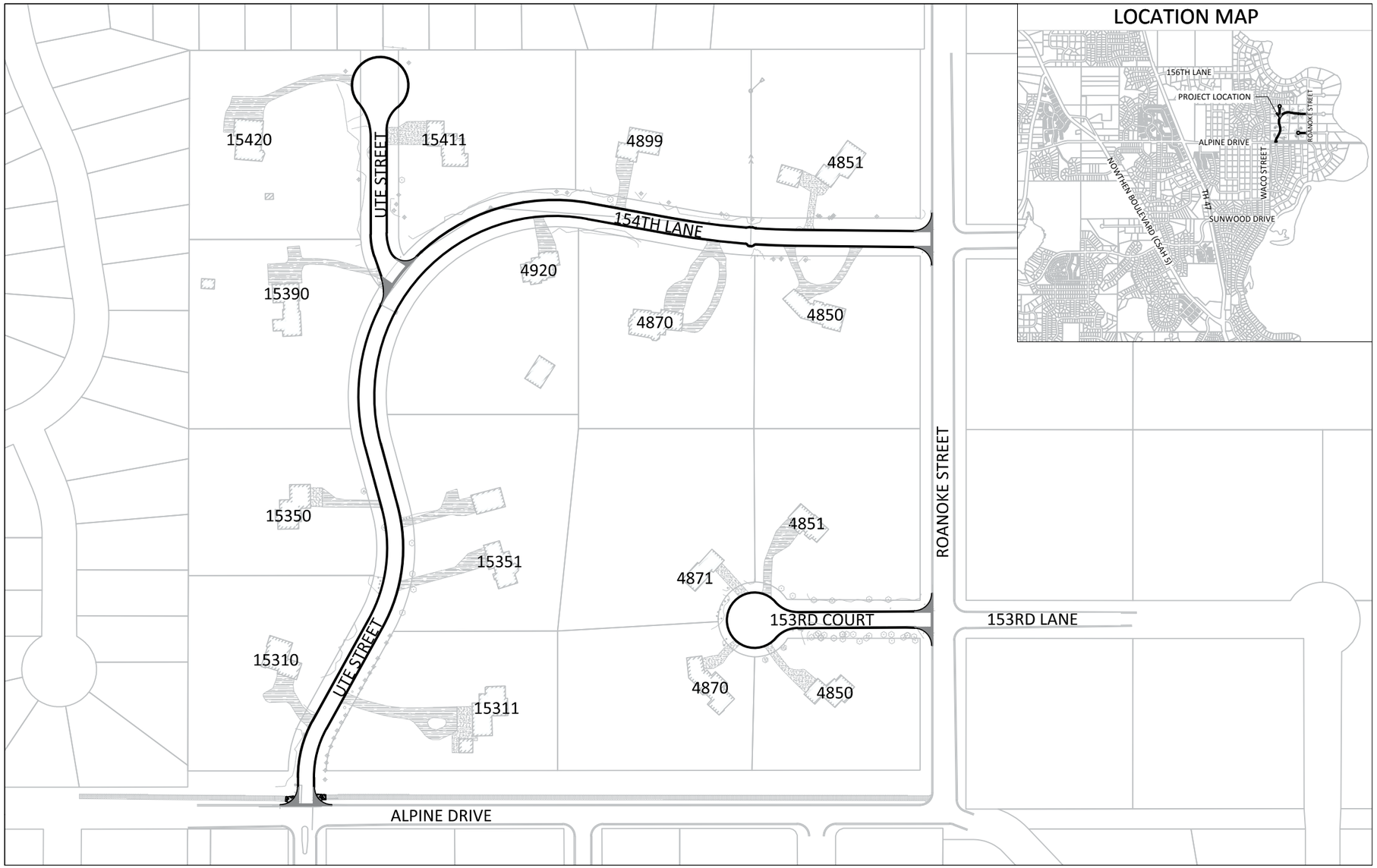
CITY OF RAMSEY
STANHOPE TERRACE STREET RECONSTRUCTION
CITY IMPROVEMENT PROJECT NO. 18-00



LOCATION MAP

GOVERNING SPECIFICATIONS

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

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 MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

SHEET INDEX

THIS PLAN CONTAINS 28 SHEETS

LEGEND

	LIGHT POLE		EASEMENT
	TREE		RIGHT OF WAY
	TREE	E	ELECTRIC
	SHRUB	OE	OVERHEAD ELECTRIC
	SIGN	G	GAS
	VALVE	T	TELECOMMUNICATIONS
PED	UTILITY PEDESTAL		STORM SEWER
HH	HAND HOLE		SANITARY SEWER
	WATERMAIN		WATERMAIN
	REMOVE TREE		SAWCUT PAVEMENT
	3'X2' CATCH BASIN		TREE LINE
	MANHOLE		FENCE
	INLET PROTECTION		LANDSCAPING
	HYDRANT		RETAINING WALL
	VALVE		5' CONTOUR LINE
			1' CONTOUR LINE
			SILT FENCE
			EXISTING CONCRETE CURB & GUTTER
			B618 CONCRETE CURB & GUTTER
			REMOVE BITUMINOUS PAVEMENT
			SODDING TYPE LAWN
			CONCRETE PAVEMENT
			BITUMINOUS PAVEMENT
			GRAVEL SURFACE
			ROCK CONSTRUCTION EXIT

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.

Bruce Westby

BRUCE R WESTBY, P.E.
RAMSEY CITY ENGINEER

40116 LIC. NO.

DATE 2/14/18

DATE	REVISION

0 100 200 300
SCALE (FEET)

N

City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

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

GSOC

Call before you dig
811
651 454-0002 Metro
800 252-1166 Outstate
www.gopherstateonecall.org

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18-00 STANHOPE TERRACE STREET RECONSTRUCTIONS

STATEMENT OF ESTIMATED QUANTITIES

PAGE No.	NOTE	MNDOT No.	DESCRIPTION	UNIT	ESTIMATED QUANTITY
		2021.501	MOBILIZATION	LS	1
11 - 12	1	2104.501	REMOVE CONCRETE CURB AND GUTTER	LF	313
11 - 12	1	2104.503	REMOVE CONCRETE PAVEMENT	SF	674
11 - 12	1	2104.505	REMOVE BITUMINOUS PAVEMENT	SY	208
11 - 12	1	2104.505	REMOVE CONCRETE VALLEY GUTTER	SY	155
11 - 12	1	2104.511	SAWING CONCRETE PAVEMENT - FULL DEPTH	LF	350
11 - 12	1	2104.513	SAWING BITUMINOUS PAVEMENT - FULL DEPTH	LF	216
11 - 12	3	2104.523	SALVAGE MAIL BOX SUPPORT	EA	15
		2104.523	TEMPORARY MAIL BOX CLUSTER	EA	3
20 - 26	2	2105.201	COMMON EXCAVATION (EV)	CY	400
20 - 26	2	2105.507	SUBGRADE EXCAVTION (EV)	CY	50
16 - 18		2112.501	SUBGRADE PREPARATION	RDST	26
		2130.501	WATER	MGAL	50
16 - 18	2, 6	2211.503	AGGREGATE BASE CLASS 5 MODIFIED (CV)	CY	1,242
11 - 12	6, 7	2215.501	BITUMINOUS PAVEMENT RECLAMATION - FULL DEPTH	SY	10,132
11 - 12	7	2331.607	HAUL BIT PAVEMENT RECLAMATION (LV)	CY	2,533
16 - 18	4	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL	615
16 - 18	5	2360.501	TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEA340C) (1.5")	TON	725
16 - 18	5	2360.502	TYPE SP 12.5 NON WEARING COURSE MIXTURE (SPNWB330C) (2")	TON	965
16 - 18	5	2360.505	TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEA340C) DRIVEWAYS (2")	TON	20
16 - 17	8	2506.602	RESET CATCH BASIN CASTING	EA	6
19		2521.501	6" CONCRETE WALK	SF	242
16 - 18		2531.501	CONCRETE CURB & GUTTER DESIGN B618	LF	5,548
16 - 18		2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SY	75
16 - 18		2531.604	7" CONCRETE VALLEY GUTTER	SY	235
19		2531.618	TRUNCATED DOMES	SF	55
13 - 14		2540.601	LANDSCAPE RESTORATION	LS	1
13 - 14	3	2540.602	INSTALL MAIL BOX SUPPORT	EA	15
	9	2563.601	TRAFFIC CONTROL	LS	1
13 - 14		2573.502	SILT FENCE, TYPE MS	LF	850
13 - 14		2573.530	STORM DRAIN INLET PROTECTION	EA	13
13 - 14	2	2574.525	COMMON TOPSOIL BORROW (LV)	CY	467
13 - 14		2575.505	SODDING TYPE LAWN	SY	3,500

PAY ITEM NOTES:

1. REMOVAL LIMITS SHALL BE MARKED IN THE FIELD BY CITY STAFF.
2. EV TO CV CONVERSION FACTOR = 1.2.
3. PAY ITEM INCLUDES ALL EXISTING MAILBOX SUPPORTS, REGARDLESS OF MATERIAL(S), SIZE, FOOTING TYPE, LOCATION, OR EXISTING ELECTRICAL SERVICE.
4. ESTIMATED QUANTITY BASED ON APPLICATION RATE OF 0.07 GAL/SY.
5. ESTIMATED QUANTITY BASED ON APPLICATION RATE OF 110 LB/SY-IN.
6. BITUMINOUS PAVEMENT RECLAMATION MEETING CITY OF RAMSEY MODIFIED CLASS 5 GRADATION IS ACCEPTABLE AS AGGREGATE BASE CLASS 5.
7. STOCKPILING OF BITUMINOUS PAVEMENT RECLAMATION BEING USED AS AGGREGATE BASE CLASS 5 IS INCIDENTAL TO THE HAUL BIT PAVEMENT RECLAMATION PAY ITEM. THERE ARE NO STOCKPILE OR STAGING AREAS AVAILABLE ON-SITE FOR STOCKPILING OF BITUMINOUS PAVEMENT RECLAMATION.
8. SEE CITY STANDARD PLATE STO-13, SHEET 4 FOR RESET CATCH BASIN CASTING.
9. LUMP SUM QUANTITY SHALL INCLUDE ALL COST REQUIRED FOR MAINTAINING ALL FLAGGING OPERATIONS AS NECESSARY, MAINTAINING PEDESTRIAN ACCESS ROUTES, ANY SIGNAGE AND BARRICADES AS NECESSARY.

GENERAL NOTES:

1. 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. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
2. 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.
3. SALVAGE AND INSTALL MAILBOX SUPPORTS IN THE SAME LOCATION, UNLESS OTHERWISE DIRECTED. THE INSTALLATION WILL BE THE SAME TYPE AS ORIGINAL INSTALLATION. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING MAILBOX SUPPORTS WHICH ARE DAMAGED DURING SALVAGE AND/OR INSTALLATION UNLESS CONTRACTOR NOTIFIES CITY OF DAMAGED MAILBOX SUPPORTS BEFORE SALVAGE OPERATIONS BEGIN. SALVAGED MAILBOX SUPPORTS SHALL BE STORED BY CONTRACTOR DURING PROJECT.

DATE	REVISION

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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

BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

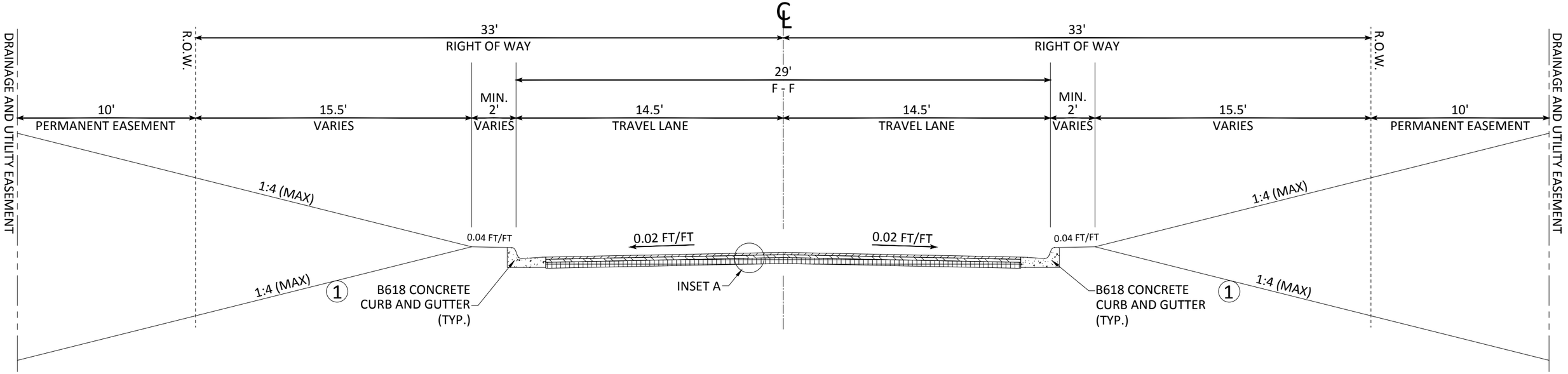
DESIGNED BY:	
JJF	
DRAWN BY: JJF	DATE: 2/14/18
CHECKED BY: BRW	FILE No. 18-00

City of RAMSEY

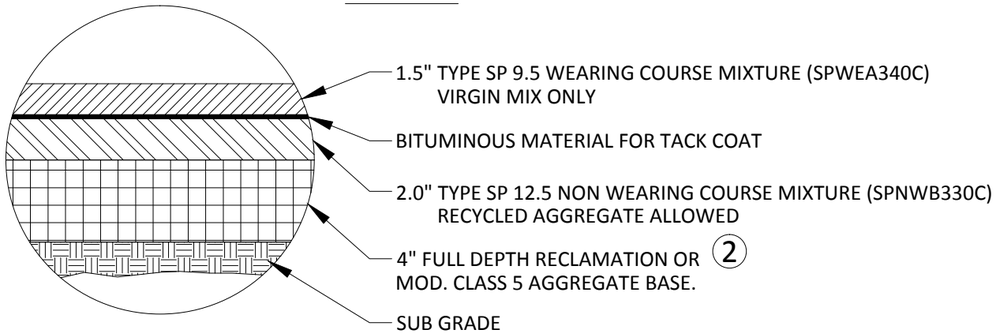
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

STATEMENT OF ESTIMATED QUANTITIES

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA



INSET A:



REFERENCE NOTES:

(1) GRADE TO MATCH EXISTING GROUND. ESTABLISH TURF USING A MINIMUM OF 4" COMMON TOPSOIL BORROW AND SODDING TYPE LAWN. SEE CITY PLATE NO. ERO-6 FOR COMMON TOPSOIL BORROW.

(2) FULL DEPTH RECLAMATION MUST PASS CITY OF RAMSEY MODIFIED CLASS 5 AGGREGATE BASE GRADATION. SEE CITY PLATE NO. STR-26.

CUL-DE-SACS GENERALLY MEASURE 100' DIAMETER FROM BACK-OF-CURB TO BACK-OF-CURB.

NOTE: NOT TO SCALE

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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

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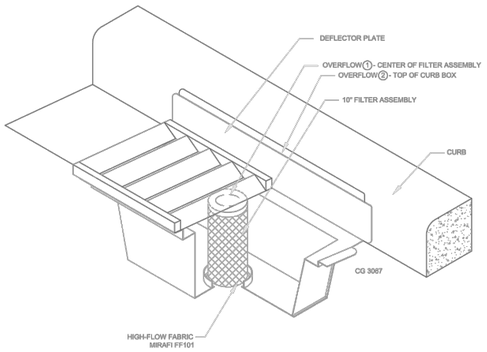
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

TYPICAL SECTION

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

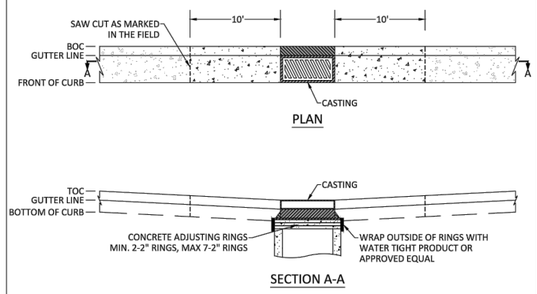


INLET PROTECTION – WIMCO OR EQUAL

N.T.S.

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

APPROVED: 1 – 2016	City of RAMSEY	STANDARD DETAILS: INLET PROTECTION
		CITY PLATE No. ERO–2

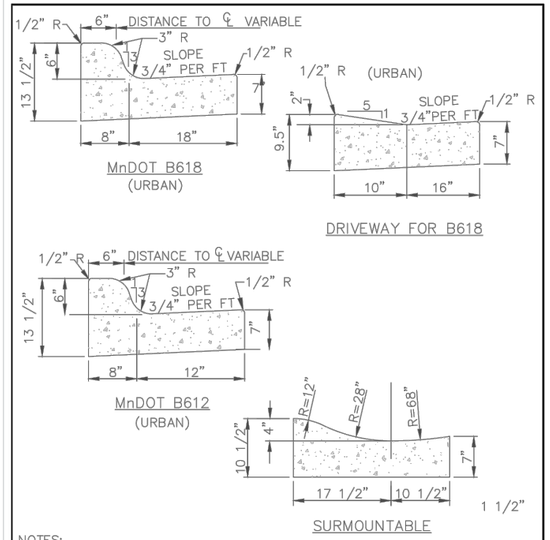


NOTE: NOT TO SCALE

NOTE:

1. CONCRETE CURB AND GUTTER TO BE REMOVED 10 FEET TO EITHER SIDE OF CATCH BASIN CASTING. CURB AND GUTTER MUST BE SAW CUT - FULL DEPTH.
2. CASTING SHALL BE BROUGHT UP TO PROPER GRADE. DAMAGED CONCRETE ADJUSTING RINGS MUST BE REPLACED. OUTSIDE OF RINGS MUST BE WRAPPED WITH APPROVED WATER TIGHT PRODUCT. INSIDE OF RINGS MUST BE GROUTED TO A SMOOTH FINISH.
3. CONCRETE CURB AND GUTTER SHALL BE REPLACED AND MATCH INTO THE RESET CASTING AND THE EXISTING CURB AND GUTTER.
4. DAMAGED BITUMINOUS PAVEMENT SHALL BE REPAIRED AND IS INCIDENTAL. FOLLOW CITY STANDARD PLATE STR-25.
5. PROPER TRAFFIC CONTROL DEVICES SHALL BE REQUIRED TO MAINTAIN A SAFE WORK ENVIRONMENT, AND IS INCLUDED IN THE TRAFFIC CONTROL LUMP SUM BIT ITEM.
6. ALL EQUIPMENT, MATERIALS, DISPOSAL, AND LABOR REQUIRED TO RESET CATCH BASIN CASTING AS DESCRIBED BY THIS DETAIL IS INCIDENTAL.
7. BOULEVARD RESTORATION BEHIND CURB IS NOT INCLUDED WITH THE RESET CATCH BASIN CASTING PAY ITEM.

APPROVED: 3 – 2017	City of RAMSEY	STANDARD DETAILS: RESET CATCH BASIN CASTING
		CITY PLATE No. STO–13



NOTES:

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

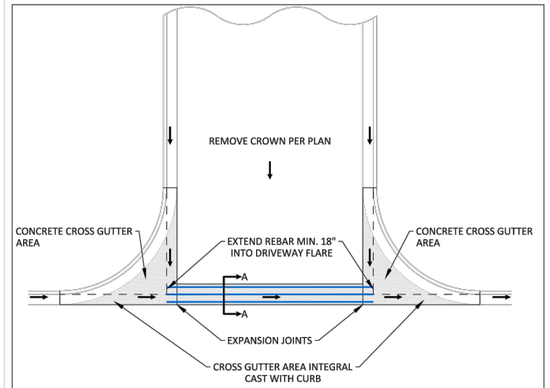
APPROVED: 1 – 2016	City of RAMSEY	STANDARD DETAILS: CURB AND GUTTER
		CITY PLATE No. STR–1

MNDOT 2016 SPEC

MNDOT 2016 SPEC TABLE 3877–1 COMMON TOPSOIL BORROW		
REQUIREMENT	RANGE	TEST METHOD
MATERIAL PASSING THE 3/4 IN [19MM]	100%	ASTM D 422
MATERIAL PASSING NO. 4 [4.75MM]	≥85%	–
CLAY	5% –35%	ASTM D 422
SILT	5% – 70%	ASTM D 422
SAND	10% – 75%	ASTM D 422
ORGANIC MATTER	3% – 15%	ASTM D 2974
pH	6.1–7.8	ASTM G 51

NOTE:
1. INSTALLATION OF 4" OF TOPSOIL MEETING MNDOT SPECIFICATION 3877A COMMON TOPSOIL BORROW, MAY BE REQUIRED ACROSS ALL DISTURBED AREAS.
2. A SOIL CERTIFICATION FROM A GEOTECHNICAL FIRM MUST BE PROVIDED VERIFYING THE TOPSOIL MEETS SPECIFICATION ALONG WITH LOAD TICKETS TO VERIFY THE SOURCE OF MATERIAL AND QUANTITY.
3. TOPSOIL MUST COME FROM A CITY APPROVED SOURCE.

APPROVED: 1 – 2016	City of RAMSEY	CITY PLATE No. ERO–6	STANDARD DETAILS: TOPSOIL REQUIREMENTS

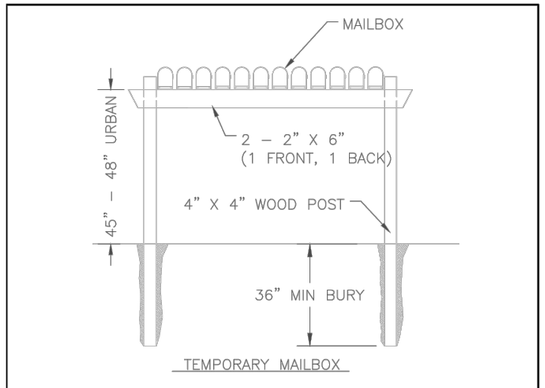


NOTE: NOT TO SCALE

NOTES:

1. WITH REMOVAL OF EXISTING CURB AT A STREET, MILL BITUMINOUS TO A DEPTH OF 1.5" AND A WIDTH OF 18" IN EXISTING STREET.
2. TO BE USED WHENEVER CROSS DRAINAGE IS < 2%.
3. CONCRETE CURB AND GUTTER SHALL BE CAST INTEGRAL WITH CONCRETE CROSS GUTTER AREA.
4. CONCRETE CURB AND GUTTER SHALL BE PAID SEPARATELY FROM CONCRETE CROSS GUTTER AREA.

APPROVED: 3 – 2017	City of RAMSEY	STANDARD DETAILS: CROSS GUTTER
		CITY PLATE No. STR–2



NOTES:
MAILBOX LOCATIONS SHOULD BE STAKED BEFORE INSTALLATION FOR PROPER HEIGHT AND DISTANCE FROM THE ROADWAY. ONCE STAKED, THE INSTALLER MUST NOTIFY THE CITY ENGINEER AND THE POST OFFICE. THE ENGINEER AND POSTMASTER/ MAILCARRIER WILL BE ALLOWED 48 HOURS TO REVIEW AND MODIFY THE STAKED LOCATIONS PRIOR TO FINAL INSTALLATION.

OTHER MAILBOX SUPPORT DESIGNS MAY BE USED UPON APPROVAL BY THE CITY ENGINEER.

ALL MAILBOX SUPPORTS MUST BE CRASHWORTHY AND MEET MINNESOTA RULES, 8818, U.S. POST OFFICE AND FEDERAL HIGHWAY ADMINISTRATION (FHWA) STANDARDS AND RECOMMENDATIONS.

APPROVED: 9 – 2011	City of RAMSEY	STANDARD DETAILS: NESTED MAILBOX CLUSTER
		CITY PLATE No. STR–10

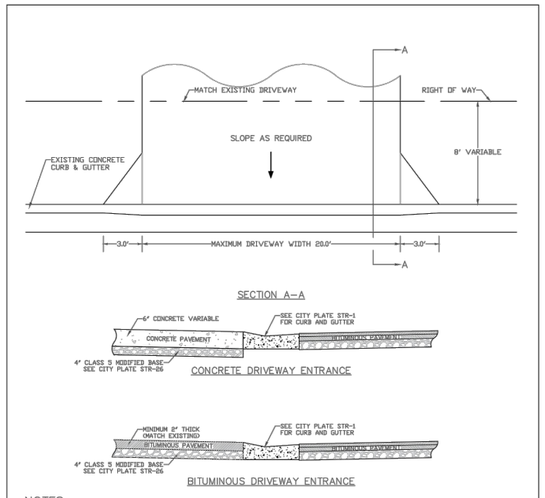
TABLE A
MODIFIED CLASS 5 SPECIFICATIONS

% 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	City of RAMSEY	STANDARD DETAILS: MODIFIED CLASS 5 SPECIFICATIONS
		CITY PLATE No. STR–26



NOTES:
1. PANEL WIDTH SHALL NOT EXCEED 10 FT. WITHOUT A CENTERLINE CONSTRUCTION JOINT.
2. CONCRETE DRIVEWAY TO BE ONE COURSE CONCRETE PAVEMENT. (SEE SPECIAL PROVISIONS FOR CLASS OF CONCRETE.)
3. CONCRETE DRIVEWAYS TO BE 6" THICK.
4. ½" EXPANSION JOINT, ½" PREFORMED JOINT FILLER MATERIAL, AASHTO M 213 (REQUIRED WHEN 2 CONCRETE AREAS ARE POURED SEPERATELY.)
5. BITUMINOUS DRIVEWAYS MINIMUM 2" THICK, MATCH EXISTING BITUMINOUS PAVEMENT THICKNESS.

APPROVED: 1 – 2016	City of RAMSEY	STANDARD DETAILS: RESIDENTIAL DRIVEWAY – NO SIDEWALK
		CITY PLATE No. STR–30

DATE	REVISION

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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 2/14/18
CHECKED BY:	BRW	FILE No. 18-00

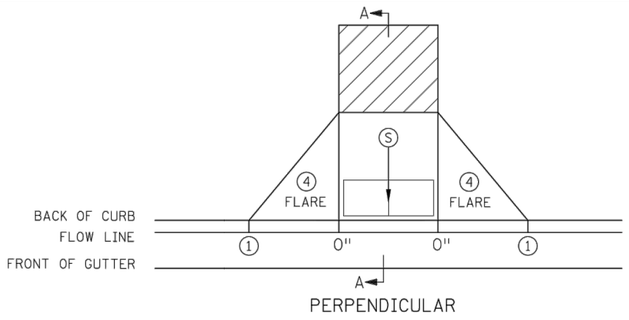
City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

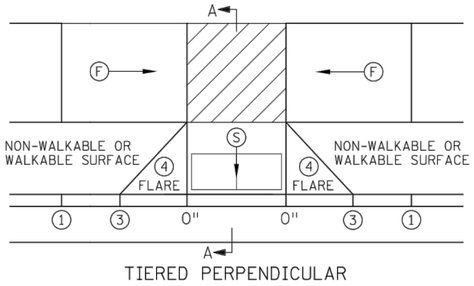
CITY DETAILS

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

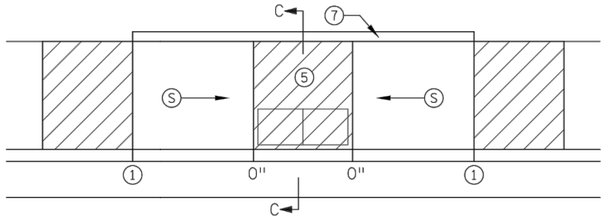
SHEET 4 OF 28 SHEETS



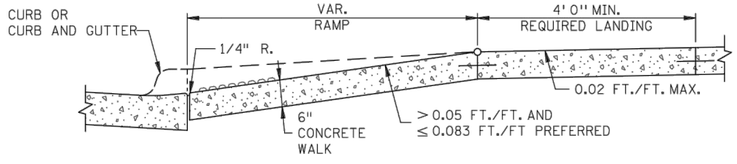
PERPENDICULAR



TIERED PERPENDICULAR

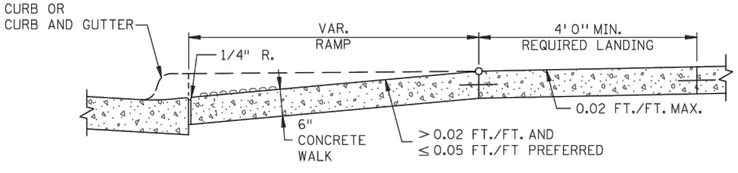


PARALLEL



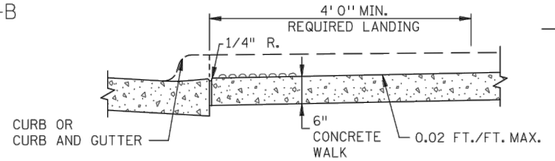
SECTION A-A

PERPENDICULAR/TIERED/DIAGONAL



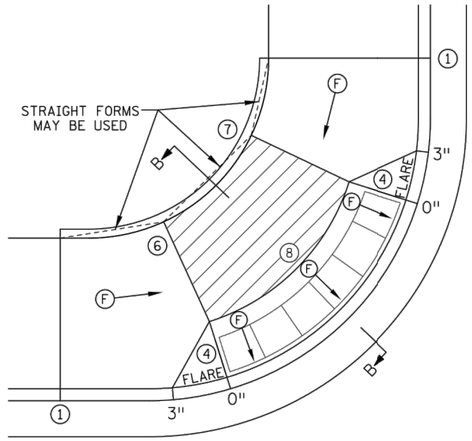
SECTION B-B

FAN

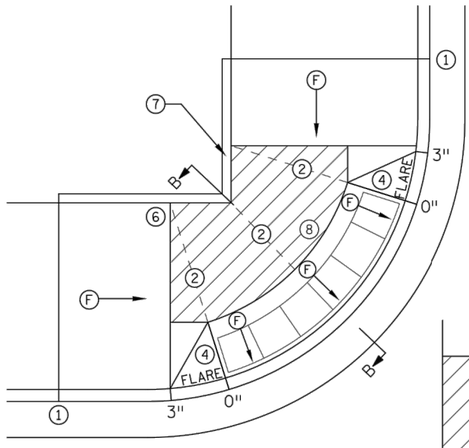


SECTION C-C

PARALLEL/DEPRESSED CORNER

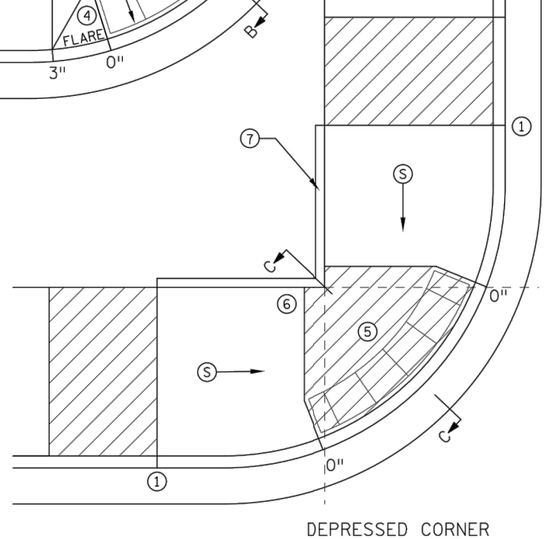


FAN⑩

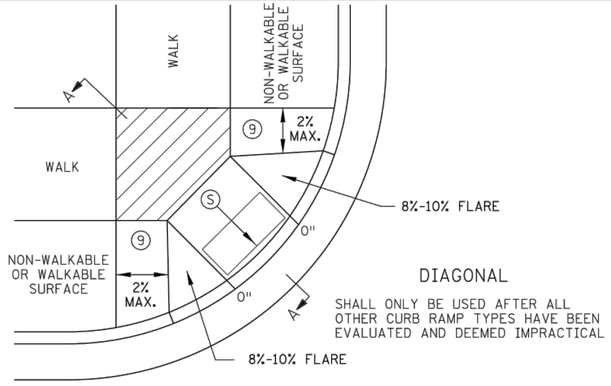


MODIFIED FAN ⑩

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 INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISIONS - PROSECUTION OF WORK (ADA).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATHS AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/TRAIL WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB. RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.

① MATCH FULL HEIGHT CURB.
② 4' MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
③ 3" HIGH CURB WHEN USING A 3' LONG RAMP, 4" HIGH CURB WHEN USING A 4' LONG RAMP.
④ SEE SHEET 4 OF 6, TYPICAL SIDE TREATMENT OPTIONS, FOR DETAILS ON FLARES AND RETURNED CURBS, WHEN INITIAL LANDING IS AT FULL CURB HEIGHT.
⑤ DETECTABLE WARNINGS MAY BE PART OF THE 4' X 4' MIN. LANDING AREA IF IT IS NOT FEASIBLE TO CONSTRUCT THE LANDING OUTSIDE OF THE DETECTABLE WARNING AREA.
⑥ THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL)
⑦ WHEN ADJACENT TO GRASS, GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.
⑧ A 7' MIN TOP RADIUS GRADE BREAK REQUIRED TO BE CONSTRUCTIBLE.
⑨ PAVE FULL WALK WIDTH.
⑩ "S" SLOPES ON FANS SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EVALUATED AND DEEMED IMPRACTICAL.

LEGEND

THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT. IF SITE CONDITIONS WARRANT, LONGITUDINAL SLOPES UP TO 8.3% OR FLATTER ARE ALLOWED.

(S) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE BETWEEN 5.0% MINIMUM AND 8.3% MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.0%.

(F) INDICATES PEDESTRIAN RAMP - SLOPE SHALL BE GREATER THAN 2.0% AND LESS THAN 5.0% IN THE DIRECTION SHOWN AND CROSS SLOPE SHALL NOT EXCEED 2.0%.

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: JANUARY 23, 2017

OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION

STATE DESIGN ENGINEER

REVISED:

APPROVED: 1-23-2017

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 1 OF 6

DATE	REVISION

Feb 14, 2018 - 3:24pm
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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

BRUCE WESTBY

Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 2/14/18
CHECKED BY:	BRW	FILE No. 18-00

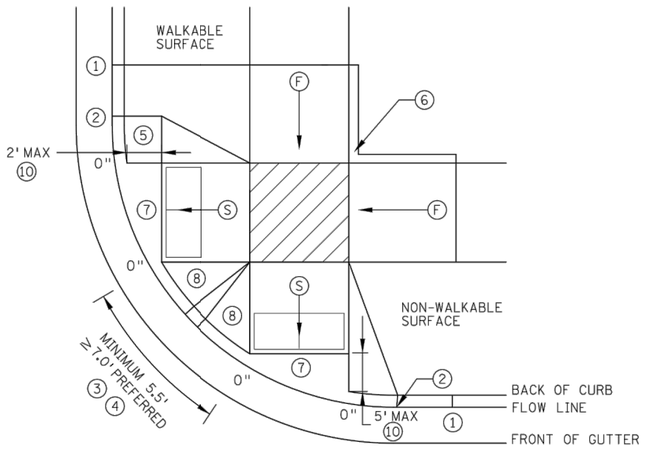
City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

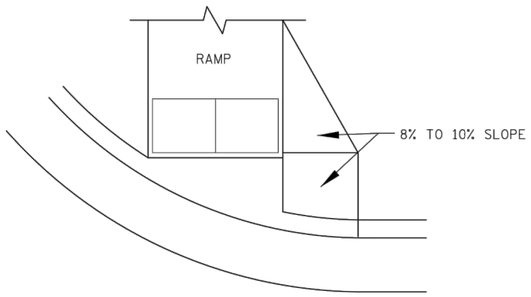
MNDOT PED RAMP DETAILS

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 5 OF 28 SHEETS



COMBINED DIRECTIONAL ⑨



DIRECTIONAL RAMP WALKABLE FLARE

NOTES:

LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.0%, AND IF THE APPROACHING WALK IS INVERSE GRADE.

INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 15' FROM THE BACK OF CURB, WITH 6' FROM THE BACK OF CURB BEING THE PREFERRED DISTANCE, ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.0%.

SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE LONGITUDINAL SLOPE IS GREATER THAN 5.0%.

CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL GRADE BREAKS WITHIN THE PAR. 1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOP GRADE BREAK OF CONCRETE FLARES ADJACENT TO WALKABLE SURFACES.

ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL. THUS BOTH SIDES OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH.

TO ENSURE INITIAL RAMPS AND INITIAL LANDINGS ARE PROPERLY CONSTRUCTED, LANDINGS SHALL BE CAST SEPARATELY. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 6 AND THE ADA SPECIAL PROVISION (PROSECUTION OF WORK).

TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE.

WHEN THE BOULEVARD IS 4' WIDE OR LESS, THE TOP OF CURB TAPER SHALL MATCH THE RAMP SLOPES TO REDUCE NEGATIVE BOULEVARD SLOPES FROM THE TOP BACK OF CURB TO THE PAR.

ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.

4' MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS. DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A MIN. OF 24" IN THE PATH OF TRAVEL. DETECTABLE WARNING TO COVER ENTIRE WIDTH OF SHARED-USE PATH AND THE ENTIRE PAR WIDTH OF THE WALK. DETECTABLE WARNING SHOULD BE 6" LESS THAN THE PAR/PATH WIDTH. ARC LENGTH OF RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 20 FEET.

RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB. SEE NOTES ⑩ & ⑪ FOR INFORMATION REGARDING RECTANGULAR DETECTABLE WARNING PLACEMENT.

① MATCH FULL CURB HEIGHT.

② 3" HIGH CURB WHEN USING A 3' LONG RAMP
4" HIGH CURB WHEN USING A 4' LONG RAMP.

③ 3" MINIMUM CURB HEIGHT (5.5' MIN. DISTANCE REQUIRED BETWEEN DOMES)
4" PREFERRED (7' MIN. DISTANCE REQUIRED BETWEEN DOMES).

④ THE "BUMP" IN BETWEEN THE RAMPS SHOULD NOT BE IN THE PATH OF TRAVEL FOR COMBINED DIRECTIONAL RAMPS. IF THIS OCCURS MODIFY THE RAMP LOCATION OR SWITCH RAMP TO A FAN/DEPRESSED CORNER.

⑤ WHEN USING CONCRETE PAVED FLARES ON THE OUTSIDE OF DIRECTIONAL RAMPS, AND ADJACENT TO A WALKABLE SURFACE, DIRECTIONAL RAMP FLARES SHOULD BE USED. SEE THE DETAIL ON THIS SHEET.

⑥ GRADING SHALL ALWAYS BE USED WHEN FEASIBLE. V CURB, IF USED, SHALL BE PLACED OUTSIDE THE SIDEWALK LIMITS WHEN RIGHT OF WAY ALLOWS. WHEN ADJACENT TO PARKING LOTS, CONCRETE OR BITUMINOUS TAPERS SHOULD BE USED OVER V CURB TO REDUCE TRIPPING HAZARDS AND FACILITATE SNOW & ICE REMOVAL.

⑦ MAX. 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.

⑧ 8% TO 10% WALKABLE FLARE.

⑨ PLACE DOMES AT THE BACK OF CURB WHEN ALLOWABLE SETBACK CRITERIA IS EXCEEDED.

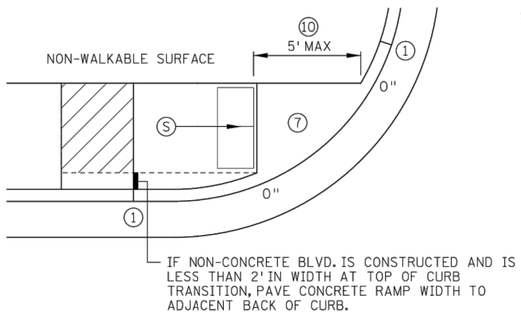
⑩ FRONT EDGE OF DETECTABLE WARNING SHALL BE SET BACK 2' MAXIMUM WHEN ADJACENT TO WALKABLE SURFACE, AND 5' MAXIMUM WHEN ADJACENT TO NON-WALKABLE SURFACE WITH ONE CORNER SET 3" FROM BACK OF CURB. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

⑪ RECTANGULAR DETECTABLE WARNINGS MAY BE SETBACK UP TO 9" FROM THE BACK OF CURB WITH CORNERS SET 3" FROM BACK OF CURB. IF 9" SETBACK IS EXCEEDED USE RADIAL DETECTABLE WARNINGS.

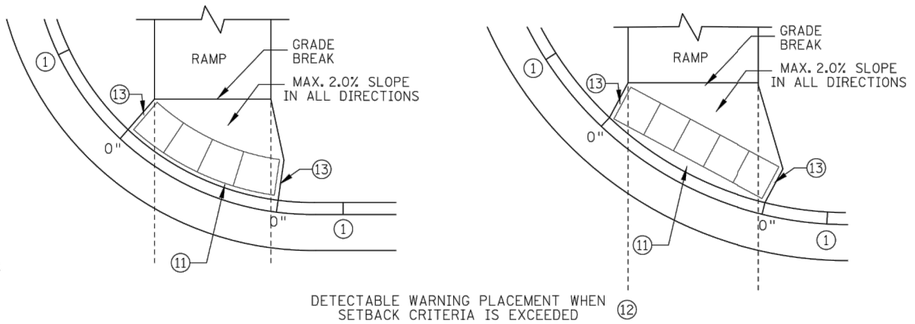
⑫ FOR DIRECTIONAL RAMPS WITH THE DETECTABLE WARNINGS PLACED AT THE BACK OF CURB, THE DETECTABLE WARNINGS SHALL COVER THE ENTIRE WIDTH OF THE WALK/PATH. THIS ENSURES A DETECTABLE EDGE AND HELPS ELIMINATE THE CURB TAPER OBSTRUCTING THE PATH OF PEDESTRIAN TRAVEL.

⑬ THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE BACK OF CURB. MAINTAIN 3" BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

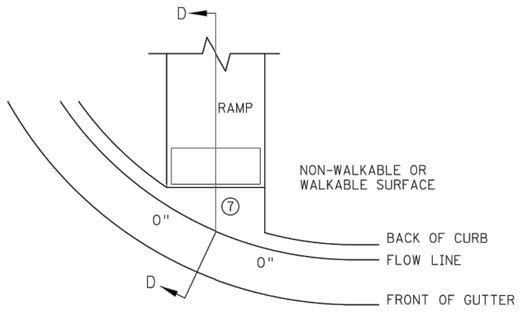
⑭ TO BE USED FOR ALL DIRECTIONAL RAMPS, EXCEPT WHERE DOMES ARE PLACED ALONG THE BACK OF CURB.



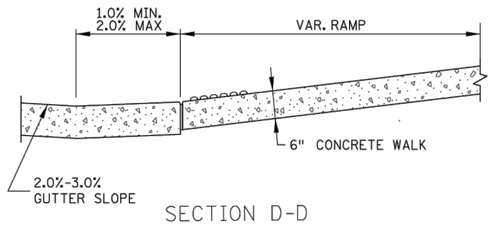
STANDARD ONE-WAY DIRECTIONAL ⑨



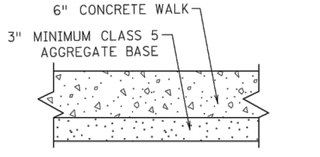
ONE-WAY DIRECTIONAL WITH DETECTABLE WARNING AT BACK OF CURB



CURB FOR DIRECTIONAL RAMPS ⑭



SECTION D-D



TYPICAL SIDEWALK SECTION WITHIN INTERSECTION CORNER

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: JANUARY 23, 2017
OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION
STATE DESIGN ENGINEER
REVISED:
APPROVED: 1-23-2017

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 2 OF 6

DATE	REVISION

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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
BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

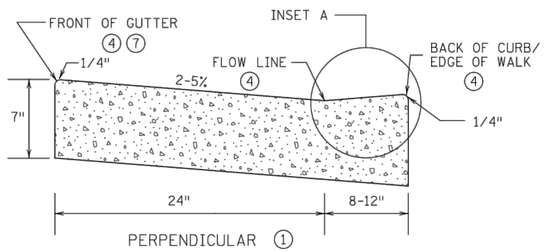
DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 2/14/18
CHECKED BY:	BRW	FILE No. 18-00

City of RAMSEY
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

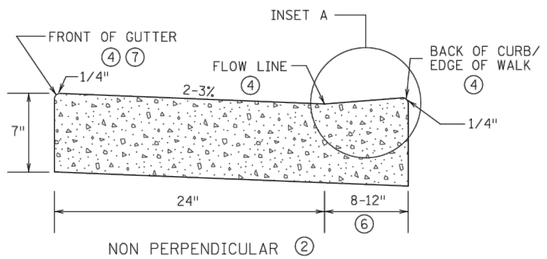
MNDOT PED RAMP DETAILS

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

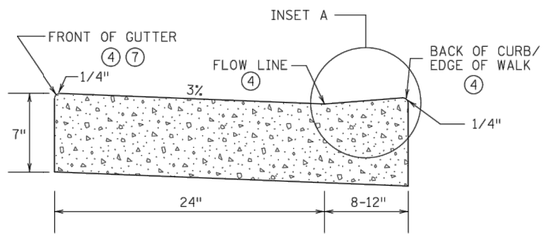
SHEET 6 OF 28 SHEETS



PERPENDICULAR ①

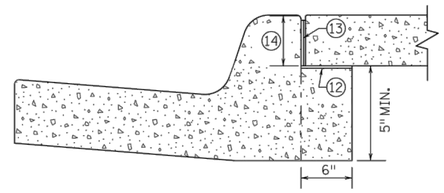


NON PERPENDICULAR ②



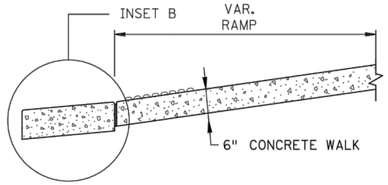
FOR CURB MACHINE PLACEMENT AROUND RADIUS ③
(REGARDLESS OF RAMP TYPE)

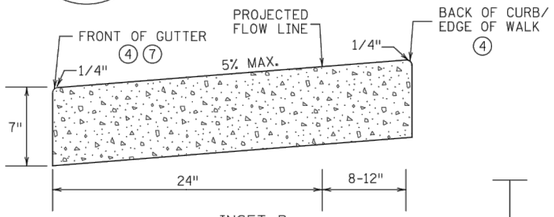
PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL



OPTIONAL SILL CURB WHEN SIDEWALK
IS AT BACK OF CURB

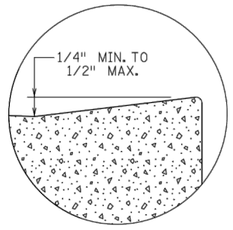
CONCRETE SILL TO BE USED ONLY WHEN
SPECIFIED IN THE PLAN.



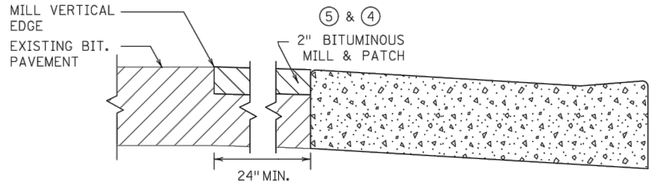


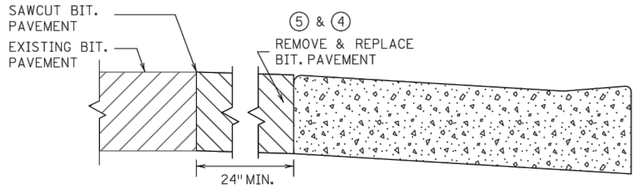
INSET B

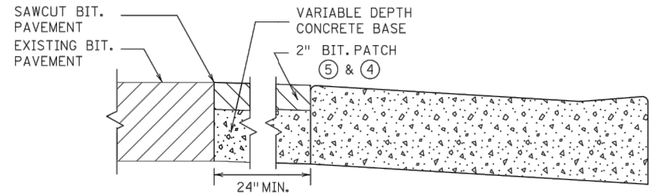
OUTFLOW GUTTER ⑧



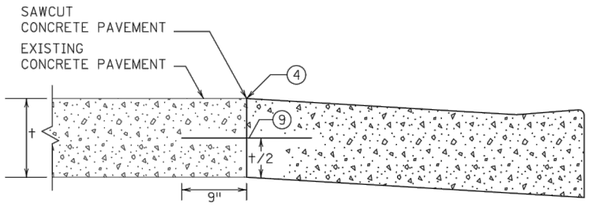
INSET A





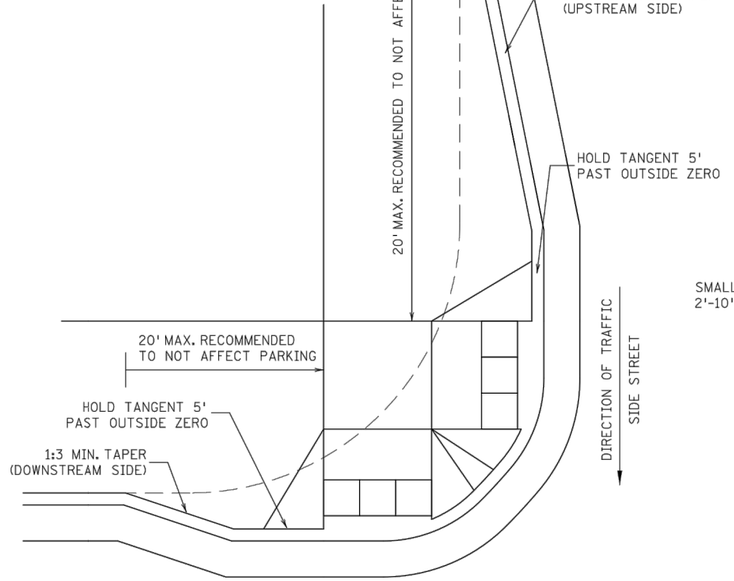


ONLY ALLOWED PER ENGINEER'S APPROVAL

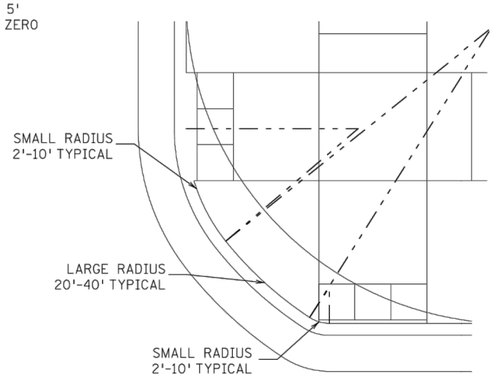


PAVEMENT TREATMENT OPTIONS IN FRONT OF CURB & GUTTER

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.

⑫ PLACE BOND BREAKER BETWEEN WALK AND TOP OF SILL.

⑬ 1/2" PREFORMED JOINT FILLER PER MNDOT SPEC. 3702.

⑭ DIMENSION TO BE SAME AS SIDEWALK THICKNESS, 4" MIN.

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

REVISED:

APPROVED: 1-23-2017

STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 3 OF 6

DATE	REVISION

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Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
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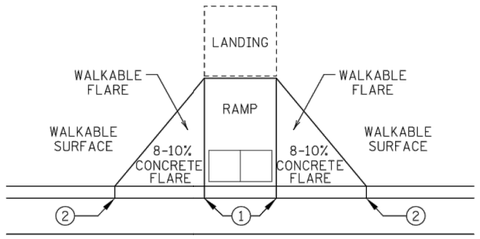
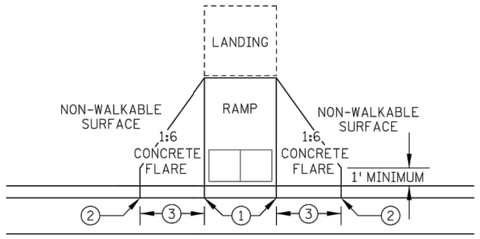
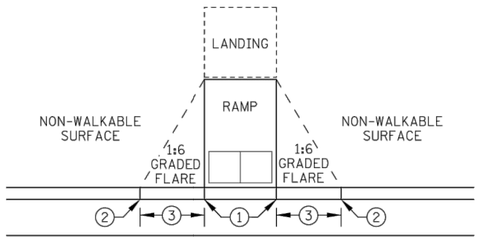
SHEET 7 OF 28 SHEETS



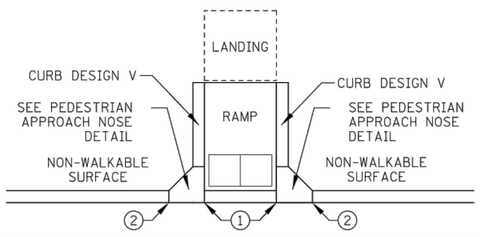
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

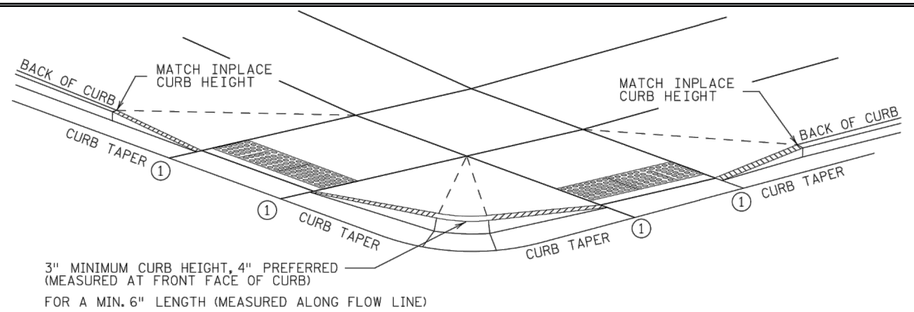


GRADED FLARES

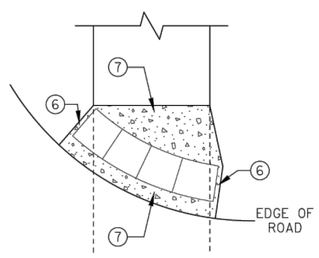


RETURNED CURB ⑤

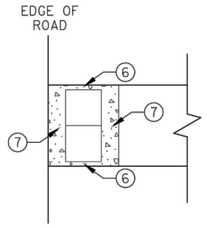
TYPICAL SIDE TREATMENT OPTIONS ④ ⑪



DETECTABLE EDGE WITH ⑧
CURB AND GUTTER

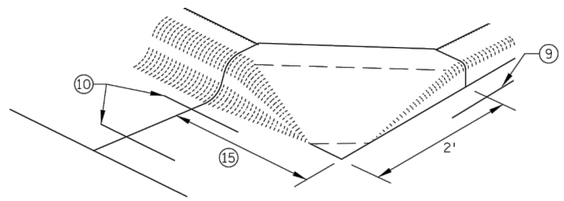


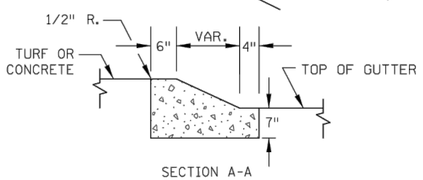
RADIAL DETECTABLE WARNING



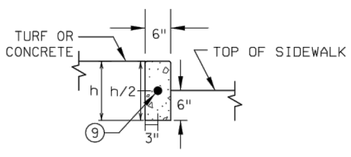
RECTANGULAR DETECTABLE WARNING

DETECTABLE EDGE WITHOUT CURB AND GUTTER

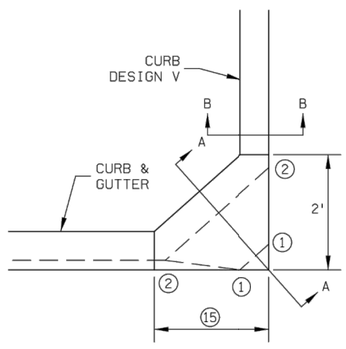




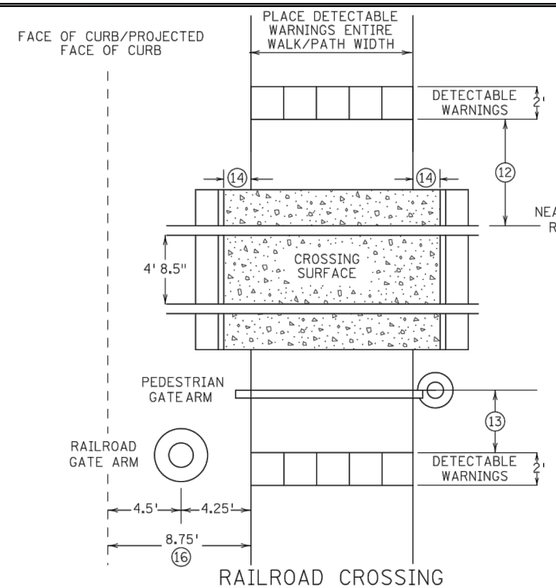
SECTION A-A



SECTION B-B



PEDESTRIAN APPROACH
NOSE DETAIL
(FOR RETURNED CURB
SIDE TREATMENT)



RAILROAD CROSSING
PLAN VIEW

NOTES:

SEE STANDARD PLATE 7038 AND THIS SHEET FOR ADDITIONAL DETAILS ON DETECTABLE WARNING.

A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP WITHOUT RAISED OBSTACLES THAT COULD MISTAKENLY BE TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.

CONCRETE FLARE LENGTHS ADJACENT TO NON-WALKABLE SURFACES SHOULD BE LESS THAN 8' LONG MEASURED ALONG THE RAMPS FROM THE BACK OF CURB.

① 0" CURB HEIGHT.

② FULL CURB HEIGHT.

③ 2' FOR 4" HIGH CURB AND 3' FOR 6" HIGH CURB.

④ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.

⑤ TYPICALLY USED FOR MEDIANS AND ISLANDS.

⑥ WHEN NO CONCRETE FLARES ARE PROPOSED, THE CONCRETE WALK SHALL BE FORMED AND CONSTRUCTED PERPENDICULAR TO THE EDGE OF ROADWAY. MAINTAIN 3" MAX. BETWEEN EDGE OF DOMES AND EDGE OF CONCRETE.

⑦ IF NO CURB AND GUTTER IS PLACED IN RURAL SECTIONS, DETECTABLE WARNINGS SHALL BE PLACED 1' FROM THE EDGE OF BITUMINOUS ROADWAY AND/OR BITUMINOUS SHARED-USE PATH TO PROVIDE VISUAL CONTRAST.

⑧ ALL CONSTRUCTED CURBS MUST HAVE A CONTINUOUS DETECTABLE EDGE FOR THE VISUALLY IMPAIRED. THIS DETECTABLE EDGE REQUIRES DETECTABLE WARNINGS WHEREVER THERE IS ZERO-INCH HIGH CURB. CURB TAPERS ARE CONSIDERED A DETECTABLE EDGE WHEN THE TAPER STARTS WITHIN 3" OF THE EDGE OF THE DETECTABLE WARNINGS AND UNIFORMLY RISES TO A 3-INCH MINIMUM CURB HEIGHT. ANY CURB NOT PART OF A CURB TAPER AND LESS THAN 3 INCHES IN HEIGHT IS NOT CONSIDERED A DETECTABLE EDGE AND THEREFORE IS NOT COMPLIANT WITH ACCESSIBILITY STANDARDS.

⑨ DRILL AND GROUT 1 - NO. 4 12" LONG REINFORCEMENT BAR (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE V CURB.

⑩ DRILL AND GROUT 2 - NO. 4 12" LONG REINFORCEMENT BARS (EPOXY COATED) WITH 3" MIN. COVER. REINFORCEMENT BARS ARE NOT NEEDED IF THE APPROACH NOSE IS POURED INTEGRAL WITH THE CURB AND GUTTER.

⑪ SIDE TREATMENT EXAMPLES SHOWN ARE WHEN THE INITIAL LANDING IS APPROXIMATELY LEVEL WITH THE FULL HEIGHT CURB (I.E. 6' LONG RAMP FOR 6" HIGH CURB). WHEN THE INITIAL LANDING IS MORE THAN 1" BELOW FULL HEIGHT CURB REFER TO SHEETS 1 & 2 TO MODIFY THE CURB HEIGHT TAPERS AND MAINTAIN POSITIVE BOULEVARD DRAINAGE.

⑫ NEAREST EDGE OF DETECTABLE WARNING SURFACES SHALL BE PLACED 12' MINIMUM TO 15' MAXIMUM FROM THE NEAREST RAIL. FOR SKEWED RAILWAYS IN NO INSTANCE SHALL THE DETECTABLE WARNING BE CLOSER THAN 12' MEASURED PERPENDICULAR TO THE NEAREST RAIL.

⑬ WHEN PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL, 2' FROM THE APPROACHING SIDE OF THE GATE ARM. THIS CRITERIA GOVERNS OVER NOTE ⑫.

⑭ CROSSING SURFACE SHALL EXTEND 2' MINIMUM PAST THE OUTSIDE EDGE OF WALK OR SHARED-USE PATH.

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

⑯ SIDEWALK TO BE PLACED 8.75' MIN. FROM THE FACE OF CURB/PROJECTED FACE OF CURB. THIS ENSURES MIN. CLEARANCE BETWEEN THE SIDEWALK AND GATE ARM COUNTERWEIGHT SUPPORTS.

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

REVISED:

APPROVED: 1-23-2017

STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 4 OF 6

DATE	REVISION

Feb 14, 2018 - 3:25pm
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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

BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

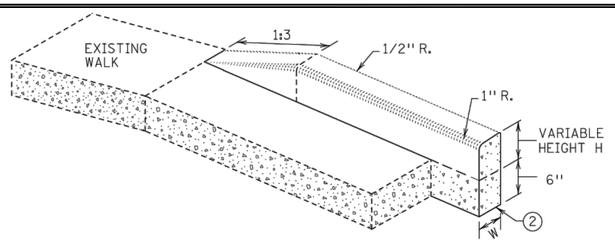
DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 2/14/18
CHECKED BY:	BRW	FILE No. 18-00

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

MNDOT PED RAMP DETAILS

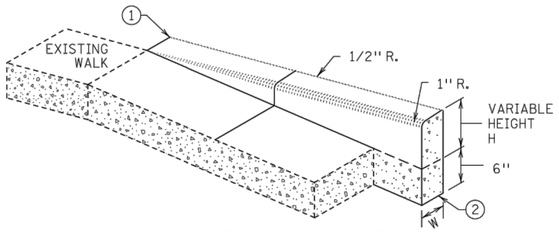
STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 8 OF 28 SHEETS



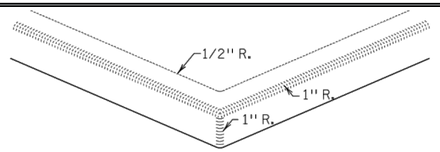
V CURB ADJACENT TO LANDSCAPE

CURB WITHIN SIDEWALK LIMITS

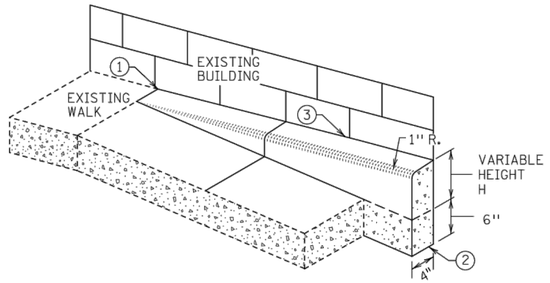


V CURB ADJACENT TO LANDSCAPE

CURB OUTSIDE SIDEWALK LIMITS

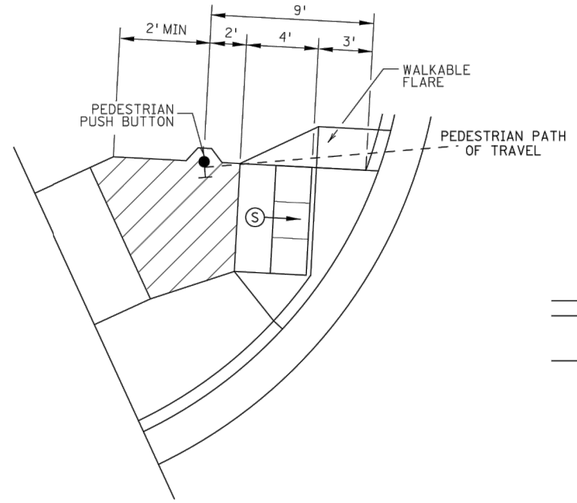


V CURB INTERSECTION



V CURB ADJACENT TO BUILDING OR BARRIER

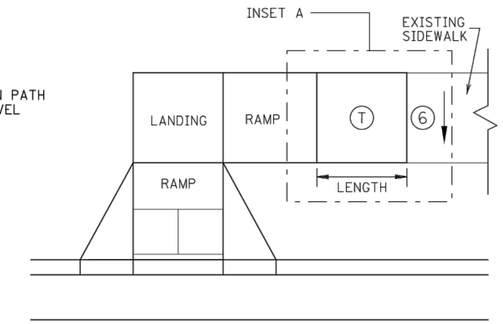
CONCRETE CURB DESIGN V	
CURB HEIGHT H	CURB WIDTH W
< 6"	4"
≥ 6"	6"

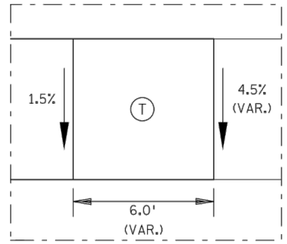


SEMI-DIRECTIONAL RAMP (3,4,9)

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

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





TRANSITION PANEL ④⑤

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) EDGE BETWEEN NEW V CURB AND INPLACE STRUCTURE SHALL BE SEALED AND BOND BREAKER SHALL BE USED BETWEEN EXISTING STRUCTURE AND PLACED V-CURB.

(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.

(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%.

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.

(T) 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.

PLAN VIEW

PLAN VIEW

SECTION B-B

SECTION A-A

SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)

PUSH BUTTON STATION (V-CURB)

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

REVISED:

APPROVED: 1-23-2017

STATE DESIGN ENGINEER

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 5 OF 6

DATE	REVISION

Feb 14, 2018 - 3:26pm
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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

BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 2/14/18
CHECKED BY:	BRW	FILE No. 18-00

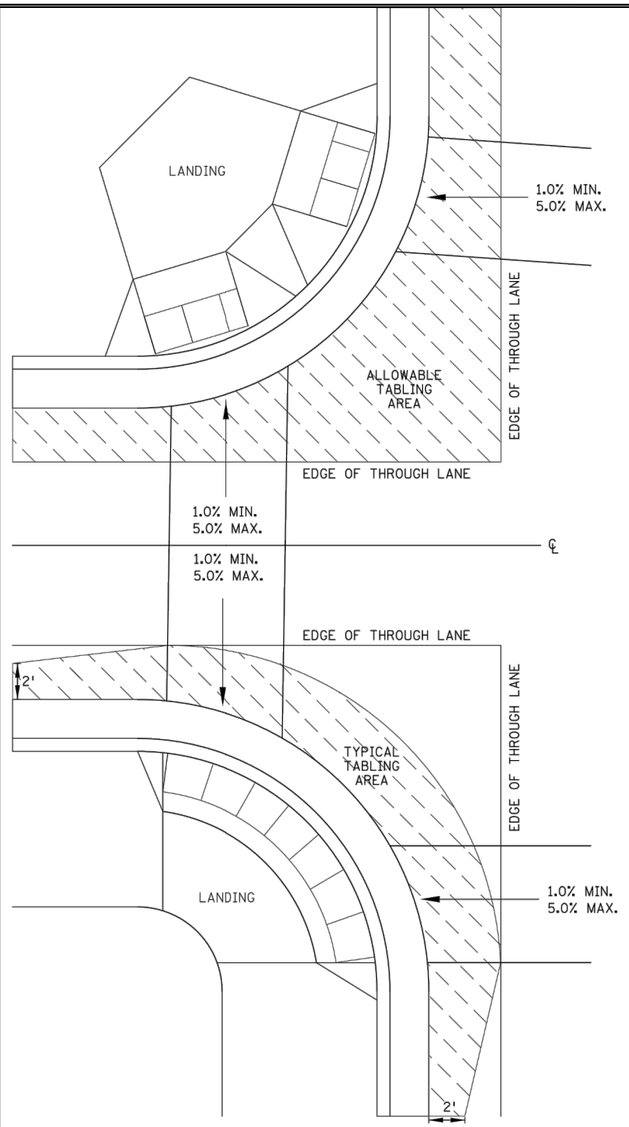
City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

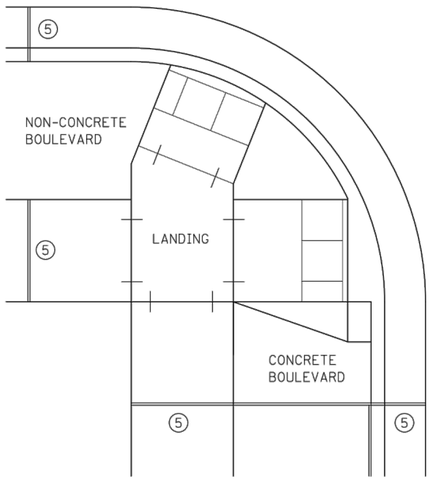
MNDOT PED RAMP DETAILS

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

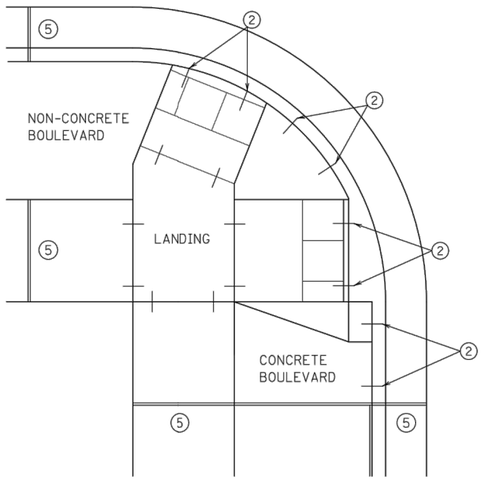
SHEET 9 OF 28 SHEETS



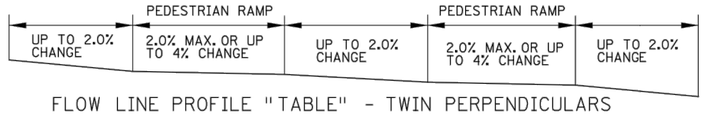
CURB LINE AND ROAD CROSSING ADJUSTMENTS



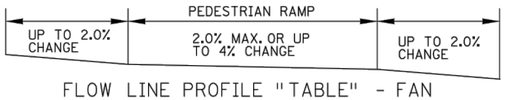
EXPANSION MATERIAL PLACEMENT FOR CONCRETE AND BITUMINOUS ROADWAYS



OPTIONAL CURB LINE REINFORCEMENT PLACEMENT ON BITUMINOUS ROADWAYS ④



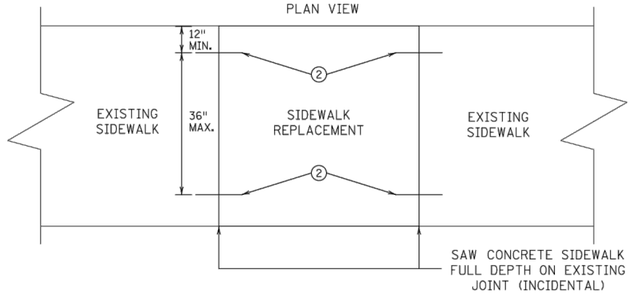
FLOW LINE PROFILE "TABLE" - TWIN PERPENDICULARS



FLOW LINE PROFILE "TABLE" - FAN

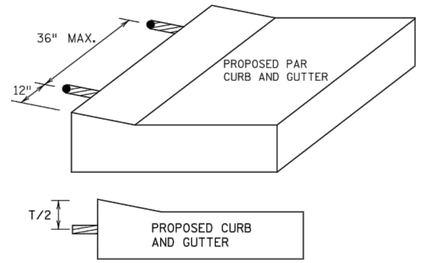
FLOW LINE PROFILE RAISE - TWIN PERPENDICULARS

FLOW LINE PROFILE RAISE - FAN

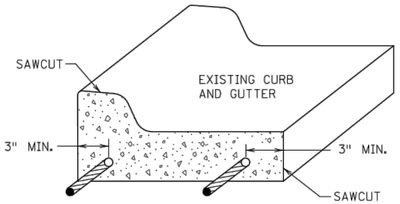


OPTIONAL SIDEWALK REINFORCEMENT

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

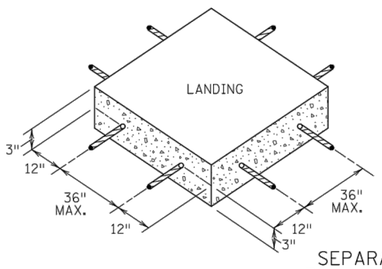


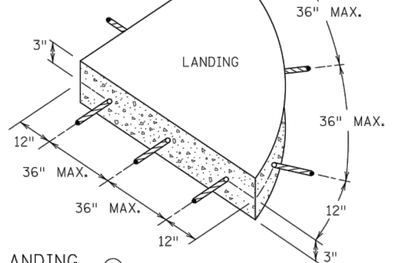
OPTIONAL CURB LINE REINFORCEMENT DETAILS ②④



FOR USE ON CURB RAMP RETROFITS

CURB AND GUTTER REINFORCEMENT ③





SEPARATE LANDING POUR REINFORCEMENT ①

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

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

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

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

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

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

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

NOTES:

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

REVISION:

APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

MINNESOTA DEPARTMENT OF TRANSPORTATION

REVISED:

STATE DESIGN ENGINEER

APPROVED: 1-23-2017

PEDESTRIAN CURB RAMP DETAILS

STANDARD PLAN 5-297.250 | 6 OF 6

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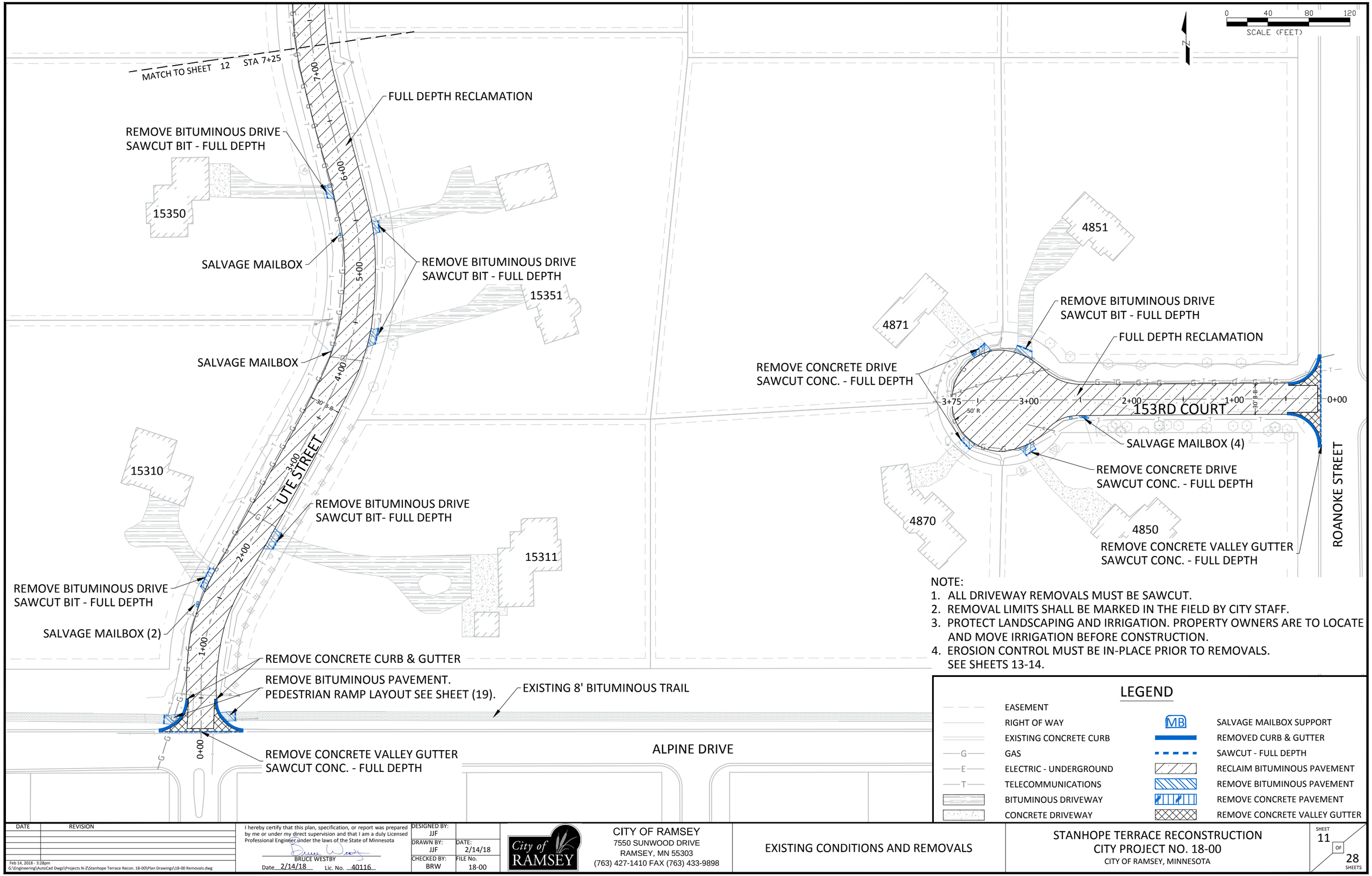
CITY OF RAMSEY, MINNESOTA

SHEET 10 OF 28 SHEETS



NOTE:

1. ALL DRIVEWAY REMOVALS MUST BE SAWCUT.
2. REMOVAL LIMITS SHALL BE MARKED IN THE FIELD BY CITY STAFF.
3. PROTECT LANDSCAPING AND IRRIGATION. PROPERTY OWNERS ARE TO LOCATE AND MOVE IRRIGATION BEFORE CONSTRUCTION.
4. EROSION CONTROL MUST BE IN-PLACE PRIOR TO REMOVALS. SEE SHEETS 13-14.

LEGEND

	EASEMENT		
	RIGHT OF WAY	MB	SALVAGE MAILBOX SUPPORT
	EXISTING CONCRETE CURB		REMOVED CURB & GUTTER
G	GAS		SAWCUT - FULL DEPTH
E	ELECTRIC - UNDERGROUND		RECLAIM BITUMINOUS PAVEMENT
T	TELECOMMUNICATIONS		REMOVE BITUMINOUS PAVEMENT
	BITUMINOUS DRIVEWAY		REMOVE CONCRETE PAVEMENT
	CONCRETE DRIVEWAY		REMOVE CONCRETE VALLEY GUTTER

DATE	REVISION

Feb 14, 2018 - 3:28pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Removals.dwg

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

BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

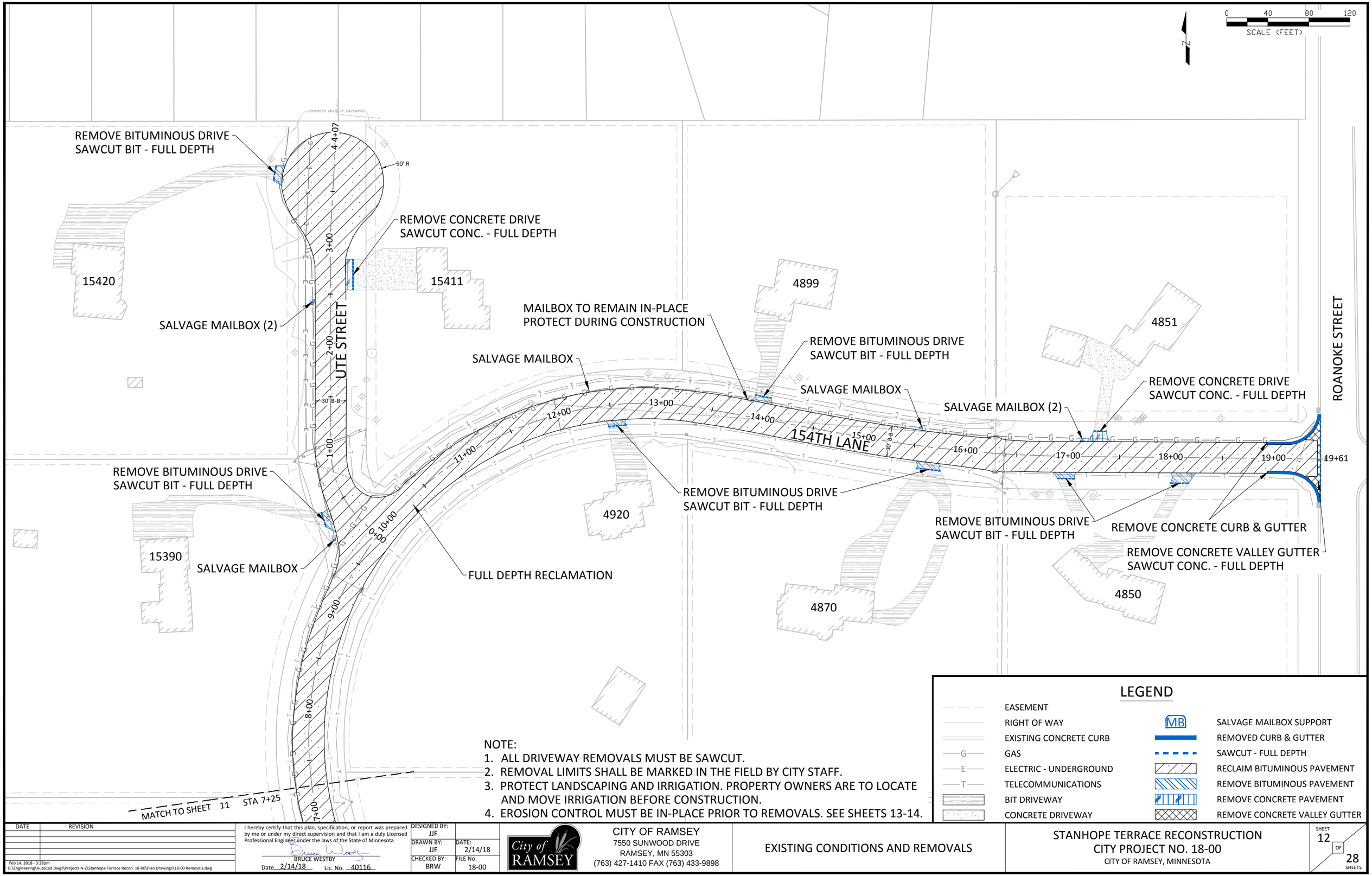
City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

EXISTING CONDITIONS AND REMOVALS

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 11 OF 28 SHEETS



NOTE:

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2. REMOVAL LIMITS SHALL BE MARKED IN THE FIELD BY CITY STAFF.
3. PROTECT LANDSCAPING AND IRRIGATION. PROPERTY OWNERS ARE TO LOCATE AND MOVE IRRIGATION BEFORE CONSTRUCTION.
4. EROSION CONTROL MUST BE IN-PLACE PRIOR TO REMOVALS. SEE SHEETS 13-14.

LEGEND

- EASEMENT
- RIGHT OF WAY
- EXISTING CONCRETE CURB
- G — GAS
- E — ELECTRIC - UNDERGROUND
- T — TELECOMMUNICATIONS
- BIT DRIVEWAY
- CONCRETE DRIVEWAY
- MB — SALVAGE MAILBOX SUPPORT
- REMOVED CURB & GUTTER
- SAWCUT - FULL DEPTH
- RECLAIM BITUMINOUS PAVEMENT
- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE PAVEMENT
- REMOVE CONCRETE VALLEY GUTTER

DATE	REVISION

Feb 14, 2018 - 3:28pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Removals.dwg

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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

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CHECKED BY:	BRW	FILE No.	18-00

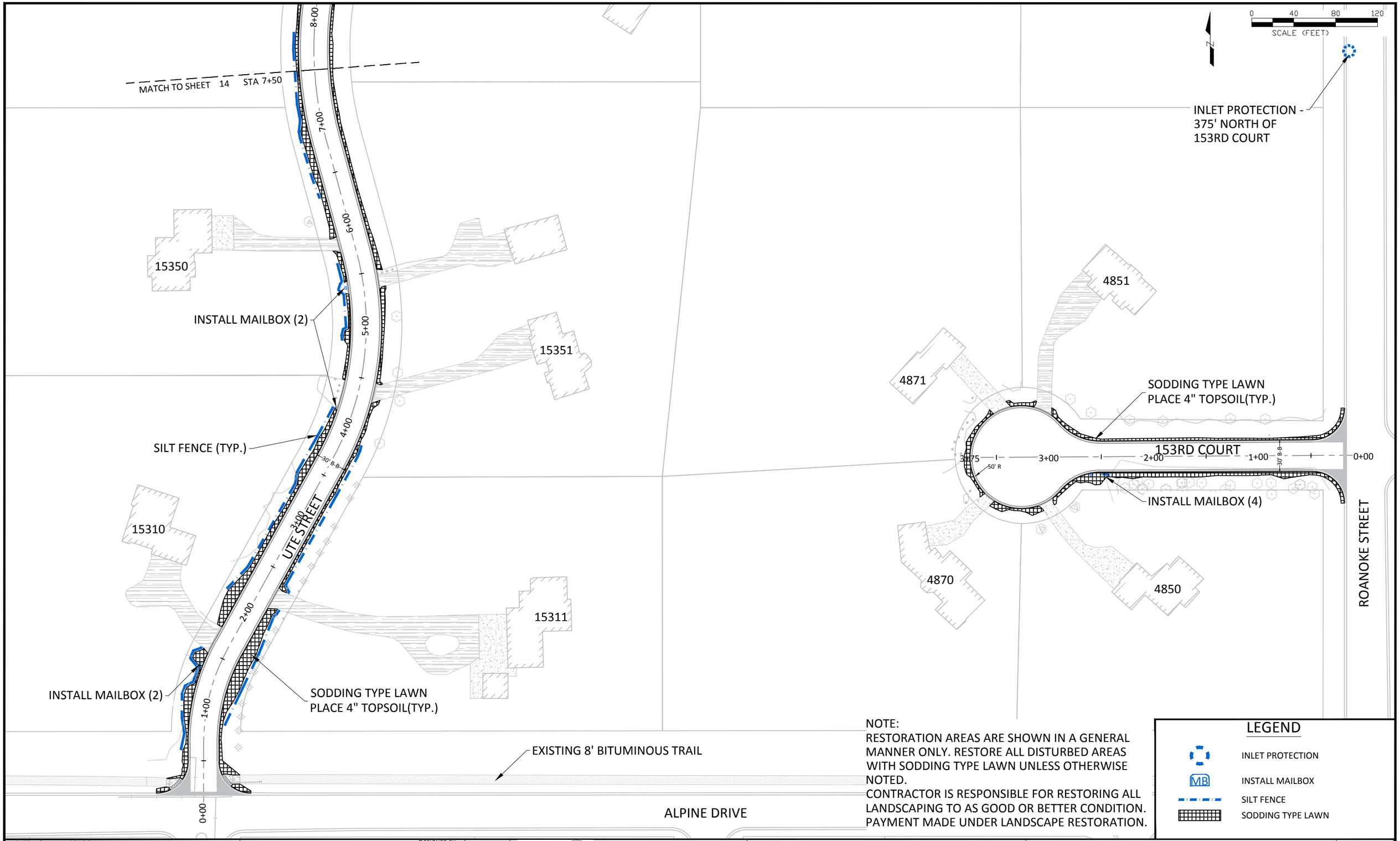
City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

EXISTING CONDITIONS AND REMOVALS

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 12 OF 28 SHEETS



NOTE:
RESTORATION AREAS ARE SHOWN IN A GENERAL MANNER ONLY. RESTORE ALL DISTURBED AREAS WITH SODDING TYPE LAWN UNLESS OTHERWISE NOTED.
CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL LANDSCAPING TO AS GOOD OR BETTER CONDITION. PAYMENT MADE UNDER LANDSCAPE RESTORATION.

LEGEND

- INLET PROTECTION
- MB — INSTALL MAILBOX
- SILT FENCE
- SODDING TYPE LAWN

DATE	REVISION

Feb 14, 2018 - 3:30pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Erosion Control and Restoration.dwg

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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

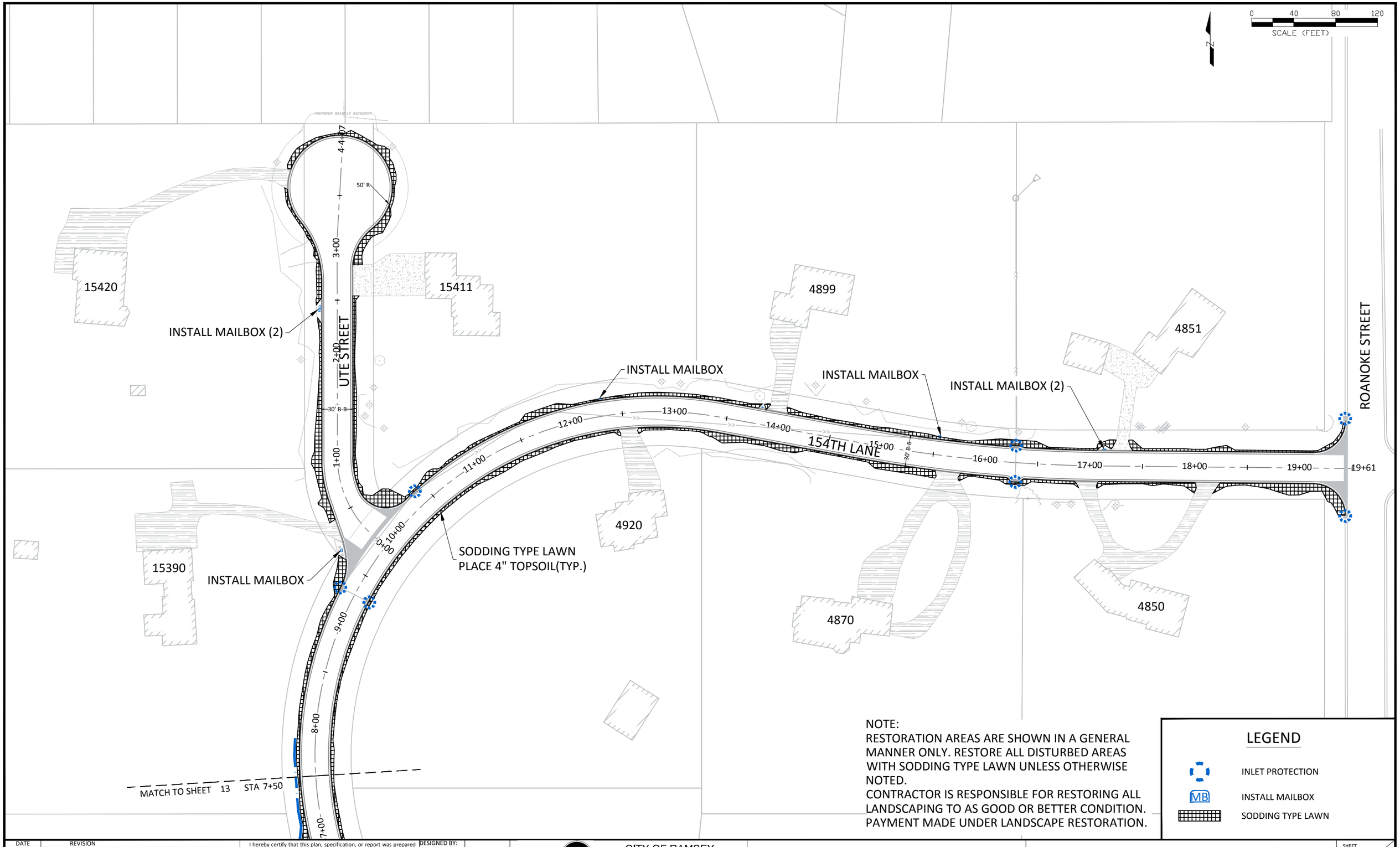
City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

EROSION CONTROL AND RESTORATION

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 13 OF 28 SHEETS



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LEGEND

- INLET PROTECTION
- MB — INSTALL MAILBOX
- SODDING TYPE LAWN

DATE	REVISION

Feb 14, 2018 - 3:31pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Erosion Control and Restoration.dwg

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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

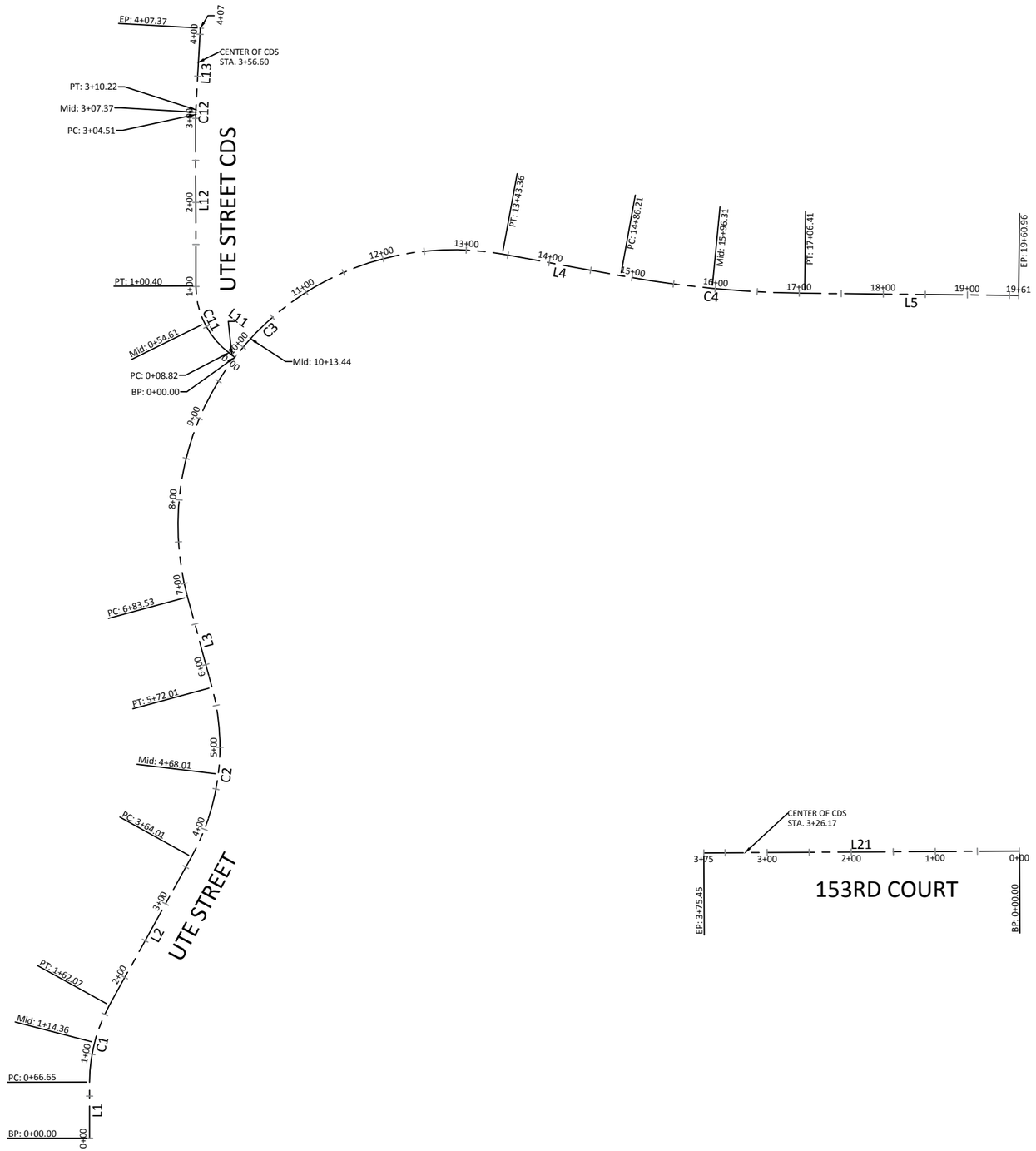
City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

EROSION CONTROL AND RESTORATION

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 14 OF 28 SHEETS



0 75 150 225
SCALE (FEET)

UTE STREET CL ALIGNMENT

ALIGMENT LINE TABLE				
Line #	Length	Direction	Start Point	End Point
L1	66.646	N00° 03' 44.84"W	(467497.3889,177747.9076)	(467497.3163,177814.5531)
L2	201.936	N28° 57' 53.16"E	(467520.8762,177905.9741)	(467618.6681,178082.6516)
L3	111.517	N15° 09' 56.84"W	(467643.0424,178284.0847)	(467613.8681,178391.7179)
L4	142.851	S79° 39' 56.84"E	(467988.5057,178799.3585)	(468129.0389,178773.7326)
L5	254.549	S89° 24' 59.39"E	(468347.9755,178752.8100)	(468602.5110,178750.2178)

ALIGNMENT CURVE TABLE					
Curve #	Radius	Length	Chord Direction	Start Point	End Point
C1	188.357	95.425	N14° 27' 04.16"E	(467497.3163,177814.5531)	(467520.8762,177905.9741)
C2	270.059	208.006	N06° 53' 58.16"E	(467618.6681,178082.6516)	(467643.0424,178284.0847)
C3	327.319	659.829	N42° 35' 03.16"E	(467613.8681,178391.7179)	(467988.5057,178799.3585)
C4	1293.907	220.200	S84° 32' 28.11"E	(468129.0389,178773.7326)	(468347.9755,178752.8100)

UTE STREET CUL-DE-SAC ALIGNMENT

ALIGMENT LINE TABLE				
Line #	Length	Direction	Start Point	End Point
L11	8.816	N52° 32' 33.46"W	(467670.0243,178676.7035)	(467663.0265,178682.0649)
L12	204.115	N00° 04' 14.58"W	(467623.8436,178761.3221)	(467623.5917,178965.4365)
L13	97.143	N03° 12' 08.66"E	(467623.7478,178971.1462)	(467629.1745,179068.1374)

ALIGNMENT CURVE TABLE					
Curve #	Radius	Length	Chord Direction	Start Point	End Point
C11	100.000	91.581	N26° 18' 24.02"W	(467663.0265,178682.0649)	(467623.8436,178761.3221)
C12	100.000	5.713	N01° 33' 57.04"E	(467623.5917,178965.4365)	(467623.7478,178971.1462)

153RD COURT CUL-DE-SAC ALIGNMENT

ALIGMENT LINE TABLE				
Line #	Length	Direction	Start Point	End Point
L21	375.449	S89° 40' 03.71"W	(468603.4126,178089.4217)	(468227.9695,178087.2442)

DATE	REVISION

Feb 14, 2018 - 3:32pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Cover and Notes.dwg

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

BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

DESIGNED BY:	
JJF	
DRAWN BY:	DATE:
JJF	2/14/18
CHECKED BY:	FILE No.
BRW	18-00

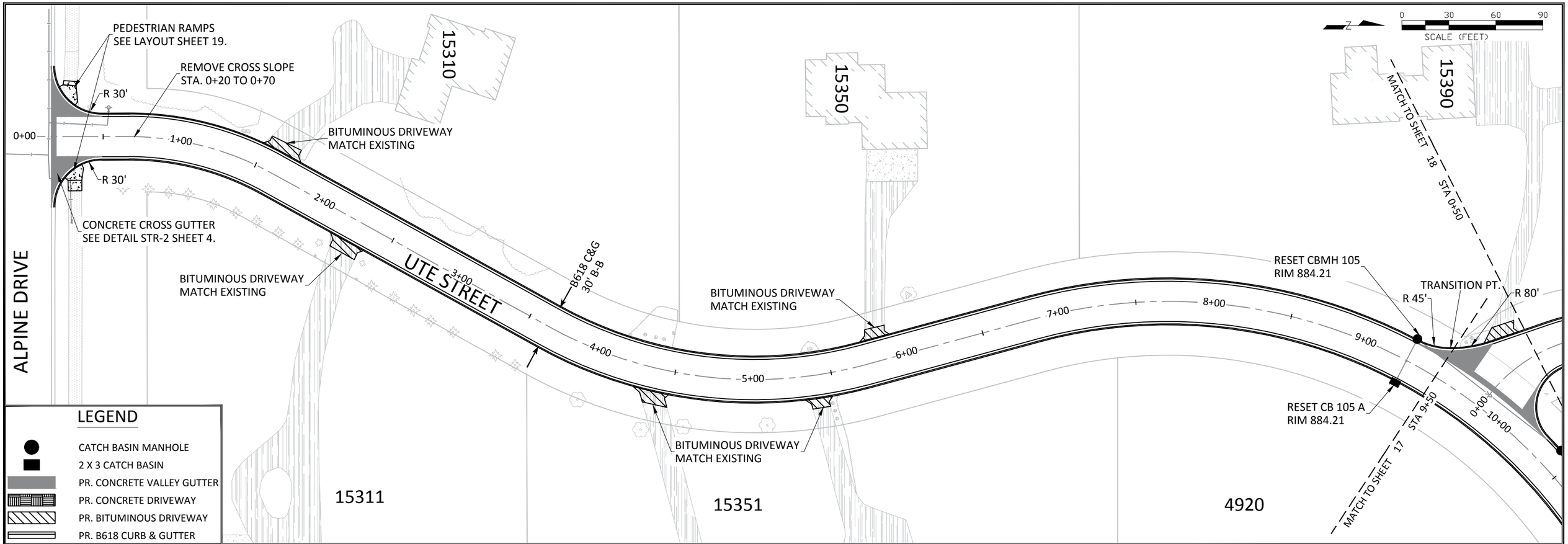
City of RAMSEY

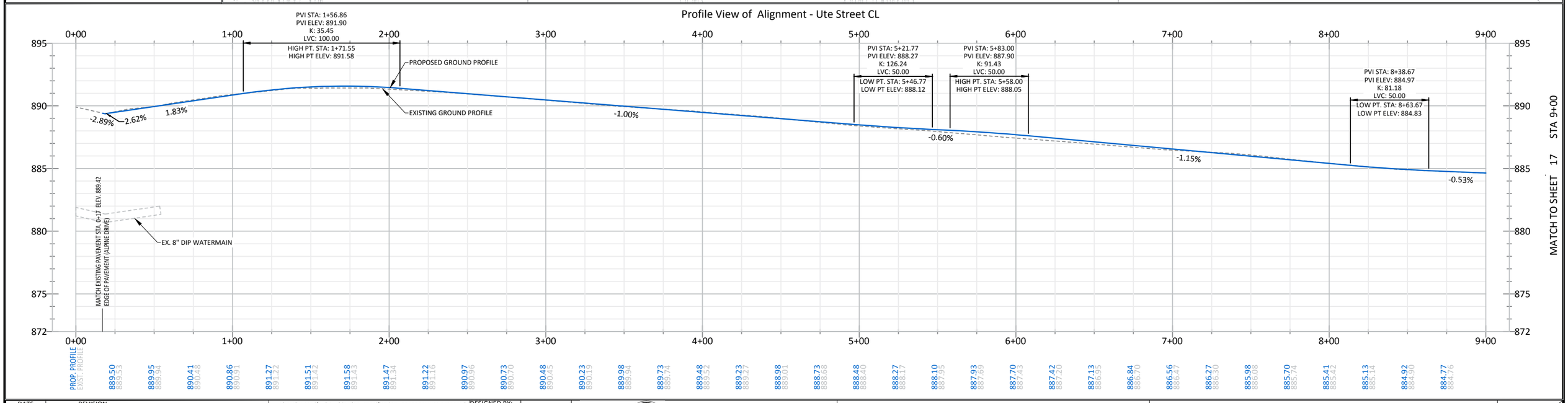
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

ALIGNMENT LAYOUT

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 15 OF 28 SHEETS





DATE	REVISION

Feb 14, 2018 - 3:34pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Street and Storm.dwg

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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

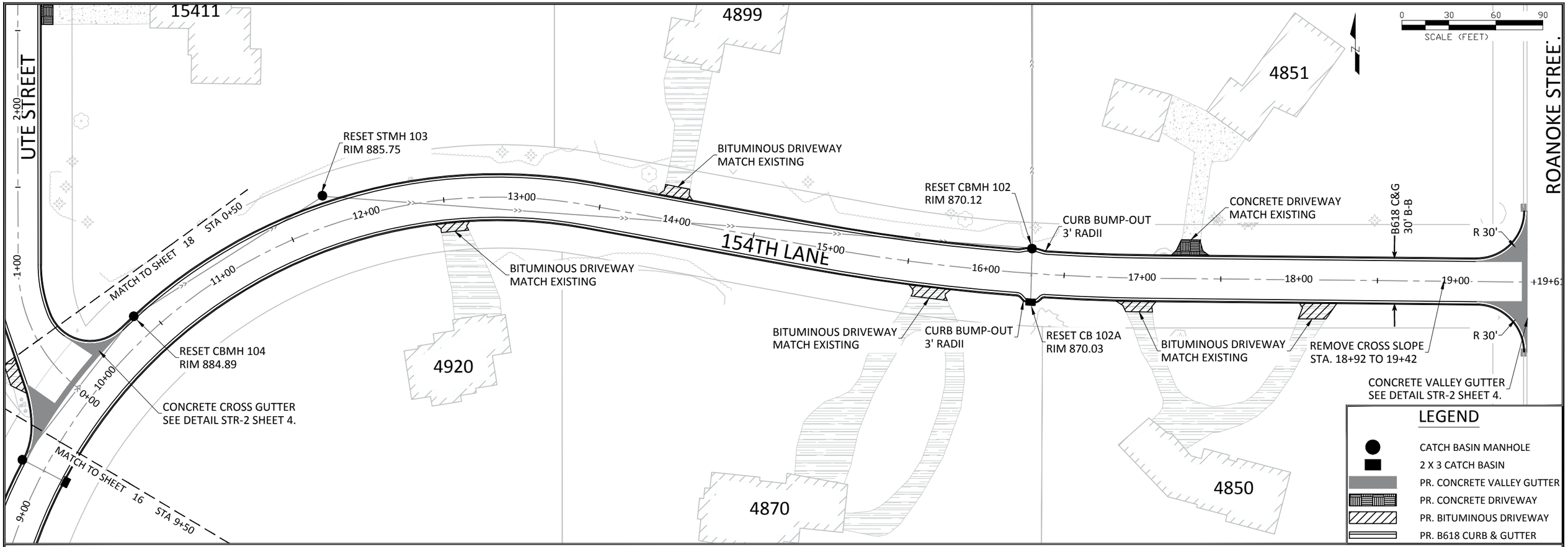
DESIGNED BY:	JJF
DRAWN BY:	JJF
DATE:	2/14/18
CHECKED BY:	BRW
FILE No.	18-00

City of RAMSEY
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

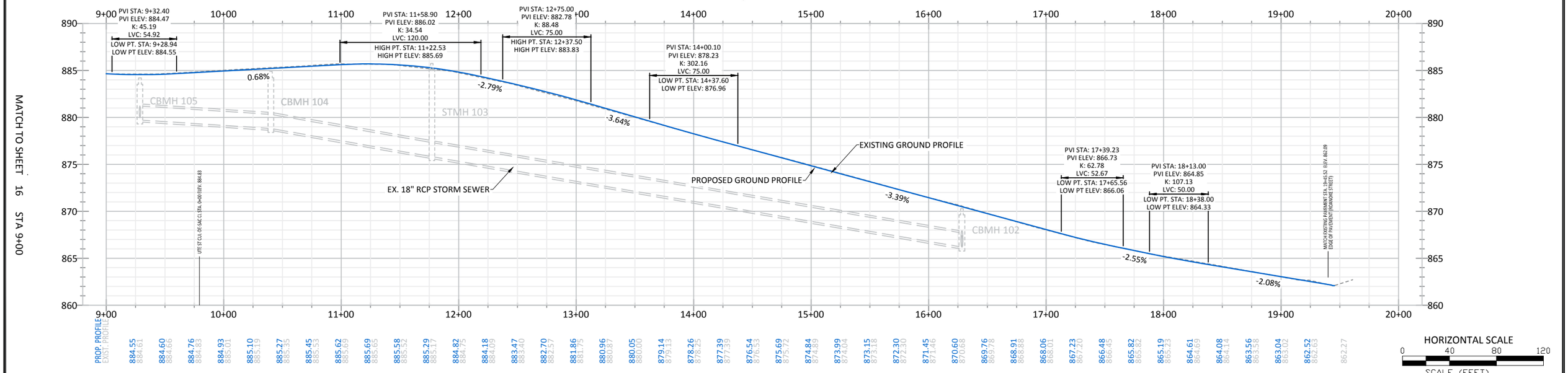
STREET AND STORM - UTE STREET

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 16 OF 28 SHEETS



Profile View of Alignment - Ute Street CL



DATE	REVISION

Feb 14, 2018 - 3:34pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Street and Storm.dwg

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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

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CHECKED BY:	BRW	FILE No.	18-00

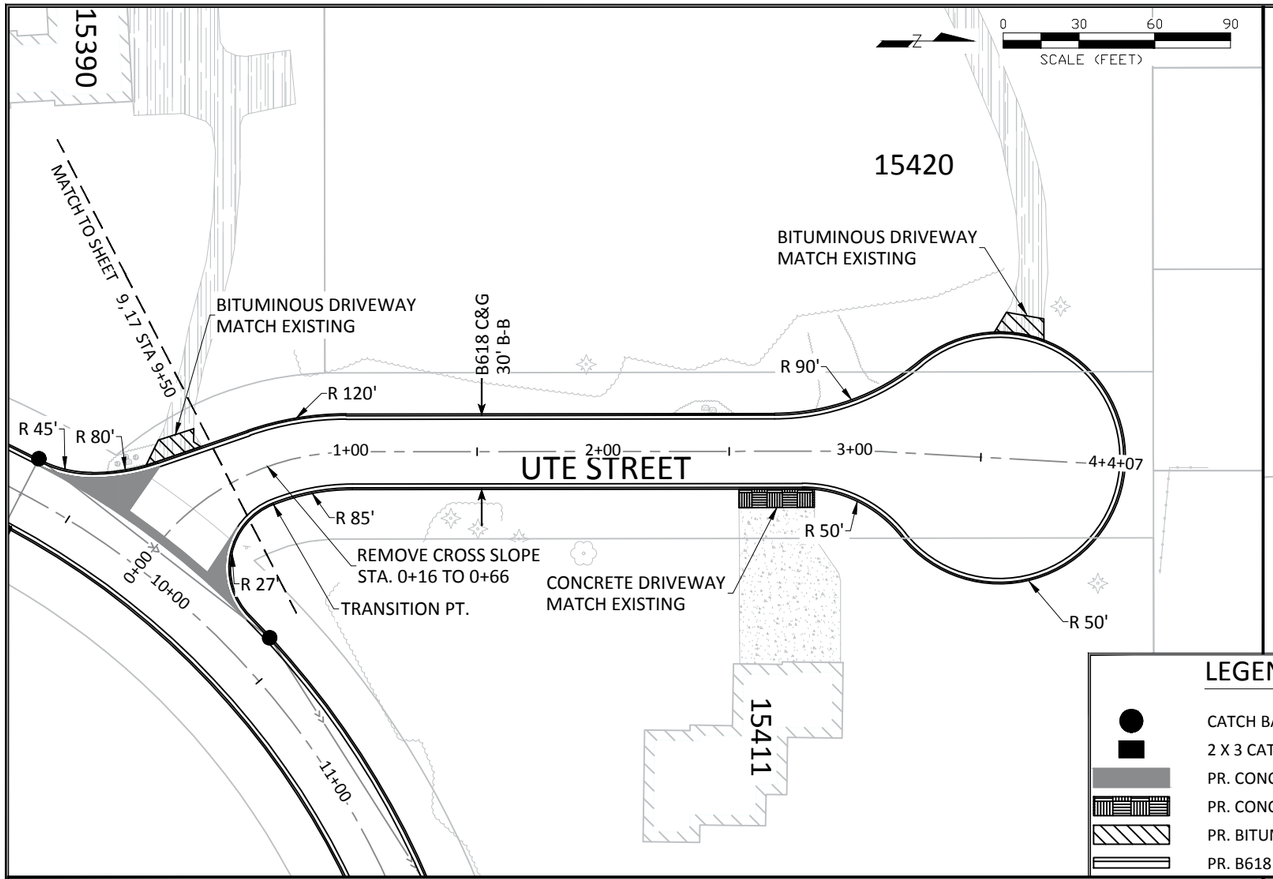
City of RAMSEY

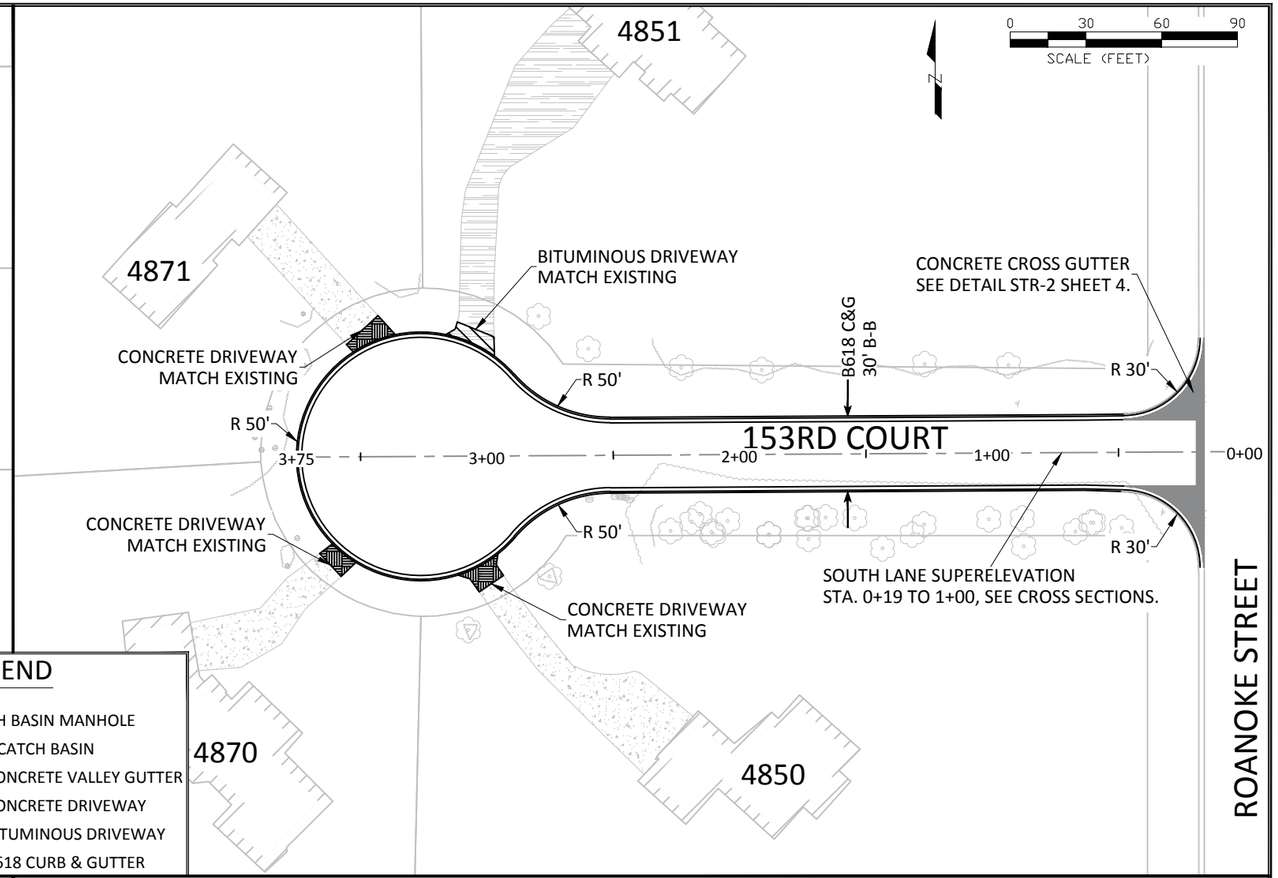
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

STREET AND STORM - 154TH LANE

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 17 OF 28 SHEETS

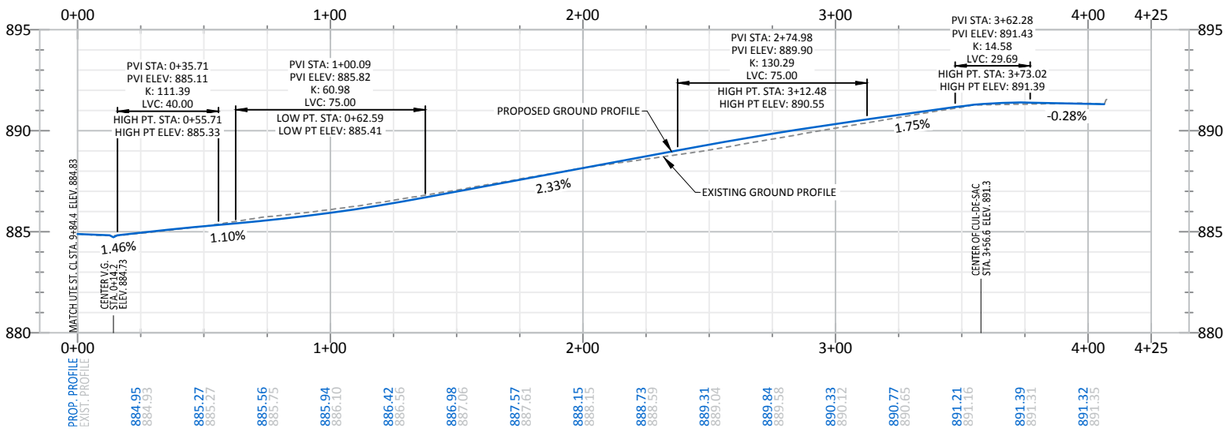




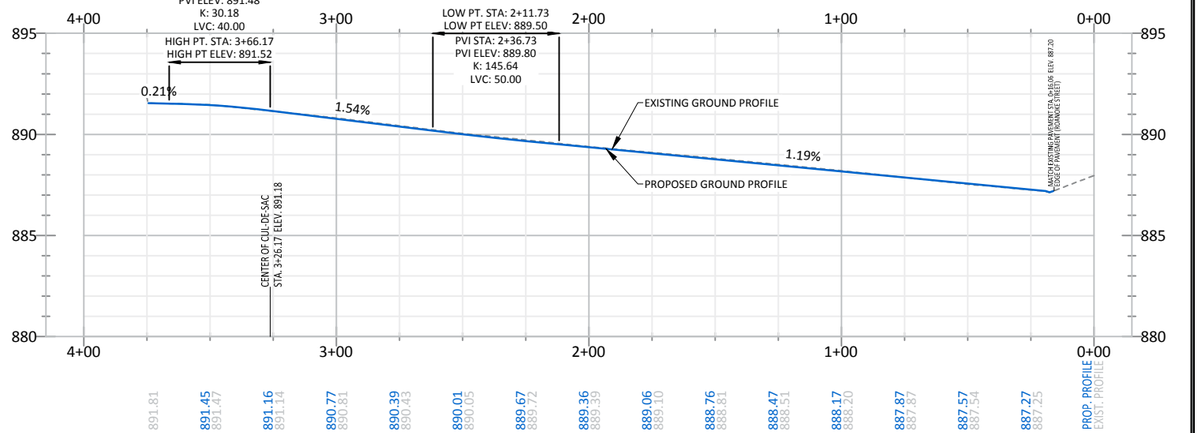
LEGEND

- CATCH BASIN MANHOLE
- 2 X 3 CATCH BASIN
- PR. CONCRETE VALLEY GUTTER
- PR. CONCRETE DRIVEWAY
- PR. BITUMINOUS DRIVEWAY
- PR. B618 CURB & GUTTER

Profile View of Alignment - Ute CDS CL



Profile View of Alignment - 153rd Crt CL



DATE	REVISION

Feb 14, 2018 - 3:35pm
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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

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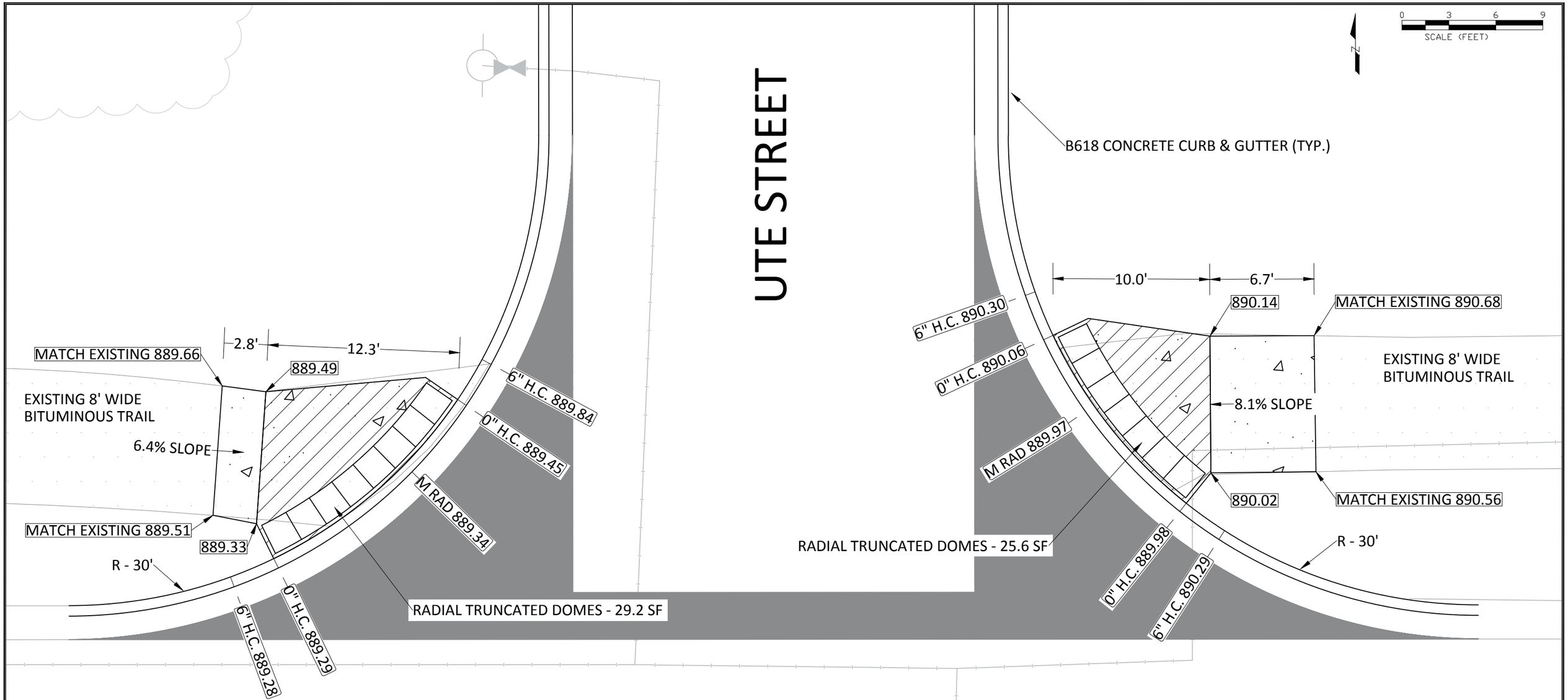
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

STREET AND STORM - UTE STREET CDS & 153RD COURT

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA



ALPINE DRIVE

LEGEND

0" H.C. XXX.XX	PROPOSED SPOT ELEV. ZERO HEIGHT CURB AT BACK OF CURB
6" H.C. XXX.XX	PROPOSED SPOT ELEV. FULL HEIGHT CURB AT BACK OF CURB
XXX.XX	PROPOSED SPOT ELEV.
	LANDING AREA - MAX 2% SLOPE IN ALL DIRECTIONS.

DATE	REVISION

Feb 14, 2018 - 3:36pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 Ped Xing.dwg

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Bruce Westby

BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

City of RAMSEY

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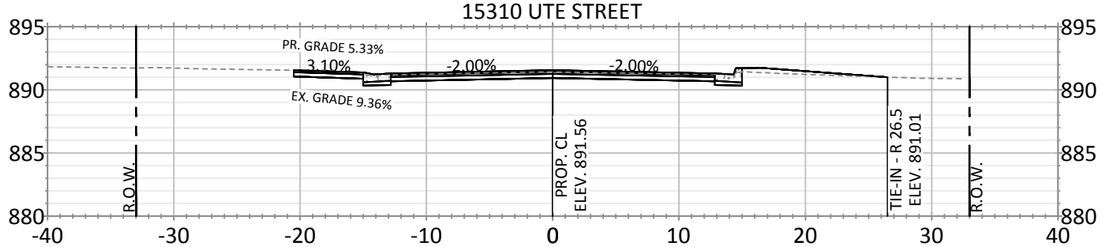
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

UTE STREET PEDESTRIAN RAMP LAYOUTS

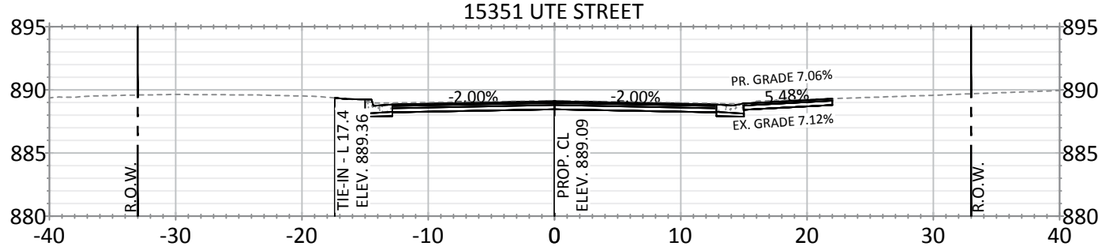
STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 19 OF 28 SHEETS

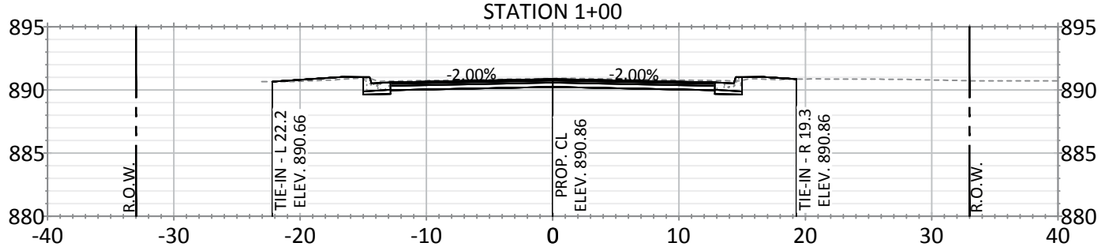
STATION 1+61
15310 UTE STREET



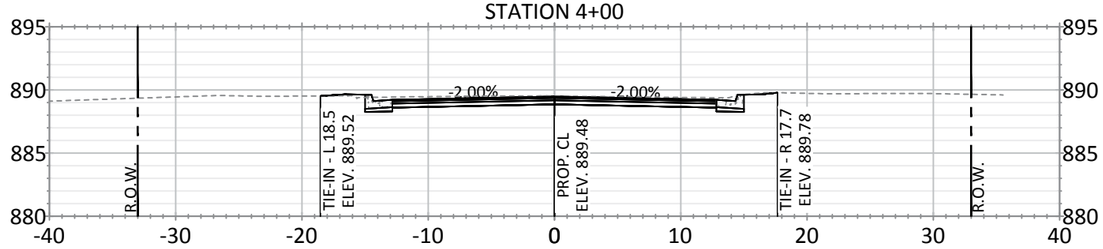
STATION 4+39
15351 UTE STREET



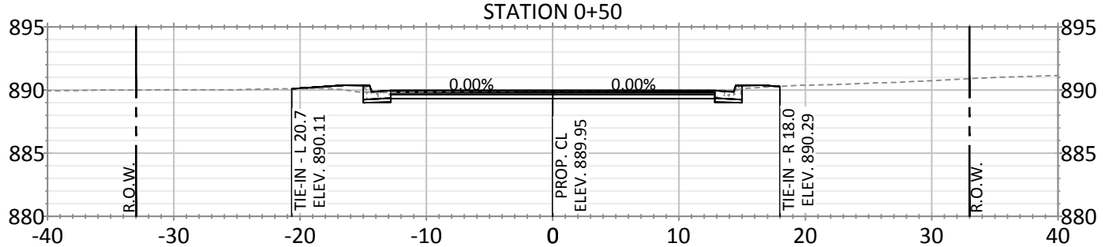
STATION 1+00



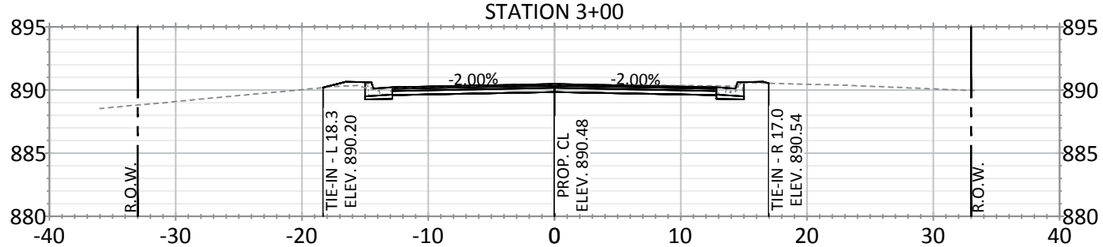
STATION 4+00



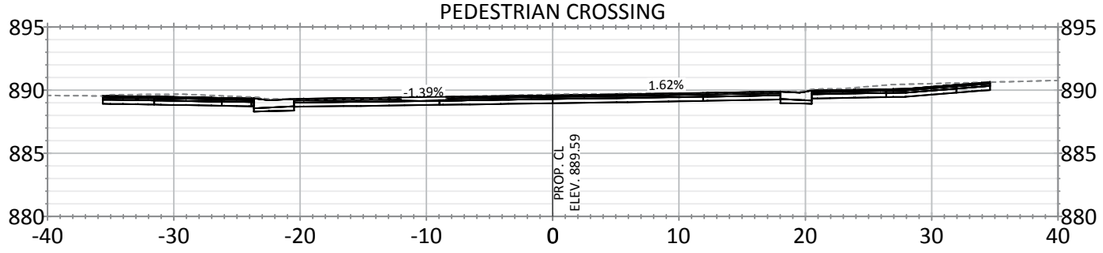
STATION 0+50



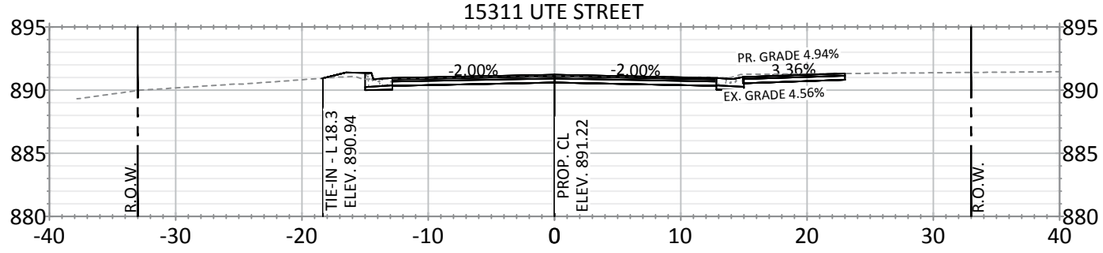
STATION 3+00



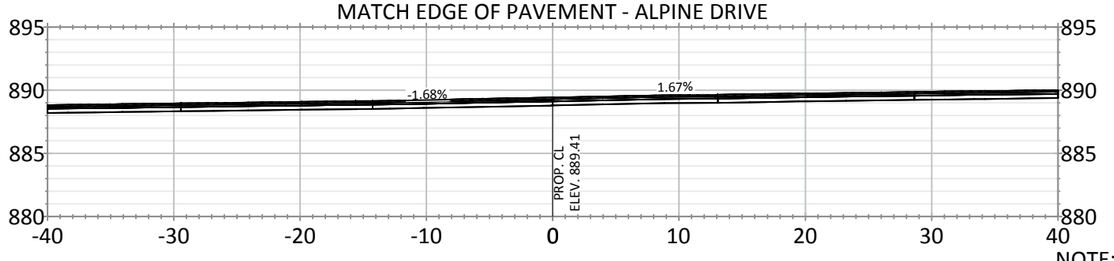
STATION 0+30
PEDESTRIAN CROSSING



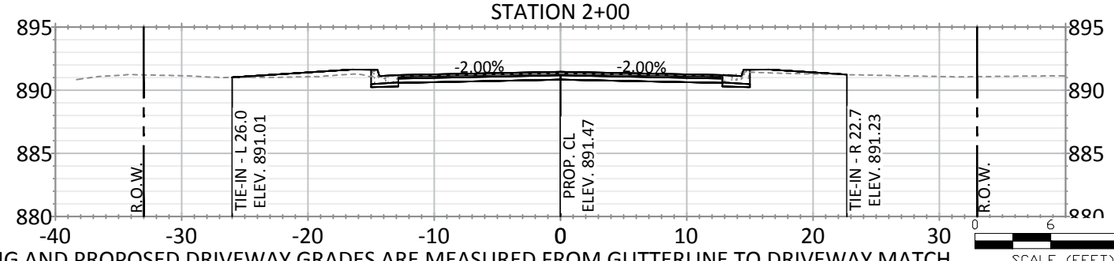
STATION 2+25
15311 UTE STREET



STATION 0+17
MATCH EDGE OF PAVEMENT - ALPINE DRIVE



STATION 2+00



0 6 12 18
SCALE (FEET)

NOTE: EXISTING AND PROPOSED DRIVEWAY GRADES ARE MEASURED FROM GUTTERLINE TO DRIVEWAY MATCH.

DATE	REVISION

Feb 14, 2018 - 3:40pm
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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

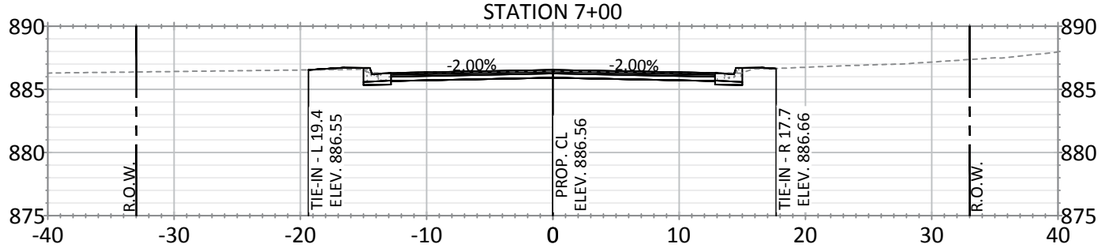
DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

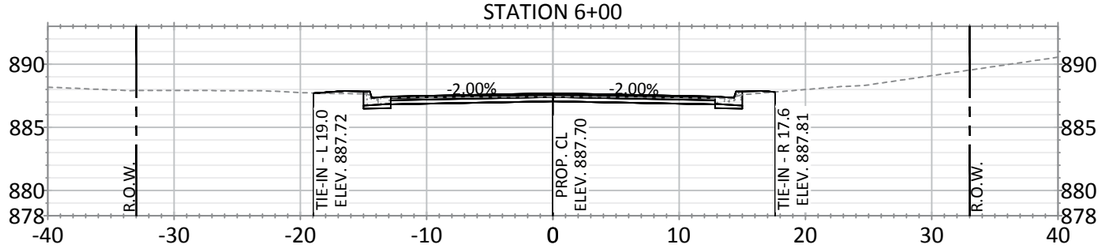
CROSS SECTIONS - UTE STREET & 154TH LANE

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

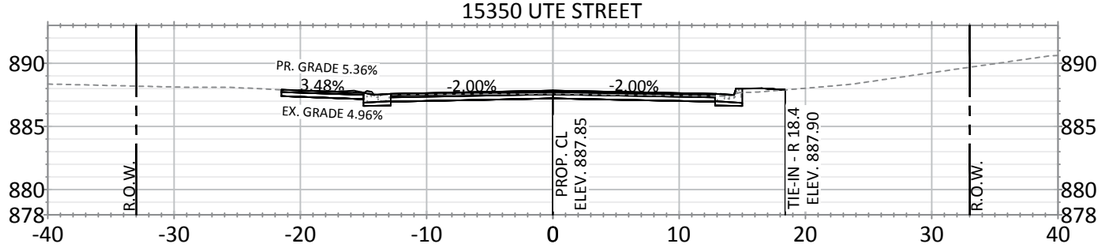
STATION 7+00



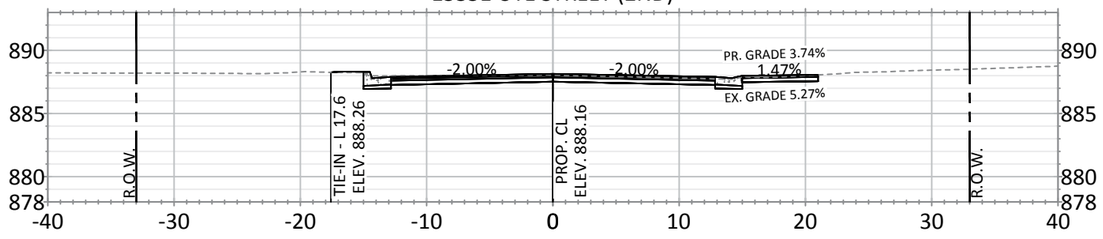
STATION 6+00



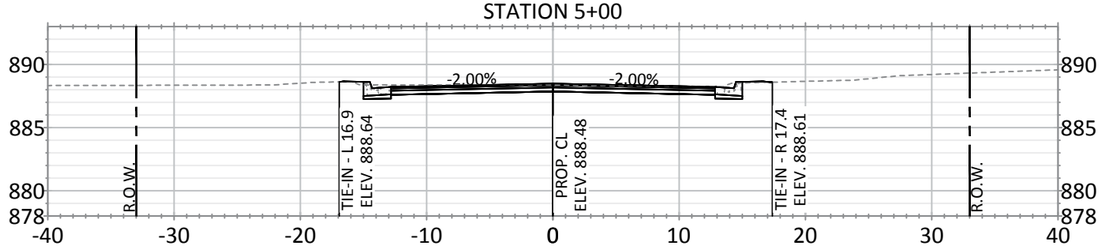
STATION 5+85
15350 UTE STREET



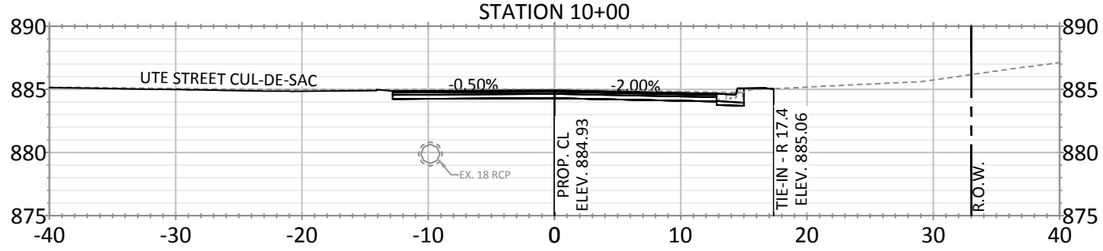
STATION 5+41
15351 UTE STREET (2ND)



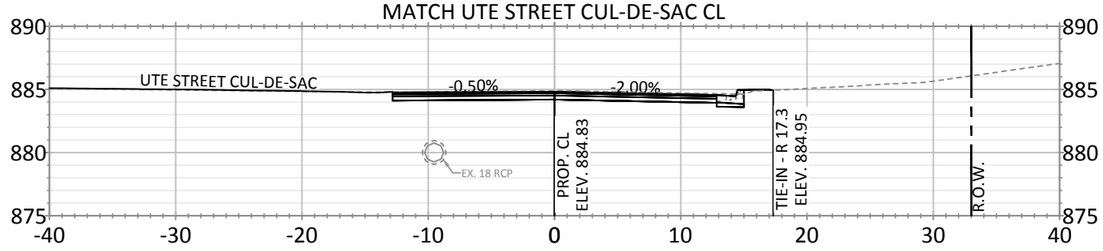
STATION 5+00



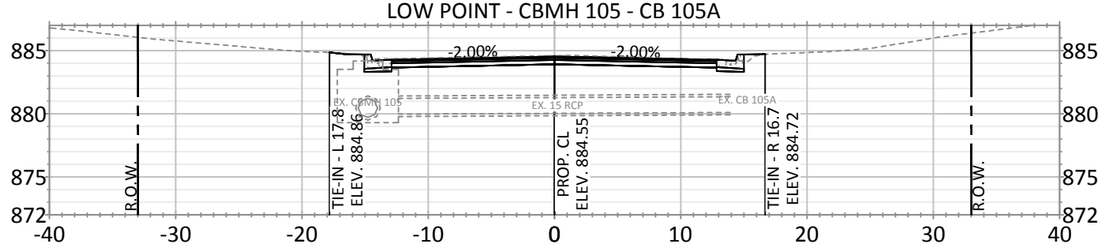
STATION 10+00



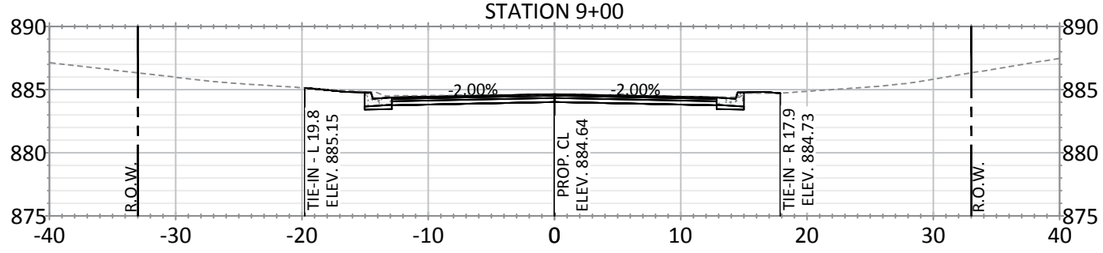
STATION 9+84
MATCH UTE STREET CUL-DE-SAC CL



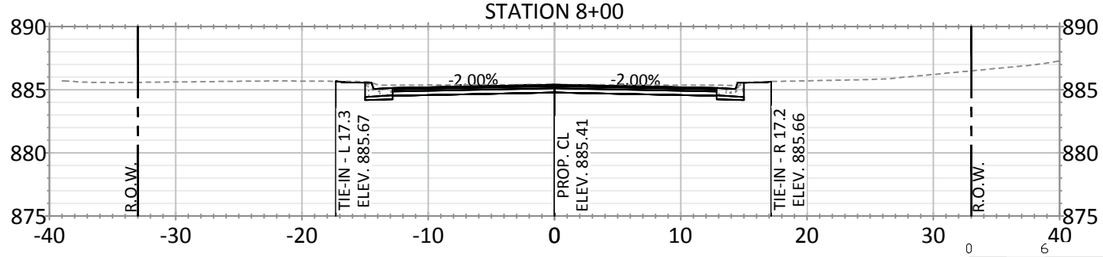
STATION 9+29
LOW POINT - CBMH 105 - CB 105A



STATION 9+00



STATION 8+00



0 6 12 18
SCALE (FEET)

NOTE: EXISTING AND PROPOSED DRIVEWAY GRADES ARE MEASURED FROM GUTTERLINE TO DRIVEWAY MATCH.

DATE	REVISION

Feb 14, 2018 - 3:40pm
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BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

CROSS SECTIONS - UTE STREET & 154TH LANE

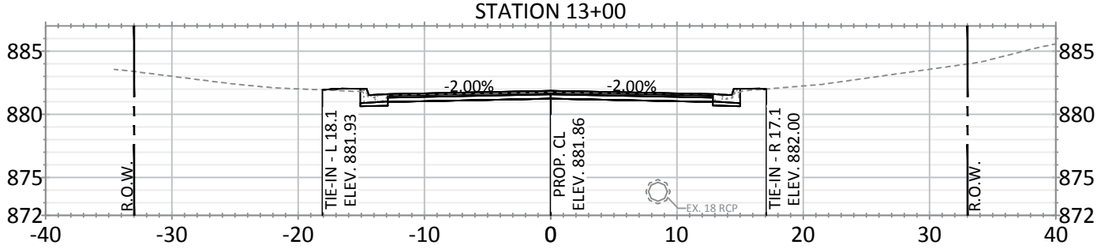
STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 21 OF 28 SHEETS

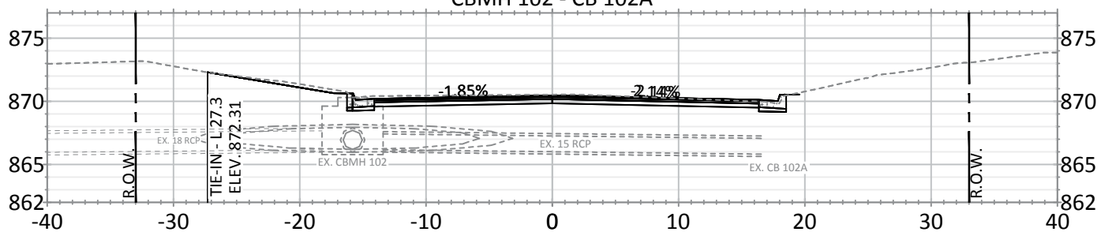
NOTE: EXISTING AND PROPOSED DRIVEWAY GRADES ARE MEASURED FROM GUTTERLINE TO DRIVEWAY MATCH.

0 6 12 18
SCALE (FEET)

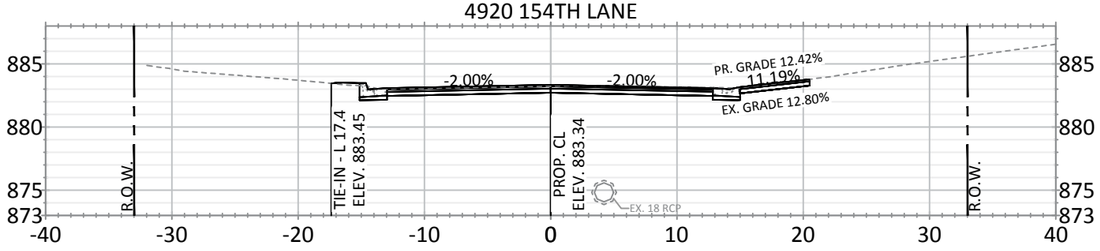
STATION 13+00



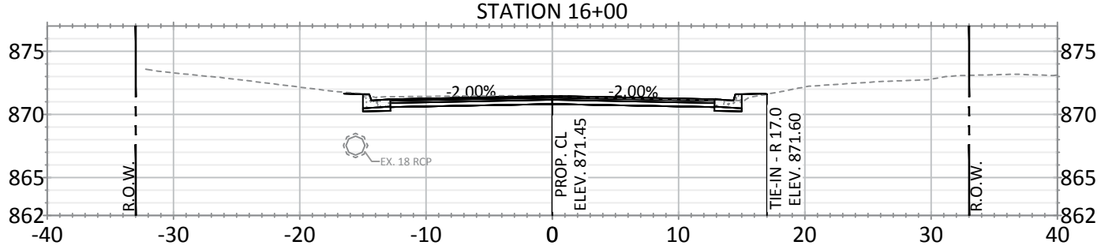
STATION 16+29
CBMH 102 - CB 102A



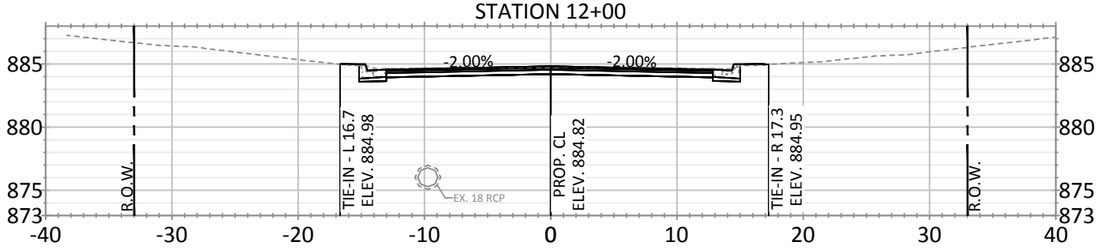
STATION 12+55
4920 154TH LANE



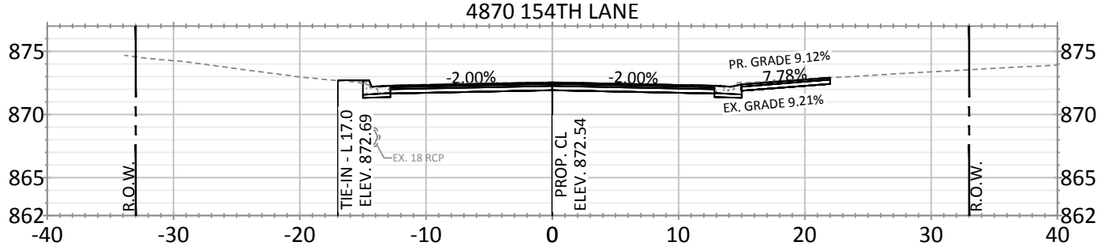
STATION 16+00



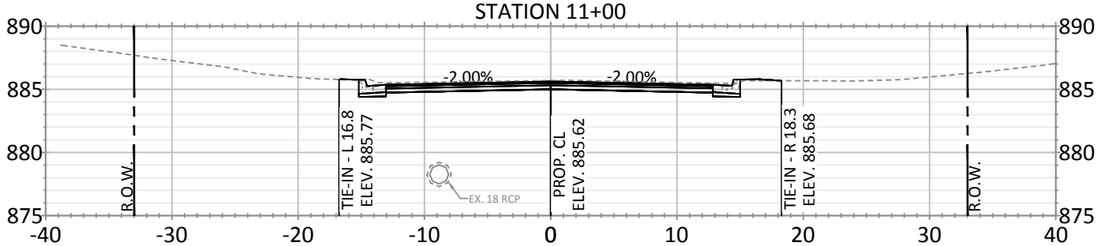
STATION 12+00



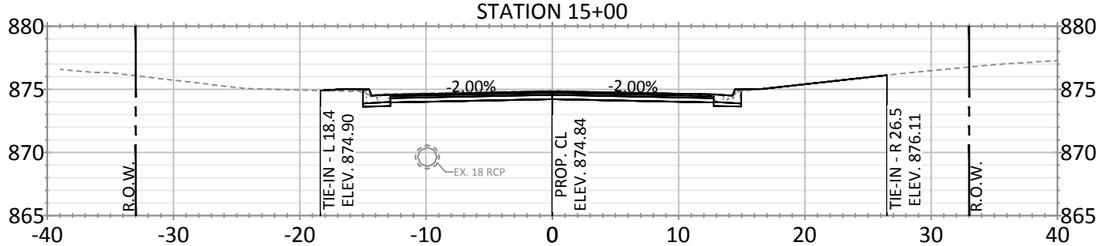
STATION 15+68
4870 154TH LANE



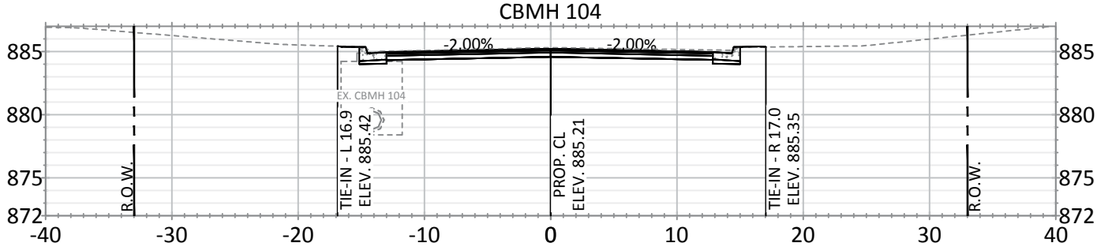
STATION 11+00



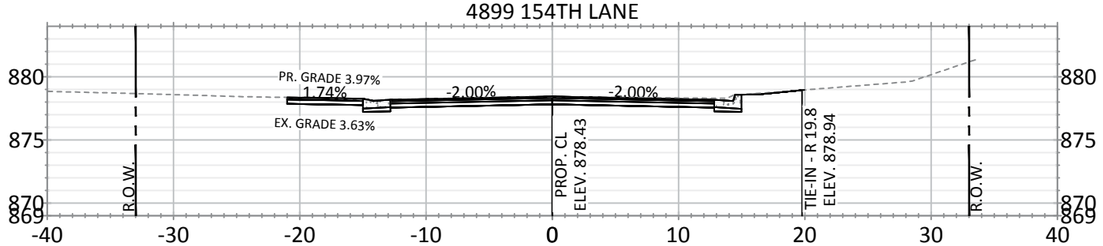
STATION 15+00



STATION 10+40
CBMH 104



STATION 13+95
4899 154TH LANE



DATE	REVISION

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CHECKED BY:	BRW	FILE No. 18-00

City of RAMSEY

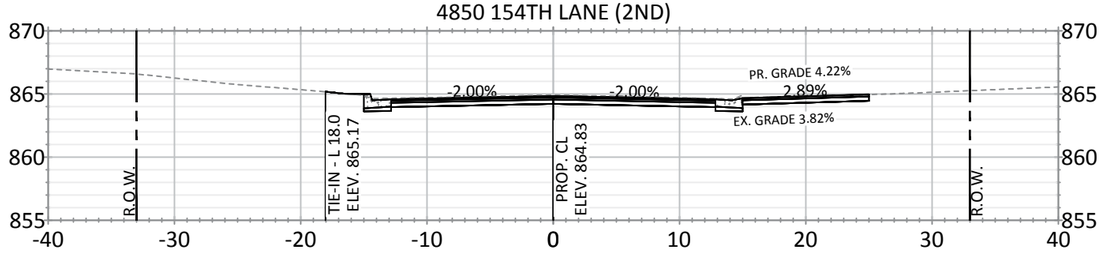
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

CROSS SECTIONS - UTE STREET & 154TH LANE

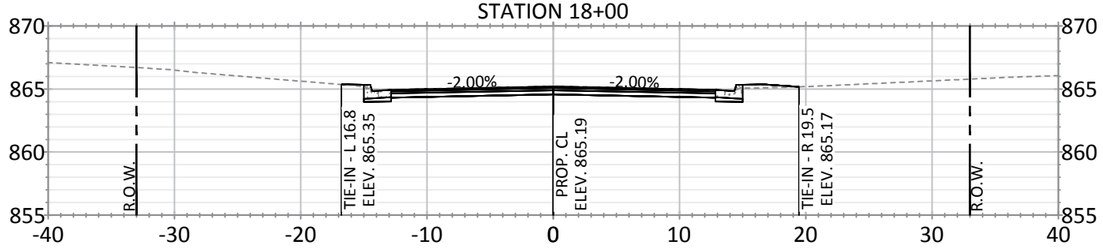
STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 22 OF 28 SHEETS

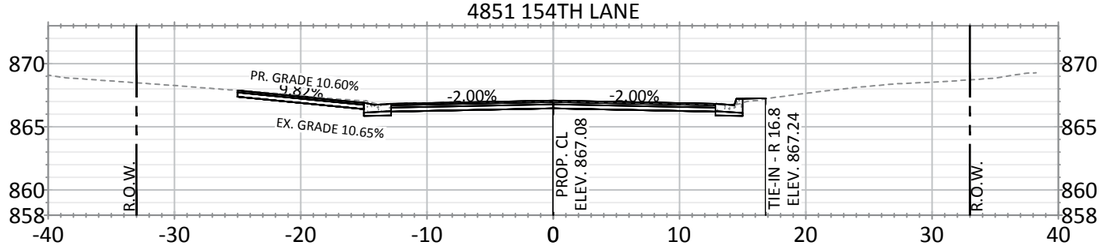
STATION 18+15
4850 154TH LANE (2ND)



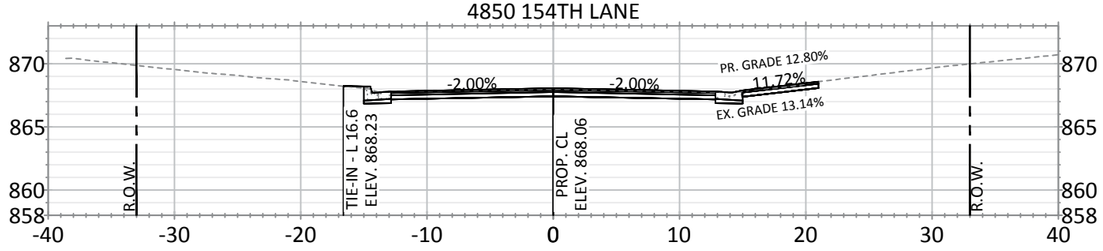
STATION 18+00



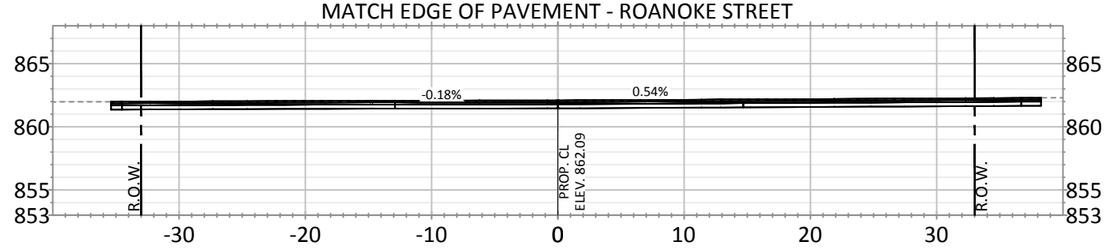
STATION 17+29
4851 154TH LANE



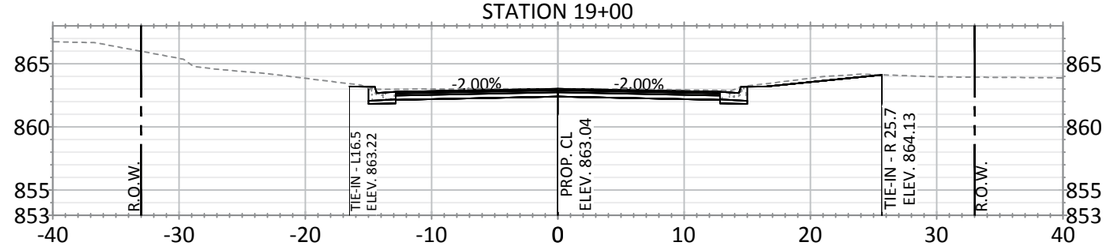
STATION 17+00
4850 154TH LANE



STATION 19+45
MATCH EDGE OF PAVEMENT - ROANOKE STREET



STATION 19+00



NOTE: EXISTING AND PROPOSED DRIVEWAY GRADES ARE MEASURED FROM GUTTERLINE TO DRIVEWAY MATCH.

0 6 12 18
SCALE (FEET)

DATE	REVISION

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City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
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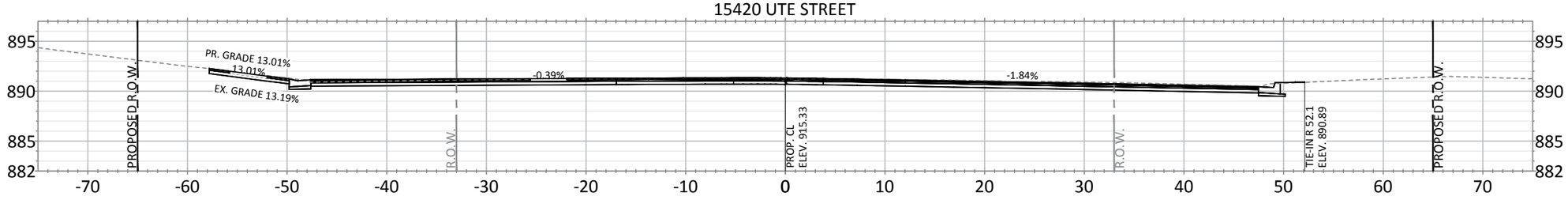
CROSS SECTIONS - UTE STREET & 154TH LANE

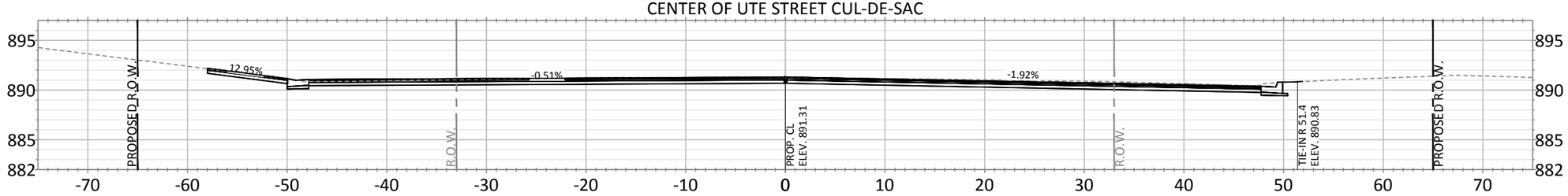
STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 23 OF 28 SHEETS

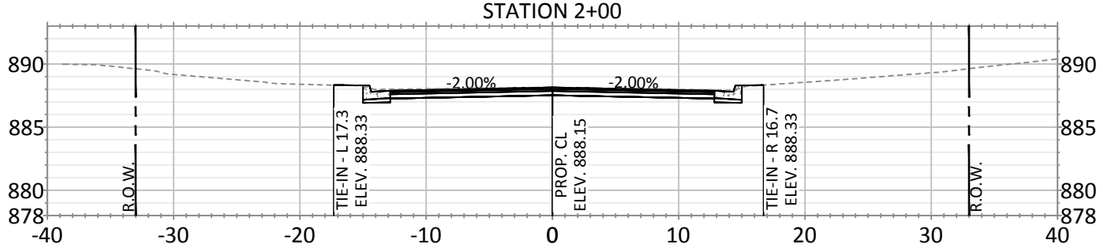
STATION 3+62
15420 UTE STREET



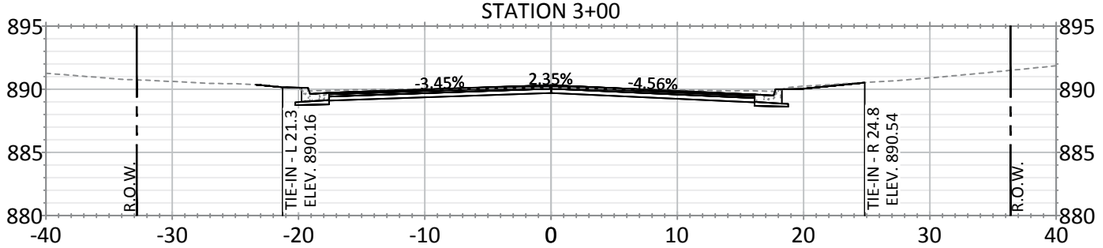
STATION 3+57
CENTER OF UTE STREET CUL-DE-SAC



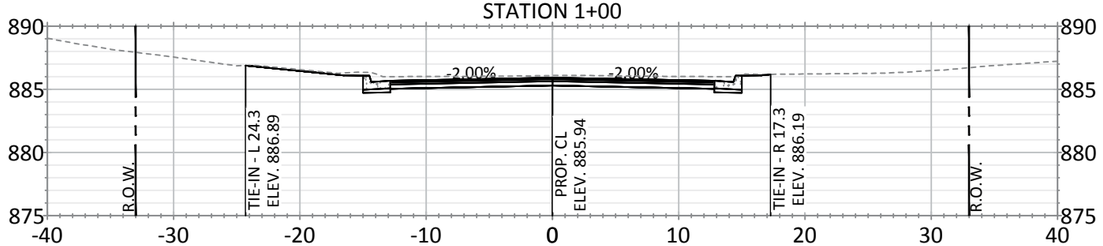
STATION 2+00



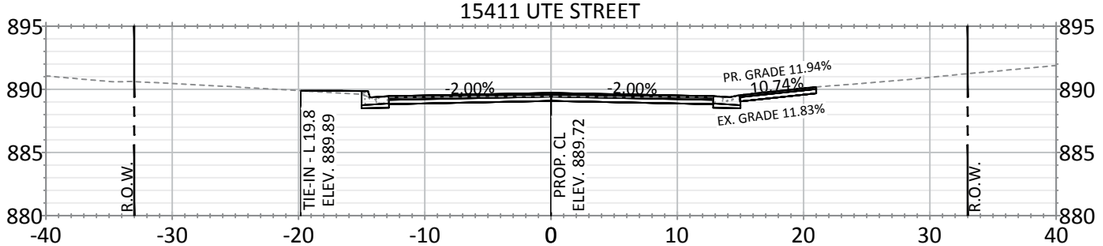
STATION 3+00



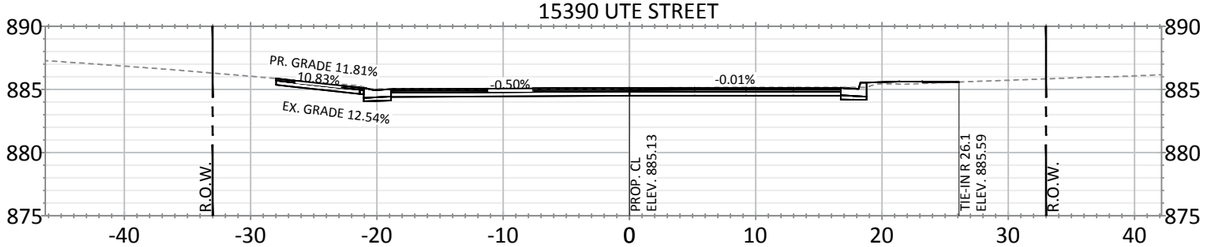
STATION 1+00



STATION 2+69
15411 UTE STREET



STATION 0+38
15390 UTE STREET



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0 6 12 18
SCALE (FEET)

DATE	REVISION

Feb 14, 2018 - 3:42pm
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City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
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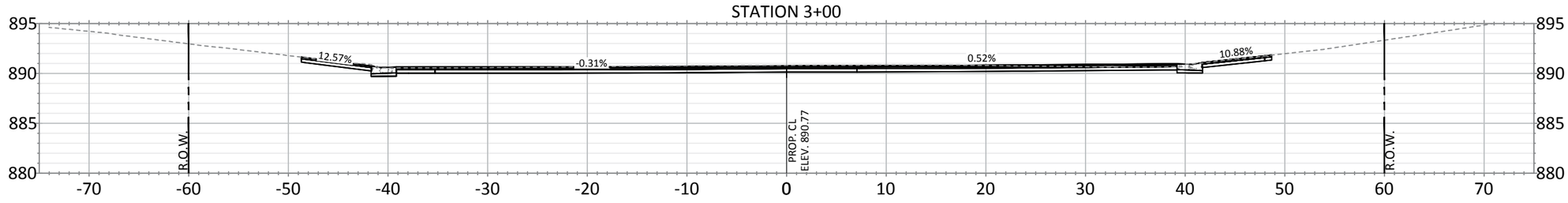
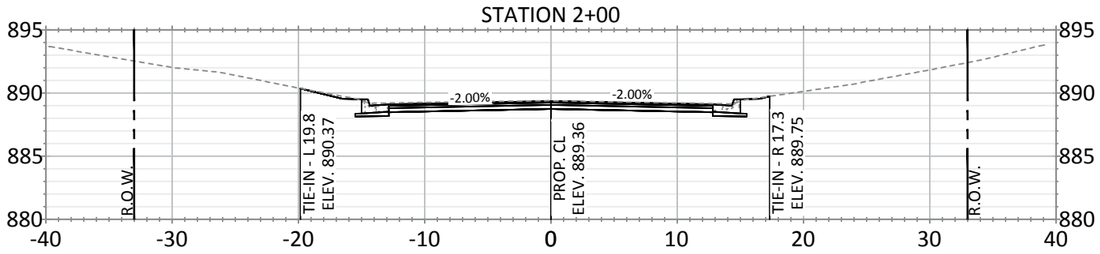
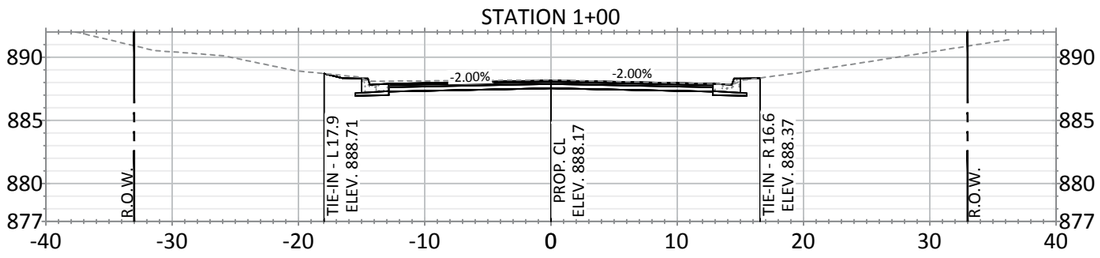
CROSS SECTIONS - UTE STREET CUL-DE-SAC

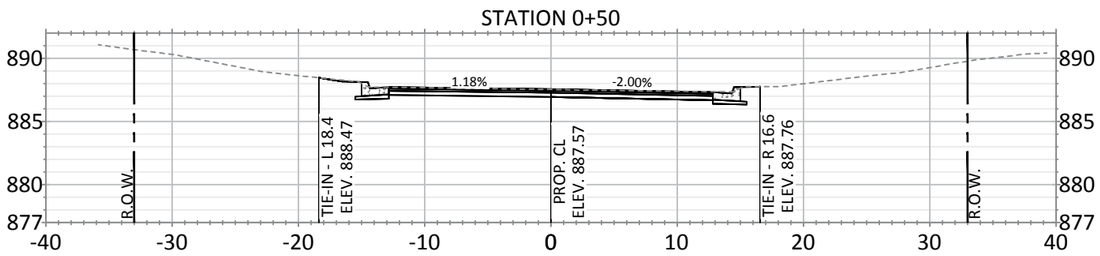
STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

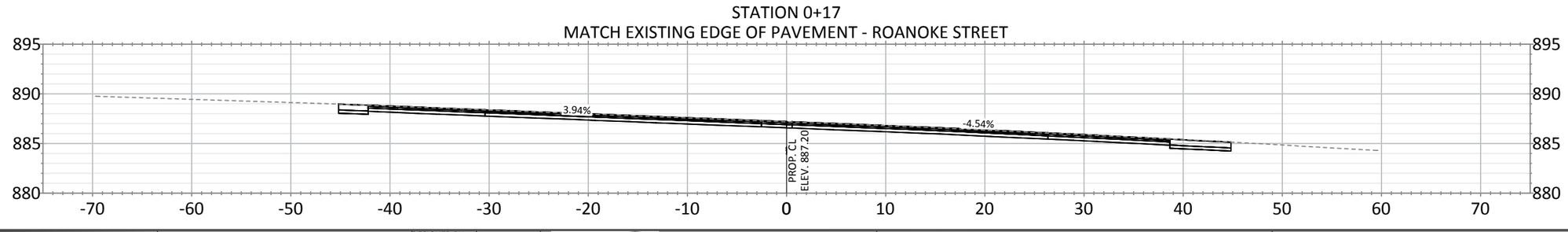
SHEET 24 OF 28 SHEETS

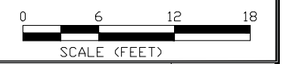












DATE	REVISION

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Date 2/14/18 Lic. No. 40116

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City of RAMSEY

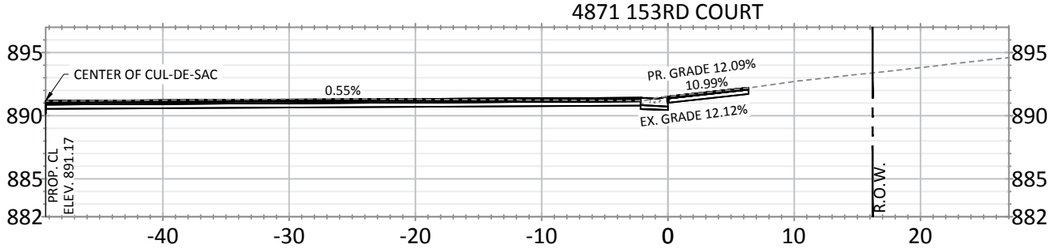
CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

CROSS SECTIONS - 153RD COURT

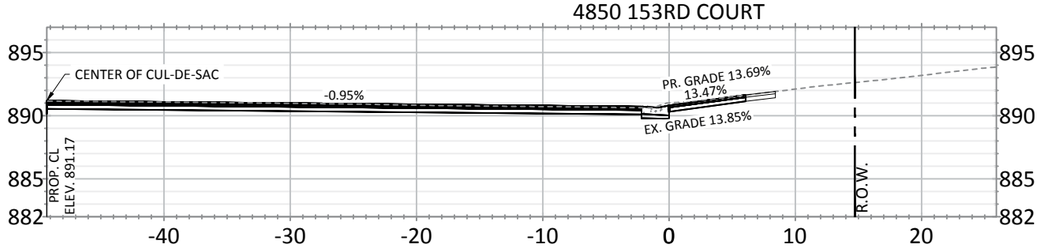
STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 25 OF 28 SHEETS

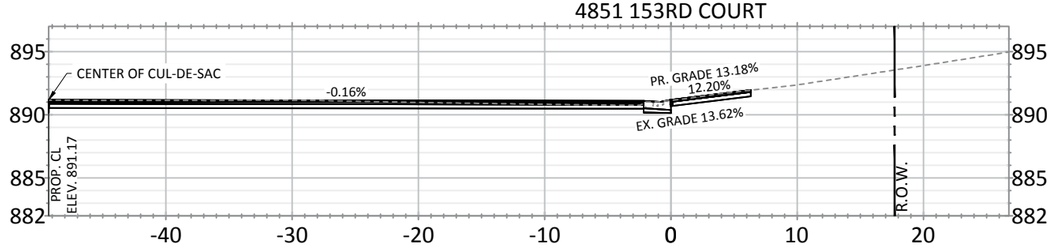
STATION 3+69
153RD COURT CDS - BOC ALIGNMENT
4871 153RD COURT



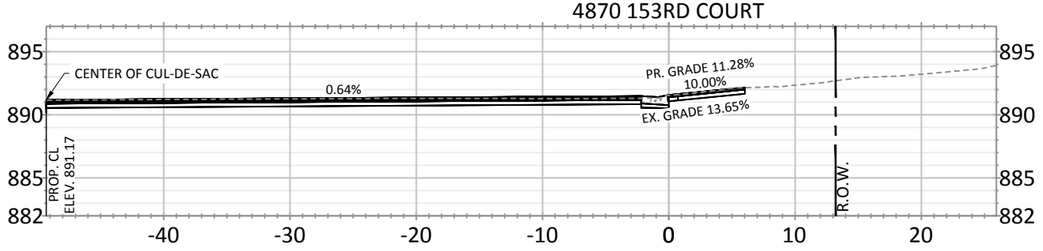
STATION 5+29
153RD COURT CDS - BOC ALIGNMENT
4850 153RD COURT



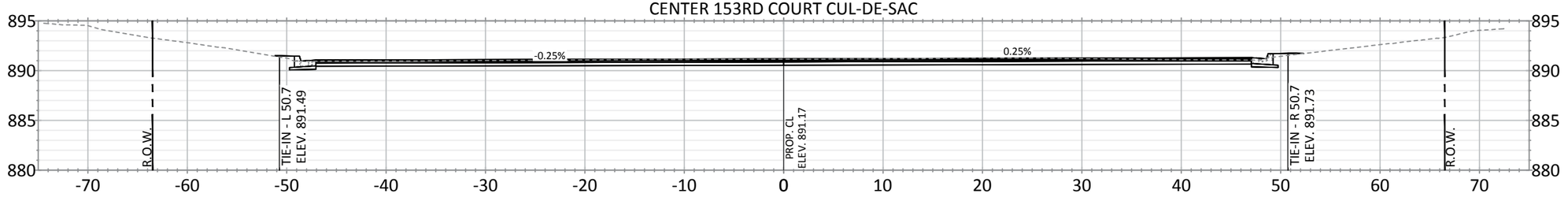
STATION 3+28
153RD COURT CDS - BOC ALIGNMENT
4851 153RD COURT



STATION 4+72
153RD COURT CDS - BOC ALIGNMENT
4870 153RD COURT



STATION 3+26
CENTER 153RD COURT CUL-DE-SAC



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0 6 12 18
SCALE (FEET)

DATE	REVISION

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CHECKED BY:	BRW	FILE No.	18-00

City of RAMSEY

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7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

CROSS SECTIONS - 153RD COURT

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 26 OF 28 SHEETS

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

STANHOPE TERRACE STREET RECONSTRUCTIONS

CITY OF RAMSEY
ANOKA COUNTY, MINNESOTA

RAMSEY,
ANOKA COUNTY,
MINNESOTA

LEGEND

PROJECT LIMITS
SPECIAL WATER

PROJECT AREAS

Total Project Size (disturbed area) =	2.63	acres
Existing area of impervious surfce =	2.08	acres
Post construction area of Impervious surface =	2.08	acres
New impervious surface area created =	0.00	acres

Planned Construction Start Date: June, 2018
Estimated Construction Completion Date: Sept, 2018

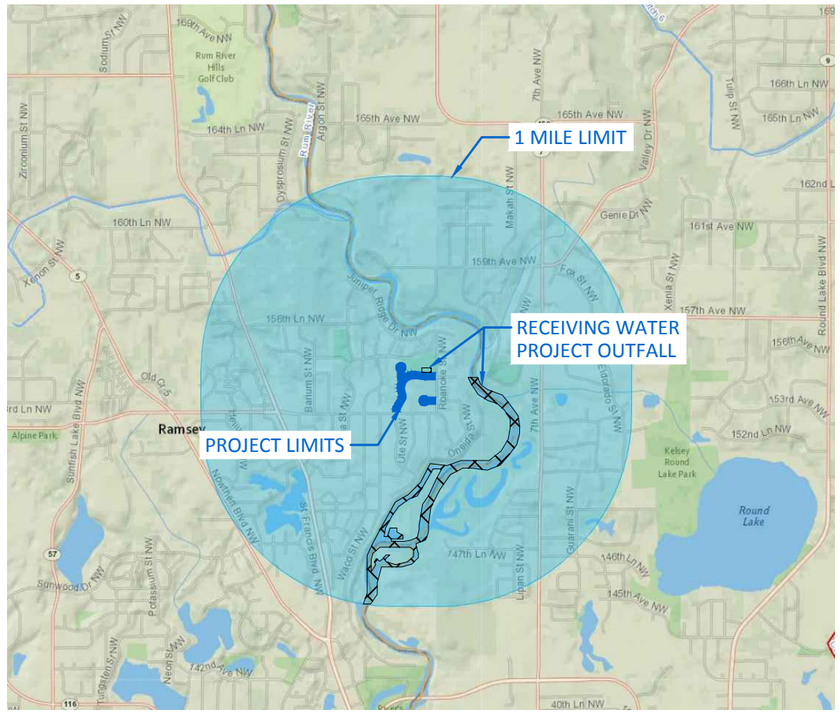
PERMANENT STORMWATER MANAGEMENT SYSTEM
Type of storm water management used if more than 1 acre of new impervious surface is created:
Wet Sedimentation Pond
Infiltration/ Filtration
Regional Pond
Permanent Stormwater Management Not Required

PROJECT LOCATION

County: ANOKA Township: 32 Range: 25 Section: 24 Latitude: 45.2501 Longitude: 93.3907

LOCATION OF SWPPP REQUIRMENETS IN PROJECT PLAN

DESCRIPTION	LOCATION
TEMPORARY EROSION CONTROL MEASURES	SHEETS NO. 13 - 14
FINAL STABILIZATION	SHEETS NO. 13 - 14
STORM SEWER TABULATION	SHEETS NO. 16 - 17
EROSION AND SEDIMENT CONTROL DETAILS	SHEETS NO. 4



RESPONSIBLE PARTIES
The Contractor and Owner must apply for coverage under the MPCA's General Storm Water Permit for Construction Activity as required by the National Pollution Discharge Elimination System (NPDES) Phase II program. Coverage under the permit will begin automatically 7 calendar days after the electronic submittal date or after the postmarked date of a complete application. (Longer time frames will apply to areas that disturb 50 acres or discharge within 1 mile of a special water)

	COMPANY	CONTACT PERSON	PHONE
OWNER:	CITY OF RAMSEY	BRUCE WESTBY, PE	763-433-9825
SWPPP DESIGNER:	CITY OF RAMSEY	LEONARD LINTON, PE	763-433-9834
CONTRACTOR:			
SITE MANAGER:			
PARTY RESPONSIBLE FOR LONG TERM O&M:	CITY OF RAMSEY	BRUCE WESTBY, PE	763-433-9825

Individuals listed above, including the SWPPP preparer, individual overseeing implementation of, revising and amending the SWPPP, individuals performing or supervising the installation, maintenance and repair of BMP's must be trained. At least one individual present on the permitted project, or available within 72 hours shall be trained in the applicable job duties. Documentation showing training commensurate with the job duties and responsibilities is required to be included in the SWPPP prior to any work beginning on the site. Copies of the SWPPP preparer information is included in the Project Manual. The contractor shall provide information for the individual(s) overseeing implementation, supervising installation, maintenance, and repair of BMP's to included in the Project Manual prior to the start of construction. This information shall be kept up to date until the project NOT is filed.

Documentation shall include:
a. Names of trained personnel associated with this project.
b. Dates of training, names of instructor(s) and entity providing training.
c. Content of training course or workshop including the number of hours trained.
d. As an alternative to a, b, and c listed above, a photocopy of the a current Erosion and Stormwater Management card issued by the University of Minnesota can be attached to the SWPPP as suitable documentation of training.

SPECIAL ENVIRONMENTAL CONSIDERATIONS:

Was an environmental review required for this project or any parr of a common plan of development or sale that includes all or any portion of this project?	NO
Does any portion of the site have the potential to affect threatened or endangered species?	NO
Does any portion of this site discharge to a Calcareous fen and the letter of approval from the DNR is located in the Project Manual?	NO
Will any portion of the site potentially affect properties listed on the National Register of Historic Places or a Known or discovered archeological site?	NO
Have any Karst features been identified in the project vicinity?	NO
Is compliance with temporary or permanent stormwater management design requirements infeasible for this project?	NO

GENERAL STORMWATER DISCHARGE REQUIREMENTS
All requirements listed in Part III of the permit for the design of permanent stormwater management system and discharge have been included in the preparation of this SWPPP. These include but are not limited to:
1. The expected amount, frequency, intensity and duration of precipitation.
2. The nature of stormwater runoff and run-on at the site.
3. Peak flow rates and stormwater volumes to minimize erosion at outlets and downstream channel and stream bank erosion.
4. The range of soil particle sizes expected to be present on the site.

CERTIFICATION:
LEONARD LINTON: DESIGN OF CONSTRUCTION SWPPP EXPIRES MAY 31, 2019
INSTRUCTOR UNIVERSITY MN EROSION & STORMWATER MANAGEMENT CERTIFICATION PROGRAM.

DESCRIPTION OF CONSTRUCTION ACTIVITIES AND STORMWATER MANAGEMENT:
Construction activities include: Site grading, storm sewer construction, temporary erosion and sediment control, roadway, and permanent stabilization.

Project description:
The project consists of reconstruction of 0.52 miles of existing bituminous streets with bituminous curb, replacing with concrete curb and gutter and bituminous street to the existing width and grade. The drainage for the existing street flows to a storm water basin located on the north end of the project with runoff flowing to the east through a series of storm sewer and basins, eventually reaching the Rum River. There will be minor repairs to the existing storm sewer system, with no change to the locations of storm sewer structures and outfalls.

DOCUMENT RETENTION
The following documentation will be retained for a period of not less than 3-years from the date of submittal of the NOT in compliance with Part III.E of the permit.
1. The final SWPPP
2. Copies of all stormwater related permits required for the project
3. Records of all inspection and maintenance conducted during construction
4. Copies of all permanent operation and maintenance agreements; including all right-of-way, contracts, covenants and other binding requirements regarding perpetual maintenance, and
5. All required calculations for design of temporary and permanent BMPs.

RECEIVING WATERS
Receiving waters, including surface water, wetlands, Public Waters, and stormwater ponds, are identified on the USGS 7.5min quad map within 1 mile of the project boundary. Receiving waters that are impaired, the impairment and WLA are listed as follows. All specific BMPs relative to construction activities listed in this permit for special and impaired waters have been incorporated into this plan. All specific BMPs listed in approved TMDLs and those BMPs listed for construction related waste load allocations have also been incorporated.

NAME OF WATER BODY	TYPE (ditch, pond, wetland, lake, etc.)	APPENDIX A SPECIAL WATER?	FLOWS TO IMPAIRED WATER WITHIN 1 MILE?	USEPA APPROVED TMDL?
RUM RIVER	RIVER	YES	YES	YES
IMPAIRMENTS: NOT FOR CONSTRUCTION, MERCURY AND FISH CONSUMPTION.				

IMPLEMENTATION SCHEDULE AND PHASING
1. Furnish & install perimeter sediment control and inlet protection.
2. Reclamation / removal of existing bituminous street.
3. Rough grade site.
4. Reset and Grout storm structures
5. Furnish & install concrete curb, bituminous pavement.
6. Add additional temporary BMPs as necessary during construction based on inspection reports
7. Submit Notice of Termination NOT to MPCA within 30 days of final stabilization.

EROSION PREVENTION PRACTICES

1. The permittee(s) must plan for and implement appropriate construction phasing, vegetative buffer strips, horizontal slope grading, and other construction practices that minimize erosion, so that the inspection and maintenance requirements are complied with. The location of areas not to be disturbed must be delineated (e.G. With flags, stakes, signs, silt fence, etc.) on the development site before work begins.

2. All exposed soil areas must be stabilized as soon as possible, but in no case later than 7 days after the construction area has temorarily or permanently ceased.

DATE	REVISION

Feb 14, 2018 - 3:44pm
G:\Engineering\AutoCad Dwgs\Projects N-Z\Stanhope Terrace Recon. 18-00\Plan Drawings\18-00 SWPPP.dwg

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

BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF		
DRAWN BY:	JJF	DATE:	2/14/18
CHECKED BY:	BRW	FILE No.	18-00

City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

SWPPP

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 27 OF 28 SHEETS

These areas include constructed storm water management pond side slopes, and any exposed soil areas with a positive slope to a storm water conveyance system, such as a curb and gutter system, storm sewer inlet, temporary or permanent drainage ditch or other natural or man made systems that discharge to a surface water.

3. The normal wetted perimeter of any temporary or permanent drainage ditch that drains water from a construction site, or diverts water around a site, must be stabilized within 200 lineal feet from the property edge, or from the point of discharge to any surface water. Stabilization must be completed within 24 hours of connecting to a surface water.

4. Pipe outlets must be provided with temporary or permanent energy dissipation within 24 hours of connection to a surface water.

5. All disturbed areas, except roadways, building areas, parking areas, islands and sidewalk, shall be restored with minimum 6 inches topsoil, seeded and mulched within 7 days of completion of site grading. Seeding shall be in accordance with mn/dot specification 2575 (c)100 lbs/acre (or approved equal). Dormant seeding areas shall be seeded and mulched in accordance with mn/dot specifications. Straw mulching quantity shall be two tons per acre. Where slopes exceed or equal 1:3, a polypropylene netting or wood fiber blanket shall be provided and staked over the mulched area. Fertilizer (15–0–10) shall be applied at a rate of 400 pounds per acre (can be omitted in landscaped areas if landscaped seeding is done concurrently).

6. Refer to landscape plan for areas to be seeded or sodded for erosion control.

SEDIMENT CONTROL PRACTICES

1. Sediment control practices must minimize sediment from entering surface waters, including curb and gutter systems and storm sewer inlets.

A. Temporary or permanent drainage ditches and sediment basins that are designed as part of a treatment system (e.G., ditches with rock check dams) require sediment control practices only as appropriate for site conditions.

B. If the down gradient treatment system is overloaded, additional upgradient sediment control practices must be installed to eliminate the overloading, and the swppp must be amended to identify these additional practices.

C. In order to maintain sheet flow and minimize rills and/or gullies, there shall be no unbroken slope length of greater than 75 feet for slopes with a grade of 1:3 or steeper.

2. Sediment control practices must be established on all down gradient perimeters before any upgradient land disturbing activities begin. These practices shall remain in place until final stabilization has been established.

3. The timing of the installation of sediment control practices may be adjusted to accommodate short–term activities such as clearing or grubbing, or passage of vehicles. Any short–term activity must be completed as quickly as possible and the sediment control practices must be installed immediately after the activity is completed. However, sediment control practices must be installed before the next precipitation event even if the activity is not complete.

4. All storm drain inlets must be protected by appropriate bmps during construction until all sources with potential for discharging to the inlet have been stabilized.

5. Temporary soil stockpiles must have silt fence or other effective sediment controls, and cannot be placed in surface waters, including storm water conveyances such as curb and gutter systems, or conduits and ditches.

6. Stockpile areas which remain on the site for more than seven days shall be seeded, mulched, and surrounded by silt fence.

7. Vehicle tracking of sediment from the construction site must be minimized by bmps such as stone pads, concrete or steel wash racks, or equivalent systems. Street sweeping must be used if such bmps are not adequate to prevent sediment from being tracked onto the street.

8. The permittee must install temporary sedimentation basins as required.

DEWATERING AND BASIN DRAINING

1. Dewatering or basin draining (e.g., pumped discharges, trench/ditch cuts for drainage) related to the construction activity that may have turbid or sediment laden discharge water must be discharged to a temporary or permanent sedimentation basin on the project site whenever possible. If the water cannot be discharged to a sedimentation basin prior to entering the surface water, it must be treated with the appropriate bmps, such that the discharge does not adversely affect the receiving water or downstream landowners. The permittee(s) must ensure that discharge points are adequately protected from erosion and scour. The discharge must be dispersed over natural rock riprap, sand bags, plastic sheeting or other accepted energy dissipation measures. Adequate sedimentation control measures are required for discharge water that contains suspended solids.

2. All water from dewatering or basin draining activities must be discharged in a manner that does not cause nuisance conditions, erosion in receiving channels or on downslope properties, or inundation in wetlands causing significant adverse impact to the wetland.

INSPECTIONS AND MAINTENANCE

1. The permittee(s) (either the owner or operator, whoever is identified in the swppp) must routinely inspect the construction site once every seven (7) days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours. Following an inspection that occurs within 24–hours after a rainfall event, the next inspection must be conducted within 7 days.

2. All inspections and maintenance conducted during construction must be recorded in writing and these records must be retained with the SWPPP. Records of each inspection and maintenance activity shall include:

a. Date and time of inspections;

b. Name of person(s) conducting inspections;

c. Findings of inspections, including recommendations for corrective actions;

d. Corrective actions taken (including dates, times, and party completing maintenance activities);

e. Date and amount of all rainfall events greater than 1/2 inch (0.5 inches) in 24 hours; and

f. Documentation of changes made to the SWPPP as required in part iii.A.4.

3. Where parts of the construction site have undergone final stabilization, but work remains on other parts of the site, inspections of the stabilized areas may be reduced to once per month. Where work has been suspended due to frozen ground conditions, the required inspections and maintenance must take place within 24 hours after runoff occurs at the site or 24 hours prior to resuming construction, whichever comes first.

4. All erosion prevention and sediment control BMP's must be inspected to ensure integrity and effectiveness. All nonfunctional BMP's must be repaired, replaced, or supplemented with functional bmps. The permittee(s) must investigate and comply with the following inspection and maintenance requirements:

a. All silt fences must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches 1/3 of the height of the fence. These repairs must be made within 24 hours of discovery, or as soon as field conditions allow access.

B. Temporary and permanent sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches 1/2 the storage volume. Drainage and removal must be completed within 72 hours of discovery, or as soon as field conditions allow access.

C. Surface waters, including drainage ditches and conveyance systems, must be inspected for evidence of sediment being deposited by erosion. The permittee(s) must remove all deltas and sediment deposited in surface waters, including drainage ways, catch basins, and other drainage systems, and restabilize the areas where sediment removal results in exposed soil. The removal and stabilization must take place within seven (7) days of discovery unless precluded by legal, regulatory, or physical access constraints. The permittee shall use all reasonable efforts to obtain access. If precluded, removal and stabilization must take place within seven (7) calendar days of obtaining access. The permittee is responsible for contacting all local, regional, state and federal authorities and receiving any applicable permits, prior to conducting any work.

D. Construction site vehicle exit locations must be inspected for evidence of off–site sediment tracking onto paved surfaces. Tracked sediment must be removed from all off–site paved surfaces, within 24 hours of discovery, or if applicable, within a shorter time.

E. The permittee(s) are responsible for the operation and maintenance of temporary and permanent water quality management BMP's, as well as all erosion prevention and sediment control BMP's, for the duration of the construction work at the site. The permittee(s) are responsible until another permittee has assumed control over all areas of the site that have not been finally stabilized or the site has undergone final stabilization, and a not has been submitted to the MPCA.

F. If sediment escapes the construction site, off–site accumulations of sediment must be removed in a manner and at a frequency sufficient to minimize off–site impacts (e.G., fugitive sediment in streets could be washed into storm sewers by the next rain and/or pose a safety hazard to users of public streets).

5. All infiltration areas must be inspected to ensure that no sediment from ongoing construction activities is reaching the infiltration area and these areas are protected from compaction due to construction equipment driving across the infiltration area.

6. Storm sewer pipes and structures to be inspected and cleaned out.

POLLUTION PREVENTION MANAGEMENT MEASURES

The permittee(s) shall implement the following pollution prevention management measures on the site:

1. Solid waste: collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris and other wastes must be disposed of properly and must comply with mpca disposal requirements.

2. Hazardous materials: oil, gasoline, paint and any hazardous substances must be properly stored, including secondary containment, to prevent spills, leaks or other discharge. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with mpca regulations.

3. External washing of trucks and other construction vehicles must be limited to a defined area of the site. Runoff must be contained and waste properly disposed of. No engine degreasing is allowed on site.

FINAL STABILIZATION

The permittee(s) must ensure final stabilization of the site. The permittee(s) must submit a not within 30 days after final stabilization is complete, or another owner/operator (permittee) has assumed control over all areas of the site that have not undergone final stabilization. Final stabilization can be achieved in one of the following ways:

1. All soil disturbing activities at the site have been completed and all soils must be stabilized by a uniform perennial vegetative cover with a density of 70 percent over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions and;

a. All drainage ditches, constructed to drain water from the site after construction is complete, must be stabilized to preclude erosion;

b. All temporary synthetic, and structural erosion prevention and sediment control bmps (such as silt fence) must be removed as part of the site final stabilization; and

c. The permittee(s) must clean out all sediment from conveyances and from temporary sedimentation basins that are to be used as permanent water quality management basins. Sediment must be stabilized to prevent it from being washed back into the basin, conveyances or drainageways discharging off–site or to surface waters. The cleanout of permanent basins must be sufficient to return the basin to design capacity.

2. Final vegetation cover shall be in Project Specifications.

3. For residential construction only, final stabilization has been achieved when temporary erosion protection and down gradient perimeter control for individual lots has been completed and the residence has been transferred to the homeowner. Additionally, the permittee must distribute the MPCA "Homeowner fact sheet" to the homeowner to inform the homeowner of the need for, and benefits of, final stabilization.

SEQUENCE OF CONSTRUCTION

Construction shall proceed in the following sequence:

1. Contractor shall schedule and conduct a pre–construction meeting with the city.
2. Contractor shall secure all necessary permits and licenses.
3. Furnish & install erosion control measures.
4. Maintain erosion control measures, i.e., silt fence, temporary rock construction entrance.
5. Reclaim existing bituminous pavement and base. Remove reclamation material.
6. Reset catch basins per plan.
7. Prepare base, furnish & install class 5 aggregate, grade and compact aggregate.
8. Furnish & install concrete curb, base course of bituminous pavement
9. Grout catch basins per plan.
10. Furnish & install wear course of bituminous pavement.
11. Remove erosion control after vegetation is established.

ADDITIONAL STORMWATER POLLUTION PREVENTION, GRADING PLAN ANS SCHEDULE NOTES

1. All slopes to be 1:4 unless approved by the city engineer.
2. Below grade structures shall be protected and meet drainage requirements per the city engineer.
3. Construction operation hours are from 7:00am–10:00pm Mon.–Sat.
4. Call Gopher State One Call for utility locations prior to any work at 1–800–252–1166.
5. Permittee may need to modify SWPPP if the general objectives of controlling pollutants is not being met.
6. Operator shall implement these and any other bmp's that may be required to meet the general permit requirements.
7. Site is not in karst area or pollution or remediation site.
8. Silt fence to be installed downhill from any grading activity.
9. If tracking onto adjacent streets occurs a street sweeper shall be used to clean streets within 8 hours or as directed by the engineer.
10. Dust control may be necessary during rough grading. No grading can take place if wind speed exceeds 25 mph.
11. Solid waste shall be collected and disposed of properly and must comply with MPCA disposal requirements.
12. Hazardous materials shall be stored properly to prevent spills and vandalism
13. No engine degreasing is allowed on site. External washing of vehicles shall be limited to a defined area (bone yard) on site.
14. Permitee(s) shall adhere to all SWPPP specifications on this plan and other mpca permit requirements.

DATE	REVISION

Feb 14, 2018 - 3:44pm
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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

BRUCE WESTBY
Date 2/14/18 Lic. No. 40116

DESIGNED BY:	JJF	
DRAWN BY:	JJF	DATE: 2/14/18
CHECKED BY:	BRW	FILE No. 18-00

City of RAMSEY

CITY OF RAMSEY
7550 SUNWOOD DRIVE
RAMSEY, MN 55303
(763) 427-1410 FAX (763) 433-9898

SWPPP

STANHOPE TERRACE RECONSTRUCTION
CITY PROJECT NO. 18-00
CITY OF RAMSEY, MINNESOTA

SHEET 28 OF 28 SHEETS