STORM WATER MANAGEMENT
EROSION AND SEDIMENT CONTROL NOTES

GENERAL NOTES

The following are requirements to be followed by the Contractor during all phases of the project. Please note that this construction will be accomplished under the provisions of the National Pollutant Discharge Elimination System (NPDES) of the U.S. Environmental Protection Agency (EPA). A Storm Water Pollution Prevention Plan (SWP3) must be prepared for this project in conformance with EPA regulations (Code of Federal Regulations (CFR) 40, Part 122) and Oklahoma Department of Environmental uality (ODE) General Permit (OKR-10). The Contractor will be responsible for compliance with the OPDES permit and the SWP3, as well as with all provisions of the plans and specifications. It will also be the Contractor's responsibility to prevent soil or sediment loss from the construction site. The Contractor shall not leave the site until all erosion control, sediment control, and storm water management practices are in place; have been inspected and found satisfactory; and all temporary practices have been properly removed.

STORM WATER MANAGEMENT

The project must be designed to provide positive post-construction control of storm water runoff from the site using gutters, curbs, inlets, piping, and outlets to the receiving stream. The erosion and sediment control measures discussed below will also provide some temporary storm water controls. During the course of construction, the contractor will install and maintain storm water controls in the sequence specified herein to provide comprehensive management of storm water for a project of this nature.

EROSION AND SEDIMENT CONTROL

The project must be designed to minimize adverse off-site effects of soil erosion and resulting sediment loss through the use of proper construction techniques; and by installing both temporary and permanent management practices. All soil-disturbing activities performed by the Contractor will be accomplished in such manner as to prevent loss of sediment from the construction site during rainfall events. To accomplish this, the following specific steps will be taken during construction:

1 Immediately after mobilization but prior to initiation any soil-disturbing activities, the Contractor will install all specified perimeter controls on the site. These practices have been designed to trap all sediment produced during soil-disturbing activities, and to prevent off-site damage. It is recognized that some site preparation may be required to properly install these practices.

2 The recommended sequence for the installation and removal of erosion and sediment control measures is as follows:
perimeter control measures (silt barriers and fencing) installed at designated areas; cleaning of street during construction; site grading (including temporary slope stabilization) as needed; installation of utilities; building construction; paving; final grading; installation of sod or vegetative materials; building construction; paving; final grading; installation of sod or vegetative materials; removal of temporary practices and perimeter controls; and site cleanup.

3 During all soil-disturbing activities, the Contractor will take appropriate steps using accepted construction methods to minimize exposure of unprotected soil and other construction materials to rainfall. Particular care must be exercised when dealing with topsoil stockpiles, fill material, or soil on slopes. The Contractor will maintain a date log of all soil disturbance activities or major grading operations, and of all management practice or control measure installations.

4 If, during the course of construction, any area of soil (including stockpiles) remains exposed for more than fourteen calendar days without suitable erosion control, then temporary stabilization measures should be installed unless soil-disturbing activities are planned on such areas within an additional seven calendar days. Suitable temporary stabilization measures are perimeter controls and silt barriers (such as rock bags, sand bags, and silt fencing) along all side-slope and down-slope borders of the disturbed area. Note that perimeter controls alone may not be successful; movement of large amounts of sediment produced by heavy rain on exposed soil could overwhelm such measures.

5 At the Contractor's discretion, additional temporary erosion control practices (such as rock bags, sand bag barriers, and silt fences) may be installed along any down-slope of side-slope perimeter of a soil-disturbed area to prevent sediment movement. Anchored erosion control matting, mulches, or other acceptable methods may also be installed to stabilize any unprotected slopes during construction, and hold them to the appropriate grade.

As site conditions warrant, the Contractor may also choose to modify the type or arrangement of specified practices to improve their effectiveness. As with any other project changes, the Contractor must present all proposed modifications to the Project Engineer for approval prior to installation.

6 The Contractor will inspect all specified practices at least once every fourteen calendar days, and after all rainfall events to insure that each specified practice remains intact. Any damage noted during such inspections shall be repaired promptly to restore the practice to original specifications. The Contractor will be responsible for maintenance of all erosion and sediment control practices as specified in the plans, i including periodic regrading, and final grading after removal of all such practices.

7 When water is used for dust control or to promote vegetation, the Contractor will prevent the escape of this water and any sediment it may carry from the construction site.

8 Care must be exercised to prevent excessive off-site tracking of mud or sediment by construction vehicles. In addition to the specified gravel entrance, properly graveled transition areas should be established at all temporary site exits to assist in mud removal from departing vehicles. The Contractor shall be responsible for cleaning the street daily, or as directed by the City, when mud is tracked onto the street from the construction site.

9 During the site cleanup prior to the possession date, each temporary practice will be completely removed and the area finished to the appropriate post-project condition. This involves final grading, and installation of sod or grass seed on all bare soil areas. A minimum vegetation density of seventy percent, or an equivalent sediment stabilization measure (geotextiles, mulches, or gabions), is required until vegetation is established.

The City of Oklahoma City
Public Works Department
Engineering Division

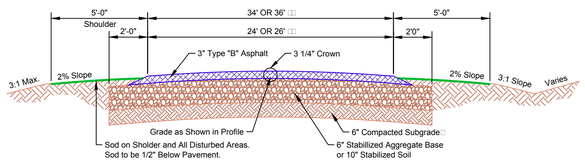
APPROVED BY: ERIC J. WENGER, P.E. CITY ENGINEER
DATE: 01-29-13

DRAWN: VSC

DATE: 01-29-13

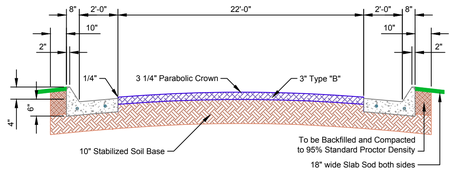
STORM WATER EROSION AND SEDIMENT CONTROL PROCEDURES

Drawing Number
D-010

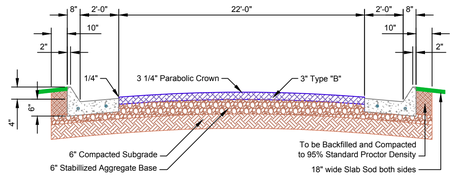


• TYPICAL SECTION •
PUBLIC OR PRIVATE RURAL ROADWAY
R-A and R-A2 Zoning Districts
• 102 •

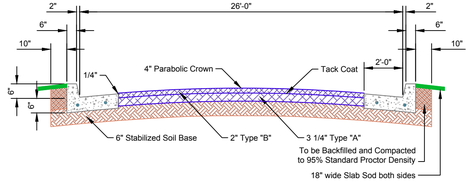
□To be used only with Aggregate Base
□□As specified in the Subdivision Regulations - Design Standards for Rural Subdivisions; lots with 2 acres or larger 24' and 34'; lots less than 2 acres 26' and 36'.



• TYPICAL SECTION •
26' ASPHALTIC CONCRETE PAVING
(STABILIZED SOIL BASE)
R-A & R-A2 ZONING DISTRICTS
• 104 •



• TYPICAL SECTION •
26' ASPHALTIC CONCRETE PAVING
(STABILIZED SOIL BASE)
R-A & R-A2 ZONING DISTRICTS
• 106 •



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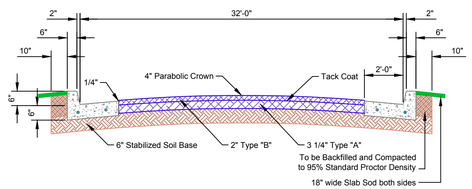
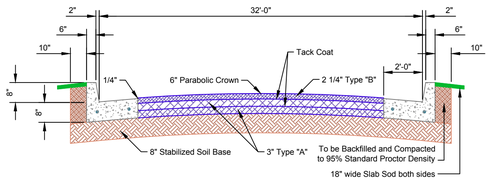
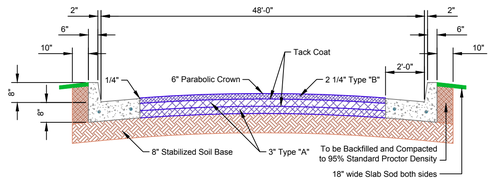
26' ASPHALTIC CONCRETE PAVING
(STABILIZED SOIL BASE)
• 110 •



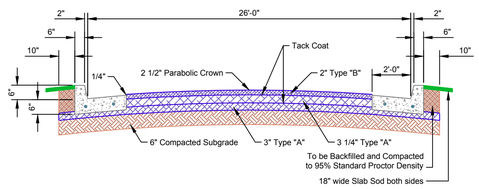
• TYPICAL SECTION •
32' ASPHALTIC CONCRETE PAVING
(STABILIZED SOIL BASE)
• 112 •



• TYPICAL SECTION •
32' ASPHALTIC CONCRETE PAVING
(STABILIZED SOIL BASE)
INDUSTRIAL ADDITIONS
• 114 •



• TYPICAL SECTION •
48' ASPHALTIC CONCRETE PAVING
(STABILIZED SOIL BASE)
ARTERIAL STREET
• 116 •



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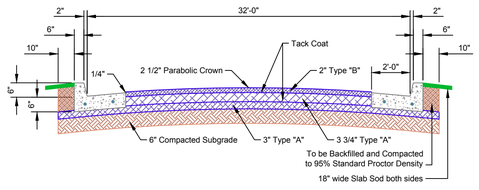
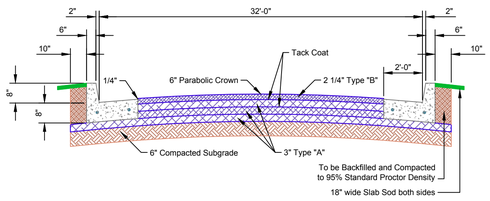
26' ASPHALTIC CONCRETE PAVING
(ASPHALT BASE)
• 120 •



• TYPICAL SECTION •
32' ASPHALTIC CONCRETE PAVING
(ASPHALT BASE)
RESIDENTIAL COLLECTOR STREET
• 122 •



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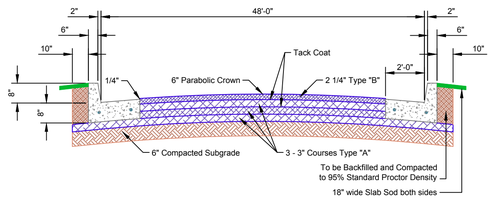
32' ASPHALTIC CONCRETE PAVING
(ASPHALT BASE)
INDUSTRIAL ADDITIONS
• 124 •



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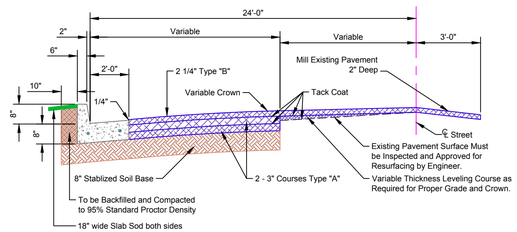
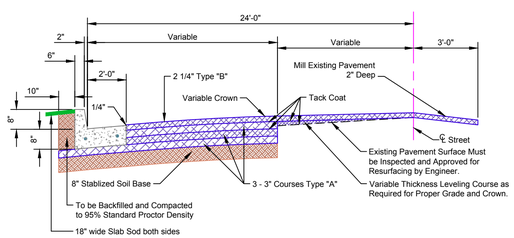
48' ASPHALTIC CONCRETE PAVING
(ASPHALT BASE)
• 126 •



• TYPICAL SECTION •
VARIABLE WIDENING ASPHALTIC CONCRETE PAVING
(STABILIZED SOIL BASE)
• 150 •



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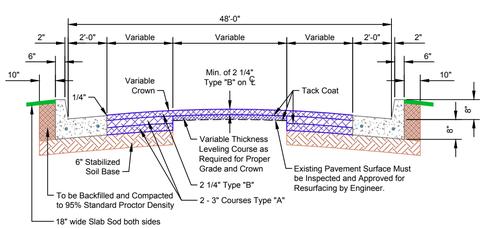
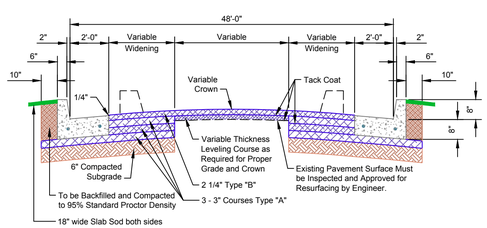
VARIABLE WIDENING ASPHALTIC CONCRETE PAVING
(ASPHALT BASE)
• 152 •



• TYPICAL SECTION •
48' ASPHALT WIDENING AND RESURFACING
(STABILIZED SOIL BASE)
• 170 •



• TYPICAL SECTION •
48' ASPHALT WIDENING AND RESURFACING
(ASPHALTIC BASE)
• 172 •

The City of Oklahoma City
Public Works Department
Engineering Division

APPROVED BY:
ERIC J. WENGER, P.E.
CITY ENGINEER
DATE: 01-30-13

DRAWN: VSC

DATE: 01-30-13

STANDARD TYPICAL SECTIONS ASPHALTIC PAVING

Drawing Number
D-100

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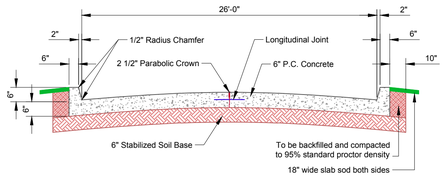
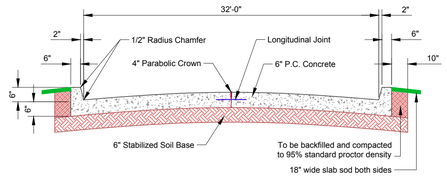
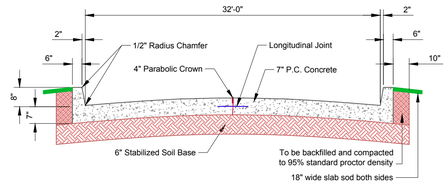


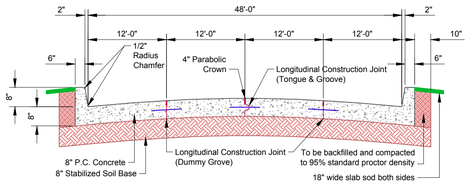
• TYPICAL SECTION •
26' P.C. CONCRETE PAVING
(STABILIZED SOIL BASE)
• 210 •



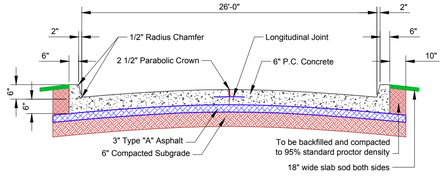
• TYPICAL SECTION •
32' P.C. CONCRETE PAVING
(STABILIZED SOIL BASE)
RESIDENTIAL COLLECTOR STREET
• 212 •



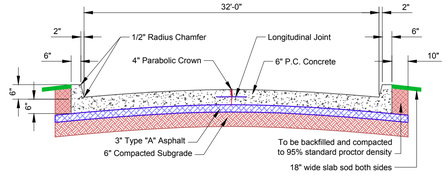
• TYPICAL SECTION •
32' P.C. CONCRETE PAVING
(STABILIZED SOIL BASE)
INDUSTRIAL ADDITIONS
• 214 •



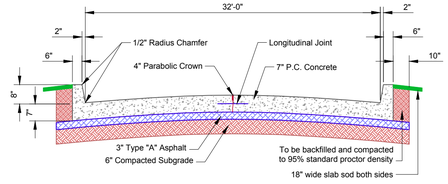
• TYPICAL SECTION •
48' P.C. CONCRETE PAVING
(STABILIZED SOIL BASE)
• 216 •



• TYPICAL SECTION •
26' P.C. CONCRETE PAVING
(ASPHALT BASE)
• 220 •



• TYPICAL SECTION •
32' P.C. CONCRETE PAVING
(ASPHALT BASE)
RESIDENTIAL COLLECTOR STREET
• 222 •



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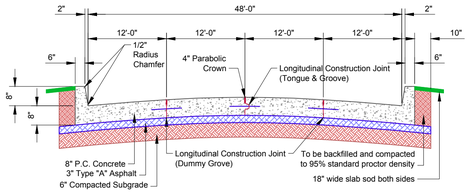
32' P.C. CONCRETE PAVING
(ASPHALT BASE)
INDUSTRIAL ADDITIONS
• 224 •



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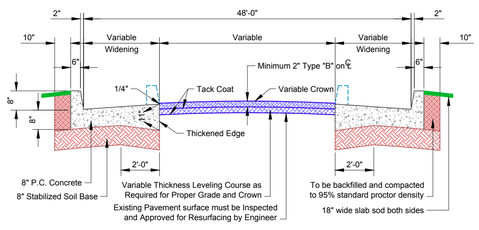
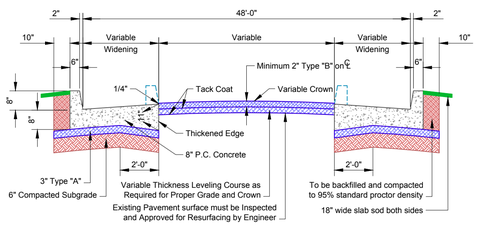
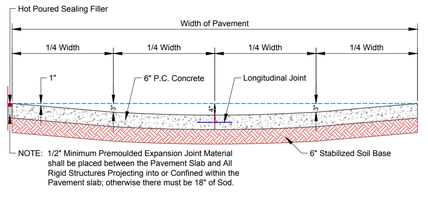
48' P.C. CONCRETE PAVING
(ASPHALT BASE)
• 226 •



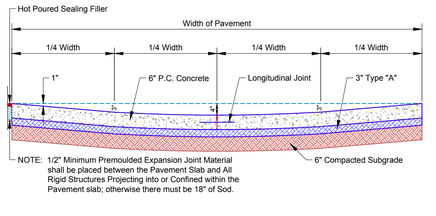
• TYPICAL SECTION •
48' CONCRETE WIDENING & RESURFACING
(STABILIZED SOIL BASE)
• 270 •



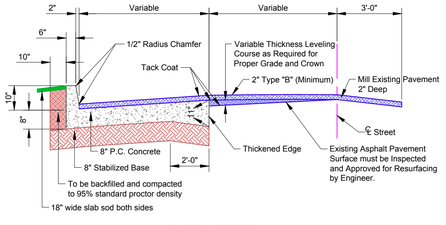
• TYPICAL SECTION •
48' CONCRETE WIDENING & RESURFACING
(ASPHALT BASE)
• 272 •



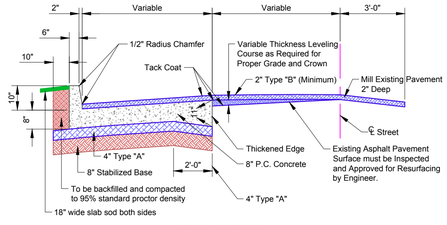
• TYPICAL SECTION •
P.C. CONCRETE ALLEY PAVING
(STABILIZED SOIL BASE)
• 280 •



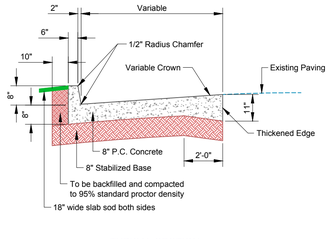
• TYPICAL SECTION •
P.C. CONCRETE ALLEY PAVING
(ASPHALT BASE)
• 284 •



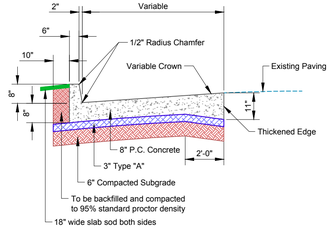
• TYPICAL SECTION •
WIDENING CONCRETE WITH ASPHALT OVERLAY
(STABILIZED SOIL BASE)
• 260 •



• TYPICAL SECTION •
WIDENING CONCRETE WITH ASPHALT OVERLAY
(ASPHALT BASE)
• 262 •



• TYPICAL SECTION •
WIDENING P.C. CONCRETE PAVING
(STABILIZED SOIL BASE)
ARTERIAL WIDENING
• 250 •



• TYPICAL SECTION •
WIDENING P.C. CONCRETE PAVING
(ASPHALT BASE)
ARTERIAL WIDENING
• 252 •

The City of Oklahoma City
Public Works Department
Engineering Division

DATE: 02-04-13

APPROVED BY:
ERIC J. WENGER, P.E.
CITY ENGINEER

DRAWN: VSC

DATE: 02-04-13

STANDARD TYPICAL SECTIONS P.C. CONCRETE PAVING

Drawing Number
D-200

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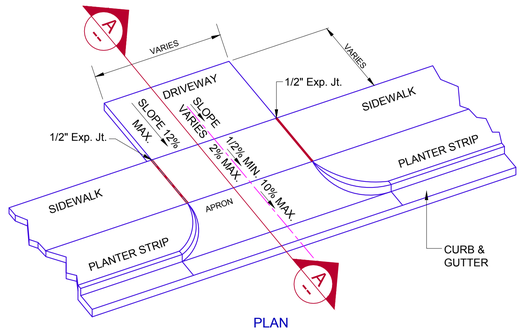
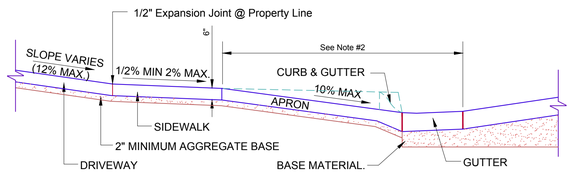


PLAN



SECTION A-A

NOTES:

1. A 5' - 0" minimum radius is approved for one & two family residences not abutting a limited access or major street. All other Driveways will have a 10' 0 " minimum radius.

2. The Driveway Contractor may saw cut & remove the complete Curb and Gutter section or remove the curb and the section of gutter directly under the curb. Saw cuts shall be 2" or 1/3 the depth of the gutter, whichever is greater. Saw cuts shall include the top & face of curb as well as the gutter. Saw cuts shall be made prior to the removal of concrete.

3. If a gutter holds water prior to any construction by driveway Contractor, he should notify the City Engineer of the situation before doing any work. The completed driveway work will not be accepted if the gutter holds water due to poor construction by the Contractor.

4. It is recognized that this driveway detail will not cover every possible situation encountered in construction. Additional expansion joints will be required as needed.

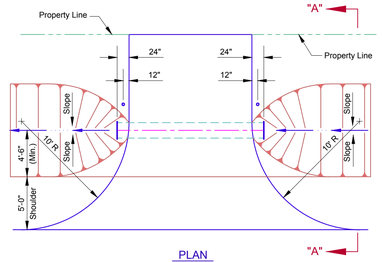
5. Clean and seal all joints and saw cuts in accordance with standard specifications.

6. Longitudinal Joint required for drives 16' wide & greater. Saw cut 2" deep and fill with silicone sealant. Transverse Joints Required at 15' Maximum Spacing.

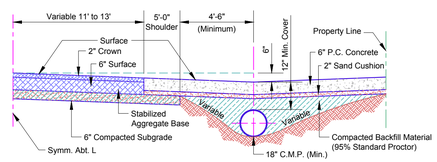
7. Do not turn radius in front of adjacent property without written permission from adjacent property owner.

DRIVEWAY DETAILS

•310•



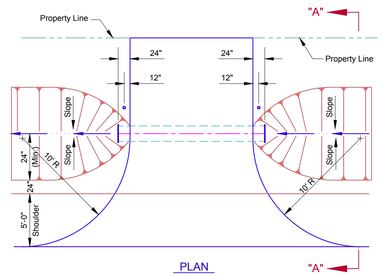
PLAN



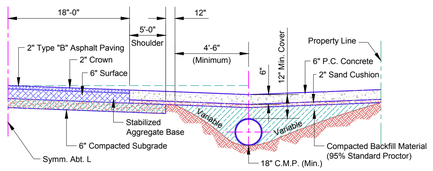
SECTION "A - A"

DRIVEWAY DETAILS FOR RURAL ESTATES DEVELOPMENT

• 320 •



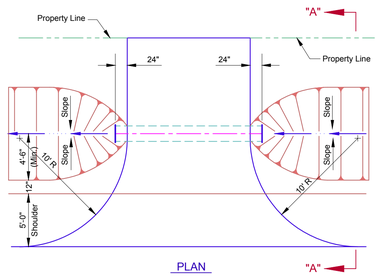
PLAN



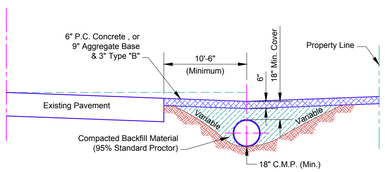
SECTION "A - A"

DRIVEWAY DETAILS FOR AGRICUTURAL ESTATES R -1 ZONING

• 330 •



PLAN



SECTION "A - A"

TO BE REMOVED IMMEADENTLY UPON COMPLETION OF DRILLING OPERATIONS

TEMPORARY DRIVEWAY DETAILS FOR OIL FIELD DEVELOPMENT ACCESS

• 340 •

The City of Oklahoma City
Public Works Department
Engineering Division

APPROVED BY: ERIC J. HENGER, P.E. CITY ENGINEER — DATE: 02-05-13

DRAWN: TVN — DATE: 03-20-17

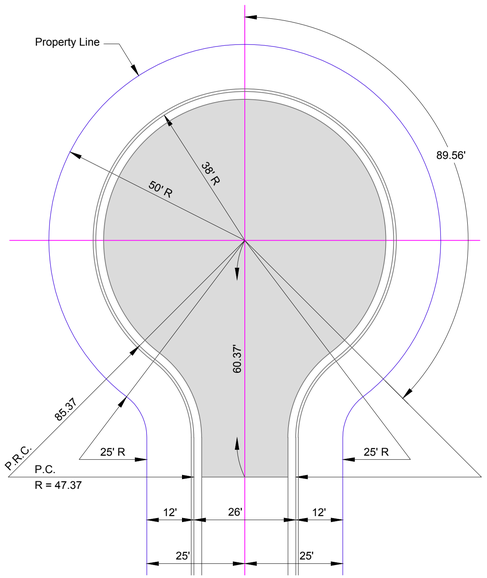
STANDARD TYPICAL SECTIONS DRIVEWAY DETAILS

Drawing Number

D-300

D-300-REV032017

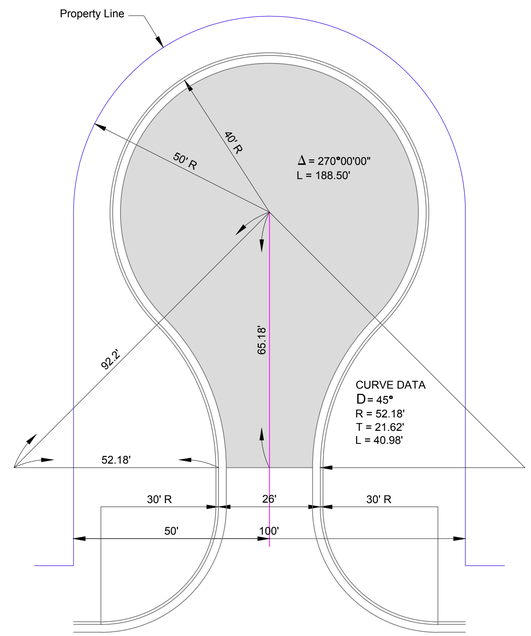
C:\Thfile\Drawing\Hanger 8\STANDARDS\D-300-REV032017.dwg, 3/22/2017 9:27:03 AM, DWG To PDF.pc3



MATERIAL IN SAC BEYOND P.C.
531.6 S.Y. ASPHALTIC CONCRETE
587.9 S.Y. P.C. CONCRETE
646.9 S.Y BASE (10" Back of Curb)
253.52 l.f. CURB

CURVE DATA
Δ = 45°
R = 47.37'
T = 19.62'
L = 37.20'

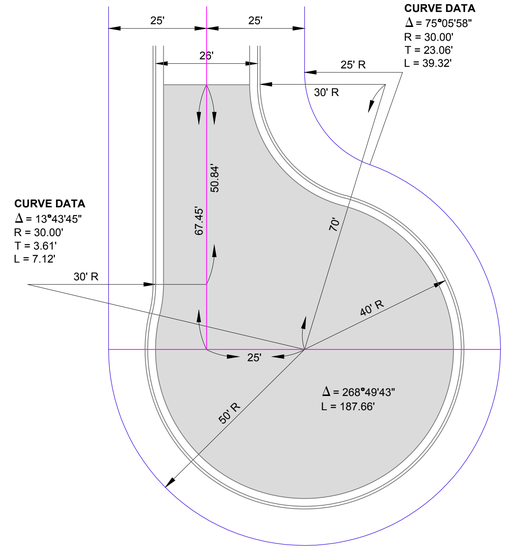
STANDARD CUL-DE-SAC -- 38' R



P.C. CONCRETE
270.46 L.F. CONCRETE
653.32 S.Y. P.C. CONCRETE
702.10 S.Y. BASE (Includes to 10" Back of Curb)

ASPHALTIC CONCRETE
270.46 L.F. CONCRETE & GUTTER
593.92 S.Y. ASPHALTIC CONCRETE
702.10 S.Y. BASE (Includes to 10" Back of Curb)

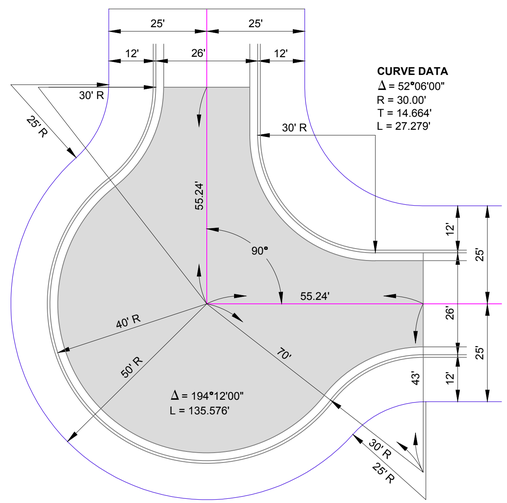
STANDARD CUL-DE-SAC -- 40' R



P.C. CONCRETE
289.94 L.F. CONCRETE
684.40 S.Y. P.C. CONCRETE
735.75 S.Y. BASE (Includes to 10" Back of Curb)

ASPHALTIC CONCRETE
289.94 L.F. CONCRETE & GUTTER
621.77 S.Y. ASPHALTIC CONCRETE
735.75 S.Y. BASE (Includes to 10" Back of Curb)

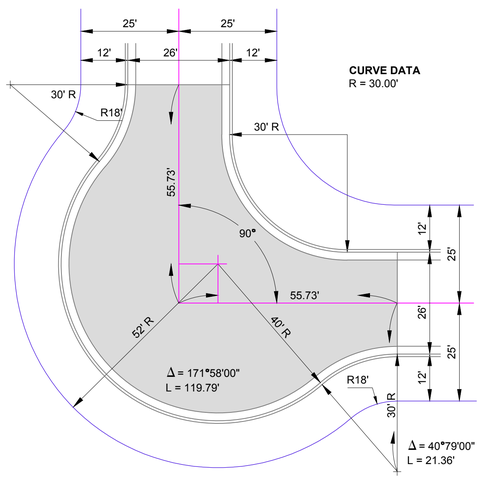
OFF-SET CUL-DE-SAC



P.C. CONCRETE
261.74 L.F. CONCRETE
678.56 S.Y. P.C. CONCRETE
683.10 S.Y. BASE (Includes to 10" Back of Curb)

ASPHALTIC CONCRETE
261.74 L.F. CONCRETE & GUTTER
578.40 S.Y. ASPHALTIC CONCRETE
683.10 S.Y. BASE (Includes to 10" Back of Curb)

90° CUL-DE-SAC

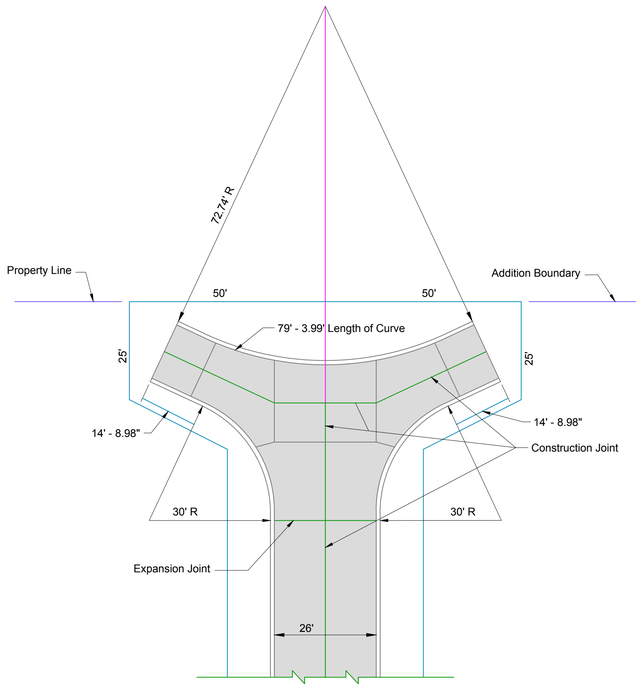


P.C. CONCRETE

ASPHALTIC CONCRETE
234.97 L.F. CONCRETE & GUTTER

27.64 LF curb shorter w/ 10' offset.
Approx. 91 sy smaller area.

90° CUL-DE-SAC



STANDARD "T" TURN AROUND

The City of Oklahoma City
Public Works Department
Engineering Division

APPROVED BY:
ERIC J. WENGER, P.E.
CITY ENGINEER
DATE: 02-05-13

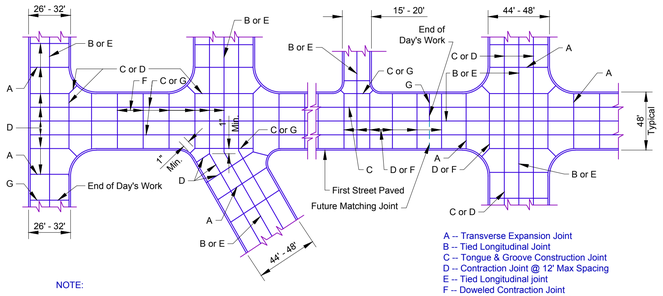
DRAWN: VSC

DATE: 02-05-13

STANDARD DETAILS FOR CUL-DE-SACS

Drawing Number
D-400

D:\okc_okc\PW-Section\CITY ACAD-STDS D-400 VSC 02-05-13

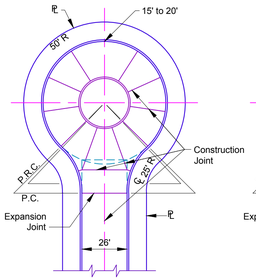


NOTE:

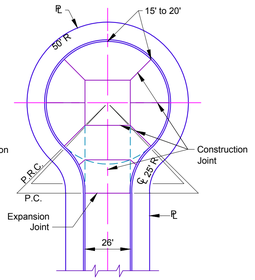
Use Type E Tied Joint Where Curb and Gutter Are Poured Separately Form The Paving

A -- Transverse Expansion Joint
B -- Tied Longitudinal Joint
C -- Tongue & Groove Construction Joint
D -- Contraction Joint @ 12' Max Spacing
E -- Tied Longitudinal joint
F -- Doweled Contraction Joint
G -- Doweled Construction Joint

JOINT LAYOUT DETAILS

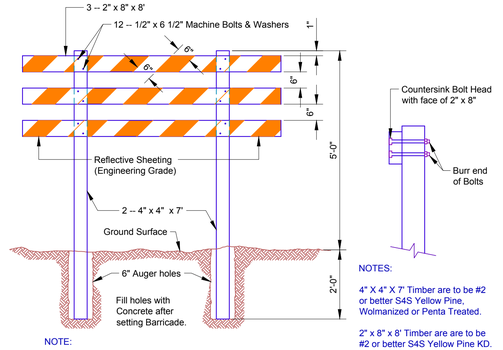


STANDARD CUL-DE-SAC, 38' R
•OPEN CENTER•



STANDARD CUL-DE-SAC, 38' R

JOINT LAYOUT DETAILS



NOTE:

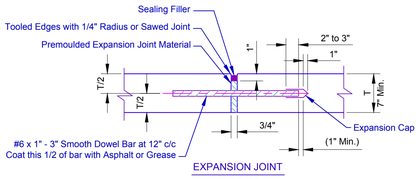
Markings for Barricade Rails are to be Orange and White. Markings are to be 6" wide and attached at 45°angles as set forth in the latest edition of the Uniform Traffic Control Devices Manual

NOTES:

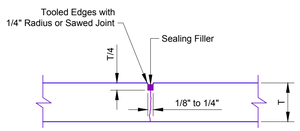
4" X 4" X 7' Timber are to be #2 or better S4S Yellow Pine, Wolmanized or Penta Treated.

2" x 8" x 8' Timber are are to be #2 or better S4S Yellow Pine KD.

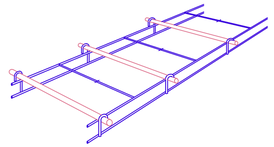
STANDARD REFLECTOR TYPE BARRICADE



EXPANSION JOINT
TYPE "A"

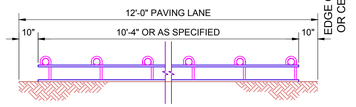


CONTRACTION JOINT
TYPE "D" (ALT. TYPE "F")

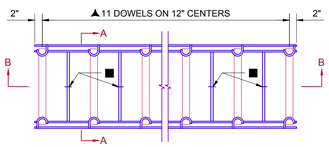


□1/2" CLEARANCE MINIMUM FROM BOTTOM OF CUT TO TOP OF DOWEL

SECTION A-A



SECTION B-B



PLAN VIEW

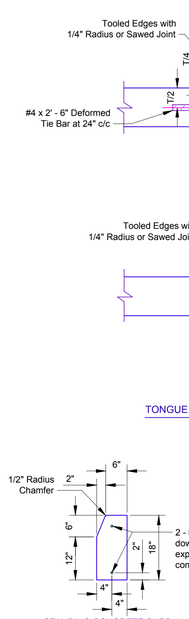
DOWEL BARS ▲ SPACING & SIZE DATA			
(T) SLAB DEPTH	DOWEL DIA.	TOTAL DOWEL LENGTH	C/C DOWEL SPACING
7"	1"	15"	12"
8" - 11"	1 1/4"	18"	12"
12" - 16"	1 1/2"	18"	12"

■ SPACER: FOUR EA. 7 GAGE (0.177") WIRES PER UNIT, NOTCHED @ MIDPOINT OF WIRE SPACER IN FIELD AFTER PLACEMENT REGULAR DOWELS GREASED

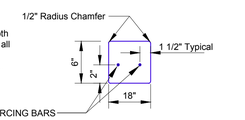
DOWELED CONTRACTION JOINT DETAILS
TYPE "F" (ALT TYPE "D")

NOTES:
Type "F" to be used for continuous pours only.
Do not use for headers at days end stopping point.

□No Dowell Joints Where Slab Thickness is Less Then 7"

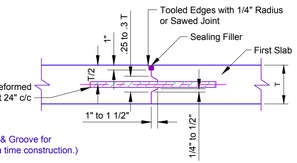


• STANDING CONCRETE CURB •



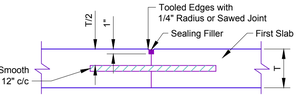
•(CONTINUOUS) CONCRETE HEADER CURB•

MISCELLANEOUS DETAILS

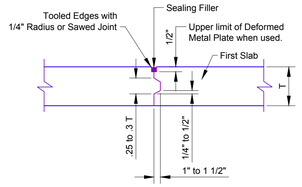


(Tongue & Groove for Lane at a time construction.)

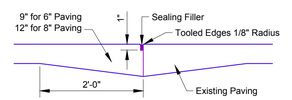
TIED CONSTRUCTION JOINT
TYPE "E"



DOWLED CONSTRUCTION JOINT
TYPE "G"



TONGUE & GROOVE CONSTRUCTION
TYPE "C"

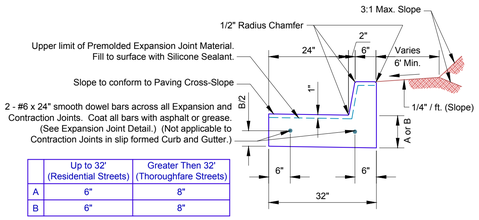


• THICKENED EDGE •

NOTES:

Smooth Dowel Bars across Expansion Joints shall be provided with Expansion Caps, and coated with Asphalt or Grease, (Type A & G).

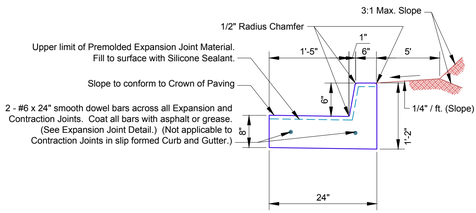
Grooves in Joints may be formed by: (1) temporary embedment of a suitable Mandrel, (2) installation of a thin strip of premoulded Joint Filler Material, (3) sawing the Pavement.



	Up to 32' (Residential Streets)	Greater Then 32' (Thoroughfare Streets)
A	6"	8"
B	6"	8"

NOTE: Maximum spacing of 1/2" Expansion Joints to be 100' c/c with Contraction Joints 15' - 20' apart to match Driveway Returns. (Expansion Joint spacing, not applicable to slip formed Curb and Gutter.)

CONCRETE CURB & GUTTER DETAIL (BARRIER CURB)



NOTE: Maximum spacing of 1/2" Expansion Joints to be 100' c/c with Contraction Joints 15' - 20' apart to match Driveway Returns. (Expansion Joint spacing, not applicable to slip formed Curb and Gutter.)

CONCRETE CURB & GUTTER DETAIL FOR DOWNTOWN

The City of Oklahoma City
Public Works Department
Engineering Division

APPROVED BY: ERIC J. MENGER, P.E. CITY ENGINEER
DATE: 02-07-13

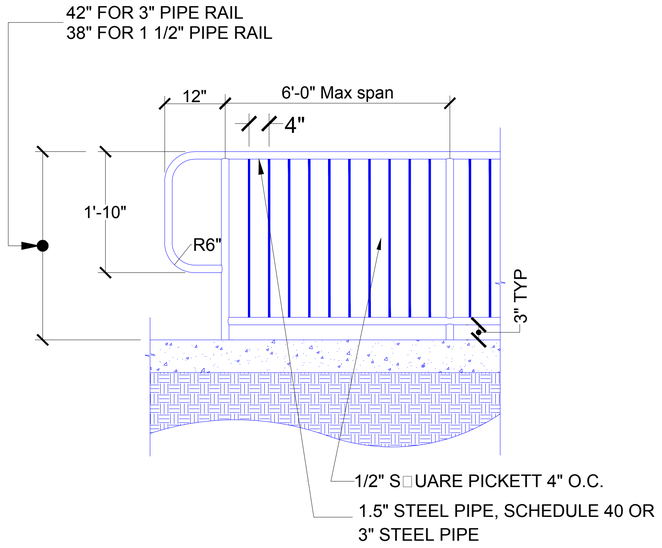
DRAWN: TVN
DATE: 03-21-17

STANDARD TYPICAL SECTIONS MISCELLANEOUS DETAILS

Drawing Number
D-500

REVISION 3-2017

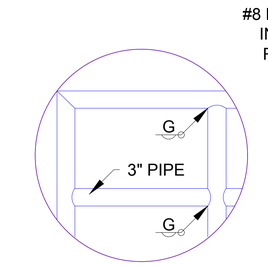
C:\TMNW\Drawing\Hangar 8\STANDARD\D-500-REVISION3-17.dwg, 3/27/2017 8:10:00 AM, DWG To PDF.pc3



PEDESTRIAN HANDRAIL DETAIL

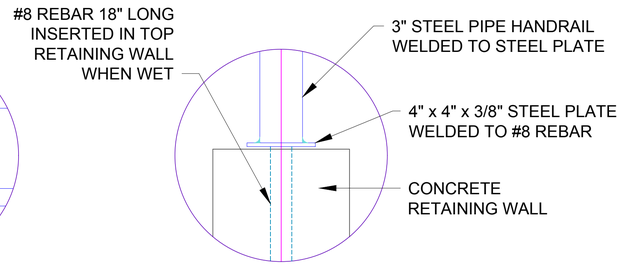
NOTES:

1. Vertical tubes to be set on 6' centers, 4" clear from back edge of sidewalk.
2. Materials shall comply with the Std. Specifications.
   Submit shop drawing for approval prior to fabrication.
3. All materials shall be galvanized or galvanized / powder coated as
   specified in the proposal.
4. 3" steel pipe required when railing is adjacent to traffic.



ALTERNATE DETAIL

(USING WELDED CONNECTIONS ON PIPE HANDRAIL)



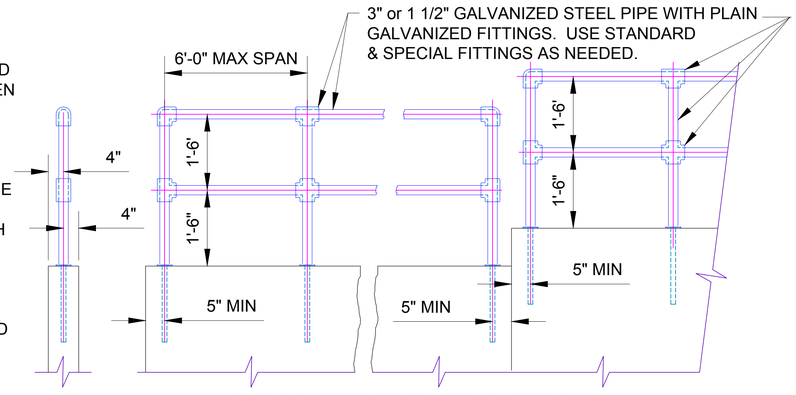
HANDRAIL ATTACHMENT DETAIL

HANDRAIL NOTES:

PIPE HANDRAIL SHALL BE PLACED ON RETAINING WALLS ONLY WHEN CALLED FOR ON THE PLANS.

WELDED CONNECTIONS MAY BE USED FOR PIPE HANDRAILS. WELDED CONNECTIONS SHALL BE THOROUGHLY CLEANED OF ALL LOOSE SCALE, GROUND SMOOTH AND SPOT PAINTED WITH TWO COATS OF ZINC RICH PAINT.

SHOP DETAILS FOR ALL PIPE HANDRAILS SHALL BE SUBMITTED FOR APPROVAL.



TYPICAL ELEVATION OF HANDRAIL

GENERAL NOTES:
ALL CONSTRUCTION AND MATERIAL SHALL BE IN ACCORDANCE WITH THE OKLAHOMA CITY STANDARD SPECIFICATIONS
ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" CHAMFER.
ALL CONCRETE SHALL BE CLASS "A" CONCRETE 3500 PSI.
EXPANSION JOINTS SHALL BE AT A MAXIMUM OF 30'-0" INTERVALS.
ALL REINFORCING STEEL BARS SHALL BE DEFORMED BARS COLD BENT, NO WELDS PERMITTED.
ALL EXPOSED CONCRETE SURFACES SHALL HAVE A CARBORUNDUM FINISH.
THIS DETAIL ADAPTED FROM O.D.O.T RETAINING WALL RW-1.

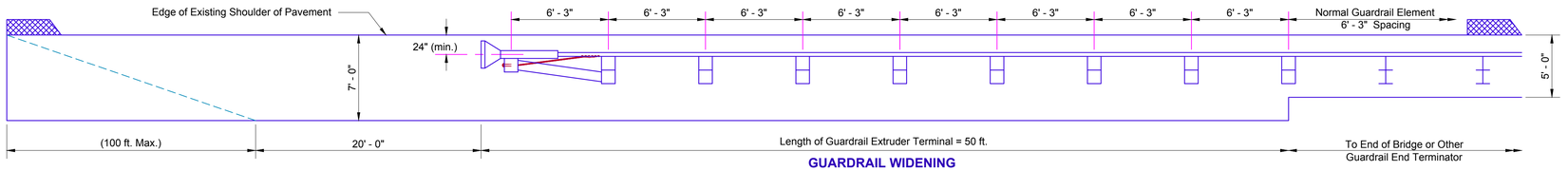
HEAVY DUTY - 3" PIPE RAILING and LIGHT DUTY - 1.5" PIPE RAILING

The City of Oklahoma City
Public Works Department
Engineering Division

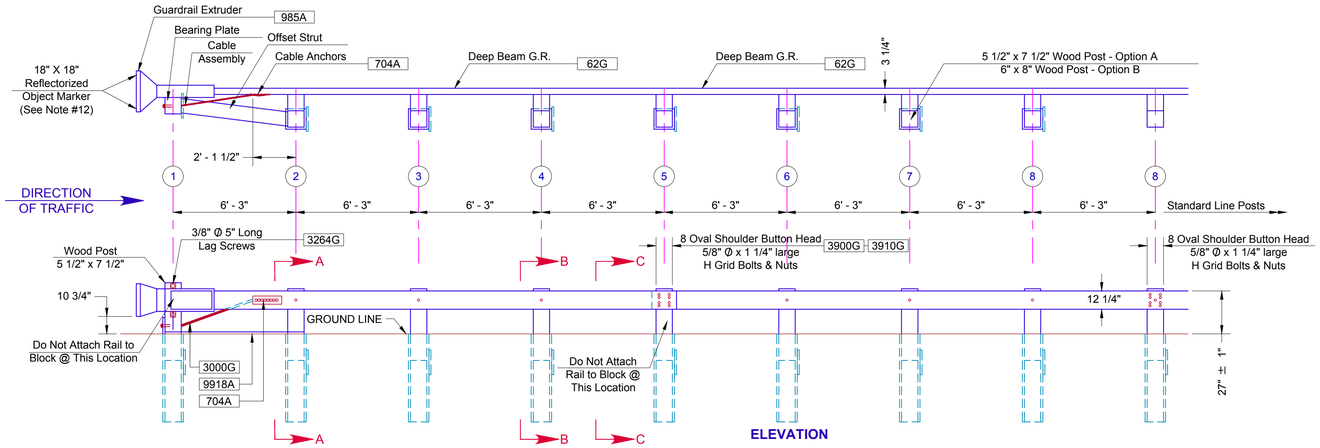
APPROVED BY: ERIC J. WENGER, P.E. CITY ENGINEER — DATE: 6-7-2017
DRAWN: TVN
DATE: 6-7-2017

PEDESTRIAN HANDRAIL DETAIL

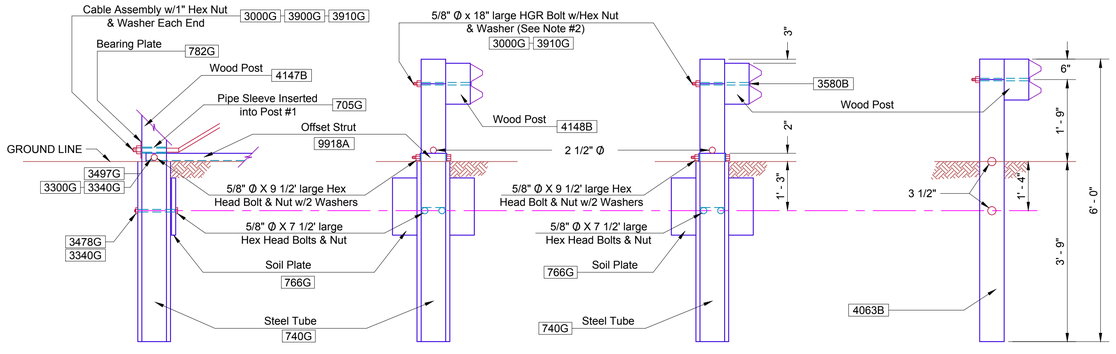
Drawing Number
D-505



GUARDRAIL WIDENING



ELEVATION



PARTIAL VIEW @ POST #1

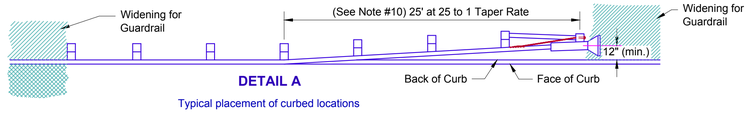
SECTION A--A @ POST #2

SECTION B--B

OPTION A: TYPICAL @ posts #3 thru #8
(Except Rail is NOT attached @ post #5)
OPTION B: TYPICAL @ posts #3 & #4

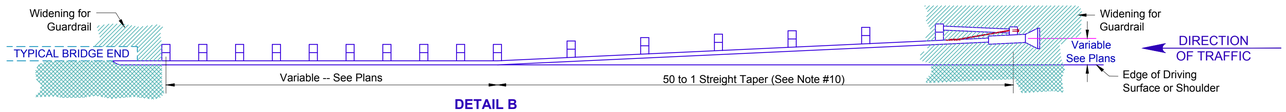
SECTION C--C

OPTION B: TYPICAL @ posts #5 thru #8
(Except Rail is NOT attached @ post #5)



DETAIL A

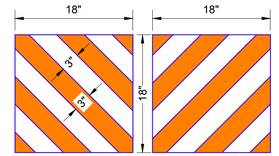
Typical placement of curbed locations



DETAIL B

Typical placement to protect ends.

	OPTION		G. E. T. BILL OF MATERIALS
	A	B	
Code #	Qty.	Qty.	DESCRIPTION
62G	1	1	□1 Deep Beam Guardrail (12 Ga.)
60G	1	1	□2 Deep Beam Guardrail (12 Ga.)
740G	8	4	Steel Tube -- 6" x 8" x 54" x 3/16"
766G	8	4	Soil Plate -- 18" x 24" x 1/4"
4147B	8	4	Wood Posts -- 5 1/2" x 7 1/2" x 45"
4148B	7	7	Wood Block -- 5 1/2" x6 1/2" x 14"
705G	1	1	Pipe Sleeve -- 2" standard pipe x 5 1/2"
782G	1	1	Bearing Plate -- 8" x 8" x 5/8"
704A	1	1	Cable Anchor
3000G	1	1	Cable Assembly
9918A	1	1	Offset Strut
985A	1	1	Guardrail Extruder
4063B	--	4	Wood Posts -- 6" x 8" x 72"
Code #	**Qty.**	**Qty.**	**HARDWARE**
3478G	16	8	5/8" x 7 1/2" Hex Head Bolt (Soil Plates)
3497G	8	4	5/8" x 9 1/2" Hex Head Bolt (Top of tubes)
3300G	11	11	5/8" Washer (2 each at Tubes 1 & 2 + 7 Posts)
3580G	7	7	5/8" x 18" H. G. R. Post Blot (Posts 2 thru 8)
3360G	16	16	5/8" x 1 1/4" H. G. R. Splice Bolt
3340G	47	35	5/8" H.G.R. Nut (SPL --16. Tubes--12, GR--16)
3364G	2	2	3/8" x 5" Lag Screw
3910G	2	2	1" hex Nut (Anchor Cable)
3900G	2	2	1" Washer (Anchor Cable)
3117B	1	1	Reflectorized Object Marker (18" x 18")



DETAIL C
REFLECTIVE MARKER

1. Reflective marker should be attached to the 18" x 18" end of the G. E. T. prior to installation.
2. Attachment surface should be thoroughly cleaned and dry before attaching marker. (Stick-on sheeting.)
3. Attachment adhesive sheeting should be free of air bubbles with all edges free of air bubbles with all edges firmly bonded.

GENERAL NOTES

1. All construction and material requirements shall be in accordance with the Oklahoma Department of Transportation 1988 Standard Specifications and applicable Special provisions covering Guardrail Extruder Terminal.
2. All bolts, nuts, cable anchors, groundline cables and bearing plates shall be galvanized in accordance with section 732 of the Standard Specifications for Highway Construction, 1988 edition.
3. Guardrail components shall meet the applicable standards of "A Guide to Standardized Highway Rail Hardware", prepared and approved by the AASHTO-ARTBA-AGC Joint Cooperative Committee, Technical Bulletin Number 2688.
4. The steel tubes shall not protrude more than 4" above the ground (measured along a 5 foot chord.) Site grading may be necessary to meet this requirement.
5. The steel tubes may be driven with an approved driving head. they shall not be driven with the wood post in the tube. If the steel tubes are placed in drilled holes, the backfill material must be compacted to insure no settlement of tube.
6. When rock excavation is encountered, a 12" diameter post hole, 20 inches deep, may be used if approved by the Engineer. Granular material will be placed in the bottom of the hole approximately 2 1/2" deep to provide drainage. The steel tube sleeves may be field cut to 20 inches in length, placed in the hole and backfilled with adequately compacted material excavated from the hole.
7. The breakaway cable assembly must be taut. A locking device, (vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening nuts.
8. The wood blockouts shall be 'toe nailed' into the rectangular wood posts to prevent them from turning when the wood shrinks.
9. For curb installations, the soil tubes and posts shall be installed at the proper ground elevation behind the curb. The posts will then require new holes to be field drilled to accommodate the 'rail to post' connection bolt to maintain the proper height of the rail above the gutter pan. The excess post length above the rail will be removed if directed by the Engineer.
10. When the guardrail extruder terminal is specified as the end treatment for the MBGF installation, the MBGF will be tapered at a rate of 50 to 1, over the 50 foot GET system, to prevent the extruder head from encroaching on the shoulder. The taper may be decreased or eliminated for specific installations if directed by the Engineer. A 25 to 1 taper rate will be used at curb sections, beginning at post number one (recommended for curb sections no greater than 4 inches in height.) See Details A & B.
11. Extruder type terminals shall be install be installed when adjacent driving lanes are within 25 feet (horizontally) of extension side on the extruder terminal.
12. Extruder approach end (18" x 18" face) shall be covered by a Type I Object Marker of simulated Type III Object Marker (adhesive reflector sheeting,) with cost to be included in the price of extruder terminal. See Detail C.
13. The 5/8 inch flat washer is used under the nut behind the post only. No washer is used at the rail.
14. the breakaway posts at locations #5, 6, 7 & 8 may be as shown in Option B without foundation tubes. Posts at locations #1, 2, 3 &4 must use foundation tubes.
15. Wood posts are required with the guardrail extruder terminal (GET.)
16. For additional information on the widening typical section. See Standard GRAU-3 LATEST REVISION.

BASIS OF PAYMENT		
ITEM #	ITEM	UNIT
623.06 (H)	G. E. T. GUARDRAIL END SECTIN	EACH

The City of Oklahoma City
Public Works Department
Engineering Division

APPROVED BY: ERIC J. WENGER, P.E. CITY ENGINEER
DATE: 02-07-13

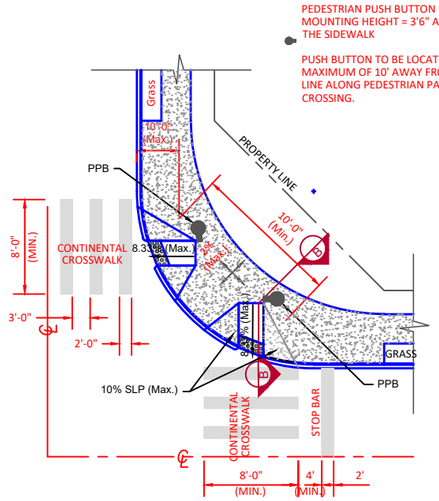
DRAWN: VSC

DATE: 02-07-13

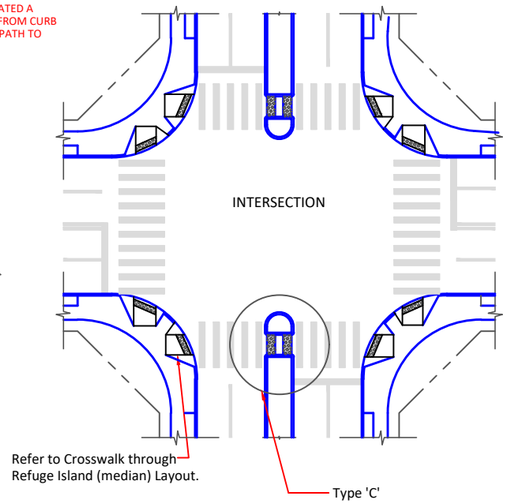
GUARDRAIL EXTRUDER TERMINAL

Drawing Number
D-600

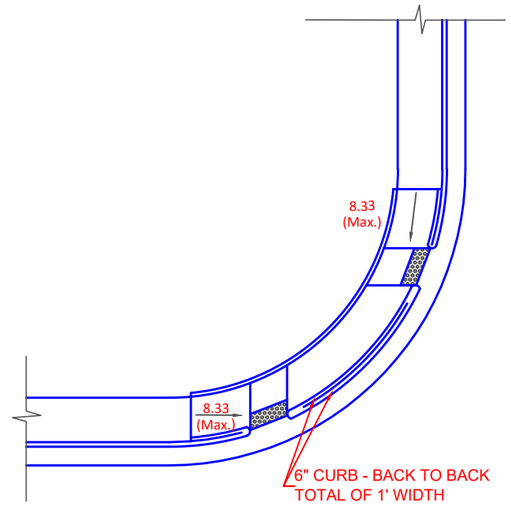
□i:okc: okc:PW-Section:CITY ACAD-STDS:D-600 VSC 02-07-13



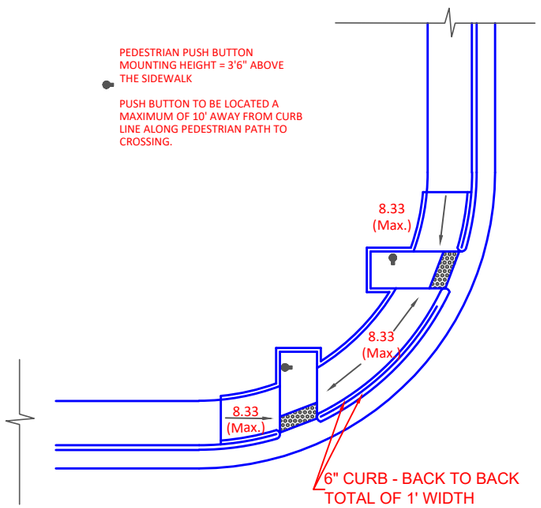
CURB RAMP
TYPE "A"



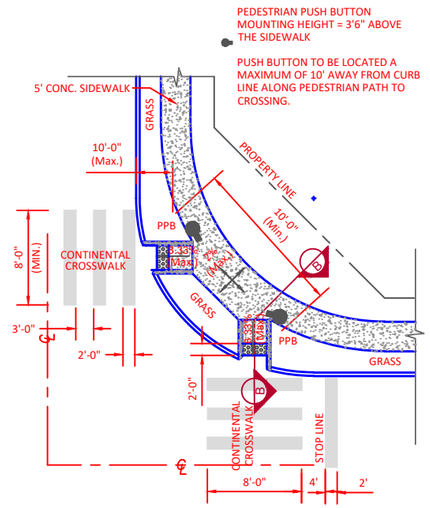
INTERSECTION WITH REFUGE ISLANDS LAYOUT



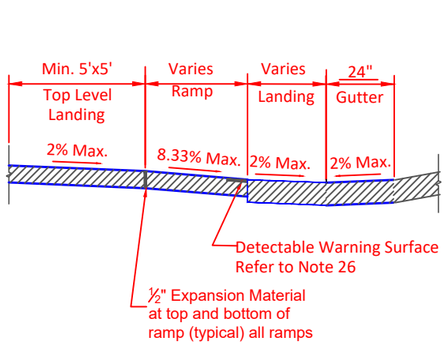
BACK OF CURB RAMP
WITHOUT PEDESTRIAN PUSH BUTTON
TYPE "G"



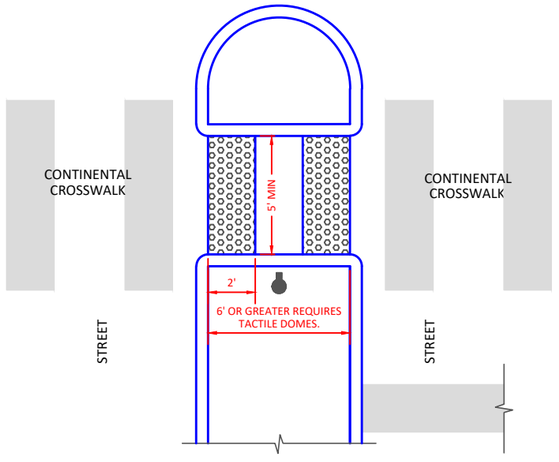
BACK OF CURB RAMP
WITH PEDESTRIAN PUSH BUTTON
TYPE "G"



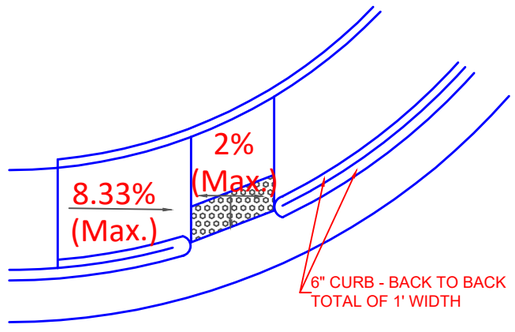
CURB RAMP
TYPE "B"
See Detail 1 & Detail 2 (Sheet B)



SECTION B-B



STANDARD CROSSWALK THROUGH
MEDIAN LAYOUT
TYPE "C"



DETAIL OF
TYPE "G"
RAMP

The City of Oklahoma City
Public Works Department
Engineering Division

APPROVED BY: ERIC J. WENGER, P.E. CITY ENGINEER
DATE: 8-23-23
DRAWN: TVN
DATE:

ADA CURB RAMP DETAILS ARTERIAL STREETS

Drawing Number
D-700
A

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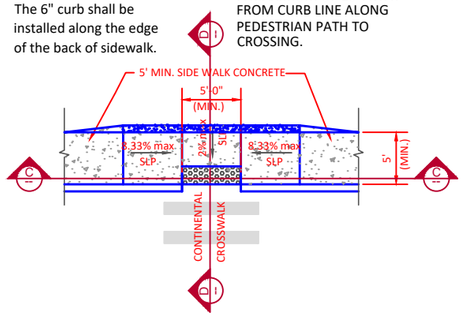
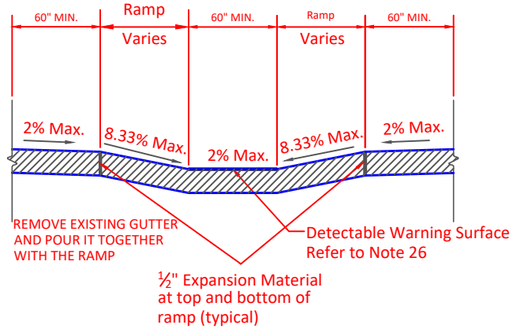
Curb-Ramp shall be used on narrow sidewalk or at mid block locations when standard curb ramp lay-out is not feasible. The 6" curb shall be installed along the edge of the back of sidewalk.

- PEDESTRIAN PUSH BUTTON MOUNTING HEIGHT = 3'6" ABOVE THE SIDEWALK

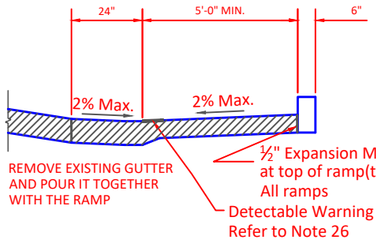
PUSH BUTTON TO BE LOCATED A MAXIMUM OF 10' AWAY FROM CURB LINE ALONG PEDESTRIAN PATH TO CROSSING.



PARALLEL CURB RAMP TYPE "D"

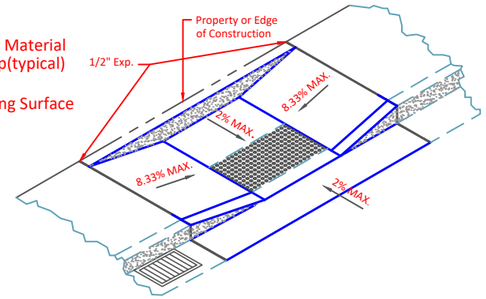


SECTION C-C



SECTION D-D

See Detail 2 for Isometric View

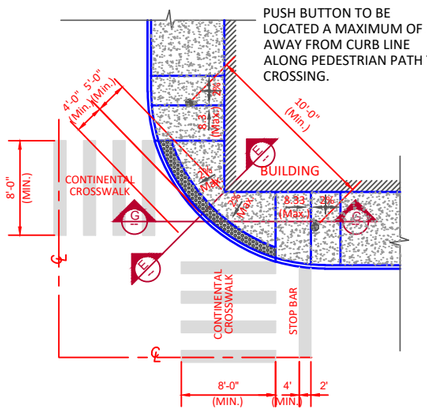


DETAIL 2 TYPE D

Isometric

- PEDESTRIAN PUSH BUTTON MOUNTING HEIGHT = 3'6" ABOVE THE SIDEWALK

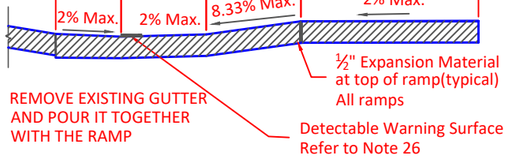
PUSH BUTTON TO BE LOCATED A MAXIMUM OF 10' AWAY FROM CURB LINE ALONG PEDESTRIAN PATH TO CROSSING.



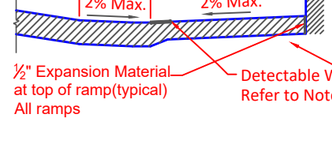
RADIUS CURB RAMP TYPE "E"

See Detail 3 for Isometric View

Written approval by the City Engineer is required.

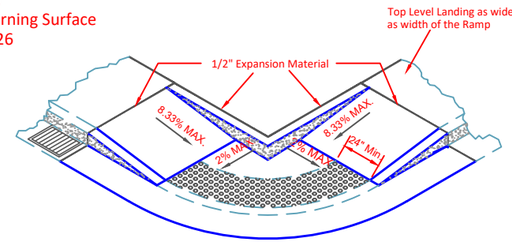


SECTION G-G TYPE "E"



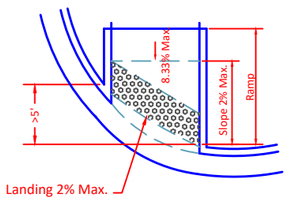
SECTION E-E TYPE "E"

See Detail 3 for Isometric View



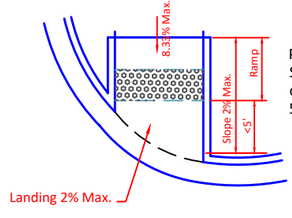
DETAIL 3 TYPE E

Isometric



Place Detectable Warning Surface on bottom landing if landing is more than 5' deep at any point.

DETAIL 1



Place Detectable Warning Surface on the bottom if both levels of grade break are less than 5' from back of curb

DETAIL 2

The City of Oklahoma City
Public Works Department
Engineering Division

APPROVED BY: ERIC J. WENGER, P.E. CITY ENGINEER

DRAWN: TVN

DATE: 8-23-23

ADA CURB RAMP DETAILS ARTERIAL STREETS

Drawing Number D-700

B

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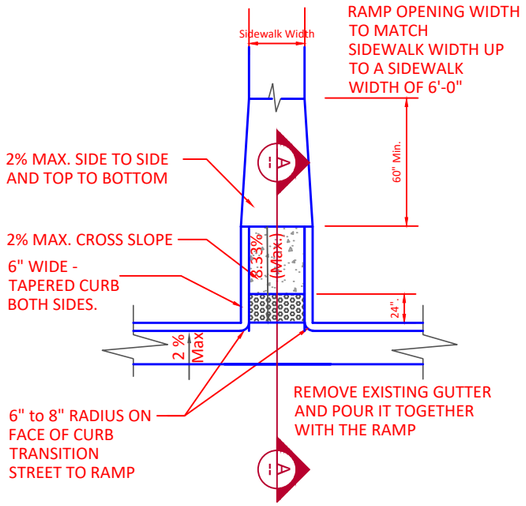
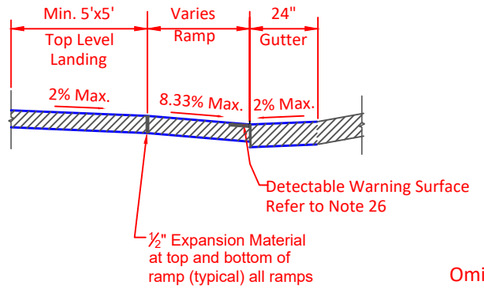
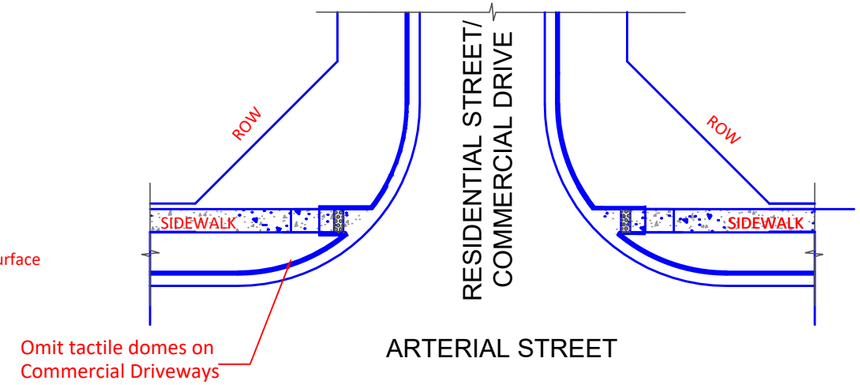


METHOD OF TRANSITIONING A RAMP WITH DIE OUT CURBS

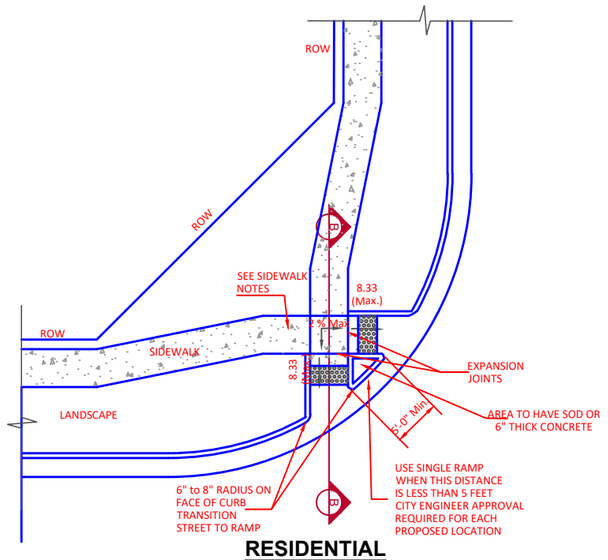


SECTION A-A

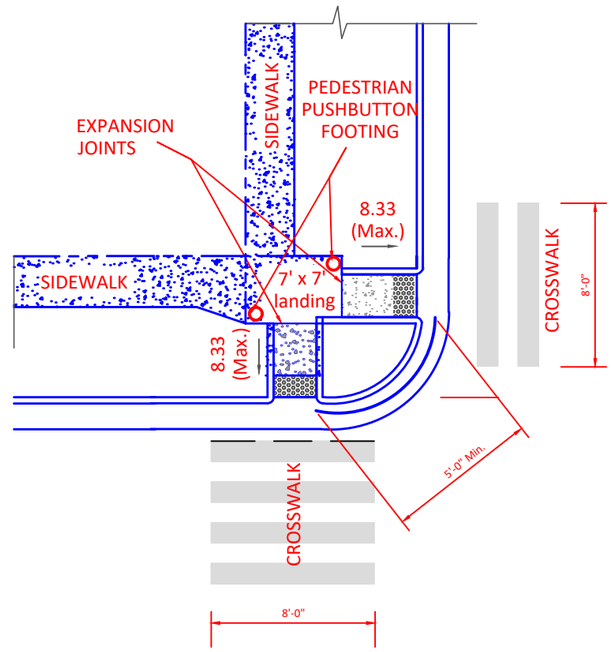


ARTERIAL STREET

ARTERIAL / MINOR STREET RAMPS (OR COMMERCIAL DRIVES)



RESIDENTIAL CURB RAMP TYPE "F"

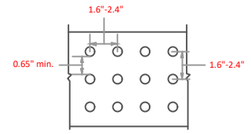


SHARED LANDING AT SIGNALIZED INTERSECTIONS

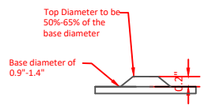
DETAIL 1

Detectable Warning Surface Specifications:

- Must provide a Visual Contrast.
- Raised Tactile surfaces used for way finding.
- Detectable Warning Surface shall be installed in a manner such that the domes are parallel to the direction of pedestrian travel.
- Install the Detectable Warning Surface beginning at back of curb.



PLAN
(Enlarged)



ELEVATION
(Enlarged)

DETECTABLE WARNING SURFACE PATTERN LAYOUT

The City of Oklahoma City
Public Works Department
Engineering Division

APPROVED BY: ERIC J. WENGER, P.E. CITY ENGINEER
DATE: 8-23-23
DRAWN: TVN
DATE:

ADA CURB RAMP DETAILS RESIDENTIAL STREETS COMMERCIAL DRIVES

Drawing Number
D-700
C

Sidewalk Notes:

1. All work must meet current Americans with Disabilities Act (ADA) requirements.

2. Minimum sidewalk width shall be as follows: residential, 5'-0" at curb, 4'-0" at property line; commercial, 6'-0" at curb, 5'-0" at property line.

3. Sidewalk cross slope shall be a maximum of 2% and a minimum of 1/2% cross slope.

4. Whenever the width of the sidewalk is less than 5'-0", a 5' x 5' passing area with a maximum 2% slope and minimum 1/2% slope in any direction at intervals of 200' shall be installed.

5. Whenever changing direction in a sidewalk, install a 5' x 5' passing area with maximum 2% slope and minimum 1/2% slope in any direction.

6. Objects such as tree branches, signs, water fountains, etc. shall not protrude into the sidewalk more than 4" at the heights between 27" and 80".

7. Sidewalk shall be constructed of 4" thick concrete with medium broom finish on top of 2" of 1.5" crusher run, ⅜" rock screenings, 1.5" clean recycled concrete or approved equal. Developers of Residential Neighborhoods are allowed the usage of 2" of sand instead of the required crusher run.

8. All obstructions into the walk, such as power poles, hydrants, sign posts, etc. must have at least 48" of clear travel space around the obstruction.

9. Sidewalk running grade shall not exceed 5% unless the sidewalk is contained in the R-O-W and then cannot exceed the general grade established for the adjacent street.

General Notes:

10. Any deviation from the standard curb-ramp plans shall be approved by the City Engineer or his designee on a case by case basis.

11. The standard curb-ramp drawings supersede all previous drawings and shall be a part of the new curb ramp standard drawings.

12. All alternate ramps shall be approved by the City Engineer or his designee prior to construction.

13. Seal all sawed joints on sidewalks, landings and ramps. Width of expansion joint shall be ½"

Pedestrian Signals Notes:

14. Push button must be located adjacent to and accessible from a landing.

15. A clear space of 30" x 48" minimum dimension must be next to the push button.

16. Maximum reach to a push button can not exceed 10".

Curb Ramp Notes:

17. A curb ramp is defined as the entire concrete surface which includes the ramp and flared sides. The minimum 4' wide center portion, including the Detectable Warning Surface, shall have a sloped plane of 8.33% (1:12) maximum, and cross slope, not to exceed 2%. The "flared side" of the ramp shall lie on a slope of 10% (1:10) maximum measured along the curb. The curb ramp shall have a surface tolerance of ¼" per 10 foot straight edge maximum.

18. The ramp center line and path of travel should be parallel to the sidewalk whenever possible. The full width of the ramp shall lie within the crosswalk area. It is desirable that the location of the ramp be as close as possible to the center of the crosswalk.

19. Curb Ramps shall not exceed 15' in length unless otherwise directed by the City Engineer.

20. Existing utility boxes and covers shall be adjusted flush with the curb ramp surface and shall not straddle any change in plane or material. Existing utility box frames and covers shall have matching surface finish on the entire frame and cover. New utility boxes shall not be placed within the accessible pathway.

21. The surface of the curb ramp and Detectable Warning Surface material shall be stable, firm and slip resistant. The concrete curb ramp surface shall be medium broom finished transverse to the axis of the ramp and shall be slightly rougher than the finish of the adjacent sidewalk surface.

22. A level landing 5'-0" deep, with a 2% maximum slope in each direction shall be provided at the upper end of each curb ramp to allow safe egress from the ramp surfaces. The width of the level landing shall be at least as wide as the width of the ramp. A clear space of a minimum of 30" wide x 48" deep shall be provided at pedestrian push buttons at signalized crossings. This space may be contained in the landing.

23. Existing vertical utility poles or street light poles may be incorporated into the flared sides, if necessary. The vertical obstruction shall be a minimum of 6"away from edge of the ramp. Pedestrian crosswalks push button poles, fire department call boxes and other poles with activated devices, may not be placed in the curb-ramp at any time. No new vertical obstructions may be located in the curb ramp or the accessible pathway.

24. Ramp opening shall be the same width as the sidewalk up to 6'-0" wide.

25. Curb Ramp shall be constructed with 8" thick concrete at collector and arterial streets; and with 6" thick concrete at residential streets. All on top of 2" of 1.5"crusher run, ⅜" rock screenings, 1.5" recycled concrete or approved equal. The 6" thick concrete will extend the maximum length of 6' from the face of curb and the 8" thick concrete will extend the maximum length of 8' from the face of curb. The remainder of the ramp will be constructed of 4" thick concrete and paid as sidewalk. All landings and incidental connections will be paid as sidewalk and will be constructed of 4" thick concrete. A 6" concrete curb will be constructed on each side of the ramp where 1:10 concrete slopes are not used.

26. For new construction all Detectable Warning Surfaces are to be set in concrete. Surface applied domes require special written approval by the City Engineer.

27. Curb ramp pay items shall only be used at street intersections, signalized driveways or alleys with tactile domes.

28. Where feasible, ramps shall align in such a way that the pedestrian travel path shall provide a direct path to corresponding ramp. Ramps that require pedestrians to change direction of travel in the street or driveway shall require City Engineer approval.

29. Where a ramp ties into an existing curb and gutter, the entire curb and gutter shall be removed and replaced extending 2 feet past the width of the ramp on each side.

The City of Oklahoma City
Public Works Department
Engineering Division

APPROVED BY: ERIC J. WENGER, P.E. CITY ENGINEER
DATE: 8-23-23
DRAWN: TVN
DATE:

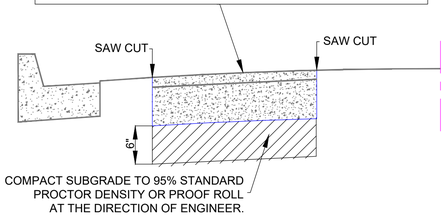
ADA CURB RAMP DETAILS

Drawing Number
D-700
D

PAVEMENT REPAIR DETAILS

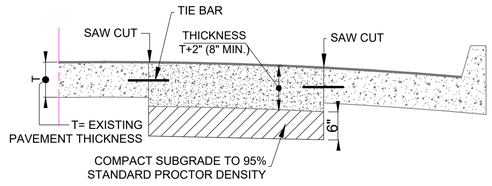
HOT MIX ASPHALT (HMA) PAVING

5" TYPE S3 AND 1.5" S5 HMA FOR RESIDENTIAL STREETS
7.5" TYPE S3 AND 1.5" S5 HMA FOR ARTERIAL STREETS



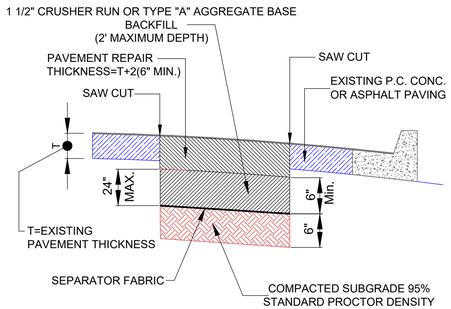
PAVEMENT REPAIRS INCLUDES REMOVAL OF ASPHALT PAVEMENT OR PCC DEPENDING ON EXISTING CONDITIONS, SAW CUT SHOULD BE INCLUDED IN PRICE.
USE HMA AS SHOW ABOVE, OR REPLACE WITH 2" TYPE "S-5" HMA ON 6" H.E.S. CLASS AA (4000 PSI) P.C. CONCRETE (8" MIN.) IF HMA SURFACE IS 6 MONTH OLD OR LESS.

P.C. CONCRETE PAVING



REMOVE EXISTING CONCRETE PAVING, TO BE INCLUDED IN PRICE PARTIAL PANEL REPLACEMENT NOT PERMITTED, SAW CUT SHOULD BE INCLUDED IN PRICE.
WHEN UTILITY TRENCH IS THE REASON FOR PAVEMENT REPAIR, SEE TYPICAL PERMANENT REPAIR SECTION FOR DETAILS ON REINFORCING STEEL, BACKFILL MATERIAL, AND TRENCH WIDTH, ETC.
TIE BARS TO BE 1" DIA. DEFORMED BARS (1 $\frac{1}{4}$" DIA. FOR PAVEMENT 8"THICK AND GREATER) 18" LENGTH AND SPACED AT 18" CENTERS. ANCHORED WITH EPOXY.
FOR TRANSVERSE JOINTS, USE SMOOTH BARS WITH SAME DIMENSIONS AS SHOWN ABOVE. ONLY ONE END ANCHORED WITH EPOXY.
CONCRETE PANEL TO BE DOUBLE SAWED 6" APART TO PROTECT THE PAVEMENT EDGE DURING EXCAVATION.

BASE REPAIR DETAIL



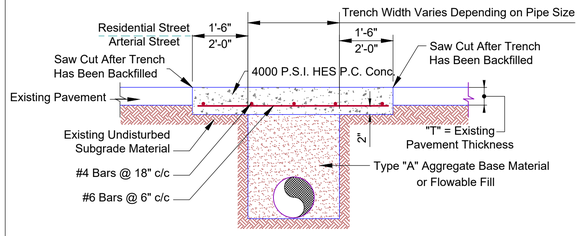
NOTE:

1 - EXCAVATION AND AGGREGATE BASE BACKFILL BEGINS AT THE BOTTOM OF THE EXISTING PAVEMENT AND EXTENDS DOWNWARD TO A MAXIMUM DEPTH OF 2 FEET.

2 - THE CONTRACTOR SHALL NOT BEGIN THE BACKFILL OPERATION UNTIL MEASUREMENT OF THE EXCAVATION HAS BEEN MADE AND AGREED UPON BY THE ENGINEER AND THE CONTRACTOR.

3 -BACKFILL MATERIAL WILL BE PLACED IN LIFTS NOT TO EXCEED SIX INCHES (6") AND COMPACTED TO 95% PROCTOR DENSITY.

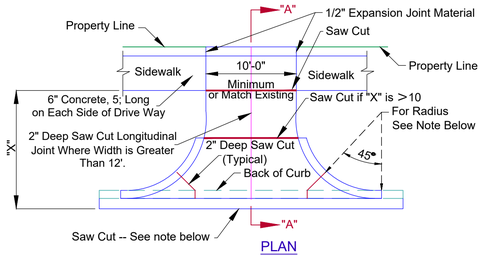
4 - SUBGRADE COMPACTION SAW CUT AND SEPARATOR FABRIC WILL NOT BE PAID FOR SEPARATELY. INCLUDE COST IN PRICE BID FOR OTHER ITEMS OF WORK.



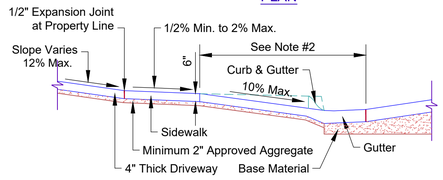
1- Aggregate Base To Be Compacted 95% Standard Proctor Density In 6" Lifts.
2- The City Engineer May Require Full PC Concrete Panel Repalcement Depending On Street Location And Functional Classification.
3- Thickness of Repair Shall Be "T" + 2", But Shall Not Be Less Than 10 Inches.
4- The Cost of Saw Cut, Removal, Rebar and Placement of Compacted Back Fill To Be Included in Price Bid per Square Yard of Repair Unless Otherwise Stated in The Contract Documents.

TYPICAL PERMANENT PAVING CUT REPAIR SECTION FOR CITY STREET

DRIVEWAY DETAIL



PLAN



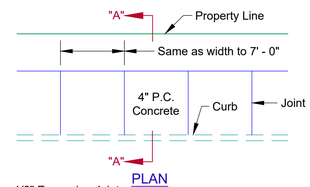
SECTION "A - A"

NOTES:

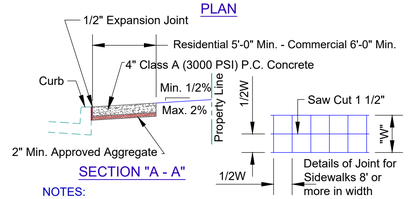
1. A 5' - 0" minimum radius is approved for one & two family residences not abutting a limited access or major street. All other Driveways will have a 10' 0 " minimum radius.
2. The Driveway Contractor shall saw cut & remove the complete Curb and Gutter section. Saw cuts shall be 2" or 1/3 the depth of the gutter, whichever is greater, include the top & face of curb as well as the gutter, be made prior to the removal of concrete, and be full depth for removal and 2" or $\frac{1}{3}$ the depth for crack control, whichever is greater.
3. If a gutter holds water prior to any construction by driveway Contractor, he should notify the City Engineer of the situation before doing any work. The completed driveway work will not be accepted if the gutter holds water due to poor construction by the Contractor.
4. It is recognized that this driveway detail will not cover every possible situation encountered in construction. Additional expansion joints will be required as needed.
5. Clean and seal all joints and saw cuts in accordance with standard specifications.
6. Longitudinal and Transverse Joints, required for drives 12' wide & over. Saw cut 2" or 1/3 depth and fill with silicone sealant.
7. Do not turn radius in front of adjacent property without written permission from adjacent property owner.
8. When connecting a new sidewalk to an existing steep driveway, which cannot be made ADA compliant, the transition panel on each side of the driveway shall not be more than 5' in length, unless approved by the engineer.

DETAILS FOR SIDEWALK

LOCATED AT CURB



PLAN



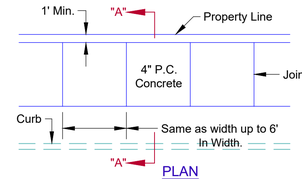
SECTION "A - A"

NOTES:

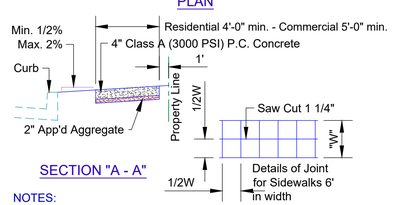
1. 1/2" x 4" premolded expansion material around Power Poles or other structures in walk, with at least 36" of clear travel space.
2. Expansion joints maximum distance = 100', use 1/2" x 4" premolded expansion material.
3. Transverse contraction joints maximum distance = 5', saw cut or Tool 1 $\frac{1}{4}$" deep.
4. Saw cut joints within 24 hours or 12 hours if temperature is above 85°F.
5. Use 1/2" x 4" premolded expansion joint behind curb or attached to curb.
6. Medium broom finish (transverse).
7. Use edger tool on all edges.

DETAILS FOR SIDEWALK

LOCATED AWAY FROM CURB



PLAN

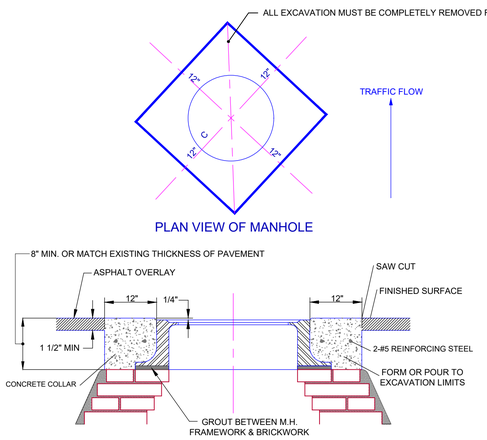


SECTION "A - A"

NOTES:

1. Place 1/2" premolded expansion material around Power Poles or other structures in walk, with at least 36" of clear travel space.
2. Expansion joints maximum distance = 100', use 1/2" x 4" premolded expansion material.
3. Transverse Contraction joints maximum distance = 5', saw cut or tool 1 $\frac{1}{4}$" deep.
4. Saw cut joints within 24 hours or 12 hours if temperature is above 85°F.
5. Medium broom finish (transverse).
6. Use edger tool on all edges.

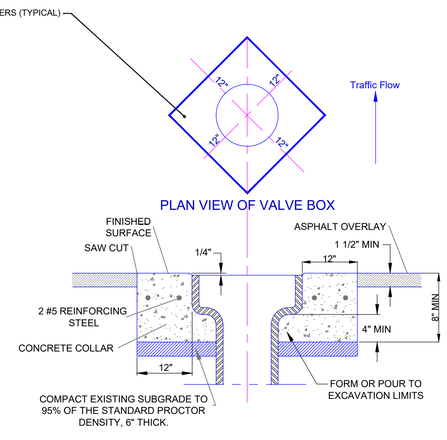
ADJUSTMENT OF MANHOLE TO GRADE



NOTE:

1. THE MANHOLE FRAME SHALL BE SET TO GRADE AND CONCRETE COLLAR POURED AFTER SURFACING OPERATIONS. EXISTING RING AND LID MUST BE REPLACED WITH DEETER FOUNDRY, INC. SHOWN ON DRAWING NUMBER 1197-0110 AND 1197-2100 RESPECTIVELY, OR APPROVED EQUAL. THE TOP OF THE RING AND LID MUST MATCH EXACTLY THE EXISTING PAVEMENT GRADE, BOTH LONGITUDINALLY AND TRANSVERSELY.
2. CONCRETE COLLAR SHALL BE H.E.S. CLASS AA 4000 PSI P.C. CONCRETE (3000 PSI IN 24 HOURS). CONCRETE MUST BE THOROUGHLY VIBRATED. CONTRACTOR MUST CALL FOR INSPECTION BEFORE PLACING CONCRETE.
3. THE WORK SHALL BE PROTECTED BY BARRIERS AND LIGHTS MEETING MUTCD AND SHALL NOT BE REMOVED FOR A PERIOD OF 24 HOURS AFTER THE POUR IS MADE.
4. SUBGRADE OUTSIDE THE LIMITS OF THE MANHOLE CONE, MUST BE COMPACTED WITH MECHANICAL COMPACTOR SUCH AS THE "WACKER PACKER" BEFORE PLACING CONCRETE. THE SUBGRADE MUST BE FIRM AND UNYIELDING.
5. ALL EXCAVATION AT THE CORNERS OF THE CONCRETE COLLAR MUST BE REMOVED SO THAT IT IS A MINIMUM OF 8" THICK FOR THE FULL EXTENT OF THE COLLAR.

ADJUSTMENT OF VALVE BOX TO GRADE



NOTE:

1. THE VALVE BOX SHALL BE SET TO GRADE AND CONCRETE COLLAR POURED AFTER RESURFACING OPERATIONS. THE TOP OF THE VALVE BOX MUST MATCH EXACTLY THE EXISTING PAVEMENT GRADE, BOTH LONGITUDINALLY AND TRANSVERSELY.
2. CONCRETE BASE SHALL BE H.E.S. CLASS AA 4000 PSI P.C. CONCRETE (3000 PSI IN 24 HOURS). CONCRETE MUST BE THOROUGHLY VIBRATED. CONTRACTOR MUST CALL FOR INSPECTION BEFORE PLACING CONCRETE.
3. THE WORK SHALL BE PROTECTED BY BARRIERS AND LIGHTS MEETING MUTCD AND SHALL NOT BE REMOVED FOR A PERIOD OF 24 HOURS AFTER THE POUR IS MADE.
4. SUBGRADE OUTSIDE THE LIMITS OF THE MANHOLE CONE, MUST BE COMPACTED WITH MECHANICAL COMPACTOR SUCH AS THE "WACKER PACKER" BEFORE PLACING CONCRETE. THE SUBGRADE MUST BE FIRM AND UNYIELDING.
5. ALL EXCAVATION AT THE CORNERS OF THE CONCRETE COLLAR MUST BE REMOVED SO THAT IT IS A MINIMUM OF 8" THICK FOR THE FULL EXTENT OF THE COLLAR

The City of Oklahoma City
Public Works Department
Engineering Division

APPROVED BY:
ERIC J. WENGER, P.E.
CITY ENGINEER

DATE: 02-21-20

DRAWN: TVN

DATE: 02-21-20

STANDARD DETAILS

Drawing Number
D-800

REVISION 2-2020

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