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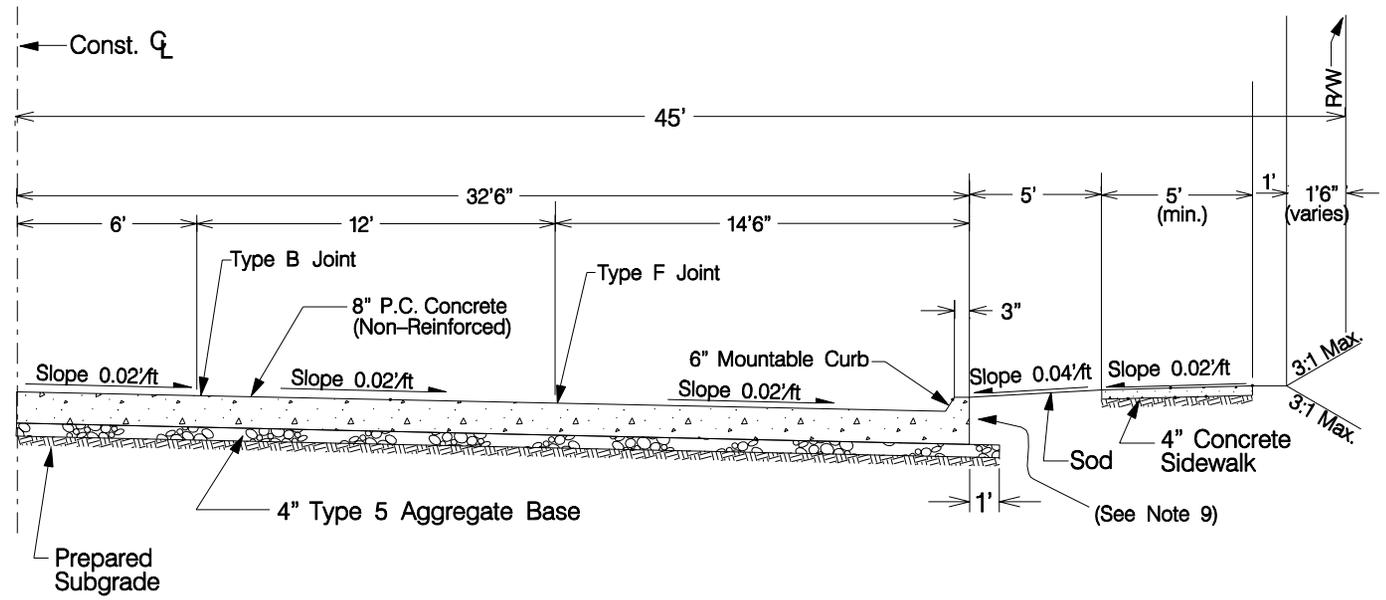
## 100.00 LISTING OF STANDARD DRAWINGS

<b>Drawing Number</b>	<b>Drawing Description</b>	<b>Revision Date</b>
S20.10	5 Lane Arterial Typical Section (90' ROW, 65' Pavement)	
S20.11	4 Lane Arterial Typical Section (80' ROW, 53' Pavement)	
S20.12	Arterial Exclusive Left Turn Lane	
S20.13	Superelevation (Straight Line Method)	
S20.14	Street Intersection Platform	
S20.20	3 Lane Major Collector Typical Section (65' ROW, 41' Pavement)	
S20.21	Major Collector Exclusive Right Turn Lane	
S20.22	Major Collector Exclusive Left Turn Lane	
S20.30	Residential 3 Lane Minor Collector Typical Section (60' ROW, 36' Pavement)	
S20.31	Residential 2 Lane Local Typical Section (50' ROW, 26' Pavement)	
S20.32	Residential 2 Lane Local Temporary Turnaround	
S20.33	Residential Minor Collector Temporary Turnaround	
S20.34	Residential Cul-de-Sac Detail	
S20.35	Residential Minor Collector Exclusive Right Turn Lane	
S20.36	Residential Minor Collector Exclusive Left Turn Lane	
S20.40	Non-Residential 2 Lane Minor Collector Typical Section (65' ROW, 41' Pavement)	
S20.41	Non-Residential 2 Lane Local Typical Section (50' ROW, 28' Pavement)	
S20.42	Non-Residential Minor Collector Temporary Turnaround	
S20.43	Non-Residential 2 Lane Local Temporary Turnaround	
S20.44	Non-Residential Cul-de-Sac Detail	
S40.10	Sidewalks, Street Name Signs and Monuments	
S40.11	Street Name Signs, Details and Locations	
S40.12	6" Raised Doweled-On Concrete Median, Existing Pavement Only	
S40.13	Concrete Traffic Barrier Types A & B	
S40.14	Concrete Traffic Barrier Types A & B Typical Location Details	
S40.15	Concrete Traffic Barrier, Temporary Traffic Barrier, Precast Connecting Details	
S40.17A	Type E Guard Rail	
S40.17B	Guard Rail, Typical Locations	
S40.18A	Guard Rail	
S40.18B	Guard Rail	

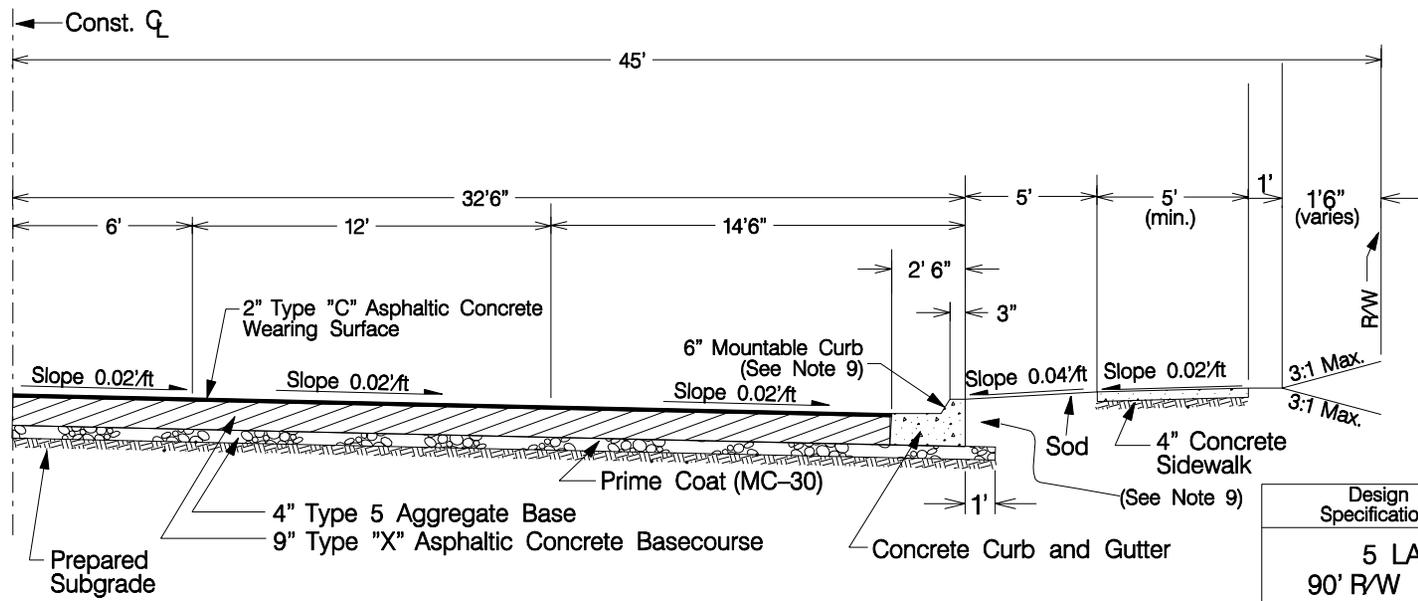


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S40.18C	ET2000 Details
S40.19	Guard Rail, End Anchor Details
S40.20	Grated Trough (Cast-Iron)
S40.21	Joints and Curbs Details
S40.22A	Integral Rolled Curb and Concrete Pavement Typical Section & Details
S40.22B	Mountable Curb & Concrete Pavement Typical Section & Details
S40.23	Pavement Lugs
S40.24	Pavement Lug Locations
S40.40	Residential Concrete Entrances
S40.41	Commercial Concrete Entrances
S40.42A	Right In-Right Out Channelized Street or Commercial Entrance
S40.42B	Right In-Right Out Channelized Street or Commercial Entrance
S40.43	Interim Right In-Right Out Channelized Street or Commercial Entrance
S40.44	4" Raised Concrete Channelization Island with Curb Ramps
S40.45	Guidelines for Joint Filler Installation
S40.46	Median and Intersection Configuration
S40.60	Concrete Sidewalk and Curb Ramps
S40.61	Concrete Sidewalk and Curb Ramps
S40.62	Concrete Sidewalk and Curb Ramps
S40.63	Concrete Sidewalk and Curb Ramps
S60.00	Guidelines for Pavement Marking & Lane Striping



**RIGID PAVEMENT**



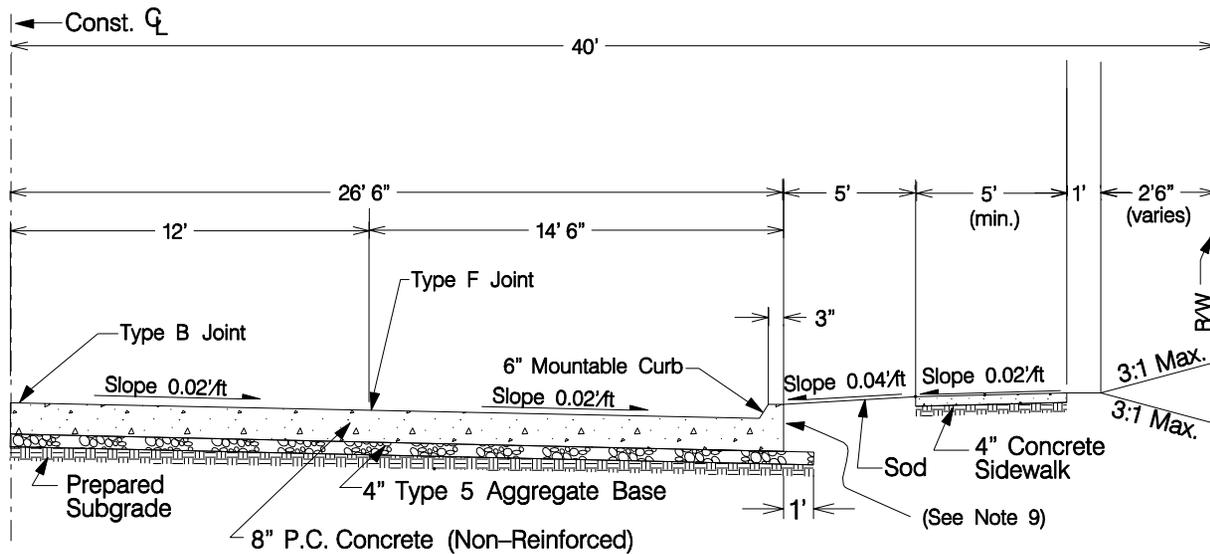
**FLEXIBLE PAVEMENT**

**GENERAL NOTES**

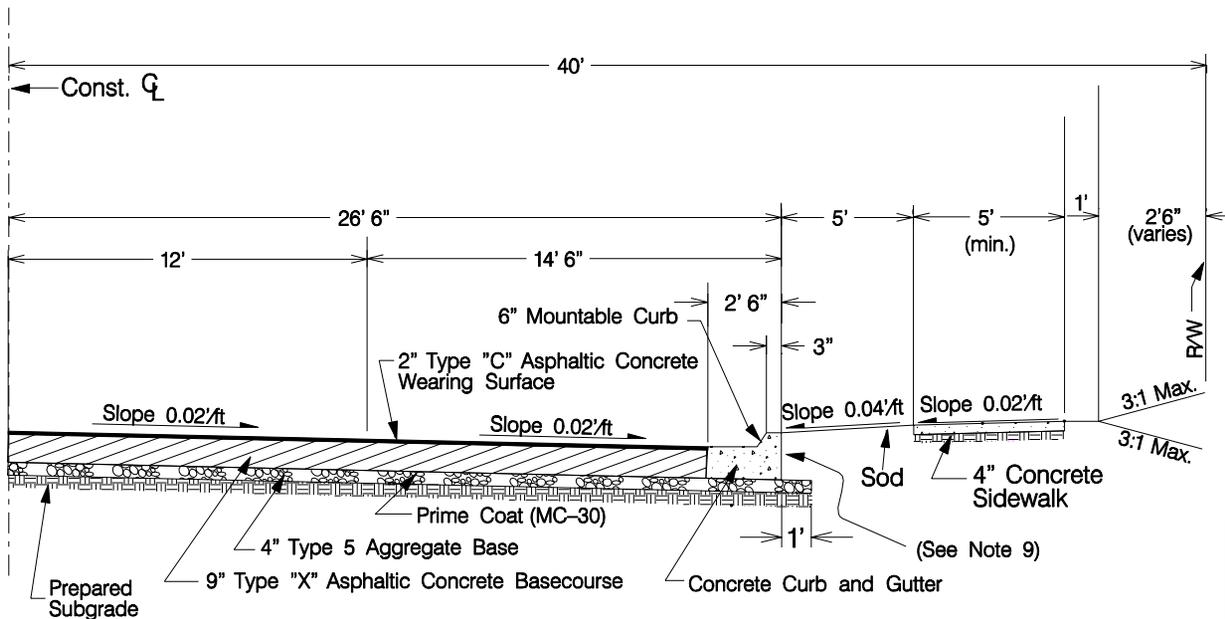
1. Do not scale drawing. Follow dimensions.
2. Sections are symmetrical about construction centerline.
3. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to Standard Drawings S40.21, S40.22A, and S40.22B.
4. All necessary pavement markings shall be as required by the City. For details, refer to "Guidelines for Pavement Markings and Lane Striping" Standard Drawing S60.00.
5. Sections shown may not apply at intersections.
6. Sidewalk thickness increases to 6 inches at residential driveways and to 7 inches at commercial driveways. See Standard Drawings S40.16, S40.40, and S40.41.
7. Additional pavement thickness, reinforcement and/or base is required when there is significant usage by heavy vehicles or high traffic volumes.
8. The types of jointing to be used in construction of the pavement shall be decided in the field by the Engineer. The transverse and longitudinal joints shall conform to the City's specifications for the construction method being used by the Contractor.
9. Refer to Standard Drawing S40.21.
10. Refer to Standard Drawings S40.60 through S40.63 for sidewalk details.

Design Criteria and Standard Specifications for Street Construction
5 LANE ARTERIAL 90' R/W      65' PAVEMENT
Standard Drawing S20.10





### RIGID PAVEMENT

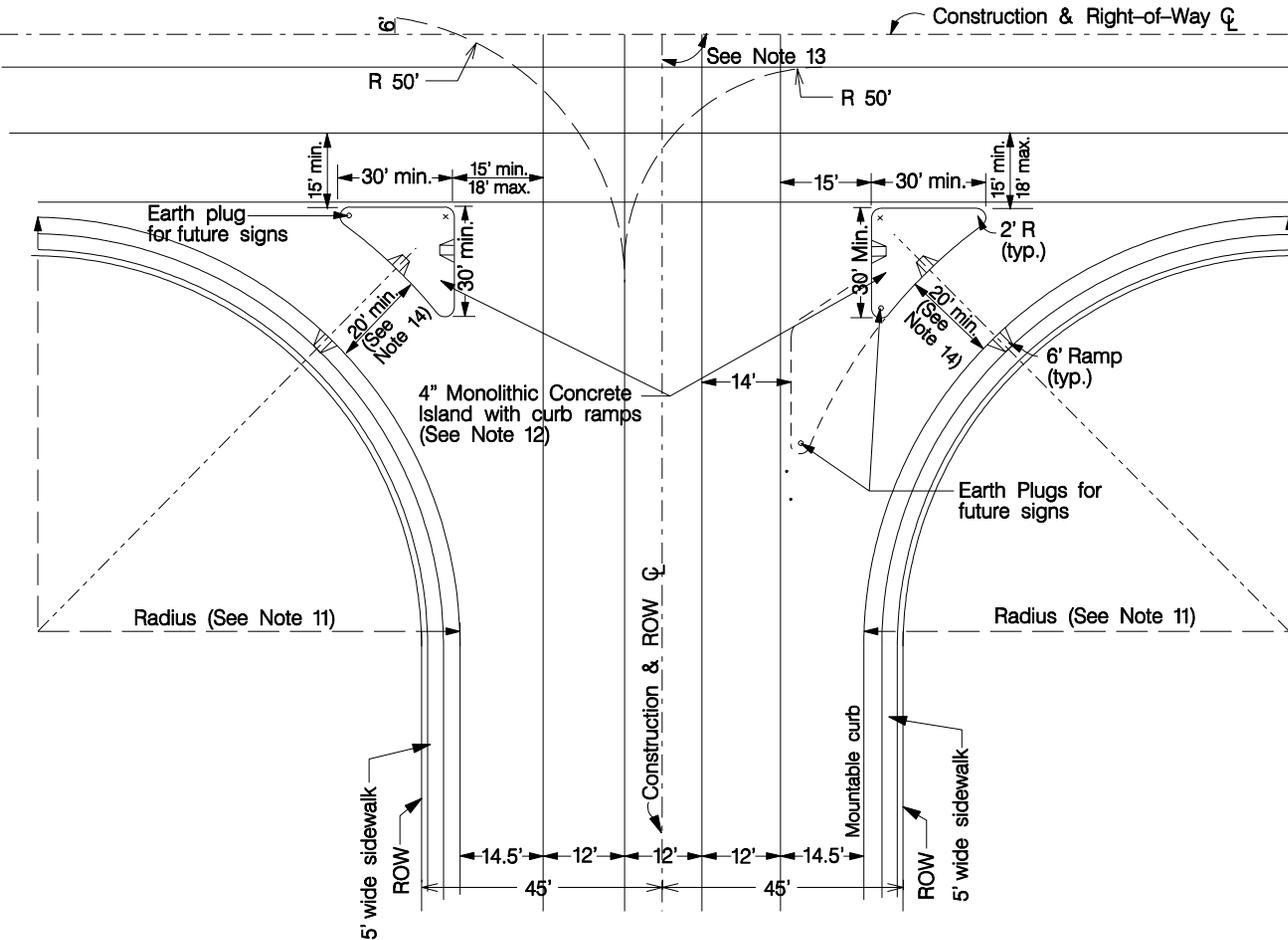


### FLEXIBLE PAVEMENT

### GENERAL NOTES

1. Do not scale drawing. Follow dimensions.
2. Sections are symmetrical about construction centerline.
3. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to Standard Drawings S40.21, S40.22A, and S40.22B.
4. All necessary pavement markings shall be as required by the City. For details, refer to "Guidelines for Pavement Markings and Lane Striping" Standard Drawing S60.00.
5. Sections shown may not apply at intersections.
6. Sidewalk thickness increases to 6 inches at residential driveways and to 7 inches at commercial driveways. See Standard Drawings S40.16, S40.40, and S40.41.
7. Additional pavement thickness, reinforcement and/or base is required when there is significant usage by heavy vehicles or high traffic volumes.
8. The types of jointing to be used in construction of the pavement shall be decided in the field by the Engineer. The transverse and longitudinal joints shall conform to the City's specifications for the construction method being used by the Contractor.
9. Refer to Standard Drawing S40.21.
10. Refer to Standard Drawings S40.60 through S40.63 for sidewalk details.

Design Criteria and Standard Specifications for Street Construction	City of St. Peters
4 LANE ARTERIAL 80' R/W      53' PAVEMENT	
Standard Drawing S20.11	



### GENERAL NOTES

1. Do not scale drawing. Follow dimensions.
2. Sections are symmetrical about construction centerline.
3. For roadway cross slopes, pavement types and thickness refer to standard typical sections.
4. Driveway configurations are shown on Standard Drawings S40.40 and S40.41.
5. All necessary pavement markings shall be as required by the City. For details, refer to "Guidelines for Pavement Markings and Lane Striping" Standard Drawing S60.00.
6. Sidewalk thickness increases to 6" at Residential Driveways and 7" at Commercial Driveways. See Standard Drawings S40.40 and S40.41.
7. All catch basins shall be separated from the pavement & curb by expansion joint material extending completely through curb & slab. Manhole castings within the pavement limits shall be boxed in accordance with MSD guidelines.
8. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to Standard Drawings S40.21, S40.22A, and S40.22B.
9. When a joint falls within 5 feet of, or contacts basins, manholes, or other structures, shorten one or more panels either side of opening to permit the joint to fall on the round and at or between corners of rectangular structures.
10. Transverse or longitudinal construction joints in slip-formed pavements may be made with a groover or tool, if such device has been approved in advance by the City Engineer.
11. Each corner radius shall be as required by the geometric layout shown and increased to the nearest 5-foot dimension. The minimum acceptable corner radius shall not be less than 45 feet.
12. For detail of channelization islands and curb ramps in channelization islands refer to Standard Drawings S40.42A, S40.42B, and S40.43 through S40.44.

13. The intersection angle shall be designed at 90 degrees unless otherwise approved by the City.
14. Greater channelization lane widths may be required if an intersection angle less than 90 degrees is approved by the City Engineer.
15. When the lane usage on an approach to an intersection is subject to change, a temporary portion of channelization island may be required. Each temporary portion of a channelization island shall consist of P.C. concrete (non-reinforced) installed without dowel bars on concrete pavement.
16. This detail is to be used in conjunction with Standard Drawings S20.10 and S20.11.

Design Criteria and Standard Specifications for Street Construction	City of St. Petersburg
<b>ARTERIAL EXCLUSIVE LEFT TURN LANE</b>	
Standard Drawing <b>S20.12</b>	

**SUPERELEVATION DATA**

DESIGN SPEED		V=30 M.P.H. OR LESS			V=40 M.P.H.			V=50 M.P.H.		
DEGREE OF CURVE	RADIUS (FT.)	S.E.	2-LANES L (FT.)	4-LANES L (FT.)	S.E.	2-LANES L (FT.)	4-LANES L (FT.)	S.E.	2-LANES L (FT.)	4-LANES L (FT.)
		0°-15'	22,918	NC	0	0	NC	0	0	NC
0°-30'	11,459	NC	0	0	NC	0	0	NC	0	0
0°-45'	7,639	NC	0	0	NC	0	0	NC	150	225
1°-00'	5,730	NC	0	0	NC	125	190	0.20	150	225
1°-30'	3,820	NC	100	150	0.20	125	190	0.24	150	225
2°-00'	2,865	NC	100	150	0.22	125	190	0.27	150	225
2°-30'	2,292	0.20	100	150	0.25	125	190	0.30	150	225
3°-00'	1,910	0.20	100	150	0.27	125	190	0.33	150	225
3°-30'	1,637	0.22	100	150	0.28	125	190	0.35	150	225
4°-00'	1,432	0.24	100	150	0.30	125	190	0.37	150	225
5°-00'	1,146	0.26	100	150	0.31	125	190	0.39	150	225
6°-00'	955	0.28	100	150	0.33	125	190	0.40	150	225
7°-00'	819	0.30	100	150	0.35	125	190			
8°-00'	716	0.31	100	150	0.37	125	190			
9°-00'	637	0.33	100	150	0.39	125	190			
10°-00'	573	0.34	100	150	0.40	125	190			
11°-00'	521	0.35	100	150	0.40	125	190			
12°-00'	477	0.36	100	150						
13°-00'	441	0.37	100	150						
14°-00'	409	0.38	100	150						
16°-00'	358	0.39	100	150						
18°-00'	318	0.40	100	150						
19°-00'	302	0.40	100	150						

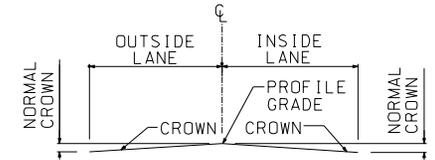
$D_{max.} = 6^{\circ}-00'$

$D_{max.} = 10^{\circ}-00'$

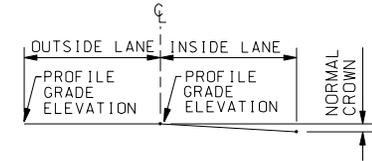
$D_{max.} = 19^{\circ}-00'$

**TABLE NOTES:**

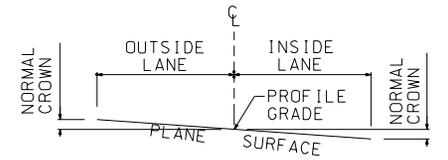
- 1) "NC" DENOTES NORMAL CROSS SLOPE/NORMAL CROWN (0.02 FT./FT.)
- 2) "S.E." DENOTES THE SUPERELEVATION IN PERCENT (%).
- 3) "L" DENOTES THE LENGTH OF SUPERELEVATION TRANSITION.
- 4) "V" DENOTES THE ASSUMED DESIGN SPEED.
- 5) VALUE FOR DEGREE OF CURVE NOT SHOWN IN ABOVE TABLE SHALL BE IDENTICAL TO THOSE FOR THE NEAREST TABULATED CURVE. IN CASE OF TIE, USE VALUES OF NEXT SMALLER DEGREE OF CURVE.



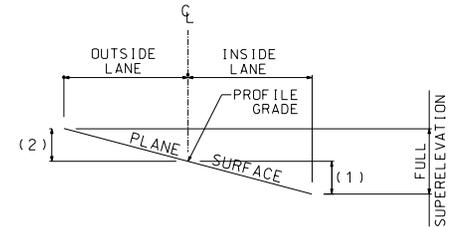
SECTION A-A



SECTION B-B



SECTION C-C

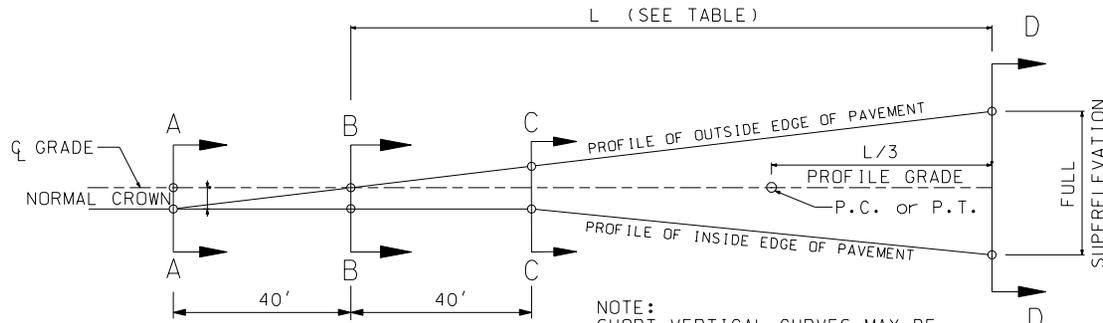


- (1) FULL S.E. FOR 1/2 PAVEMENT WIDTH IF GREATER THAN CROWN SLOPE.
- (2) FULL S.E. FOR 1/2 PAVEMENT WIDTH.

SECTION D-D

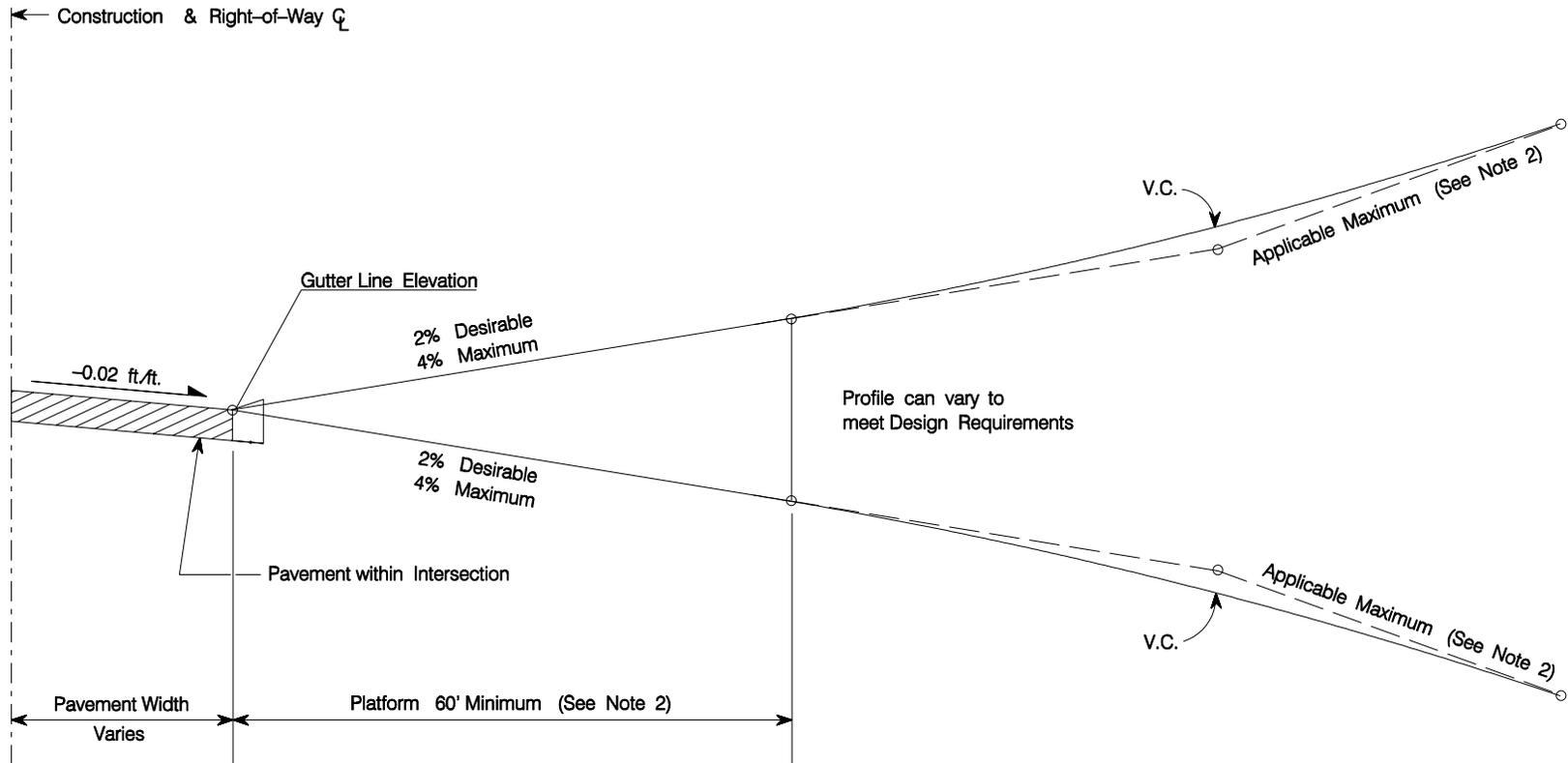
**NOTES:**

1. LENGTHS ROUNDED IN MULTIPLES OF 25' OR 50' PERMIT SIMPLER CALCULATIONS.
2. THE L (FT.) FOR 3 LANE ROADWAY = 1.2 TIMES THE CORRESPONDING LENGTH FOR 2 LANE ROADWAY AND THE L (FT.) FOR 5 LANE ROADWAY = 1.7 TIMES THE CORRESPONDING LENGTH FOR 2 LANE ROADWAY.



NOTE:  
SHORT VERTICAL CURVES MAY BE INSERTED AT POINTS A, B, C, OR D BY EYE ADJUSTMENTS OF STAKES OR FORMS IN THE FIELD.

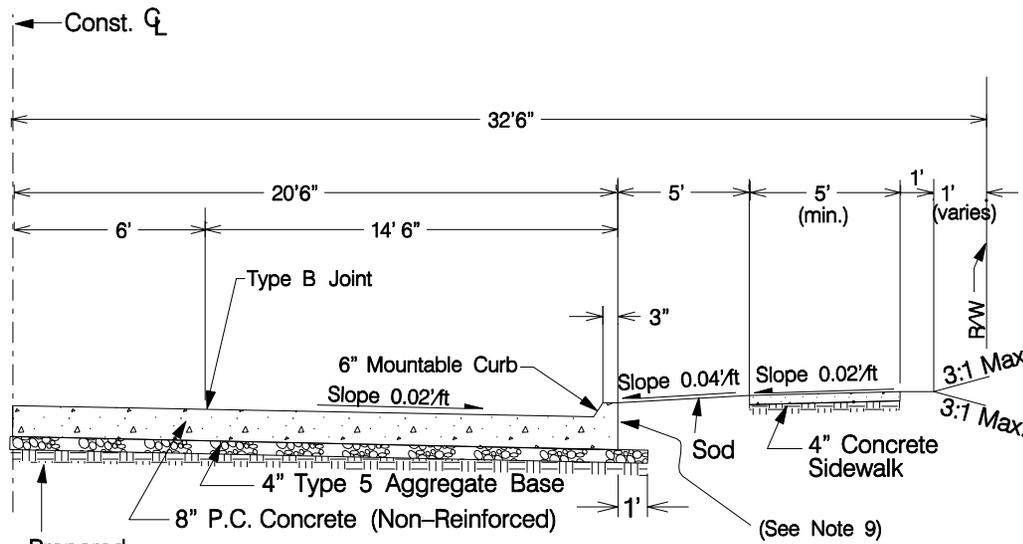
Design Criteria and Standard Specifications for Street Construction	City of St. Peters
<b>Superelevation (Straight Line Method)</b>	
<b>Standard Drawing S20.13</b>	



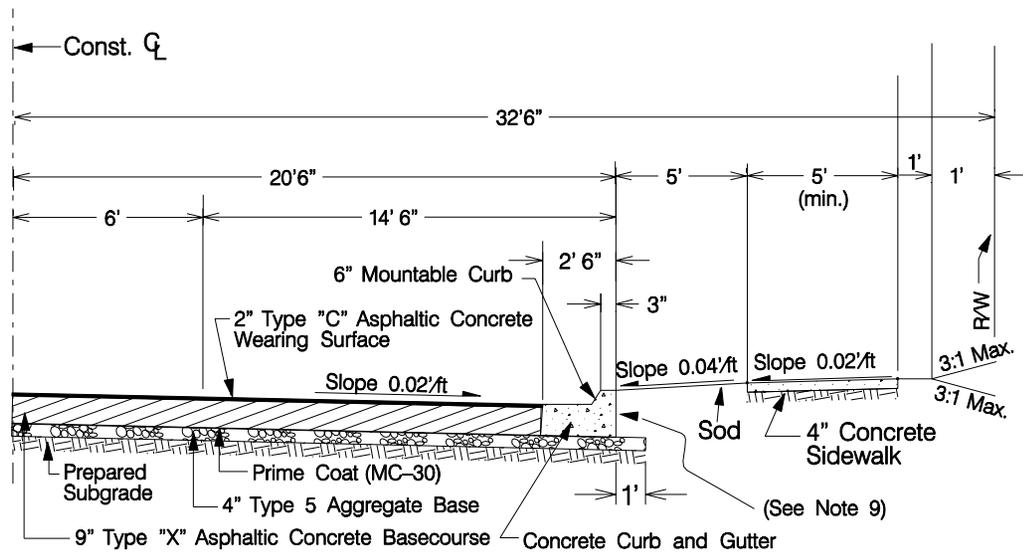
**GENERAL NOTES:**

1. Do not scale drawing. Follow dimensions.
2. 6% or 8% dependant upon street classification. May be varied with Steep Grade Approval only by City Engineer. Special design may be required.
3. See graph "Design Control for Vertical Curves" for lengths of vertical curves. Refer to page 20.50-2 of the City of St. Peters Standard Specifications for Street Construction.

Design Criteria and Standard Specifications for Street Construction	City of St. Peters
Street Intersection Platform	
Standard Drawing S20.14	



**RIGID PAVEMENT**



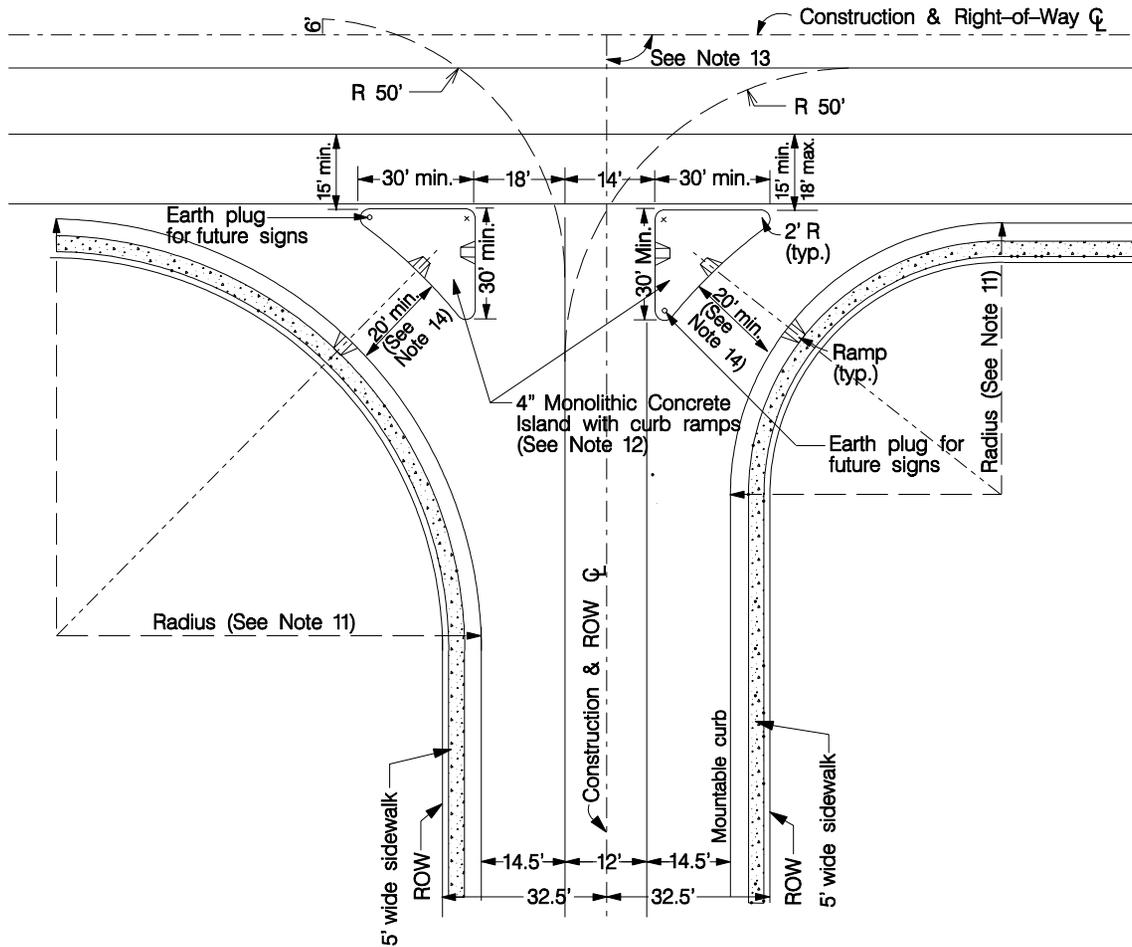
**FLEXIBLE PAVEMENT**

**GENERAL NOTES**

1. Do not scale drawing. Follow dimensions.
2. Sections are symmetrical about construction centerline.
3. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to Standard Drawings S40.21, S40.22A and S40.22B.
4. All necessary pavement markings shall be as required by the City. For details, refer to "Guidelines for Pavement Markings and Lane Striping" Standard Drawing S60.00.
5. Sections shown may not apply at intersections.
6. Sidewalk thickness increases to 6 inches at residential driveways and to 7 inches at commercial driveways. Refer to Standard Drawings S40.40 and S40.41.
7. Additional pavement thickness, reinforcement and/or base is required when there is significant usage by heavy vehicles or high traffic volumes.
8. The types of jointing to be used in construction of the pavement shall be decided in the field by the Engineer. The transverse and longitudinal joints shall conform to the City's specifications for the construction method being used by the Contractor.
9. Refer to Standard Drawing S40.21.
10. Refer to Standard Drawings S40.60-S40.63 for sidewalk details.

Design Criteria and Standard Specifications for Street Construction	City of St. Peters
3 LANE MAJOR COLLECTOR 65' ROW      41' PAVEMENT	
Standard Drawing      S20.20	

NEW	REVISIONS
6-13-2002	



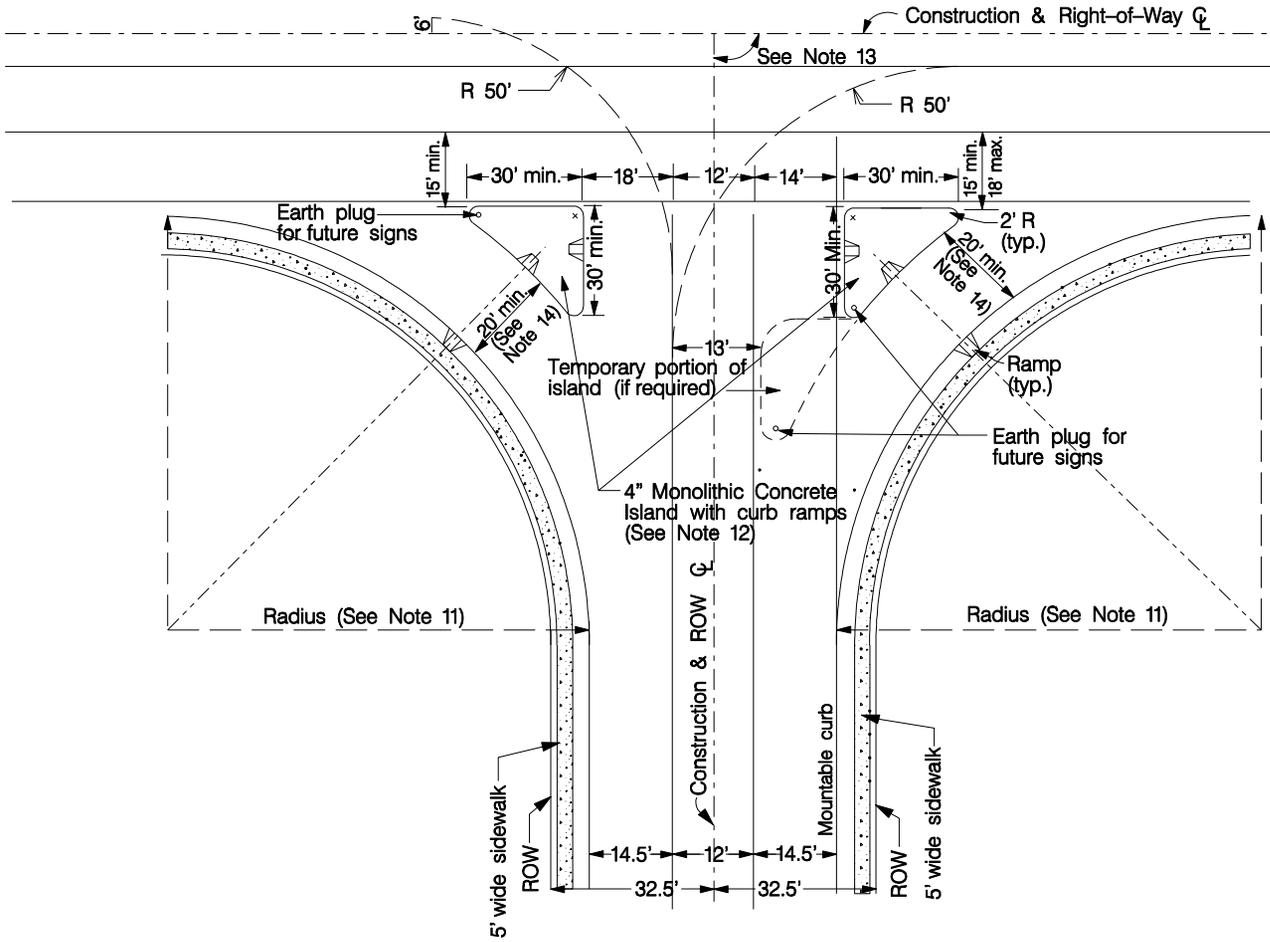
### GENERAL NOTES

1. Do not scale drawing. Follow dimensions.
2. Sections are symmetrical about construction centerline.
3. For roadway cross slopes, pavement types and thickness refer to standard typical sections.
4. Driveway configurations are shown on Standard Drawings S40.40 and S40.41.
5. All necessary pavement markings shall be as required by the City. For details, refer to "Guidelines for Pavement Markings and Lane Striping" Standard Drawing S60.00.
6. Sidewalk thickness increases to 6" at Residential Driveways and 7" at Commercial Driveways. See Standard Drawings S40.40 and S40.41.
7. All catch basins shall be separated from the pavement & curb by expansion joint material extending completely through curb and slab. Manhole castings within the pavement limits shall be boxed in accordance with MSD.
8. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to the Pavement Construction Details Standard Drawings S40.21, S40.22A and S40.22B.
9. When a joint falls within 5 feet of, or contacts basins, manholes, or other structures, shorten one or more panels either side of opening to permit joint to fall on round and at or between corners of rectangular structures.
10. Transverse or longitudinal construction joints in slip-formed pavements may be made with a groover or tool, if such device has been approved in advance by the City Engineer.
11. Each corner radius shall be as required by the geometric layout shown and increased to the nearest 5-foot dimension. The minimum acceptable corner radius shall not be less than 40 feet.
12. For detail of channelization islands and curb ramps in channelization islands refer to the Standard Drawings S40.42A, S40.42B, S40.43, and S40.44.

13. The intersection angle shall be designed at 90 degrees unless otherwise approved by the City.
14. Greater channelization lane widths may be required if an intersection angle less than 90 degrees is approved by the City Engineer.
15. This detail is to be used in conjunction with Standard Drawing S20.20.

Design Criteria and Standard Specifications for Street Construction	City of St. Petersburg
<b>MAJOR COLLECTOR EXCLUSIVE RIGHT TURN LANE</b>	
Standard Drawing	<b>S20.21</b>





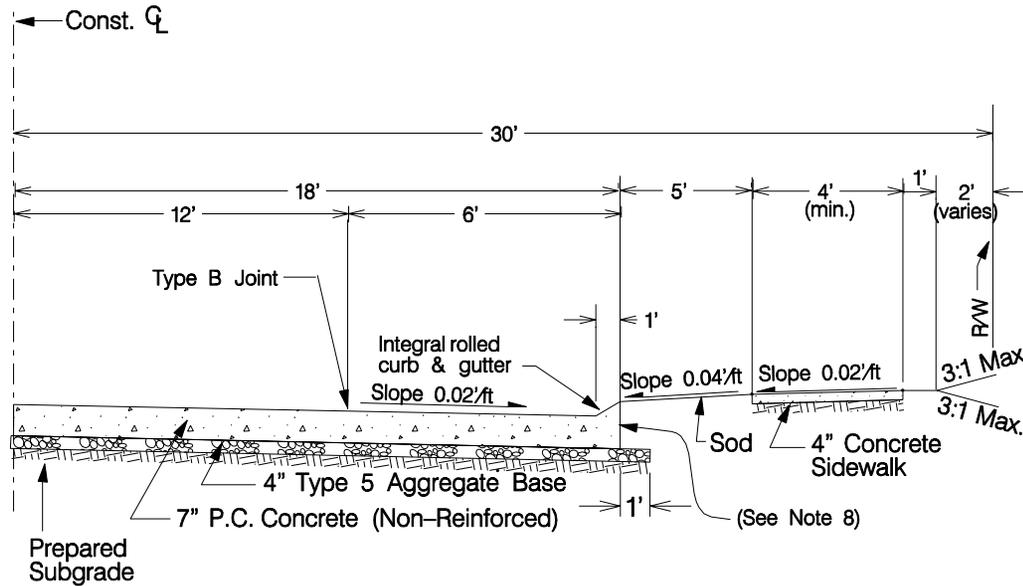
**GENERAL NOTES**

1. Do not scale drawing. Follow dimensions.
2. Sections are symmetrical about construction centerline.
3. For roadway cross slopes, pavement types and thickness refer to standard typical sections.
4. Driveway configurations are shown on Standard Drawings S40.40 and S40.41.
5. All necessary pavement markings shall be as required by the City. For details, refer to "Guidelines for Pavement Markings and Lane Striping" Standard Drawing S60.00.
6. Sidewalk thickness increases to 6" at Residential Driveways and 7" at Commercial Driveways. See Standard Drawings S40.40 and S40.41.
7. All catch basins shall be separated from the pavement & curb by expansion joint material extending completely through curb & slab. Manhole castings within the pavement limits shall be boxed in accordance with MSD.
8. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to Standard Drawings S40.21, S40.22A and S40.22B.
9. When a joint falls within 5 feet of, or contacts basins, manholes, or other structures, shorten one or more panels either side of opening to permit joint to fall on round and at or between corners of rectangular structures.
10. Transverse or longitudinal construction joints in slip-formed pavements may be made with a groover or tool, if such device has been approved in advance by the City Engineer.
11. Each corner radius shall be as required by the geometric layout shown and increased to the nearest 5-foot dimension. The minimum acceptable corner radius shall not be less than 40 feet.
12. For detail of channelization islands and curb ramps in channelization islands refer to Standard Drawings S40.42A, S40.42B, S40.43, and S40.44.
13. The intersection angle shall be designed at 90 degrees unless otherwise approved by the City.

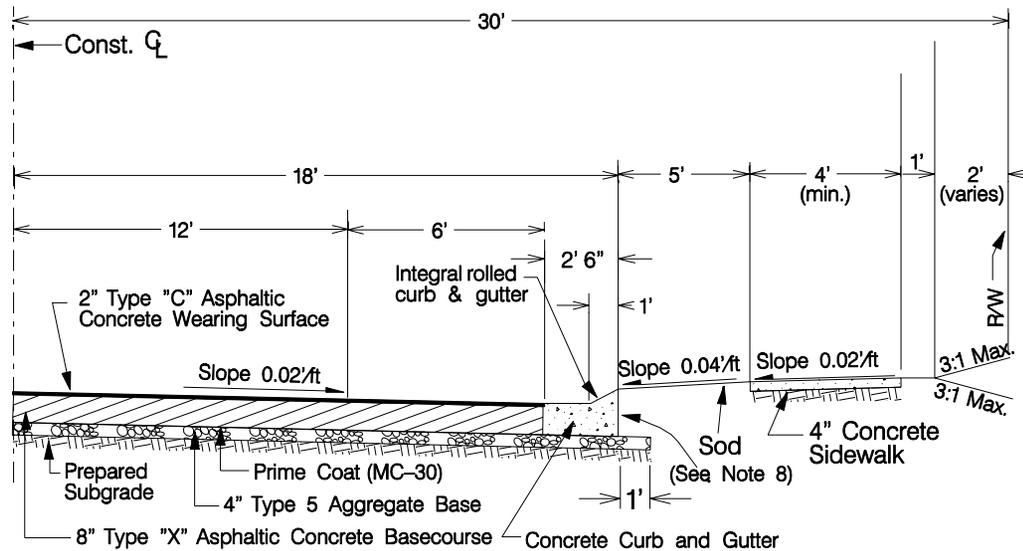
14. Greater channelization lane widths may be required if an intersection angle less than 90 degrees is approved by the City Engineer.

15. This detail is to be used in conjunction with Standard Drawing S20.20.

Design Criteria and Standard Specifications for Street Construction	City of St. Peters
<b>MAJOR COLLECTOR EXCLUSIVE LEFT TURN LANE</b>	
Standard Drawing <b>S20.22</b>	



### RIGID PAVEMENT



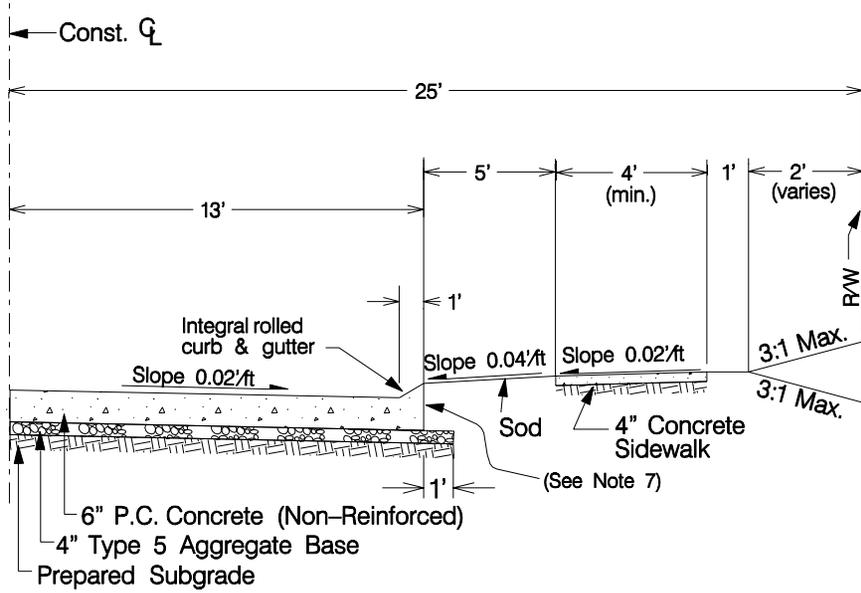
### FLEXIBLE PAVEMENT

### GENERAL NOTES

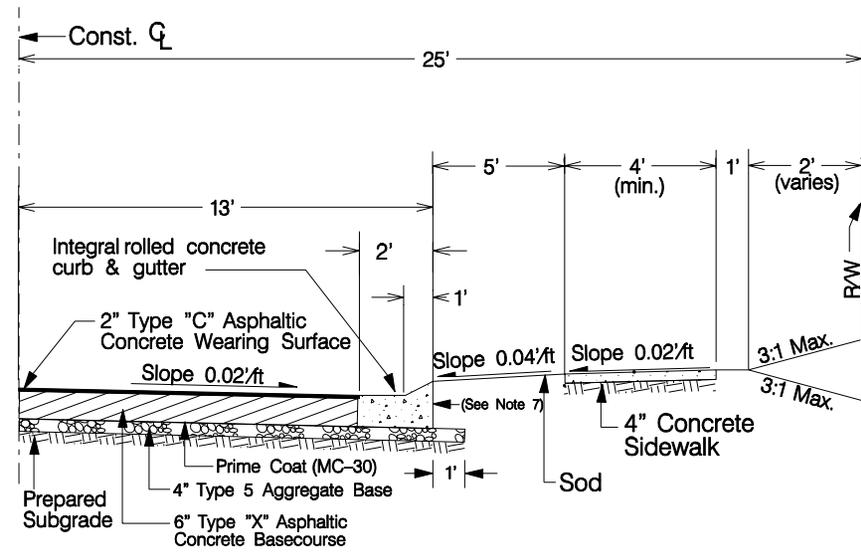
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2. Sections are symmetrical about construction centerline.
3. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to Standard Drawings S40.21, S40.22A and S40.22B.
4. All necessary pavement markings shall be as required by the City. For details, refer to "Guidelines for Pavement Markings and Lane Striping" Standard Drawing S60.00.
5. Sections shown may not apply at intersections.
6. Sidewalk thickness increases to 7" at residential driveways. Refer to Standard Drawing S40.40.
7. Refer to Standard Drawings S40.60 through S40.63 for sidewalk details.
8. Refer to Standard Drawings S40.21.

Design Criteria and Standard Specifications for Street Construction	City of St. Peters
<b>RESIDENTIAL</b>	
3 LANE MINOR COLLECTOR 60' ROW 36' PAVEMENT	
Standard Drawing	<b>S20.30</b>

NEW	REVISIONS
5-13-2002	



**RIGID PAVEMENT**



**FLEXIBLE PAVEMENT**

**GENERAL NOTES**

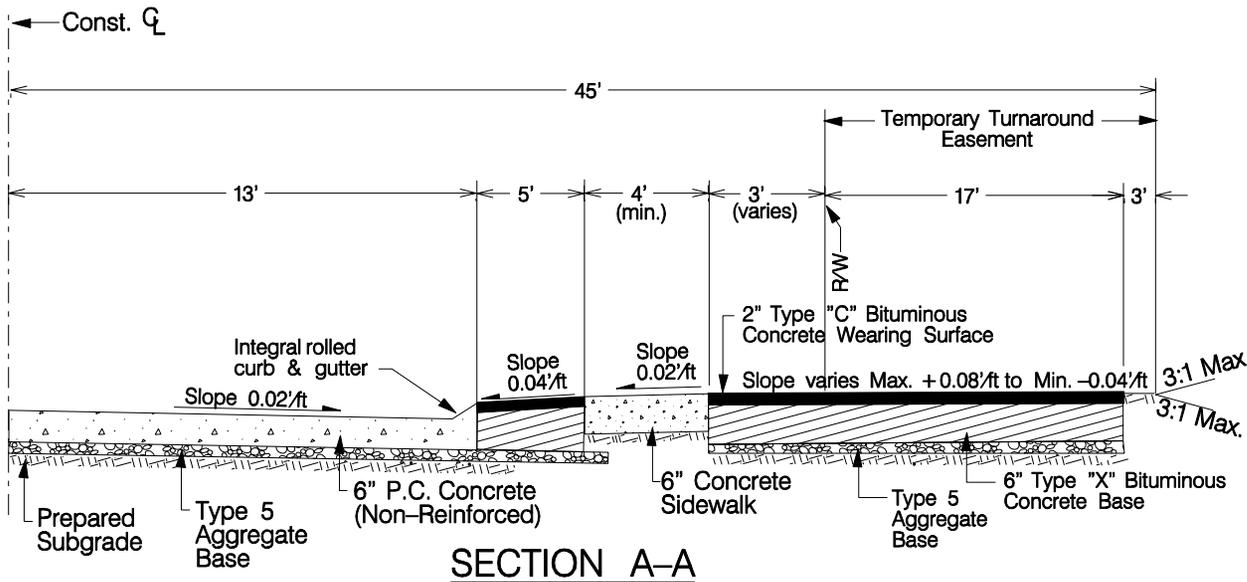
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2. Sections are symmetrical about construction centerline.
3. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to Standard Drawings S40.21, S40.22A, and S40.22B.
4. All necessary pavement markings shall be as required by the City. For details, refer to "Guidelines for Pavement Markings and Lane Striping" Standard Drawing S60.00.
5. Sections shown may not apply at intersections.
6. Sidewalk thickness increases to 6" at residential driveways. Refer to Standard Drawing S40.40.
7. Refer to Standard Drawing S40.21.
8. Refer to Standard Drawings S40.60 through S40.63 for sidewalk details.

Design Criteria and Standard Specifications for Street Construction	
<b>RESIDENTIAL</b>	
<b>2 LANE LOCAL</b>	
50' ROW	26' PAVEMENT
Standard Drawing	<b>S20.31</b>

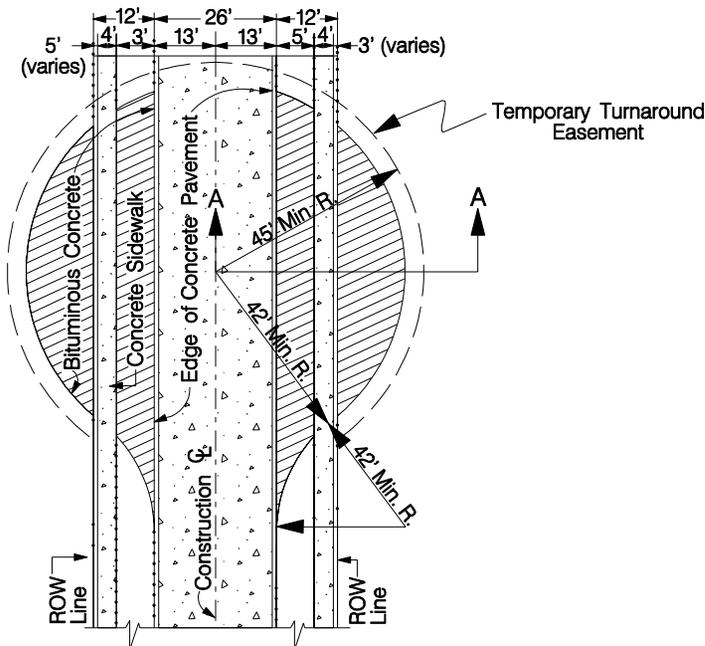
City of St. Peter's



NEW	REVISIONS
5-13-2002	



**SECTION A-A**



**RESIDENTIAL TEMPORARY TURNAROUND**

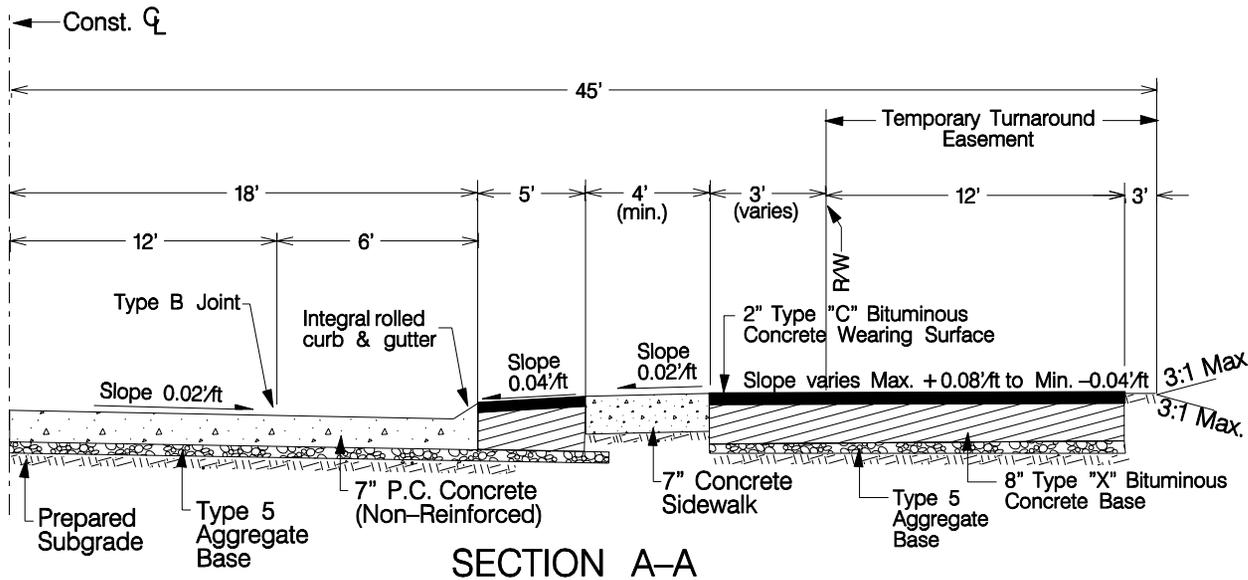
**GENERAL NOTES**

1. Do not scale drawing. Follow dimensions.
2. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to Standard Drawings S40.21, S40.22A, and S40.22B.
3. All necessary pavement markings shall be as required by the City. For details, refer to "Guidelines for Pavement Markings and Lane Striping" Standard Drawing S60.00.
4. Sidewalk thickness increases to 6" through Temporary Turnaround pavement.
5. For roadway cross slopes, pavement types and thickness refer to standard typical sections.
6. No building permits may be issued for any lots abutting a temporary turnaround as shown on any recorded subdivision plat unless and until temporary turnaround is actually constructed and has been approved by the City.
7. The removal of Temporary Turnaround surfacing shall be provided for in an escrow agreement.
8. Refer to Standard Drawings S40.60 through S40.63 for sidewalk details.

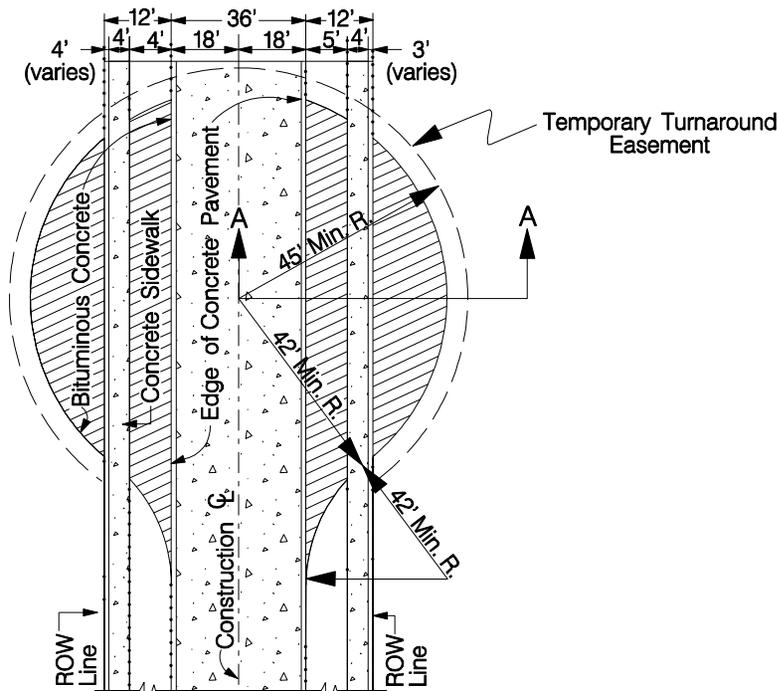
Design Criteria and Standard Specifications for Street Construction
<b>RESIDENTIAL 2 LANE LOCAL TEMPORARY TURNAROUND</b>
Standard Drawing S20.32

City of St. Petersburg





**SECTION A-A**



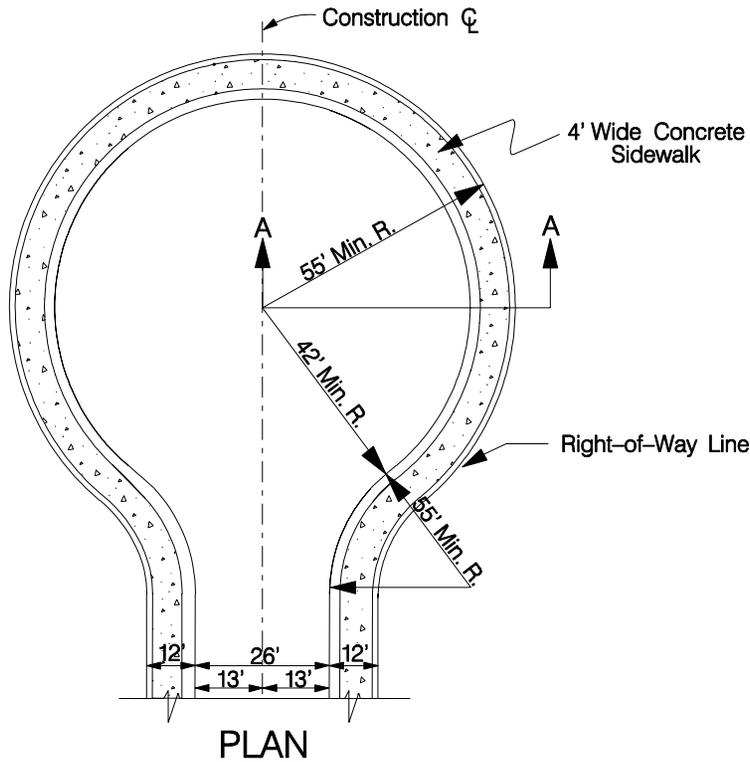
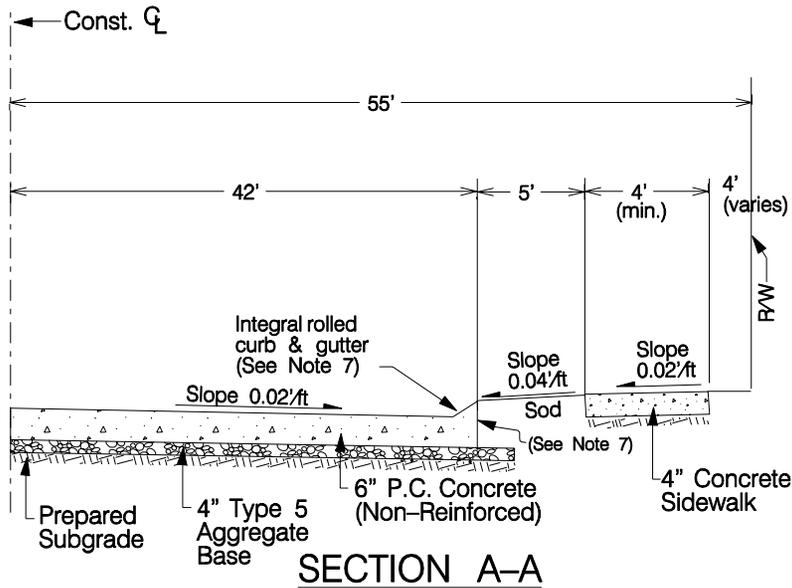
**RESIDENTIAL TEMPORARY TURNAROUND**

**GENERAL NOTES**

1. Do not scale drawing. Follow dimensions.
2. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to Standard Drawings S40.21, S40.22A, and S40.22B.
3. All necessary pavement markings shall be as required by the City. For details, refer to "Guidelines for Pavement Markings and Lane Striping" Standard Drawing S60.00.
4. Sidewalk thickness increases to 7" through Temporary Turnaround pavement.
5. For roadway cross slopes, pavement types and thickness refer to standard typical sections.
6. No building permits may be issued for any lots abutting a temporary turnaround as shown on any recorded subdivision plat unless and until temporary turnaround is actually constructed and has been approved by the City.
7. The removal of Temporary Turnaround surfacing shall be provided for in an escrow agreement.
8. Refer to Standard Drawings S40.60 through S40.63 for sidewalk details.

Design Criteria and Standard Specifications for Street Construction	City of St. Peters
<b>RESIDENTIAL MINOR COLLECTOR TEMPORARY TURNAROUND</b>	
Standard Drawing <b>S20.33</b>	

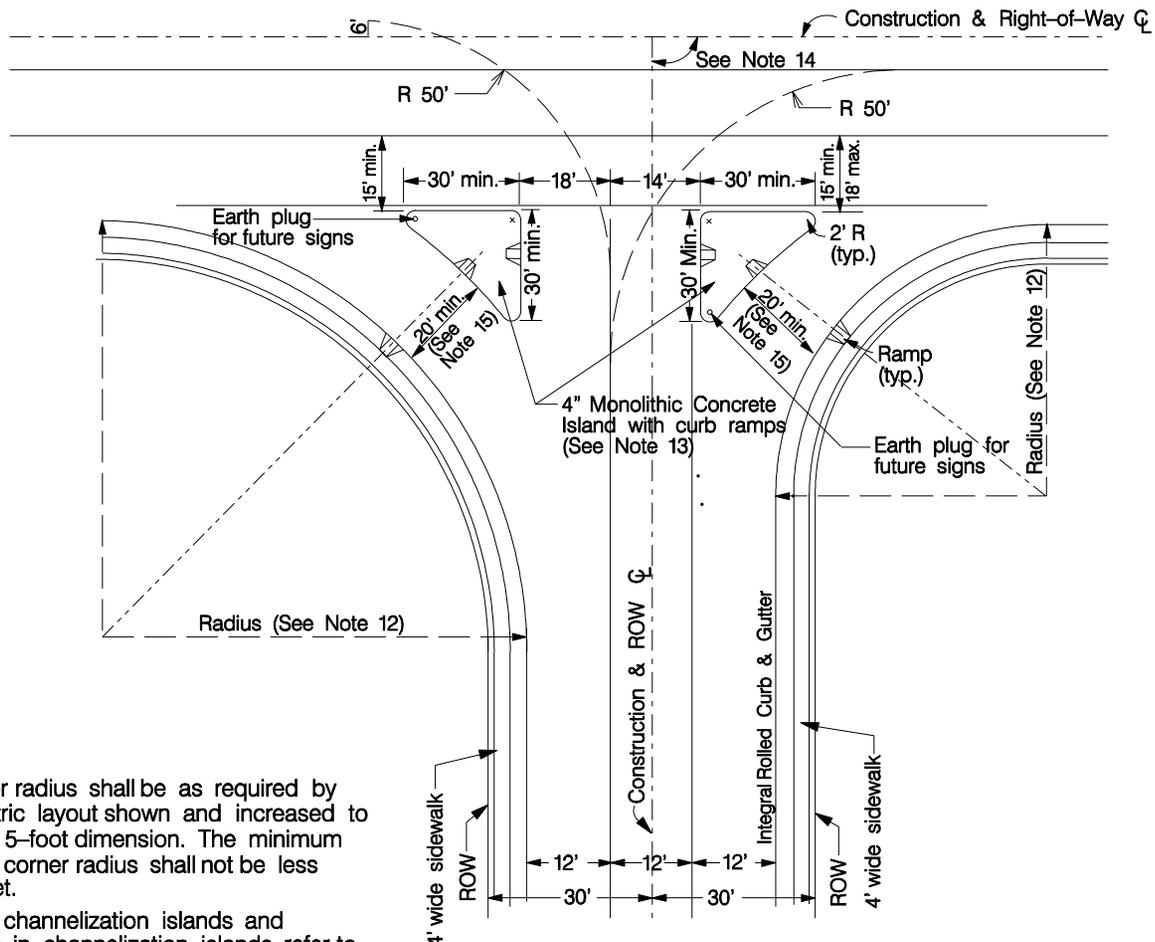
NEW	REVISIONS
5-13-2002	



### GENERAL NOTES

1. Do not scale drawing. Follow dimensions.
2. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to Standard Drawings S40.21, S40.22A, and S40.22B.
3. All necessary pavement markings shall be as required by the City. For details, refer to "Guidelines for Pavement Markings and Lane Striping" Standard Drawing S60.00.
4. Sidewalk thickness increases to 6" at Residential Driveways. Refer to Standard Drawing S40.40.
5. For roadway cross slopes, pavement types and thickness refer to standard typical sections.
6. Curb ramps are required with sidewalk and curb. See Standard Drawings S40.60 through S40.63 for sidewalk details.
7. Refer to Standard Drawing S40.21.

Design Criteria and Standard Specifications for Street Construction	City of St. Petersburg
<b>RESIDENTIAL CUL-DE-SAC DETAIL</b>	
Standard Drawing	<b>S20.34</b>

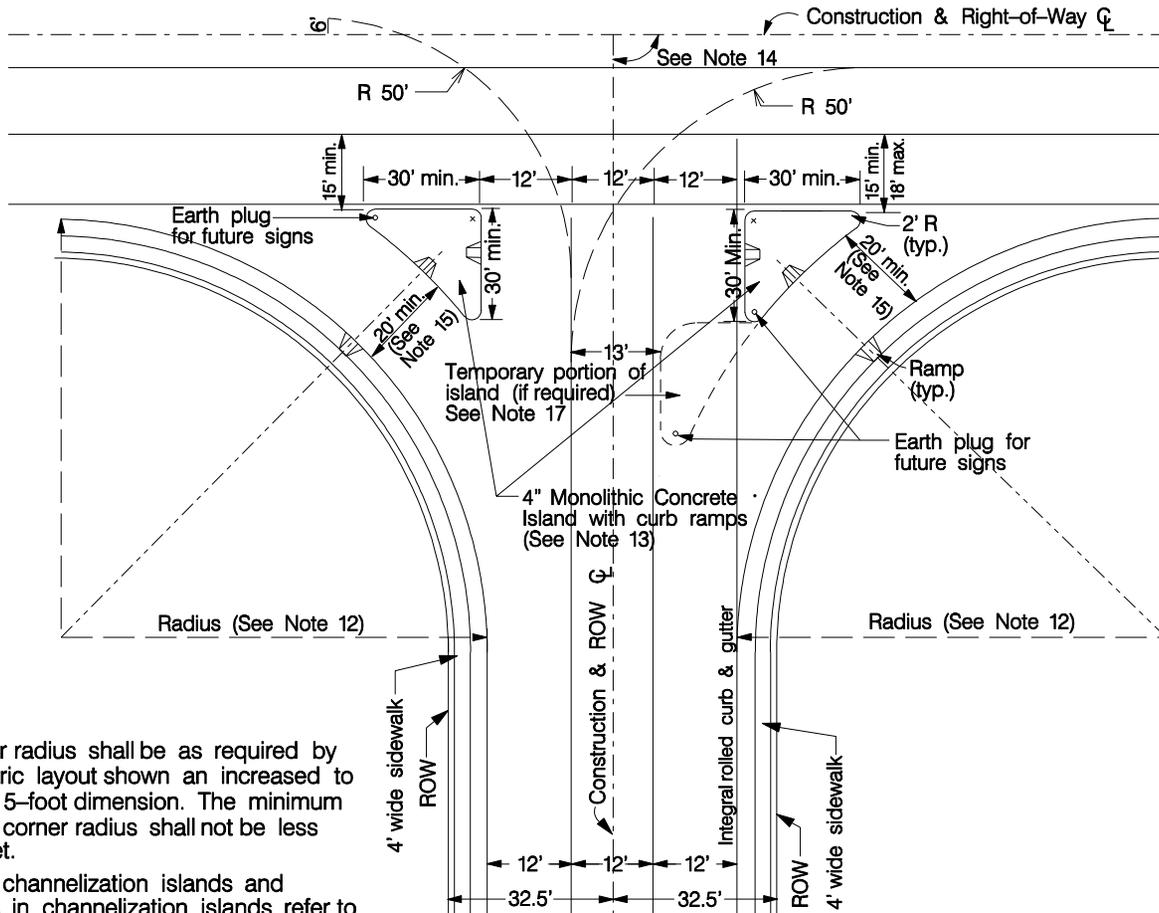


### GENERAL NOTES

1. Do not scale drawing. Follow dimensions.
2. Sections are symmetrical about construction centerline.
3. For roadway cross slopes, pavement types and thickness refer to standard typical sections.
4. Refer to Standard Drawings S40.40 through S40.44 for driveway configurations.
5. All necessary pavement markings shall be as required by the City. For details, refer to "Guidelines for Pavement Markings and Lane Striping" Standard Drawing S60.00.
6. Sidewalk thickness increases to 6" at Residential Driveways and 7" at Commercial Driveways. Refer to Standard Drawings S40.40 and S40.41.
7. All catch basins shall be separated from the pavement & curb by expansion joint material extending completely through curb & slab. Manhole castings within the pavement limits shall be boxed in accordance with MSD.
8. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to Standard Drawings S40.21, S40.22A, and S40.22B.
9. When a joint falls within 5 ft. of, or contacts basins, manholes, or other structures, shorten one or more panels either side of opening to permit joint to fall on round and at or between corners of rectangular structures.
10. Transverse or longitudinal construction joints in slip-formed pavements may be made with a groover or tool, if such device has been approved in advance by the City Engineer.
11. The location of the Type F longitudinal construction joints in the sections may be interchanged for the different widths of construction if approved by the City Engineer.

12. Each corner radius shall be as required by the geometric layout shown and increased to the nearest 5-foot dimension. The minimum acceptable corner radius shall not be less than 32 feet.
13. For detail of channelization islands and curb ramps in channelization islands refer to Standard Drawings S40.42A, S40.42B, S40.43 and S40.44.
14. The intersection angle shall be designed at 90 degrees unless otherwise approved by the City.
15. Greater channelization lane widths may be required if an intersection angle less than 90 degrees is approved by the City Engineer.
16. This detail is to be used in conjunction with Standard Drawing S20.30.

Design Criteria and Standard Specifications for Street Construction	City of St. Peters
<b>RESIDENTIAL MINOR COLLECTOR EXCLUSIVE RIGHT TURN LANE</b>	
Standard Drawing <b>S20.35</b>	



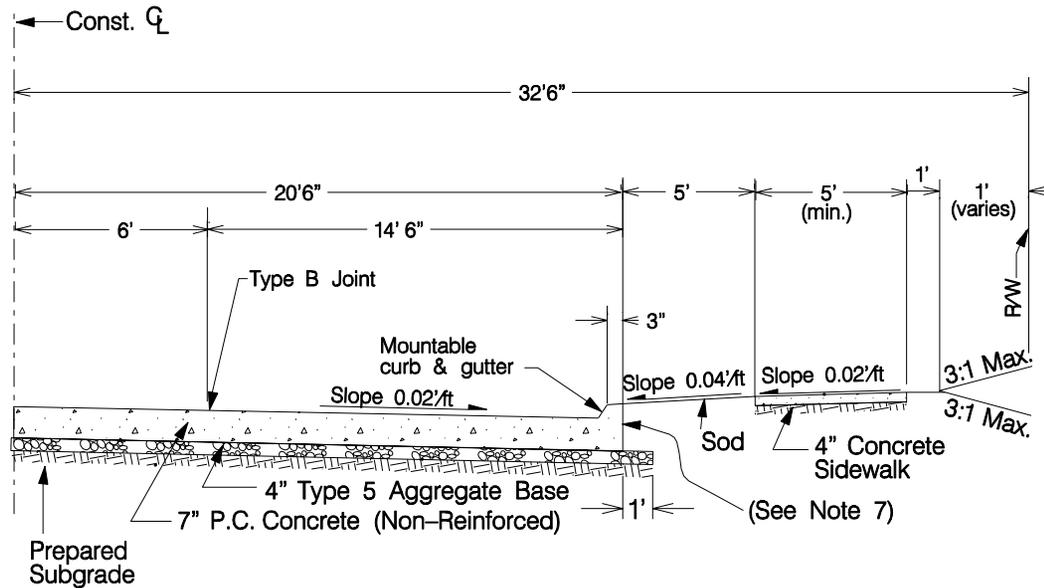
### GENERAL NOTES

12. Each corner radius shall be as required by the geometric layout shown and increased to the nearest 5-foot dimension. The minimum acceptable corner radius shall not be less than 32 feet.
13. For detail of channelization islands and curb ramps in channelization islands refer to Standard Drawings S40.42A, S40.42B, S40.43, and S40.44.
14. The intersection angle shall be designed at 90 degrees unless otherwise approved by the City.
15. Greater channelization lane widths may be required if an intersection angle less than 90 degrees is approved by the City Engineer.
16. This detail is to be used in conjunction with Standard Drawing S20.30.
17. When the lane usage on an approach to an intersection is subject to change, a temporary portion of channelization island may be required. Each temporary portion of a channelization island shall consist of 4" P.C. Concrete (non-reinforced) installed without dowel bars on concrete pavement.

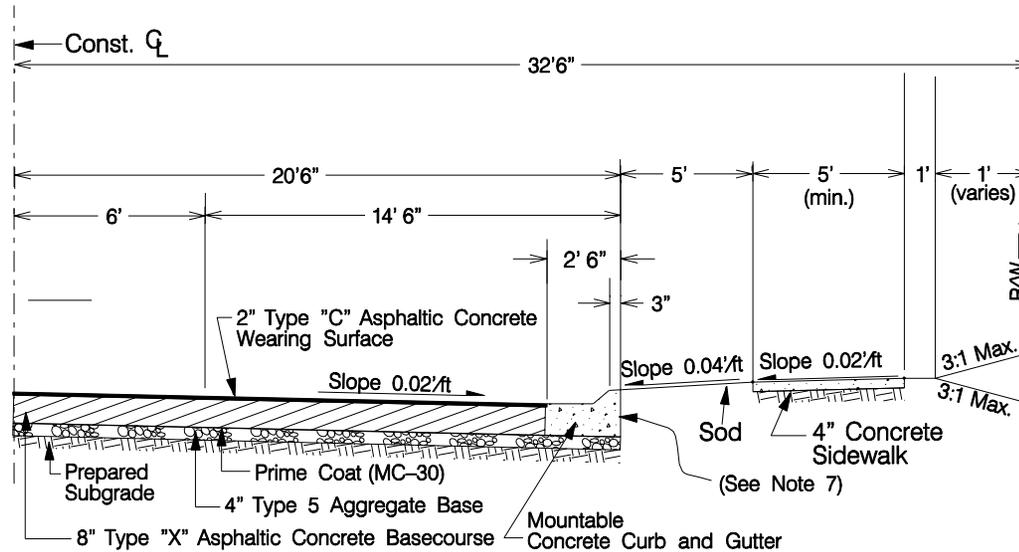
1. Do not scale drawing. Follow dimensions.
2. Sections are symmetrical about construction centerline.
3. For roadway cross slopes, pavement types and thickness refer to standard typical sections.
4. Refer to Standard Drawings S40.40 through S40.44 for driveway configurations.
5. All necessary pavement markings shall be as required by the City. For details, refer to "Guidelines for Pavement Markings and Lane Striping" Standard Drawing S60.00.
6. Sidewalk thickness increases to 6" at Residential Driveways and 7" at Commercial Driveways. Refer to Standard Drawings S40.40 and S40.41.
7. All catch basins shall be separated from the pavement & curb by expansion joint material extending completely through curb & slab. Manhole castings within the pavement limits shall be boxed in accordance with MSD.
8. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to Standard Drawings S40.21, S40.22A, and S40.22B.
9. When a joint falls within 5 ft. of, or contacts basins, manholes, or other structures, shorten one or more panels either side of opening to permit joint to fall on round and at or between corners of rectangular structures.
10. Transverse or longitudinal construction joints in slip-formed pavements may be made with a groover or tool, if such device has been approved in advance by the City Engineer.
11. The location of the Type F longitudinal construction joints in the sections may be interchanged for the different widths of construction if approved by the City Engineer.

Design Criteria and Standard Specifications for Street Construction	City of St. Petersburg
RESIDENTIAL MINOR COLLECTOR EXCLUSIVE LEFT TURN LANE	
Standard Drawing S20.36	

NEW	REVISIONS
5-13-2002	



### RIGID PAVEMENT

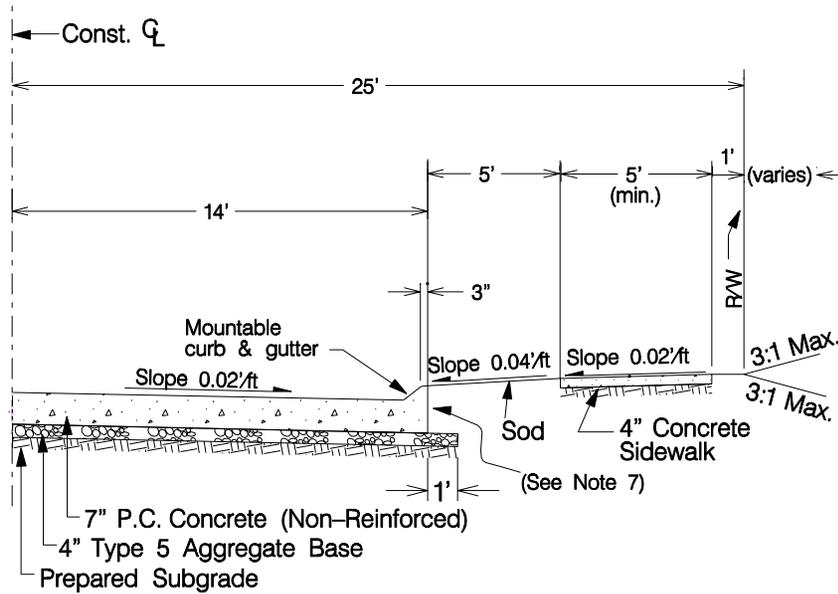


### FLEXIBLE PAVEMENT

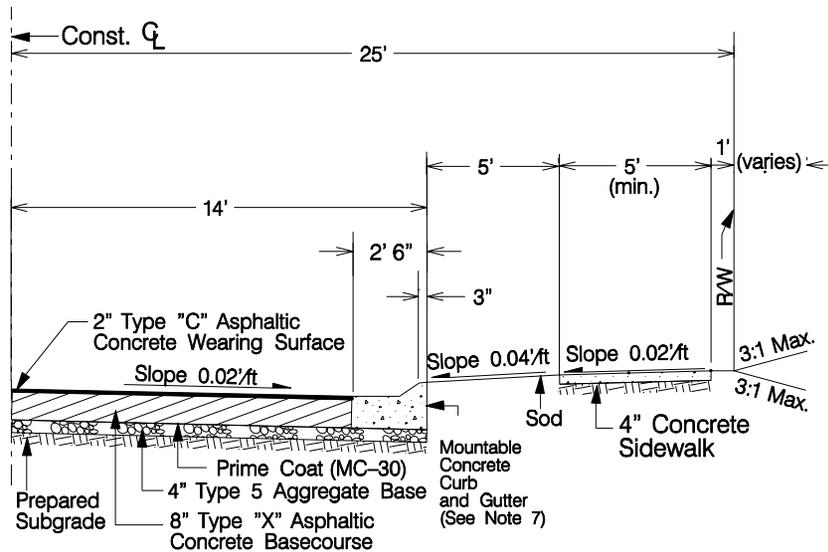
### GENERAL NOTES

1. Do not scale drawing. Follow dimensions.
2. Sections are symmetrical about construction centerline.
3. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to Standard Drawings S40.21, S40.22A, and S40.22B.
4. All necessary pavement markings shall be as required by the City. For details, refer to "Guidelines for Pavement Markings and Lane Striping" Standard Drawing S60.00.
5. Sections shown may not apply at intersections.
6. Sidewalk thickness increases to 7" at commercial driveways. Refer to Standard Drawing S40.41.
7. Refer to Standard Drawing S40.21.

Design Criteria and Standard Specifications for Street Construction	City of St. Peters
NON-RESIDENTIAL 3 LANE MINOR COLLECTOR 65' ROW 41' PAVEMENT	
Standard Drawing S20.40	



### RIGID PAVEMENT



### FLEXIBLE PAVEMENT

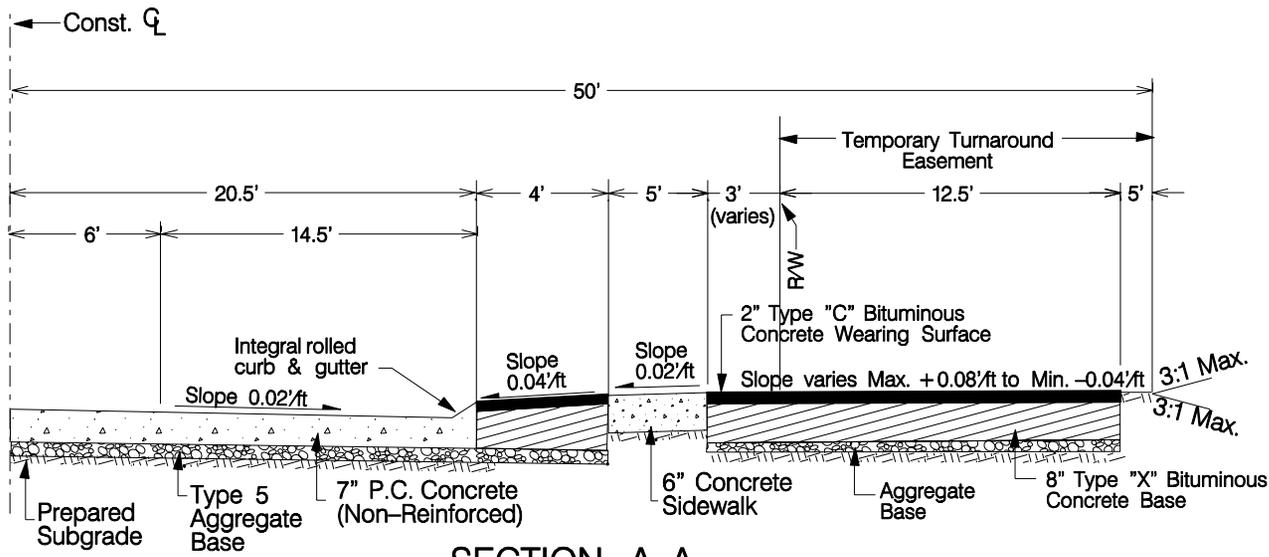
### GENERAL NOTES

1. Do not scale drawing. Follow dimensions.
2. Sections are symmetrical about construction centerline.
3. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to Standard Drawings S40.21, S40.22A, and S40.22B.
4. All necessary pavement markings shall be as required by the City. For details, refer to "Guidelines for Pavement Markings and Lane Striping" Standard Drawing S60.00.
5. Sections shown may not apply at intersections.
6. Sidewalk thickness increases to 7" at commercial driveways. Refer to Standard Drawing S40.41.
7. Refer to Standard Drawing S40.21.

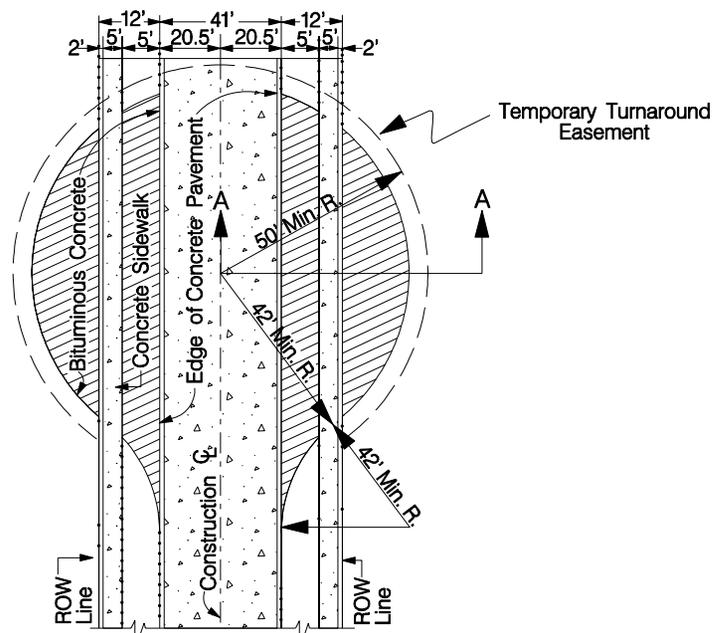
Design Criteria and Standard Specifications for Street Construction	
NON-RESIDENTIAL 2 LANE LOCAL	
50' ROW	28' PAVEMENT
Standard Drawing S20.41	

City of St. Peters





**SECTION A-A**

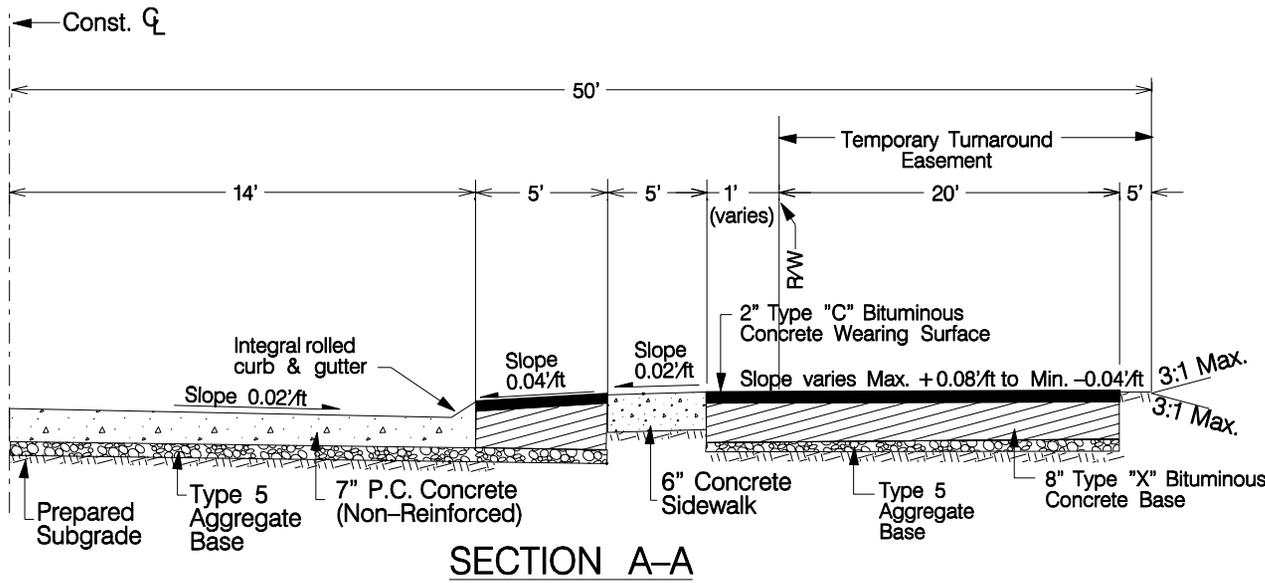


**NON-RESIDENTIAL 3-LANE MINOR COLLECTOR  
TEMPORARY TURNAROUND**

**GENERAL NOTES**

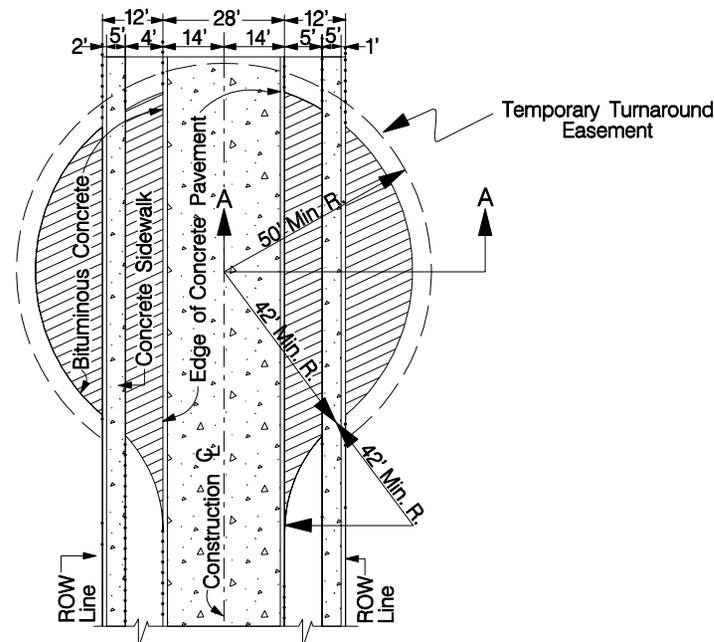
1. Do not scale drawing. Follow dimensions.
2. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to Standard Drawings S40.21, S40.22A, and S40.22B.
3. All necessary pavement markings shall be as required by the City. For details, refer to "Guidelines for Pavement Markings and Lane Striping" Standard Drawing S60.00.
4. Sidewalk thickness increases to 7" through Temporary Turnaround pavement.
5. For roadway cross slopes, pavement types and thickness refer to standard typical sections.
6. No building permits may be issued for any lots abutting a temporary turnaround as shown on any recorded subdivision plat unless and until temporary turnaround is actually constructed and has been approved by the City.
7. The removal of Temporary Turnaround surfacing shall be provided for by an escrow agreement.
8. Refer to Standard Drawings S40.60 through S40.63 for sidewalk details.

Design Criteria and Standard Specifications for Street Construction	City of St. Peters
NON-RESIDENTIAL 3-LANE MINOR COLLECTOR TEMPORARY TURNAROUND	
Standard Drawing S20.42	



### GENERAL NOTES

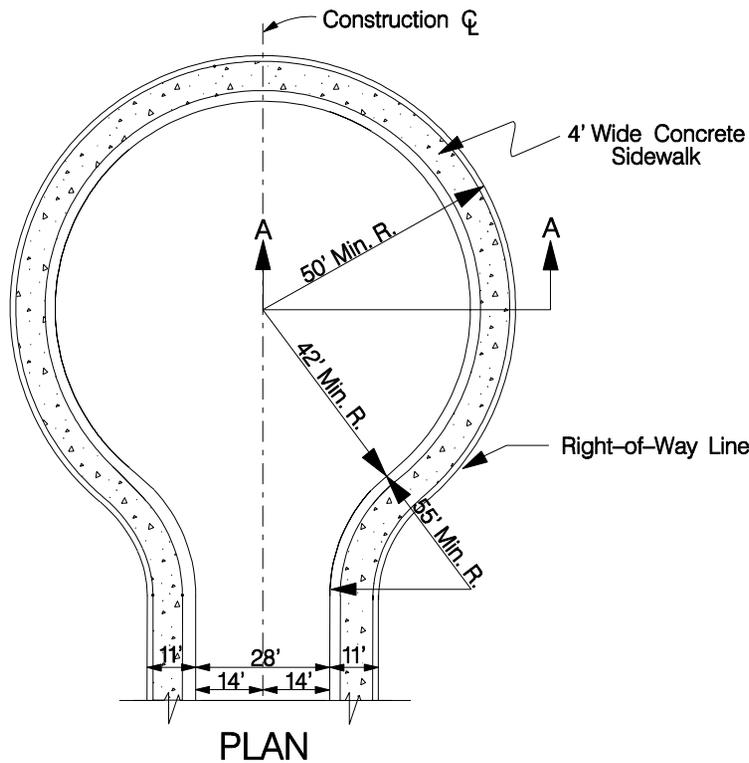
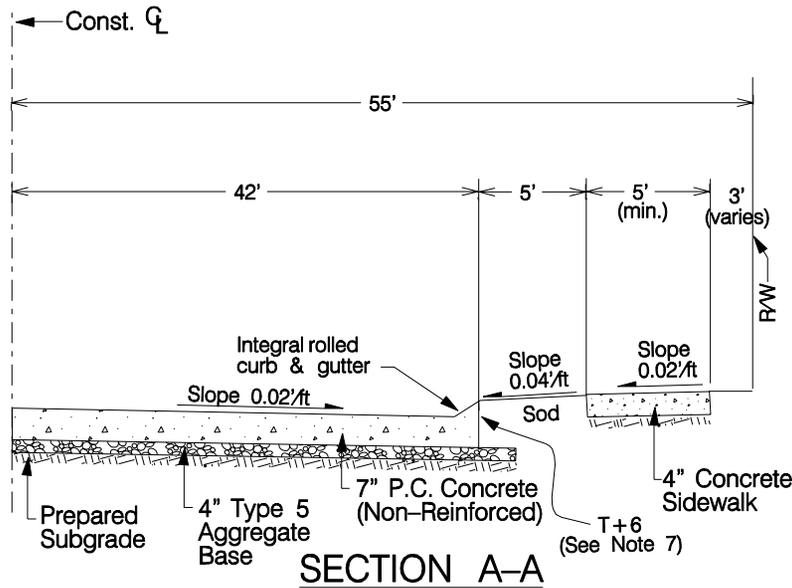
1. Do not scale drawing. Follow dimensions.
2. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to Standard Drawings S40.21, S40.22A, and S40.22B.
3. All necessary pavement markings shall be as required by the City. For details, refer to "Guidelines for Pavement Markings and Lane Striping" Standard Drawing S60.00.
4. Sidewalk thickness increases to 7" through Temporary Turnaround pavement.
5. For roadway cross slopes, pavement types and thickness refer to standard typical sections.
6. No building permits may be issued for any lots abutting a temporary turnaround as shown on any recorded subdivision plat unless and until temporary turnaround is actually constructed and has been approved by the City.
7. The removal of Temporary Turnaround surfacing shall be provided for by an escrow agreement.
8. Refer to Standard Drawings S40.60 through S40.63 for sidewalk details.



## NON-RESIDENTIAL 2-LANE LOCAL TEMPORARY TURNAROUND

Design Criteria and Standard Specifications for Street Construction	City of St. Peter's
NON-RESIDENTIAL 2 LANE LOCAL TEMPORARY TURNAROUND	
Standard Drawing S20.43	

NEW	REVISIONS
6-13-2002	



### GENERAL NOTES

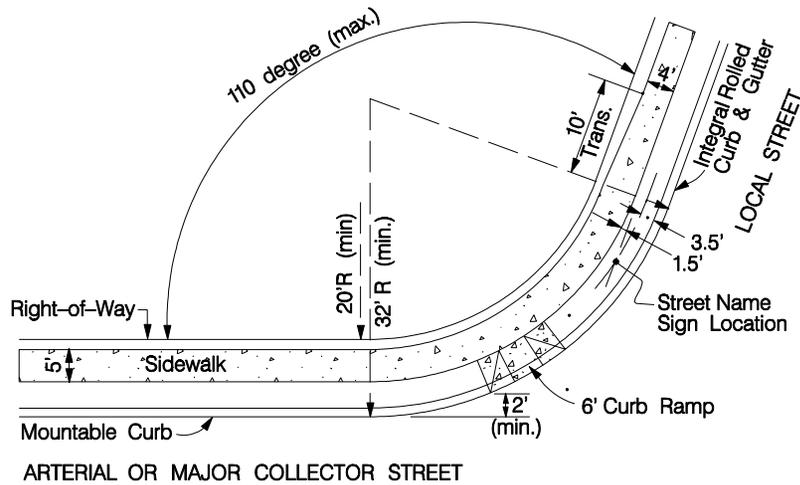
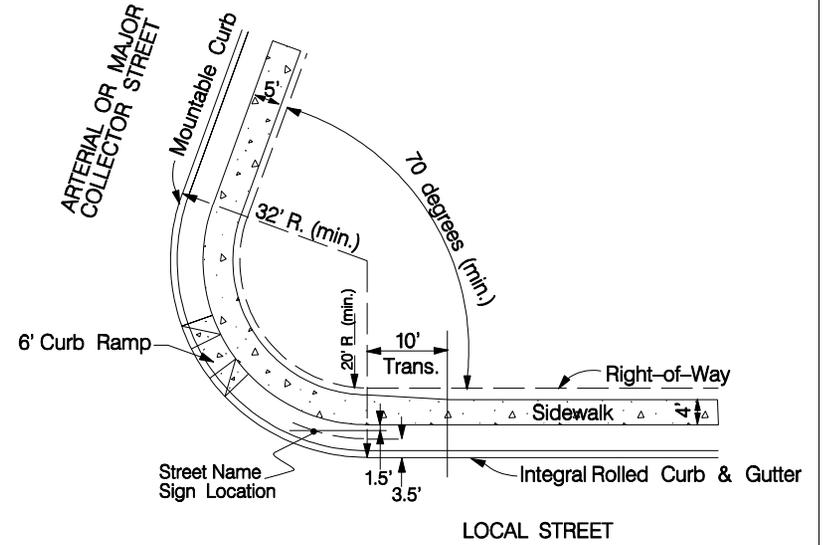
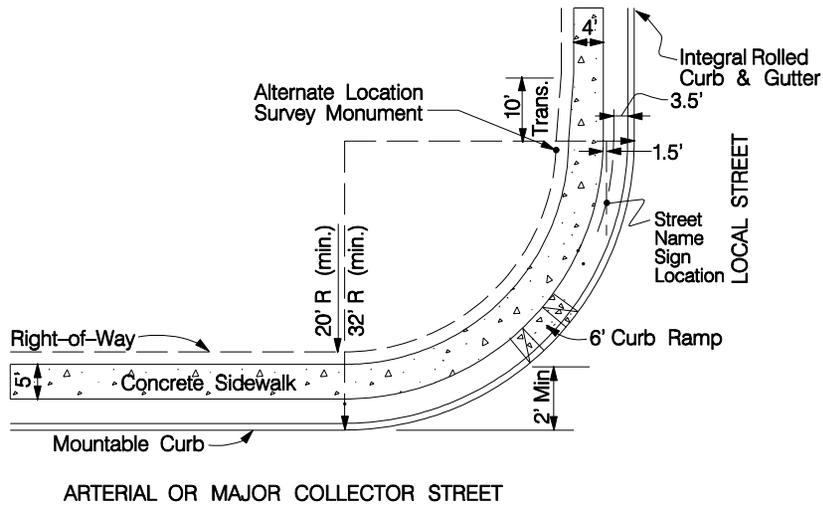
1. Do not scale drawing. Follow dimensions.
2. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to Standard Drawings S40.21, S40.22A, and S40.22B.
3. All necessary pavement markings shall be as required by the City. For details, refer to "Guidelines for Pavement Markings and Lane Striping" Standard Drawing S60.00.
4. Sidewalk thickness increases to 7" at Commercial Driveways. Refer to Standard Drawing S40.41.
5. For roadway cross slopes, pavement types and thickness refer to standard typical sections.
6. Curb ramps are required with sidewalk and curb. Refer to Standard Drawings S40.60 through S40.63 for sidewalk details.
7. Refer to Standard Drawing S40.21.

Design Criteria and Standard Specifications for Street Construction	
<b>NON-RESIDENTIAL CUL-DE-SAC DETAIL</b>	
Standard Drawing	<b>S20.44</b>

City of St. Petersburg



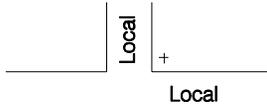
NEW	REVISIONS
5-13-2002	



**GENERAL NOTES**

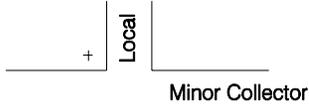
1. Do not scale drawing. Follow dimensions.
2. All sidewalk sections shall be 4" thick, except where indicated as 7" thick on Standard Drawings S40.60 through S40.63.
3. Sidewalk cross slope = 0.02ft/ft.
4. For sidewalk locations on cul-de-sacs see Standard Drawings S40.60 through S40.63.
5. Curb ramps are required with sidewalk and curb.
6. Street name signs shall be located on both approaching lanes of the minor street at a four-way intersection. Refer to Standard Drawing 40.11.

Design Criteria and Standard Specifications for Street Construction	City of St. Peter's
<b>SIDEWALKS, STREET NAME SIGNS AND MONUMENTS</b>	
Standard Drawing S40.10	



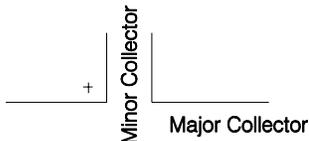
**CASE 1**

Intersection of two local streets. Install 6" sign in north or northeast quadrant.



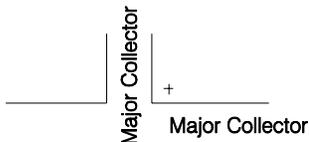
**CASE 2**

Intersection of local & minor collector. Install 6" signs as far right indications on minor collector.



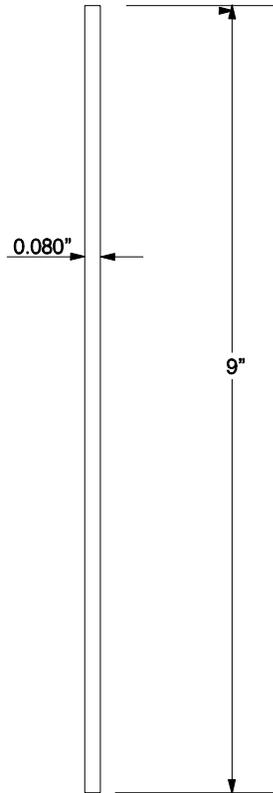
**CASE 3**

Intersection of minor & major collectors. Install 9" signs as far right indications on major collector.

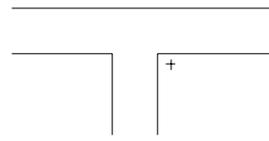


**CASE 4**

Intersection of two major collectors. Install 9" signs in north & south or northeast & southwest quadrants.

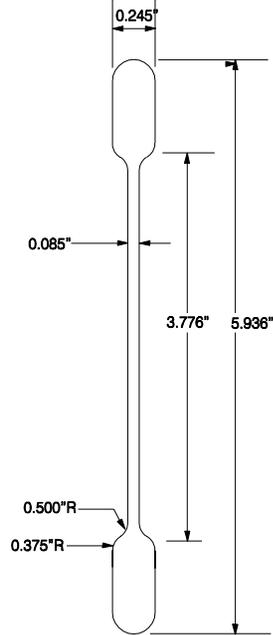


**CROSS SECTION 9" SIGN BLADE**



**CASE 5**

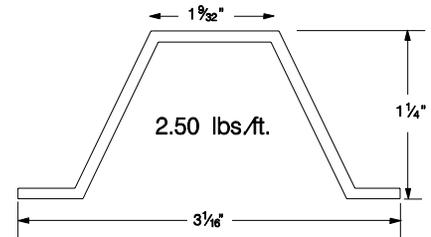
"T" Intersection. Install sign as far right indication on continuing street. Use 6" sign on local & minor collectors. Use 9" sign on arterial & major collectors.



**CROSS SECTION 6" SIGN BLADE**

**GENERAL NOTES**

1. Sign posts for the 6" blades shall have a 2 3/8 inch outside diameter and be 12 feet in length and shall be galvanized steel with a wall thickness of 0.065 inches. The inside wall shall be galvanized or have a full zinc based organic coating in accordance with ASTM-A513 to obtain a weight of 0.90 oz. per sq. ft. commercial zinc weight (G-90). See U-Channel detail.
2. Sign posts for the 9" blades shall be 2 inch square post, 14 gage galvanized steel 12 feet in length. The anchor base post shall be a 2 1/4" square post, 12 gage galvanized steel, 3 feet in length. All posts shall be punched on all sides with a 7/16" hole every one inch. A corner bolt shall be used to attach the two posts together.
2. Signs are to be mounted a minimum of 3.5 feet from the back of curb with a clearance from the sidewalk of 1.5 feet.
3. Sign posts shall be mounted 18-24 inches in the ground and set in a concrete base.
4. For additional information refer to Standard Drawing S40.10.



**CROSS SECTION U-CHANNEL**

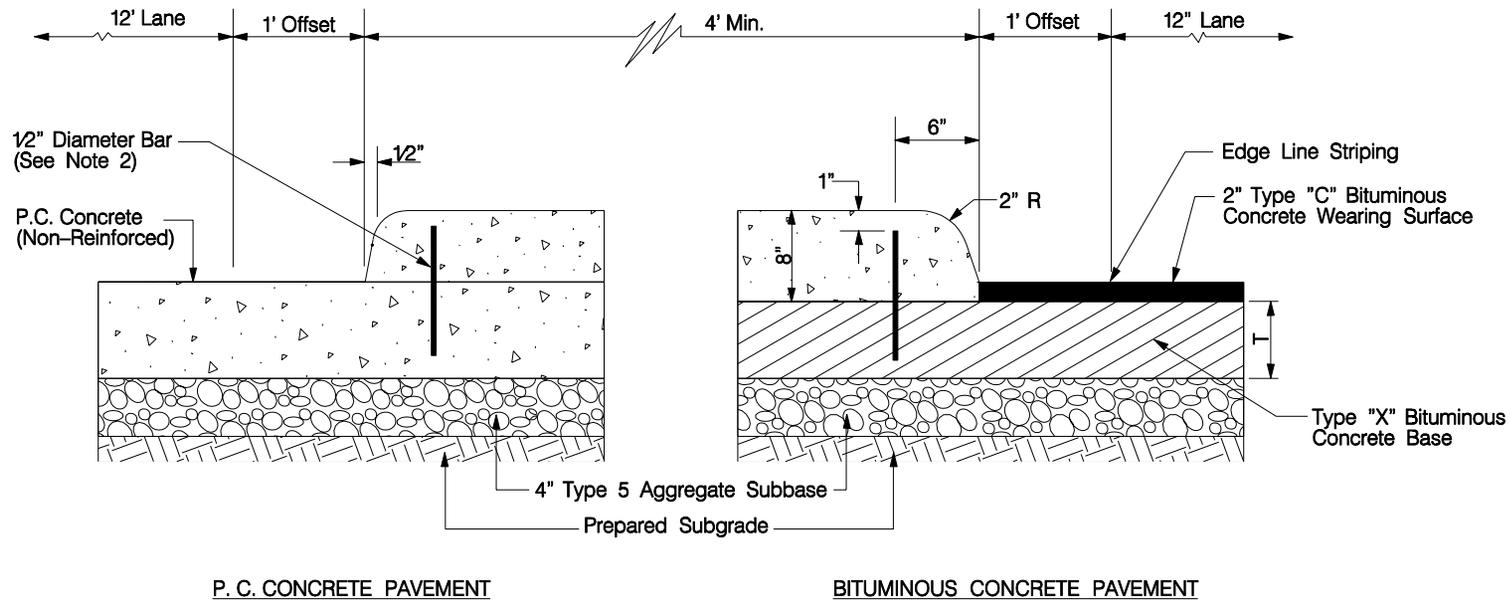
Design Criteria and Standard Specifications for Street Construction	City of St. Peters
<b>STREET NAME SIGNS, DETAILS AND LOCATIONS</b>	
Standard Drawing	<b>S40.11</b>



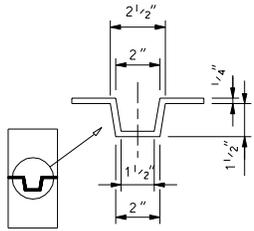
NEW	REVISIONS
5-13-2002	

### GENERAL NOTES

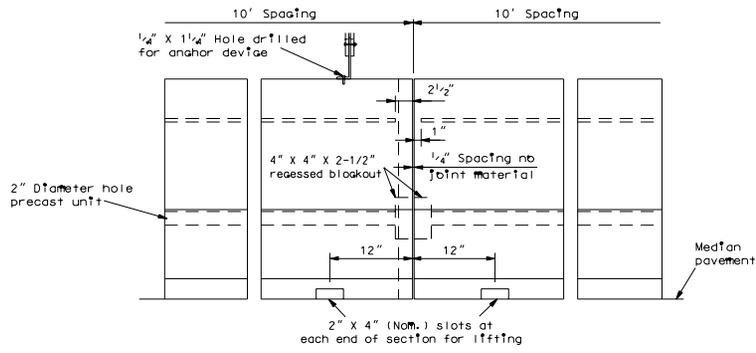
1. Do not scale drawing. Follow dimensions.
2. Length of the tie bars shall equal the thickness of pavement plus the height of curb less 3 inches.
3. All necessary pavement markings shall be as required by the City Engineer. For details refer to Standard Drawing S60.00.
4. Transverse joint spacing for the concrete median shall be the same as the adjacent concrete pavement or on 15-foot intervals with bituminous pavement.



Design Criteria and Standard Specifications for Street Construction	City of St. Peters
6" RAISED DOWELED-ON CONCRETE MEDIAN-EXISTING PAVEMENT	
Standard Drawing S40.12	

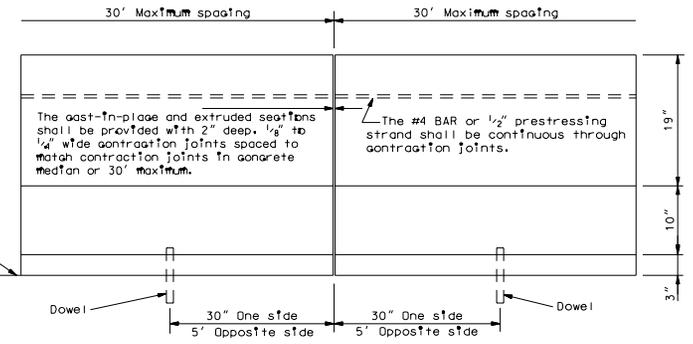


NOTE: Keyway extends to full height of barrier. 1/8" tolerance on keyway dimension.

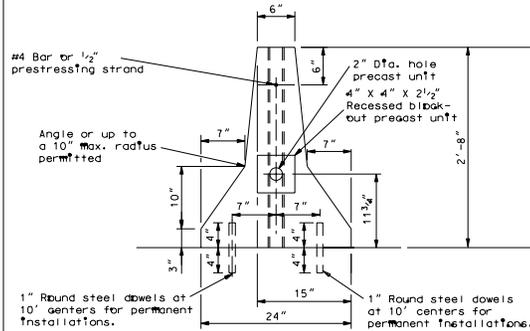


**PRECAST**

See Standard Drawing S40.15 for barrier height transition details for temporary installation.



**CAST-IN-PLACE OR EXTRUDED SECTION**



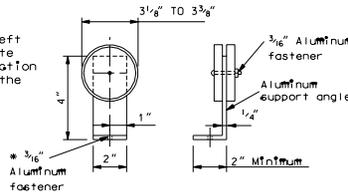
**TYPICAL SECTION**

TYPE A - TWO TRAFFIC FACES  
TYPE B - ONE TRAFFIC FACE

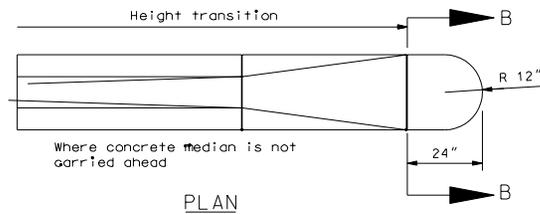
Delimiters to be mounted on traffic barriers shall be yellow where the barrier is on the left in the direction of traffic, and shall be white where the barrier is on the right in the direction of traffic and shall be double yellow where the barrier is in the median with traffic in each direction.

Standard Type A precast barrier shall have a 2" diameter hole cast through entire unit and a 4" x 4" x 2 1/2" recessed breakout at each end.

**ELEVATIONS**

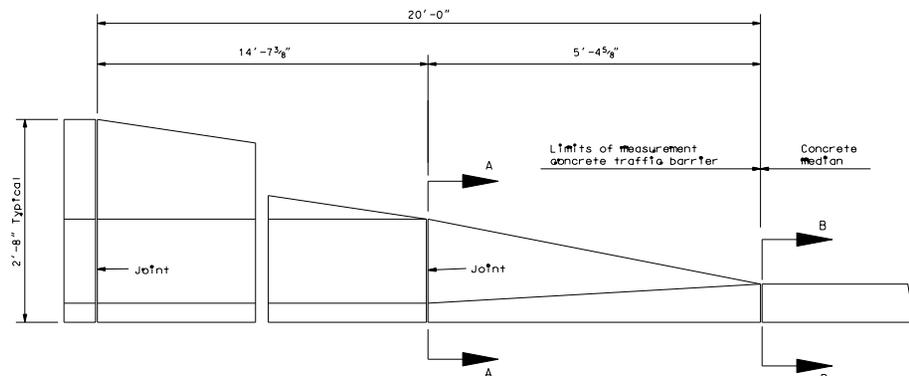


**DOUBLE DELINEATOR**



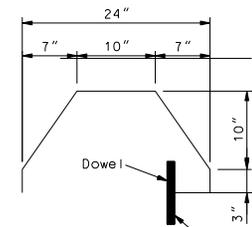
**PLAN**

Where concrete median is not carried ahead



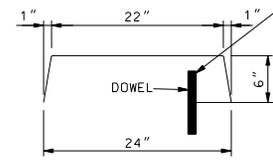
**ELEVATION**

**BARRIER HEIGHT TRANSITION**  
(Installation used only when barrier is outside of the clear zone)



**SECTION A-A**

1" Round steel dowels at 5' centers-one side only for permanent installations.



**SECTION B-B**

**GENERAL NOTES:**

CAST-IN-PLACE OR EXTRUDED CONCRETE TRAFFIC BARRIERS SHALL BE THE ONLY TYPE USED FOR PERMANENT INSTALLATIONS. PRECAST TRAFFIC BARRIERS TO BE USED ONLY FOR TEMPORARY INSTALLATIONS.

TEMPORARY INSTALLATIONS REQUIRE THE UNITS TO BE CABLED TOGETHER.

PERMANENT INSTALLATIONS REQUIRE THE BARRIER TO BE DOWELED.

IN ORDER TO OBTAIN PROPER ALIGNMENT, PRECAST BARRIER SECTIONS SHALL BE INSTALLED ON A BED OF DRY CEMENT.

DOWEL HOLES IN PRECAST BARRIER SECTIONS SHALL BE FILLED WITH GROUT & FINISHED AFTER INSTALLATION.

FOR TYPICAL LOCATION DETAILS, SEE STANDARD DRAWING S40.14.

**DELINEATORS:**  
ALL MATERIALS FOR SUPPORTING DELINEATORS SHALL BE ALUMINUM EXCEPT ANCHOR DEVICES.

ANCHOR DEVICES SHALL BE EITHER ALUMINUM OR GALVANIZED STEEL AND SHALL BE EXPANSIVE BOLTS OR ADHESIVE SELF-GROUTING BOLTS. IF GALVANIZED STEEL BOLTS ARE USED, A NON-CONDUCTIVE WASHER SHALL BE USED BETWEEN THE ALUMINUM ALLOY SUPPORT ANGLE AND THE HEAD OF THE BOLT.

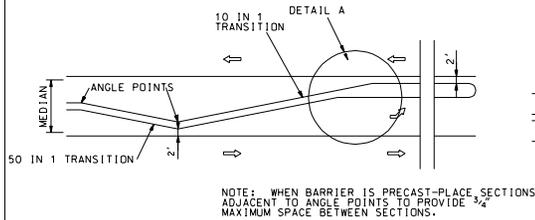
**DELINEATOR SPACING:**  
0\* TO 2\*-45' CURVE- 100' SPACING; 3\* TO 6\* CURVE - 60' SPACING.

EXPANSIVE JOINTS SHALL BE PROVIDED IN THE BARRIER TO CONFORM WITH EXPANSION JOINTS IN PAVEMENT.

DOWELS SHALL BE EPOXY COATED.

ALLOWABLE TOLERANCES ON PRECAST BARRIER SHALL BE ±1/4" OF THAT INDICATED ON THE PLANS UNLESS SHOWN OTHERWISE. NOTE THAT LENGTH DIMENSIONS INCLUDE A 1/4" JOINT.

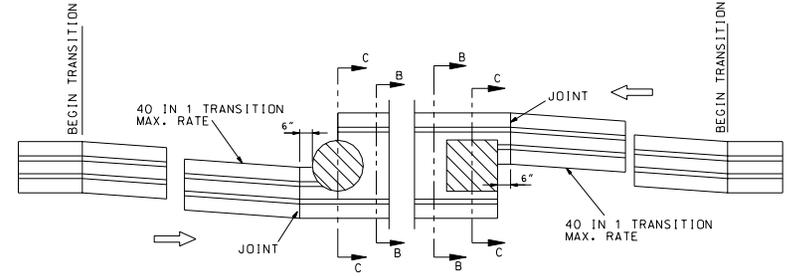
Design Criteria and Standard Specifications for Street Construction	City of St. Peters
<b>CONCRETE TRAFFIC BARRIER TYPES A &amp; B</b>	
<b>Standard Drawing S40.13</b>	



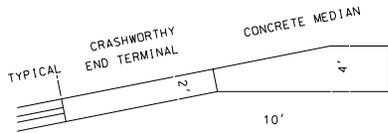
PLAN



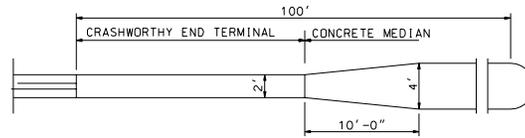
PLAN



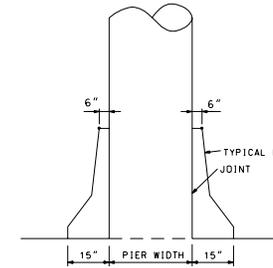
PLAN  
TRANSITION DETAILS AT PIERS



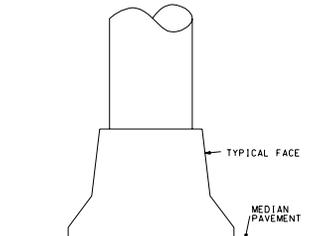
DETAIL A  
LEFT TURN LANE TRANSITION



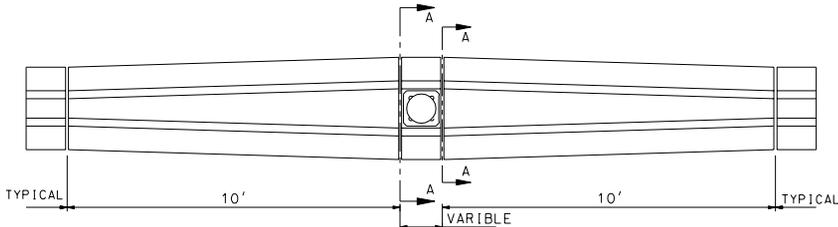
DETAIL B  
MEDIAN OPENING TRANSITION



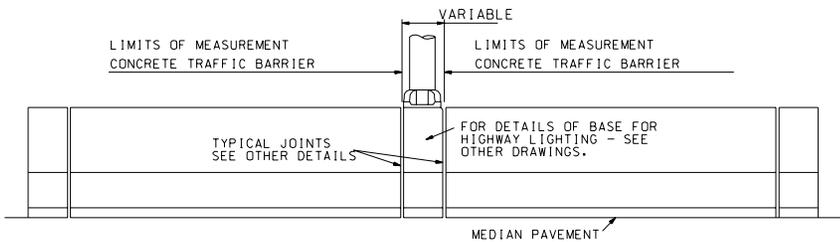
SECTION C-C



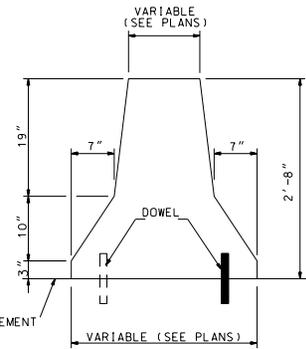
SECTION B-B



PLAN



ELEVATION  
TRANSITION DETAILS FOR MEDIAN LIGHTING



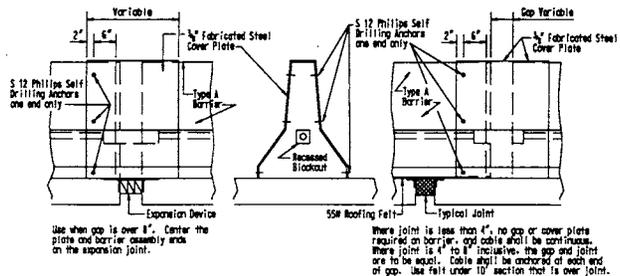
SECTION A-A

JOINT IS 2 LAYERS OF 55 LB. SMOOTH ROLL ROOFING TO FORM JOINT BETWEEN PIER AND BARRIER.

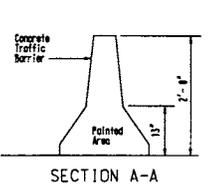
**GENERAL NOTES**

1. For typical joint details, refer to Standard Drawing S40.13.
2. For details and location of dowels, refer to Standard Drawing S40.13.
3. The details shown are adopted from the Missouri Highway & Transportation Commission, Missouri Standard Plans for Highway Construction, October 2000.

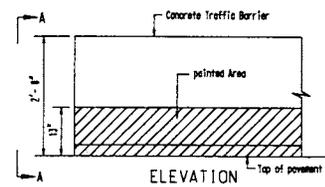
Design Criteria and Standard Specifications for Street Construction	City of St. Peters
CONCRETE TRAFFIC BARRIER TYPES A & B TYPICAL LOCATION DETAILS	
Standard Drawing S40.14	



DETAILS AT EXPANSION JOINTS

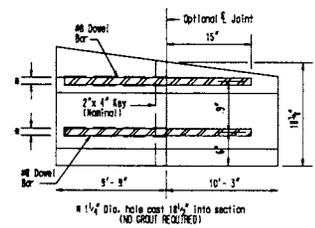


SECTION A-A

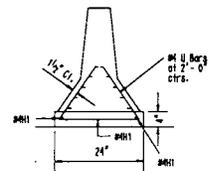


ELEVATION

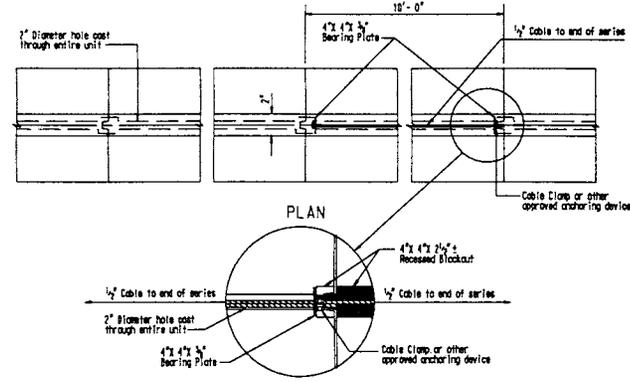
NOTE:  
If specified in the contract, the concrete traffic barrier shall be painted on traffic side of barrier, a vertical distance of 13\"/>



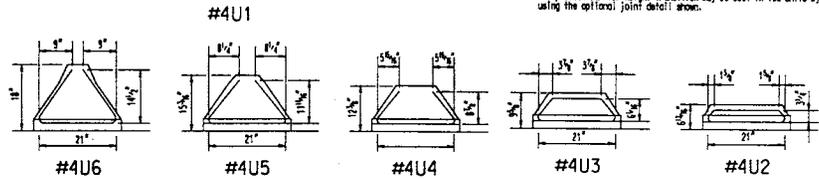
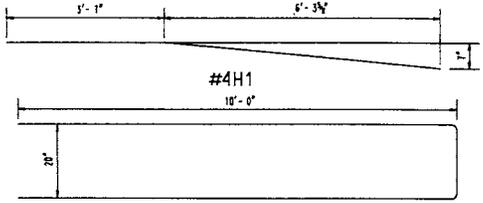
OPTIONAL JOINT AND DOWEL BAR DETAIL



SECTION C-C



CONNECTING DETAILS

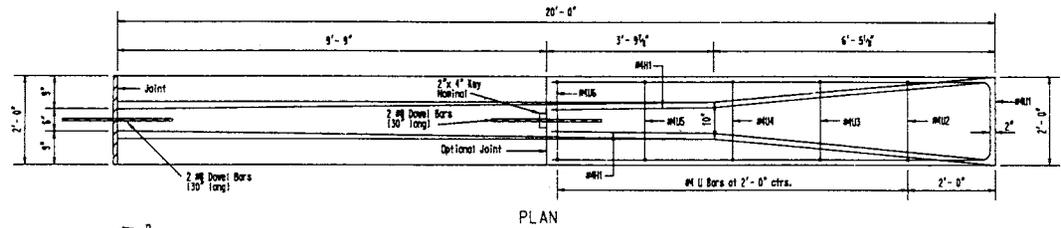


#4UBARS\*\*  
All reinforcing steel and optional #8 dowel bars in precast barrier height transitions shall be Grade 60 Reinforcing Steel.  
The precast barrier height transition may be cast in two units by using the optional joint detail above.

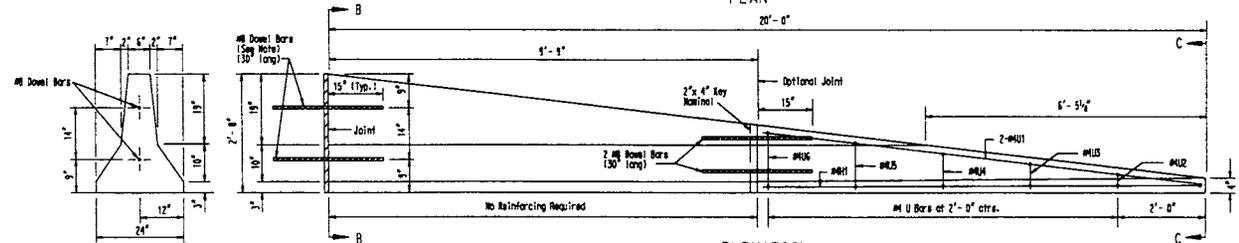
GENERAL NOTES:

1. Do not scale drawing. Follow dimensions.
2. Precast standard Type A barrier shall be connected by a seven strand wire rope of 1/2" diameter, common grade, anchored by cable clamp or other approved method against 3-7/8" x 3-7/8" x 3/8" bearing plates, on bridge or bridge approach slabs. Tension of the cable shall be between 200 pounds and 1,000 pound pull.
3. Expansion gaps to be provided at each bridge expansion joint.
4. Provide continuous sections by connecting as shown, with the exception at joints. Gaps at joints are to use cover plates. Cover plates to be painted with shop coat and a finish coat of aluminum.
5. Dowels may be used without cable for locations other than bridge or bridge approach slabs.
6. Dowels for temporary usage shall not be grouted in place. Holes in pavement or shoulder shall be filled with either a cement grout or a material similar to the existing shoulder material.
7. Where changes in the construction sequence or detours occur, the temporary traffic barrier shall be relocated as directed by the Engineer.
8. In the later phases of construction where Type A Concrete Traffic Barrier is to be placed in a permanent location, the contractor may use undamaged sections of the temporary traffic barrier for the final installation.
9. All damaged and surplus temporary traffic barrier shall be disposed of by the contractor off the public right-of-way.
10. Drawing adapted from St. Louis County Department of Highways and Traffic, Design Criteria for the Preparation of Improvement Plans.

NOTE:  
Unreinforced section of precast barrier height transition shall be connected to precast barrier by 2-#8 dowel bars inserted into 1/2" diameter holes cast in precast barrier or other method approved by the Engineer. (No grout required)



PLAN



ELEVATION

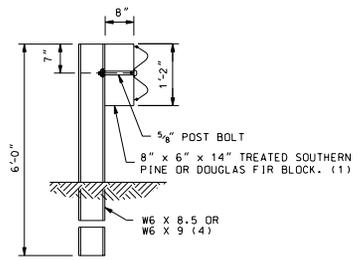
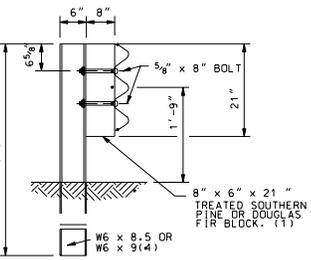
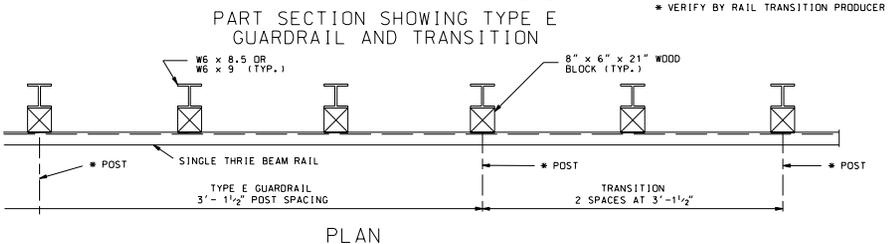
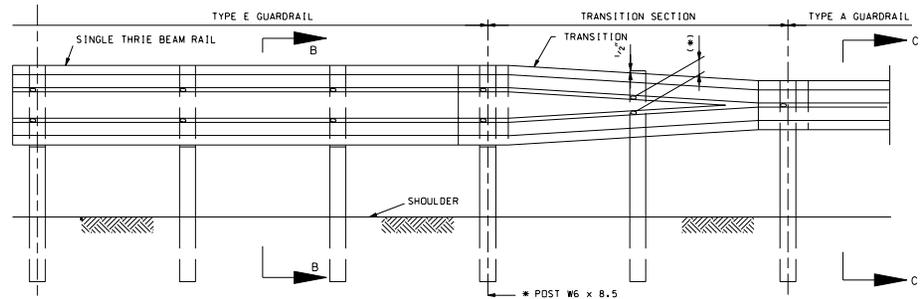
PRECAST BARRIER HEIGHT TRANSITION (TEMPORARY INSTALLATIONS ONLY)

Design Criteria and Standard Specifications for Street Construction  
**CONCRETE TRAFFIC BARRIER**  
**TEMPORARY TRAFFIC BARRIER**  
**PRECAST CONNECTING DETAILS**

Standard Drawing S40.15

City of St. Peters

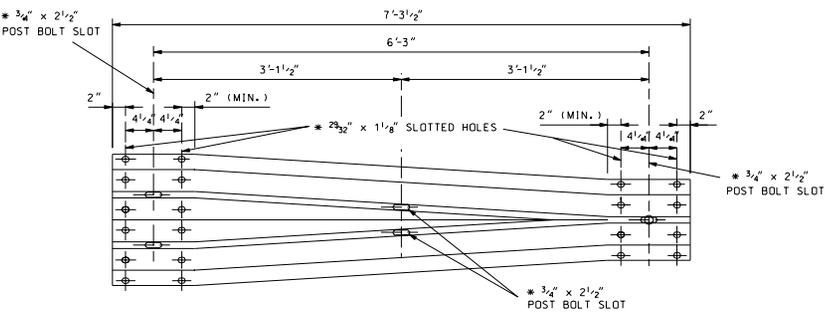




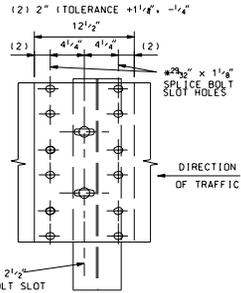
SECTION B-B FOR WOOD BLOCKS

SECTION C-C FOR WOOD BLOCKS

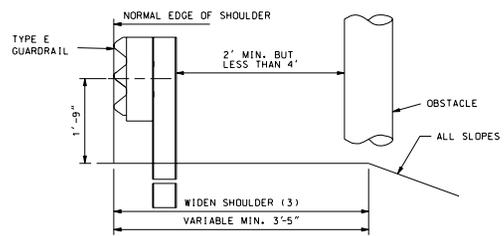
- (1) BACK-UP PLATES AT NON-SPLICE LOCATIONS ARE NOT REQUIRED.
- (4) THE CONTRACTOR MAY FURNISH EQUIVALENT SECTIONS FABRICATED FROM MATERIAL MEETING AND IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A769 GRADE 36 OR 40. THE SECTIONS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO M 111.



ELEVATION OF TRANSITION SECTION



THRIE BEAM RAIL SPLICE AT POST

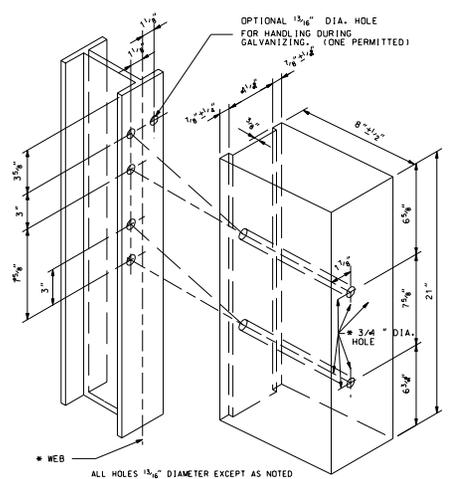


SHOULDER ENROACHMENT WILL BE PERMITTED TO OBTAIN MINIMUM CLEARANCE AT EXISTING OBSTACLES. A 50:1 TAPER SHALL BE USED FROM THE NORMAL SHOULDER LINE LOCATION TO THE ENROACHMENT LOCATION AND, IF GUARDRAIL IS CONTINUOUS, BACK TO THE NORMAL LOCATION.

USE 25 FEET OF TYPE E GUARDRAIL PRECEDING THE OBSTACLE, AND THROUGH THE LIMITS OF THE OBSTACLE, WHEN THE ABOVE CONDITION EXISTS.

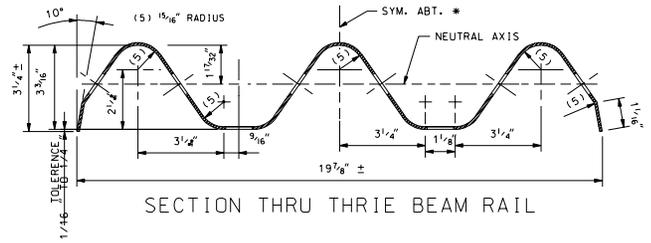
(3) SHOULDER WIDENING SHALL CONSIST OF EMBANKMENT MATERIAL COMPACTED IN ACCORDANCE WITH SPECIFICATIONS.

LATERAL PLACEMENT OF TYPE E GUARDRAIL



FOR STEEL POST & WOOD BLOCKS HOLE PUNCHING DETAIL

NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



SECTION THRU THRIE BEAM RAIL

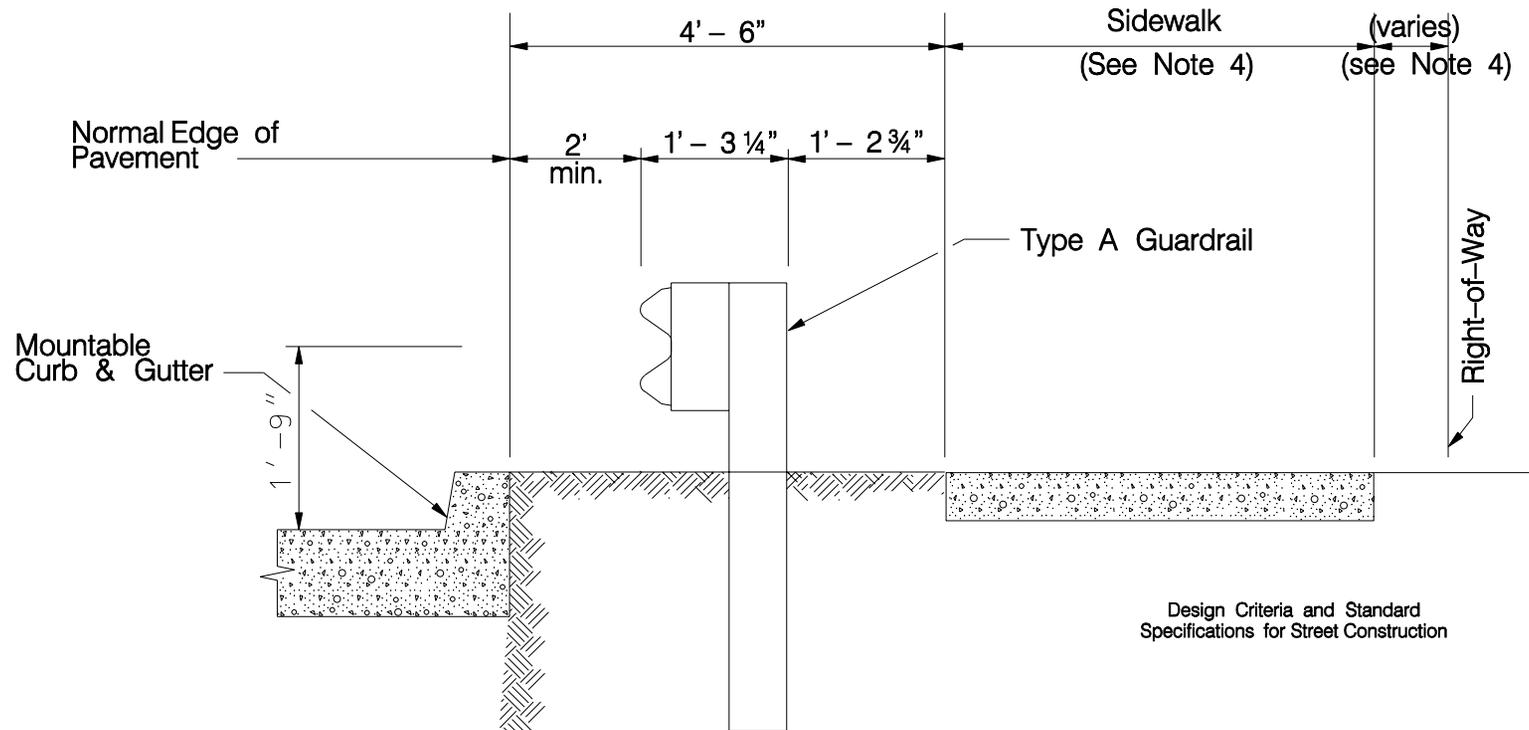
- GENERAL NOTES:
1. DO NOT SCALE DRAWING. FOLLOW DIMENSIONS.
  2. THE THRIE BEAM RAIL FOR THE TYPE E GUARDRAIL AND THE TRANSITION SECTION SHALL BE MADE OF 12 GAUGE STEEL.
  3. FOR PROTECTIVE COATING AND MATERIAL REQUIREMENTS SEE SPECIFICATIONS.
  4. SEE OTHER GUARDRAIL DRAWING SHEETS FOR REQUIREMENTS FOR SETTING POSTS AT OBSTRUCTIONS.
  5. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.
  6. WASHERS SHALL BE USED AT ALL POST BOLTS (BETWEEN BOLT HEAD AND BEAM) ON TYPE E GUARDRAIL, AND TRANSITION SECTION. THEY SHALL BE RECTANGULAR IN SHAPE (3"X1-3/4"X3/16" MIN.) AND FLAT, OR WHEN NECESSARY OF SUCH DESIGN AS TO FIT THE CONTOUR OF THE BEAM. WASHERS SHALL HAVE 1"X1" SLOTTED HOLES.
  7. FOR DETAILS NOT SHOWN SEE OTHER GUARDRAIL DRAWING SHEETS.
  8. THE COST OF FURNISHING, FABRICATING AND INSTALLING TYPE E GUARDRAIL, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAR FEET.
  9. THE COST OF FURNISHING, FABRICATING, AND INSTALLING TRANSITION SECTION, COMPLETE IN PLACE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH.
  10. ADAPTED FROM MISSOURI HIGHWAY & TRANSPORTATION COMMISSION, MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION, OCT. 2001.

<p>Design Criteria and Standard Specifications for Street Construction</p>	<p>City of St. Peters</p>
<p><b>TYPE E GUARDRAIL</b></p>	
<p>Standard Drawing S40.17A</p>	

NEW	REVISIONS
5-13-2002	

GENERAL NOTES:

1. Do not scale drawing. Follow directions.
2. For mountable curb and gutter requirements refer to Standard Drawings S40.21, S40.22A, and S40.22B.
3. For guardrail requirements refer to Standard Drawings S40.17A, S40.18A, S40.18B and S40.19.
4. For sidewalk requirements refer to Standard Drawings S40.60 through S40.63.

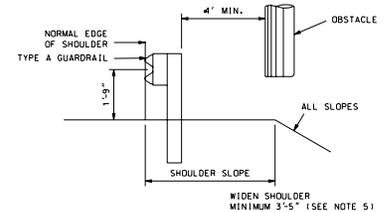
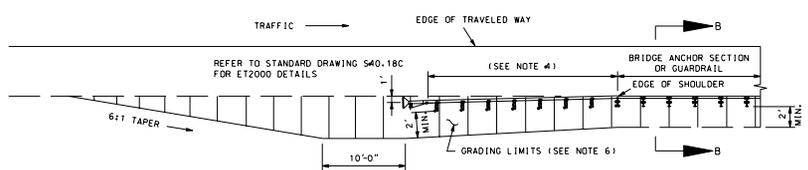
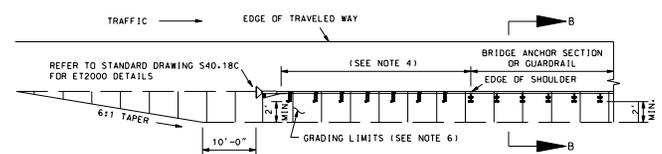
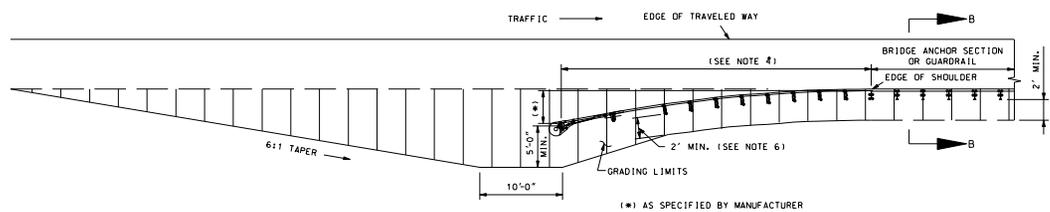
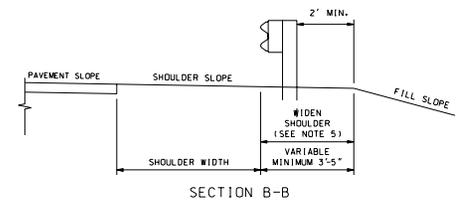
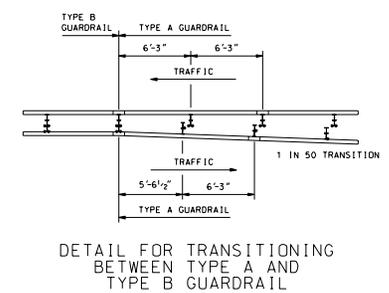
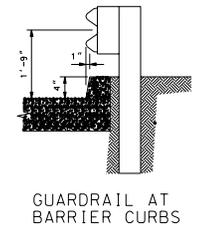
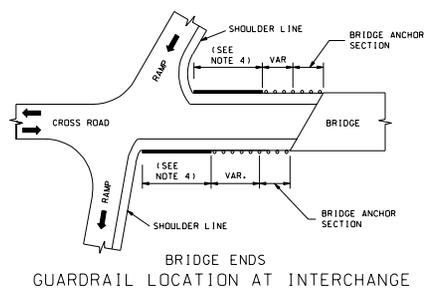
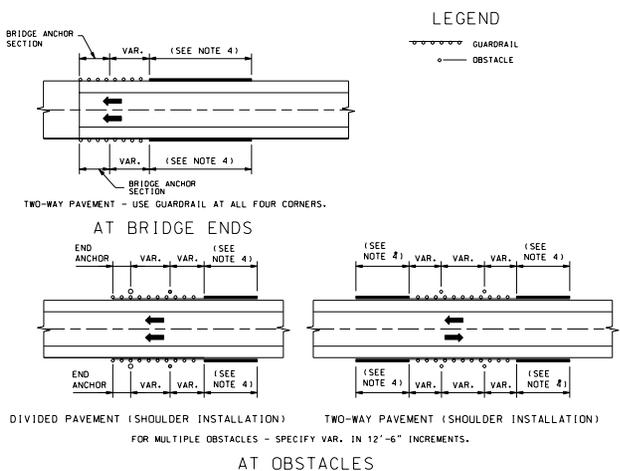


Design Criteria and Standard Specifications for Street Construction

GUARDRAIL LOCATED IN FRONT OF SIDEWALK

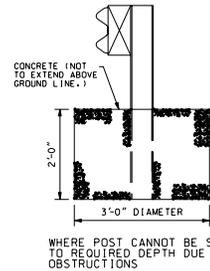
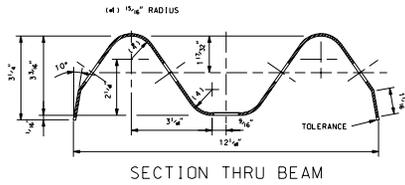
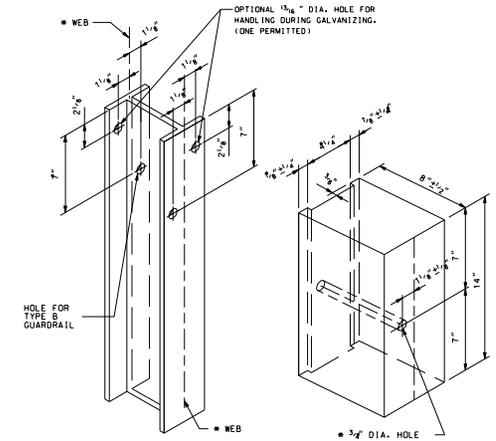
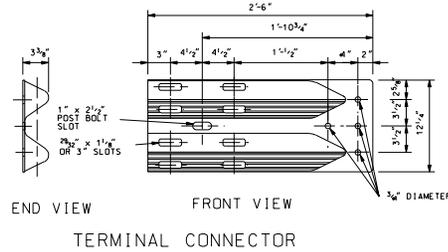
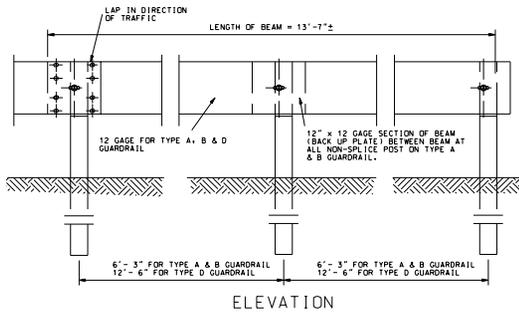
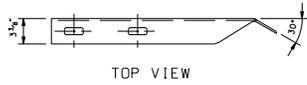
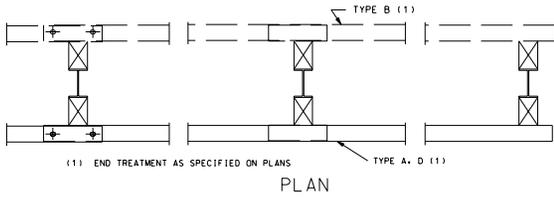
Design Criteria and Standard Specifications for Street Construction	City of St. Petersburg
<b>GUARD RAIL TYPICAL LOCATIONS</b>	
Standard Drawing	S40.17B



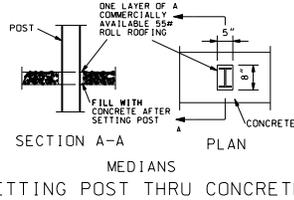
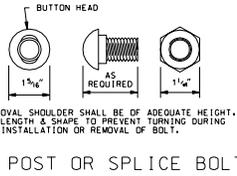
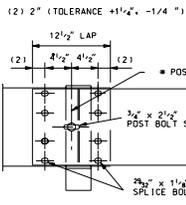
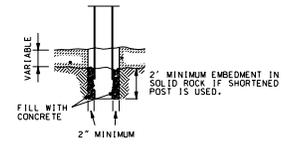


- GENERAL NOTES:**
1. DO NOT SCALE DRAWING. FOLLOW DIMENSIONS.
  2. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH APPROVED SHOP DRAWINGS OF THE APPROVED CRASHWORTHY END TERMINAL.
  3. END ANCHORS SHALL BE INSTALLED ON ENDS OF GUARDRAIL RUNS WHERE CRASHWORTHY END TERMINAL IS NOT REQUIRED.
  4. APPROVED TYPE A CRASHWORTHY END TERMINAL. SEE SPECIAL PROVISIONS.
  5. SHOULDER WIDENING SHALL CONSIST OF EMBANKMENT MATERIAL COMPACTED IN ACCORDANCE WITH SPECIFICATIONS.
  6. THE SLOPE SHOULD BREAK BEHIND THIRD POST.
  7. ADAPTED FROM MISSOURI HIGHWAY & TRANSPORTATION COMMISSION, MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION, OCT. 2001.

Design Criteria and Standard Specifications for Street Construction	City of St. Peter's
<b>GUARDRAIL</b>	
Standard Drawing S40.18A	



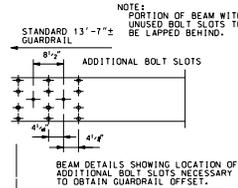
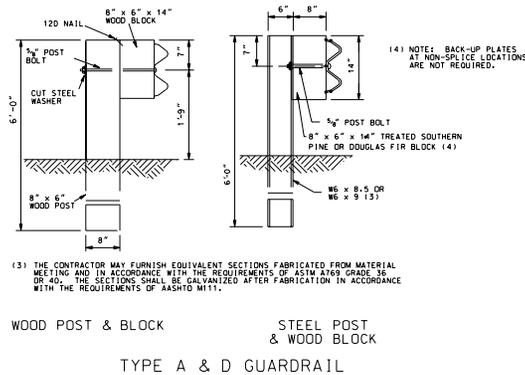
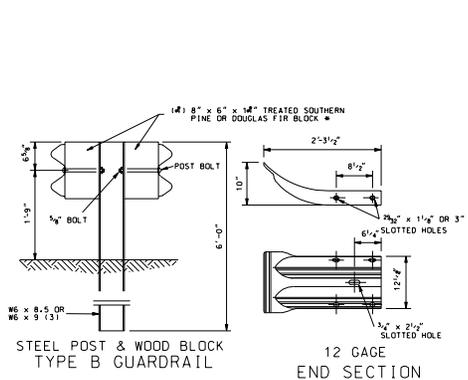
FOR STEEL POST & WOOD BLOCKS  
HOLE PUNCHING DETAIL  
ALL HOLES 1/4" DIAMETER EXCEPT AS NOTED



WHERE POST CANNOT BE SET TO REQUIRED DEPTH DUE TO OBSTRUCTIONS

SETTING POST IN SOLID ROCK

BEAM SPLICE AT POST  
TYPE A, B, & D GUARD RAIL



GENERAL NOTES:

- DO NOT SCALE DRAWING. FOLLOW DIMENSIONS.
- WASHERS SHALL BE OMITTED ON ALL CONNECTIONS ON TYPE A, B, AND D GUARDRAIL.
- POST MAY BE WOOD OR STEEL WITH ONLY ONE MATERIAL ALLOWED WITHIN A SINGLE PROJECT, EXCEPT FOR END TREATMENTS.
- CONCRETE WHERE REQUIRED SHALL BE CLASS B OR OF A COMMERCIAL MIXTURE MEETING THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS.
- ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.
- HOLES IN SOLID ROCK SHALL PROVIDE A DIAMETER OF NOT LESS THAN 4 INCHES GREATER THAN THE MAXIMUM TRANSVERSE DIMENSION OF THE POST SECTION.
- POST MAY BE SHORTER WHERE PLACED IN 2 FEET OF SOLID ROCK. STEEL POSTS MAY BE FLAME OR SAW CUT. REPAIR OF CUT SHALL BE IN ACCORDANCE WITH SPECIFICATIONS.
- ADAPTED FROM MISSOURI HIGHWAY & TRANSPORTATION COMMISSION, MISSOURI STANDARD PLANS FOR HIGHWAY CONSTRUCTION, OCT. 2001.

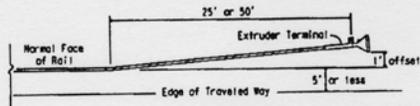
Design Criteria and Standard Specifications for Street Construction

City of St. Peters

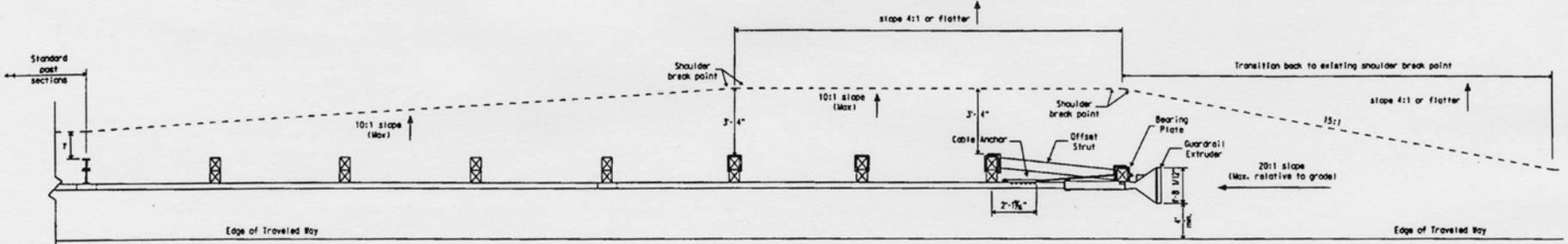
GUARDRAIL



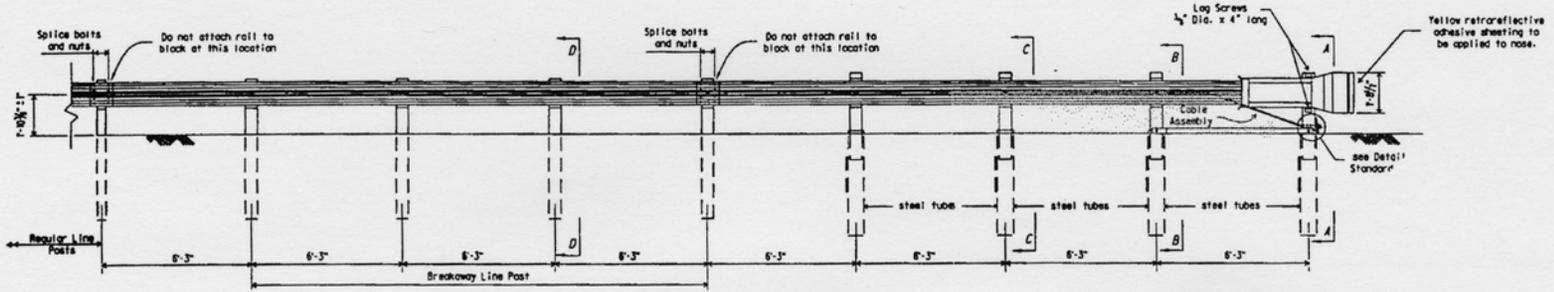
Standard Drawing 40.18B



FLARE DETAIL



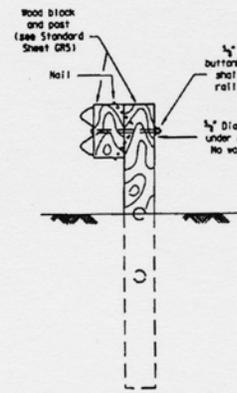
PLAN



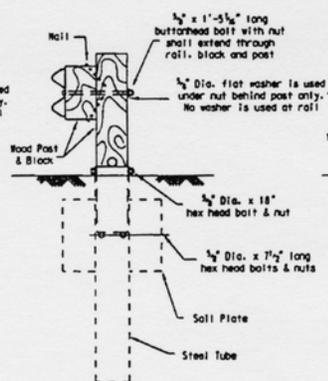
ELEVATION

GENERAL NOTES:

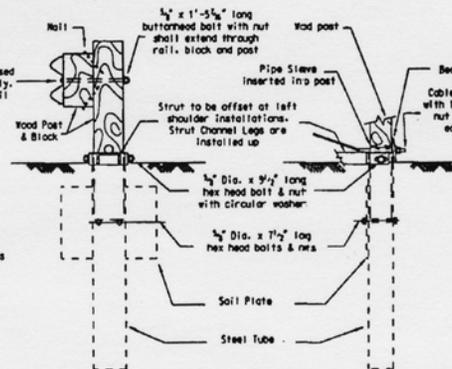
- DO NOT SCALE DRAWING. FOLLOW DIMENSIONS.
- THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH APPROVED SHOP DRAWINGS OF THE APPROVED CRASHWORTHY END TERMINAL.
- END ANCHORS SHALL BE INSTALLED ON ENDS OF GUARDRAIL RUNS WHERE CRASHWORTHY END TERMINAL IS NOT REQUIRED.
- THE WOOD BLOCK SHALL BE NAILED TO THE POST WITH A GALVANIZED STEEL 10d COMMON NAIL. THE NAILS ARE TO BE DRIVEN INTO THE CENTER OF THE TOP OR BOTTOM OF THE BLOCK.
- THE ET2000 END TERMINAL SHALL MAINTAIN A 4' MINIMUM OFFSET FROM THE EDGE OF THE EXTRUDER TERMINAL TO THE EDGE OF THE TRAVELED WAY. FOR NARROW EXISTING SHOULDERS THAT HAVE AN OFFSET OF 5' OR LESS FROM THE FACE OF THE RAIL ELEMENT TO THE EDGE OF THE TRAVELED WAY, THE RAIL AND TERMINAL MAY BE FLARED FROM THE NORMAL FACE OF RAIL. THE FLARED OFFSET DISTANCE SHALL BE 1 FOOT AT A TAPER RATE OF 25:1 FOR A TOTAL FLARE LENGTH OF 25 FEET OR A TAPER RATE OF 50:1 FOR A TOTAL FLARE LENGTH OF 50 FEET (SEE FLARE DETAIL).
- RAIL ELEMENT PANEL LENGTHS SHALL BE 25 FEET ONLY. SHORTER LENGTHS SHALL NOT BE USED.
- NOSE COVER SHALL BE CONSTRUCTED OF ALUMINUM AND COVERED WITH YELLOW RETROREFLECTIVE SHEETING MEETING THE REQUIREMENTS OF ASTM D4956-90 TYPE V WITH NO.42 ADHESIVE.



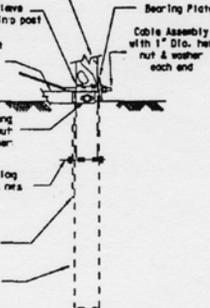
SECTION "D-D"



SECTION "C-C"



SECTION "B-B"



SECTION "A-A"

Design Criteria and Standard Specifications for Street Construction

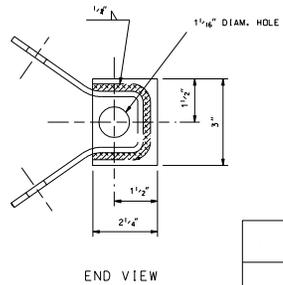
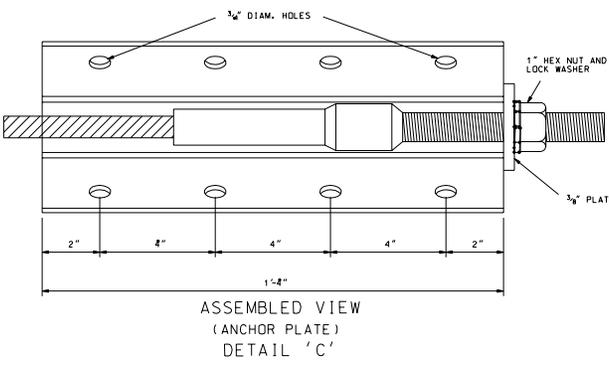
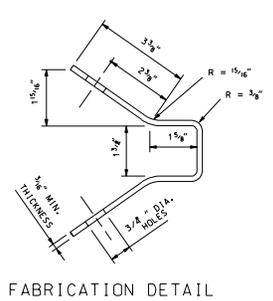
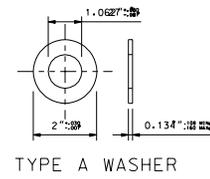
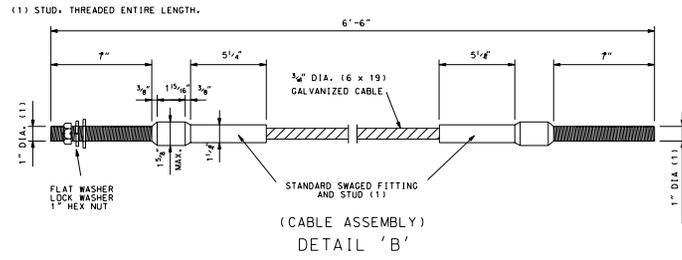
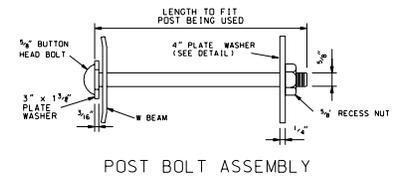
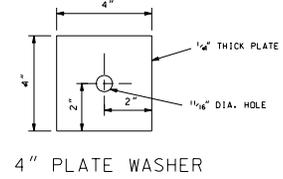
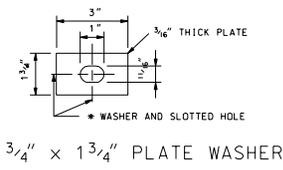
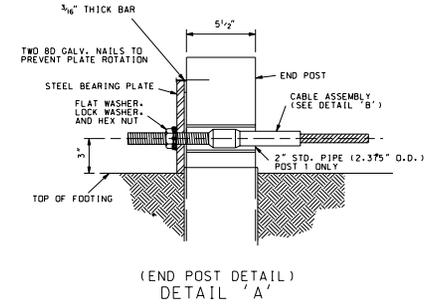
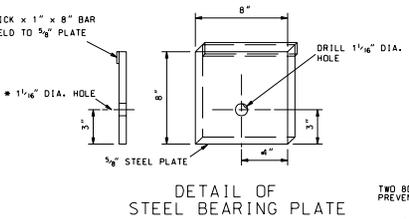
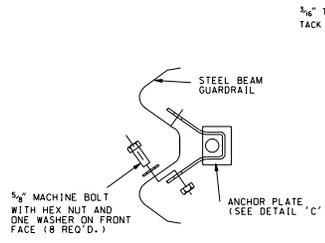
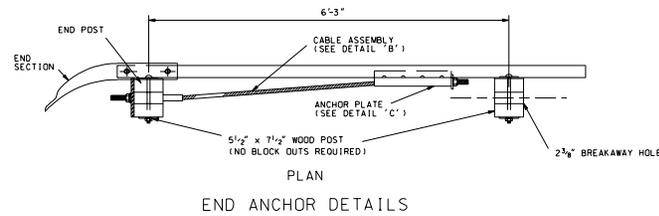
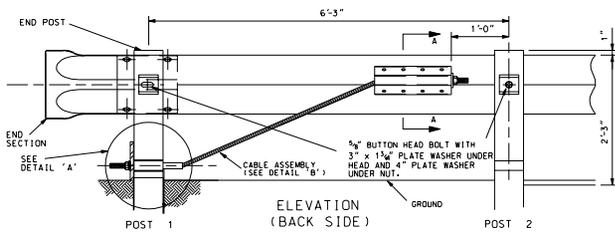
City of St. Petersburg

ET2000 Details

Standard Drawing S40.18C



<b>NEW</b>	<b>REVISIONS</b>
5-13-2002	



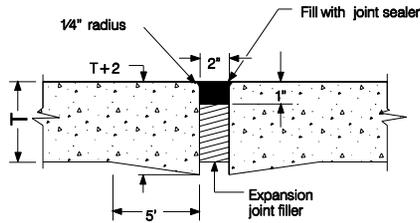
GENERAL NOTES:

- DO NOT SCALE DRAWING. FOLLOW DIMENSIONS.
- END ANCHOR DETAILS SHOWN ARE TO BE USED ONLY ON DOWNSTREAM ENDS OF GUARDRAIL, WHEN AN END ANCHOR IS REQUIRED.
- THE DETAILS SHOWN ARE FOR AN END ANCHORAGE SYSTEM TO BEAM GUARDRAIL.
- CABLE ASSEMBLY AND ANCHOR PLATE SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER AND SHALL HAVE A MINIMUM BREAKING STRENGTH OF 20 TONS.
- ALL FITTINGS AND HARDWARE REQUIRED SHALL BE GALVANIZED AFTER FABRICATION.
- WOOD POSTS 1 AND 2 SHALL BE 5 1/2" x 7 1/2".

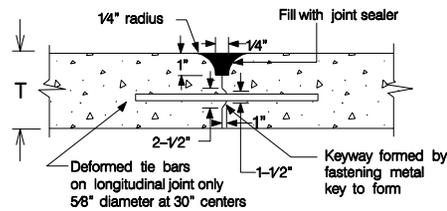
Design Criteria and Standard Specifications for Street Construction	City of St. Peters
<b>GUARDRAIL END ANCHOR DETAILS</b>	
Standard Drawing S40.19	



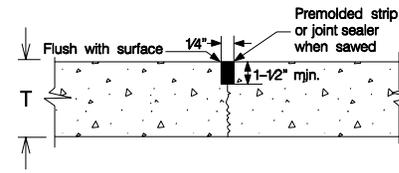
GENERAL NOTES



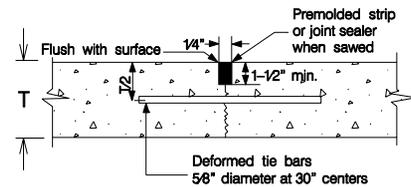
**TYPE A2**  
EXPANSION JOINT



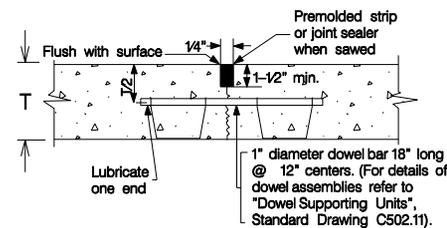
**TYPE B**  
LONGITUDINAL CONSTRUCTION JOINT  
(See Note 5)



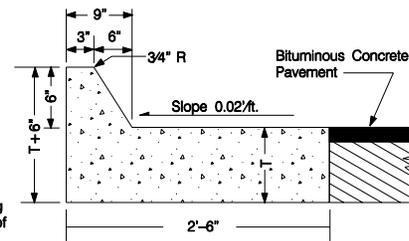
**TYPE C**  
SAWED OR PREMOLDED STRIP  
TRANSVERSE OR LONGITUDINAL  
CONSTRUCTION JOINT  
(See Note 4)



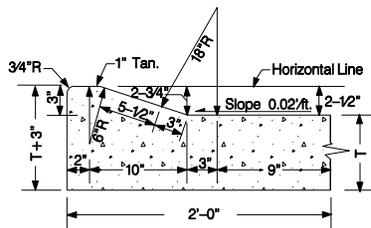
**TYPE F**  
SAWED OR PREMOLDED STRIP  
LONGITUDINAL CONSTRUCTION JOINT



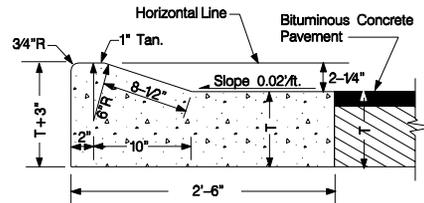
**TYPE G**  
SAWED OR PREMOLDED STRIP  
TRANSVERSE CONSTRUCTION JOINT  
(See Note 4)



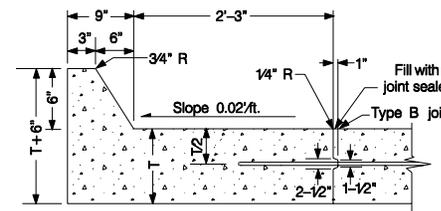
**MOUNTABLE CURB AND GUTTER**  
(2'-6" WIDE)



**INTEGRAL ROLLED CURB**



**ROLLED CURB AND GUTTER**  
(2'-6" WIDE)  
(See Note 13)



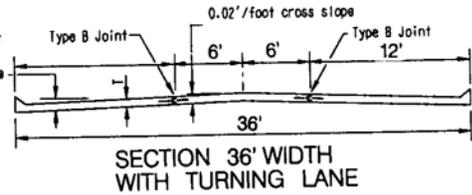
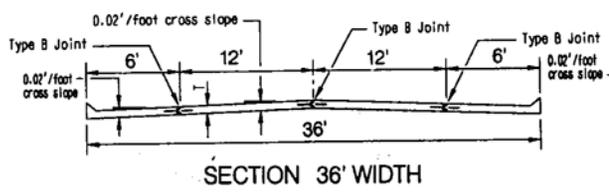
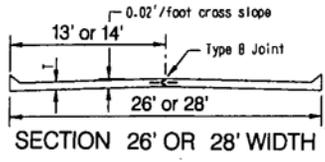
**MOUNTABLE CURB AND GUTTER**

- Do not scale drawing. Follow dimensions.
- Construction joints and tie bars may be omitted when curb is poured integral with pavement.
- Minimum thickness for pavement is:  
Bituminous Concrete Pavement Thickness = (T)  
Concrete Pavement Thickness = (T)  
All Residential Minor Collector and Local Streets 6" 8"  
All Non-Residential Minor Collector and Local Streets 7" 10"  
All Arterial Streets and all Major Collector Streets 8" 11"
- Type "G" Transverse Joint is required for Arterial and Major Collector streets. Use Type "C" Transverse Joint for all others.
- For Residential Streets having 6" concrete pavement, 1/2" diameter deformed tie bars 30" long at 30" centers shall be used for Type "B" Longitudinal Joints.
- Refer to Standard Drawings S40.22A and S40.22B for curb details, pavement details and joint and bar requirements for different street classifications. Note the width and location of each poured portion of the pavement may change the type and location of joint required.
- All deformed bars for joints and curbs shall be Billet Steel Bars conforming to A.S.T.M. 615-75, Grade 40.
- Length of the tie bars shall equal the thickness of pavement plus the height of curb less 3". Tie bars shall be placed at 24" centers.
- Transverse or longitudinal construction joints in slip formed pavements may be made with a groover or tool, if such device has been approved in advance by the City Engineer.
- The free end of the dowel bar for a length of at least 11" shall be coated with an approved graphite grease.
- All dowel bars 18" long at 12" centers shall be epoxy coated.
- Type "C" Asphaltic Concrete is to be used in lieu of Type "C" Bituminous Concrete when directed by the City Engineer.
- Certain streets will be required to overlay the gutter with 2" Type "C" Bituminous Concrete Wearing Surface as directed by the City.

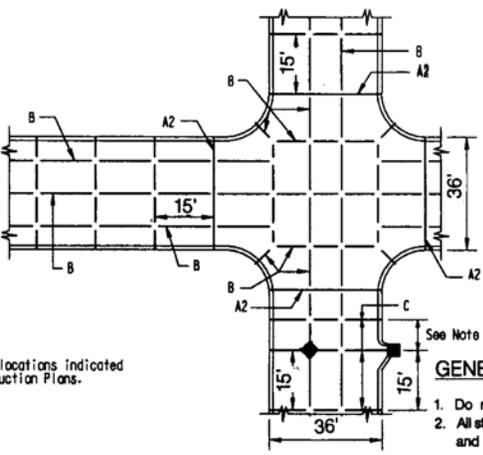
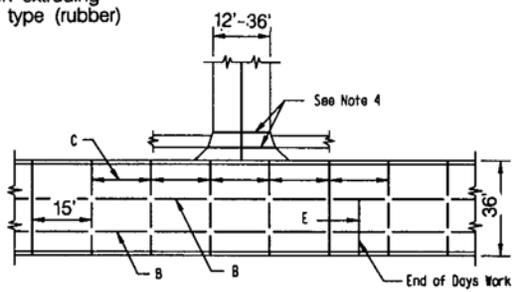
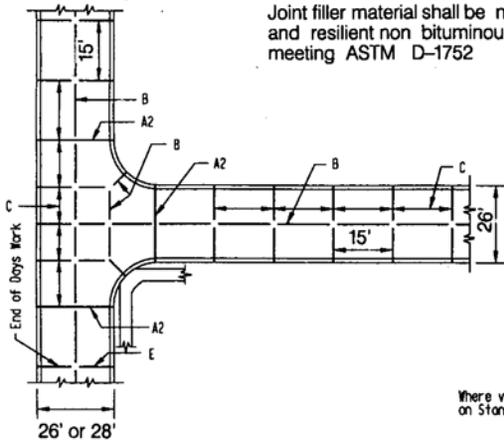
Design Criteria and Standard Specifications for Street Construction	City of St. Peters
<b>JOINTS AND CURBS DETAILS</b>	
Standard Drawing	<b>S40.21</b>



## INTEGRAL ROLLED CURB AND CONCRETE PAVEMENT TYPICAL SECTIONS AND DETAILS



**NOTE:**  
Joint filler material shall be non-extruding and resilient non bituminous type (rubber) meeting ASTM D-1752

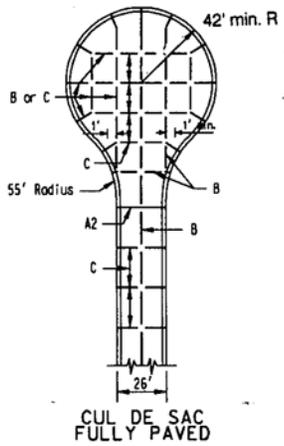


### PLAN OF JOINT LOCATION

Where variable widths of intersecting pavements are shown joint spacing must conform to locations indicated on Standard Typical Sections, Intersection Channelization Details or the Approved Construction Plans.

### GENERAL NOTES:

1. Do not scale drawing. Follow dimensions.
2. All street inlets shall be separated from the pavement and curb by expansion joint material extending completely through curb and slab. Manhole casting within the pavement limits shall be boxed.
3. When a joint falls within 5 feet of, or contacts inlets, manholes, or other structures, shorten on or more panels either side of opening to permit joint to fall on round structures and at or between corners of rectangular structures.
4. Driveway configurations are shown on Standard Drawings S40.40 and S40.41.
5. Construction joints and tie bars may be omitted when curb is poured monolithic with pavement.
6. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions not shown refer to Standard Drawing S40.21. Note the width and location may change the type of joint required.
7. Transverse or longitudinal construction joints in slip formed pavements may be made with a groover or tool, if such device is preapproved by the City.
8. The locations of the Type B longitudinal construction joints in the sections may be interchanged for the different widths of construction if approved by the City Engineer.



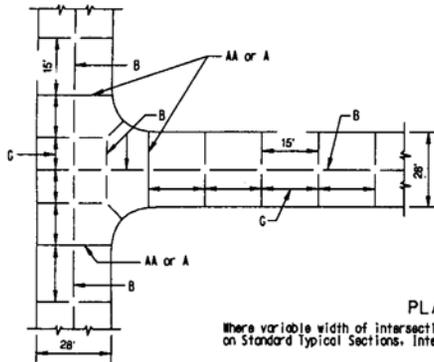
JOINT REQUIREMENTS FOR CONCRETE PAVEMENT		
STREET	JOINT TYPE	JOINT AND BAR REQUIREMENTS
RESIDENTIAL 3 LANE 36' wide pavement 6" thick concrete	Transverse	TYPE C no steel bars
	Longitudinal	Within a poured section and at the edge between two poured sections: TYPE B 3/4" deformed tie bars 30"lg. @ 30" ctrs.
	Expansion	TYPE A or A2 3/4" smooth dowel bars 18"lg. @ 12" ctrs.
RESIDENTIAL 2 LANE 26'-28' wide pavement 6" thick concrete	Transverse	TYPE C no steel bars
	Longitudinal	Full Width Construction TYPE B 3/4" deformed tie bars 30"lg. @ 30" ctrs.      Half Width Construction: TYPE B modified with 3/4" deformed tie bars 30"lg. @ 30" ctrs.
	Expansion	TYPE A or A2 3/4" smooth dowel bars 18"lg. @ 12" ctrs.

Design Criteria and Standard Specifications for Street Construction	City of St. Peters
<b>INTEGRAL ROLLED CURB AND CONCRETE PAVEMENT TYPICAL SECTIONS AND DETAILS</b>	
Standard Drawing S40.22A	



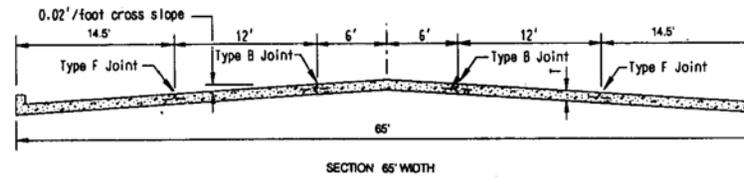
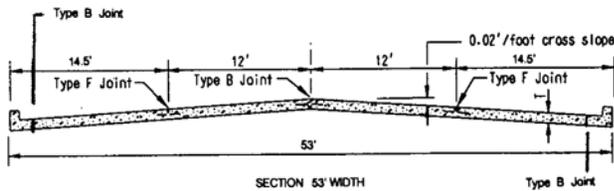
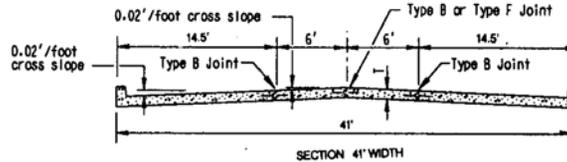
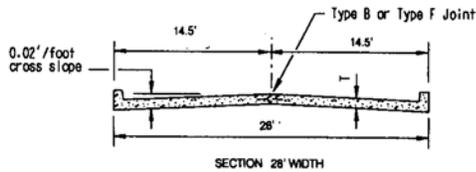
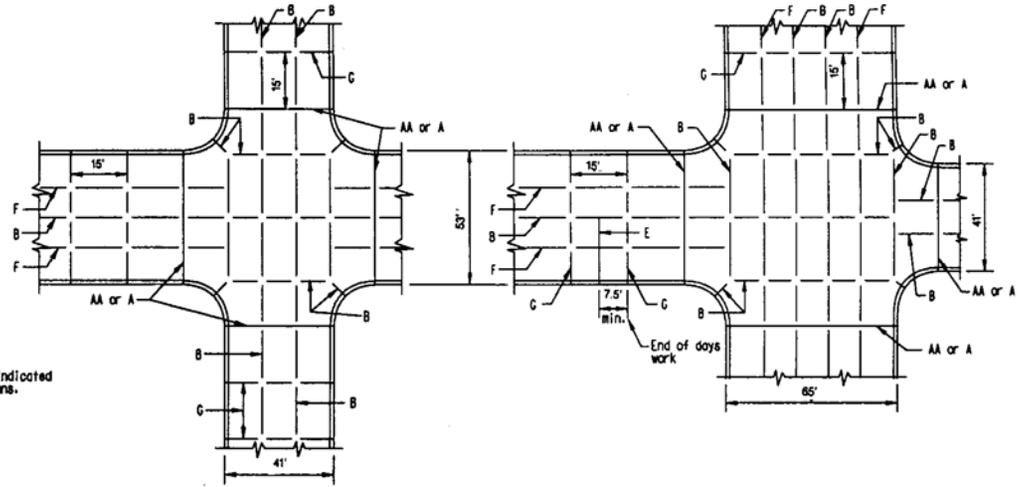
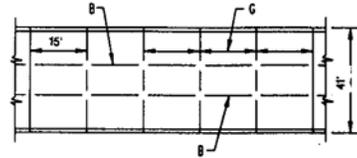
# MOUNTABLE CURB AND CONCRETE PAVEMENT TYPICAL SECTIONS AND DETAILS

**NOTE:**  
 Joint filler material shall meet ASTM designations as follows:  
 Non-extruding & resilient non-bituminous type (rubber). ASTM D-1752



**PLAN OF JOINT LOCATION**

Where variable width of intersecting pavements are shown joint spacing must conform to locations indicated on Standard Typical Sections, Intersection Channelization Details or the Approved Construction Plans.



**GENERAL NOTES:**

1. Do not scale drawing. Follow dimensions.
2. All street inlets shall be separated from the pavement and curb by expansion joint material extending completely through curb and slab. Manhole casting within the pavement limits shall be boxed.
3. When a joint falls within 5 feet of, or contacts inlets, manholes, or other structures, shorten on or more panels either side of opening to permit joint to fall on round structures and at or between corners of rectangular structures.
4. Driveway configurations are shown on Standard Drawings S40.40 and S40.41.
5. Construction joints and tie bars may be omitted when curb is poured monolithic with pavement.
6. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions not shown refer to Standard Drawing S40.21. Note the width and location may change the type of joint required.
7. Transverse or longitudinal construction joints in slip formed pavements may be made with a groover or tool, if such device is preapproved by the City.
8. The locations of the Type B longitudinal construction joints in the sections may be interchanged for the different widths of construction if approved by the City Engineer.
9. All 1" diameter smooth dowel bars 18" long at 12" centers shall be epoxy coated.
10. Drawing adapted from St. Louis County Department of Highways and Traffic, Design Criteria for the Preparation of Improvement Plans.

JOINT REQUIREMENTS FOR CONCRETE PAVEMENT		
STREET	JOINT TYPE	JOINT AND BAR REQUIREMENTS
All Arterial, Major Collector, & Non-Residential	Transverse	TYPE G 1" $\phi$ smooth dowel bars 18" lg. @ 12" ctrs.
	Longitudinal	within a poured section: TYPE F $\frac{3}{4}$ " $\phi$ deformed tie bars 30" lg. @ 30" ctrs.     At the edge between two poured sections: TYPE B $\frac{3}{4}$ " $\phi$ deformed tie bars 30" lg. @ 30" ctrs.
24' - 65' wide pavement 1"-8" thick concrete	Expansion	TYPE AA $\frac{3}{4}$ " $\phi$ smooth dowel bars 18" lg. @ 12" ctrs.

Design Criteria and Standard Specifications for Street Construction

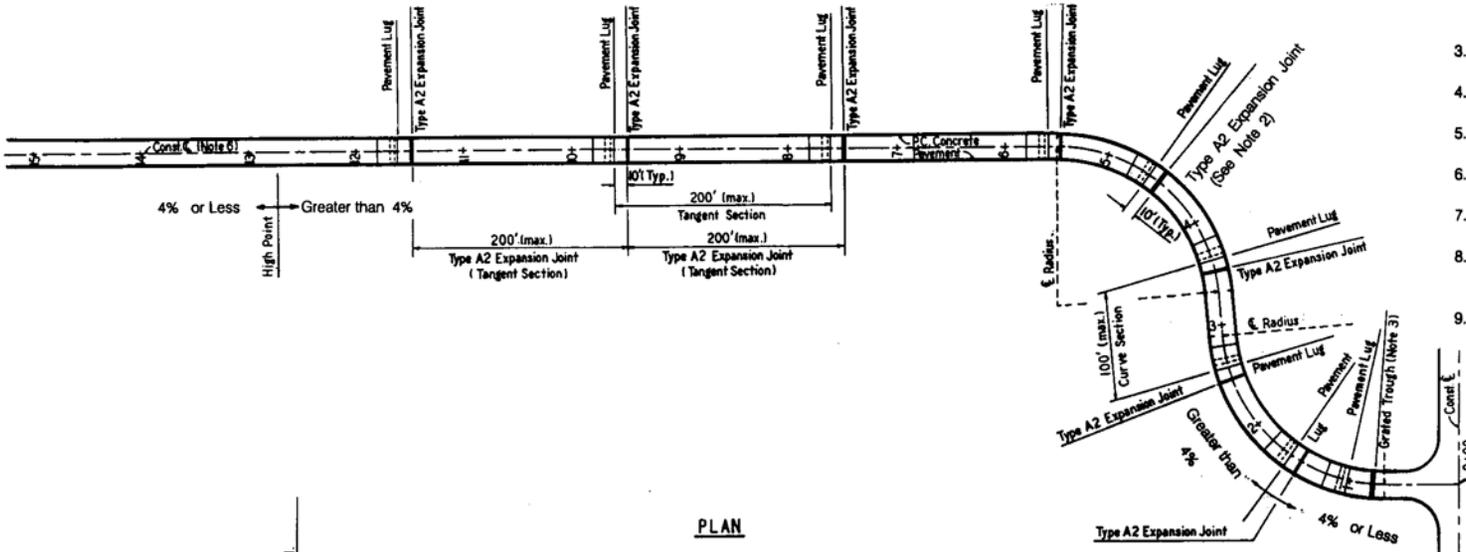
**MOUNTABLE CURB AND CONCRETE PAVEMENT TYPICAL SECTIONS AND DETAILS**

Standard Drawing S40.22B



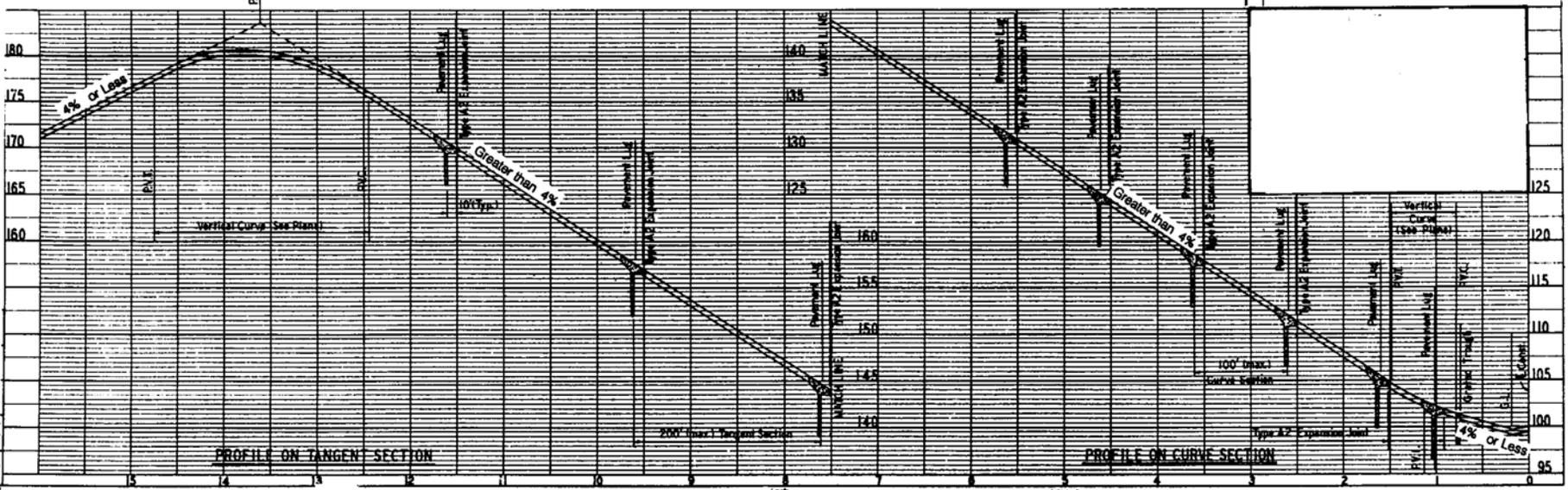


NEW	REVISIONS
5-13-2002	



- GENERAL NOTES:**
1. Do not scale drawing. Follow dimensions.
  2. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions refer to Standard Drawings S40.21, S40.22A, and S40.22B.
  3. Refer to Standard Drawing S40.20 for grated trough construction details.
  4. Refer to Standard Drawing S40.23 for pavement lug construction details.
  5. Pavement lugs are not required if distance to the high point of the vertical curve is less than 200 feet.
  6. For pavement width, thickness, horizontal and vertical alignment see plans.
  7. Pavement lugs may be field adjusted as directed by the City Engineer to eliminate utility conflicts.
  8. Stationing and elevations shown on this drawing are for illustration only. See plans for actual stationing and elevation.
  9. Pavement Lugs shall be constructed 4 feet in depth for street grades between 4% and 11.9% and pavement lugs shall be 5 feet deep for street grades 12% and greater.

**PLAN**

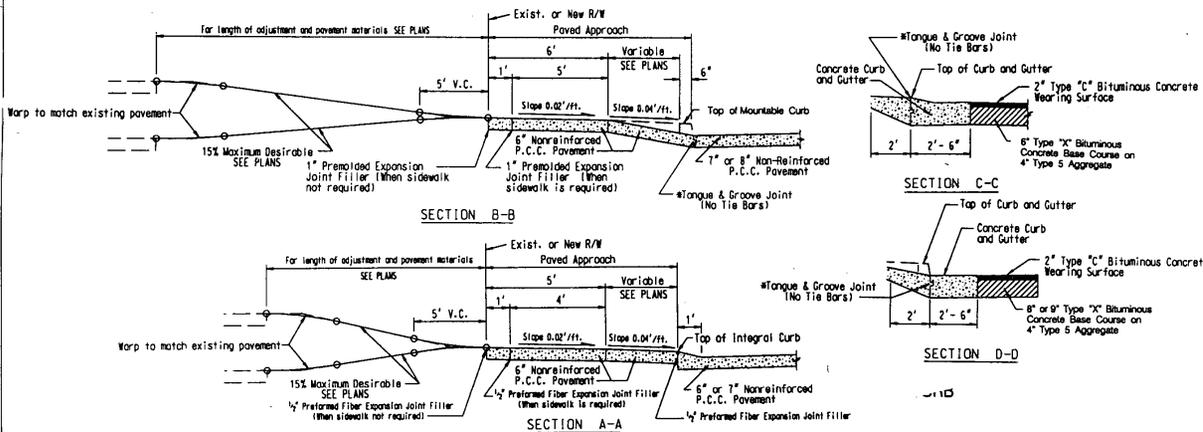


**PROFILE ON TANGENT SECTION**

**PROFILE ON CURVE SECTION**

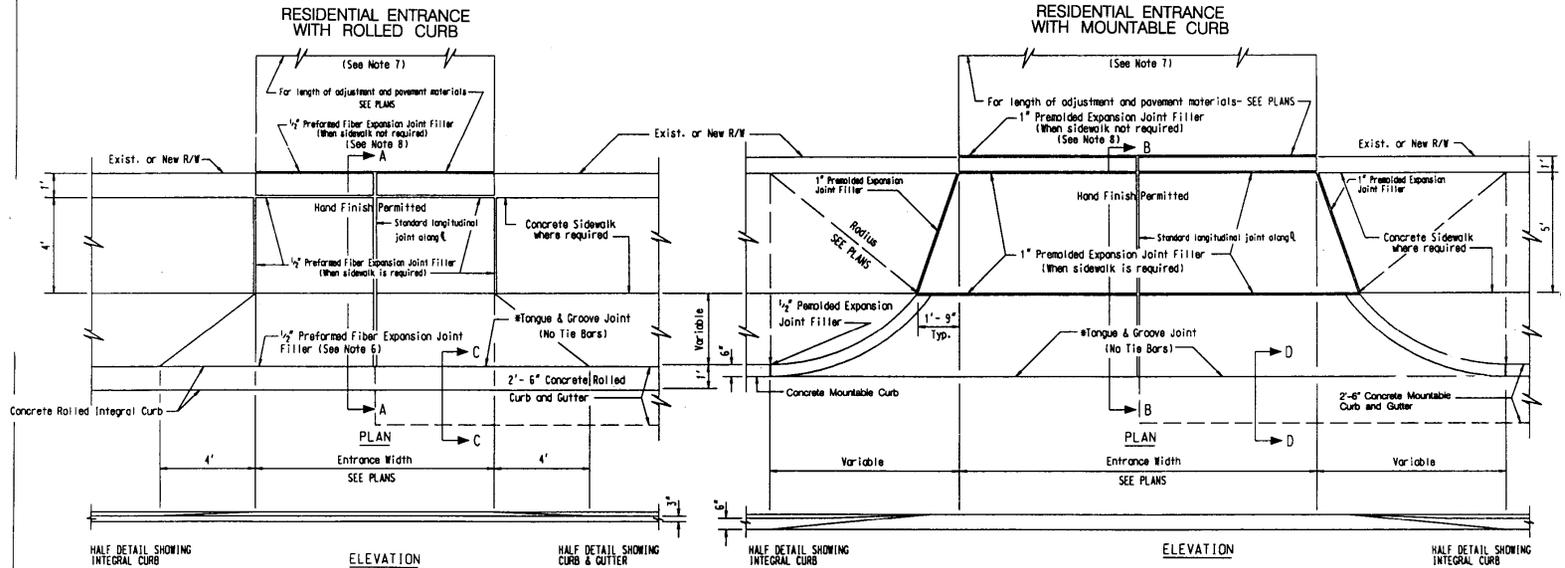
Design Criteria and Standard Specifications for Street Construction	City of St. Peter's
<b>PAVEMENT LUG LOCATIONS</b>	
Standard Drawing S40.24	

NEW	REVISIONS
5-19-2002	



**GENERAL NOTES:**

1. Do not scale drawing. Follow dimensions.
2. For curb and joint dimensions refer to Standard Drawings S40.21, S40.22A, and S40.22B.
3. All expansion joints shall extend from the subgrade to 12" below top of finished surface of concrete.
4. The thickness of the first section of sidewalk on each side of the entrance shall be increased to match the driveway approach pavement thickness.
5. For construction details for driveways opposite 'T' intersections or on outside of a curve, refer to Standard Drawing S40.45.
6. 1/2" Preformed Fiber Expansion Joint Material is required between the garage and the driveway.
7. For locations other than in public road right-of-way, it is recommended that 1/2" preformed fiber expansion joint filler be placed at the first joint location from the pavement edge.

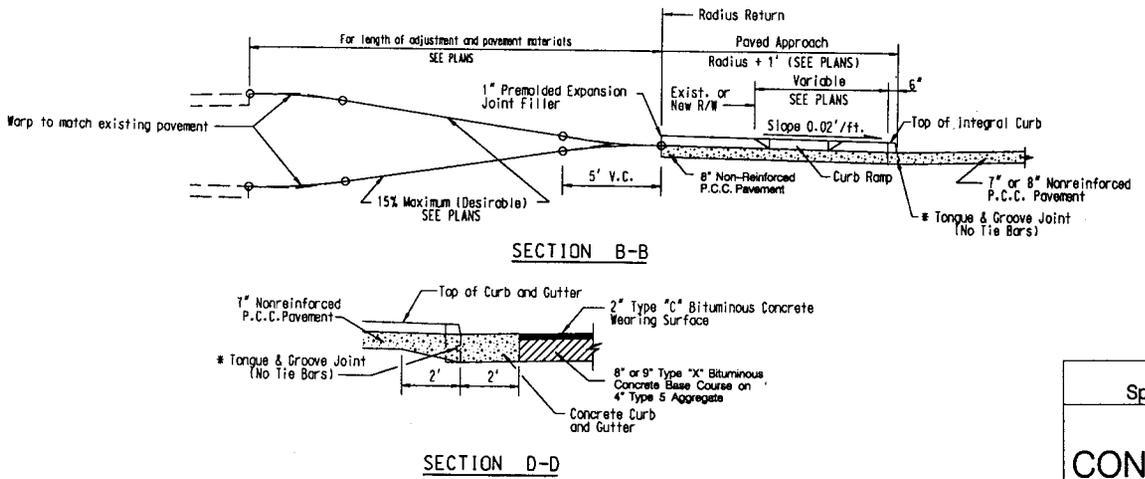
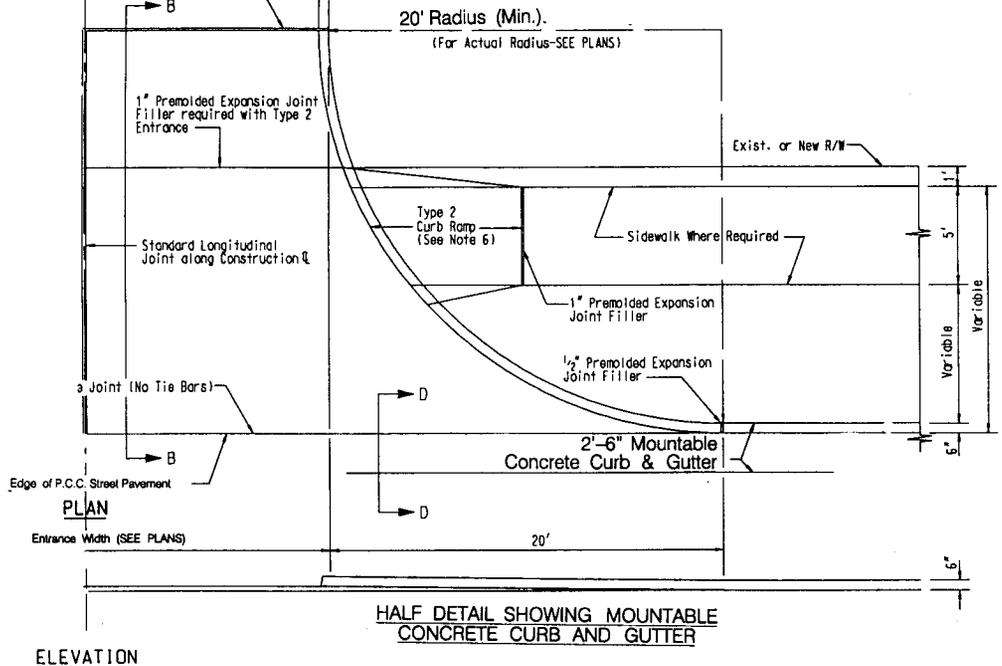


Design Criteria and Standard Specifications for Street Construction	City of St. Peters
<b>RESIDENTIAL CONCRETE ENTRANCES</b>	
Standard Drawing S40.40	

NEW	REVISIONS
6-13-2002	

For length of adjustment and pavement materials  
SEE PLANS

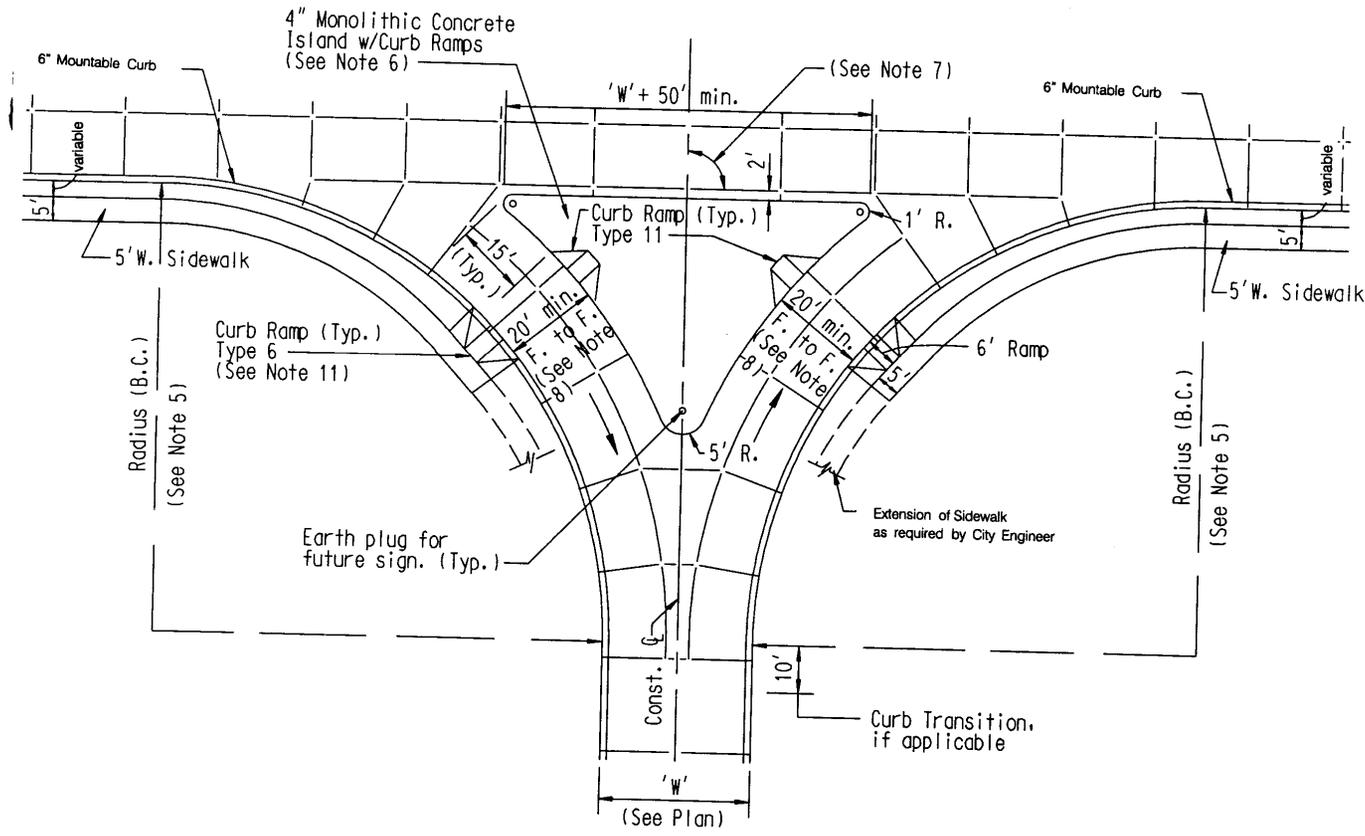
**COMMERCIAL ENTRANCE WITH MOUNTABLE CURB**



**GENERAL NOTES:**

1. Do not scale drawing. Follow dimensions.
2. Plan is symmetrical about centerline.
3. For curb and joint dimensions refer to Standard Drawings S40.21, S40.22A, and S40.22B.
4. For roadway cross slopes, pavement types and thickness refer to Street Design Criteria.
5. For details regarding pavement markings, refer to Guidelines for Pavement Markings and Lane Striping Standard Drawing S60.00.
6. Curb ramps are required with sidewalk and curb.
7. The thickness of the first section of sidewalk on each side of the entrance shall be increased to match the driveway approach pavement thickness.
8. For new concrete entrance at existing pavement and curbing, sawcut at 1 foot and install tie bars, 5/8" diameter 18" long at 12" centers along all saw cut edges. New tie bars shall be placed in drilled holes with non-shrink grout. Tie bars, where existing, shall be cleaned and straightened for incorporation in the new concrete.

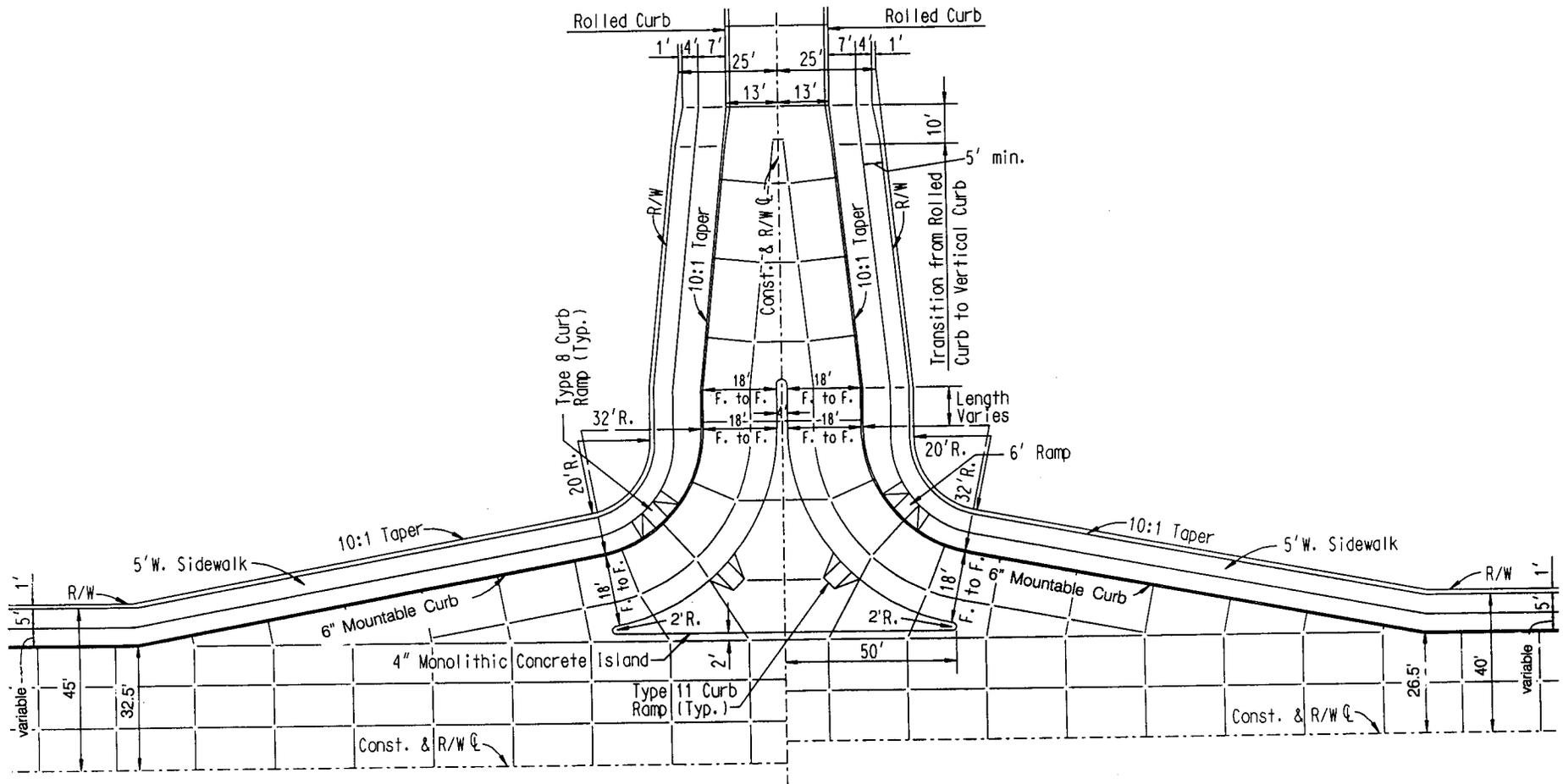
Design Criteria and Standard Specifications for Street Construction	City of St. Peters
<b>COMMERCIAL CONCRETE ENTRANCES</b>	
Standard Drawing S40.41	



**GENERAL NOTES:**

1. Do not scale drawing. Follow dimensions.
2. For curb and joint dimensions refer to Standard Drawings S40.21, S40.22A & S40.22B.
3. For roadway cross slopes, pavement types and thickness refer to Street Design Criteria.
4. For details regarding pavement markings, refer to Guidelines for Pavement Markings and Lane Striping Standard Drawing S60.00.
5. Each corner radius shall be as required by the geometric layout shown and increased to the nearest 5 foot dimension. The minimum acceptable corner radius shall be 32 feet.
6. For detail of channelization island and curb ramps in channelization islands refer to 4 Inch Raised Concrete Channelization Island with Curb Ramps Standard Drawing S40.44.
7. The intersection angle shall be designed at 90 degrees unless otherwise approved by the City Engineer.
8. Greater channelization lane widths may be required if the intersection angle is less than 90 degrees.
9. For longitudinal and transverse joints, dowel and tie bar requirements, and curb dimensions refer to Standard Drawings S40.21, S40.22A, & S40.22B.
10. The location of Type B and F longitudinal construction joints in the sections may be interchanged for different construction widths only with approval from the City Engineer.
11. Curb ramps are required with sidewalk and curb.
12. Transverse or longitudinal construction joints in slipformed pavements may be made with a groover or tool, if pre-approved by the City Engineer.
13. All catch basins shall be separated from the pavement and curb by expansion joint material extending completely through curb and slab. Manhole castings within the pavement limits shall be boxed in.
14. When a joint falls within 5 feet of, or contacts basins, manholes, or other structures, shorten one or more panels either side of opening to permit joint to fall on round structures and at or between corners of rectangular structures.
15. The thickness of the first section of sidewalk on each side of the entrance shall be increased to match the driveway approach pavement thickness.

Design Criteria and Standard Specifications for Street Construction	City of St. Peter's
<b>RIGHT IN - RIGHT OUT CHANNELIZED STREET OR COMMERCIAL ENTRANCE</b>	
Standard Drawing S40.42A	



**GENERAL NOTES:**

1. Do not scale drawing. Follow dimensions.
2. Sections are symmetrical about construction centerline.
3. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions, refer to Standard Drawings S40.21, S40.22A and S40.22B. Note that width and location of each poured portion of pavement may change the type and location of joint required.
4. All necessary pavement markings shall be as required by the City of St. Peters. For details refer to Guidelines for Pavement Markings and Lane Striping Standard Drawing S60.00.
5. The thickness of the first section of sidewalk on each side of entrance shall be increased to match the driveway approach pavement thickness.
6. All catch basins shall be separated from the pavement and curb by expansion material extending completely through the curb and slab. Manhole castings within the pavement limits shall be boxed.
7. When a joint falls within 5 feet of, or contacts, basins, manholes, or other structures, shorten one or more panels with side of opening to permit joint to fall on round structures and at or between corners of rectangular structures.
8. Driveway configurations are shown on Standard Drawing S40.41.
9. For roadway cross slopes, pavement types and thickness, refer to Street Design Criteria.
10. Transverse or longitudinal construction joints in slip formed pavements may be made with a groover or tool, if such device is pre-approved by the City Engineer.
11. The location of the Type B and Type F longitudinal construction joints in the sections may be interchanged for the different widths of construction if approved by the City Engineer.
12. Curb ramps are required with sidewalk and curb.
13. For detail of channelization islands and curb ramps in channelization islands, refer to the Intersection Channelization Details for 4 Inch Raised Concrete Channelization Island with Curb Ramps Standard Drawing S40.44.

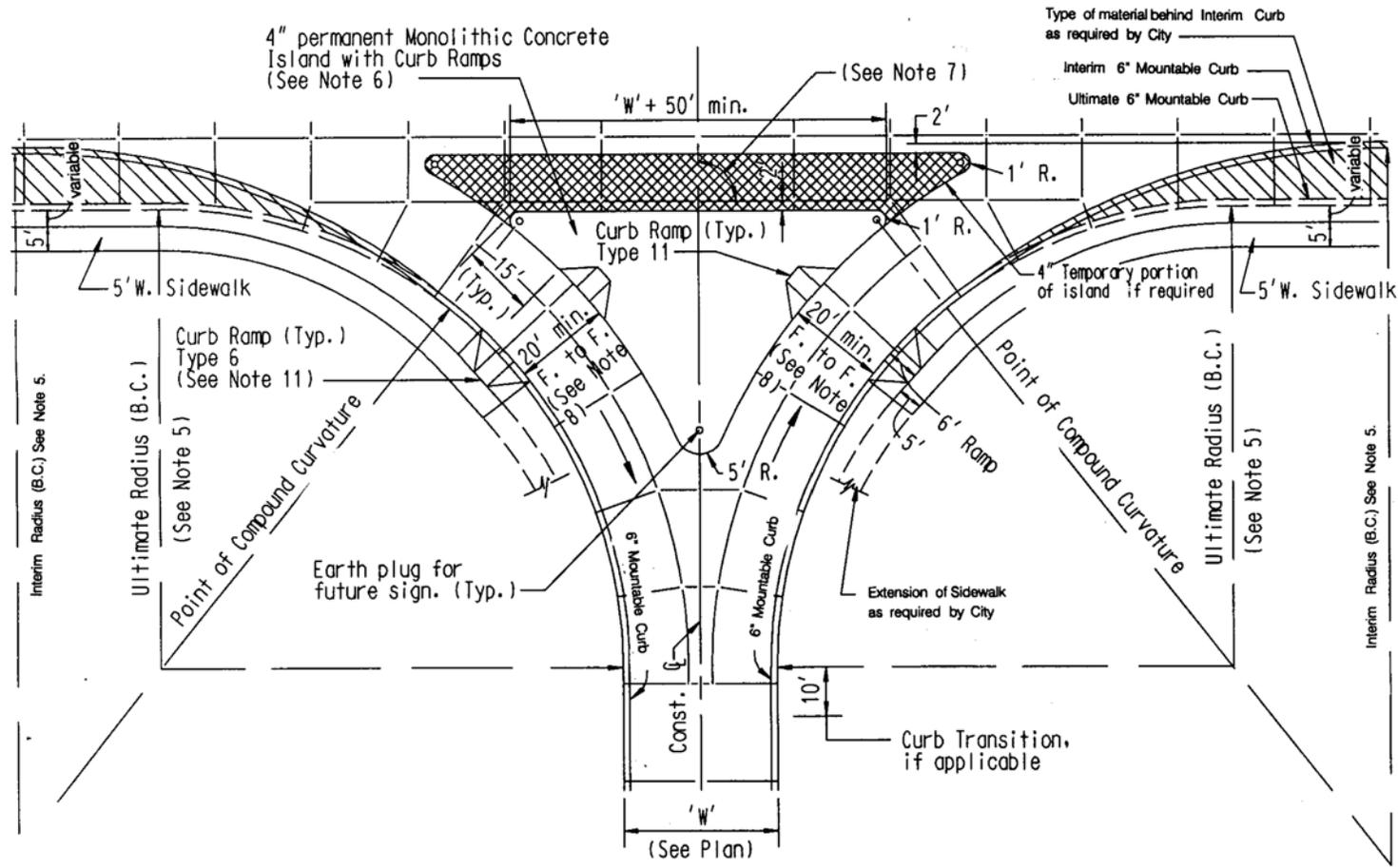
Design Criteria and Standard Specifications for Street Construction

**RIGHT IN - RIGHT OUT CHANNELIZED STREET OR COMMERCIAL ENTRANCE**

Standard Drawing S40.42B

City of St. Peters





**GENERAL NOTES:**

1. Do not scale drawing. Follow dimensions.
2. For curb and joint dimensions refer to Standard Drawings S40.21, S40.22A, and S40.22B.
3. For roadway cross slopes, pavement types and thickness refer to Street Design Criteria.
4. For details regarding pavement markings, refer to Guidelines for Pavement Markings and Lane Striping Standard Drawing S60.00.
5. Each corner radius shall be as required by the geometric layout shown and increased to the nearest 5 foot dimension. The minimum acceptable corner radius shall be 50 feet.
6. For detail of channelization island and curb ramps in channelization islands refer to 4 Inch Raised Concrete Channelization Island with Curb Ramps Standard Drawing S40.44.
7. The intersection angle shall be designed at 90 degrees unless otherwise approved by the City Engineer.
8. Greater channelization lane widths may be required if the intersection angle is less than 90 degrees.
9. For longitudinal and transverse joints, dowel and tie bar requirements, and curb dimensions refer to Standard Drawings S40.21, S40.22A & S40.22B.
10. The location of Type B and F longitudinal construction joints in the sections may be interchanged for different construction widths only with approval from the City Engineer.
11. Curb ramps are required with sidewalk and curb.
12. Transverse or longitudinal construction joints in slipformed pavements may be made with a groover or tool, if pre-approved by the City Engineer.
13. All catch basins shall be separated from the pavement and curb by expansion joint material extending completely through curb and slab. Manhole castings within the pavement limits shall be boxed in.
14. When a joint falls within 5 feet of, or contacts basins, manholes, or other structures, shorten one or more panels either side of opening to permit joint to fall on round structures and at or between corners of rectangular structures.
15. The thickness of the first section of sidewalk on each side of the entrance shall be increased to match the driveway approach pavement thickness.
16. Sections are symmetrical about construction centerline.

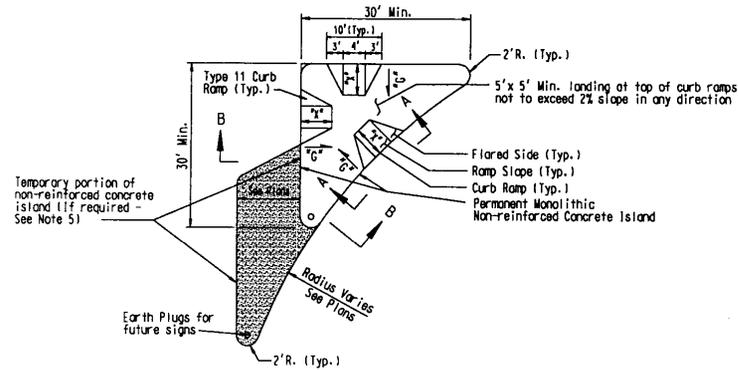
17. When the mainline pavement width at an approach to an intersection will be widened at a future date, a temporary portion of a channelization island will be required. The temporary portion of the channelization island shall consist of 4" non-reinforced P.C. Concrete installed without dowel bars on concrete pavement.
18. Interim curb shall intersect ultimate curb at a point of compound curvature located opposite on corner of the pavement channelization island.

Design Criteria and Standard Specifications for Street Construction	City of St. Peters
<b>INTERIM RIGHT IN - RIGHT OUT CHANNELIZED STREET OR COMMERCIAL ENTRANCE</b>	
Standard Drawing	S40.43

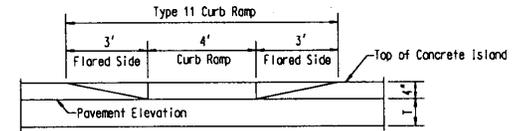


TYPE 11 CURB RAMP IN 4" CHANNELIZATION ISLAND	
"C" GRADE ACROSS ISLAND (%)	"X" MIN. LENGTH OF RAMP SLOPE (L.F.)
NEGATIVE (-) VALUES	4
0 TO +1	5
+1.01 TO +2	6
+2.01 TO +3	7
+3.01 TO +4	8
GREATER THAN +4	10

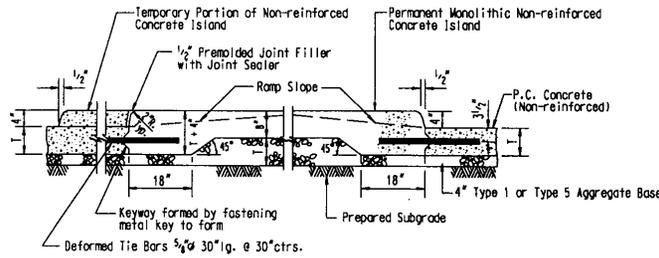
NOTE: Positive (+) "C" - Proceeding away from curb and up a grade.  
Negative (-) "C" - Proceeding away from curb and down a grade.



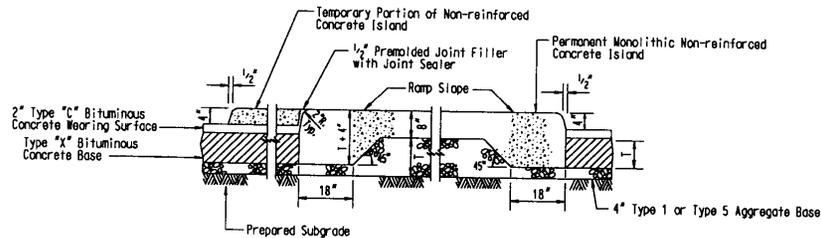
PLAN  
(TYPE 11 CURB RAMP)



SECTION A - A  
(TYPE 11 CURB RAMP)



SECTION B - B  
P.C. CONCRETE PAVEMENT



SECTION B - B  
BITUMINOUS CONCRETE PAVEMENT

GENERAL NOTES:

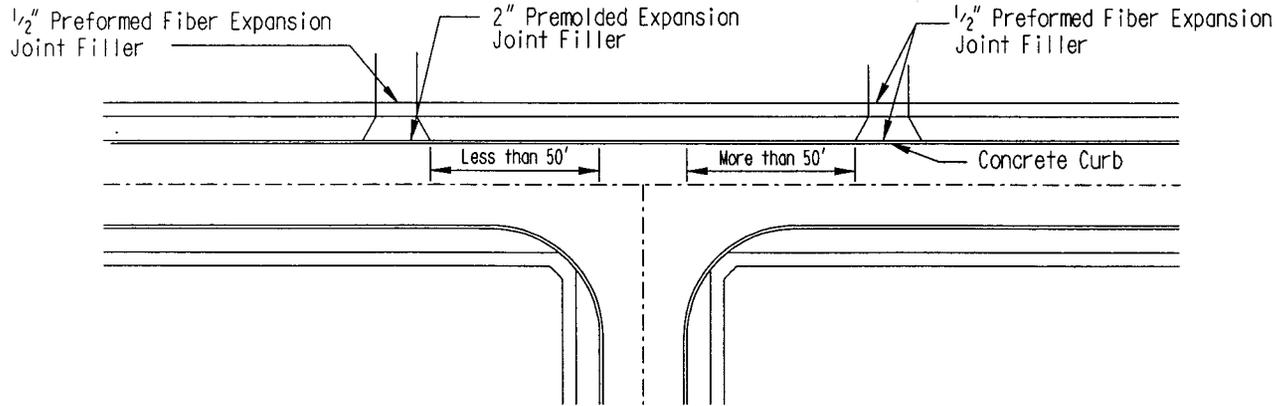
1. Do not scale drawing. Follow dimensions.
2. Sidewalks and sidewalk curb ramps shall be constructed in accordance with these details and the current approved "Americans with Disabilities Act Accessibility Guidelines".
3. Where curb ramp meets pavement, bullnose shall not be permitted.
4. "T" refers to pavement thickness.
5. When the lane usage on an approach to an intersection is subject to change, a temporary portion of a channelization island may be required.
6. Permanent channelization islands constructed in bituminous concrete pavement shall be installed prior to placement of Type "X" Bituminous Concrete Base. Temporary portions of channelization islands (if required) shall be concrete and installed without dowel bars adjacent to permanent islands on top of Type "C" Bituminous Concrete Wearing Surface.
7. Permanent channelization islands constructed in concrete pavement shall be installed after placement of concrete pavement which has been previously blocked out. Temporary portions of channelization islands (if required) shall be concrete and installed without dowel bars adjacent to permanent islands on top of concrete pavement.
8. Drawing adapted from St. Louis County Department of Highways and Traffic, Design Criteria for the Preparation of Improvement Plans.

Design Criteria and Standard Specifications for Street Construction	City of St. Peter
<b>4" RAISED CONCRETE CHANNELIZATION ISLAND WITH CURB RAMPS</b>	
Standard Drawing S40.44	



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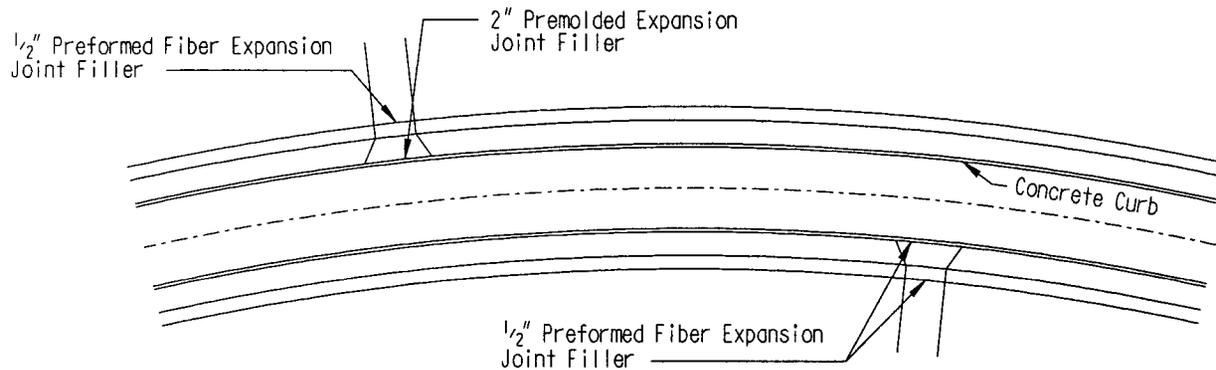
\* At Garage (See Note 4.)



DRIVEWAY DETAIL NEAR STREET INTERSECTION

**GENERAL NOTES:**

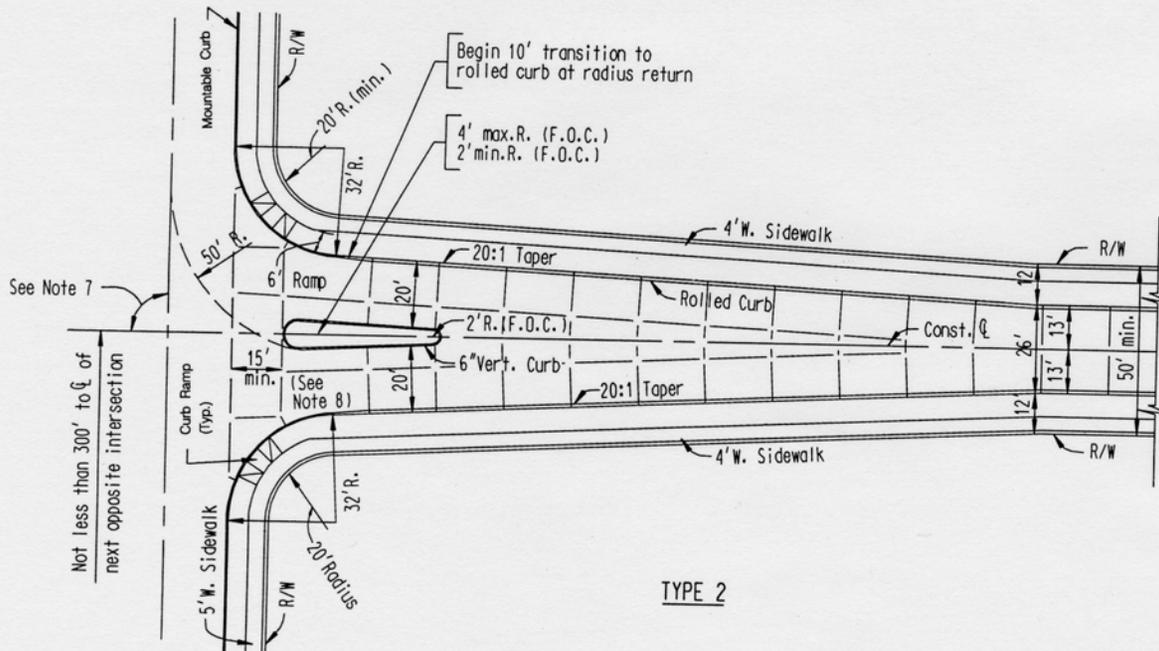
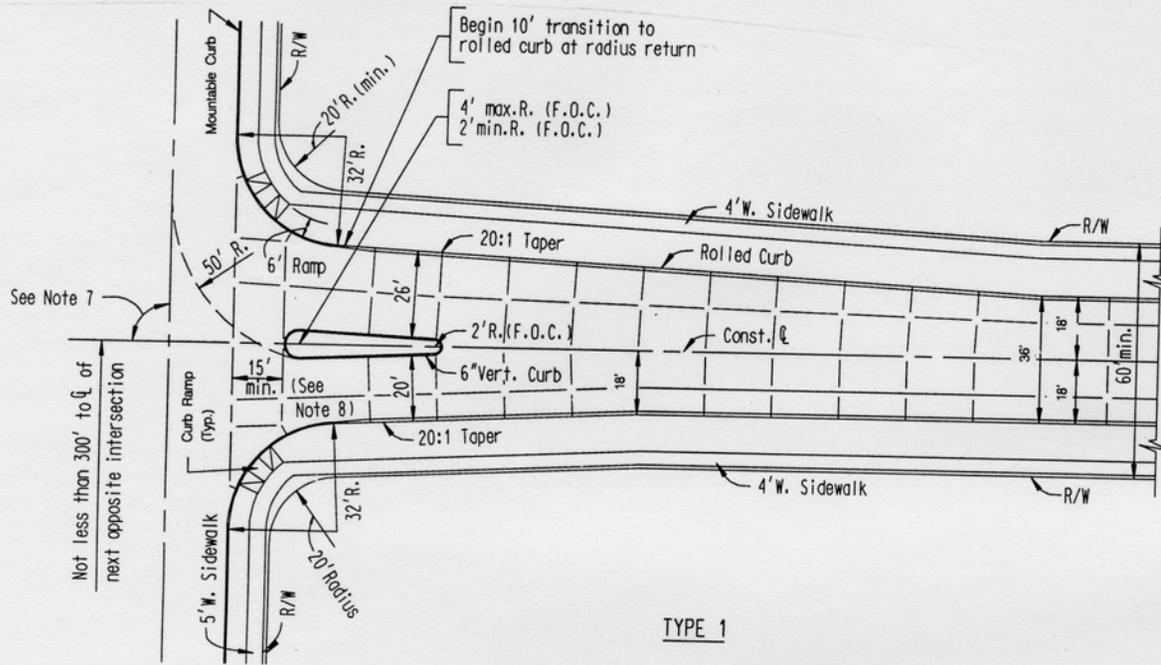
1. Do not scale drawing. Follow dimensions.
2. Premolded joint material shall consist of polymer foam or sponge rubber product that exhibits at least 95% recovery when tested in accordance with ASTM D-1752.
3. All preformed expansion joints shall extend from subgrade to 1/2" below top of finished surface of concrete.
4. When the driveway is less than 50 feet from the intersection or on the outside of a curve, a 2-inch strip of filler material shall be installed at the back of curb. This requirement applies to front entry garages only and side or rear entry garages may be paved according to the standard driveway detail. It is recommended that a 2-inch preformed expansion joint be placed between the garage and the driveway.
5. For construction details refer to Standard Drawing S40.40.



DRIVEWAY DETAIL ON A CURVE

Design Criteria and Standard Specifications for Street Construction	City of St. Peters
<b>GUIDELINES FOR JOINT FILLER INSTALLATION</b>	
Standard Drawing S40.45	





**GENERAL NOTES:**

1. Do not scale drawing. Follow dimensions.
2. For longitudinal and transverse joints, dowel and tie bar requirements and curb dimensions not shown refer to Standard Drawings S40.21, S40.22A & S40.22B.
3. All necessary markings shall be as required by the City of St. Peters. For details refer to Guidelines for Pavement Markings and Lane Striping Standard Drawing S60.00.
4. The thickness of the first section of sidewalk on each side of an entrance shall be increased to match the driveway approach pavement thickness.
5. For roadway cross slopes, pavement types and thickness refer to Street Design Criteria.
6. This type intersection shall not be permitted if signalization is required or anticipated.
7. The intersection angle shall be designed at 90 degrees unless otherwise approved by the City.
8. The distance to the nose of the median is dependent upon the 50-foot turning radius used for the inbound left turn movement.
9. No private driveways shall be permitted within the area of the median.
10. Curb ramps are required with sidewalk and curb. Refer to Standard Drawings S40.60 through S40.63 for sidewalk details.

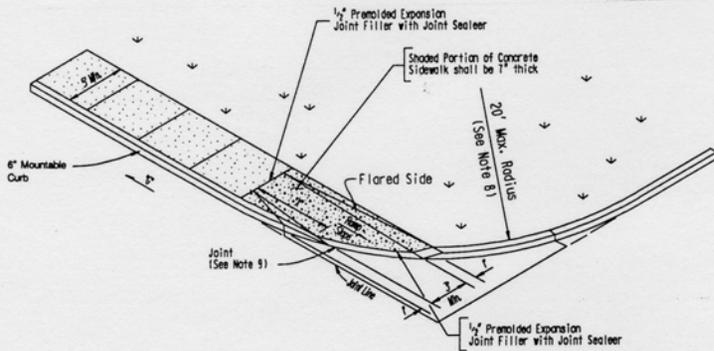
Design Criteria and Standard Specifications for Street Construction

City of St. Peters

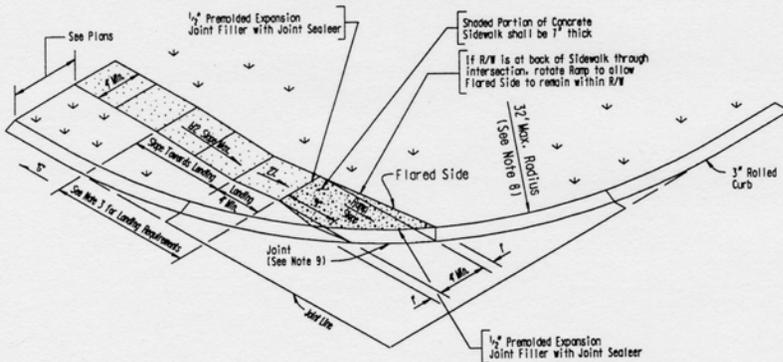
**MEDIAN AND INTERSECTION CONFIGURATION**

Standard Drawing S40.46





Sidewalk at Back of Curb  
STRAIGHT CURB RAMP - 6" MOUNTABLE CURB  
(TYPE 1)



Treelawn at Back of Curb  
STRAIGHT CURB RAMP - 3" ROLLED CURB  
(TYPE 3)

TYPE 1 AND TYPE 2 CURB RAMPS	
"G" GRADE ALONG CURB (%)	"X" MIN. LENGTH OF RAMP SLOPE (L.F.)
NEGATIVE (-) VALUES	6
0 TO +1	7
+1.01 TO +2	8
+2.01 TO +3	10
+3.01 TO +4	12
GREATER THAN +4	15

NOTE: Positive (+)"G"- Proceeding away from intersection and up a grade.

Positive (-)"G"- Proceeding away from intersection and down a grade.

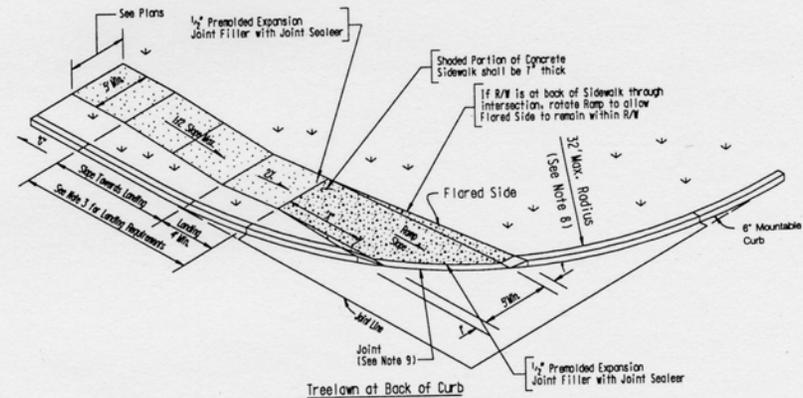
TYPE 3 CURB RAMP	
"G" GRADE ALONG CURB (%)	"X" MIN. LENGTH OF RAMP SLOPE (L.F.)
NEGATIVE (-) VALUES	3
0 TO +2	4
+2.01 TO +3	5
+3.01 TO +4	6
+4.01 TO +5	8
+5.01 TO +6	11
GREATER THAN +6	15

NOTE: Positive (+)"G"- Proceeding away from intersection and up a grade.

Positive (-)"G"- Proceeding away from intersection and down a grade.

**GENERAL NOTES:**

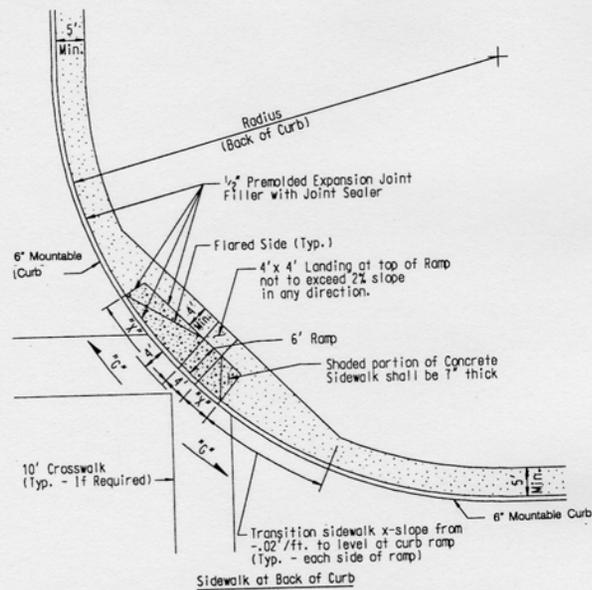
1. Do not scale drawing. Follow dimensions.
2. Sidewalks and sidewalk curb ramps shall be constructed in accordance with these details and the current approved "Americans with Disabilities Act Accessibility Guidelines".
3. Provide a landing at the top of each straight ramp when the Grade Along Curb ("G") is greater than +2% and less than +7%. For other values of "G", including all negative values, no landing is required.
4. For minimum sidewalk widths refer to Street Design Criteria.
5. Maximum sidewalk cross slope is 0.02 ft/ft.
6. All sidewalk sections shall be 4 inches thick, except where noted on details, or where sidewalk thickness shall be increased where it abuts driveways.
7. Where curb ramp meets pavement, bullnose will not be permitted.
8. Construct a diagonal ramp when the maximum corner radius allowed for a straight ramp is exceeded.
9. If monolithic concrete curb is constructed, strike a dummy joint across bottom of ramp at curb line.
10. For pavement longitudinal and transverse joints and tie bar requirements and dimensions, refer to Standard Drawings S40.21, S40.22A, and S40.22B.
11. For roadway cross slopes, pavement types and thicknesses, refer to Street Design Criteria.



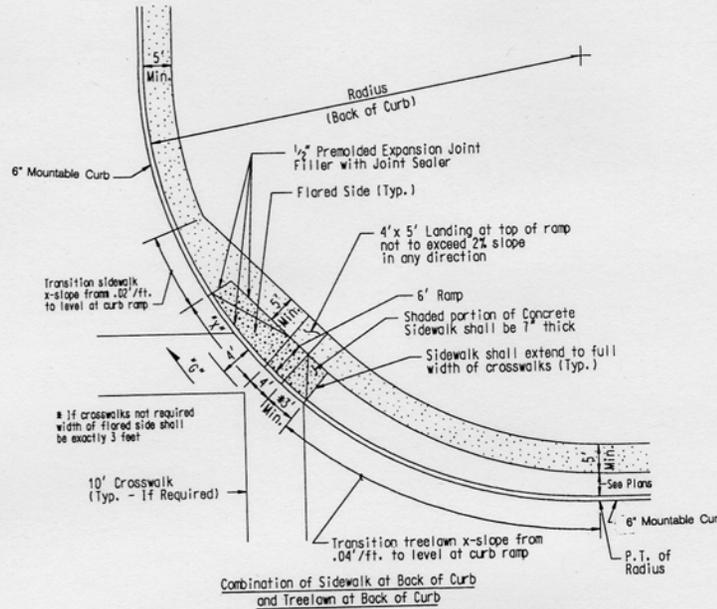
Treelawn at Back of Curb  
STRAIGHT CURB RAMP - 6" MOUNTABLE CURB  
(TYPE 2)



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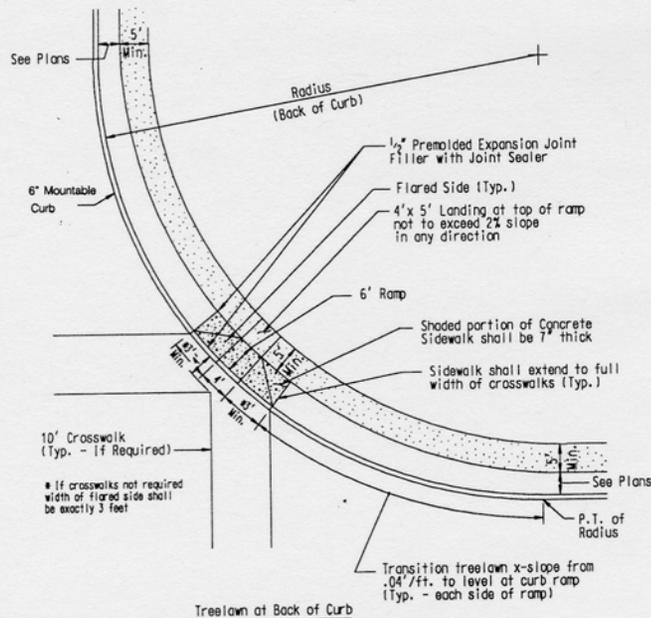
DIAGONAL CURB RAMP - 6" MOUNTABLE CURB  
(TYPE 4)



DIAGONAL CURB RAMP - 6" MOUNTABLE CURB  
(TYPE 5)

**GENERAL NOTES:**

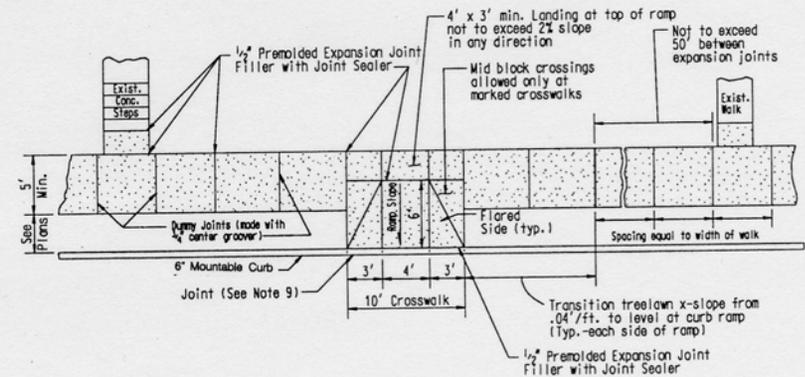
1. Do not scale drawing. Follow dimensions.
2. Sidewalks and sidewalk curb ramps shall be constructed in accordance with these details and the current approved "Americans with Disabilities Act Accessibility Guidelines".
3. Provide a landing at the top of each straight ramp when the Grade Along Curb ("G") is greater than +2% and less than +7%. For other values of "G", including all negative values, no landing is required.
4. For minimum sidewalk widths refer to Street Design Criteria.
5. Maximum sidewalk cross slope is 0.02 ft/ft.
6. All sidewalk sections shall be 4 inches thick, except where noted on details, or where sidewalk thickness shall be increased where it abuts driveways.
7. Where curb ramp meets pavement, bullnose will not be permitted.
8. Construct a diagonal ramp when the maximum corner radius allowed for a straight ramp is exceeded.
9. If monolithic concrete curb is constructed, strike a dummy joint across bottom of ramp at curb line.
10. For pavement longitudinal and transverse joints and tie bar requirements and dimensions, refer to Standard Drawings S40.21, S40.22A, and S40.22B.
11. For roadway cross slopes, pavement types and thicknesses, refer to Street Design Criteria.



DIAGONAL CURB RAMP - 6" MOUNTABLE CURB  
(TYPE 6)

TYPE 4 AND TYPE 5 CURB RAMPS (WHERE PEDESTRIANS CAN WALK ACROSS RAMPS)	
"G" GRADE ALONG CURB THROUGH ROUNDING (%)	"X" LENGTH OF FLARED SIDE ALONG CURB (L.F.)
NEGATIVE (-) VALUES	5
0 TO +1	6
+1.01 TO +2	7
+2.01 TO +3	8
+3.01 TO +4	9
+4.01 TO +5	10
+5.01 TO +6	13
GREATER THAN +6	15

NOTE: Positive (+) "G" - Proceeding away from ramp and up a grade.  
Negative (-) "G" - Proceeding away from ramp and down a grade.



Treelawn at Back of Curb  
TYPICAL SIDEWALK INSTALLATION  
(WITH MIDBLOCK CURB RAMP - TYPE 7)

Design Criteria and Standard  
Specifications for Street Construction

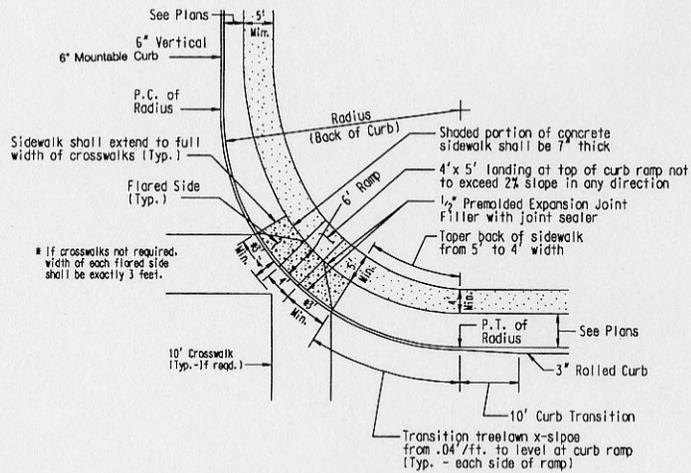
**CONCRETE SIDEWALK  
AND CURB RAMPS**

Standard Drawing S40.61

City of St. Peters

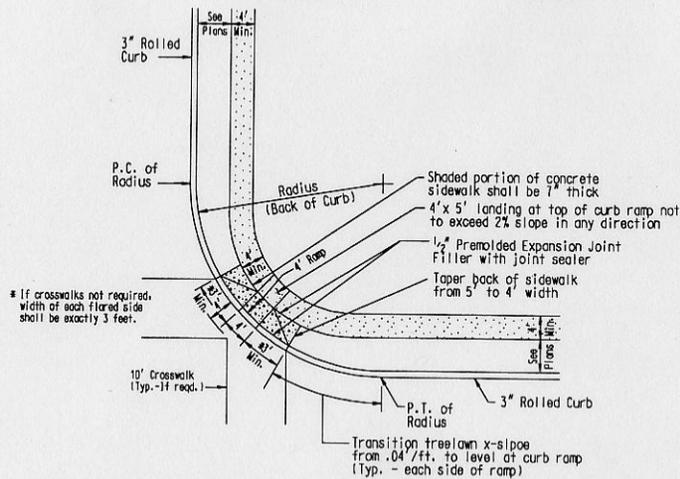


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Trawl at Back of Curb

**DIAGONAL CURB RAMP - COMBINATION 6" MOUNTABLE CURB AND 3" ROLLED CURB (TYPE 8)**

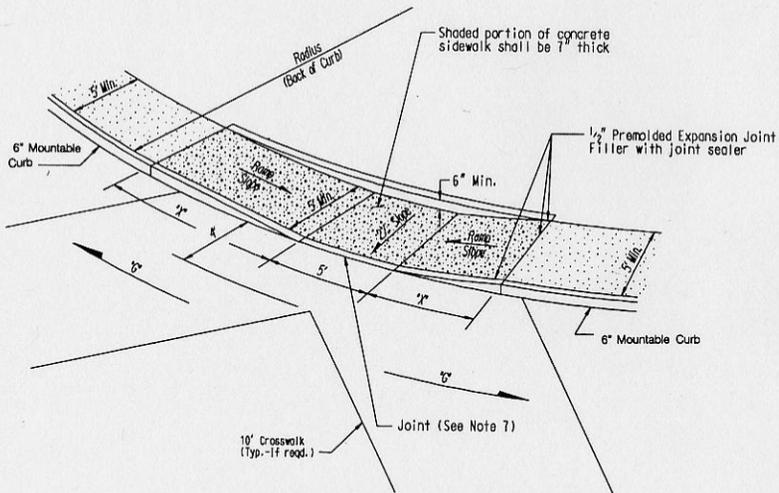


Trawl at Back of Curb

**DIAGONAL CURB RAMP - 3" ROLLED CURB (TYPE 9)**

**GENERAL NOTES:**

1. Do not scale drawing. Follow dimensions.
2. Sidewalks and sidewalk curb ramps shall be constructed in accordance with these details and the current approved "Americans with Disabilities Act Accessibility Guidelines".
3. Provide a landing at the top of each straight ramp when the Grade Along Curb ("G") is greater than +2% and less than +7%. For other values of "G", including all negative values, no landing is required.
4. For minimum sidewalk widths refer to Street Design Criteria.
5. Maximum sidewalk cross slope is 0.02 ft/ft.
6. All sidewalk sections shall be 4 inches thick, except where noted on details, or where sidewalk thickness shall be increased where it abuts driveways.
7. Where curb ramp meets pavement, bullnose will not be permitted.
8. Construct a diagonal ramp when the maximum corner radius allowed for a straight ramp is exceeded.
9. If monolithic concrete curb is constructed, strike a dummy joint across bottom of ramp at curb line.
10. For pavement longitudinal and transverse joints and tie bar requirements and dimensions, refer to Standard Drawings S40.21, S40.22A, and S40.22B.
11. For roadway cross slopes, pavement types and thicknesses, refer to Street Design Criteria.



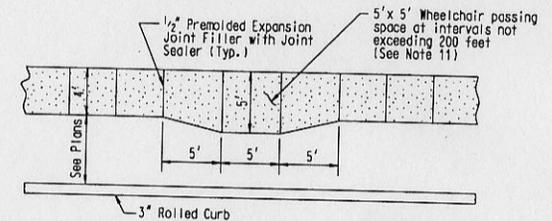
Sidewalk at Back of Curb

**PARALLEL CURB RAMP - 6" MOUNTABLE CURB (TYPE 10)**

(WHERE PASSAGE BEHIND RAMP CANNOT BE CONSTRUCTED DUE TO SITE INFEASIBILITY)

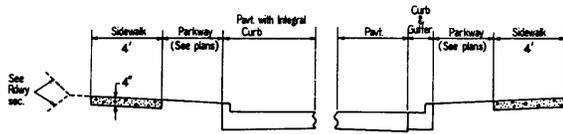
TYPE 10 CURB RAMP	
"G" GRADE ALONG CURB THROUGH ROUNDING (%)	"X" LENGTH OF FLARED SIDE ALONG CURB (L.F.)
NEGATIVE (-) VALUES	6
0 TO +1	7
+1.01 TO +2	8
+2.01 TO +3	10
+3.01 TO +4	12
GREATER THAN +4	15

NOTE: Positive (+) "G" - Proceeding away from ramp and up a grade.  
 Negative (-) "G" - Proceeding away from ramp and down a grade.

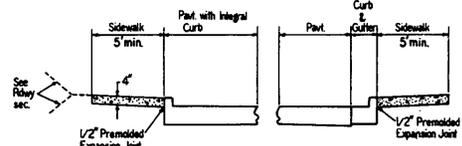


**WHEELCHAIR PASSING SPACE - 4' SIDEWALK WITH 3" ROLLED CURB**

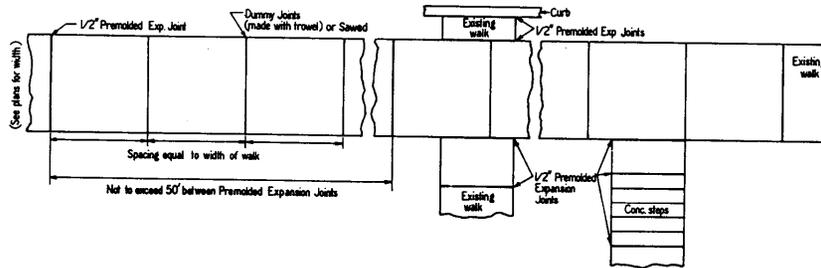
Design Criteria and Standard Specifications for Street Construction	City of St. Peters
<b>CONCRETE SIDEWALK AND CURB RAMPS</b>	
Standard Drawing S40.62	



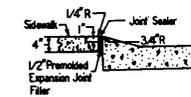
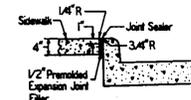
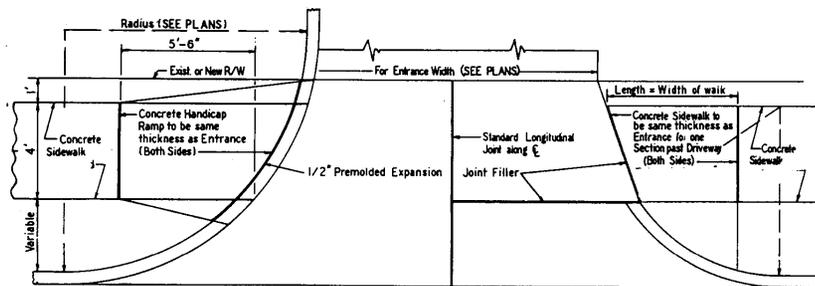
CONCRETE SIDEWALK WITH PARKWAY



CONCRETE SIDEWALK NO PARKWAY



CONCRETE SIDEWALK JOINTS



SIDEWALK ADJACENT TO CURB

**GENERAL NOTES:**

1. Do not scale drawing. Follow dimensions.
2. Sidewalks and sidewalk curb ramps shall be constructed in accordance with these details and the current approved "Americans with Disabilities Act Accessibility Guidelines".
3. Provide a landing at the top of each straight ramp where the Grade Along Curb ("G") is greater than +2% and less than +7%. For other values of "G", including all negative values, no landing is required.
4. For minimum sidewalk widths refer to Street Design Criteria.
5. Maximum sidewalk cross slope is 0.02 ft/ft.
6. All sidewalk sections shall be 4 inches thick, except where noted on details, or where sidewalk thickness shall be increased where it abuts driveways.
7. Where curb ramp meets pavement, bullnose will not be permitted.
8. Construct a diagonal ramp when the maximum corner radius allowed for a straight ramp is exceeded.
9. If monolithic concrete curb is constructed, strike a dummy joint across bottom of ramp at curb line.
10. For pavement longitudinal and transverse joints and tie bar requirements and dimensions, refer to Standard Drawings S40.21, S40.22A, and S40.22B.
11. For roadway cross slopes, pavement types and thicknesses, refer to Street Design Criteria.

Design Criteria and Standard Specifications for Street Construction

City of St. Peters

**CONCRETE SIDEWALK AND CURB RAMPS**



Standard Drawing S40.63

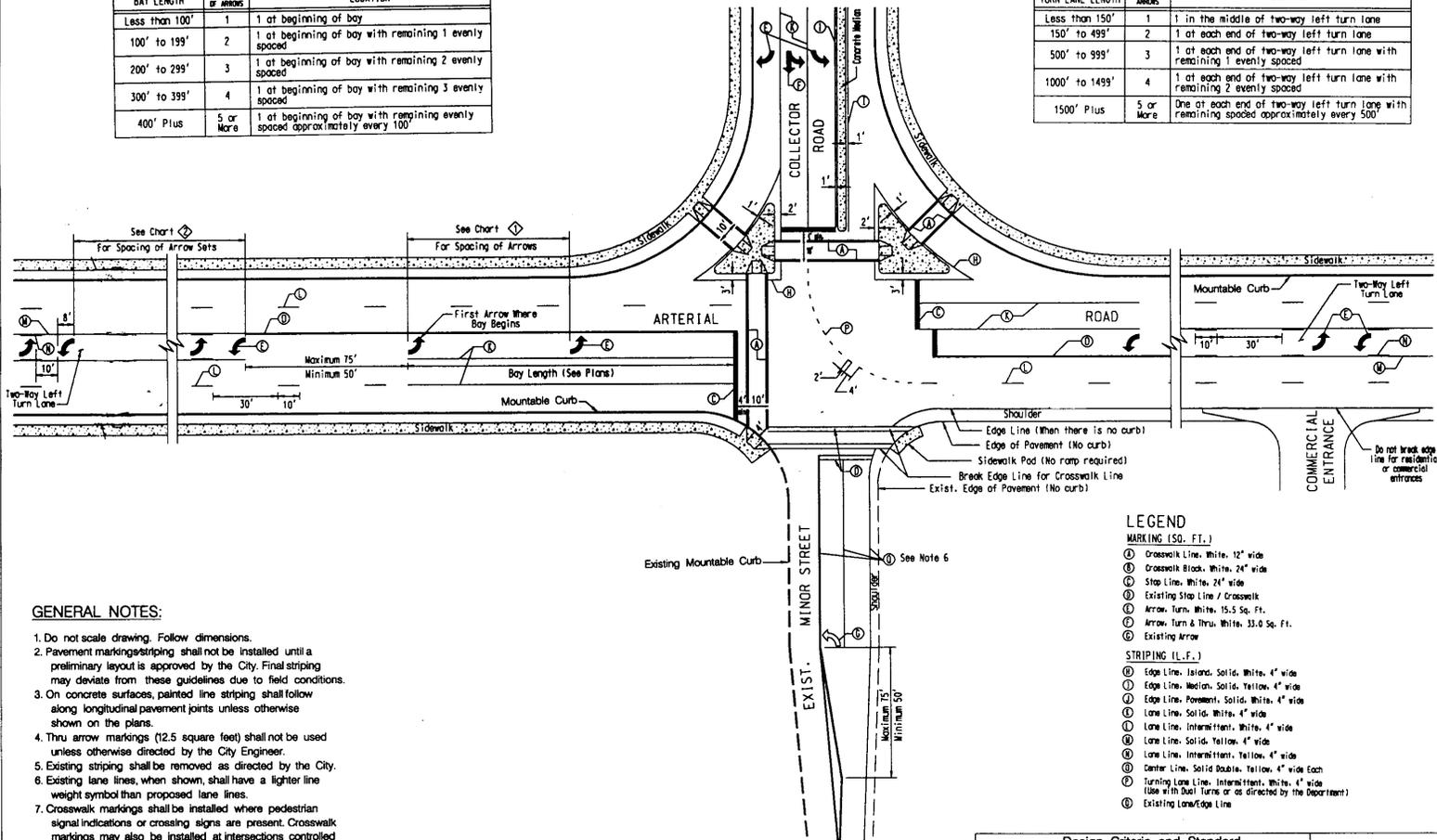
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CHART 1

INTERSECTION ARROW SPACING		
BAY LENGTH	NUMBER OF ARROWS	LOCATION
Less than 100'	1	1 at beginning of bay
100' to 199'	2	1 at beginning of bay with remaining 1 evenly spaced
200' to 299'	3	1 at beginning of bay with remaining 2 evenly spaced
300' to 399'	4	1 at beginning of bay with remaining 3 evenly spaced
400' Plus	5 or More	1 at beginning of bay with remaining evenly spaced approximately every 100'

CHART 2

TWO-WAY LEFT TURN ARROW SPACING		
TWO-WAY LEFT TURN LANE LENGTH	NUMBER OF SETS OF ARROWS	LOCATION
Less than 150'	1	1 in the middle of two-way left turn lane
150' to 499'	2	1 at each end of two-way left turn lane
500' to 999'	3	1 at each end of two-way left turn lane with remaining 1 evenly spaced
1000' to 1499'	4	1 at each end of two-way left turn lane with remaining 2 evenly spaced
1500' Plus	5 or More	One at each end of two-way left turn lane with remaining spaced approximately every 500'



**GENERAL NOTES:**

1. Do not scale drawing. Follow dimensions.
2. Pavement markings/striping shall not be installed until a preliminary layout is approved by the City. Final striping may deviate from these guidelines due to field conditions.
3. On concrete surfaces, painted line striping shall follow along longitudinal pavement joints unless otherwise shown on the plans.
4. Thru arrow markings (12.5 square feet) shall not be used unless otherwise directed by the City Engineer.
5. Existing striping shall be removed as directed by the City.
6. Existing lane lines, when shown, shall have a lighter line weight symbol than proposed lane lines.
7. Crosswalk markings shall be installed where pedestrian signal indications or crossing signs are present. Crosswalk markings may also be installed at intersections controlled by stop signs if there is substantial conflict between vehicle and pedestrian movements.
8. Pavement markings in neutral areas, including transverse lines and chevron markings, shall be installed in accordance with the current edition of the "Manual on Uniform Traffic Control Devices".
9. Pavement markings at railroad-roadway grade crossings shall be installed in accordance with the current edition of the "Manual on Uniform Traffic Control Devices".

Design Criteria and Standard Specifications for Street Construction

**GUIDELINES FOR PAVEMENT MARKING AND LANE STRIPING**

Standard Drawing S60.00

