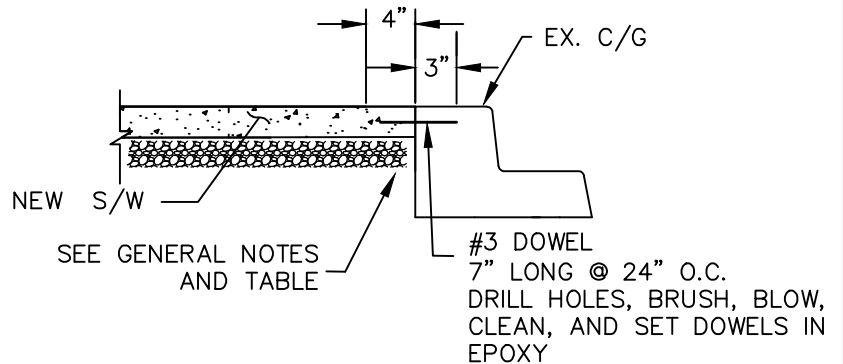
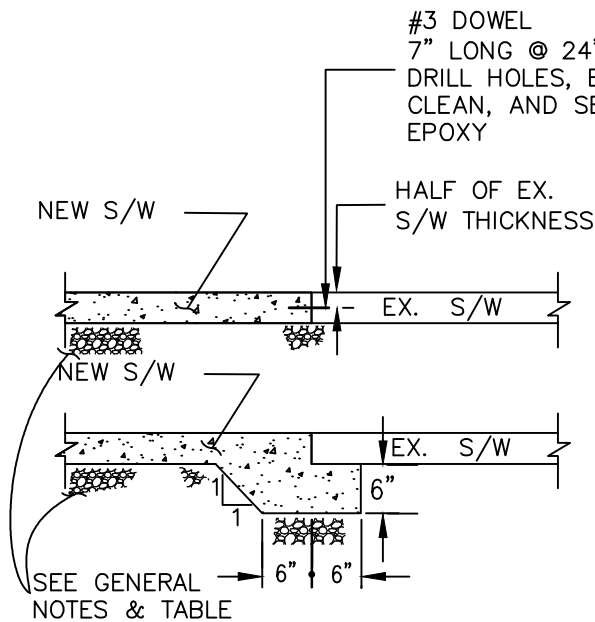






## GENERAL NOTES

1. SP1204 SHALL BE USED FOR COUNTY PROJECTS, WHEN REQUIRED BY THE ENGINEER OR GEOTECHNICAL ENGINEER OR IN ABSENCE OF PROJECT-SPECIFIC GEOTECHNICAL RECOMMENDATIONS.
2. THE EXPANSION INDEX TEST FOR SUBGRADE SOILS SHALL BE DETERMINED BY ASTM D4829 TEST METHOD.
3. SEE TABLE 1204-1 ON SHEET 3 FOR SUBGRADE PREPARATION, AGGREGATE BASE, PCC SIDEWALK THICKNESS, REINFORCEMENT, THICKENED EDGE, DOWELS, AND WEAKENED PLANE JOINT SPACING.
4. STEEL REINFORCEMENT SHALL BE #3 BARS GRADE 40.
5. DOWELS SHALL BE 7" LONG #3 BARS GRADE 40.
6. PROVIDE THE DOWEL JOINT AT THE EXPANSION JOINT FOR NEW SIDEWALK AND CURB & GUTTER.
7. THE FOLLOWING STANDARDS SHALL BE USED WHERE EXPANSION INDEX > 20, UNLESS SUPERSEDED BY THE GEOTECHNICAL ENGINEER'S RECOMMENDATION.



### NEW SIDEWALK TO EXISTING SIDEWALK

1. IF EXISTING SIDEWALK IS LESS THAN 4" THICK, USE 6" DEEP X 12" WIDE PCC KEY WITHOUT DOWEL CONNECTION.
2. IF THE EXISTING SIDEWALK IS 4" THICK OR GREATER, USE #3 DOWEL CONNECTION.

### NEW SIDEWALK TO EXISTING CURB

1. WHERE NEW DRIVEWAY DEPRESSION IS ADDED, REPLACE EX. CURB & GUTTER BETWEEN THE NEAREST JOINTS & POUR CURB & GUTTER MONOLITHICALLY.
2. DAMAGED CURB & GUTTER REPLACEMENT SHALL BE MONOLITHIC.

#### ABBREVIATIONS:

EX. — EXISTING  
S/W — SIDEWALK  
F/C — FACE OF CURB  
L/G — LIP OF GUTTER  
C/G — CURB & GUTTER  
CMB — CRUSHED MISCELLANEOUS BASE  
CAB — CRUSHED AGGREGATE BASE

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Approved

*Khalid Bazmi*  
Khalid Bazmi, County Engineer

Revision: August 2018

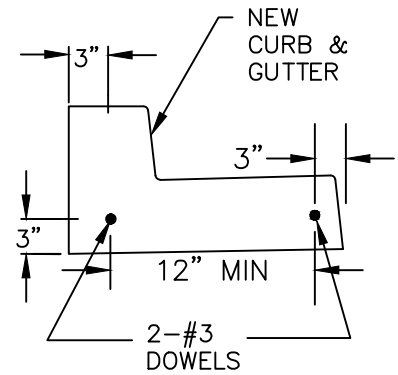
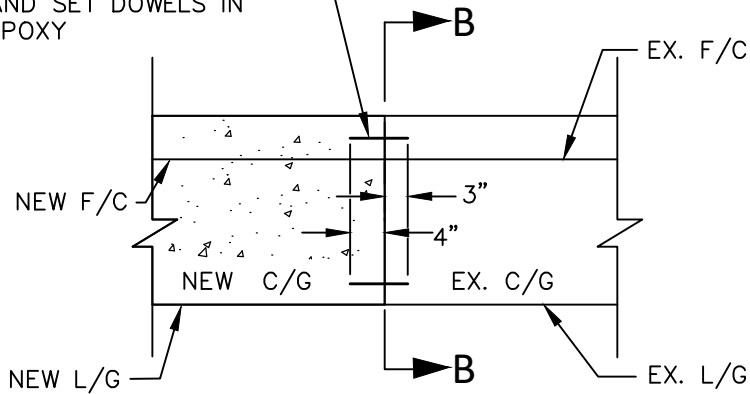
STD. PLAN

1204

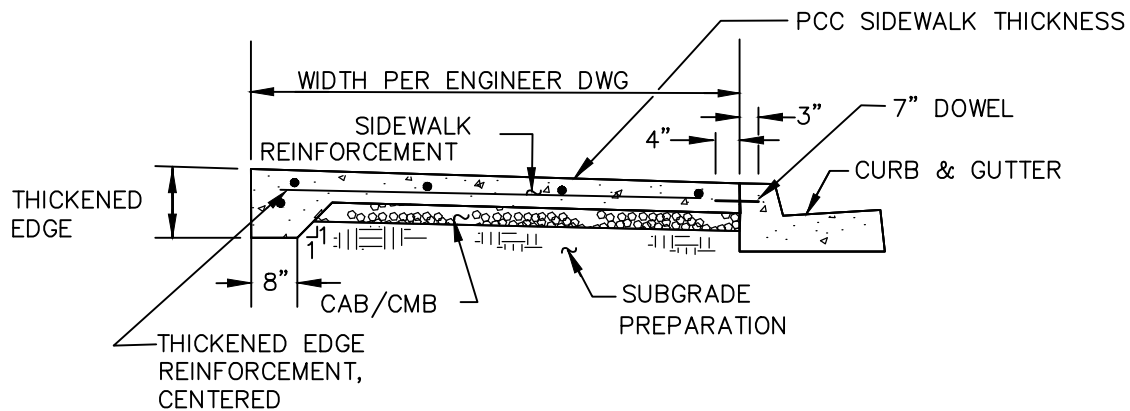
SHT. 1 OF 3

SIDEWALK ON EXPANSIVE SOILS

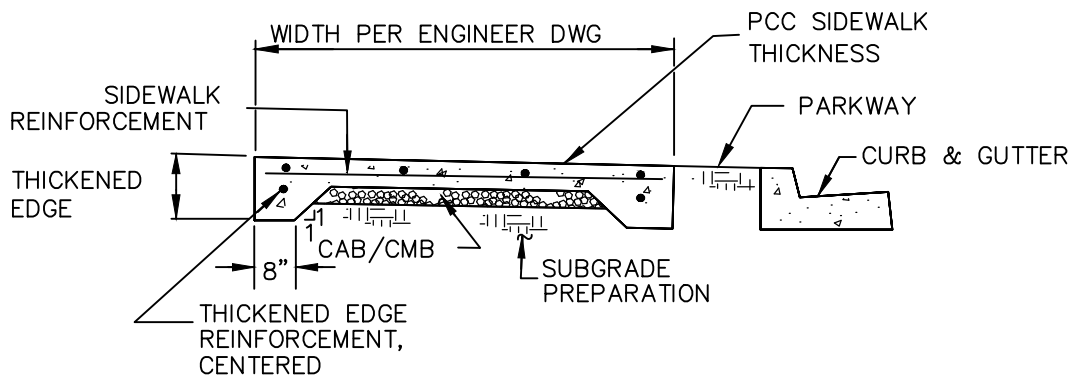
USE 2-7" LONG, #3  
DOWEL DRILL HOLES,  
BRUSH, BLOW, CLEAN,  
AND SET DOWELS IN  
EPOXY



### NEW CURB & GUTTER TO EXISTING CURB & GUTTER



SEE TABLE 1204-1 ON SHEET 3



SEE TABLE 1204-1 ON SHEET 3

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Khalid Bazmi, County Engineer

Revision: August 2018

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SHT. 2 OF 3

SIDEWALK ON EXPANSIVE SOILS

**TABLE 1204-1 Sidewalks on Expansive Soils**

**Subgrade Preparation, Aggregate Base, Sidewalk Thickness, Reinforcement, Thickened Edges, Dowels and Weakened Plane Joint Spacing**

**Non-Vehicular PCC Sidewalks, Width 6 Feet or Less**

E.I. per ASTM D4829	Expansion Potential	Subgrade Prep, Min % over Optimum Moisture	Min Depth of Subgrade Prep, Inches	Min Depth of CAB or CMB under PCC, Inches	Minimum Sidewalk Thickness, Inches	Sidewalk Reinforcement, both directions	Thickened Edge	Thickened Edge Reinforcement	Doweling Into Adjacent Curbs & Flatwork	Weakened Plane Joint Spacing, feet
0 - 20	Very Low	N/A	N/A	None	4"	None	None	N/A	None	6'
21 - 50	Low	2%	12"	None	4"	None	None	N/A	7" long #3 Bar @ 24"	6'
51 - 90	Medium	3%	12"	2"	4"	None	None	N/A	7" long #3 Bar @ 24"	6'
91 - 130	High	5%	18"	2"	4"	None	None	N/A	7" long #3 Bar @ 24"	5'
>130	Very High	5%	18"	2"	4"	None	None	N/A	7" long #3 Bar @ 24"	5'

**Non-Vehicular PCC Sidewalks, Width Greater than 6 Feet**

E.I. per ASTM D4829	Expansion Potential	Subgrade Prep, Min % over Optimum Moisture	Min Depth of Subgrade Prep, Inches	Min Depth of CAB or CMB under PCC, Inches	Minimum Sidewalk Thickness, Inches	Sidewalk Reinforcement	Thickened Edge, Inches	Thickened Edge Reinforcement	Doweling Into Adjacent Curbs & Flatwork	Weakened Plane Joint Spacing, feet
0 - 20	Very Low	N/A	N/A	None	4"	None	N/A	N/A	None	8'
21 - 50	Low	2%	12"	None	4"	#3 Bars @ 24" both ways	10"	1- #3 Bar Longitudinal	7" long #3 Bar @ 24"	8'
51 - 90	Medium	3%	12"	2"	5"	#3 Bars @ 24" both ways	10"	1- #3 Bar Longitudinal	7" long #3 Bar @ 24"	8'
91 - 130	High	5%	18"	2"	5"	#3 Bars @ 24" both ways	12"	1- #3 Bar Longitudinal	7" long #3 Bar @ 24"	5'
>130	Very High	5%	18"	2"	5"	#3 Bars @ 24" both ways	12"	1- #3 Bar Longitudinal	7" long #3 Bar @ 24"	5'

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Approved

*Khalid Bazmi*  
Khalid Bazmi, County Engineer

Revision: August 2018

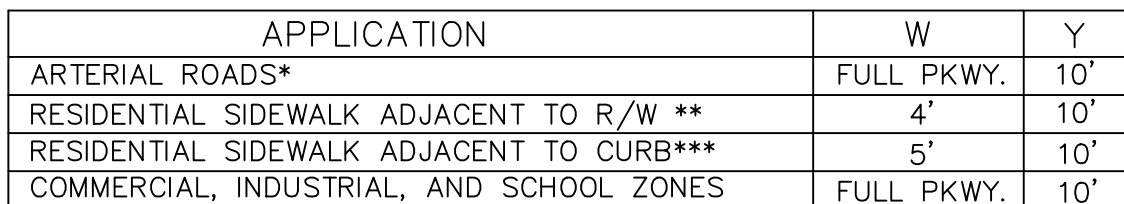
**SIDEWALK ON EXPANSIVE SOILS**

STD. PLAN

**1204**

SHT. 3 OF 3





THICKNESS=4 INCHES PCC STANDARD; 6 INCHES WITHIN DRIVEWAY AREA.

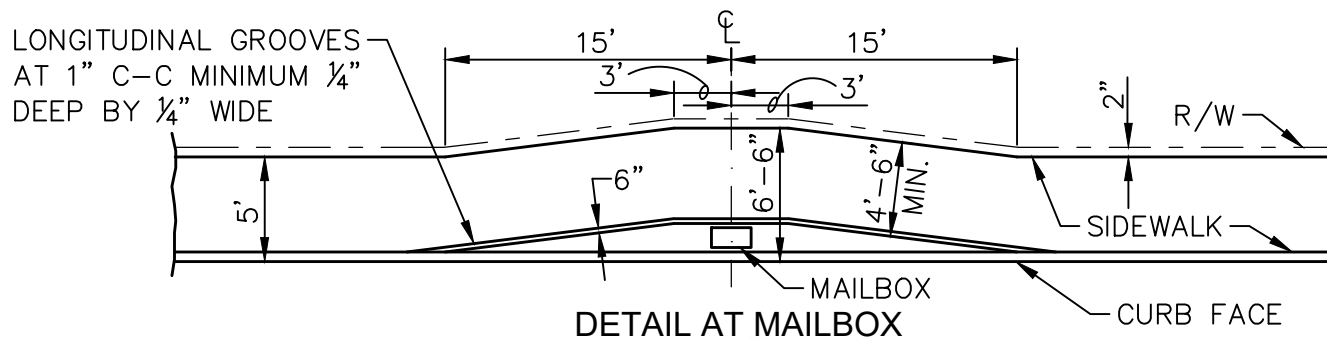
WPJ SHALL BE PLACED AT EACH SIDE OF DRIVEWAYS, AT THE ENDS OF ALL CURB RETURNS, AND AT 10 FOOT INTERVALS (EXCEPT WITHIN CURB RETURNS), TO A DEPTH OF 1 ½ INCHES WITH EDGER FINISH.

WPJ SHALL BE CONSTRUCTED IN SIDEWALKS, 1 INCH MINIMUM DEPTH, AT 10 FOOT INTERVALS AND AT ENDS OF DRIVE APPROACHES, CURB RETURNS AND TREE WELLS. JOINTS SHALL BE EDGER FINISHED (R=  $\frac{1}{8}$  INCH).

COLOR ADDITIVES OR PATTERN STAMPED CONCRETE SHALL NOT BE USED.

- \* WPJ MAY BE REDUCED TO 5 FEET WITH ADEQUATE PROVISION FOR MAINTENANCE OF REMAINING PARKWAY.
- \*\* RECOMMENDED WHERE GRADE IS LESS THAN 5 PERCENT AND DESIGN IS CONSISTENT WITH ADJACENT RESIDENTIAL DEVELOPMENT. PURSUANT TO ADA REQUIREMENTS, A SIDEWALK WITH A CLEAR WIDTH LESS THAN 5 FEET SHALL PROVIDE PASSING SPACES AT INTERVALS OF 200 FEET MAXIMUM. PASSING SPACE SHALL BE A MINIMUM SPACE OF 5 FEET BY 5 FEET.
- \*\* RECOMMENDED WHEN GRADE IS GREATER THAN 5 PERCENT. UTILITY VAULTS, HYDRANTS, MAILBOXES AND OTHER OBSTRUCTIONS MUST BE PLACED BACK OF SIDEWALK.

SEE STD. PLAN 112-2-OC FOR JOINT DETAILS.



Approved

DEPARTMENT  
Khalid Bazmi, County Engineer

## SIDEWALK DETAILS

1205

SHT. 1 OF 1



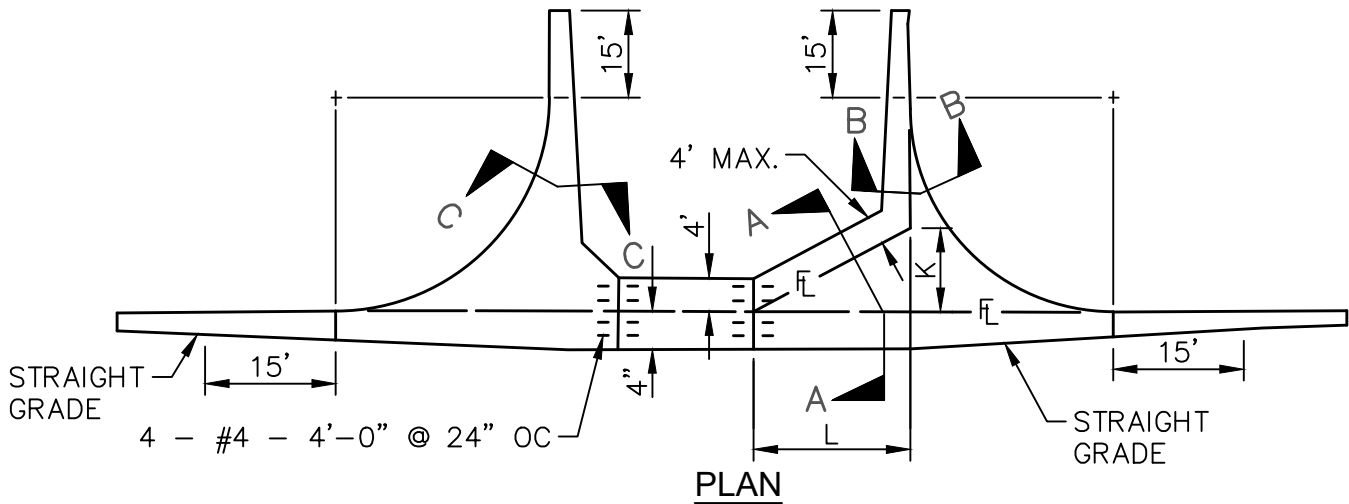




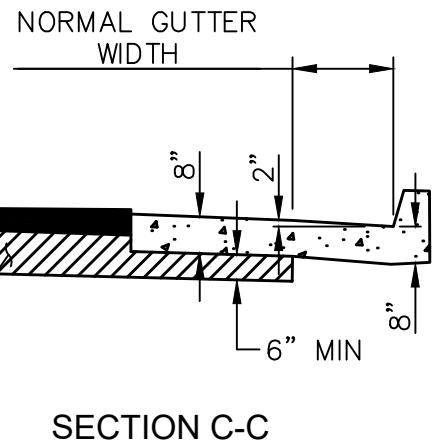
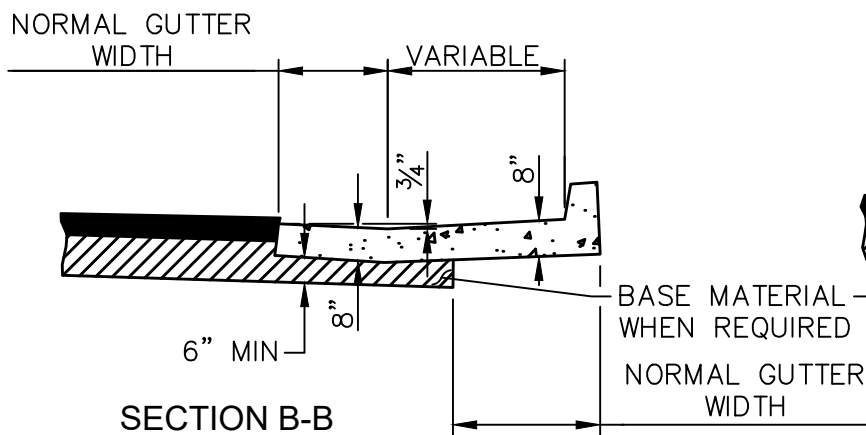
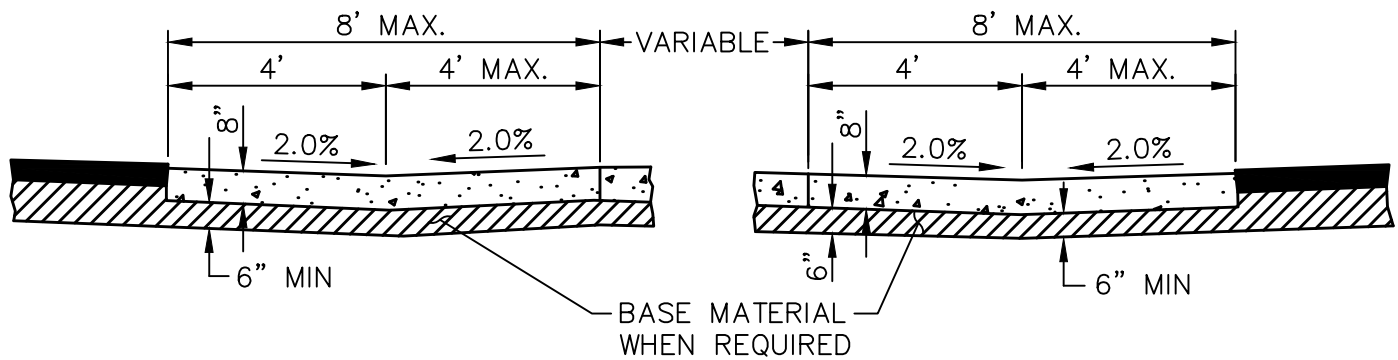
## ALLEY INTERSECTION



SEE SHEET 2 FOR APPLICATION.



NOTE: SEE STD. PLAN 112-2-OC & 122-2-OC FOR JOINT DETAILS



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Approved *Khalid Bazmi*  
Khalid Bazmi, County Engineer

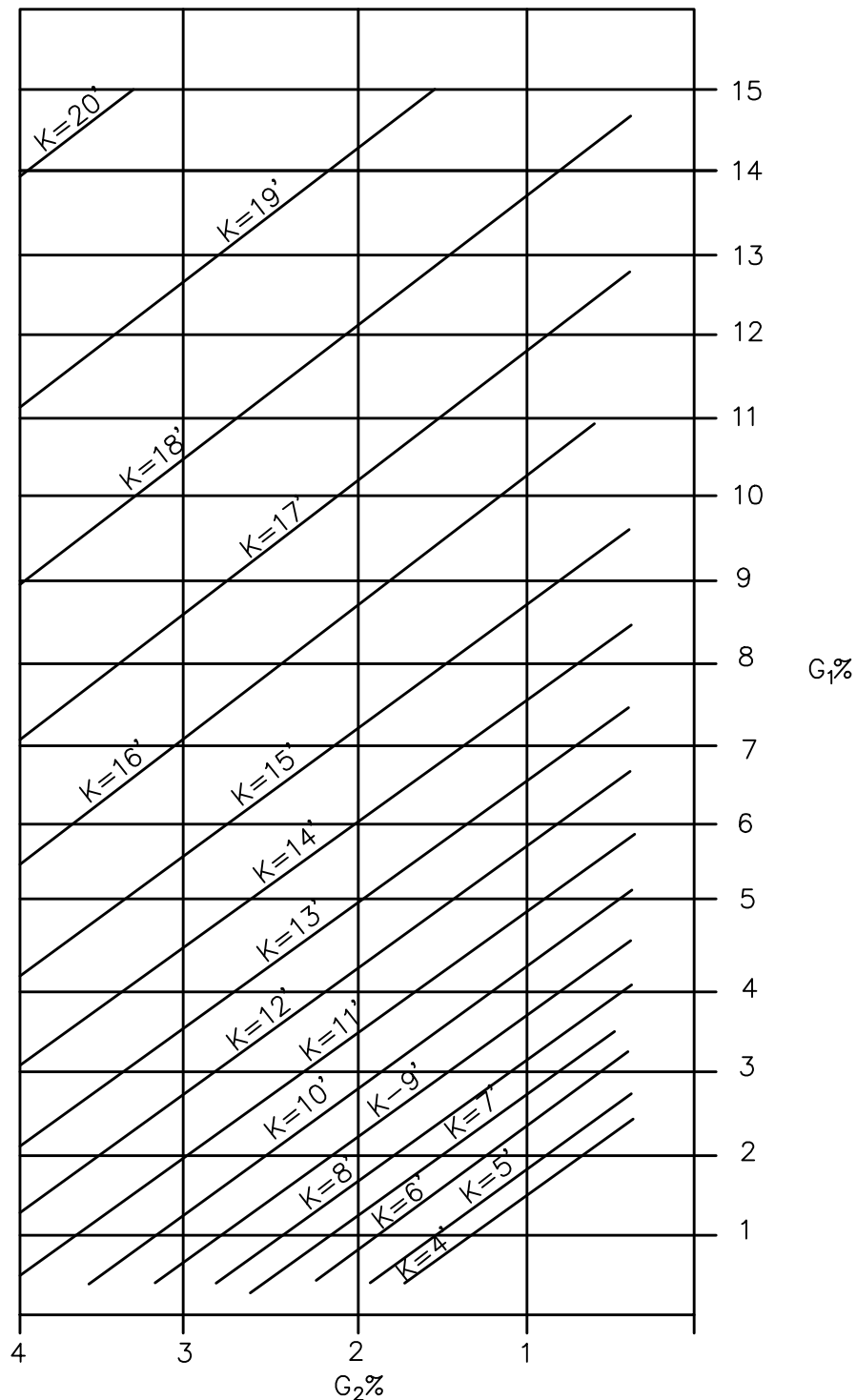
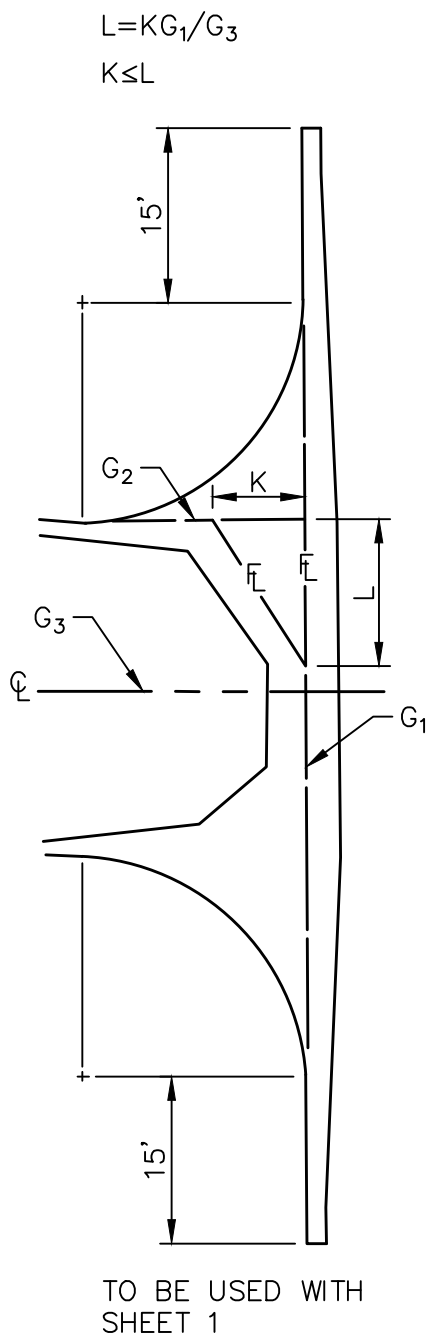
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STD. PLAN

1208

SHT. 1 OF 2

SPECIAL CROSS GUTTER (STEEP GRADE)



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*Khalid Bazmi*  
 Khalid Bazmi, County Engineer

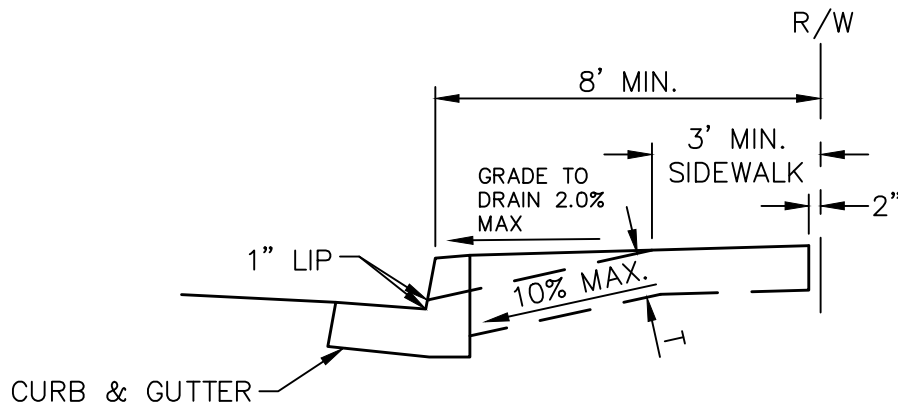
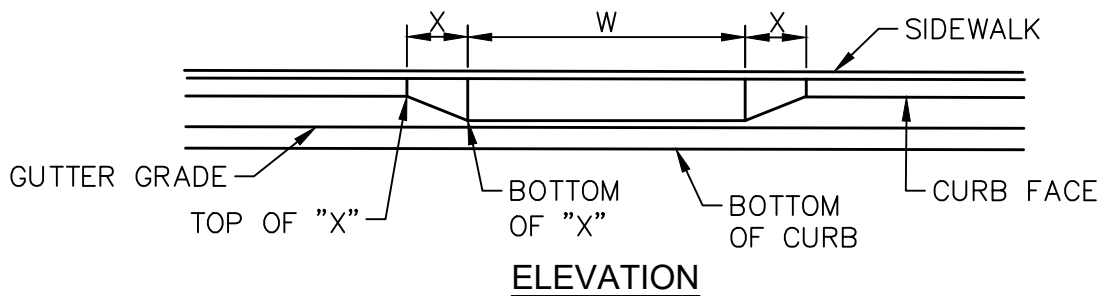
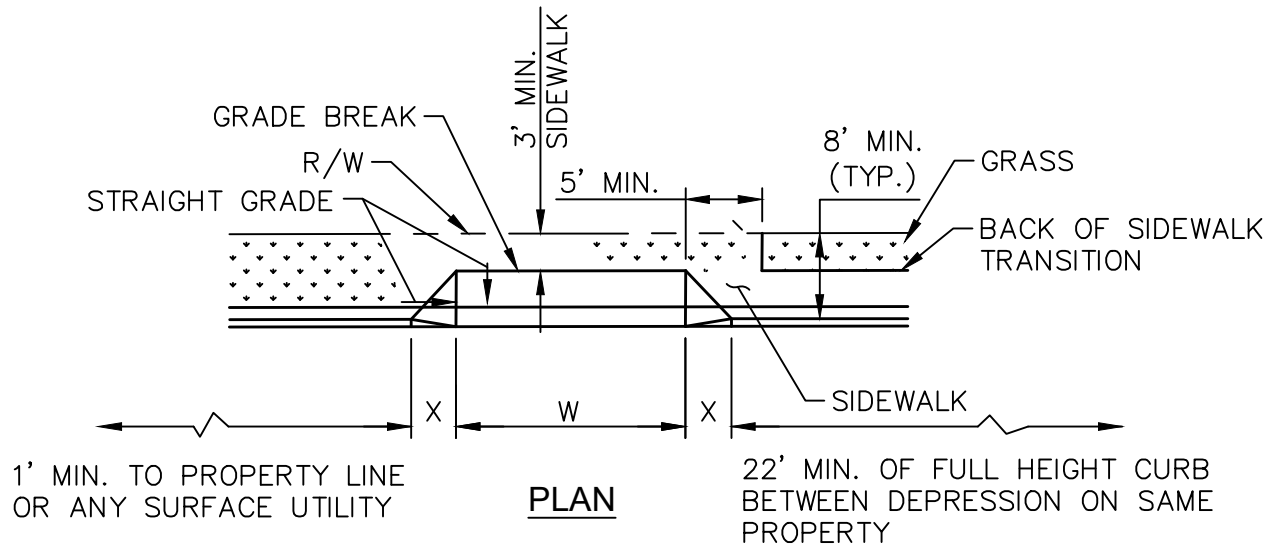
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1208

SHT. 2 OF 2

SPECIAL CROSS GUTTER (STEEP GRADE)



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Khalid Bazmi, County Engineer

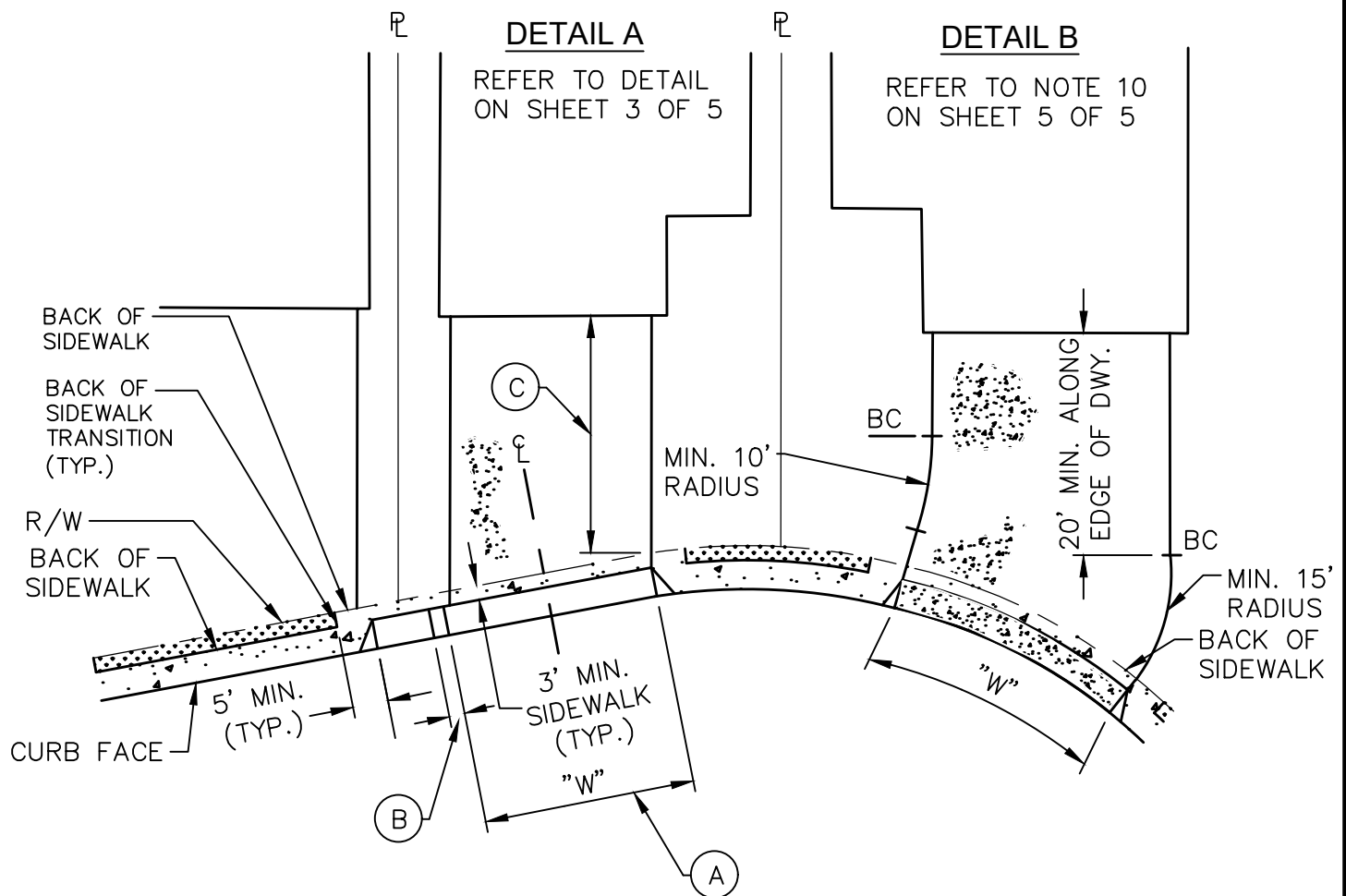
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STD. PLAN

1209

SHT. 1 OF 5

DEPRESSED CURB DRIVEWAY APPROACH



**NOTES:**

- (A) WIDTH OF DEPRESSION (W) SHALL BE DESIGNED USING PROJECTED DWY. LINES WHERE THEY INTERSECT BACK OF SIDEWALK AND/OR CURB FACE. THE MINIMUM DIMENSION FOR W SHALL BE THE GREATEST OBTAINABLE LENGTH BETWEEN THE PROJECTION INTERSECTIONS, MEASURED PARALLEL TO THE CURB FACE.
- (B) 2 FEET MIN. BETWEEN TOP OF "X". IF 2 FEET CANNOT BE MAINTAINED USING THE CRITERIA SHOWN ABOVE, A CONTINUOUS DEPRESSION SHALL BE USED PER NOTE 11 ON SHEET 5 OF 5.
- (C) DIMENSION SHALL BE A MINIMUM OF 20 FEET UNLESS OTHERWISE PROVIDED BY ZONING.

COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT

Approved

*Khalid Bazmi*  
Khalid Bazmi, County Engineer

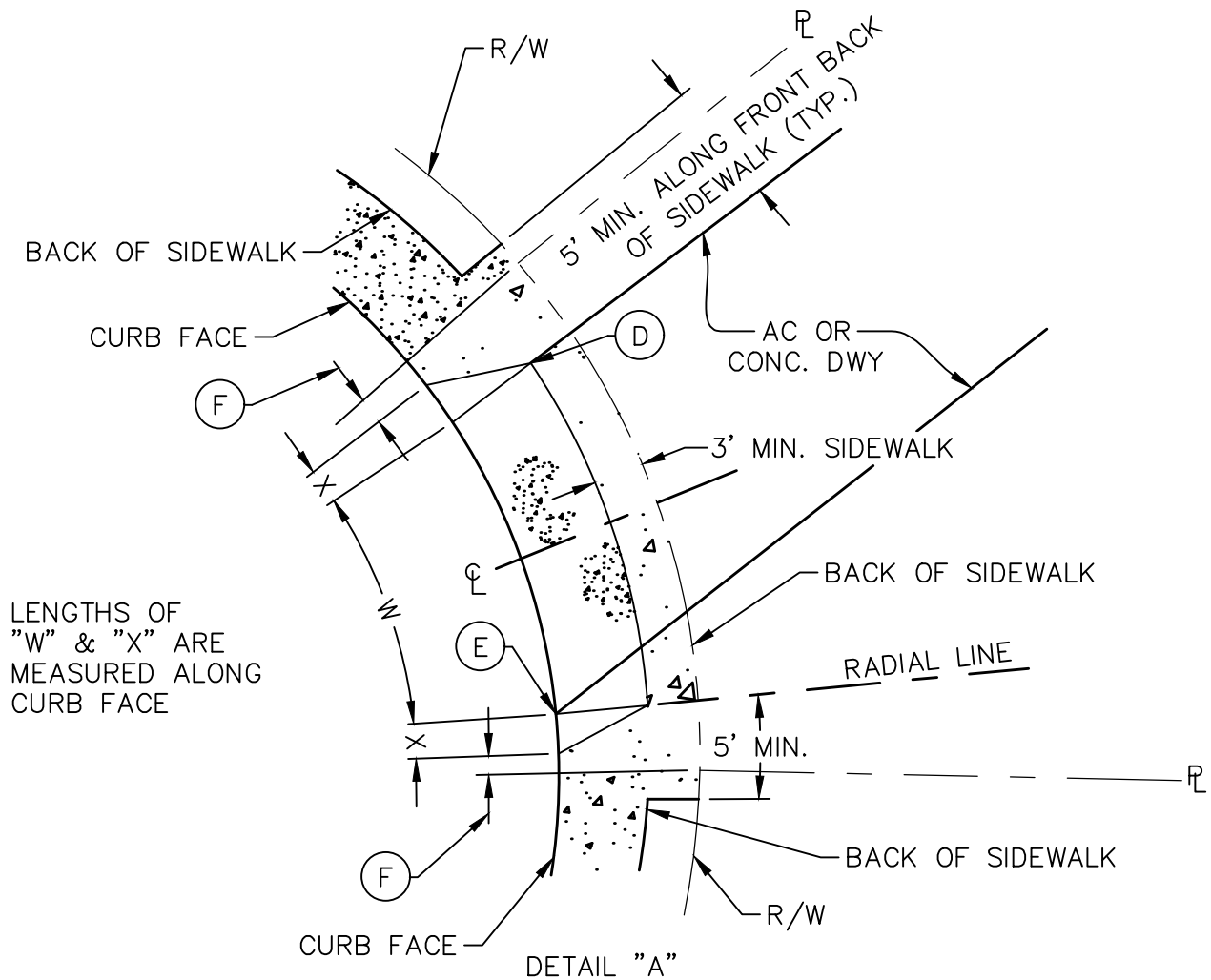
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STD. PLAN

1209

DEPRESSED CURB DRIVEWAY APPROACH

SHT. 2 OF 5



\* REFER TO NOTE 9 ON SHEET 5 OF 5

**NOTES:**

- (D) BOTTOM OF "X" IS RADIAL TO INTERSECTION OF DWY. AND BACK OF SIDEWALK. IF NO SIDEWALK, INTERSECTION TO OCCUR AT R/W.
- (E) BOTTOM OF "X" AT INTERSECTION OF DWY. PROJECTION AND CURB FACE.
- (F) 1 FOOT MINIMUM AT CURB FACE FROM TOP OF "X" TO RADIAL PROJECTION OF PROPERTY LINE.

COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT

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Khalid Bazmi, County Engineer

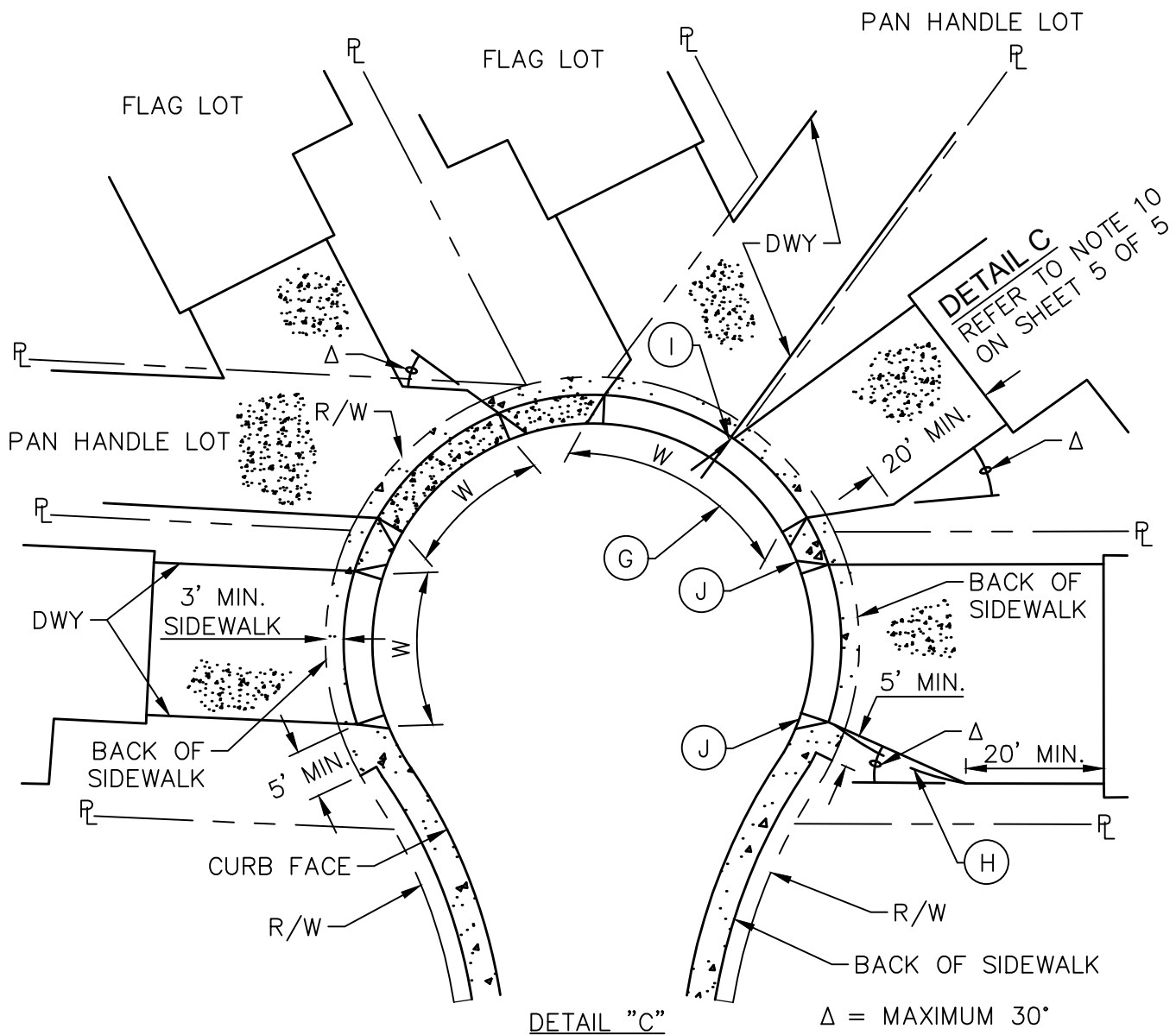
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STD. PLAN

1209

SHT. 3 OF 5

DEPRESSED CURB DRIVEWAY APPROACH



**NOTES:**

- (G) COMMON DRIVEWAY, REFER TO NOTE 11 ON SHEET 5 OF 5.
- (H) OPTIONAL CURVED EDGE OF DWY. SEE DETAIL "B" ON SHEET 2 OF 5.
- (I) IT IS PERMISSIBLE TO CROSS DWY. PROJECTIONS AS LONG AS POINT OF INTERSECTION IS WITHIN ROAD R/W.
- (J) PLACEMENT OF "X" PER CRITERIA ON SHEET 3 OF 5.

COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT

Approved

*Khalid Bazmi*  
Khalid Bazmi, County Engineer

Revision: August 2018

STD. PLAN

1209

SHT. 4 OF 5

DEPRESSED CURB DRIVEWAY APPROACH



SIDEWALK	VALUES OF "X"
ADJACENT TO R/W	2'
ADJACENT TO CURB	3'
FULL PARKWAY	3'

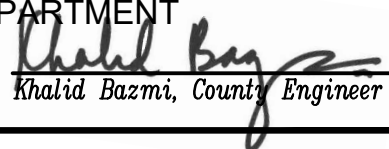
MINIMUM "W"	MIN.
RESIDENTIAL	12'
COMMERCIAL & INDUSTRIAL ONE WAY TWO WAY	14' 28'

### GENERAL NOTES:

1. IN CERTAIN SITUATIONS IF ALL OF THE FOLLOWING MINIMUMS ARE PROVIDED, THE RESULT MAY NOT BE WORKABLE. NOTWITHSTANDING THE MINIMUMS, THE INTENT IS TO PRODUCE A DRIVEWAY THAT PROVIDES REASONABLE ACCESS TO THE GARAGE.
2. PCC SIDEWALK AND RAMP THICKNESS "T" SHALL BE 6 INCHES.
3. AC SECTION MAY BE CONSTRUCTED BETWEEN BACK OF SIDEWALK AND RIGHT-OF-WAY FOR RESIDENTIAL DRIVEWAYS IF THE ONSITE DRIVEWAY IS AC.
4. ONE (1) FOOT MINIMUM OF FULL HEIGHT CURB SHALL BE MAINTAINED BETWEEN PROPERTY LINE AND TOP OF "X" UNLESS A COMMON DRIVEWAY IS WARRANTED PER NOTE 11.
5. NO LESS THAN 22 FEET OF FULL HEIGHT CURB SHALL BE MAINTAINED BETWEEN TWO DRIVEWAYS ON THE SAME PROPERTY.
6. COMMERCIAL, INDUSTRIAL AND RESIDENTIAL DRIVEWAYS HAVING AN ANTICIPATED ADT GREATER THAN 100 VEHICLES SHALL BE DESIGNED AS FLARED DEPRESSED CURB DRIVEWAY APPROACHES PER STD. PLAN 1210. RESIDENTIAL DRIVEWAYS SERVING MORE THAN 25 UNITS AND COMMERCIAL AND INDUSTRIAL DRIVEWAYS HAVING ANTICIPATED ADT IN EXCESS OF 1000 VEHICLES WILL BE DESIGNED AS LOCAL STREETS WITH CURB, SPANDREL AND CROSS GUTTER, SUBJECT TO APPROVAL OF THE ENGINEER.
7. COLOR ADDITIVES OR PATTERN STAMPED CONCRETE SHALL NOT BE USED.
8. WHEN GARAGE DOOR OPENING AND RIGHT-OF-WAY LINE ARE PARALLEL AND DISTANCE BETWEEN GARAGE DOOR OPENING AND RIGHT-OF-WAY IS 20 FEET OR LESS, "W" SHALL BE A MINIMUM WIDTH EQUAL TO THE GARAGE DOOR OPENING AND SHALL BE CENTERED ON THE TOTAL GARAGE DOOR OPENING.
9. WHEN GARAGE DOOR OPENING AND RIGHT-OF-WAY LINE ARE NOT PARALLEL, "W" SHALL BE DETERMINED IN ACCORDANCE WITH DETAIL ON SHEET 3 OF 5.
10. WHEN THE CLOSEST SETBACK DISTANCE BETWEEN THE GARAGE DOOR OPENING AND RIGHT-OF-WAY IS GREATER THAN 20 FEET, "W" MAY BE REDUCED AND THE DRIVEWAY ON SITE MAY BE CURVED OR ANGLED AS NECESSARY PROVIDING A MINIMUM DISTANCE OF 20 FEET IS MAINTAINED ADJACENT AND PERPENDICULAR TO THE GARAGE DOOR IN ORDER TO PROVIDE ROOM FOR A CAR TO BACK OUT OF THE GARAGE AND MANEUVER. REFER TO DETAIL "B" ON SHEET 2 OF 5, AND DETAIL "C" ON SHEET 4 OF 5.
11. WHEN THE "X" OF ONE DRIVEWAY CONFLICTS WITH THE "X" OF AN ADJACENT DRIVEWAY IN A KNUCKLE OR CUL-DE-SAC, A COMMON DRIVEWAY SHALL BE USED.
12. IT IS PERMISSIBLE FOR THE PROJECTION OF THE EDGES OF TWO ADJACENT ONSITE DRIVEWAYS TO CROSS PROVIDING THEY DO SO WITHIN THE RIGHT-OF-WAY AS SHOWN ON SHEET 4 OF 5.
13. DRIVEWAYS FOR PANHANDLE AND FLAG LOTS MUST MEET APPLICABLE MINIMUM WIDTH REQUIREMENTS AS WELL AS ALLOW FOR MANEUVERING ROOM AS CALLED FOR BY NOTE 10.
14. SEE STD. PLAN 1107 FOR PARKWAY NOTES AND STD. PLAN 1205 FOR ADDITIONAL SIDEWALK DETAILS AND NOTES.

COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT

Approved

  
Khalid Bazmi, County Engineer

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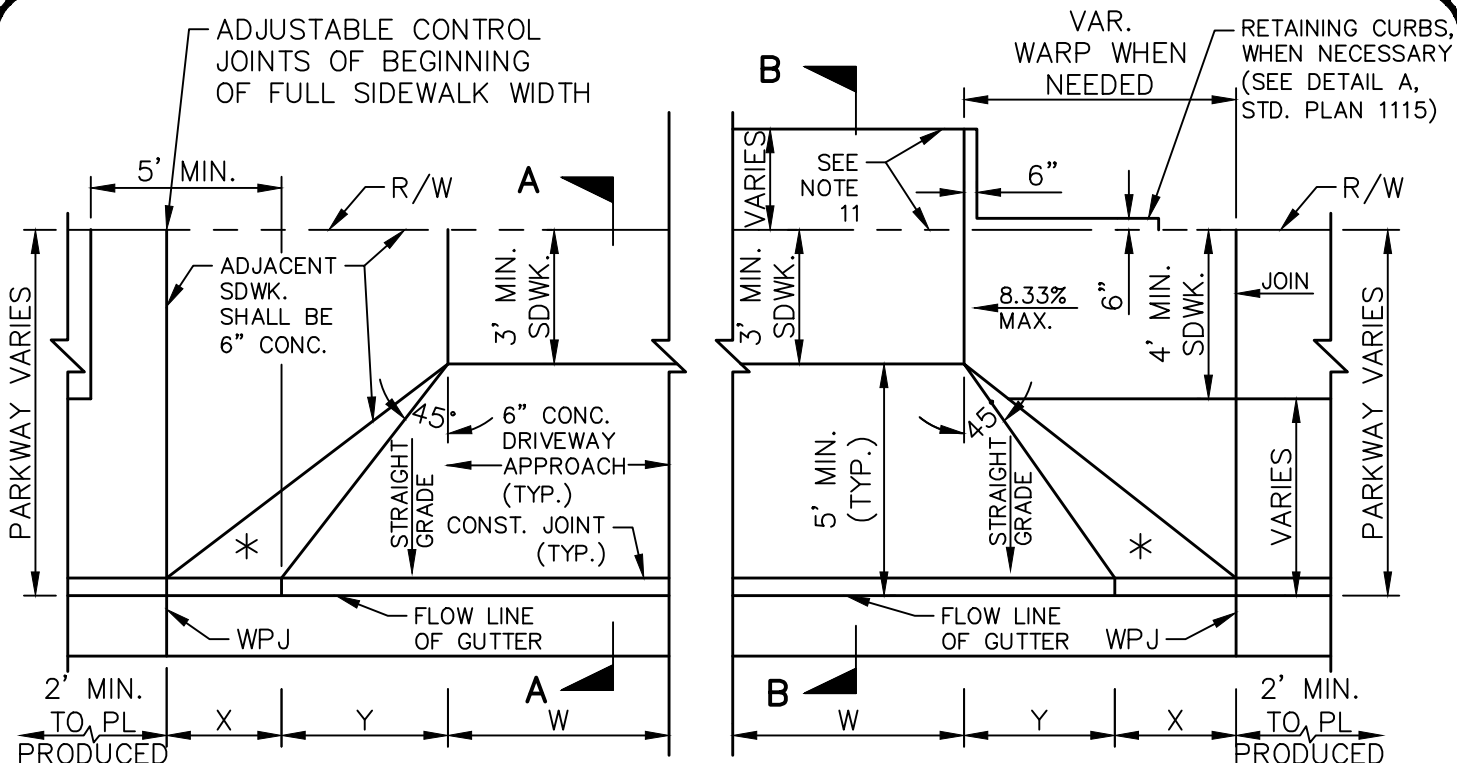
STD. PLAN

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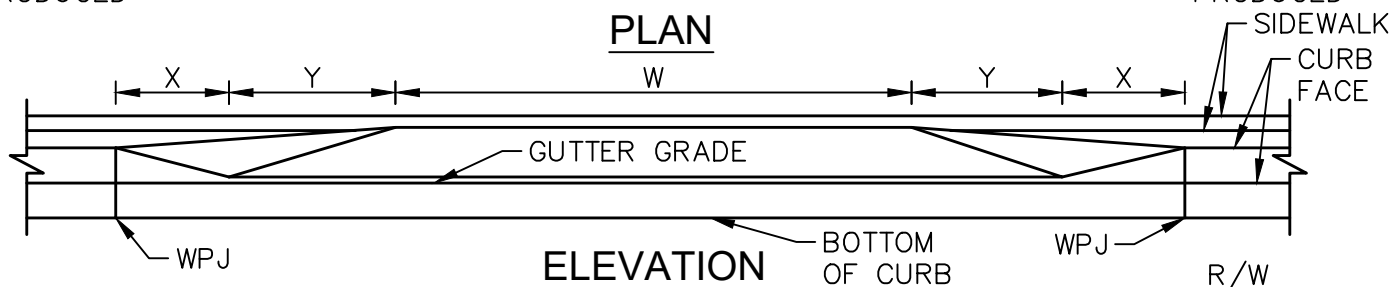
SHT. 5 OF 5

DEPRESSED CURB DRIVEWAY APPROACH

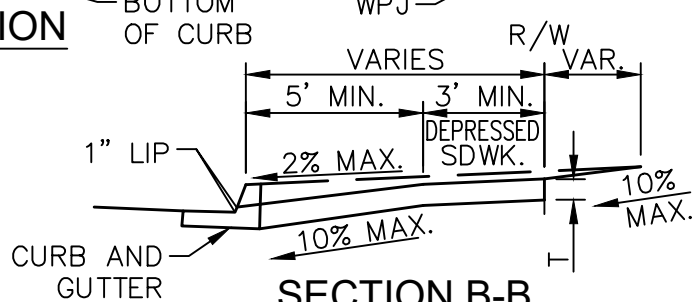
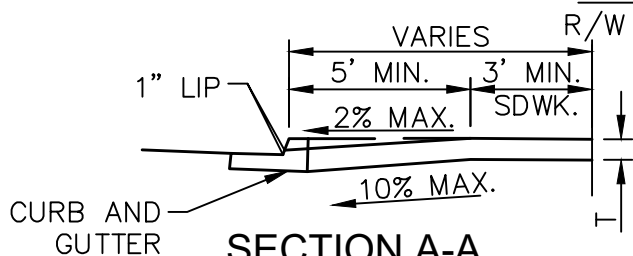




PLAN



ELEVATION



SIDEWALK	VALUES OF "X"	VALUES OF "W"		
Adjacent to R/W	2'	Residential **	Min.	Max.
Adjacent to curb	3'		18'	28'
Full Parkway	3'	Commercial & Industrial		
			One-way	Two-way
			12'	14'
			24'	30'

\* "X" IS A VARIABLE WHEN SIDEWALK IS LOCATED WHERE WHEELCHAIRS MAY TRAVERSE THE SURFACE. SLOPES SHALL NOT EXCEED 8.33 PERCENT.

\*\* COMMON DRIVEWAYS SERVING 5 OR MORE DWELLING UNITS: "W" SHALL BE 28 FEET

COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT

Approved

*Khalid Bazmi*  
Khalid Bazmi, County Engineer

Revision: August 2018

STD. PLAN

1210

SHT. 1 OF 2

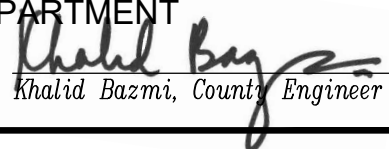
FLARED DEPRESSED CURB DRIVEWAY APPROACH

NOTES:

1. PCC SIDEWALK AND RAMP THICKNESS "T" SHALL BE 6 INCHES.
2. AC SECTION MAY BE CONSTRUCTED BETWEEN BACK OF SIDEWALK AND R/W FOR RESIDENTIAL DRIVEWAYS.
3. TWO (2) FEET OF FULL HEIGHT CURB SHALL BE MAINTAINED BETWEEN PL AND EDGE OF DRIVEWAY.
4. NO LESS THAN 22 FEET OF FULL HEIGHT CURB SHALL BE MAINTAINED BETWEEN DRIVEWAYS ON SAME PROPERTY.
5. THE TOTAL WIDTH OF DEPRESSION ("W" + 2"Y"), IN CASE OF MULTIPLE DRIVEWAYS ON A SINGLE OWNERSHIP PARCEL FRONTAGE, SHALL NOT EXCEED 70 PERCENT OF THE FRONTAGE WHERE FRONTAGE IS 100 FEET OR LESS, OR 60 PERCENT WHERE FRONTAGE IS GREATER THAN 100 FEET.
6. DESIGN SHALL BE IN ACCORDANCE WITH STD. PLAN 1206 WHERE ON-SITE DRAINAGE GUTTER ABUTS DRIVEWAY.
7. FRONTAGE LENGTH MINUS DEPRESSION WIDTH ("W" + 2"Y") SHALL NOT BE LESS THAN 20 FEET.
8. COMMERCIAL, INDUSTRIAL AND RESIDENTIAL DRIVEWAYS HAVING AN ANTICIPATED ADT GREATER THAN 100 VEHICLES WILL BE DESIGNED AS FLARED DEPRESSED CURB DRIVEWAY APPROACHES PER STD. PLAN 1210. RESIDENTIAL DRIVEWAYS SERVING MORE THAN 25 UNITS AND COMMERCIAL AND INDUSTRIAL DRIVEWAYS HAVING ANTICIPATED ADT VOLUME IN EXCESS OF 1,000 VEHICLES WILL BE DESIGNED AS LOCAL STREETS WITH CURB, SPANDREL, AND CROSS GUTTER PER STD. PLAN 122-2-OC SUBJECT TO APPROVAL OF THE ENGINEER.
9. COLOR ADDITIVES OR PATTERN STAMPED CONCRETE SHALL NOT BE USED.
10. SEE STD. PLAN 112-2-OC FOR JOINT DETAILS.
11. RETAINING CURBS AND ACQUISITION OF CONSTRUCTION EASEMENT MAY BE NECESSARY FOR NARROW SIDEWALKS OR CURB HEIGHTS IN EXCESS OF 6 INCHES.

COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT

Approved

  
Khalid Bazmi, County Engineer

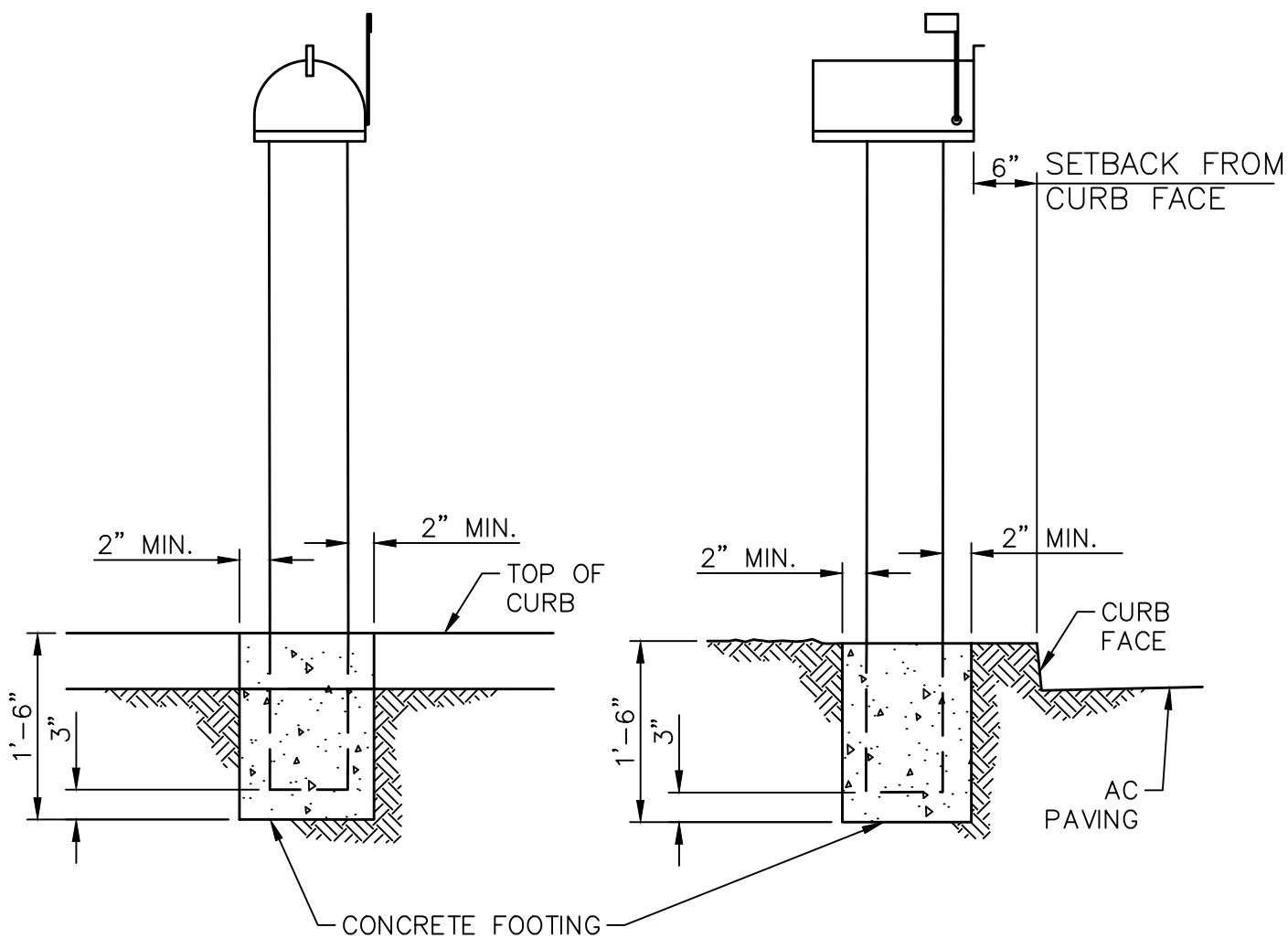
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STD. PLAN

1210

FLARED DEPRESSED CURB DRIVEWAY APPROACH

SHT. 2 OF 2



NOTES:

1. MAILBOX LOCATION, HEIGHT, AND MATERIAL TO BE APPROVED BY THE LOCAL POSTMASTER.
2. SINGLE UNIT MAILBOX TO BE USED IF PARKWAY IS BETWEEN CURB AND SIDEWALK.
3. MAILBOX POST SHALL BE OF TREATED REDWOOD OR METAL.

COUNTY OF ORANGE, OC PUBLIC WORKS DEPARTMENT

Approved

*Khalid Bazmi*  
Khalid Bazmi, County Engineer

Revision: August 2018

SINGLE UNIT MAILBOX DETAIL

STD. PLAN

1211

SHT. 1 OF 1



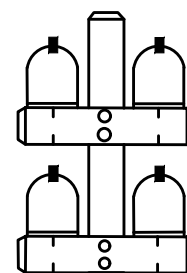


Diagram illustrating the connection of a vertical pipe through a concrete footing. The diagram shows a vertical pipe passing through a concrete footing. The footing is labeled "CONCRETE FOOTING". The pipe is labeled "FINISH GRADE". The diagram shows the pipe passing through the footing, with a minimum clearance of 2 inches on both sides of the pipe. The footing is shown with a cross-hatched pattern. The pipe is shown with a solid line. The diagram includes dimension lines and arrows indicating the 2 inch minimum clearance and the 3 inch and 1'-3 inch dimensions.

## MULTI UNIT MAILBOX DETAIL

