

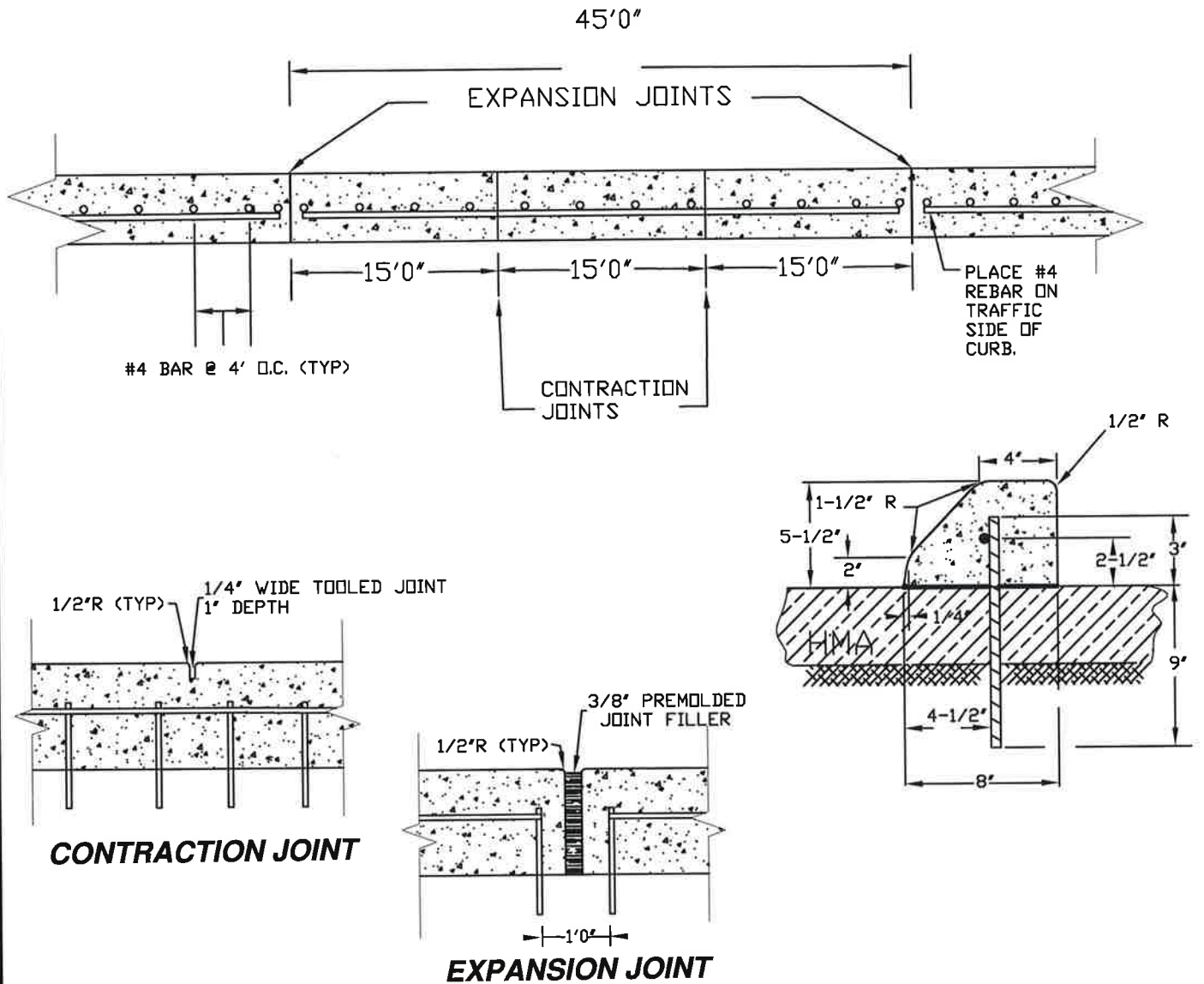
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 ***W-108A = New Standard Plan
 #A-1 = Renumbered Standard Plan

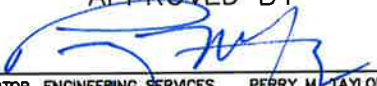
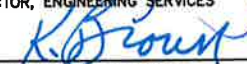

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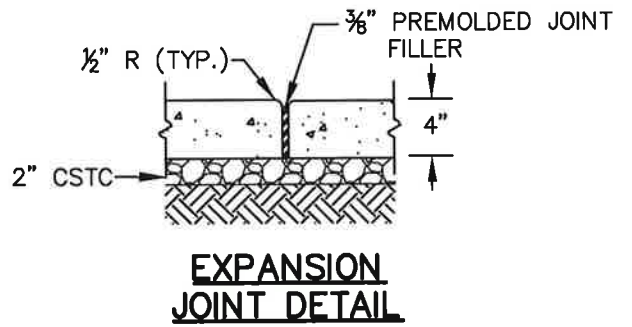
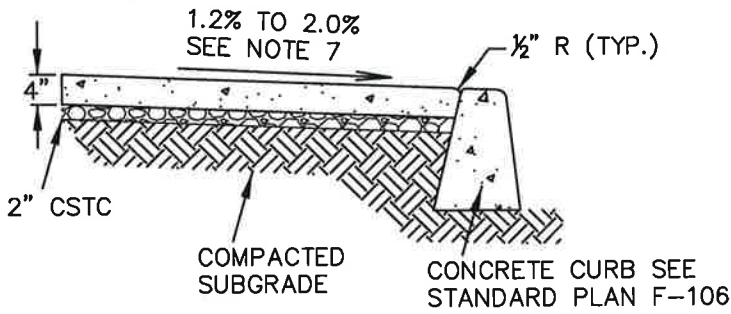
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NOTES:

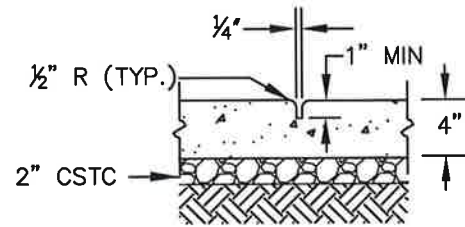
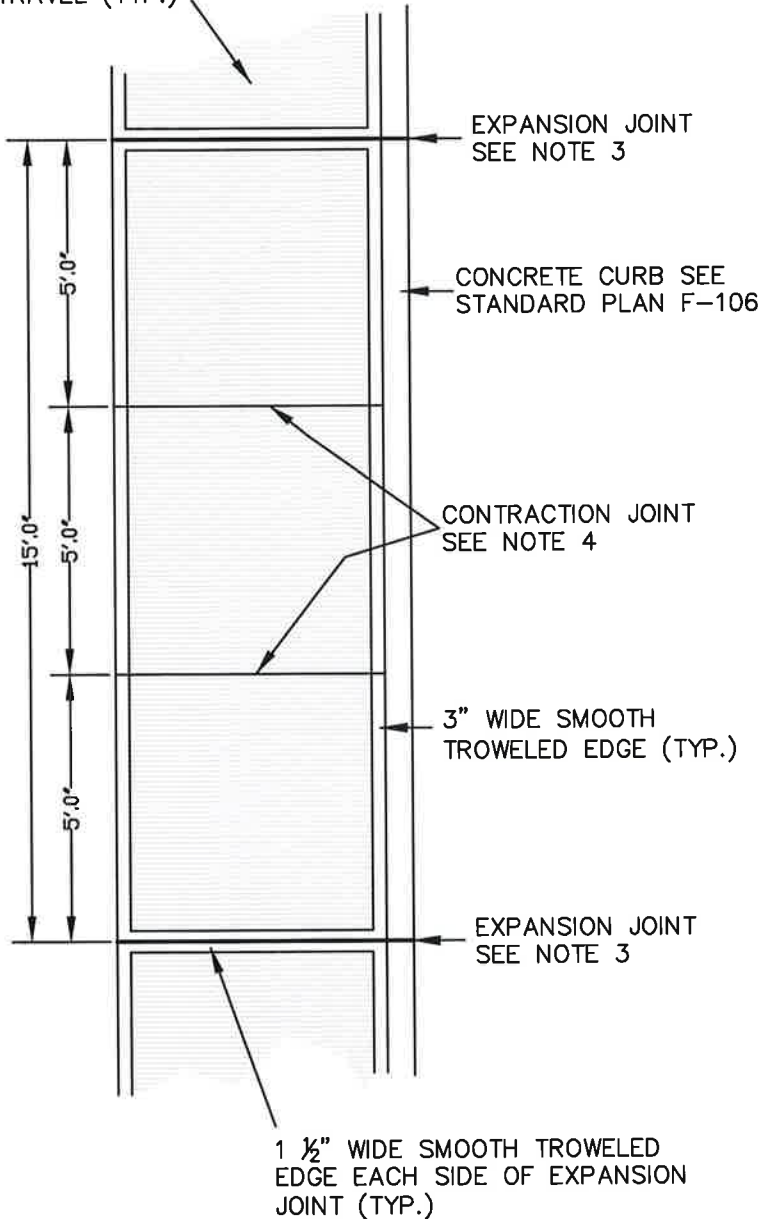
1. REINFORCED DOWELED CURB SHALL BE CONSTRUCTED USING AIR-ENTRAINED CLASS 4000 CONCRETE
2. EXPANSION JOINTS SHALL EXTEND THROUGH THE FULL CROSS-SECTION OF THE REINFORCED DOWELED CURB. A 1-FOOT SECTION OF THE #4 REBAR SHALL BE REMOVED AT EACH EXPANSION JOINT. EXPANSION JOINT SPACING SHALL NOT EXCEED 45' O.C.
3. CONTRACTION JOINT SPACING SHALL NOT EXCEED 15' O.C.

<p>APPROVED BY</p>  <p>DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.</p>  <p>PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.</p>	<p>ADOPTED: 2/1990 REVISED: 04/2012 SUPERSEDES: 01/2008 CHECKED BY: SJS SCALE: NTS REVISED BY: DSH</p>	<p>REINFORCED DOWELED CURB</p>  <p>ENGINEERING SERVICES CITY OF SPOKANE, WASHINGTON</p> <p>STANDARD PLAN No. F-101</p>
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EXPANSION JOINT DETAIL

BROOMED FINISH TRANSVERSE TO PEDESTRIAN DIRECTION OF TRAVEL (TYP.)



CONTRACTION JOINT DETAIL

NOTES:

1. CONCRETE SIDEWALKS SHALL BE CONSTRUCTED USING AIR-ENTRAINED, 6 SACK, COMMERCIAL CONCRETE.
2. 2-INCHES OF CONCRETE MAY BE SUBSTITUTED FOR THE 2-INCHES OF CSTC, YIELDING A TOTAL SIDEWALK THICKNESS OF 6-INCHES.
3. EXPANSION JOINTS SHALL EXTEND THROUGH THE FULL CROSS-SECTION OF THE SIDEWALK & CURB OR CURB/GUTTER. EXPANSION JOINTS ARE REQ'D BETWEEN EXISTING SIDEWALKS AND CURB OR CURB/GUTTER AND NEW SIDEWALKS & CURB OR CURB/GUTTER. EXPANSION JOINT SPACING SHALL NOT EXCEED 15-FT O.C.
4. CONTRACTION JOINT SPACING SHALL NOT EXCEED 5-FT O.C.
5. SEE STD PLAN F-102B FOR SLOPING REQUIREMENTS BEHIND SIDEWALK.
6. A 5-FT WIDE TRANSITION PANEL IS REQUIRED WHEN CONNECTING NEW SIDEWALKS TO EXISTING SIDEWALKS W/ CROSS SLOPES EXCEEDING 2.0%.
7. 1.2% MINIMUM CROSS SLOPE AND 2.0% MAXIMUM CROSS SLOPE. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.

APPROVED BY

 DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.

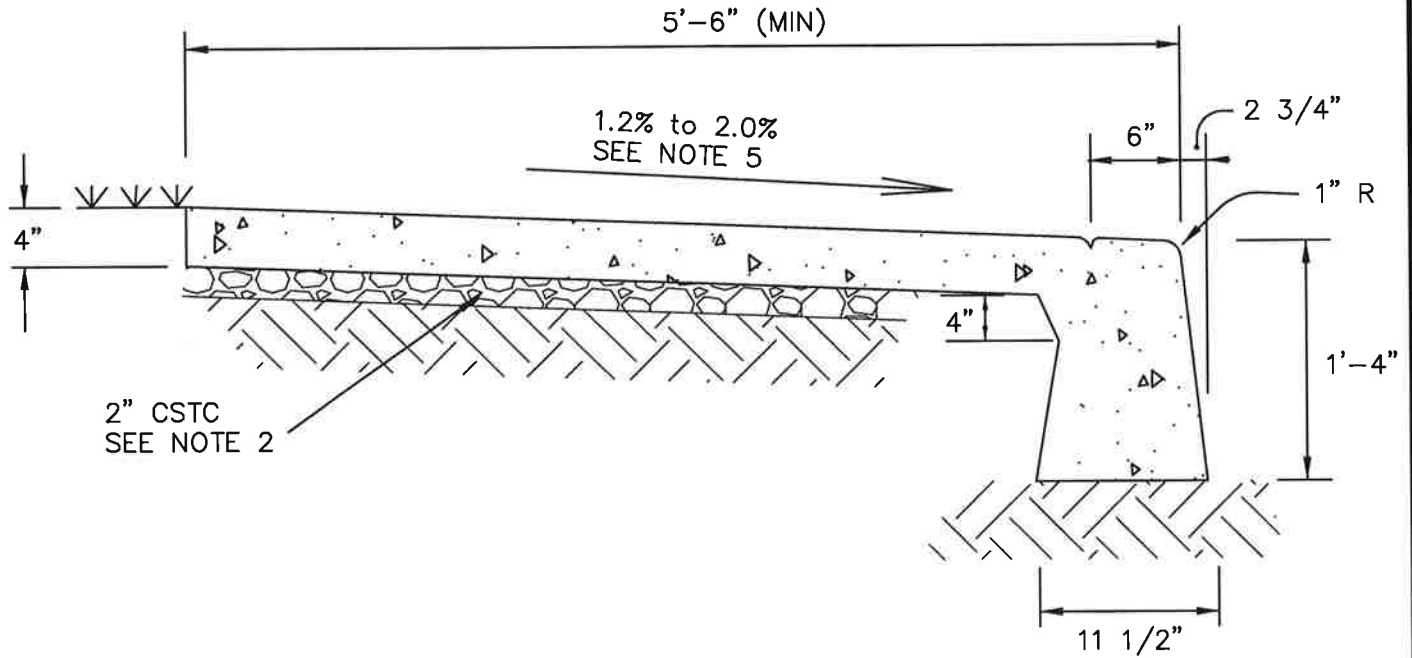
 PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.

ADOPTED: 2/86
 REVISED: 04/2013
 SUPERSEDES: 04/2012
 CHECKED BY: JTG
 SCALE: NTS
 REVISED BY: LWK

CONCRETE SIDEWALK

ENGINEERING SERVICES
 CITY OF SPOKANE, WASHINGTON

STANDARD PLAN No. F-102

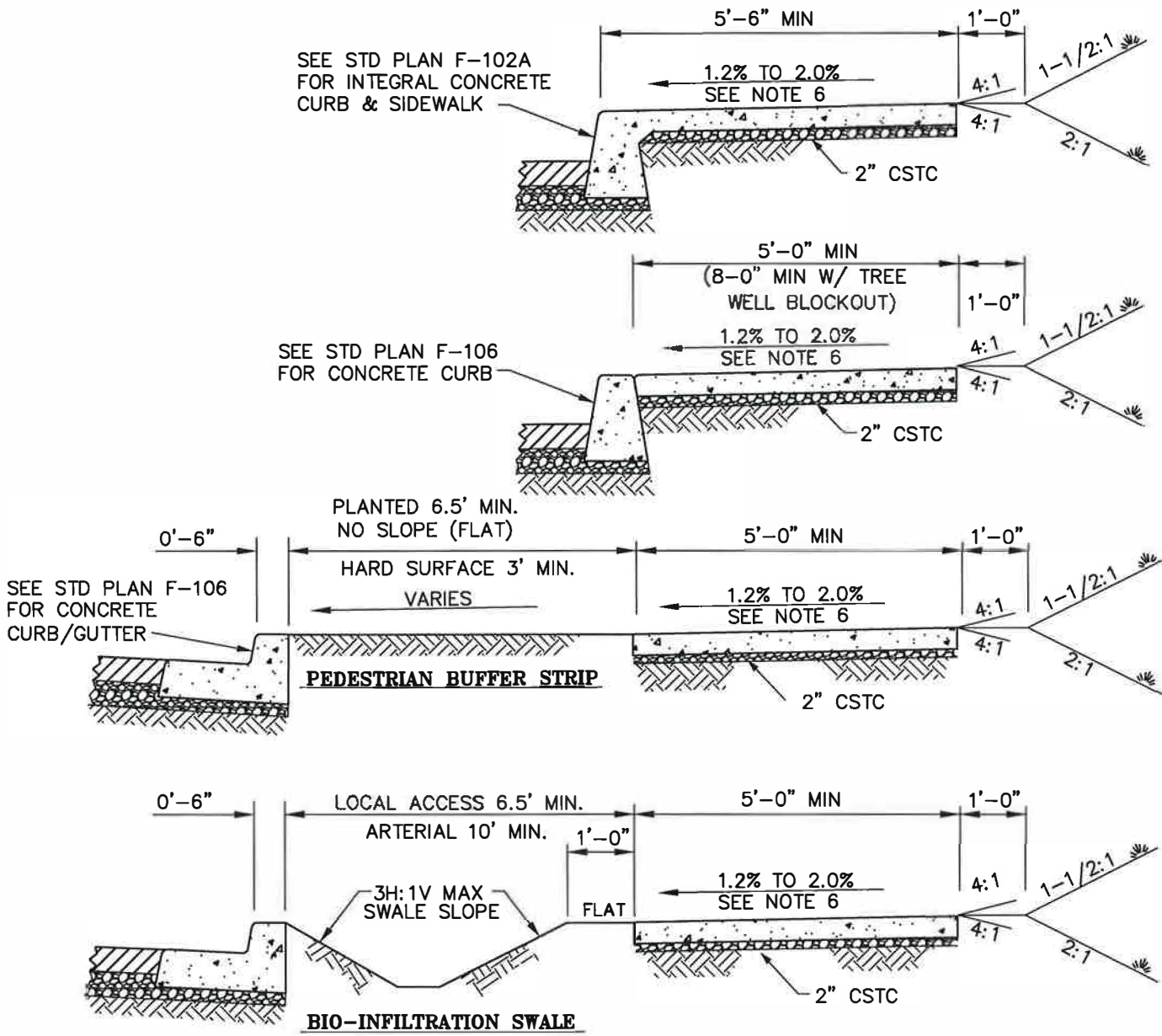


SECTION

NOTES:

1. INTEGRAL CONCRETE CURB & SIDEWALK SHALL BE CONSTRUCTED USING AIR ENTRAINED, 6 SACK, COMMERCIAL CONCRETE.
2. 2-INCHES OF CONCRETE MAY BE SUBSTITUTED FOR THE 2-INCHES OF CSTC, YIELDING A TOTAL SIDEWALK THICKNESS OF 6-INCHES.
3. SEE STD PLAN F-102 FOR GENERAL SIDEWALK REQUIREMENTS.
4. SEE STD PLAN F-102B FOR SLOPING REQUIREMENTS BEHIND SIDEWALK.
5. 1.2% MINIMUM CROSS SLOPE AND 2.0% MAXIMUM CROSS SLOPE. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.

<p style="text-align: center;">APPROVED BY</p> <p style="text-align: center; font-size: small;">DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.</p> <p style="text-align: center; font-size: small;">PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.</p>	<p>ADOPTED: <u>2/1990</u></p> <p>REVISED: <u>04/2013</u></p> <p>SUPERSEDES: <u>04/2012</u></p> <p>CHECKED BY: <u>JTG</u></p> <p>SCALE: <u>NTS</u></p> <p>REVISED BY: <u>LWK</u></p>	<p>INTEGRAL CONCRETE CURB & SIDEWALK</p> <p>ENGINEERING SERVICES CITY OF SPOKANE, WASHINGTON</p>
		<p>STANDARD PLAN No. F-102A</p>



NOTES:

1. TYPICAL SIDEWALK THICKNESS SHALL BE 4 INCHES. EXCEPTION: SEE STD PLANS F-103 THROUGH F-104B FOR SIDEWALK THICKNESS REQUIREMENTS AT DRIVEWAYS.
2. SEE STD PLAN F-102 FOR GENERAL SIDEWALK REQUIREMENTS.
3. SEE CITY OF SPOKANE DESIGN STANDARDS SECTION 3 FOR SIDEWALK WIDTH REQUIREMENTS.
4. SEE CITY OF SPOKANE DESIGN STANDARDS SECTION 3 FOR PEDESTRIAN BUFFER STRIP WIDTH REQUIREMENTS
5. SEE STD PLAN B-102F FOR BIO-INFILTRATION SWALE REQUIREMENTS.
6. 1.2% MINIMUM CROSS SLOPE AND 2.0% MAXIMUM CROSS SLOPE. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.

APPROVED BY

 DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.

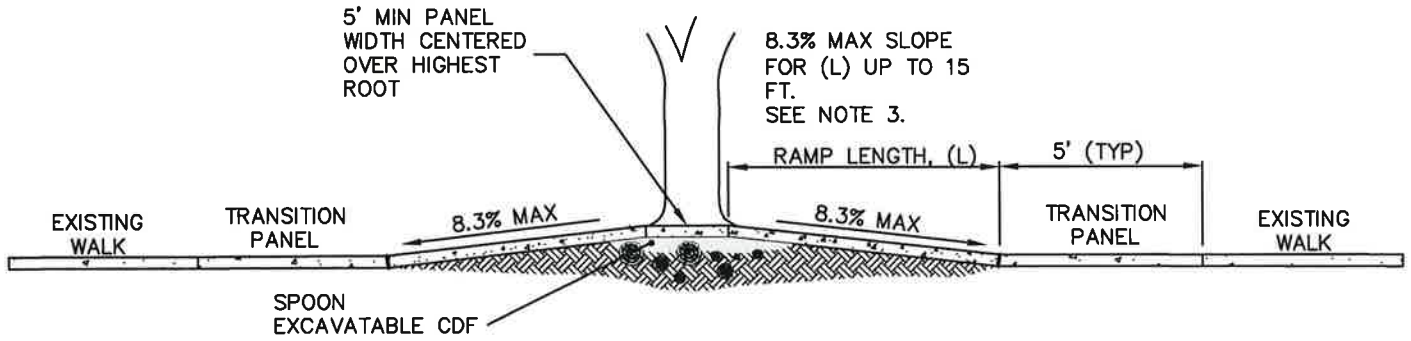
 PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.

ADOPTED: 6/1993
 REVISED: 04/2013
 SUPERSEDES: 04/2012
 CHECKED BY: JTG
 SCALE: NTS
 REVISED BY: LWK

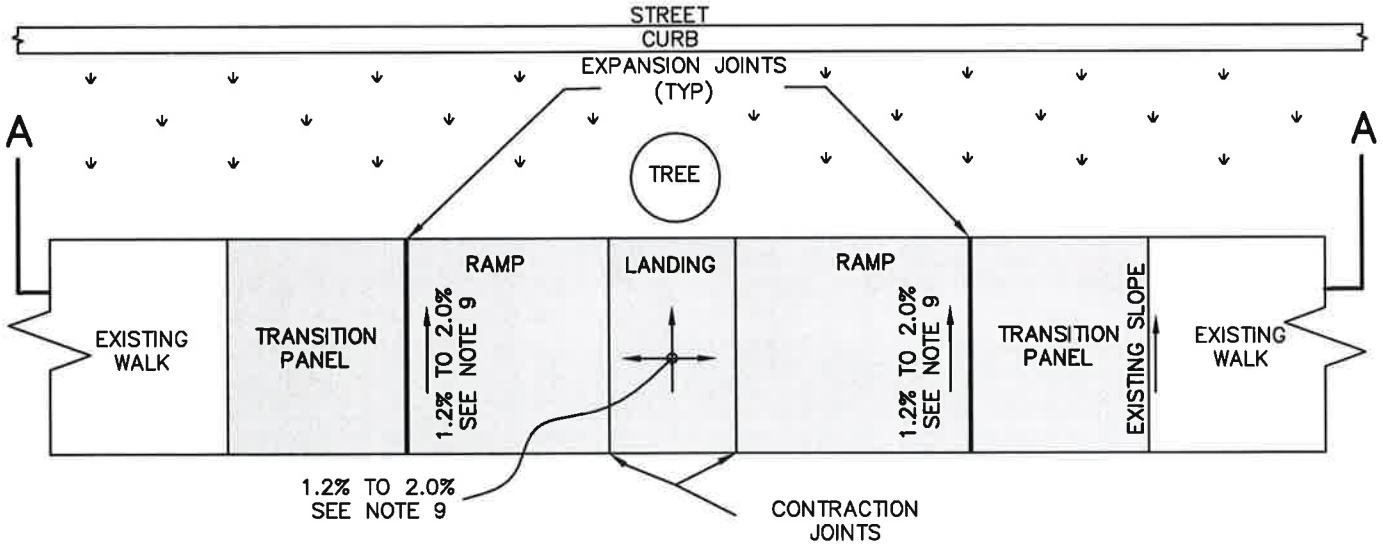
CONCRETE SIDEWALK SECTIONS

ENGINEERING SERVICES
 CITY OF SPOKANE, WASHINGTON

STANDARD PLAN No. F-102B



SECTION A-A

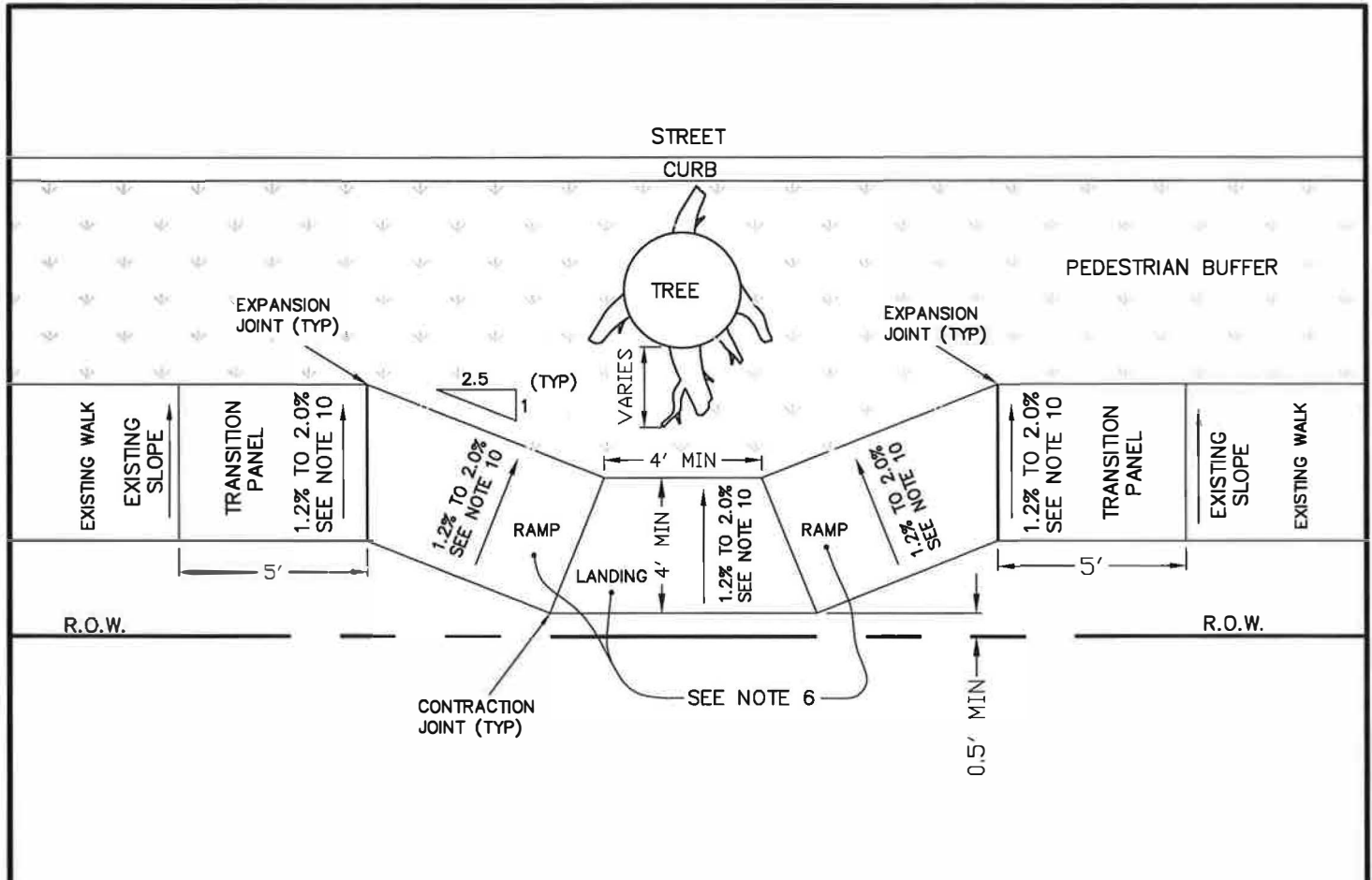


PLAN VIEW

NOTES:

1. THIS PLAN DOES NOT APPLY FOR NEW SIDEWALK CONSTRUCTION IN UNDEVELOPED AREAS.
2. 5-FT TRANSITION PANEL IS REQUIRED WHEN CROSS SLOPE OF EXISTING WALK EXCEEDS 2.0%
3. RAMP MAXIMUM RUNNING SLOPE SHALL NOT REQUIRE THE RAMP LENGTH (L) TO EXCEED 15-FT TO AVOID CHASING THE SLOPE INDEFINITELY; INCREASE MAXIMUM RUNNING SLOPE AS DIRECTED BY THE ENGINEER. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.
4. ROOT AREAS SHALL BE UNDISTURBED AS MUCH AS PRACTICAL. LOOSE SOIL SHALL BE LIGHTLY HAND TAMPED. IF ROOT TRIMMING IS NECESSARY CONTACT CITY OF SPOKANE URBAN FORESTRY.
5. FILL VOIDS AROUND ROOTS TO PROVIDE SIDEWALK SUPPORT W/ LAYER OF SPOON EXCAVATABLE CDF FILL PER SECTION 2-09.3(1)E. 1-INCH MINIMUM COVER OVER THE HIGHEST ROOT IS REQUIRED.
6. SEE STD PLAN F-102 FOR GENERAL SIDEWALK REQUIREMENTS.
7. SEE STD PLAN F-102B FOR SLOPING REQUIREMENTS ON EACH SIDE OF ELEVATED SIDEWALK. PLACE TOPSOIL TYPE A AND HYDROSEED OR SOD AS DIRECTED BY THE ENGINEER TO MATCH EXISTING CONDITIONS.
8. RAISE, RELOCATE, OR REPLACE EXISTING SPRINKLER SYSTEM AS NEEDED.
9. 1.2% MINIMUM CROSS SLOPE AND 2.0% MAXIMUM CROSS SLOPE. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.

<p style="text-align: center;">APPROVED BY</p> <p style="text-align: center; font-size: small;">DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.</p> <p style="text-align: center; font-size: small;">PRINCIPAL ENGINEER, CONST KENNETH M. BROWN, P.E.</p>	<p>ADOPTED: 09/2010</p> <p>REVISED: 04/2013</p> <p>SUPERSEDES: 04/2012</p> <p>CHECKED BY: JTG</p> <p>SCALE: NTS</p> <p>REVISED BY: LWK</p>	<p style="font-weight: bold; font-size: large;">CONCRETE SIDEWALK REPAIRS</p> <p style="font-weight: bold; font-size: large;">RAMPING OVER TREE ROOTS</p>
<p>ENGINEERING SERVICES</p> <p>CITY OF SPOKANE, WASHINGTON</p>		<p>STANDARD PLAN No. F-102C</p>



NOTES:

1. THIS PLAN DOES NOT APPLY FOR NEW SIDEWALK CONSTRUCTION IN UNDEVELOPED AREAS.
2. 5-FT TRANSITION PANELS REQUIRED WHEN CROSS SLOPE OF EXISTING WALK EXCEEDS 2.0%.
3. ROOT AREAS SHALL BE UNDISTURBED AS MUCH AS PRACTICAL. LOOSE SOIL SHALL BE LIGHTLY HAND TAMPED. IF ROOT TRIMMING IS NECESSARY CONTACT CITY OF SPOKANE URBAN FORESTRY.
4. TYPICAL SIDEWALK DIVERSION ANGLE SHALL BE 2.5 TO 1. DIVERSION ANGLE MAY BE INCREASED TO 1 TO 1 AS DIRECTED BY THE ENGINEER.
5. BACK OF SIDEWALK SHALL BE A MINIMUM OF 0.5 FT INSIDE OF THE R.O.W. SIDEWALK WIDTH MAY BE DECREASED TO 3 FT AS DIRECTED BY THE ENGINEER TO ENSURE SIDEWALK IS WITHIN THE R.O.W.
6. USE IN CONJUNCTION W/ STD PLAN F-102C WHEN RAMPING OVER AND DIVERTING AROUND TREE ROOTS IS REQUIRED.
7. SEE STD PLAN F-102 FOR GENERAL SIDEWALK REQUIREMENTS. PROVIDE ADDITIONAL EXPANSION JOINTS AS SHOWN.
8. SEE STD PLAN F-102B FOR SLOPING REQUIREMENTS ON EACH SIDE OF SIDEWALK. PLACE TOPSOIL TYPE A AND HYDROSEED OR SOD AS DIRECTED BY THE ENGINEER.
9. RELOCATE OR REPLACE EXISTING SPRINKLER SYSTEMS AS NEEDED.
10. 1.2% MINIMUM CROSS SLOPE AND 2.0% MAXIMUM CROSS SLOPE. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.

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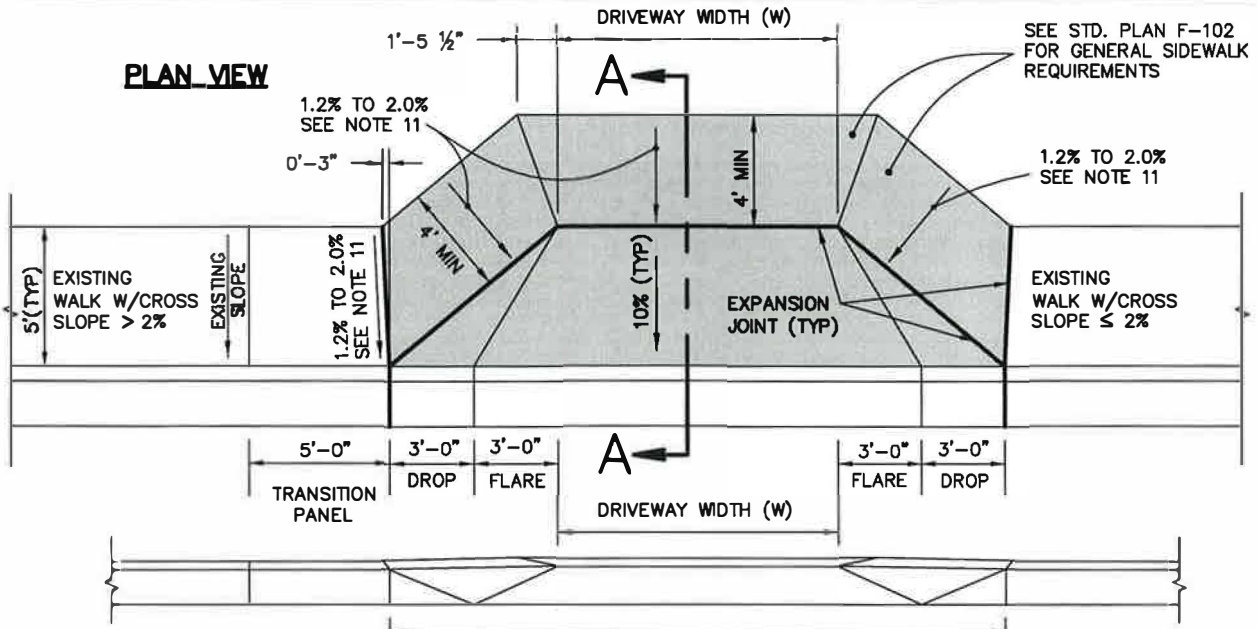
 DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.

 PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.

ADOPTED: 09/2010
 REVISED: 04/2013
 SUPERSEDES: 04/2012
 CHECKED BY: JTG
 SCALE: NTS
 REVISED BY: LWK

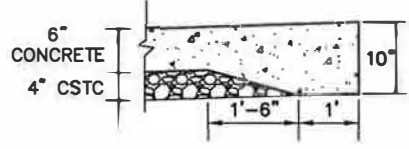
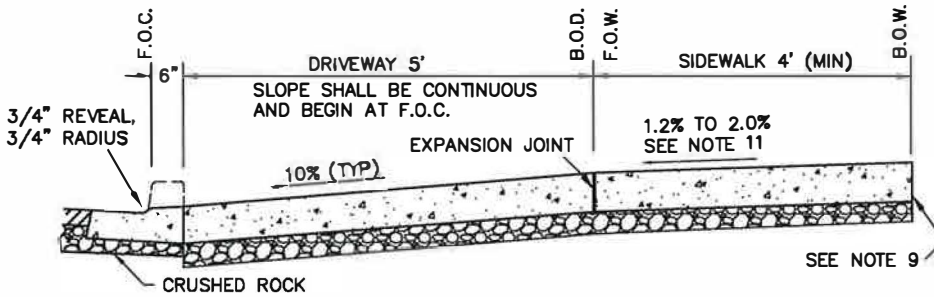
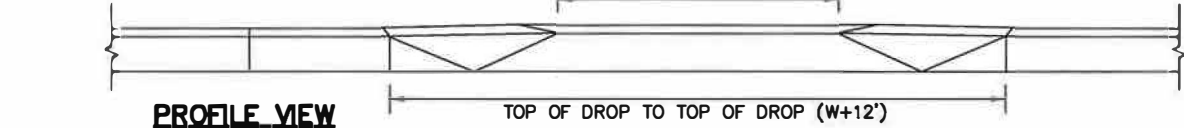
CONCRETE SIDEWALK REPAIR
 DIVERTING AROUND TREE ROOTS
 ENGINEERING SERVICES
 CITY OF SPOKANE, WASHINGTON
 STANDARD PLAN No. F-102D

PLAN VIEW



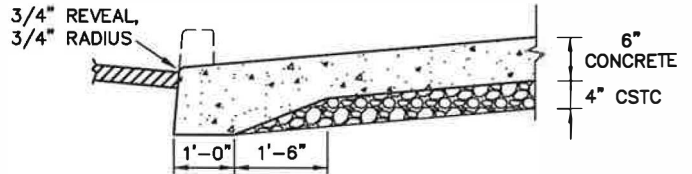
SEE STD. PLAN F-102 FOR GENERAL SIDEWALK REQUIREMENTS

PROFILE VIEW



THICKENED EDGE

SECTION A-A



SECTION A-A
INTEGRAL CURB & DRIVEWAY

NOTES:

- NON-STANDARD DRIVEWAY DESIGNS SHALL REQUIRE THE APPROVAL OF THE CITY ENG SERVICES DEPT.
- THE TOP OF A DRIVEWAY DROP SHALL NOT BE PLACED WITHIN 5' OF THE R.O.W. LINE AT ANY INTERSECTING STREET NOR WITHIN THE RADIUS OF A CURB RETURN.
- WHERE POSSIBLE, THE DRIVEWAY FLARE SHALL NOT EXTEND PAST AN ADJACENT PROPERTY LINE.
- THE SHADED AREA REQUIRES A 6-INCH MIN DEPTH OF AIR-ENTRAINED, 6 SACK, COMMERCIAL CONCRETE OVER 4-INCHES OF COMPACTED CSTC.
- EXPANSION JOINTS SHALL BE 3/8" PREMOLDED JOINT FILLER EXTENDING THROUGH THE FULL CONCRETE CROSS SECTION. AT SHARED DRIVEWAYS AN ADDITIONAL EXPANSION JOINT SHALL BE PLACED ALONG THE COMMON PROPERTY LINE.
- IN SHADED AREA CONTRACTION JOINTS SHALL BE HAND TOOLED 1/4" WIDE BY 2" MINIMUM DEPTH.
- THE BACK OF DRIVEWAY (B.O.D.) AND SIDEWALK FLARE MAY BE LOWERED UP TO 3" TO MATCH EXISTING CONDITIONS AT BACK OF SIDEWALK (B.O.W.).
- BROOMED FINISH ON DRIVEWAY SHALL BE APPLIED PERPENDICULAR TO THE VEHICULAR DIRECTION OF TRAVEL. BROOMED FINISH ON SIDEWALK SHALL BE APPLIED PERPENDICULAR TO THE PEDESTRIAN DIRECTION OF TRAVEL.
- A THICKENED EDGE IS REQUIRED AT B.O.W. WHEN DRIVEWAY DOES NOT ABUT AN EXISTING PAVED OR CONCRETE SURFACE.
- TRANSITION PANELS REQUIRED WHEN CROSS SLOPE OF EXISTING WALK EXCEEDS 2%.
- 1.2% MINIMUM CROSS SLOPE AND 2.0% MAXIMUM CROSS SLOPE. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.

APPROVED BY

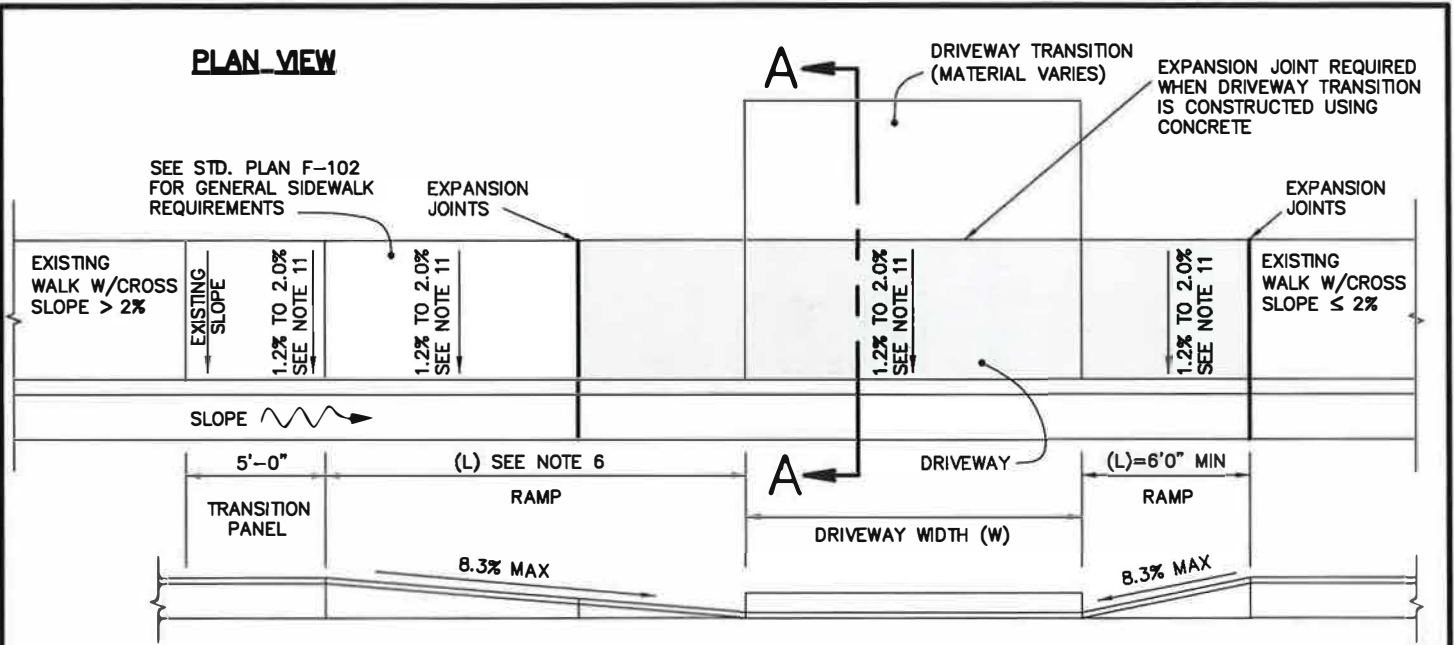
 DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.

 PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.

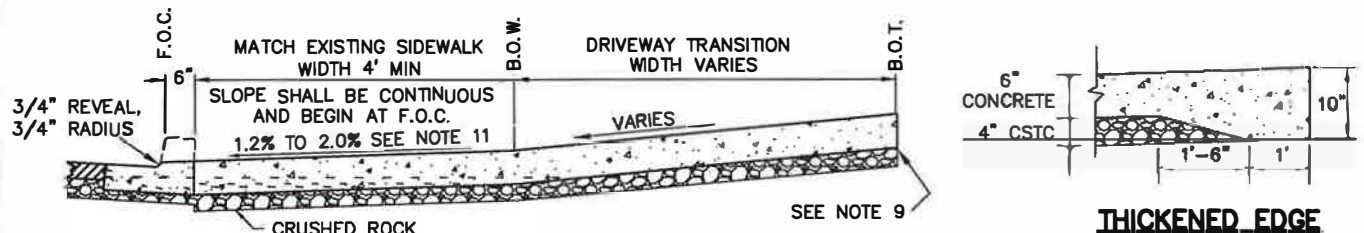
ADOPTED: 09/2010
 REVISED: 04/2013
 SUPERSEDES: 04/2012
 CHECKED BY: JTG
 SCALE: NTS
 REVISED BY: LWK

CONCRETE DRIVEWAY
 ADJACENT SIDEWALK / TYPE 1

 ENGINEERING SERVICES
 CITY OF SPOKANE, WASHINGTON
 STANDARD
 PLAN No.
 F-103

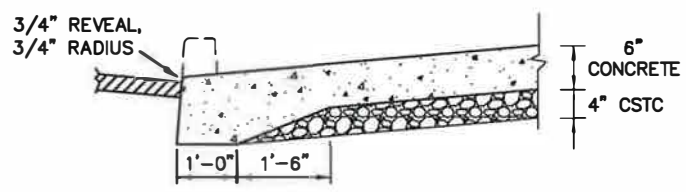



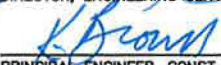

PROFILE VIEW



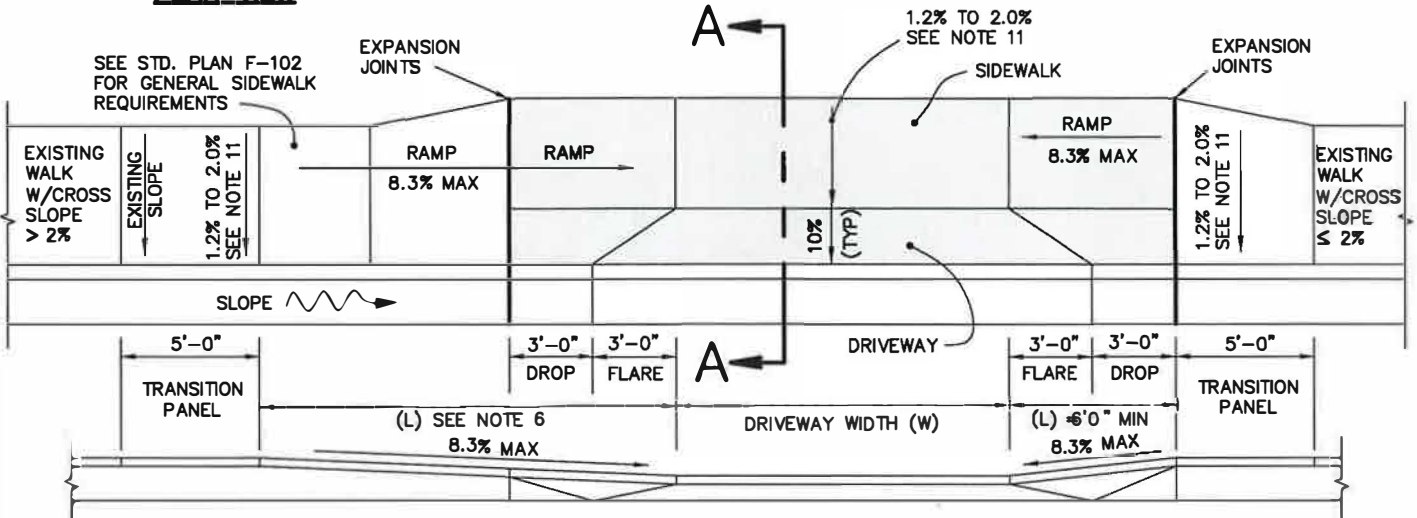
NOTES:

- NON-STANDARD DRIVEWAY DESIGNS SHALL REQUIRE THE APPROVAL OF THE CITY ENG SERVICES DEPT.
- THE TOP OF A DRIVEWAY RAMP SHALL NOT BE PLACED WITHIN 5' OF THE R.O.W. LINE AT ANY INTERSECTING STREET NOR WITHIN THE RADIUS OF A CURB RETURN.
- WHERE POSSIBLE, THE TOP OF A DRIVEWAY RAMP SHALL NOT EXTEND PAST AN ADJACENT PROPERTY LINE.
- THE SHADED AREA REQUIRES A 6-INCH MIN DEPTH OF AIR-ENTRAINED, 6 SACK, COMMERCIAL CONCRETE OVER 4-INCHES OF COMPACTED CSTC. SHADED AREA SHALL BE EXPANDED TO INCLUDE DRIVEWAY TRANSITION WHEN CONSTRUCTED USING CONCRETE.
- EXPANSION JOINTS SHALL BE 3/8" PREMOLDED JOINT FILLER EXTENDING THROUGH THE FULL CONCRETE CROSS SECTION. AT SHARED DRIVEWAYS AN ADDITIONAL EXPANSION JOINT SHALL BE PLACED ALONG THE COMMON PROPERTY LINE.
- RAMP MAXIMUM RUNNING SLOPE SHALL NOT REQUIRE THE RAMP LENGTH (L) TO EXCEED 15-FT TO AVOID CHASING THE SLOPE INDEFINITELY. RAMP LENGTH (L) SHALL BE INCREASED INCREMENTALLY FROM 6-FT TO 11-FT TO 15-FT TO COMPLY W/ MAXIMUM RAMP RUNNING SLOPE. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.
- IN SHADED AREA CONTRACTION JOINTS SHALL BE HANO TOOLED 1/4" WIDE BY 2" MINIMUM DEPTH.
- BROOMED FINISH ON SIDEWALK SHALL BE APPLIED PERPENDICULAR TO THE PEDESTRIAN DIRECTION OF TRAVEL. BROOMED FINISH ON DRIVEWAY TRANSITION SHALL BE APPLIED PERPENDICULAR TO THE VEHICULAR DIRECTION OF TRAVEL.
- A THICKENED EDGE IS REQUIRED AT B.O.W. OR B.O.T. WHEN DRIVEWAY DOES NOT ABUT AN EXISTING PAVED OR CONCRETE SURFACE.
- TRANSITION PANELS REQUIRED WHEN CROSS SLOPE OF EXISTING WALK EXCEEDS 2%.
- 1.2% MINIMUM CROSS SLOPE AND 2.0% MAXIMUM CROSS SLOPE. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.

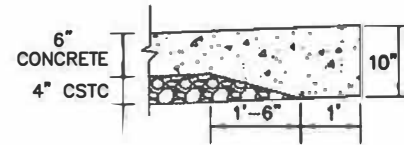
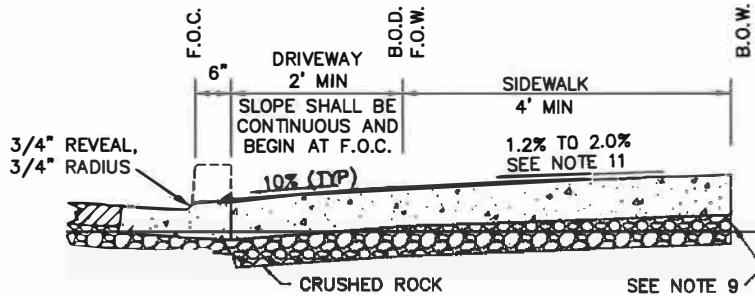


<p>APPROVED BY</p>  <p>DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.</p>  <p>PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.</p>	<p>ADOPTED: 04/2004</p> <p>REVISED: 04/2013</p> <p>SUPERSEDES: 04/2012</p> <p>CHECKED BY: JTG</p> <p>SCALE: NTS</p> <p>REVISED BY: LWK</p>	<p>CONCRETE DRIVEWAY ADJACENT SIDEWALK / TYPE 2</p>  <p>ENGINEERING SERVICES CITY OF SPOKANE, WASHINGTON</p> <p>STANDARD PLAN No. F-103A</p>
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PLAN VIEW



PROFILE VIEW

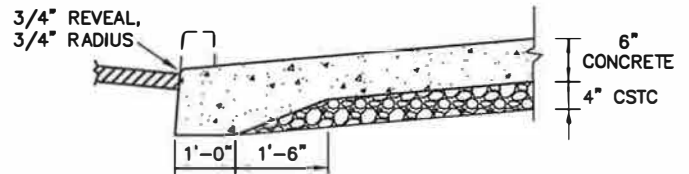


THICKENED EDGE

SECTION A-A

NOTES:

1. NON-STANDARD DRIVEWAY DESIGNS SHALL REQUIRE THE APPROVAL OF THE CITY ENG SERVICES DEPT.
2. THE TOP OF A DRIVEWAY RAMP SHALL NOT BE PLACED WITHIN 5' OF THE R.O.W. LINE AT ANY INTERSECTING STREET NOR WITHIN THE RADIUS OF A CURB RETURN.
3. WHERE POSSIBLE, THE TOP OF A DRIVEWAY RAMP SHALL NOT EXTEND PAST AN ADJACENT PROPERTY LINE.
4. THE SHADED AREA REQUIRES A 6-INCH MIN DEPTH OF AIR-ENTRAINED, 6 SACK, COMMERCIAL CONCRETE OVER 4-INCHES OF COMPACTED CSTC.
5. EXPANSION JOINTS SHALL BE 3/8" PREMOLDED JOINT FILLER EXTENDING THROUGH THE FULL CONCRETE CROSS SECTION. AT SHARED DRIVEWAYS AN ADDITIONAL EXPANSION JOINT SHALL BE PLACED ALONG THE COMMON PROPERTY LINE.
6. RAMP MAXIMUM RUNNING SLOPE SHALL NOT REQUIRE THE RAMP LENGTH (L) TO EXCEED 15-FT TO AVOID CHASING THE SLOPE INDEFINITELY. RAMP LENGTH (L) SHALL BE INCREASED INCREMENTALLY FROM 6-FT TO 11-FT TO 15-FT TO COMPLY W/ MAXIMUM RAMP RUNNING SLOPE. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.
7. IN SHADED AREA CONTRACTION JOINTS SHALL BE HAND TOOLED 1/4" WIDE BY 2" MINIMUM DEPTH.
8. BROOMED FINISH ON SIDEWALK SHALL BE APPLIED PERPENDICULAR TO THE PEDESTRIAN DIRECTION OF TRAVEL. BROOMED FINISH ON DRIVEWAY SHALL BE APPLIED PERPENDICULAR TO THE VEHICULAR DIRECTION OF TRAVEL.
9. A THICKENED EDGE IS REQUIRED AT B.O.W. WHEN DRIVEWAY DOES NOT ABUT AN EXISTING PAVED OR CONCRETE SURFACE.
10. TRANSITION PANELS REQUIRED WHEN CROSS SLOPE OF EXISTING WALK EXCEEDS 2% AND WHEN THE WIDTH OF A EXISTING SIDEWALK DOES NOT MATCH THE THE WIDTH OF THE IMPROVEMENTS.
11. 1.2% MINIMUM CROSS SLOPE AND 2.0% MAXIMUM CROSS SLOPE. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.



SECTION A-A

INTEGRAL CURB & DRIVEWAY

APPROVED BY

 DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.

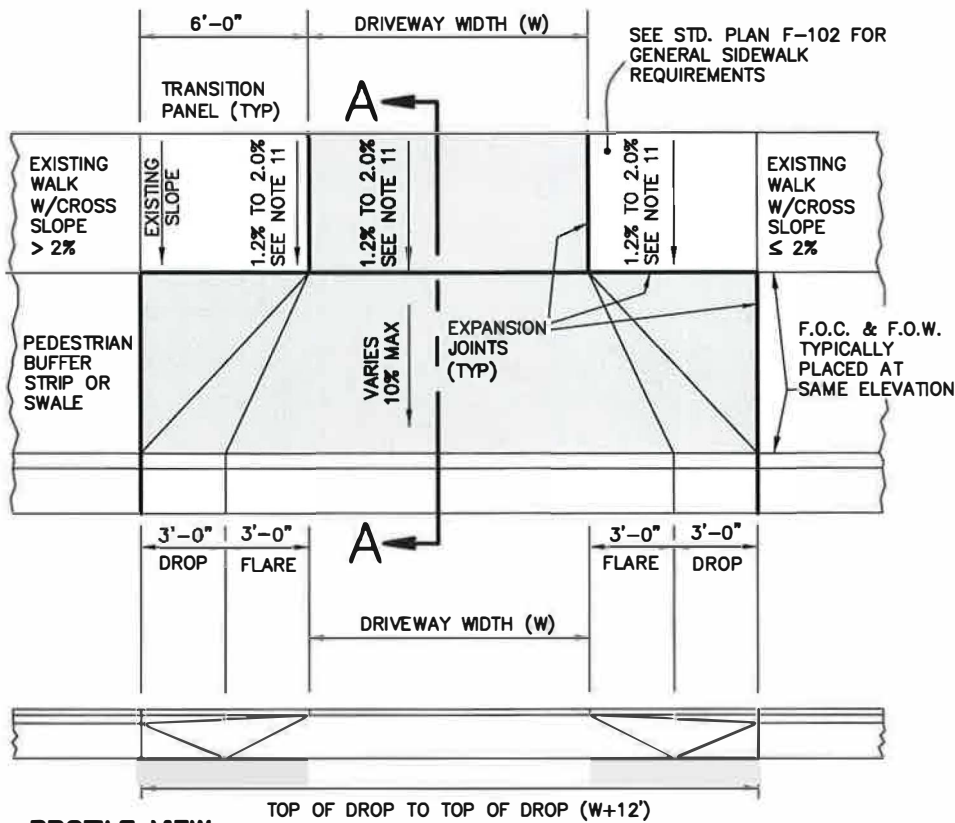
 PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.

ADOPTED: 04/2004
 REVISED: 04/2013
 SUPERSEDES: 04/2012
 CHECKED BY: JTG
 SCALE: NTS
 REVISED BY: LWK

CONCRETE DRIVEWAY
 ADJACENT SIDEWALK / TYPE 3

 ENGINEERING SERVICES
 CITY OF SPOKANE, WASHINGTON
 STANDARD PLAN No. F-103B

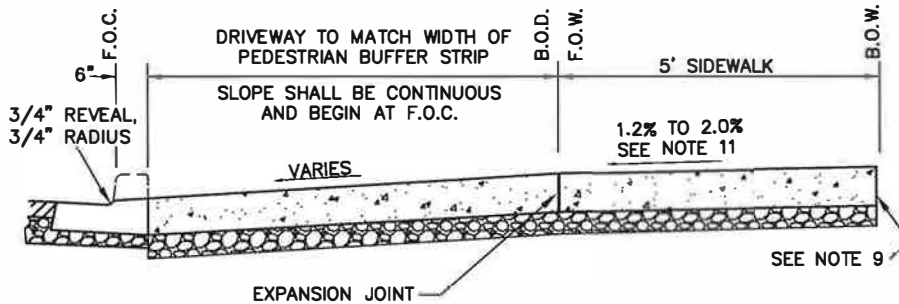
PLAN VIEW



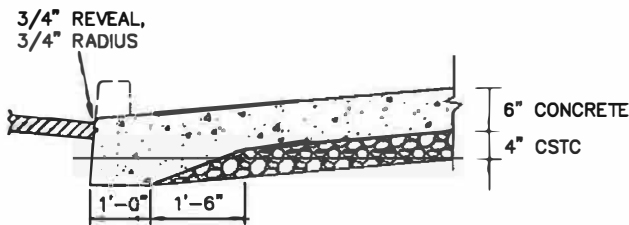
NOTES:

1. NON-STANDARD DRIVEWAY DESIGNS SHALL REQUIRE THE APPROVAL OF THE CITY ENG SERVICES DEPT.
2. THE TOP OF A DRIVEWAY DROP SHALL NOT BE PLACED WITHIN 5' OF THE R.O.W. LINE AT ANY INTERSECTING STREET NOR WITHIN THE RADIUS OF A CURB RETURN.
3. WHERE POSSIBLE, THE DRIVEWAY FLARE SHALL NOT EXTEND PAST AN ADJACENT PROPERTY LINE.
4. THE SHADED AREA REQUIRES A 6-INCH MIN DEPTH OF AIR-ENTRAINED, 6 SACK, COMMERCIAL CONCRETE OVER 4-INCHES OF COMPACTED CSTC.
5. EXPANSION JOINTS SHALL BE 3/8" PREMOLDED JOINT FILLER EXTENDING THROUGH THE FULL CONCRETE CROSS SECTION. AT SHARED DRIVEWAYS AN ADDITIONAL EXPANSION JOINT SHALL BE PLACED ALONG THE COMMON PROPERTY LINE.
6. IN SHADED AREA CONTRACTION JOINTS SHALL BE HAND TOOLED 1/4" WIDE BY 2" MINIMUM DEPTH.
7. THE BACK OF DRIVEWAY (B.O.D.) AND SIDEWALK MAY BE LOWERED UP TO .25 FT TO MATCH EXISTING CONDITIONS AT BACK OF SIDEWALK (B.O.W.).
8. BROOMED FINISH ON DRIVEWAY SHALL BE APPLIED PERPENDICULAR TO THE VEHICULAR DIRECTION OF TRAVEL. BROOMED FINISH ON SIDEWALK SHALL BE APPLIED PERPENDICULAR TO THE PEDESTRIAN DIRECTION OF TRAVEL.
9. A THICKENED EDGE IS REQUIRED AT B.O.W. WHEN DRIVEWAY DOES NOT ABUT AN EXISTING PAVED OR CONCRETE SURFACE.
10. TRANSITION PANELS REQUIRED WHEN CROSS SLOPE OF EXISTING WALK EXCEEDS 2%.
11. 1.2% MINIMUM CROSS SLOPE AND 2.0% MAXIMUM CROSS SLOPE. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.

PROFILE VIEW

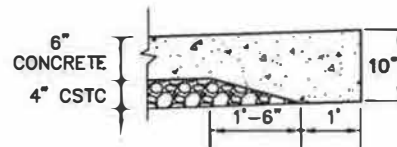


SECTION A-A


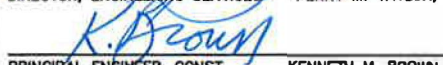


SECTION A-A

INTEGRAL CURB & DRIVEWAY



THICKENED EDGE

APPROVED BY

 DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.

 PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.

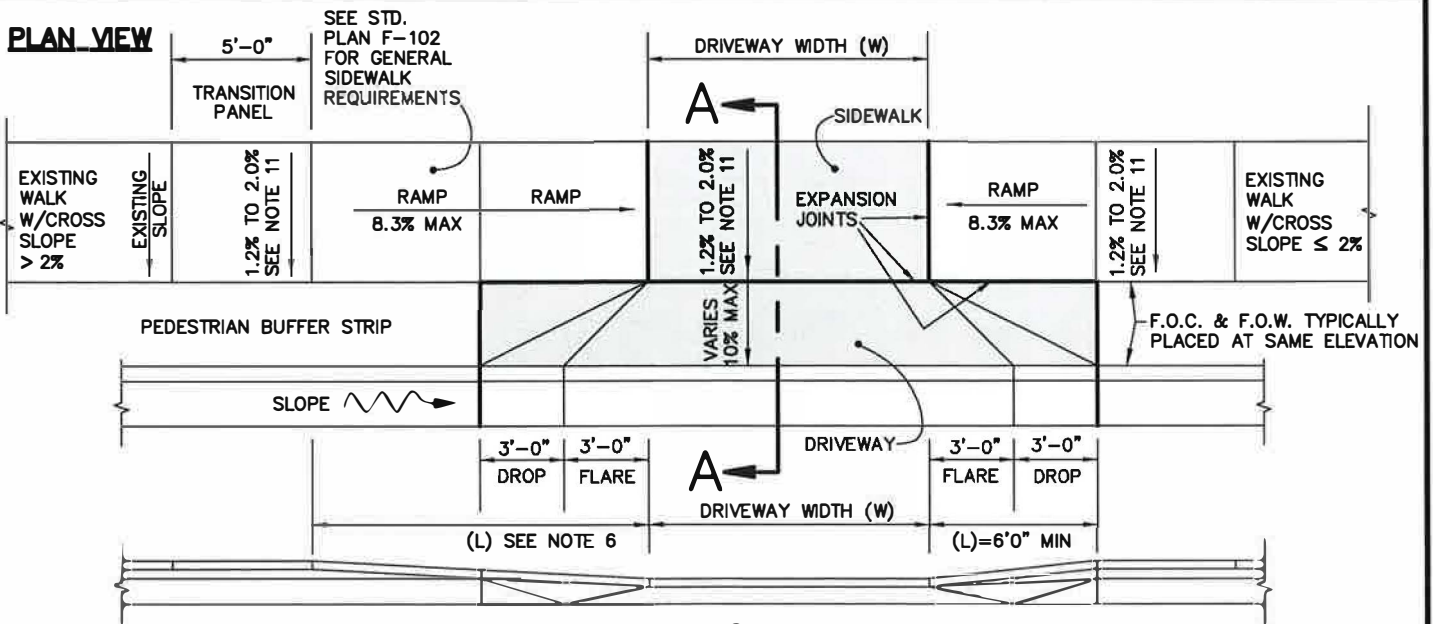
ADOPTED: 04/2004
 REVISED: 04/2013
 SUPERSEDES: 04/2012
 CHECKED BY: JTG
 SCALE: NTS
 REVISED BY: LWK

**CONCRETE DRIVEWAY
 PED BUFFER STRIP WIDTH ≥ 5 FT**

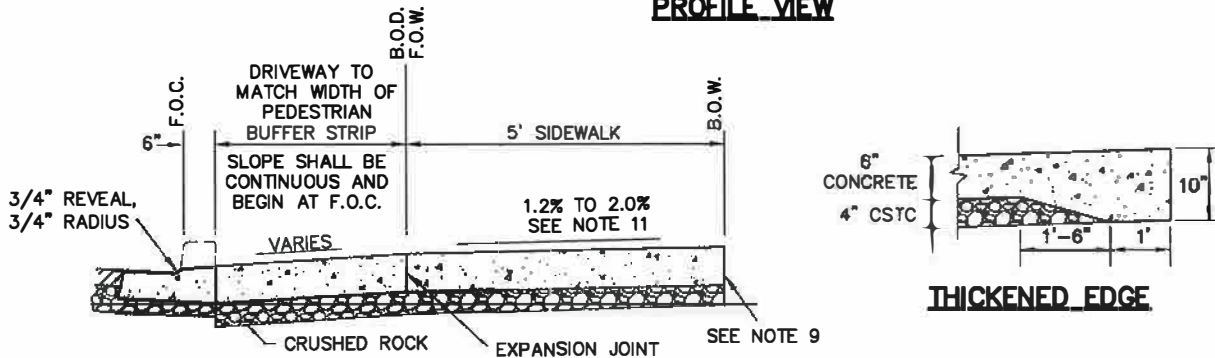
**ENGINEERING SERVICES
 CITY OF SPOKANE, WASHINGTON**

**STANDARD
 PLAN No.
 F-104**

PLAN VIEW



PROFILE VIEW

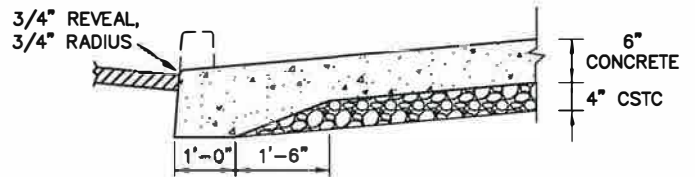


THICKENED EDGE

SECTION A-A

NOTES:

- NON-STANDARD DRIVEWAY DESIGNS SHALL REQUIRE THE APPROVAL OF THE CITY ENG SERVICES DEPT.
- THE TOP OF A DRIVEWAY DROP SHALL NOT BE PLACED WITHIN 5' OF THE R.O.W. LINE AT ANY INTERSECTING STREET NOR WITHIN THE RADIUS OF A CURB RETURN.
- WHERE POSSIBLE, THE DRIVEWAY FLARE SHALL NOT EXTEND PAST AN ADJACENT PROPERTY LINE.
- THE SHADED AREA REQUIRES A 6-INCH MIN DEPTH OF AIR-ENTRAINED, 6 SACK, COMMERCIAL CONCRETE OVER 4-INCHES OF COMPACTED CSTC.
- EXPANSION JOINTS SHALL BE 3/8" PREMOLDED JOINT FILLER EXTENDING THROUGH THE FULL CONCRETE CROSS SECTION. AT SHARED DRIVEWAYS AN ADDITIONAL EXPANSION JOINT SHALL BE PLACED ALONG THE COMMON PROPERTY LINE.
- RAMP MAXIMUM RUNNING SLOPE SHALL NOT REQUIRE THE RAMP LENGTH (L) TO EXCEED 15-FT TO AVOID CHASING THE SLOPE INDEFINITELY. RAMP LENGTH (L) SHALL BE INCREASED INCREMENTALLY FROM 6-FT TO 11-FT TO 15-FT TO COMPLY W/ MAXIMUM RAMP RUNNING SLOPE. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.
- IN SHADED AREA CONTRACTION JOINTS SHALL BE HAND TOOLED 1/4" WIDE BY 2" MINIMUM DEPTH.
- BROOMED FINISH ON SIDEWALK SHALL BE APPLIED PERPENDICULAR TO THE PEDESTRIAN DIRECTION OF TRAVEL. BROOMED FINISH ON DRIVEWAY SHALL BE APPLIED PERPENDICULAR TO THE VEHICULAR DIRECTION OF TRAVEL.
- A THICKENED EDGE IS REQUIRED AT B.O.W. WHEN DRIVEWAY DOES NOT ABUT AN EXISTING PAVED OR CONCRETE SURFACE.
- TRANSITION PANELS REQUIRED WHEN CROSS SLOPE OF EXISTING WALK EXCEEDS 2%.
- 1.2% MINIMUM CROSS SLOPE AND 2.0% MAXIMUM CROSS SLOPE. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.



SECTION A-A

INTEGRAL CURB & DRIVEWAY

APPROVED BY

[Signature]
 DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.
[Signature]
 PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.

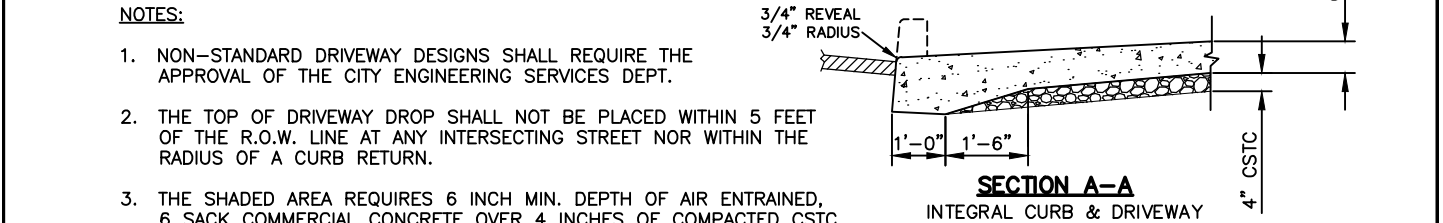
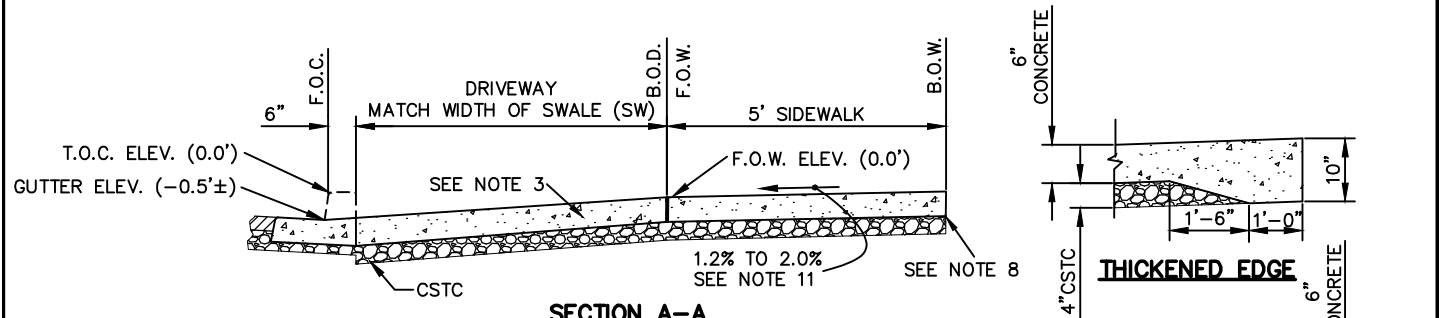
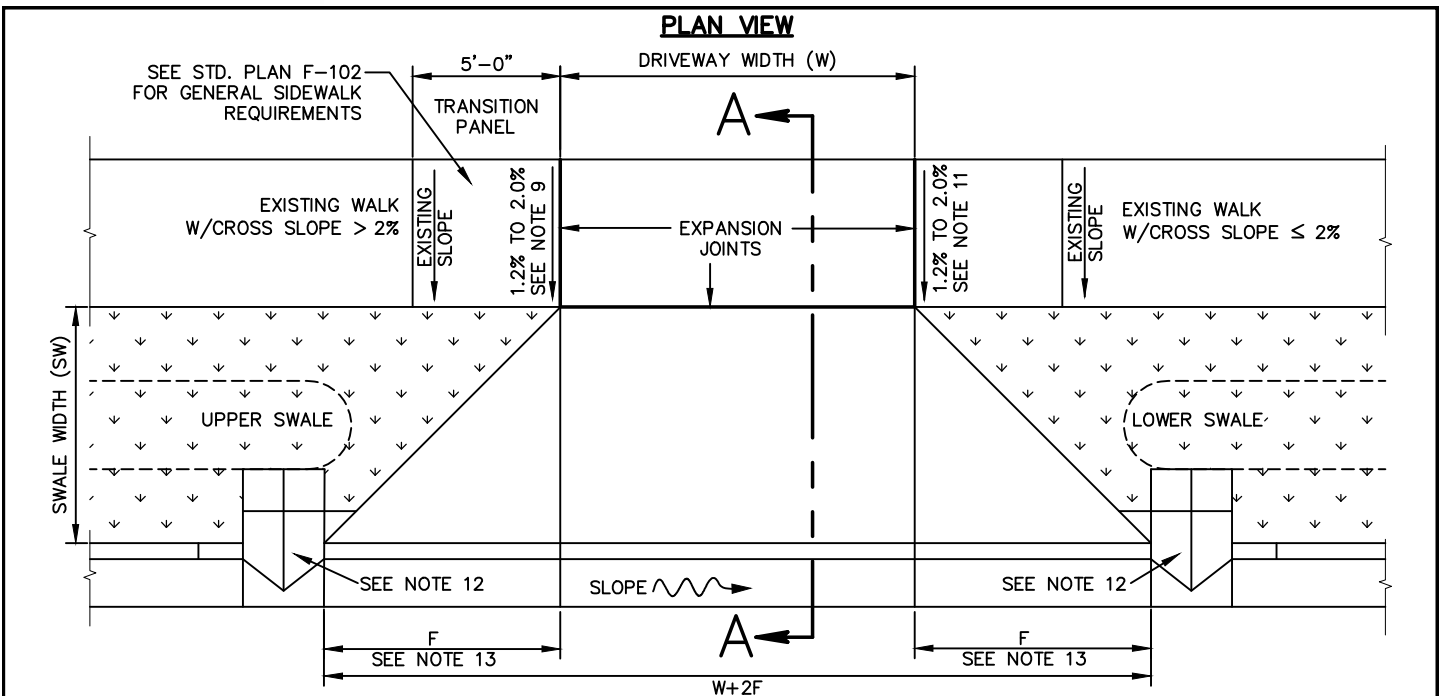
ADOPTED: 04/2004
 REVISED: 04/2013
 SUPERSEDES: 04/2012
 CHECKED BY: JTG
 SCALE: NTS
 REVISED BY: LWK

CONCRETE DRIVEWAY
 PED BUFFER STRIP WIDTH < 5 FT



ENGINEERING SERVICES
 CITY OF SPOKANE, WASHINGTON

STANDARD
 PLAN No.
 F-104A



NOTES:

- NON-STANDARD DRIVEWAY DESIGNS SHALL REQUIRE THE APPROVAL OF THE CITY ENGINEERING SERVICES DEPT.
- THE TOP OF DRIVEWAY DROP SHALL NOT BE PLACED WITHIN 5 FEET OF THE R.O.W. LINE AT ANY INTERSECTING STREET NOR WITHIN THE RADIUS OF A CURB RETURN.
- THE SHADED AREA REQUIRES 6 INCH MIN. DEPTH OF AIR ENTRAINED, 6 SACK COMMERCIAL CONCRETE OVER 4 INCHES OF COMPACTED CSTC.
- EXPANSION JOINTS SHALL BE 3/8 INCH PREMOLDED JOINT FILLER EXTENDING THROUGH THE FULL CONCRETE CROSS SECTION. AT SHARED DRIVEWAYS AN ADDITIONAL EXPANSION JOINT SHALL BE PLACED ALONG THE COMMON PROPERTY LINE.
- THE BACK OF DRIVEWAY (B.O.D.) AND SIDEWALK MAY BE LOWERED UP TO 0.25 FEET TO MATCH EXISTING CONDITIONS AT THE BACK OF SIDEWALK.
- IN THE SHADED AREA CONTRACTION JOINTS SHALL BE HAND TOOLED 1/4 INCH WIDE BY 2 INCH MIN. DEPTH.
- BROOM FINISH ON SIDEWALK SHALL BE APPLIED PERPENDICULAR TO THE PEDESTRIAN DIRECTION OF TRAVEL. BROOM FINISH ON DRIVEWAY SHALL BE APPLIED PERPENDICULAR TO THE VEHICULAR DIRECTION OF TRAVEL.
- A THICKENED EDGE IS REQUIRED AT B.O.W. WHEN DRIVEWAY DOES NOT ABUT AN EXISTING PAVED OR CONCRETE SURFACE.
- TRANSITION PANELS REQUIRED WHEN CROSS SLOPE OF EXISTING WALK EXCEEDS 2%.
- SEE STD. PLAN B-102F FOR SWALE REQUIREMENTS.
- 1.2% MINIMUM CROSS SLOPE AND 2.0% MAXIMUM CROSS SLOPE. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.
- CURB DROP INLET, SEE STD. PLAN F-109.
- FLARE WIDTH (F)=3'. EXCEPTION: WHEN TRAVEL IS ADJACENT TO CURB (I.E., NO PARKING LANE OR BIKE LANE), FLARE WIDTH SHALL EQUAL SWALE WIDTH (SW) BUT NOT TO EXCEED 6'.

APPROVED BY



ENGINEERING SERVICES DIRECTOR KYLE TWOHIG

CITY ENGINEER DAN BULLER, P.E.

ADOPTED: _____

REVISED: 04/2022


SUPERSEDES: 10/2020

CHECKED BY: JTG

SCALE: NTS

REVISED BY: LWK/MLD

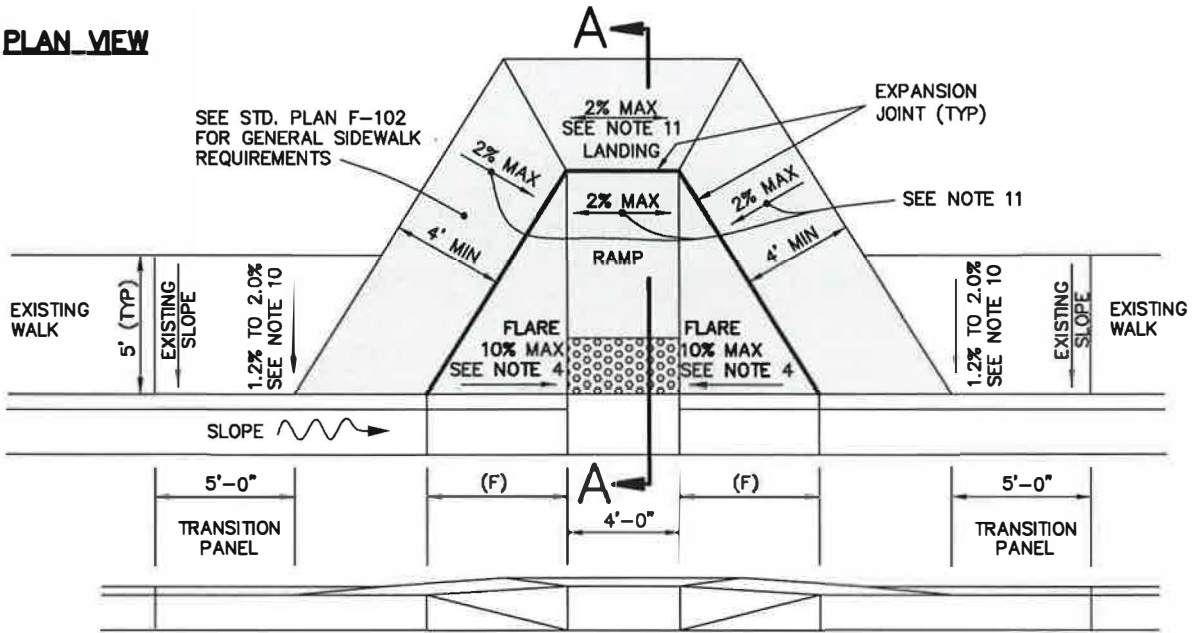
CONCRETE DRIVEWAY WITH INTEGRATED SWALE INLET



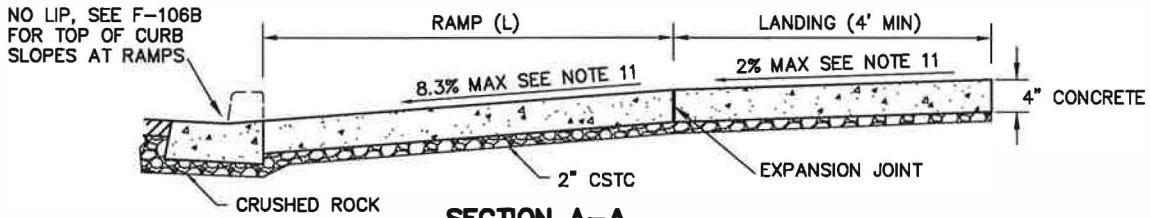
ENGINEERING SERVICES CITY OF SPOKANE, WASHINGTON

STANDARD PLAN No. F-104B

PLAN VIEW

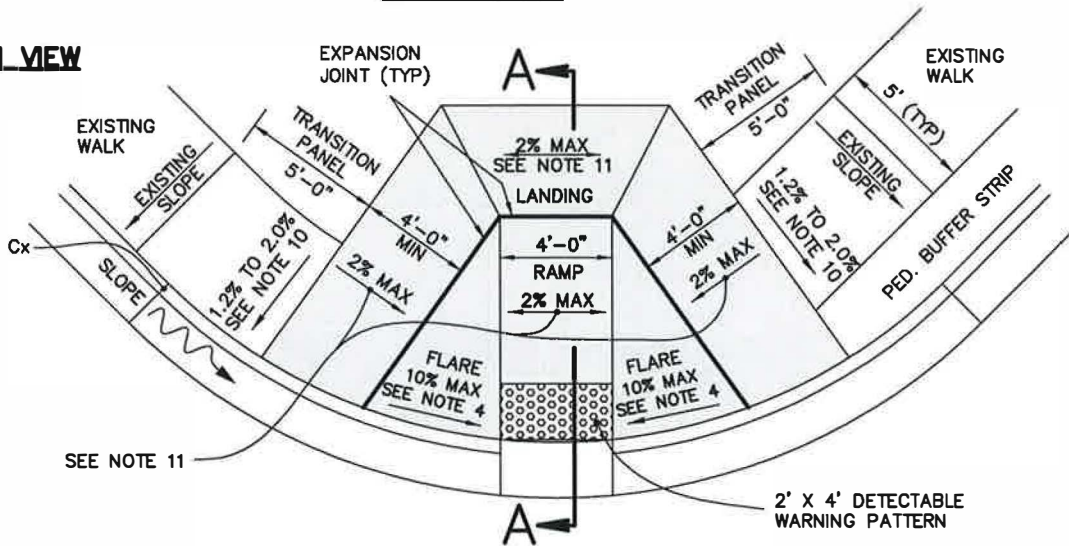


PROFILE VIEW



SECTION A-A

PLAN VIEW



L = Cx	F = Cx	Cx	L	Fmin	S	Fmax	S
.063	.1-5						
L = RAMP LENGTH (FT)		.3'	4.8'	3.0'	0	4.8'	.037
F = FLARE LENGTH (FT)		.4'	6.4'	4.0'	0	6.4'	.037
Cx = CURB EXPOSURE (FT)		.5'	8.0'	5.0'	0	8.0'	.037
S = GUTTER SLOPE							

THIS TABLE PROVIDES APPROXIMATE DIMENSIONS NECESSARY TO MEET ADA SLOPE REQUIREMENTS. ADJUSTMENTS TO FIT EACH LOCATION WILL BE NECESSARY. FIELD LAYOUT AND SLOPE VERIFICATION IS REQUIRED.

APPROVED BY

[Signature]
 DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.
[Signature]
 PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.

ADOPTED: 08/1991
 REVISED: 04/2013
 SUPERSEDES: 04/2012
 CHECKED BY: JTG
 SCALE: NTS
 REVISED BY: LWK



CURB RAMP TYPE-1



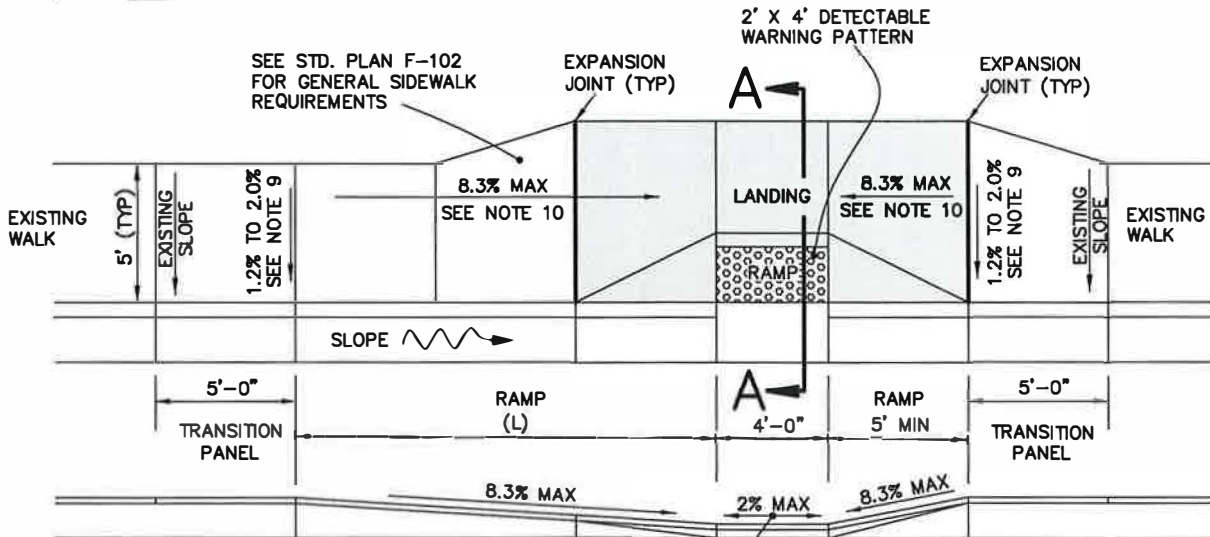
ENGINEERING SERVICES
 CITY OF SPOKANE, WASHINGTON

STANDARD
 PLAN No.
 F-105

1. CURB RAMPS SHALL BE CONSTRUCTED USING AIR-ENTRAINED 6-SACK COMMERCIAL CONCRETE.
2. MAXIMUM RAMP RUNNING SLOPE SHALL BE 8.3%.
3. MAXIMUM CROSS SLOPE AND RUNNING SLOPE ON LANDING SHALL BE 2%.
4. MAXIMUM FLARE SLOPE SHALL BE 10% MEASURED PARALLEL TO THE CURB, HOWEVER FLARE LENGTH (F) IS NOT REQUIRED TO EXCEED RAMP LENGTH (L).
5. BOTH FLARES SHALL BE THE SAME LENGTH FOR RAMP SYMMETRY.
6. DO NOT PLACE DRAINAGE STRUCTURES, JUNCTION BOXES, OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS OR ON ANY PART OF LANDING.
7. SEE CITY OF SPOKANE SPECIFICATIONS FOR DETECTABLE WARNING SURFACE PRODUCT & COLOR REQUIREMENTS.
8. TRANSITION PANELS REQUIRED WHEN CROSS SLOPE OF EXISTING SIDEWALK EXCEEDS 2%.
9. SEE STANDARD PLANS F-102, F-102A, F-106, F-106C, & G-107 FOR ADDITIONAL CONSTRUCTION REQUIREMENTS.
10. 1.2% MINIMUM CROSS SLOPE AND 2.0% MAXIMUM CROSS SLOPE. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.
11. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.

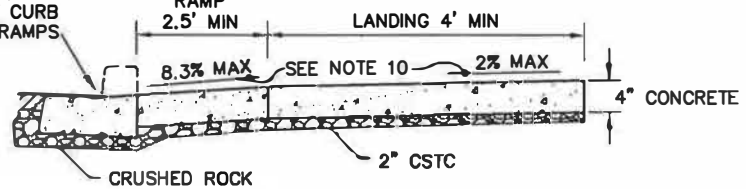
APPROVED BY		F-105 NOTES	
 DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.			
 PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.		ADOPTED: <u>08/1991</u>	STANDARD PLAN No. F-105
		REVISED: <u>04/2013</u>	
		SUPERSEDES: <u>04/2012</u>	
		CHECKED BY: <u>JTG</u>	
		SCALE: <u>NTS</u>	
		REVISED BY: <u>LWK</u>	

PLAN VIEW



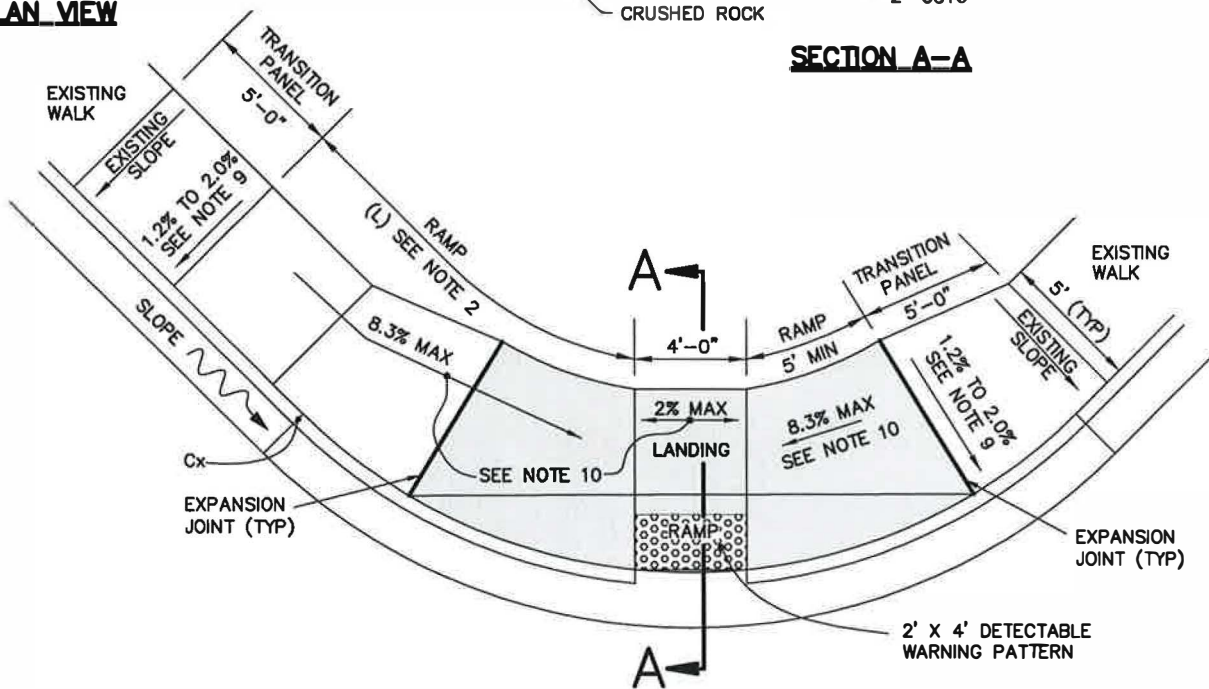
PROFILE VIEW

NO LIP, SEE F-106B FOR TOP OF CURB SLOPES AT RAMPS



SECTION A-A

PLAN VIEW



$$L = \frac{Cx - 0.2}{.083 - S}$$

L = RAMP LENGTH (FT)
 Cx = CURB EXPOSURE (FT)
 S = GUTTER SLOPE

W/ .5' EXISTING CURB EXPOSURE

L = 5' UP TO .023 SLOPE
 L = 10' UP TO .053 SLOPE
 L = 15' ABOVE .053 SLOPE

THIS TABLE PROVIDES APPROXIMATE DIMENSIONS NECESSARY TO MEET ADA SLOPE REQUIREMENTS. ADJUSTMENTS TO FIT EACH LOCATION WILL BE NECESSARY. FIELD LAYOUT AND SLOPE VERIFICATION IS REQUIRED.

APPROVED BY

[Signature]
 DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.
[Signature]
 PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.

ADOPTED: 08/1991
 REVISED: 04/2013
 SUPERSEDES: 04/2012
 CHECKED BY: JTG
 SCALE: NTS
 REVISED BY: LWK




CURB RAMP TYPE-2 PREFERRED



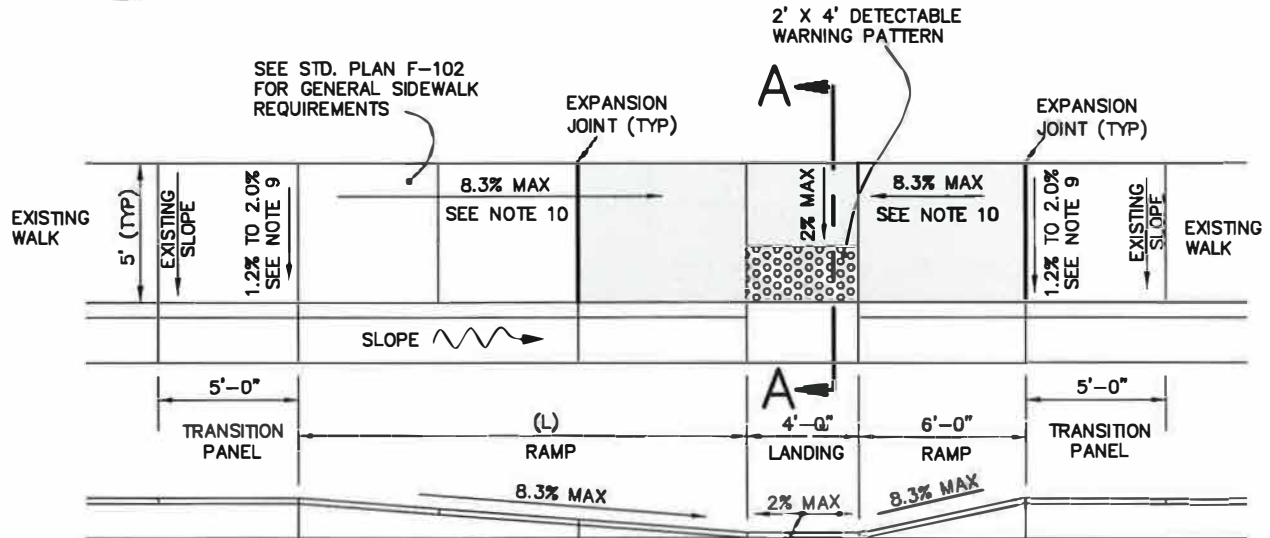
ENGINEERING SERVICES
 CITY OF SPOKANE, WASHINGTON

STANDARD
 PLAN No.
 F-105A

1. CURB RAMPS SHALL BE CONSTRUCTED USING AIR-ENTRAINED 6-SACK COMMERCIAL CONCRETE.
2. MINIMUM RAMP LENGTH (L) IS 5 FEET. MAXIMUM RUNNING SLOPE IS 8.3%. THE RAMP LENGTH SHALL BE INCREASED INCREMENTALLY FROM 5 FT. TO 10 FT. TO 15 FT. AS NEEDED TO ACHIEVE A SLOPE OF 8.3% OR LESS. IF THE ADJACENT ROADWAY GRADE IS SUCH THAT THE CURB RAMP SLOPE CANNOT BE ACHIEVED IN 15 FEET, THE CURB RAMP LENGTH MAY BE LIMITED TO 15 FT.; HOWEVER, THIS REQUIRES A DESIGN DEVIATION APPROVAL BY THE CITY ENGINEER.
3. MAXIMUM CROSS SLOPE AND RUNNING SLOPE ON LANDING SHALL BE 2%.
4. JOINTS FOR RAMPS AND LANDINGS SHALL FORM RECTANGLES. ALL OTHER JOINTS LOCATED BETWEEN CURB RETURNS SHALL BE ORIENTED RADIALLY.
5. DO NOT PLACE DRAINAGE STRUCTURES, JUNCTION BOXES, OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS OR ON ANY PART OF LANDING.
6. SEE CITY OF SPOKANE SPECIFICATIONS FOR DETECTABLE WARNING SURFACE PRODUCT & COLOR REQUIREMENTS.
7. TRANSITION PANELS REQUIRED WHEN EXISTING CROSS SLOPE OF EXISTING SIDEWALK EXCEEDS 2% OR WHEN THE WIDTH OF A EXISTING SIDEWALK DOES NOT MATCH THE WIDTH OF THE IMPROVEMENTS.
8. SEE STANDARD PLANS F-102, F-102A, F-106, F-106B, F-106C, & G-107 FOR ADDITIONAL CONSTRUCTION REQUIREMENTS.
9. 1.2% MINIMUM CROSS SLOPE AND 2.0% MAXIMUM CROSS SLOPE. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.
10. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.

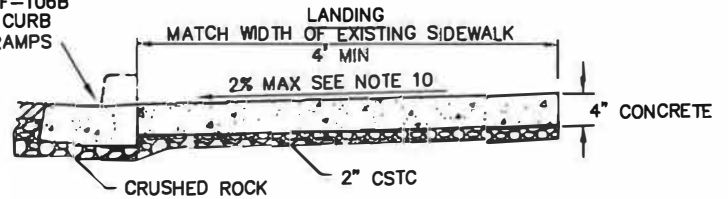
<p>APPROVED BY</p>  DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.		<p>ADOPTED: <u>08/1991</u> REVISED: <u>04/2013</u> SUPERSEDES: <u>04/2012</u></p>		<p>F-105A NOTES</p>			
<p> PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.</p>		<p>CHECKED BY: <u>JTG</u> SCALE: <u>NTS</u> REVISED BY: <u>LWK</u></p>					
				<p>ENGINEERING SERVICES CITY OF SPOKANE, WASHINGTON</p>		<p>STANDARD PLAN No. F-105A</p>	

PLAN VIEW



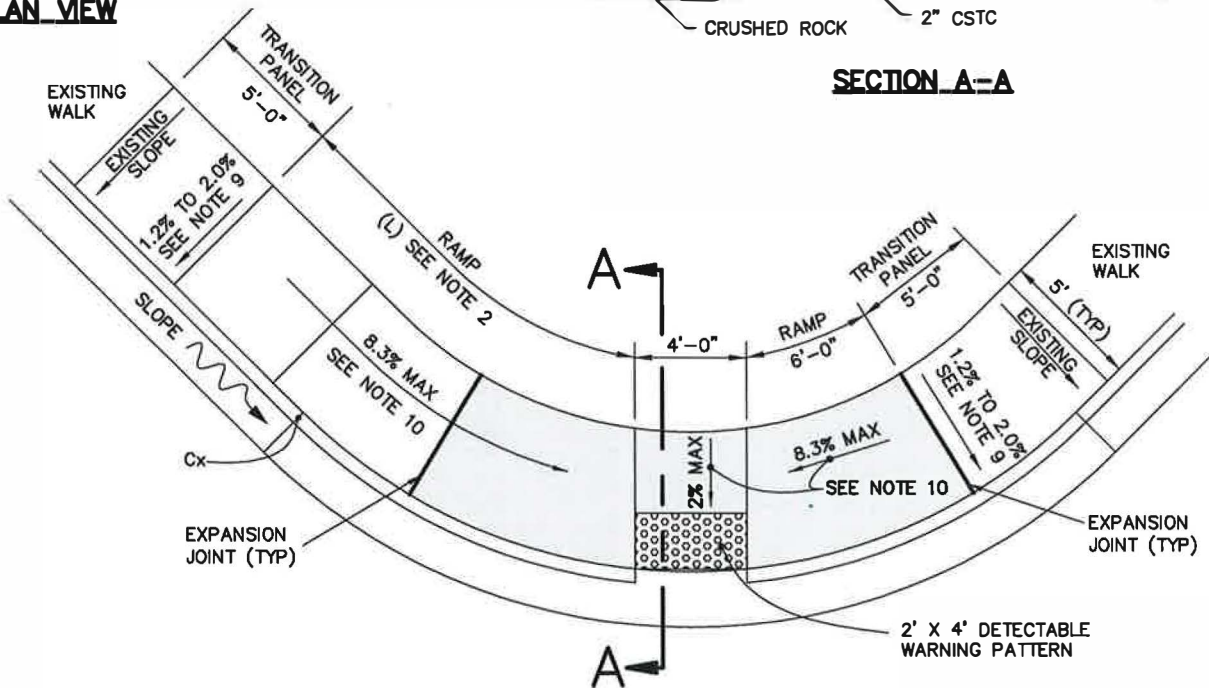
PROFILE VIEW

NO LIP, SEE F-106B FOR TOP OF CURB SLOPES AT RAMPS



SECTION A-A

PLAN VIEW



$$L = \frac{Cx}{.083 - S}$$

L = RAMP LENGTH (FT)
Cx = CURB EXPOSURE (FT)
S = GUTTER SLOPE

W/ .5' CURB EXPOSURE

L = 6' UP TO .000 SLOPE
L = 11' UP TO .037 SLOPE
L = 15' ABOVE .037 SLOPE

THIS TABLE PROVIDES APPROXIMATE DIMENSIONS NECESSARY TO MEET ADA SLOPE REQUIREMENTS. ADJUSTMENTS TO FIT EACH LOCATION WILL BE NECESSARY. FIELD LAYOUT AND SLOPE VERIFICATION IS REQUIRED.

APPROVED BY

[Signature]
DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.
[Signature]
PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.

ADOPTED: 08/1991
REVISED: 04/2013
SUPERSEDES: 04/2012
CHECKED BY: JTG
SCALE: NTS
REVISED BY: LWK

**CURB RAMP TYPE-2
RESTRICTED R.O.W.**



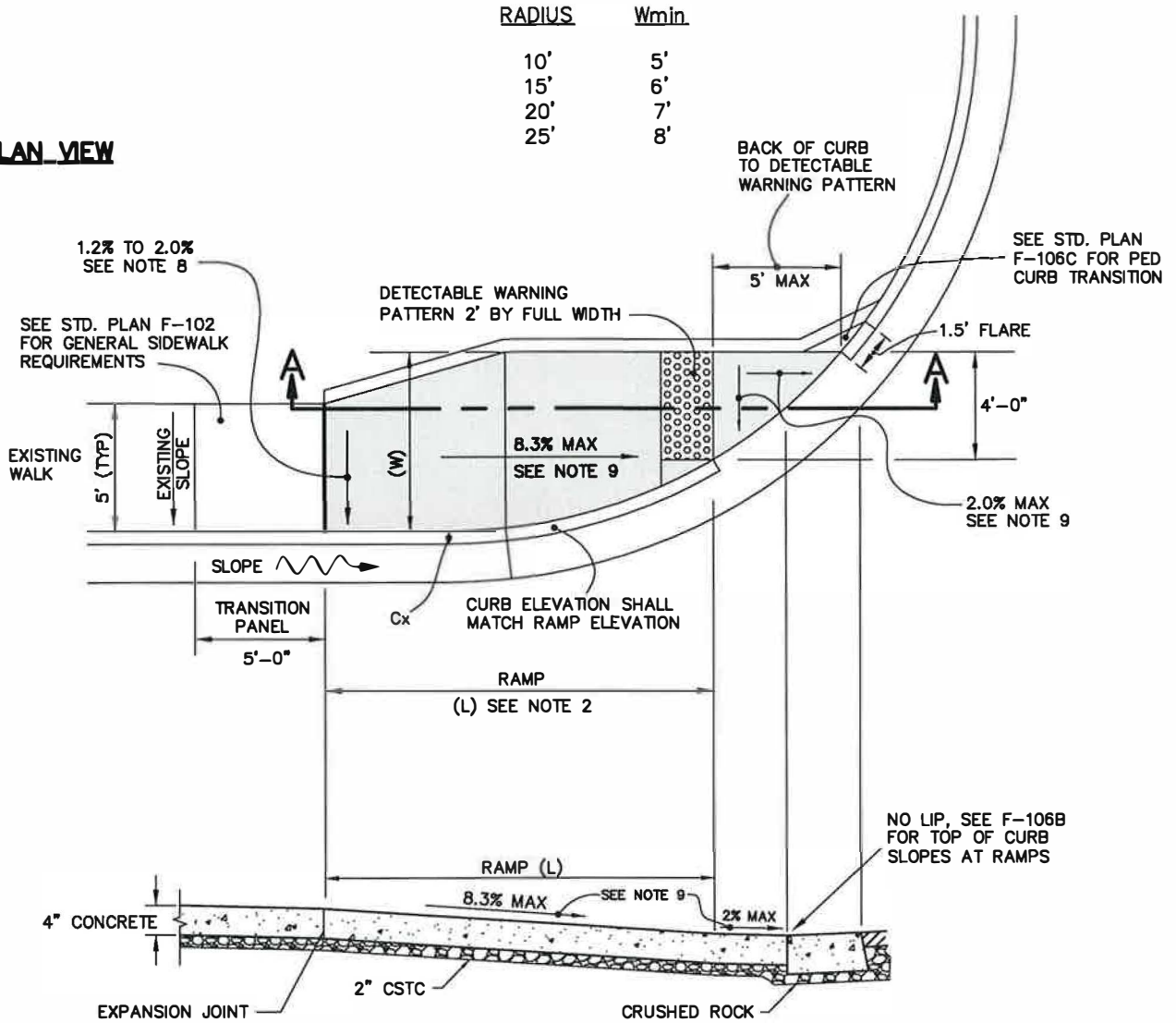
ENGINEERING SERVICES
CITY OF SPOKANE, WASHINGTON

STANDARD
PLAN No.
F-105B

1. CURB RAMPS SHALL BE CONSTRUCTED USING AIR-ENTRAINED 6-SACK COMMERCIAL CONCRETE.
2. MINIMUM RAMP LENGTH (L) IS 6 FEET. MAXIMUM RUNNING SLOPE IS 8.3%. THE RAMP LENGTH SHALL BE INCREASED INCREMENTALLY FROM 6 FT. TO 11 FT. TO 15 FT. AS NEEDED TO ACHIEVE A SLOPE OF 8.3% OR LESS. IF THE ADJACENT ROADWAY GRADE IS SUCH THAT THE CURB RAMP SLOPE CANNOT BE ACHIEVED IN 15 FEET, THE CURB RAMP LENGTH MAY BE LIMITED TO 15 FT.; HOWEVER, THIS REQUIRES A DESIGN DEVIATION APPROVAL BY THE CITY ENGINEER.
3. MAXIMUM SLOPE ON LANDING SHALL BE 2% IN ANY DIRECTION.
4. JOINTS FOR RAMPS AND LANDINGS SHALL FORM RECTANGLES. ALL OTHER JOINTS LOCATED BETWEEN CURB RETURNS SHALL BE ORIENTED RADIALLY.
5. DO NOT PLACE DRAINAGE STRUCTURES, JUNCTION BOXES, OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS OR ON ANY PART OF LANDING.
6. SEE CITY OF SPOKANE SPECIFICATIONS FOR DETECTABLE WARNING SURFACE PRODUCT & COLOR REQUIREMENTS.
7. TRANSITION PANELS REQUIRED WHEN EXISTING CROSS SLOPE OF EXISTING SIDEWALK EXCEEDS 2% OR WHEN THE WIDTH OF A EXISTING SIDEWALK DOES NOT MATCH THE WIDTH OF THE IMPROVEMENTS.
8. SEE STANDARD PLANS F-102, F-102A, F-106, F-106B, F-106C, & G-107 FOR ADDITIONAL CONSTRUCTION REQUIREMENTS.
9. 1.2% MINIMUM CROSS SLOPE AND 2.0% MAXIMUM CROSS SLOPE. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.
10. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.

APPROVED BY		ADOPTED: <u>08/1991</u>		F-105B NOTES	
REVISOR'S SIGNATURE		REVISED: <u>04/2013</u>			
DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.		SUPERSEDES: <u>04/2012</u>		ENGINEERING SERVICES CITY OF SPOKANE, WASHINGTON	
PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.		CHECKED BY: <u>JTG</u>			
		SCALE: <u>NTS</u>		STANDARD PLAN No. F-105B	
		REVISED BY: <u>LWK</u>			

PLAN VIEW



SECTION A-A

$L = \frac{Cx}{.083 - S}$

W/ .5' CURB EXPOSURE

L = RAMP LENGTH (FT)
 Cx = CURB EXPOSURE (FT)
 S = GUTTER SLOPE

L = 6' UP TO .000 SLOPE
 L = 11' UP TO .037 SLOPE
 L = 15' ABOVE .037 SLOPE

THIS TABLE PROVIDES APPROXIMATE DIMENSIONS NECESSARY TO MEET ADA SLOPE REQUIREMENTS. ADJUSTMENTS TO FIT EACH LOCATION WILL BE NECESSARY. FIELD LAYOUT AND SLOPE VERIFICATION IS REQUIRED.

APPROVED BY

[Signature]
 DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.

[Signature]
 PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.

ADOPTED: 08/1991
 REVISED: 04/2013
 SUPERSEDES: 04/2012
 CHECKED BY: JTG
 SCALE: NTS
 REVISED BY: LWK



**CURB RAMP TYPE-3
 ADJACENT SIDEWALK**



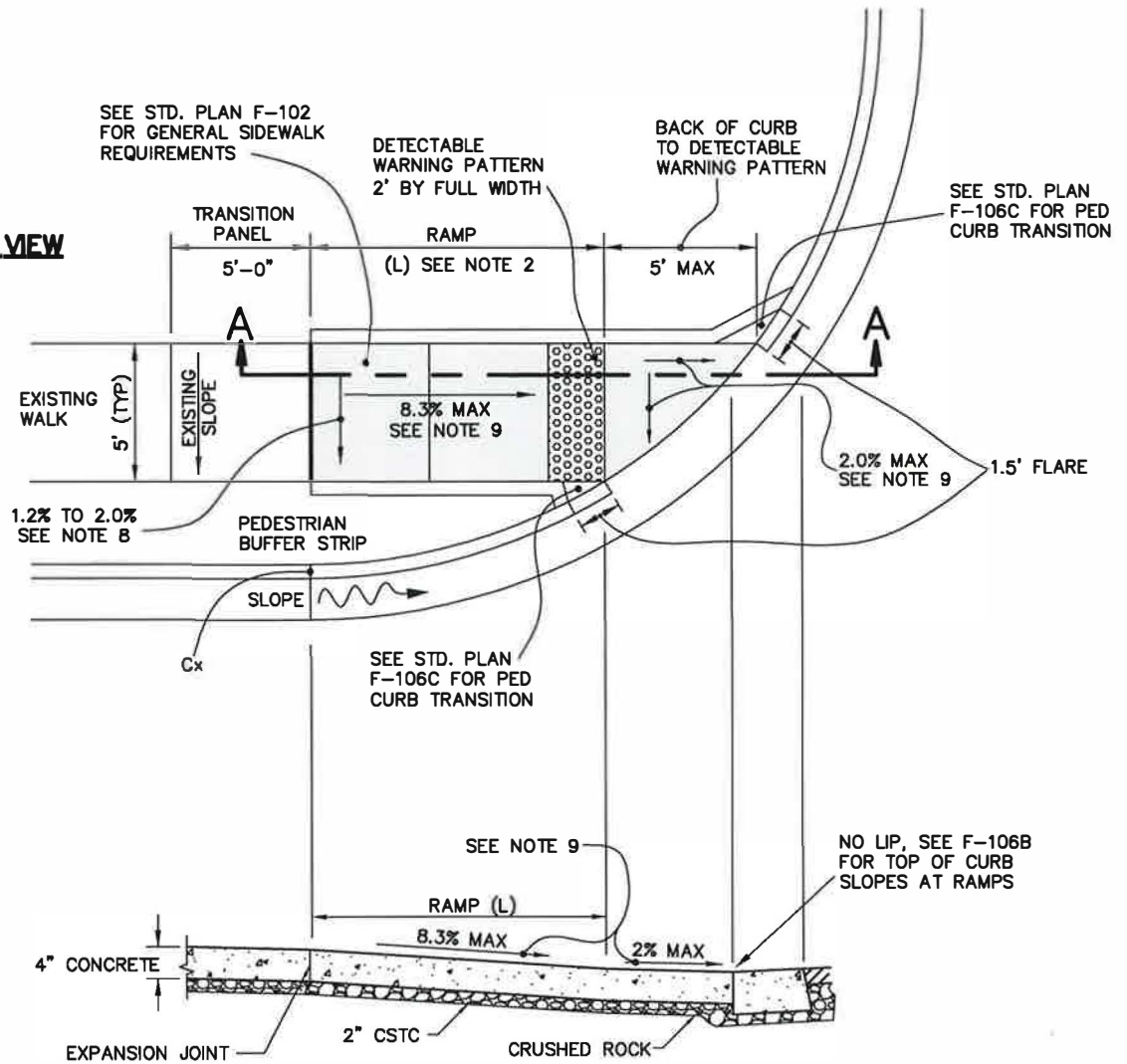
ENGINEERING SERVICES
 CITY OF SPOKANE, WASHINGTON

STANDARD
 PLAN No.
F-105C

1. CURB RAMPS SHALL BE CONSTRUCTED USING AIR-ENTRAINED 6-SACK COMMERCIAL CONCRETE.
2. MINIMUM RAMP LENGTH (L) IS 6 FEET. MAXIMUM RUNNING SLOPE IS 8.3%. THE RAMP LENGTH SHALL BE INCREASED INCREMENTALLY FROM 6 FT. TO 11 FT. TO 15 FT. AS NEEDED TO ACHIEVE A SLOPE OF 8.3% OR LESS. IF THE ADJACENT ROADWAY GRADE IS SUCH THAT THE CURB RAMP SLOPE CANNOT BE ACHIEVED IN 15 FEET, THE CURB RAMP LENGTH MAY BE LIMITED TO 15 FT.; HOWEVER, THIS REQUIRES A DESIGN DEVIATION APPROVAL BY THE CITY ENGINEER.
3. MAXIMUM SLOPE AT BASE OF RAMP SHALL BE 2% IN ANY DIRECTION.
4. DO NOT PLACE DRAINAGE STRUCTURES, JUNCTION BOXES, OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS OR ON ANY PART OF LANDING.
5. SEE CITY OF SPOKANE SPECIFICATIONS FOR DETECTABLE WARNING SURFACE PRODUCT & COLOR REQUIREMENTS.
6. TRANSITION PANELS ARE REQUIRED WHEN CROSS SLOPE OF EXISTING SIDEWALK EXCEEDS 2%.
7. SEE STANDARD PLANS F-102, F-102A, F-106, F-106B, F-106C, & G-107 FOR ADDITIONAL CONSTRUCTION REQUIREMENTS.
8. 1.2% MINIMUM CROSS SLOPE AND 2.0% MAXIMUM CROSS SLOPE. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.
9. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.

 APPROVED BY DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.		ADOPTED: <u>08/1991</u> REVISED: <u>04/2013</u> SUPERSEDES: <u>04/2012</u>	F-105C NOTES	
 PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.		CHECKED BY: <u>JTG</u> SCALE: <u>NTS</u> REVISED BY: <u>LWK</u>		ENGINEERING SERVICES CITY OF SPOKANE, WASHINGTON

PLAN VIEW



SECTION A-A



$L = \frac{C_x}{.083 - S}$

W/ .5' CURB EXPOSURE



THIS TABLE PROVIDES APPROXIMATE DIMENSIONS NECESSARY TO MEET ADA SLOPE REQUIREMENTS. ADJUSTMENTS TO FIT EACH LOCATION WILL BE NECESSARY. FIELD LAYOUT AND SLOPE VERIFICATION IS REQUIRED.

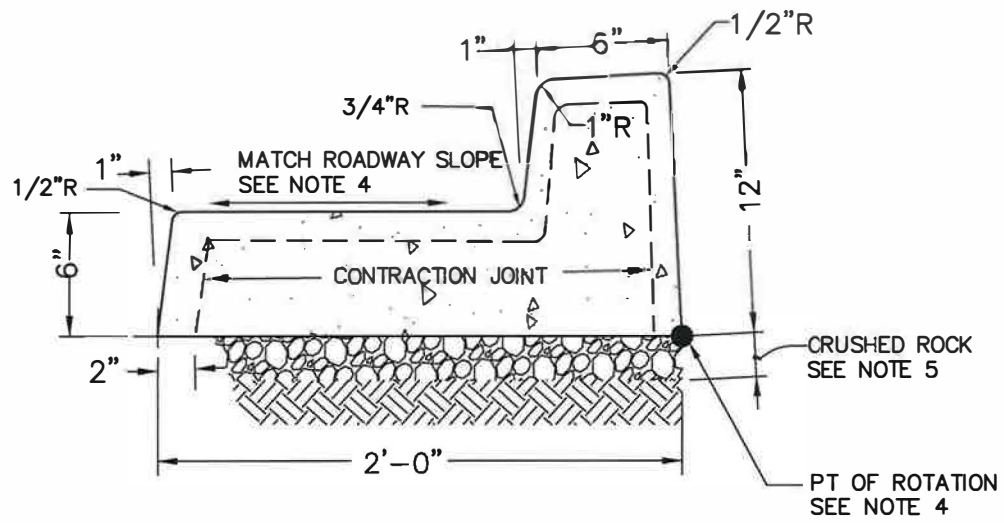
L = RAMP LENGTH (FT)
 Cx = CURB EXPOSURE (FT)
 S = GUTTER SLOPE

L = 6' UP TO .000 SLOPE
 L = 11' UP TO .037 SLOPE
 L = 15' ABOVE .037 SLOPE

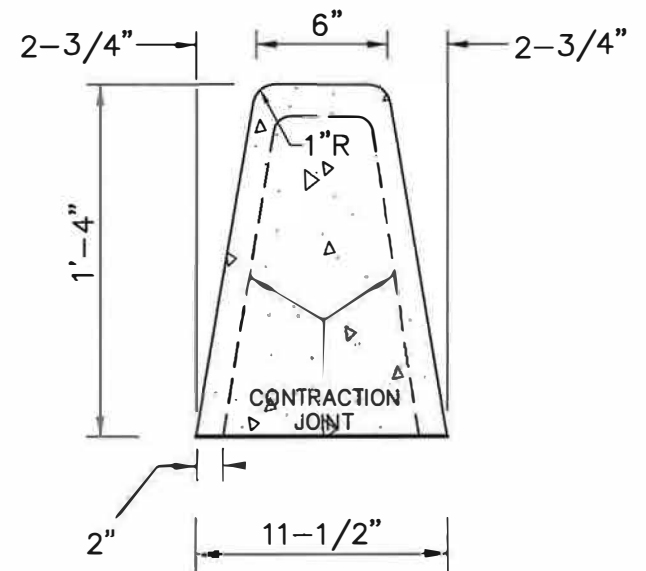
APPROVED BY  DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.		ADOPTED: 08/1991 REVISED: 04/2013 SUPERSEDES: 04/2012		CURB RAMP TYPE-3 SEPARATED SIDEWALK	
 PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.		CHECKED BY: JTG SCALE: NTS REVISED BY: LWK			

1. CURB RAMPS SHALL BE CONSTRUCTED USING AIR-ENTRAINED 6-SACK COMMERCIAL CONCRETE.
2. MINIMUM RAMP LENGTH (L) IS 6 FEET. MAXIMUM RUNNING SLOPE IS 8.3%. THE RAMP LENGTH SHALL BE INCREASED INCREMENTALLY FROM 6 FT. TO 11 FT. TO 15 FT. AS NEEDED TO ACHIEVE A SLOPE OF 8.3% OR LESS. IF THE ADJACENT ROADWAY GRADE IS SUCH THAT THE CURB RAMP SLOPE CANNOT BE ACHIEVED IN 15 FEET, THE CURB RAMP LENGTH MAY BE LIMITED TO 15 FT.; HOWEVER, THIS REQUIRES A DESIGN DEVIATION APPROVAL BY THE CITY ENGINEER.
3. MAXIMUM SLOPE AT BASE OF RAMP SHALL BE 2% IN ANY DIRECTION.
4. DO NOT PLACE DRAINAGE STRUCTURES, JUNCTION BOXES, OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS OR ON ANY PART OF LANDING.
5. SEE CITY OF SPOKANE SPECIFICATIONS FOR DETECTABLE WARNING SURFACE PRODUCT & COLOR REQUIREMENTS.
6. TRANSITION PANELS ARE REQUIRED WHEN CROSS SLOPE OF EXISTING SIDEWALK EXCEEDS 2%.
7. SEE STANDARD PLANS F-102, F-102A, F-106, F-106B, F-106C, & G-107 FOR ADDITIONAL CONSTRUCTION REQUIREMENTS.
8. 1.2% MINIMUM CROSS SLOPE AND 2.0% MAXIMUM CROSS SLOPE. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.
9. NO ADDITIONAL CONSTRUCTION TOLERANCE IS ALLOWED.

 APPROVED BY DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.		ADOPTED: 08/1991 REVISED: 04/2013 SUPERSEDES: 04/2012	F-105D NOTES	
 PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.		CHECKED BY: JTG SCALE: NTS REVISED BY: LWK		



CONCRETE CURB/GUTTER



CONCRETE CURB

NOTES:


1. CONCRETE CURB & CURB/GUTTER SHALL BE CONSTRUCTED USING AIR-ENTRAINED, 6 SACK, COMMERCIAL CONCRETE.
2. EXPANSION JOINTS SHALL USE A 3/8" PREMOLDED JOINT FILLER. EXPANSION JOINTS SHALL EXTEND THROUGH THE FULL CROSS-SECTION OF THE CURB OR CURB/GUTTER & PLACED BETWEEN EXISTING & NEW CONCRETE WHERE SIDEWALKS, DRIVEWAYS, CURB, & CURB/GUTTER ARE REMOVED FOR NEW CONSTRUCTION.
3. CONTRACTION JOINTS SHALL BE HAND TOOLED 1/4" WIDE BY 2" MINIMUM DEPTH SPACED AT MAX. 15'-0" O.C.
4. THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ROADWAY. THEREFORE, THE CURB/GUTTER SHALL BE ROTATED ACCORDINGLY.
5. PROVIDE COMPACTED CRUSHED ROCK UNDERNEATH CURB/GUTTER TO THE LIMITS SHOWN ON STD PLAN W-102.
6. SEE STD PLAN F-106B FOR CURB AND CURB/GUTTER DETAILS AT CURB RAMPS AND DRIVEWAYS.

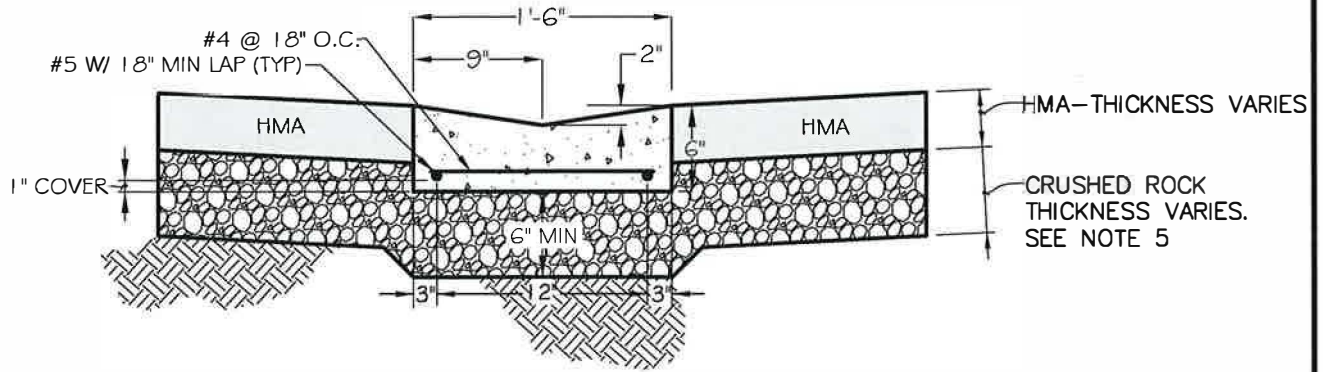
APPROVED BY

 DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.

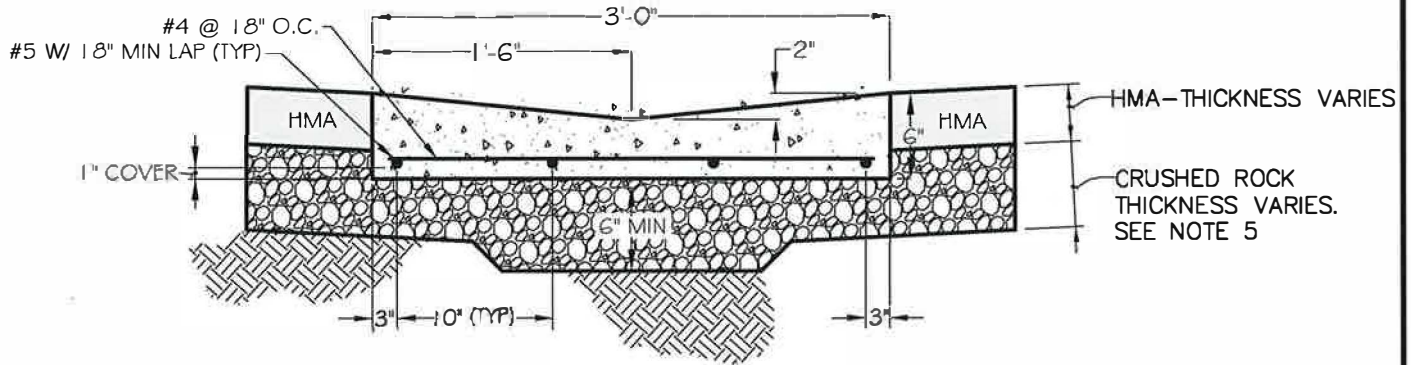
 PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.

ADOPTED: 2/1990
 REVISED: 04/2012
 SUPERSEDES: 01/2009
 CHECKED BY: SJS
 SCALE: NTS
 REVISED BY: DSH

CONCRETE CURB AND CURB / GUTTER	
 ENGINEERING SERVICES CITY OF SPOKANE, WASHINGTON	STANDARD PLAN No. F-106



CONCRETE "V" GUTTER
 RECOMMENDED FOR USE IN A PARALLEL
 ORIENTATION W/CURB & GUTTER



CONCRETE "V" GUTTER
 RECOMMENDED FOR USE ACROSS A
 STREET HEADER

NOTES:

1. CONCRETE GUTTER SHALL BE CONSTRUCTED USING AIR-ENTRAINED, 6 SACK, COMMERCIAL CONCRETE IN ACCORDANCE W/ 6-02.3(2)B.
2. SEE SEC 8-04 FOR CONC GUTTER.
3. SEE STD PLANS F-103 THROUGH F-104B FOR CONC DRIVEWAYS
4. EXPANSION (ISOLATION) JOINTS SHALL USE A 3/8" MIN PREMOLDED JOINT FILLER PER SEC 9-04.1(2). JOINTS SHALL EXTEND THROUGH THE FULL CROSS-SECTION OF THE CURB OR CURB/GUTTER & PLACED BETWEEN EXISTING & NEW CONCRETE WHERE SIDEWALKS, DRIVEWAYS, CURB, & CURB/GUTTER ARE REMOVED FOR NEW CONSTRUCTION. A TOOLED CONTRACTION (CONTROL) JOINT SHALL BE PLACED ACROSS THE CURB OR CURB/GUTTER AND SPACED AT A MAX. 15'-0" O.C.
5. PROVIDE COMPACTED CRUSHED ROCK UNDERNEATH GUTTER TO THE PAYMENT LIMITS & REQ'MTS PER STD PLAN W-102. CRUSHED ROCK THICKNESS IS DEPENDENT UPON THE STREET SECTION THICKNESS.

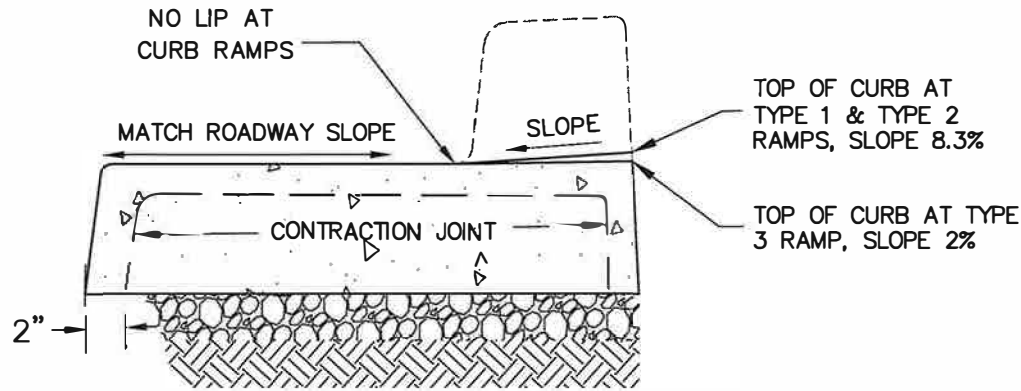
APPROVED BY

 DIRECTOR, ENGINEERING SERVICES P. MIKE TAYLOR, P.E.

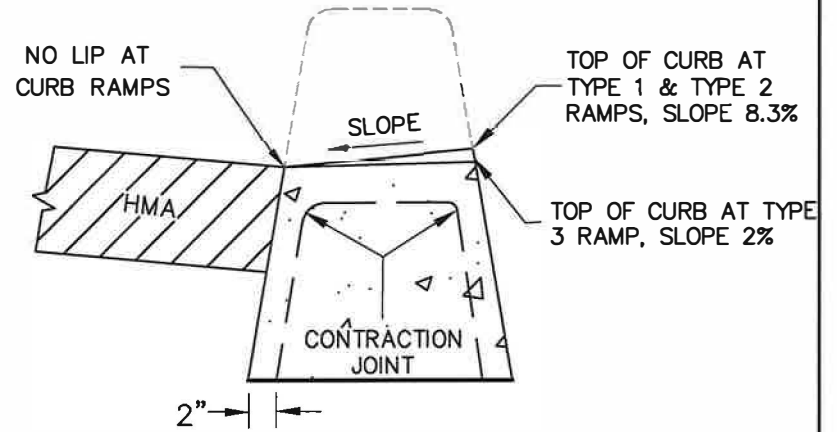
 PRINCIPAL ENGINEER, DESIGN GARY S. NELSON, P.E.

ADOPTED: 09/2010
 REVISED: 04/2012
 SUPERSEDES: -
 CHECKED BY: JAG
 SCALE: NTS
 DWG/REV. BY: MBM/SRM

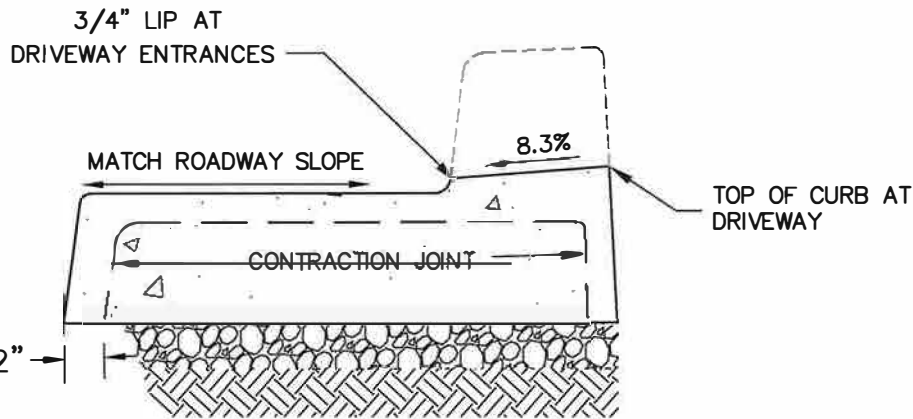
CONCRETE "V" GUTTERS
 ENGINEERING SERVICES
 CITY OF SPOKANE, WASHINGTON
 STANDARD
 PLAN No.
 F-106A



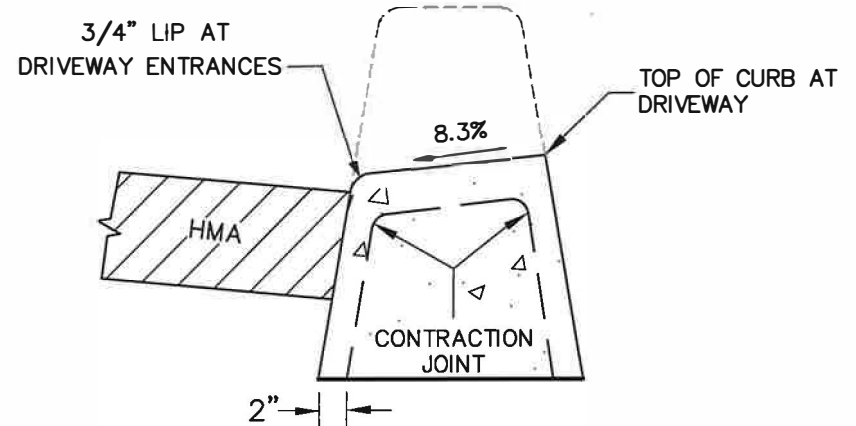
CONCRETE CURB/GUTTER @ CURB RAMP



CONCRETE CURB @ CURB RAMP





CONCRETE CURB/GUTTER @ DRIVEWAY

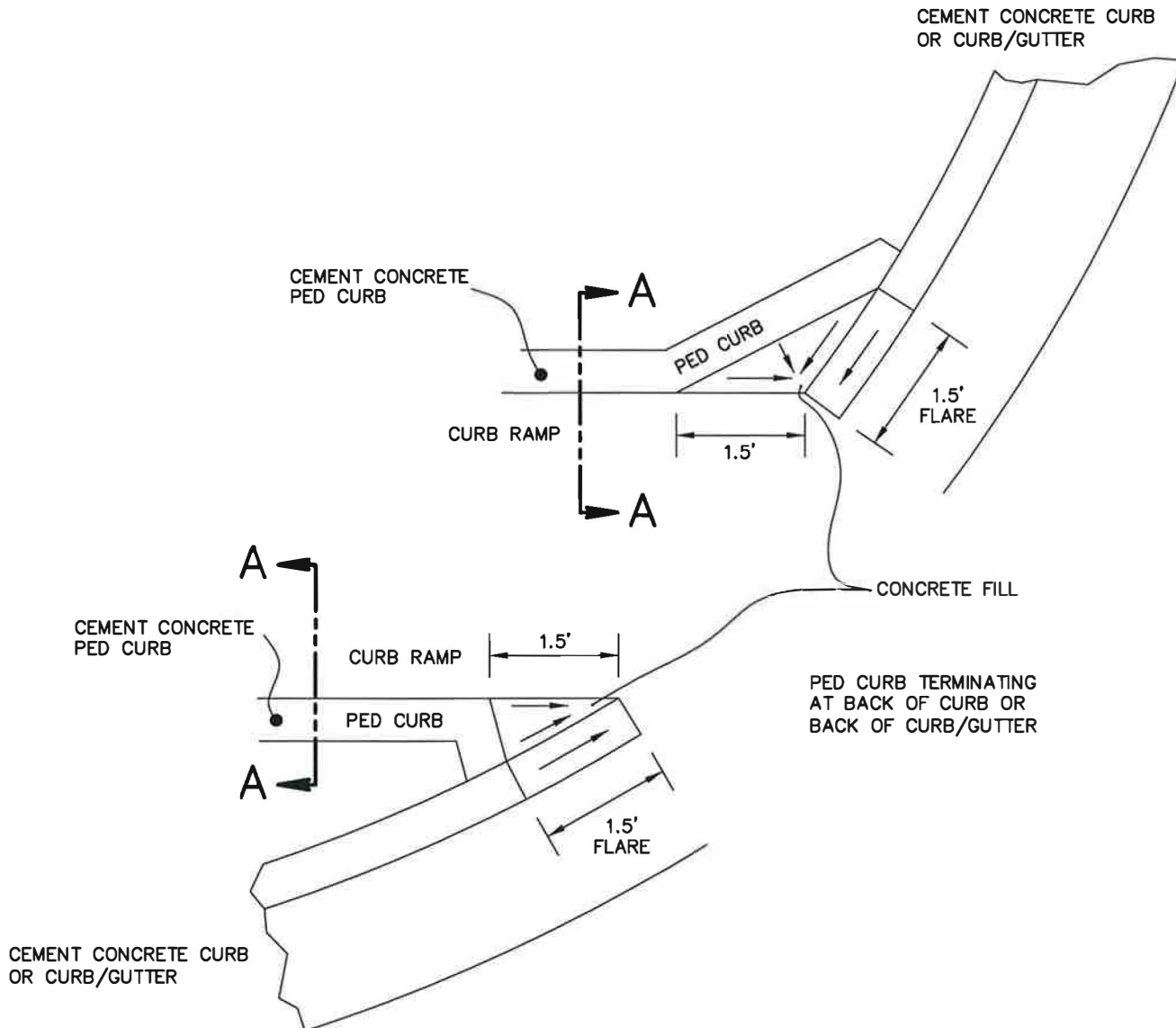


CONCRETE CURB @ DRIVEWAY

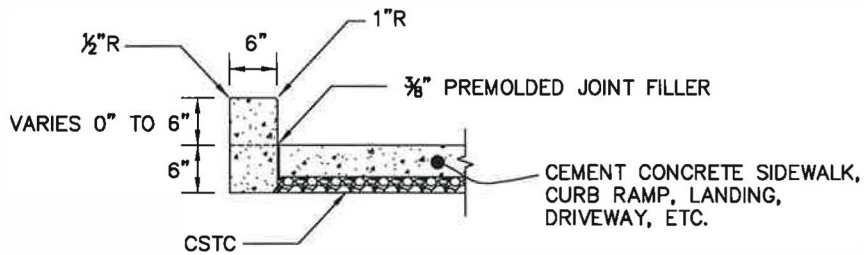
NOTES:

1. CONCRETE CURB & CURB/GUTTER SHALL BE CONSTRUCTED USING AIR-ENTRAINED, 6 SACK, COMMERCIAL CONCRETE.

<p>APPROVED BY</p>  <p>DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.</p>  <p>PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.</p>	<p>ADOPTED: 04/2012</p> <p>REVISED: _____</p> <p>SUPERSEDES: _____</p> <p>CHECKED BY: SJS</p> <p>SCALE: NTS</p> <p>REVISED BY: DSH</p>	<p>CURB AND CURB/GUTTER @ CURB RAMPS AND DRIVEWAYS</p> <p>ENGINEERING SERVICES CITY OF SPOKANE, WASHINGTON</p> <p>STANDARD PLAN No. F-106B</p>
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SECTION VIEW



SECTION A-A

APPROVED BY

 DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.

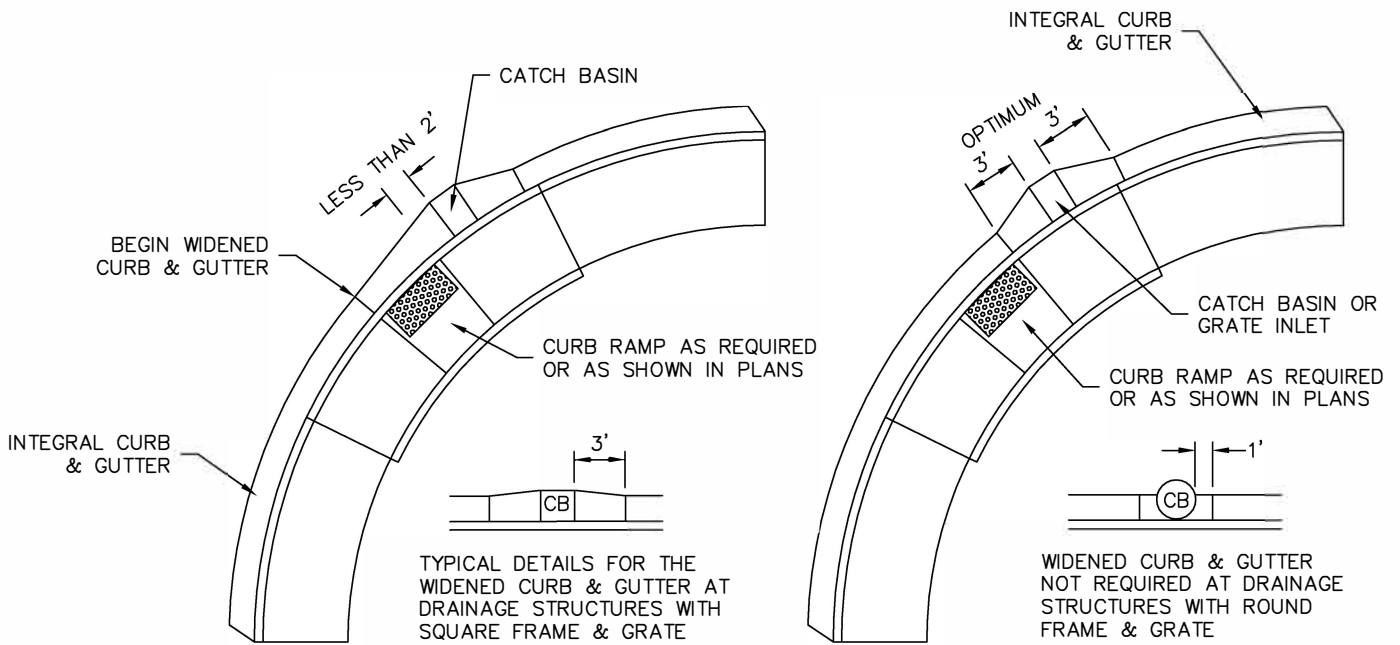
 PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.

ADOPTED: 08/1991
 REVISED: 04/2013
 SUPERSEDES: 04/2012
 CHECKED BY: JTG
 SCALE: NTS
 REVISED BY: LWK

CEMENT CONCRETE PED CURB

ENGINEERING SERVICES
 CITY OF SPOKANE, WASHINGTON

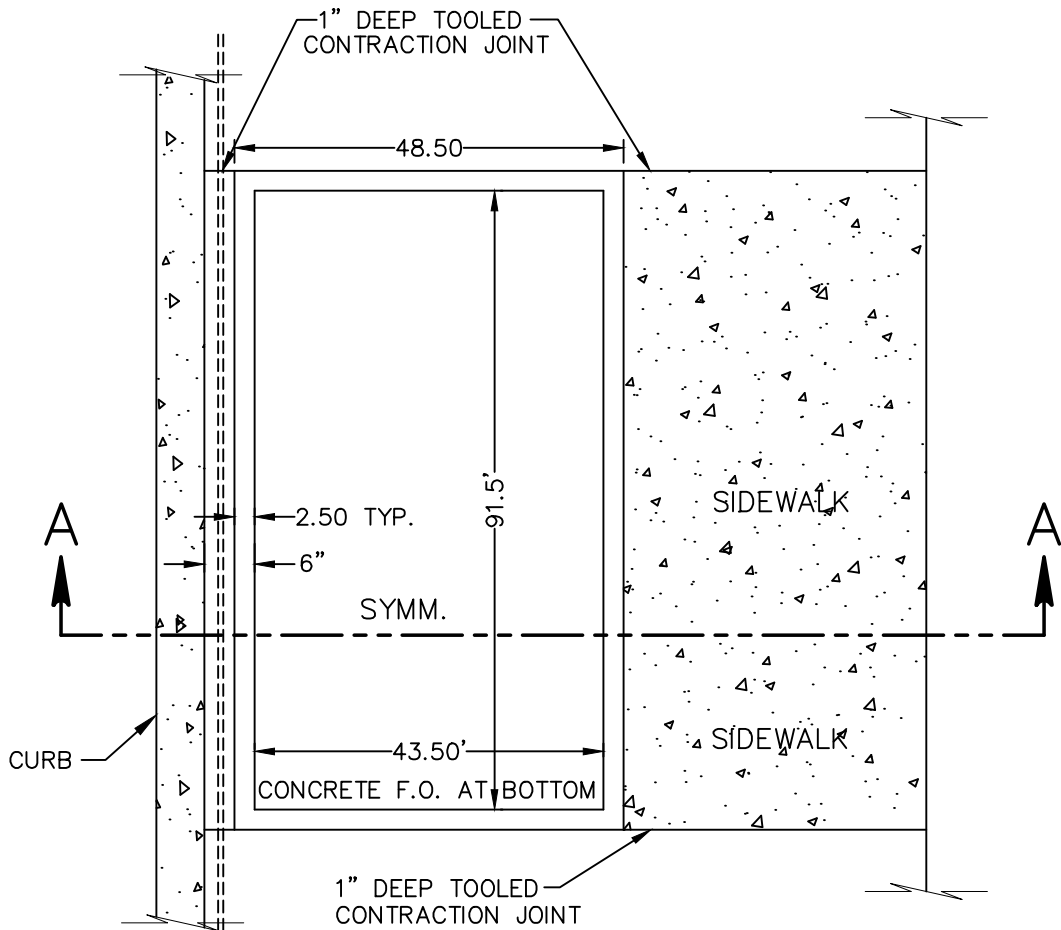
STANDARD
 PLAN No.
 F-106C



NOTES

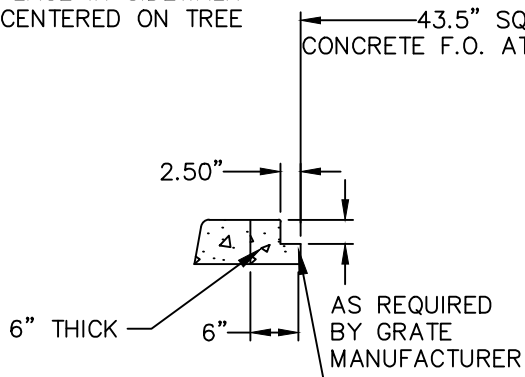
1. DRAINAGE STRUCTURES SHALL NOT BE INSTALLED WITHIN THE LANDING AREA OF CURB RAMPS. ROTATION OF RAMP MAY BE REQUIRED.
2. WIDENED CURB & GUTTER SHALL TERMINATE AT CONTROL JOINTS.
3. WHERE CURB REMOVED FOR RAMP INSTALLATION, REPLACEMENT CURB SHALL BE CURB/GUTTER, MATCHING ADJACENT CURB EXPOSURE MAY REQUIRE MANUAL FORMING OF CURB/GUTTER.

<p style="text-align: center;">APPROVED BY</p> <p style="text-align: center; font-size: small;">ENGINEERING OPERATIONS MANAGER KYLE TWOHIG</p> <p style="text-align: center; font-size: small;">CITY ENGINEER DANIEL ALBERT BULLER, P.E.</p>	<p>ADOPTED: <u>03/2018</u></p> <p>REVISED: _____</p> <p>SUPERSEDES: _____</p> <p>CHECKED BY: <u>JAG</u></p> <p>SCALE: <u>NTS</u></p> <p>REVISED BY: <u>INT</u></p>	<p>CURB/GUTTER AT DRAINAGE STRUCTURE</p>	<p style="text-align: center; font-size: small;">ENGINEERING SERVICES CITY OF SPOKANE, WASHINGTON</p>	<p style="text-align: center; font-size: small;">STANDARD PLAN No. F-106D</p>
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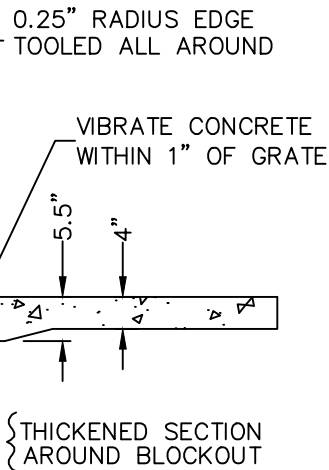


PLAN

2 - #4 REBAR
LENGTH= TREE WELL + 4
FEET, PLACE IN SIDEWALK
STRIP CENTERED ON TREE
WELL


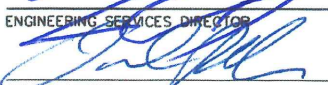



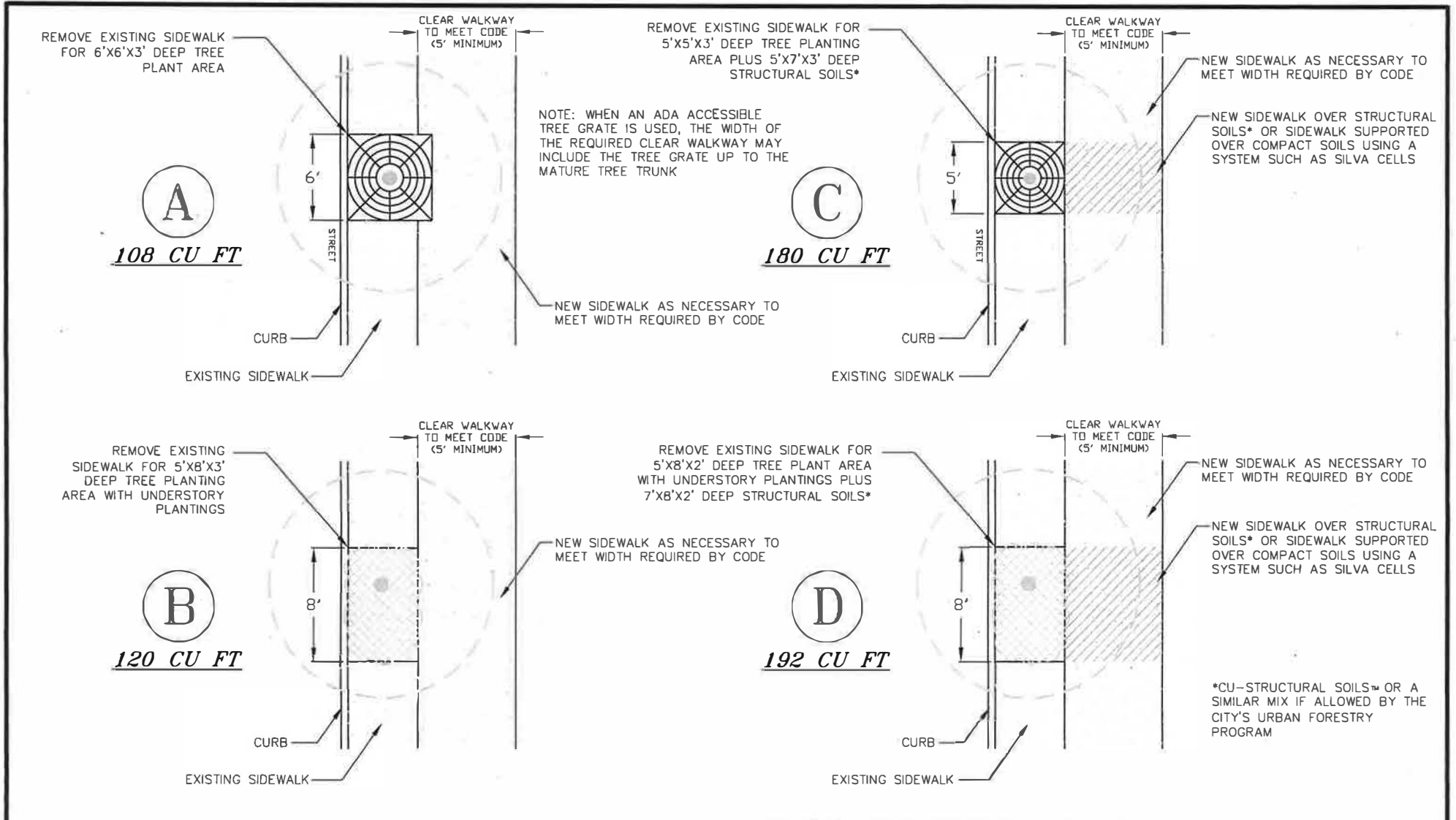
SECTION A-A



IMPORTANT!
APPLY PARTING
COMPOUND TO ALL
SURFACES OF OPENING
PRIOR TO POURING THE
CONCRETE FILL.

NOTE:
THE GRATE UNIT FOR THE TREE WELL SHALL CONSIST OF 4-GRATE SECTIONS. EACH GRATE SECTION SHALL MEASURE 24"X48"X1-1/4" AND BE CONSTRUCTED OF GRAY CAST IRON, CLASS 30 W/ A MINIMUM WEIGHT OF 150 LBS/SECTION OR 300 LBS/UNIT. EQUAL OR BETTER CORROSION RESISTANCE MATERIAL MAY BE SUBSTITUTED UPON PRIOR APPROVAL OF THE ENGINEER.

<p>APPROVED BY</p>  <p>ENGINEERING SERVICES DIRECTOR KYLE TWHIG</p>  <p>CITY ENGINEER DAN BULLER, P.E.</p>	<p>ADOPTED: _____</p> <p>REVISED: 10/2019</p> <p>SUPERSEDES: 04/2018</p> <p>CHECKED BY: JAG</p> <p>SCALE: NTS</p> <p>REVISED BY: DCB/MLD</p>	<p>TREE WELL BLOCKOUT FOR 4' X 8' METAL GRATE</p>  <p>ENGINEERING SERVICES CITY OF SPOKANE, WASHINGTON</p>	<p>STANDARD PLAN No. F-107</p>
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*CU-STRUCTURAL SOILS™ OR A SIMILAR MIX IF ALLOWED BY THE CITY'S URBAN FORESTRY PROGRAM

EXISTING SIDEWALK RETROFIT - POSSIBLE OPTIONS TO PROVIDE 100 CU FT OF UNCOMPACTED SOIL FOR STREET TREES.

SOIL IS THE KEY FACTOR FOR TREE HEALTH, BUT IN AN URBAN SETTING IT'S ALMOST IMPOSSIBLE TO PROVIDE IDEAL SOIL VOLUMES. THE CITY OF SPOKANE HIGHLY ENCOURAGES BUILDING PERMIT APPLICANTS TO CONSIDER PROVIDING AS MUCH UNCOMPACTED SOIL AS POSSIBLE FOR TREES, AND REQUIRES AT LEAST 100 CU FT (MAX 3' DEPTH MAY BE FACTORED INTO VOLUME). A PERMIT IS NECESSARY TO PLANT A TREE IN PUBLIC RIGHT OF WAY; PLEASE CONTACT THE URBAN FORESTRY PROGRAM AT (509) 363-5470. COURTESY OF THE URBAN DESIGN SECTION OF THE PLANNING SERVICES DEPARTMENT.

APPROVED BY

 DIRECTOR, ENGINEERING SERVICES P. MIKE TAYLOR, P.E.

 PRINCIPAL ENGINEER, DESIGN GARY S. NELSON, P.E.

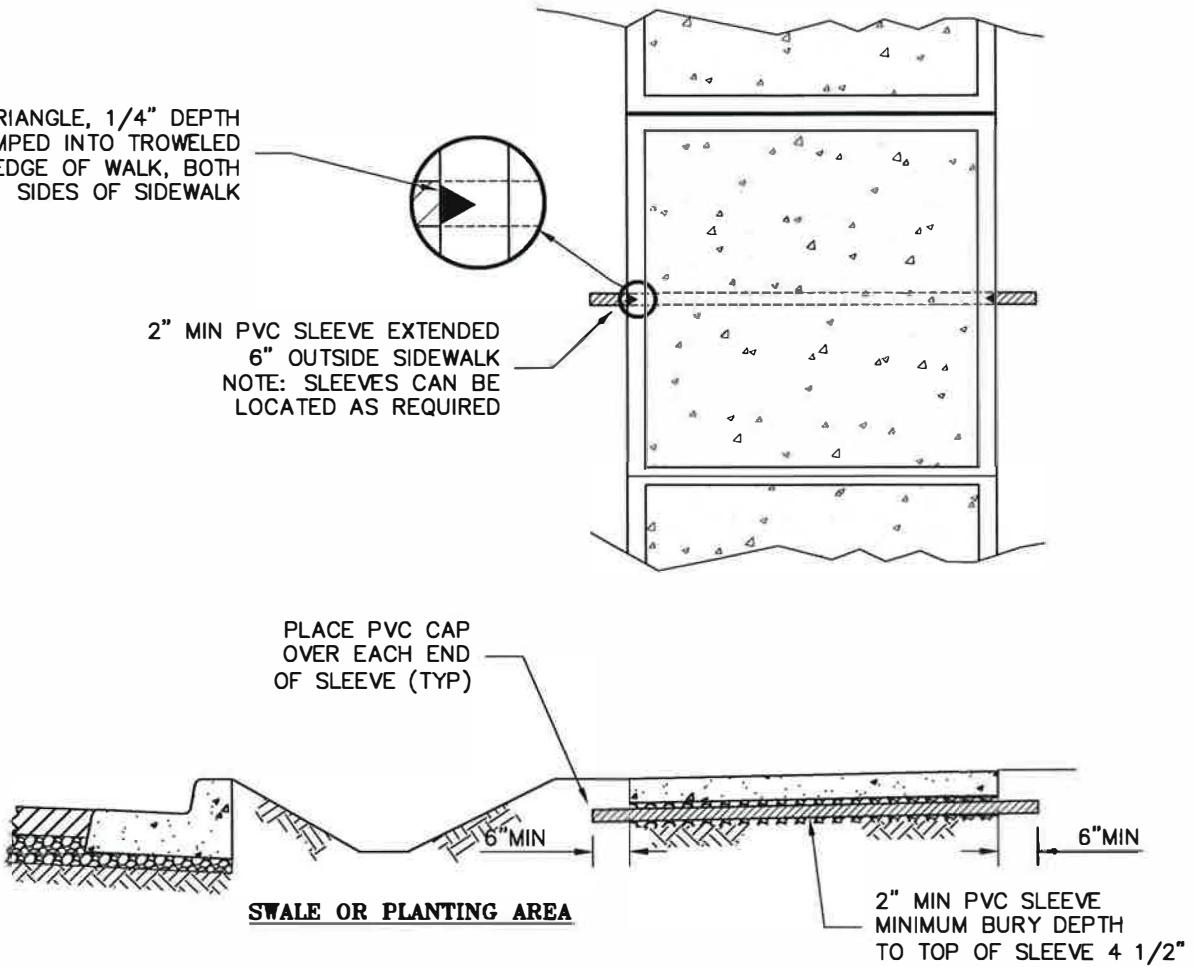
ADOPTED: 09/2010
 REVISED: _____
 SUPERSEDES: _____
 CHECKED BY: JAG
 SCALE: NTS
 DWG/REV. BY: MBM

EXISTING SIDEWALK RETROFIT OPTIONS FOR STREET TREE INSTALLATION		 ENGINEERING SERVICES CITY OF SPOKANE, WASHINGTON	STANDARD PLAN No. F-107A

2" TRIANGLE, 1/4" DEPTH
STAMPED INTO TROWELED
EDGE OF WALK, BOTH
SIDES OF SIDEWALK

2" MIN PVC SLEEVE EXTENDED
6" OUTSIDE SIDEWALK
NOTE: SLEEVES CAN BE
LOCATED AS REQUIRED

PLACE PVC CAP
OVER EACH END
OF SLEEVE (TYP)



NOTES:

1. SEE STD PLAN F-102 FOR GENERAL SIDEWALK REQUIREMENTS.
2. SEE CITY OF SPOKANE DESIGN STANDARDS SECTION 3 FOR SIDEWALK WIDTH REQUIREMENTS.
3. SEE CITY OF SPOKANE DESIGN STANDARDS SECTION 3 FOR PEDESTRIAN BUFFER STRIP WIDTH REQUIREMENTS
4. SEE STD PLAN B-102F FOR BIO-INFILTRATION SWALE REQUIREMENTS.

APPROVED BY

Kyle Twohig
KYLE TWHOIG
Kenneth M. Brown
KENNETH M. BROWN, P.E.
PRINCIPAL ENGINEER, CONST.

ADOPTED: 07/2014

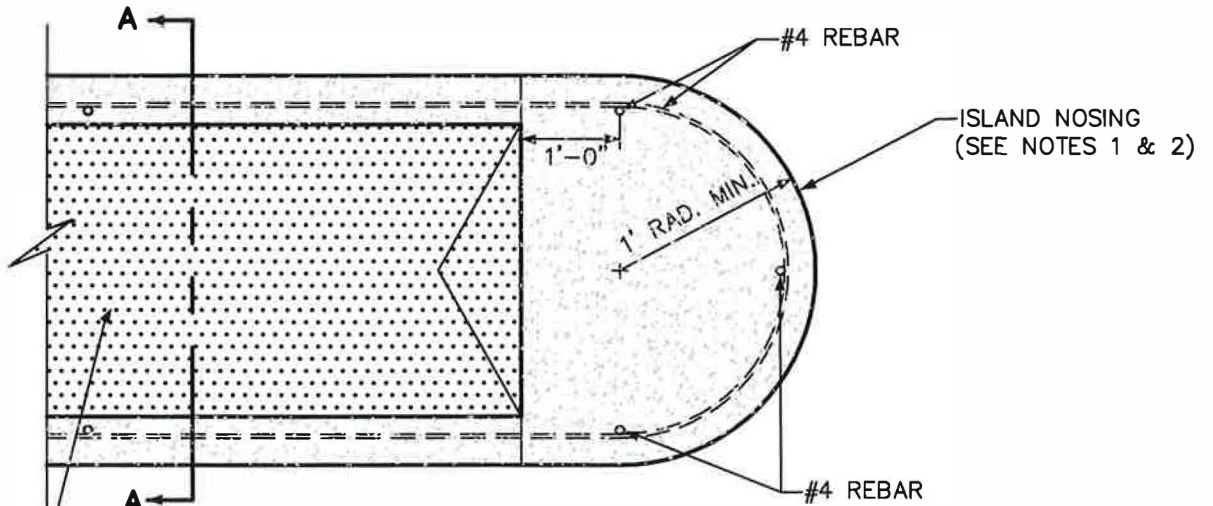
REVISED: _____
SUPERSEDES: _____
CHECKED BY: DAB
SCALE: NTS
REVISED BY: RJS/LWK

MARKING IRRIGATION SLEEVES



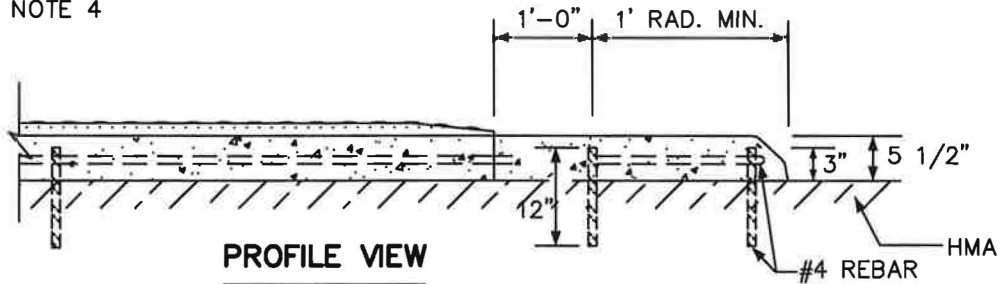
ENGINEERING SERVICES
CITY OF SPOKANE, WASHINGTON

STANDARD
PLAN No.
F-107B



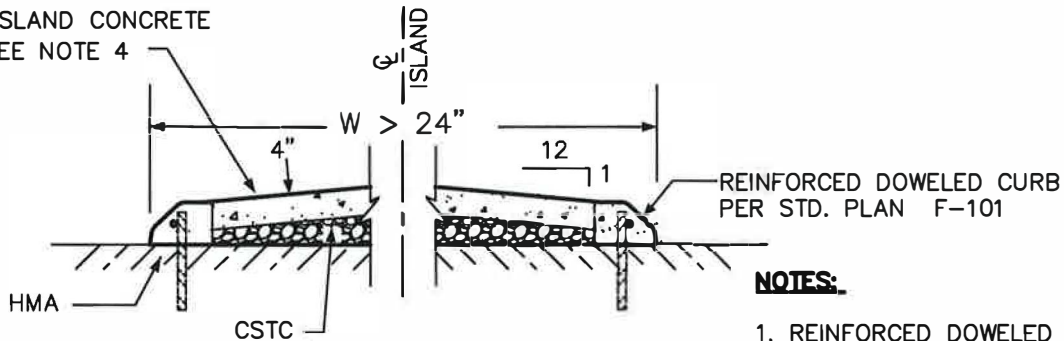
TRAFFIC ISLAND NOSE

TRAFFIC ISLAND CONCRETE
SEE NOTE 4



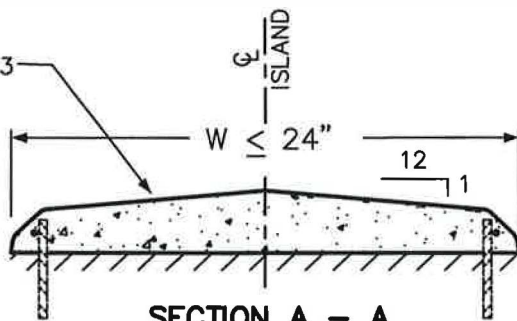
PROFILE VIEW

TRAFFIC ISLAND CONCRETE
SEE NOTE 4



SECTION A - A

SEE NOTES 1, 2, & 3



SECTION A - A

NOTES:

1. REINFORCED DOWELED CURB & ISLAND NOSINGS SHALL BE CONSTRUCTED W/ AIR ENTRAINED CONCRETE, CLASS 4000 W/ A BROOM FINISH.
2. TRAFFIC ISLANDS WITH WIDTHS < 24" REQUIRE APPROVAL BY THE CITY ENGINEER
3. TRAFFIC ISLANDS WITH WIDTHS ≤ 24" SHALL BE CONSTRUCTED AS A SOLID UNIT USING AIR-ENTRAINED CLASS 4000 CONCRETE W/ A BROOM FINISH.
4. TRAFFIC ISLAND CONCRETE SHALL BE CONSTRUCTED USING AIR-ENTRAINED, 6 SACK, COMMERCIAL CONCRETE W/ A BROOM FINISH

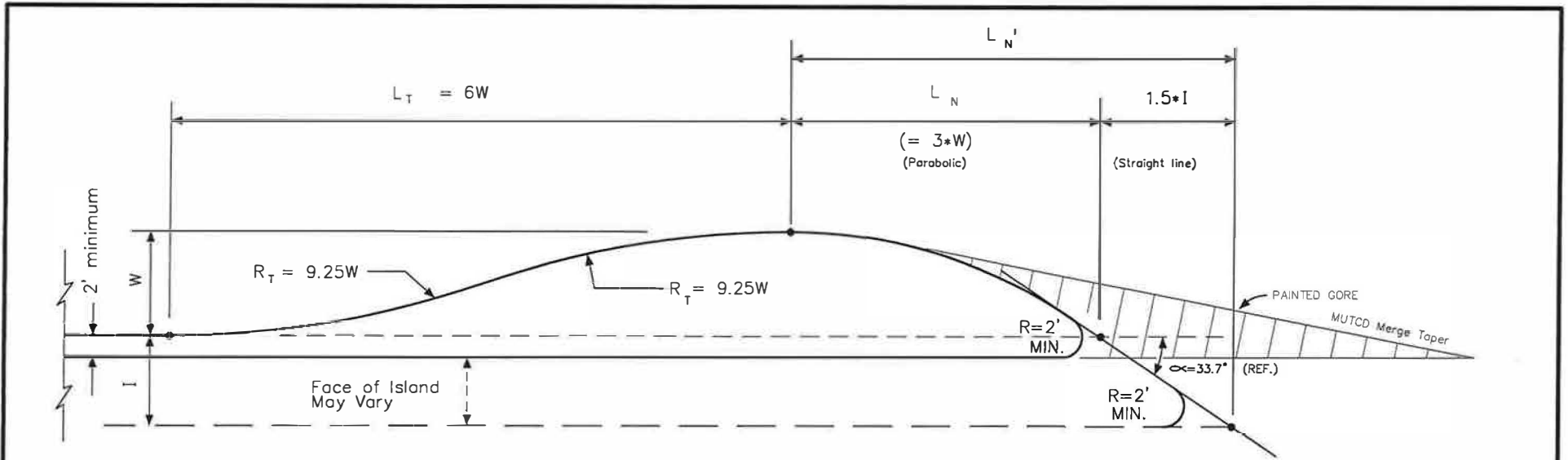
APPROVED BY
[Signature]
DIRECTOR, ENGINEERING SERVICES PERRY M. TAYLOR, P.E.
[Signature]
PRINCIPAL ENGINEER, CONST. KENNETH M. BROWN, P.E.

ADOPTED: 6/1992
REVISED: 04/2012
SUPERSEDES: 05/2007
CHECKED BY: SJS
SCALE: NTS
REVISED BY: DSH

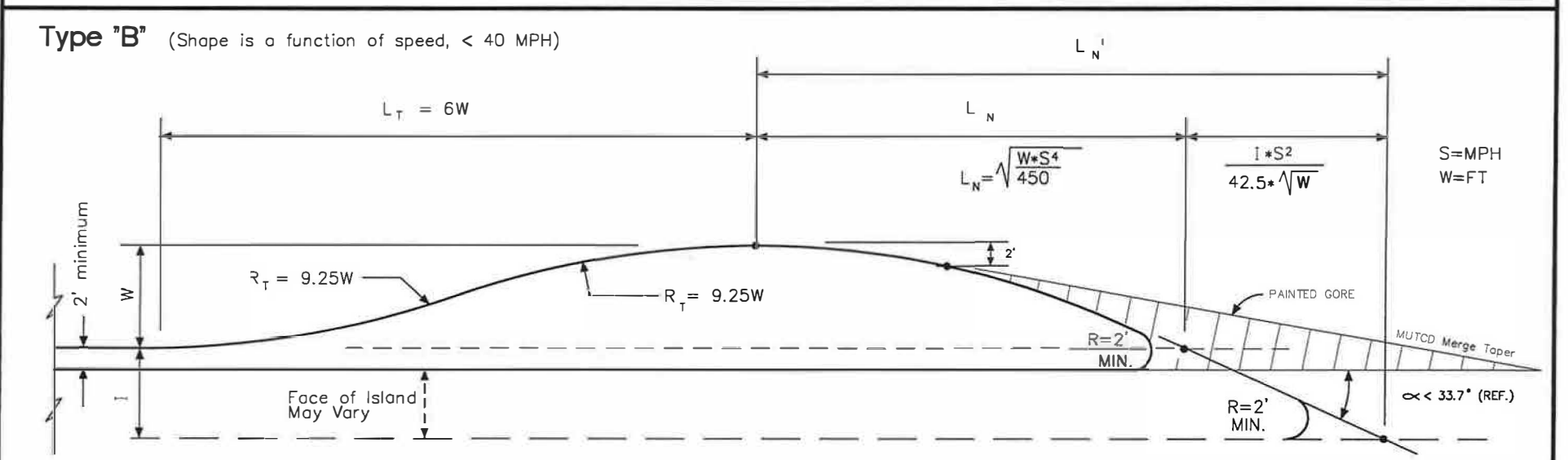
TRAFFIC ISLAND

ENGINEERING SERVICES
CITY OF SPOKANE, WASHINGTON

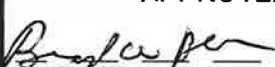
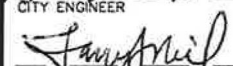
STANDARD
PLAN No.
F-108

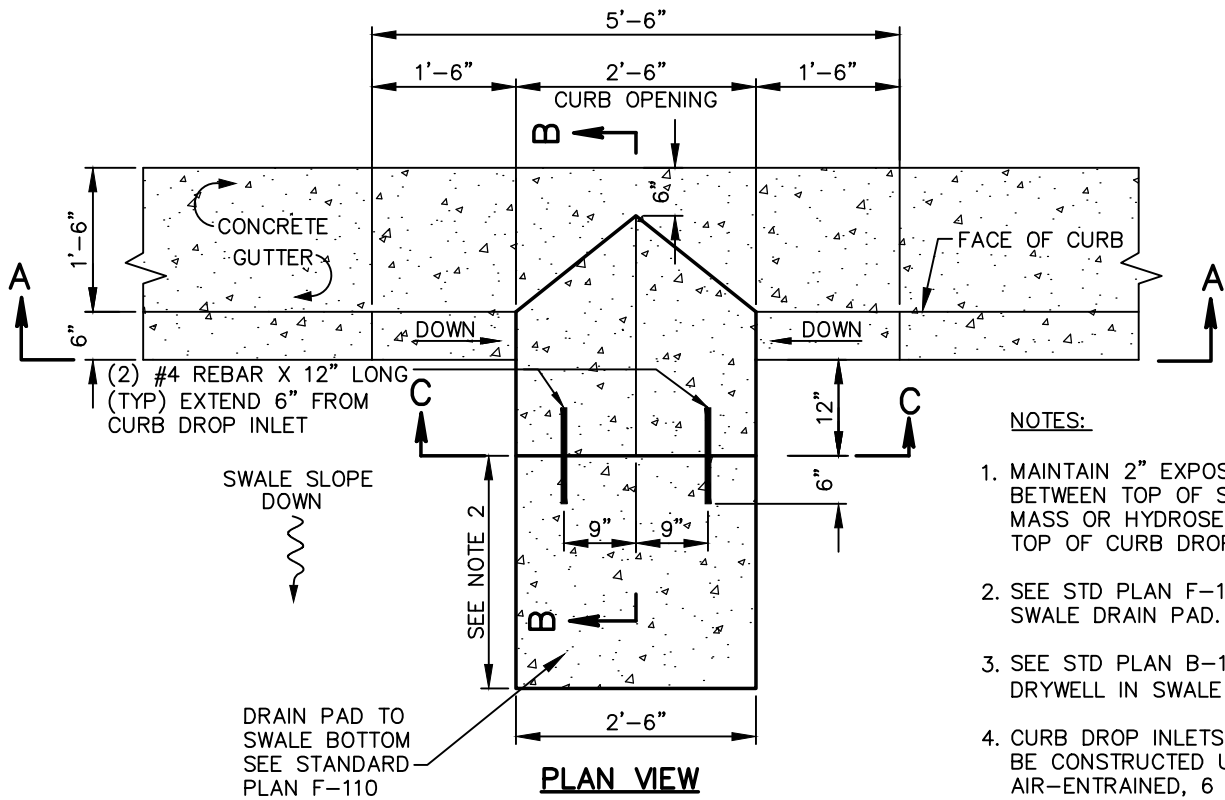


Type "A" (Shape is NOT a function of speed)



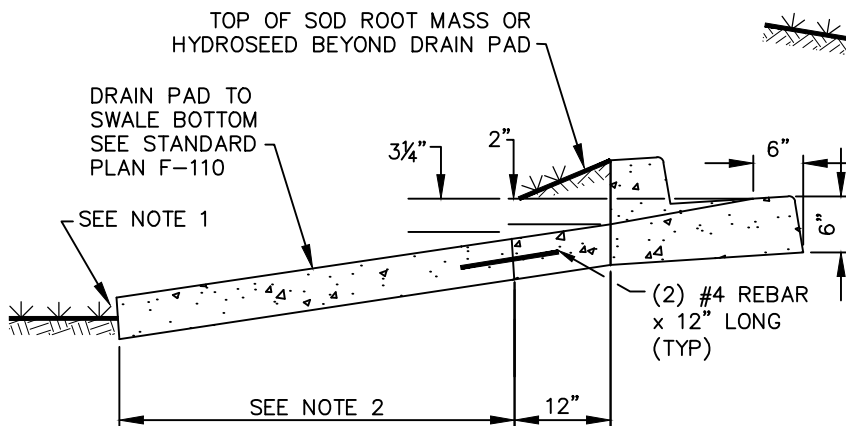
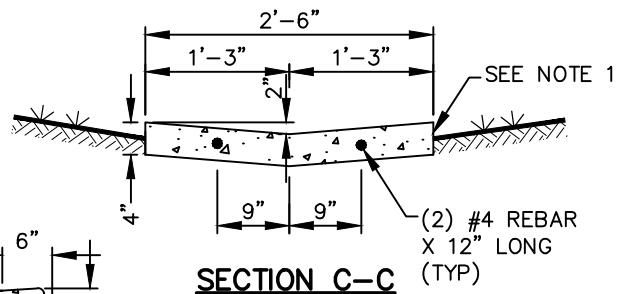
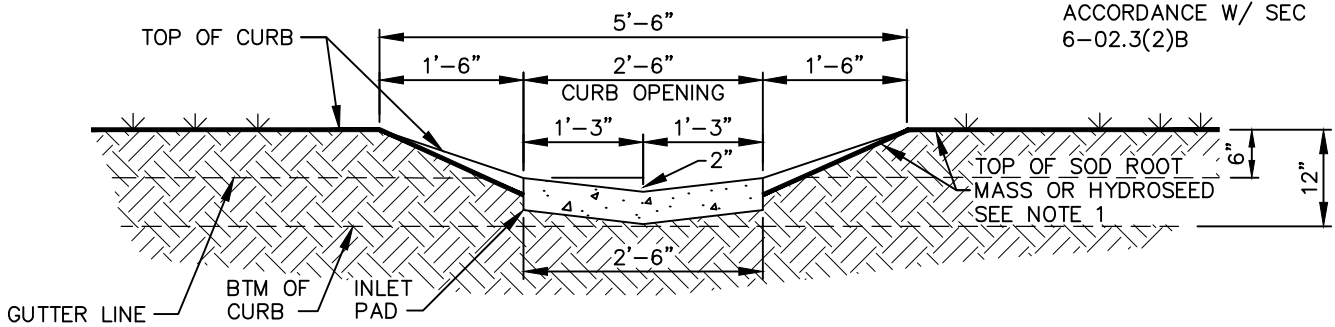
Type "B" (Shape is a function of speed, < 40 MPH)

APPROVED BY		SCALE <u> NONE </u>		TRAFFIC ISLAND POCKET AND NOSING PARAMETERS	
 CITY ENGINEER BRAD BLEGEN, P.E.		ADOPTED <u> 3/94 </u>			
 SUPERVISORY ENGINEER, DESIGN LARRY NEIL, P.E.		REVISED <u> </u>		DEPT. OF PUBLIC WORKS ENGR. DIVISION SPOKANE, WA	
		SUPERSEDES <u> </u>			



NOTES:

1. MAINTAIN 2" EXPOSURE BETWEEN TOP OF SOD ROOT MASS OR HYDROSEED & TOP OF CURB DROP INLET.
2. SEE STD PLAN F-110 FOR SWALE DRAIN PAD.
3. SEE STD PLAN B-102F FOR DRYWELL IN SWALE REQ'MTS.
4. CURB DROP INLETS SHALL BE CONSTRUCTED USING AIR-ENTRAINED, 6 SACK, COMMERCIAL CONCRETE IN ACCORDANCE W/ SEC 6-02.3(2)B



APPROVED BY

[Signature]

DIRECTOR OF ENGINEERING SERVICES

KYLE TWHOIG

[Signature]

CITY ENGINEER

BAN BULLER, P.E.

ADOPTED: _____

REVISED: 04/2022

SUPERSEDES: 04/2012

CHECKED BY: SJS

SCALE: NTS

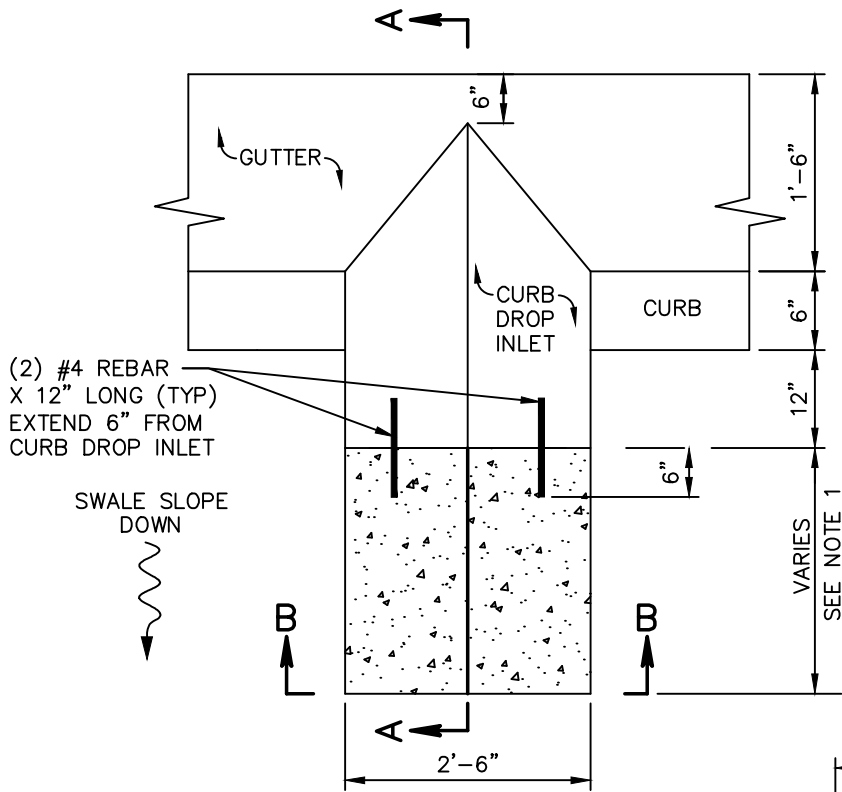
REVISED BY: DSH/MLD

CURB DROP INLET

ENGINEERING SERVICES

CITY OF SPOKANE, WASHINGTON

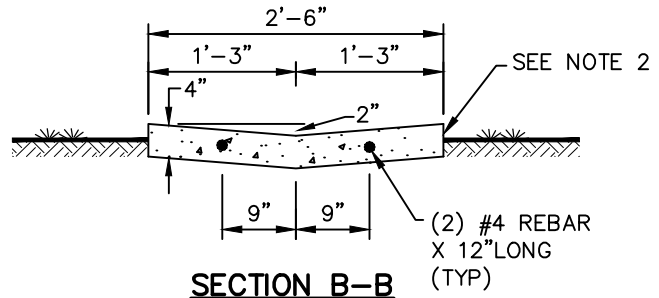
STANDARD PLAN No. **F-109**



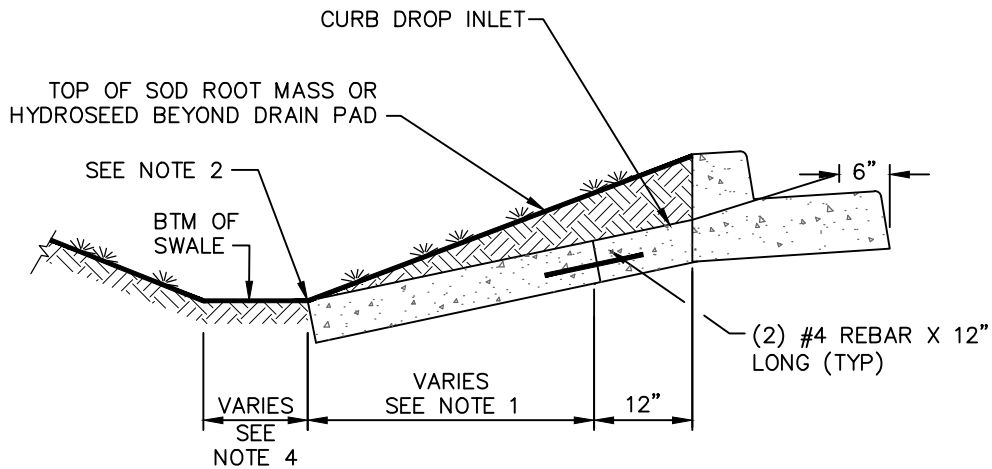
PLAN VIEW

NOTES:

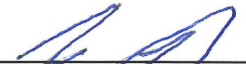

1. SWALE DRAIN PAD TO EXTEND TO BOTTOM OF SWALE.
2. MAINTAIN 2" EXPOSURE BETWEEN TOP OF SOD ROOT MASS OR HYDROSEED & TOP OF SWALE DRAIN PAD.
3. SEE STD PLAN F-109 FOR CURB DROP INLET.
4. SEE STD PLAN B-102F FOR SWALE REQUIREMENTS.
5. SWALE DRAIN PADS SHALL BE CONSTRUCTED USING AIR-ENTRAINED, 6 SACK, COMMERCIAL CONCRETE IN ACCORDANCE W/ SEC 6-02.3(2)B



SECTION B-B



SECTION A-A

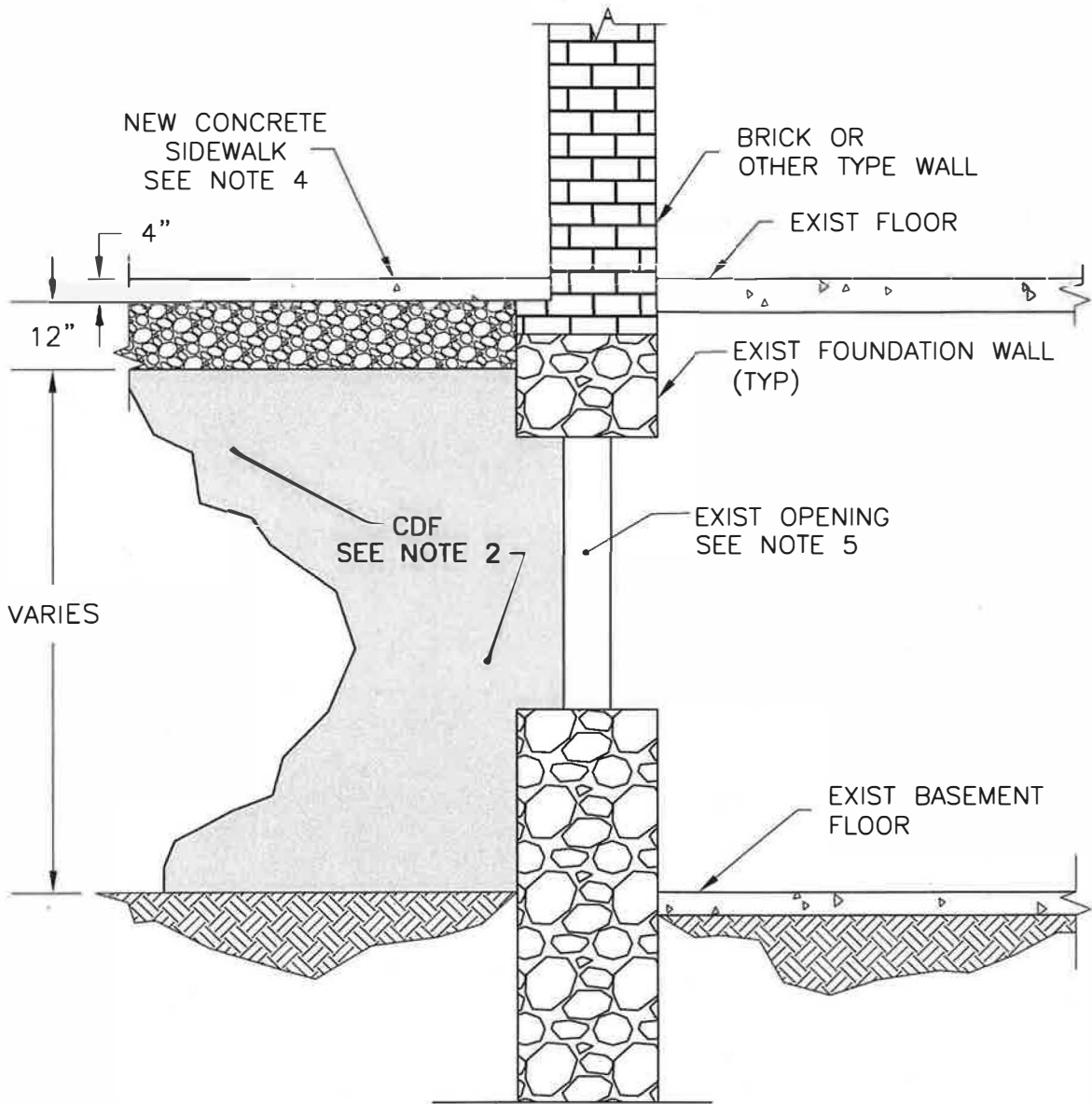
APPROVED BY

 DIRECTOR OF ENGINEERING SERVICES KYLE TWOHIG

 CITY ENGINEER DAN BULLER, P.E.

ADOPTED: _____
 REVISED: 04/2022
 SUPERSEDES: 04/2012
 CHECKED BY: SJS
 SCALE: NTS
 REVISED BY: DSH/MLD

SWALE DRAIN PAD

ENGINEERING SERVICES
 CITY OF SPOKANE, WASHINGTON

STANDARD
 PLAN No.
F-110



NOTES:

1. ALL UNDERGROUND UTILITIES SHALL BE LOCATED, VERIFIED FOR BEING ACTIVE OR INACTIVE, & DETERMINED FOR EITHER REMOVAL, RELOCATION, OR REROUTING PRIOR TO VAULT RECONSTRUCTION.
2. FILL VOID BENEATH VAULTED SIDEWALK TO UNDERSIDE OF CSTC W/ MACHINE EXCAVATABLE CDF PER SECTION 2-09.3(1)E, 150-200 PSI. ALTERNATIVE FILLS IN LIEU OF CDF SHALL BE PRE-APPROVED BY THE ENGINEER PRIOR TO PLACEMENT. STANDARD PLAN DEPICTS THE ENTIRE SIDEWALK VOID TO BE FILLED.
3. PLACE 12-INCHES OF CSTC IN TWO 6-INCH LIFTS, COMPACTED TO 95% MAX DENSITY. CSTC PER SECTION 4-04.2 & 9-03.9(3).
4. CONSTRUCT NEW CONCRETE SIDEWALK PER COS STD PLANS F102A & F-102B. USE 6-SACK, AIR-ENTRAINED COMMERCIAL CONCRETE PER SECTION 6-02.3(2)B.
5. ANY STRUCTURAL RE-INFORCEMENT OR MODIFICATIONS TO EXISTING FOUNDATION WALLS OR OPENINGS SHALL BE DESIGNED BY OTHERS AND APPROVED BY THE CITY OF SPOKANE

<p>APPROVED BY</p> <p>DIRECTOR, ENGINEERING SERVICES P. MIKE TAYLOR, P.E.</p> <p>PRINCIPAL ENGINEER, DESIGN GARY S. NELSON, P.E.</p>	<p>ADOPTED: 09/2010</p> <p>REVISED: _____</p> <p>SUPERSEDES: _____</p> <p>CHECKED BY: JAG</p> <p>SCALE: NTS</p> <p>DWG/REV. BY: RLB/SRM</p>	<p>VAULTED SIDEWALK ELIMINATION W/ CDF BACKFIL L</p> <p>ENGINEERING SERVICES CITY OF SPOKANE, WASHINGTON</p>	<p>STANDARD PLAN No. F-111</p>
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