

CITY OF RAMSEY

CONSTRUCTION PLANS FOR

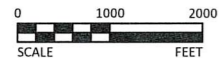
2026 NEIGHBORHOOD OVERLAY IMPROVEMENTS

CITY IMPROVEMENT PROJECT NO. 26-08

BITUMINOUS MILLING, PLANT MIXED BITUMINOUS PAVEMENT,
CONCRETE CURB & GUTTER, AND ADA IMPROVEMENTS

APRIL, 2026

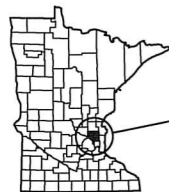
MAP OF THE
CITY OF RAMSEY
ANOKA COUNTY, MN



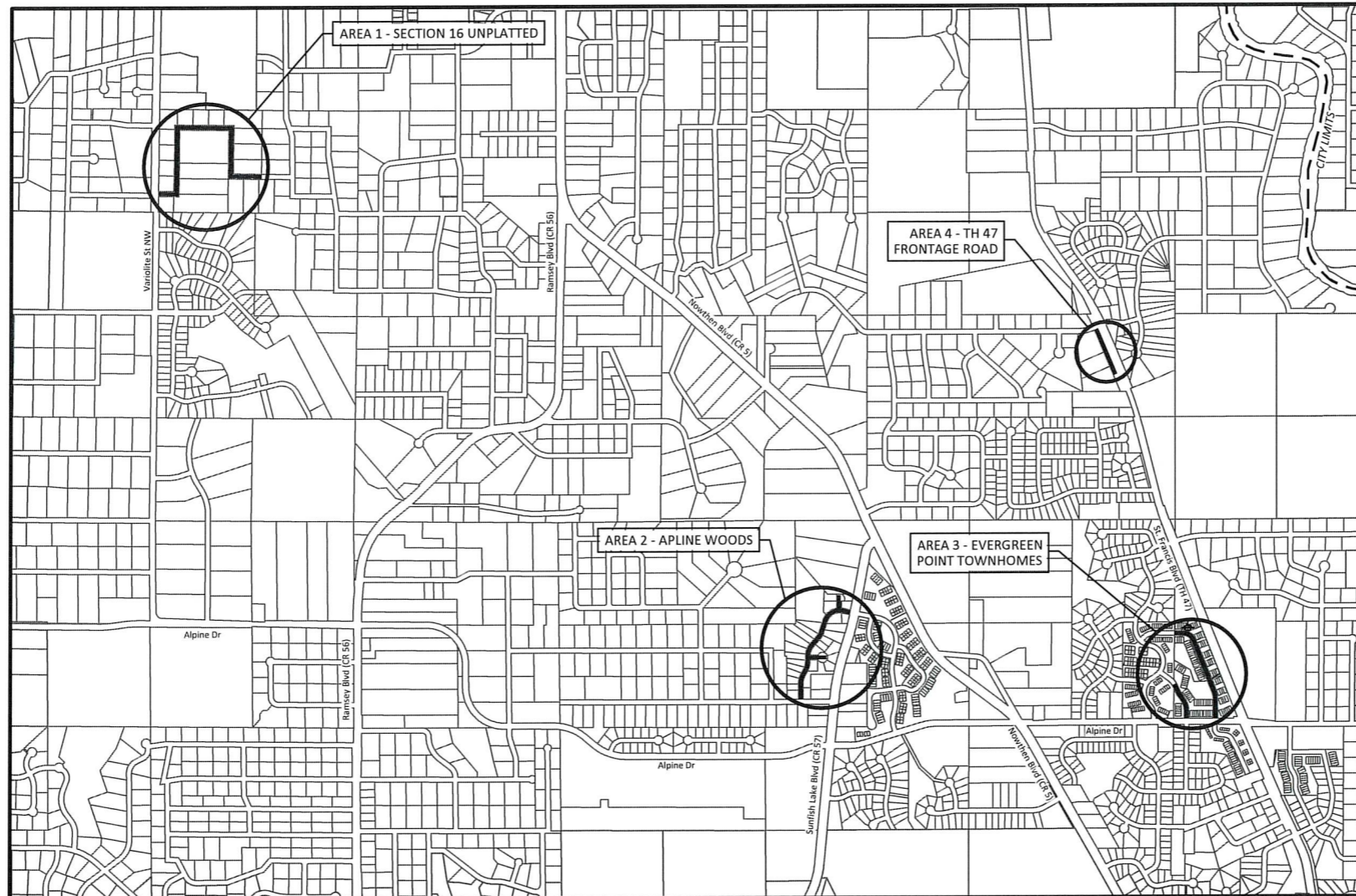
MAP LEGEND

PROJECT LIMITS

PROJECT LOCATION



CITY: RAMSEY
COUNTY: ANOKA



SHEET NUMBER	SHEET ID	SHEET TITLE
1	G0.01	TITLE SHEET
2	G0.02	LEGEND
3	G1.01	STATEMENT OF ESTIMATED QUANTITIES
4 - 7	C1.01 - C1.04	TYPICAL SECTIONS
8	C1.05	CITY DETAILS
9 - 14	C1.06 - C1.11	MnDOT STANDARD PLANS
15 - 18	C6.01 - C6.04	CONSTRUCTION PLAN
19 - 22	C6.05 - C6.08	ADA & INTERSECTION DETAILS

THIS PLAN SET CONTAINS 22 SHEETS.

NOTE: EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY GOPHER STATE ONE CALL, 1-800-252-1166 OR 651-454-0002.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL "D". THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-22, ENTITLED "STANDARD GUIDELINES FOR INVESTIGATING AND DOCUMENTING EXISTING UTILITIES."

REVIEWED & APPROVED: DATE: 4/21/26
CITY ENGINEER | DIRECTOR OF PUBLIC WORKS

± BM=876.32
HYDRANT - TOP OF NUT
NW QUAD, FLUORINE
STREET AND 154TH LANE

PROJECT DATUM:
HORIZONTAL: ANOKA COUNTY COORDINATES
(1996 ADJUSTMENT)
VERTICAL: NGVD 88

RECORD DRAWING
INFORMATION
OBSERVER:
CONTRACTOR:
DATE:

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.

ZACHARY F. LINGLER
LIC. NO. 56344 DATE 04/14/2026



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DESIGNED	NO.	ISSUED FOR	DATE
CJH		BID	04/14/2026
DRAWN			
CJH			
CHECKED			
ZFL			
CLIENT PROJ. NO.			
26-08			

CITY OF RAMSEY, MINNESOTA

2026 NEIGHBORHOOD PAVEMENT OVERLAY IMPROVEMENTS

TITLE SHEET

G0.01
SHEET
1
OF
22

STATEMENT OF ESTIMATED QUANTITIES									
LINE NO.	ITEM NO.	ITEM	NOTES	UNIT	TOTAL ESTIMATED QUANTITY	ESTIMATED QUANTITIES			
						(AREA 1) SECTION 16 UNPLATTED	(AREA 2) ALPINE WOODS	(AREA 3) EVERGREEN POINT TOWNHOMES	(AREA 4) TH 47 FRONTAGE ROAD
1	2021.501	MOBILIZATION		LUMP SUM	1	0.23	0.38	0.26	0.13
2	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	(1)	LIN FT	160		60	100	
3	2104.503	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	(1)	LIN FT	1230	70	635	395	130
4	2104.503	REMOVE CURB AND GUTTER	(1)	LIN FT	680		435	245	
5	2104.503	REMOVE BITUMINOUS CURB	(1)	LIN FT	150	75			75
6	2104.504	REMOVE CONCRETE WALK	(1)	SQ YD	180		150	30	
7	2104.504	REMOVE BITUMINOUS PAVEMENT	(1)(16)	SQ YD	2895	430	1150	385	930
8	2123.610	STREET SWEEPER (WITH PICKUP BROOM)		HOUR	10	2	3	3	2
9	2211.509	AGGREGATE BASE CLASS 5 MOD	(CV)	TON	25		25		
10	2231.604	BITUMINOUS PATCH SPECIAL 1	(2)	SQ YD	2110	430	445	315	920
11	2231.604	BITUMINOUS PATCH SPECIAL 2		SQ YD	520		520		
12	2231.604	BITUMINOUS DRIVEWAY PATCH		SQ YD	25		25		
13	2232.504	MILL BITUMINOUS SURFACE (1.0")		SQ YD	5820			5820	
14	2232.504	MILL BITUMINOUS SURFACE (2.0")		SQ YD	18340	8940	6980		2420
15	2231.603	SAWED AND SEALED JOINT	(3)	EACH	110		50	60	
16	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	(4)	GAL	1720	630	490	430	170
17	2360.509	TYPE SP 9.5 WEARING COURSE MIXTURE (3;C)	(5)	TON	2900	1060	830	720	290
18	2504.602	ADJUST VALVE BOX		EACH	12		7	5	
19	2506.502	REMOVE & REPLACE FRAME & RING CASTING	(1)(15)	EACH	4		2	2	
20	2506.502	ADJUST FRAME AND RING CASTING		EACH	24		10	14	
21	2506.602	GROUT CATCH BASIN OR MANHOLE		EACH	28		14	14	
22	2506.602	CASTING ASSEMBLY SPECIAL	(13)	EACH	1		1		
23	2521.518	6" CONCRETE WALK	(6)	SQ YD	320		190	120	10
24	2521.602	DRILL AND GROUT REINF BAR (EPOXY COATED)		EACH	220		130	90	
25	2531.503	CONCRETE CURB AND GUTTER DESIGN B618	(6)	LIN FT	130		130		
26	2531.503	CONCRETE CURB AND GUTTER DESIGN SURMOUNTABLE	(6)	LIN FT	630		380	250	
27	2531.618	TRUNCATED DOMES	(12)	SQ FT	144		65	60	19
28	2535.503	BITUMINOUS CURB	(14)	LIN FT	150	75			75
29	2563.601	TRAFFIC CONTROL	(7)	LUMP SUM	1	0.23	0.38	0.26	0.13
30	2563.601	ALTERNATE PEDESTRIAN ROUTE		LUMP SUM	1	0.23	0.38	0.26	0.13
31	2573.502	STORM DRAIN INLET PROTECTION		EACH	12		8	4	
32	2574.507	COMMON TOPSOIL BORROW	(LV)(8)	CU YD	125		100	20	5
33	2575.523	WATER	(9)	MGAL	10		4	4	2
34	2575.605	TURF ESTABLISHMENT	(10)	ACRE	0.16	0.01	0.12	0.02	0.01
35	01.21.16	LANDSCAPING ALLOWANCE	(11)	UNITS	10000	1000	4000	4000	1000

NOTES:

- (P) DENOTES PLANNED QUANTITY
- (CV) DENOTES COMPACTED VOLUME QUANTITY
- (LV) DENOTES LOOSE VOLUME QUANTITY

- (1) REMOVAL LIMITS SHALL BE MARKED IN THE FIELD BY CITY STAFF.
- (2) ESTIMATED QUANTITY INCLUDES AREAS SHOWN ON PLANS AS WELL AS AN ESTIMATED 2% OF MILLING AREA.
- (3) SAW AND SEAL NUMBERS ARE FOR CONCRETE CURB & GUTTER FOR ENTIRE CURB & GUTTER WIDTH. SAW TO DEPTH FOR UNIFORM SEAL. SEAL WITH POLYURETHANE CAULK. NOT INCLUDED IN SAWING CONCRETE PAY ITEM.
- (4) ESTIMATED QUANTITY BASED ON APPLICATION RATE OF 0.07 GAL/SY.
- (5) ESTIMATED QUANTITY BASED ON APPLICATION RATE OF 113 LB/SY-IN.
- (6) FINISH WITH CLEAR CURING COMPOUND. ITEM INCLUDES ADDITIONAL QUANTITY FOR SPOT REPAIRS AS DIRECTED BY THE ENGINEER IN THE FIELD.
- (7) LUMP SUM QUANTITY SHALL INCLUDE ALL COST REQUIRED FOR MAINTAINING ALL FLAGGING OPERATIONS AS NECESSARY, MAINTAINING PEDESTRIAN ACCESS ROUTES, AND MAINTAINING SIGNAGE AND BARRICADES AS NECESSARY.
- (8) CV TO LV CONVERSION FACTOR = 1.5.
- (9) ITEM TO BE USED FOR TURF ESTABLISHMENT AS DIRECTED BY THE ENGINEER.
- (10) TURF ESTABLISHMENT INCLUDES SEEDING, SEED MIXTURES, FERTILIZER, AND OTHER SOIL AMENDMENTS. SEED MIXTURE SHALL BE MNDOT SEED MIX TYPE RESIDENTIAL TURFGRASS. FOLLOW MNDOT SEEDING MANUAL GUIDELINES FOR APPLICATION RATES.
- (11) CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL LANDSCAPING TO AS GOOD OR BETTER CONDITION. SEE SPECIFICATIONS.
- (12) TRUNCATED DOMES SHALL BE SLATE GRAY IN COLOR. THE APPROVED PRODUCTS ARE THOSE LISTED ON THE MnDOT WEBSITE FOR DETECTABLE WARNING SURFACES.
- (13) ITEM INCLUDES ADJUSTING CURB STOP BOX HEIGHT AND INSTALLING FORD METER BOX MODEL A1 (OR APPROVED EQUAL) WHEN LOCATED IN CONCRETE OR BITUMINOUS SURFACES.
- (14) ITEM TO BE USED FOR SPOT REPAIRS AS DIRECTED BY THE ENGINEER IN THE FIELD.
- (15) ITEM TO BE USED AS DIRECTED BY THE ENGINEER IN THE FIELD.
- (16) ITEM INCLUDES REMOVING BITUMINOUS STREET, DRIVEWAY, AND TRAIL PAVEMENT.

GENERAL NOTES:

- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. IT IS NOT GUARANTEED ANY OR ALL EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING IRRIGATION SYSTEMS WITHIN THE PROJECT CONSTRUCTION LIMITS BEFORE COMMENCING WORK. THE CONTRACTOR IS RESPONSIBLE FOR AVOIDING DAMAGE TO IRRIGATION SYSTEMS WHERE POSSIBLE.

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ZACHARY F. LINGU, P.E.
LIC. NO. 56344 DATE 04/14/2026



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DESIGNED BY	CJH	DATE	04/14/2026
DRAWN BY	CJH	BID	ADD 1
CHECKED BY	ZFL	DATE	05/01/2026
CLIENT PROJ. NO.	26-08		

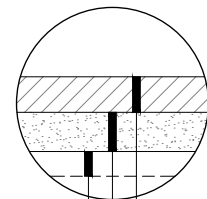
CITY OF RAMSEY, MINNESOTA

2026 NEIGHBORHOOD PAVEMENT OVERLAY IMPROVEMENTS

STATEMENT OF ESTIMATED QUANTITIES

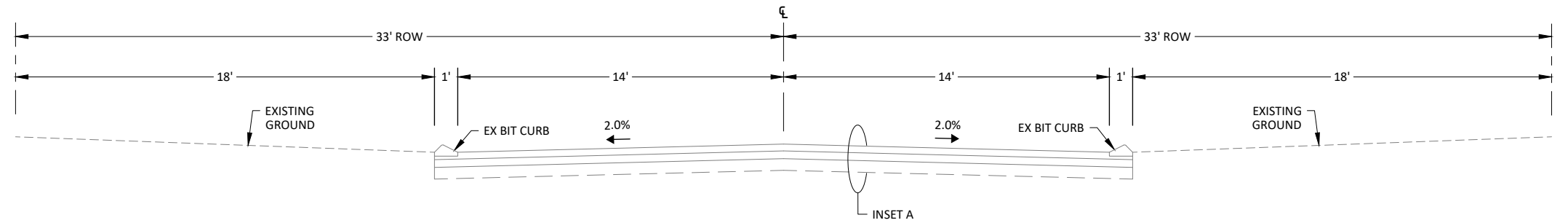
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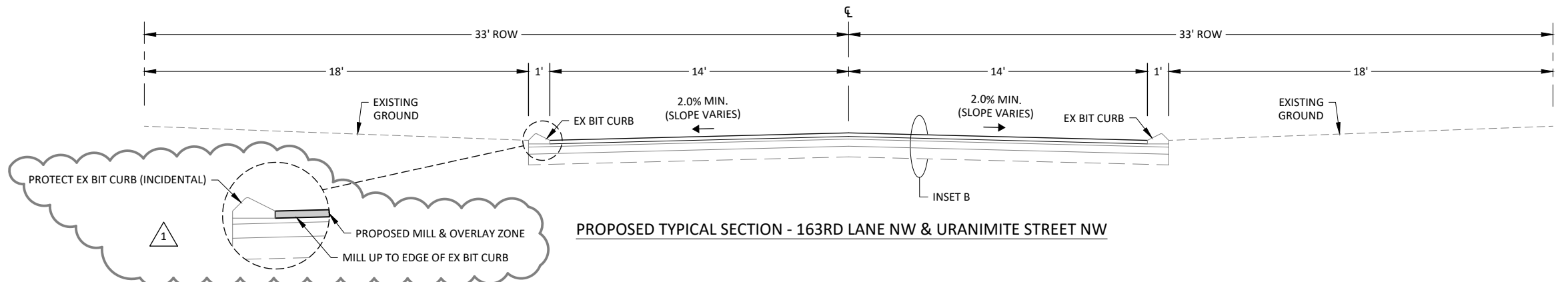


3.8" EXISTING AVERAGE BITUMINOUS PAVEMENT
 4.0" EXISTING AVERAGE AGGREGATE BASE
 EXISTING SUBGRADE

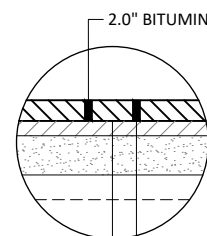
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EXISTING TYPICAL SECTION - 163RD LANE NW & URANIMITE STREET NW

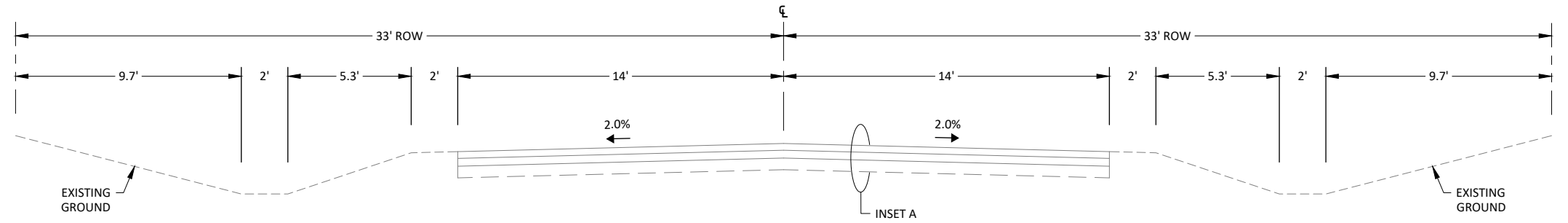


PROPOSED TYPICAL SECTION - 163RD LANE NW & URANIMITE STREET NW

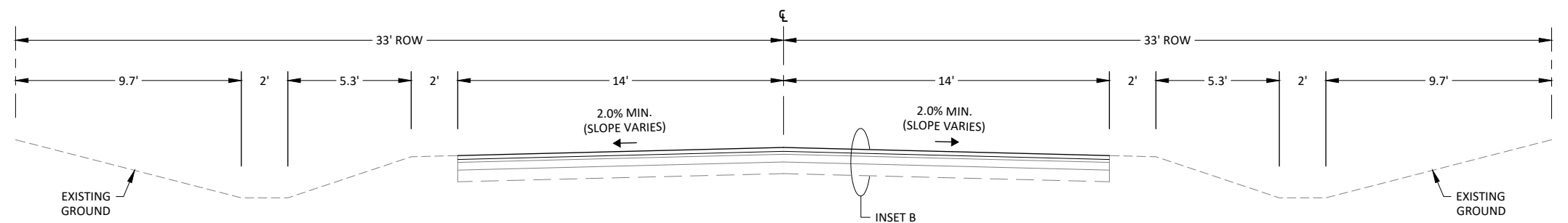


2.0" BITUMINOUS PAVEMENT MILL (2232)
 2.0" TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEA340C) (2360)
 BITUMINOUS TACK COAT (2357)

INSET B
 NOT TO SCALE



EXISTING TYPICAL SECTION - URANIMITE STREET NW



PROPOSED TYPICAL SECTION - URANIMITE STREET NW

GENERAL NOTE:
 • IN AREAS WHERE THE EXISTING CROWN SLOPE OF THE PAVEMENT DOES NOT MEET THE REQUIRED FINAL SLOPE OF 2.0%, THE BITUMINOUS WEARING COURSE SHALL BE THICKENED AT THE CENTERLINE TO ACHIEVE THE REQUIRED 2.0% CROWN SLOPE.

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 LIC. NO. 56344 DATE 04/14/2026



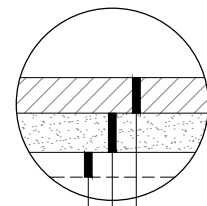
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CHECKED	ZFL		
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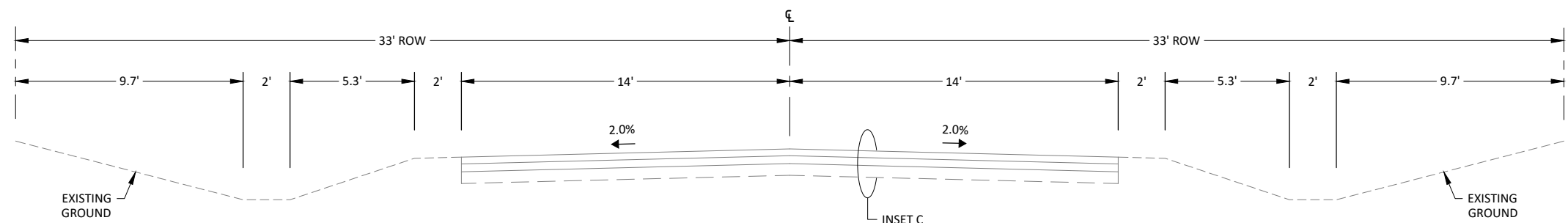
CITY OF RAMSEY, MINNESOTA
 2026 NEIGHBORHOOD PAVEMENT OVERLAY IMPROVEMENTS
 TYPICAL SECTIONS & DETAILS
 TYPICAL SECTIONS

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 22

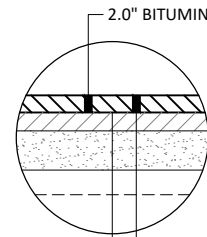


3.9" EXISTING AVERAGE BITUMINOUS PAVEMENT
 5.4" EXISTING AVERAGE AGGREGATE BASE
 EXISTING SUBGRADE

INSET C
 NOT TO SCALE

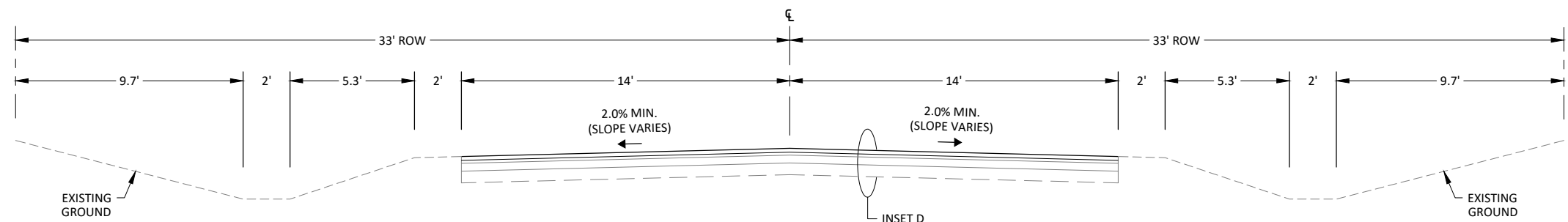


EXISTING TYPICAL SECTION - 164TH LANE NW

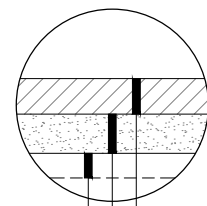


2.0" BITUMINOUS PAVEMENT MILL (2232)
 2.0" TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEA340C) (2360)
 BITUMINOUS TACK COAT (2357)

INSET D
 NOT TO SCALE

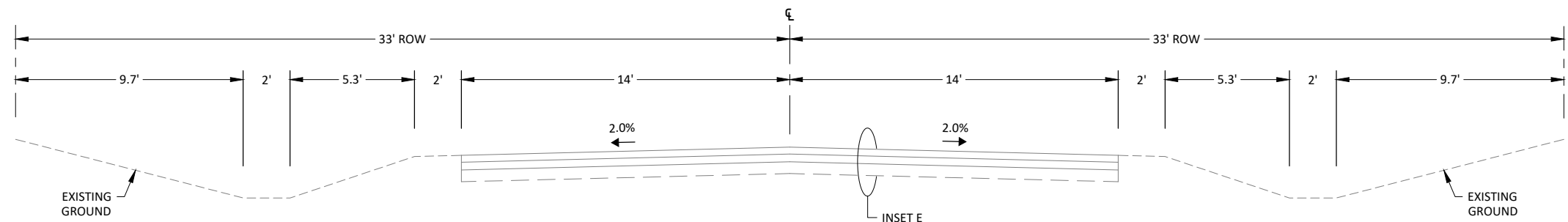


PROPOSED TYPICAL SECTION - 164TH LANE NW

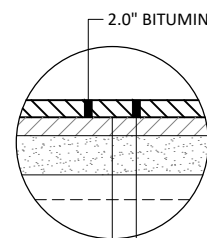


4.3" EXISTING AVERAGE BITUMINOUS PAVEMENT
 4.1" EXISTING AVERAGE AGGREGATE BASE
 EXISTING SUBGRADE

INSET E
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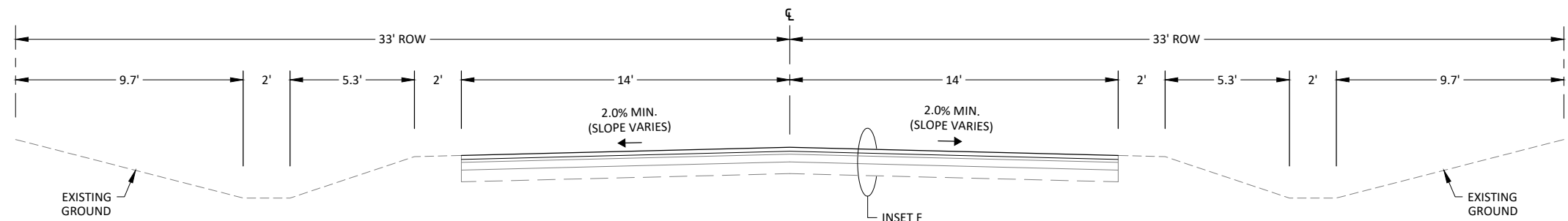


EXISTING TYPICAL SECTION - SAPPHIRE STREET NW & 164TH AVENUE NW



2.0" BITUMINOUS PAVEMENT MILL (2232)
 2.0" TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEA340C) (2360)
 BITUMINOUS TACK COAT (2357)

INSET F
 NOT TO SCALE



PROPOSED TYPICAL SECTION - SAPPHIRE STREET NW & 164TH AVENUE NW

GENERAL NOTE:
 • IN AREAS WHERE THE EXISTING CROWN SLOPE OF THE PAVEMENT DOES NOT MEET THE REQUIRED FINAL SLOPE OF 2.0%, THE BITUMINOUS WEARING COURSE SHALL BE THICKENED AT THE CENTERLINE TO ACHIEVE THE REQUIRED 2.0% CROWN SLOPE.

NOTE: DETAILS ARE NOT TO SCALE

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 ZACHARY F. LINGU, P.E.
 LIC. NO. 56344 DATE 04/07/2026



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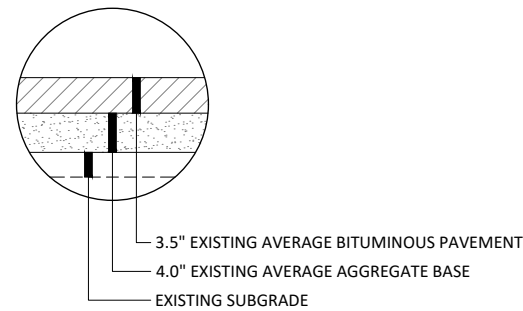


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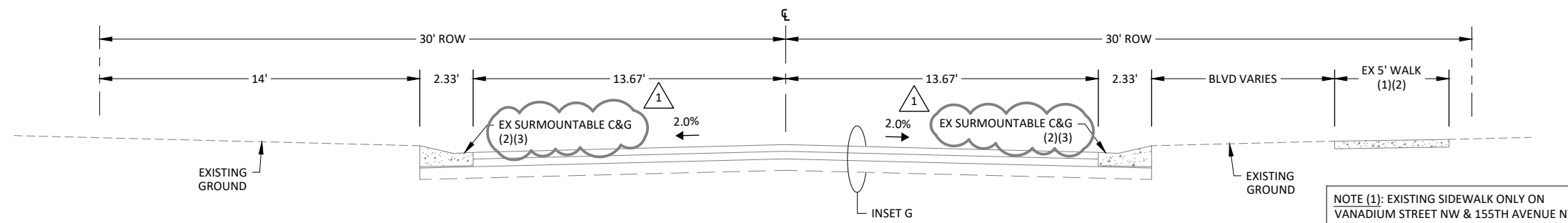
CITY OF RAMSEY, MINNESOTA
 2026 NEIGHBORHOOD PAVEMENT OVERLAY IMPROVEMENTS
 TYPICAL SECTIONS & DETAILS
 TYPICAL SECTIONS

C1.02
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 OF
 22

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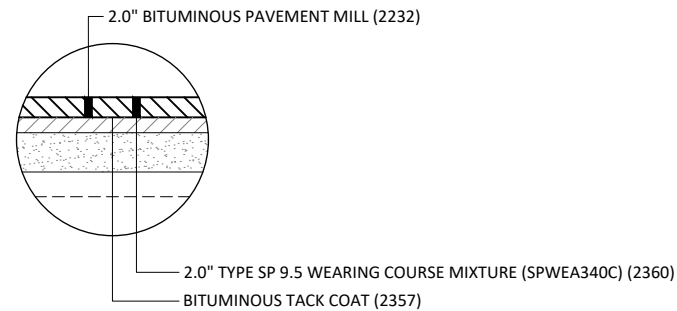


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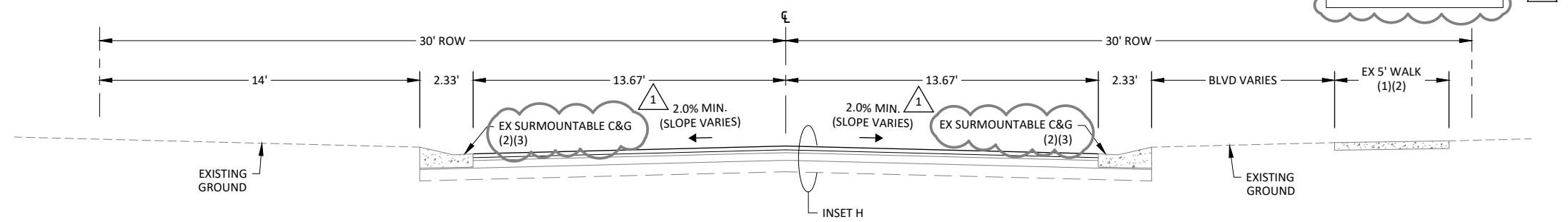


EXISTING TYPICAL SECTION - VANADIUM STREET NW, URANIMITE STREET NW, 155TH AVENUE NW & 144TH COURT NW

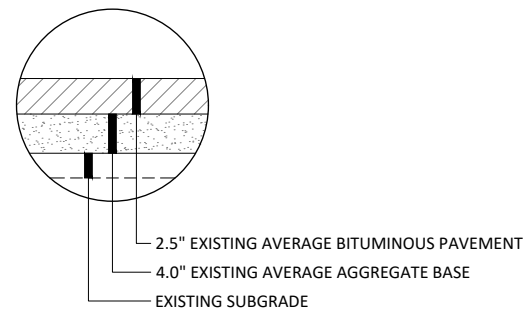
NOTE (1): EXISTING SIDEWALK ONLY ON VANADIUM STREET NW & 155TH AVENUE NW
NOTE (2): SPOT REPAIRS AS DIRECTED BY THE ENGINEER IN THE FIELD
NOTE (3): PROTECT EXISTING CURB & GUTTER (INCIDENTAL)



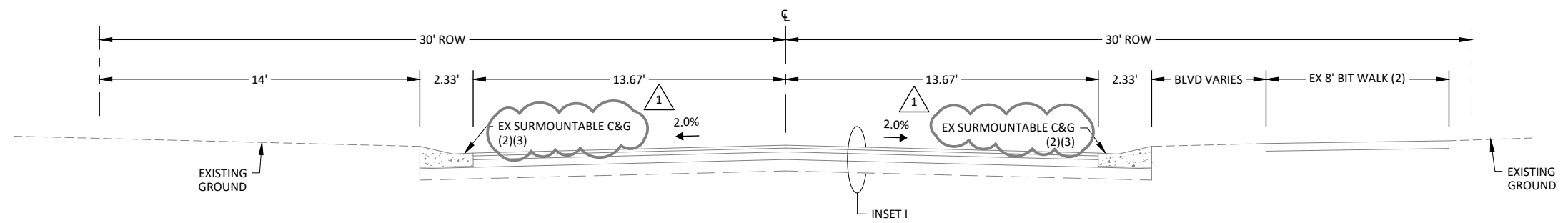
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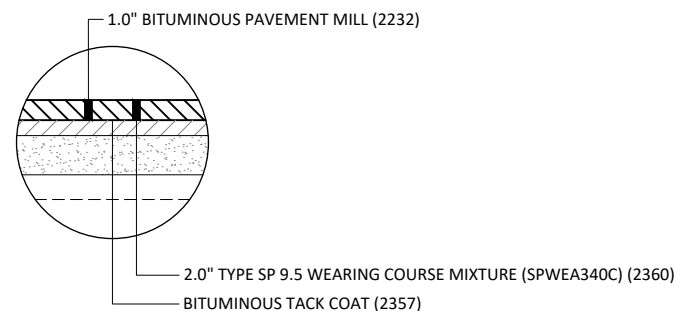
PROPOSED TYPICAL SECTION - VANADIUM STREET NW, URANIMITE STREET NW, 155TH AVENUE NW & 144TH COURT NW



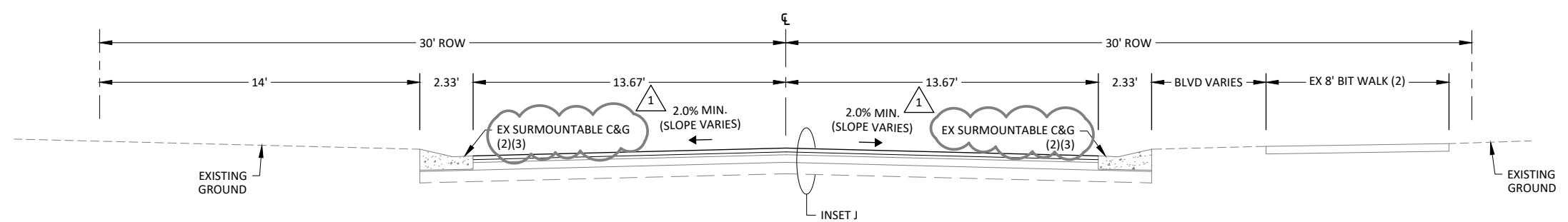
INSET I
NOT TO SCALE



EXISTING TYPICAL SECTION - GERMANIUM STREET NW, FLUORINE STREET NW, 154TH LANE NW



INSET J
NOT TO SCALE



PROPOSED TYPICAL SECTION - GERMANIUM STREET NW, FLUORINE STREET NW, 154TH LANE NW

GENERAL NOTE:
• IN AREAS WHERE THE EXISTING CROWN SLOPE OF THE PAVEMENT DOES NOT MEET THE REQUIRED FINAL SLOPE OF 2.0%, THE BITUMINOUS WEARING COURSE SHALL BE THICKENED AT THE CENTERLINE TO ACHIEVE THE REQUIRED 2.0% CROWN SLOPE.

NOTE: DETAILS ARE NOT TO SCALE

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Zachary F. Ling
ZACHARY F. LING, P.E.
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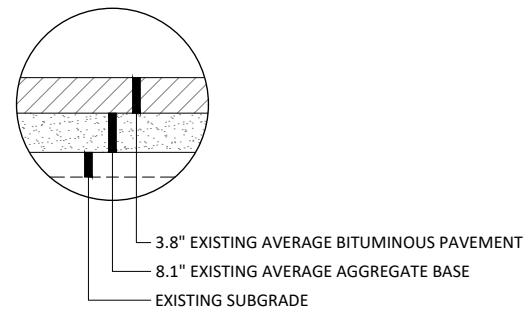
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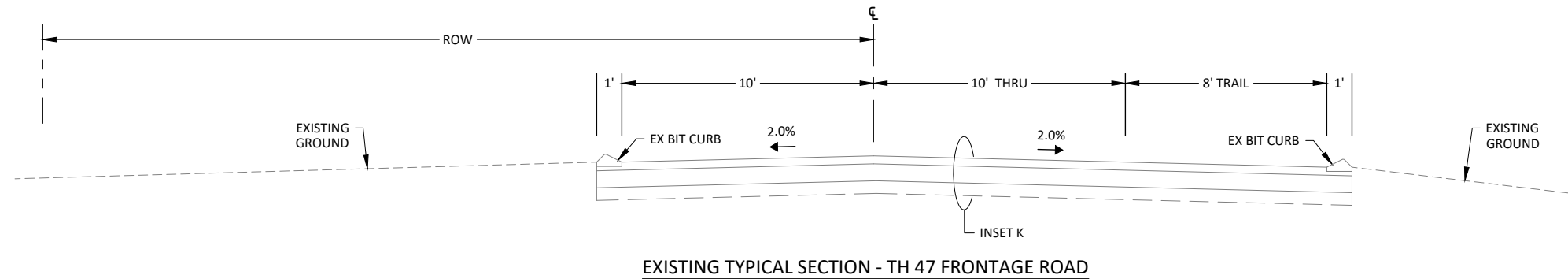
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CITY OF RAMSEY, MINNESOTA		C1.03
2026 NEIGHBORHOOD PAVEMENT OVERLAY IMPROVEMENTS		SHEET 6 OF 22
TYPICAL SECTIONS & DETAILS		
TYPICAL SECTIONS		

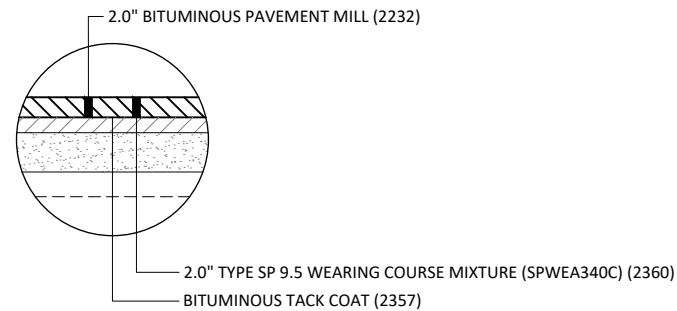
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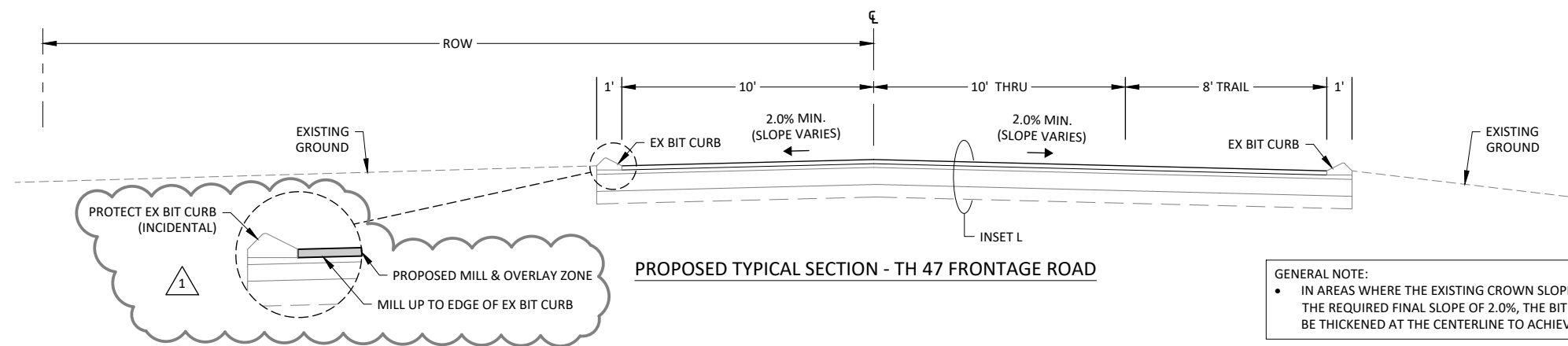
INSET K
NOT TO SCALE



EXISTING TYPICAL SECTION - TH 47 FRONTAGE ROAD



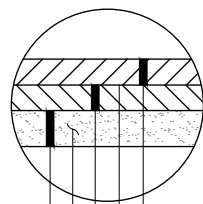
INSET L
NOT TO SCALE



PROPOSED TYPICAL SECTION - TH 47 FRONTAGE ROAD

GENERAL NOTE:

- IN AREAS WHERE THE EXISTING CROWN SLOPE OF THE PAVEMENT DOES NOT MEET THE REQUIRED FINAL SLOPE OF 2.0%, THE BITUMINOUS WEARING COURSE SHALL BE THICKENED AT THE CENTERLINE TO ACHIEVE THE REQUIRED 2.0% CROWN SLOPE.

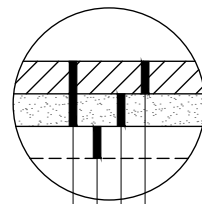


BITUMINOUS PATCH SPECIAL 1 (SEE NOTE 1)
NOT TO SCALE

NOTE (1): PAYMENT FOR BITUMINOUS PATCH SPECIAL 1 SHALL INCLUDE THE MATERIALS AND LABOR REQUIRED FOR SHAPING AND COMPACTING EXISTING AGGREGATE BASE AND PAVING BOTTOM LIFT OF BITUMINOUS.

NOTE (2): PAYMENT FOR THE TOP LIFT OF BITUMINOUS WEAR COURSE, BITUMINOUS MATERIAL FOR TACK COAT, REMOVE BITUMINOUS PAVEMENT, AND BITUMINOUS SAWCUTTING SHALL BE PAID AT THE RESPECTIVE BID ITEMS.

- 2.0" TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEA340C) (2360) (SEE NOTES 1 & 2)
- BITUMINOUS TACK COAT (2357) (SEE NOTE 2)
- VARIABLE THICKNESS TYPE SP 12.5 NON-WEARING COURSE MIXTURE - MATCH EXISTING BITUMINOUS SECTION (SPNWB330C) (2360) (SEE NOTE 1)
- SHAPE & COMPACT EXISTING AGGREGATE BASE MATERIAL (INCIDENTAL) (SEE NOTE 1)
- EXISTING AGGREGATE BASE MATERIAL

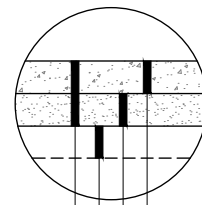


BITUMINOUS DRIVEWAY PATCH
NOT TO SCALE

SEE NOTE (3)

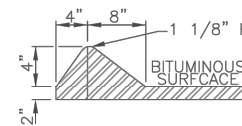
NOTE (3): AGGREGATE BASE SHALL EXTEND 6" BEYOND THE EDGE OF THE NEW PAVEMENT

- 3.0" TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEA340C) (2360)
- 6" AGGREGATE BASE, CLASS 5 MOD. (2211) (SEE CITY STD. PLATE STR-26) (INCIDENTAL)
- SUBGRADE PREPARATION (2112) (INCIDENTAL)
- COMMON EXCAVATION ZONE 9"± (2106) (INCIDENTAL)



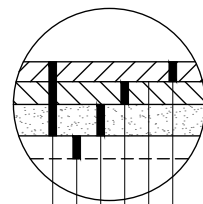
4" SHOE FORMED BITUMINOUS CURB
NOT TO SCALE

SEE NOTE (3)



6" CONCRETE WALK
NOT TO SCALE

NOTE (4): PAYMENT FOR BITUMINOUS PATCH SPECIAL 2 SHALL INCLUDE THE MATERIALS AND LABOR REQUIRED FOR EXCAVATING EXISTING SECTION, PREPARING/GRADING SUBGRADE, AND PAVING BOTTOM LIFT OF BITUMINOUS.



BITUMINOUS PATCH SPECIAL 2 (URANIUM ST NW CUL-DE-SAC) (SEE NOTE 4)
NOT TO SCALE

- 2.0" TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEA340C) (2360) (SEE NOTES 2 & 4)
- BITUMINOUS TACK COAT (2357) (SEE NOTE 2)
- 1.5" TYPE SP 12.5 NON-WEARING COURSE MIXTURE (SPNWB330C) (2360) (SEE NOTE 4)
- 4" AGGREGATE BASE, CLASS 5 MOD. (2211) (SEE CITY STD. PLATE STR-26)
- SUBGRADE PREPARATION (2112) (INCIDENTAL) (SEE NOTE 4)
- COMMON EXCAVATION ZONE 7.5"± (2106) (INCIDENTAL) (SEE NOTE 4)

TYPICAL CONSTRUCTION - CONCRETE CURB & GUTTER ROADWAY AREAS

- INSTALL TEMPORARY TRAFFIC CONTROL AND EROSION CONTROL PRIOR TO CONSTRUCTION. STAGE CONSTRUCTION TO MAINTAIN ACCESS FOR LOCAL TRAFFIC AT ALL TIMES.
- REMOVE AND REPLACE CONCRETE CURB & GUTTER (SPOT REPAIRS), SIDEWALK (SPOT REPAIRS), AND PEDESTRIAN RAMPS AS DIRECTED BY THE ENGINEER. SAW & SEAL CONCRETE CURB & GUTTER AS DIRECTED BY THE ENGINEER IN THE FIELD.
- MILL EXISTING BITUMINOUS PAVEMENT AT SPECIFIED DEPTH.
- CONSTRUCT BITUMINOUS PATCH (SPOT REPAIRS) TO BITUMINOUS BASE COURSE HEIGHT AS DIRECTED BY THE ENGINEER.
- ADJUST STRUCTURES AND VALVE BOXES IN PAVEMENT TO SPECIFIED LIMITS (IF NECESSARY).
- PLACE BITUMINOUS TACK COAT.
- PAVE BITUMINOUS WEAR COURSE (2.0" THICK) IN MILLED AREAS AND BITUMINOUS PATCH AREAS.
- SEED, FERTILIZE & HYDROMULCH PREPARED DISTURBED SURFACE.

TYPICAL CONSTRUCTION - BITUMINOUS CURB / RURAL ROADWAY AREAS

- INSTALL TEMPORARY TRAFFIC CONTROL AND EROSION CONTROL PRIOR TO CONSTRUCTION. STAGE CONSTRUCTION TO MAINTAIN ACCESS FOR LOCAL TRAFFIC AT ALL TIMES.
- MILL EXISTING BITUMINOUS PAVEMENT AT SPECIFIED DEPTH.
- REMOVE AND REPLACE BITUMINOUS CURB (SPOT REPAIRS) AS DIRECTED BY THE ENGINEER.
- CONSTRUCT BITUMINOUS PATCH (SPOT REPAIRS) TO BITUMINOUS BASE COURSE HEIGHT AS DIRECTED BY THE ENGINEER.
- ADJUST STRUCTURES AND VALVE BOXES IN PAVEMENT TO SPECIFIED LIMITS (IF NECESSARY).
- PLACE BITUMINOUS TACK COAT.
- PAVE BITUMINOUS WEAR COURSE (2.0" THICK) IN MILLED AREAS AND BITUMINOUS PATCH AREAS.
- SEED, FERTILIZE & HYDROMULCH PREPARED DISTURBED SURFACE.

NOTE: DETAILS ARE NOT TO SCALE

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.

ZACHARY F. LINGU, P.E.
LIC. NO. 56344 DATE 04/14/2026



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RAMSEY, MN 55303
Phone: (763) 433-2851
Email: Ramsey@bolton-menk.com
www.bolton-menk.com



DESIGNED	CJH	NO.	BID	DATE
DRAWN	CJH	1	ADD 1	05/01/2026
CHECKED	ZFL			
CLIENT PROJ. NO.	26-08			

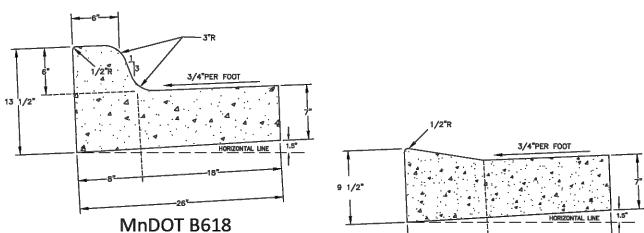
CITY OF RAMSEY, MINNESOTA

2026 NEIGHBORHOOD PAVEMENT OVERLAY IMPROVEMENTS

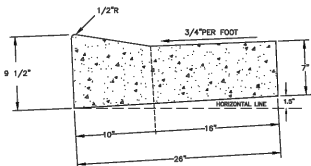
TYPICAL SECTIONS & DETAILS
TYPICAL SECTIONS & NOTES

C1.04

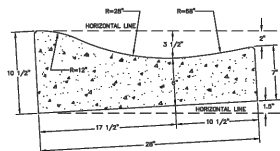
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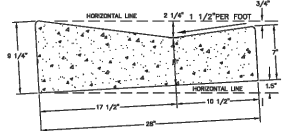
MnDOT B618



DRIVEWAY FOR B618



SURMOUNTABLE



DRIVEWAY FOR SURMOUNTABLE

NOTES:

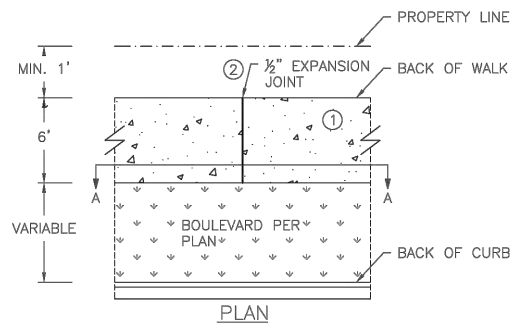
1. ON WEAR COURSE MILL THE EXISTING BITUMINOUS 1.5" BY 24" IN FRONT OF THE REPLACEMENT CURB. (INCIDENTAL TO CURB REPLACEMENT)
2. ON BASE COURSE SAW CUT AND REMOVE EXISTING BITUMINOUS 18" IN FRONT OF THE REPLACEMENT CURB. (INCIDENTAL TO CURB REPLACEMENT)

APPROVED:
9 - 2025

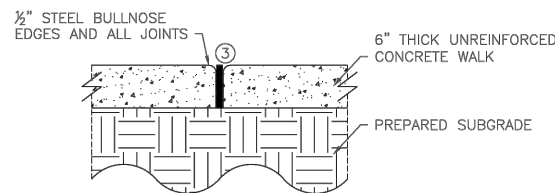


STANDARD DETAILS:
CURB AND GUTTER

CITY PLATE No. STR-1



PLAN



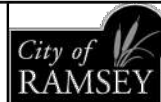
SECTION A-A

NOTE:

- ① BROOM FINISH CONCRETE WALK SURFACE
- ② MAXIMUM 100 FOOT SPACING BETWEEN EXPANSION JOINTS
- ③ 1/2" EXPANSION JOINT MEETING MNDOT SPEC 3702. PROVIDE ONE PIECE OF FILLER FOR THE ENTIRE DEPTH AND WIDTH OF THE JOINT

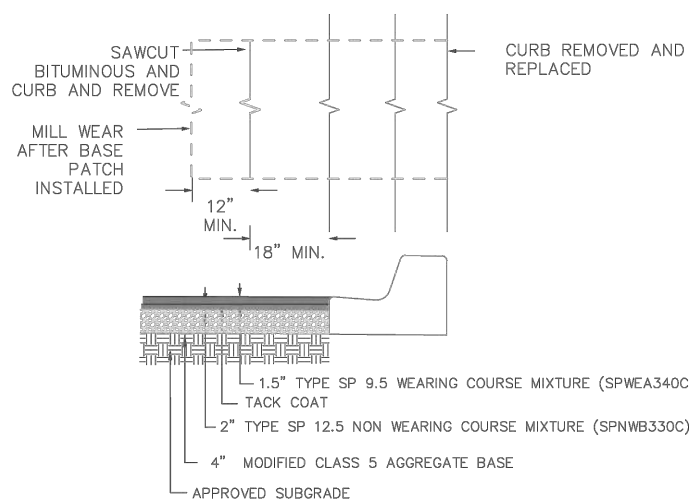
NOT TO SCALE

APPROVED:
10 - 2015



STANDARD DETAILS:
CONCRETE SIDEWALK

CITY PLATE No. STR-3



NOTES:

1. BITUMINOUS SHALL BE SAWCUT AND REMOVED AFTER CURB IS REPLACED.
2. CLASS 5 AND BITUMINOUS COURSES SHALL BE MECHANICALLY COMPACTED.
3. SEE CITY PLATE STR-26 FOR MODIFIED CLASS 5 SPECIFICATIONS.

APPROVED:
3 - 2022



STANDARD DETAILS:
STREET PATCHING STANDARDS

CITY PLATE No. STR-25

TABLE A
MODIFIED CLASS 5
SPECIFICATIONS

% PASSING	
1"	100
3/4"	90 - 100
3/8"	50 - 80
No.4	35 - 70
No.10	20 - 60
No.40	10 - 35
No.200	5 - 10

NOTES:

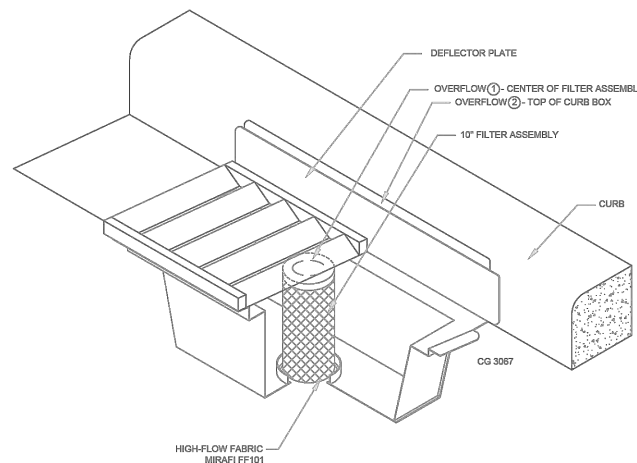
1. THE AGGREGATE BASE CONSTRUCTION WILL BE ACCEPTED FOR PAYMENT IN ACCORDANCE WITH THE PROVISIONS IN TABLE A.
2. IF THE AGGREGATE BASE FAILS TO MEET THE REQUIREMENTS OF TABLE A THE MATERIAL CAN BE CORRECTED IN PLACE OR REMOVED AND REPLACED WITH MATERIAL THAT MEET THE REQUIREMENTS OF TABLE A.
3. IN THE EVENT THAT RECYCLED MATERIAL IS USE IT MUST MEET MNDOT REQUIREMENTS FOR RECYCLED BASE.

APPROVED:
2 - 2003



STANDARD DETAILS:
MODIFIED CLASS 5
SPECIFICATIONS

CITY PLATE No. STR-26



INLET PROTECTION - WIMCO OR EQUAL

N.T.S.

NOTE:

THIS INLET PROTECTION SHALL BE USED IMMEDIATELY FOLLOWING CURB & GUTTER CONSTRUCTION. INLET PROTECTION SHALL REMAIN INSTALLED AND MAINTAINED UNTIL ALL HOME CONSTRUCTION IS COMPLETE.

APPROVED:
1 - 2016



STANDARD DETAILS:
INLET PROTECTION

CITY PLATE No. ERO-2

Notes:

1. INSTALLATION OF 4" OF TOPSOIL REQUIRED ACROSS ALL DISTURBED AREAS.
2. TOPSOIL IS DEFINED AS BLACK DIRT COMPOSED OF UNCONSOLIDATED MATERIAL, LARGELY UNDECOMPOSED ORGANIC MATTER WHICH IS SUITABLE FOUNDATION FOR VEGETATIVE GROWTH.
3. THE COMPOSITION OF TOPSOIL SHOULD CONTAIN NO MORE THAN THIRTY-FIVE PERCENT (35%) SAND CONTENT.

APPROVED:
7 - 2019

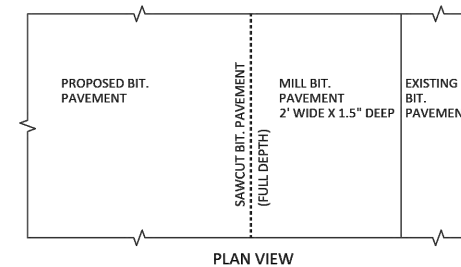


STANDARD DETAILS:
TOPSOIL REQUIREMENTS

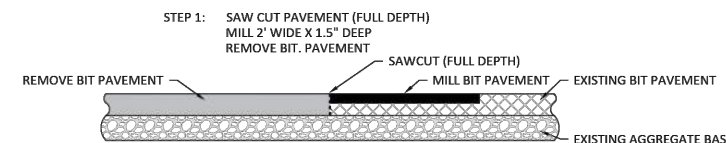
CITY PLATE No. ERO-6

NOTES:

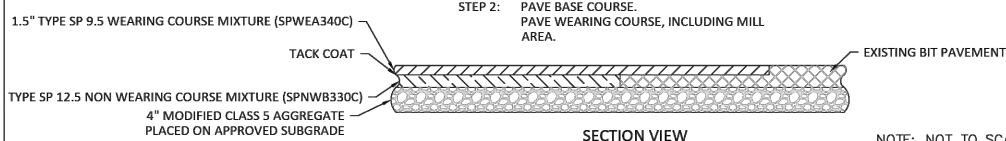
1. BITUMINOUS SHALL BE SAWCUT AND REMOVED
2. CLASS 5 AND BITUMINOUS COURSES SHALL BE MECHANICALLY COMPACTED.
3. SEE CITY PLATE STR-26 FOR MODIFIED CLASS 5 SPECIFICATIONS.



PLAN VIEW



STEP 2: PAVE BASE COURSE. PAVE WEARING COURSE, INCLUDING MILL AREA.



SECTION VIEW

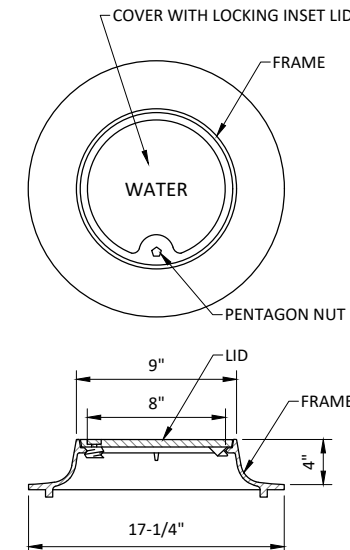
NOTE: NOT TO SCALE.

APPROVED:
3 - 2017



CITY PLATE No. STR-31

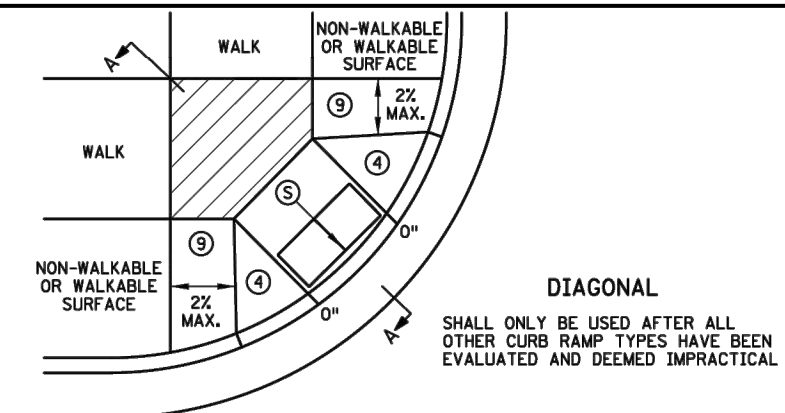
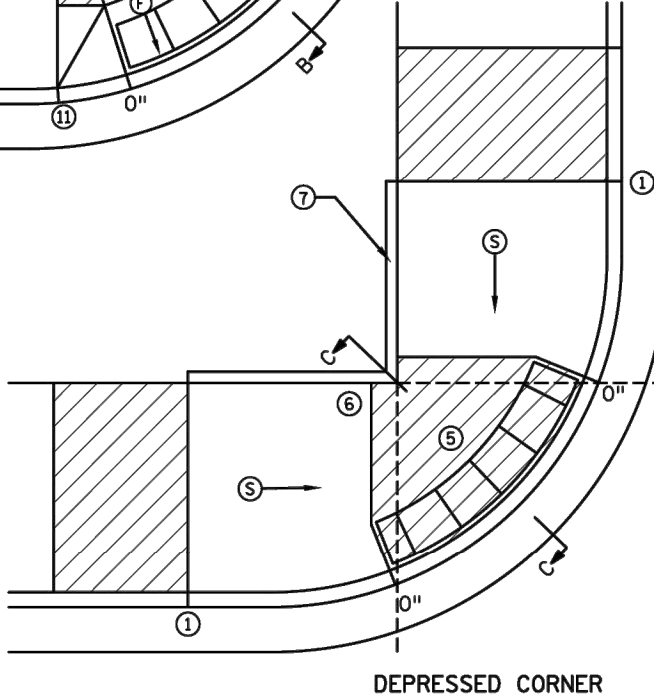
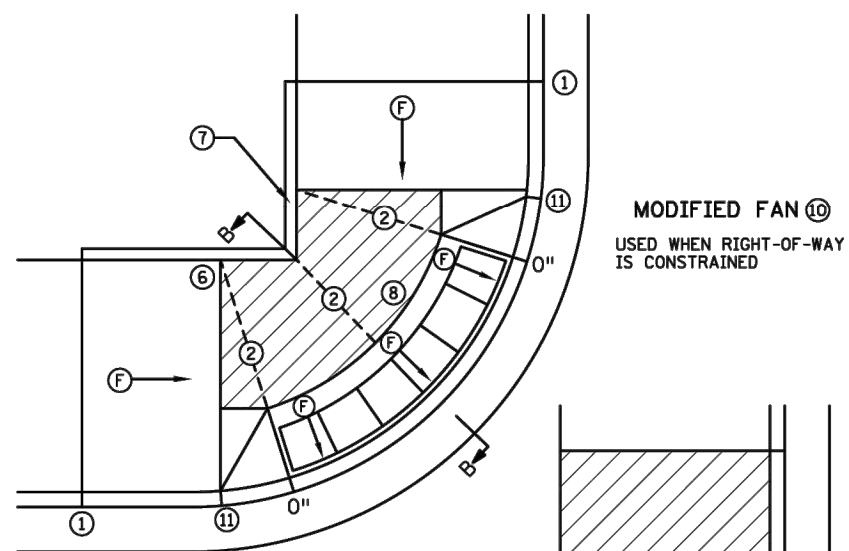
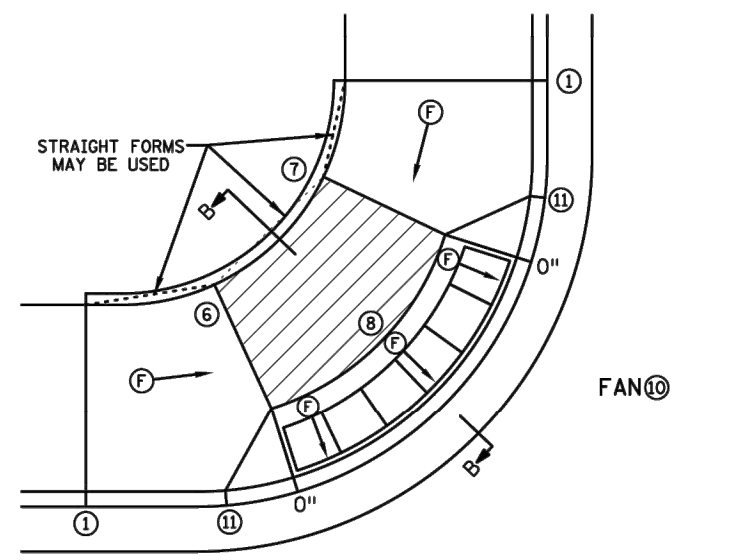
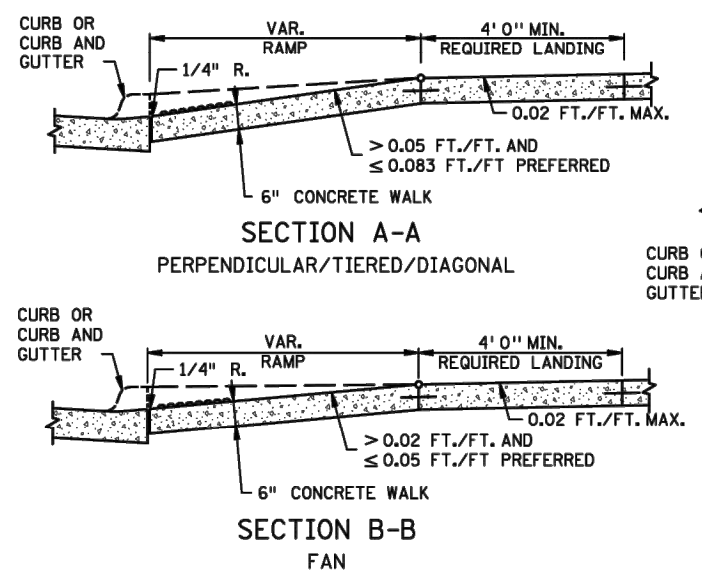
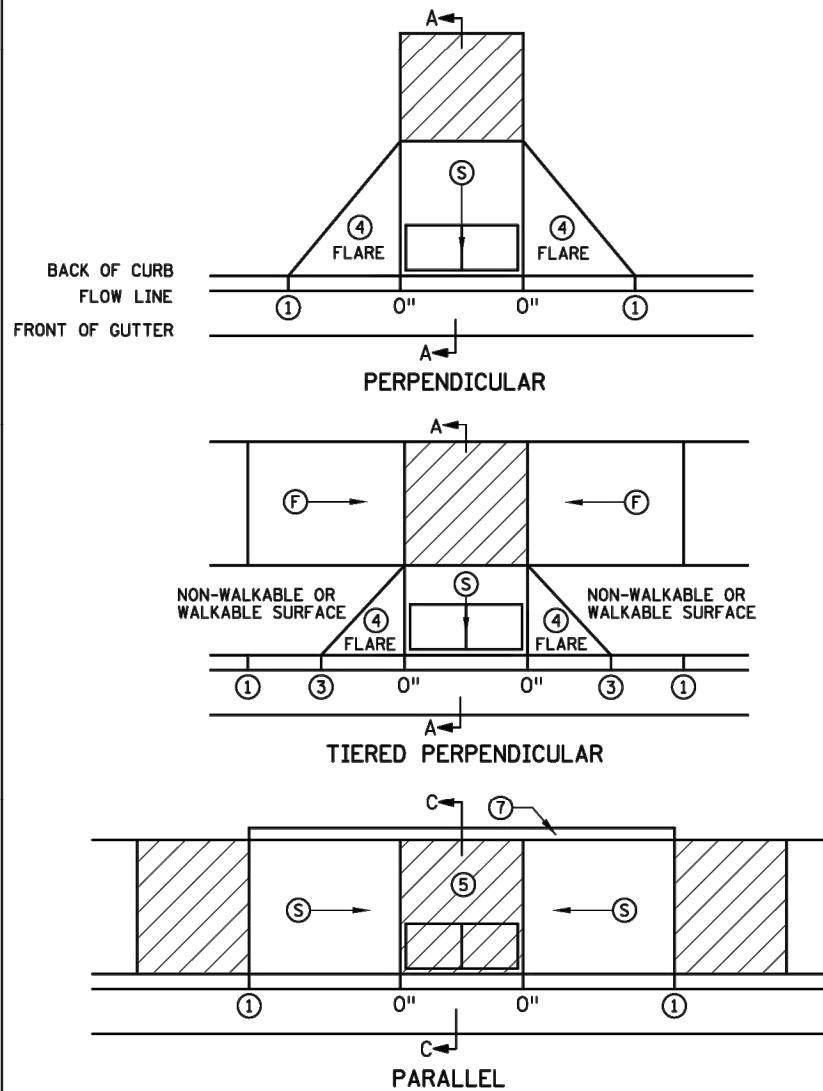
STANDARD DETAILS:
STREET TIE-IN



NOTES:

1. FURNISH AND INSTALL ON CURB STOPS THAT ARE WITHIN CONCRETE, BITUMINOUS, OR GRAVEL SURFACING
2. CASTING ASSEMBLY TO BE FORD METER BOX MODEL A1 OR APPROVED EQUAL

CASTING ASSEMBLY SPECIAL
NOT TO SCALE



- 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 VERTICAL 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, THIS 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 WARNINGS 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%.
(X)	LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PAR.
X"	CURB HEIGHT

LEAD EXPERT OFFICE
JEFFREY PERKINS
OPERATIONS DIVISION



PEDESTRIAN CURB RAMP DETAILS

APPROVED: 11-04-2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

STANDARD PLAN
5-297.250
1 OF 6

STANDARD PLAN

STATE PROJ. NO.
TRUNK HWY.

SHEET NO.
TOTAL SHEETS



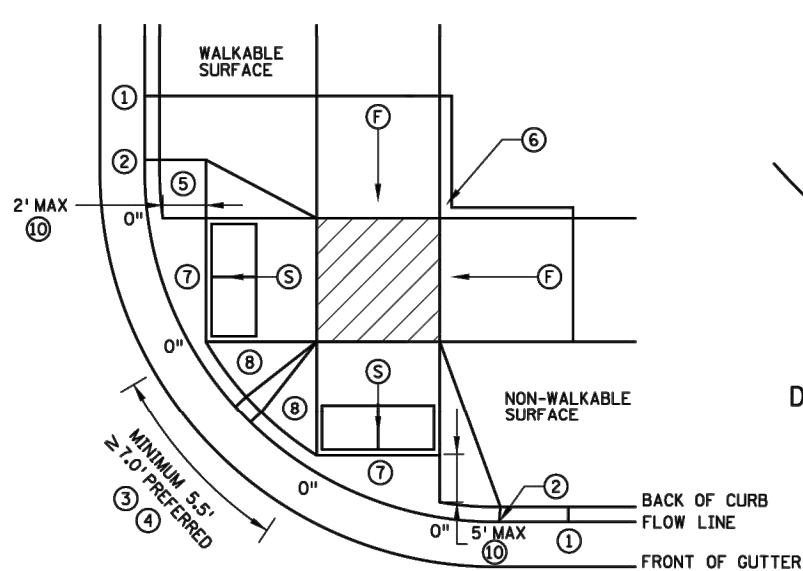
7533 SUNWOOD DR NW, SUITE 206
RAMSEY, MN 55303
Phone: (763) 433-2851
Email: Ramsey@bolton-menk.com
www.bolton-menk.com



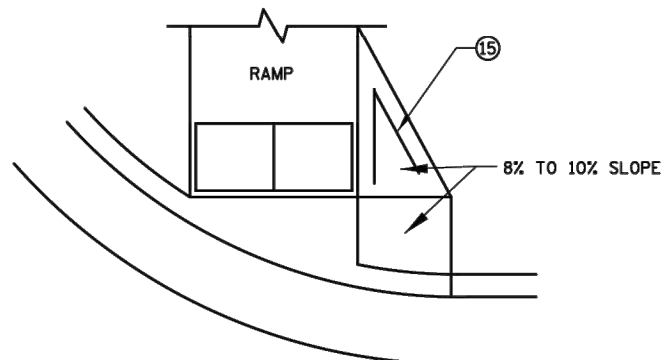
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CITY OF RAMSEY, MINNESOTA
2026 NEIGHBORHOOD PAVEMENT OVERLAY IMPROVEMENTS
MNDOT STANDARD PLANS
PEDESTRIAN CURB RAMP DETAILS (1 OF 6)

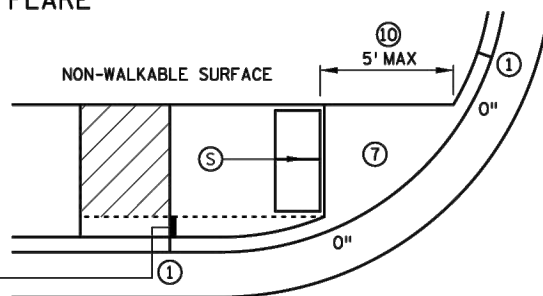
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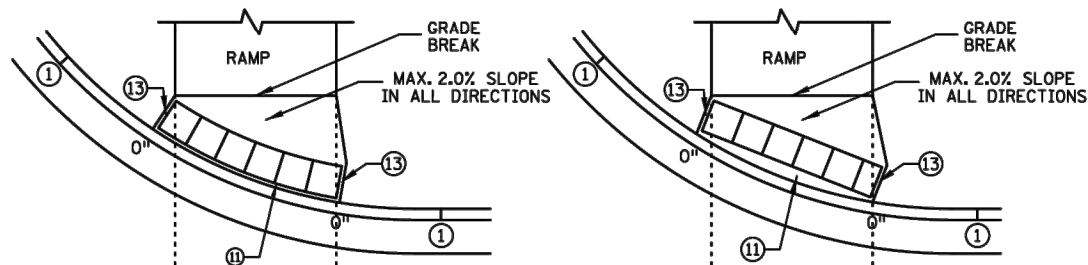
COMBINED DIRECTIONAL



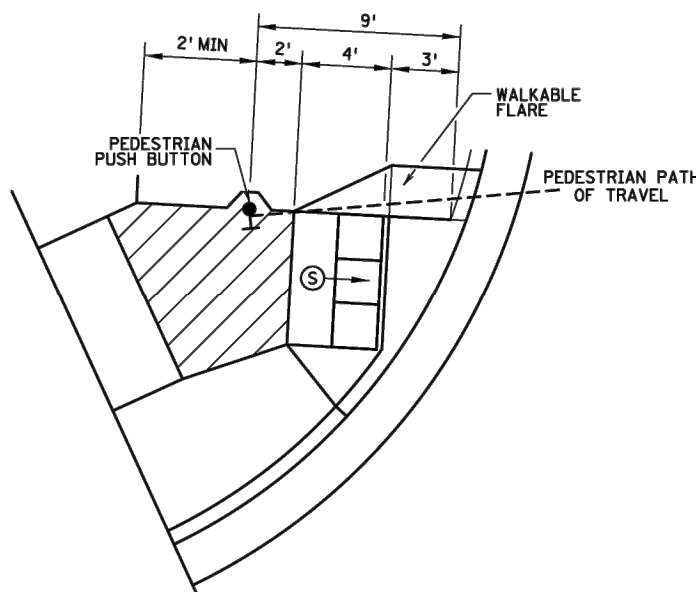
DIRECTIONAL RAMP WALKABLE FLARE



STANDARD ONE-WAY DIRECTIONAL 9

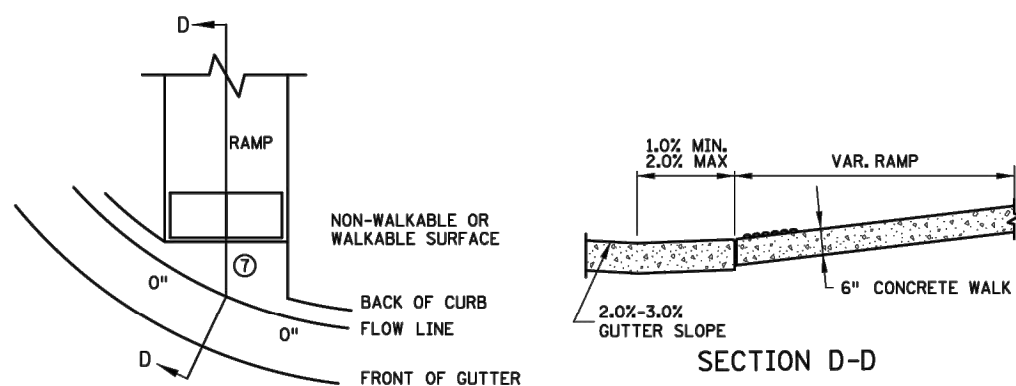


DETECTABLE WARNING PLACEMENT WHEN SETBACK CRITERIA IS EXCEEDED 12
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB



SEMI-DIRECTIONAL RAMP 3 4 9

3' DOME SETBACK, 4' LONG RAMP AND PUSH BUTTON 9' FROM THE BACK OF CURB
PRIMARYLY USED FOR APS APPLICATIONS WHERE THE PAR DOES NOT CONTINUE PAST THE PUSH BUTTON (DEAD-END SIDEWALK)



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%.
(Hatched Box)	LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PAR.
X"	CURB HEIGHT

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APPROVED: 11-04-2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

STANDARD PLAN
5-297.250

2 OF 6

STANDARD PLAN

STATE PROJ. NO.	SHEET NO.
TRUNK HWY.	TOTAL SHEETS

CITY OF RAMSEY, MINNESOTA

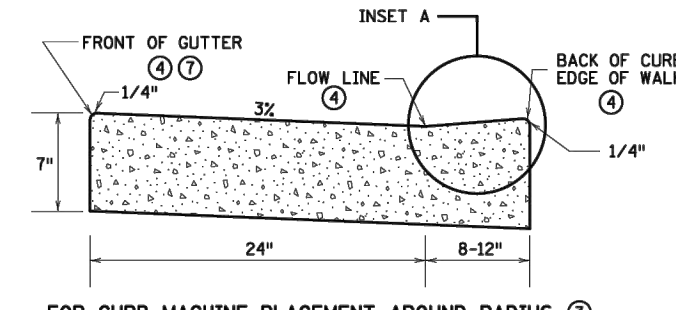
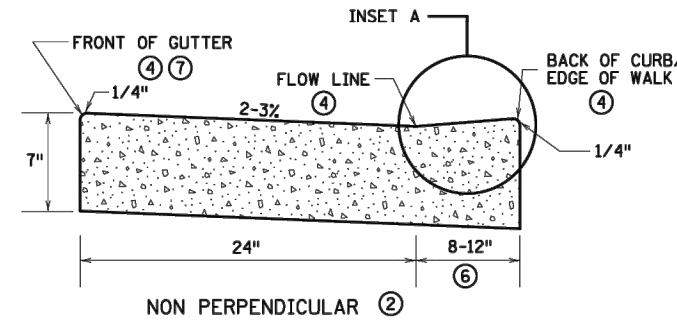
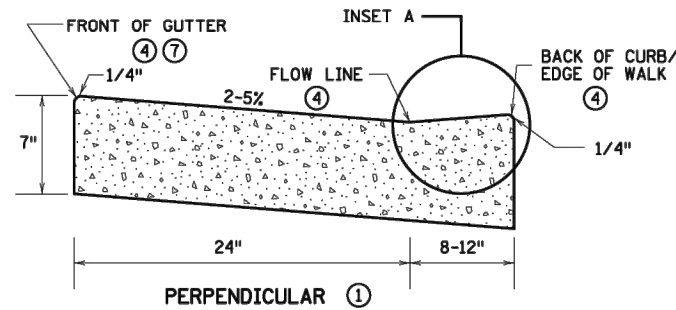
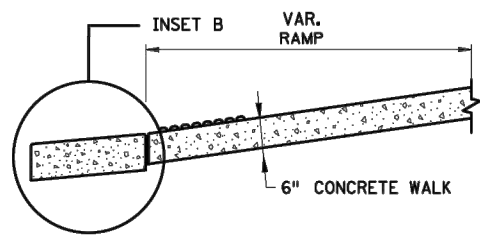
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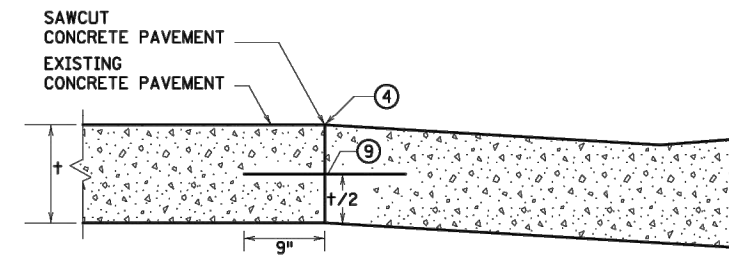
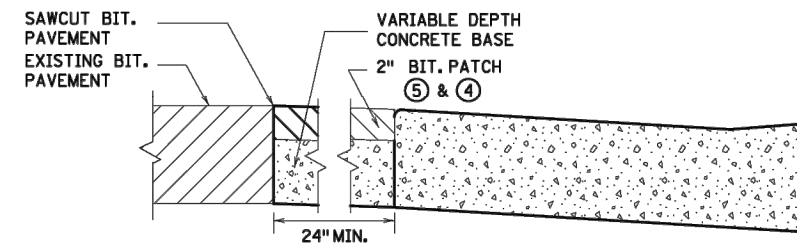
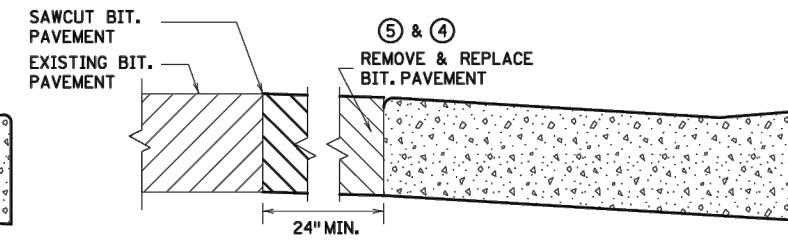
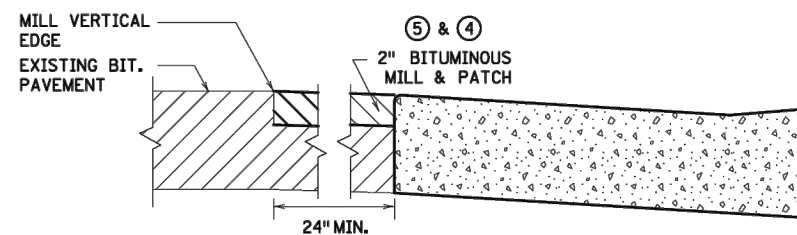
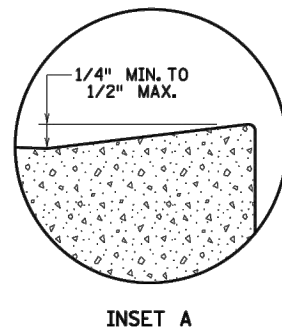
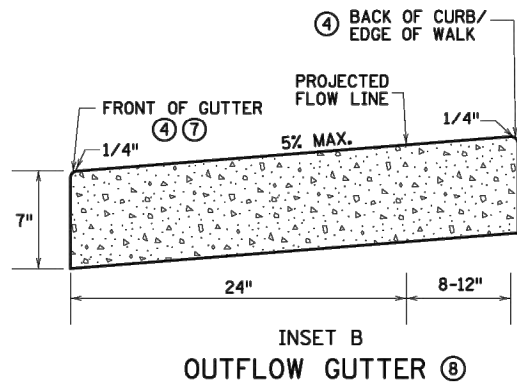
PEDESTRIAN CURB RAMP DETAILS (2 OF 6)

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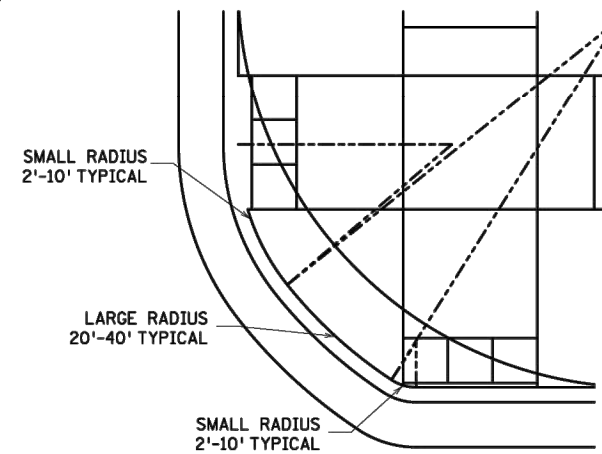
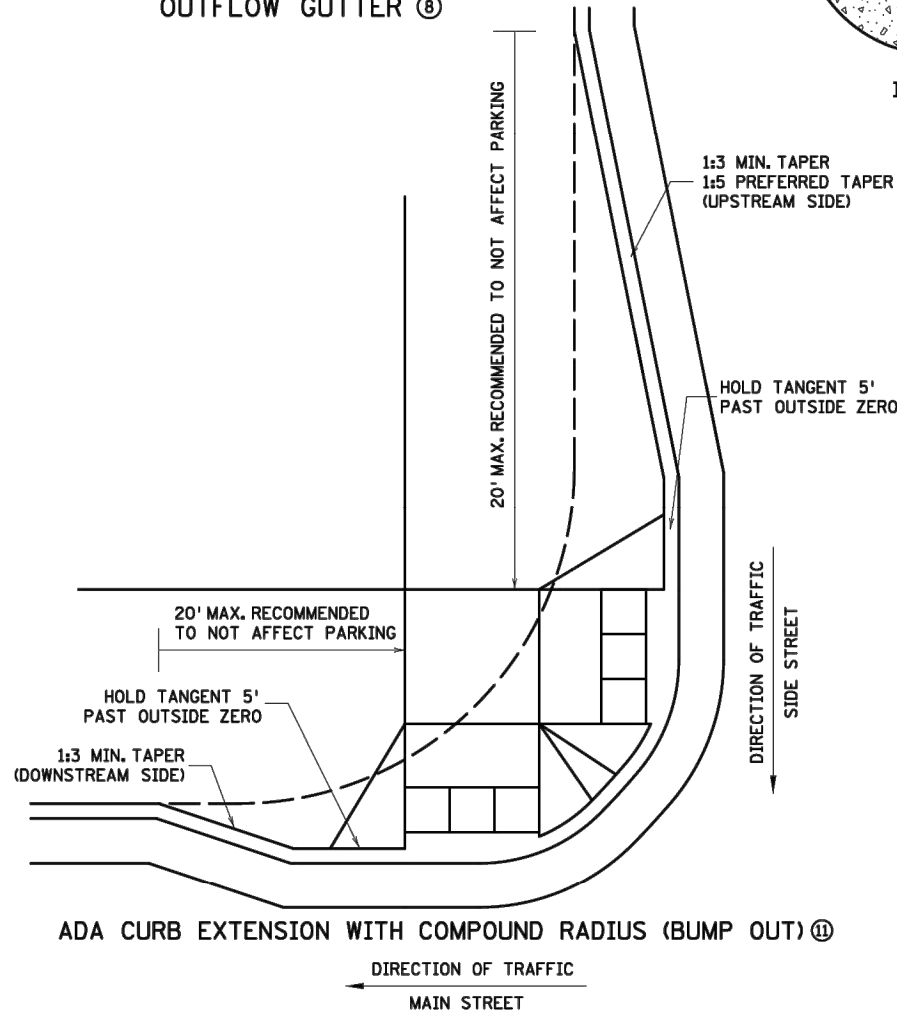


PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



ONLY ALLOWED PER ENGINEER'S APPROVAL

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



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.

LEAD EXPERT OFFICE
JEFFREY PERKINS
OPERATIONS DIVISION

PEDESTRIAN CURB RAMP DETAILS

APPROVED: 11-04-2021
REVISED:

THOMAS STYRBICKI
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STANDARD PLAN
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3 OF 6



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CITY OF RAMSEY, MINNESOTA

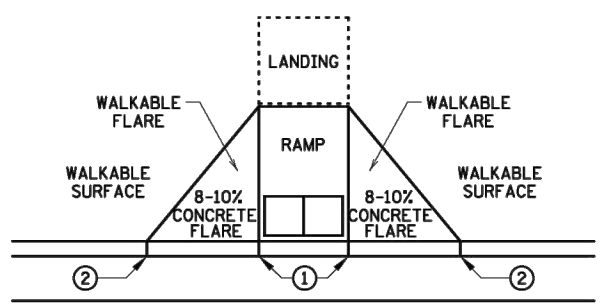
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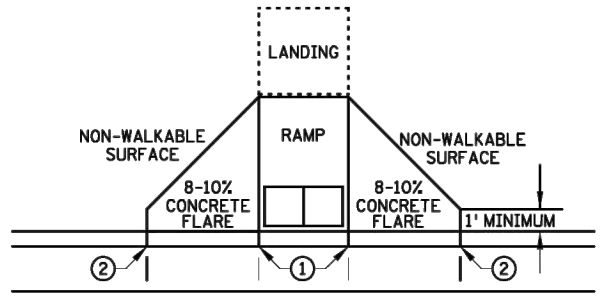
PEDESTRIAN CURB RAMP DETAILS (3 OF 6)

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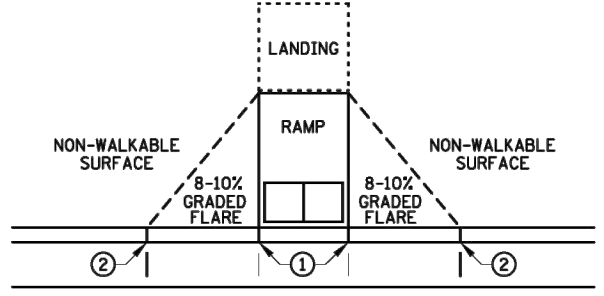
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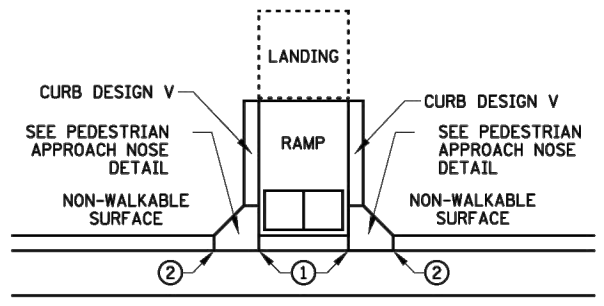
PAVED FLARES ADJACENT TO WALKABLE SURFACE



PAVED FLARES ADJACENT TO NON-WALKABLE SURFACE

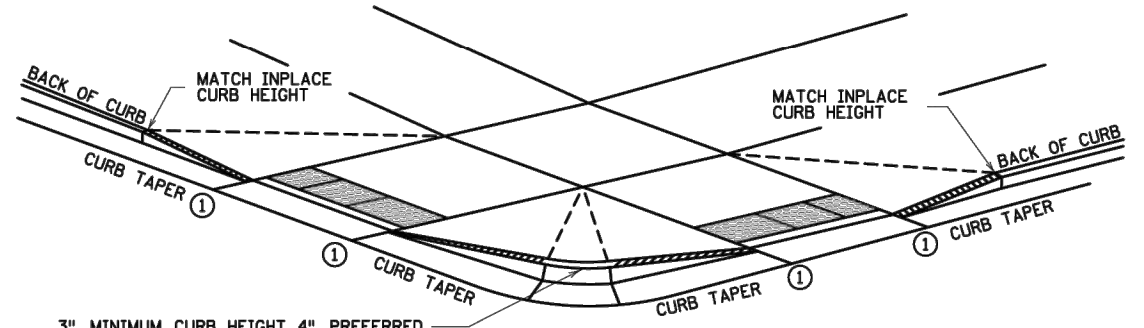


GRADED FLARES



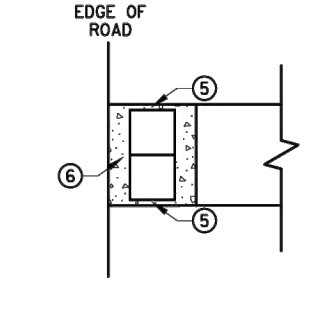
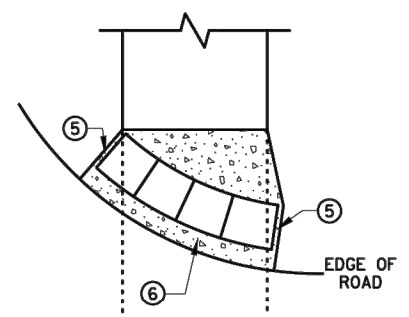
RETURNED CURB ④

TYPICAL SIDE TREATMENT OPTIONS ③ ⑩

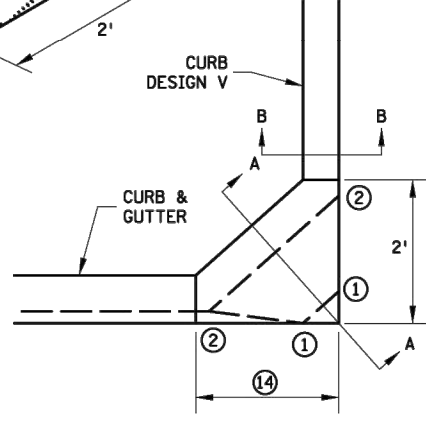
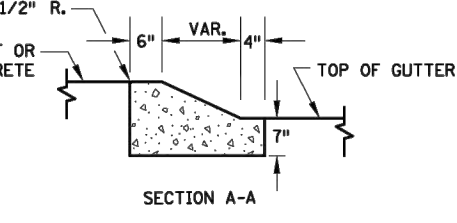
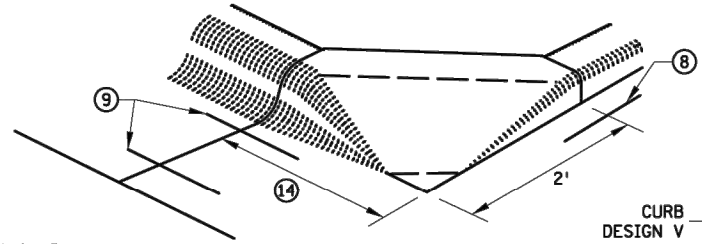


3" MINIMUM CURB HEIGHT, 4" PREFERRED (MEASURED AT FRONT FACE OF CURB) FOR A MIN. 6" LENGTH (MEASURED ALONG FLOW LINE)

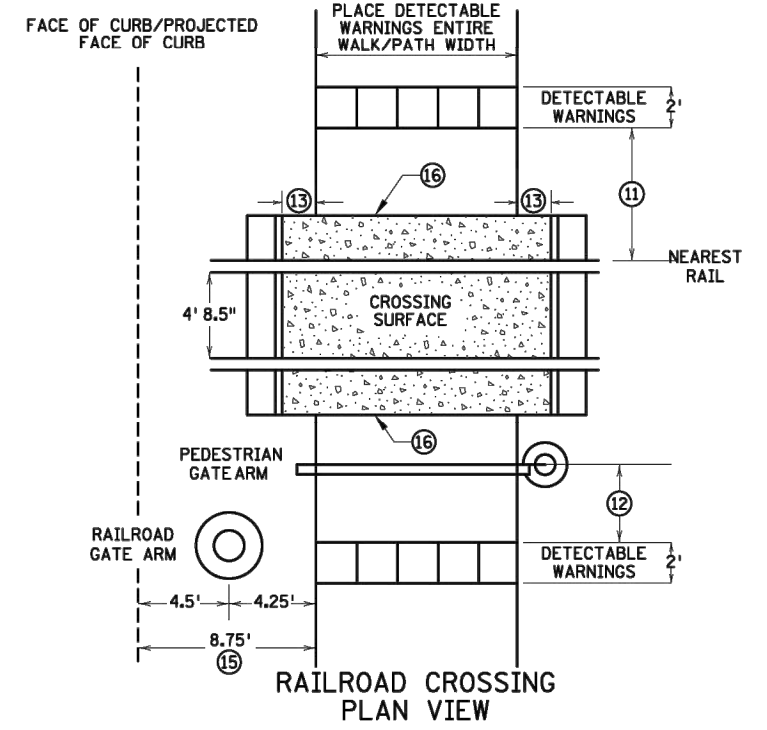
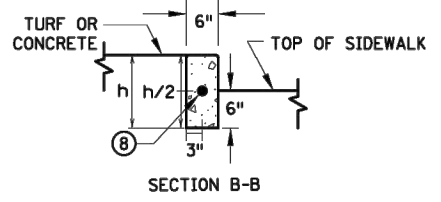
DETECTABLE EDGE WITH CURB AND GUTTER ⑦



DETECTABLE EDGE WITHOUT CURB AND GUTTER



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 RAMP 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 TAPERS 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' FROM 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.

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PEDESTRIAN CURB RAMP DETAILS

APPROVED: 11-04-2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

STANDARD PLAN
5-297.250

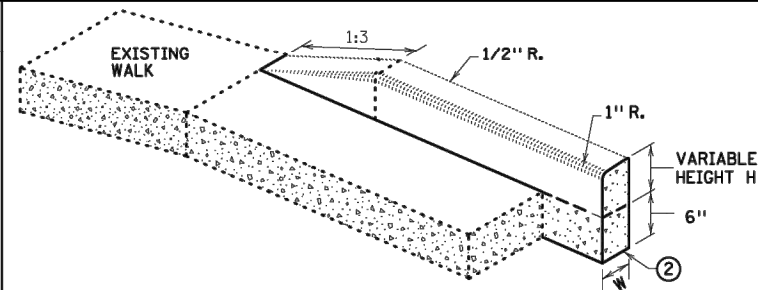
4 OF 6

STANDARD PLAN

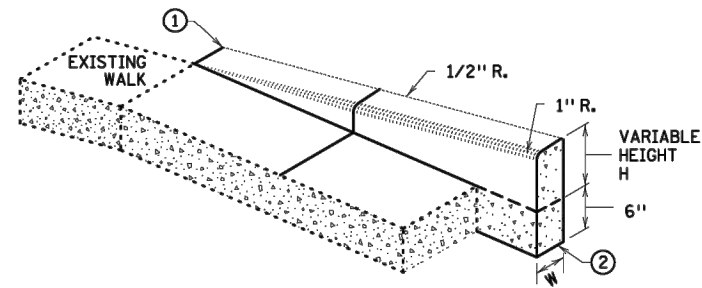
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CITY OF RAMSEY, MINNESOTA
2026 NEIGHBORHOOD PAVEMENT OVERLAY IMPROVEMENTS
MNDOT STANDARD PLANS
PEDESTRIAN CURB RAMP DETAILS (4 OF 6)

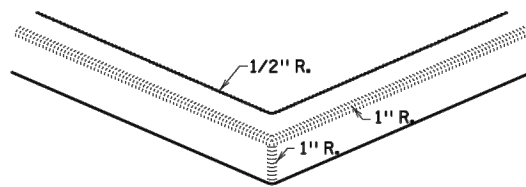
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V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS

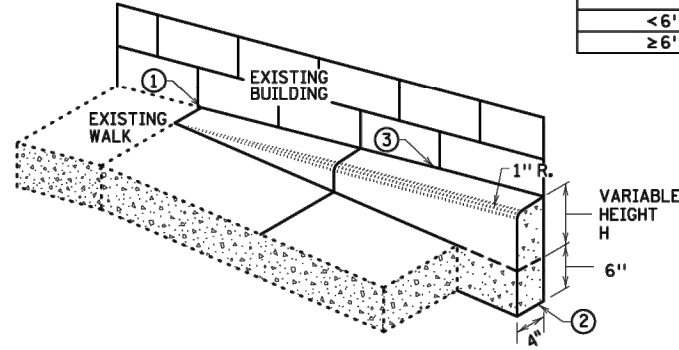


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CURB OUTSIDE SIDEWALK LIMITS

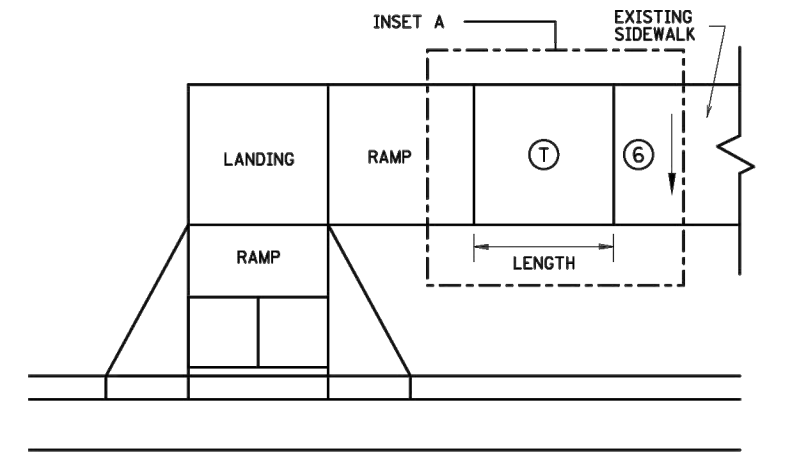


V CURB INTERSECTION

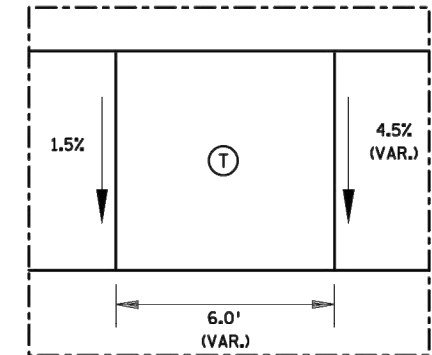
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"



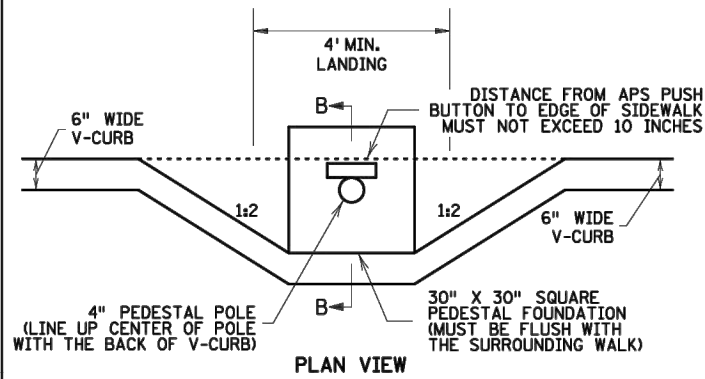
V CURB ADJACENT TO BUILDING
OR BARRIER



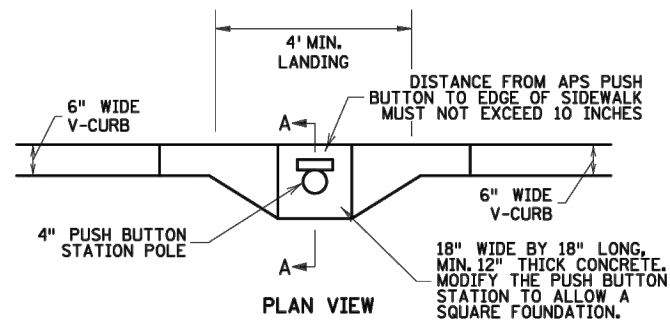
TRANSITION PANEL ④ ⑤



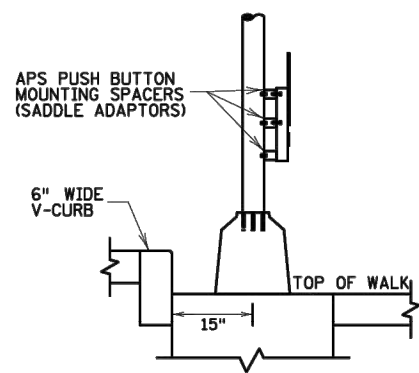
INSET A



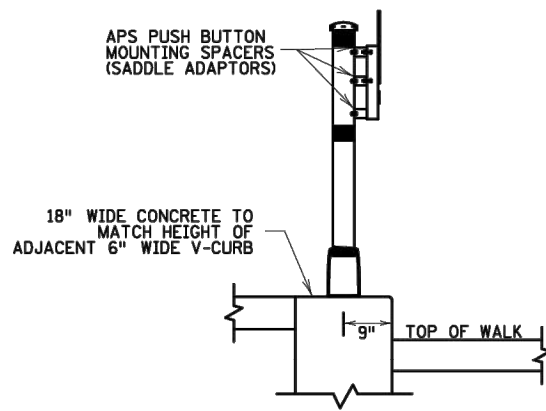
PLAN VIEW



PLAN VIEW



SECTION B-B
SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)



SECTION A-A
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.

⑤ 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%.

④ 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.

① 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.

LEAD EXPERT OFFICE
JEFFREY PERKINS
OPERATIONS DIVISION



PEDESTRIAN CURB RAMP DETAILS

APPROVED: 11-04-2021
REVISED:

THOMAS STYRBICKI
STATE DESIGN ENGINEER

STANDARD PLAN
5-297.250

5 OF 6

STANDARD PLAN

STATE PROJ. NO.
TRUNK HWY.

SHEET NO.
TOTAL SHEETS



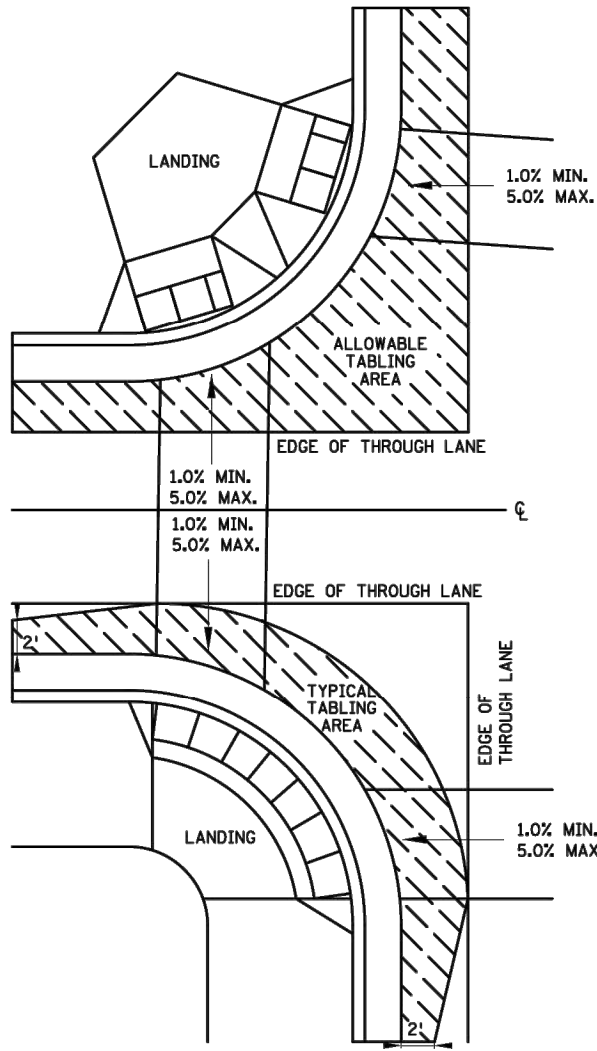
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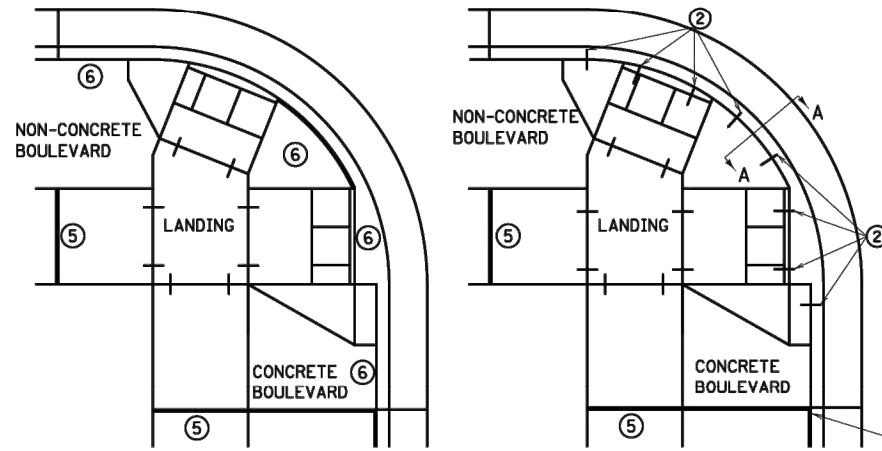
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CITY OF RAMSEY, MINNESOTA
2026 NEIGHBORHOOD PAVEMENT OVERLAY IMPROVEMENTS
MNDOT STANDARD PLANS
PEDESTRIAN CURB RAMP DETAILS (5 OF 6)

C1.10
SHEET 13 OF 22

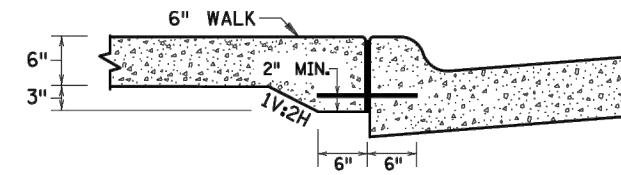


CURB LINE AND ROAD CROSSING ADJUSTMENTS

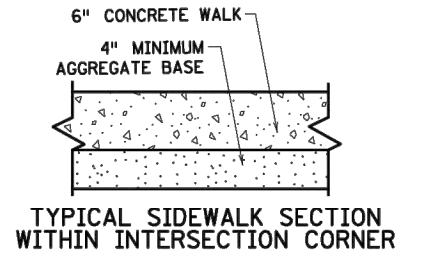


EXPANSION MATERIAL PLACEMENT FOR CONCRETE ROADWAYS

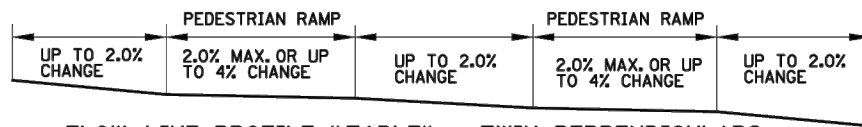
CURB LINE REINFORCEMENT PLACEMENT ON BITUMINOUS ROADWAYS



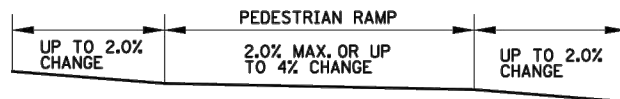
SECTION VIEW A-A THICKENED SECTION THROUGH CURB RAMP FLARES



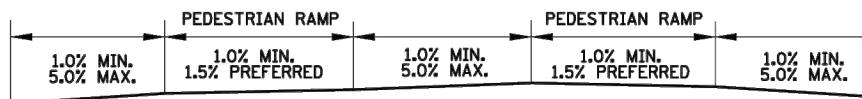
TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER



FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



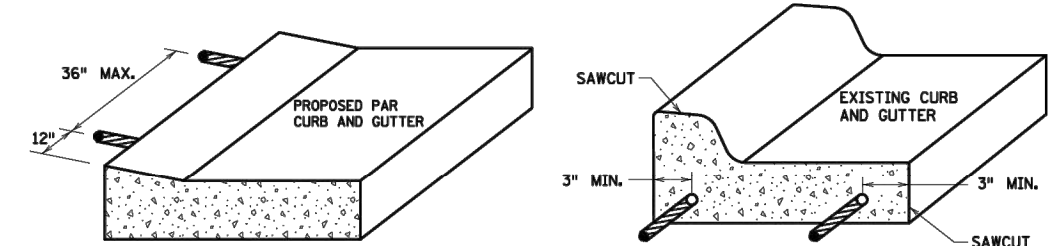
FLOW LINE PROFILE "TABLE" - FAN



FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS

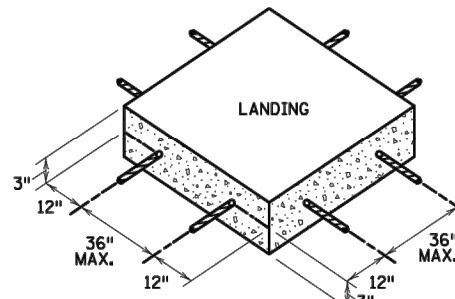


FLOW LINE PROFILE RAISE - FAN



CURB RAMP REINFORCEMENT DETAILS

CURB AND GUTTER REINFORCEMENT



SEPARATE LANDING POUR REINFORCEMENT

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.

LEAD EXPERT OFFICE	JEFFREY PERKINS OPERATIONS DIVISION	PEDESTRIAN CURB RAMP DETAILS		APPROVED: 11-04-2021 REVISED:	THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.250	6 OF 6
		STANDARD PLAN		STATE PROJ. NO.	SHEET NO.		
				TRUNK HWY.	TOTAL SHEETS		

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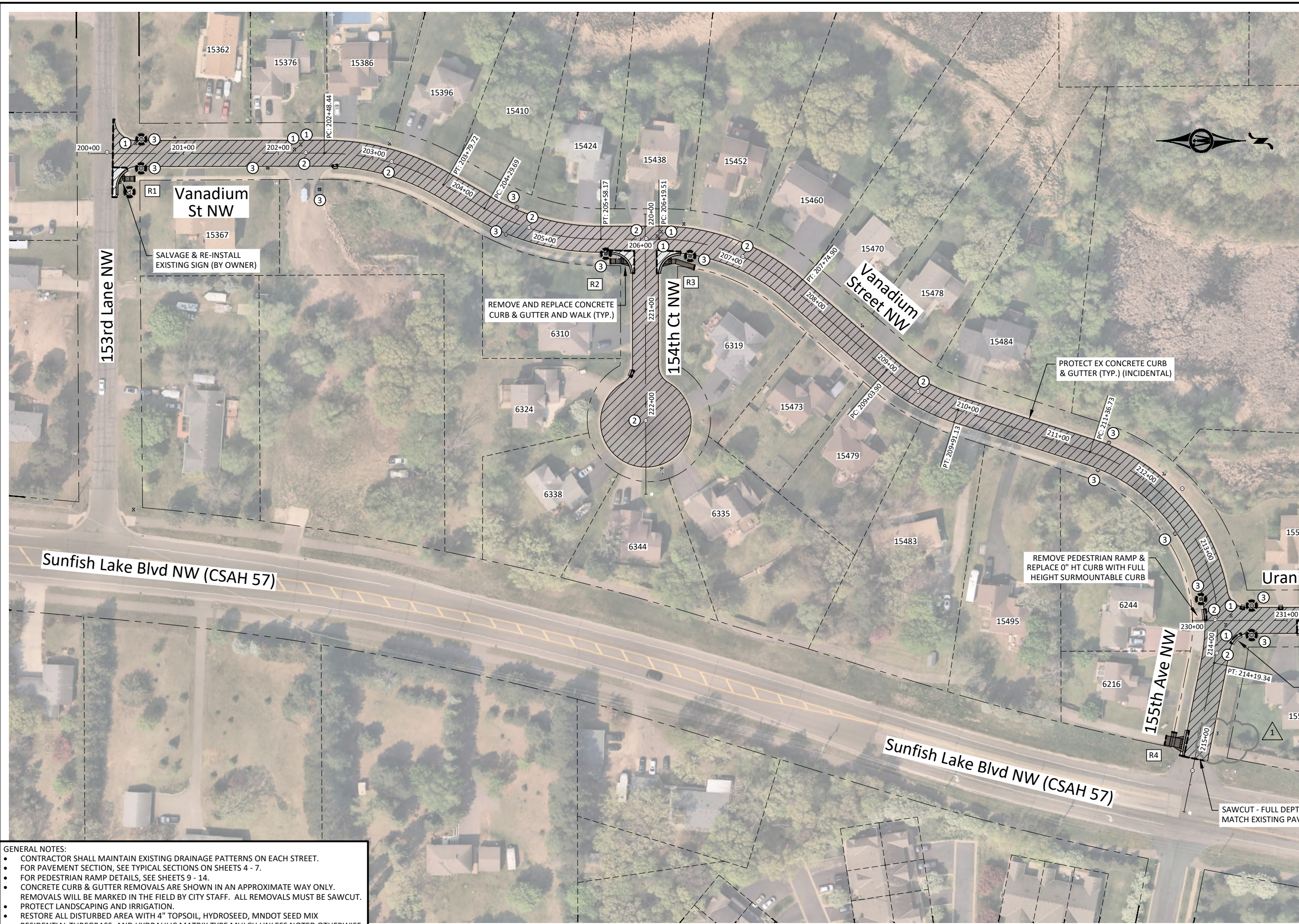


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CITY OF RAMSEY, MINNESOTA
2026 NEIGHBORHOOD PAVEMENT OVERLAY IMPROVEMENTS
MNDOT STANDARD PLANS
PEDESTRIAN CURB RAMP DETAILS (6 OF 6)

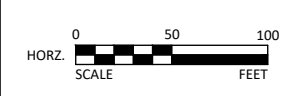
C1.11
SHEET
14
OF
22

LEGEND	
	BITUMINOUS PATCH SPECIAL 1
	BITUMINOUS PATCH SPECIAL 2
	BITUMINOUS DRIVEWAY PATCH
	1.0" MILL & 2.0" BITUMINOUS OVERLAY
	2.0" MILL & 2.0" BITUMINOUS OVERLAY
	6" CONCRETE WALK
	SAWCUT FULL DEPTH
	INLET PROTECTION
	ADJUST VALVE
	ADJUST FRAME & RING CASTING
	GROUT CATCH BASIN



GENERAL NOTES:

- CONTRACTOR SHALL MAINTAIN EXISTING DRAINAGE PATTERNS ON EACH STREET.
- FOR PAVEMENT SECTION, SEE TYPICAL SECTIONS ON SHEETS 4 - 7.
- FOR PEDESTRIAN RAMP DETAILS, SEE SHEETS 9 - 14.
- CONCRETE CURB & GUTTER REMOVALS ARE SHOWN IN AN APPROXIMATE WAY ONLY. REMOVALS WILL BE MARKED IN THE FIELD BY CITY STAFF. ALL REMOVALS MUST BE SAWCUT.
- PROTECT LANDSCAPING AND IRRIGATION.
- RESTORE ALL DISTURBED AREA WITH 4" TOPSOIL, HYDROSEED, MNDOT SEED MIX RESIDENTIAL TURFGRASS, AND HYDRAULIC MATRIX TYPE MULCH UNLESS NOTED OTHERWISE.



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ZACHARY F. LINGU, P.E.
 LIC. NO. 56344 DATE 04/14/2026



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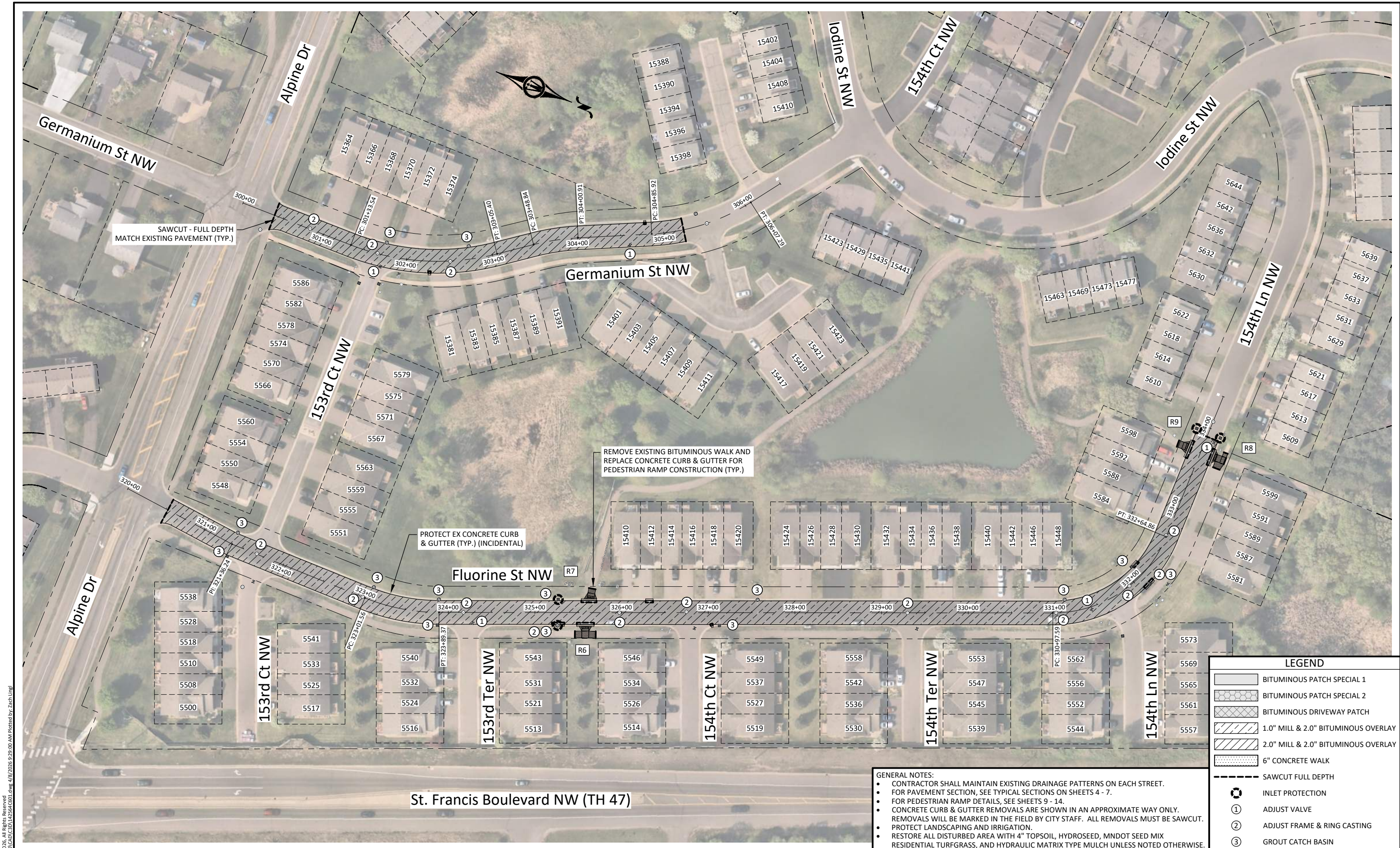


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CITY OF RAMSEY, MINNESOTA
 2026 NEIGHBORHOOD PAVEMENT OVERLAY IMPROVEMENTS
 CONSTRUCTION PLAN
 AREA 2 - ALPINE WOODS

C6.02
 SHEET
 16
 OF
 22

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SAWCUT - FULL DEPTH
MATCH EXISTING PAVEMENT (TYP.)

REMOVE EXISTING BITUMINOUS WALK AND
REPLACE CONCRETE CURB & GUTTER FOR
PEDESTRIAN RAMP CONSTRUCTION (TYP.)

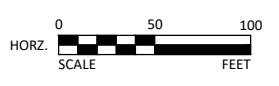
PROTECT EX CONCRETE CURB
& GUTTER (TYP.) (INCIDENTAL)

GENERAL NOTES:

- CONTRACTOR SHALL MAINTAIN EXISTING DRAINAGE PATTERNS ON EACH STREET.
- FOR PAVEMENT SECTION, SEE TYPICAL SECTIONS ON SHEETS 4 - 7.
- FOR PEDESTRIAN RAMP DETAILS, SEE SHEETS 9 - 14.
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- PROTECT LANDSCAPING AND IRRIGATION.
- RESTORE ALL DISTURBED AREA WITH 4" TOPSOIL, HYDROSEED, MNDOT SEED MIX RESIDENTIAL TURFGRASS, AND HYDRAULIC MATRIX TYPE MULCH UNLESS NOTED OTHERWISE.

LEGEND	
	BITUMINOUS PATCH SPECIAL 1
	BITUMINOUS PATCH SPECIAL 2
	BITUMINOUS DRIVEWAY PATCH
	1.0" MILL & 2.0" BITUMINOUS OVERLAY
	2.0" MILL & 2.0" BITUMINOUS OVERLAY
	6" CONCRETE WALK
	SAWCUT FULL DEPTH
	INLET PROTECTION
	ADJUST VALVE
	ADJUST FRAME & RING CASTING
	GROUT CATCH BASIN

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LIC. NO. 56344 DATE 04/07/2026



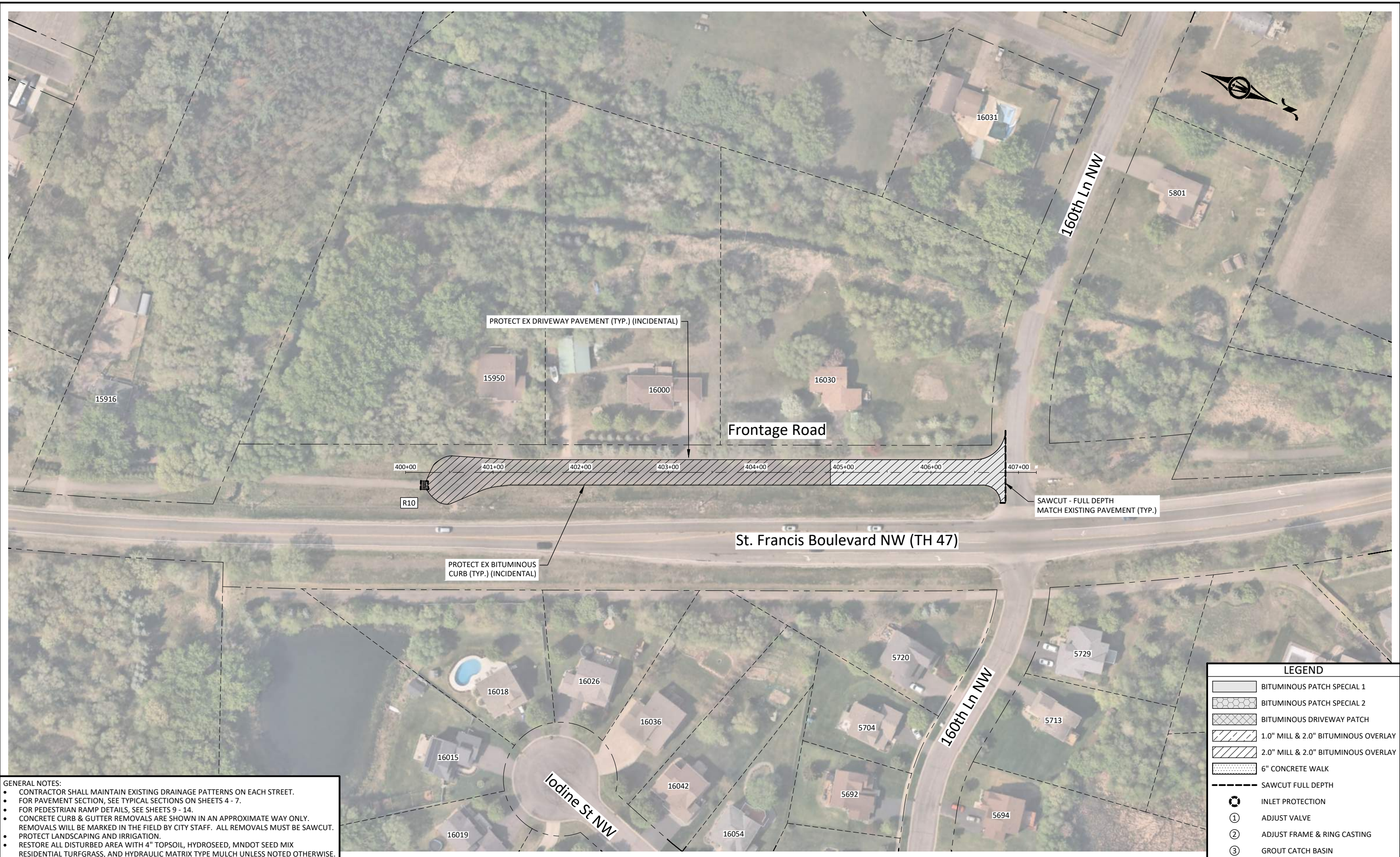
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CITY OF RAMSEY, MINNESOTA
2026 NEIGHBORHOOD PAVEMENT OVERLAY IMPROVEMENTS
CONSTRUCTION PLAN
AREA 3 - EVERGREEN POINT TOWNHOMES 1ST & 2ND

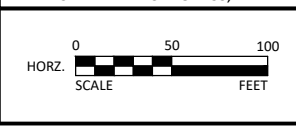
C6.03
SHEET 17 OF 22



GENERAL NOTES:

- CONTRACTOR SHALL MAINTAIN EXISTING DRAINAGE PATTERNS ON EACH STREET.
- FOR PAVEMENT SECTION, SEE TYPICAL SECTIONS ON SHEETS 4 - 7.
- FOR PEDESTRIAN RAMP DETAILS, SEE SHEETS 9 - 14.
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- PROTECT LANDSCAPING AND IRRIGATION.
- RESTORE ALL DISTURBED AREA WITH 4" TOPSOIL, HYDROSEED, MNDOT SEED MIX RESIDENTIAL TURFGRASS, AND HYDRAULIC MATRIX TYPE MULCH UNLESS NOTED OTHERWISE.

LEGEND	
	BITUMINOUS PATCH SPECIAL 1
	BITUMINOUS PATCH SPECIAL 2
	BITUMINOUS DRIVEWAY PATCH
	1.0" MILL & 2.0" BITUMINOUS OVERLAY
	2.0" MILL & 2.0" BITUMINOUS OVERLAY
	6" CONCRETE WALK
	SAWCUT FULL DEPTH
	INLET PROTECTION
	ADJUST VALVE
	ADJUST FRAME & RING CASTING
	GROUT CATCH BASIN

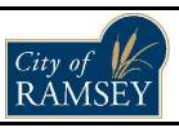


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 LIC. NO. 56344 DATE 04/07/2026



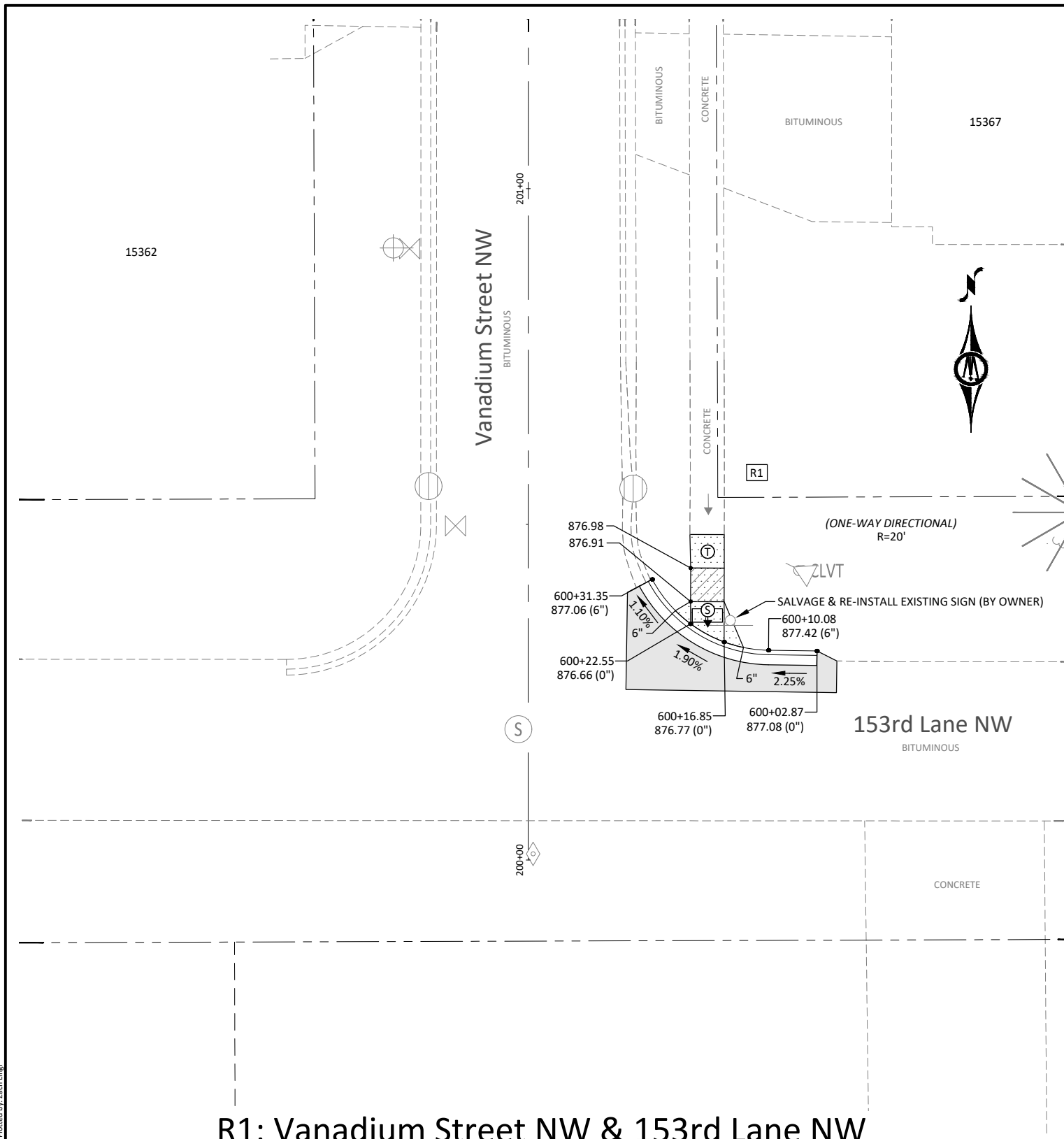
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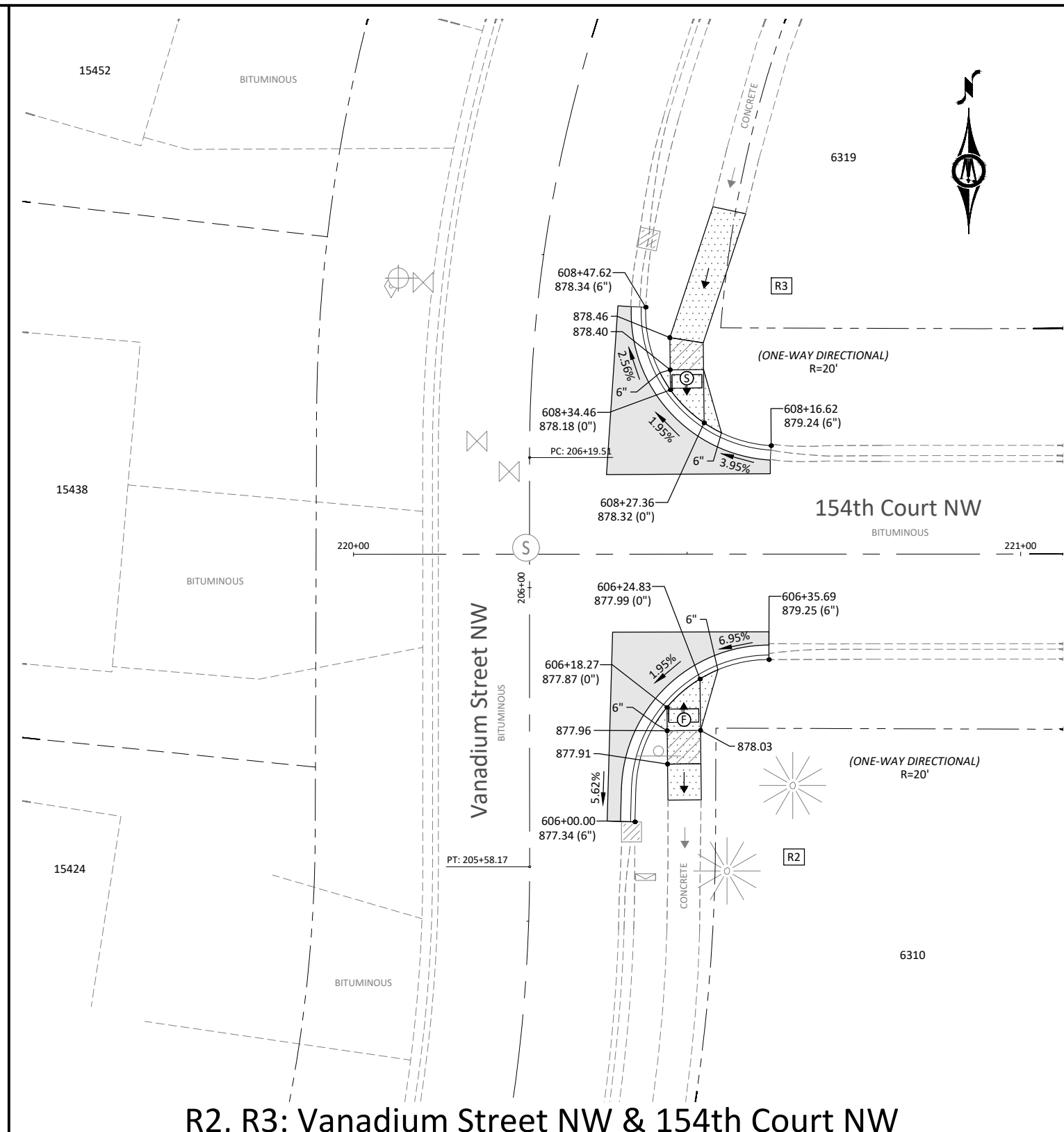
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2026 NEIGHBORHOOD PAVEMENT OVERLAY IMPROVEMENTS		SHEET 18 OF 22
CONSTRUCTION PLAN		
AREA 4 - TH 47 FRONTAGE ROAD		

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R1: Vanadium Street NW & 153rd Lane NW

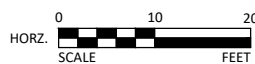


R2, R3: Vanadium Street NW & 154th Court NW

INTERSECTION DETAILS LEGEND

- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND 1.0% OPTIMUM (2.0% MAXIMUM) SLOPE IN ALL DIRECTIONS
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE 4.0% OPTIMUM (2.0% MINIMUM AND 5.0% MAXIMUM) IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL BE 1.5% OPTIMUM (2.0% MAX.)
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE 7.0% OPTIMUM (5.0% MINIMUM AND 8.3% MAXIMUM) IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL BE 1.5% OPTIMUM (2.0% MAX.)
- DRAINAGE FLOW ARROW AND SLOPE
- ANTICIPATED SIDEWALK SLOPE DIRECTION
- CURB HEIGHT
- CONSTRUCT CONCRETE CURB & GUTTER
- TRUNCATED DOMES (SEE MnDOT STD. PLATE 7038)
- BITUMINOUS PAVEMENT (SEE CONST. PLAN & DETAILS FOR ADD. INFO)
- 6" CONCRETE WALK

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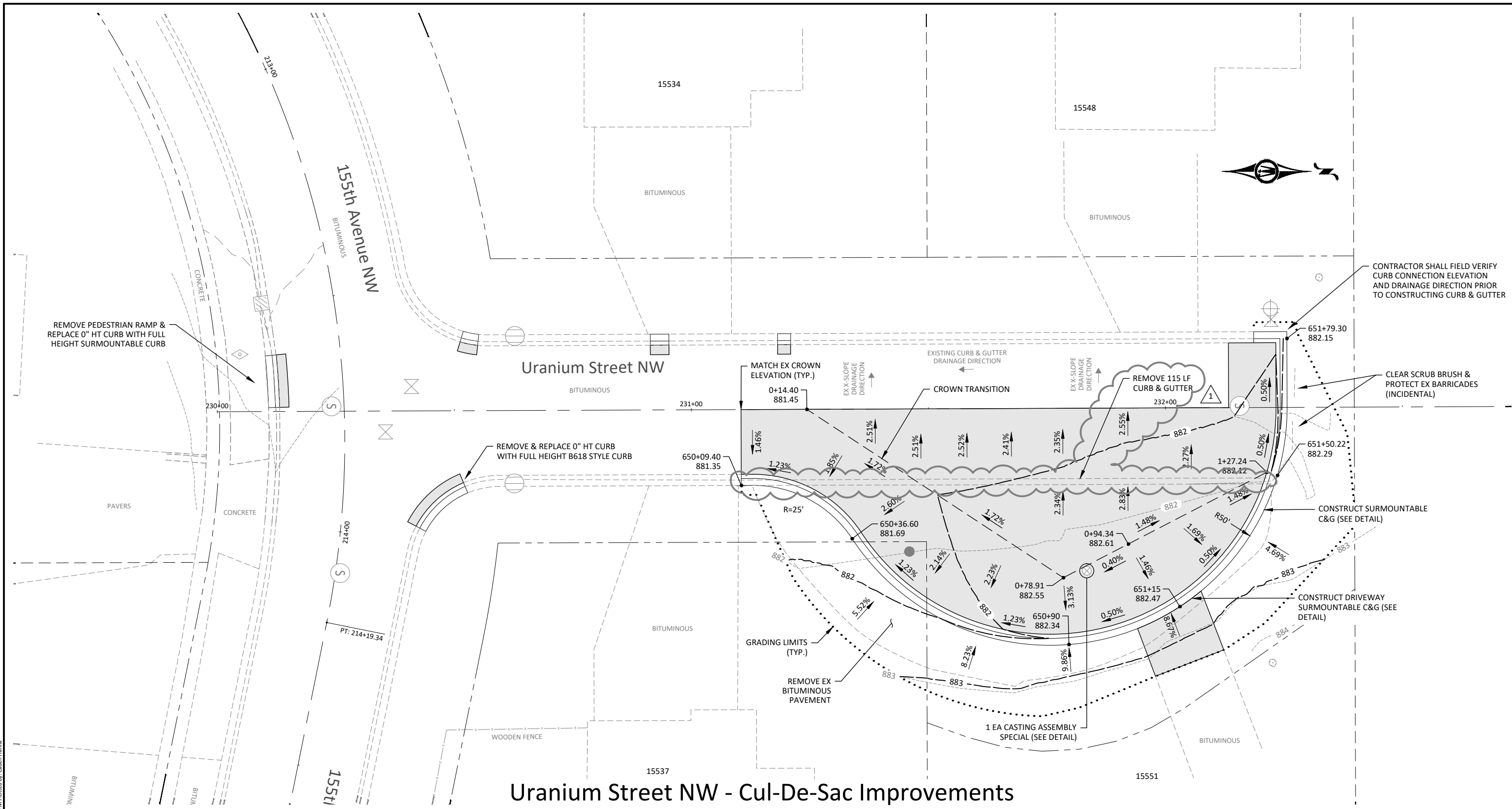
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CITY OF RAMSEY, MINNESOTA
 2026 NEIGHBORHOOD PAVEMENT OVERLAY IMPROVEMENTS
 ADA & INTERSECTION DETAILS
 VANADIUM ST & 153RD LN VANADIUM ST & 154TH CT

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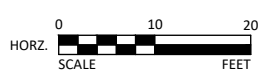


Uranium Street NW - Cul-De-Sac Improvements

INTERSECTION DETAILS LEGEND

- | | | | |
|--|---|---|---|
| <p> LANDING AREA - 4' X 4' MIN. DIMENSIONS AND 1.0% OPTIMUM (2.0% MAXIMUM) SLOPE IN ALL DIRECTIONS</p> <p> TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE AND WIDTH OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.</p> | <p> INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE 4.0% OPTIMUM (2.0% MINIMUM AND 5.0% MAXIMUM) IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL BE 1.5% OPTIMUM (2.0% MAX.)</p> <p> INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE 7.0% OPTIMUM (5.0% MINIMUM AND 8.3% MAXIMUM) IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL BE 1.5% OPTIMUM (2.0% MAX.)</p> | <p>$X.XX\%$ DRAINAGE FLOW ARROW AND SLOPE</p> <p>\rightarrow ANTICIPATED SIDEWALK SLOPE DIRECTION</p> <p>X" CURB HEIGHT</p> | <p> CONSTRUCT CONCRETE CURB & GUTTER</p> <p> TRUNCATED DOMES (SEE MnDOT STD. PLATE 7038)</p> <p> BITUMINOUS PAVEMENT (SEE CONST. PLAN & DETAILS FOR ADD. INFO)</p> <p> 6" CONCRETE WALK</p> |
|--|---|---|---|

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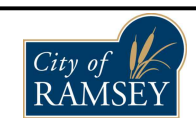
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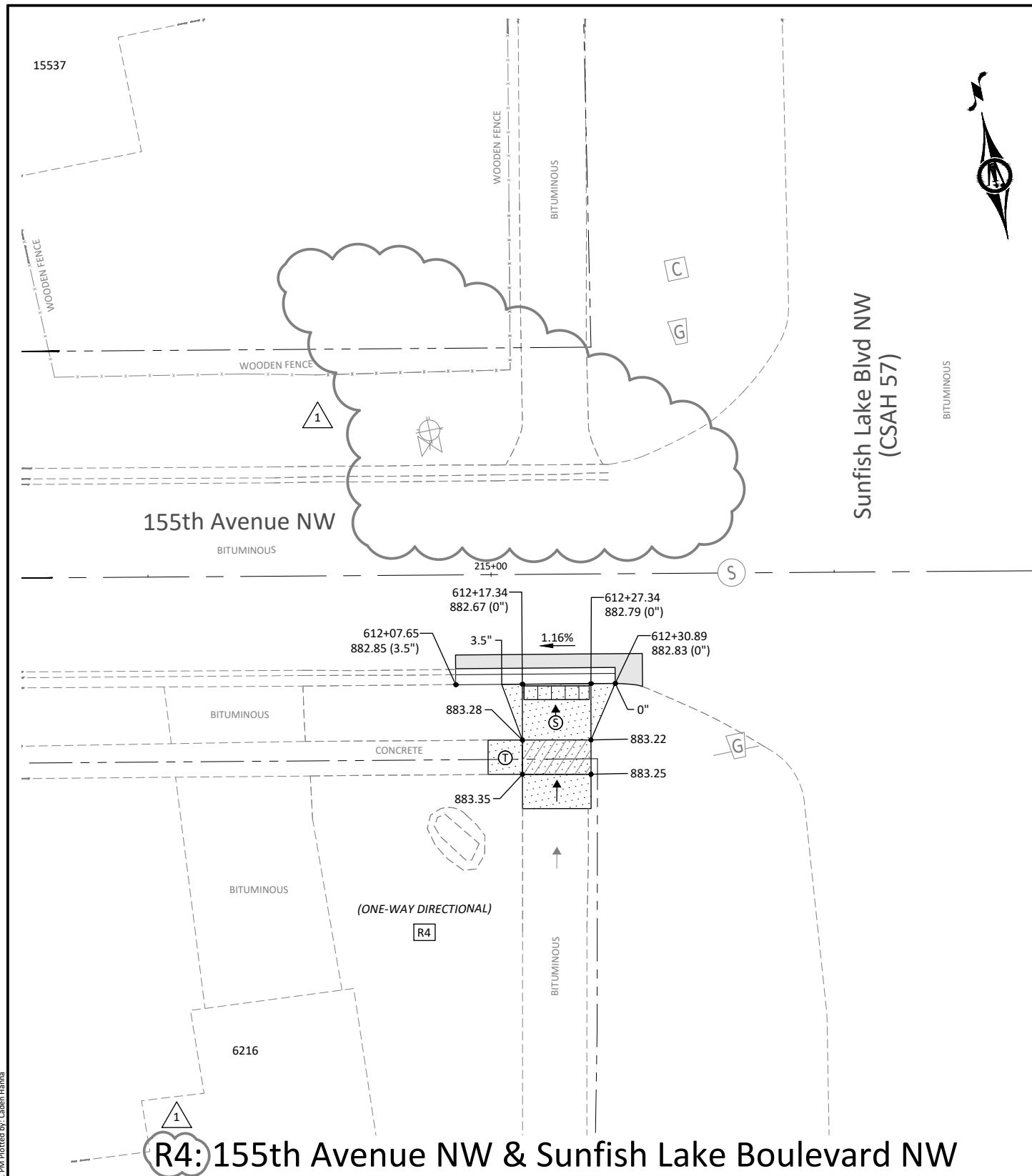
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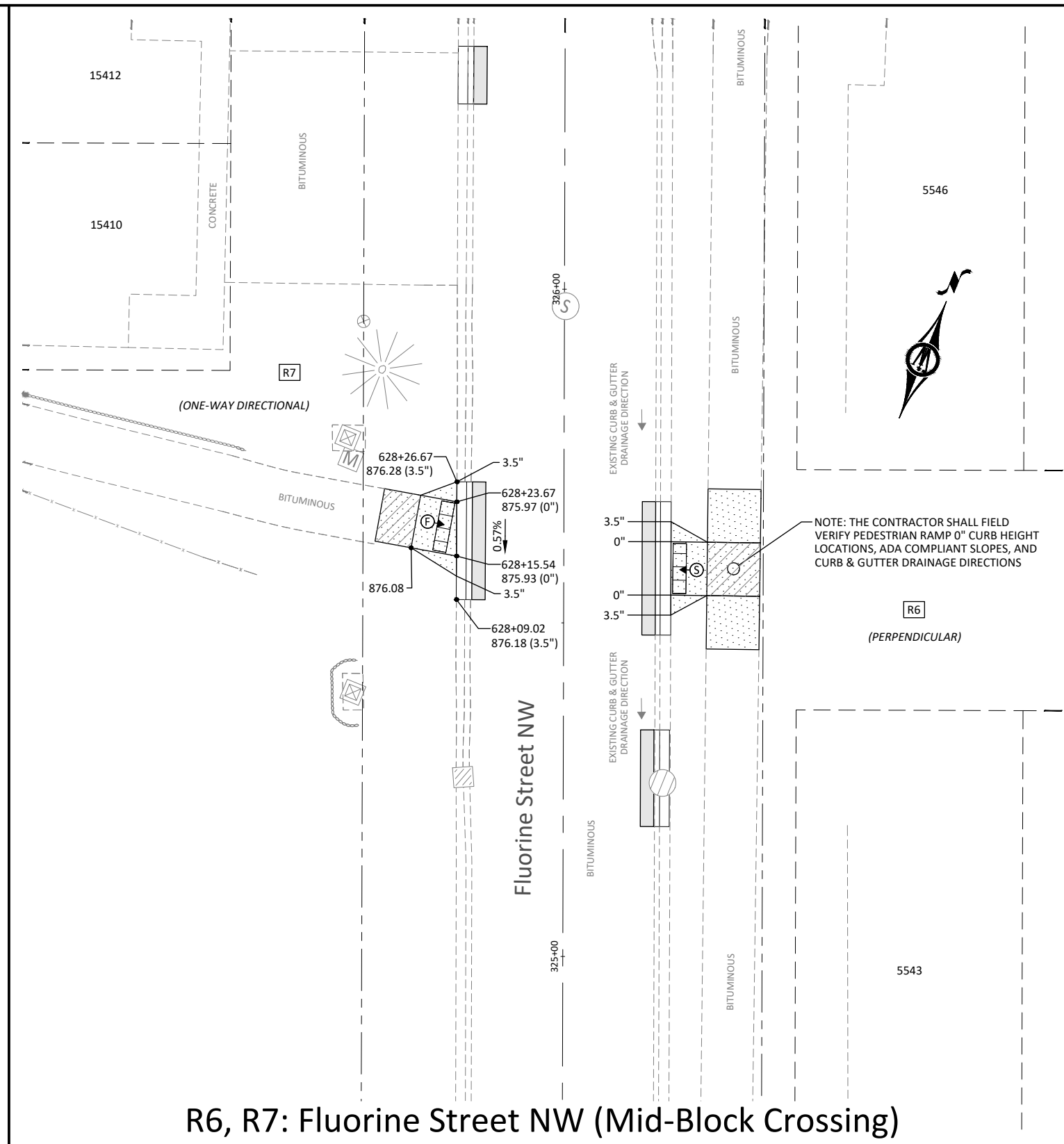
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CITY OF RAMSEY, MINNESOTA
 2026 NEIGHBORHOOD PAVEMENT OVERLAY IMPROVEMENTS
ADA & INTERSECTION DETAILS
 URANIUM ST NW - CUL-DE-SAC IMPROVEMENTS

C6.06
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 20
 OF
 22



R4: 155th Avenue NW & Sunfish Lake Boulevard NW

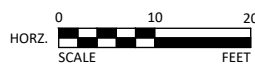


R6, R7: Fluorine Street NW (Mid-Block Crossing)

INTERSECTION DETAILS LEGEND

- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND 1.0% OPTIMUM (2.0% MAXIMUM) SLOPE IN ALL DIRECTIONS
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE 4.0% OPTIMUM (2.0% MINIMUM AND 5.0% MAXIMUM) IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL BE 1.5% OPTIMUM (2.0% MAX.)
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE 7.0% OPTIMUM (5.0% MINIMUM AND 8.3% MAXIMUM) IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL BE 1.5% OPTIMUM (2.0% MAX.)
- DRAINAGE FLOW ARROW AND SLOPE
- CONSTRUCT CONCRETE CURB & GUTTER
- BITUMINOUS PAVEMENT (SEE CONST. PLAN & DETAILS FOR ADD. INFO)
- TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE AND WIDTH OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.
- ANTICIPATED SIDEWALK SLOPE DIRECTION
- TRUNCATED DOMES (SEE MnDOT STD. PLATE 7038)
- 6" CONCRETE WALK
- X.XX% CURB HEIGHT

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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.

Zachary F. Ling
 ZACHARY F. LING, P.E.
 LIC. NO. 56344 DATE 04/14/2026



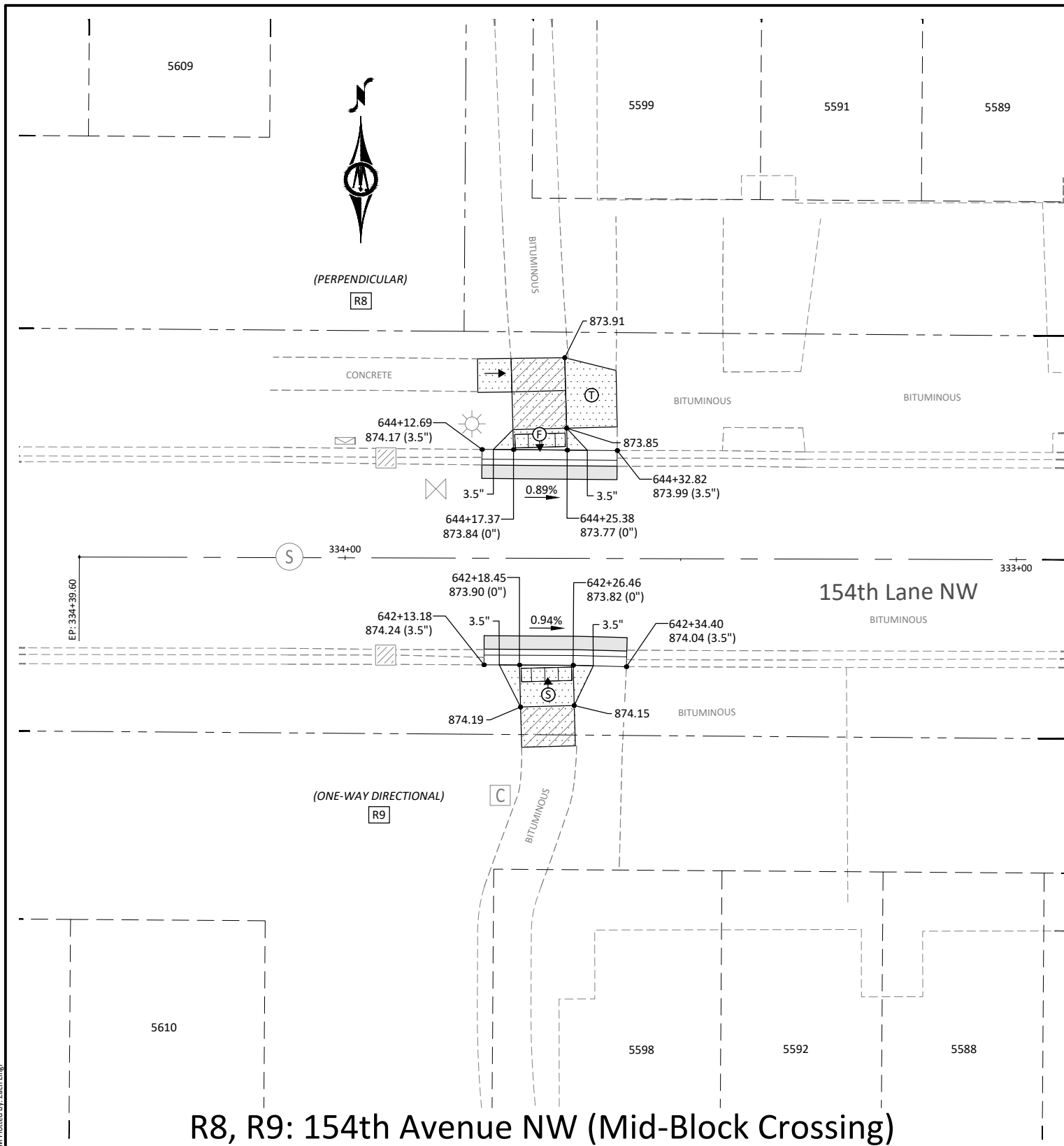
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 Phone: (763) 433-2851
 Email: Ramsey@bolton-menk.com
 www.bolton-menk.com



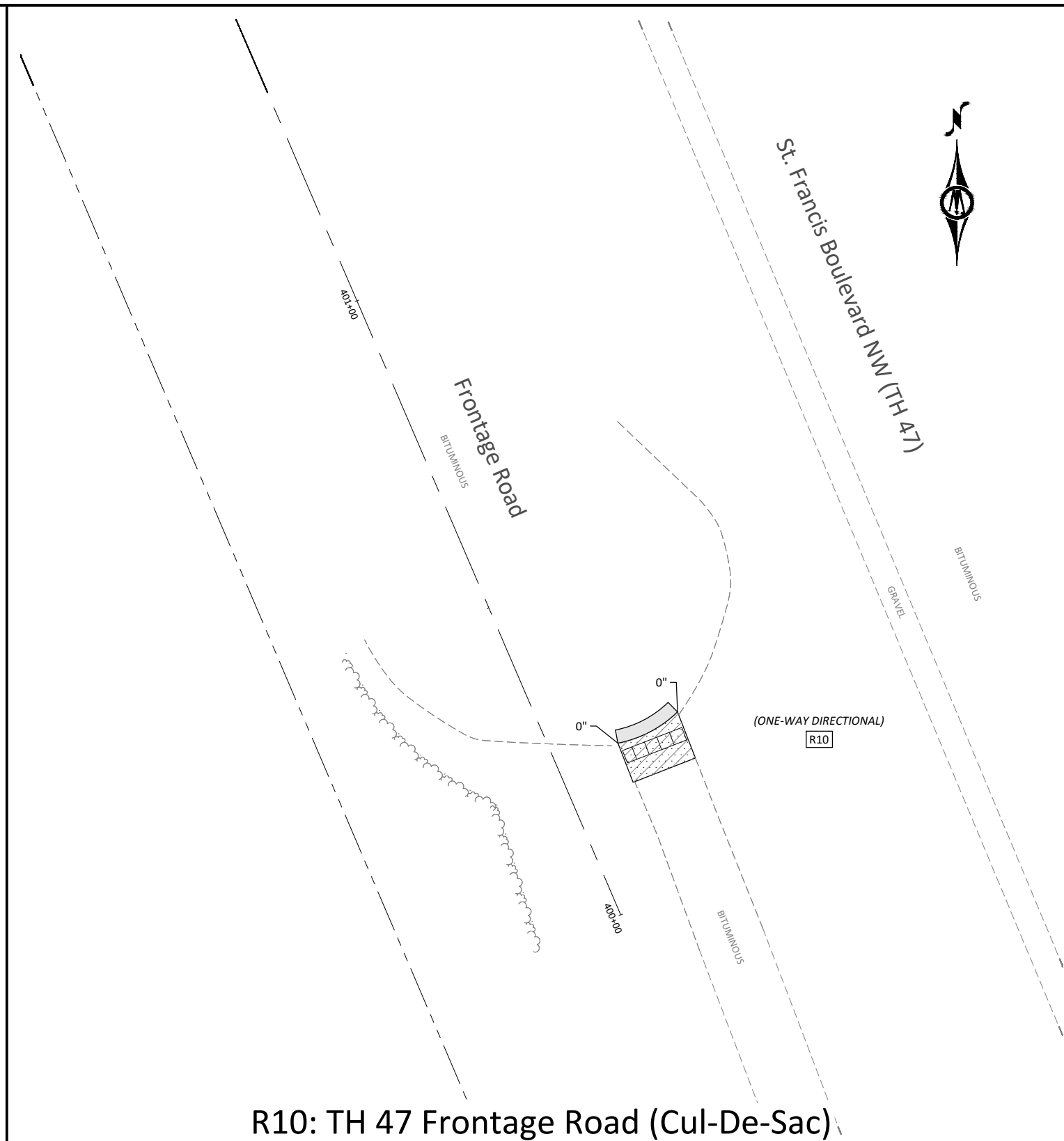
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CITY OF RAMSEY, MINNESOTA
 2026 NEIGHBORHOOD PAVEMENT OVERLAY IMPROVEMENTS
 ADA & INTERSECTION DETAILS
 155TH AVE & SUNFISH LAKE BLVD FLUORINE ST (MID-BLOCK XING)

C6.07
 SHEET 21 OF 22



R8, R9: 154th Avenue NW (Mid-Block Crossing)

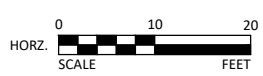


R10: TH 47 Frontage Road (Cul-De-Sac)

INTERSECTION DETAILS LEGEND

- LANDING AREA - 4' X 4' MIN. DIMENSIONS AND 1.0% OPTIMUM (2.0% MAXIMUM) SLOPE IN ALL DIRECTIONS
- TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE AND WIDTH OF A RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5% PER 1 LINEAR FOOT OF WALK.
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE 4.0% OPTIMUM (2.0% MINIMUM AND 5.0% MAXIMUM) IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL BE 1.5% OPTIMUM (2.0% MAX.)
- INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE 7.0% OPTIMUM (5.0% MINIMUM AND 8.3% MAXIMUM) IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL BE 1.5% OPTIMUM (2.0% MAX.)
- X.XX% DRAINAGE FLOW ARROW AND SLOPE
- ANTICIPATED SIDEWALK SLOPE DIRECTION
- X" CURB HEIGHT
- CONSTRUCT CONCRETE CURB & GUTTER
- TRUNCATED DOMES (SEE MnDOT STD. PLATE 7038)
- BITUMINOUS PAVEMENT (SEE CONST. PLAN & DETAILS FOR ADD. INFO)
- 6" CONCRETE WALK

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Zachary F. Lingl
 ZACHARY F. LINGL, P.E.
 LIC. NO. 56344 DATE 04/07/2026



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CITY OF RAMSEY, MINNESOTA
 2026 NEIGHBORHOOD PAVEMENT OVERLAY IMPROVEMENTS
 ADA & INTERSECTION DETAILS
 154TH AVE (MID-BLOCK XING) TH 47 FRONTAGE RD (CUL-DE-SAC)

C6.08
 SHEET 22 OF 22