BORING
- C1 — PAVEMENT CORE
- CONIFEROUS TREE
- DECIDUOUS TREE
- CSP — CITY STANDARD PLATE

CONSTRUCTION NOTES:

1. ALL CURB, BITUMINOUS, AND CONCRETE REMOVALS SHALL BE SAW CUT FULL DEPTH TO PROVIDE A CLEAN EDGE FOR NEW JOINT. BITUMINOUS MATCH POINTS SHALL BE MILLED PRIOR TO PLACEMENT OF NEW PAVEMENT PER DETAIL 1 SHEET 4.
2. INLET PROTECTION IS REQUIRED ON ALL CATCH BASINS.
3. FOR ALL NEW STORM SEWER AND SANITARY CASTINGS FURNISH AND INSTALL NEW RINGS PER CITY STANDARD PLATES 309 AND 414.
4. THE SANITARY AND WATER SERVICES SHOWN ON THE PLANS ARE APPROXIMATE. CONTRACTOR SHALL LOCATE SERVICES IN THE FIELD WHEN NECESSARY AND PROTECT DURING EXCAVATION OPERATIONS (INCIDENTAL).
5. CONTRACTOR SHALL SAWCUT DRIVEWAYS AND SIDEWALKS AT DIRECTION OF ENGINEER.
6. ANY DEWATERING REQUIRED FOR CONSTRUCTION SHALL MEET REGULATORY REQUIREMENTS AND BEST MANAGEMENT PRACTICES SUCH THAT THE RECEIVING WATER IS NOT ADVERSELY AFFECTED.
7. THE UTILITY COMPANIES WILL NEED TO RELOCATE/MODIFY THEIR FACILITIES WITH THIS PROJECT. CONTRACTOR SHALL SCHEDULE AND COORDINATE CONSTRUCTION IN COOPERATION WITH UTILITY RELOCATION.
8. REMOVAL OF EXISTING WATER SERVICE PIPE AND SHUT OFF VALVES SHALL BE INCIDENTAL.
9. THE CONCRETE MIX DESIGNS FOR THIS PROJECT SHALL BE 3F52 FOR HAND–FORMED CONCRETE AND 3F32 FOR MACHINE FORMED CONCRETE. ENTRAINED AIR SHALL BE MAINTAINED BETWEEN 5% AND 7%.
10. TO THE EXTENT PRACTICAL THE CONTRACTOR SHALL LOCATE THE EXISTING SANITARY SEWER SERVICES AND PROTECT THEM DURING CONSTRUCTION. IF THE CONTRACTOR ACCIDENTALLY DAMAGES A SEWER SERVICE, THE CONTRACTOR WILL BE PAID PER ITEM 2503 SANITARY SEWER SPOT REPAIR. A MAXIMUM OF 6 LIN FT WILL BE MEASURED AT A REPAIR LOCATION. THIS ITEM WILL INCLUDE FURNISHING AND INSTALLING NEW PVC PIPE AND CONNECTING THE NEW SERVICE PIPE TO THE EXISTING SERVICE PIPE WITH FERNCO COUPLINGS OR AN APPROVED EQUAL.
11. ALL DISTURBED AREAS SHALL BE SEEDED, FERTILIZED, AND STABILIZED WITH HYDRAULIC BONDED FIBER MATRIX AT THE RATES SHOWN IN THE BASIS OF ESTIMATED QUANTITIES TABLE. SEEDING SHALL BE A SEPARATE OPERATION AND SHALL NOT BE PLACED WITH THE MULCH MATERIAL. PRIOR TO PLACING THE SEED, CONTRACTOR SHALL SUBCUT DISTURBED AREAS 4 INCHES AND PLACE COMMON TOPSOIL. REMOVAL AND DISPOSAL OF EXISTING MATERIALS AND SOIL SHALL BE INCIDENTAL.
12. ALL EXCESS SOIL MATERIAL SHALL BE DISPOSED OF OFF SITE BY THE CONTRACTOR. THIS WORK SHALL BE INCIDENTAL.
13. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO ENSURE ALL PEDESTRIAN RAMPS MEET ADA REQUIREMENTS AND MUST CONFORM WITH MNDOT STANDARDS PLANS 5–297.250 WHICH ARE INCLUDED AS SHEETS 9–14 OF THESE PLANS. THE REMOVAL LIMITS SHOWN ARE FOR GENERAL USE ONLY. THE CONTRACTOR IS RESPONSIBLE TO MAKE SURE ALL REQUIREMENTS ARE MET.
14. ALL ITEMS SALVAGED FOR RE–USE SHALL BE STORED AND PROTECTED BY THE CONTRACTOR. ANY ITEMS DAMAGED OR LOST DURING THE STORAGE PERIOD SHALL BECOME THE CONTRACTOR'S RESPONSIBLY TO REPLACE WITH NO ADDITIONAL COST.
15. PAVEMENT TOLERANCES AT CASTING AND VALVE BOXES ARE SHOWN ON THE DETAILS ON SHEET 4.
16. CONTRACTOR SHALL GROUT THE EXISTING DOGHOUSES AND RINGS FOR ALL EXISTING STORM SEWER STRUCTURES AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE PAID PER ITEM 2506 GROUT CATCH BASIN OR MANHOLE.
17. CONTRACTOR SHALL REMOVE WATERMAIN SERVICES UP TO EXISTING CURB STOPS, UNLESS SHOWN OTHERWISE ON THE PLANS.
18. THE CONTRACTOR SHALL CONSTRUCT A CONTINUOUS TRACER WIRE ON THE WATER SYSTEM IN ACCORDANCE WITH THE PLANS AND SPECIFICATION AND MINNESOTA RURAL WATER ASSOCIATION SEWER/WATER UTILITY TRACER WIRE SPECIFICATIONS. THE MATERIAL AND WORK FOR THE CONSTRUCTION OF THE TRACER WIRE SYSTEM SHALL BE INCIDENTAL.
19. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL BUSINESSES AT ALL TIMES. CONCRETE CURB, WALK, OR PAVEMENT CONSTRUCTED IN THESE DRIVEWAYS SHALL BE COMPLETED IN PHASES AS NEEDED TO PROVIDE ACCESS OR ALTERNATELY TEMPORARY ACCESS WILL NEED TO BE CONSTRUCTED. THIS WORK SHALL BE INCIDENTAL.

BASIS OF ESTIMATED QUANTITIES

AGGREGATE BASE CLASS 5	100 lbs/yd²/in
NON WEARING BITUMINOUS COURSE MIXTURE	110 lbs/yd²/in
WEARING COURSE BITUMINOUS MIXTURE	110 lbs/yd²/in
BITUMINOUS MATERIAL FOR TACK COAT - NEW ASPHALT	0.06 gal/yd²
BITUMINOUS MATERIAL FOR TACK COAT - OLD ASPHALT	0.07 gal/yd²
BITUMINOUS MATERIAL FOR TACK COAT - MILLED ASPHALT	0.08 gal/yd²
HYDRAULIC FIBER BONDED MATRIX	3500 lbs/acre
SEED MIX SOUTHERN BOULEVARD	320 lbs/acre
TYPE 1, COMMERCIAL FERTILIZER	300 lbs/acre

ESTIMATED QUANTITIES

ITEM NO.	REF. NOTES	Mn/DOT SPEC. NO.	ITEM DESCRIPTION	UNIT	TOTAL ESTIMATED QUANTITY
1		2021.501	MOBILIZATION	LUMP SUM	1
2		2104.502	REMOVE SIGN	EACH	2
3		2104.502	REMOVE CATCH BASIN	EACH	1
4		2104.503	SAWING CONCRETE PAVEMENT - FULL DEPTH	LIN FT	14
5		2104.503	SAWING BITUMINOUS PAVEMENT - FULL DEPTH	LIN FT	102
6		2104.503	REMOVE SEWER PIPE (STORM)	LIN FT	29
7		2104.503	REMOVE SEWER PIPE (SANITARY)	LIN FT	198
8		2104.503	REMOVE CONCRETE CURB	LIN FT	82
9		2104.503	REMOVE FENCE	LIN FT	164
10		2104.504	REMOVE CONCRETE PAVEMENT	SQ YD	43
11		2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	125
12		2106.507	EXCAVATION - COMMON	CU YD	1134
13		2106.507	SELECT GRANULAR EMBANKMENT (CV)	CU YD	406
14		2106.507	COMMON EMBANKMENT (CV)	CU YD	611
15		2106.601	DEWATERING	LUMP SUM	1
16		2112.519	SUBGRADE PREPARATION	ROAD STA	5.1
17		2130.523	WATER	M GALLON	200
18		2211.509	AGGREGATE BASE CLASS 5	TON	1301
19		2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	115
20		2360.504	TYPE SP 12.5 WEARING COURSE MIXTURE (2,B) 3.0" THICK	SQ YD	178
21		2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (2,B)	TON	251
22		2360.509	TYPE SP 12.5 NON WEARING COURSE MIXTURE (2,B)	TON	314
23		2501.502	18" RC PIPE APRON	EACH	1
24		2503.503	8" PVC PIPE SEWER	LIN FT	256
25		2503.503	12" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT	57
26		2503.503	15" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT	226
27		2503.503	18" RC PIPE SEWER DESIGN 3006 CLASS V	LIN FT	160
28		2503.602	8" PVC CAP	EACH	1
29		2503.602	CONNECT TO EXISTING SANITARY SEWER	EACH	1
30		2503.602	CONNECT TO EXISTING STORM SEWER	EACH	2
31		2504.601	TEMPORARY WATERMAIN SERVICE	LUMP SUM	1
32		2504.601	TEMPORARY WATER SERVICE	EACH	2
33		2504.602	RECONNECT WATER SERVICE	EACH	2
34		2504.602	CONNECT TO EXISTING WATERMAIN	EACH	1
35		2504.602	HYDRANT	EACH	2
36		2504.602	4" GATE VALVE AND BOX	EACH	2
37		2504.602	6" GATE VALVE AND BOX	EACH	3
38		2504.602	8" GATE VALVE AND BOX	EACH	2
39		2504.603	4" WATERMAIN DUCTILE IRON CL 52	LIN FT	67
40		2504.603	6" WATERMAIN DUCTILE IRON CL 52	LIN FT	89
41		2504.603	8" PVC WATERMAIN	LIN FT	555
42		2504.604	4" POLYSTYRENE INSULATION	SQ YD	40
43		2504.608	DUCTILE IRON FITTINGS	POUND	672
44		2506.502	CASTING ASSEMBLY	EACH	7
45		2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN H	EACH	1
46		2506.503	CONSTRUCT DRAINAGE STRUCTURE DESIGN 4007	LIN FT	6.5
47		2506.503	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	18.1
48		2511.504	GEOTEXTILE FILTER TYPE 4	SQ YD	25.6
49		2511.507	RANDOM RIPRAP CLASS III	CU YD	10
50		2521.518	5" CONCRETE WALK	SQ FT	2764
51		2521.518	6" CONCRETE WALK	SQ FT	693
52		2521.518	8" CONCRETE WALK	SQ FT	121
53		2521.602	DRILL AND GROUT DOWEL BAR (EPOXY COATED)	EACH	45
54		2531.503	CONCRETE CURB AND GUTTER DESIGN B618	LIN FT	1093
55		2531.504	8" CONCRETE DRIVEWAY PAVEMENT	SQ YD	160
56		2531.618	TRUNCATED DOMES	SQ FT	58
57		2563.601	TRAFFIC CONTROL SUPERVISOR	LUMP SUM	1
58		2563.601	TRAFFIC CONTROL	LUMP SUM	1
59		2563.601	ALTERNATE PEDESTRIAN ROUTE	LUMP SUM	1
60		2564.518	SIGN PANEL TYPE XI	SQ FT	36.5
61		2572.503	TEMPORARY FENCE	LIN FT	200
62		2573.501	STABILIZED CONSTRUCTION EXIT	LUMP SUM	1
63		2573.501	EROSION CONTROL SUPERVISOR	LUMP SUM	1
64		2573.502	STORM DRAIN INLET PROTECTION	EACH	5
65		2573.503	SILT FENCE TYPE, MS	LIN FT	560
66		2574.507	COMMON TOPSOIL BORROW	CU YD	100
67		2574.508	FERTILIZER TYPE 1	POUND	105
68		2575.505	SEEDING	ACRE	0.35
69		2575.508	HYDRAULIC BONDED FIBER MATRIX	POUND	1225
70		2575.608	SEED SOUTHERN BOULEVARD	POUND	112
71		2582.503	24" SOLID LINE MULTI-COMPONENT	LIN FT	28
72		2582.518	CROSSWALK MULTI-COMPONENT	SQ FT	135

DATE	REVISION

I hereby certify that this plan, specification, or report 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.

CRAIG J. JOCHUM, P.E.
Date 3/2/26 Lic. No. 23461

DESIGNED BY: CJJ
DRAWN BY: SGJ
CHECKED BY: TAE

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WOODBINE STREET EXTENSION PROJECT

CONSTRUCTION NOTES, PROJECT LEGEND, AND ESTIMATED QUANTITIES

CITY OF ST. FRANCIS, MINNESOTA

SHEET 2 OF 24 SHEETS

SF326

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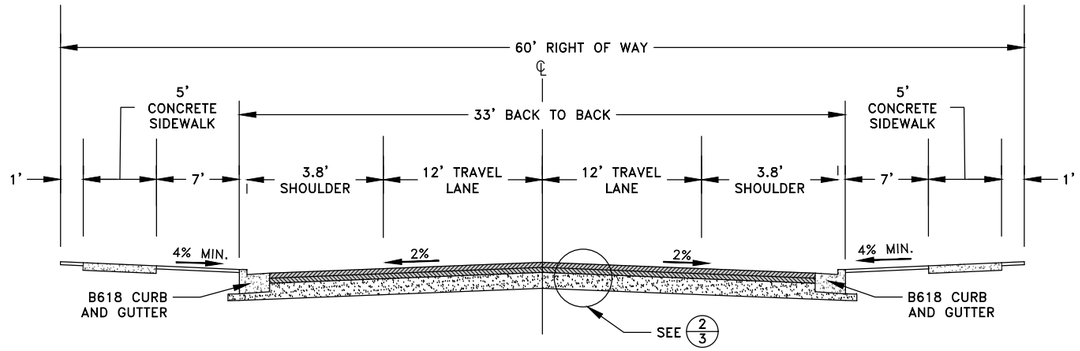
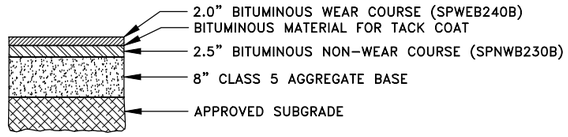
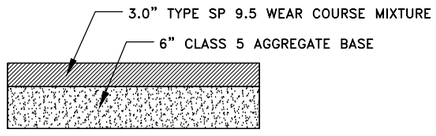


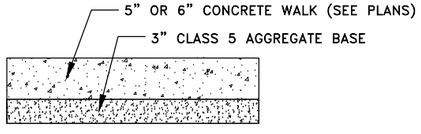
1/3 TYPICAL SECTION



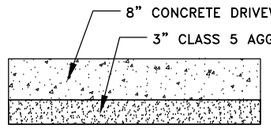
2/3 TYPICAL SECTION



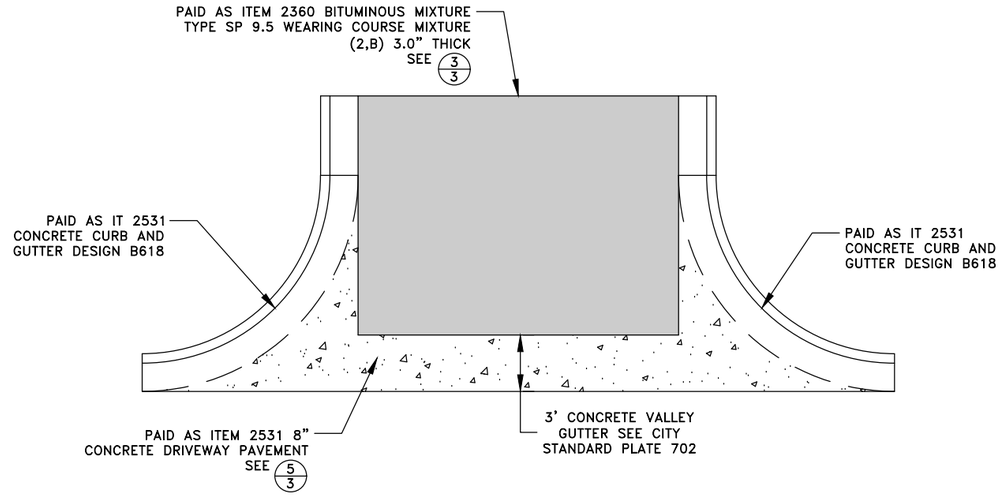
3/3 TYPICAL BITUMINOUS DRIVEWAY



4/3 TYPICAL CONCRETE WALK



5/3 TYPICAL CONCRETE DRIVEWAY



6/3 CONCRETE VALLEY GUTTER

DATE	REVISION

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Date 3/2/26 CRAIG J. JOCHUM, P.E. Lic. No. 23461

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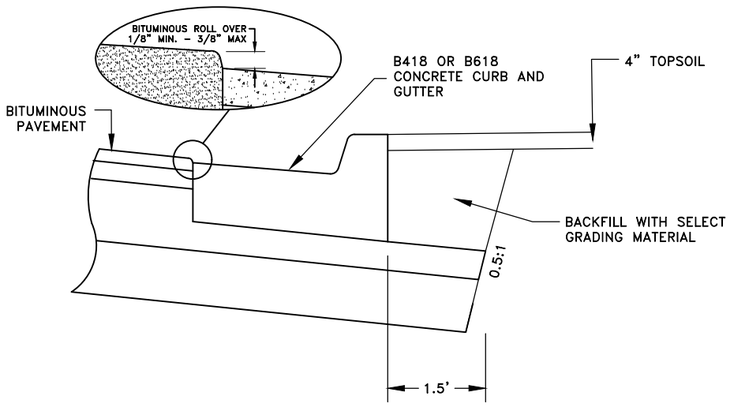
WOODBINE STREET EXTENSION PROJECT

TYPICAL SECTIONS

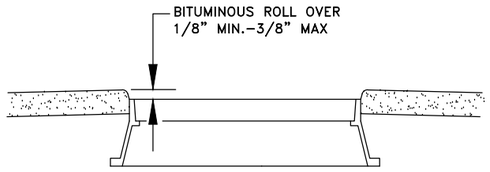
CITY OF ST. FRANCIS, MINNESOTA

SHEET 3 OF 24 SHEETS

SF326



1/4 PAVING AT CURB



2/4 PAVING AT CASTING DETAIL

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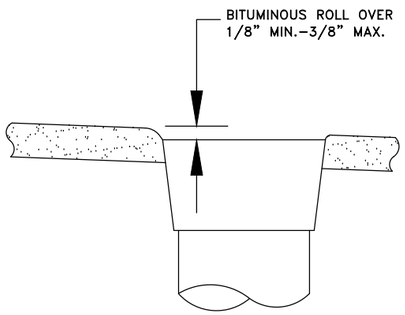

3/4 PAVING AT VALVE BOX DETAIL

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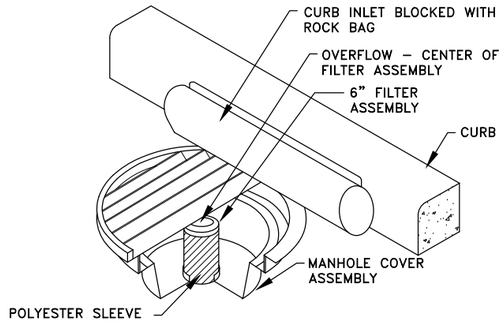

NOTES:
1. ROAD DRAIN DEVICE FITS NEENAH R–3250–1 CASTINGS.
2. PLACE THE ROAD DRAIN–TOP SLAB MODEL DIRECTLY INTO THE CASTING.
3. INSTALL GASKET AND COVER CENTER OF GASKET WITH PIPE GREASE OR OTHER APPROVED LUBRICATION.
4. PLACE THE FILTER MEDIA ONTO THE RISER PIPE.
5. ADJUST FILTER MEDIA PROPER HEIGHT FOR OVERFLOW.
6. CHECK RISER TUBE TO MAKE SURE IT IS FULLY EXTENDED AND ALL FILTER HOLES ARE EXPOSED.
7. CHECK FILTER MEDIA AFTER EACH RAIN EVENT. CLEAN OR REPLACE IF SEDIMENT CLOGS FILTER.
8. REMOVE SEDIMENT AND DEBRIS FROM THE BASE OF THE RISER PIPE TO THE WIDTH EQUAL TO THE SIZE OF THE TOP SLAB MODEL.
9. THE ENGINEER WILL MEASURE STORM DRAIN INLET PROTECTION BY THE NUMBER OF INDIVIDUAL INLETS PROTECTED OVER THE LIFE OF THE CONTRACT REGARDLESS OF THE TYPES AND NUMBER OF DEVICES USED A EACH STORM INLET.

4/4 INLET PROTECTION
ROAD DRAIN
CURB AND GUTTER

N.T.S.

DATE	REVISION

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EXTENSION PROJECT

DETAILS

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SHEET 4 OF 24 SHEETS

SF326

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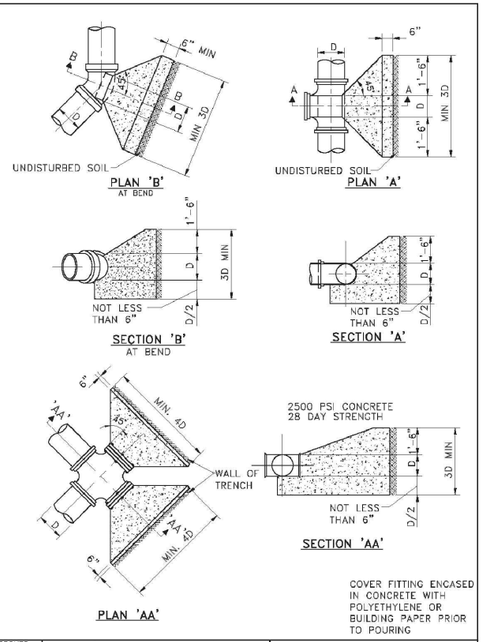

PIPE SIZE	TEE or PLUG	CROSS W/ 2 PLUGS (i.e. 90° BEND)	1/8 BEND (45° BEND) AND 1/16 BEND (22.5°)
6"	0.22 CuYds	0.15 CuYds	0.05 CuYds
8"	0.27 CuYds	0.29 CuYds	0.08 CuYds
10"	0.32 CuYds	0.48 CuYds	0.14 CuYds
12"	0.37 CuYds	0.73 CuYds	0.21 CuYds
16"	0.53 CuYds	1.73 CuYds	0.49 CuYds
20"	0.82 CuYds	3.36 CuYds	0.95 CuYds
24"	1.34 CuYds	5.77 CuYds	1.63 CuYds

NOTE:
1. COVER FITTINGS ENCASED IN CONCRETE WITH POLYETHYLENE OR BUILDING PAPER PRIOR TO POURING.
2. CONCRETE BLOCKING SHALL BE POURED AGAINST FIRM, UNDISTURBED GROUND.
3. CONCRETE SHALL MEET THE REQUIREMENTS FOR GRADE B CONCRETE IN CONFORMANCE WITH Mn/DOT 2461.
4. ALL METAL PARTS OF TIE ROD OR STRAP TYPE RESTRAINTS SHALL BE GALVANIZED OR COATED WITH ASPHALTIC TYPE RUSTPROOFING.

WATERMAIN CONCRETE BLOCKING QUANITIES

APPROVED
REVISED
City of St. Francis
STANDARD PLATE NO. 204
Nov 11, 2022 - 10:17am
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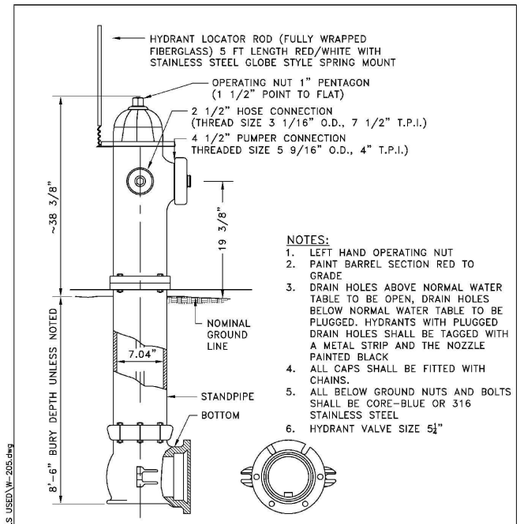

NOTES:
1. LEFT HAND OPERATING NUT
2. PAINT BARREL SECTION RED TO GRADE
3. DRAIN HOLES ABOVE NORMAL WATER TABLE TO BE OPEN, DRAIN HOLES BELOW NORMAL WATER TABLE TO BE PLUGGED. HYDRANTS WITH PLUGGED DRAIN HOLES SHALL BE TAGGED WITH A METAL STRIP AND THE NOZZLE PAINTED BLACK
4. ALL CAPS SHALL BE FITTED WITH CHAINS.
5. ALL BELOW GROUND NUTS AND BOLTS SHALL BE CORE-BLUE OR 316 STAINLESS STEEL
6. HYDRANT VALVE SIZE 5¼"

CLOW MEDALLION HYDRANT
(OR APPROVED EQUAL)
NO SCALE

APPROVED 5/1/2023
REVISED
City of St. Francis
STANDARD PLATE NO. 205
Mar 10, 2025 - 10:31am
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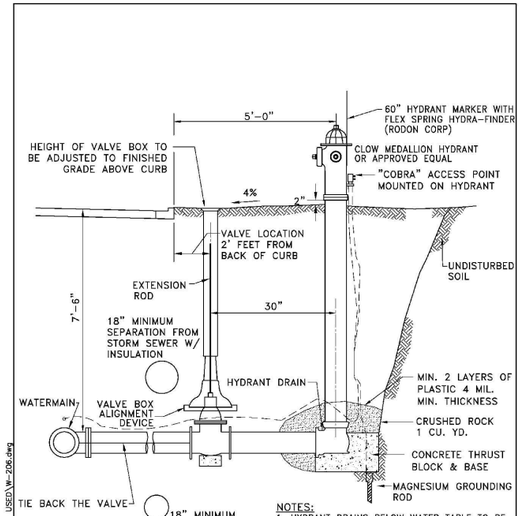
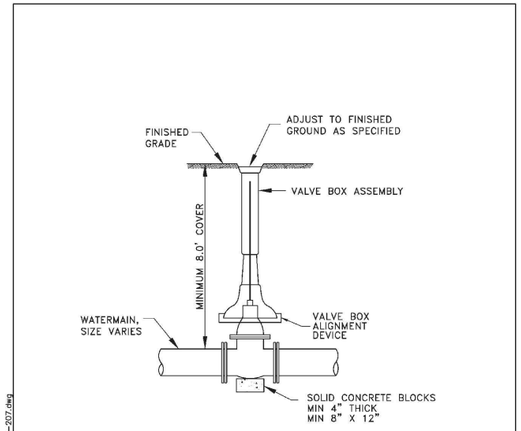


NOTES:
1. HYDRANT DRAINS BELOW WATER TABLE TO BE PLUGGED AND THE HYDRANT TAGGED WITH METAL STRIP AND THE NOZZLE PAINTED BLACK.
2. ALL BELOW GROUND NUTS, BOLTS, AND RODDING SHALL BE CORE-BLUE OR 316 STAINLESS STEEL.
3. SEE CSP 205 AND 210 FOR ADDITIONAL DETAILS.

HYDRANT AND VALVE INSTALLATION
NO SCALE

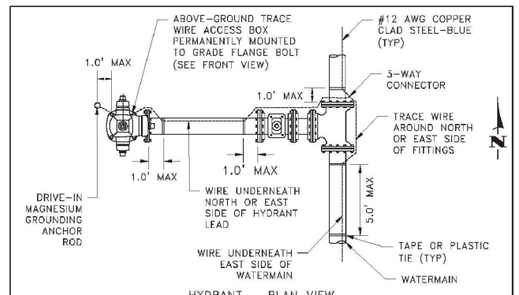
APPROVED 5/1/2023
REVISED
City of St. Francis
STANDARD PLATE No. 206
Mar 10, 2025 - 10:34am
K:\MUNICIPAL\SF326\ENGINEERING\DETAILS USED\W-206.dwg



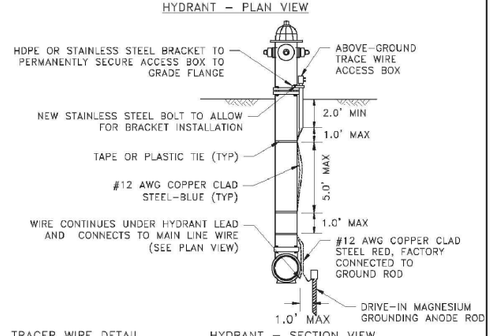
NOTES:
1. ALL VALVES SHALL BE FITTED WITH EXTENSION STEMS. TO BRING THE OPERATING NUT TO BE 12" FROM THE SURFACE.
2. ALL BELOW GROUND NUTS, BOLTS, AND RODDING SHALL BE CORE-BLUE OR 316 STAINLESS STEEL.

TYPICAL RESILIENT WEDGE VALVE & BOX INSTALLATION 10" & UNDER WATERMAIN
NO SCALE

APPROVED
REVISED
City of St. Francis
STANDARD PLATE NO. 207
Nov 11, 2022 - 10:27am
K:\Const_eng\Details\ST FRANCIS\Standard plates\200 WATER\W-207.dwg



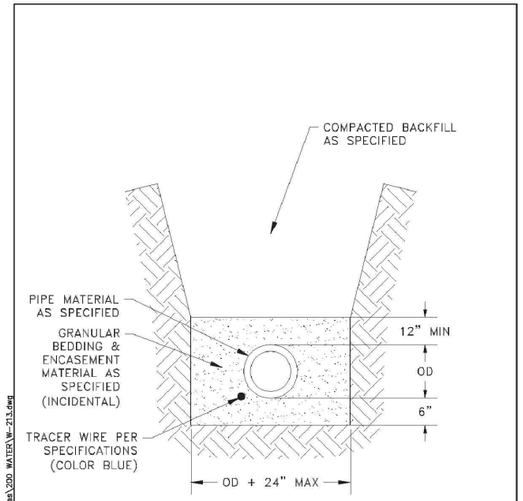
HYDRANT - PLAN VIEW



TRACER WIRE DETAIL
NO SCALE

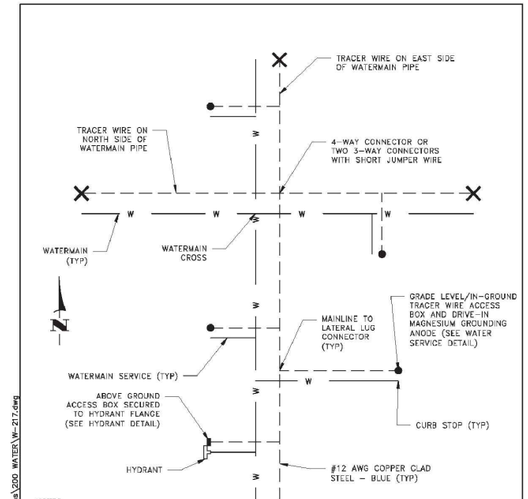
HYDRANT - SECTION VIEW

APPROVED
REVISED
City of St. Francis
STANDARD PLATE NO. 210
Mar 11, 2022 - 10:30am
K:\Const_eng\Details\ST FRANCIS\Standard plates\200 WATER\W-210.dwg



PVC C-900 WATERMAIN TRENCH
NO SCALE

APPROVED
REVISED
City of St. Francis
STANDARD PLATE NO. 213
Nov 17, 2022 - 3:00pm
K:\Const_eng\Details\ST FRANCIS\Standard plates\200 WATER\W-213.dwg



NOTES:
1. WIRE SHOWN AWAY FROM PIPE FOR CLARITY. WIRE SHALL BE INSTALLED ON THE BOTTOM SIDE OF THE PIPE BELOW THE SPRING LINE. THE WIRE SHALL BE FASTENED TO THE PIPE WITH TAPE OR PLASTIC TIES AT 5' INTERVALS

TRACER WIRE SAMPLE WATER PLAN
NO SCALE

APPROVED
REVISED
City of St. Francis
STANDARD PLATE NO. 217
Dec 27, 2022 - 8:01pm
K:\Const_eng\Details\ST FRANCIS\Standard plates\200 WATER\W-217.dwg

DATE	REVISION

I hereby certify that this plan, specification, or report 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.

CRAIG J. JOCHUM, P.E.
Date 3/2/26 Lic. No. 23461

DESIGNED BY: CJJ
DRAWN BY: SGJ
CHECKED BY: TAE

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763-427-5860 FAX 763-427-0520
www.hakanson-anderson.com

WOODBINE STREET EXTENSION PROJECT

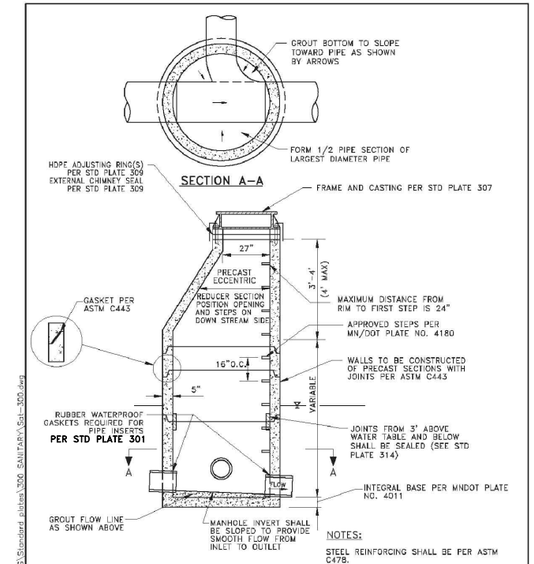
DETAILS

CITY OF ST. FRANCIS, MINNESOTA

SHEET 5 OF 24 SHEETS

SF326

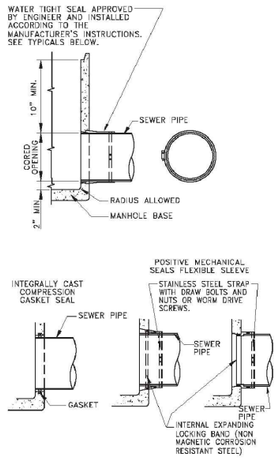
Mar 10, 2026 - 1:21pm
K:\MUNICIPAL\SF326\ENGINEERING\PLAN DWG\NORTH WB SHEETS\SF326_NORTH WB DETAILS.dwg



SANITARY SEWER STANDARD MANHOLE

NO SCALE

APPROVED		STANDARD PLATE NO. 300
REVISED		



SLEEVE NOTES:

FLEXIBLE SLEEVE SHALL BE NEOPRENE MATERIAL MEETING THE REQUIREMENTS OF ASTM C-443 OR AS APPROVED

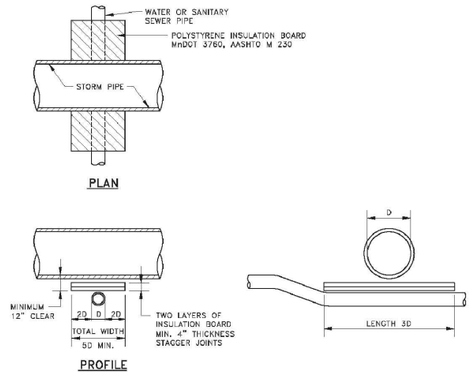
FLEXIBLE SLEEVE DIMENSIONS SHALL CONFORM TO PRODUCERS STANDARDS.

TYPICAL WATER TIGHT SEALS

NO SCALE

APPROVED		STANDARD PLATE NO. 301
REVISED		

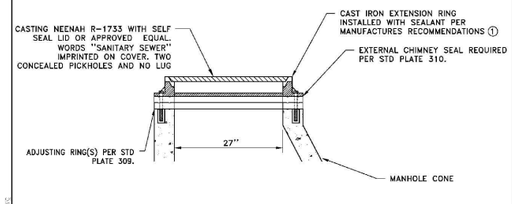
NOTE:
INSULATE ALL WATER OR SANITARY SEWER PIPE CROSSINGS WITHIN 2' OF STORM SEWER PIPE



INSULATION FOR WATER & SANITARY SEWER PIPE & SERVICES

NO SCALE

APPROVED		STANDARD PLATE NO. 304
REVISED		



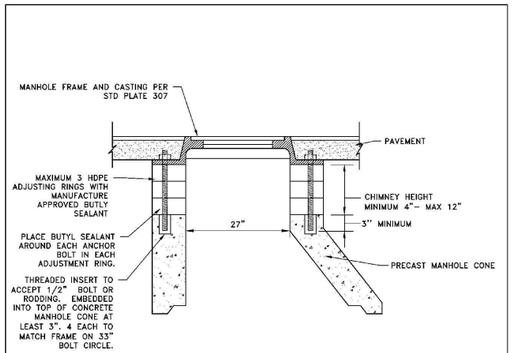
NOTE:
1. ALL NUTS, BOLTS, THREADED INSERTS, AND RODDING SHALL BE 316 STAINLESS STEEL.
2. CLEAN ALL SURFACES TO REMOVE SCALE OR LOOSE IMPEDIMENTS BEFORE PLACING ANY MASTIC, SEALANT, OR INSTALLATION OF FRAME AND CASTING SYSTEM.

REFERENCE NOTE:
① USED FOR OVERLAY PROJECTS ONLY.

SANITARY MANHOLE FRAME AND CASTING

NO SCALE

APPROVED 5/1/2023		STANDARD PLATE NO. 307
REVISED 3/8/2025		

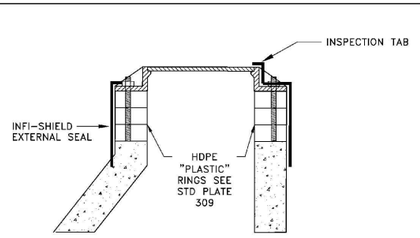


NOTES:
1. ALL NUTS, BOLTS, THREADED INSERTS, AND RODDING SHALL BE 316 STAINLESS STEEL.
2. ADJUSTMENT RINGS SHALL BE HIGH DENSITY POLYETHYLENE RINGS AS MANUFACTURED BY LADTECH, INC OR APPROVED EQUAL.
3. ALL RINGS SHALL MEET OR EXCEED MnDOT HS–20 TRAFFIC LOADING.
4. CLEAN ALL SURFACES TO REMOVE SCALE OR LOOSE IMPEDIMENTS BEFORE PLACING ANY MASTIC, SEALANT, OR INSTALLATION OF FRAME AND CASTING SYSTEM.
5. PLACE TWO 1/2" BEADS OF BUTYL SEALANT BETWEEN FIRST ADJUSTMENT RING AND CONCRETE STRUCTURE. ONE BEAD BETWEEN EACH SUBSEQUENT RING AND FRAME.

MANHOLE ADJUSTMENT RINGS

NO SCALE

APPROVED 5/1/2023		STANDARD PLATE NO. 309
REVISED 3/8/2025		

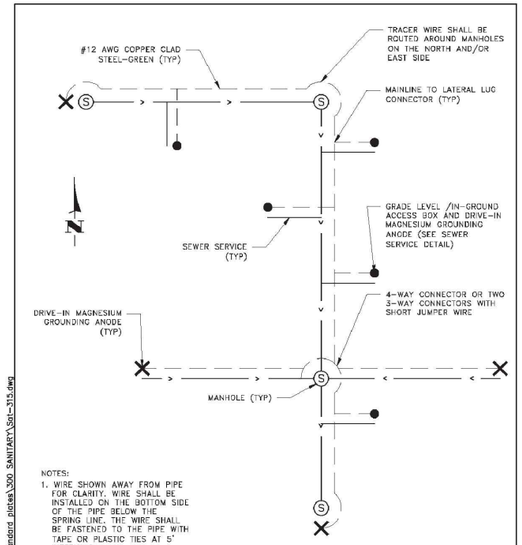


NOTES:
1. THE ADJUSTMENT RINGS AND FRAME SHALL BE SEALED WITH AN EXTERNAL RUBBER SEALING SLEEVE, "INFI–SHIELD" AS MANUFACTURED BY SEALING SYSTEM, INC. OR APPROVED EQUAL.
2. THE SEAL SHALL BE MADE OF EPDM RUBBER WITH A MINIMUM THICKNESS OF 60 MILS AND SEALED WITH A NON–HARDENING BUTYL RUBBER MASTIC.

EXTERNAL CHIMNEY SEAL

NO SCALE

APPROVED 5/1/2023		STANDARD PLATE NO. 310
REVISED 3/8/2025		

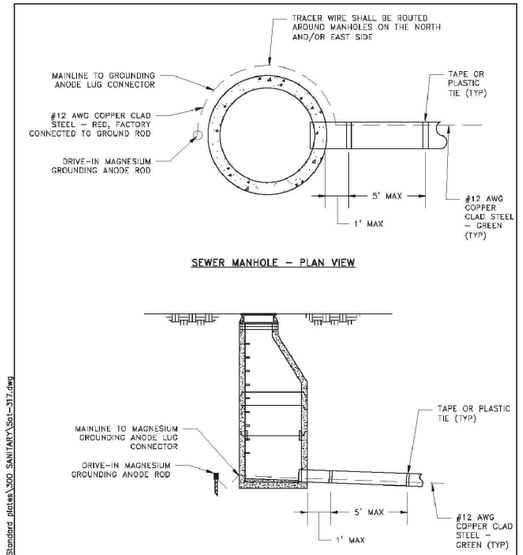


NOTES:
1. WIRE SHOWN AWAY FROM PIPE FOR CLARITY. WIRE SHALL BE INSTALLED ON THE BOTTOM SIDE OF THE PIPE BELOW THE SPRING LINE. THE WIRE SHALL BE FASTENED TO THE PIPE WITH TAPE OR PLASTIC TIES AT 5' INTERVALS

TRACER WIRE PLAN (SEWER)

NO SCALE

APPROVED		STANDARD PLATE NO. 315
REVISED		



TRACER WIRE SEWER MANHOLE DETAIL

NO SCALE

APPROVED		STANDARD PLATE NO. 317
REVISED		

DATE	REVISION

I hereby certify that this plan, specification, or report 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.

CRAIG J. JOCHUM, P.E.
Date 3/2/26 Lic. No. 23461

DESIGNED BY: CJJ
DRAWN BY: SGJ
CHECKED BY: TAE

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763–427–5860 FAX 763–427–0520
www.hakanson–anderson.com

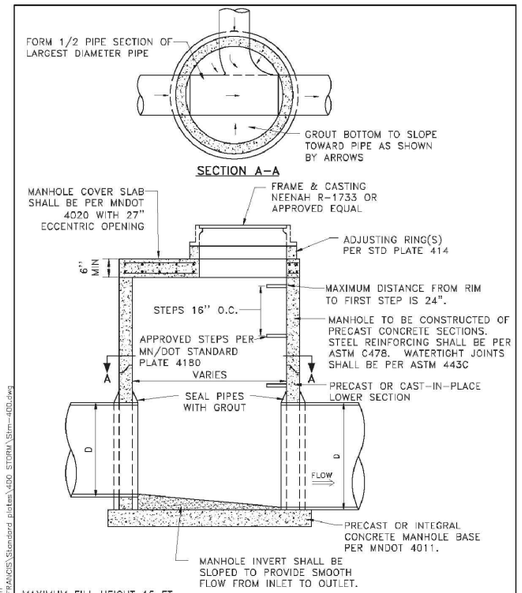
WOODBINE STREET EXTENSION PROJECT

DETAILS

CITY OF ST. FRANCIS, MINNESOTA

SHEET 6 OF 24 SHEETS

SF326



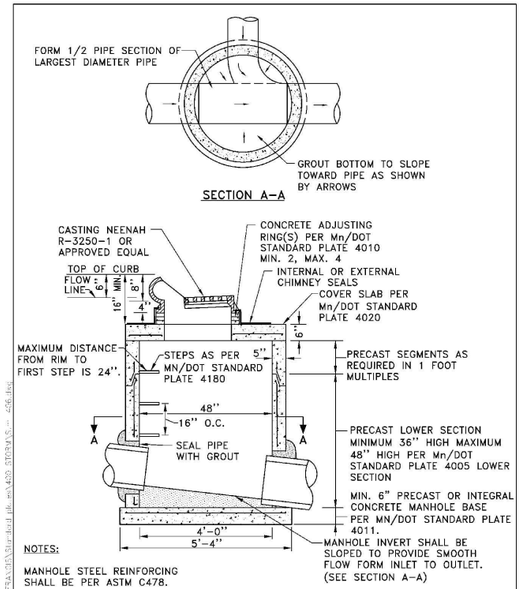
SLAB–TOP MANHOLE
(STORM SEWER)
NO SCALE

APPROVED	
REVISED	

City of St. Francis

STANDARD PLATE NO. 400

Dec 27, 2022 – 8:13pm
K:\Cad_dm\Details\ST FRANCIS\Standard plates\400 STORM\Stm–400.dwg



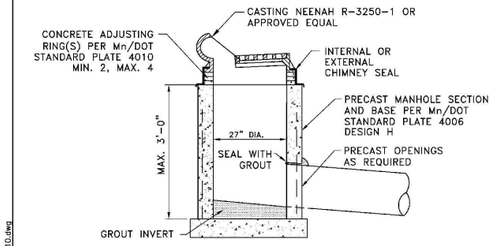
STANDARD STORM MANHOLE – CATCH BASIN
MINIMUM COVER FLOW LINE – TO TOP OF PIPE = 2 FEET
NO SCALE

APPROVED	5/1/2023
REVISED	10/14/2025

City of St. Francis

STANDARD PLATE NO. 406

Dec 23, 2025 – 11:49am
K:\Cad_dm\Details\ST FRANCIS\Standard plates\400 STORM\Stm–406.dwg



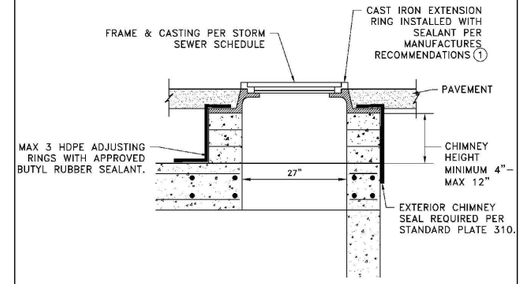
27" CATCH BASIN
NO SCALE

APPROVED	5/1/2023
REVISED	10/14/2025

City of St. Francis

STANDARD PLATE NO. 410

Oct 23, 2025 – 11:49am
K:\SUPPORT\Details\ST FRANCIS\Standard plates\400 STORM\Stm–410.dwg



NOTES:

1. ADJUSTMENT RINGS SHALL BE HIGH DENSITY POLYETHYLENE RINGS AS MANUFACTURED BY LADTECH, INC OR APPROVED EQUAL.
2. ALL RINGS SHALL MEET OR EXCEED MnDOT HS–20 TRAFFIC LOADING.
3. CLEAN ALL SURFACES TO REMOVE SCALE OR LOOSE IMPEDIMENTS BEFORE PLACING ANY MASTIC, SEALANT, OR INSTALLATION OF FRAME AND CASTING SYSTEM.
4. PLACE TWO 1/2" BEADS OF BUTYL SEALANT BETWEEN FIRST ADJUSTMENT RING AND CONCRETE STRUCTURE. ONE BEAD BETWEEN EACH SUBSEQUENT RING AND FRAME.

REFERENCE NOTES:

(1) USED FOR OVERLAY PROJECT ONLY.

STORM MANHOLE ADJUSTMENT RINGS
NO SCALE

APPROVED	5/1/2023
REVISED	3/8/2025

City of St. Francis

STANDARD PLATE NO. 414

Mar 12, 2025 – 12:10pm
K:\MUNICIPAL\SF326\ENGINEERING\DETAILS USED\Stm–414.dwg

DATE	REVISION

I hereby certify that this plan, specification, or report 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.

CRAIG J. JOCHUM, P.E.
Date 3/2/26 Lic. No. 23461

DESIGNED BY:	CJJ
DRAWN BY:	SGJ
CHECKED BY:	TAE

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763–427–5860 FAX 763–427–0520
www.hakanson–anderson.com

WOODBINE STREET EXTENSION PROJECT

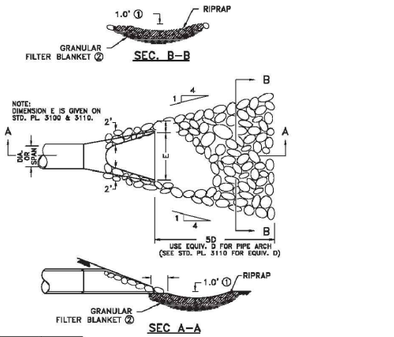
DETAILS

CITY OF ST. FRANCIS, MINNESOTA

SHEET 7 OF 24 SHEETS

SF326

Mar 10, 2026 – 1:21pm
K:\MUNICIPAL\SF326\ENGINEERING\PLAN DWG\NORTH WB SHEETS\SF326_NORTH WB DETAILS.dwg



DIA OF ROUND PIPE (IN)	L (FT)*	CLASS III d50=9" 18" DEPTH RIPRAP (CU YD)	CLASS IV d50=12" 24" DEPTH RIPRAP (CU YD)
12	8	8	10
15	8	8	10
18	10	10	15
21	10	15	15
24	12	15	20
27	12	15	20
30	14	20	25
36	16	25	30
42	18	30	40
48	20	40	50

*"L" DIMENSION IS MINIMUM REQUIRED. RIPRAP SHALL EXTEND TO POND BOTTOM

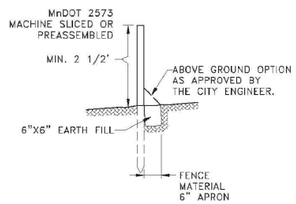
① FOR PIPES GREATER THAN OR EQUAL TO 48", USE 2.0'

② THE CONTRACTOR MAY SUBSTITUTE A GEOTEXTILE FABRIC, SPEC. 3601 FOR THE GRANULAR FILTER BLANKET UNLESS OTHERWISE SPECIFIED IN THE PLANS. THE FABRIC SHOULD COVER THE AREA OF THE RIPRAP AND EXTEND UNDER THE CULVERT APRON 3 FEET.

RIP-RAP AT R.C.P. OUTLET
NO SCALE

Dec 27, 2022 – 8:18pm
K:\Const_eng\Details\ST FRANCIS\Standard plates\500 EROSION\Fra-502.dwg

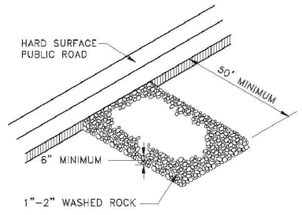
APPROVED	City of St. Francis	STANDARD PLATE NO. 502
REVISED		



SILT FENCE
NO SCALE

Dec 27, 2022 – 8:19pm
K:\Const_eng\Details\ST FRANCIS\Standard plates\500 EROSION\Fra-503.dwg

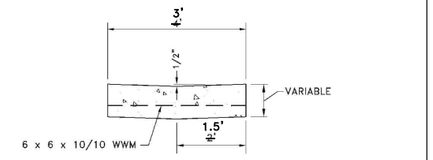
APPROVED	City of St. Francis	STANDARD PLATE NO. 503
REVISED		

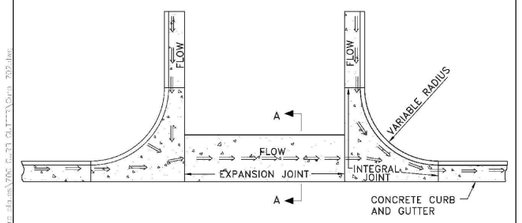


ROCK CONSTRUCTION ENTRANCE
NO SCALE

Nov 11, 2022 – 11:50am
K:\Const_eng\Details\ST FRANCIS\Standard plates\500 EROSION\Fra-505.dwg

APPROVED	City of St. Francis	STANDARD PLATE NO. 505
REVISED		

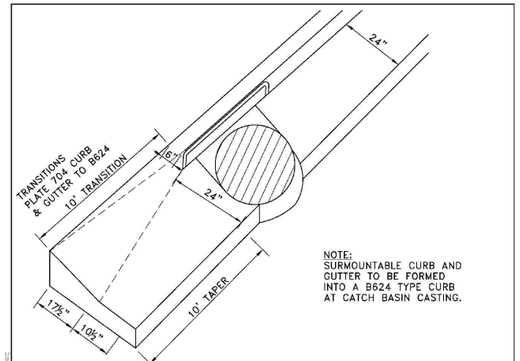




TYPICAL CROSS GUTTER
NO SCALE

Dec 27, 2022 – 8:24am
K:\Const_eng\Details\ST FRANCIS\Standard plates\700 CURB & GUTTER\Cons 702.dwg

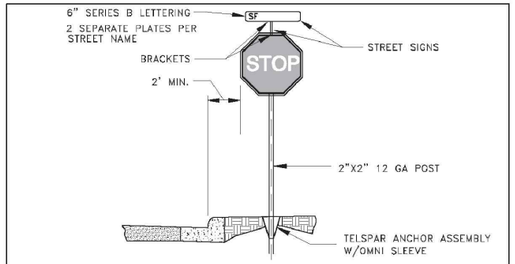
APPROVED	City of St. Francis	STANDARD PLATE NO. 702
REVISED		



CURB TRANSITION (B624) AT CATCH BASIN
NOT TO SCALE

Oct 7, 2025 – 2:36pm
K:\Const_eng\Details\ST FRANCIS\Standard plates\700 CURB & GUTTER\Cons 703.dwg

APPROVED 5/1/2023 REVISED 10/14/2025	City of St. Francis	STANDARD PLATE NO. 703



FURNISH AND INSTALL NEW SIGNS

SIGN NUMBER	SIGN	COLOR	SIZE	COMMENTS
R1-1	STOP	WHITE ON RED	30"x 30"	
	SF STREET NAME	WHITE ON GREEN	9" PLATES	ALL INTERSECTIONS

NOTES:
POSTS SHALL BE CYLINDRICAL TUBE STEEL POSTS, THE POST SHALL BE 12' LONG, WITH 2-3/8" OD, 12 GAUGE COLD ROLLED GALVANIZE STEEL MEETING ASTM A-446 GRADE A.

SIGN BASE MATERIAL SHALL BE ALUMINUM. THICKNESS OF THE PLATE SHALL BE 0.08".

THE STREET NAME SIGNS SHALL BE NOTCHED AND MOUNTED IN AN E450 BRACKET AND PLACED ABOVE THE STOP SIGN.

STREET NAME SIGNS SHALL HAVE HIGH INTENSITY PRISMATIC RETROREFLECTIVE SHEETING (ASTM TYPE IV).

STOP SIGNS SHALL HAVE DIAMOND GRADE VIP RETROREFLECTIVE SHEETING (ASTM TYPE IX).

SIGNS AND INSTALLATION OF SIGNS SHALL BE IN ACCORDANCE WITH THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES"

STOP SIGN AND STREET NAME SIGN DETAIL
NO SCALE

Dec 27, 2022 – 8:26am
K:\Const_eng\Details\ST FRANCIS\Standard plates\800 SIGNAGE & LIGHTING\SIGN 805.dwg

APPROVED	City of St. Francis	STANDARD PLATE NO. 805
REVISED		

DATE	REVISION

I hereby certify that this plan, specification, or report 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.

CRAIG J. JOCHUM, P.E.
Date 3/2/26 Lic. No. 23461

DESIGNED BY: CJJ
DRAWN BY: SGJ
CHECKED BY: TAE

Hakanson Anderson
Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763-427-5860 FAX 763-427-0520
www.hakanson-anderson.com

WOODBINE STREET EXTENSION PROJECT

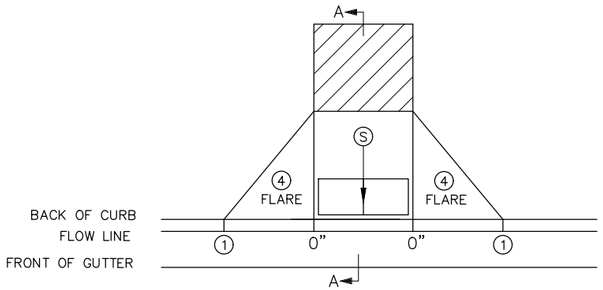
DETAILS

CITY OF ST. FRANCIS, MINNESOTA

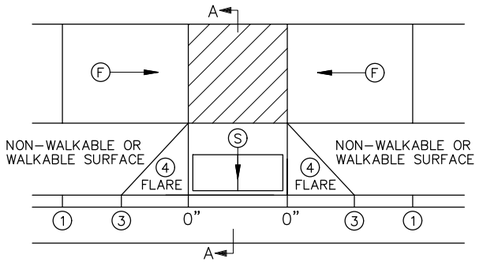
SHEET 8 OF 24 SHEETS

SF326

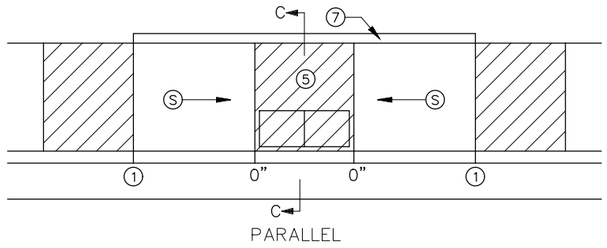
Mar 10, 2026 – 1:21pm
K:\MUNICIPAL\SF326\ENGINEERING\PLAN DWG\NORTH WB SHEETS\SF326_NORTH WB DETAILS.dwg



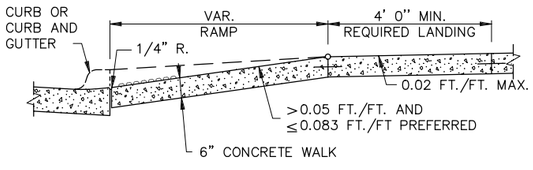
PERPENDICULAR



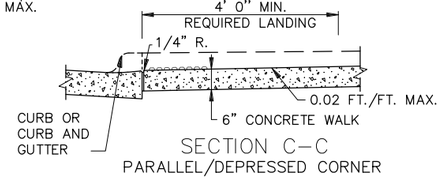
TIERED PERPENDICULAR



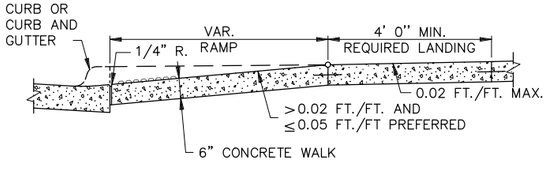
PARALLEL



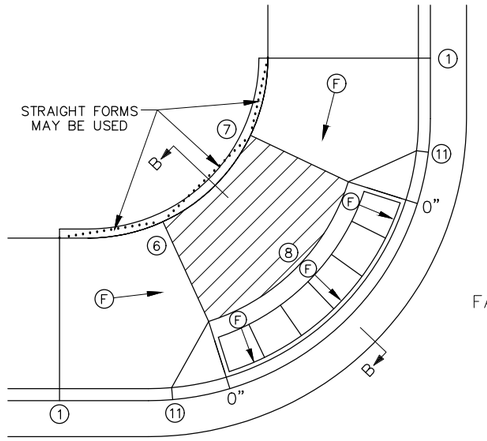
SECTION A–A
PERPENDICULAR/TIERED/DIAGONAL



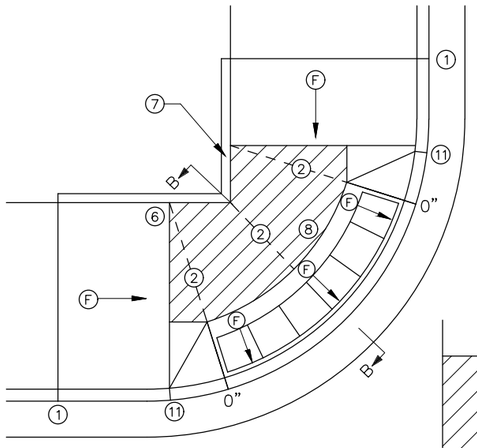
SECTION C–C
PARALLEL/DEPRESSED CORNER



SECTION B–B
FAN

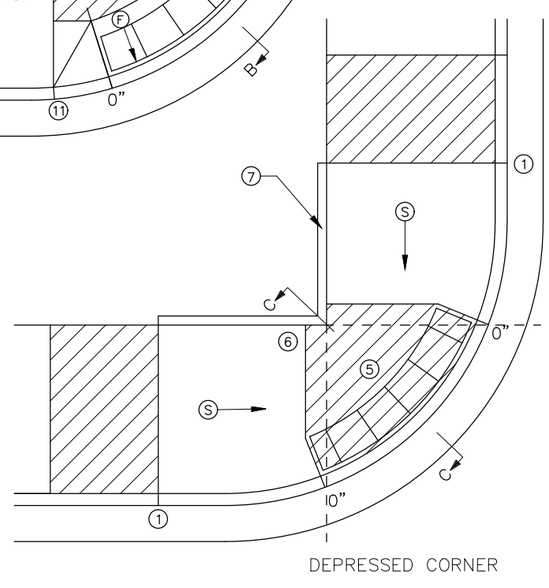


FAN (10)

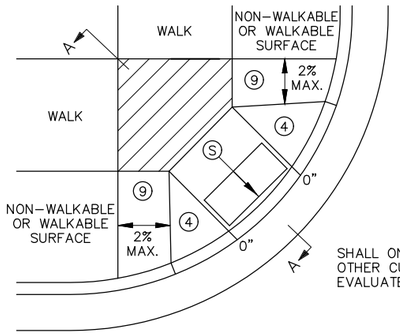


MODIFIED FAN (10)

USED WHEN RIGHT–OF–WAY
IS CONSTRAINED



DEPRESSED CORNER



DIAGONAL

SHALL ONLY BE USED AFTER ALL OTHER CURB RAMP TYPES HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL

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 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 SHEET 6 OF 6 FOR ALL SEPARATELY POURED INITIAL LANDINGS.

WHEN SIDEWALK IS AT BACK OF CURB, TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

MAINTAIN POSITIVE BOULEVARD DRAINAGE TO TOP OF CURB.

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 THE ENTIRE PAR WIDTH OF SHARED–USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" – 3" OFFSET IS ALLOWED.

WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE 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.

(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 LESS THAN 5% RUNNING SLOPE SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.

(8) A 7' MIN TOP RADIUS GRADE BREAK IS 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.

(11) INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8–10% TO A MINIMUM 3" CURB HEIGHT. REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

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%.

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.

X" CURB HEIGHT

REVISION:

APPROVED: 11–04–2021
JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5–297.250 | 1 OF 6

APPROVED: 11–04–2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

SHEET NO. 9 OF 24 SHEETS

Mar 10, 2026 – 1:21pm
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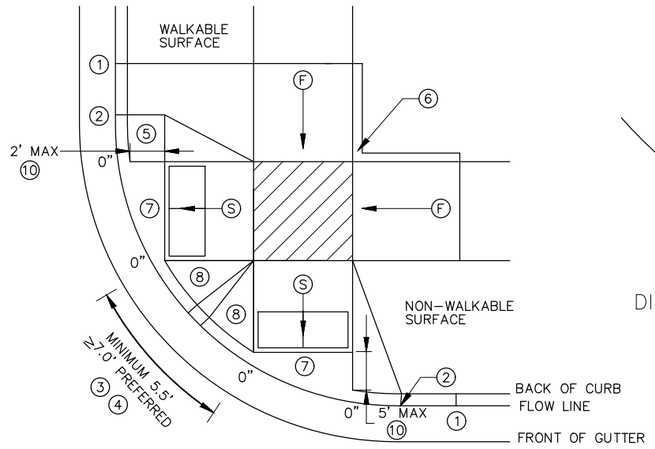
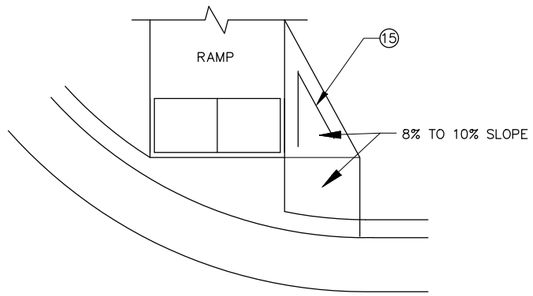
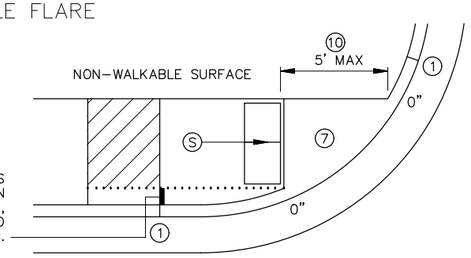


COMBINED DIRECTIONAL

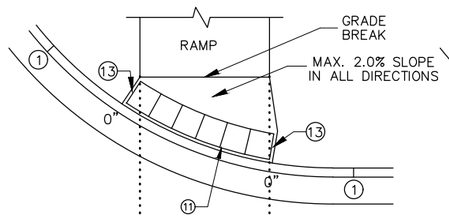


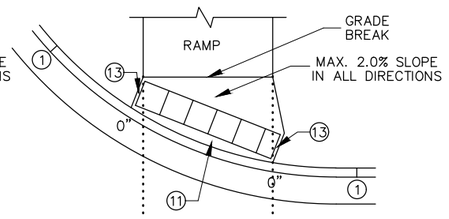
DIRECTIONAL RAMP WALKABLE FLARE

IF NON-CONCRETE BLVD. IS CONSTRUCTED AND IS LESS THAN 2' IN WIDTH AT TOP OF CURB TRANSITION, PAVE CONCRETE RAMP WIDTH TO ADJACENT BACK OF CURB.



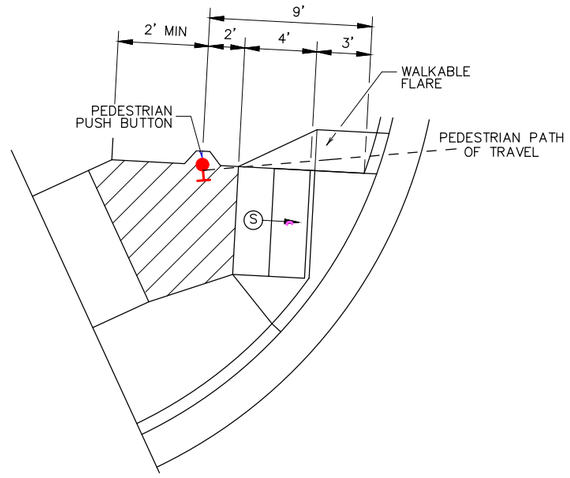
STANDARD ONE-WAY DIRECTIONAL ⑨





DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED ⑫

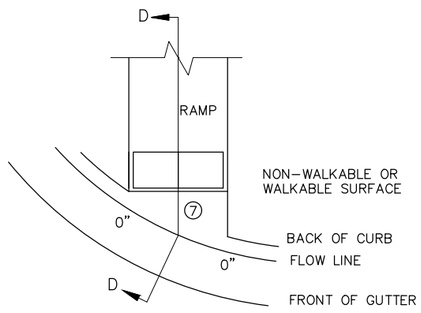
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB

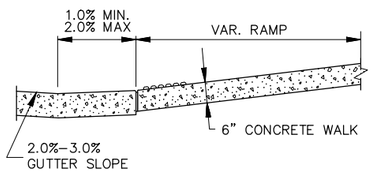


SEMI-DIRECTIONAL RAMP ③④⑨

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

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





SECTION D-D

CURB FOR DIRECTIONAL RAMPS ⑭

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 THE ENTIRE PAR WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK WITH THE EXCEPTION OF 3" MAXIMUM ON EACH OUTSIDE EDGE WHICH ENSURES THE DETECTABLE WARNINGS ARE ENCASED IN CONCRETE WHEN ADJACENT TO TURF. WHEN ADJACENT TO CONCRETE FLARES 0" – 3" OFFSET IS ALLOWED.

WHEN DESIGNING OR ORDERING RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 6" LESS THAN THE INCOMING PAR. ARC LENGTH OF THE 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 SHALL 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 EDGE OF DOMES AND EDGE OF CONCRETE.

⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.

⑮ PLACE 2 NO. 4 BARS 4 INCHES FROM SIDE OF FORMS WITH A MINIMUM 2 INCHES OF CONCRETE COVER ALONG EACH SIDE OF FLARE (INCIDENTAL).

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%.

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.

X" CURB HEIGHT

REVISION:

APPROVED: 11-04-2021

JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

THOMAS STYRBICKI
STATE DESIGN ENGINEER

STANDARD PLAN 5-297.250 | 2 OF 6

APPROVED: 11-04-2021
REVISED:

SP VALUE

PEDESTRIAN CURB RAMP DETAILS

SHEET NO. 10 OF 24 SHEETS

Mar 10, 2026 - 1:21pm
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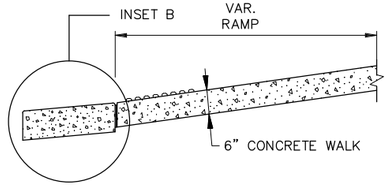
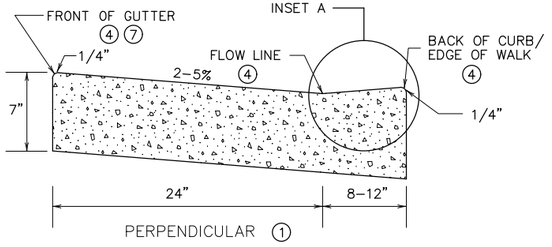
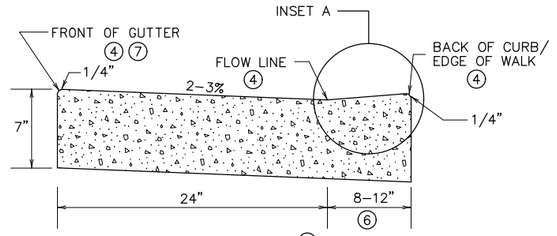


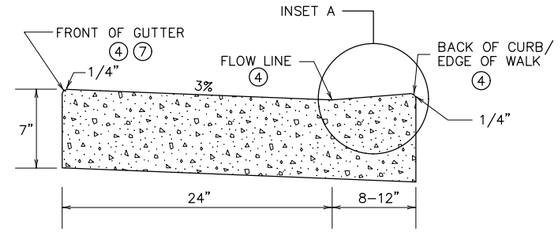


PERPENDICULAR ①

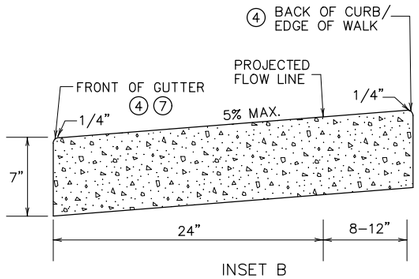


NON PERPENDICULAR ②

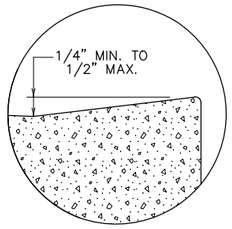
PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



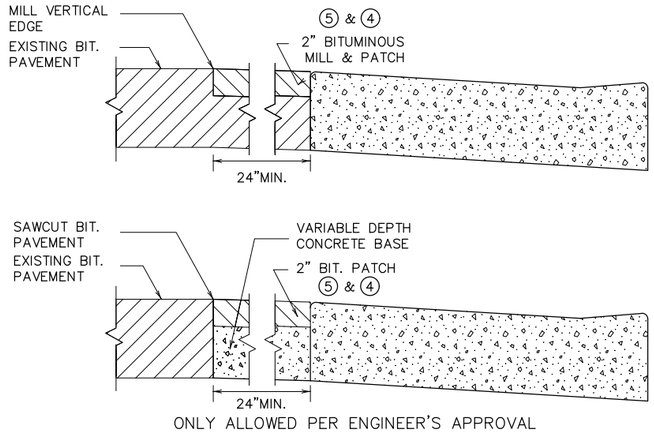
FOR CURB MACHINE PLACEMENT AROUND RADIUS ③
(REGARDLESS OF RAMP TYPE)



INSET B
OUTFLOW GUTTER ⑧

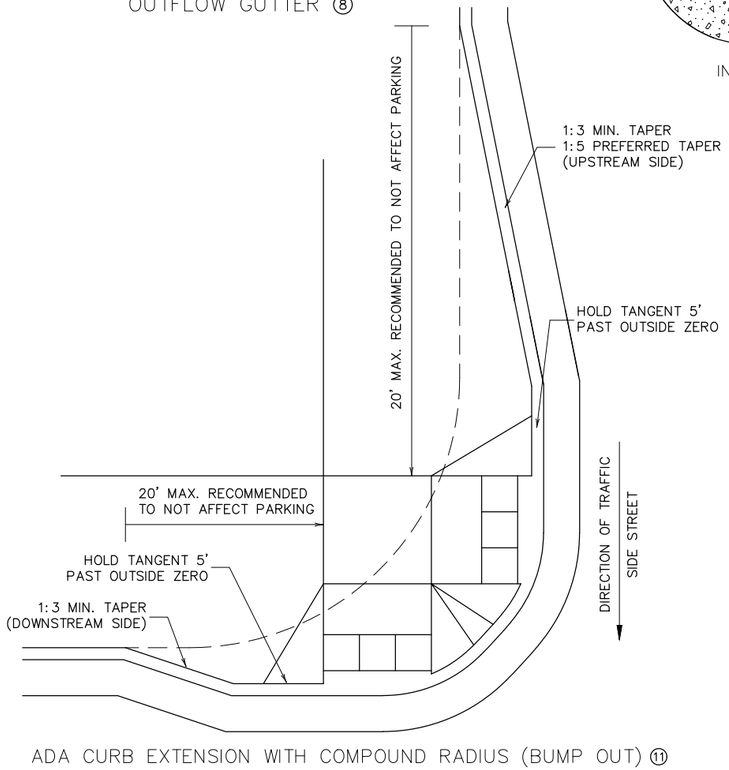


INSET A

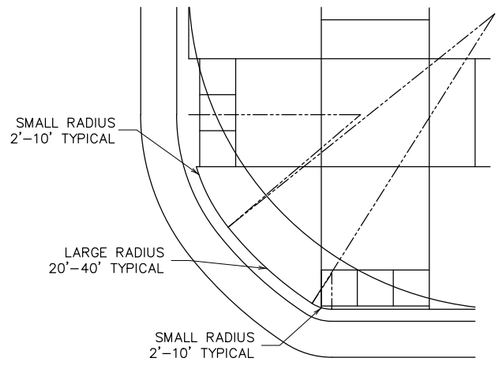


ONLY ALLOWED PER ENGINEER'S APPROVAL

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



ADA CURB EXTENSION WITH COMPOUND RADIUS (BUMP OUT) ⑪



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 RAMPS.

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.

REVISION:

APPROVED: 11–04–2021
JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5–297.250 | 3 OF 6

APPROVED: 11–04–2021
REVISED:

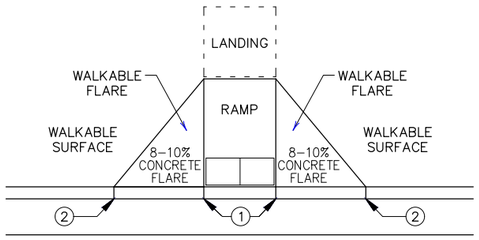
THOMAS STYRBICKI
STATE DESIGN ENGINEER

SP VALUE

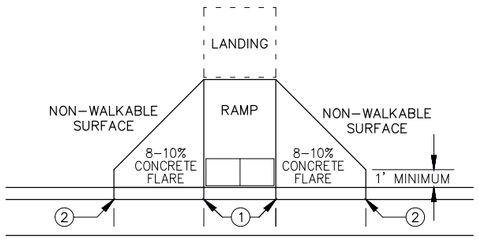
PEDESTRIAN CURB RAMP DETAILS

SHEET NO. 11 OF 24 SHEETS

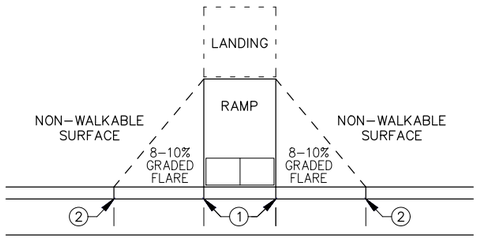
Mar 10, 2026 – 1:21pm
K:\MUNICIPAL\SF326\ENGINEERING\PLAN DWG\NORTH WB SHEETS\SF326_ NORTH WBMNDOT PED RAMP DETAILS.dwg



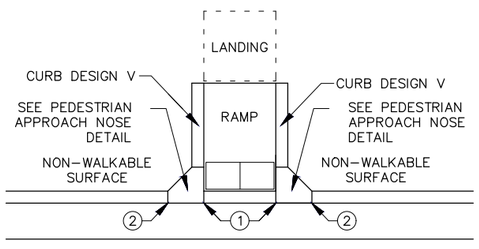
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON–WALKABLE SURFACE

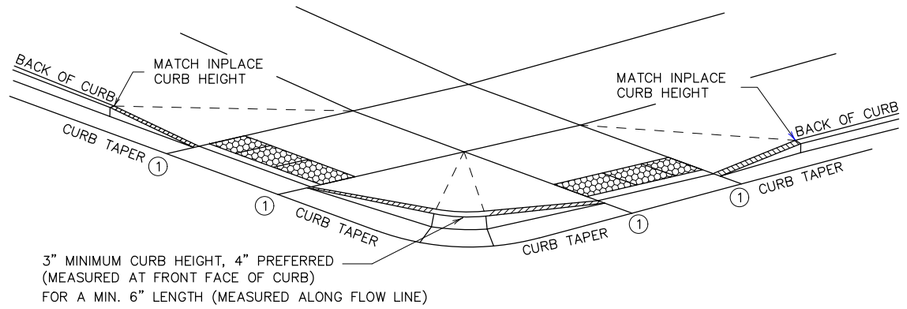


GRADED FLARES

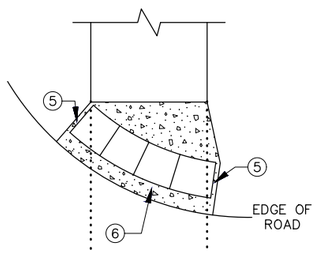


RETURNED CURB ④

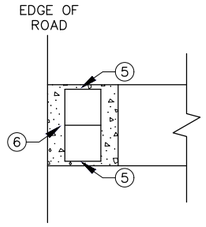
TYPICAL SIDE TREATMENT OPTIONS ③ ⑩



DETECTABLE EDGE WITH ⑦
CURB AND GUTTER

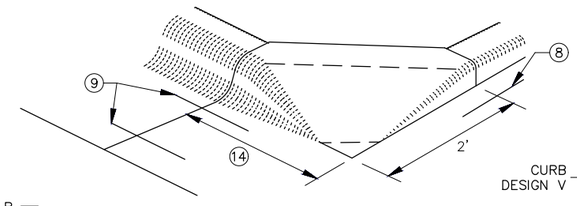


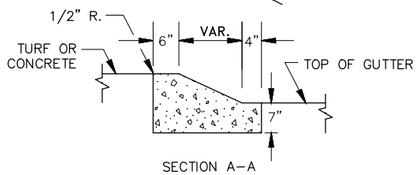
RADIAL DETECTABLE WARNING



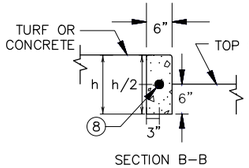
RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

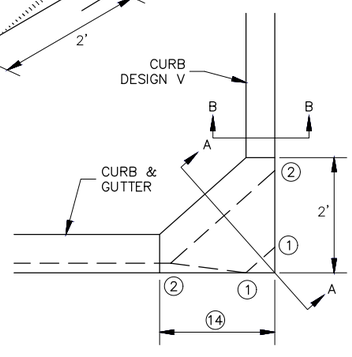




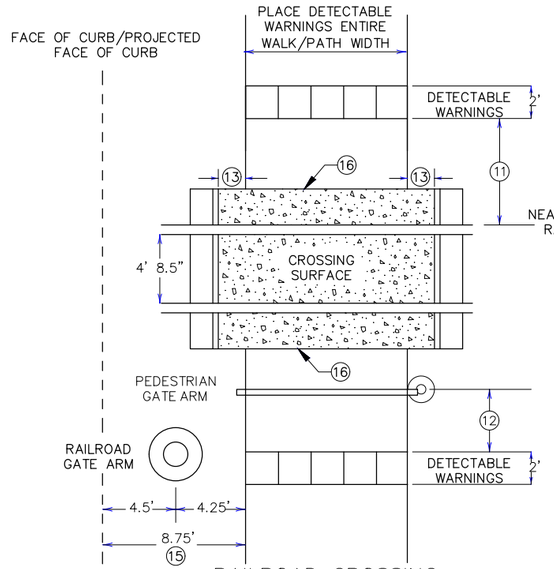
SECTION A–A



SECTION B–B



PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)



RAILROAD CROSSING
PLAN VIEW

NOTES:

INTERMEDIATE CURB HEIGHTS TAPER SHALL RISE AT 8–10% TO A MINIMUM 3 INCH CURB HEIGHT. INCREASE CURB TAPER LENGTH AT LESS THAN 8% OR REDUCE INTERMEDIATE CURB HEIGHT TO 2+ INCHES IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

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. SEE INSET A ON SHEET 3 OF 6.

② FULL CURB HEIGHT.

③ 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.

④ TYPICALLY USED FOR MEDIANS AND ISLANDS.

⑤ 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.

⑥ 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.

⑦ 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.

⑧ 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.

⑨ 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.

⑩ 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. CONSTRUCT THESE TAPER AT 0"–3" AT 8–10%, THEN LESS THAN 5% FROM 3" CURB TO FULL CURB HEIGHT.

⑪ 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.

⑫ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FORM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑪.

⑬ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED–USE PATH.

⑭ 3' FOR MEDIANS AND SPLITTER ISLANDS. NOSE CAN BE REDUCED TO 2' ON FREE RIGHT ISLANDS.

⑮ 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.

⑯ CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A–E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.

REVISION:

APPROVED: 11–04–2021
JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5–297.250 | 4 OF 6

APPROVED: 11–04–2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

SP VALUE

PEDESTRIAN CURB RAMP DETAILS

SHEET NO. 12 OF 24 SHEETS

Mar 10, 2026 – 1:21pm
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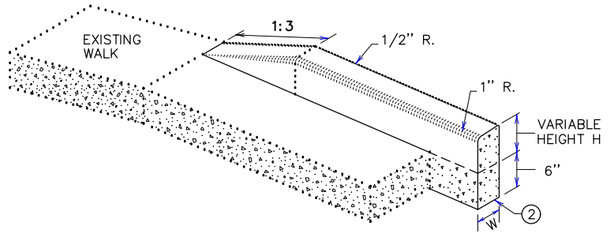
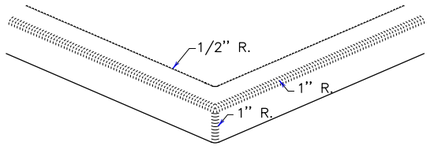
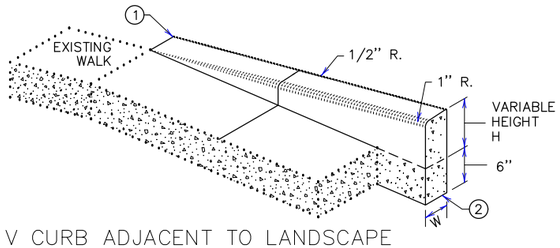


V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS

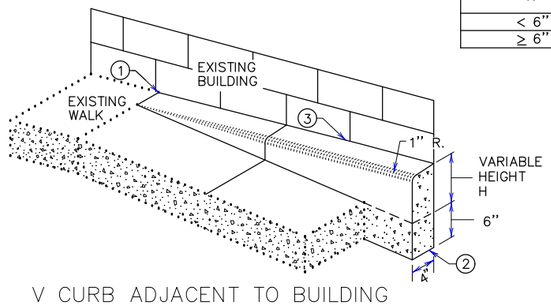


V CURB INTERSECTION

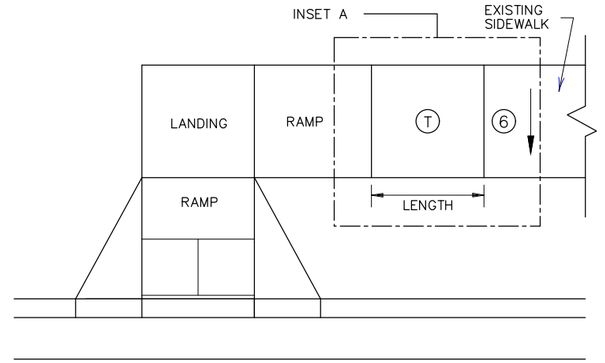
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



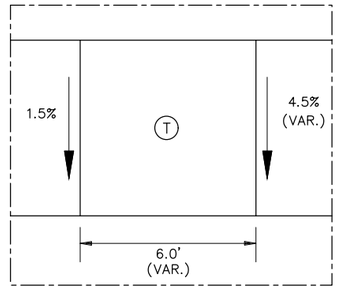
V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS



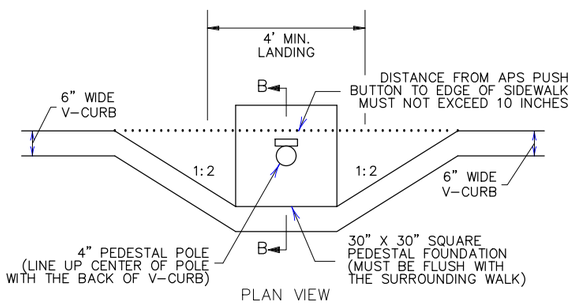
V CURB ADJACENT TO BUILDING OR BARRIER



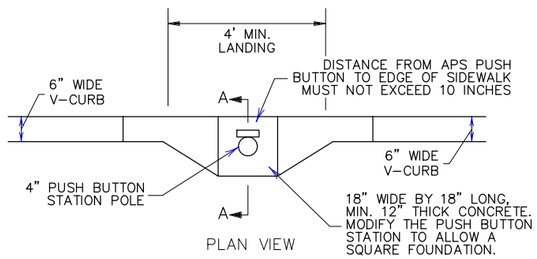
TRANSITION PANEL ④⑤



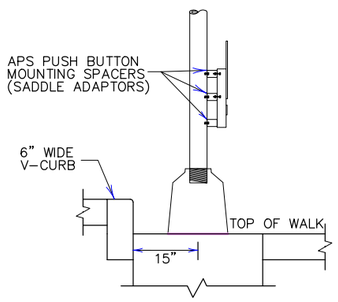
INSET A



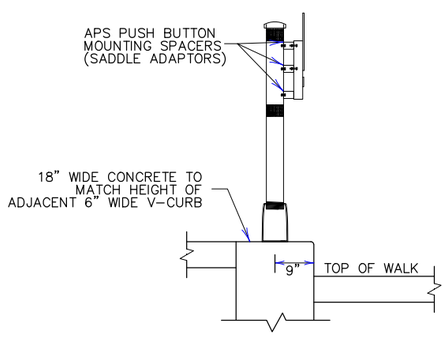
PLAN VIEW



PLAN VIEW



SECTION B–B



SECTION A–A

SIGNAL PEDESTAL & PUSH BUTTON (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.

① END TAPERS AT TRANSITION SECTION SHALL MATCH INPLACE SIDEWALK GRADES.

② ALL V CURB SHALL MATCH BOTTOM OF ADJACENT WALK.

③ CONSTRUCT USING APPROVED EXPANSION MATERIAL PER MNDOT TYPE A–E EXPANSION. LEAVE A MINIMUM 1/2" TOP GAP AND SEAL WITH MNDOT APPROVED SILICONE PER MNDOT SPEC 3722.

④ 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.

⑤ TRANSITION PANELS ARE TO ONLY BE USED AFTER THE RAMP, OR IF NEEDED, LANDING ARE AT THE FULL CURB HEIGHT (TYPICAL SECTION).

⑥ 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.

REVISION:

APPROVED: 11–04–2021
JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5–297.250 | 5 OF 6

APPROVED: 11–04–2021
REVISED:
THOMAS STYRBICKI
STATE DESIGN ENGINEER

SP VALUE

PEDESTRIAN CURB RAMP DETAILS

SHEET NO. 13 OF 24 SHEETS

Mar 10, 2026 – 1:21pm
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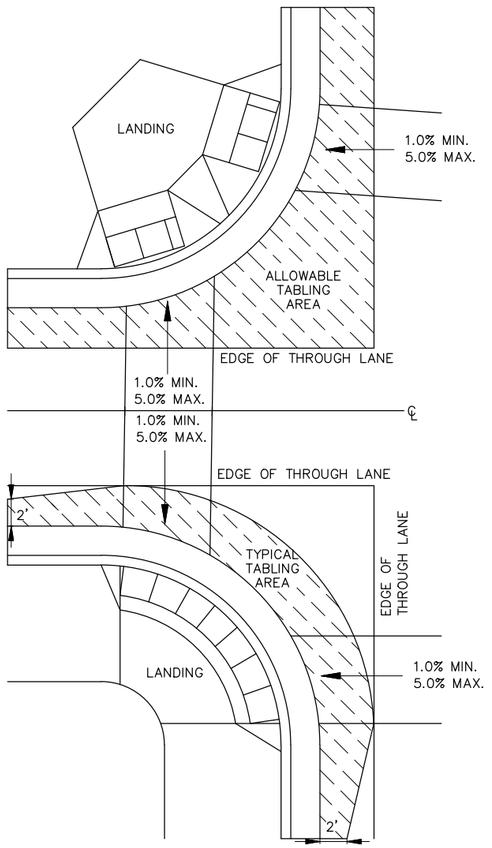
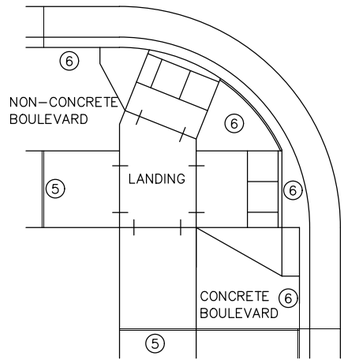
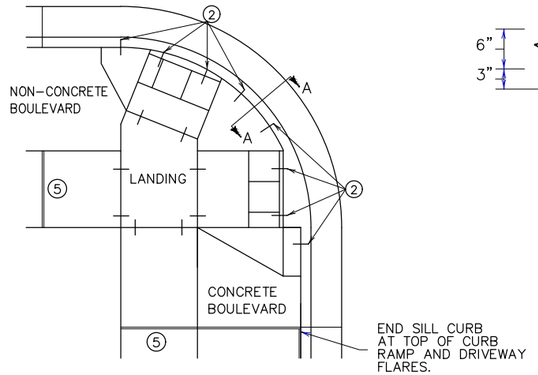


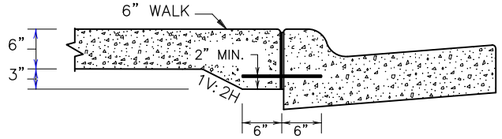
CURB LINE AND ROAD CROSSING ADJUSTMENTS



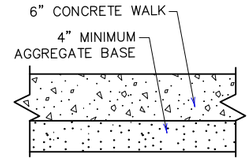
EXPANSION MATERIAL PLACEMENT
FOR CONCRETE ROADWAYS



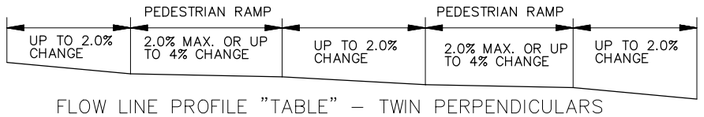
CURB LINE REINFORCEMENT ④
PLACEMENT ON BITUMINOUS ROADWAYS



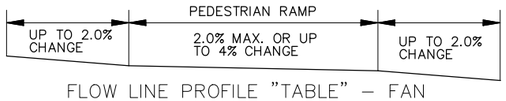
SECTION VIEW A–A
THICKENED SECTION
THROUGH CURB RAMP FLARES



TYPICAL SIDEWALK SECTION
WITHIN INTERSECTION CORNER

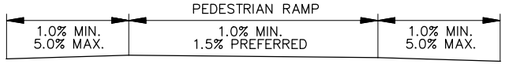


FLOW LINE PROFILE "TABLE" – TWIN PERPENDICULARS

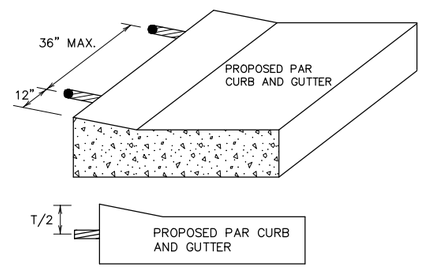


FLOW LINE PROFILE "TABLE" – FAN

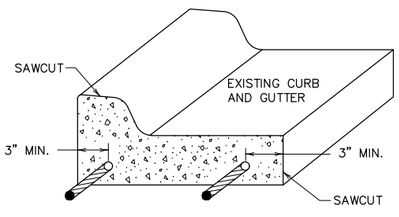
FLOW LINE PROFILE RAISE – TWIN PERPENDICULARS



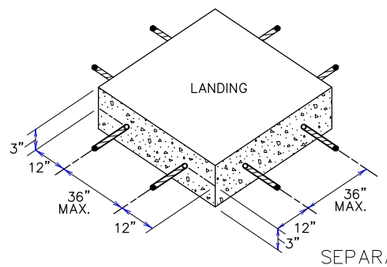
FLOW LINE PROFILE RAISE – FAN

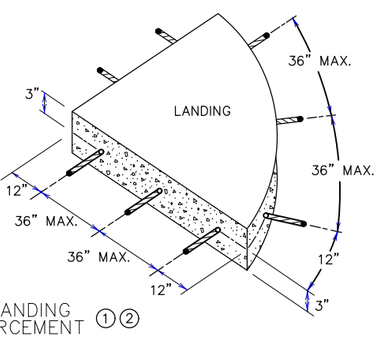


CURB RAMP REINFORCEMENT DETAILS ②④



CURB AND GUTTER
REINFORCEMENT ③





SEPARATE LANDING
POUR REINFORCEMENT ①②

GENERAL NOTES:

"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 (EPOXY COATED) AT 36" MAXIMUM CENTER TO CENTER MINIMUM 12" SPACING FROM CONSTRUCTION JOINTS. BARS TO BE ADJUSTED TO MATCH RAMP GRADE. BARS TO BE PAID BY EACH.

③ DRILL AND GROUT 2 – NO. 4 X 12" LONG (6" EMBEDDED) REINFORCEMENT BARS (EPOXY COATED). REINFORCEMENT REQUIRED FOR ALL CONSTRUCTION JOINTS. BARS TO BE PAID BY EACH.

④ THIS CURB LINE REINFORCEMENT DETAIL SHALL BE USED ON BITUMINOUS ROADWAYS. FOR CONCRETE ROADWAYS, SEE NOTE 6.

⑤ CONSTRUCT WITH EXPANSION MATERIAL PER MNDOT SPECIFICATION 3702 TYPES A–E. EXPANSION MATERIAL SHALL MATCH FULL HEIGHT OF ADJACENT CONCRETE.

⑥ USE AN APPROVED TYPE F (1/4 INCH THICK) SEPARATION MATERIAL. SEPARATION MATERIAL SHALL MATCH FULL HEIGHT DIMENSION OF ADJACENT CONCRETE.

REVISION:

APPROVED: 11–04–2021
JEFFREY PERKINS
OPERATIONS DIVISION

MINNESOTA DEPARTMENT OF TRANSPORTATION

STANDARD PLAN 5–297.250 | 6 OF 6

APPROVED: 11–04–2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

SP VALUE

PEDESTRIAN CURB RAMP DETAILS

SHEET NO. 14 OF 24 SHEETS

Mar 10, 2026 – 1:21pm
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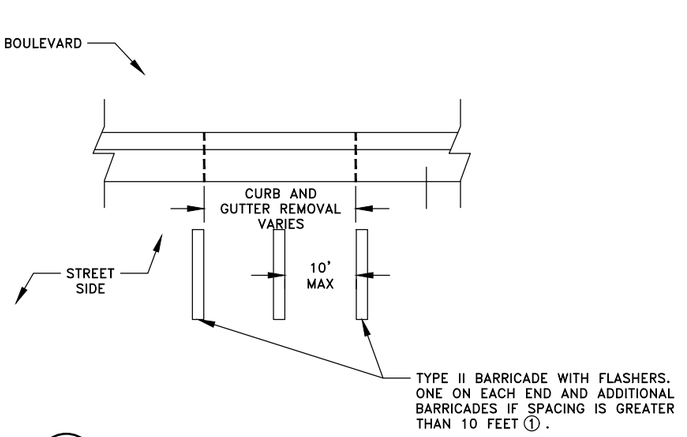

1/15 CURB AND GUTTER REPLACEMENT PROTECTION DETAIL

N.T.S.

GENERAL NOTES:

1. ALL CONTRACTOR TRAFFIC WITHIN THE CITY OF ST. FRANCIS SHALL BE LIMITED TO THE PROJECT AREA, DESIGNATED HAUL ROUTES, APPROVED CITY COLLECTOR STREETS OR COUNTY AND STATE HIGHWAYS.
2. THE PLANS INDICATE THE SALVAGE OR REMOVAL OF ALL STOP SIGNS AND STREET IDENTIFICATION SIGNS. THE CONTRACTOR SHALL MAINTAIN THESE SIGNS IN PLACE UNTIL THE PERMANENT SIGNS ARE INSTALLED. THESE SIGNS MAY REQUIRE TEMPORARY REMOVAL AND SALVAGE AND REPLACEMENT TO COMPLETE THE WORK. MAINTENANCE OF THE EXISTING SIGNS SHALL BE INCIDENTAL.
3. ALL TEMPORARY SIGNS SHALL BE REMOVED WITHIN 48 HOURS AFTER THEY ARE NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
4. ORANGE SAFETY FENCE SHALL BE CONSTRUCTED AS NEEDED AND AS DIRECTED BY THE ENGINEER. PAYMENT FOR THE FENCE SHALL BE PER ITEM 2572–TEMPORARY FENCE.
5. CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY PEDESTRIAN AND BICYCLE ACCESS ROUTE DEVICES, INCLUDING BUT NOT LIMITED TO PEDESTRIAN CHANNELIZERS AND PEDESTRIAN RAILING SYSTEMS, SIDEWALK BARRICADES, TEMPORARY WALKWAY SURFACES, DETECTABLE WARNING SURFACES, AUDIBLE MESSAGE DEVICES, CURB RAMPS, CHANNELIZERS AND ALL REQUIRED SIGNAGE TO MEET ALL REQUIREMENTS OF THE NOVEMBER 2005 VERSION OF THE PUBLIC RIGHT–OF–WAY ACCESSIBILITY GUIDELINES, THE LATEST VERSION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL–PART 6, THE AMERICANS WITH DISABILITIES ACT, MNDOT'S GUIDANCE DOCUMENT "PEDESTRIAN ACCOMMODATIONS THROUGH WORK ZONES DESIGN GUIDANCE", AND MNDOT'S GUIDANCE DOCUMENT "ACCOMMODATING PEOPLE ON BICYCLES THROUGH WORK ZONES." THE CONTRACTOR SHALL PROVIDE TEMPORARY PEDESTRIAN AND BICYCLE ACCESS ROUTE LAYOUTS AND DETOURS FOR ANY PROPOSED SIDEWALK OR TRAIL CLOSURES. ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO MAINTAIN PEDESTRIAN AND BICYCLE ACCESS ROUTES SHALL BE INCIDENTAL TO ITEM 2563–ALTERNATE PEDESTRIAN ROUTE.
6. CONTRACTOR SHALL MAINTAIN A HANDICAP ACCESSIBLE PEDESTRIAN ROUTE AT ALL TIMES UNLESS AN APPROVED DETOUR IS CONSTRUCTED OR AS OTHERWISE NOTED ON THESE PLANS. ROUTE SHALL MEET ALL REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT. CONTRACTOR SHALL SUBMIT A DETAILED PLAN TO THE ENGINEER FOR APPROVAL SHOWING HOW THE ROUTE WILL BE MAINTAINED THROUGHOUT CONSTRUCTION. THIS WORK SHALL BE PAID PER ITEM 2563–ALTERNATE PEDESTRIAN ROUTE.
7. REFER TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) FOR SPACING OF TRAFFIC CONTROL SIGNS AND DEVICES.
8. IN AREAS THAT ARE NOT IN A CONTROLLED WORK SPACE, ALL DROP OFFS GREATER THAN 2" (CURB REMOVAL) SHALL BE MARKED WITH TYPE 2 BARRICADES WITH FLASHERS AT BOTH ENDS AND EVERY 10 L.F. SEE DETAIL 1 ON SHEET 15.
9. THE TRAFFIC CONTROL DEPICTED ON SHEETS 16–18 ARE CONSIDERED THE MINIMUM TRAFFIC CONTROL REQUIRED TO COMPLETE THE CONSTRUCTION IN THE REQUIRED PHASES. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO PROVIDE A SAFE WORK SPACE AT ALL TIMES. THE TRAFFIC CONTROL PHASES SHOWN DO NOT DEPICT TRAFFIC CONTROL THAT IS REQUIRED FOR CONSTRUCTION OF THE BITUMINOUS PAVEMENT AND STRIPING. THE CONTRACTOR SHALL PROVIDE LAYOUTS FOR APPROVAL BY THE ENGINEER FOR THESE WORK ITEMS. UNLESS NOTED ON THE TRAFFIC CONTROL PLANS AND PROVIDED FOR ON THE BID FORM ALL TRAFFIC CONTROL REQUIRED TO COMPLETE THIS PROJECT SHALL BE INCIDENTAL TO ITEM 2563–TRAFFIC CONTROL.
10. ALL NON–STANDARD TRAFFIC CONTROL SIGNS ON SHEETS 16–18 SHALL HAVE 8" SERIES C LETTERING.
11. ALL TEMPORARY TRAFFIC CONTROL SIGNS, UNLESS OTHERWISE NOTED, SHALL BE CONSTRUCTED ON TWO PERMANENT POSTS. POSTS SHALL BE REMOVED UPON COMPLETION OF THE PROJECT, OR UNTIL NO LONGER NEEDED, AND ALL DISTURBED AREAS SHALL BE RESTORED.
12. CONTRACTOR SHALL PROVIDE A 1:10 TAPER AND "BUMP" SIGNS (W8–1a) AT ALL MATCH POINTS TO THE EXISTING PAVEMENT UNTIL THE FINAL WEAR COURSE OF BITUMINOUS IS COMPLETED. TAPERS SHALL BE REMOVED JUST PRIOR TO PAVING. THIS MILLING WORK SHALL BE INCIDENTAL.

REFERENCE NOTES:

① BARRICADE INCIDENTAL TO ITEM–2563 TRAFFIC CONTROL.

DATE	REVISION

I hereby certify that this plan, specification, or report 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.

CRAIG J. JOCHUM, P.E.
Date 3/2/26 Lic. No. 23461

DESIGNED BY: CJJ
DRAWN BY: SGJ
CHECKED BY: TAE

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WOODBINE STREET
EXTENSION PROJECT

TRAFFIC CONTROL NOTES AND DETAILS

CITY OF ST. FRANCIS, MINNESOTA

SHEET 15 OF 24 SHEETS

SF326

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LEGEND

WORK SPACE

TYPE B DRUM

REFERENCE NOTES:

① CONTRACTOR SHALL FURNISH AND INSTALL A IMPACT ATTENUATOR. IMPACT ATTENUATOR SHALL MEET THE REQUIREMENTS OF THE QUADGAURD CZ SYSTEM AS MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC. OR APPROVED EQUAL. DESIGN LENGTH OF THE CRASH CUSHION SHALL BE DETERMINED USING THE FORMULA/CRITERIA IN THE MN/DOT TEMPORARY BARRIER GUIDANCE MANUAL DATED DECEMBER 2018. IMPACT ATTENUATOR SHALL BE DESIGNED FOR A 35 MPH SPEED LIMIT. A MINIMUM OF TWO FEET IS REQUIRED BETWEEN THE END OF THE IMPACT ATTENUATOR AND LANE LINE.

② BARRIER SHALL MEET THE REQUIREMENTS OF MNDOT STANDARD PLATE 8337. ALL BARRIERS SHALL BE PINNED INCLUDING RETAINER BOLTS. NO PART OF THE BARRIER SHALL BE CLOSER THAN 2 FEET OF THE LANE LINE.

R11-2 ROAD CLOSED

R11-2 ROAD CLOSED

R11-2 ROAD CLOSED

R3-1

NO SHOULDER W8-23

BRIDGE STREET NW

BRIDGE STREET NW

25'

100'

100'

250 LF BARRIER (NOT INCLUDING IMPACT ATTENUATOR) ②

13' FROM FACE OF BARRIER TO CENTERLINE OF ROAD – 11 FOOT LANE AND 2 FOOT BUFFER

IMPACT ATTENUATOR ①

ROAD WORK AHEAD W20-1

ROAD WORK AHEAD W20-1 R3-2

AMBASSADOR BOULEVARD NW

WOODBINE STREET NW

BUTTERFIELD DRIVE NW

ANOKA COUNTY RIGHT OF WAY

SCALE 40 0 40 80 IN FEET

DATE	REVISION

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CRAIG J. JOCHUM, P.E.

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WOODBINE STREET EXTENSION PROJECT

TRAFFIC CONTROL PLAN – PHASE 1

CITY OF ST. FRANCIS, MINNESOTA

SHEET 16 OF 24 SHEETS

SF326

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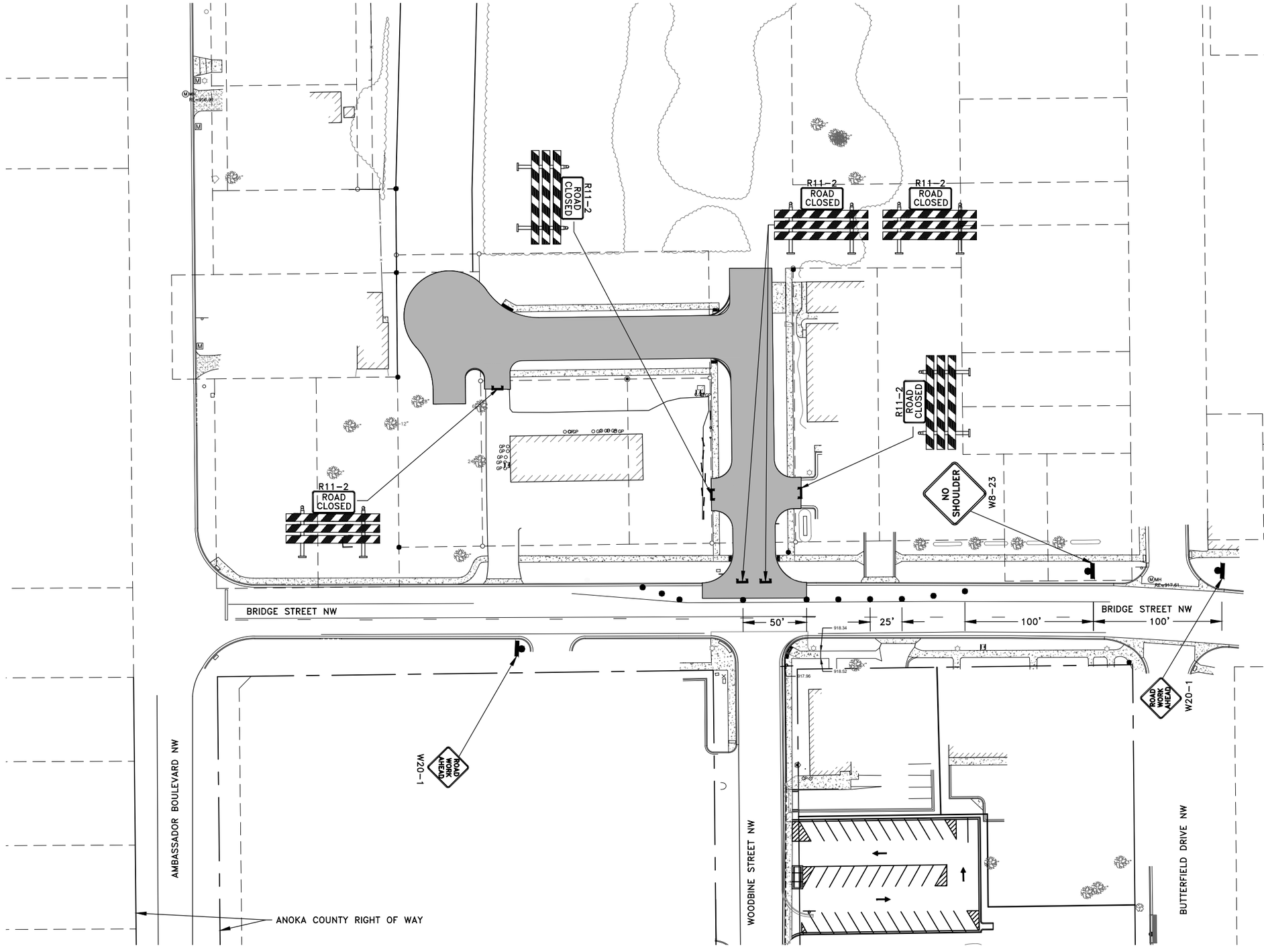

LEGEND

WORK SPACE

TYPE B DRUM

GENERAL NOTES:

1. ALL CONTRACTOR TRAFFIC WITHIN THE CITY OF ST. FRANCIS SHALL BE LIMITED TO THE PROJECT AREA, DESIGNATED HAUL ROUTES, APPROVED CITY COLLECTOR STREETS OR COUNTY AND STATE HIGHWAYS.
2. THE PLANS INDICATE THE SALVAGE OR REMOVAL OF ALL STOP SIGNS AND STREET IDENTIFICATION SIGNS. THE CONTRACTOR SHALL MAINTAIN THESE SIGNS IN PLACE UNTIL THE PERMANENT SIGNS ARE INSTALLED. THESE SIGNS MAY REQUIRE TEMPORARY REMOVAL AND SALVAGE AND REPLACEMENT TO COMPLETE THE WORK. MAINTENANCE OF THE EXISTING SIGNS SHALL BE INCIDENTAL.
3. ALL TEMPORARY SIGNS SHALL BE REMOVED WITHIN 48 HOURS AFTER THEY ARE NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
4. CONTRACTOR SHALL MAINTAIN A HANDICAP ACCESSIBLE PEDESTRIAN ROUTE AT ALL TIMES UNLESS AN APPROVED DETOUR IS CONSTRUCTED. ROUTE SHALL MEET ALL REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT. CONTRACTOR SHALL SUBMIT A DETAILED PLAN TO THE ENGINEER FOR APPROVAL SHOWING HOW THE ROUTE WILL BE MAINTAINED THROUGHOUT CONSTRUCTION. THIS WORK SHALL BE PAID PER ITEM 2563-ALTERNATE PEDESTRIAN ROUTE.
5. REFER TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) FOR SPACING OF TRAFFIC CONTROL SIGNS AND DEVICES.
6. THE TRAFFIC CONTROL DEPICTED ON THIS SHEET IS CONSIDERED THE MINIMUM TRAFFIC CONTROL REQUIRED TO COMPLETE THE CONSTRUCTION IN THE REQUIRED PHASES. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO PROVIDE A SAFE WORK SPACE AT ALL TIMES. THE TRAFFIC CONTROL PHASES SHOWN DO NOT DEPICT TRAFFIC CONTROL THAT IS REQUIRED FOR CONSTRUCTION OF THE BITUMINOUS PAVEMENT AND STRIPING. THE CONTRACTOR SHALL PROVIDE LAYOUTS FOR APPROVAL BY THE ENGINEER FOR THESE WORK ITEMS. UNLESS NOTED ON THE TRAFFIC CONTROL PLANS AND PROVIDED FOR ON THE BID FORM ALL TRAFFIC CONTROL REQUIRED TO COMPLETE THIS PROJECT SHALL BE INCIDENTAL TO ITEM 2563-TRAFFIC CONTROL.
7. CONTRACTOR SHALL REMOVE OR BLACKOUT EXISTING PERMANENT STRIPING AND PAVEMENT MESSAGES AND NEW TEMPORARY PAVEMENT MESSAGES AND STRIPING THAT CONFLICT WITH TRAFFIC CONTROL. THIS WORK SHALL BE INCIDENTAL.
8. SEE SHEET 2 FOR GENERAL CONSTRUCTION NOTES.

N

40 0 40 80
SCALE IN FEET

DATE	REVISION

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CRAIG J. JOCHUM, P.E.
Date 3/2/26 Lic. No. 23461

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DRAWN BY: SGJ
CHECKED BY: TAE

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WOODBINE STREET
EXTENSION PROJECT

TRAFFIC CONTROL PLAN - PHASE 2

CITY OF ST. FRANCIS, MINNESOTA

SHEET 17 OF 24 SHEETS

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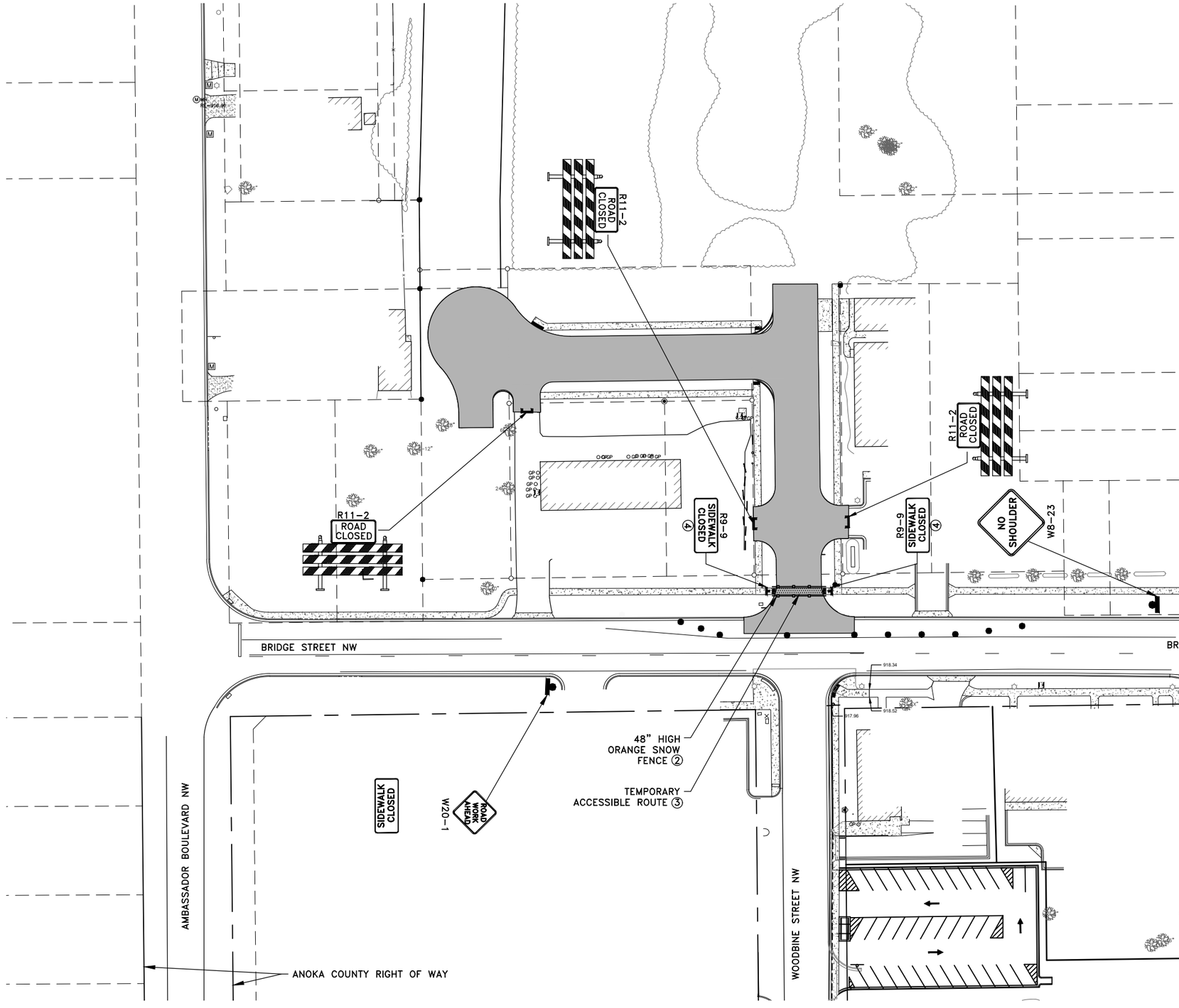

LEGEND

- WORK SPACE
- TYPE B DRUM
- ACCESSIBLE SURFACE

GENERAL NOTES:

1. ALL CONTRACTOR TRAFFIC WITHIN THE CITY OF ST. FRANCIS SHALL BE LIMITED TO THE PROJECT AREA, DESIGNATED HAUL ROUTES, APPROVED CITY COLLECTOR STREETS OR COUNTY AND STATE HIGHWAYS.
2. ALL TEMPORARY SIGNS SHALL BE REMOVED WITHIN 48 HOURS AFTER THEY ARE NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
3. REFER TO THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) FOR SPACING OF TRAFFIC CONTROL SIGNS AND DEVICES.
4. SEE SHEET 2 FOR GENERAL CONSTRUCTION NOTES.
5. CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN TEMPORARY PEDESTRIAN ACCESS ROUTE DEVICES, INCLUDING BUT NOT LIMITED TO PEDESTRIAN CHANNELIZERS AND PEDESTRIAN RAILING SYSTEMS, SIDEWALK BARRICADES, TEMPORARY WALKWAY SURFACES, DETECTABLE WARNING SURFACES, AUDIBLE MESSAGE DEVICES, CURB RAMPS, CHANNELIZERS AND ALL REQUIRED SIGNAGE TO MEET ALL REQUIREMENTS OF THE NOVEMBER 2005 VERSION OF THE PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES, THE LATEST VERSION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL-PART 6K AND THE AMERICANS WITH DISABILITIES ACT. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL PROVIDE TEMPORARY PEDESTRIAN ACCESS ROUTE LAYOUTS AND DETOURS FOR ANY PROPOSED SIDEWALK OR TRAIL CLOSURES FOR REVIEW AND APPROVAL BY THE ENGINEER. ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO MAINTAIN PEDESTRIAN ACCESS ROUTES SHALL BE INCIDENTAL TO ITEM 2563- ALTERNATE PEDESTRIAN ROUTE.
6. RAMPS AND ACCESSIBLE ROUTES SHALL HAVE FIRM, STABLE AND NON-SLIP SURFACES THAT ALLOWS NORMAL USAGE OF WHEELCHAIRS, WALKERS, STROLLERS AND OTHER MOBILITY DEVICES. SUITABLE SURFACE MATERIALS ARE CONCRETE, BITUMINOUS, STEEL, RUBBER, WOOD (3/4" OR THICKER), AND PLASTIC. GRAVEL, MILLINGS, OR OTHER UNEVEN SURFACES ARE NOT ACCEPTABLE SURFACE MATERIALS.
7. CONTRACTOR TO CLOSE SIDEWALK TO ALLOW FOR UTILITY AND PAVEMENT CONSTRUCTION. DURING OTHER CONSTRUCTION OPERATIONS, CONTRACTOR SHALL OPEN SIDEWALK UPON COMPLETION OF WORK NECESSITATING CLOSURE.

REFERENCE NOTES:

(1) BARRICADE INCIDENTAL TO ITEM-2563 TRAFFIC CONTROL.
(2) ITEM SHALL BE PAID PER ITEM 2572-TEMPORARY FENCE.
(3) CONTRACTOR SHALL MAINTAIN AN ACCESSIBLE SURFACE.
(4) CONTRACTOR SHALL REMOVE TEMPORARY SIGN COMPLETION OF UPON WORK WITHIN THE VICINITY.

N

SCALE: 40 0 40 80 IN FEET

DATE	REVISION

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WOODBINE STREET
EXTENSION PROJECT

PEDESTRIAN ACCESS PLAN

CITY OF ST. FRANCIS, MINNESOTA

SHEET 18 OF 24 SHEETS

SF326

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REMOVE SIGN

SAWCUT 10LF CONCRETE PAVEMENT
REMOVE 36 SY CONCRETE PAVEMENT

SAWCUT 102LF BITUMINOUS PAVEMENT
REMOVE 125 SY BITUMINOUS PAVEMENT
SAWCUT 4LF CONCRETE PAVEMENT
REMOVE 7 SY CONCRETE PAVEMENT
REMOVE 82LF CURB AND GUTTER

REMOVE CATCH BASIN AND 29LF STORM SEWER

REMOVE 198LF
SANITARY SEWER PIPE

REMOVE SIGN

REMOVE 164LF FENCE

BRIDGE STREET

AMBASSADOR BOULEVARD

SCALE IN FEET
30 0 30 60

DATE	REVISION

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WOODBINE STREET
EXTENSION PROJECT

EXISTING CONDITIONS AND REMOVALS PLAN

CITY OF ST. FRANCIS, MINNESOTA

SHEET 19 OF 24 SHEETS

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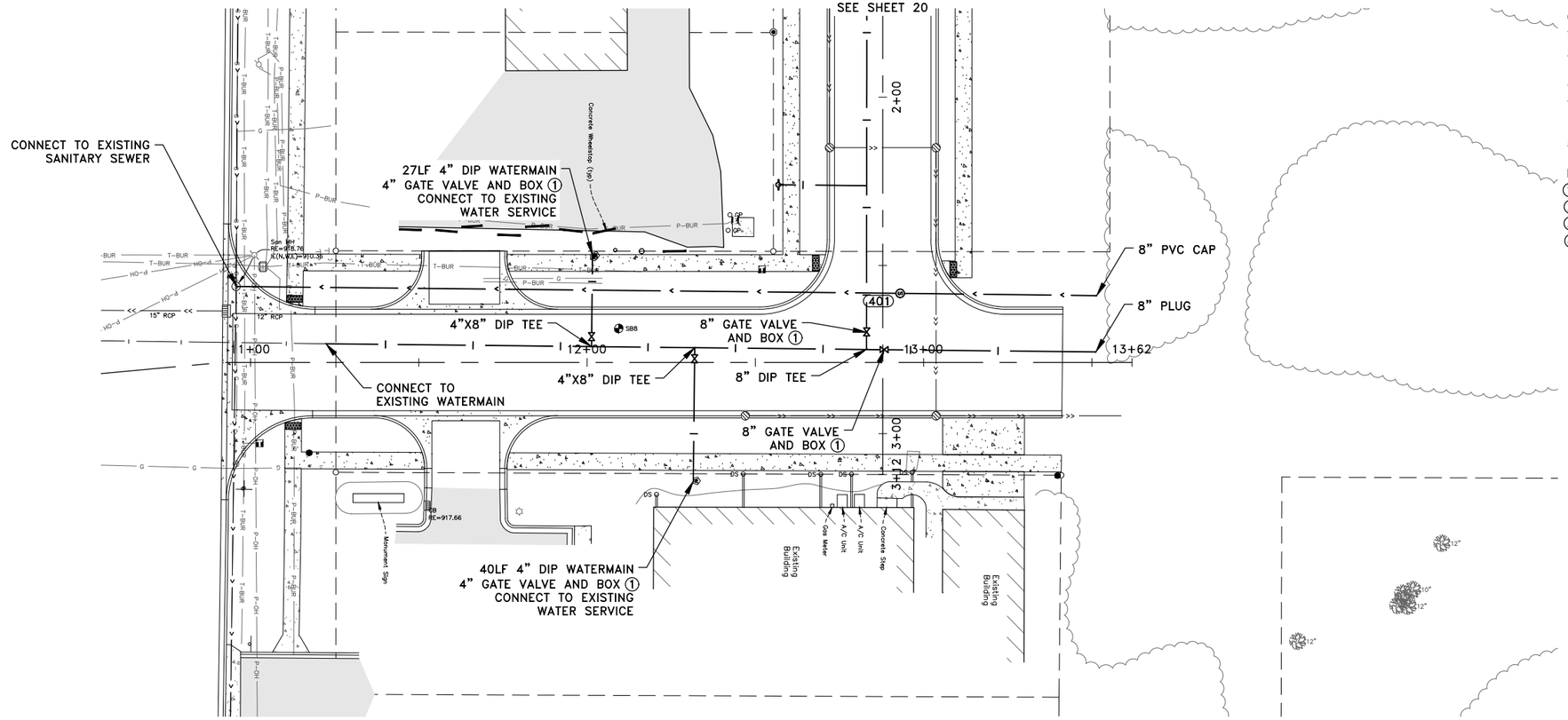

GENERAL NOTES:

1. SEE SHEET 2 FOR ADDITIONAL CONSTRUCTION NOTES.
2. CITY STANDARD PLATES (CSP) ARE SHOWN ON SHEETS 5–8.
3. CONSTRUCT WATERMAIN PIPE BEDDING PER CSP 213.
4. ALL WATERMAIN AND SANITARY SEWER SHALL BE CONSTRUCTED WITH TRACER WIRE PER CSP 217, 315, AND 317.
5. ALL WATERMAIN BENDS AND TEES SHALL BE SUPPORTED PER CSP 200 AND 203.

REFERENCE NOTES:

(1) CONSTRUCT ALL GATE VALVE AND BOXES PER CSP 207.
(2) CONSTRUCT HYDRANTS PER CSP 205, 206, AND 210.
(3) CONSTRUCT STRUCTURE PER CSP 300.
(4) CONSTRUCT CASTING PER CSP 307. CASTING SHALL BE CONSTRUCTED ON TOP OF ADJUSTING RINGS SURROUNDED BY AN EXTERNAL CHIMNEY SEAL. SEE CSP 309 AND 310.

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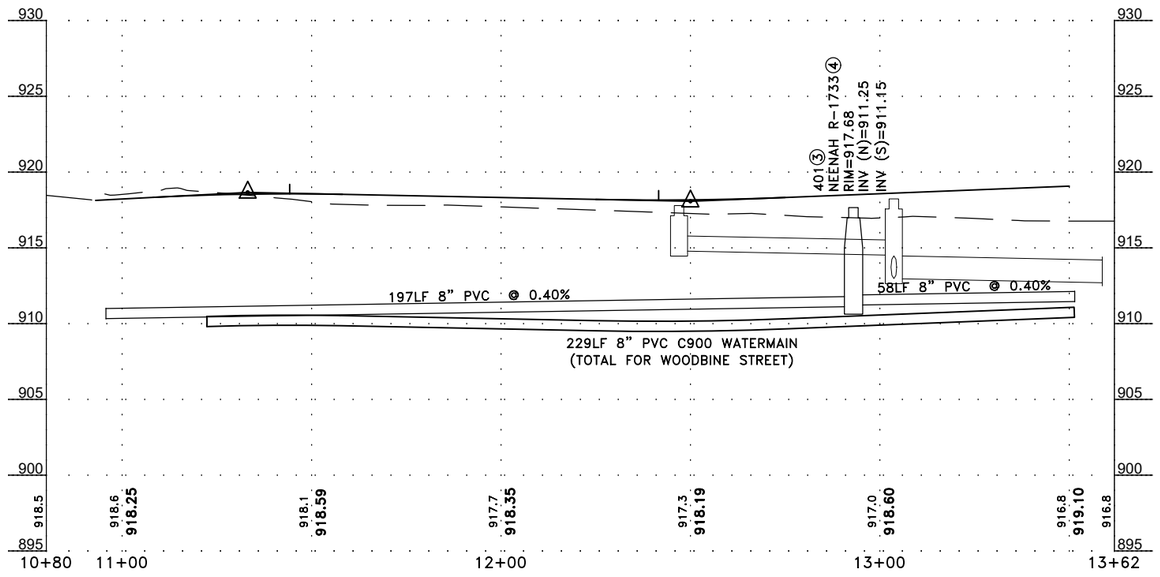

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Date 3/2/26

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WOODBINE STREET EXTENSION PROJECT

WATERMAIN AND SANITARY SEWER PLAN

WOODBINE STREET
CITY OF ST. FRANCIS, MINNESOTA

SHEET 20 OF 24 SHEETS

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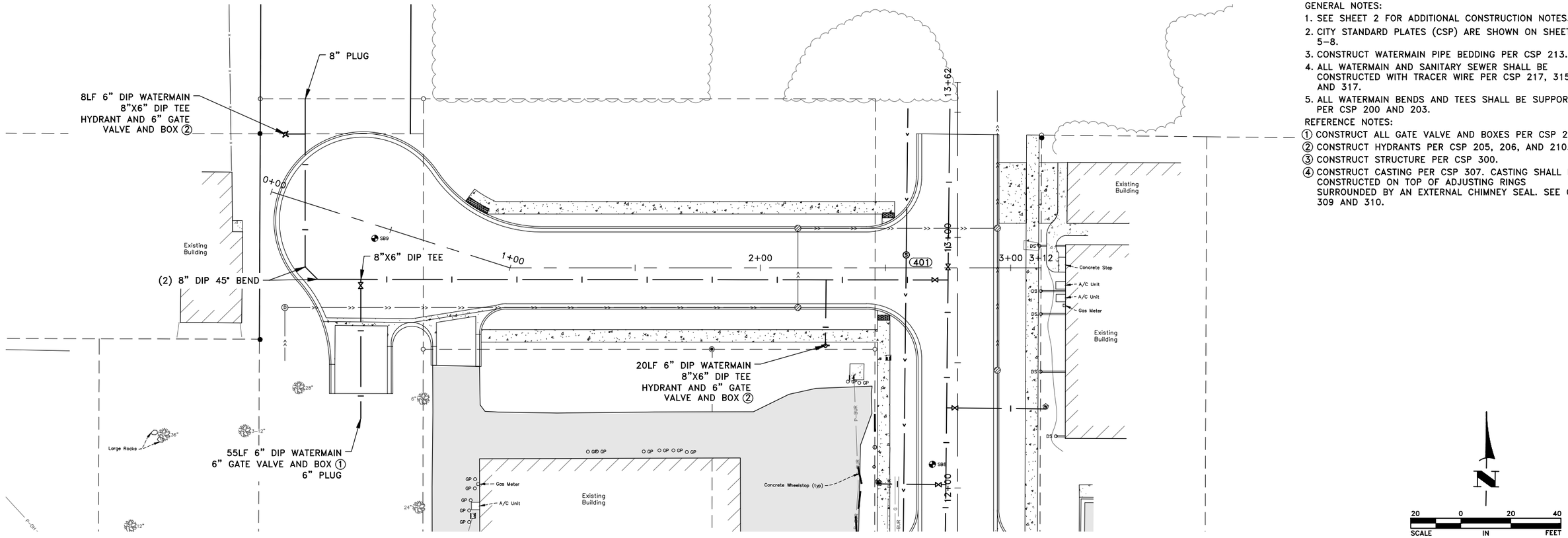

GENERAL NOTES:

1. SEE SHEET 2 FOR ADDITIONAL CONSTRUCTION NOTES.
2. CITY STANDARD PLATES (CSP) ARE SHOWN ON SHEETS 5–8.
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① CONSTRUCT ALL GATE VALVE AND BOXES PER CSP 207.
② CONSTRUCT HYDRANTS PER CSP 205, 206, AND 210.
③ CONSTRUCT STRUCTURE PER CSP 300.
④ CONSTRUCT CASTING PER CSP 307. CASTING SHALL BE CONSTRUCTED ON TOP OF ADJUSTING RINGS SURROUNDED BY AN EXTERNAL CHIMNEY SEAL. SEE CSP 309 AND 310.

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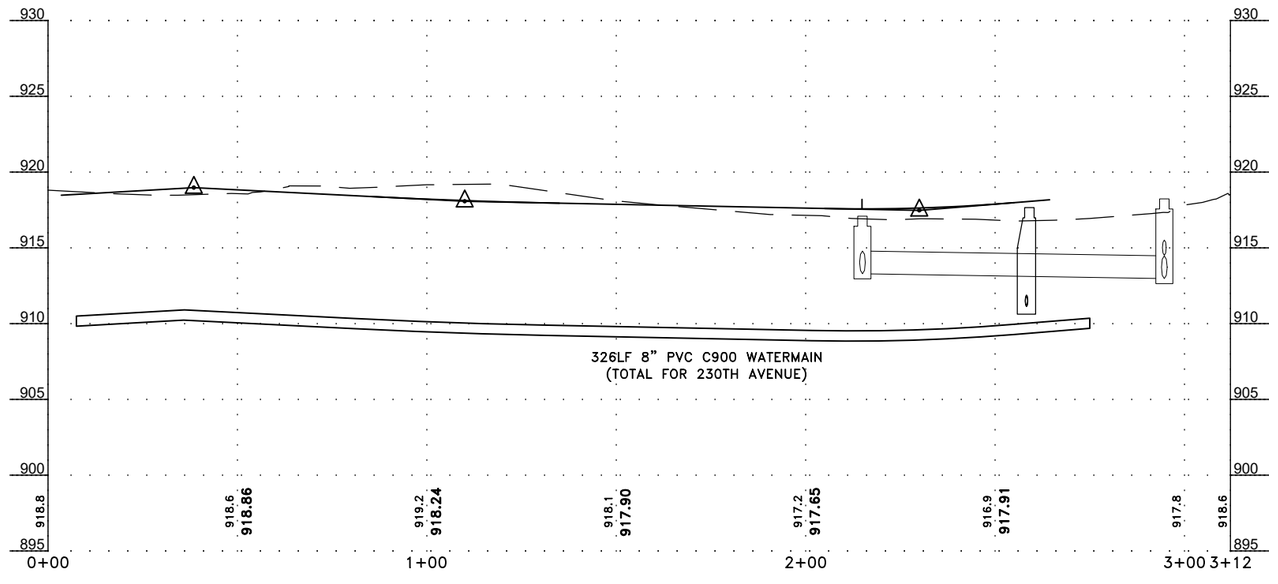

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WOODBINE STREET
EXTENSION PROJECT

WATERMAIN AND SANITARY SEWER PLAN

230TH LANE
CITY OF ST. FRANCIS, MINNESOTA

SHEET 21 OF 24 SHEETS

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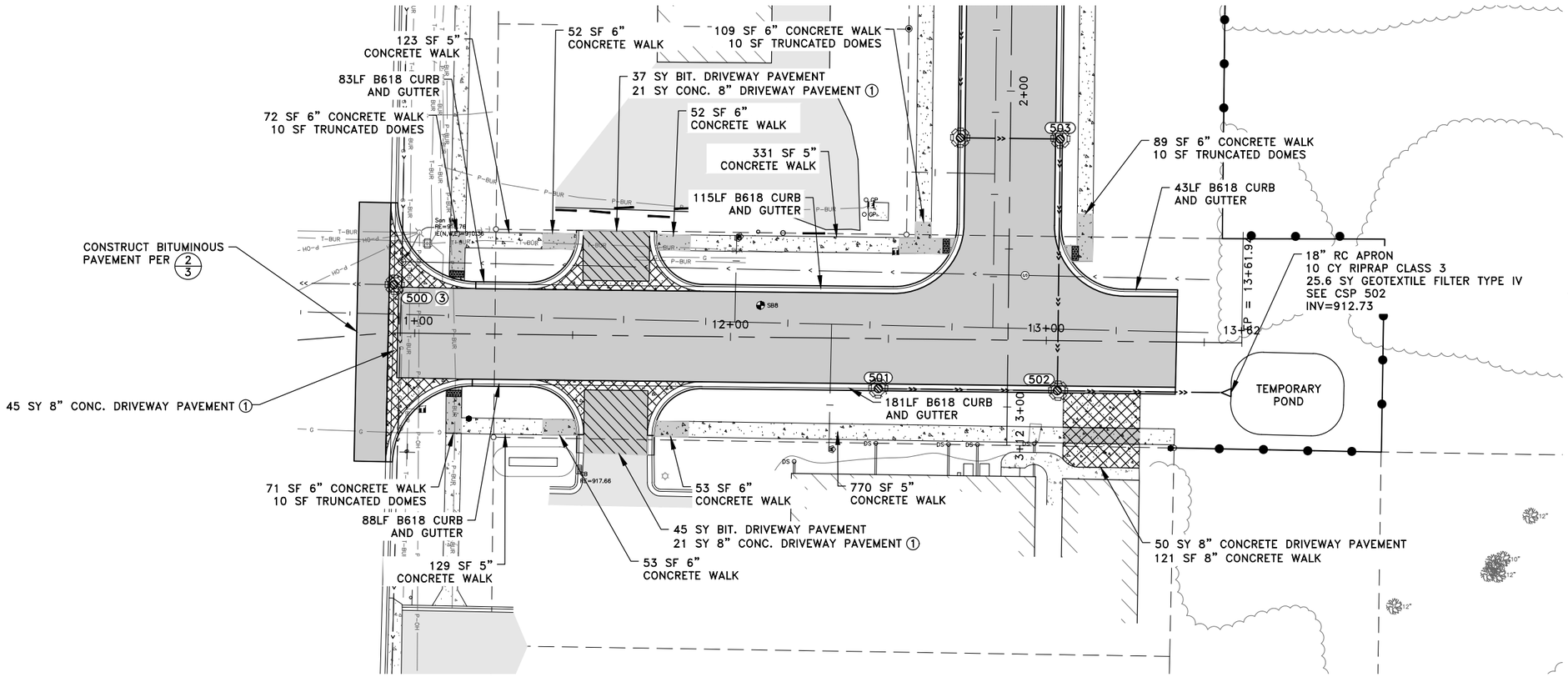

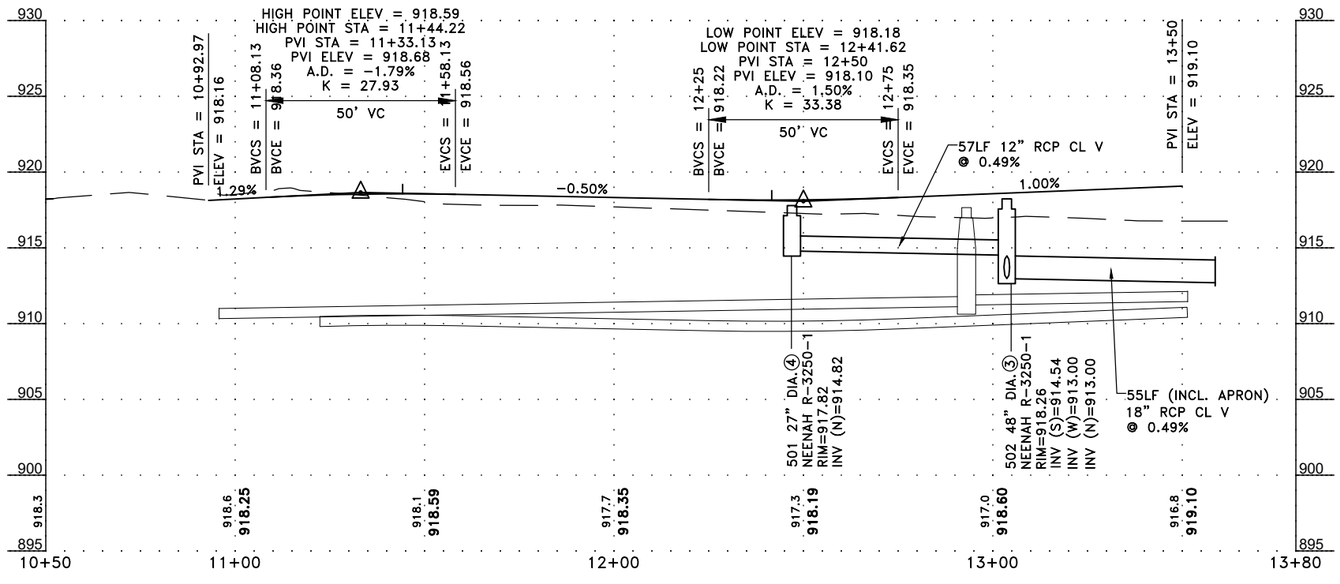

GENERAL NOTES:

1. SEE SHEET 2 FOR ADDITIONAL CONSTRUCTION NOTES.
2. CITY STANDARD PLATES (CSP) ARE SHOWN ON SHEETS 5-8.
3. SEE DETAILS 1, 2, AND 3 ON SHEET 4 FOR PAVING AT CURB, GATE VALVES, AND CASTINGS.

REFERENCE NOTES:

(1) SEE DETAIL 6 ON SHEET 3 FOR ADDITIONAL INFORMATION ON THE CONSTRUCTION OF THE CONCRETE VALLEY GUTTER.
(2) CONSTRUCT STRUCTURE PER CSP 400. CASTING SHALL BE CONSTRUCTED WITH ADJUSTING RINGS. SEE CSP 414 FOR ADDTIONAL INFORMATION.
(3) CONSTRUCT STRUCTURE PER CSP 406.
(4) CONSTRUCT STRUCTURE PER CSP 410.

DATE	REVISION

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WOODBINE STREET EXTENSION PROJECT

STREET AND STORM SEWER PLAN

WOODBINE STREET
CITY OF ST. FRANCIS, MINNESOTA

SHEET 22 OF 24 SHEETS

SF326

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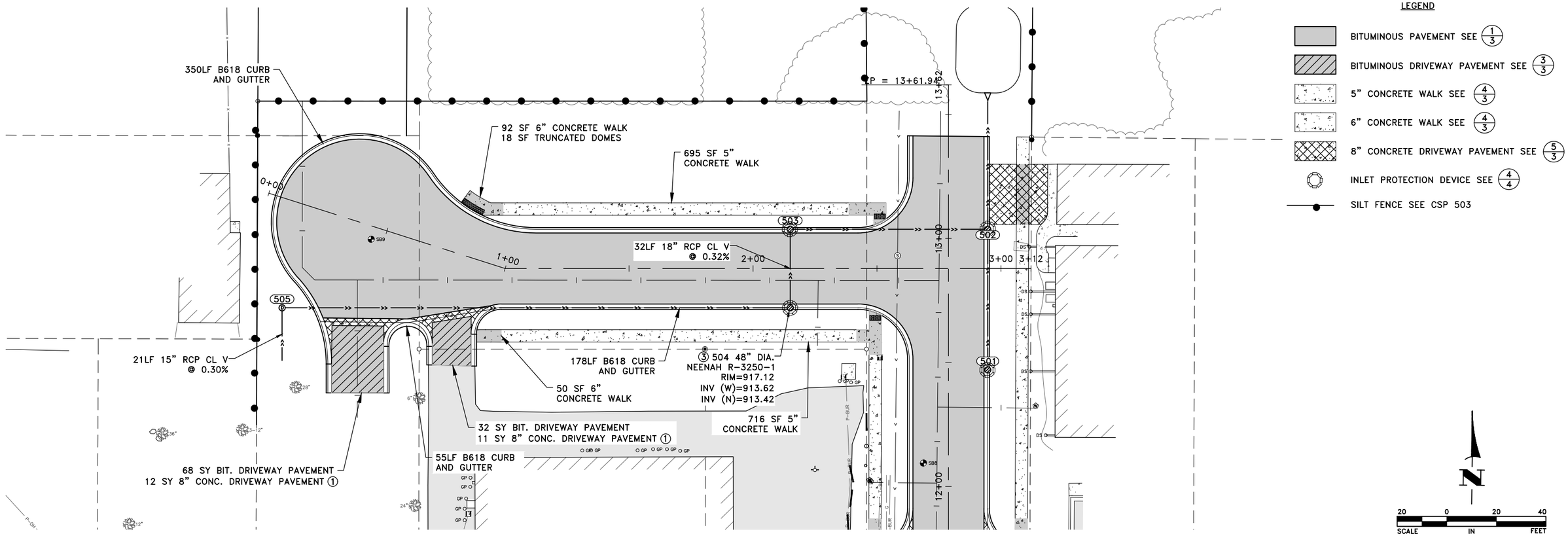

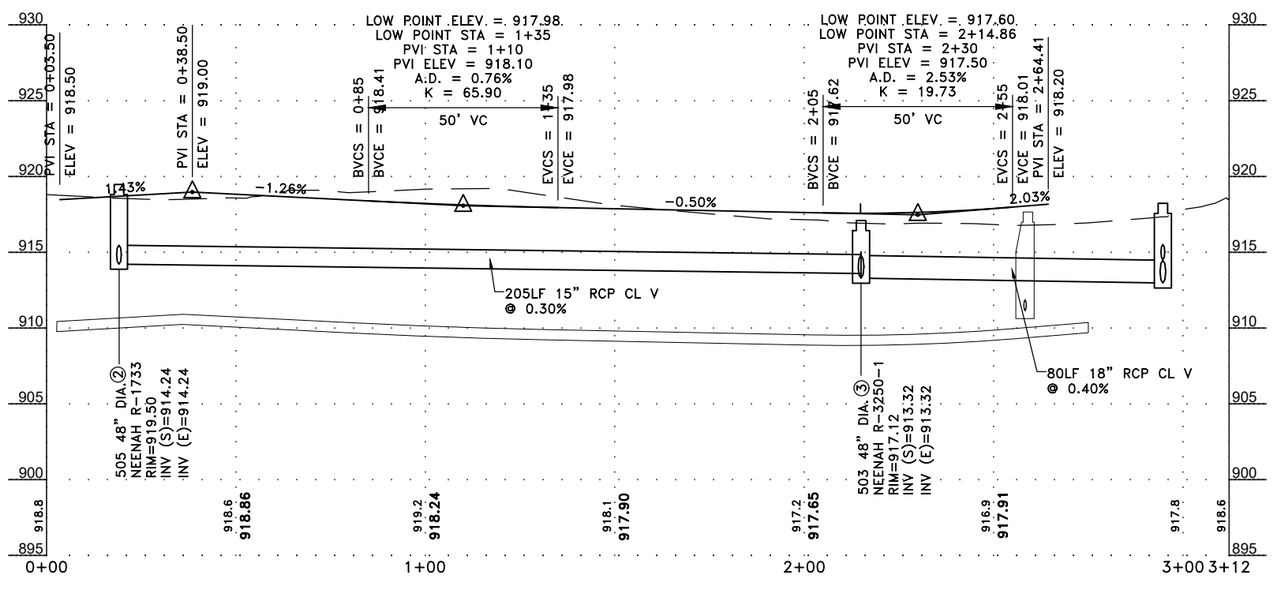

GENERAL NOTES:

1. SEE SHEET 2 FOR ADDITIONAL CONSTRUCTION NOTES.
2. CITY STANDARD PLATES (CSP) ARE SHOWN ON SHEETS 5–8.
3. SEE DETAILS 1, 2, AND 3 ON SHEET 4 FOR PAVING AT CURB, GATE VALVES, AND CASTINGS.

REFERENCE NOTES:

1. SEE DETAIL 6 ON SHEET 3 FOR ADDITIONAL INFORMATION ON THE CONSTRUCTION OF THE CONCRETE VALLEY GUTTER.
2. CONSTRUCT STRUCTURE PER CSP 400. CASTING SHALL BE CONSTRUCTED WITH ADJUSTING RINGS. SEE CSP 414 FOR ADDTIONAL INFORMATION.
3. CONSTRUCT STRUCTURE PER CSP 406.
4. CONSTRUCT STRUCTURE PER CSP 410.

DATE	REVISION

I hereby certify that this plan, specification, or report 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 3/2/26 CRAIG J. JOCHUM, P.E. Lic. No. 23461

DESIGNED BY: CJJ
DRAWN BY: SGJ
CHECKED BY: TAE

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WOODBINE STREET EXTENSION PROJECT

STREET AND STORM SEWER PLAN

230TH LANE
CITY OF ST. FRANCIS, MINNESOTA

SHEET 23 OF 24 SHEETS

SF326

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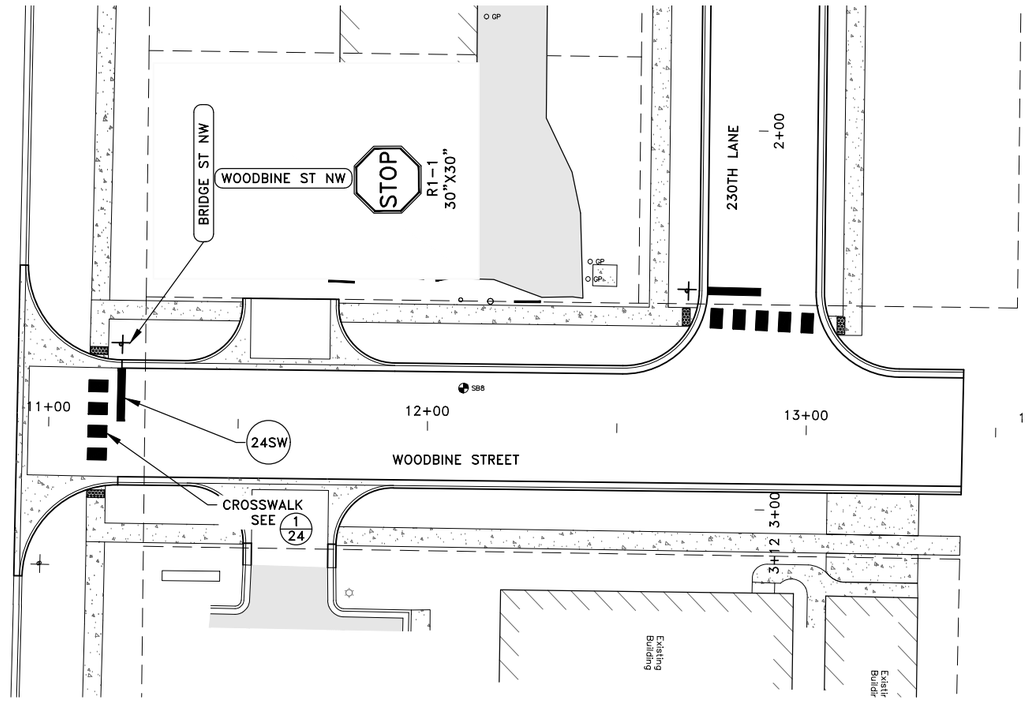
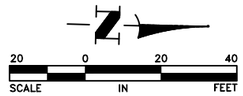
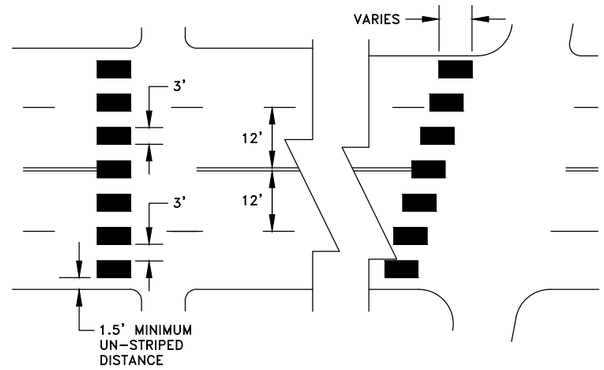


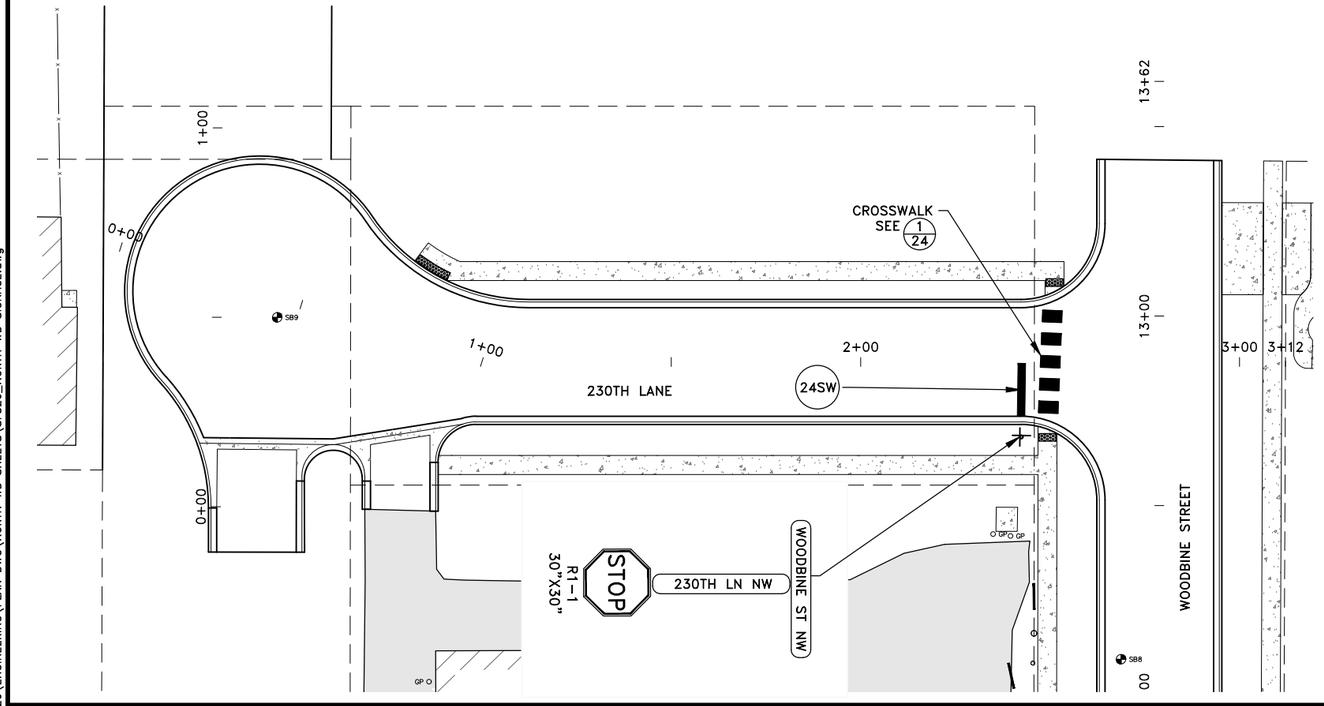


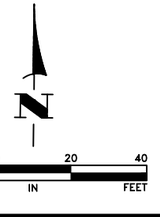


GENERAL CROSSWALK NOTES:

1. PAINTED AREAS TO BE CENTERED ON CENTERLINE AND LANE LINES.
2. A MINIMUM OF 1.5 FT. CLEAR DISTANCE SHALL BE LEFT ADJACENT TO THE CURB. IF LAST PAINTED AREA FALLS INTO THIS DISTANCE IT MUST BE OMITTED.
3. ON TWO LANE TWO WAY STREETS, USE SPACING SHOWN FOR AN 11 FT. INSIDE LANE.
4. FOR DIVIDED ROADWAYS, ADJUSTMENTS IN SPACING OF THE BLOCKS SHOULD BE MADE IN THE MEDIAN SO THAT THE BLOCKS ARE MAINTAINED IN THEIR PROPER LOCATION ACROSS THE TRAVELED PORTION OF THE ROADWAY.
5. AT SKEWED CROSSWALKS, THE BLOCKS ARE TO REMAIN PARALLEL TO THE LANE LINES AS SHOWN.
6. THE BLOCKS SHALL BE PLACED SO THAT THEY ARE NOT LOCATED IN THE WHEEL PATH OF THE VEHICLES

1/24 PEDESTRIAN CROSSWALK MARKINGS





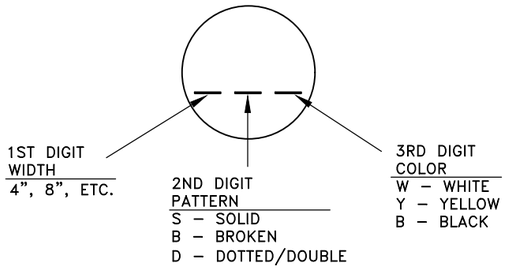
STRIPING KEY

CIRCLE–MULTI–COMPONENT

SQUARE–POLY PREFORMED THERMOPLASTIC

TRIANGLE–PAINT

PENTAGON–REMOVABLE PREFORMED PLASTIC MARKING



EXAMPLE: (4SW) = 4" SOLID LINE WHITE–MULTI–COMPONENT

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WOODBINE STREET
EXTENSION PROJECT

SIGNAGE AND STRIPING PLAN

CITY OF ST. FRANCIS, MINNESOTA

SHEET 24 OF 24 SHEETS

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