

LOC: LENGTH OF CURVE (FEET) AT EDGE OF

TRAVELED WAY FROM P.C. TO P.T.

SOR: SAFETY OVERRUN (FEET) BEYOND P.T.

PROHIBITED POLE LOCATION (PPL)-

FEET-FEET (LOC + SOR) WHERE POLES OR OBSTACLES MUST BE

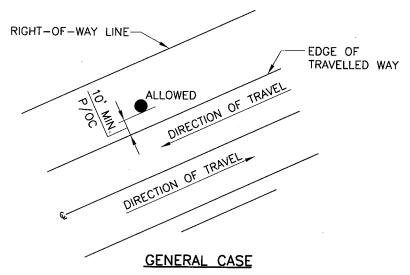
REMOVED OR BARRICADED.

PPL (FEET) ON	OUTSIDE OF CURVES WITH
POSTED SPEED	LIMIT OF 40 MPH & OVER
40 MPH	LOC + 220 (SOR)
45	LOC + 255
50	LOC + 290
55	LOC + 325

APPLIES TO ROADWAY WITH SHOULDER OR MOUNTABLE CURB ON OUTSIDE OF CURVE, WITH:

-RADIUS LESS THAN 2500 FT., AND

-POSTED SPEED GREATER THAN OR EQUAL TO 40 M.P.H.



P/0C: POLE/OBSTACLE CLEARANCE TO NEAREST FACE OF POLE/OBSTACLE.

APPLIES: TO ROADWAY WITH SHOULDER OR MOUNTABLE CURB ON:

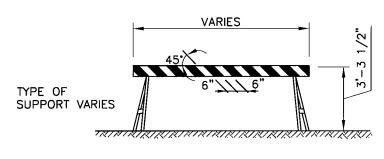
- 1. TANGENT, OR
- INSIDE OF CURVE, OR
- 3. OUTSIDE OF CURVE, EITHER WITH
 - -POSTED SPEED LESS THAN 40 MPH OR
 - -RADIUS GREATER THAN 3500 FT. ON ROADWAY MEETING ALL CURRENT DESIGN STANDARDS.

NOTES:

- THE STANDARDS SHALL APPLY TO EVERY NEW PLACEMENT AND EVERY PLANNED, NON-EMERGENCY REPLACEMENT OF EXISTING POLES AND OTHER UTILITY STRUCTURES WITHIN KING COUNTY RIGHT-OF-WAY.
- NO POLES MAY BE REPLACED ON THE OUTSIDE OF A CURVE WITH A POSTED SPEED LIMIT OF 40 MPH OR OVER UNLESS APPROVED THROUGH A VARIANCE REQUEST.
- 3. SEE SECS. 5.10 & 8.02(G).



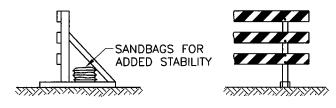
Department of Transportation Road Services Division 2007 Design and King County Construction Standards





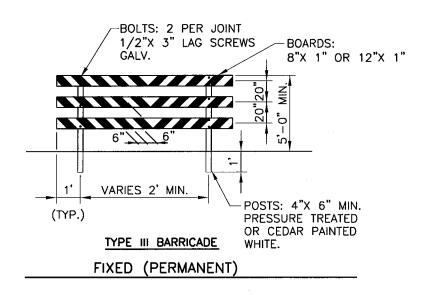
TYPE II BARRICADE





TYPE III BARRICADE

MOVABLE (TEMPORARY)



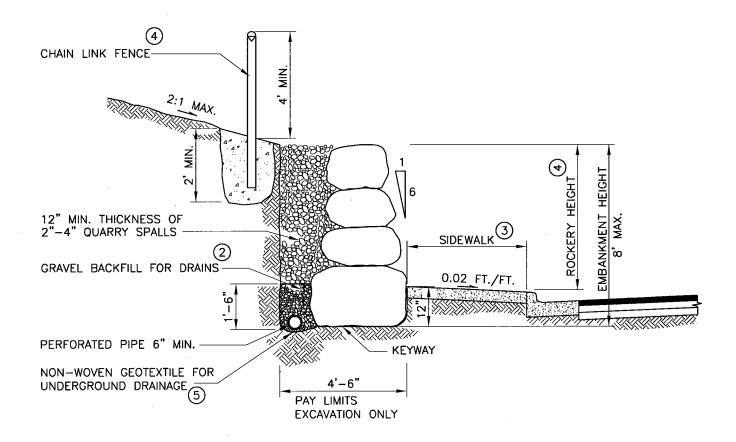
STRIPE NOTES

- 1. ORANGE & WHITE IF TEMPORARY.
- 2. RED & WHITE IF PERMANENT.
- 3. REFLECTORIZED
- 4. SLANT DOWNWARD, RIGHT OR LEFT, IN DIRECTION TRAFFIC WILL PASS.
- 5. SLANT BOTH DIRECTIONS FROM MIDDLE IF TRAFFIC PASSES BOTH ENDS.
- 6. WIDTH 6 IN. EXCEPT 4 IN. IF RAILS ARE LESS THAN 3 FT. LONG.
- 7. SLANT DOWNWARD TO MIDDLE AT END OF DEAD-END OR CLOSED ROAD.
- 8. SEE SEC. 5.07 AND MUTCD SEC.6C-8.

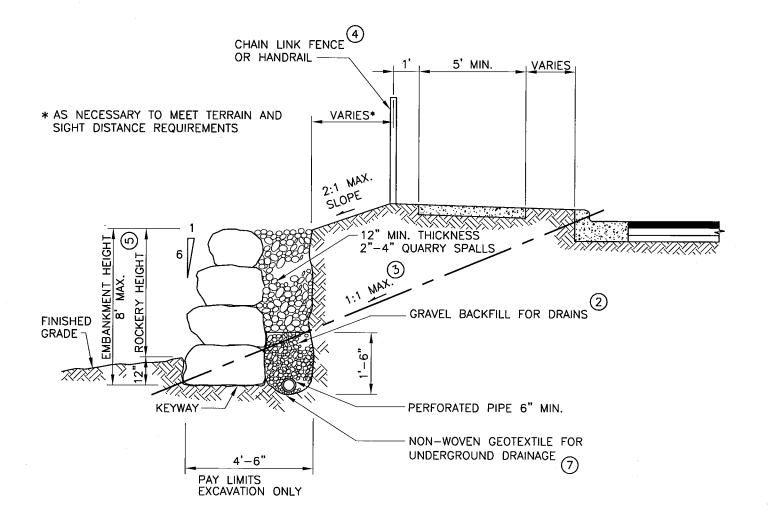
NOTE:

FOR DIMENSIONS NOT SHOWN, SEE BARRICADE NOTE TABLE

BARRICADE NOTES			
TYPE	l	II	III
WIDTH OF RAIL	8" MIN. 12" MAX.	8" MIN. 12" MAX.	8" MIN. 12" MAX.
LENGTH OF RAIL	2' MIN.	2' MIN.	4' MIN.
HEIGHT	3' MIN.	3' MIN.	5' MIN.
TYPE OF FRAME	DEMOUNTABLE OR HEAVY "A"	LIGHT "A" FRAME	POST OR SKIDS
FLEXIBILITY	ESSENTIALLY MOVABLE	PORTABLE	ESSENTIALLY PERMANENT



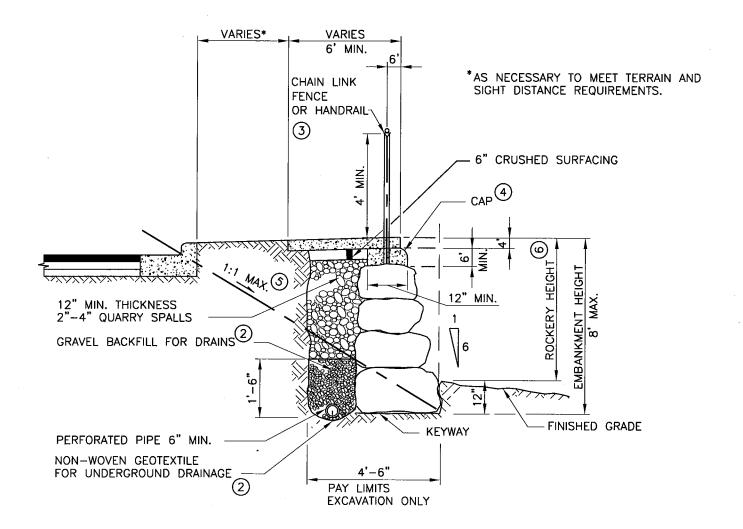
- SEE SEC. 5.01.
- WSDOT/APWA 9-03.12[4]
- FACE OF ROCKERY OR RETAINING WALL MUST BE A MIN. OF 10 FT. FROM TRAVELED WAY IF ROCKERY OR RETAINING WALL IS BEHIND ROLLED CURB OR ON A RURAL SECTION.
- CHAIN LINK FENCE, TYPE NO. 4 OR 6 (WSDOT/APWA STANDARD), REQUIRED WHEN ROCKERY HEIGHT IS 18 IN. OR GREATER.
- WSDOT/APWA STANDARD SPECIFICATION SECTION 9-33
- THE ROCK FACING FOUNDATION AND/OR KEYWAY IS TO BE CLEARED OF ORGANIC MATTER AND DEBRIS AND THE UNDERLYING MINERAL SOIL COMPACTED TO A MINIMUM 95% OF THE MAXIMUM DRY DENSITY.



- 1. SEE SEC. 5.01.
- (2) WSDOT/APWA 9-03.12[4].
- (3) FLATTER SLOPE MAY BE REQUIRED IN LESS STABLE SOIL.
- (4) CHAIN LINK FENCE, TYPE NO. 4 (WSDOT/APWA STANDARD)
 OR HANDRAIL REQUIRED WHEN ROCKERY HEIGHT IS 18 IN. OR
 GREATER. SEE FIG. 5-008, NOTE 8.
- (5) FOR ROCKERY HEIGHTS EXCEEDING 4 FT., SEE FIG. 5-006.
- 6. TRAFFIC BARRIERS MAY BE REQUIRED ON ROADS WITH SPEED LIMITS OF 40 MPH OR GREATER, WHERE ROCKERY HEIGHTS EXCEED 6 FT. SEE CHAPTER 7 OF THE WSDOT DESIGN MANUAL.
- (7) WSDOT/APWA STANDARD SPECIFICATION SECTION 9-33
- 8. SEE NOTE 6 OF FIGURE 5-003

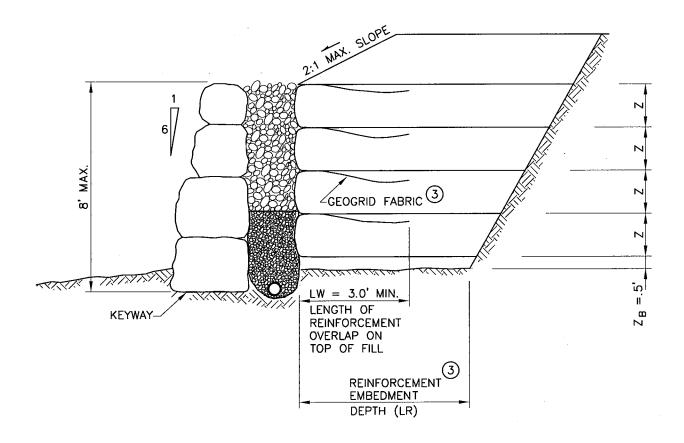


5-16

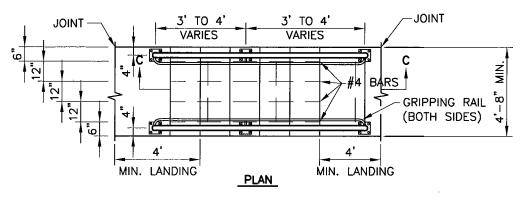


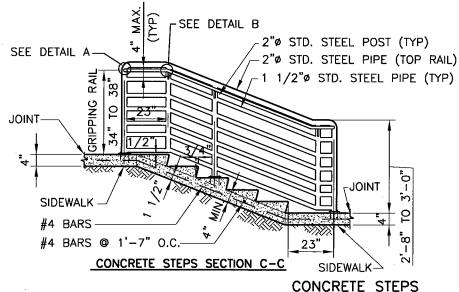
- 1. SEE SEC 5.01.
- ② WSDOT/APWA 9-03.12[4].
- (3) CHAIN LINK FENCE, TYPE NO. 4 (WSDOT/APWA STANDARD) OR HANDRAIL REQUIRED WHEN ROCKERY HEIGHT IS 18 IN. OR GREATER. SEE FIG. NO. 5-008, NOTE 8.
- (4) CAP SHALL BE CONCRETE CLASS 4000. (SEE SEC. 5.01 (H))
- (5) FLATTER SLOPE MAY BE REQUIRED IN LESS STABLE SOILS.
- 6 FOR ROCKERY HEIGHTS EXCEEDING 4 FT., SEE FIG. 5-006.
- 7. TRAFFIC BARRIERS MAY BE REQUIRED ON ROADS WITH SPEED LIMITS OF 40 MPH OR GREATER, WHERE HEIGHTS EXCEED 6 FT. SEE CHAPTER 7 OF THE WSDOT DESIGN MANUAL.
- 8. SEE NOTE 7 ON FIGURE 5-004
- 9. SEE NOTE 6 ON FIGURE 5-003

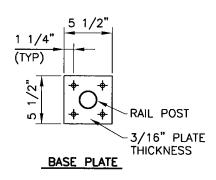




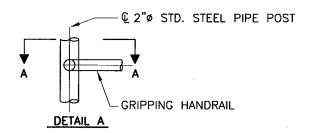
- ROCKERY FACINGS ARE TO BE CONSTRUCTED TO KING COUNTY ROAD STANDARDS. SEE SEC. 5.01 AND FIG. NO. 5-003 THROUGH 5-005.
- THE WALL FOUNDATION IS TO BE CLEARED OF ORGANIC MATTER AND DEBRIS AND THE UNDERLYING MINERAL SOIL COMPACTED TO 95 PERCENT OF THE MAX. DRY DENSITY. THE EMBANKMENT MATERIAL IS TO BE GRAVEL BORROW MEETING THE REQUIREMENTS OF 9-03.14 OF THE WSDOT STANDARDS. THE BACKFILL IS TO BE PLACED IN THIN LIFTS, NOT EXCEEDING SIX INCHES IN THICKNESS AND COMPACTED TO 95 PERCENT OF THE MAX. DRY DENSITY.
- (3) GEOSYNTHETIC REINFORCEMENT REQUIREMENTS INCLUDING TYPE, VERTICAL SPACING (Z), AND EMBEDMENT (LR), WILL BE DETERMINED ON A ROCKERY BY ROCKERY BÁSIS BY A PROFESSIONÁL ENGINEER.
- ZB IS HEIGHT OF FIRST LAYER OF REINFORCEMENT ABOVE COMPACTED SUBGRADE ELEVATION.
- EMBANKMENTS BEHIND ROCKERIES EXCEEDING 4 FT. IN HEIGHT SHALL BE REINFORCED WITH GEOSYNTHETIC FABRIC OR GEOGRID.
- CHAINLINK FENCE TYPE #4 OR 6 (WSDOT/APWA STANDARD) REQUIRED WHEN ROCKERY HEIGHT IS 18 IN. OR GREATER.

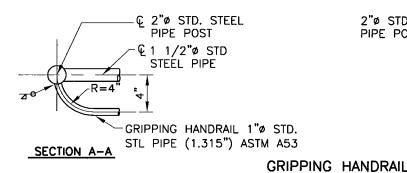


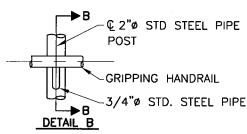


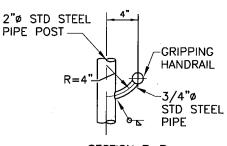


- 1. A307, 1/2 BOLTS MIN.
- 2. 2 1/2 INCH. CONCRETE EMBEDMENT MIN.
- 3. PLATE MATERIAL MIN. A36



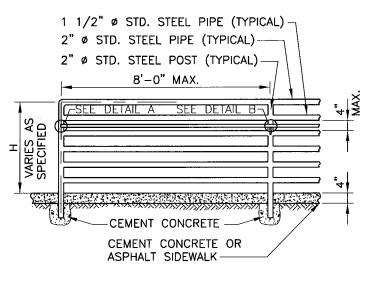




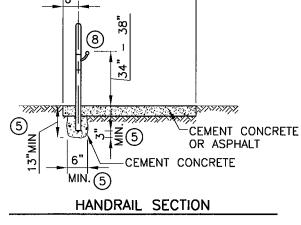


SECTION B-B

- 1. CONCRETE: CEMENT CONCRETE CLASS 4000.
- 2. ALL STEPS: SAME DIMENSIONS, WITHIN 3/8 IN. MAX. DIFFERENCE.
- 3. RISERS: 7 1/2 IN. MAX., 5 IN. MIN.
 4. TREADS: 12 IN. MAX., 11 IN. MIN., WITH TRANSVERSE 0.01 FT./FT. SLOPE.
- 5. METAL HANDRAIL REQUIRED FOR 4 STEPS OR MORE SEE NOTES BELOW. 6. REINFORCING BARS SHALL MEET THE REQUIREMENTS OF ASTM A-615, GRADE 60 AND ARE REQUIRED FOR 4 STEPS OR MORE.
- 7. SEE SEC. 3.06.
- 8. MAX. VERTICAL DISTANCE BETWEEN LANDINGS IS 12 FT.

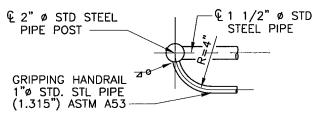


METAL HANDRAIL

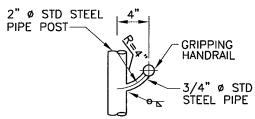


SIDEWALK VARIES

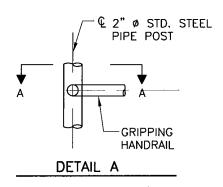
MIN. 6'

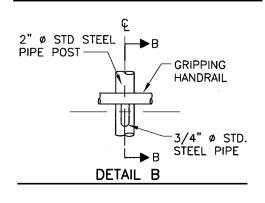


SECTION A-A



SECTION B-B

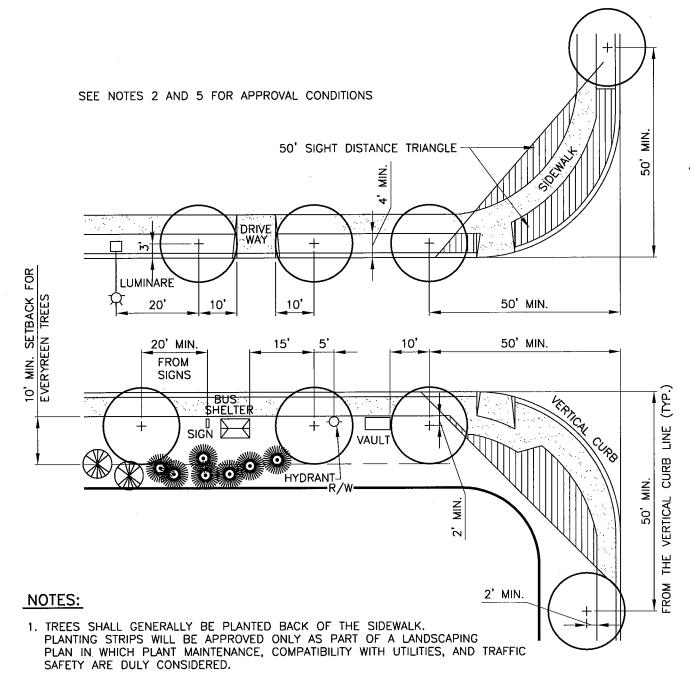




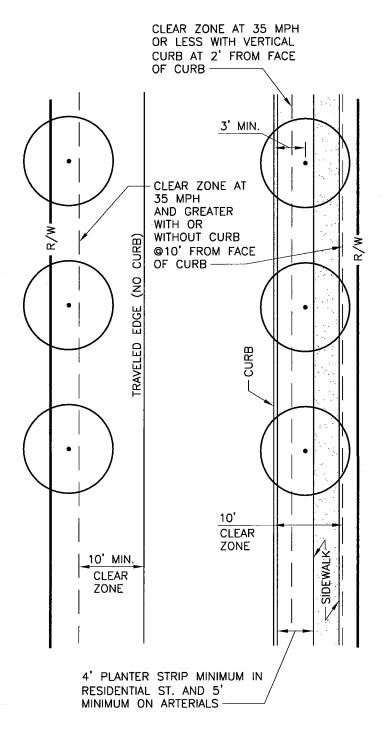
GRIPPING HANDRAIL

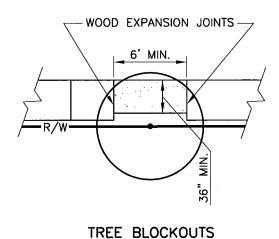
NOTES

- 1. RAILS TO BE MINIMUM A53 TYPE E, GRADE B, 2 IN. NOMINAL DIAMETER, MINIMUM SECTION MODULUS 0.561 IN 3 (GALV. STEEL OR ALUM?)
- 2. POSTS, HANDRAILS, CONNECTIONS, JOINTS AND HARDWARE SHALL HAVE A SMOOTH SURFACE.
- 3: ALL STEEL SHALL BE GALVANIZED. ANY WELDING OR REPAIR IN THE FIELD SHALL BE PAINTED IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION SECTION 6-07.3.
- 4. FOOTINGS TO BE MINIMUM CONCRETE CLASS 4000
- (5) POSTS SET DEPTH AND CONCRETE FOOTING DIMENSIONS SHALL BE REVIEWED AND DETERMINED BY ENGINEER BASED ON LOCAL SOIL AND SITE CONDITIONS.
- 6, SEE AASHTO 2.7.2 AND AASHTO 2.7.3. FOR RAIL VERITCAL SPACING REQUIREMENTS.
- 7. SEE SEC. 3.06.
- (8) GRIPPING HANDRAIL IS REQUIRED IF SIDEWALK GRADE IS 5% OR GREATER
- 9. THE RAILING SHALL MEET THE REQUIREMENTS OF THE AASHTO STANDARDS SPECIFICATIONS FOR HIGHWAY AND BRIDGES.



- 2. IF PLANTING STRIPS ARE APPROVED:
 - A) MIN. DISTANCE FROM CENTER OF ANY TREE TO FACE OF VERTICAL CURB SHALL BE 3 FT.
 - B) TREES SHALL BE STAKED IN A MANNER NOT TO OBSTRUCT SIDEWALK TRAFFIC.
 - C) MINIMUM CLEAR SIDEWALK WIDTH SHALL BE 5 FT. IN RESIDENTIAL OR 8 FT. IN BUSINESS DISTRICTS WHERE BLOCK-OUTS OCCUR.
- 3. PLANS SHALL BE COORDINATED WITH METRO SERVICE PLANNING ON BUS ROUTES. PHONE 206-684-1622.
- 4. SEE SEC. 5.03.
- 5. NO TREES WITH MATURE TRUNKS GREATER THAN 4 IN. DIAMETER (AS MEASURED AT GRADE) SHALL BE PLANTED WITHIN THE KING COUNTY CLEAR ZONE. LARGER TREES MAY BE APPROVED FOR PLANTING OUTSIDE THE CLEAR ZONE AREA. NO TREES SHALL BE PLANTED WITHIN THE 50 FT. SIGHT DISTANCE TRIANGLE AT INTERSECTIONS. ALL PLANTINGS SHALL HAVE A MATURE HEIGHT LESS THAN 24 IN.



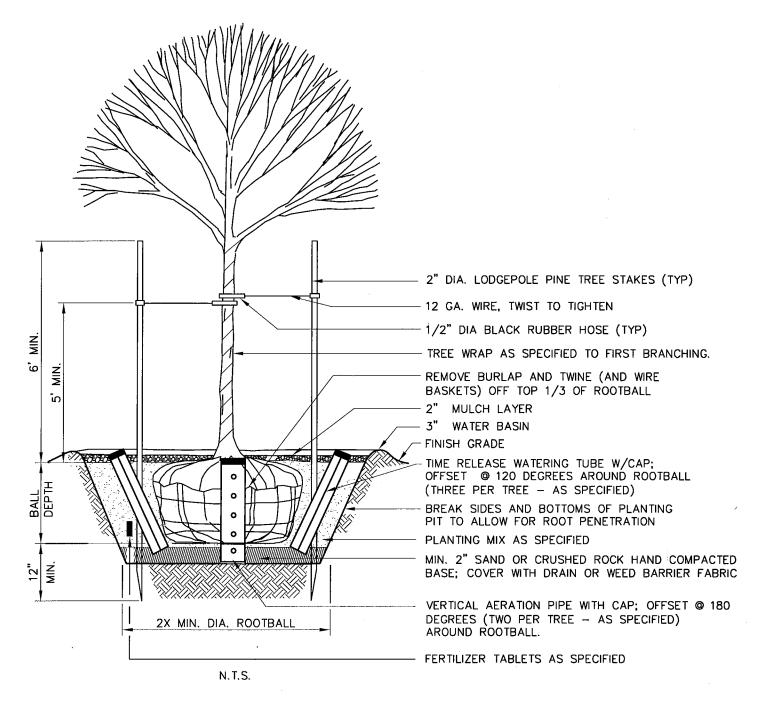


PLACE ROCKERY AT BACK OF SIDEWALK TO ELIMINATE WEED STRIP WHEN POSSIBLE. SIDEWALK R/W ROCKERIES AT SIDEWALK

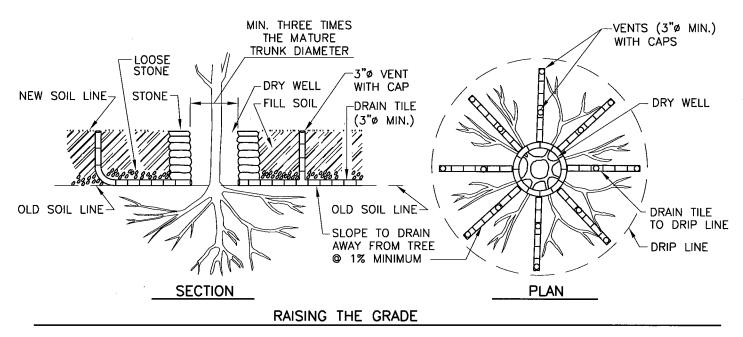
TREE SETBACKS

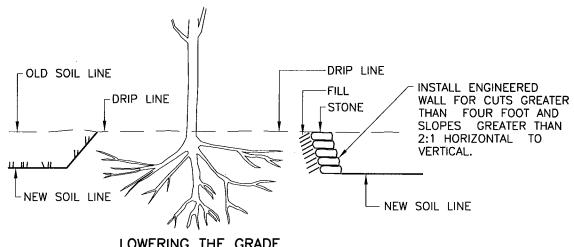
- ROOTBARRIERS REQUIRED FOR ALL TREES IN PLANTER STRIP (UNLESS WAIVED BY K.C.D.O.T.)
- 2. REFER TO FIG. NO. 5-009 FOR SPECIFIC SETBACKS.



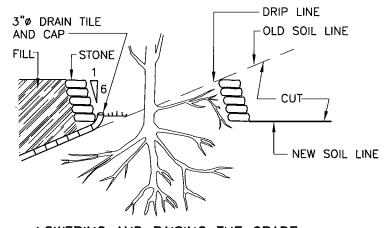


- 1. PLANT TREES 1 IN. HIGHER THAN DEPTH GROWN IN NURSERY. TREE PIT SHALL NOT BE LESS THAN (2) TIMES DIAMETER OF ROOTBALL.
- 2. ROOTBARRIER SHALL BE 12 IN. DEEP AND 8 L.F. ON EACH SIDE OF ROOTBALL ADJACENT TO CURBS AND PAVED SURFACES.
- 3. THERE SHALL BE A MINIMUM ROOTBALL DIAMETER OF 10 IN. PER TRUNK CALIPER INCH AS MEASURED 6 IN. ABOVE ROOTBALL.





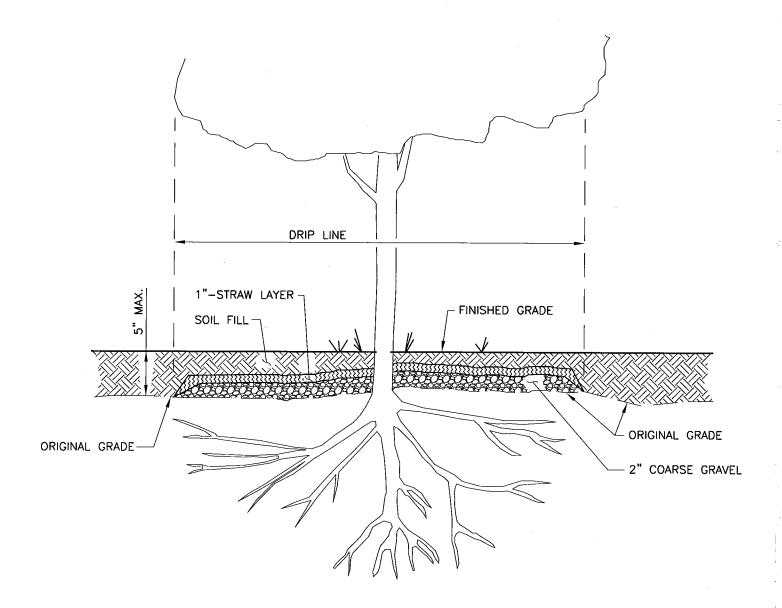




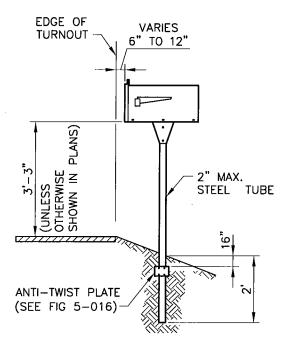
LOWERING AND RAISING THE GRADE

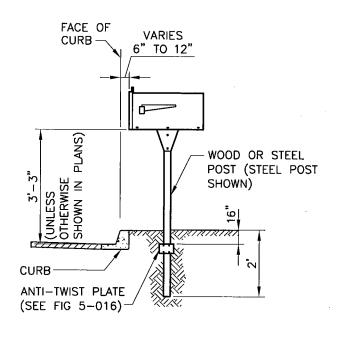
- 1. ALL DRAIN TILE SHALL BE PERFORATED AND WRAPPED IN PERMEABLE DRAIN FABRIC OR CLOTH SOCKS DESIGNED FOR PERFORATED PIPE.
- 2. MINIMUM BATTER ON DRY WELLS WALLS SHALL BE 1:6 HORIZONTAL TO VERTICAL.
- 3. ALL FILL SOIL SHALL BE COMPACTED BY HAND EQUIPMENT ONLY.





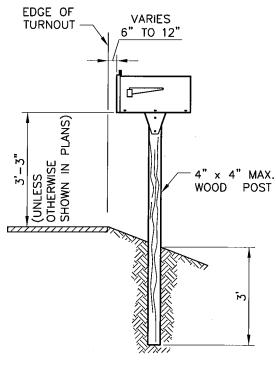
- 1. EXTEND GRAVEL AND STRAW OUT TO DRIPLINE OF TREE.
- 2. COMPACT SOIL BY HAND EQUIPMENT ONLY.

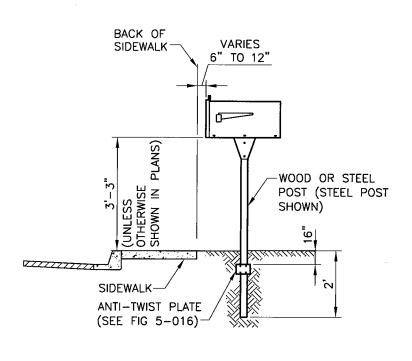




TYPE 1 (STEEL POST OPTION)

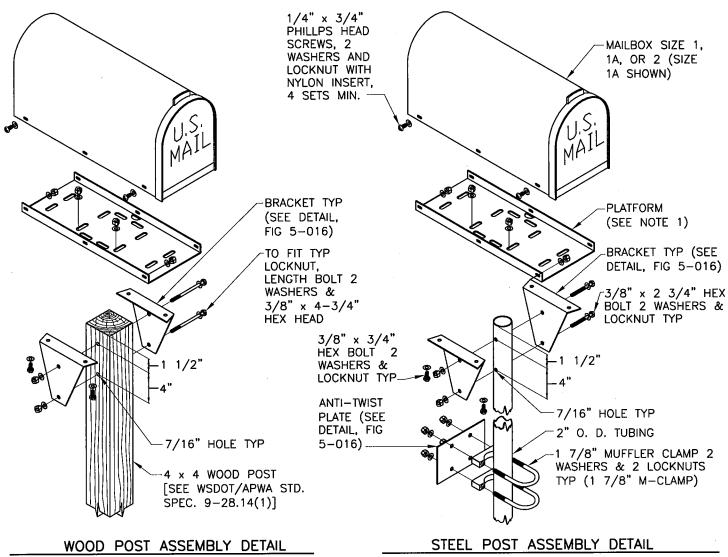
TYPE 1 INSTALLED BEHIND CURB





TYPE 1 (WOOD POST OPTION)

TYPE 1 INSTALLED BEHIND SIDEWALK



(SEE STEEL POST ASSEMBLY DETAIL FOR DETAILS NOT SHOWN)

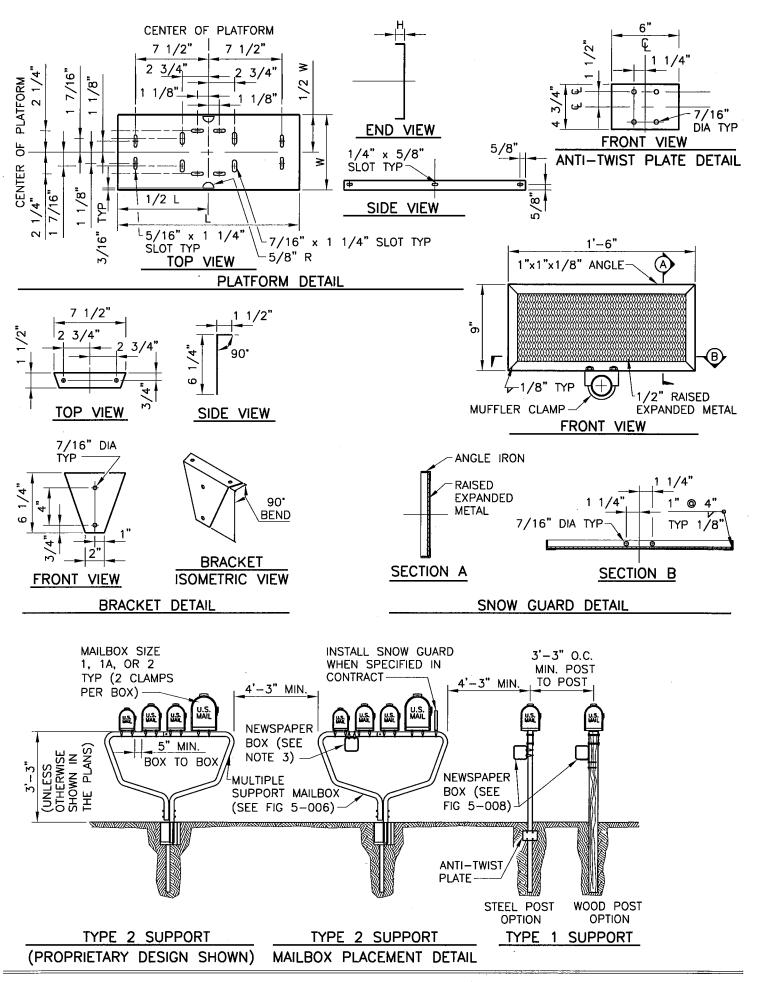
NOTES:

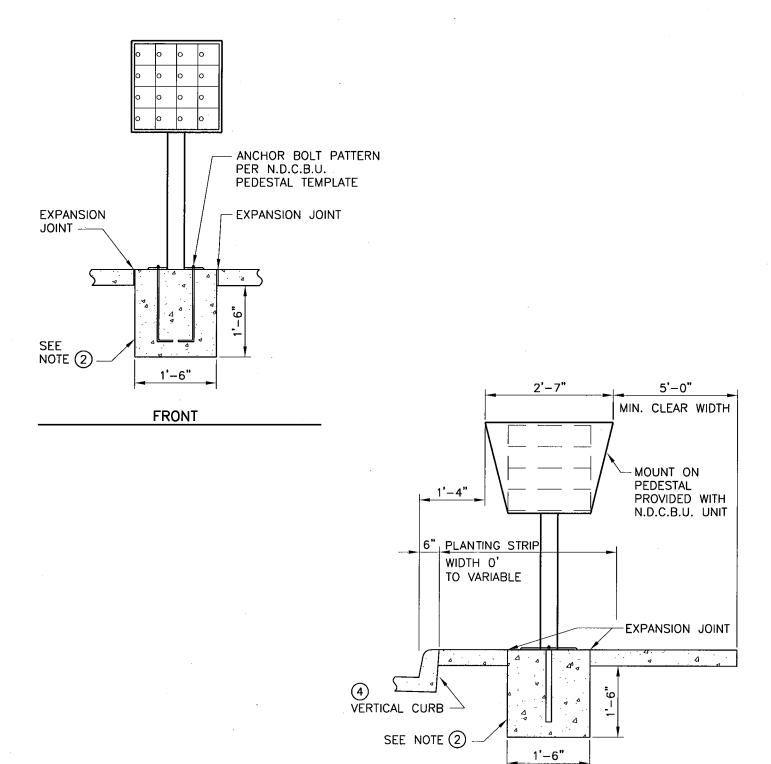
- 1. AN ALTERNATE PLATFORM MAY BE INSTALLED, PROVIDED THAT IT IS COMPATIBLE WITH THE BRACKET SHOWN.
- 2. A TYPE 2 SUPPORT IS REQUIRED FOR INSTALLING MULTIPLE MAIL BOXES ON ONE SUPPORT. NO MORE THAN 5 MAILBOXES ARE ALLOWED ON A TYPE 2 SUPPORT.
- 3. ATTACH A NEWSPAPER BOX TO A STEEL POST WITH TWO 1 7/8" MUFFLER CLAMPS SPACED 4" APART. FIELD DRILL 7/16 IN. HOLES IN THE NEWSPAPER BOX TO FIT. USE 2 1/2" X 1/4" LAG BOLTS TO ATTACH NEWSPAPER BOXES TO WOOD POSTS. NEWSPAPER BOXES MUST NOT EXTEND BEYOND THE FRONT OF THE MAILBOX WHEN THE MAILBOX DOOR IS CLOSED.
- 4. SPACING OF MAILBOX MOUNTING HOLES VARIES AMONG MANUFACTURERS. ATTACHMENT OF THE MAILBOX TO THE PLATFORM MAY REQUIRE DRILLING ADDITIONAL HOLES THROUGH THE MAILBOX TO FIT THE PLATFORM.
- 5. CENTER THE MAILBOX ON THE PLATFORM TO ENSURE SPACE FOR THE MAILBOX DOOR TO OPEN AND TO ALLOW SPACE FOR INSTALLING THE FASTENERS.

MAILBOX & PLATFORM DIMENSIONS						
SIZE	SIZE MAILBOX DIM. PLATFORM DIM.				DIM.	
	L	W	Н	L	W	Н
1	19"	6 1/2"	8 1/2"	17"	6 3/8"	1"
1A	21"	8"	10 1/2"	19"	7 7/8"	1"
2	24"	11 1/2"	13 1/2"	21"	11 3/8"	1"

STEEL POST FASTENERS				
BOLT SIZE	QUANTITY	WASHERS	LOCKNUTS	
3/8" DIA x 2 3/4"	2	4	2	
3/8" DIA x 3/4"	4	8	4	
1/4" DIA x 3/4"	4	8	4	
1 7/8" M-CLAMP	2	4	4	

WOOD POST FASTENERS				
BOLT SIZE	QUANTITY	WASHERS	LOCKNUTS	
3/8" DIA x 4-3/4"	2	4	2	
3/8" DIA x 3/4"	4	8	4	
1/4" DIA x 3/4"	4	8	4	

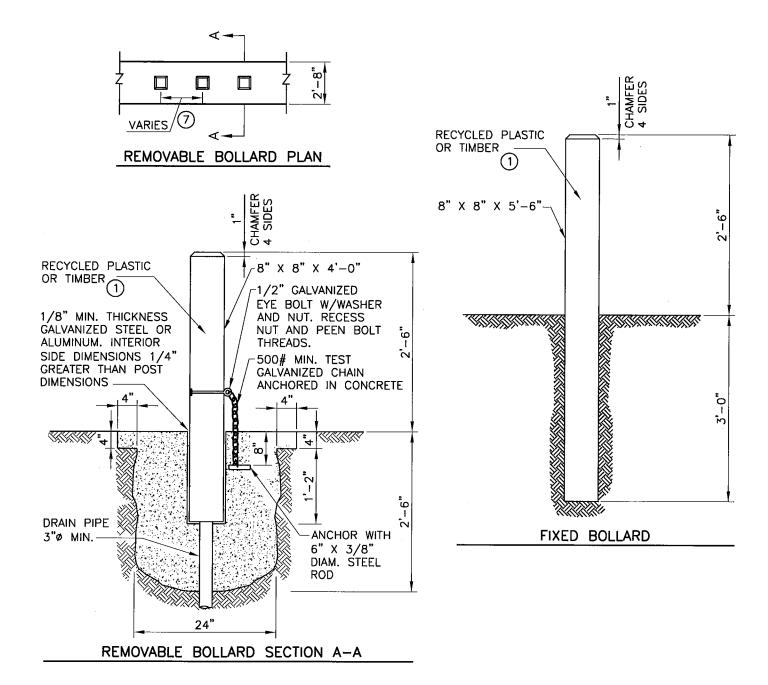




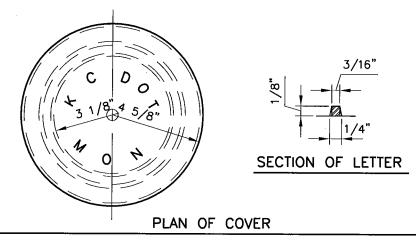
- SEE SEC. 5.04
- INSTALLATION OF N.D.C.B.U. (INCLUDING CONSTRUCTION OF BASE) WILL BE DONE BY U.S. POSTAL SERVICE.
- SEE SEC. 3.04 FOR JOINT REQUIREMENTS.
- WHEN A N.D.C.B.U. IS INSTALLED ALONG A ROLLED CURB SECTION, IT SHALL COMPLY WITH SECTION 5.10

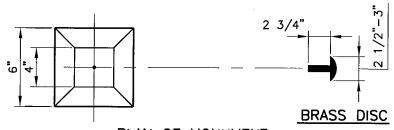


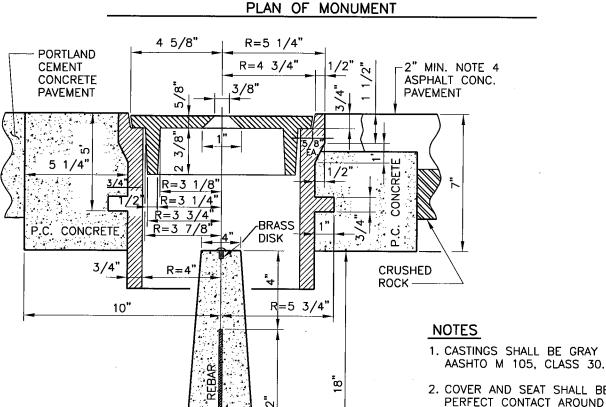
SIDE



- RECYCLED PLASTIC BOLLARD SHALL BE WHITE. TIMBER SHALL BE DOUGLAS FIR, DENSE CONSTRUCTION GRADE, AND SHALL BE PRESSURE TREATED WITH A WATERBORNE PRESERVATIVE (ACA, CCA, ACZA) IN ACCORDANCE WITH THE REQUIREMENTS OF SEC. 9-09.3 (1) OF THE WSDOT/APWA STANDARD SPECIFICATIONS. TOP 5 IN. OF TIMBER SHALL BE PAINTED WHITE.
- STEEL TUBE SHALL CONFORM TO ASTM A53 GRADE A.
- NUTS, BOLTS, & WASHERS SHALL CONFORM TO ASTM A307. 3.
- 4. ALL STEEL PARTS SHALL BE GALVANIZED.
- 5. CONCRETE SHALL BE CLASS 4000.
- 6. SEE SEC. 5.08.
- MIN. 50 IN. SPACING ON TRAILS LESS THAN 10 FT. WIDE. 60 IN. SPACING ON TRAILS 10 FT. OR WIDER.







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6"

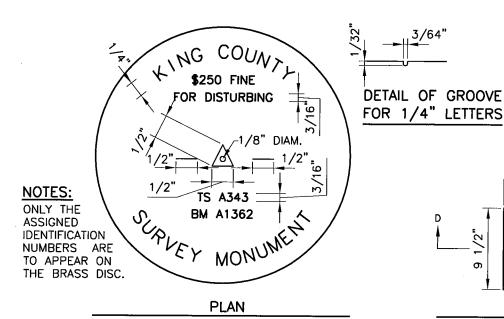
SECTION

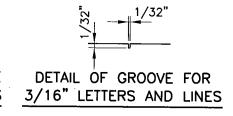
- 1. CASTINGS SHALL BE GRAY IRON ASTM A48,
- 2. COVER AND SEAT SHALL BE MACHINED FOR PERFECT CONTACT AROUND CIRCUMFERENCE AND FULL WIDTH OF BEARING SURFACE.
- 3. APPROXIMATE WEIGHTS, STANDARD.

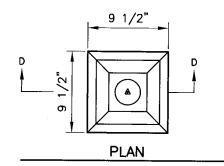
CASE 60 LBS COVER 19 LBS 79 LBS TOTAL

- 4. PAVEMENT SHALL BE HOT MIX ASPHALT OR APPROVED SUBSTITUTE.
- 5. CONCRETE SHALL BE CLASS 4000.

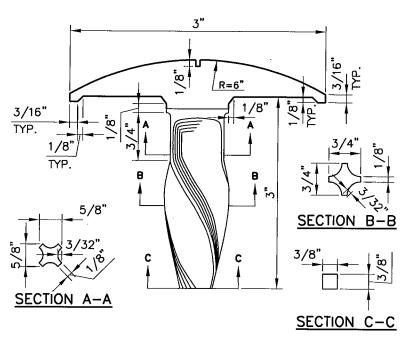


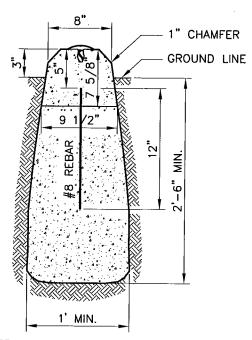






3/64"



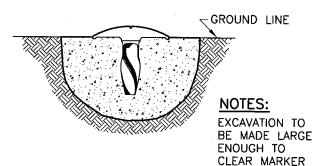


BRASS DISC ELEVATION

GENERAL INSTALLATION SECTION D-D

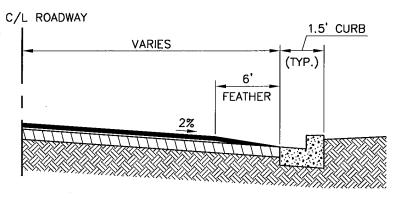
NOTES:

- THE BRASS DISC SHALL BE CAST OF YELLOW BRASS SAE 41.
- CONCRETE SHALL BE CLASS 4000.
- THE HOLE SHALL BE 2.5 FT. MIN. IN DEPTH OR 0.5 FT BELOW THE DEEPEST RECORDED FROST LINE. ALL LOOSE MATERIAL SHALL BE REMOVED FROM THE BOTTOM OF THE HOLE SO THAT THE CONCRETE IS ON FIRM, UNDISTURBED EARTH.
- THE TOP OF THE CONCRETE SHALL BE TROWLED SMOOTH AND THE BRASS DISC SET IN THE CENTER WITH ITS TOP EDGE FLUSH AND LEVEL.
- COORDINATES OR ELEVATIONS SHALL NOT BE PLACED ON THE BRASS DISCS.

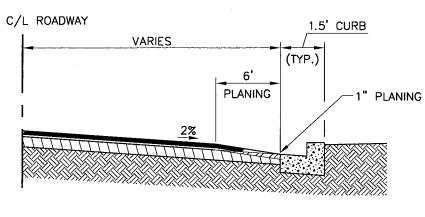


POINTS. LEDGE ROCK OR CONCRETE INSTALLATION

1 1/2" AT ALL



FEATHERING AT VERTICAL CURB



PLANING AT VERTICAL CURB

