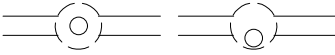
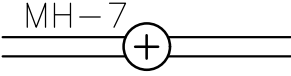
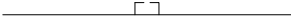




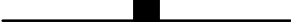
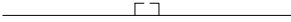

























ITEM	EXISTING	PROPOSED
Maintenance Holes		
Inlet Type 250A		
Inlet Type 250B		
Inlet Type 252		
Inlet Type 268		
Catch Basin round inlet top		
Private CB & Inlet		
Catch Basin Type 151 (pre 1985)		
Catch Basin Type 240A		
Catch Basin Type 240B		
Catch Basin Type 240C		
Catch Basin Type 240D		
Catch Basin Type 241		
Catch Basin Type 242A		
Catch Basin Type 242B		
Junction Box Type 277A		
Junction Box Type 277B		
Area Drain		

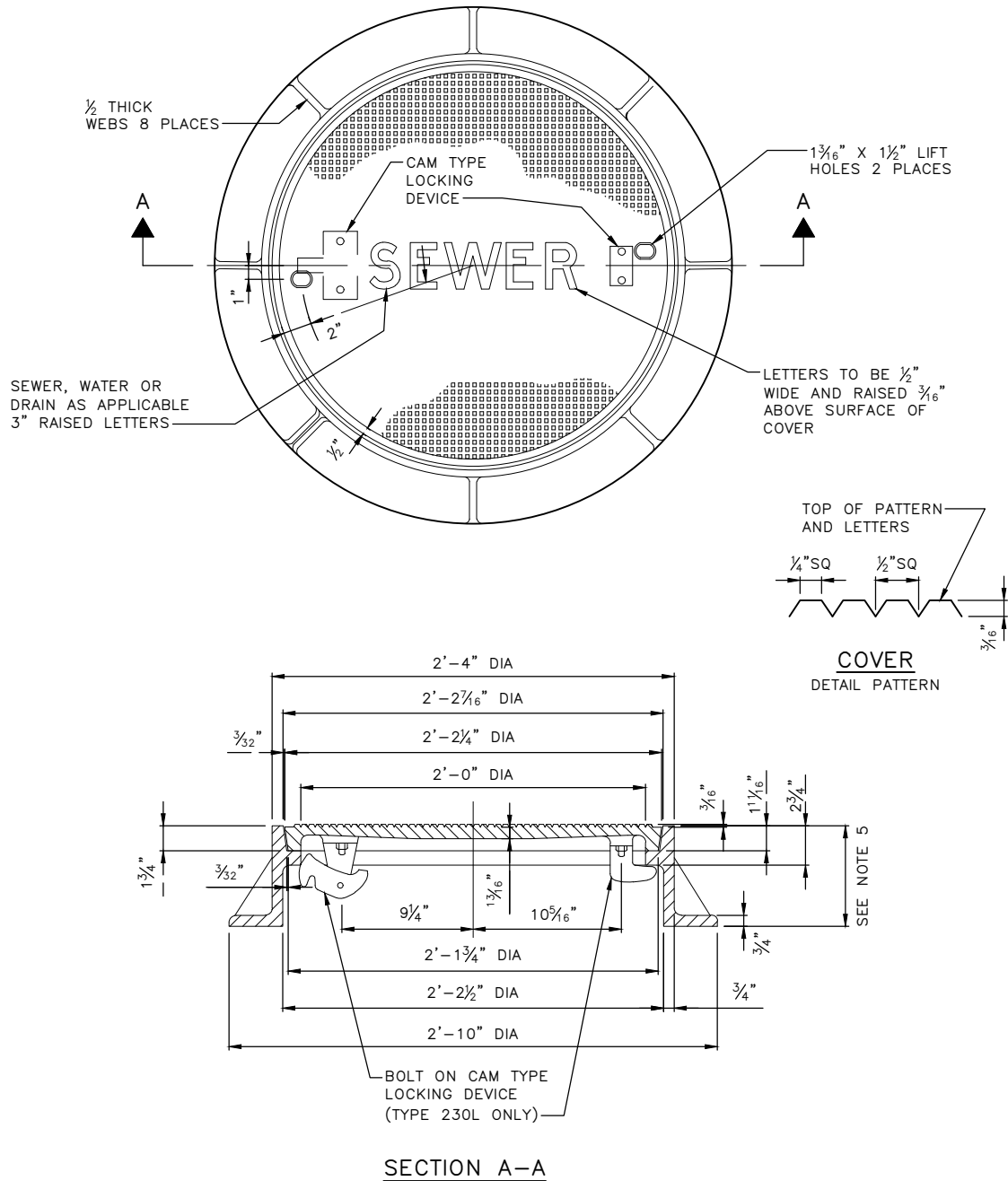
REF STD SPEC SEC



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STANDARD SYMBOLS
SEWER & DRAINAGE



NOTES:

1. DESIGNATE LOCKING COVER AS TYPE 230L FOR USE IN NON-VEHICULAR TRAFFIC AREAS.
2. COVER THICKNESS IS MEASURED FROM THE BOTTOM OF THE PATTERN.
3. FRAMES MUST BE MANUFACTURED FROM CAST IRON OR DUCTILE IRON.
4. COVERS MUST BE MANUFACTURED FROM DUCTILE IRON.
5. CASTING HEIGHTS:
 - MUST BE 10" WHEN IN ROADWAY.
 - MUST BE 7" WHEN NOT IN ROADWAY
 - SEE ALSO STD PLAN NO. 406.

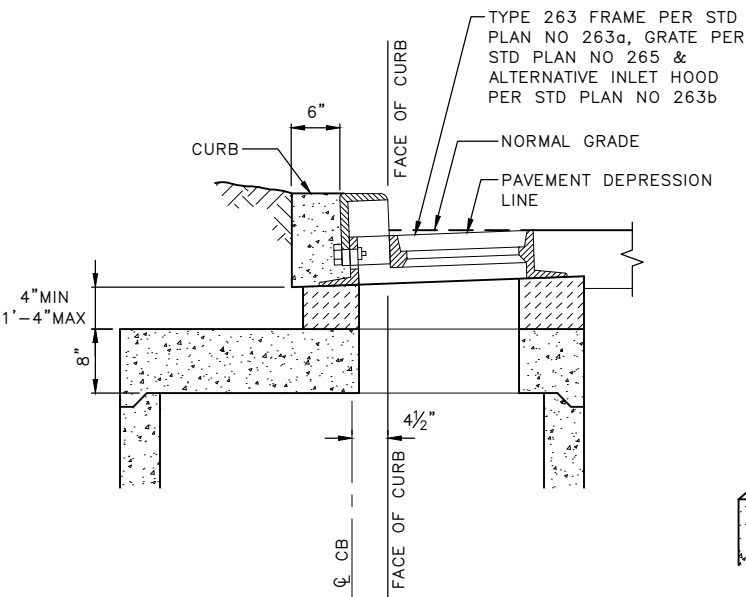
REF STD SPEC SEC 7-05, 9-12



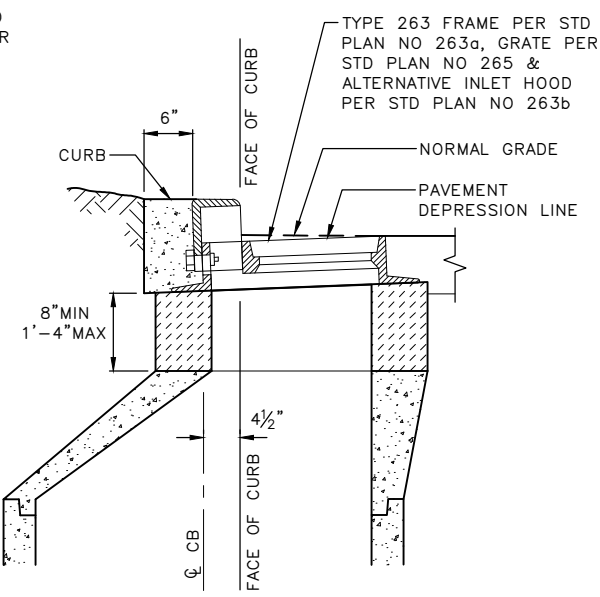
City of Seattle

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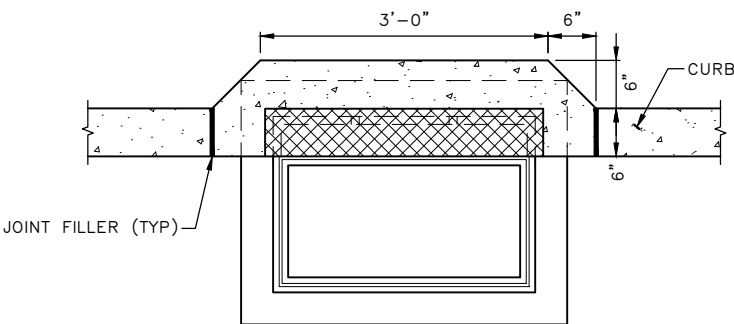
2'-0" DIAMETER
FRAME & COVER



TYPE 240D CB



TYPE 242C CB



CURB DETAIL (PLAN VIEW) FOR
TYPE 240D & 242C CB & TYPE 250B INLET

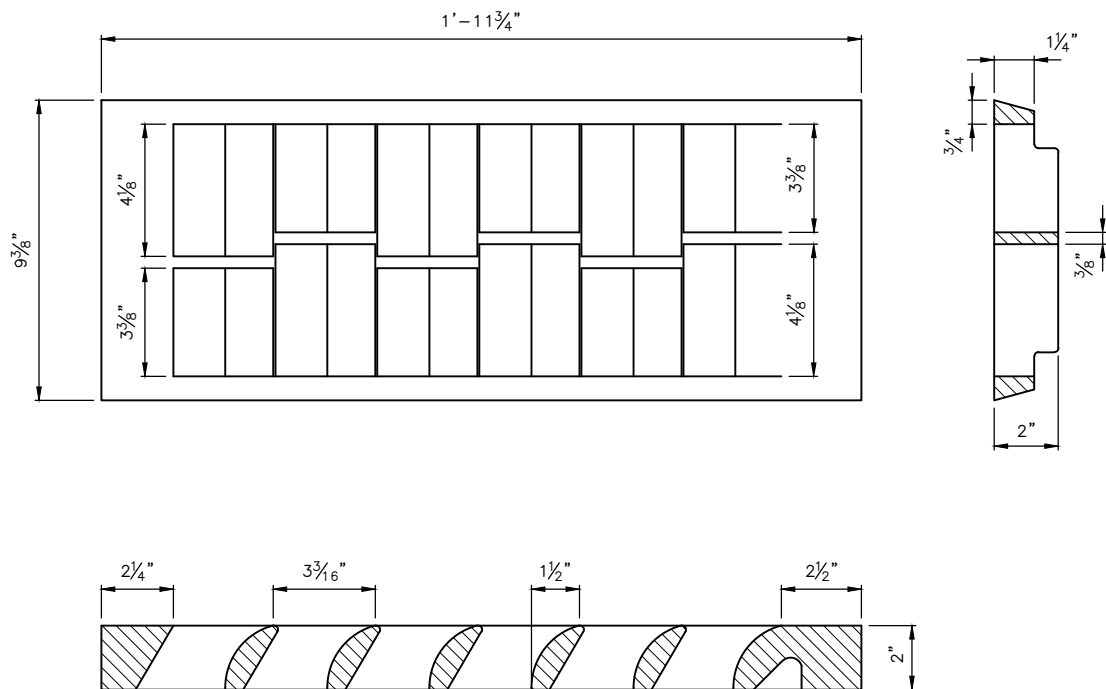
REF STD SPEC SEC 7-05



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CATCH BASIN & INLET
INSTALLATION WITH STANDARD
PLAN 263B ALTERNATIVE HOOD



NOTES:

- 1. OPEN AREA - 100 SQUARE INCHES.
- 2. OTHER GRATES ACCEPTABLE; SPECIFY VANE, SOLID COVER, BI-DIRECTIONAL VANE, ADA OR BEEHIVE ON PLANS.
- 3. SEE STD PLAN NO 265 FOR VANE AND END DETAIL.
- 4. STD PLAN NO 266 DIMENSIONS GOVERN ON END DETAIL.
- 5. REPLACEMENT VANED GRATE FOR TYPE 164 INLET FRAMES.

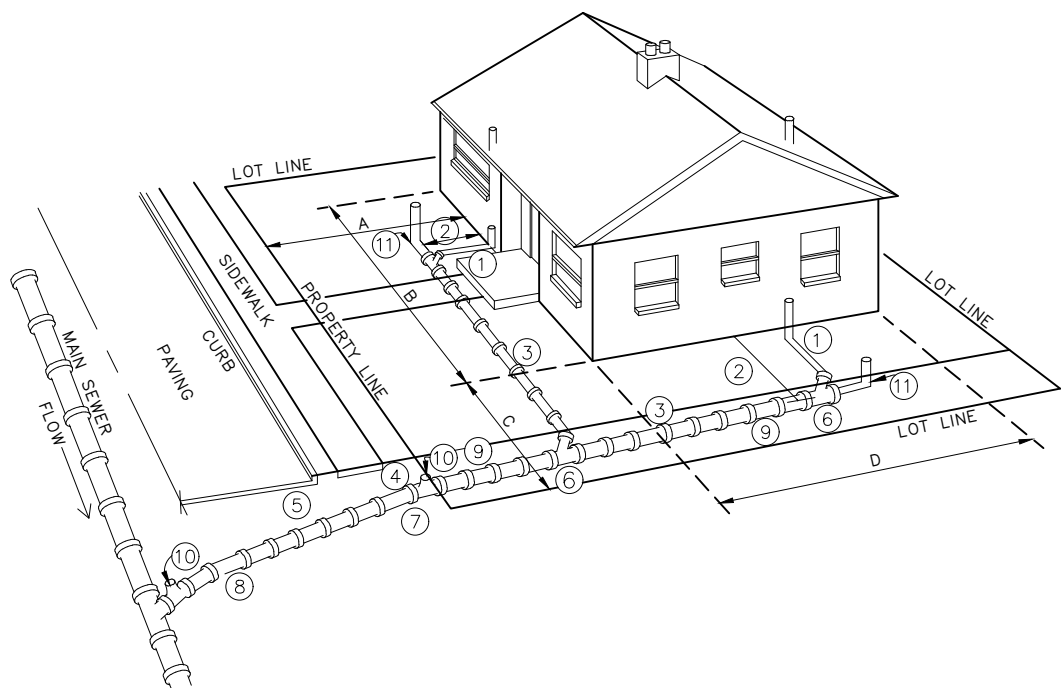
REF STD SPEC SEC 7-20.3(6), 9-12



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TYPE 266 REPLACEMENT
VANED GRATE



NOTES:

- 1. ALL SANITARY PLUMBING OUTLETS MUST BE CONNECTED TO THE SANITARY SEWER OR COMBINED SEWER.
- 2. 2'-6" MIN DISTANCE FROM HOUSE, EXCEPT FOR SOIL PIPE CONNECTION.
- 3. 1'-6" MIN COVER OF PIPE.
- 4. 2'-6" MIN COVER AT PROPERTY LINE.
- 5. 5'-0" MIN COVER AT CURB LINE.
- 6. LAY PIPE IN STRAIGHT LINE BETWEEN BENDS. MAKE ALL CHANGES IN GRADE OR LINE WITH BENDS OR WYES.
- 7. STANDARD 4" TO 6" INCREASER.
- 8. 6" SEWER PIPE: MIN SIZE IN STREET, AND ELSEWHERE AS DIRECTED. 2% MIN GRADE, 100% MAX.
- 9. 4" SEWER PIPE: MIN SIZE ON PROPERTY. 2% MIN GRADE, 100% (45') MAX.
- 10. TEST "T" WITH PLUG
- 11. CLEANOUT AT UPSTREAM END OF SIDE SEWER.
- 12. ALL CONSTRUCTION MUST BE IN ACCORDANCE WITH THE CURRENT SIDE SEWER ORDINANCE.

DIMENSIONS:

- A = FRONT YARD SETBACK
- B = LENGTH OF HOUSE
- C = SIDE YARD SETBACK
- D = WIDTH OF HOUSE

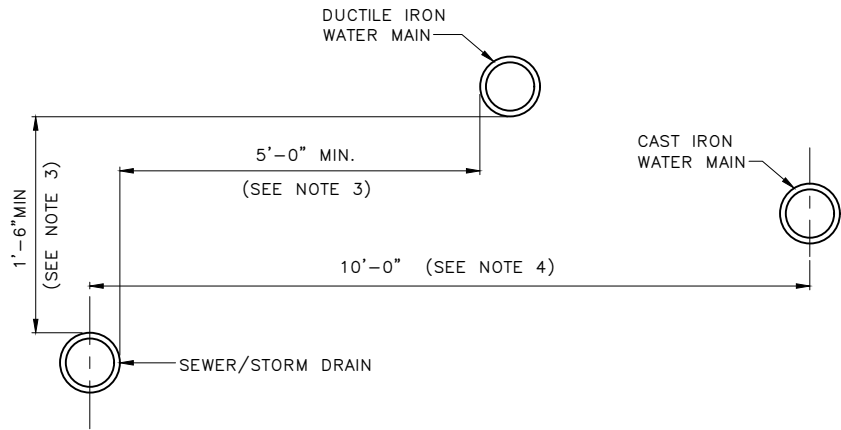
REF STD SPEC SEC 7-18



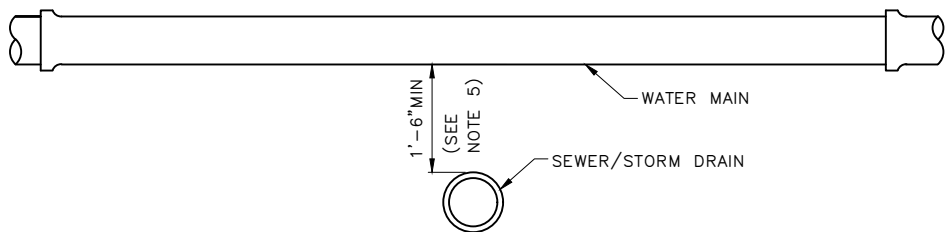
City of Seattle

NOT TO SCALE

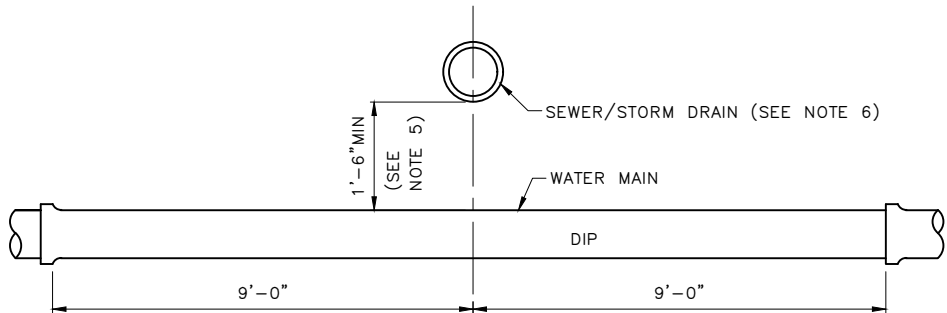
SIDE SEWER INSTALLATION



PARALLEL INSTALLATION



CROSSING WATER OVER SEWER/STORM DRAIN



STANDARD SINGLE 18'-0" NOMINAL LENGTH DUCTILE IRON WATER MAIN SECTION CENTERED AT THE POINT OF CROSSING

CROSSING WATER UNDER SEWER/STORM DRAIN

NOTES:

1. EXCEPTIONS TO STD PLAN NO 286a & 286b MUST BE APPROVED BY SEATTLE PUBLIC UTILITIES.
2. "SEWER/STORM DRAIN" INCLUDES STORM DRAINS, SANITARY SEWER, COMBINED SEWER MAINS AND SIDE SEWER.
3. WHERE MINIMUM CLEARANCES CANNOT BE MET, SEWER MUST BE CONSTRUCTED OF MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS INCLUDING WATER MAIN PRESSURE TESTING REQUIREMENTS.
4. NO VERTICAL CLEARANCE REQUIRED.
5. IF MINIMUM VERTICAL SEPARATION CANNOT BE MET, WATER MAIN MUST BE A STANDARD SINGLE 18'-0" NOMINAL LENGTH DUCTILE IRON WATER MAIN SECTION CENTERED AT THE POINT OF CROSSING.
6. SEWER/STORM DRAIN MUST HAVE ADEQUATE FOUNDATION SUPPORT TO PREVENT SETTLEMENT ON THE WATER MAIN AND TO PREVENT DEFLECTION OF WATER MAIN JOINTS.
7. CROSSINGS AT AN ANGLE BETWEEN 90° AND 45° MAY OCCUR BETWEEN 9'-0" AND 6'-0" OF WATER MAIN JOINT. FOR CROSSINGS LESS THAN 45°, SEE NOTE 1.

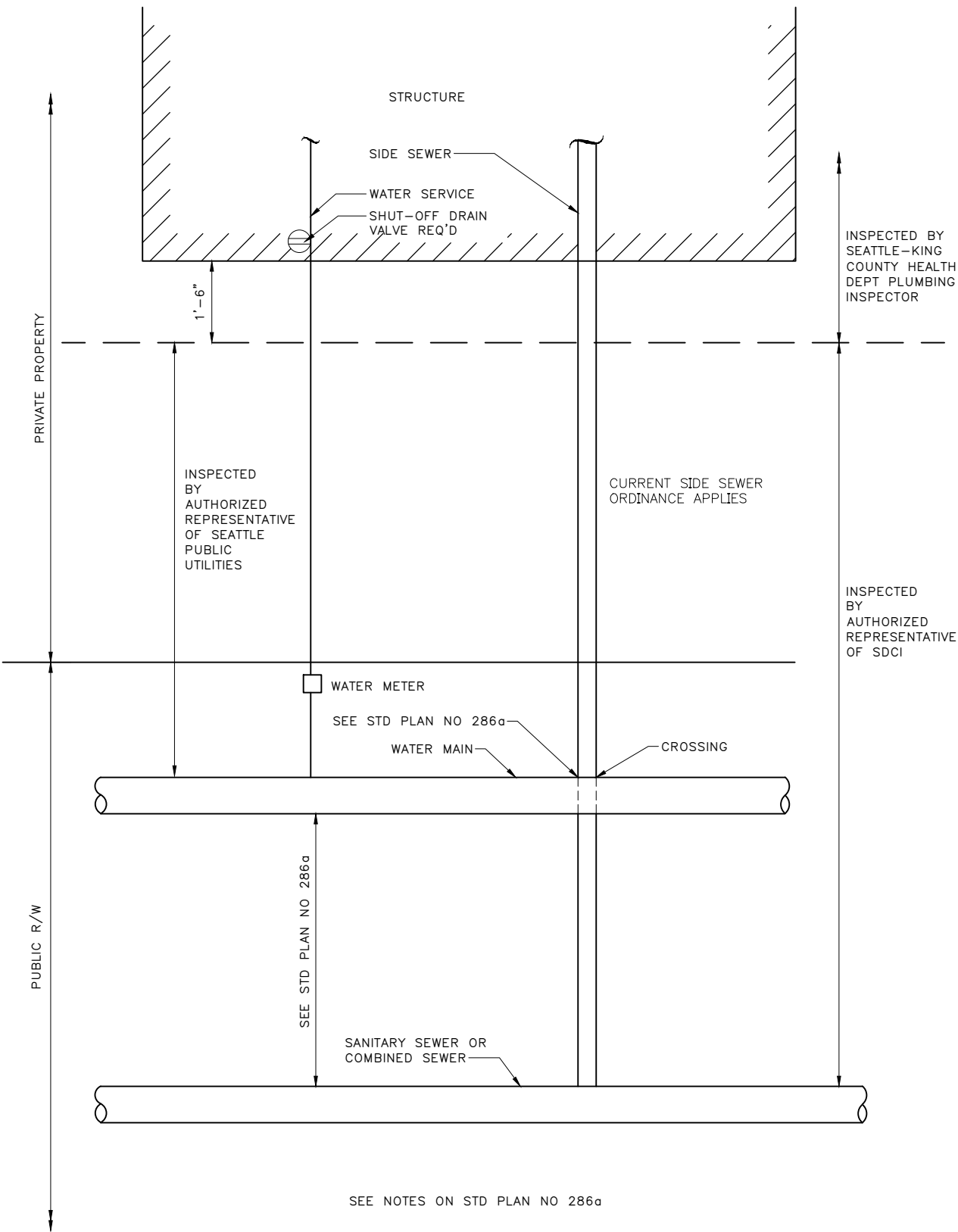
REF STD SPEC SEC 1-07.17, 7-11



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SPACING & CLEARANCES FOR
SEWER/STORM DRAIN & WATER



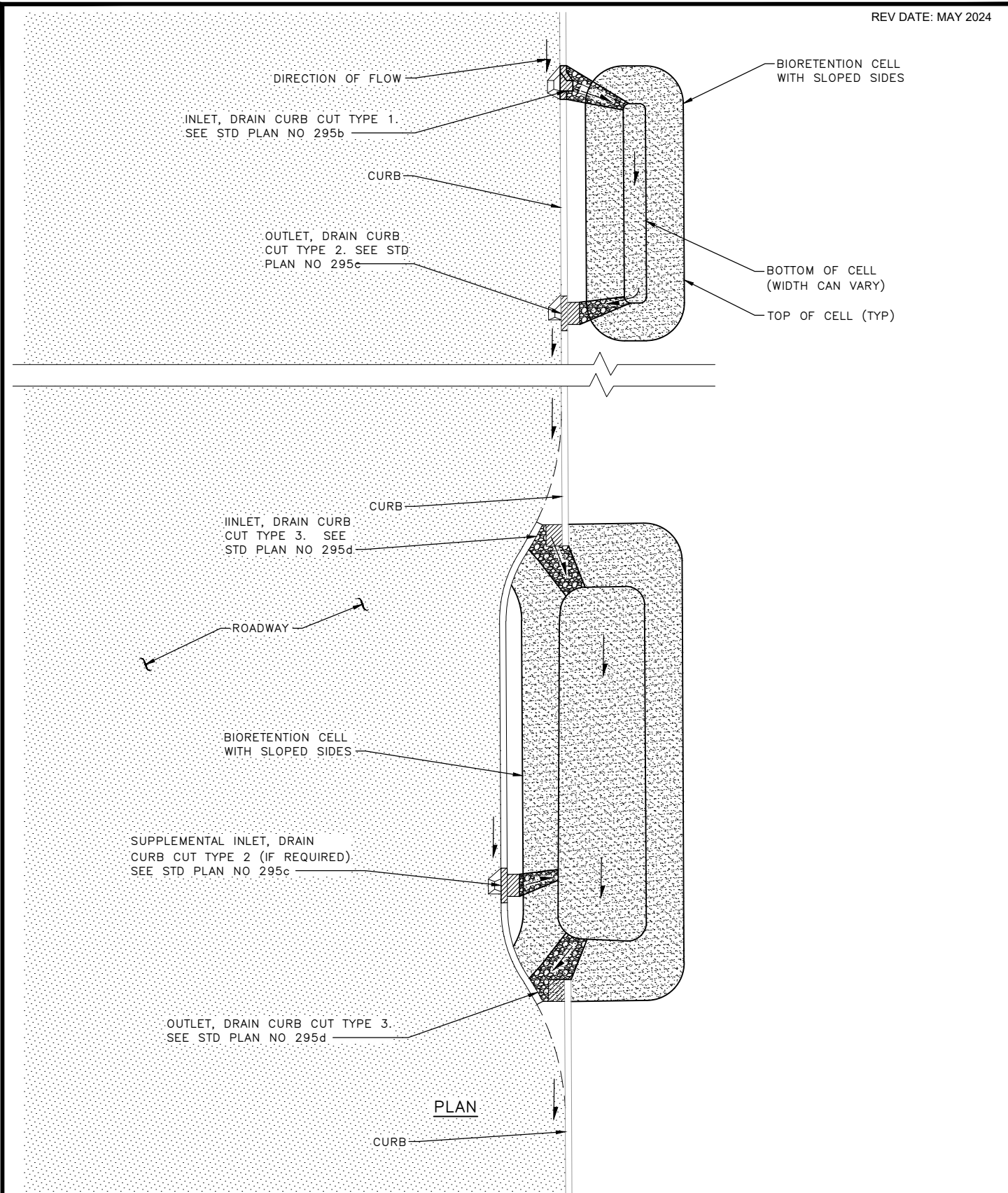
REF STD SPEC SEC 1-07.17, DIV 7



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SPACING & CLEARANCES FOR
SEWER & WATER



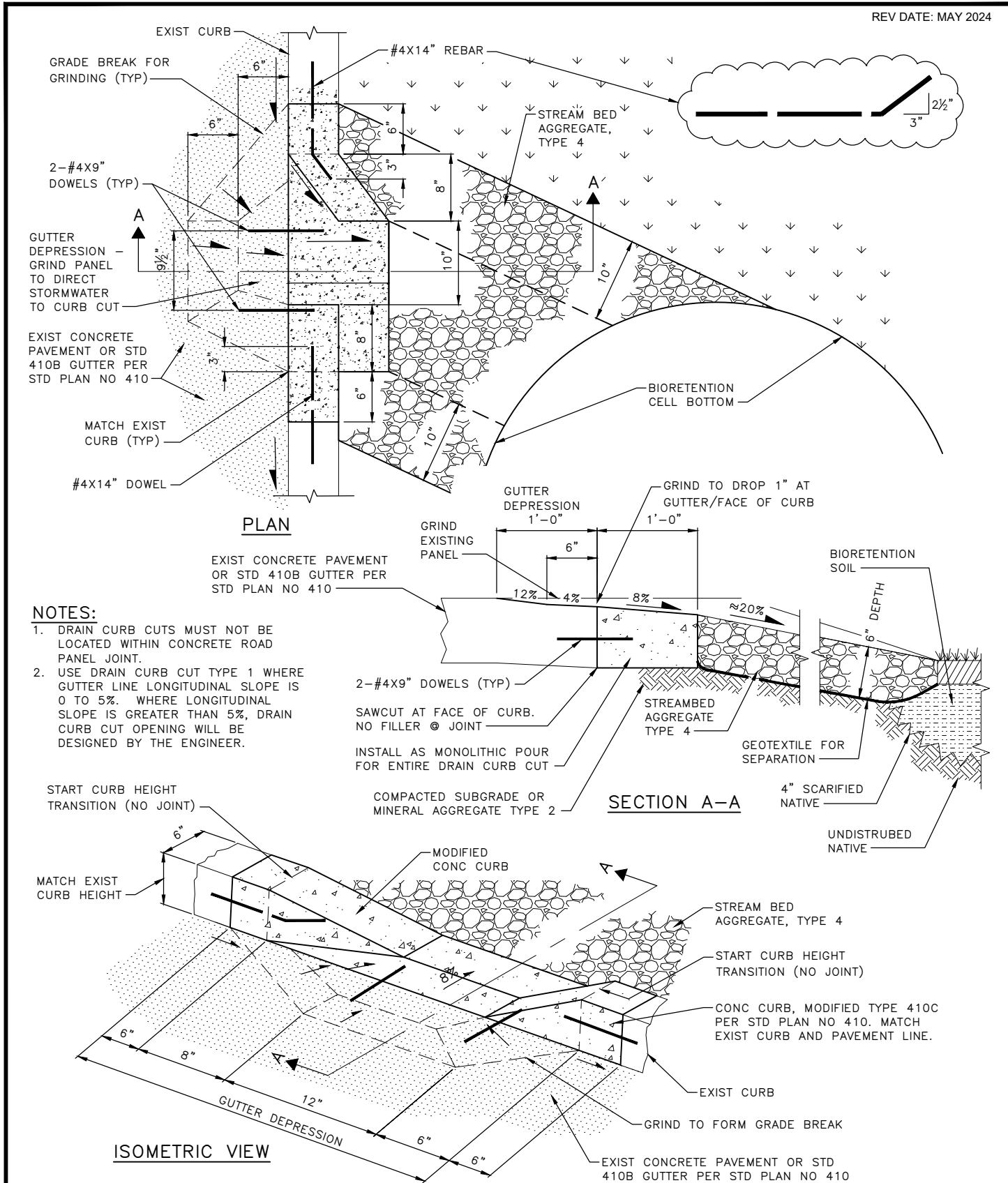
REF STD SPEC SEC 7-21, 8-04, 9-03



City of Seattle

NOT TO SCALE

TYPICAL DRAIN CURB CUT
LOCATION FOR BIORETENTION
WITH SLOPED SIDES



- NOTES:**
- 1. DRAIN CURB CUTS MUST NOT BE LOCATED WITHIN CONCRETE ROAD PANEL JOINT.
 - 2. USE DRAIN CURB CUT TYPE 1 WHERE GUTTER LINE LONGITUDINAL SLOPE IS 0 TO 5%. WHERE LONGITUDINAL SLOPE IS GREATER THAN 5%, DRAIN CURB CUT OPENING WILL BE DESIGNED BY THE ENGINEER.

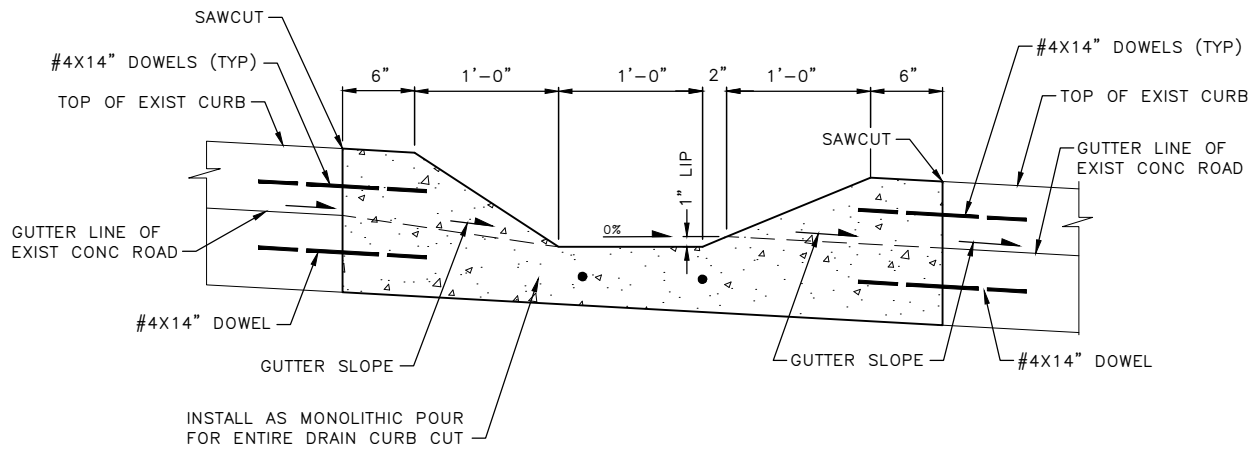
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NOT TO SCALE

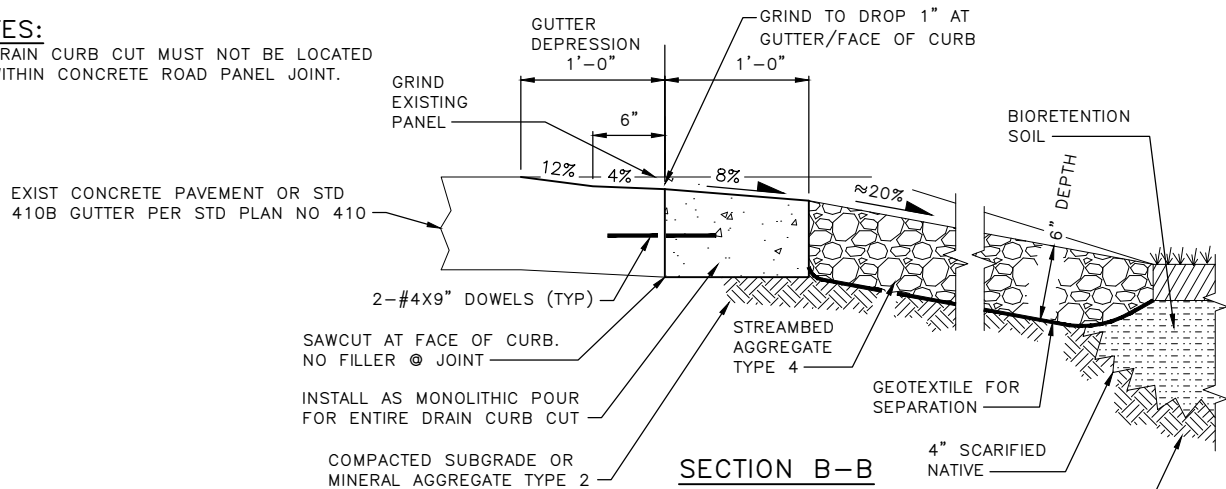
DRAIN CURB CUT TYPE 1



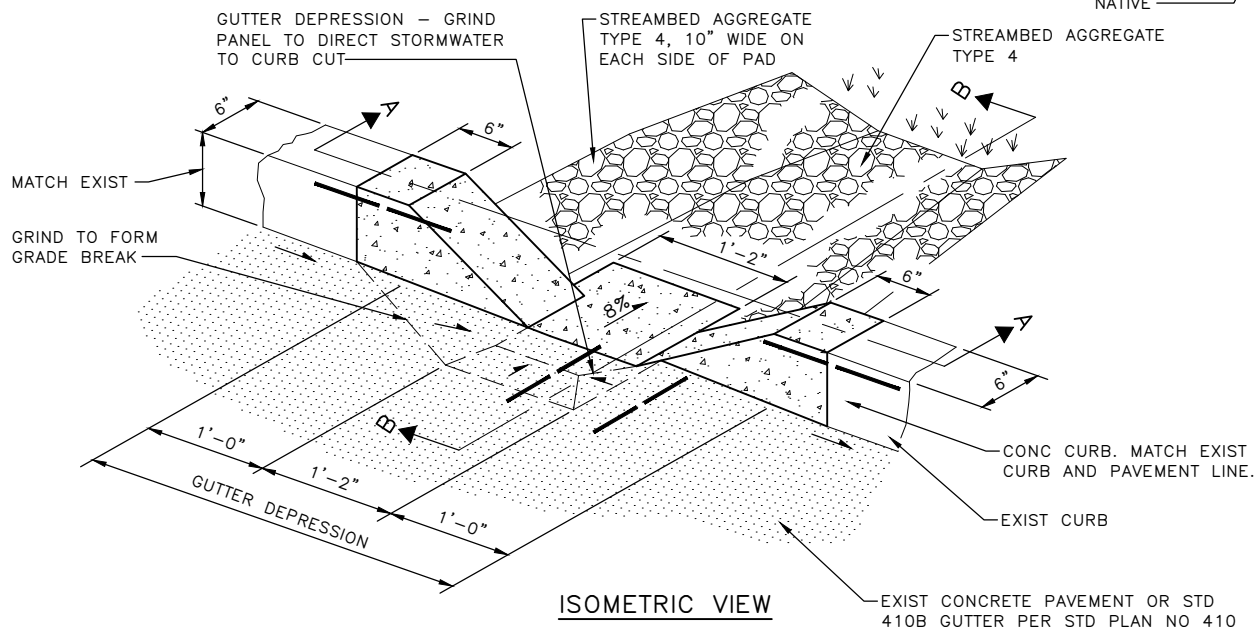
SECTION A-A

NOTES:

1. DRAIN CURB CUT MUST NOT BE LOCATED WITHIN CONCRETE ROAD PANEL JOINT.



SECTION B-B



ISOMETRIC VIEW

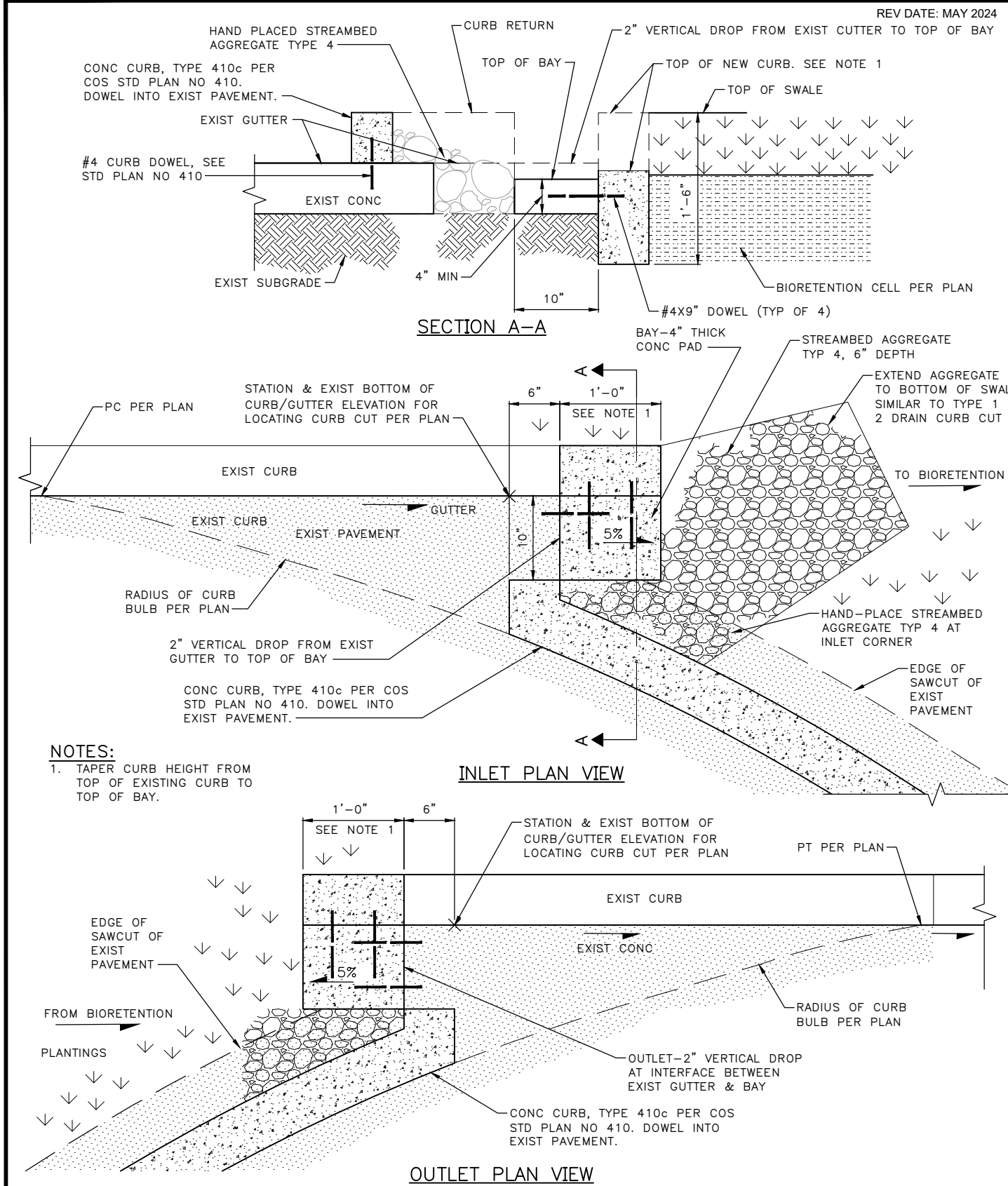
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DRAIN CURB CUT TYPE 2

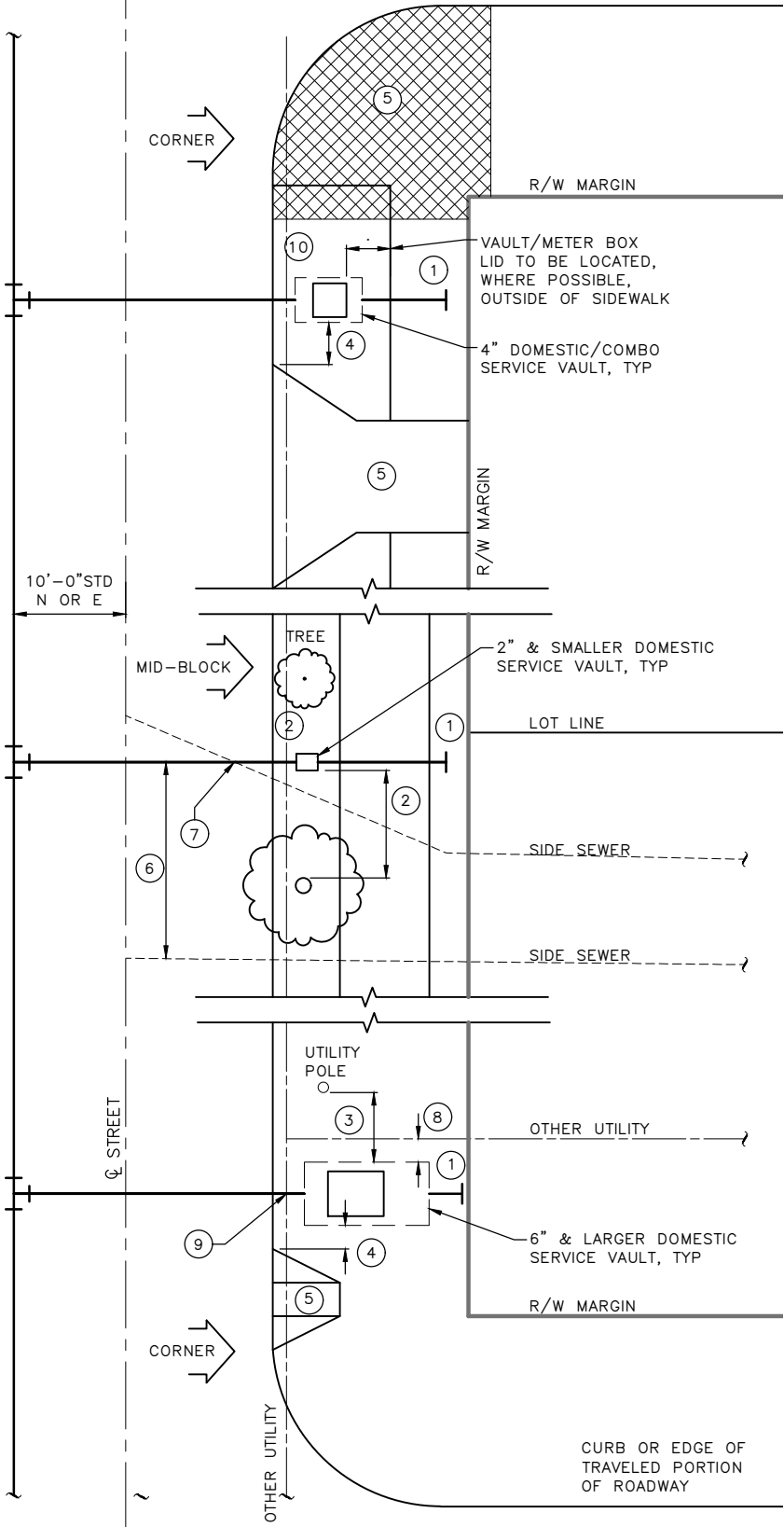


NOTES:

- ①. UNION POINT 2' OUTSIDE OF VAULT/METER BOX, 2' FROM R/W MARGIN UNLESS OTHERWISE NOTED ON PLANS.
- ②. 5' CLEARANCE MINIMUM FROM EDGE OF NEW OR EXISTING TREES. IF EXCAVATION IS REQUIRED WITHIN ROOT ZONE OF EXISTING TREES, THE EXCAVATION MUST BE ACCOMPLISHED BY HAND METHODS, CONDUCTED TO PREVENT DAMAGE TO FEEDER AND SURFACE ROOTS, AND MINIMIZE COMPACTION OF SOILS.
- ③. 5' CLEAR FROM EDGE OF POLES.
- ④. 2' CLEAR FROM EDGE OF DRIVEWAY OR ADA RAMP WING.
- ⑤. WATER SERVICE NOT TO BE INSTALLED IN DRIVEWAY, BEHIND ADA RAMP, OR STREET CORNER.
- ⑥. SIDE SEWER HORIZONTAL CLEARANCE 10' FOR CIP, GALVANIZED OR PLASTIC WATER PIPE OR 5' FOR DIP OR COPPER WATER PIPE.
- ⑦. SIDE SEWER VERTICAL CLEARANCE 1.5' MIN.
- ⑧. VAULT HORIZONTAL CLEARANCE 3' MIN FROM OTHER UTILITIES. UNLESS OTHERWISE NOTED IN STD SPECS.
- ⑨. VERTICAL CLEARANCE 12" MIN FOR ALL OTHER UTILITY CROSSINGS UNLESS OTHERWISE NOTED IN STD SPECS.
- ⑩. ALLOWABLE LOCATION OF WATER SERVICE VAULT, 2' MINIMUM CLEAR OF BACK OF CURB.

PERMIT REQUIREMENTS WILL DETERMINE LOCATION AND ORIENTATION OF ALL SERVICE VAULTS & METER BOXES IN THE RIGHT OF WAY. VAULTS & METER BOXES SHOWN ON THIS STD PLAN ARE FOR GRAPHICAL PURPOSES ONLY.

EXCEPTIONS TO THE STANDARDS LOCATIONS REQUIRE CITY REVIEW AND APPROVAL.



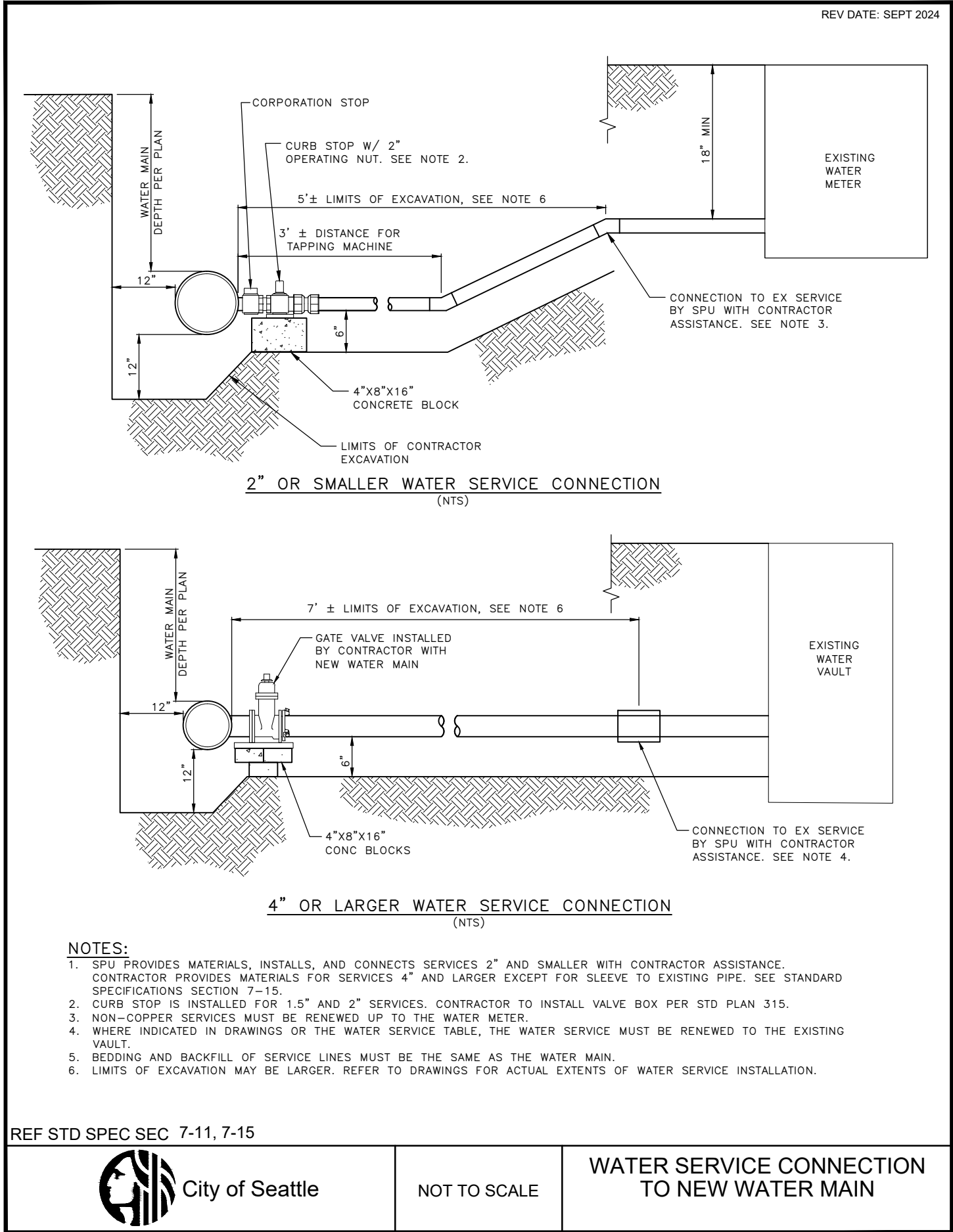
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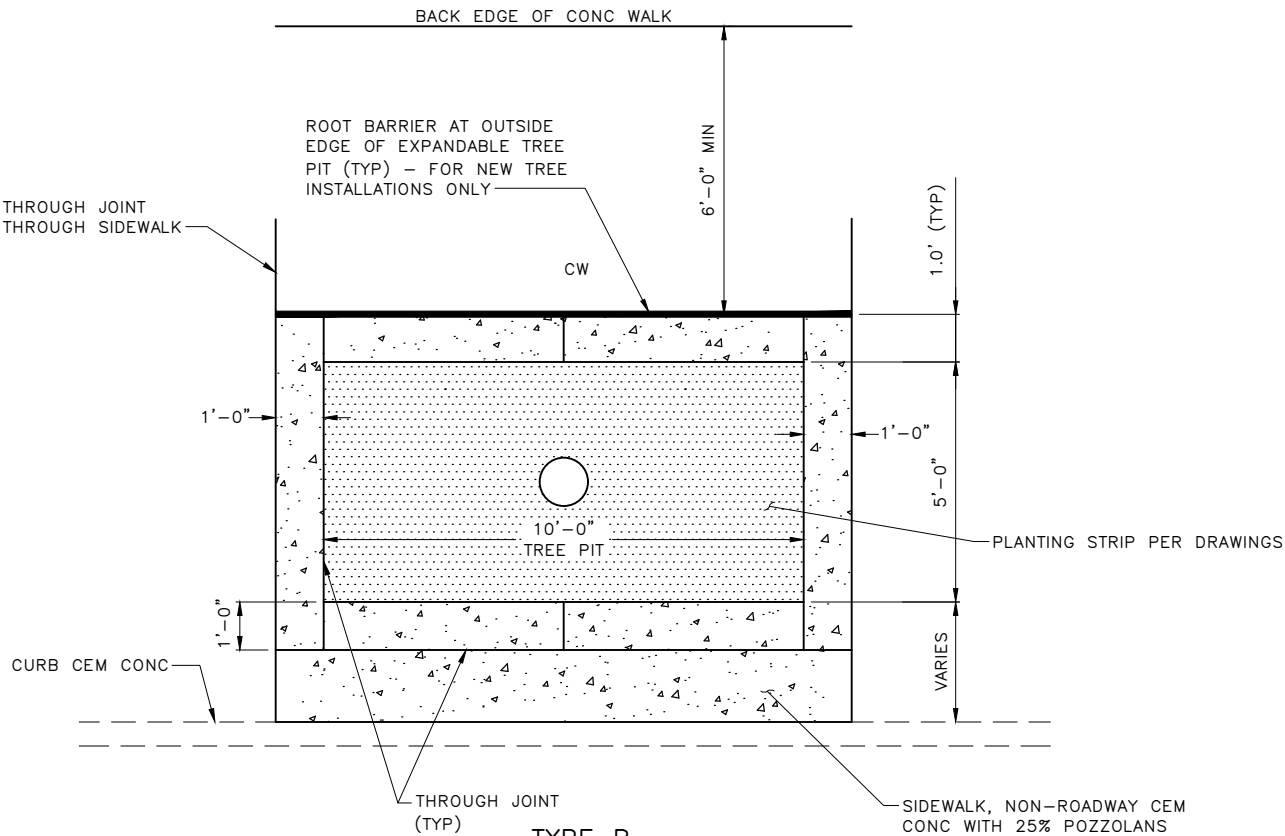
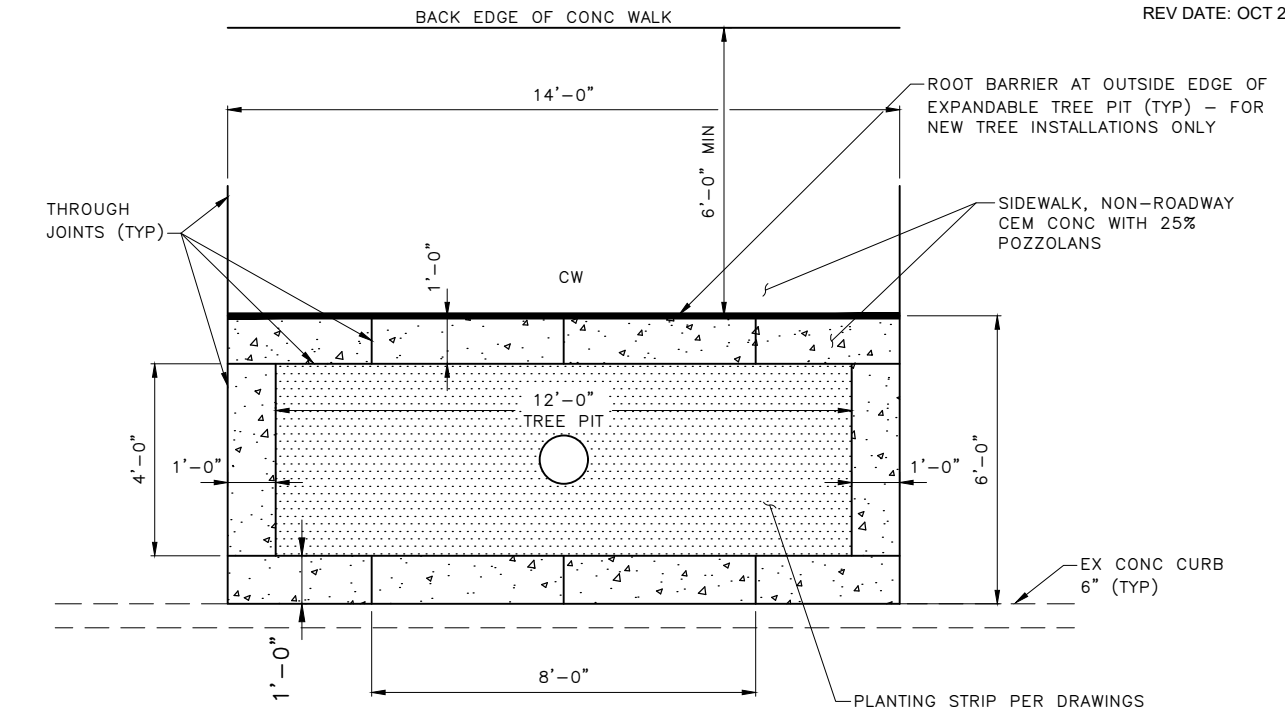


City of Seattle

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**CLEARANCES FOR TYPICAL
WATER SERVICE VAULTS
& METER BOXES**





- NOTES:
1. SEE STD PLAN 420 FOR CW SCORING DETAILS.
 2. INSTALL ROOT BARRIER PER STANDARD PLAN NO 100a.
 3. WHEN INSTALLING NEW TREE PITS IN EXISTING SIDEWALK, REMOVE SIDEWALK TO FULL PANEL WIDTH. INSTALL TREE PIT AS SHOWN ON THIS DETAIL.

REF STD SPEC SEC 8-02, 8-14



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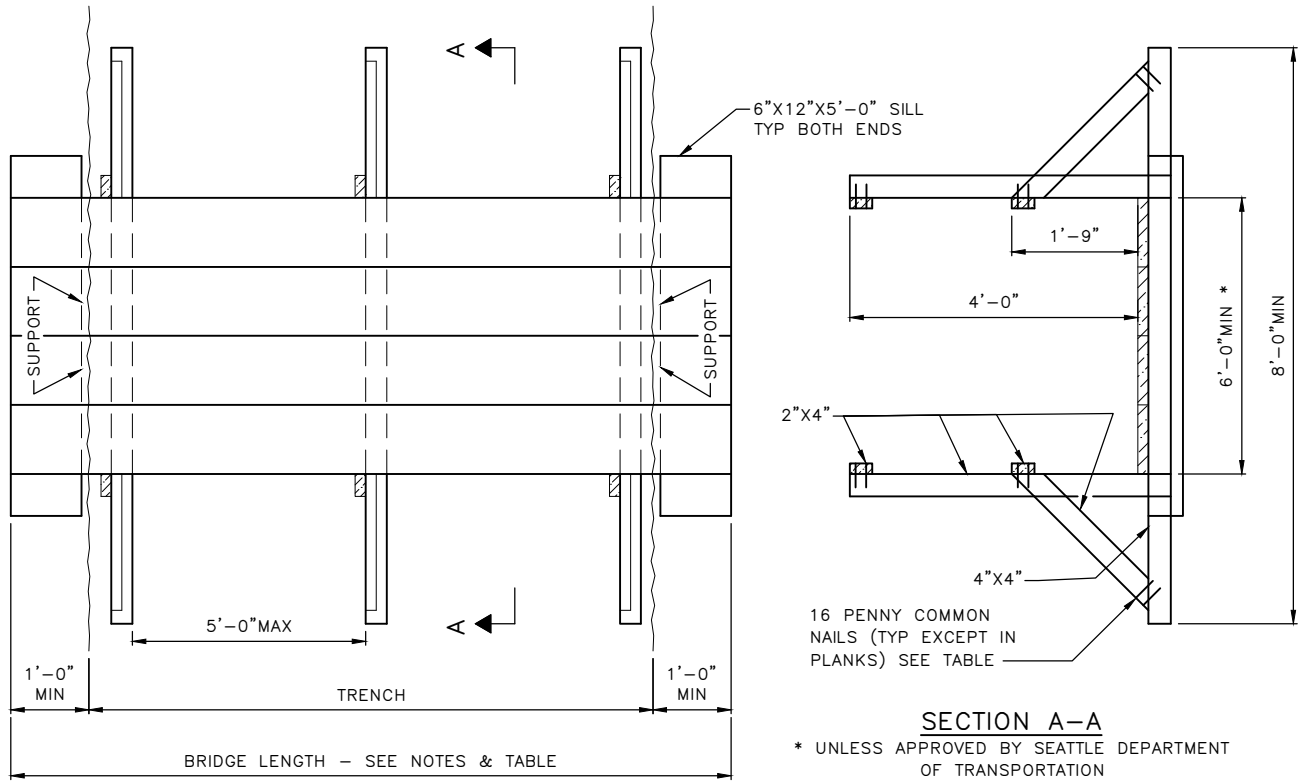
EXPANDABLE TREE PIT DETAIL

A technical diagram of a lap joint. Two rectangular plates are shown overlapping. The top plate has a width of 6 inches, indicated by a dimension line. The overlap between the two plates is labeled as 1/2 inch through the joint. A dashed line extending from the edge of the top plate is labeled 'SCORE LINE'.

DRIVEWAY W/ MONOLITHIC
CURB & APPROACH

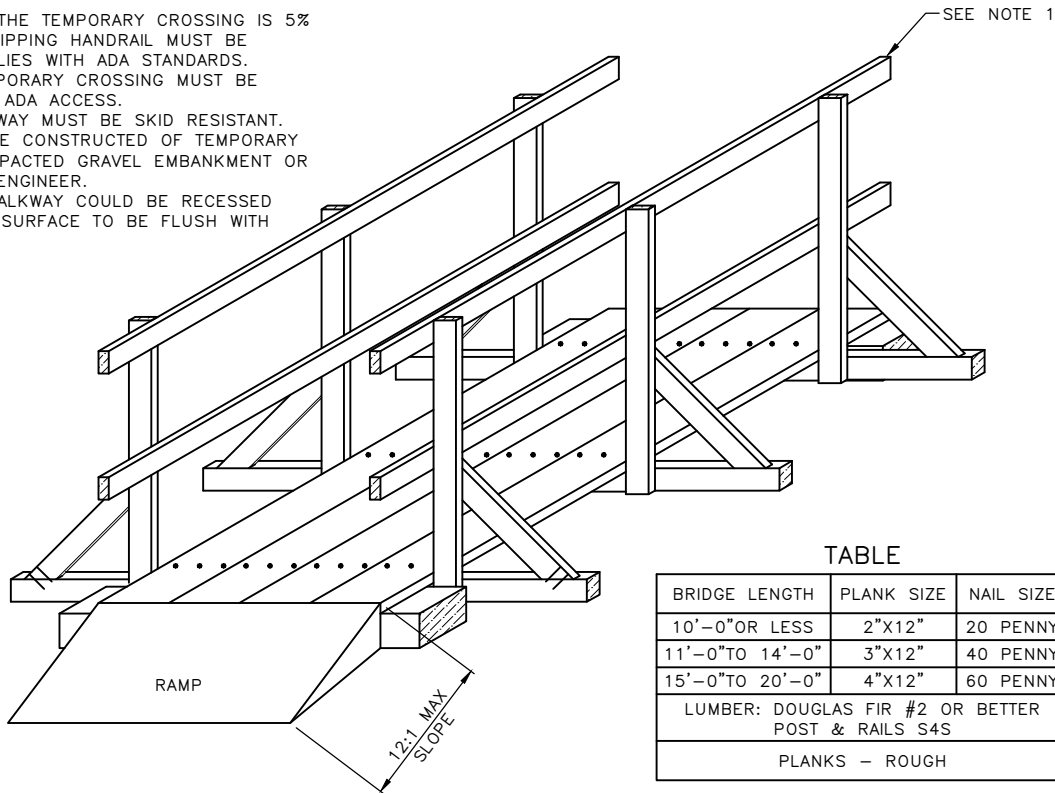
1. TYPE 430A MUST BE USED UNLESS OTHERWISE DIRECTED BY ENGINEER. USE OF DRIVEWAY TYPE 430B IS SUBJECT TO ENGINEER APPROVAL.
2. DRIVEWAYS MUST BE NON-ROADWAY CEM. CONC. HIGH STRENGTH.
3. WING WIDTH ON ARTERIAL STREETS WHERE TRAVEL LANE IS NEXT TO THE CURB MUST BE 5'-0". OTHERWISE, WING WIDTH MUST BE 2'-6".
4. "V" GROOVE SCORING MUST MATCH PATTERN IN ADJACENT EXISTING SIDEWALK.
5. FOR CONCRETE DRIVEWAY CONSTRUCTED WITH CONCRETE SIDEWALK, SEE STANDARD PLAN NO 431.
6. CONCRETE DRIVEWAYS WITH A WIDTH GREATER THAN 15'-0" MUST HAVE A $\frac{3}{8}$ " TRANSVERSE CONTRACTION JOINT NEAR THE CENTERLINE OF DRIVEWAY.
7. FOR TYPE 430A CROSS-SLOPE IN THE 6'-0" MINIMUM WIDE AREA CONNECTING TO C/W ON EACH SIDE OF THE DRIVEWAY MUST BE MAXIMUM 2% AND MINIMUM 0.5% (1.5% DESIRABLE) AND MUST SLOPE TOWARDS THE STREET. FOR TYPE 430B, CROSS-SLOPE OF THE DRIVEWAY BETWEEN THE TWO RAMP SECTIONS MUST BE MAXIMUM 2% AND MINIMUM 0.5%.
8. ALL CHANGES IN LEVEL ACROSS JOINTS MUST BE FLUSH WITH A MAXIMUM DIFFERENCE IN ELEVATION OF $\frac{3}{16}$ INCH.
9. ALL SLOPE GRADES MUST BE MEASURED OFF THE HORIZON-LINE. IF EXISTING SITE CONDITIONS CONFLICT WITH OBTAINING GRADES SHOWN, THE CONTRACTOR MUST MAKE MINIMUM ADJUSTMENTS TO THE GRADES TO ACCOMMODATE EXISTING SITE CONDITIONS, ADJUSTMENTS ARE SUBJECT TO ENGINEER APPROVAL.
10. CONCRETE WALKWAY OUTSIDE OF THE DRIVEWAY CROSSING MAY BE PERVIOUS.
11. PROTECT ADJACENT PANELS FROM DAMAGE DUE TO UNDERMINING DURING EXCAVATION & PLACEMENT OF SUBGRADE. SEE SPEC SECTION 1-07.13.





NOTES:

- 1. IF THE SLOPE OF THE TEMPORARY CROSSING IS 5% OR GREATER, A GRIPPING HANDRAIL MUST BE ADDED THAT COMPLIES WITH ADA STANDARDS.
- 2. ENDS OF THE TEMPORARY CROSSING MUST BE SLOPED TO ALLOW ADA ACCESS.
- 3. SURFACE OF WALKWAY MUST BE SKID RESISTANT.
- 4. THE RAMP MUST BE CONSTRUCTED OF TEMPORARY PAVEMENT OR COMPACTED GRAVEL EMBANKMENT OR AS APPROVED BY ENGINEER.
- 5. THE TEMPORARY WALKWAY COULD BE RECESSED FOR THE WALKING SURFACE TO BE FLUSH WITH ADJOINING GRADE.



TABLE

BRIDGE LENGTH	PLANK SIZE	NAIL SIZE
10'-0"OR LESS	2"x12"	20 PENNY
11'-0"TO 14'-0"	3"x12"	40 PENNY
15'-0"TO 20'-0"	4"x12"	60 PENNY
LUMBER: DOUGLAS FIR #2 OR BETTER POST & RAILS S4S		
PLANKS - ROUGH		

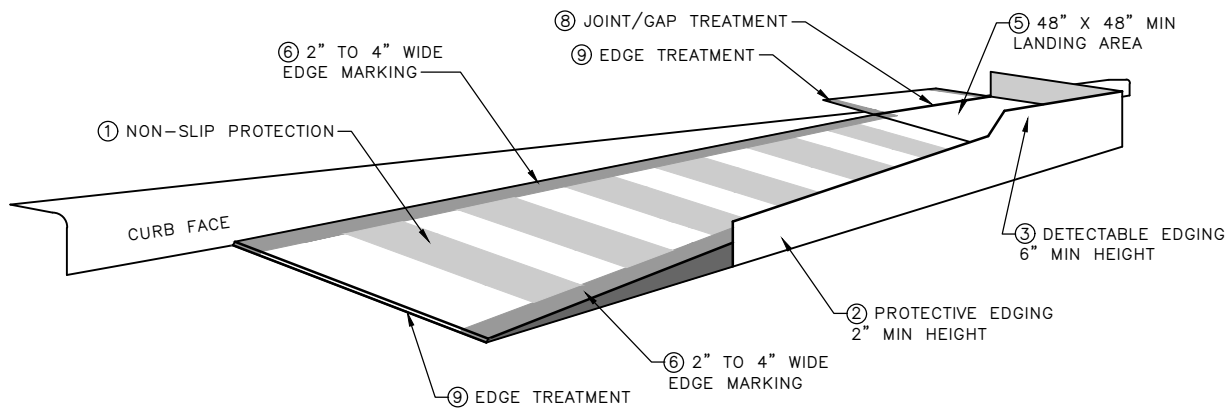
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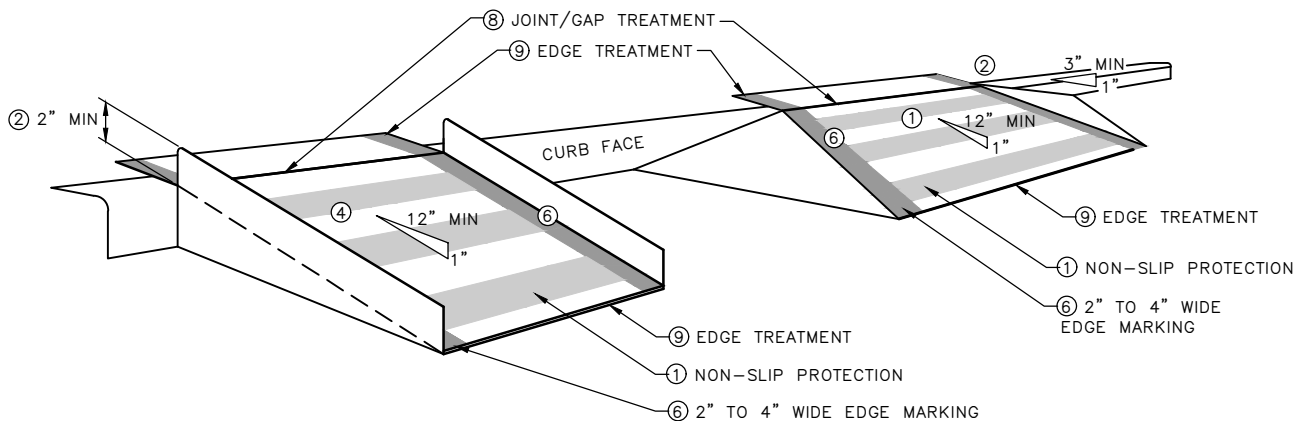
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**TEMPORARY PEDESTRIAN
WALKWAY**



TEMPORARY CURB RAMP
PARALLEL TO CURB



TEMPORARY CURB RAMP
PERPENDICULAR TO CURB

NOTES:

- ① CURB RAMPS ARE REQUIRED TO BE AT LEAST 36 INCHES WIDE WITH A FIRM, STABLE, AND NON-SLIP SURFACE.
- ② EDGE PROTECTION WITH A TWO-INCH MINIMUM HEIGHT IS REQUIRED FOR RAMPS WITH A RISE GREATER THAN SIX INCHES OR A SIDE APRON SLOPE GREATER THAN 33 PERCENT.
- ③ EDGE PROTECTION IS REQUIRED ON RAMPS WITH A VERTICAL ELEVATION OVER SIX INCHES AND SHOW A CONTRASTING COLOR WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- ④ CURB RAMPS AND LANDINGS ARE REQUIRED TO HAVE A TWO-PERCENT MAXIMUM CROSS SLOPE.
- ⑤ PROVIDE A CLEAR SPACE OF AT LEAST 48 INCHES BY 48 INCHES ABOVE AND BELOW THE CURB RAMP.
- ⑥ MARK THE CURB RAMP WALKWAY EDGE WITH A CONTRASTING COLOR TWO TO FOUR INCHES WIDE UNLESS COLOR-CONTRASTING EDGING IS USED, AS REQUIRED BY ITEM 3 ABOVE.
- ⑦ WATER FLOW IN THE GUTTER SHOULD HAVE MINIMUM RESTRICTION.
- ⑧ LIMIT LATERAL JOINTS OR GAPS BETWEEN SURFACES TO BE LESS THAN HALF AN INCH WIDE.
- ⑨ CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED HALF AN INCH. LATERAL EDGES SHOULD BE VERTICAL UP TO 0.25 INCHES HIGH AND BEVELED AT 1:2 WHEN BETWEEN 0.25 AND 0.5 INCHES HIGH.

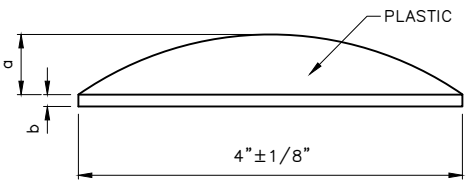
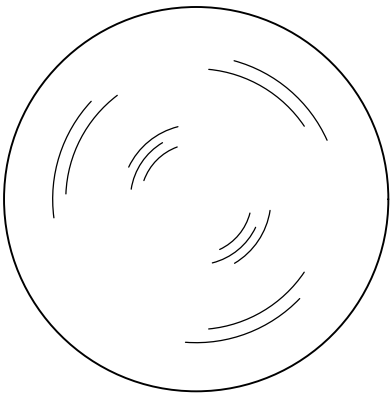
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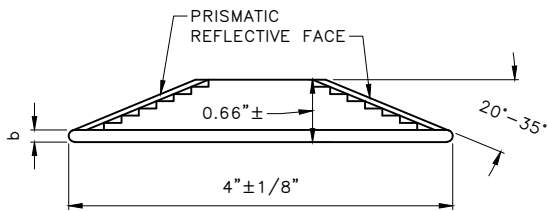
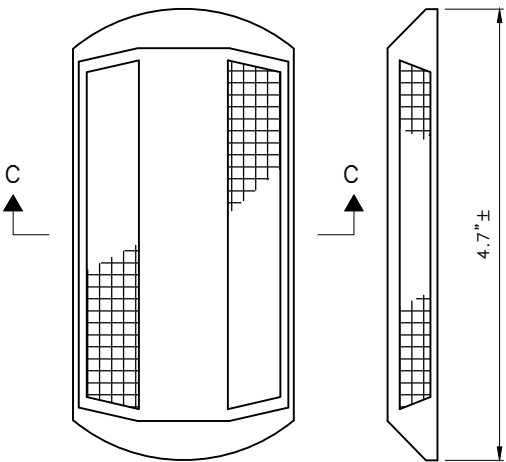
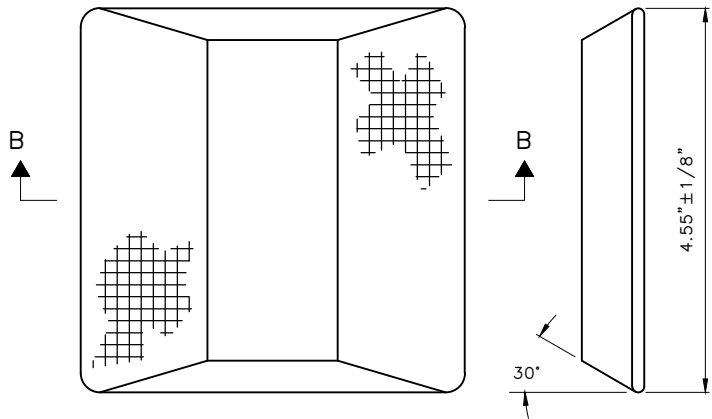
**TEMPORARY PEDESTRIAN
CURB RAMP**



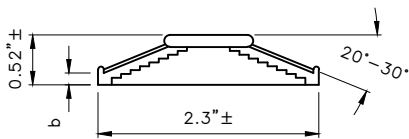
LANE MARKER—TYPE 1

$a = 5/8" \pm 1/8"$
 $b = 1/8" \pm 1/16"$

▲ DIRECTION OF TRAFFIC



SECTION B—B
LANE MARKER—TYPE 2A
4" PRISMATIC REFLECTIVE MARKER



SECTION C—C
LANE MARKER—TYPE 2B

REF STD SPEC SEC 8-08



City of Seattle

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TRAFFIC BUTTONS &
LANE MARKERS