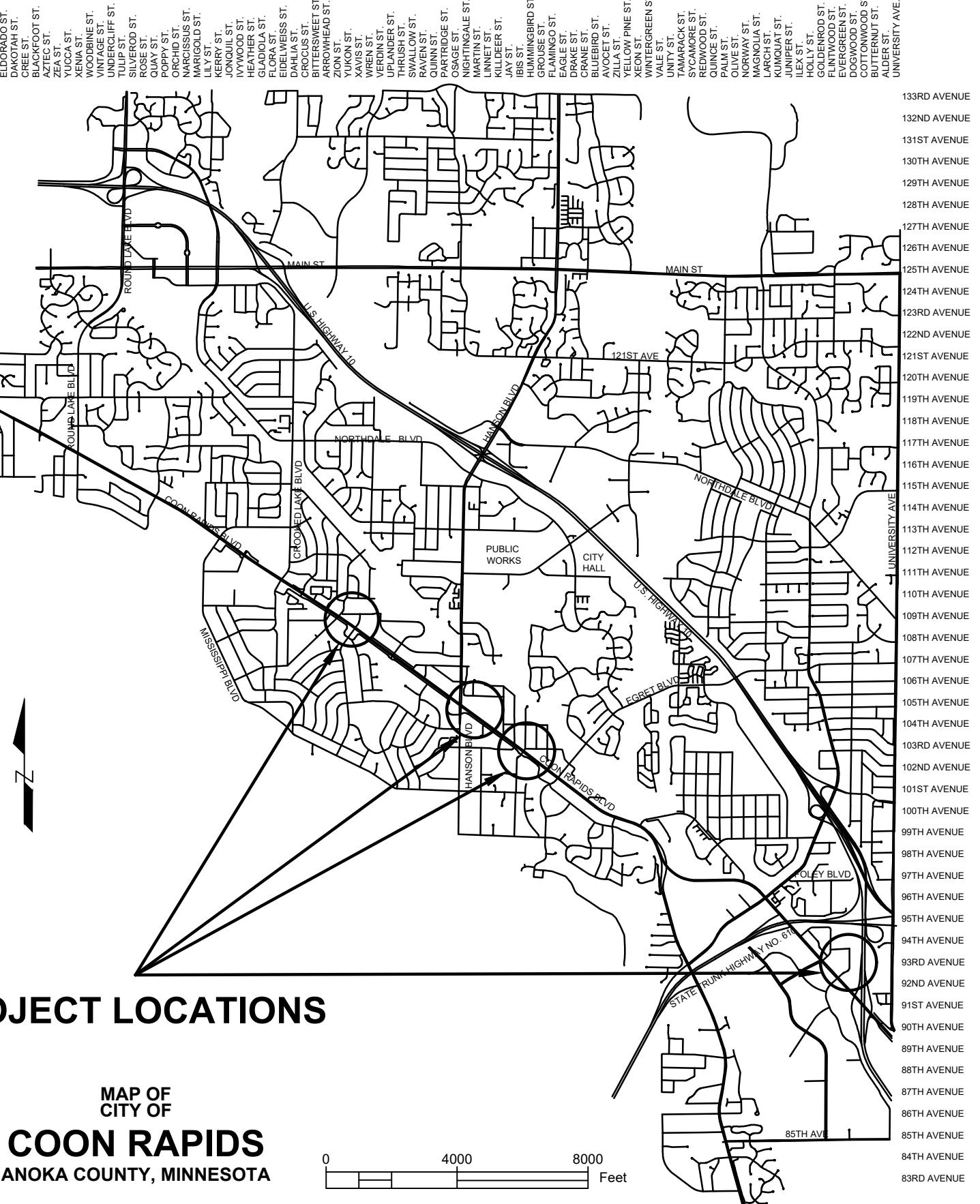


LEGEND

- — — — — RIGHT OF WAY
- — — — — STREET CENTERLINE
- — — — — PERMANENT EASEMENT
- | — — — WATER MAIN
- >> — — SANITARY SEWER
- > — — STORM SEWER
- GAS — — GAS LINE
- /W — /W — POWER LINE
- POH — — OVERHEAD POWER
- F/O-BUR — — FIBER OPTIC BURIED
- F/O-OH — — FIBER OPTIC OVERHEAD
- SIG-BUR — — SIGNAL WIRE BURIED
- OO — — COMMUNICATIONS
- / — / — RETAINING WALL
- X — X — FENCE (UNIDENTIFIED)
- O — O — BIO ROLL
- — HYDRANT
- ✗ — VALVE
- (S) — SANITARY SEWER MANHOLE
- (D) — STORM SEWER MANHOLE
- — STORM SEWER CATCH BASIN
- — POLE
- — LIGHT POLE
- — UTILITY HANDHOLE
- ☒ — HANDHOLE
- ☒ — PEDESTAL
- ☒ — TRAFFIC SIGNAL
- — SIGN (NON STREET NAME)
- — STREET NAME SIGN
- ☒ — INLET PROTECTION
- (S) — TREE, STUMP
- (S) — SHRUBS

PROJECT LOCATIONS

MAP OF
CITY OF
COON RAPIDS
ANOKA COUNTY, MINNESOTA



CITY OF COON RAPIDS

21-4 SIDEWALK EXPANSION GAPS

SHEET INDEX

NUMBER	SHEET TITLE
1	COVER SHEET
2-7	MNDOT STANDARD PED RAMP
8	EROSION CONTROL DETAILS AND NOTES
9-11	INPLACE UTILITY PLANS AND TYPICAL SECTION
12	PLAN AND PROFILE AT 2501 COON RAPIDS BLVD
13	PLAN AND PROFILE AT 1937 COON RAPIDS BLVD
14	PLAN AND PROFILE AT 1715 COON RAPIDS BLVD
15	PLAN AND PROFILE AT 199 COON RAPIDS BLVD
16	PLAN AND PROFILE AT 9333 SPRINGBROOK DR

GENERAL NOTES

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MMUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS, LATEST ISSUE.

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

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE GOPHER STATE ONE CALL EXCAVATION NOTICE SYSTEM REQUIRED BY MINNESOTA STATUTE, CHAPTER 216D FOR ALL UNDERGROUND UTILITY LOCATIONS.

NO.	DATE	REVISIONS



CITY OF COON RAPIDS
ENGINEERING DEPARTMENT
1155 ROBINSON DRIVE
COON RAPIDS, MN 55433-3761
763-755-2891
FAX 651-767-6491
WWW.COONRAPIDSMN.GOV

DESIGNED BY: H.H.
DRAWN BY: H.H.
CHECKED BY: M.C.H.
DATE: 05/06/2021

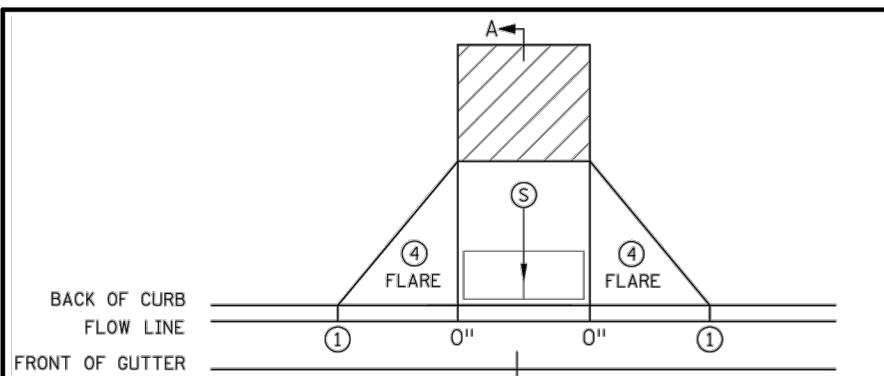
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS
PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND I AM A DULY
REGISTERED PROFESSIONAL ENGINEER UNDER THE STATE OF MINNESOTA.
MARK C. HANSEN, P.E.
LICENSE # 43920
DATE: 05/18/2021

21-4

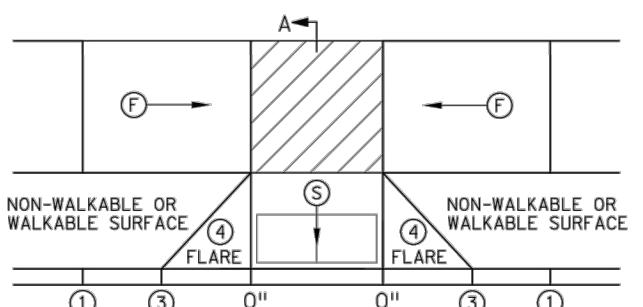
SIDEWALK EXPANSION GAPS
COON RAPIDS BLVD NW & SPRINGBROOK DR NW

COVER
SHEET

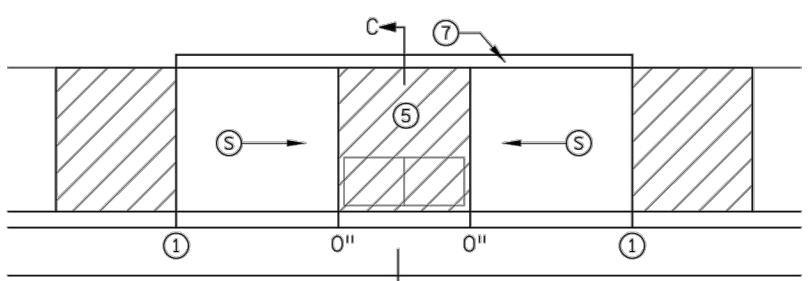
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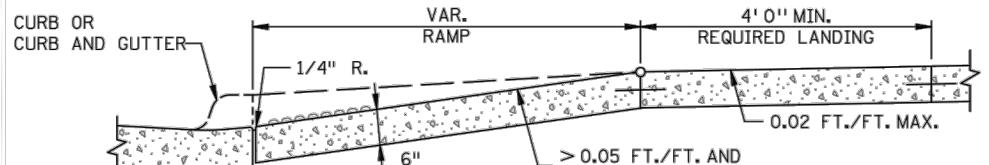
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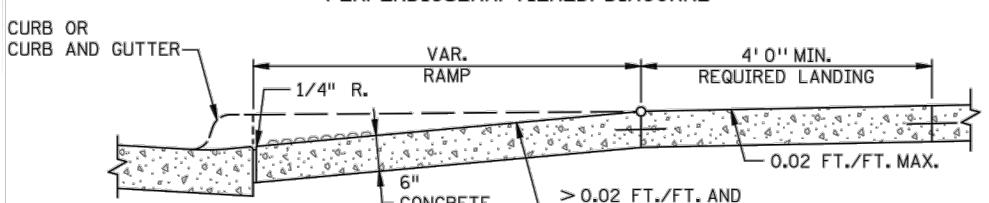
TIERED PERPENDICULAR



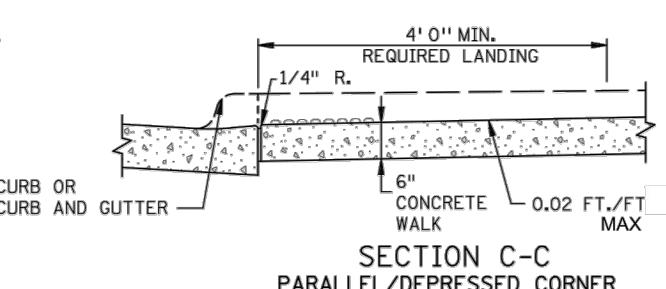
PARALLEL



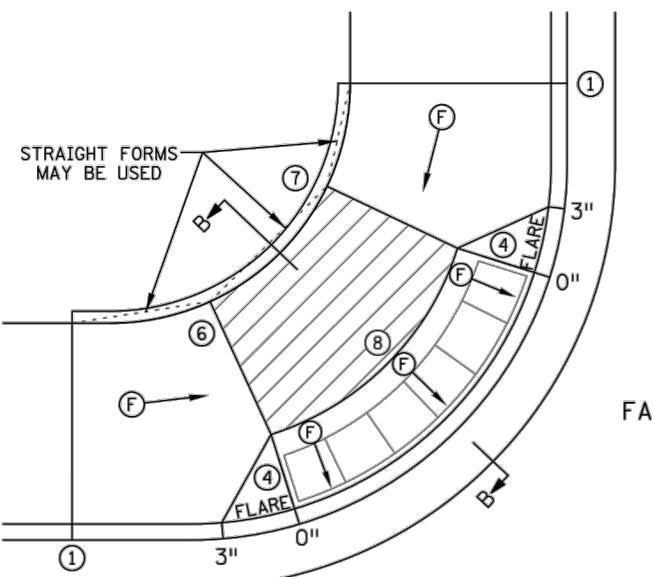
SECTION A-A
PERPENDICULAR/TIERED/DIAGONAL



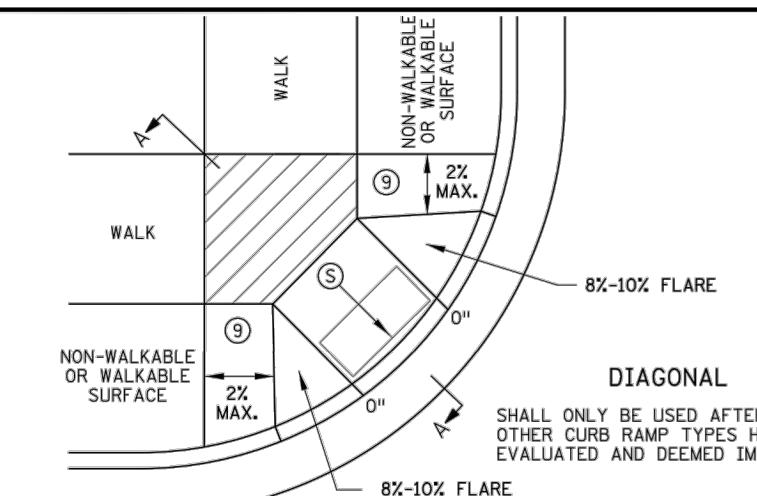
SECTION B-B
FAN



SECTION C-C
PARALLEL/DEPRESSED CORNER



FAN ⑩



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.

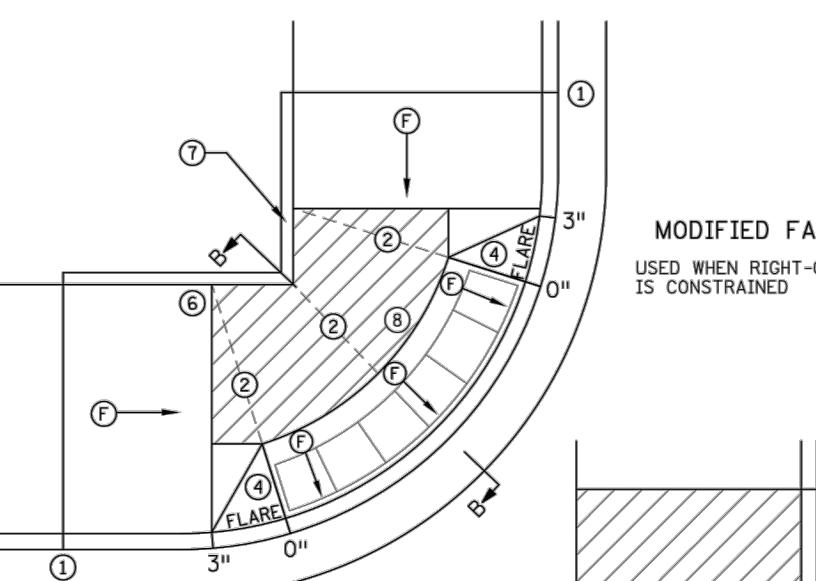
⑥ THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF WALK. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL. (TYPICAL FOR ALL).

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.

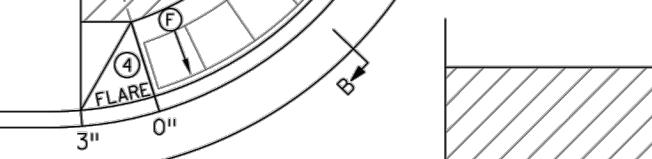
⑧ A 7' MIN TOP RADIUS GRADE BREAK REQUIRED TO BE CONSTRUCTIBLE.

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.

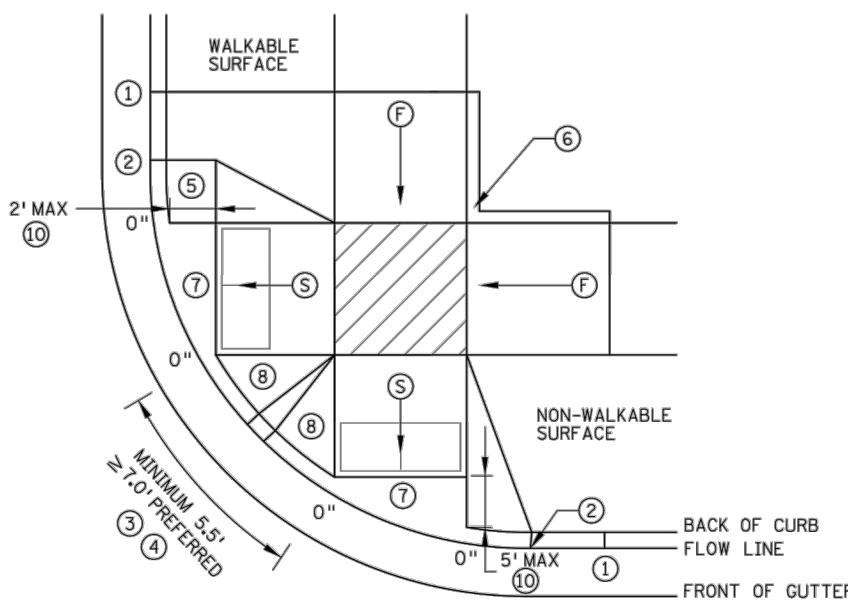


MODIFIED FAN ⑩
USED WHEN RIGHT-OF-WAY IS CONSTRAINED



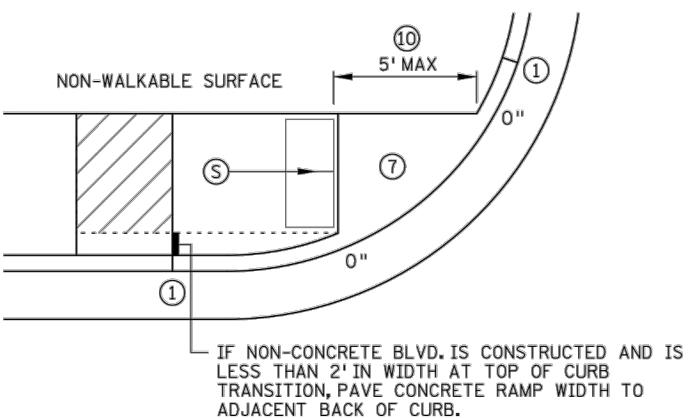
DEPRESSED CORNER

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

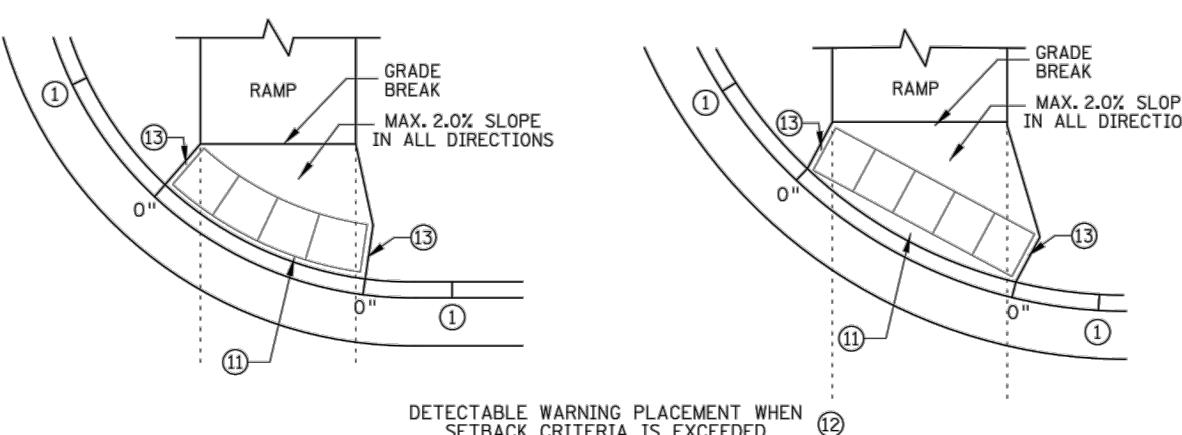


DIRECTIONAL RAMP WALKABLE FLARE

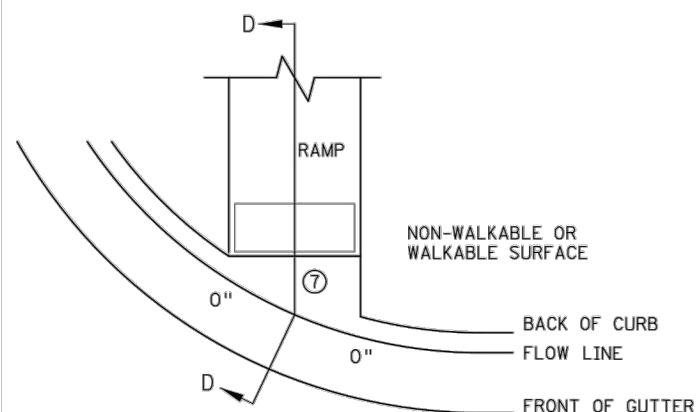
COMBINED DIRECTIONAL ⑨



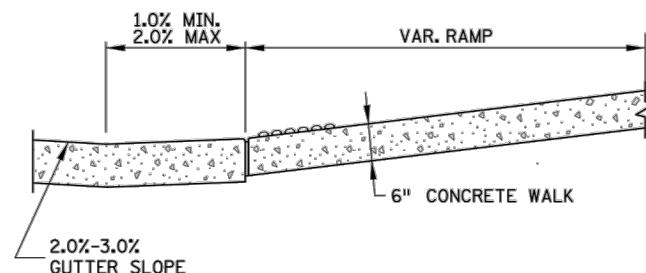
STANDARD ONE-WAY DIRECTIONAL ⑨



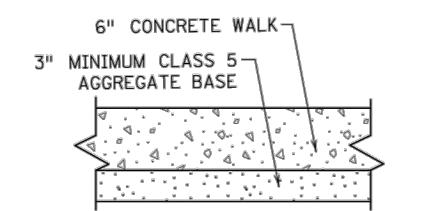
ONE-WAY DIRECTIONAL WITH DETECTABLE
WARNING AT BACK OF CURB



CURB FOR DIRECTIONAL RAMPS (14)



SECTION D-D



TYPICAL SIDEWALK SECTION
WITHIN INTERSECTION CORNER

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 SPACE CLEARANCE SHALL NOT EXCEED 2 1/2%.

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

 LANDING AREA - 4' X 4' MIN. (5' X 5' MIN. PREFERRED) DIMENSIONS AND MAX 2.0% SLOPE IN ALL DIRECTIONS. LANDING SHALL BE FULL WIDTH OF INCOMING PARS.

X" CURB HEIGHT

REVISION: APPROVED: JANUARY 23, 2017




Tom S. H.

Tom S. H.

VED1

21- 4

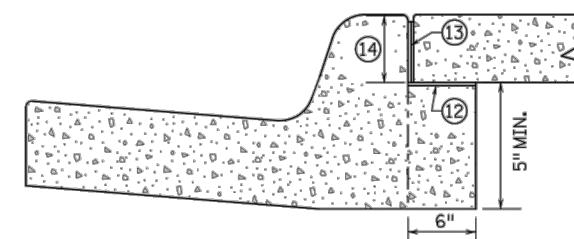
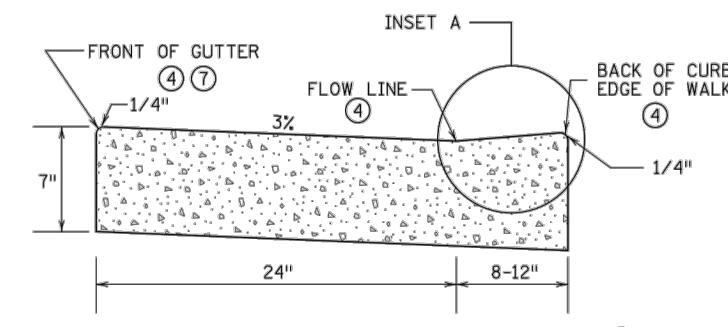
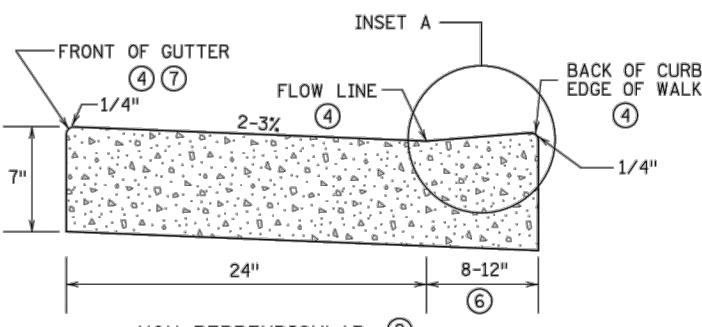
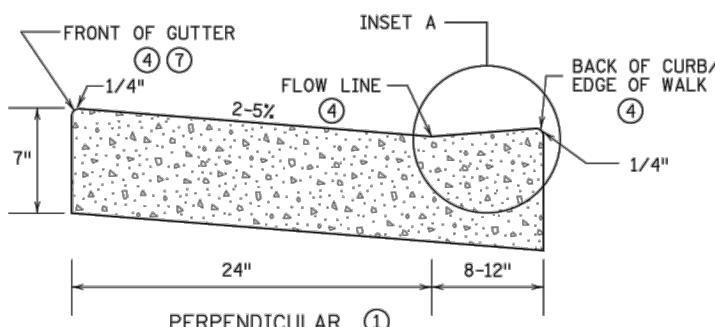
SIDEWALK EXPANSION GAPS

STANDARD PLAN 5-297.250

PEDESTRIAN CURE RAMP 2 OF 6

3

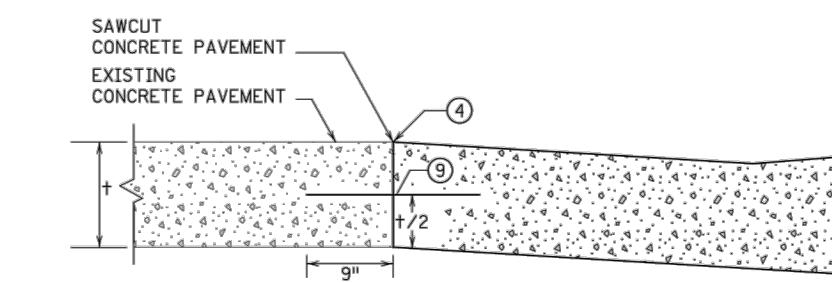
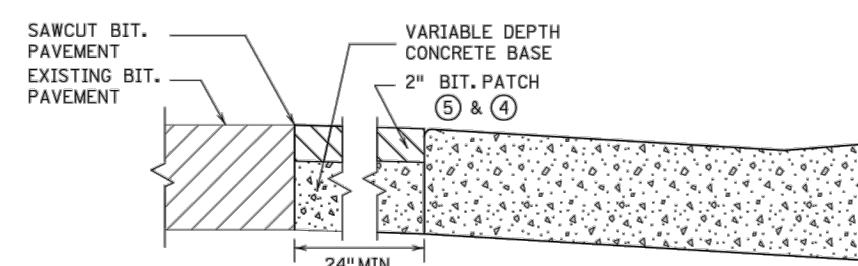
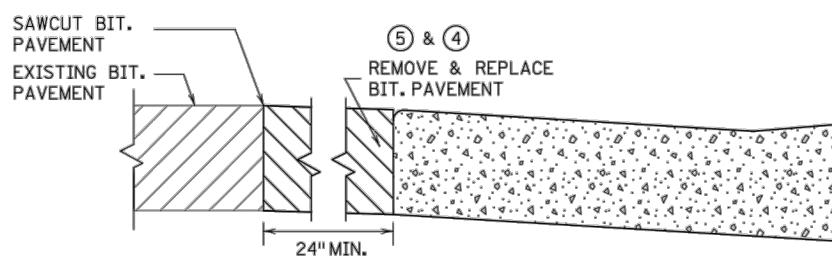
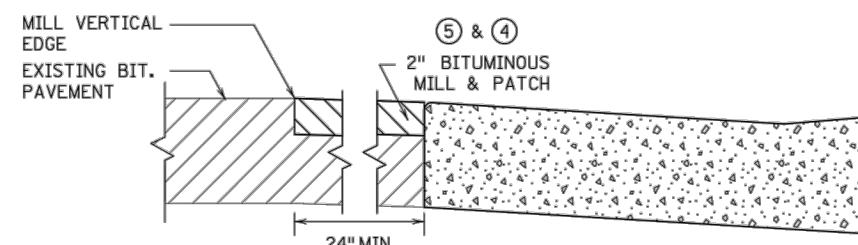
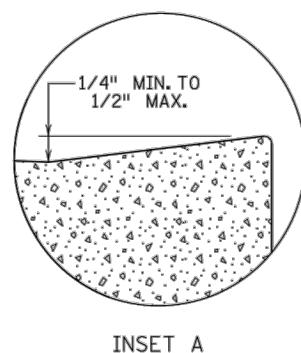
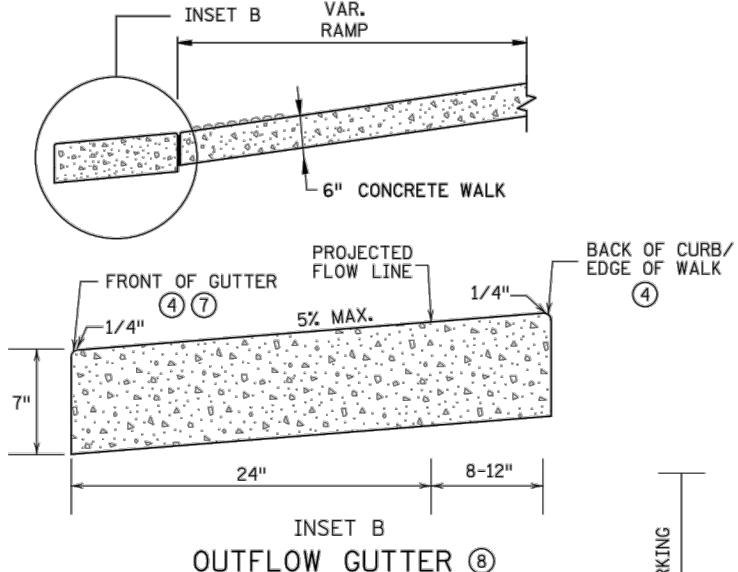
16



OPTIONAL SILL CURB WHEN SIDEWALK IS AT BACK OF CURB

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

PEDESTRIAN ACCESS ROUTE CURB & GUTTER DETAIL

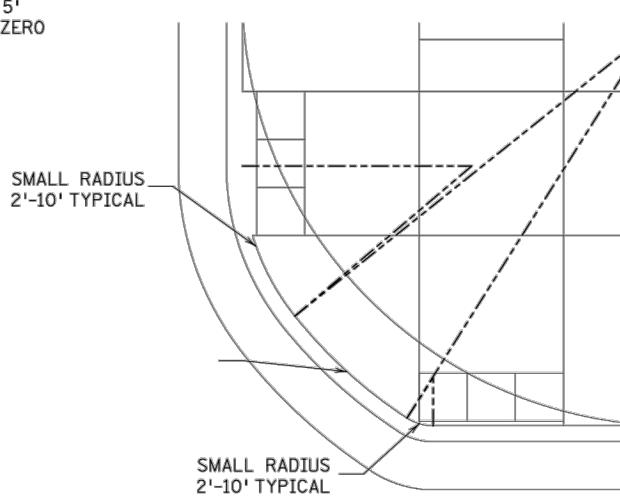
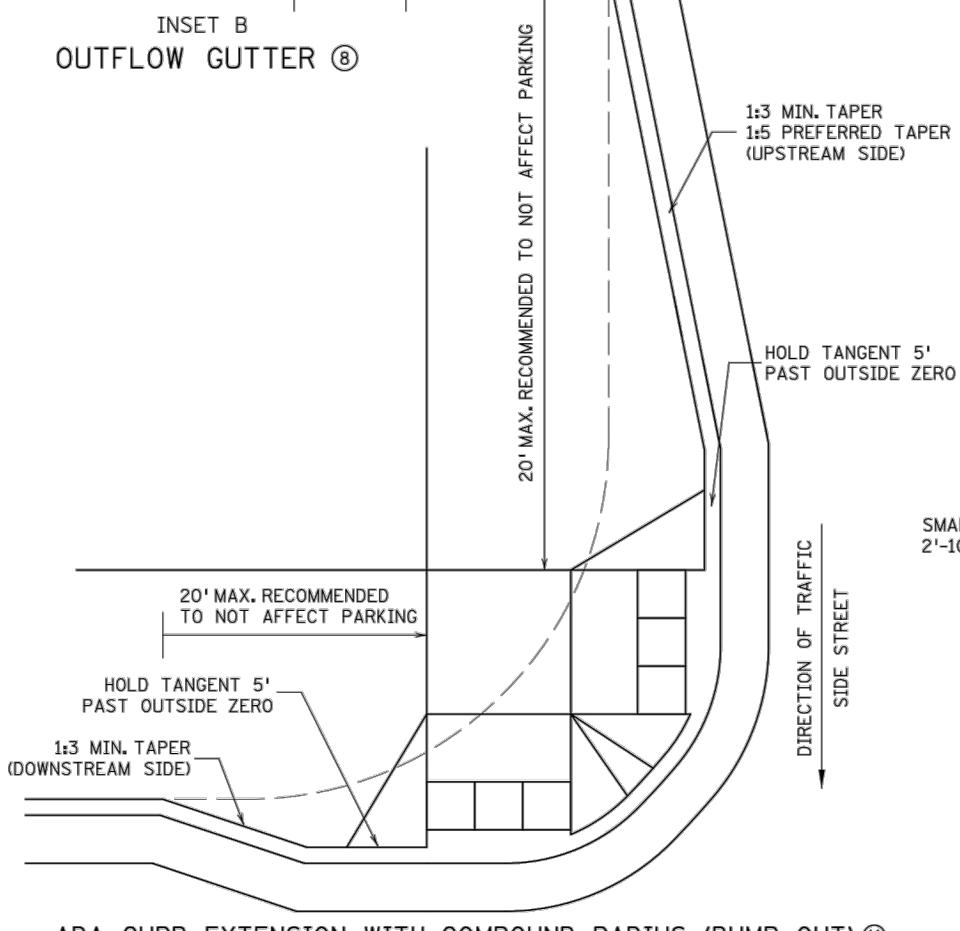


ONLY ALLOWED PER ENGINEER'S APPROVAL

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

NOTES:

- POSITIVE FLOW LINE DRAINAGE SHALL BE MAINTAINED THROUGH THE PEDESTRIAN ACCESS ROUTE (PAR) AT A 2% MAXIMUM.
- NO PONDING SHALL BE PRESENT IN THE PAR.
- ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE SHALL NOT BE GREATER THAN 1/4 INCH.
- ① FOR USE AT CURB CUTS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: PERPENDICULAR, TIERED PERPENDICULAR, PARALLEL, AND DIAGONAL RAMPS.
- ② FOR USE AT CURB RAMPS WHERE THE PEDESTRIAN'S PATH OF TRAVEL IS ASSUMED NON PERPENDICULAR TO THE GUTTER FLOW LINE. RAMP TYPES INCLUDE: FANS & DEPRESSED CORNERS.
- ③ BEGIN GUTTER SLOPE TRANSITION 10' OUTSIDE OF ALL CURB RAMPS.
- ④ THERE SHALL BE NO VERTICAL DISCONTINUITIES GREATER THAN 1/4".
- ⑤ ELEVATION CHANGE TAKES PLACE FROM THE EXISTING TO NEW FRONT OF GUTTER. PATCH IS USED TO MATCH THE NEW GUTTER FACE INTO THE EXISTING ROADWAY.
- ⑥ VARIABLE WIDTH FOR DIRECTIONAL CURB APPLICATIONS. SEE SHEET 2 FOR DIRECTIONAL CURB SLOPE REQUIREMENTS.
- ⑦ TOP FRONT OF GUTTER SHALL BE CONSTRUCTED FLUSH WITH PROPOSED ADJACENT PAVEMENT ELEVATION. TOP 1.5" OF THE GUTTER FACE MUST BE A FORMED EDGE. PAR GUTTER SHALL NOT BE OVERLAIDED.
- 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.



COMBINED DIRECTIONAL ⑩
(COMPOUND RADIUS)

REVISION:	
APPROVED: JANUARY 23, 2017	
OPERATIONS ENGINEER	

DIRECTION OF TRAFFIC

MAIN STREET



REVISED:
1-23-2017
APPROVED:
1-23-2017
STATE DESIGN ENGINEER

21-4

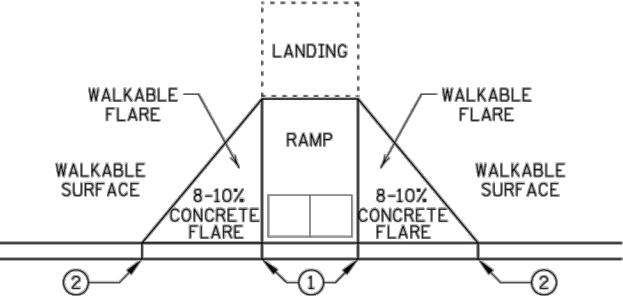
SIDEWALK EXPANSION GAPS

STANDARD PLAN 5-297.250

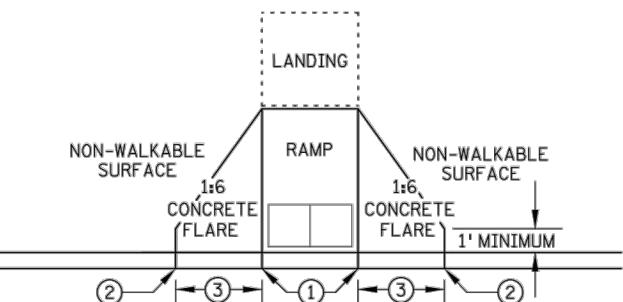
PEDESTRIAN CURB
RAMP 3 OF 6

4

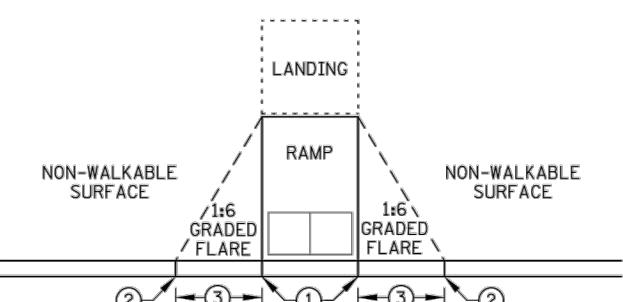
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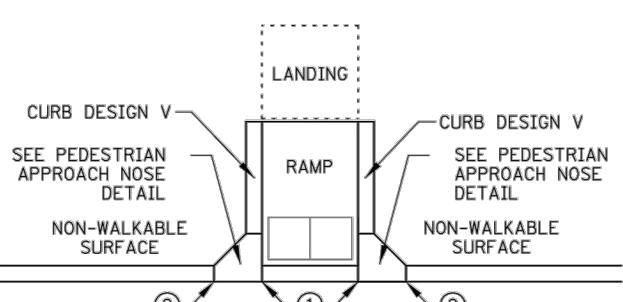
PAVED FLARES
ADJACENT TO WALKABLE SURFACE



PAVED FLARES
ADJACENT TO NON-WALKABLE SURFACE

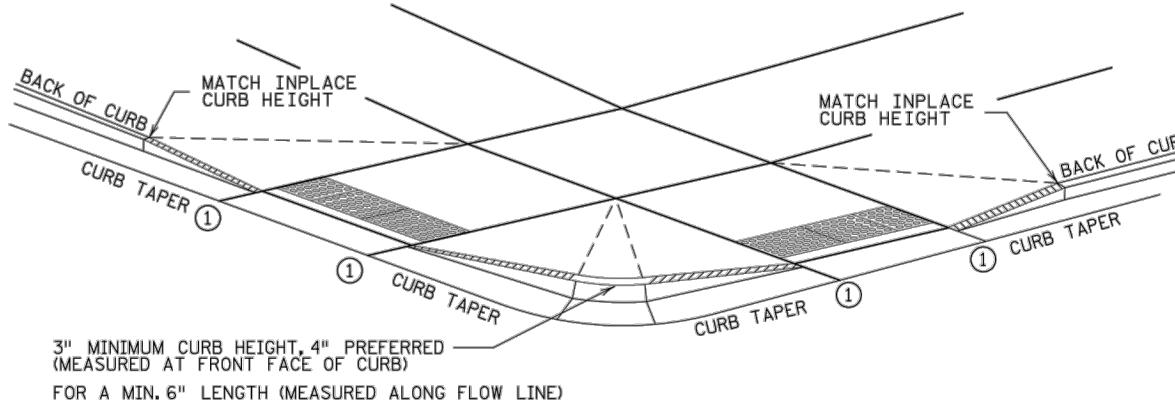


GRADED FLARES



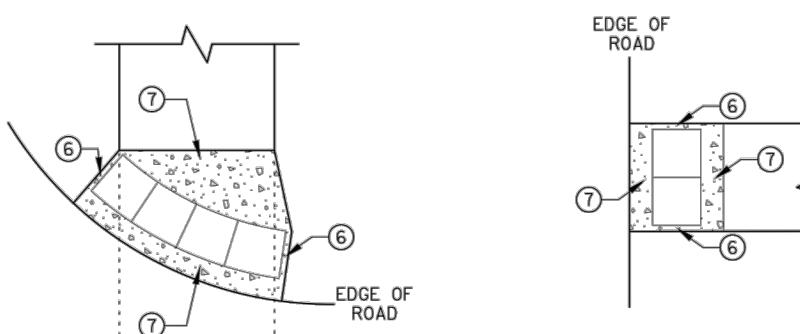
RETURNED CURB ⑤

TYPICAL SIDE TREATMENT OPTIONS ④ ⑪

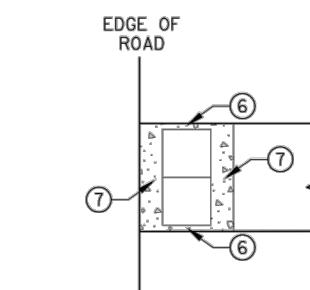


3" MINIMUM CURB HEIGHT, 4" PREFERRED
(MEASURED AT FRONT FACE OF CURB)
FOR A MIN. 6" LENGTH (MEASURED ALONG FLOW LINE)

DETECTABLE EDGE WITH ⑧
CURB AND GUTTER

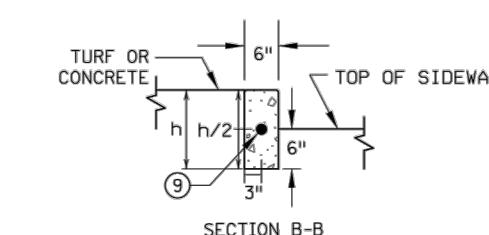
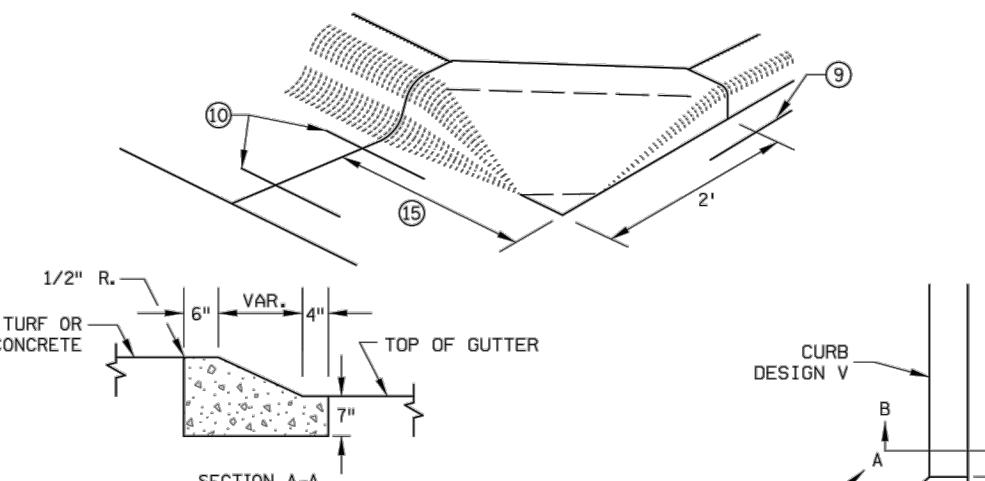


RADIAL DETECTABLE WARNING



RECTANGULAR DETECTABLE WARNING

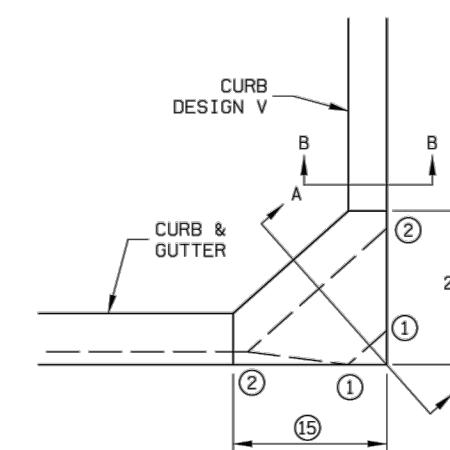
DETECTABLE EDGE WITHOUT CURB AND GUTTER



SECTION A-A

SECTION B-B

SECTION A-A



SECTION B-B

REVISION:
APPROVED: JANUARY 23, 2017

OPERATIONS ENGINEER

PEDESTRIAN APPROACH
NOSE DETAIL

(FOR RETURNED CURB
SIDE TREATMENT)



REVISED:
1-23-2017
STATE DESIGN ENGINEER

21-4

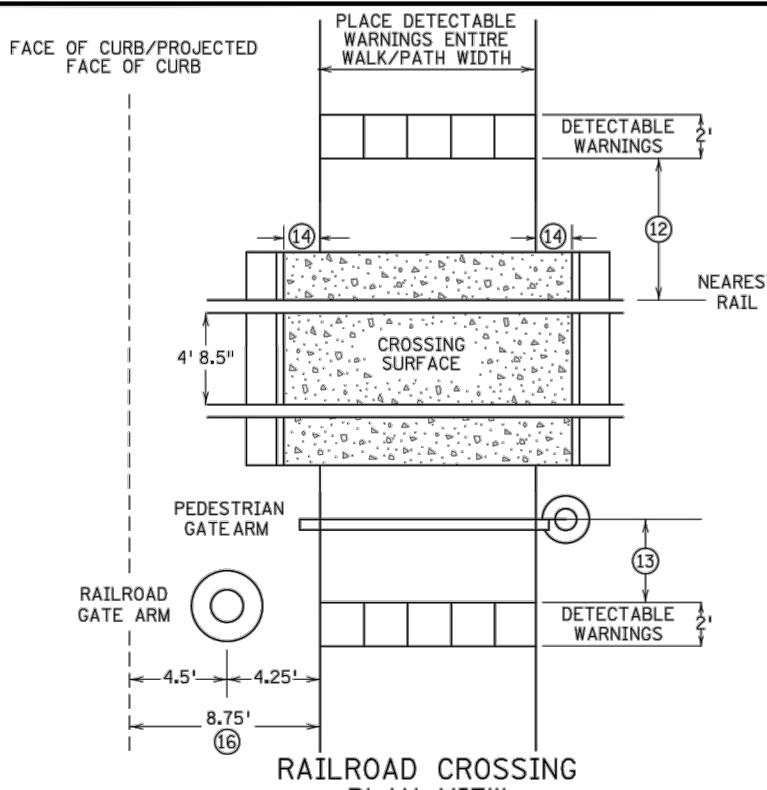
SIDEWALK EXPANSION GAPS

STANDARD PLAN 5-297.250

PEDESTRIAN CURB
RAMP 4 OF 6

5

16

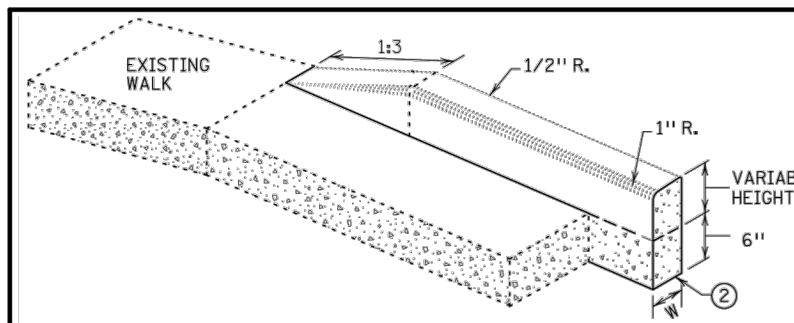


RAILROAD CROSSING
PLAN VIEW

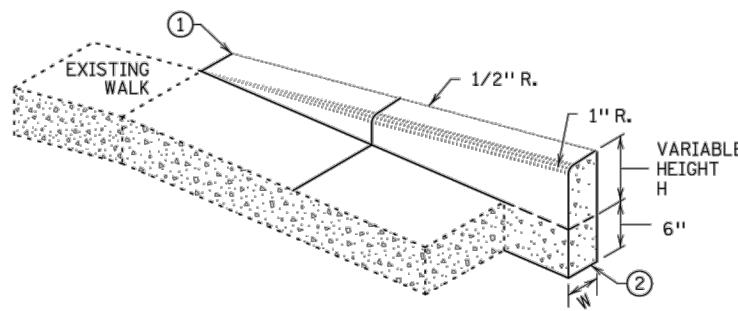
NOTES:

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 TRAVELED 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.

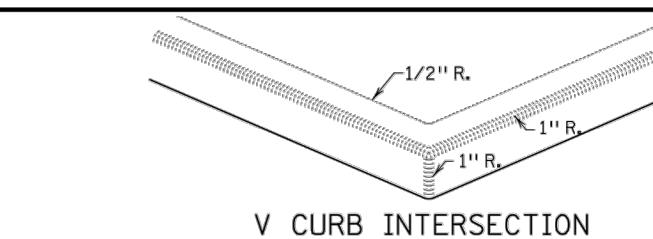
- ① 0" CURB HEIGHT.
- ② FULL CURB HEIGHT.
- ③ 2' FOR 4" HIGH CURB AND 3' FOR 6" HIGH CURB.
- ④ SIDE TREATMENTS ARE APPLICABLE TO ALL RAMP TYPES AND SHOULD BE IMPLEMENTED AS NEEDED AS FIELD CONDITIONS DICTATE. THE ENGINEER SHALL DETERMINE THE RAMP SIDE TREATMENTS BASED ON MAINTENANCE OF BOTH ROADWAY AND SIDEWALK, ADJACENT PROPERTY CONSIDERATIONS, AND MITIGATING CONSTRUCTION IMPACTS.
- ⑤ TYPICALLY USED FOR MEDIANES 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 MEDIANES 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.



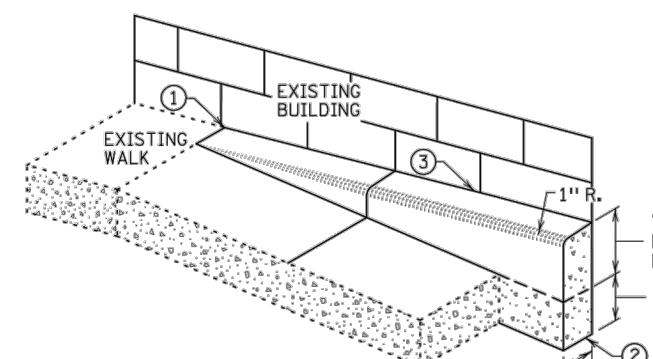
V CURB ADJACENT TO LANDSCAPE
CURB WITHIN SIDEWALK LIMITS



V CURB ADJACENT TO LANDSCAPE
CURB OUTSIDE SIDEWALK LIMITS



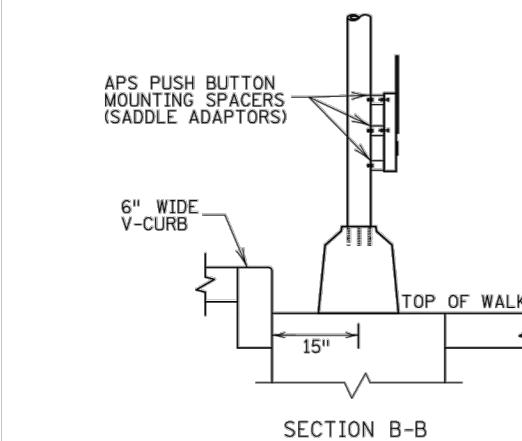
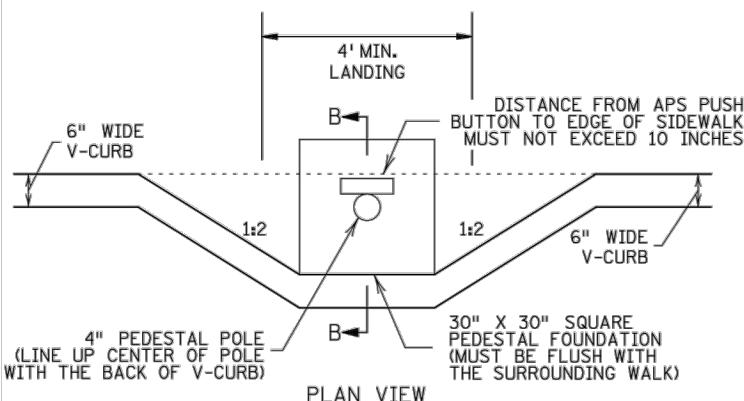
V CURB INTERSECTION



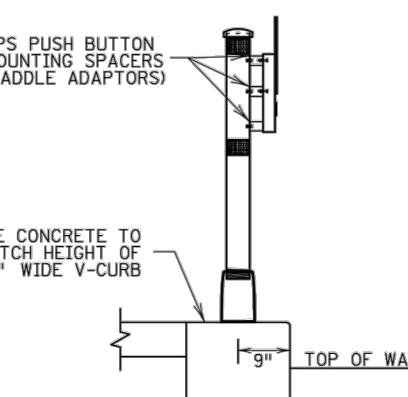
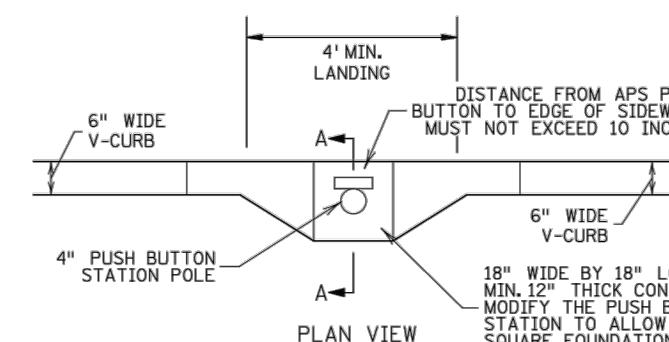
V CURB ADJACENT TO BUILDING
OR BARRIER

CONCRETE CURB DESIGN V

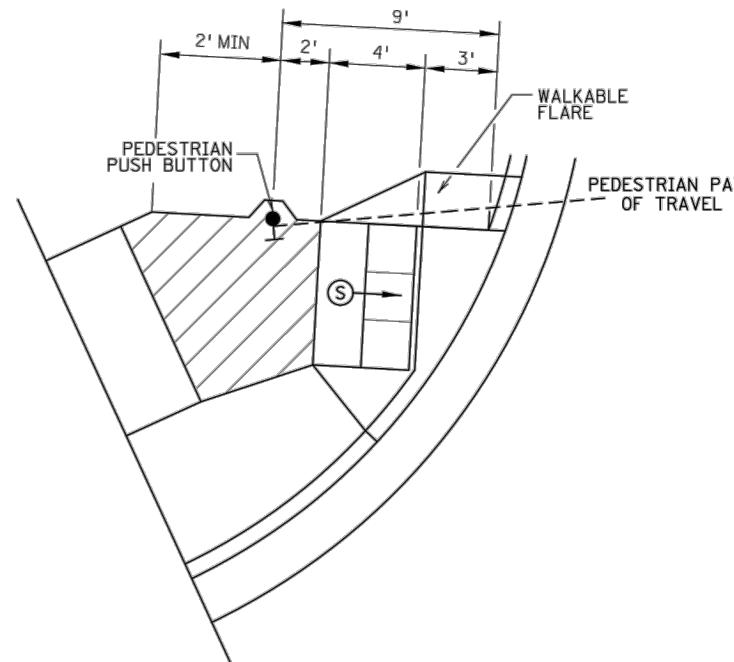
CURB HEIGHT H	CURB WIDTH W
<6"	4"
≥6"	6"



SIGNAL PEDESTAL & PUSH BUTTON (V-CURB)



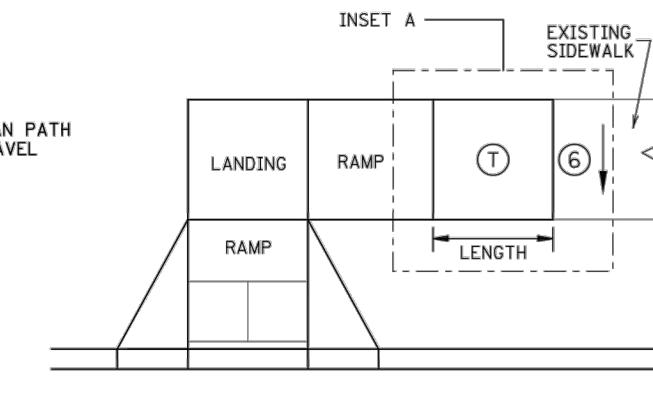
PUSH BUTTON STATION (V-CURB)



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 (4,5)

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.

④ 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%.

⑤ 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.

⑥ TRANSITION PANEL(S) - TO BE USED FOR TRANSITIONING THE CROSS-SLOPE OF A
RAMP TO THE EXISTING WALK CROSS-SLOPE. RATE OF TRANSITION SHOULD BE 0.5%
PER 1 LINEAR FOOT OF WALK. SEE THIS SHEET FOR ADDITIONAL INFORMATION.

REVISION:	
APPROVED: JANUARY 23, 2017	
Operations Engineer	



REVISED:
1-23-2017
APPROVED:
1-23-2017
STATE DESIGN ENGINEER

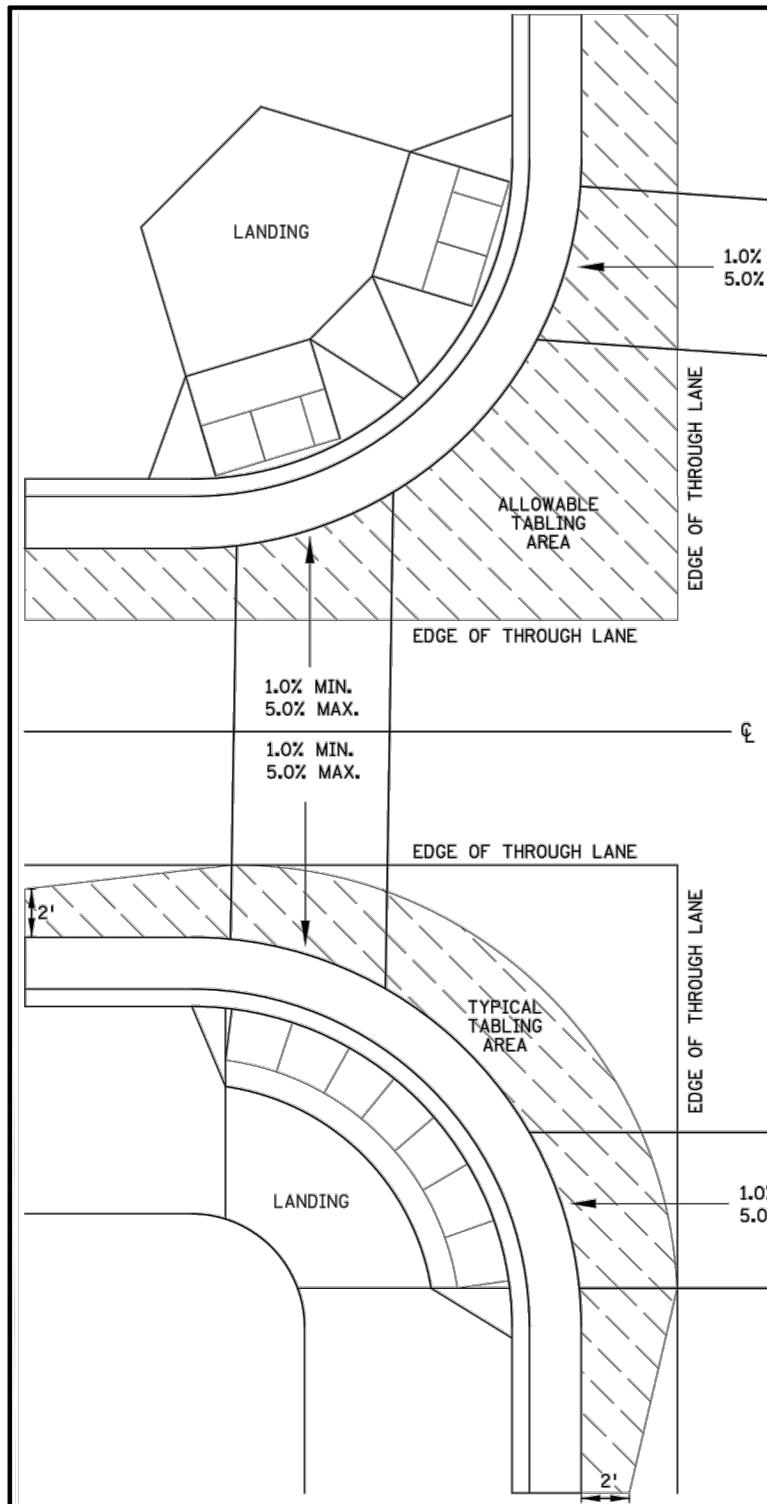
21-4

SIDEWALK EXPANSION GAPS

STANDARD PLAN 5-297.250

PEDESTRIAN CURB
RAMP 5 OF 6

6
16



CURB LINE AND ROAD CROSSING ADJUSTMENTS

"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% OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA;

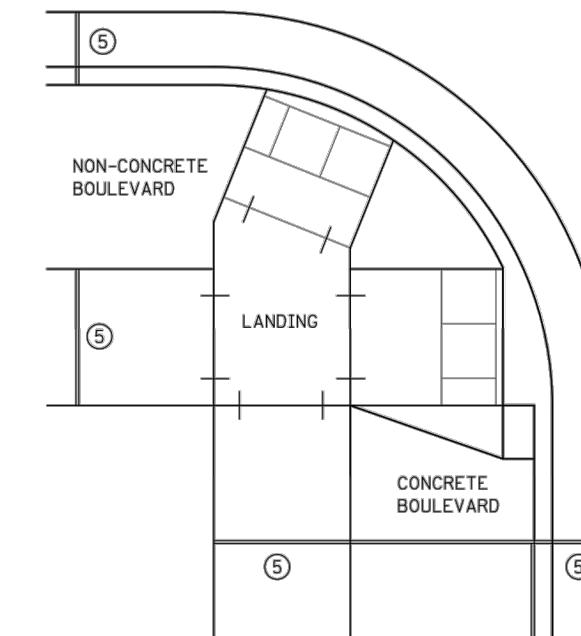
- 1) 1.0% MIN. CROSS-SLOPE OF THE ROAD
- 2) 5.0% MAX. CROSS-SLOPE OF THE ROAD
- 3) "TABLE" FLOW LINE UP TO 4% CHANGE FROM EXISTING SLOPE IN FRONT THE PEDESTRIAN RAMP
- 4) UP TO 2% CHANGE IN FLOW LINE FROM EXISTING SLOPE BEYOND THE PEDESTRIAN CURB RAMP

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.

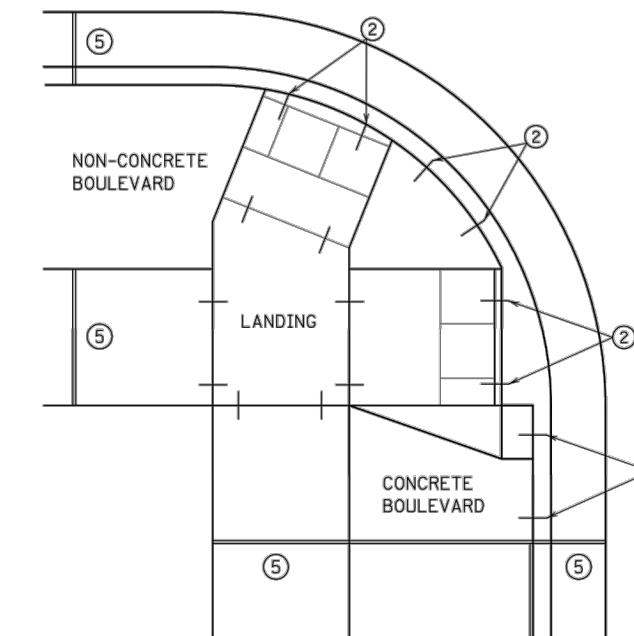
RASING OF CURB LINES SHOULD OCCUR IN VERTICALLY CONSTRAINED AREAS. RAISE THE CURB LINES ENOUGH TO ALLOW COMPLIANT RAMPS OR AS MUCH AS POSSIBLE WHILE ADHERING TO THE FOLLOWING CRITERIA;

- 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

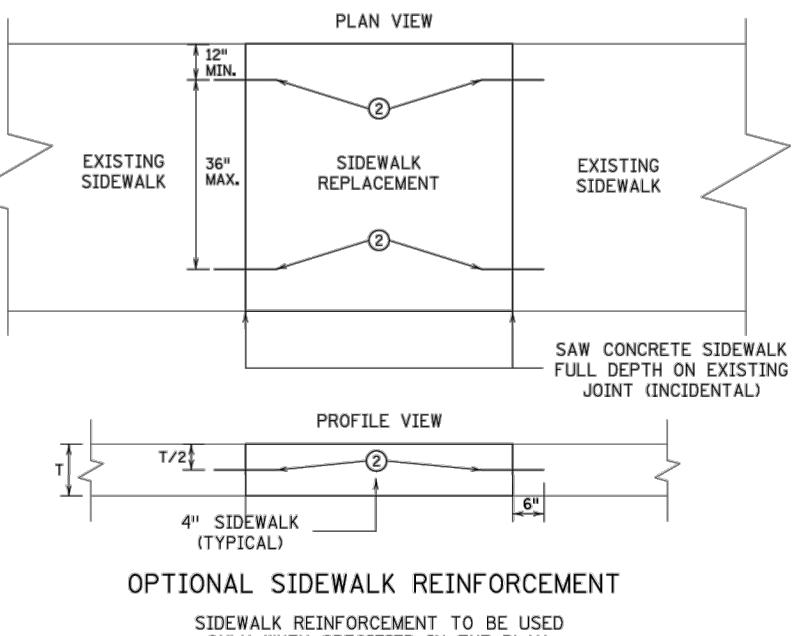
REVISION:	1
APPROVED: JANUARY 23, 2017	2
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OPERATIONS ENGINEER	



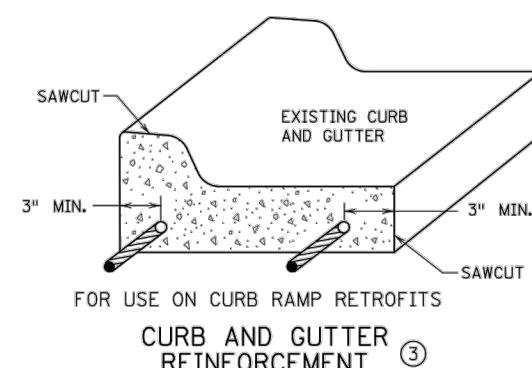
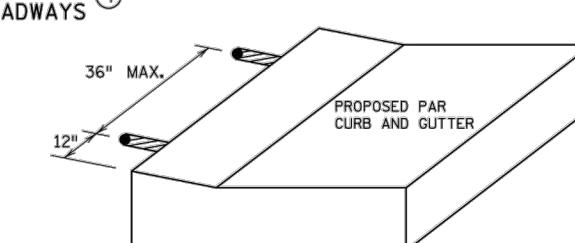
EXPANSION MATERIAL PLACEMENT FOR CONCRETE AND BITUMINOUS ROADWAYS



OPTIONAL CURB LINE REINFORCEMENT PLACEMENT ON BITUMINOUS ROADWAYS ④

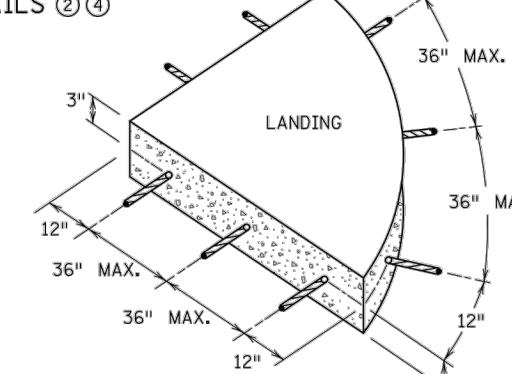
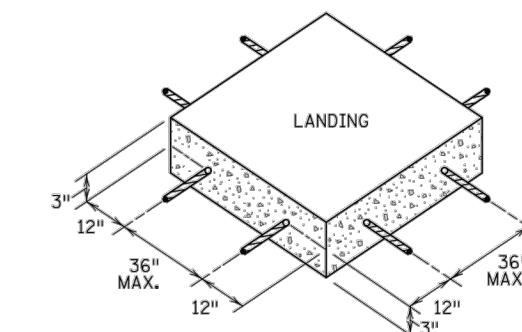


OPTIONAL SIDEWALK REINFORCEMENT
SIDEWALK REINFORCEMENT TO BE USED ONLY WHEN SPECIFIED IN THE PLAN.



FOR USE ON CURB RAMP RETROFITS
CURB AND GUTTER REINFORCEMENT ③

OPTIONAL CURB LINE REINFORCEMENT DETAILS ②④



SEPARATE LANDING POUR REINFORCEMENT ①

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.



REvised:
Tom S...
STATE DESIGN ENGINEER

APPROVED:
1-23-2017

21-4

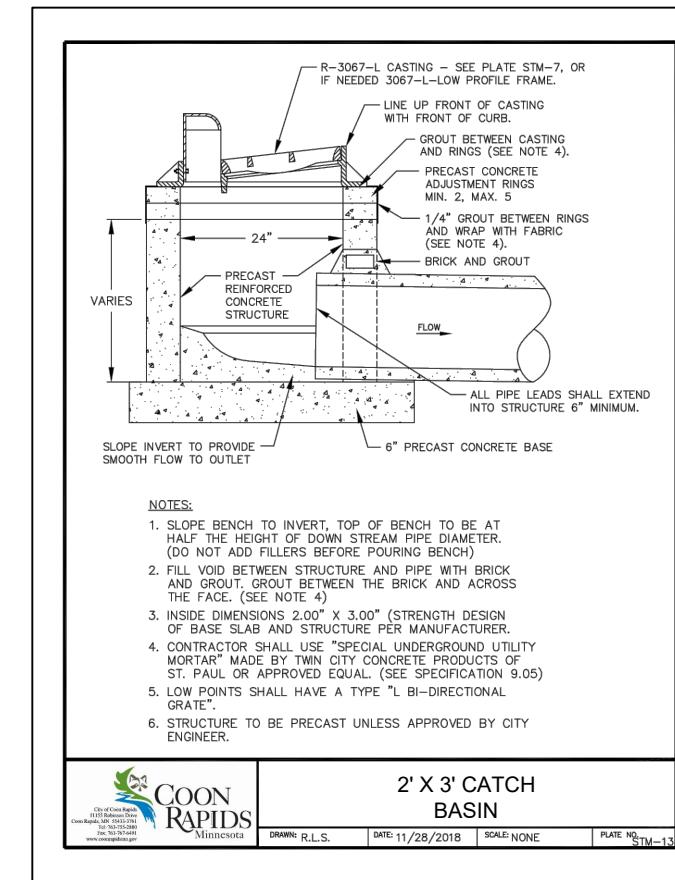
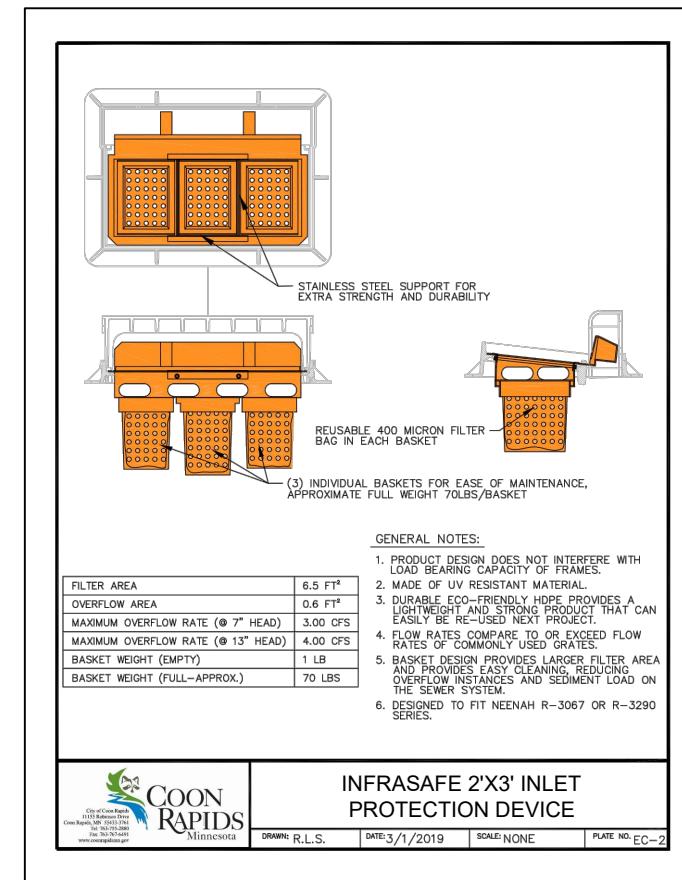
SIDEWALK EXPANSION GAPS

STANDARD PLAN 5-297.250

PEDESTRIAN CURB
RAMP 6 OF 6

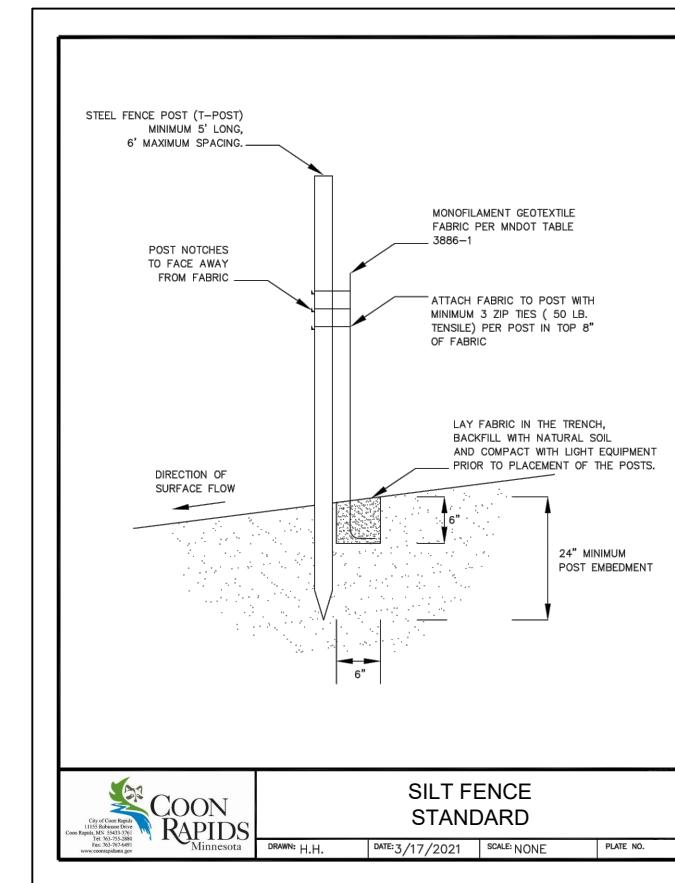
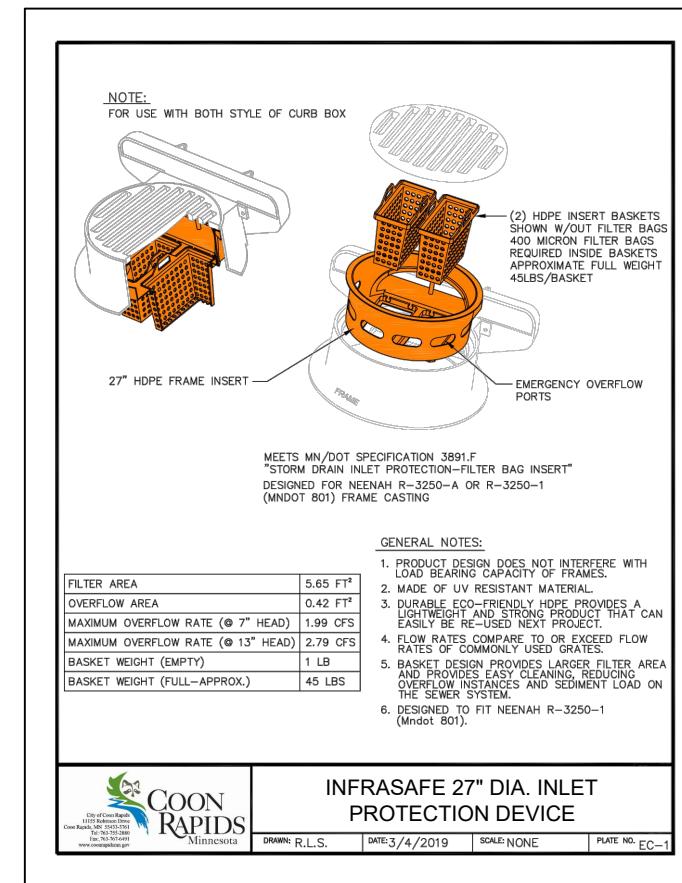
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EROSION CONTROL NOTES:

- 1- ALL STREETS IN AND ADJACENT TO THE PROJECT SHALL REMAIN CLEAN AND PASSABLE AT ALL TIMES. ADJACENT STREET AND CURB LINE TO BE SWEPT OF DEBRIS AT THE END OF EACH WORK DAY AS OFTEN AS NEEDED TO ENSURE PUBLIC SAFETY.
- 2- SEDIMENT CONTROL MUST BE IN PLACE AND APPROVED BY THE ENGINEER BEFORE CONSTRUCTION CAN BEGIN.
- 3- INLET PROTECTION WILL BE INSTALLED AT ALL CATCH INLETS WITHIN THE PROJECT AREA PER STANDARD DETAILS.
- 4- STABILIZATION OF DISTURBED AREAS SHALL BE DONE BY PERMANENT TURF ESTABLISHMENT WHENEVER POSSIBLE.
- 5- IN THE EVENT THAT PERMANENT STABILIZATION CANNOT BE IMPLEMENTED WITHIN 7 DAYS AFTER CONSTRUCTION ACTIVITY IN THE DISTURBED AREA HAS CEASED, TEMPORARY STABILIZATION BMPS MUST BE SCHEDULED TO OCCUR WITHIN THAT 7 DAY TIME FRAME.
- 6- ALL STOCKPILES MUST HAVE PERIMETER SEDIMENT CONTROL IMPLEMENTED AND MAINTAINED AT ALL TIMES. STOCKPILES TO RECEIVE TEMPORARY STABILIZATION IF UNWORKED FOR 7 DAYS.



NO.	DATE	REVISIONS

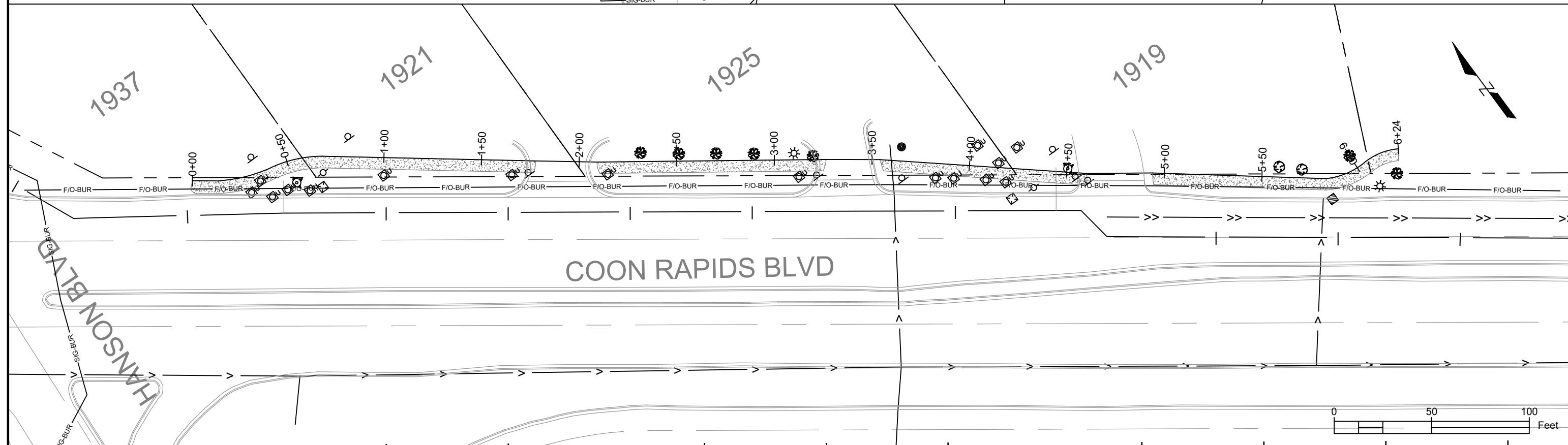
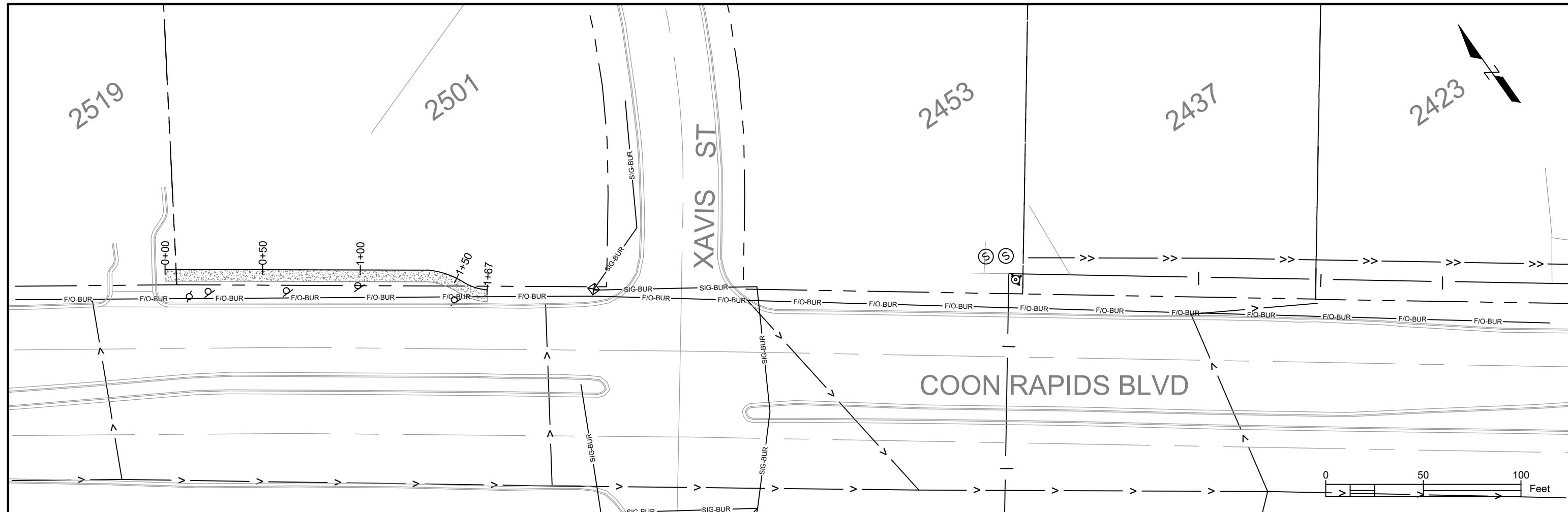


CITY OF COON RAPIDS
ENGINEERING DEPARTMENT
1115 ROBINSON DRIVE
COON RAPIDS, MN 55433-3761
FAX 651-755-2880
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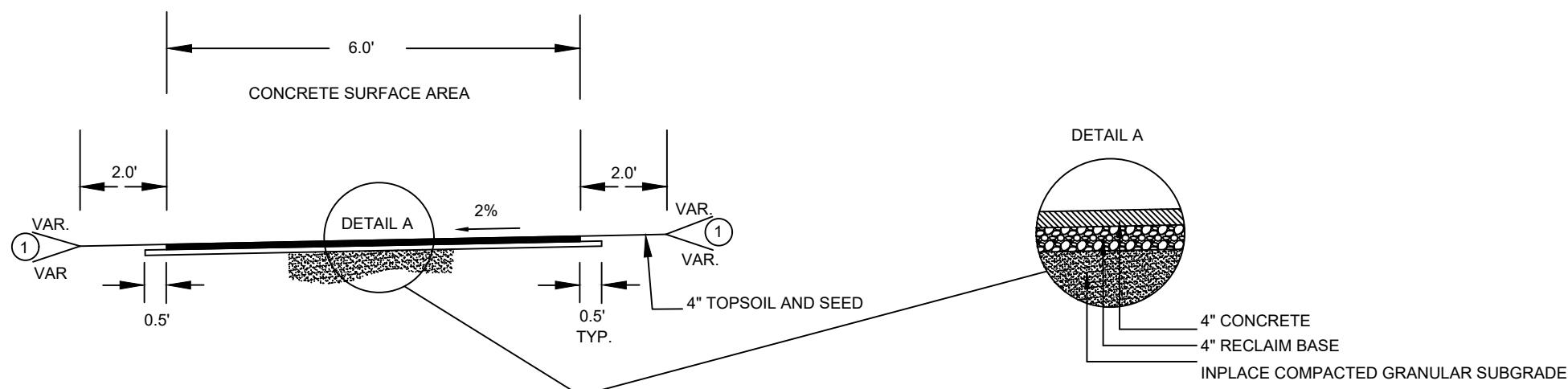
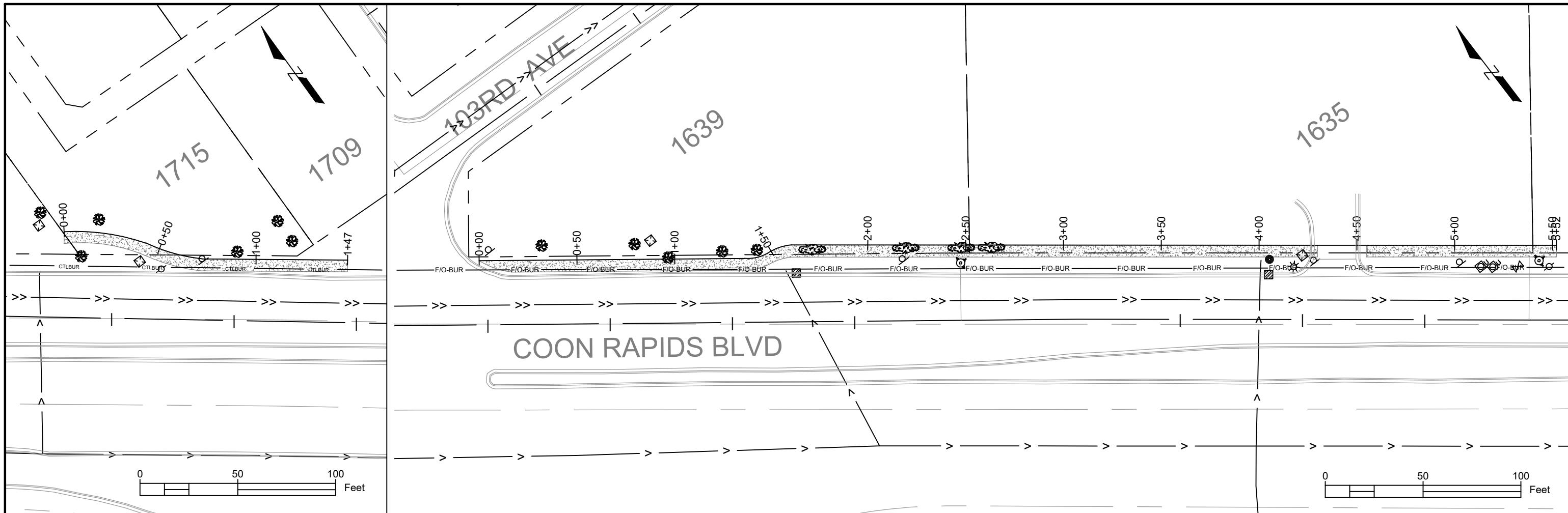
DESIGNED BY: H.H.
DRAWN BY: H.H.
CHECKED BY: M.C.H.
DATE: 05/06/2021

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS
PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND I AM A DULY
REGISTERED PROFESSIONAL ENGINEER UNDER THE STATE OF MINNESOTA.
MARK C. HANSEN, P.E.
LICENSE # 43920
DATE: 05/18/2021

21-4	SIDEWALK EXPANSION GAPS COON RAPIDS BLVD NW & SPRINGBROOK DR NW	EROSION CONTROL DETAILS AND NOTES
		8 16



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											2501-1937 COON RAPIDS BLVD NW		16



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ENGINEERING DEPARTMENT
1155 ROBINSON DRIVE
COON RAPIDS, MN 55433-3761
763-755-2880
FAX 613-67-6491
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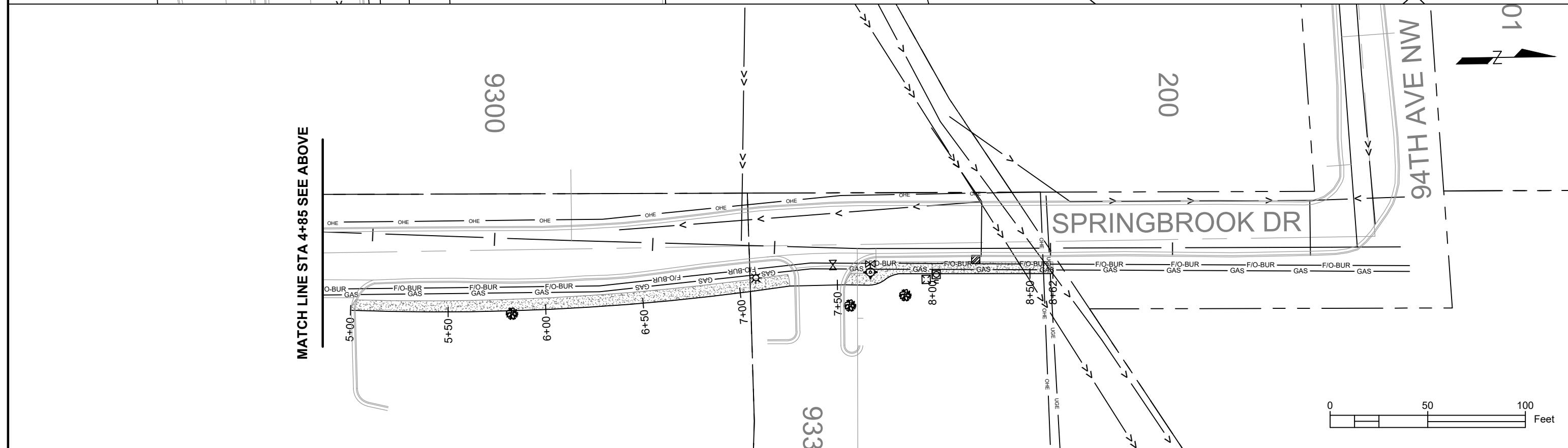
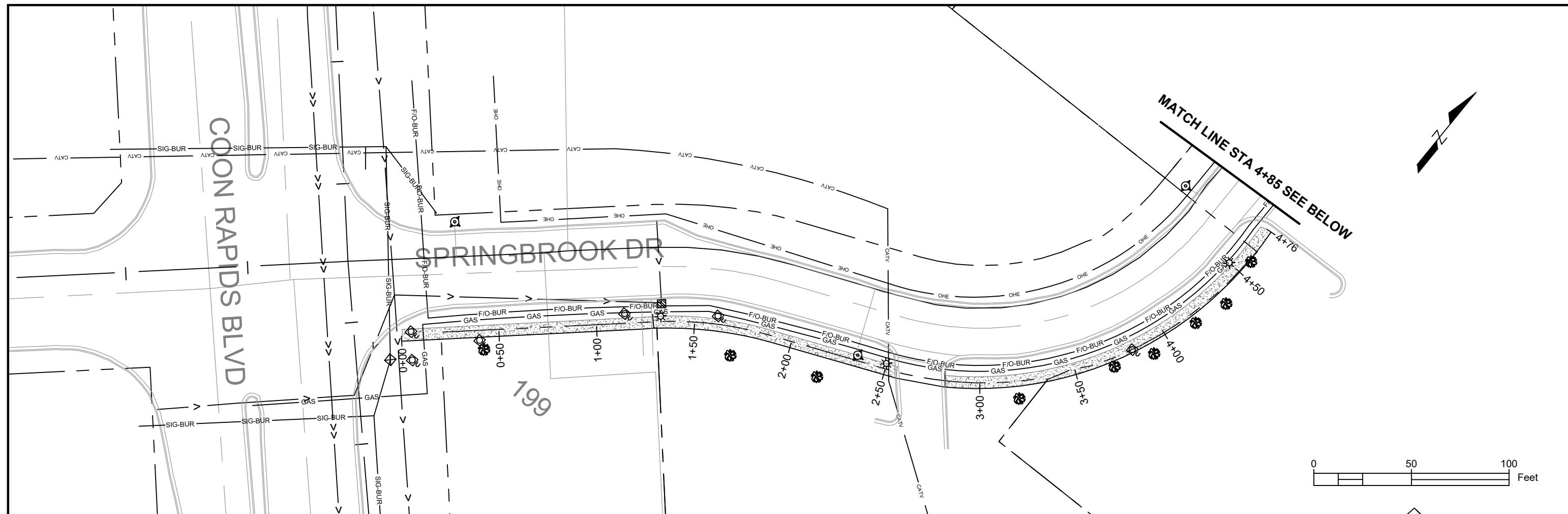
21-4

SIDEWALK EXPANSION GAPS
1715-1939 COON RAPIDS BLVD NW

INPLACE UTILITY PLAN
AND TYPICAL SECTION

10

16



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COON RAPIDS, MN 55433-3761
763-755-2880
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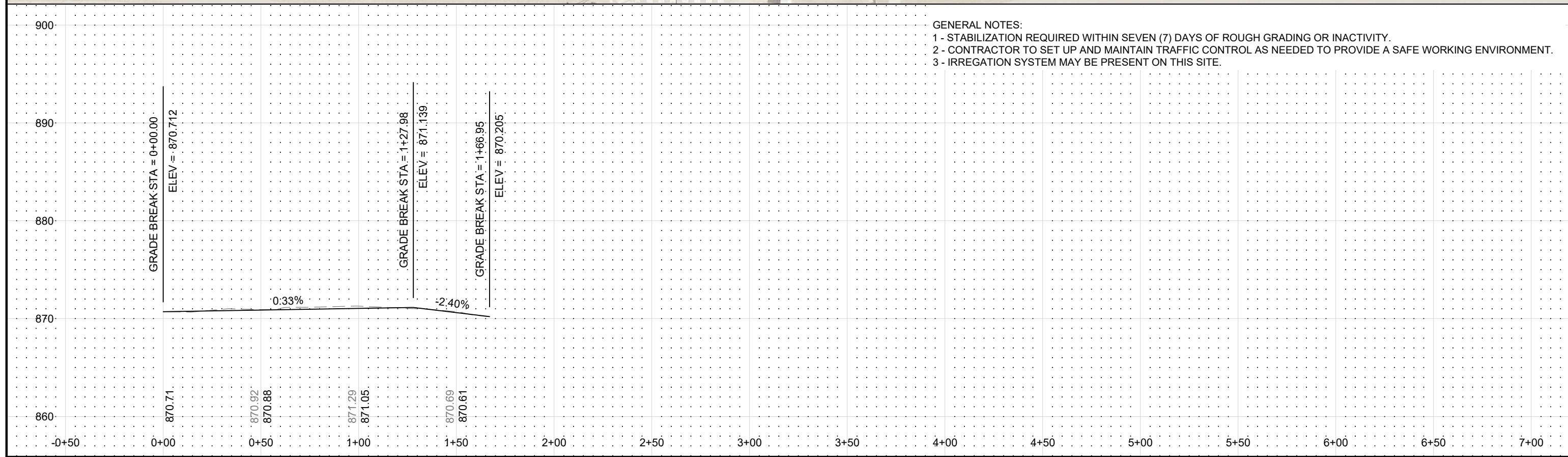
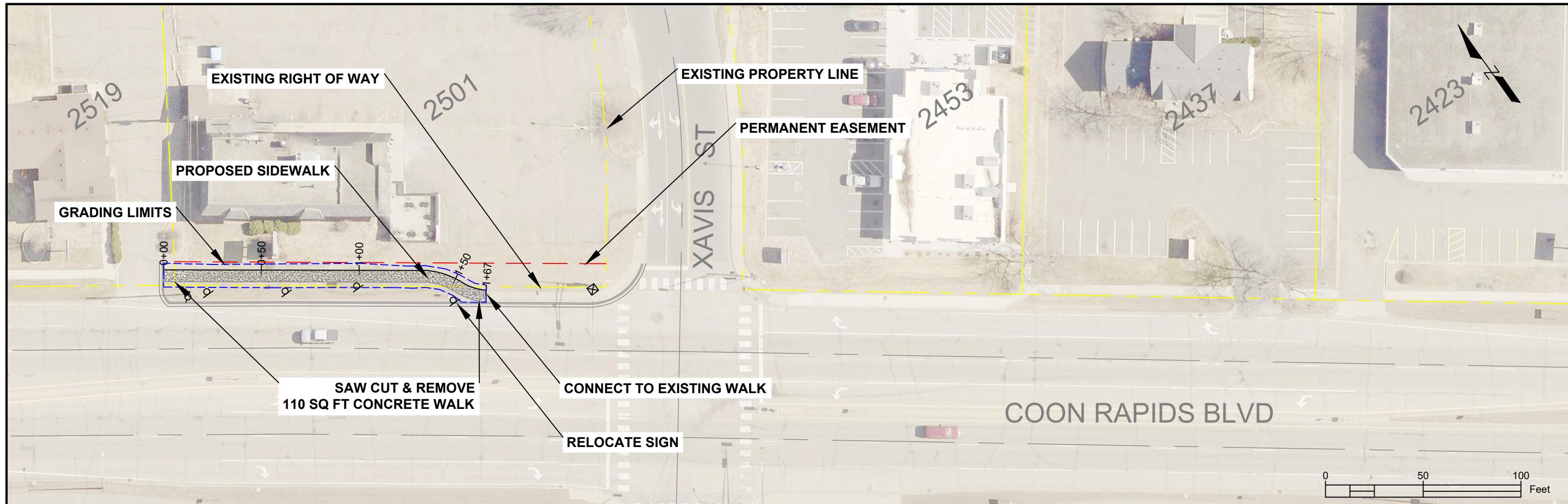
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SIDWALK EXPANSION GAPS
199 COON RAPIDS BLVD NW & 9333 SPRINGBROOK DR NW

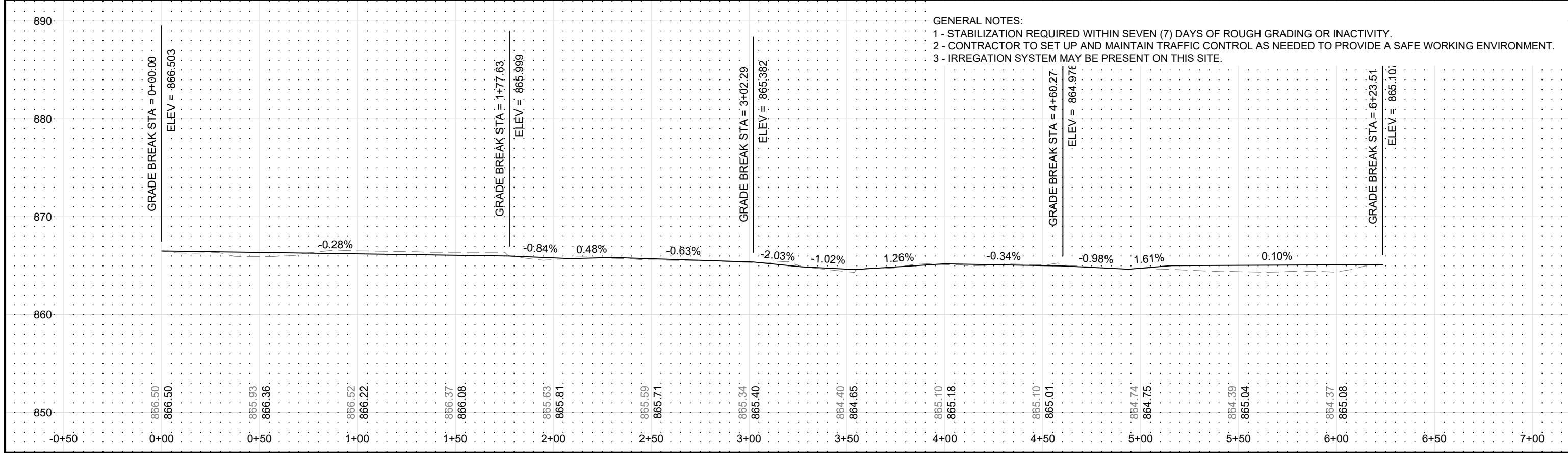
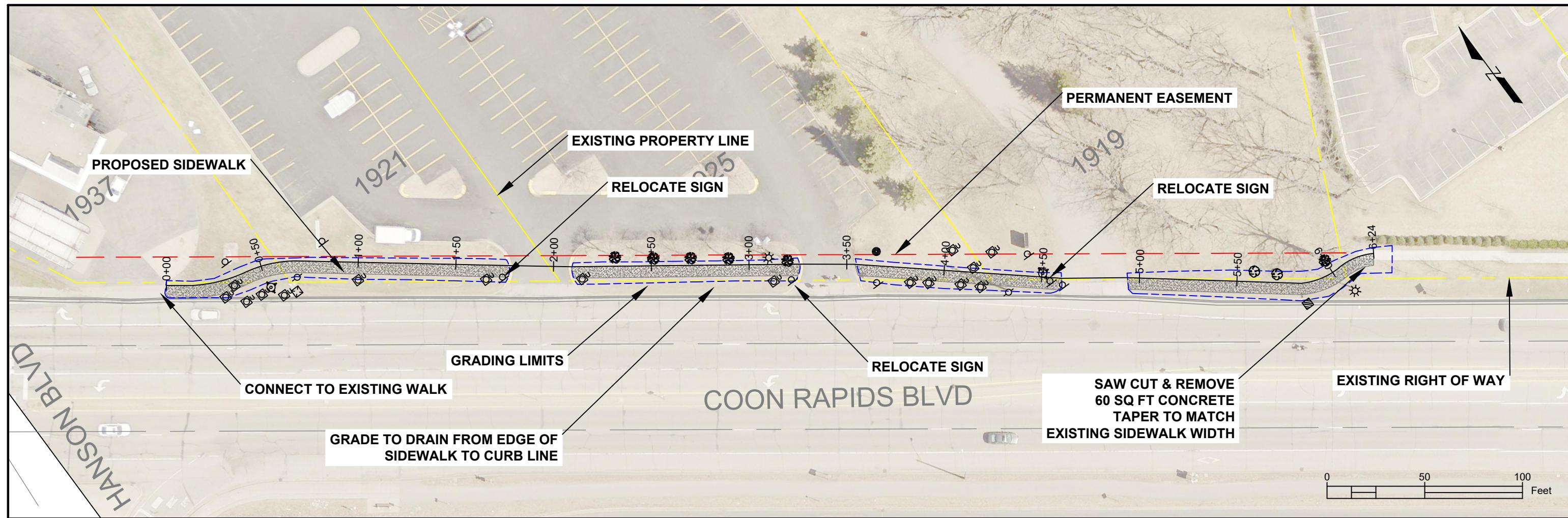
INPLACE
UTILITY PLAN

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16



NO.	DATE	REVISIONS	COON RAPIDS Minnesota	CITY OF COON RAPIDS ENGINEERING DEPARTMENT 1115 ROBINSON DRIVE COON RAPIDS, MN 55433-3761 763-755-2880 FAX 613-67-6491 WWW.COONRAPIDS.MN.GOV	DESIGNED BY: H.H.	DRAWN BY: H.H.	REGISTERED PROFESSIONAL ENGINEER UNDER THE STATE OF MINNESOTA.	MARK C. HANSEN, P.E. LICENSE #43920 DATE: 05/18/2021	21-4	SIDEWALK EXPANSION GAPS	PLAN AND PROFILE	12
										2501 COON RAPIDS BLVD NW		16



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21-4

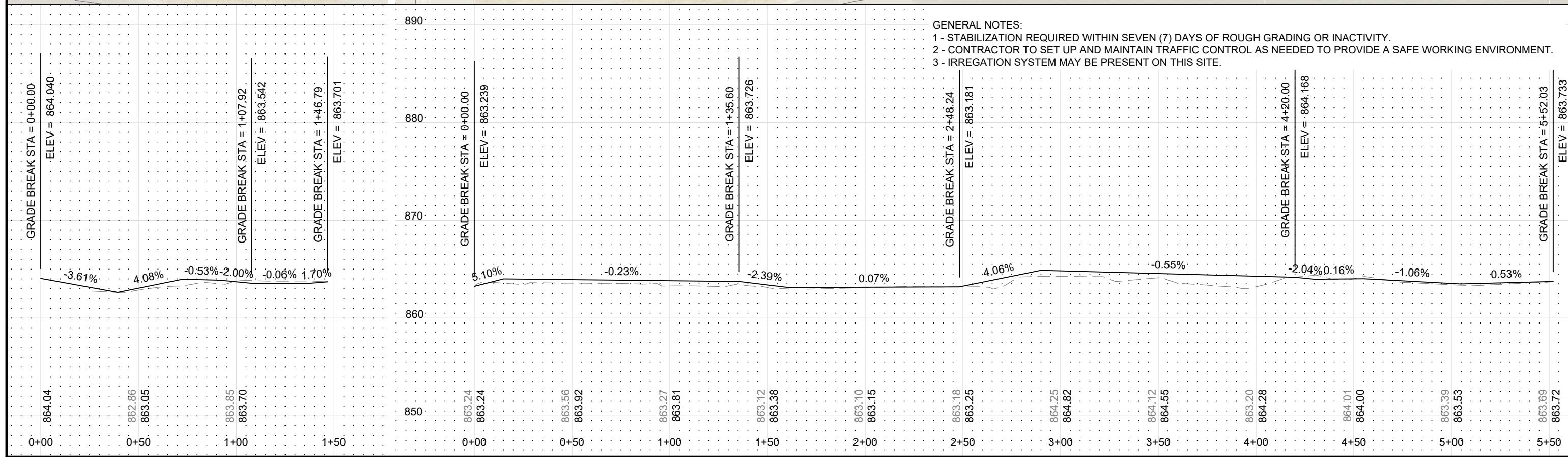
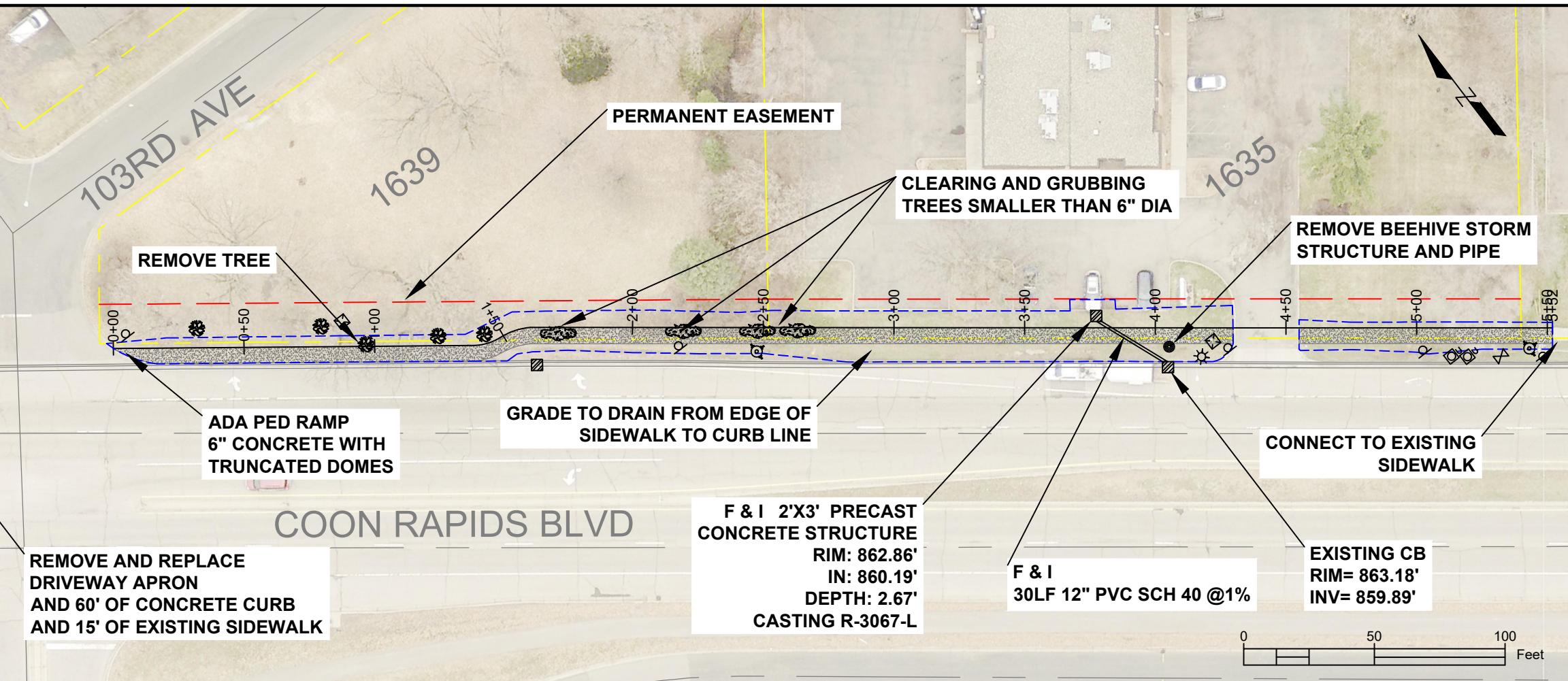
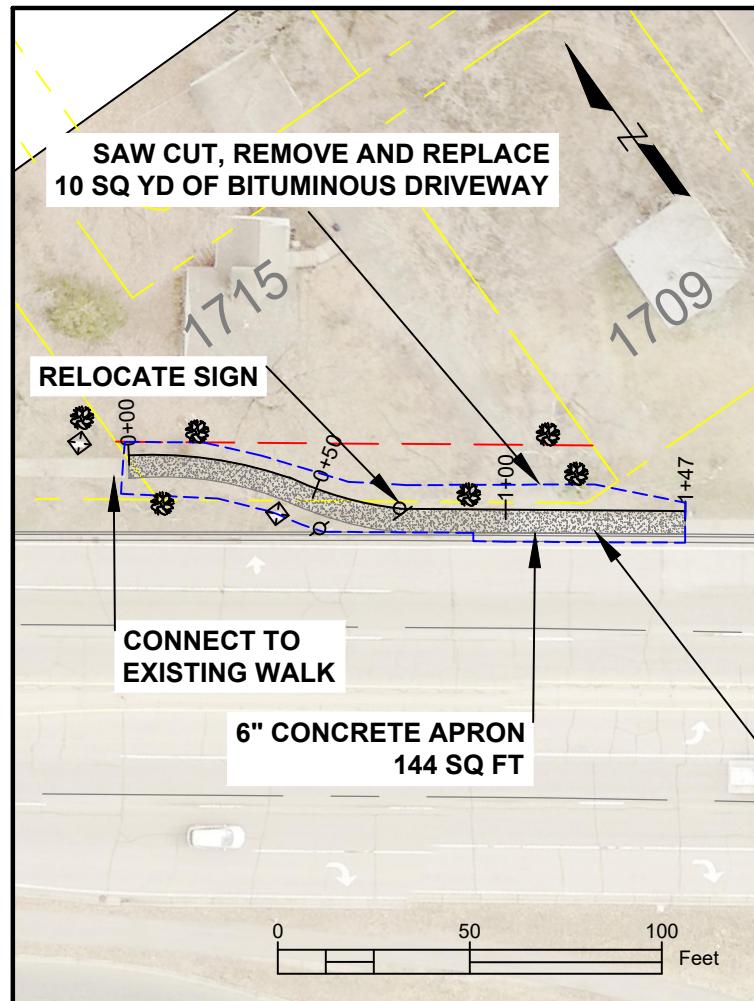
SIDEWALK EXPANSION GAPS

1937 COON RAPIDS BLVD NW

PLAN AND PROFILE

13

16



NO.	DATE	REVISIONS



CITY OF COON RAPIDS
ENGINEERING DEPARTMENT
1155 ROBINSON DRIVE
COON RAPIDS, MN 55433-3761
763-755-2880
FAX 763-67-6491
WWW.COONRAPIDS.MN.GOV

DESIGNED BY: H.H.
DRAWN BY: H.H.
CHECKED BY: M.C.H.
DATE: 05/06/2021

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS
PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND I AM A DULY
REGISTERED PROFESSIONAL ENGINEER UNDER THE STATE OF MINNESOTA.
MARK C. HANSEN, P.E.
LICENSE # 43920
DATE: 05/18/2021
[Signature]

21-4

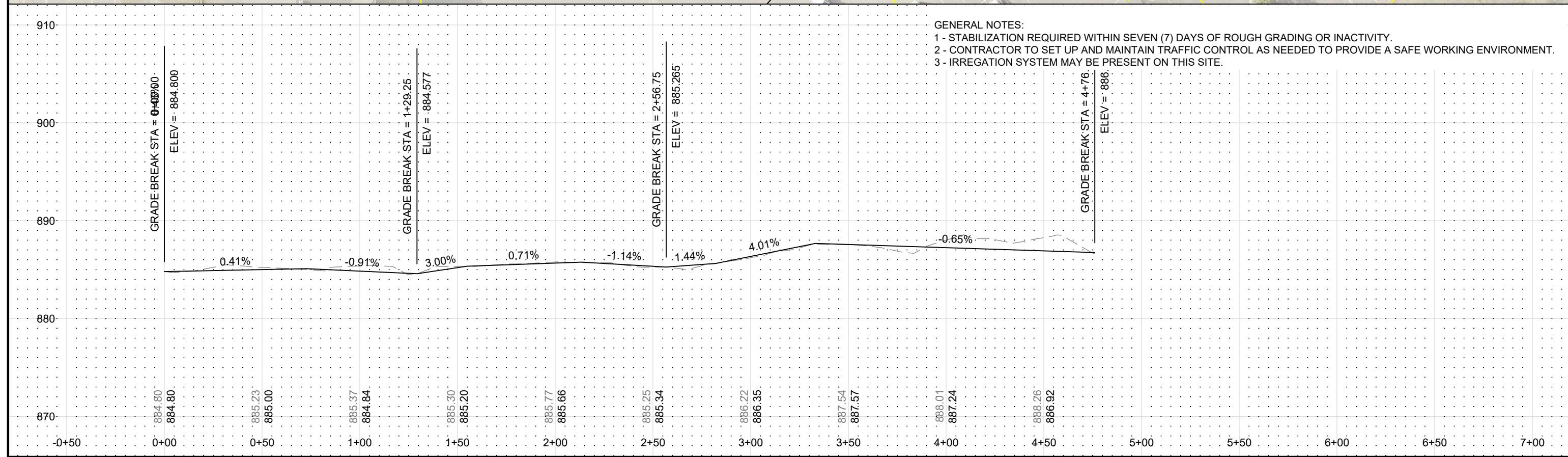
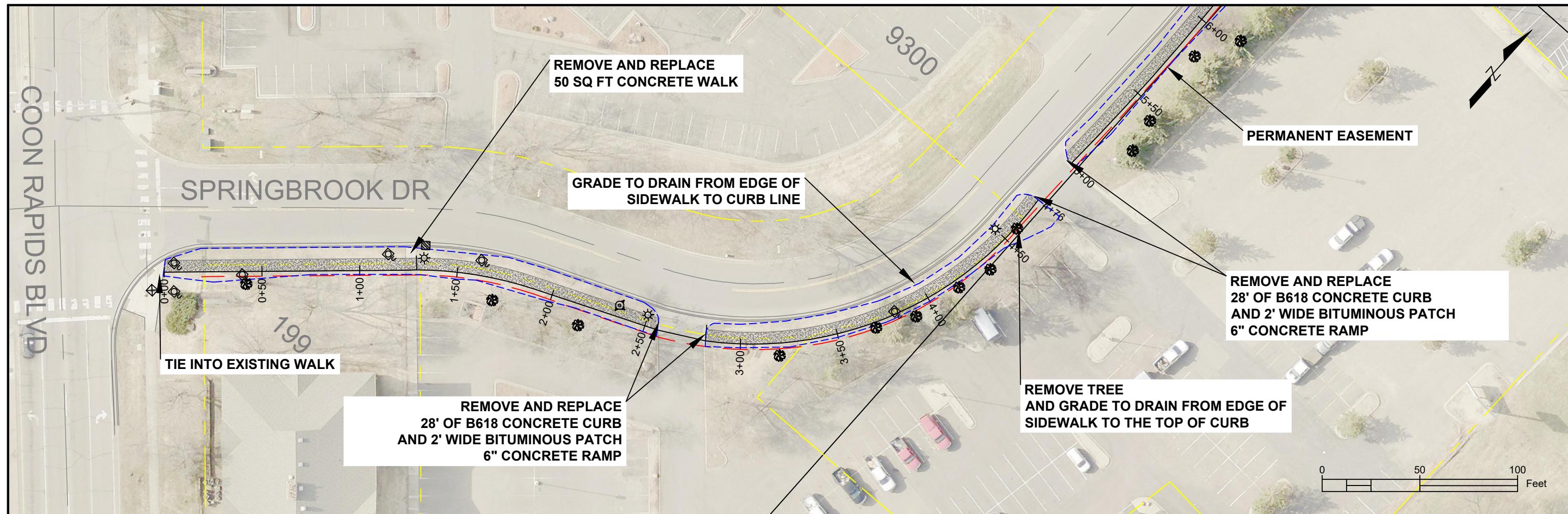
SIDEWALK EXPANSION GAPS

1715 & 1639 COON RAPIDS BLVD NW

PLAN AND PROFILE

14

16



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CITY OF COON RAPIDS
ENGINEERING DEPARTMENT
1155 ROBINSON DRIVE
COON RAPIDS, MN 55433-3761
763-555-2880
FAX 651-474-6491
WWW.COONRAPIDS.MN.GOV

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MARK C. HANSEN, P.E.
LICENSE #43920
DATE: 05/18/2021

[Signature]

21-4

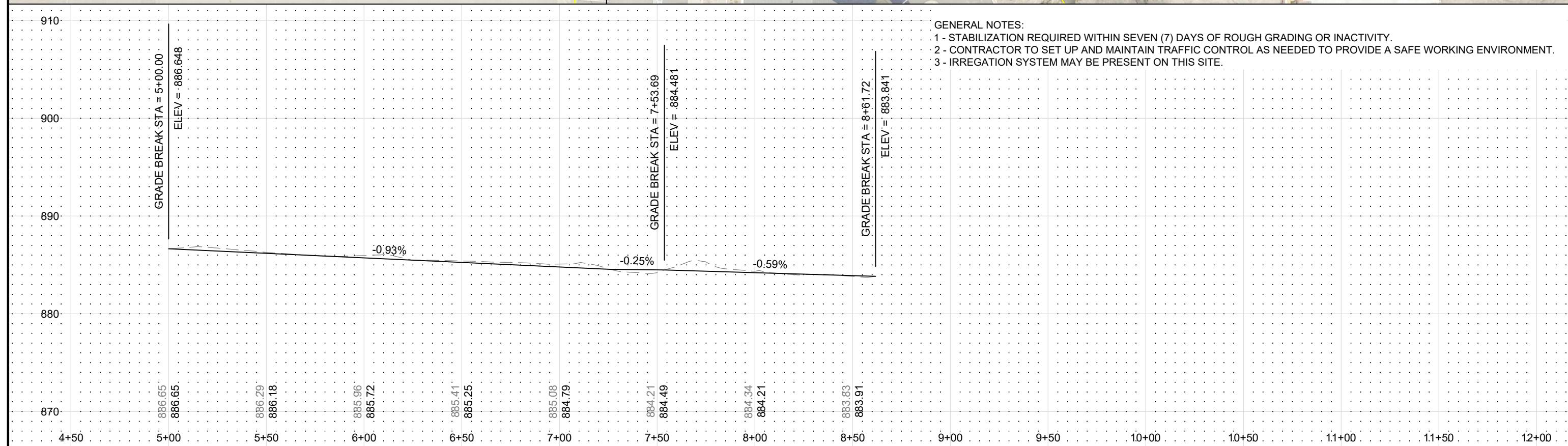
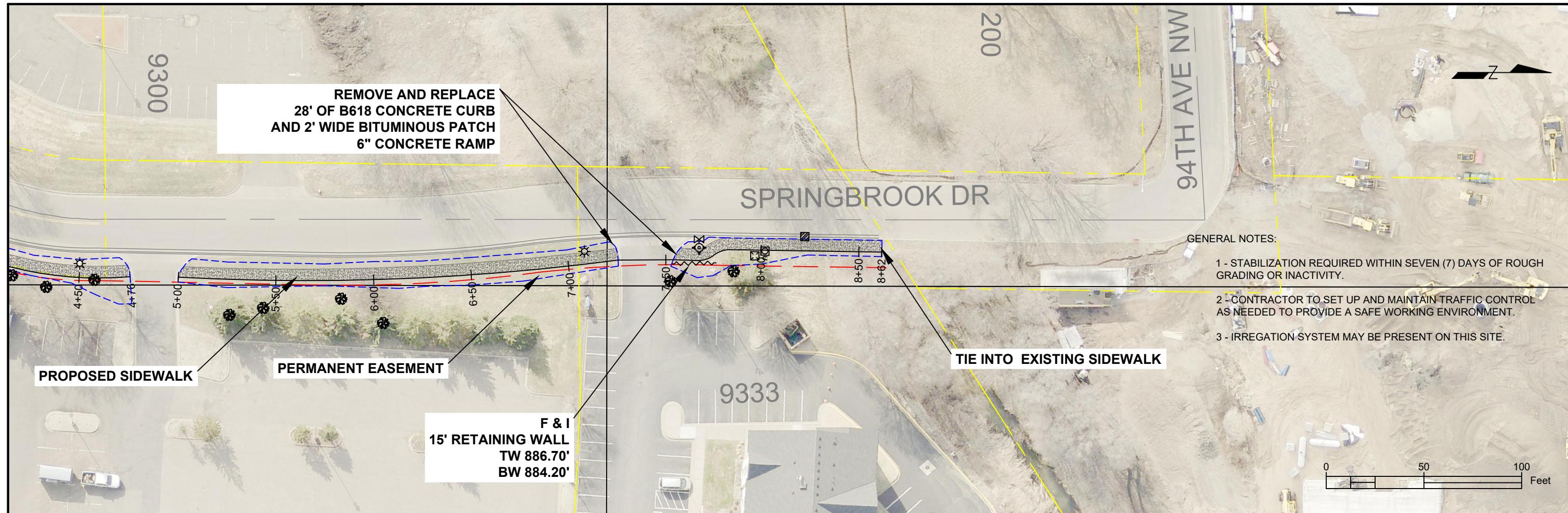
SIDEWALK EXPANSION GAPS

199 COON RAPIDS BLVD NW

PLAN AND PROFILE

15

16



NO.	DATE	REVISIONS	COON RAPIDS Minnesota	CITY OF COON RAPIDS ENGINEERING DEPARTMENT 1115 ROBINSON DRIVE COON RAPIDS, MN 55433-3761 763-755-2880 FAX 651-766-6491 WWW.COONRAPIDS.MN.GOV	DESIGNED BY: H.H. DRAWN BY: H.H. CHECKED BY: M.C.H. DATE: 05/06/2021	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE STATE OF MINNESOTA. MARK C. HANSEN, P.E. LICENSE # 43920 DATE: 05/18/2021	21-4	SIDWALK EXPANSION GAPS 9333 SPRINGBROOK DR NW	PLAN AND PROFILE	16
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