

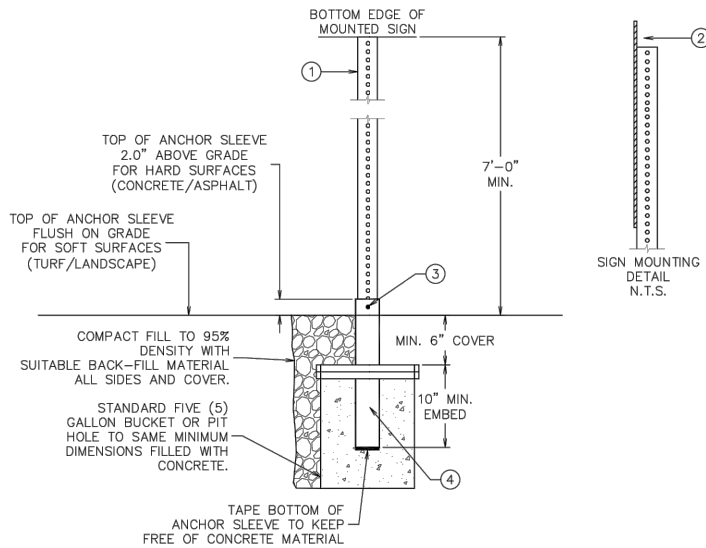
# GENERAL NOTES:

- BARRICADE POSTS SHALL BE PRESSURE TREATED 4" X 4" WOOD POSTS.  
1.1. OTHER MATERIAL MAY BE CONSIDERED, PRIOR REVIEW AND APPROVAL BY THE CITY ENGINEER IS REQUIRED.
- BARRICADE POSTS SHALL BE EMBEDDED TWENTY-FOUR (24") INCHES MINIMUM IN POURED-IN-PLACE CONCRETE OR OTHERWISE PERMANENTLY AND SECURELY MOUNTED POSTS.
- BARRICADE RAILS SHALL BE 8" TO 12" WIDE PRESSURE TREATED WOOD OR COMPOSITE TRAFFIC CONTROL MATERIAL. FOUR (4') FOOT MINIMUM LENGTH.  
3.1. OTHER MATERIAL MAY BE CONSIDERED, PRIOR REVIEW AND APPROVAL BY THE CITY ENGINEER IS REQUIRED.
- BARRICADE RAILS SHALL BE SECURED WITH FOUR (4) EACH, PER RAIL - THREE-EIGHTS (3/8") INCH DIAMETER BY THREE AND ONE-HALF (3-1/2") INCH LENGTH HOT-DIP GALVANIZED HEX LAG SCREWS AND FOUR (4) EACH, PER RAIL - ONE (1") INCH, OUTSIDE DIAMETER, HOT-DIP GALVANIZED WASHERS, AS SHOWN ABOVE.
- BARRICADE RAILS SHALL BE SECURED ON POSTS FACING SIDEWALK SECTION / PEDESTRIAN TRAVEL WAY.
- RETROREFLECTIVE TAPE SHALL BE APPLIED IN SIX (6") INCH BANDS SPACED SIX (6") INCHES APART ALTERNATING RETROREFLECTIVE WHITE AND RETROREFLECTIVE RED [RED = BLACK INK ILLUSTRATED ABOVE], PLACED AT A FORTY-FIVE (45) DEGREE ANGLE TO THE RAIL, AS SHOWN ABOVE.
- BARRICADES MUST FULLY COMPLY WITH CURRENT MUTCD STANDARDS.



Typical End-of-Roadway Barricade Detail

Approved By City Engineer Kevin J. Slovarp	Adopted: 10/30/2014 Revised: 3/22/2017	STD - 714
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# KEYED NOTES:

- 2" 12 GAUGE TELESAR ® PERFORATED STEEL SQUARE TUBING SIGN POST, OR CITY ENGINEER APPROVED EQUIVALENT, SHALL BE USED FOR ALL SIGN INSTALLATIONS UPON/WITHIN THE PUBLIC RIGHT-OF-WAY (UNLESS SIGN AREA (SQ- FT) EXCEEDS YIELD ACCORDING TO AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS). TELESAR ® OR EQUAL MATERIAL SPECIFICATIONS: STEEL CONFORMING TO ASTM A-1011 GRADE 50 AND GALVANIZING CONFORMING TO ASTM A-653.
- SET SIGN FLUSH WITH OR ABOVE TOP OF POST. TOP OF SIGN SHALL NOT BE PLACED BELOW TOP OF POST. SIGN SHOULD BE FULLY SUPPORTED BY POST.
- FASTEN SIGN POST TO THROUGH-DRILLED ANCHOR SLEEVE WITH 5/16" X 3" GRADE 2 BOLT WITH FLAT WASHERS AND NYLON-INSERT LOCK NUT. PLACE BOLT 1" BELOW THE TOP OF ANCHOR SLEEVE.
- GALVANIZED 2-1/2" X 2-1/2" X 18" LONG (MIN.), 7 GAUGE NON-PERFORATED STEEL SQUARE TUBING ANCHOR SLEEVE.

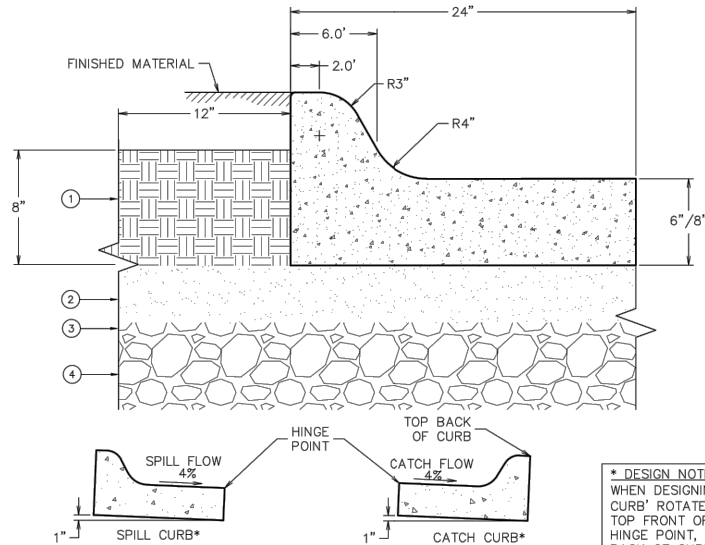
# GENERAL NOTES:

- ALL SIGNS SHALL COMPLY WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), MOST CURRENT VERSION, REVISION AND / OR SUPPLEMENT, FOR SIGN MATERIAL(S), SIZE, THICKNESS, SHAPE, COLOR(S), MESSAGE, SYMBOLOGY AND RETROREFLECTIVITY.
- ALL SIGNS LOCATED UPON/WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE SLEEVE-MOUNTED FOR BREAKAWAY AND REPLACEABILITY.
- FINAL SIGN LOCATION AND / OR PLACEMENT SHALL BE IN ACCORDANCE WITH THE MUTCD AND AS DETERMINED AND APPROVED BY THE CITY ENGINEER OR SIGN SHOP SUPERVISOR.
- 2-1/2" 12 GAUGE SHALL BE USED FOR LARGER SIGN AREA INSTALLATIONS. THE CITY ENGINEER MAY REQUIRE ALTERNATE SIZES, GAUGES, ETC, BASED ON SIGN SURFACE AREA.



Typical Boulevard Sign Base  
Public Right-of-Way

Approved By City Engineer Kevin J. Slovarp	Adopted: 01/27/1999 Revised: 01/10/2017	STD - 720
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# KEYED NOTES:

- FILL MATERIAL: MINIMUM OF EIGHT (8") INCHES OF FILL MATERIAL COMPACTED TO 95% PROCTOR DENSITY BEHIND CURB. SEE STD-141 FOR SIDEWALK SECTION IF APPLICABLE.
- BASE: MINIMUM OF FOUR (4") INCHES OF BASE SHALL BE COMPACTED TO 95% PROCTOR DENSITY. EXTEND 1' FOOT BEHIND CURB.
- BASE: CITY ENGINEER MAY REQUIRE ADDITIONAL BASE, DEPENDING ON ADEQUACY OF SUB GRADE MATERIAL BASED ON A CBR.
- SUB GRADE: MINIMUM OF SIX (6") INCHES OF SUB GRADE SHALL BE COMPACTED TO 95% PROCTOR DENSITY. EXTEND 1' FOOT BEHIND CURB.

# GENERAL NOTES:

- CONTRACTION JOINTS SHALL BE PLACED EVERY TEN (10') FEET AND SHALL BE ONE-FOURTH (1/4) THE CONCRETE THICKNESS OR A MINIMUM OF ONE (1") INCH DEEP.
- EXPANSION JOINTS OF ONE-HALF (1/2") INCH MASTIC MATERIAL SHALL BE PLACED AT THE FOLLOWING LOCATIONS:  
2.1 P.C.S AND P.T.S OF CURVES WHERE RADII ARE THIRTY (30') FEET OR LESS.  
2.2 GRADE BREAKS.  
2.3 NO CLOSER THAN FOUR (4') FEET ON EITHER SIDE OF A DRAINAGE STRUCTURE.  
2.4 AT OTHER LOCATIONS AS SPECIFIED BY CITY ENGINEER.
- MINIMUM GUTTER FLOW LINE SHALL BE FOUR-TENTHS (0.4%) PERCENT SLOPE.
- NO CURB OR SIDEWALK SHALL BE POURED WITHOUT AN INSPECTION AND APPROVAL OF FORM PLACEMENT BY CITY ENGINEERING DIVISION.
- "L" TYPE CURB IS SUITABLE FOR USE AS LANDSCAPE RETAINING CURB AND MAY BE POURED WITH SIDEWALK UPON APPROVAL.
- CONSTRUCTION MATERIALS AND PROCEDURES SHALL CONFORM TO EXISTING CITY SPECIFICATIONS FOR M-4000 CEMENT CONCRETE AND MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS SECTIONS 02528 AND 03310.
- THE CITY OF MISSOULA REQUIRES 564 LBS OF PORTLAND CEMENT PER CY OF CONCRETE.
- NOT FOR USE IN NEW ROAD CONSTRUCTION.



Typical "L" Type Curb/Gutter Section

Approved By City Engineer Kevin J. Slovarp	Adopted: 01/30/1980 Revised: 03/15/2017	STD - 740
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REVISION	DATE	DESCRIPTION

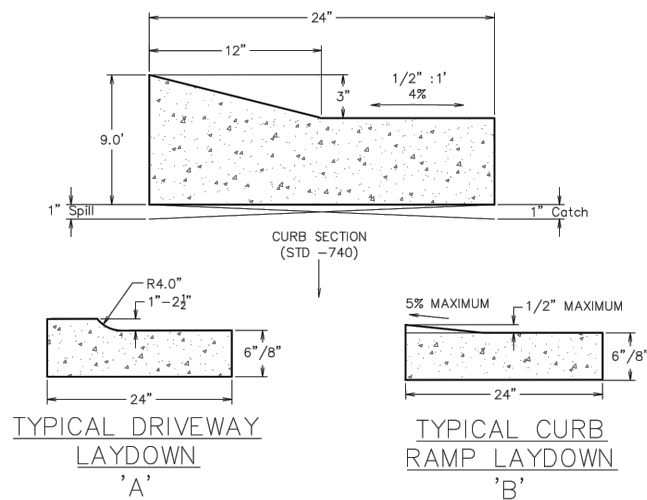
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DRAWN	BB	DATE	01/15/2021
CHECKED	DP	SURVEYED	DJA, P.C.



MULLAN BUILD  
PRELIMINARY 90% NOT FOR CONSTRUCTION

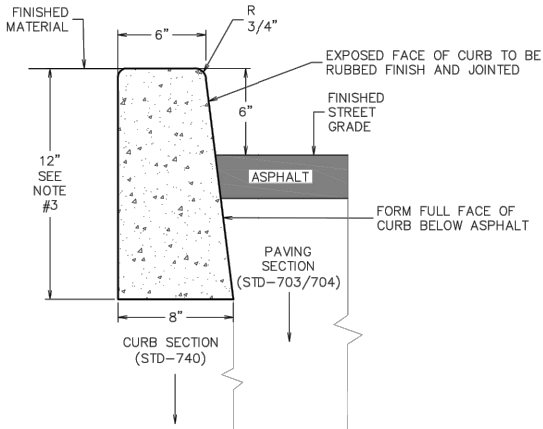
TYPICAL CITY DETAILS 714, 720, 740

SHEET  
OF  
A.6 | A.10



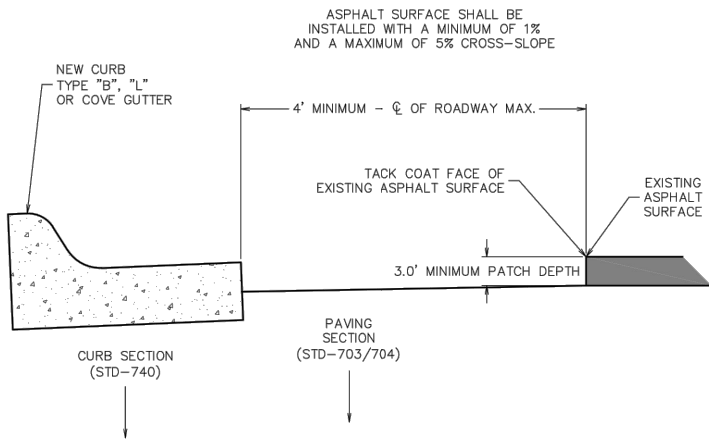
GENERAL NOTES:

- SEE CITY OF MISSOULA STD-121 FOR BASE, SUB BASE, AND FILL SPECIFICATIONS.
- TYPICAL MODIFIED "L" TYPE CURB AND GUTTER SECTION SHALL BE MINIMUM OF SIX (6") INCHES DEPTH (THROUGHOUT GUTTER SECTION) PORTLAND CEMENT CONCRETE POURED MINIMUM TWO (2') FEET WIDE WITH A THREE (3") INCH DEPRESSION (COVE) THROUGH THE CENTER AS SHOWN ABOVE.
- CONTRACTION JOINTS SHALL BE PLACED EVERY TEN (10') FEET AND SHALL BE ONE-FOURTH (1/4) THE CONCRETE THICKNESS OR A MINIMUM OF ONE (1") INCH DEEP.
- EXPANSION JOINTS OF ONE-HALF (1/2") INCH MASTIC MATERIAL SHALL BE PLACED AT THE FOLLOWING LOCATIONS:  
4.1. P.C.S AND P.T.S OF CURVES.  
4.2. GRADE BREAKS.  
4.3. NO CLOSER THAN FOUR (4') FEET ON EITHER SIDE OF A DRAINAGE STRUCTURE, BUT NOT REQUIRED OR RECOMMENDED.  
4.4. AT OTHER LOCATIONS AS SPECIFIED BY CITY ENGINEER.  
4.5. EXPANSION JOINTS MAY BE ELIMINATED FOR EXTRUDED CURB EXCEPT P.C.S AND P.T.S WITH APPROVAL OF CITY ENGINEER.
- NO CURB OR SIDEWALK SHALL BE POURED WITHOUT AN INSPECTION AND APPROVAL OF FORM PLACEMENT BY CITY ENGINEERING DIVISION.
- MINIMUM GUTTER FLOW LINE SHALL BE FOUR-TENTHS (0.4%) PERCENT SLOPE.
- CONSTRUCTION MATERIALS AND PROCEDURES SHALL CONFORM TO EXISTING CITY STANDARD SPECIFICATIONS FOR M-4000 CEMENT CONCRETE AND MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS SECTIONS 02528 AND 03310.
- RESIDENTIAL DRIVEWAY LAYDOWN MAY BE SAW CUT.
- COMMERCIAL DRIVEWAY LAYDOWN CAN NOT BE SAW CUT AND SHALL BE REMOVED AND RE-POURED.
- CURB RAMP LAYDOWN CAN NOT BE SAW CUT AND SHALL BE REMOVED AND RE-POURED.
- CURB RAMP LAYDOWN CAN NOT EXCEED FIVE (5%) PERCENT GRADE OR ONE-HALF (1/2") INCH RISE FROM CURB FLOW LINE.
- THE CITY OF MISSOULA REQUIRES 564 LBS OF PORTLAND CEMENT PER CY OF CONCRETE.



GENERAL NOTES:

- SEE CITY OF MISSOULA STD-121 FOR BASE, SUB BASE, AND FILL SPECIFICATIONS.
- CITY ENGINEER MAY REQUIRE ADDITIONAL BASE, DEPENDING ON SUB GRADE MATERIAL.
- CITY ENGINEER MAY PERMIT OTHER CURB DEPTH - PRIOR APPROVAL IS REQUIRED.
- CONTRACTION JOINTS SHALL BE PLACED EVERY TEN (10') FEET AND SHALL BE ONE-FOURTH (1/4) THE CONCRETE THICKNESS OR A MINIMUM OF ONE (1") INCH DEEP.
- CONTRACTION JOINTS SHALL BE TOOLED ON TOP AND FACE OF CURB.
- EXPANSION JOINTS OF ONE-HALF (1/2") INCH MASTIC MATERIAL SHALL BE PLACED AT THE FOLLOWING LOCATIONS:  
6.1. P.C.S AND P.T.S OF CURVES.  
6.2. GRADE BREAKS.  
6.3. NO CLOSER THAN FOUR (4') FEET ON EITHER SIDE OF A DRAINAGE STRUCTURE,  
6.4. AT OTHER LOCATIONS AS SPECIFIED BY CITY ENGINEER.  
6.5. EXPANSION JOINTS MAY BE ELIMINATED FOR EXTRUDED CURB AT CITY ENGINEER'S DISCRETION.
- NO CURB OR SIDEWALK SHALL BE POURED WITHOUT AN INSPECTION AND APPROVAL OF FORM PLACEMENT BY CITY ENGINEERING DIVISION.
- "B" TYPE CURB IS SUITABLE FOR USE AS LANDSCAPE RETAINING CURB AND MAY BE POURED WITH SIDEWALK UPON APPROVAL.
- CONSTRUCTION MATERIALS AND PROCEDURES SHALL CONFORM TO EXISTING CITY STANDARD SPECIFICATIONS FOR M-4000 CEMENT CONCRETE AND MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS SECTIONS 02528 AND 03310.
- THE CITY OF MISSOULA REQUIRES 564 LBS OF PORTLAND CEMENT PER CY OF CONCRETE.



GENERAL NOTES:

- ASPHALT SURFACE SHALL BE SQUARE CUT BY A METHOD APPROVED BY THE CITY ENGINEER.
- ASPHALT SHALL BE CUT, REMOVED AND REPLACED A MINIMUM FOUR (4') FEET FROM THE FACE OF THE CURB / GUTTER PAN.
- ASPHALT CUT, REMOVAL AND REPLACEMENT MAY REQUIRE HALF STREET (UP TO CENTERLINE) IMPROVEMENTS, AS REQUIRED BY THE CITY ENGINEER.
- FOR CURB REPLACEMENT ONLY, EXISTING ASPHALT EDGE MAY BE USED AS A FRONT FORM IF EXISTING ASPHALT IS SOUND AND SQUARE FACED, AND ONLY UPON PRIOR APPROVAL OF THE CITY ENGINEER.
- ANY OVER EXCAVATION SHALL BE BACK-FILLED WITH THE PROPER ROAD SECTION (STD-703/704)
- A MINIMUM OF 6" OF BASE SHALL BE PLACED UNDER THE ASPHALT REPAIR AND COMPACTED TO 95% PROCTOR DENSITY.
- FOR TEMPORARY PATCH, CONTRACTOR SHALL BE RESPONSIBLE FOR FILLING IN FRONT OF THE CURB WITH EITHER 3/4" MINUS OR COLD MIX AND MAINTAINING THE OPENING IN A SAFE CONDITION UNTIL THE ASPHALT REPAIR CAN BE COMPLETED.
- EXISTING ASPHALT FACE SHALL BE TACK COATED PRIOR TO PLACING ASPHALT PATCH.
- ASPHALT DEPTH VARIES FROM 3" TO 6" - REFER TO ASPHALT PAVING SECTION STANDARD DRAWINGS STD-703/704.



Modified "L" Type Curb/Gutter Section

Approved By  
City Engineer  
Kevin J. Slovarp  
Adopted: 04/18/1974  
Revised: 03/20/2017  
STD - 741



Typical "B" Type Curb Section

Approved By  
City Engineer  
Kevin J. Slovarp  
Adopted: 04/09/1973  
Revised: 03/20/2017  
STD - 743



Asphalt Cutting, Removal and Replacement  
Adjacent to Curb and Gutter

Approved By  
City Engineer  
Kevin J. Slovarp  
Adopted: 02/06/1986  
Revised: 03/20/2017  
STD - 744

REVISION	DATE	DESCRIPTION

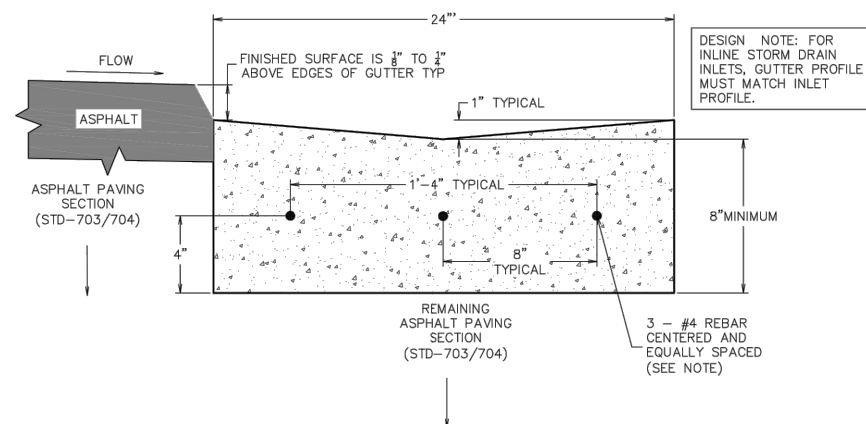
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DRAWN	BB	DATE	01/15/2021
CHECKED	DP	SURVEYED	DJA, P.C.



MULLAN BUILD  
PRELIMINARY 90% NOT FOR CONSTRUCTION

TYPICAL CITY DETAILS 741, 743, 744

SHEET  
OF  
A.7 A.10



GENERAL NOTES:

1. TYPICAL 2' COVE GUTTER SECTION SHALL BE MINIMUM OF EIGHT (8") INCHES DEPTH (THROUGHOUT COVE GUTTER SECTION) PORTLAND CEMENT CONCRETE POURED TWO (2') FEET WIDE WITH A ONE (1") INCH DEPRESSION (VALLEY) THROUGH THE CENTER AS SHOWN ABOVE.
2. CONTRACTION JOINTS SHALL BE PLACED EVERY TEN (10') FEET AND SHALL BE ONE-FOURTH (1/4) THE CONCRETE THICKNESS OR A MINIMUM OF ONE (1") INCH DEEP.
3. EXPANSION JOINTS OF ONE-HALF (1/2") INCH MASTIC MATERIAL SHALL BE PLACED AT THE FOLLOWING LOCATIONS:
  - 3.1. P.C.S AND P.T.S OF CURVES.
  - 3.2. GRADE BREAKS.
  - 3.3. NO CLOSER THAN FOUR (4') FEET ON EITHER SIDE OF A DRAINAGE STRUCTURE, BUT NOT REQUIRED OR RECOMMENDED.
  - 3.4. AT OTHER LOCATIONS AS SPECIFIED BY CITY ENGINEER.
  - 3.5. EXPANSION JOINTS MAY BE ELIMINATED FOR EXTRUDED CURB WITH APPROVAL OF CITY ENGINEER.
4. REINFORCING BAR (REBAR) SHALL BE #4 (1/2") EPOXY COATED, THREE (3) EACH, EQUALLY SPACED (EIGHT (8") INCHES TYPICAL) WITH A MINIMUM THREE (3") INCHES) OF CONCRETE COVER. REINFORCING BAR (REBAR) SHALL BE PLACED AND SUPPORTED WITH APPROVED REBAR SUPPORTS.
7. MINIMUM GUTTER FLOW LINE SHALL BE FIVE-TENTHS (0.5%) PERCENT SLOPE.
8. NO CURB OR SIDEWALK SHALL BE POURED WITHOUT AN INSPECTION AND APPROVAL OF FORM PLACEMENT BY CITY ENGINEERING DIVISION.
9. CONSTRUCTION MATERIALS AND PROCEDURES SHALL CONFORM TO EXISTING CITY STANDARD SPECIFICATIONS FOR M-4000 CEMENT CONCRETE AND MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS SECTIONS 02528 AND 03310.
10. CITY OF MISSOULA REQUIRES 564 LBS OF PORTLAND CEMENT PER CY OF CONCRETE.



Typical 2' Valley Gutter Section

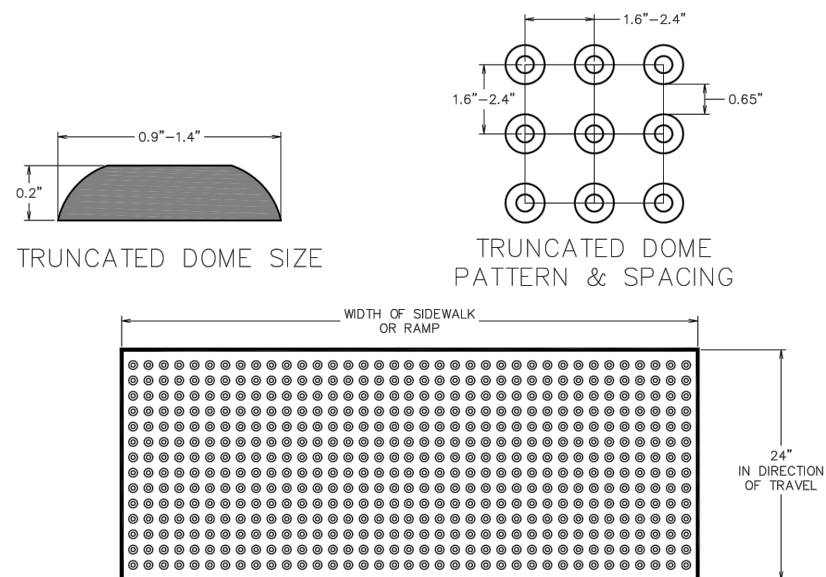
Ken [Signature]

Approved By  
City Engineer  
Kevin J. Slovarp

Adopted: 08/01/1986 Revised: 09/03/2020
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Revised: 09/03/2020

STD - 745



NOTES:

1. DETECTABLE WARNING PANEL SHALL FULLY COMPLY WITH THE MOST STRINGENT CURRENT CITY OF MISSOULA AND PROWAG REQUIREMENTS AND SPECIFICATIONS
2. DETECTABLE WARNING PANEL SHALL EXTEND THE FULL WIDTH OF THE CROSSING OR RAMP
3. CURRENT ACCEPTABLE DETECTABLE WARNING PANEL MATERIALS;  
3.1 CAST IRON
4. DETECTABLE WARNING PANEL SHALL BE PLACED ON RUNNING SLOPE TO MATCH SIDEWALK / RAMP;  
4.1 NOT TO EXCEED EIGHT (8%) PERCENT MAXIMUM RUNNING SLOPE  
4.2 NOT TO EXCEED TWO (2%) PERCENT MAXIMUM CROSS-SLOPE
5. DETECTABLE WARNING PANEL SHALL BE PLACED PERPENDICULAR WITH DIRECTION OF PEDESTRIAN TRAVEL EXCEPT WHERE NOTED ON STD DWGS
6. DETECTABLE WARNING PANEL SHALL BE PLACED WITHIN TWO (2") INCHES FROM BACK EDGE OF CURB ON A MINIMUM OF ONE (1) EDGE
7. DETECTABLE WARNING PANEL COLOR SHALL CONTRAST VISUALLY WITH THE ADJOINING SIDEWALK / RAMP SURFACE
8. DETECTABLE WARNING PANEL SHALL BE CAST-IN-PLACE AND FLUSH WITH SIDEWALK / RAMP SURFACE



<p> Detectable Warning Panel </p>
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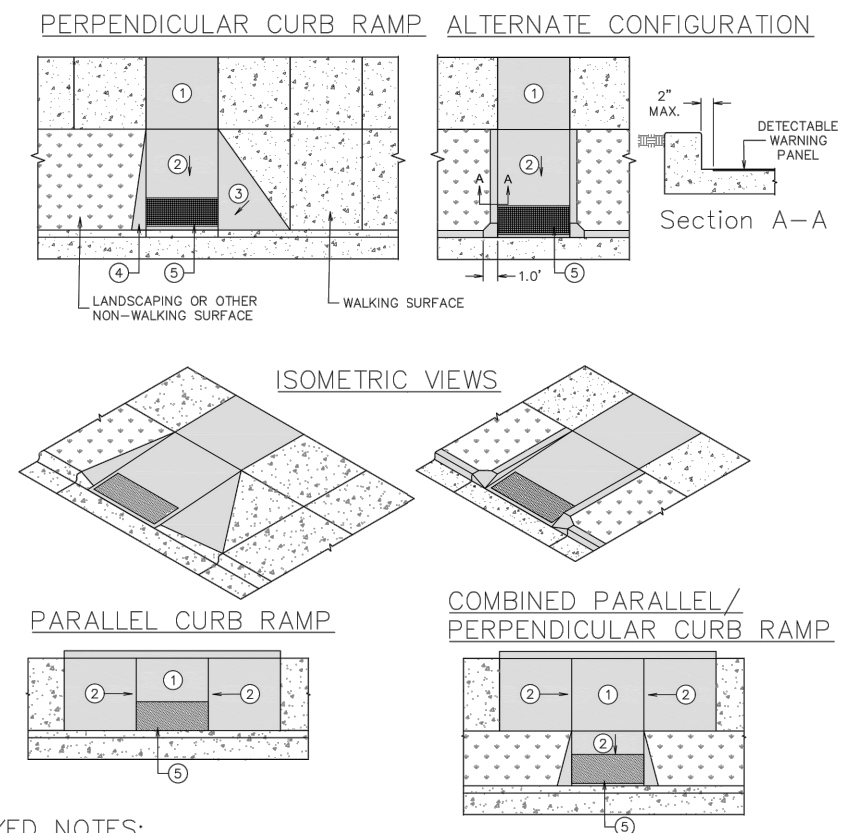
Ken [Signature]

Approved By  
City Engineer  
Kevin J. Slovarp

Adopted: 03/12/2004 Revised: 03/14/2017
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Revised: 03/14/2017

STD - 750



KEYED NOTES:

- ①. LANDING. 5' x 5' PREFERRED DIMENSION, 4' x 4' MINIMUM. MAXIMUM SLOPE IS 2% IN ANY DIRECTION.
- ②. RAMP. 8.3% MAXIMUM RUNNING SLOPE. 2% MAXIMUM CROSS-SLOPE.
- ③. FLARED SIDE. 10% MAXIMUM SLOPE.
- ④. 1' FLARED TRANSITION FROM CURB LAY-DOWN TO TOP OF CURB.
- ⑤. DETECTABLE WARNING PANELS PER STD-750.
- ⑥. CONCRETE SIDEWALK SECTIONS, BASE, AND SUB GRADE PER STD-752.



Curb Ramp Details (Sheet 1 of 4)

Ken [Signature]

Approved By  
City Engineer  
Kevin J. Slovarp

Adopted: 01/30/1980  
Revised: 03/15/2017

Revised: 03/15/2017

STD - 751-1

REVISION	DATE	DESCRIPTION
-	-	-

DESIGNER BB PROJ. NO. 7065  
DRAWN BB DATE 01/15/2021  
CHECKED DP SURVEYED DJA, P.C.



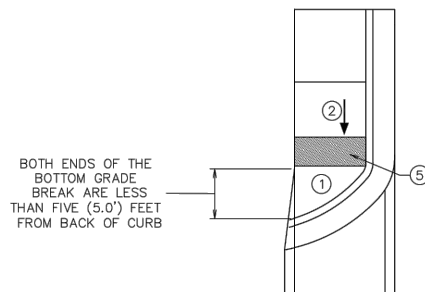
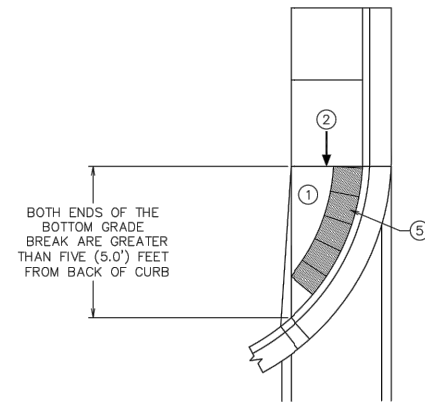
ENGINEERS  
PLANNERS  
SURVEYORS

MULLAN BUILD  
PRELIMINARY 90% NOT FOR CONSTRUCTION

PRELIMINARY 90% NOT FOR CONSTRUCTION

TYPICAL CITY DETAILS 745, 750, 751-1

SHEET	
OF	
A.8	A.10



**KEYED NOTES:**

- ① LANDING. 5' X 5' PREFERRED DIMENSION, 4' X 4' MINIMUM. MAXIMUM SLOPE IS 2% IN ANY DIRECTION.
- ② RAMP. 8.3% MAXIMUM RUNNING SLOPE. 2% MAXIMUM CROSS-SLOPE.
- ③ FLARED SIDE. 10% MAXIMUM SLOPE.
- ④ 1' FLARED TRANSITION FROM CURB LAY-DOWN TO TOP OF CURB.
- ⑤ DETECTABLE WARNING PANELS PER STD-750.
- ⑥ CONCRETE SIDEWALK SECTIONS, BASE, AND SUB GRADE PER STD-752.



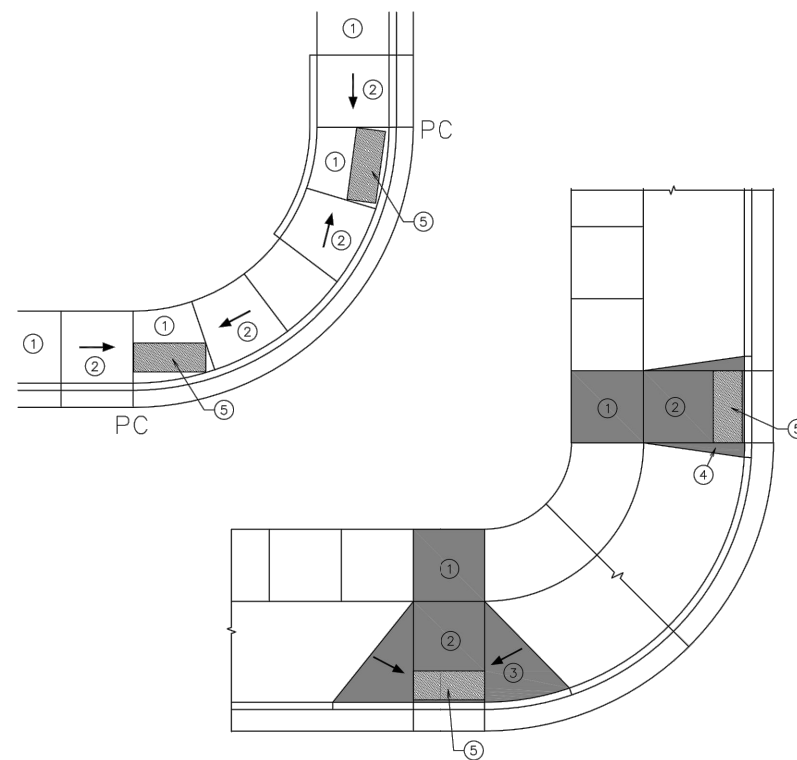
Curb Ramp Details (Sheet 2 of 4)

*Kevin J. Slovarp*

Approved By  
City Engineer  
Kevin J. Slovarp

Adopted: 01/30/1980  
Revised: 03/15/2017

**STD - 751-2**



**KEYED NOTES:**

- ① LANDING. 5' X 5' PREFERRED DIMENSION, 4' X 4' MINIMUM. MAXIMUM SLOPE IS 2% IN ANY DIRECTION.
- ② RAMP. 8.3% MAXIMUM RUNNING SLOPE. 2% MAXIMUM CROSS-SLOPE.
- ③ FLARED SIDE. 10% MAXIMUM SLOPE.
- ④ 1' FLARED TRANSITION FROM CURB LAY-DOWN TO TOP OF CURB.
- ⑤ DETECTABLE WARNING PANELS PER STD-750.
- ⑥ CONCRETE SIDEWALK SECTIONS, BASE, AND SUB GRADE PER STD-752.



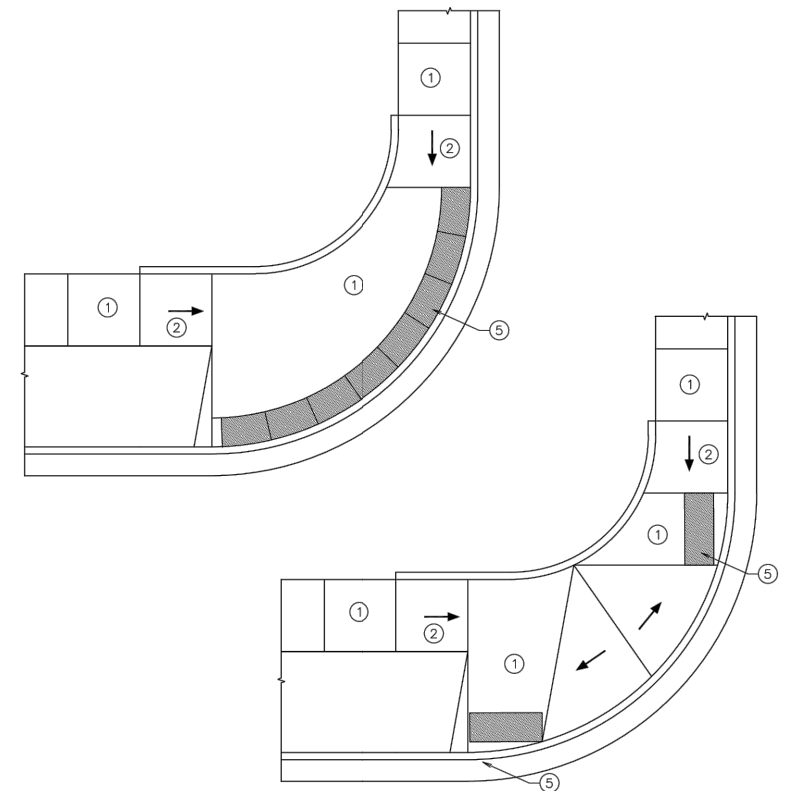
Curb Ramp Details (Sheet 3 of 4)

*Kevin J. Slovarp*

Approved By  
City Engineer  
Kevin J. Slovarp

Adopted: 01/30/1980  
Revised: 03/15/2017

**STD - 751-3**



**KEYED NOTES:**

- ① LANDING. 5' X 5' PREFERRED DIMENSION, 4' X 4' MINIMUM. MAXIMUM SLOPE IS 2% IN ANY DIRECTION.
- ② RAMP. 8.3% MAXIMUM RUNNING SLOPE. 2% MAXIMUM CROSS-SLOPE.
- ③ FLARED SIDE. 10% MAXIMUM SLOPE.
- ④ 1' FLARED TRANSITION FROM CURB LAY-DOWN TO TOP OF CURB.
- ⑤ DETECTABLE WARNING PANELS PER STD-750.
- ⑥ CONCRETE SIDEWALK SECTIONS, BASE, AND SUB GRADE PER STD-752.



Curb Ramp Details (Sheet 4 of 4)

*Kevin J. Slovarp*

Approved By  
City Engineer  
Kevin J. Slovarp

Adopted: 01/30/1980  
Revised: 03/15/2017

**STD - 751-4**

REVISION	DATE	DESCRIPTION

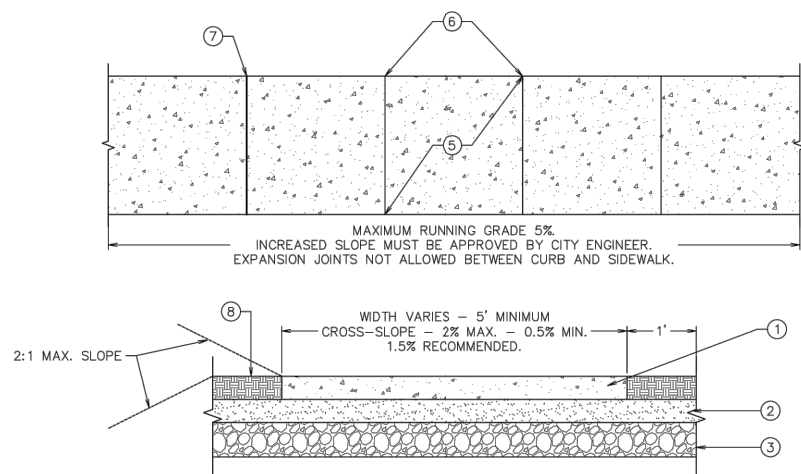
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CHECKED DP SURVEYED DJ&A, P.C.



MULLAN BUILD  
PRELIMINARY 90% NOT FOR CONSTRUCTION

TYPICAL CITY DETAILS 751-2, 751-3, 751-4

SHEET  
OF  
A.9 | A.10



KEYED NOTES:

1. MINIMUM OF FOUR (4") INCHES OF CONCRETE SIDEWALK (TYPICAL), MINIMUM SIX (6") INCHES CONCRETE SIDEWALK THROUGH RESIDENTIAL DRIVEWAY OR MINIMUM EIGHT (8") INCHES CONCRETE SIDEWALK THROUGH COMMERCIAL DRIVEWAY OR ON ADA RAMP PER STD DWGS.
2. MINIMUM OF FOUR (4") INCHES OF BASE SHALL BE COMPACTED TO 95% PROCTOR DENSITY.
3. MINIMUM OF SIX (6") INCHES OF SUB GRADE SHALL BE COMPACTED TO 95% PROCTOR DENSITY.
4. CITY ENGINEER MAY REQUIRE ADDITIONAL BASE, DEPENDING ON SUB GRADE MATERIAL.
5. CONTRACTION JOINTS SHALL FORM AS NEAR A SQUARE PANEL AS POSSIBLE, NO SINGLE PANEL SHALL EXCEED TEN (10') FEET ON ANY SIDE. LONGITUDINAL JOINTS REQUIRED IF SIDEWALK WIDTH EXCEEDS TEN (10') FEET.
6. CONTRACTION JOINTS SHALL BE ONE-FOURTH (1/4) THE CONCRETE THICKNESS OR A MINIMUM OF ONE (1") INCH DEEP.
7. EXPANSION JOINTS OF ONE-HALF (1/2") INCH THICK MASTIC MATERIAL SHALL BE PLACED AT THE FOLLOWING LOCATIONS:
  - 7.1. EVERY FIFTY (50') FEET OF UNINTERRUPTED SIDEWALK.
  - 7.2. P.C.S AND P.T.S OF CURVES.
  - 7.3. GRADE BREAKS.
  - 7.4. RESIDENTIAL DRIVEWAYS SIX (6") INCH DEEP MASTIC SHALL BE INSTALLED AT THE TOP OF THE TRANSITION ON BOTH SIDES AND SHALL BE PINNED IN PLACE BEFORE POURING.
  - 7.5. COMMERCIAL DRIVEWAYS EIGHT (8") INCH DEEP MASTIC SHALL BE INSTALLED AT THE TOP OF THE TRANSITION ON BOTH SIDES AND SHALL BE PINNED IN PLACE BEFORE POURING.
  - 7.6. AT OTHER LOCATIONS AS SPECIFIED BY CITY ENGINEERING DIVISION.
  - 7.7. ALL EXPANSION JOINTS SHALL BE PLACED FLUSH OR JUST BELOW TOP FINISHED SURFACE OF SIDEWALK.
  - 7.8. ALL EXPANSION JOINTS SHALL BE FULL DEPTH, FULL WIDTH AND SECURED IN PLACE BEFORE THE FORMS WILL BE APPROVED.
8. FINISHED SURFACE - 12" MINIMUM SHOULDER UNLESS OTHERWISE APPROVED BY CITY ENGINEER.
9. FINISHED SIDEWALK SURFACE SHALL HAVE MEDIUM-TO-HEAVY BROOM TEXTURE.
10. NO SIDEWALK SHALL BE POURED WITHOUT AN INSPECTION AND APPROVAL OF FORM PLACEMENT BY CITY ENGINEERING DIVISION.
11. CONSTRUCTION MATERIALS AND PROCEDURES SHALL CONFORM TO EXISTING CITY STANDARD SPECIFICATIONS FOR M-4000 CEMENT CONCRETE AND MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS SECTIONS 02528 AND 03310.
12. CITY OF MISSOULA REQUIRES 564 LBS OF PORTLAND CEMENT PER CY OF CONCRETE.

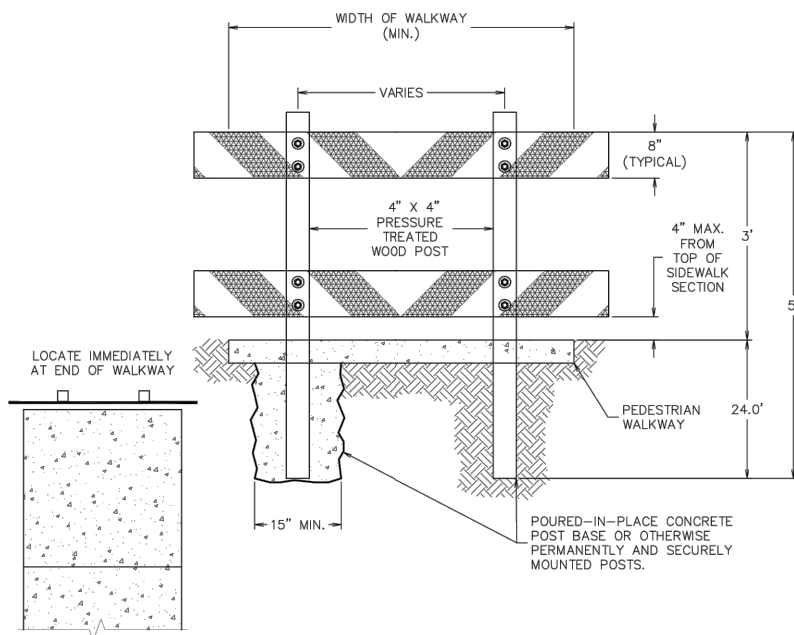


Typical Sidewalk Section

Approved By  
City Engineer  
Kevin J. Slovarp

Adopted: 02/29/1996  
Revised: 03/22/2017

STD - 752



GENERAL NOTES:

1. BARRICADE POSTS SHALL BE PRESSURE TREATED 4" X 4" WOOD POSTS.
  - 1.1. OTHER MATERIAL MAY BE CONSIDERED, PRIOR REVIEW AND APPROVAL BY THE CITY ENGINEER IS REQUIRED.
2. BARRICADE POSTS SHALL BE EMBEDDED TWENTY-FOUR (24") INCHES MINIMUM IN POURED-IN-PLACE CONCRETE OR OTHERWISE PERMANENTLY AND SECURELY MOUNTED POSTS.
3. BARRICADE RAILS SHALL BE 1" X 8" PRESSURE TREATED WOOD OR COMPOSITE TRAFFIC CONTROL MATERIAL.
  - 3.1. OTHER MATERIAL MAY BE CONSIDERED, PRIOR REVIEW AND APPROVAL BY THE CITY ENGINEER IS REQUIRED.
4. BARRICADE RAILS SHALL BE SECURED WITH FOUR (4) EACH, PER RAIL - THREE-EIGHTS (3/8") INCH DIAMETER BY THREE AND ONE-HALF (3-1/2") INCH LENGTH HOT-DIP GALVANIZED HEX LAG SCREWS AND FOUR (4) EACH, PER RAIL - ONE (1") INCH, OUTSIDE DIAMETER, HOT-DIP GALVANIZED WASHERS, AS SHOWN ABOVE.
5. BARRICADE RAILS SHALL BE SECURED ON POSTS FACING SIDEWALK SECTION / PEDESTRIAN TRAVEL WAY.
6. BARRICADE SHALL BE LOCATED IMMEDIATELY AT END OF THE CONCRETE SIDEWALK.
7. RETROREFLECTIVE TAPE SHALL BE APPLIED IN SIX (6") INCH BANDS SPACED SIX (6") INCHES APART ALTERNATING RETROREFLECTIVE WHITE AND RETROREFLECTIVE RED [RED = BLACK INK ILLUSTRATED ABOVE], PLACED AT A FORTY-FIVE (45°) DEGREE ANGLE TO THE RAIL, AS SHOWN ABOVE.



Typical End-of-Walkway Barricade Detail

Approved By  
City Engineer  
Kevin J. Slovarp

Adopted: 10/30/2014  
Revised: 3/22/2017

STD - 762

REVISION	DATE	DESCRIPTION

DESIGNER BB PROJ. NO. 7065

DRAWN BB DATE 01/15/2021

CHECKED DP SURVEYED DJ&A, P.C.



MULLAN BUILD

PRELIMINARY 90% NOT FOR CONSTRUCTION

TYPICAL CITY DETAILS 752, 762

SHEET  
OF  
A.10 A.10