19.0 STANDARD DRAWINGS

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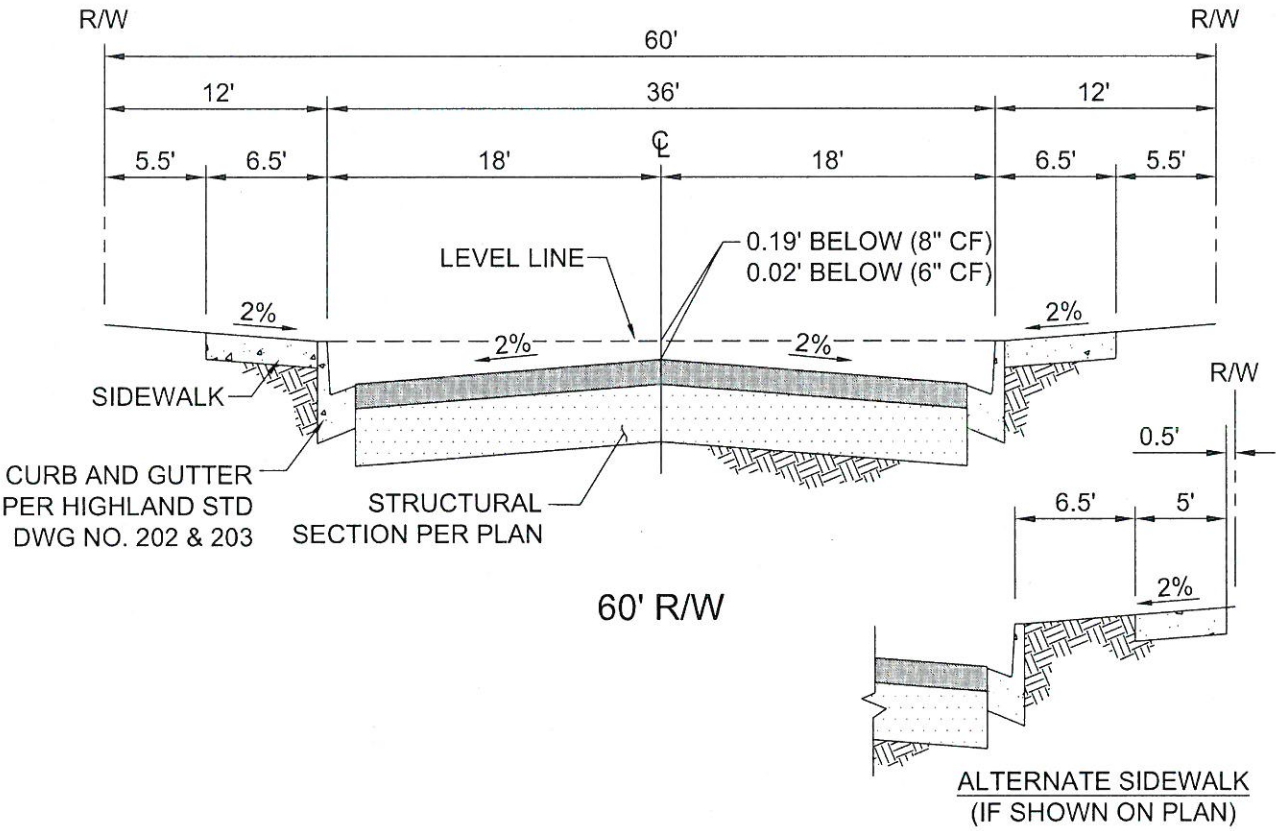
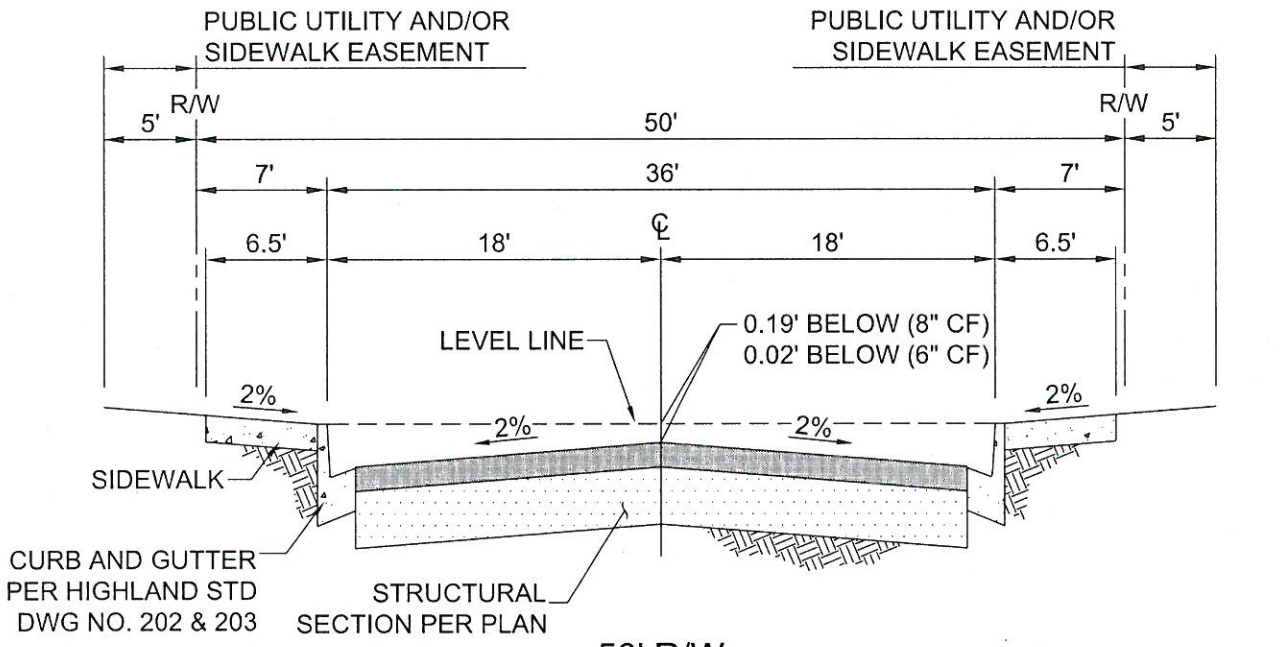


60' R/W

ALTERNATE SIDEWALK
(IF SHOWN ON PLAN)



50' R/W
(SPECIAL APPROVAL)

N.T.S

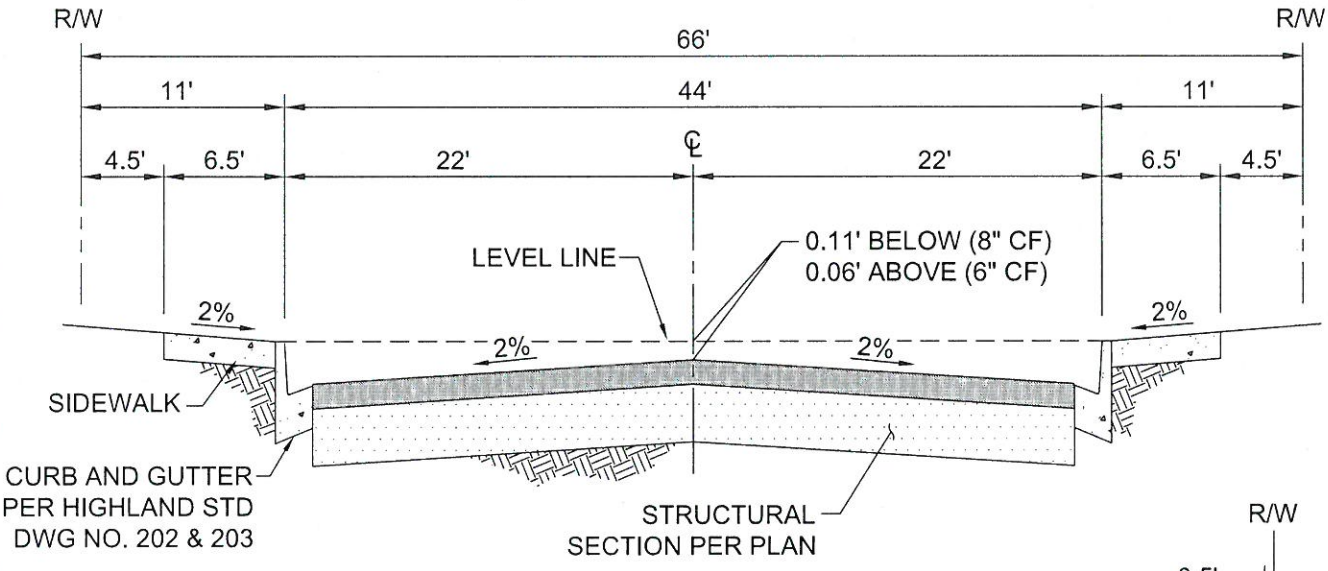
Mark	Revision	By	Date
△			

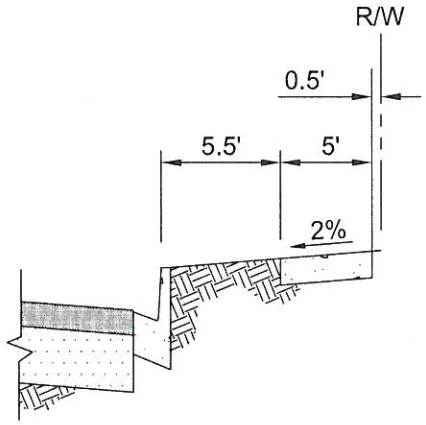
Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

LOCAL STREET TYPICAL SECTION

Standard Drawing No. 101





ALTERNATE SIDEWALK
(IF SHOWN ON PLAN)

N.T.S

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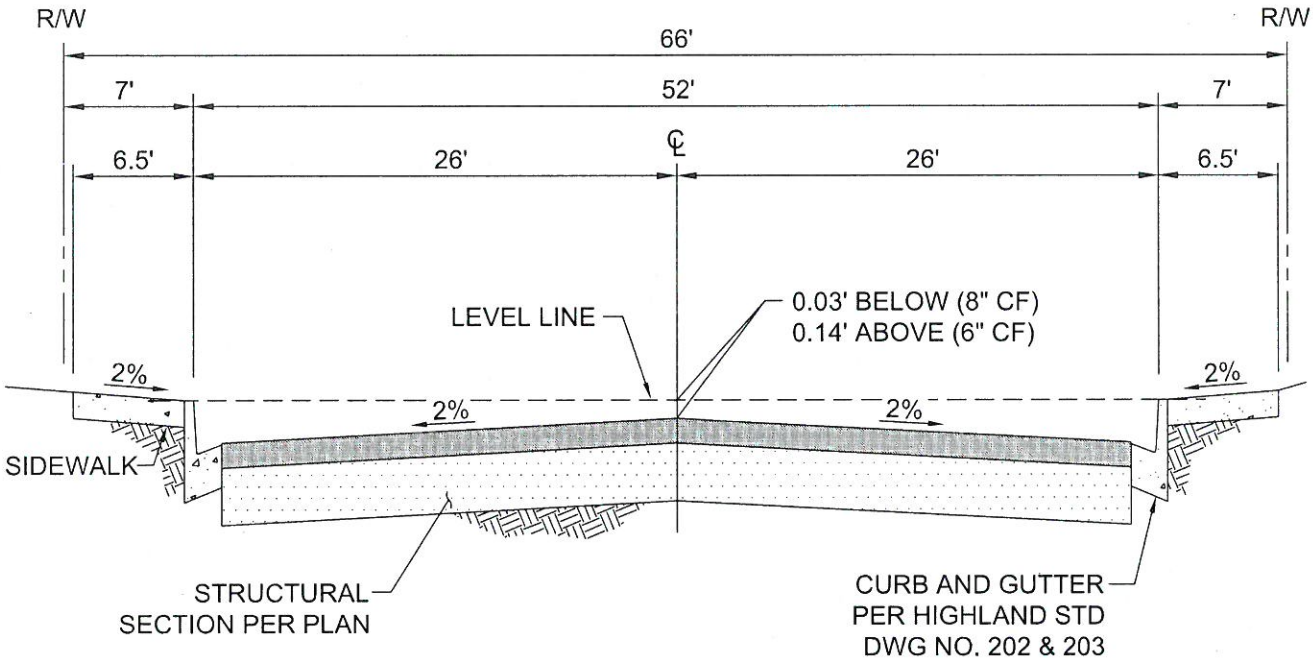
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

COLLECTOR STREET TYPICAL SECTION

Standard Drawing No. 102



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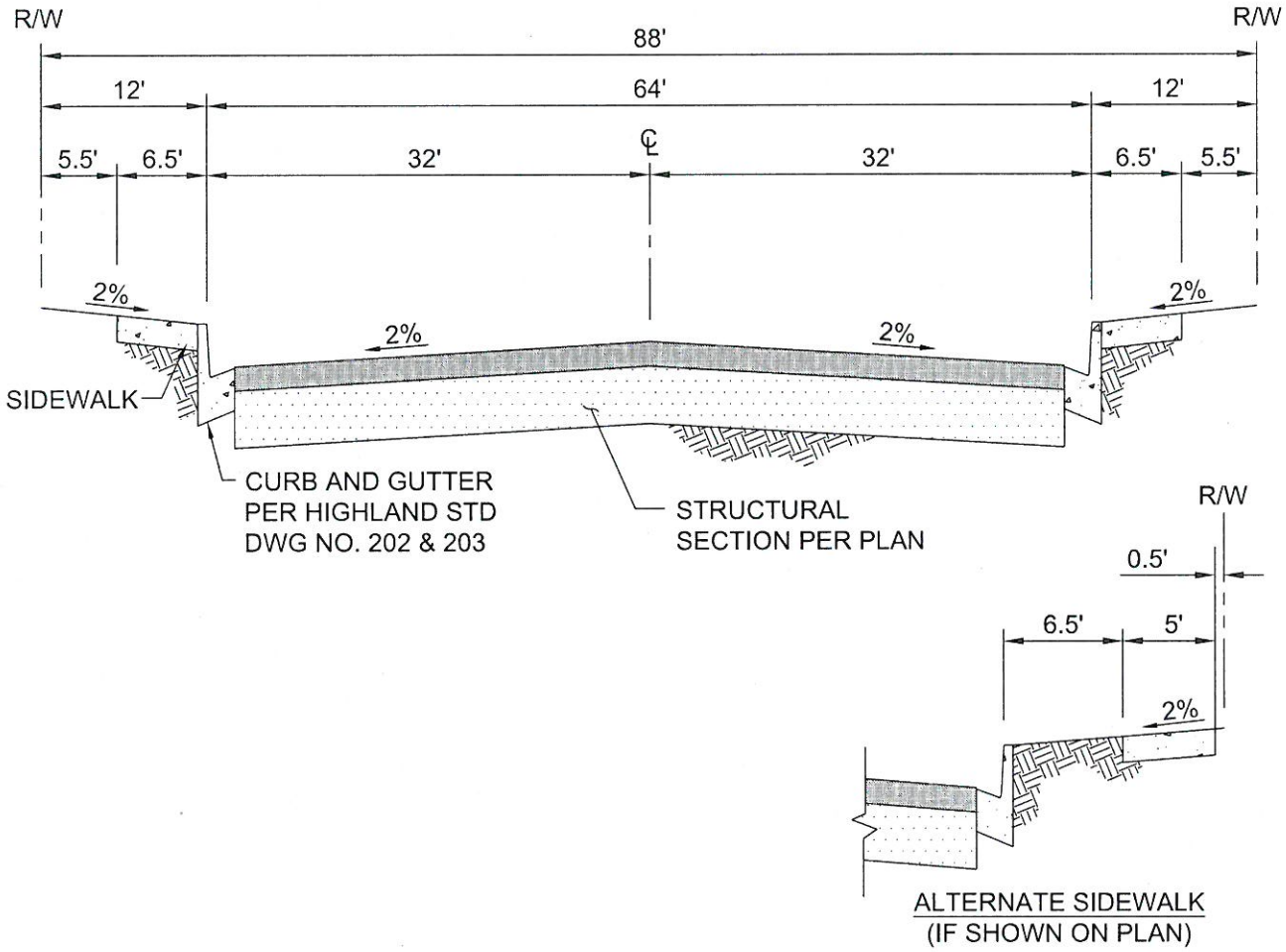
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

SPECIAL COLLECTOR STREET TYPICAL SECTION

Standard Drawing No. 103



N.T.S

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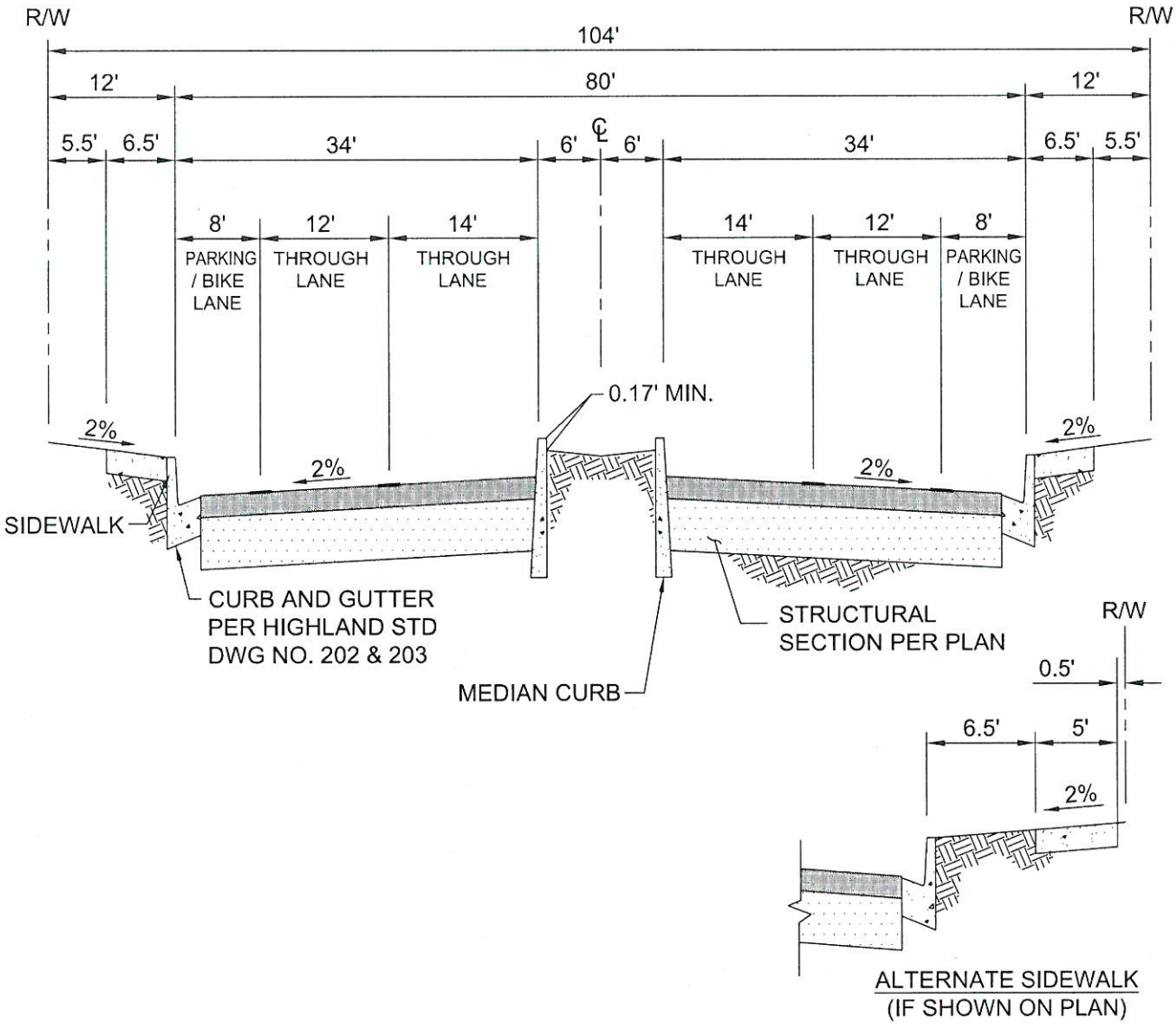
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

SECONDARY HIGHWAY TYPICAL SECTION

Standard Drawing No. 104



NOTE:

DRAINAGE FACILITIES SHALL BE PROVIDED IF STORM DRAIN IS AVAILABLE TO DEWATER RAISED MEDIAN.

N.T.S

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△			

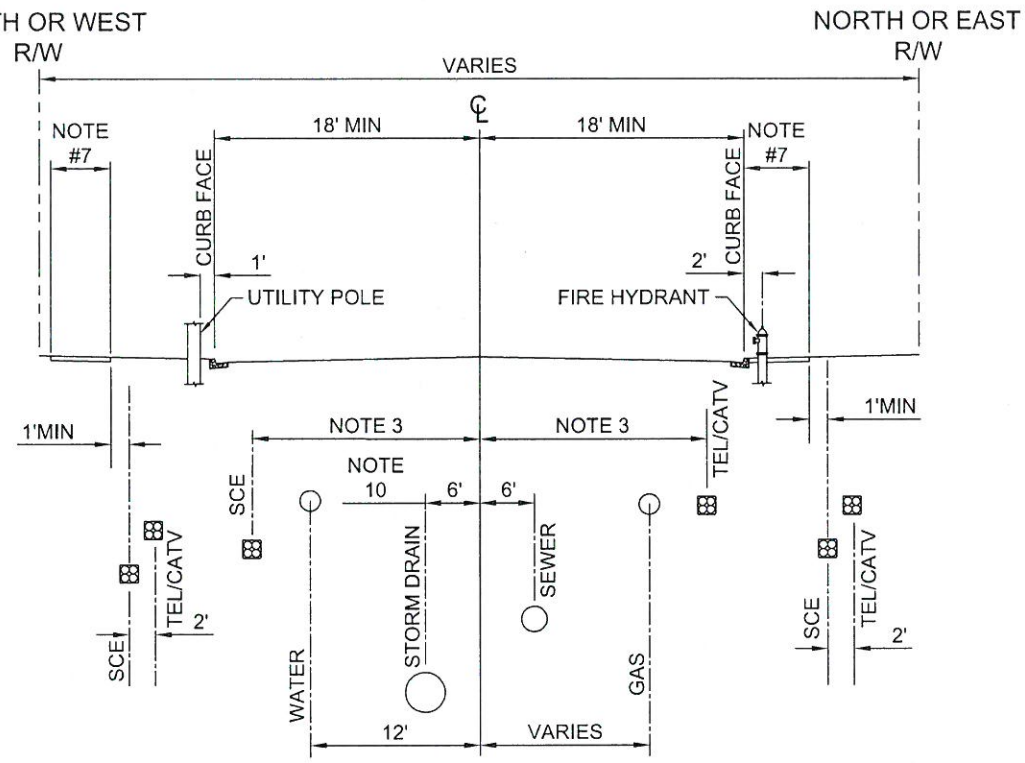
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

MAJOR HIGHWAY TYPICAL SECTION

Standard Drawing No. 105



RECOMMENDED CONSTRUCTION ORDER	MINIMUM DEPTH OF COVER
1 STORM DRAIN	VARIES
2 SEWER	84"
3 SCE	48"
4 TEL/CATV	30"
5 CURB AND GUTTER	-
6 WATER	42"
7 GAS	36"
8 PAVING	-

NOTES:

1. WHERE ULTIMATE STREET IMPROVEMENTS ARE TO BE CONSTRUCTED, MINIMUM COVER OF THE UTILITY LINES MAY BE VARIED TO FACILITATE INSTALLATION.
2. THE UTILITY COMPANIES SHALL MAKE EVERY EFFORT TO LOCATE THEIR FACILITIES IN THE RECOMMENDED LOCATIONS, PARTICULARLY IN NEW SUBDIVISIONS.
3. SCE, TELEPHONE & CATV UTILITIES MAY USE A COMMON TRENCH. ALTERNATIVE LOCATION MAY BE EITHER THE EDISON POSITION OR THE TELEPHONE POSITION, VARYING BETWEEN 3' FROM THE CURB FACE TO 15' FROM THE CENTERLINE.
4. SURFACE OF VAULT OR MANHOLE MUST MATCH PAVEMENT OR PARKWAY GRADES.
5. REPAIR OF TRENCHES AND REPLACEMENT OF PAVED SURFACING IN EXISTING CITY STREETS SHALL BE IN ACCORDANCE WITH CITY OF HIGHLAND STANDARD DRAWING No. 220A.
6. WHENEVER POSSIBLE, MANHOLE COVERS SHALL NOT BE PLACED WITHIN THE SIDEWALK.
7. SIDEWALK LOCATION AND WIDTH VARIES PER PLAN AND STANDARD DRAWING No. 208.
8. STANDARD SEWER LINE LOCATION IS 6' EAST OR NORTH OF CENTERLINE OF STREET.
9. STANDARD WATER LINE LOCATION IS 12' WEST OR SOUTH OF STREET CENTERLINE.
10. STANDARD STORM DRAIN LOCATION IS 6' WEST OR SOUTH OF STREET CENTERLINE. STORM DRAIN MUST KEEP PROPER CLEARANCE FROM WATER LINE IN ACCORDANCE WITH DEPARTMENT OF HEALTH SERVICES GUIDANCE CRITERIA FOR THE SEPARATION OF WATER MAINS AND NON-POTABLE PIPELINES.

N.T.S

Mark	Revision	By	Date
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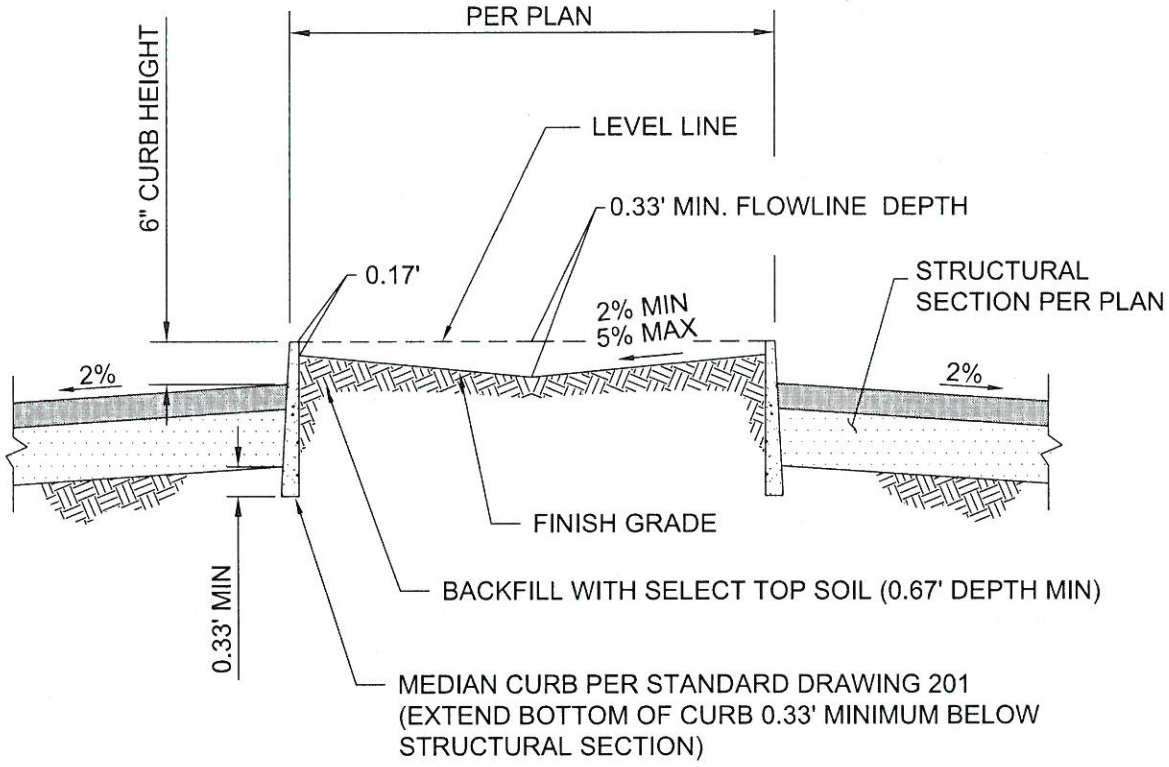
Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

RECOMMENDED UTILITY LOCATION

Standard Drawing No. 108



NOTES:

1. DRAINAGE FACILITIES SHALL BE PROVIDED TO DEWATER RAISED MEDIAN.
2. EARTHEN MOUNDING SHALL BE RESTRICTED AS REQUIRED FOR LINE OF SITE
3. LINE OF SIGHT EXHIBIT REQUIRED DURING LANDSCAPING DESIGN REVIEW.

N.T.S.

Mark	Revision	By	Date
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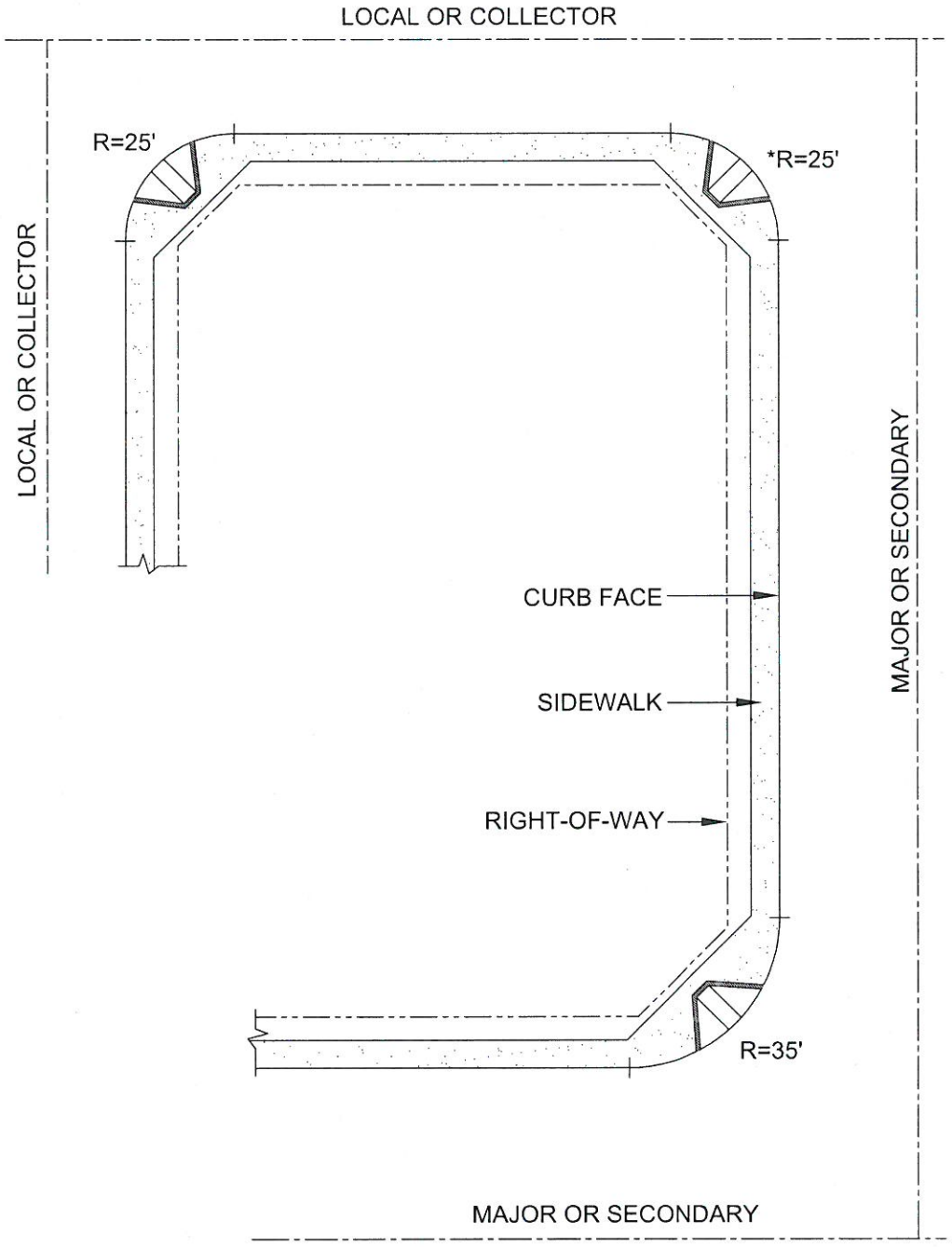
Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

MEDIAN TREATMENT

Standard Drawing No. 107



* A 35' RADIUS CURB RETURN MAY BE UTILIZED TO PROVIDE TRUCK ACCESS TO COMMERCIAL PROJECTS, AS APPROVED BY THE CITY ENGINEER.

N.T.S

Mark	Revision	By	Date
△			

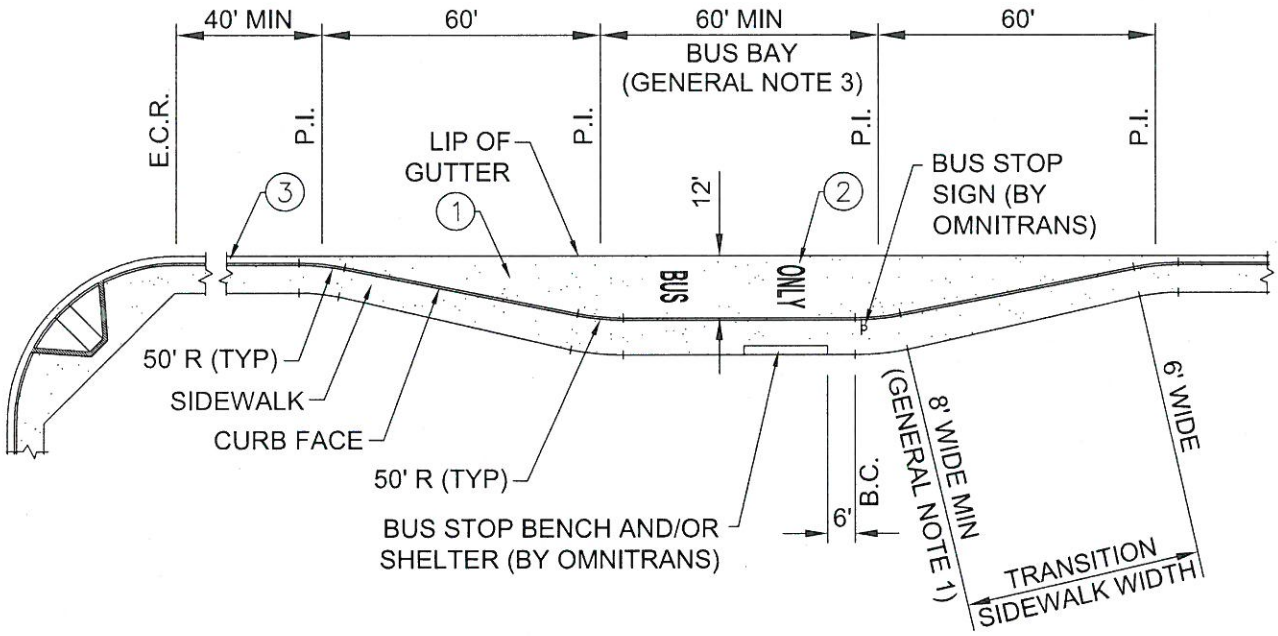
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

CURB RETURN AND RIGHT-OF-WAY CUT-OFF

Standard Drawing No. 109



CONSTRUCTION NOTES:

1. 12' WIDE BUS PAD - 3000 PSI PCC - 0.75' THICKNESS WITHOUT REBAR OR 0.67' THICKNESS WITH #3 REBAR @ 18" OC
2. PAVEMENT MARKINGS "BUS" "ONLY" PER CALTRANS STANDARD A20E
3. PAINT CURB RED AND POST "NO PARKING" FOR A DISTANCE OF 40' MINIMUM AHEAD OF BUS BAY.

GENERAL NOTES:

1. BUS STOPS SHALL PROVIDE FOR FRONT AND REAR DOOR WHEELCHAIR LOADING IN CONFORMANCE WITH OMNITRANS STANDARDS (LATEST EDITION).
2. BUS STOP SIGN, SHELTER AND/OR BENCH (BY OMNITRANS).
3. BAY LENGTH SHALL BE EXTENDED TO 140' WHERE MULTI-BERTH ACCOMMODATIONS ARE REQUIRED.

N.T.S.

Mark	Revision	By	Date
△			

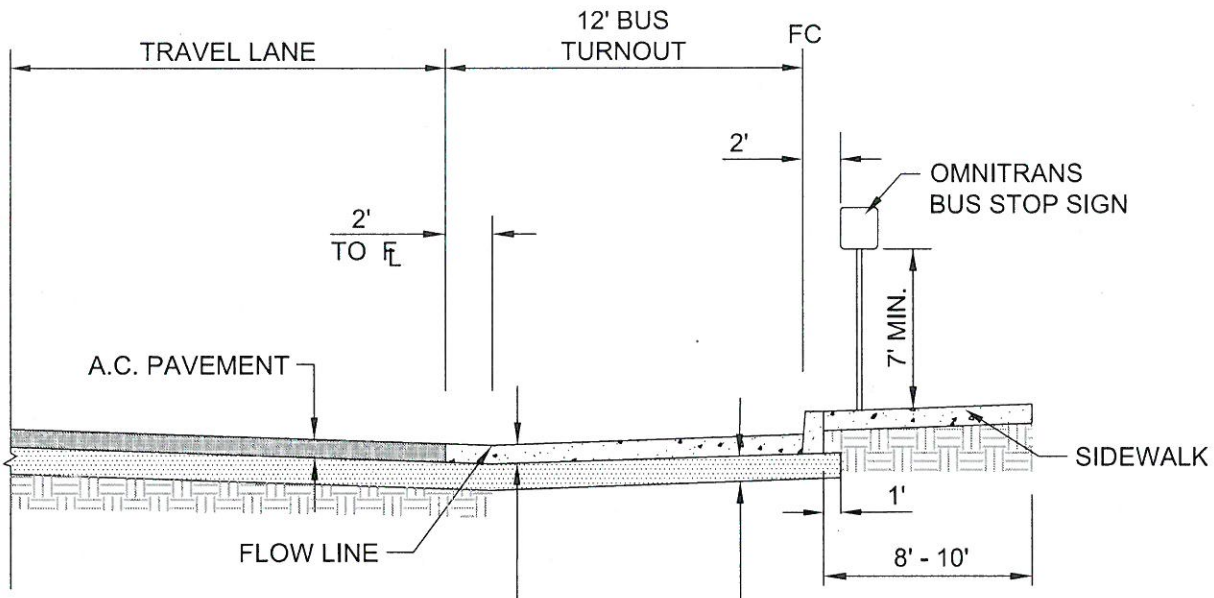
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

BUS BAY
AT INTERSECTION

Standard Drawing No.
110A



12' WIDE BUS PAD - 3000 PSI P.C.C. PAVEMENT, 0.75' DEEP WITHOUT REBAR, OR 0.67' DEEP WITH #3 REBAR @ 18" ON CENTER.

6" TO 10" AGGREGATE BASE DEPENDING ON LOCAL SOIL CONDITIONS (COMPACT SUB-GRADE TO 95% RELATIVE DENSITY).

N.T.S

Mark	Revision	By	Date
△			

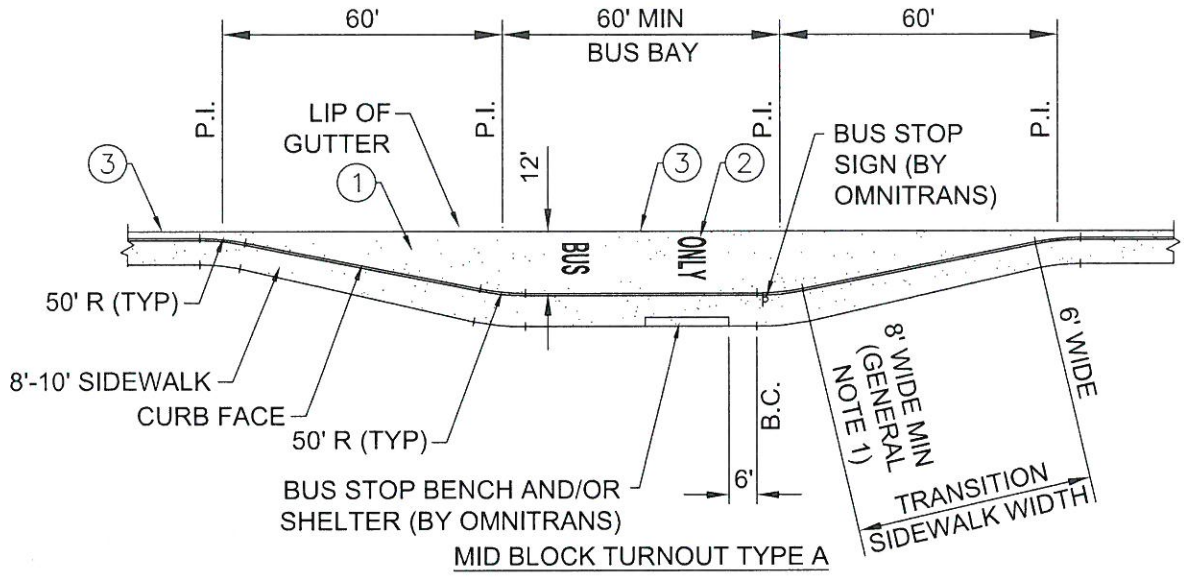
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

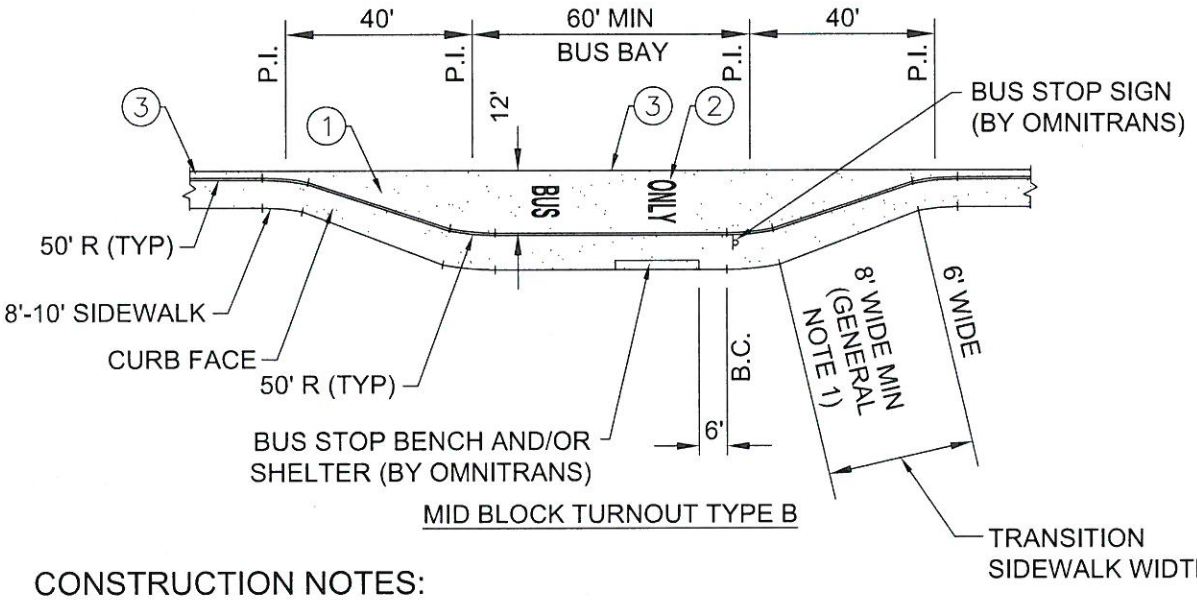
CITY OF HIGHLAND

BUS BAY TYPICAL SECTION

Standard Drawing No. 110C



MID BLOCK TURNOUT TYPE A



MID BLOCK TURNOUT TYPE B

CONSTRUCTION NOTES:

(1) 12' WIDE BUS PAD - 3000 PSI PCC - 0.75' THICKNESS WITHOUT REBAR OR 0.67' THICKNESS WITH #3 REBAR @ 18" OC.

(2) PAVEMENT MARKINGS "BUS" "ONLY" PER CALTRANS STANDARD A20E (OPTIONAL).

(3) PER CALTRANS STANDARD PLAN A20D, DETAIL 38A (OPTIONAL).

GENERAL NOTES:

1. BUS STOPS SHALL PROVIDE FOR FRONT AND REAR DOOR WHEELCHAIR LOADING IN CONFORMANCE WITH OMNITRANS STANDARDS (LATEST EDITION).
2. BUS STOP SIGN, SHELTER AND/OR BENCH (BY OMNITRANS).
3. BAY LENGTH SHALL BE EXTENDED TO 140' WHERE MULTI-BERTH ACCOMMODATIONS ARE REQUIRED.

N.T.S

Mark	Revision	By	Date
△			

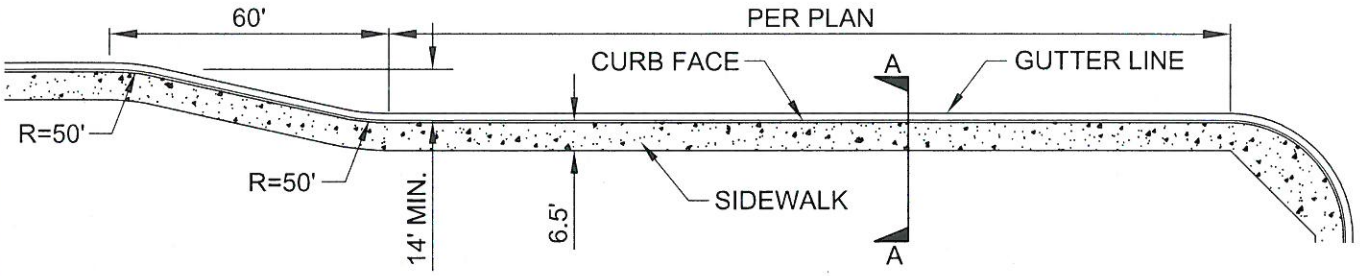
Approved: Ernest Wong Date: 9-6-16

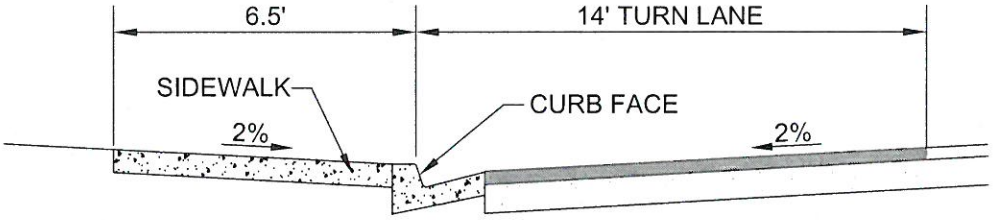
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

BUS BAY
MID-BLOCK

Standard Drawing No.
110B





SECTION A-A

N.T.S

Mark	Revision	By	Date
△			

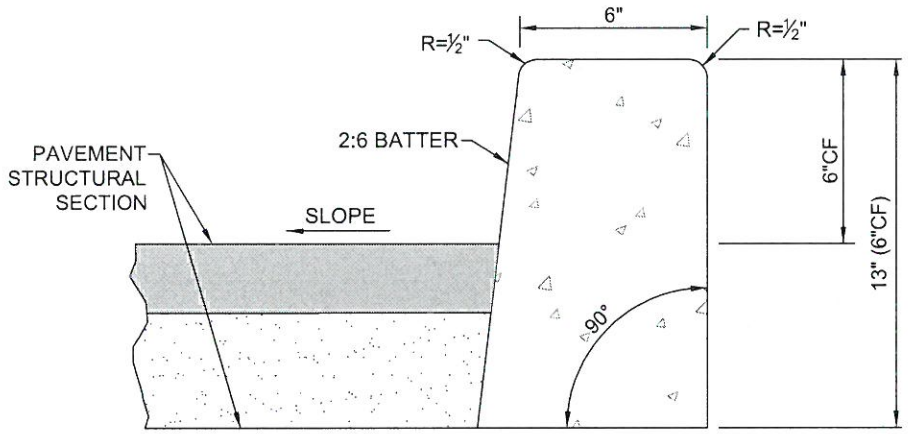
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

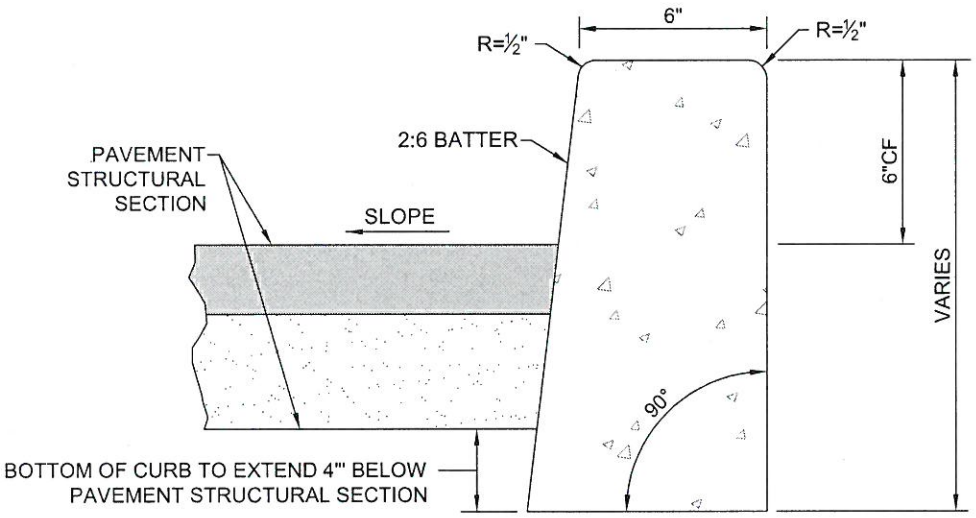
CITY OF HIGHLAND

RIGHT TURN LANE

Standard Drawing No. 111



TYPE "A"



TYPE "B"
LANDSCAPED MEDIAN CURB

NOTES:

1. CURB SHALL BE CONSTRUCTED MONOLITHICALLY OF CLASS "B" (520-C-2500) CONCRETE.
2. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT 10' INTERVALS, EXCEPT THAT THE INTERVAL SHALL BE VARIED TO ALLOW MATCHING OF JOINTS IN ADJACENT EXISTING IMPROVEMENTS.
3. CURING COMPOUND SHALL BE SPRAYED UNIFORMLY ON EXPOSED SURFACES.
4. WHEN CURB IS PLACED BY AN EXTRUSION MACHINE MINOR FINISHING MAY BE DONE TO PROVIDE AN ACCEPTABLE FINISH AND THE WEAKENED PLANE JOINTS MAY BE SAWCUT.

N.T.S.

Mark	Revision	By	Date
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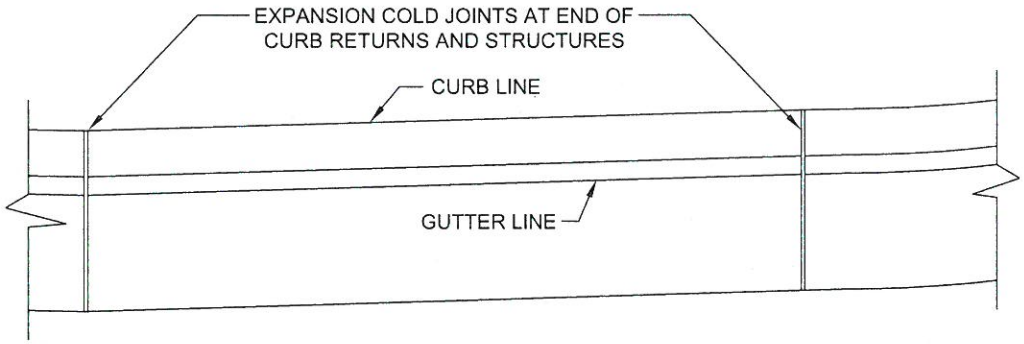
Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

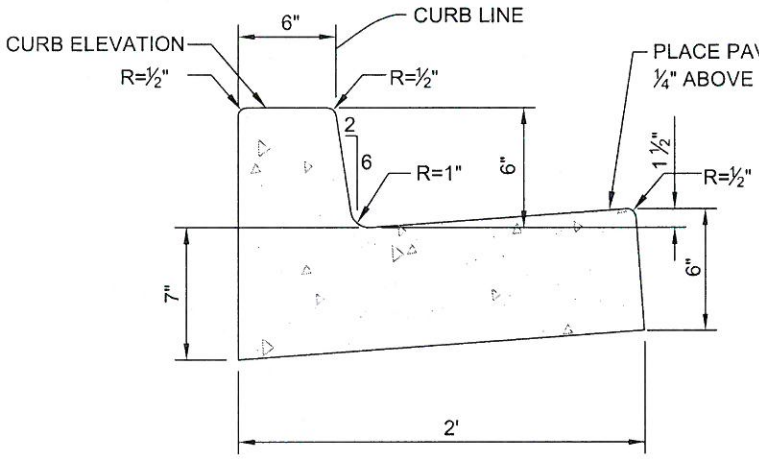
6" CURB

Standard Drawing No. 201

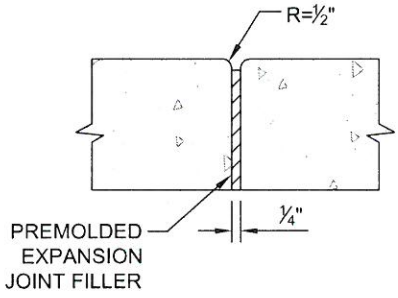


PLAN

0.0494 CUBIC YARDS PER LINEAL FOOT.
20.3 LINEAL FEET PER CUBIC YARD



SECTION



EXPANSION JOINT

NOTES:

1. CURB AND GUTTER SHALL BE CONSTRUCTED MONOLITHICALLY OF CLASS "B" (520-C-2500) CONCRETE.
2. WIDTHS OF STANDARD STREET SECTIONS SHOWN ON PLANS ARE TO CURB LINE UNLESS OTHERWISE INDICATED.
3. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT 10' INTERVALS, EXCEPT THAT THE INTERVAL SHALL BE VARIED TO ALLOW MATCHING OF JOINTS IN ADJACENT EXISTING IMPROVEMENTS.
4. CURING COMPOUND SHALL BE SPRAYED UNIFORMLY ON EXPOSED SURFACES.
5. WHEN CURB IS PLACED BY AN EXTRUSION MACHINE MINOR FINISHING MAY BE DONE TO PROVIDE AN ACCEPTABLE FINISH AND THE WEAKENED PLANE JOINTS MAY BE SAWCUT.
6. 4" WIDE STEEL TROWEL AT GUTTER FLOWLINE.

N.T.S

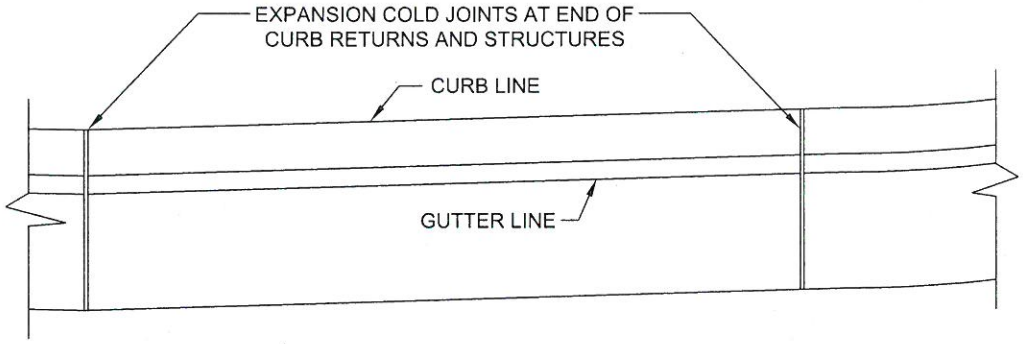
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

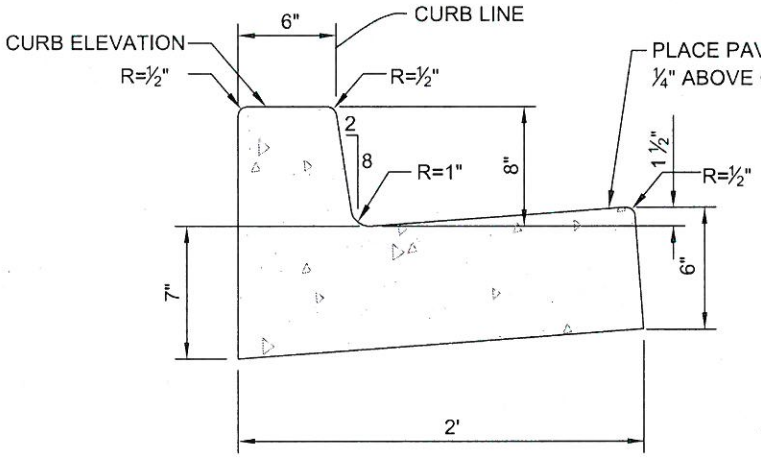
6" CURB
AND GUTTER

Standard Drawing No.
202

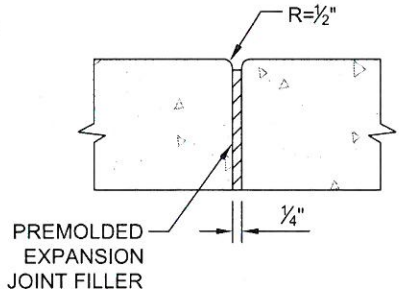


PLAN

0.0520 CUBIC YARDS PER LINEAL FOOT.
19.2 LINEAL FEET PER CUBIC YARD



SECTION



EXPANSION JOINT

NOTES:

1. CURB AND GUTTER SHALL BE CONSTRUCTED MONOLITHICALLY OF CLASS "B" (520-C-2500) CONCRETE.
2. WIDTHS OF STANDARD STREET SECTIONS SHOWN ON PLANS ARE TO CURB LINE UNLESS OTHERWISE INDICATED.
3. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT 10' INTERVALS, EXCEPT THAT THE INTERVAL SHALL BE VARIED TO ALLOW MATCHING OF JOINTS IN ADJACENT EXISTING IMPROVEMENTS.
4. CURING COMPOUND SHALL BE SPRAYED UNIFORMLY ON EXPOSED SURFACES.
5. WHEN CURB IS PLACED BY AN EXTRUSION MACHINE MINOR FINISHING MAY BE DONE TO PROVIDE AN ACCEPTABLE FINISH AND THE WEAKENED PLANE JOINTS MAY BE SAWCUT.
6. 4" WIDE STEEL TROWEL AT GUTTER FLOWLINE.

N.T.S

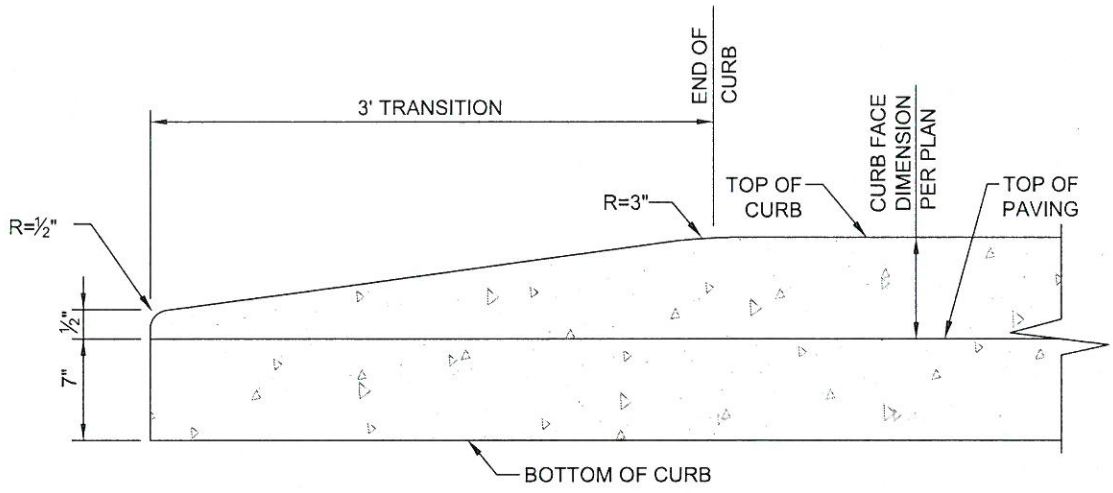
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

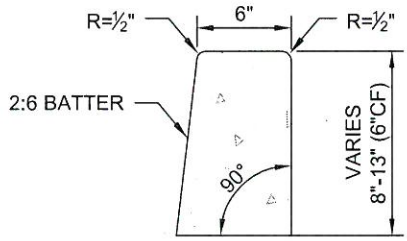
CITY OF HIGHLAND

8" CURB
AND GUTTER

Standard Drawing No.
203



CURB TRANSITION



SECTION

NOTES:

1. CURB SHALL BE CONSTRUCTED MONOLITHICALLY OF CLASS "B" (520-C-2500) CONCRETE.
2. CURING COMPOUND SHALL BE SPRAYED UNIFORMLY ON EXPOSED SURFACES.
3. WHEN CURB IS PLACED BY AN EXTRUSION MACHINE MINOR FINISHING MAY BE DONE TO PROVIDE AN ACCEPTABLE FINISH AND THE WEAKENED PLANE JOINTS MAY BE SAWCUT.

N.T.S

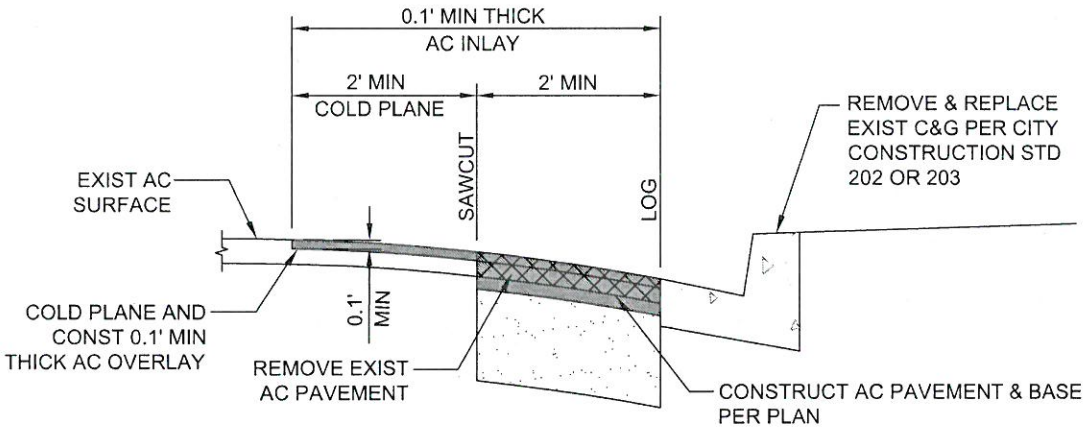
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

CURB END TRANSITION

Standard Drawing No. 204



N.T.S

Mark	Revision	By	Date
△			

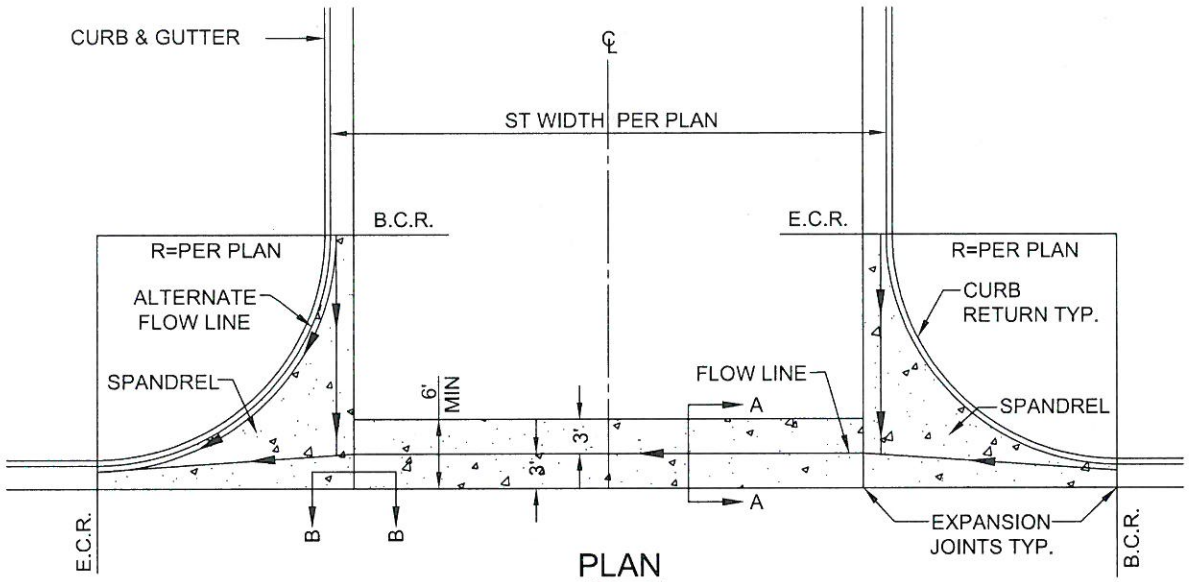
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

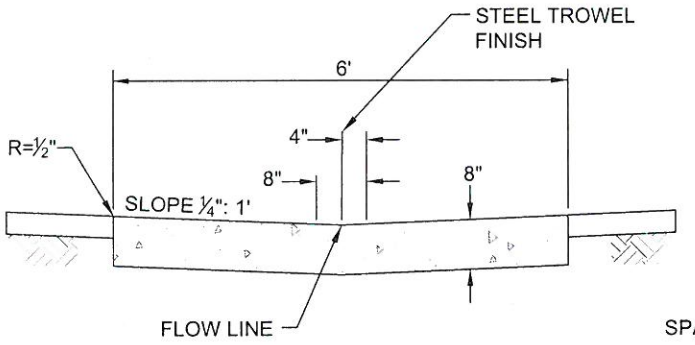
CITY OF HIGHLAND

CURB AND GUTTER REPLACEMENT

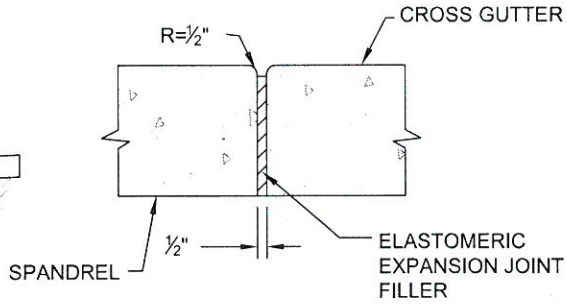
Standard Drawing No. 205



PLAN



SECTION A-A



SECTION B-B

NOTES:

1. CROSS GUTTER SHALL BE CONSTRUCTED OF CLASS "B" (520-C-2500) CONCRETE.
2. THE STRAIGHT GRADE BETWEEN B.C.R.'S MAY BE ALTERED ON AN EXCESSIVE GRADE.
3. ABSOLUTE MINIMUM FALL AROUND OR AWAY FROM CURB RETURNS SHALL BE 1%, VARY CURB FACE IF NECESSARY.
4. SPANDREL SHALL BE 8" THICK, CLASS "B" (520-C-2500) CONCRETE, AND SHALL BE POURED MONOLITHICALLY WITH THE CURB RETURN.
6. VARIABLE CURB FACE ALLOWED FOR DRAINAGE PURPOSES.
7. WEEKEND PLANE JOINTS IN THE SPANDRELS SHALL BE AS SHOWN ON STANDARD DRAWING NO. 206B.
8. WEEKEND PLANE JOINTS IN THE CROSS GUTTER SHALL BE AT A MAXIMUM OF 10' INTERVALS.

N.T.S.

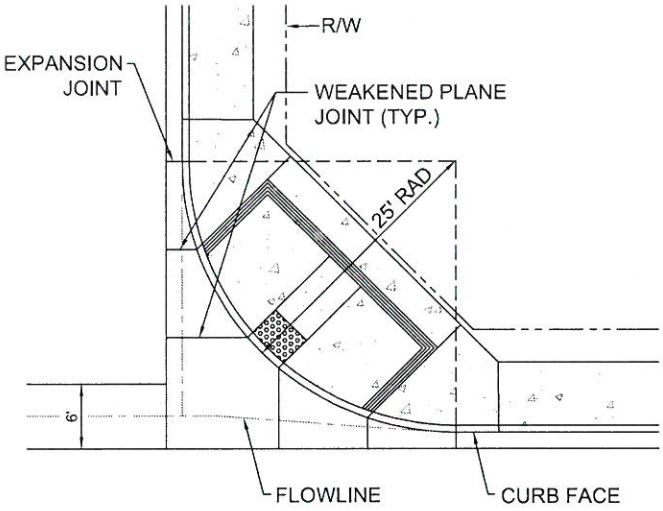
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

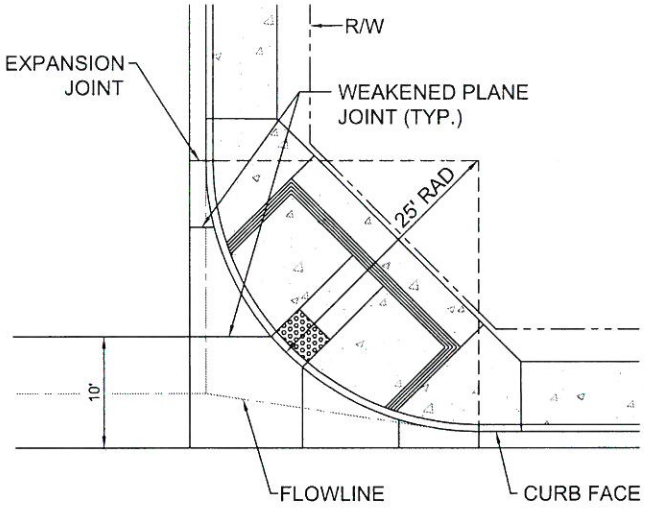
CITY OF HIGHLAND

CROSS GUTTER

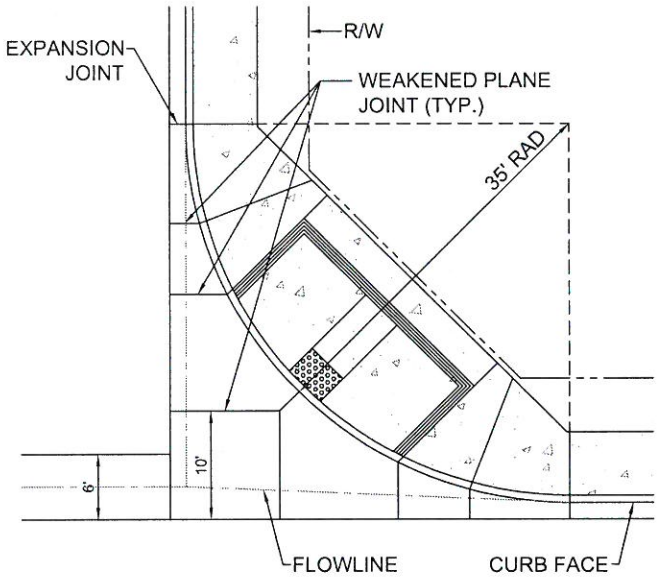
Standard Drawing No. 206A



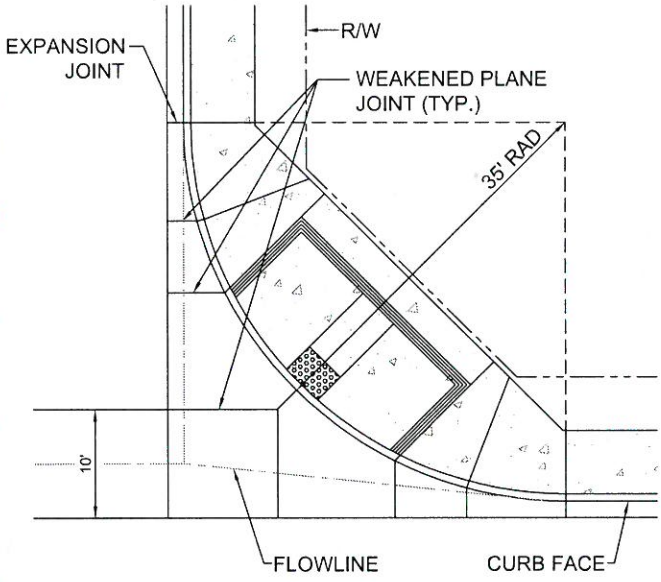
WEAKENED PLANE JOINTS FOR 25' RADIUS CURB RETURN WITH 6' WIDE X-GUTTER



WEAKENED PLANE JOINTS FOR 25' RADIUS CURB RETURN WITH 10' WIDE X-GUTTER



WEAKENED PLANE JOINTS FOR 35' RADIUS CURB RETURN WITH 6' WIDE X-GUTTER



WEAKENED PLANE JOINTS FOR 35' RADIUS CURB RETURN WITH 10' WIDE X-GUTTER

N.T.S.

Mark	Revision	By	Date
△			

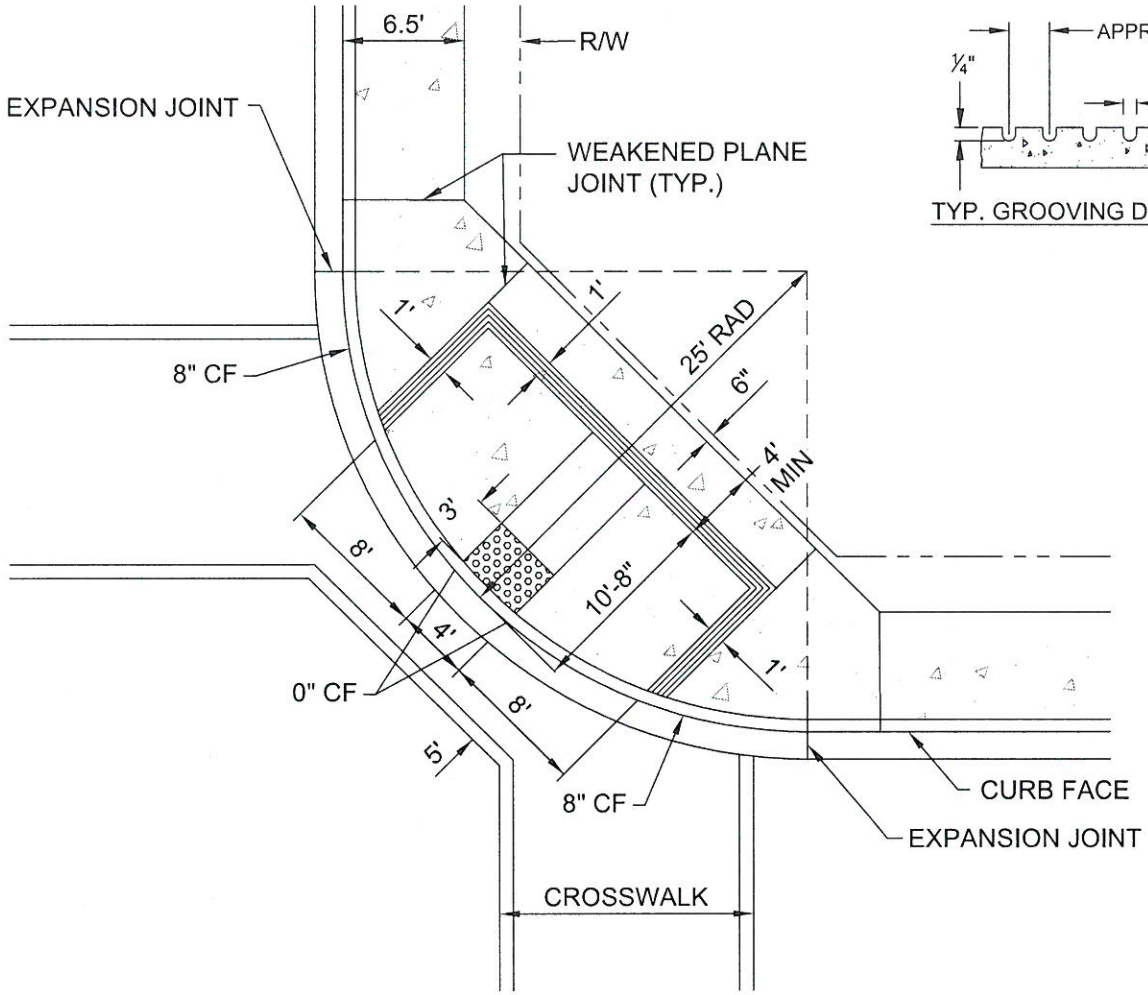
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

SPANDRELS

Standard Drawing No. 206B



NOTES:

1. RAMP SLOPE SHALL BE 8.33% MAXIMUM.
2. THE RAMP SHALL HAVE A 12" WIDE BORDER WITH ¼" GROOVES APPROXIMATELY ¾" O.C. SEE GROOVING DETAIL.
3. THE RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK.
4. RAMPS SHALL BE BUILT AND FINISHED SO THAT THERE ARE NO ABRUPT CHANGES IN ELEVATION OR ANGLE OF SLOPE.
5. SIDEWALK RAMPS ARE REQUIRED AT ALL CORNERS WHERE CURBS AND/OR SIDEWALKS ARE TO BE CONSTRUCTED OR RECONSTRUCTED AND SHALL BE AS SHOWN ON THE IMPROVEMENTS PLANS.
6. MODIFICATIONS TO LOCATION OR DIMENSIONS OF RAMP SHALL REQUIRE APPROVAL OF THE CITY ENGINEER AND BE SHOWN ON APPROVED PLANS.
7. THICKNESS OF RAMP SHALL BE 4" MINIMUM, CLASS "B" (520-C-2500) CONCRETE.
8. THE SIDEWALK RAMP AREA FROM BCR TO ECR IS 395.68 SQUARE FEET.
9. TRUNCATED DOMES PER STD 223.

SCALE: 1"=10'

Mark	Revision	By	Date
△			

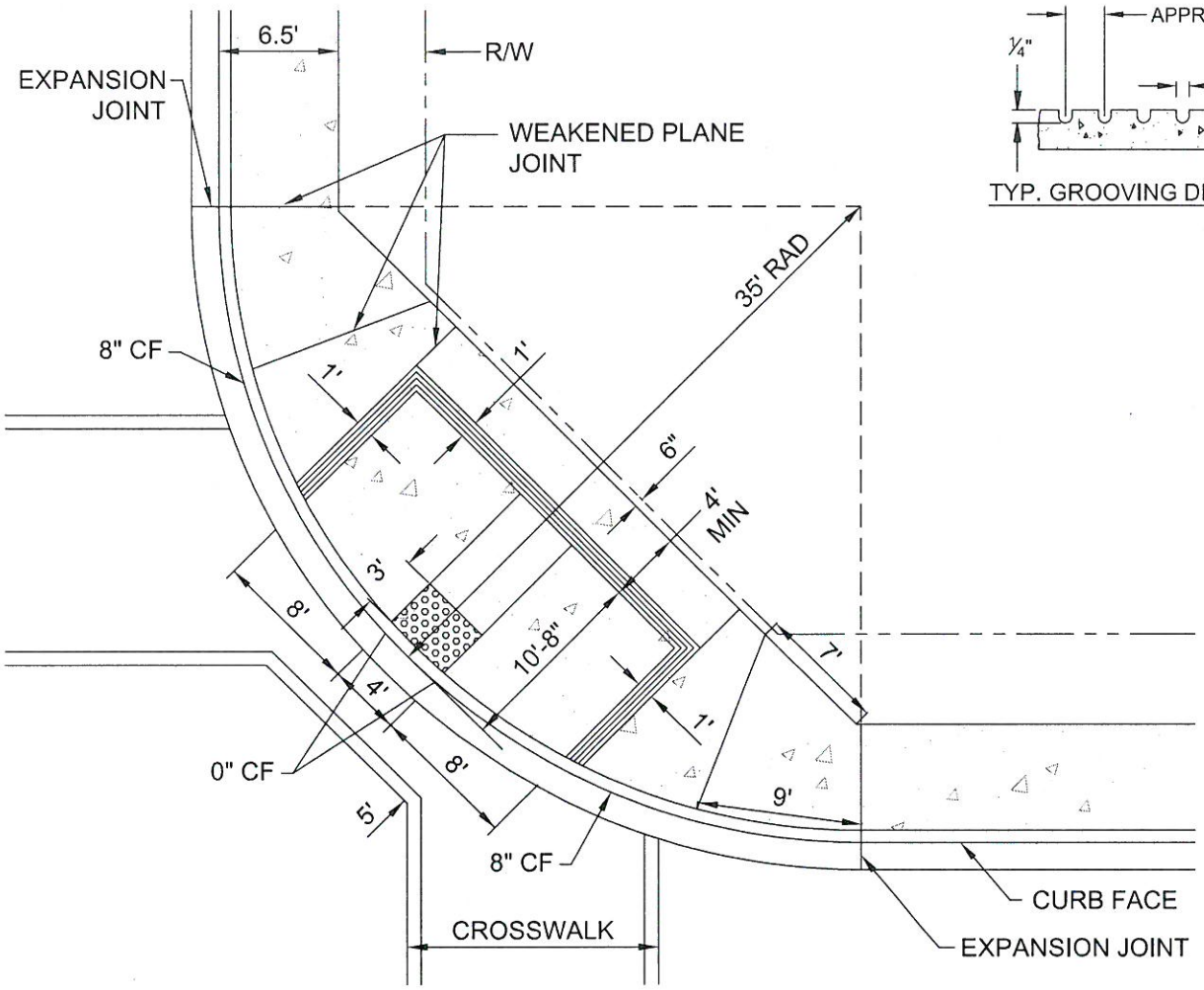
Approved: Ernest Wong Date: 9-6-16

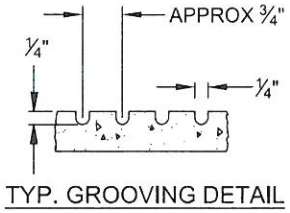
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

SIDEWALK RAMP
8" CURB FACE 25' RADIUS

Standard Drawing No.
207A





NOTES:

1. RAMP SLOPE SHALL BE 8.33% MAXIMUM.
2. THE RAMP SHALL HAVE A 12" WIDE BORDER WITH ¼" GROOVES APPROXIMATELY ¾" O.C. SEE GROOVING DETAIL.
3. THE RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK.
4. RAMPS SHALL BE BUILT AND FINISHED SO THAT THERE ARE NO ABRUPT CHANGES IN ELEVATION OR ANGLE OF SLOPE.
5. SIDEWALK RAMPS ARE REQUIRED AT ALL CORNERS WHERE CURBS AND/OR SIDEWALKS ARE TO BE CONSTRUCTED OR RECONSTRUCTED AND SHALL BE AS SHOWN ON THE IMPROVEMENTS PLANS.
6. MODIFICATIONS TO LOCATION OR DIMENSIONS OF RAMP SHALL REQUIRE APPROVAL OF THE CITY ENGINEER AND BE SHOWN ON APPROVED PLANS.
7. THICKNESS OF RAMP SHALL BE 4" MINIMUM, CLASS "B" (520-C-2500) CONCRETE.
8. THE SIDEWALK RAMP AREA FROM BCR TO ECR IS 528.70 SQUARE FEET.
9. TRUNCATED DOMES PER STD 223.

SCALE: 1"=10'

Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16

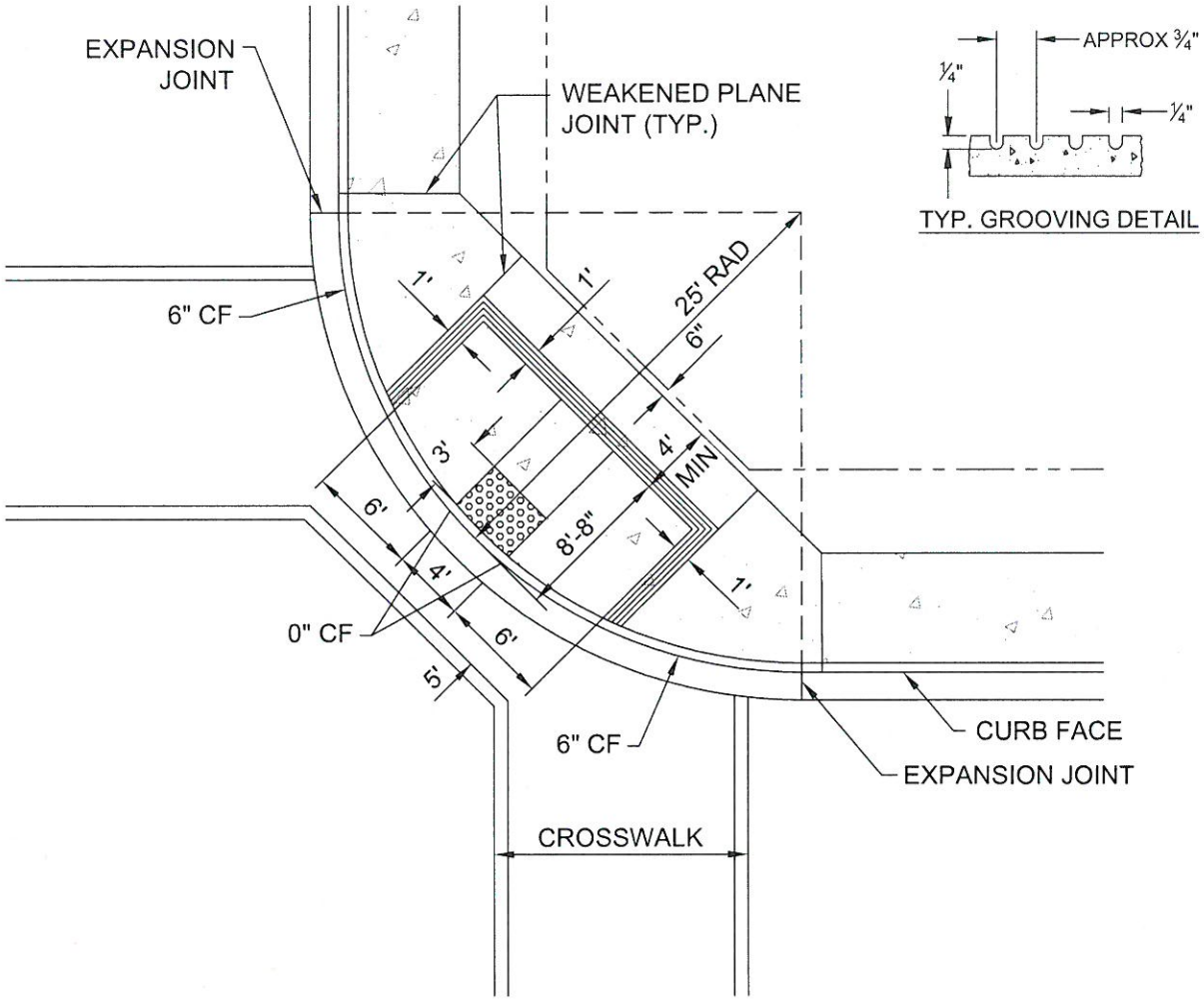
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

SIDEWALK RAMP
8" CURB FACE 35' RADIUS

Standard Drawing No.

207B



NOTES:

1. RAMP SLOPE SHALL BE 8.33% MAXIMUM.
2. THE RAMP SHALL HAVE A 12" WIDE BORDER WITH ½" GROOVES APPROXIMATELY ¾" O.C. SEE GROOVING DETAIL.
3. THE RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK.
4. RAMPS SHALL BE BUILT AND FINISHED SO THAT THERE ARE NO ABRUPT CHANGES IN ELEVATION OR ANGLE OF SLOPE.
5. SIDEWALK RAMPS ARE REQUIRED AT ALL CORNERS WHERE CURBS AND/OR SIDEWALKS ARE TO BE CONSTRUCTED OR RECONSTRUCTED AND SHALL BE AS SHOWN ON THE IMPROVEMENTS PLANS.
6. MODIFICATIONS TO LOCATION OR DIMENSIONS OF RAMP SHALL REQUIRE APPROVAL OF THE CITY ENGINEER AND BE SHOWN ON APPROVED PLANS.
7. THICKNESS OF RAMP SHALL BE 4" MINIMUM, CLASS "B" (520-C-2500) CONCRETE.
8. IF CURB HEIGHT TRANSITIONS FROM 6" TO 8" THRU CURB RETURN, USE STD FOR 8" CURB FACE
9. THE SIDEWALK RAMP AREA FROM BCR TO ECR IS 302.44 SQUARE FEET.
10. TRUNCATED DOMES PER STD 223.

SCALE: 1"=10'

Mark	Revision	By	Date
△			

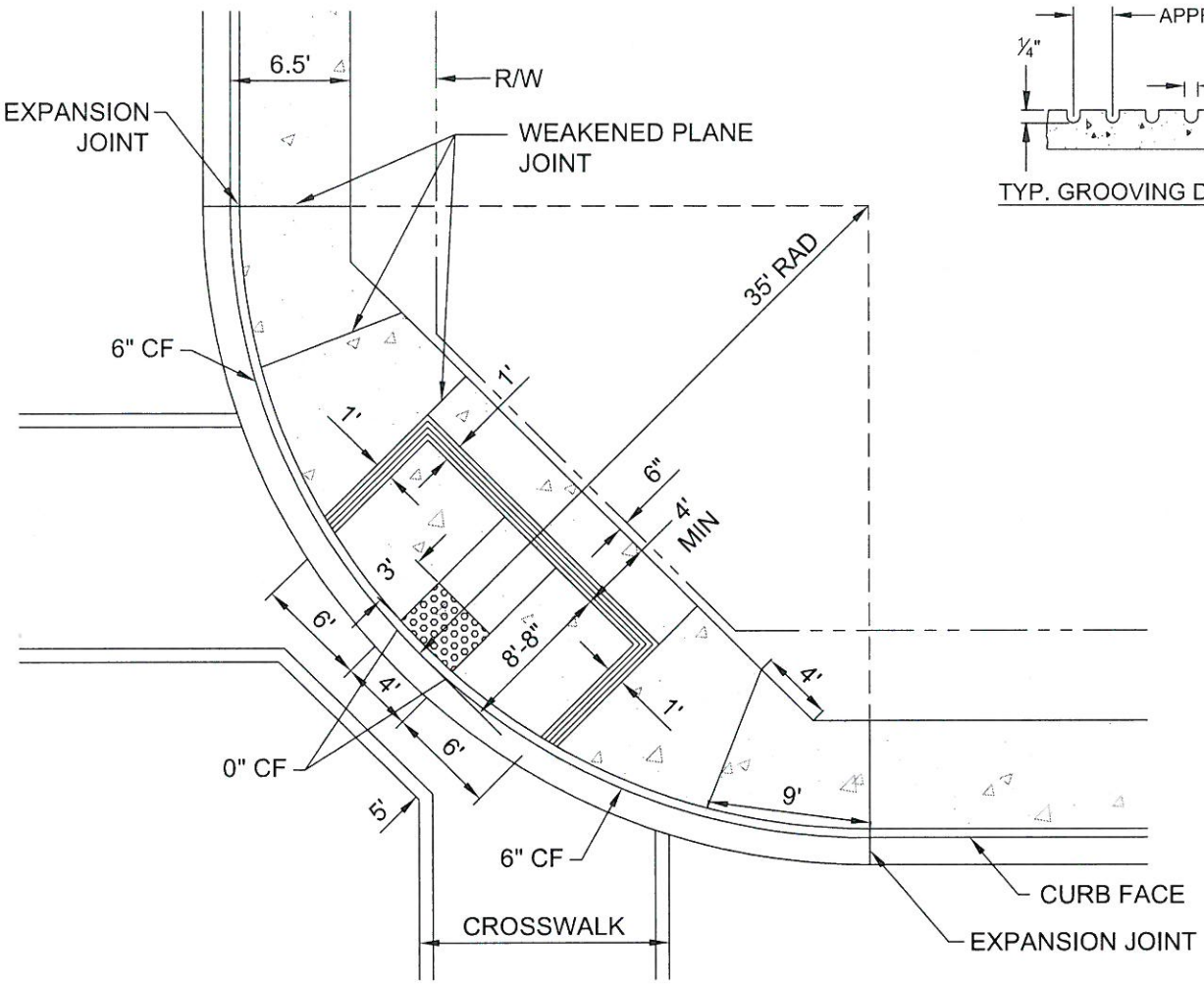
Approved: Ernest Wong Date: 9-6-16

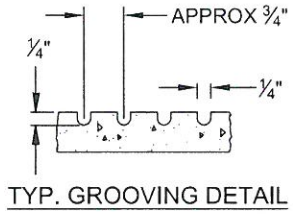
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

SIDEWALK RAMP
6" CURB FACE 25' RADIUS

Standard Drawing No.
207C





NOTES:

1. RAMP SLOPE SHALL BE 8.33% MAXIMUM.
2. THE RAMP SHALL HAVE A 12" WIDE BORDER WITH ½" GROOVES APPROXIMATELY ¾" O.C. SEE GROOVING DETAIL.
3. THE RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK.
4. RAMPS SHALL BE BUILT AND FINISHED SO THAT THERE ARE NO ABRUPT CHANGES IN ELEVATION OR ANGLE OF SLOPE.
5. SIDEWALK RAMPS ARE REQUIRED AT ALL CORNERS WHERE CURBS AND/OR SIDEWALKS ARE TO BE CONSTRUCTED OR RECONSTRUCTED AND SHALL BE AS SHOWN ON THE IMPROVEMENTS PLANS.
6. MODIFICATIONS TO LOCATION OR DIMENSIONS OF RAMP SHALL REQUIRE APPROVAL OF THE CITY ENGINEER AND BE SHOWN ON APPROVED PLANS.
7. THICKNESS OF RAMP SHALL BE 4" MINIMUM, CLASS "B" (520-C-2500) CONCRETE.
8. IF CURB HEIGHT TRANSITIONS FROM 6" TO 8" THRU CURB RETURN, USE STD FOR 8" CURB FACE
9. THE SIDEWALK RAMP AREA FROM BCR TO ECR IS 528.70 SQUARE FEET.
10. TRUNCATED DOMES PER STD 223.

SCALE: 1"=10'

Mark	Revision	By	Date
△			

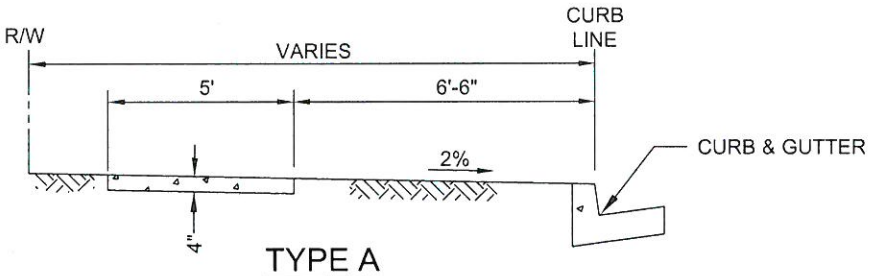
Approved:

Ernest Wong, Public Works Director/City Engineer Date: 9-6-16

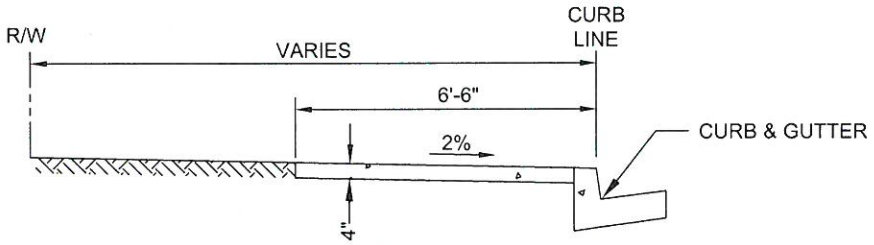
CITY OF HIGHLAND

SIDEWALK RAMP
6" CURB FACE 35' RADIUS

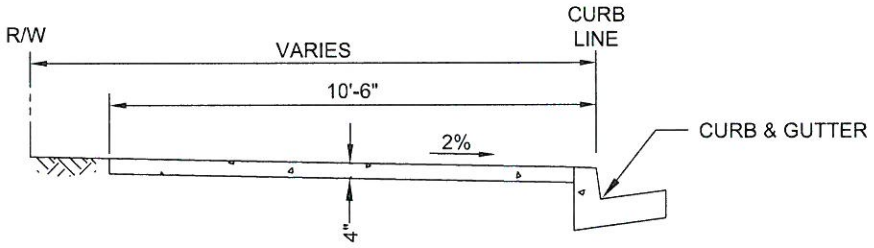
Standard Drawing No.
207D



TYPE A



TYPE B



TYPE C

NOTES:

1. SIDEWALK SHALL BE CONSTRUCTED OF CLASS "B" (520-C-2500) CONCRETE WITH LIGHT-MEDIUM BROOM FINISH.
2. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT 10' INTERVALS, EXCEPT THAT THE INTERVAL SHALL BE VARIED TO ALLOW MATCHING OF JOINTS IN ADJACENT EXISTING IMPROVEMENTS.
3. SCORING SIDEWALK WILL BE PERMITTED.

N.T.S.

Mark	Revision	By	Date
△			

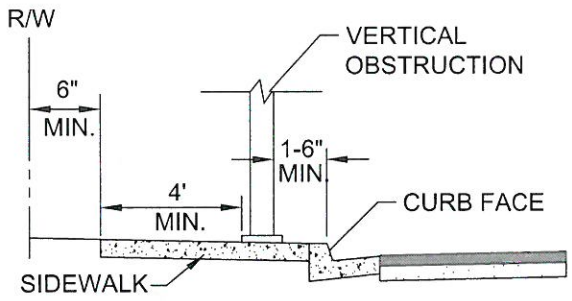
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

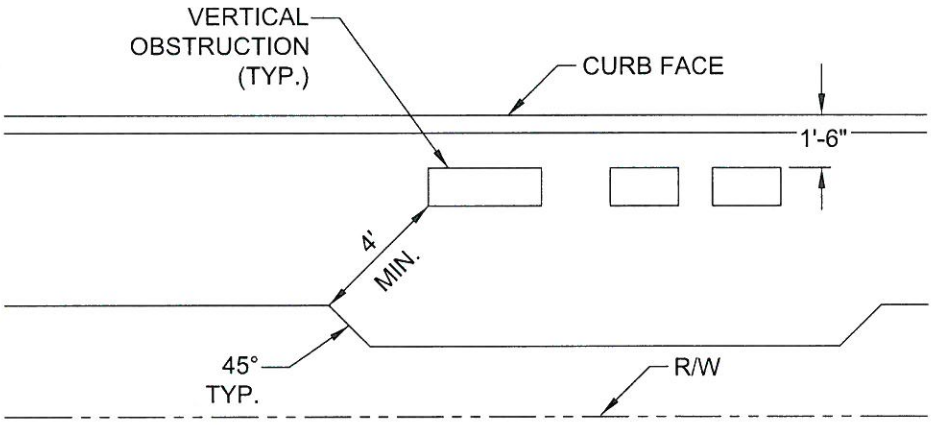
CITY OF HIGHLAND

SIDEWALK

Standard Drawing No. 208



PROFILE



PLAN

NOTES:

1. FOR ANY VERTICAL OBSTRUCTION, THE MINIMUM CLEARANCE FROM THE CURB FACE SHALL BE 1'-6".
2. THE MINIMUM WIDTH OF CLEAR SIDEWALK SHALL BE 4' FROM ANY VERTICAL OBSTRUCTION.

N.T.S.

Mark	Revision	By	Date
△			

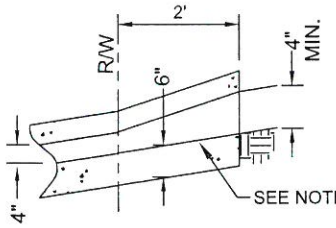
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

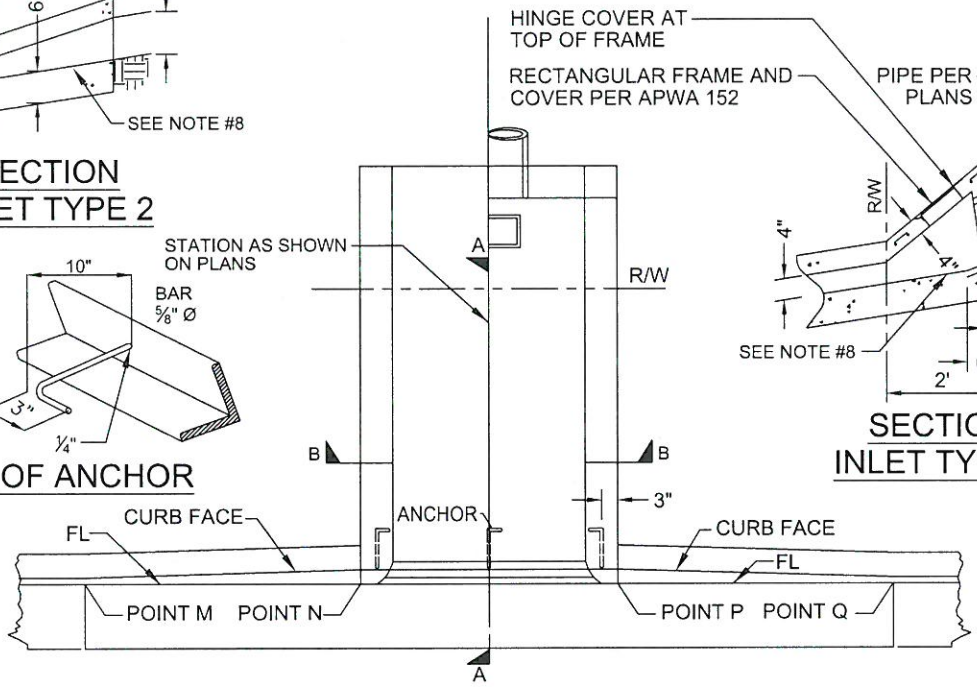
OBJECT CLEARANCE

Standard Drawing No. 209

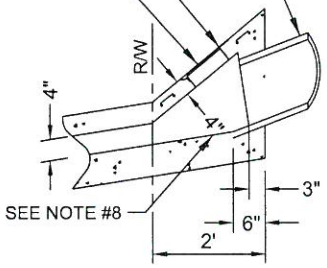


SECTION INLET TYPE 2

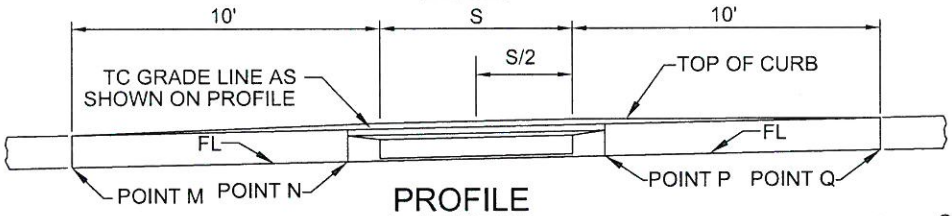
DETAIL OF ANCHOR



PLAN



SECTION INLET TYPE 1



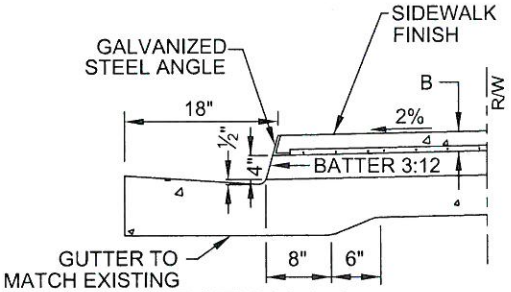
PROFILE

S	J BAR SPACING
12"	7"
18"	7"
24"	7"
30"	7"
36"	7"
42"	6"
48"	5"
54"	6-½"
60"	5"
66"	4"
72"	3-½"

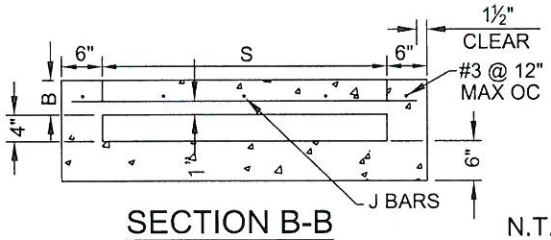
FOR S = 30" AND LESS, USE 2 ANCHORS, OTHERWISE, USE 3 ANCHORS.

FOR S = 48" AND LESS, B = 3" USE 2-½"x2"x ⅜" GALVANIZED STEEL ANGLE.

OTHERWISE, B = 4" USE 3-½"x3"x ½" GALVANIZED STEEL ANGLE. J BARS ARE #3.



SECTION A-A



SECTION B-B

N.T.S

Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

CURB OUTLET STRUCTURE

Standard Drawing No. 210A

NOTES:

1. FLOOR OF BOX SHALL BE TROWELED SMOOTH.
2. IF THE TOE OF SLOPE IS ALLOWED WITHIN THE RIGHT-OF-WAY, INLET TYPE 1 BEGINS AT THE TOE RATHER THAN AT THE RIGHT-OF-WAY LINE.
3. FOR OPEN DITCH (TYPE 2), THE 24' EXTENSION BEYOND THE RIGHT-OF-WAY LINE IS NOT REQUIRED WHEN BACK OF WALK IS 24" OR MORE FROM THE RIGHT-OF-WAY LINE; HOWEVER, THE PIPE SHALL EXTEND TO THE RIGHT-OF-WAY LINE IN ANY EVENT.
4. TOP OF INLET STRUCTURE (TYPE 1 & 2) SHALL BE FLUSH WITH ADJACENT SURFACE WHERE PRACTICAL.
5. A HEADED STEEL STUD $\frac{5}{8}$" X 6-3/8", 1" HEAD ATTACHED BY A FULL PENETRATION BUTT WELD MAY BE USED AS AN ALTERNATE ANCHOR.
6. NORMAL CURB FACE AT POINT M AND Q. CURB FACE IS B + 5" AT POINT N AND P.
7. THE 3" LEG OF THE $\frac{5}{8}$" DIAMETER ANCHORS SHALL BE PARALLEL TO THE TOP OF SIDEWALK.
8. BOTTOM OF INLET STRUCTURE (TYPE 1 & 2) SHALL MAINTAIN A SLOPE OF $\frac{1}{4}$" PER 1' MINIMUM.

Mark	Revision	By	Date
△			

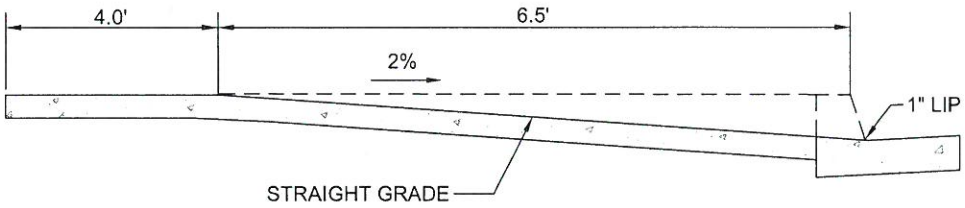
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

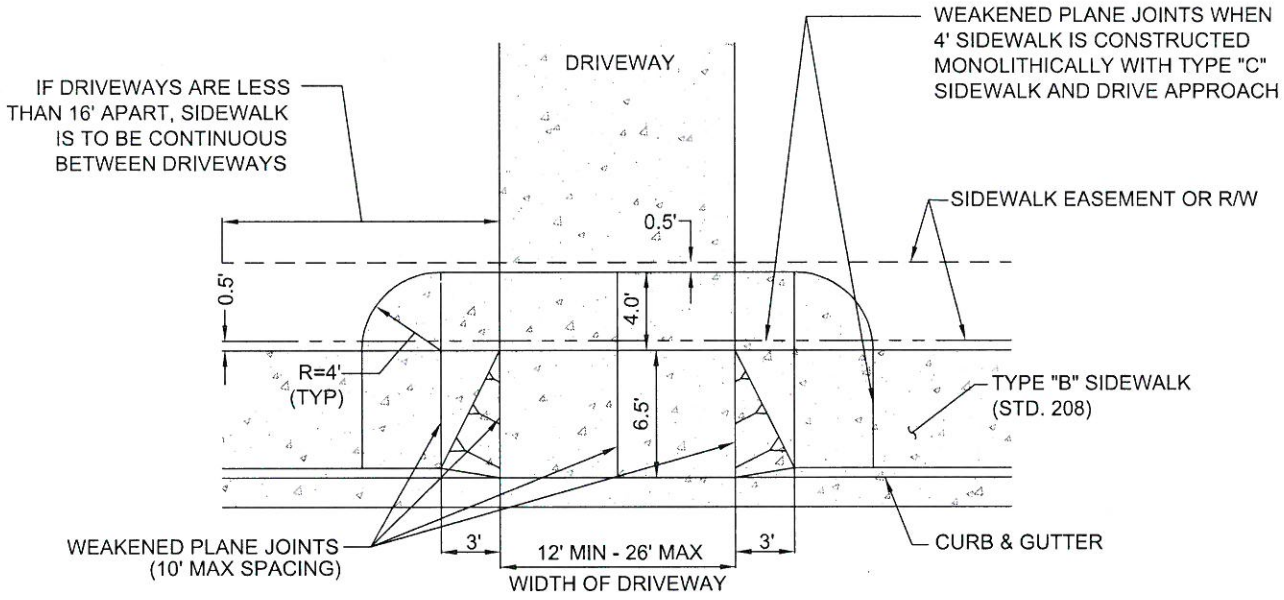
CITY OF HIGHLAND

CURB OUTLET STRUCTURE NOTES

Standard Drawing No. 210B



SECTION



PLAN

NOTES:

1. DRIVEWAY APPROACH LOCATION SHALL BE AS INDICATED IN THE S.B. CO. TRANSPORTATION DEPARTMENT ROAD PLANNING & DESIGN MANUAL. (SEE SECTION 5.3)
2. TO CONSTRUCT A DEPRESSION IN EXISTING CURB & GUTTER:
   A. SAWCUT AND REMOVE TO THE NEAREST JOINT AND RECONSTRUCT TO THE NECESSARY WIDTH.
   B. HORIZONTAL SAW CUT AND REMOVE CURB AS NECESSARY.
3. AN APPROACH MUST BE CONSTRUCTED WITH EACH CURB DEPRESSION.
4. DRIVE APPROACH SHALL BE PORTLAND CEMENT CONCRETE CLASS 'B' (520-C-2500) 6" THICK WITH A LIGHT-MEDIUM BROOM FINISH.

N.T.S

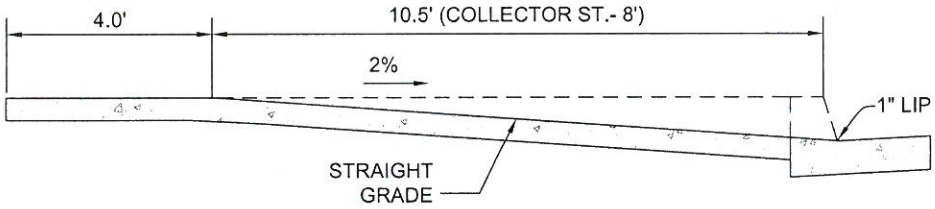
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 7-6-16
Ernest Wong, Public Works Director/City Engineer

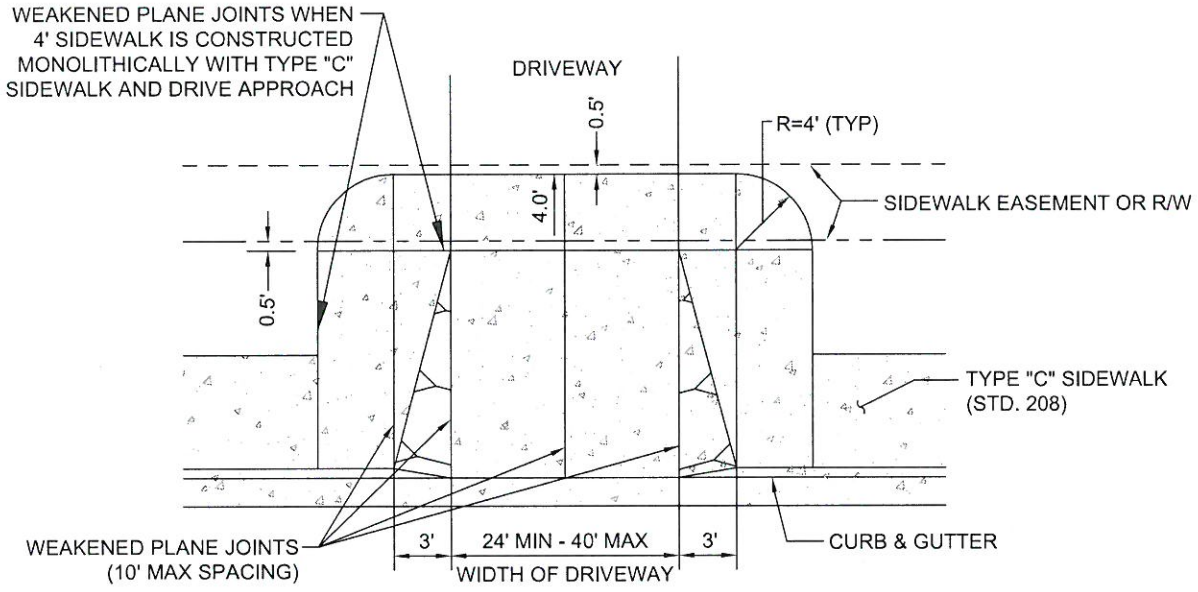
CITY OF HIGHLAND

RESIDENTIAL DRIVEWAY APPROACH WITH SIDEWALK

Standard Drawing No. 211



SECTION



PLAN

NOTES:

1. DRIVEWAY APPROACH LOCATION SHALL BE AS INDICATED IN THE S.B. CO. TRANSPORTATION DEPARTMENT ROAD PLANNING & DESIGN MANUAL. (SEE SECTION 5.3)
2. TO CONSTRUCT A DEPRESSION IN EXISTING CURB & GUTTER:
   A. SAWCUT AND REMOVE TO THE NEAREST JOINT AND RECONSTRUCT TO THE NECESSARY WIDTH.
   B. HORIZONTAL SAW CUT AND REMOVE CURB AS NECESSARY.
3. AN APPROACH MUST BE CONSTRUCTED WITH EACH CURB DEPRESSION.
4. DRIVE APPROACH SHALL BE PORTLAND CEMENT CONCRETE CLASS 'B' (520-C-2500) 6" THICK WITH A LIGHT-MEDIUM BROOM FINISH.

N.T.S

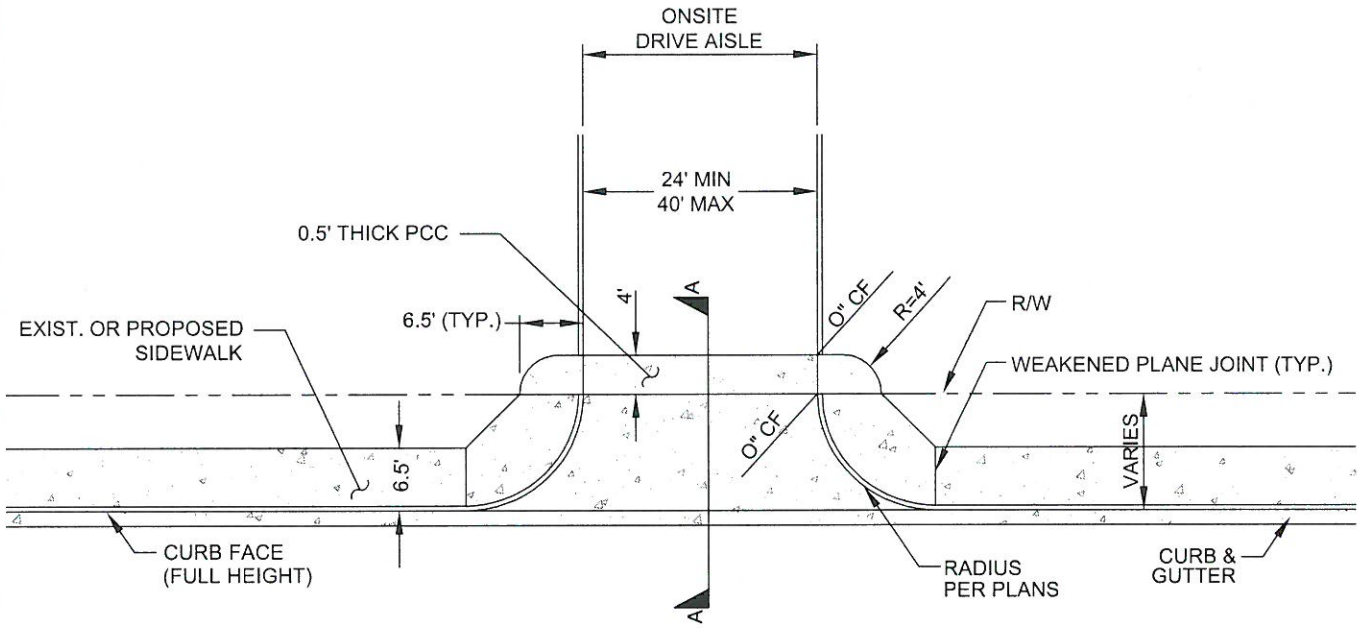
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

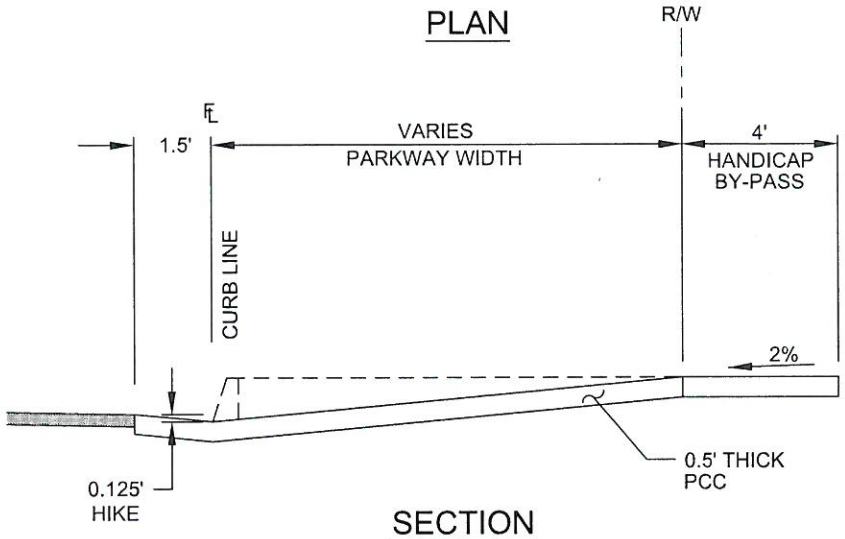
CITY OF HIGHLAND

COMMERCIAL DRIVEWAY APPROACH WITH SIDEWALK

Standard Drawing No. 212



PLAN



SECTION

NOTES:

1. WEAKENED PLANE JOINTS SHALL BE EQUALLY SPACED AT 10' O.C. MAXIMUM. THEY SHALL BE ¾" DEEP AND SHALL BE PLACED PRIOR TO LOSS OF FREE WATER.
2. THE 4' -WIDE HANDICAP BY-PASS SHALL BE FREE OF OBSTRUCTIONS AND SHALL SLOPE NO MORE THAN 2%.
3. CONCRETE APPROACH SHALL BE CONCRETE CLASS 'B' (520-C-2500) UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

N.T.S

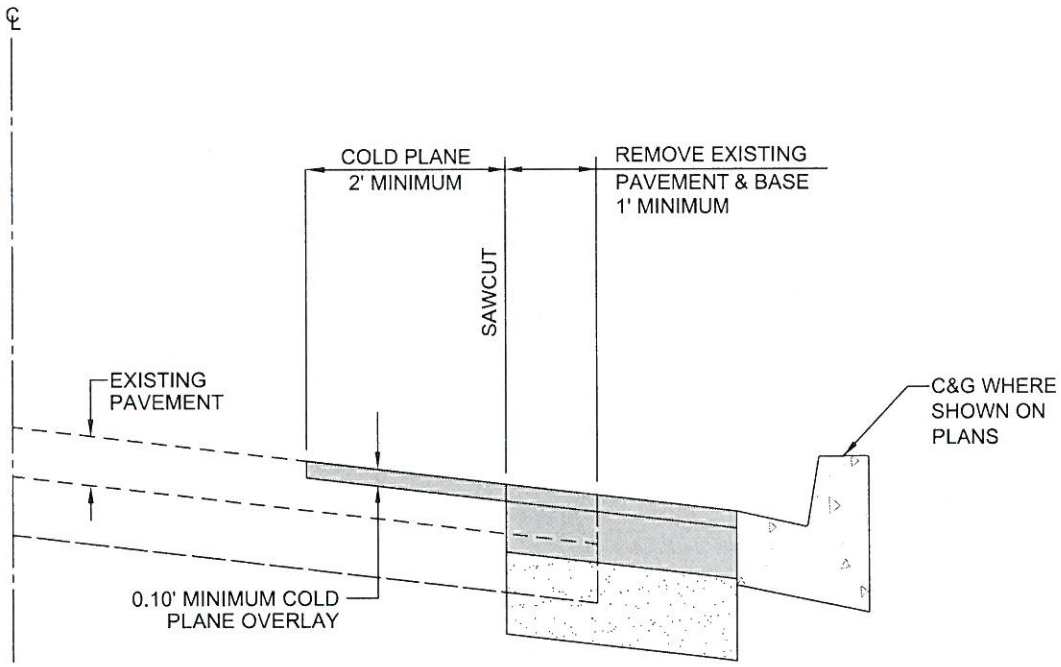
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

COMMERCIAL DRIVE APPROACH WITH CURB RETURNS

Standard Drawing No. 213



TYPICAL PAVEMENT JOIN DETAIL

NOTE:
SEE TYPICAL SECTION & PLANS FOR SPECIFIC CONSTRUCTION NOTES.

N.T.S

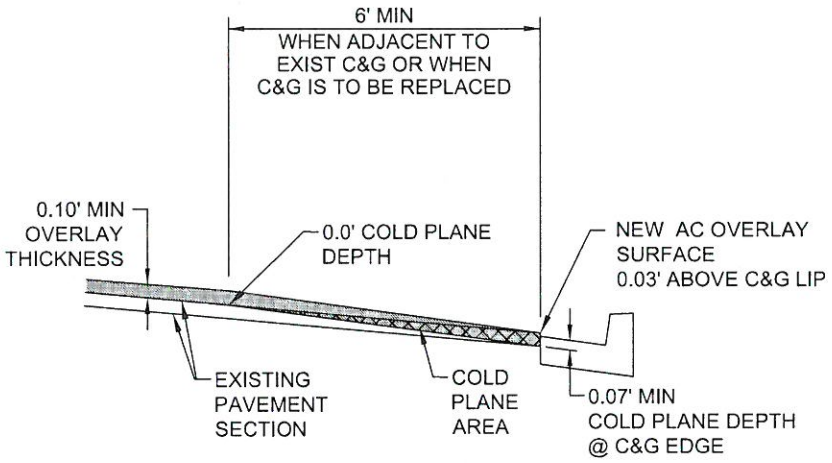
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

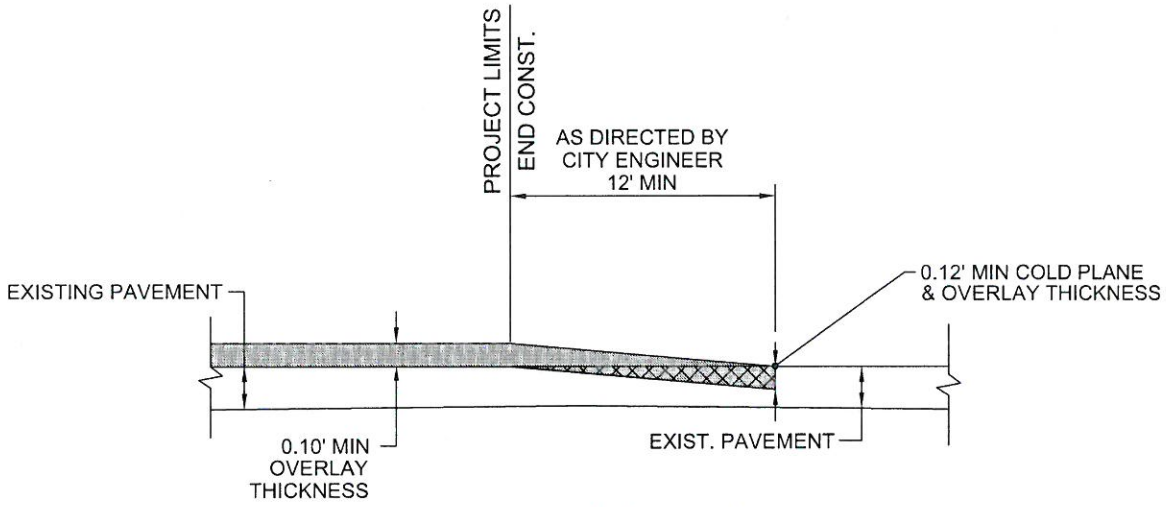
CITY OF HIGHLAND

TYPICAL PAVEMENT
JOIN DETAIL

Standard Drawing No.
214



(CROSS-SECTION)
COLD PLANE DETAIL



(LONGITUDINAL)
COLD PLANE DETAIL

Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 8-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

COLD PLANE

Standard Drawing No. 215

SIGN UNIT -SHALL BE CONSTRUCTED OF 0.090" THICK 5052H38 ANODIZED ALUMINUM. SIGN BLADES SHALL BE CONSTRUCTED TO THE DIMENSIONS OF 18" - 30" LONG AND FREE OF SHARP EDGES AND DENTS.

SHEETING -ALL SIGN BLADES SHALL HAVE 3M HI-INTENSITY GRADE REFLECTIVE SHEETING. THERE SHALL BE NO SPLICES. THE BLADES SHALL HAVE GREEN BACKGROUND 800 SERIES INK WITH SILVER MARGIN ¼" IN WIDTH AND ADJACENT ORANGE BORDER ½" IN WIDTH. LETTERS AND BLOCK NUMBERS SHALL BE SILVER HI-INTENSITY. THE FONT TYPE OF THE LETTERS AND BLOCK NUMBERS SHALL BE" TIMES NEW ROMAN". THE LEAVES IN THE ORANGE CLUSTER LOGO SHALL BE GREEN WITH SILVER EDGING. ORANGES SHALL BE 3M ORANGE 800 SERIES INK. ALL SIGN SURFACES SHALL HAVE A 1160 SERIES CLEAR COAT FINISH.

BRACKET -SIGN MOUNTING BRACKET SHALL BE CANTILEVER ARM SUPPORT WITH TWO (2) BAND-IT ¾" STAINLESS STEEL STRAPS SECURED TO THE POLE. EACH SIGN BLADE SHALL BE MOUNTED TO BRACKET (CANTILEVER ARM SUPPORT) WITH VANDAL-PROOF PINHEAD ALLEN SCREWS.

SIGN POST -SIGN POSTS SHALL BE 2" X 2" X 10' WITHOUT STOP SIGN OR 12' WITH STOP SIGN MOUNTED ON SAME POST. POST SHALL BE INSTALLED INTO GROUND WITH 2-1/4" X 2-1/4"X 30" ANCHOR, C.C.S.S. TYPE. ATTACH POST AND ANCHOR WITH TWO (2) DRIVE RIVETS.

THERE SHALL BE A CLEARANCE OF 7' BETWEEN FINISHED GRADE AND BOTTOM OF LOWER SIGN. ANCHOR SHALL EXTEND NO MORE THAN 3" ABOVE FINISHED GRADE.

Mark	Revision	By	Date
△			

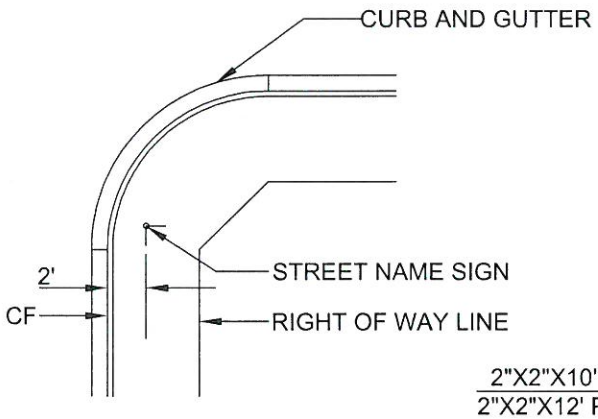
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

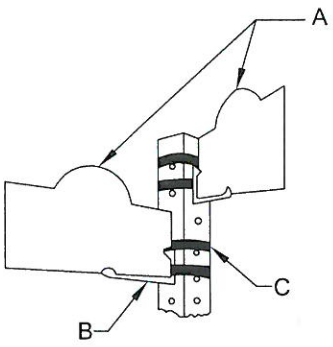
CITY OF HIGHLAND

STREET NAME SIGN

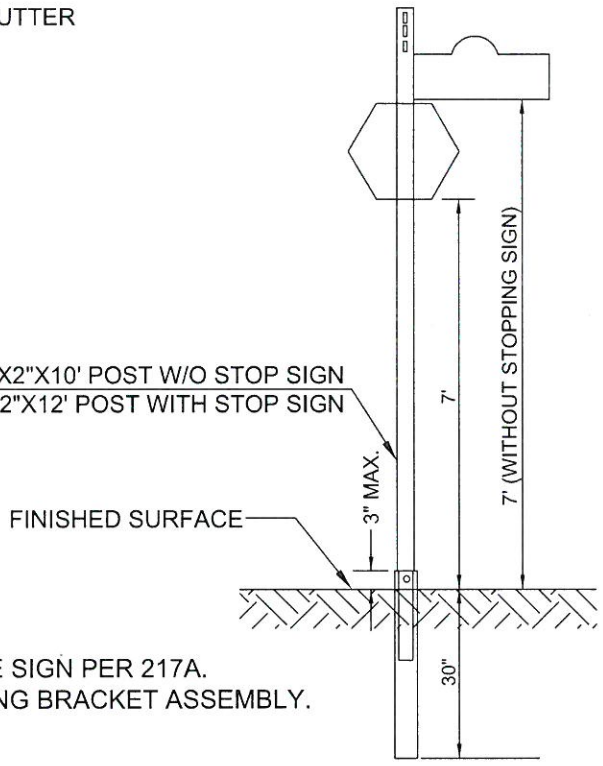
Standard Drawing No. 217A



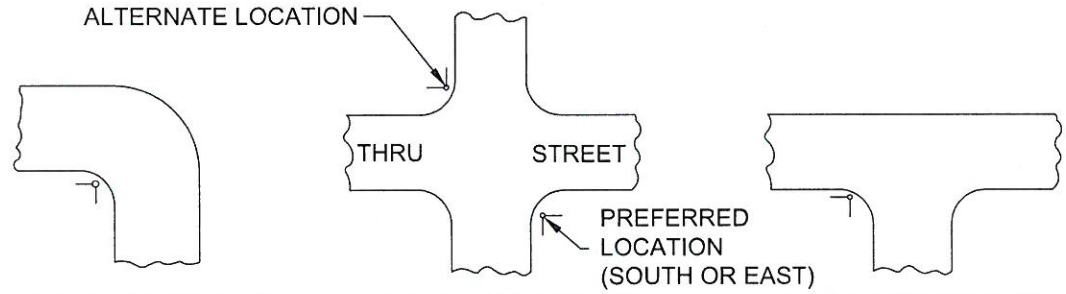
PLAN



A. STREET NAME SIGN PER 217A.
B. SIGN MOUNTING BRACKET ASSEMBLY.
C. SIGN POST.



ELEVATION



L INTERSECTION X INTERSECTION T INTERSECTION

STREET NAME SIGN

NOTES:

1. SIGN TO BE SET WITHIN CITY RIGHT OF WAY.
2. LOCATION OF SIGN SHOWN IS APPROXIMATE.
3. SIGN TO BE VISIBLE FOR A DISTANCE OF 150' FEET.
4. IF EITHER ROAD IS DIVIDED INTO 4 LANES OR MORE, ADDITIONAL SIGNS MAY BE REQUIRED.
5. SIGN TO BE ON STREET LIGHT IF LOCATED AT INTERSECTION.

N.T.S.

Mark	Revision	By	Date
△			

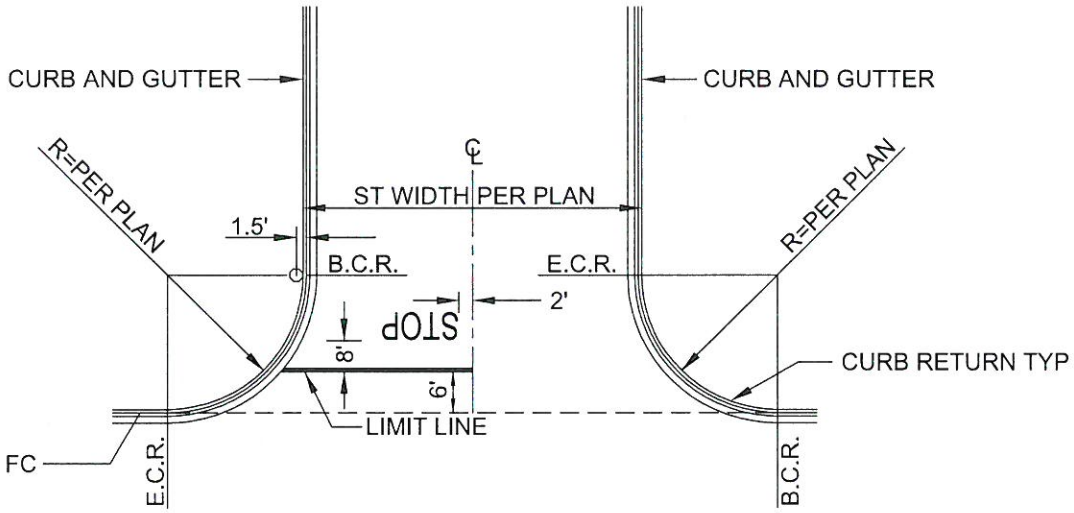
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

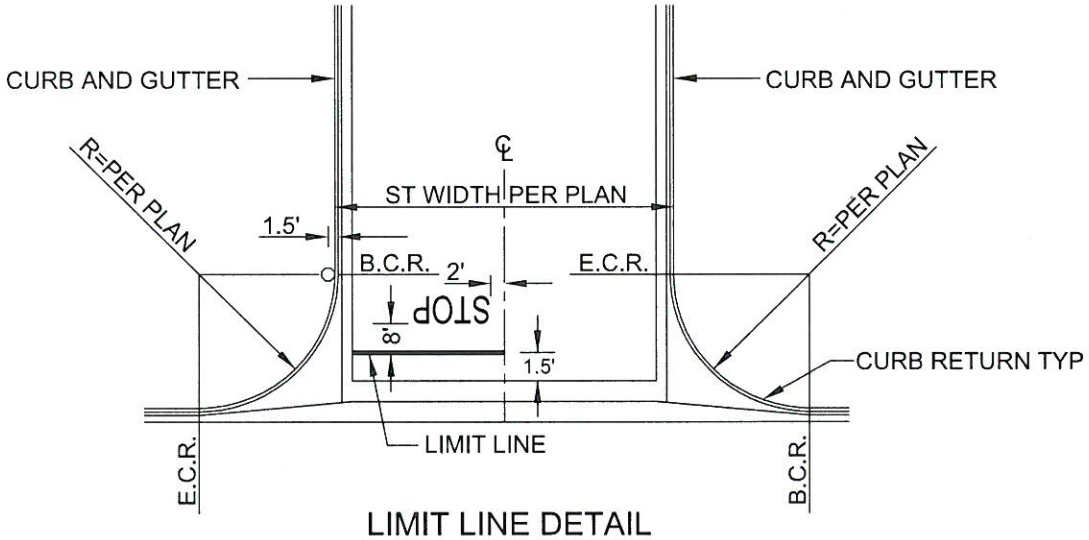
CITY OF HIGHLAND

STREET NAME SIGN

Standard Drawing No. 217B



LIMIT LINE DETAIL
NO X GUTTER



LIMIT LINE DETAIL
WITH X GUTTER

NOTE:
REFER TO CALTRANS STD A24D FOR ADDITIONAL CONSTRUCTION SPECIFICATIONS.

N.T.S

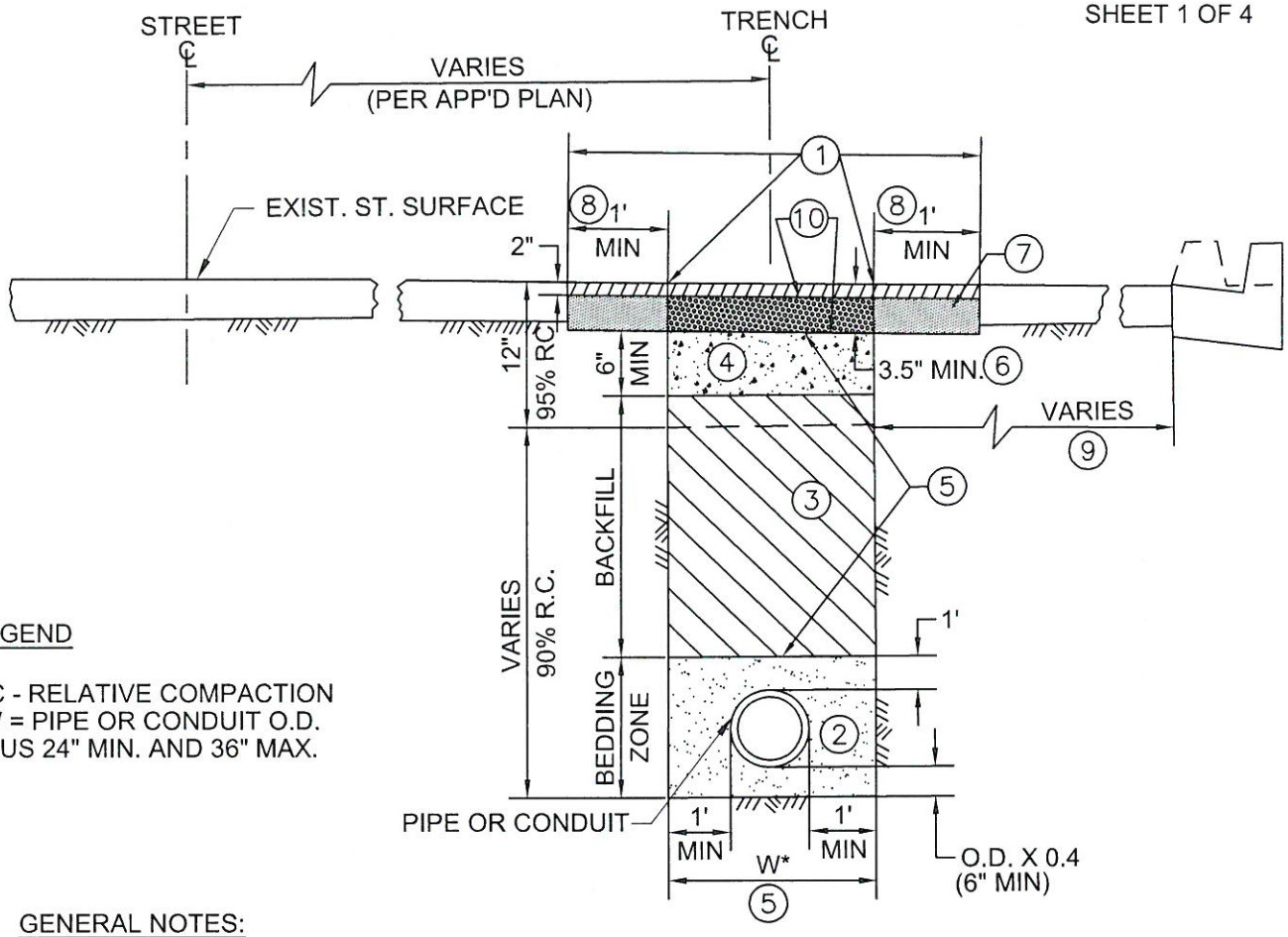
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

STOP SIGN, LEGEND AND LIMIT LINE

Standard Drawing No. 218



LEGEND

RC - RELATIVE COMPACTION
*W = PIPE OR CONDUIT O.D. PLUS 24" MIN. AND 36" MAX.

GENERAL NOTES:

NO EXCAVATIONS NOR STREET CUTS WILL BE PERMITTED WITHIN ANY STREET WHICH HAS BEEN CONSTRUCTED, RE-CONSTRUCTED, PAVED OR RESURFACED IN THE PREVIOUS 3 YEARS AFTER THE COMPLETION OF SAID WORK AS DETERMINED BY THE CITY.

CONSTRUCTION NOTES:

(1) TRENCH EDGES, WITHIN EXISTING STREET PAVEMENT, SHALL BE SAWCUT OR COLD PLANED TO NEAT, STRAIGHT, VERTICAL LINES, AND ALL EDGES OF EXISTING PAVEMENT AND/OR P.C.C. SURFACES BEING JOINED BY AN AC INLAY OR OVERLAY, SHALL RECEIVE A TACK COAT OF ASPHALT EMULSION, PRIOR TO PLACEMENT OF PERMANENT A.C. PAVING.

(2) BEDDING IS THE AREA OR "ZONE" WHICH SUPPORTS, SURROUNDS AND IMMEDIATELY COVERS THE UNDERGROUND PIPE OR CONDUIT. SEE DRAWING ABOVE FOR BEDDING AREA DIMENSIONS. BEDDING MATERIAL MAY CONSIST OF SAND, GRAVEL, CRUSHED ROCK OR CRUSHED MISCELLANEOUS BASE, HAVING A SAND EQUIVALENT OF NOT LESS THAN 30. MATERIAL, PLACEMENT AND COMPACTION OF BEDDING SHALL BE IN ACCORDANCE WITH SECTION 306.1.2.1 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS, (GREENBOOK) LATEST EDITION, AND/OR THE REQUIREMENTS OF THE UTILITY/AGENCY WHICH OWNS AND MAINTAINS THE PIPE/CONDUIT BEING INSTALLED.

N.T.S

Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

STREET CUT TRENCH REPAIR DETAIL (NTS)

Standard Drawing No. 220A

CONSTRUCTION NOTES (CONTINUED)

(3) REQUIREMENTS FOR PLACEMENT, MATERIAL AND COMPACTION OF TRENCH BACKFILL, SHALL BE IN ACCORDANCE WITH SECTION 306.1.3 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS, (GREENBOOK) LATEST EDITION. ROCKS GREATER THAN 6" IN ANY DIMENSION, SHALL NOT BE PERMITTED IN THE TRENCH BACKFILL BETWEEN 1 FOOT ABOVE THE TOP OF PIPE OR CONDUIT AND 1 FOOT BELOW THE STREET PAVEMENT SUB-GRADE. ROCKS GREATER THAN 2.5" IN ANY DIMENSION, SHALL NOT BE PERMITTED IN TRENCH BACKFILL PLACED WITHIN 1 FOOT OF THE STREET PAVEMENT SUBGRADE. COMPACTION TESTS OF TRENCH BACKFILL SHALL BE PERFORMED BY A SOILS LABORATORY HIRED BY THE APPLICANT. (SEE ALSO NOTE 5).

(4) BASE MATERIAL SHALL BE PLACED AND COMPACTED AS SHOWN ON THE DRAWING, AND SHALL BE CLASS II AGGREGATE OR CRUSHED MISCELLANEOUS BASE, IN ACCORDANCE WITH SECTION 200-2 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS, (GREENBOOK) LATEST EDITION, AND SHALL HAVE A THICKNESS OF 6" MINIMUM OR MATCH EXISTING THICKNESS IF MORE THAN 6".

(5) TRENCHES IN PAVED AREAS HAVING A WIDTH OF 12" OR LESS, SHALL BE BACKFILLED WITH 1 ½ SACK CEMENT SLURRY. THE SLURRY SHALL BE PROTECTED AND THE CURING TIME SHALL BE A MINIMUM OF 24 HOURS PRIOR TO PLACING FINAL A.C. PAVEMENT. (CONTRACTOR MAY USE CEMENT SLURRY, AS DESCRIBED HEREIN, AS AN OPTION FOR BACKFILL MATERIAL FOR ALL TRENCHES, UNLESS PROHIBITED BY THE UTILITY COMPANY/AGENCY WHO OWNS THE PIPE AND/OR CONDUIT BEING INSTALLED).

(6) TOTAL PERMANENT A.C. THICKNESS FOR TRENCH REPAIR SHALL BE 1" GREATER THAN THE EXISTING A.C. THICKNESS WITH A MINIMUM THICKNESS OF 3 ½" AND A MAXIMUM THICKNESS OF 6".

(7) IF THE EXISTING AC THICKNESS IS 3" OR LESS AND/OR THE TRENCH WIDTH IS BETWEEN 12" AND 24", THEN THE FULL PERMANENT AC REPAIR AS DESCRIBED IN CONSTRUCTION NOTE 6 SHALL BE EXTENDED TO 1' OUTSIDE OF EACH EDGE OF THE TRENCH AS SHOWN.

(8) GRIND EXISTING AC 1' MINIMUM OUTSIDE OF EACH EDGE OF THE TRENCH AT A DEPTH OF 2", INLAY SAID AREA WITH 2" OF AC, FLUSH WITH EXISTING ADJACENT AC SURFACE.

(9) IF EXISTING CURB AND GUTTER LIP, EP, AC BERM, ETC., IS WITHIN 4' OF THE EDGE OF TRENCH, REMOVE EXISTING AC WITHIN THIS AREA AND INCLUDE IN REPAIR AS DESCRIBED IN CONSTRUCTION NOTES 7 OR 8.

(10) BASE PAVING OF TRENCHES SHALL BE PLACED IN COMPACTED LIFTS HAVING A MAXIMUM THICKNESS OF 3", AND THE AC MATERIAL SHALL BE B-PG 64-10 (3/4"). FINISH COURSE SHALL BE 2" THICK AND THE AC MATERIAL SHALL BE C2-PG 64-10 (½") AND SHALL BE COMPACTED FLUSH WITH THE EXISTING STREET SURFACE AND SHALL BE PLACED NO LATER THAN 15 CALENDAR DAYS AFTER A.C. BASE PAVEMENT PLACEMENT. TRENCH SECTIONS OVER 6' IN WIDTH SHALL UTILIZE A SELF PROPELLED, VIBRATING SCREED PAVING MACHINE (BARBER GREEN OR EQUIVALENT).

N.T.S

Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

STREET CUT TRENCH REPAIR DETAIL (NTS)

Standard Drawing No. 220A

CONSTRUCTION NOTES (CONTINUED)

(11) EXCESSIVE PAVEMENT REMOVAL: REGARDLESS OF THE TRENCH METHOD USED, REMOVAL OF SIX OR MORE SEPARATE AREAS OF PAVEMENT OR THE REMOVAL OF 15% OF THE TOTAL AREA OF A LANE OR SHOULDER BY A PERMITTEE WITHIN A 300 FOOT LENGTH OF STREET, SHALL REQUIRE AN OVERLAY OR RECONSTRUCTION DEPENDING UPON THE AGE OF LAST SURFACE IMPROVEMENT AND ROADWAY WIDTH PER NOTE 12, AND THE ATTACHED TRENCH OVERLAY DRAWING.

(12) A.C. OVERLAY PAVING: WHEN THE T-CUT OR T-GRIND OPTIONS ARE USED TO REPAIR OR RESTORE PAVEMENT REMOVAL TO 300 FEET OR LONGER, AN OVERLAY MAY NOT BE REQUIRED UNLESS THE STREET HAS BEEN PAVED WITHIN THREE YEARS OR FALLS WITHIN THE CRITERIA OF NOTE 11. WHEN THE NON T-CUT/T-GRIND TRENCH IS USED TO REPAIR OR RESTORE PAVEMENT REMOVALS OF 300 FEET OR LONGER, AN A.C. OVERLAY SHALL BE REQUIRED PER THE ATTACHED OVERLAY DRAWING. THE DETERMINATION OF THE A.C. OVERLAY SHALL BE MADE BY THE CITY'S ENGINEERING DEPARTMENT AT THE PRECONSTRUCTION MEETING OR PRIOR TO THE ISSUANCE OF THE PERMIT. THE A.C. OVERLAY, WHEN REQUIRED, SHALL BE A MINIMUM OF 1" THICK AND THE A.C. MATERIAL SHALL BE ½" C2-PG 64-10, PLACED WITH A PAVING MACHINE PER NOTE 10, ABOVE AND SHALL EXTEND BEYOND PAVEMENT REMOVAL A MINIMUM OF 1-FOOT LATERALLY AND 5-FEET LONGITUDINALLY AND SHALL COVER THE DRIVING OR SHOULDER FULL WIDTH.

N.T.S

Mark	Revision	By	Date
△			

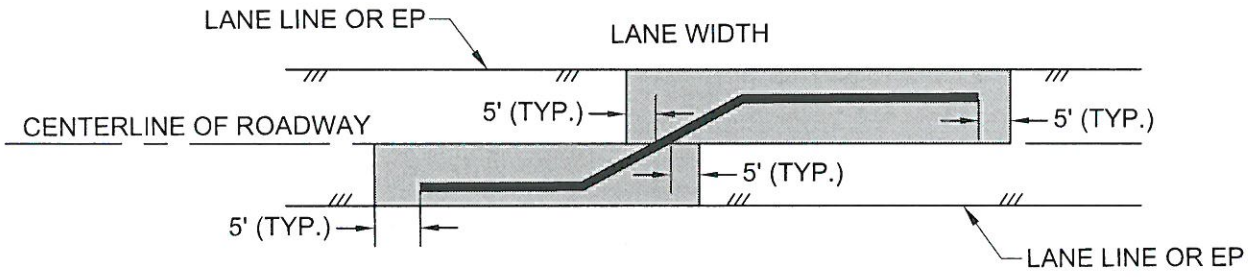
Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

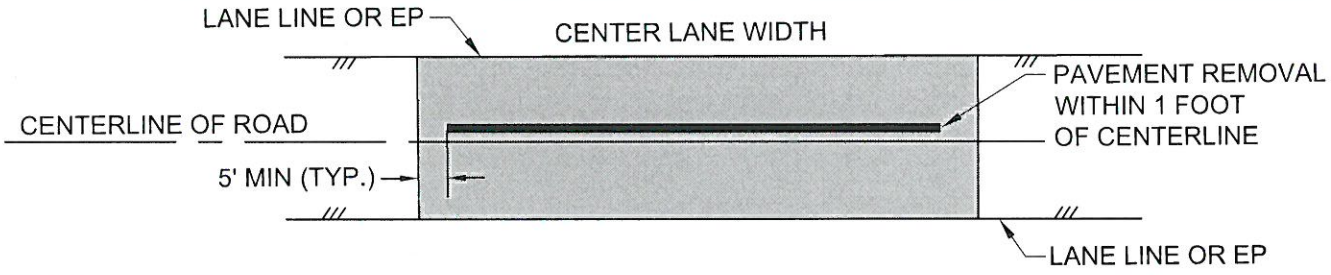
CITY OF HIGHLAND

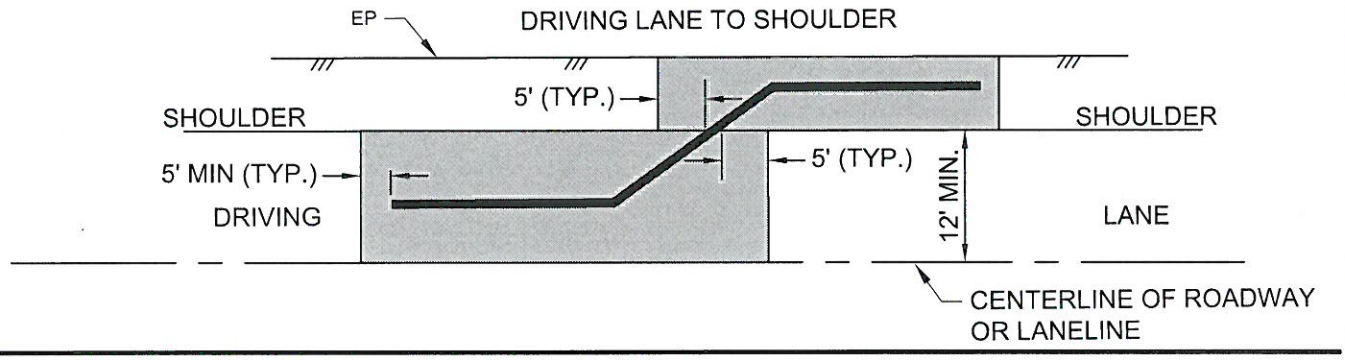
STREET CUT TRENCH REPAIR DETAIL (NTS)

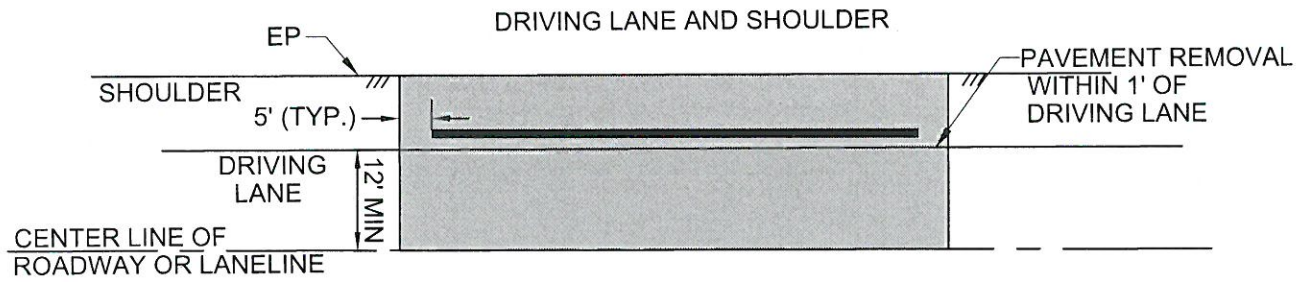
Standard Drawing No. 220A

TRENCH OVERLAY DETAIL









NOTE: OVERLAY TO EXTEND BEYOND TRENCH A MINIMUM 5' LONGITUDINALLY.
PAVING JOINTS SHALL BE AT THE EDGES OF THE DRIVING LANES OR SHOULDERS.

LEGEND: TRENCH OVERLAY

N.T.S

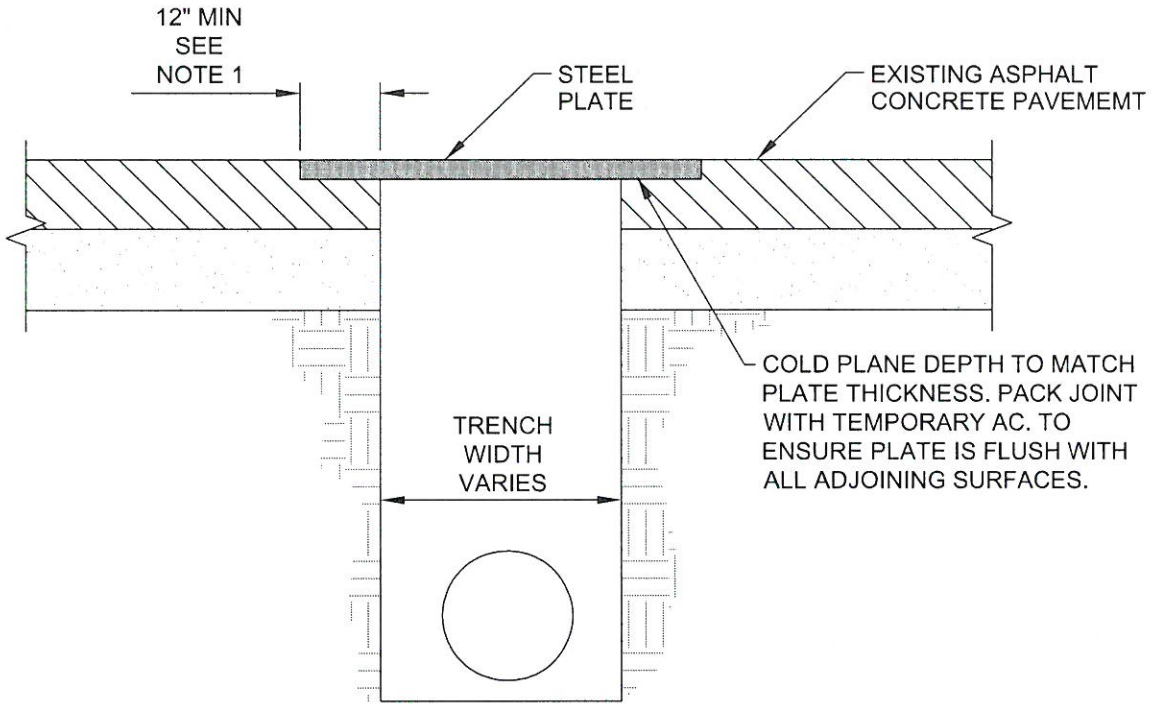
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

STREET CUT TRENCH REPAIR DETAIL (NTS)

Standard Drawing No. 220A



TYPICAL TRENCH PLATE DETAIL

NOTES:

1. TRENCH WALLS AND ADJACENT SOILS SHALL BE SUFFICIENTLY STABLE FOR THE USE OF THE ABOVE PLATE
2. THE CONTRACTOR SHALL PROVIDE A MINIMUM 12" LAP OF STEEL PLATE ON EACH SIDE OF TRENCH TO ASSURE NO SLIPPING OF PLATE OR COLLAPSING OF TRENCH WALL. WHERE 12" LAP CANNOT BE MET, ENGINEERING DESIGN IS REQUIRED AND SHALL BE APPROVED BY THE CITY ENGINEER.
3. STEEL PLATE MUST FIT SNUG WITHIN THE RECESSED AREA AND INSTALLED TO OPERATE WITH MINIMUM NOISE. PLATES SHALL BE FREE FROM WARPING OR DISFIGUREMENT SO THAT ALL EDGES ARE RECESSED WITHOUT FORMING A LIP NO ANY EDGES
4. THE PAVEMENT SHALL BE COLD PLANED TO A DEPTH EQUAL TO THE THICKNESS OF THE PLATE, AND TO WIDTH AND LENGTH EQUAL TO THE DIMENSIONS OF THE PLATE.
5. THIS STANDARD SHALL BE IMPLEMENTED ON ALL PROJECTS WITHIN VEHICULAR TRAVELWAY UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
6. MULTIPLE PLATES MUST BE TACK WELDED TO SECURE PLATES.
7. ALL PLATES MUST MEET REQUIRED TRAFFIC LOADS, AND BE SKID RESISTANT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE APPROPRIATE SELECTION AND MAINTENANCE OF THE STEEL PLATES.
8. STEEL PLATES MUST BE REMOVED AND PERMANENT PAVEMENT SHALL BE PLACED WITHIN FIFTEEN (15) WORKING DAYS OR AS APPROVED BY THE CITY ENGINEER.
9. THE CONTRACTOR SHALL PLACE "STEEL PLATES AHEAD" SIGNS.

N.T.S

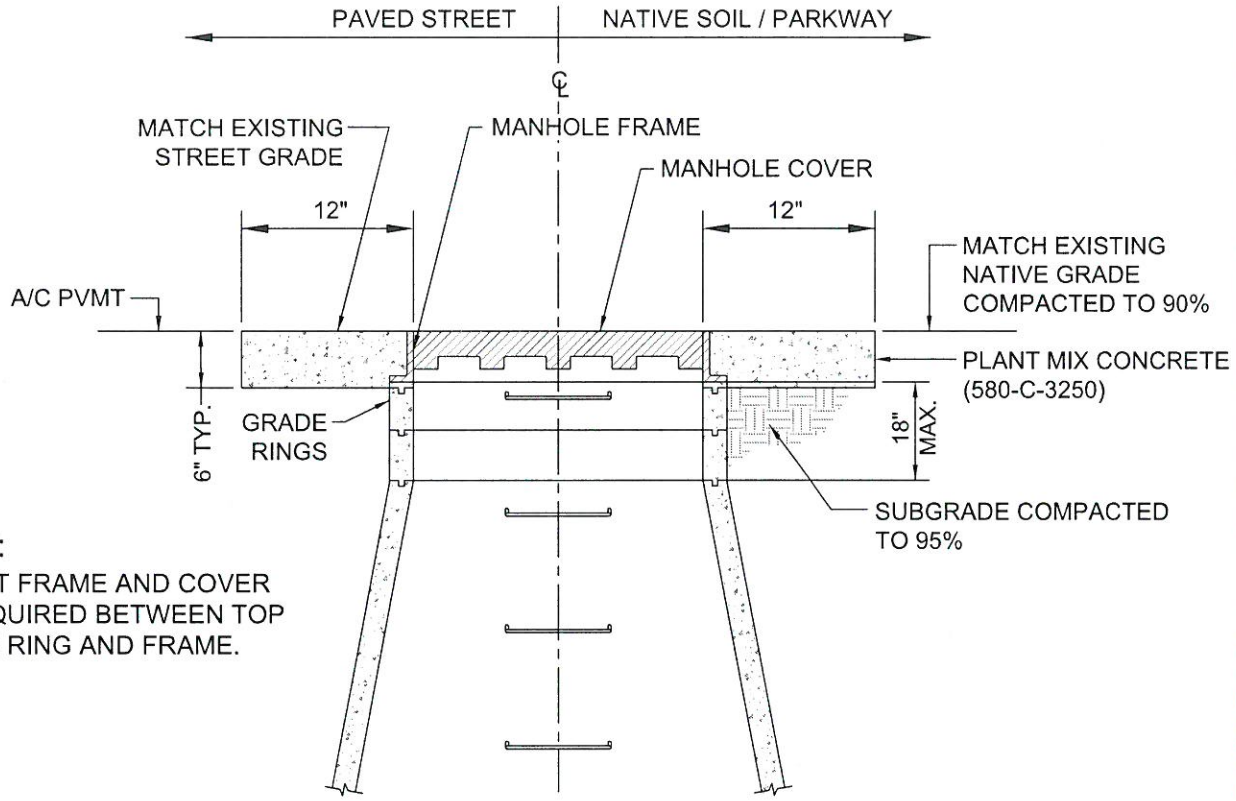
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

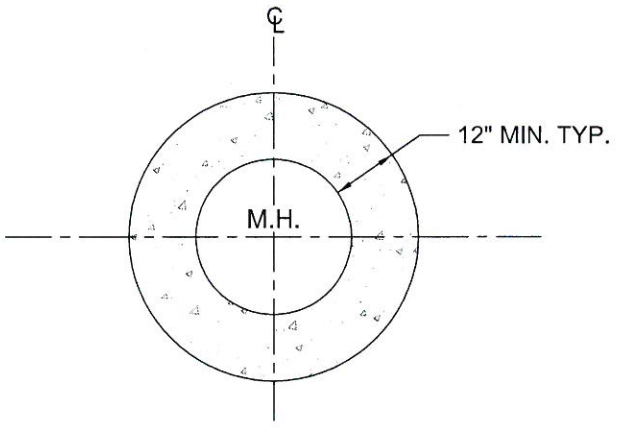
RECESSED TRENCH PLATE DETAIL

Standard Drawing No. 220B



NOTE:
ADJUST FRAME AND COVER AS REQUIRED BETWEEN TOP GRADE RING AND FRAME.

SECTION VIEW



TOP VIEW

N.T.S

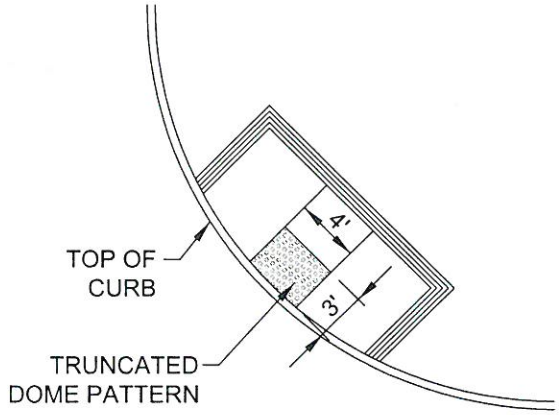
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

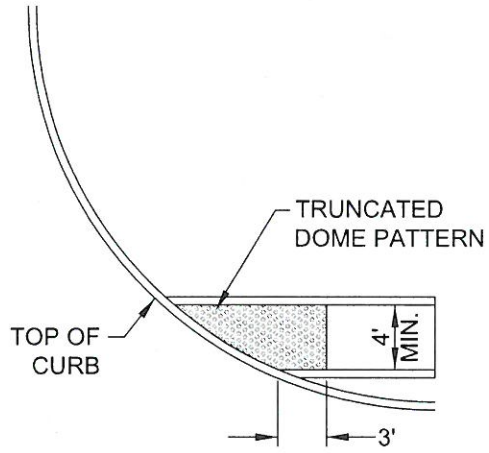
CITY OF HIGHLAND

STORM DRAIN MANHOLE AT GRADE DETAIL

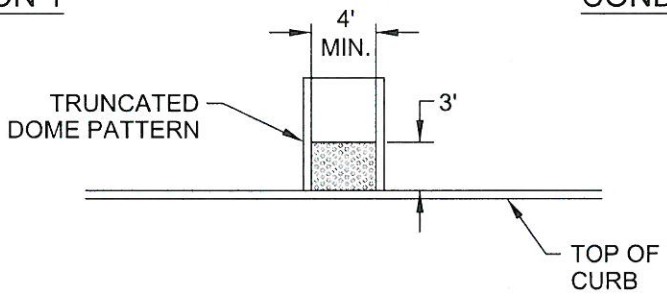
Standard Drawing No. 221



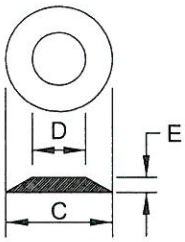
CONDITION 1



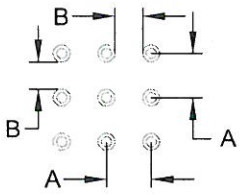
CONDITION 2



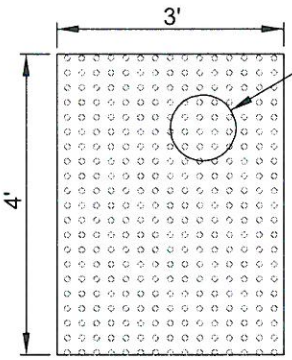
CONDITION 3



SINGLE "TRUNCATED DOME"



"TRUNCATED DOME" PATTERN



DETECTABLE WARING SURFACE

DIM.	ADA REQUIREMENT
A	1.6" TO 2.4"
B	0.65" MINIMUM
C	0.9" TO 1.4"
D	50-60% OF "C"
E	0.2"

N.T.S.

Mark	Revision	By	Date
△			

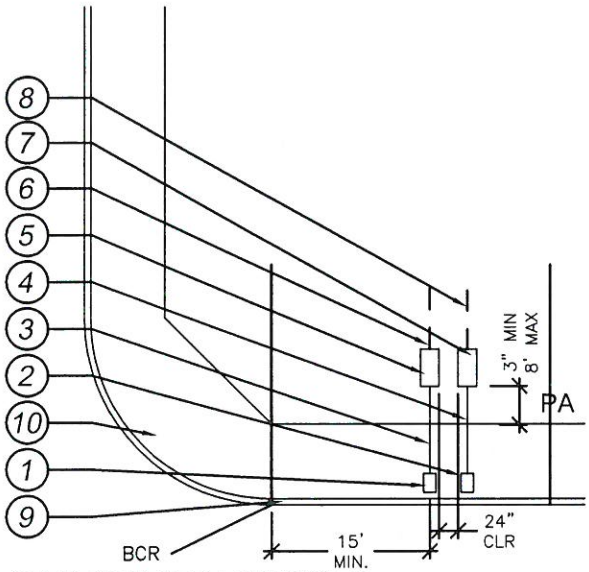
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

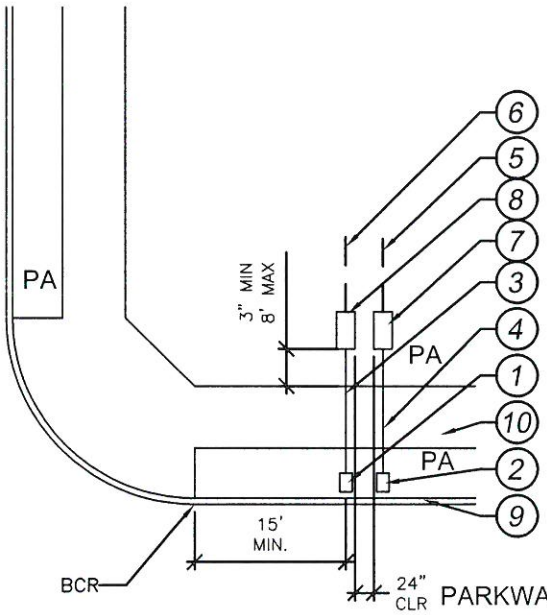
CITY OF HIGHLAND

TRUNCATED DOMES

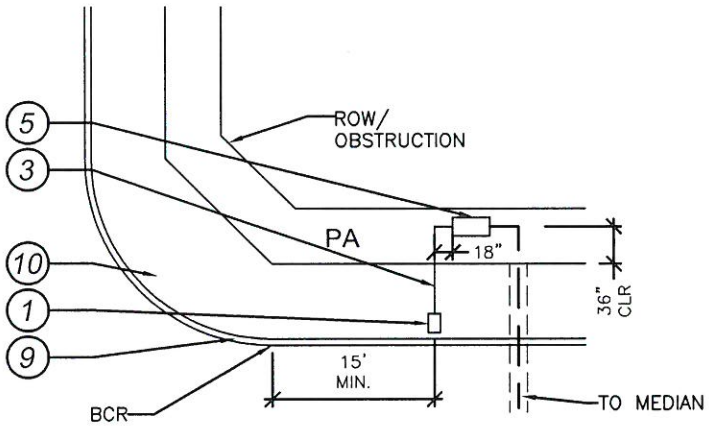
Standard Drawing No. 223



CURB ADJACENT SIDEWALK



PARKWAY



LIMITED LANDSCAPE AREA
AND/OR MEDIAN

1. IRRIGATION WATER METER PER EVWD STANDARDS
2. DOMESTIC WATER METER PER EVWD STANDARDS
3. IRRIGATION WATER MAIN FROM METER PER STANDARD DETAILS
4. DOMESTIC WATER FROM METER
5. IRRIGATION BACKFLOW PREVENTER
6. IRRIGATION MAINLINE SUPPLY TO SYSTEM
7. DOMESTIC BACKFLOW PREVENTER
8. DOMESTIC WATER LINE
9. STREET CURB
10. SIDEWALK

PA =PLANTER AREA

N.T.S

Mark	Revision	By	Date
△			

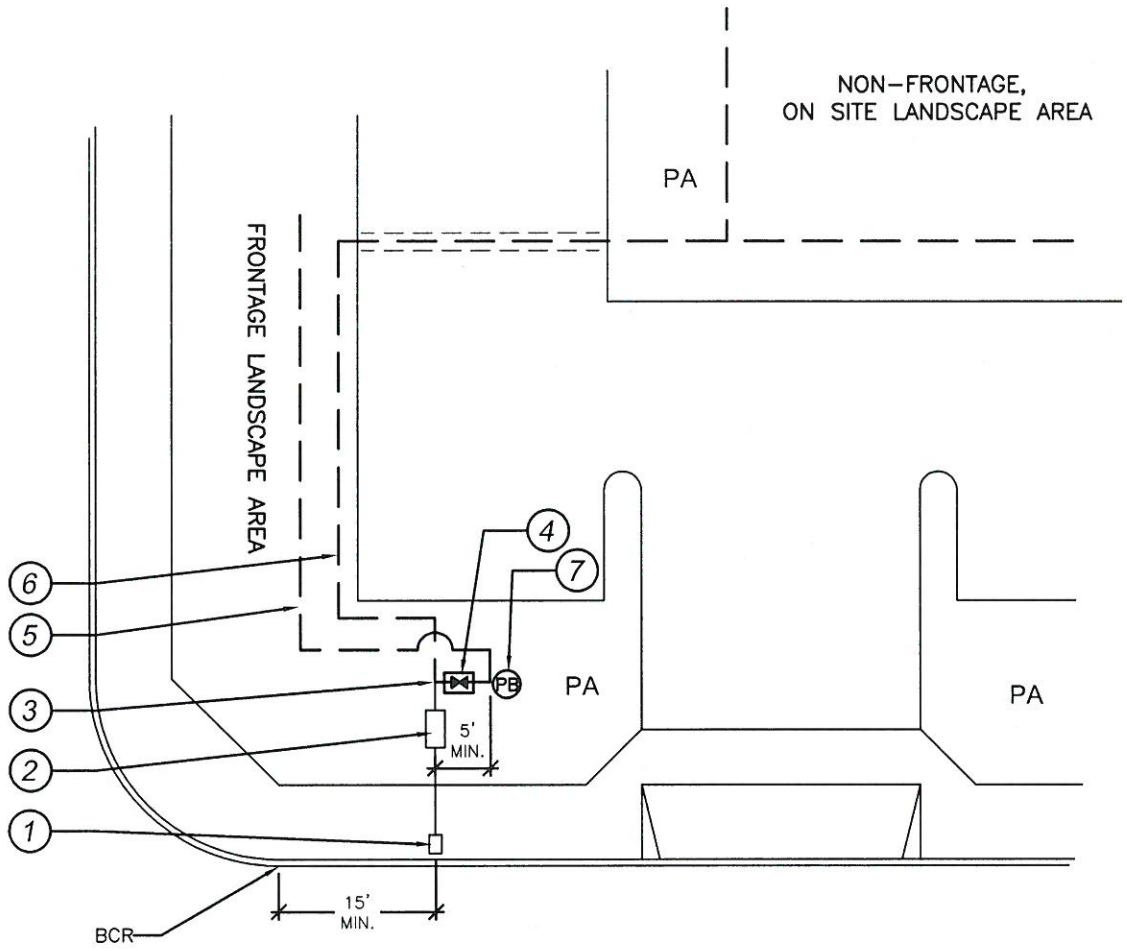
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

IRRIGATION METER CONNECTION

Standard Drawing No. 401



1. IRRIGATION WATER METER PER CITY STANDARD DETAIL 401
2. LANDSCAPE BACKFLOW PREVENTER PER CITY STANDARD DETAIL 401
3. BRANCH IRRIGATION MAINLINE TO SERVE ALL FRONTAGE AREAS SEPARATE FROM ON-SITE LANDSCAPE AREAS.
4. PROVIDE LINE-SIZED BALL VALVE WITHIN VALVE BOX TO ISOLATE FRONTAGE LANDSCAPE IRRIGATION MAINLINE FROM ON-SITE LANDSCAPE IRRIGATION MAINLINE; IN THE EVENT OF THE FUTURE NEED TO ISOLATE THE SHELL LMD FRONTAGE AREA FROM THE REMAINDER OF THE ON-SITE IRRIGATION, FUTURE CONNECTION TO FUTURE SEPARATE FRONTAGE WATER METER TO BE PARALLEL TO AND 5' CLEAR OF ON-SITE WATER METER.
5. FRONTAGE AREA IRRIGATION MAINLINE BRANCH PER PLAN
6. ON-SITE IRRIGATION MAINLINE PER PLAN
7. RUN AND LOOP ALL IRRIGATION CONTROL WIRES SERVING FRONTAGE AREA VALVES TO A PULL BOX LOCATED ADJACENT TO MAINLINE ISOLATION AREA (CALLOUT 4 ABOVE); THIS LOCATION WILL SERVE AS A SPLICE POINT FOR FUTURE SEPARATE IRRIGATION CONTROLLER FOR FRONTAGE-ONLY AREAS IF NECESSARY.

PA =PLANTER AREA

N.T.S

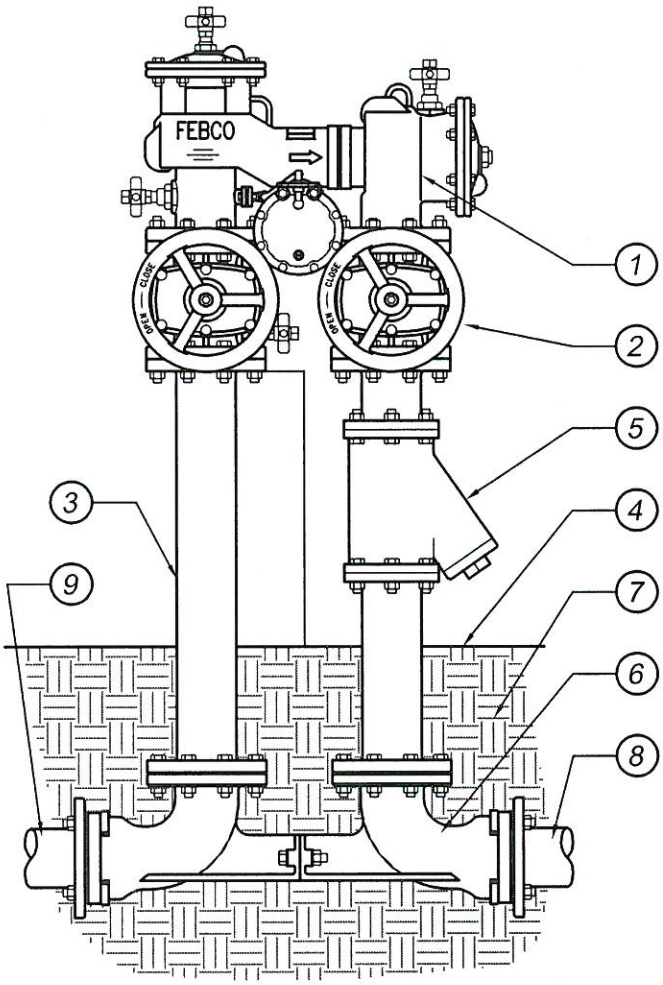
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

IRRIGATION METER AT SHELL LMD

Standard Drawing No. 401a



1. FEBCO 880 SERIES REDUCED PRESSURE BACKFLOW PRE– VENTER (SIZE PER PLAN)
2. SHUT–OFF VALVE AS SUPPLIED BY MANUFACTURER WITH R/P DEVICE
3. FLANGED CAST IRON NIPPLE LENGTH AS REQUIRED
4. FINISH GRADE
5. WYE STRAINER AS SUPPLIED BY MANUFACTURER
6. 'VALVE SETTER' BY FEBCO – SIZE PER R/P DEVICE, CONNECTION TYPES AS NECESSARY
7. NATIVE SOIL – COMPACT AS NECESSARY
8. MAINLINE FROM POC – ADAPT AS NECESSARY
9. MAINLINE TO SYSTEM – ADAPT AS NECESSARY

* 20" MIN., 36" MAX. OR AS REQUIRED TO ACCESS STRAINER

NOTE: INSTALL BACKFLOW PREVENTER AS REQUIRED BY LOCAL CODES, HEALTH DEPARTMENT STANDARDS, AND MANUFACTURER'S DIRECTIONS. CONTRACTOR SHALL VERIFY LOCAL REQUIREMENTS PRIOR TO INSTALLATION. FINAL BACKFLOW PREVENTER LOCATION TO BE DETER– MINED IN THE FIELD. WHERE POSSIBLE, SCREEN BACKFLOW DEVICE WITH SHRUBS.

N.T.S

Mark	Revision	By	Date
△			

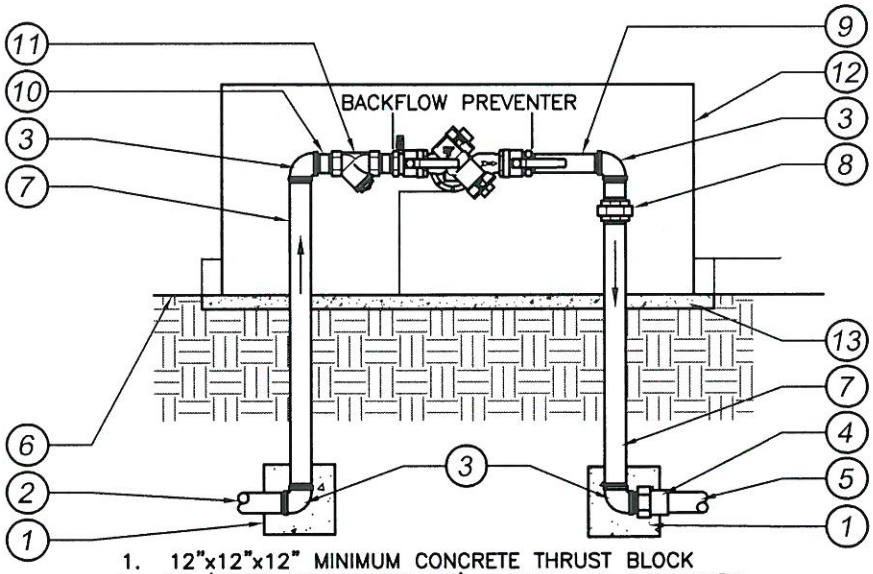
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

BACKFLOW PREVENTER 2-1/2" +

Standard Drawing No. 402



1. 12"x12"x12" MINIMUM CONCRETE THRUST BLOCK
2. TO 'POINT OF CONNECTION' – ADAPT AS NECESSARY
3. BRASS 90 DEGREE ELL – TxT
4. PVC SCH 40 MALE ADAPTER – SIZE AS REQUIRED
5. PVC MAINLINE PER LEGEND – SIZE PER PLAN
6. FINISH GRADE
7. BRASS NIPPLE – TxT – LENGTH AS REQUIRED
8. BRASS UNION – SIZE AS REQUIRED
9. BRASS NIPPLE – TxT – 4" MINIMUM LENGTH
10. BRASS NIPPLE – TxT – 2" MINIMUM LENGTH (TYP. OF 2)
11. BRASS Y–STRAINER – 60 MESH SCREEN W/ HOSE BIB
12. VANDAL RESISTANT ENCLOSURE – MODEL PER LEGEND
    INSTALL PER MANUFACTURER'S REQUIREMENTS
13. INSTALL 4" CONCRETE PAD, EXTEND 6" PAST ENCLOSURE

* 12" MINIMUM, 30" MAXIMUM

NOTES:
INSTALL BACKFLOW PREVENTER PER LOCAL CODES, HEALTH DEPARTMENT STANDARDS, AND MANUFACTURER'S DIRECTIONS. VERIFY LOCAL REQUIREMENTS PRIOR TO INSTALLATION. WHERE BACKFLOW DEVICE SIZE IS SMALLER THAN MAINLINE, ENTIRE APPARATUS TO BE SIZE OF MAINLINE. BUSH DOWN ONLY AT THE BACKFLOW DEVICE. FINAL LOCATION OF DEVICE TO BE DETERMINED IN THE FIELD. BACKFLOW TO BE LOCATED IN PLANTER AREA AND SCREENED WITH SHRUBS AS POSSIBLE.

N.T.S

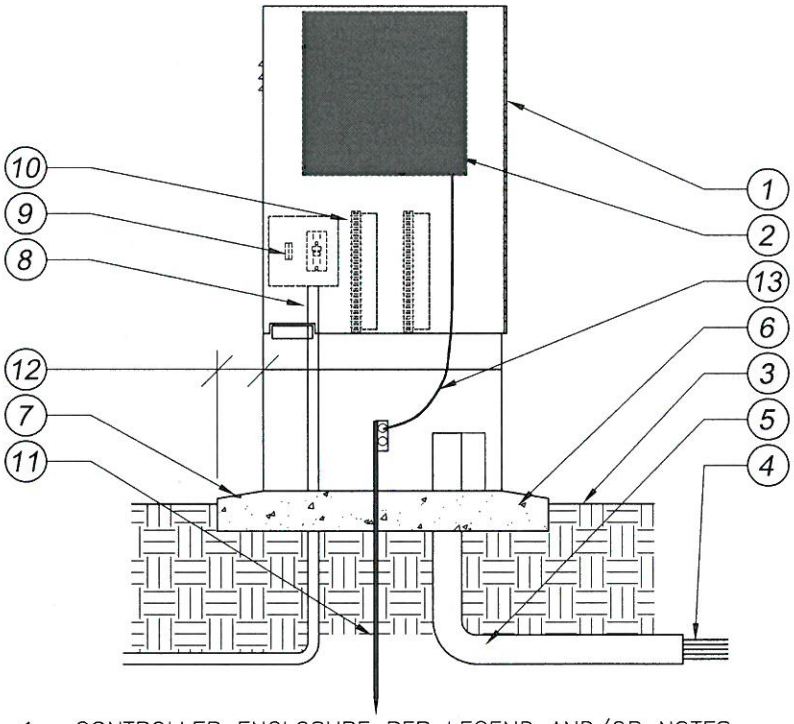
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

BACKFLOW PREVENTER W/ ENCLOSURE - 3/4" TO 2"

Standard Drawing No. 403



1. CONTROLLER ENCLOSURE PER LEGEND AND/OR NOTES
2. AUTOMATIC CONTROLLER PER LEGEND
3. FINISH GRADE
4. DIRECT BURIAL CONTROL WIRES TO VALVES
5. 3" PVC SWEEP ELL – EXTEND BEYOND EDGE OF BASE
6. 'QUICKPAD' ENCLOSURE MOUNTING PAD PER MFG'S SPECS
7. SLOPE EDGE OF BASE 1% TO DRAIN AWAY FROM ENCLOSURE
8. 120V AC POWER IN CONDUIT
9. 120V ON–OFF SWITCH WITH CONVENIENCE OUTLET
10. TERMINAL STRIPS FOR CONTROL WIRES
11. 5/8" x 5' MIN. LENGTH COPPER GROUNDING ROD
12. EXTEND EDGE OF BASE 6" BEYOND EDGE OF ENCLOSURE
13. GROUND CONTROLLER PER MANUFACTURER

* EXTEND 4" ABOVE TOP OF BASE

N.T.S

Mark	Revision	By	Date
△			

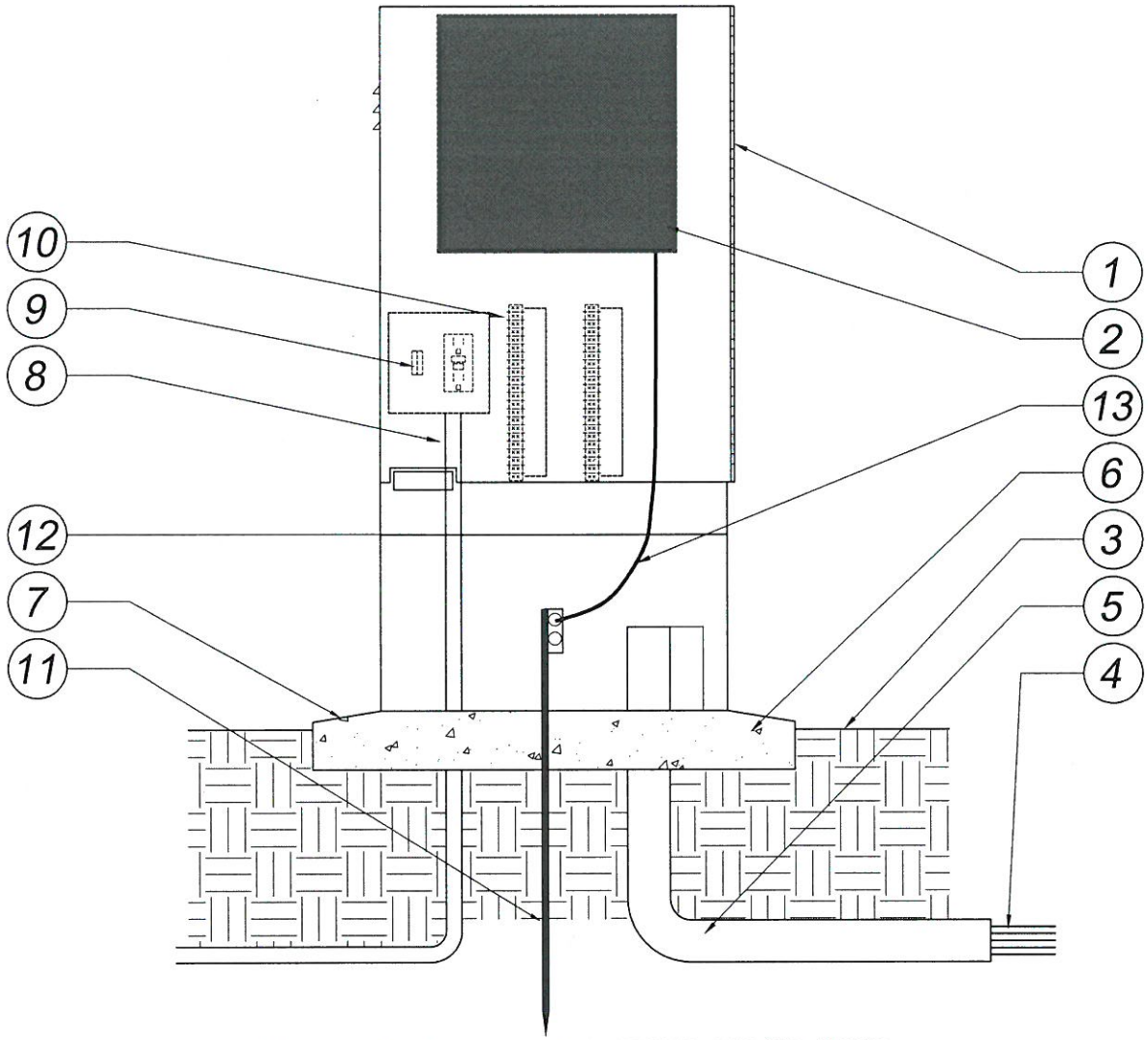
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

IRRIGATION CONTROLLER

Standard Drawing No. 404



1. CONTROLLER ENCLOSURE PER LEGEND AND/OR NOTES
2. AUTOMATIC CONTROLLER PER LEGEND
3. FINISH GRADE
4. DIRECT BURIAL CONTROL WIRES TO VALVES
5. 3" PVC SWEEP ELL – EXTEND BEYOND EDGE OF BASE
6. 'QUICKPAD' ENCLOSURE MOUNTING PAD PER MFG'S SPECS
7. SLOPE EDGE OF BASE 1% TO DRAIN AWAY FROM ENCLOSURE
8. 120V AC POWER IN CONDUIT
9. 120V ON–OFF SWITCH WITH CONVENIENCE OUTLET
10. TERMINAL STRIPS FOR CONTROL WIRES
11. 5/8" x 5' MIN. LENGTH COPPER GROUNDING ROD
12. EXTEND EDGE OF BASE 6" BEYOND EDGE OF ENCLOSURE
13. GROUND CONTROLLER PER MANUFACTURER

* EXTEND 4" ABOVE TOP OF BASE

N.T.S

Mark	Revision	By	Date
△			

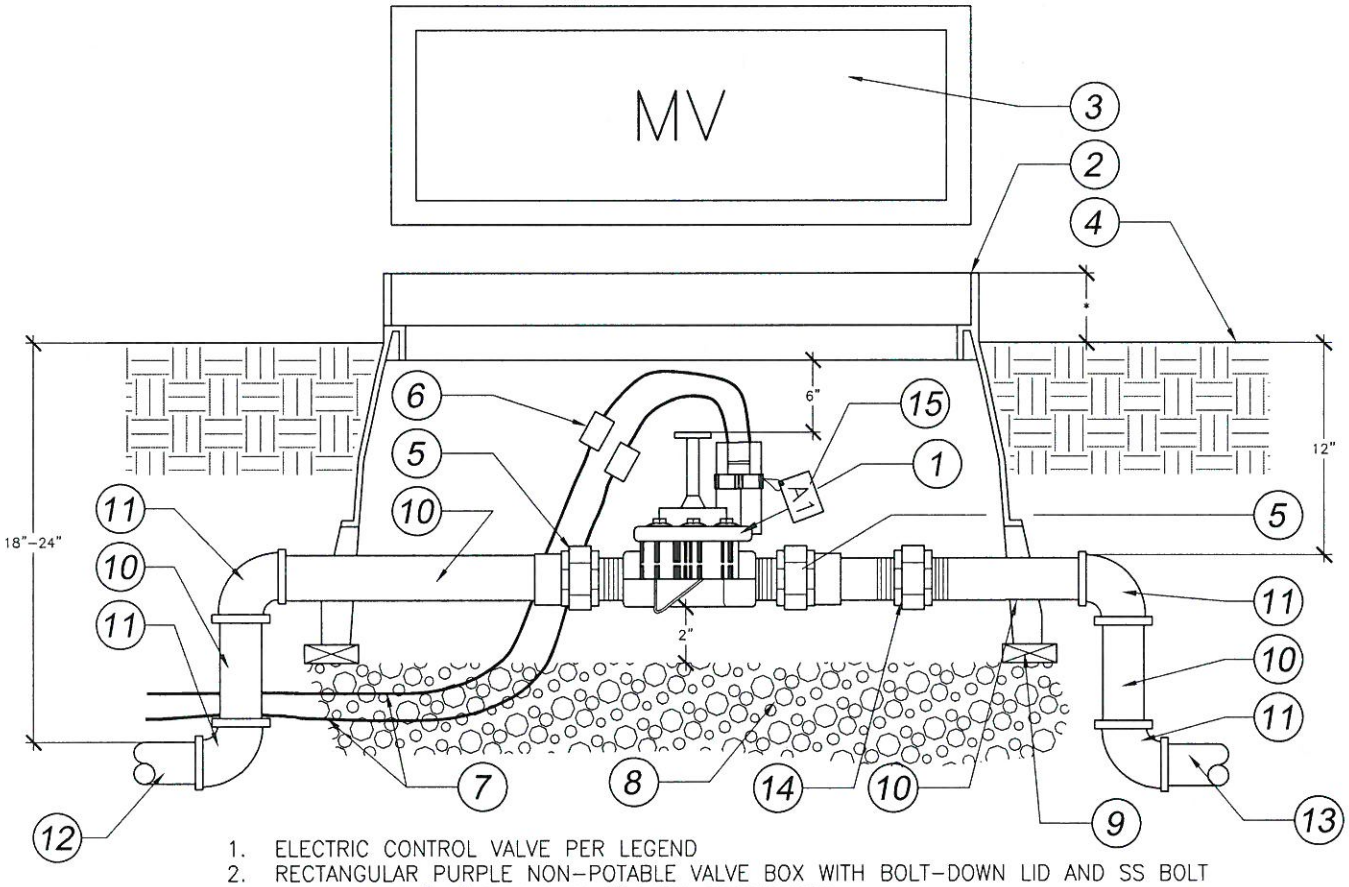
Approved: Steven Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

IRRIGATION CONTROLLER PEDESTAL/METERED ENCLOSURE

Standard Drawing No. 405



1. ELECTRIC CONTROL VALVE PER LEGEND
2. RECTANGULAR PURPLE NON-POTABLE VALVE BOX WITH BOLT-DOWN LID AND SS BOLT
3. HEAT BRAND "MV" ON LID IN 2" HIGH CHARACTERS
4. FINISH GRADE
5. PVC SCH 40 MALE ADAPTER
6. WATERPROOF WIRE CONNECTION W/36" EXPANSION LOOP
7. #14 UF WIRES TO CONTROLLER MASTER VALVE OUTPUT
8. 3/4" CRUSHED ROCK – 6" DEEP
9. COMMON BRICK – 4 REQUIRED
10. PURPLE PVC MAINLINE PER LEGEND – LENGTH AS REQUIRED
11. PVC SCH 40 ELL – SxS
12. MAINLINE PIPING FROM POINT OF CONNECTION
13. MAINLINE PIPING TO CONTROL VALVES
14. PVC UNION – SIZE AS REQUIRED
15. 'CHRISTY'S' NON-POTABLE I.D. TAG OR EQUAL

* 1/2" IN TURF AREAS, 2" IN SHRUB AREAS
NOTE: USE TEFLON PASTE ON ALL MALE PIPE THREADS.

N.T.S

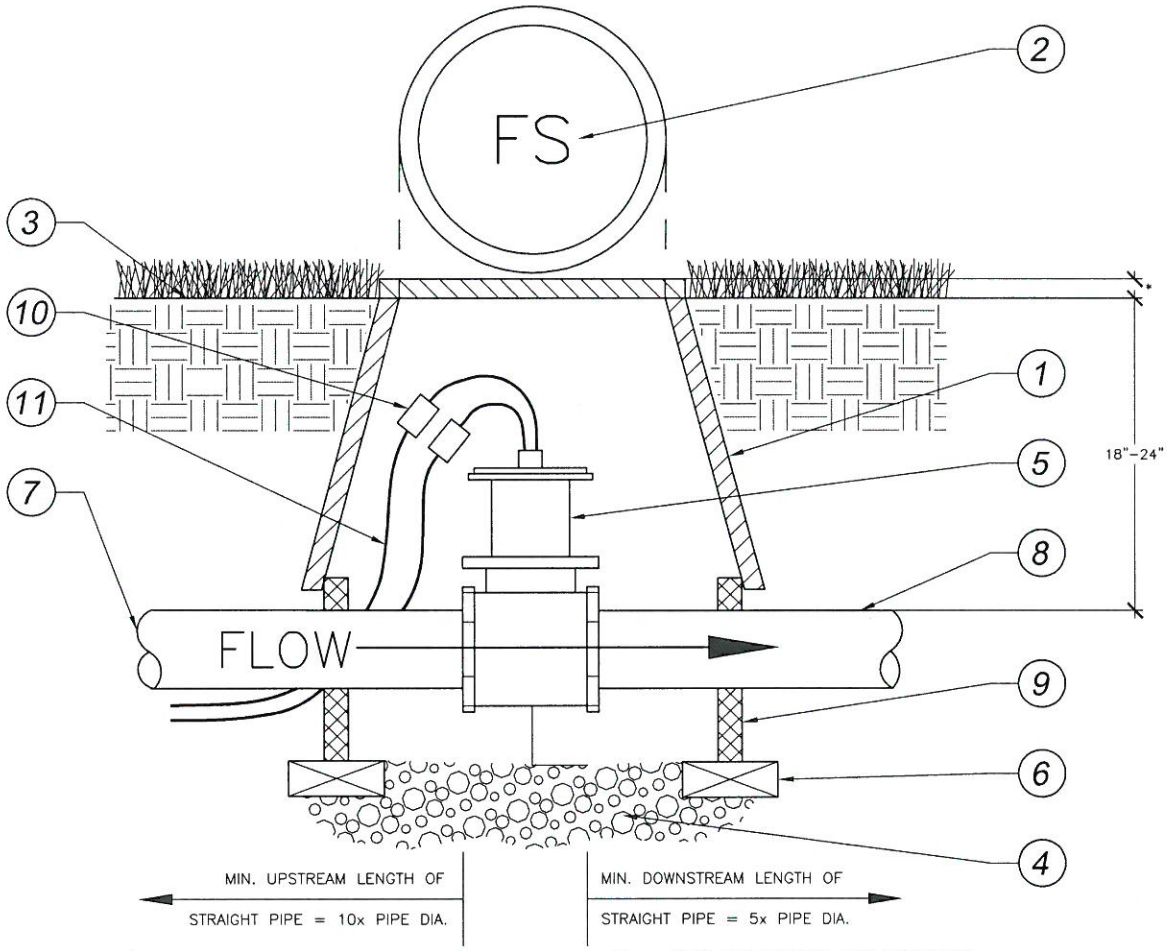
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

MASTER VALVE

Standard Drawing No. 406



1. 10" ROUND PLASTIC VALVE BOX WITH LOCKING LID AND SS BOLT
2. HEAT BRAND "FS" ON LID IN 2" HIGH CHARACTERS
3. FINISH GRADE
4. 3/4" CRUSHED ROCK – 4" DEEP
5. FLOW SENSOR PER LEGEND
6. COMMON BRICK – 4 REQUIRED
7. PVC MAINLINE FROM POC – PER LEGEND
8. PVC MAINLINE TO SYSTEM – PER LEGEND
9. VALVE BOX EXTENSIONS AS REQUIRED
10. WATERPROOF WIRE CONNECTORS WITH 36" EXPANSION LOOP
11. CABLE TO TRANSMITTER/CONTROLLER PER MANUFACTURER

* 1/2" IN TURF AREAS
2" IN SHRUB AREAS

N.T.S

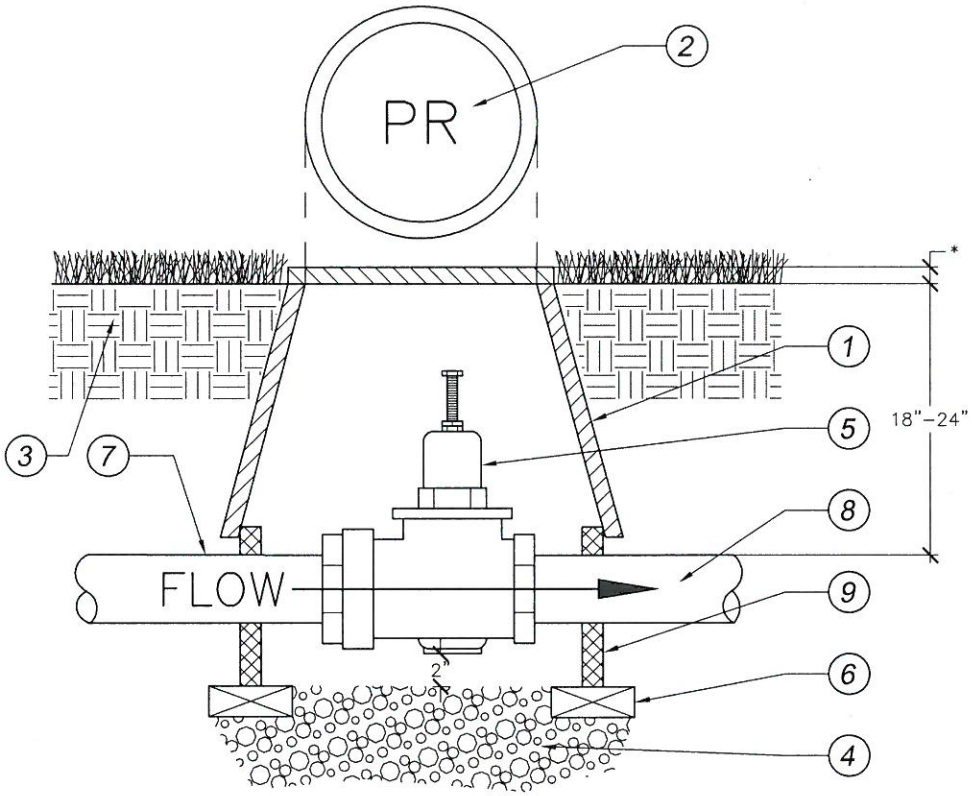
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

FLOW SENSOR

Standard Drawing No. 407



1. 10" ROUND PLASTIC VALVE BOX WITH LOCKING LID AND SS BOLT
2. HEAT BRAND BRAND "PR" ON LID IN 2" HIGH CHARACTERS
3. FINISH GRADE
4. 3/4" CRUSHED ROCK – 4" DEEP
5. PRESSURE REGULATOR PER LEGEND
6. COMMON BRICK – 4 REQUIRED
7. PVC MAINLINE FROM POC – PER LEGEND
8. PVC MAINLINE TO SYSTEM – PER LEGEND
9. VALVE BOX EXTENSIONS AS REQUIRED

* 1/2" IN TURF AREAS, 2" IN SHRUB AREAS

N.T.S

Mark	Revision	By	Date
△			

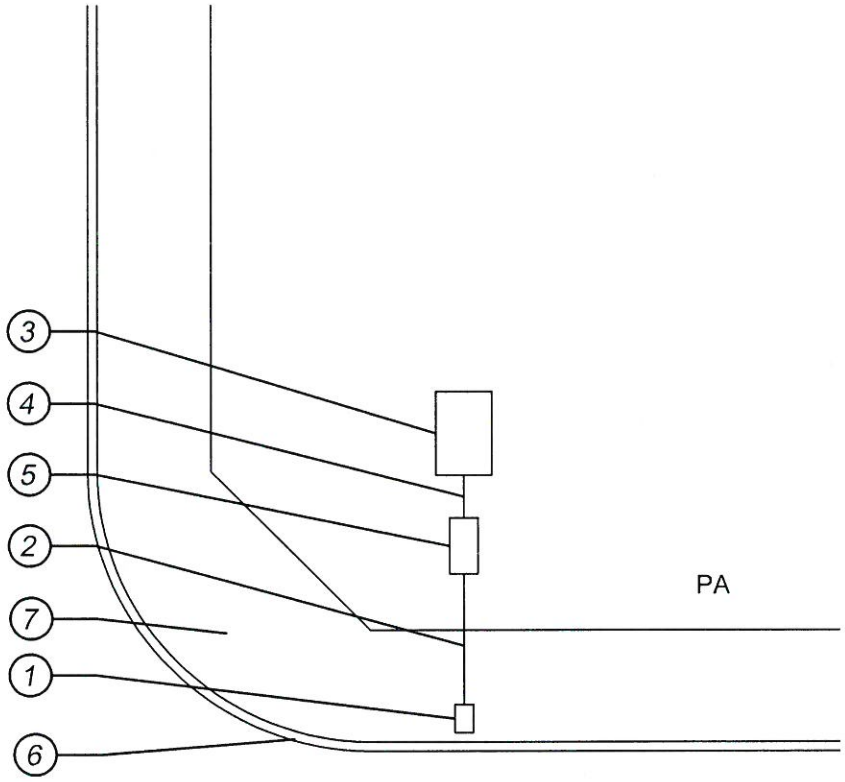
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

PRESSURE REGULATOR

Standard Drawing No. 408



1. IRRIGATION WATER METER PER EVWD STANDARDS
2. IRRIGATION WATER MAIN FROM METER PER STANDARD DETAILS
3. IRRIGATION BACKFLOW PREVENTER
4. IRRIGATION MAINLINE SUPPLY TO SYSTEM
5. BOOSTER PUMP
6. STREET CURB
7. SIDEWALK

NOTES:

- PUMP TO BE EQUIPPED WITH VFD DRIVE
- PUMP TO BE INSTALLED IN A MARINE GRADE ALUMINUM ENCLOSURE WITH RECTANGULAR PUNCH OUTS FOR VIEWING AND HEAT DISSIPATION. ENCLOSURE SHALL BE VANDAL AND WEATHER RESISTANT.
- PUMP TO BE MOUNTED ON STRUCTURAL ALUMINUM SKID WITH MOUNTING FLANGES ON FRONT AND BACK TO ALLOW FOR MOUNTING OF SKID TO CONCRETE PAD
- PUMP CONTROL PANEL SHALL HAVE A NEMA 3R NON-METALLIC ENCLOSURE

PA =PLANTER AREA

N.T.S

Mark	Revision	By	Date
△			

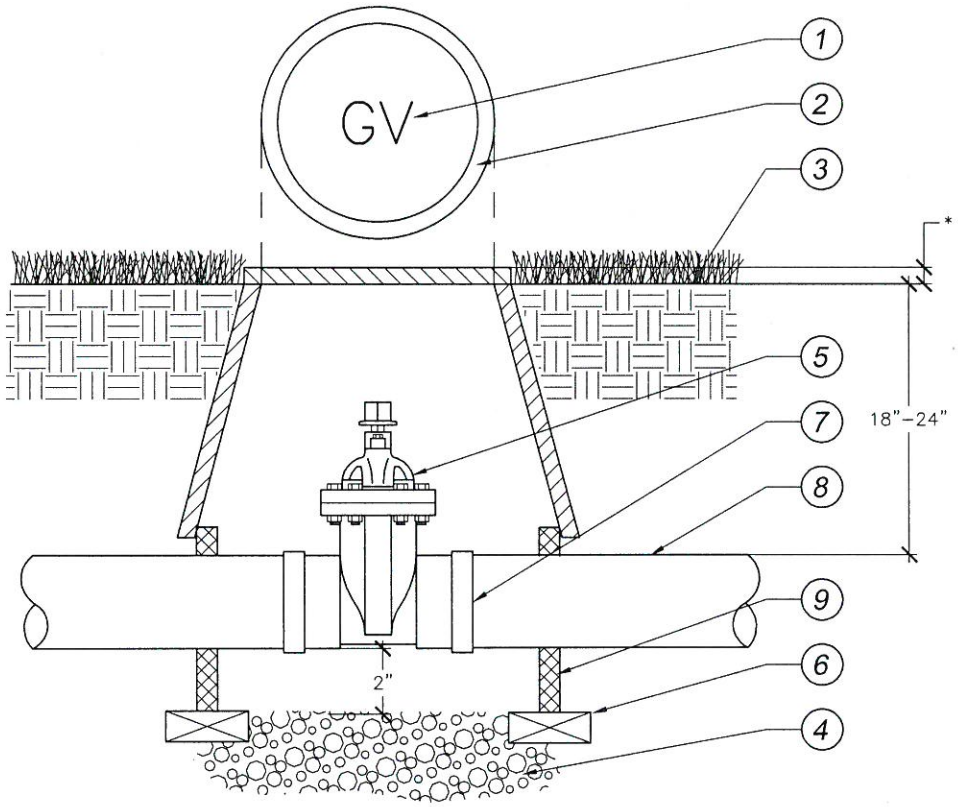
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

BOOSTER PUMP

Standard Drawing No. 409



1. ROUND PLASTIC VALVE BOX WITH LOCKING LID AND SS BOLT SIZED AS REQUIRED
2. HEAT BRAND "GV" ON LID IN 2" HIGH CHARACTERS
3. FINISH GRADE
4. 3/4" CRUSHED ROCK – 4" DEEP
5. GATE VALVE PER LEGEND
6. COMMON BRICK – 4 REQUIRED
7. ADAPT TO MAINLINE AS NECESSARY
8. MAINLINE PIPING PER LEGEND
9. VALVE BOX EXTENSIONS AS REQUIRED

* 1/2" IN TURF AREAS, 2" IN SHRUB AREAS

NOTES:
USE TEFLON TAPE ON ALL MALE PIPE THREADS.

N.T.S

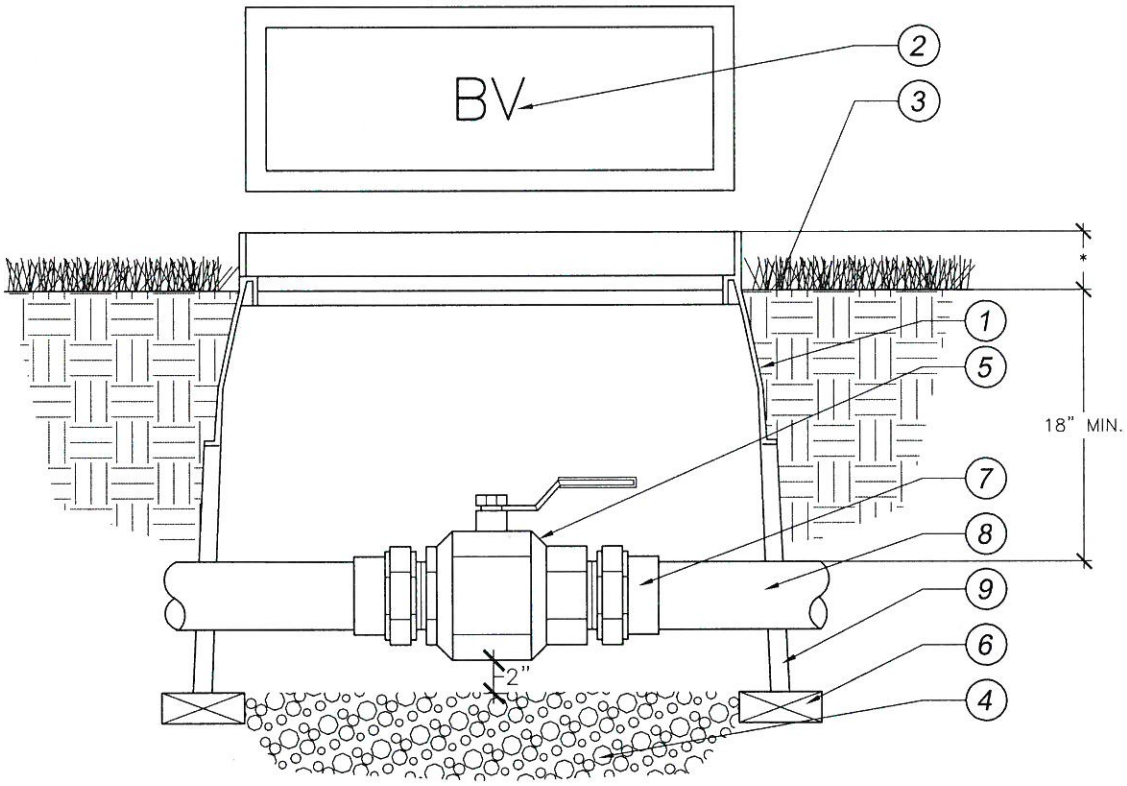
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

GATE VALVE

Standard Drawing No. 410



1. RECTANGULAR VALVE BOX WITH BOLT–DOWN LID AND SS BOLT
2. HEAT BRAND "BV" ON LID IN 2" HIGH CHARACTERS
3. FINISH GRADE
4. 3/4" CRUSHED ROCK – 4" DEPTH
5. BALL VALVE PER IRRIGATION PLAN
6. COMMON BRICK – 4 REQUIRED
7. SCH 40 PVC MALE ADAPTER – 2 REQUIRED
8. MAINLINE PIPING PER IRRIGATION PLAN
9. VALVE BOX EXTENSION(S) AS REQUIRED

NOTE:
USE TEFLON TAPE ON ALL MALE PIPE THREADS.

* 1/2" IN TURF AREAS AND 2" IN SHRUB AREAS

N.T.S

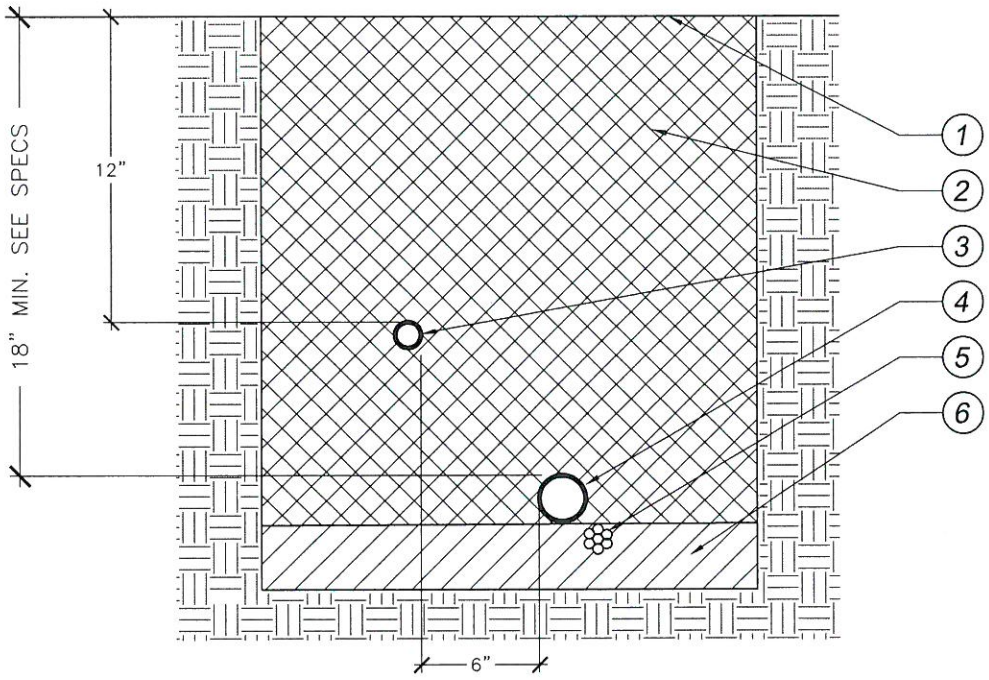
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

BALL VALVE

Standard Drawing No. 411



1. FINISH GRADE
2. CLEAN BACKFILL – 90% COMPACTION REQUIRED – SEE SPECS
3. NON–PRESSURE LATERAL LINE PER LEGEND
4. PRESSURE SUPPLY LINE PER LEGEND
5. CONTROL WIRES – INSTALL BELOW PRESSURE SUPPLY LINE
6. PROVIDE 2" OF CLEAN BACKFILL BELOW PRESSURE MAINLINE

NOTES:
BUNDLE AND TAPE WIRES AT 12'O.C. PIGTAIL AND LOOP CONTROL WIRES AT ALL 90° CHANGES IN DIRECTION. SPLICING OF WIRE RUNS IS NOT ALLOWED UNLESS APPROVED BY THE CITY. 36" MIN. COVER IS REQUIRED FOR RECLAIMED WATER MAINLINE (WHERE APPLICABLE). INSTALL 1'x1'X1' THRUST BLOCK AT ALL TERMINAL POINTS ON MAINLINE.

N.T.S

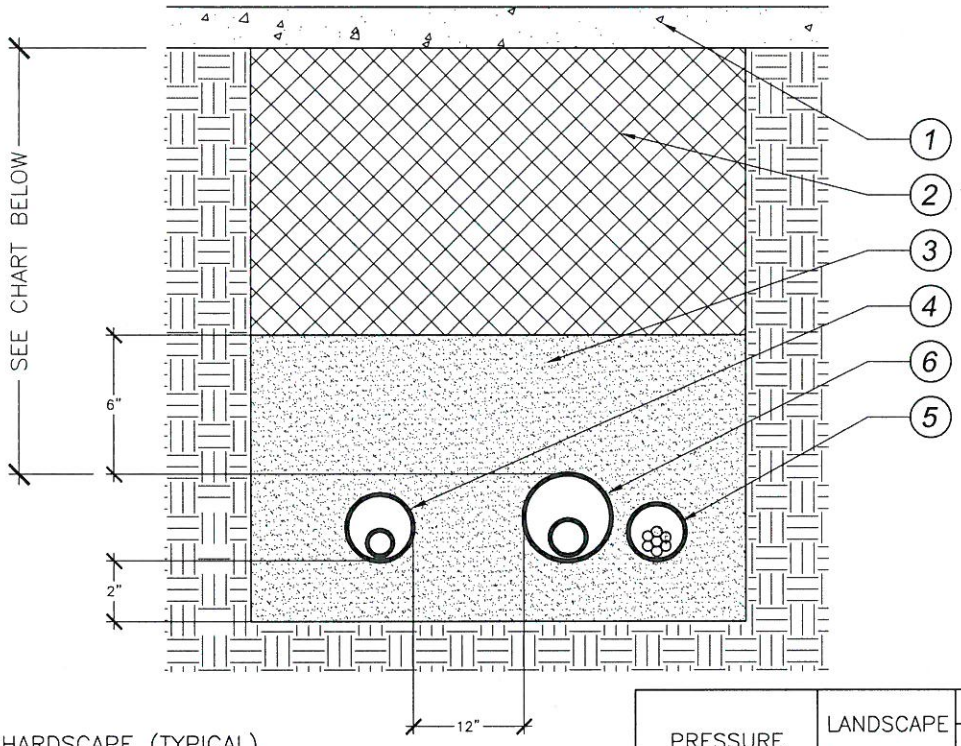
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

TRENCHING

Standard Drawing No. 412



1. HARDSCAPE (TYPICAL)
2. CLEAN BACKFILL – 90% COMPACTION REQUIRED – SEE SPECS
3. SAND (TYPICAL)
4. NON–PRESSURE LATERAL LINE/ SLEEVE (SIZE PER CHART)
5. CONTROL WIRE SLEEVE ADJACENT TO MAINLINE SLEEVE (SIZE PER CHART)
6. PRESSURE SUPPLY LINE / SLEEVE (SIZE PER CHART)

PRESSURE MAINLINE	LANDSCAPE	<3"	24"
		3"+	36"
	VEHICULAR PAVING	<3"	30"
		3"+	36"
NON PRESSURE LATERAL	LANDSCAPE	<3"	12"
		3"+	18"
	VEHICULAR PAVING	<3"	24"
		3"+	30"

NOTES:
SIZE ALL SLEEVES PER SLEEVING CHART ON PLANS. EXTEND SLEEVES 12" BEYOND EDGE OF HARDSCAPE ON BOTH ENDS. RECLAIMED WATER SLEEVES TO BE A MINIMUM 42"–48" DEEP (OR PER WATER DISTRICT STANDARDS) WHERE APPLICABLE.

N.T.S

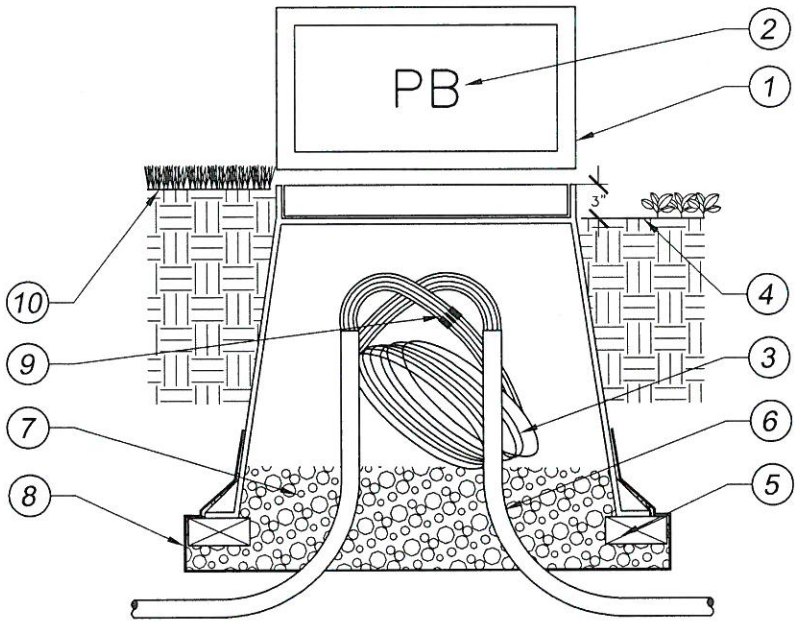
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

SLEEVING

Standard Drawing No. 413



1. PLASTIC RECTANGULAR VALVE BOX WITH BOLT DOWN COVER. USE STAINLESS BOLT, NUT AND WASHER. BOX TO BE PLACED AT RIGHT ANGLE TO HARDSCAPE EDGE.
2. HEAT BRAND 'PB' ONTO LID IN 2" CHARACTERS
3. 36" WIRE EXPANSION LOOP (TYP.)
4. FINISH GRADE IN SHRUB AREAS – 3" BELOW TOP OF BOX
5. COMMON BRICK (4 REQUIRED)
6. PVC ELECTRICAL SWEEP IF INSTALLED IN CONDUIT
7. PEA GRAVEL (3 CU.FT.)
8. LANDSCAPE FABRIC
9. WIRE CONNECTORS
10. FINISH GRADE IN TURF AREAS – 1" BELOW TOP OF BOX

NOTES:
ELECTRICAL SWEEPS NOT REQUIRED FOR DIRECT BURIAL INSTALLATION.
OPEN ENDS OF ELECTRICAL SWEEPS TO BE SEALED USING APPROVED AEROSOL FOAM PRODUCT.

N.T.S

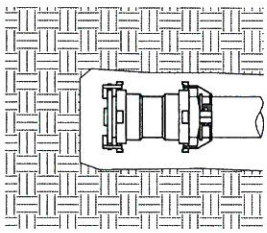
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

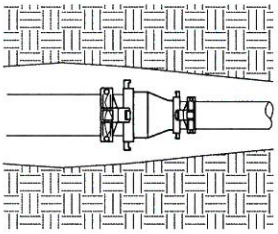
CITY OF HIGHLAND

PULL BOX

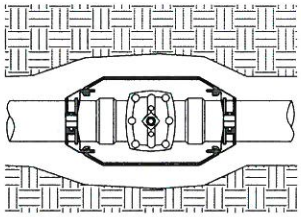
Standard Drawing No. 414



END CAP OR PLUG



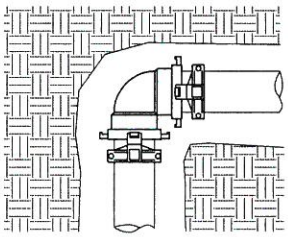
CHANGE LINE SIZE, REDUCER



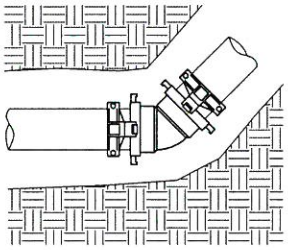
LH SERIES RESTRAINT FOR SLIP-ON GATE VALVES

DESIGNATED COMPONENTS ARE THE SAME IN ALL PANELS.

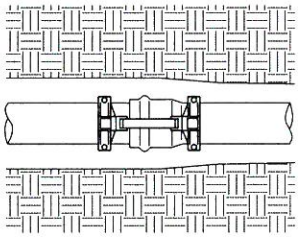
A. SPECIFIED IRRIGATION PIPE
B. JOINT FITTING
C. LH SERIES RESTRAINT
D. TRENCH AREA
E. UNDISTURBED SOIL



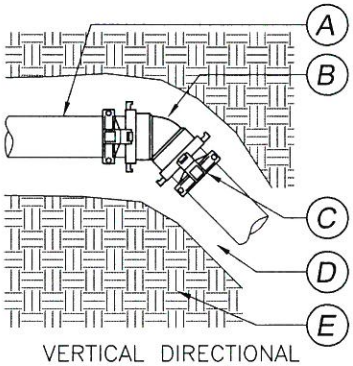
DIRECTIONAL CHANGE, 90 ELBOW



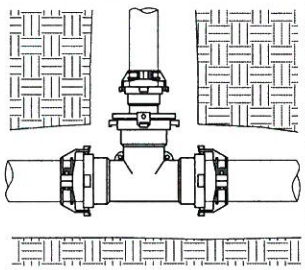
DIRECTIONAL CHANGE, 45 ELBOW



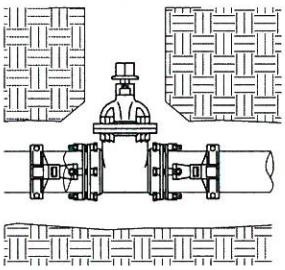
LB SERIES RESTRAINT



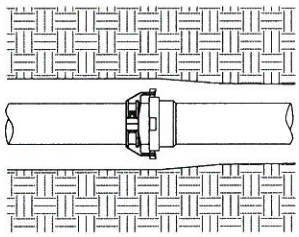
VERTICAL DIRECTIONAL CHANGE, 45 ELBOW



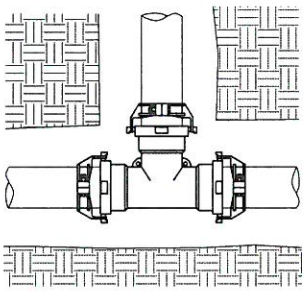
DIRECTIONAL CHANGE, TEE USED AS REDUCER



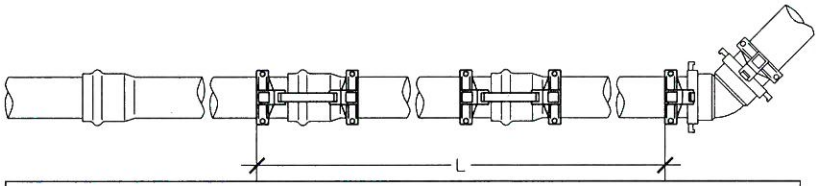
VALVE RESTRAINT



LH SERIES RESTRAINT



THRU LINE CONNECTION, TEE



NOTES:
1D = ONE SIZE DOWN (I.E. 4-3, 8-6)
2D = TWO SIZES DOWN (I.E. 6-3, 10-6)
DE = DEAD END FOR A CAP, PLUG OR GATE VALVE

MINIMUM RESTRAINED LENGTH (L)

PIPE SIZE	BENDS				REDUCTIONS		
	11°	22°	45°	90°	1D	2D	DE
3"	1'	2'	4'	9'	6'	8'	24'
4"	2'	3'	7'	16'	11'	16'	36'
6"	2'	5'	10'	23'	24'	32'	50'
8"	3'	6'	12'	30'	26'	44'	66'
10"	4'	7'	15'	36'	26'	45'	80'
12"	4'	8'	17'	42'	36'	45'	94'

N.T.S

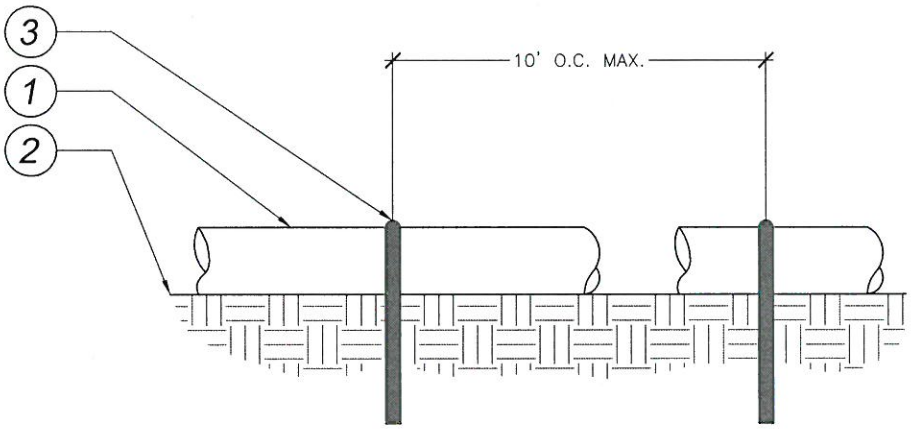
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

JOINT RESTRAINTS

Standard Drawing No. 415



1. UV RATED PVC PIPE INSTALLED ON GRADE. PIPE TO BE SCH 40 OR AS NOTED IN THE LEGEND.
2. FINISH GRADE
3. #3x24" REBAR STAKE WITH A "J-HOOK" ON ONE END TO SECURE PIPE TO SLOPE. INSTALL AT A MAXIMUM OF 10' O.C. FOR STRAIGHT PIPE RUNS, AND INSTALL AT ALL OF THE FOLLOWING LOCATIONS:
   a) AT ALL TEES
   b) AT ALL ELBOWS
   c) AT ALL HEADS
   d) AT ALL ATMOSPHERIC VACUUM BREAKERS
   e) ANY OTHER LOCATION THE PIPE NEEDS TO BE SECURED TO PREVENT THE PIPE FROM "SAGGING" ON THE SLOPE.

N.T.S

Mark	Revision	By	Date
△			

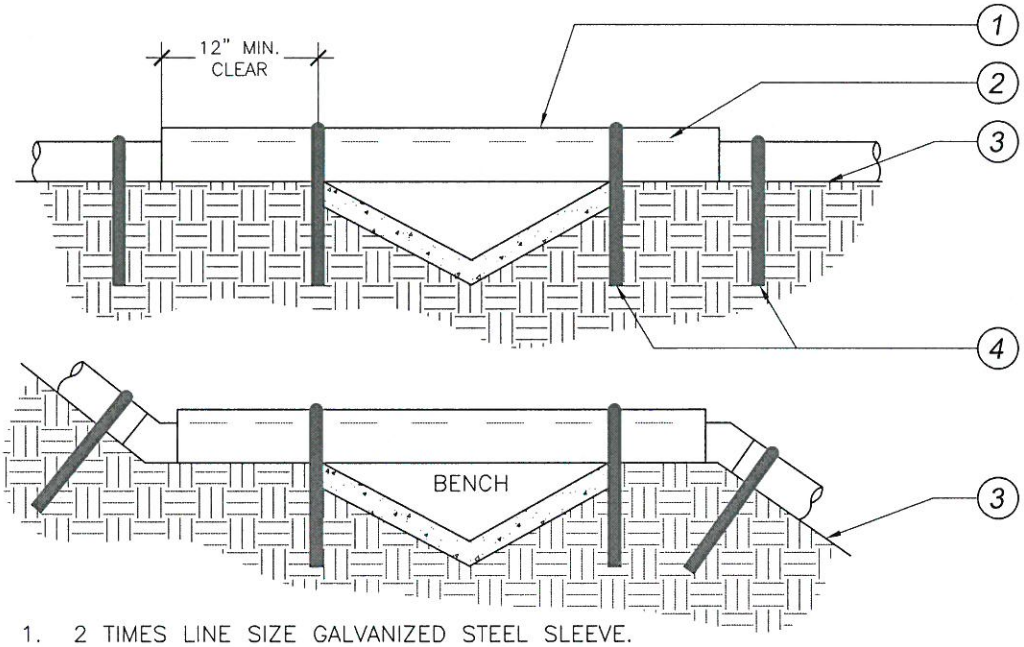
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

BROWNLINE ON-GRADE

Standard Drawing No. 416



1. 2 TIMES LINE SIZE GALVANIZED STEEL SLEEVE.
2. UV RATED PVC PIPE INSTALLED ON GRADE. PIPE TO BE SCH 40 OR AS NOTED IN THE LEGEND.
3. FINISH GRADE
4. #3x24" REBAR STAKE WITH A "J-HOOK" ON ONE END TO SECURE PIPE TO SLOPE. INSTALL AT A MAXIMUM OF 10' O.C. FOR STRAIGHT PIPE RUNS, AND INSTALL AT ALL OF THE FOLLOWING LOCATIONS:
   a) AT ALL TEES
   b) AT ALL ELBOWS
   c) AT ALL HEADS
   d) AT ALL ATMOSPHERIC VACUUM BREAKERS
   e) ANY OTHER LOCATION THE PIPE NEEDS TO BE SECURED TO PREVENT THE PIPE FROM "SAGGING" ON THE SLOPE.

N.T.S

Mark	Revision	By	Date
△			

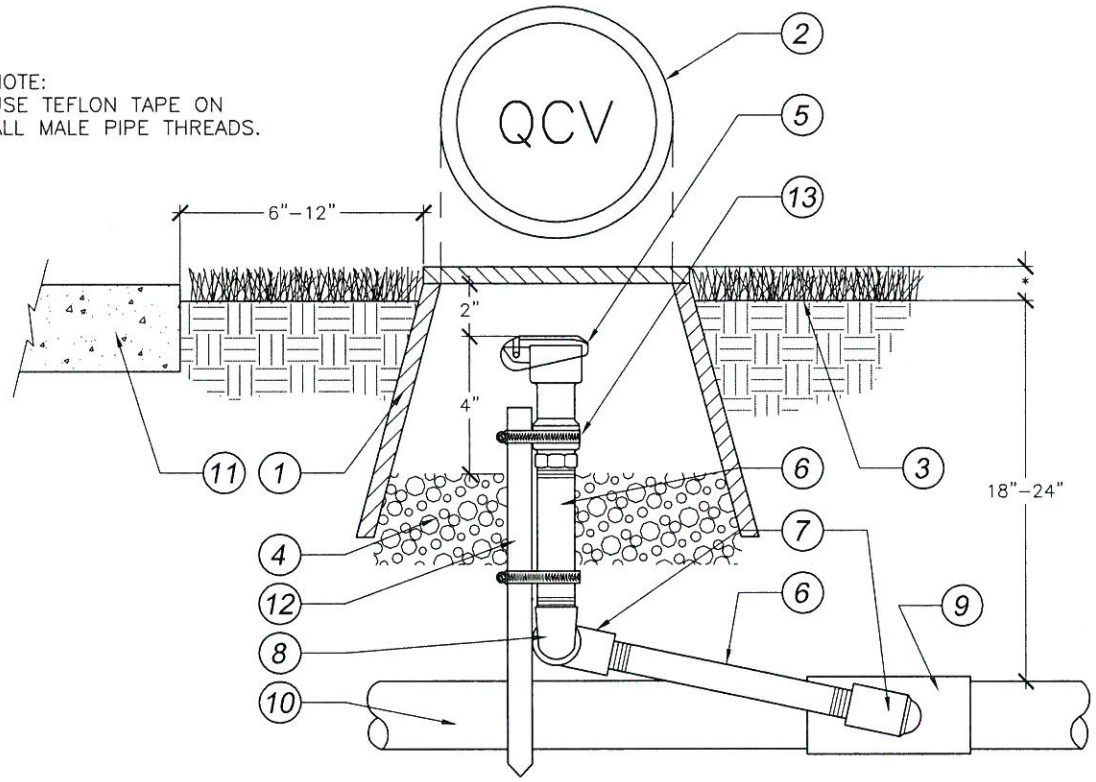
Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

BROWNLINE ON-GRADE AT V-DITCH

Standard Drawing No. 417

NOTE:
USE TEFLON TAPE ON
ALL MALE PIPE THREADS.



1. 10" ROUND PLASTIC VALVE BOX WITH LOCKING LID AND SS BOLT
2. HEAT BRAND "QCV" ON LID IN 2" HIGH CHARACTERS
3. FINISH GRADE
4. 3/4" CRUSHED ROCK 4" DEEP
5. QUICK COUPLER PER LEGEND
6. PVC SCH 80 NIPPLE LENGTH AS REQUIRED
7. PVC SCH 40 STREET ELL – TxT
8. PVC SCH 40 ELL – TxT
9. SCH 40 PVC MAINLINE FITTING
10. PVC SCH 40 MAINLINE PIPING PER EQUIPMENT LEGEND
11. WALK, CURB, OR WALL, ETC.
12. #4 REBAR, 18" MINIMUM LENGTH SUPPORT STAKE
13. STAINLESS STEEL CLAMP – 2 REQ.

* 1/2" IN TURF AREAS
2" IN SHRUB AREAS.

N.T.S

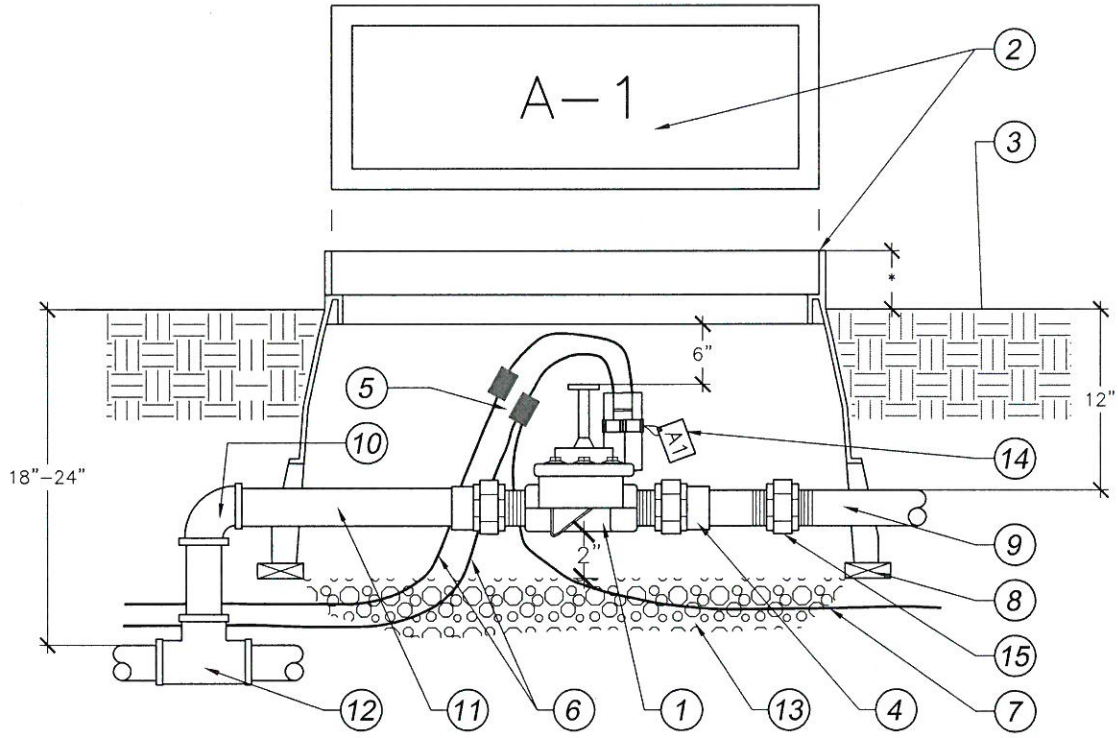
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

QUICK COUPLING VALVE

Standard Drawing No. 418



1. ELECTRIC CONTROL VALVE PER LEGEND
2. 12"x18" PLASTIC VALVE BOX WITH BOLT DOWN LID AND SS BOLT – HEAT HEAT BRAND STATION NUMBER ON LID IN 2" HIGH CHARACTERS
3. FINISH GRADE
4. PVC SCH 40 MALE ADAPTER – SIZE AS REQUIRED – TYP. OF 2
5. WATERPROOF WIRE CONNECTOR WITH 36" COILED EXPANSION LOOP
6. WIRES FROM CONTROLLER
7. COMMON WIRE TO OTHER VALVES ON SAME CONTROLLER
8. COMMON BRICK – 4 REQUIRED
9. PVC LATERAL LINE PER LEGEND
10. PVC SCH 40 ELL – SxS
11. PVC MAINLINE PER LEGEND
12. SCH 40 PVC MAINLINE FITTING
13. 3/4" DIA. GRAVEL – 6" DEEP
14. 'CHRISTY'S' I.D. TAG OR EQUAL
15. PVC UNION – SIZE AS REQUIRED

NOTES:
TEE OFF MAINLINE TO BE SAME SIZE AS LATERAL LINE EXITING VALVE.
ONLY REDUCE PIPE SIZE AT VALVE.
* 1/2" IN TURF, 2" IN PLANTER

N.T.S

Mark	Revision	By	Date
△			

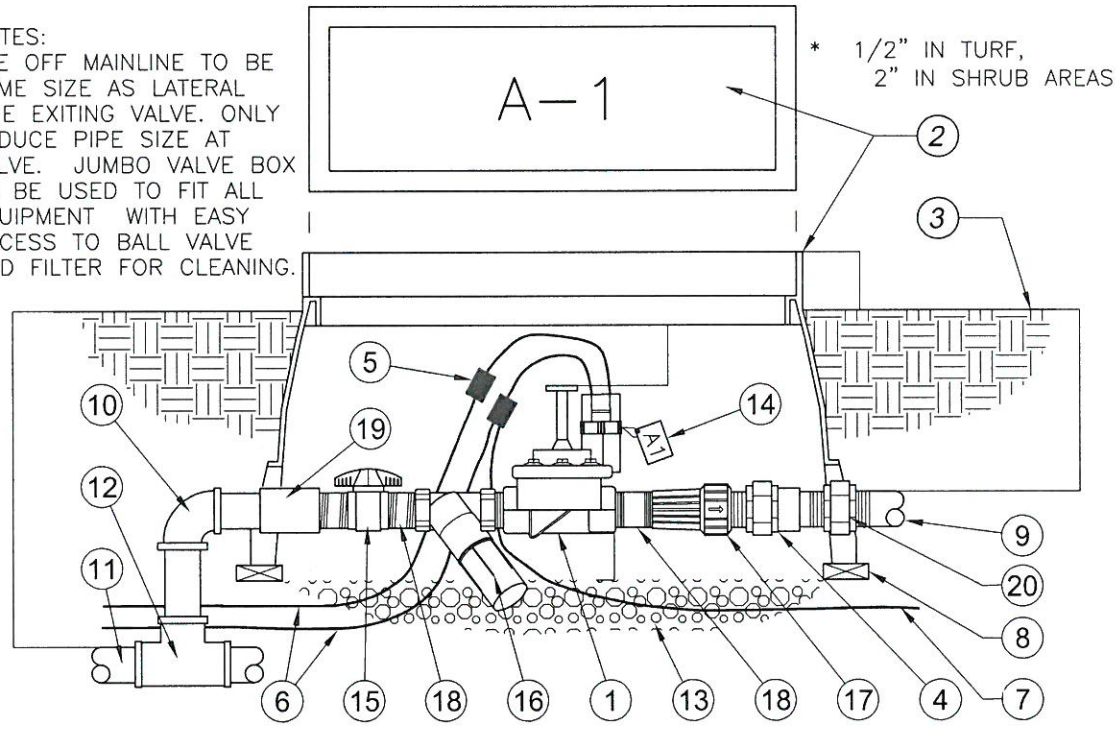
Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

REMOTE CONTROL VALVE

Standard Drawing No. 419

NOTES:
TEE OFF MAINLINE TO BE SAME SIZE AS LATERAL LINE EXITING VALVE. ONLY REDUCE PIPE SIZE AT VALVE. JUMBO VALVE BOX TO BE USED TO FIT ALL EQUIPMENT WITH EASY ACCESS TO BALL VALVE AND FILTER FOR CLEANING.



1. ELECTRIC CONTROL VALVE PER LEGEND
2. JUMBO PLASTIC VALVE BOX WITH BOLT DOWN LID AND SS BOLT – HEAT BRAND STATION NUMBER ON LID IN 2" HIGH CHARACTERS
3. FINISH GRADE
4. PVC SCH 40 MALE ADAPTER
5. WATERPROOF WIRE CONNECTOR WITH 36" COILED EXPANSION LOOP
6. WIRES FROM CONTROLLER
7. COMMON WIRE TO OTHER VALVES ON SAME CONTROLLER
8. COMMON BRICK – 4 REQUIRED
9. PVC LATERAL LINE PER LEGEND
10. PVC SCH 40 ELL – SxS
11. PVC MAINLINE PER LEGEND – TYP
12. SCH 40 PVC MAINLINE FITTING
13. 3/4" CRUSHED ROCK – 6" DEEP
14. 'CHRISTYS' NON-POTABLE I.D. TAG OR EQUAL
15. BALL VALVE PER LEGEND
16. Y-FILTER PER LEGEND
17. PRESSURE REGULATOR PER LEGEND
18. SCH 80 PVC NIPPLE – TYP
19. SCH 40 PVC FEMALE ADAPTER
20. PVC UNION – SIZE AS REQUIRED

N.T.S

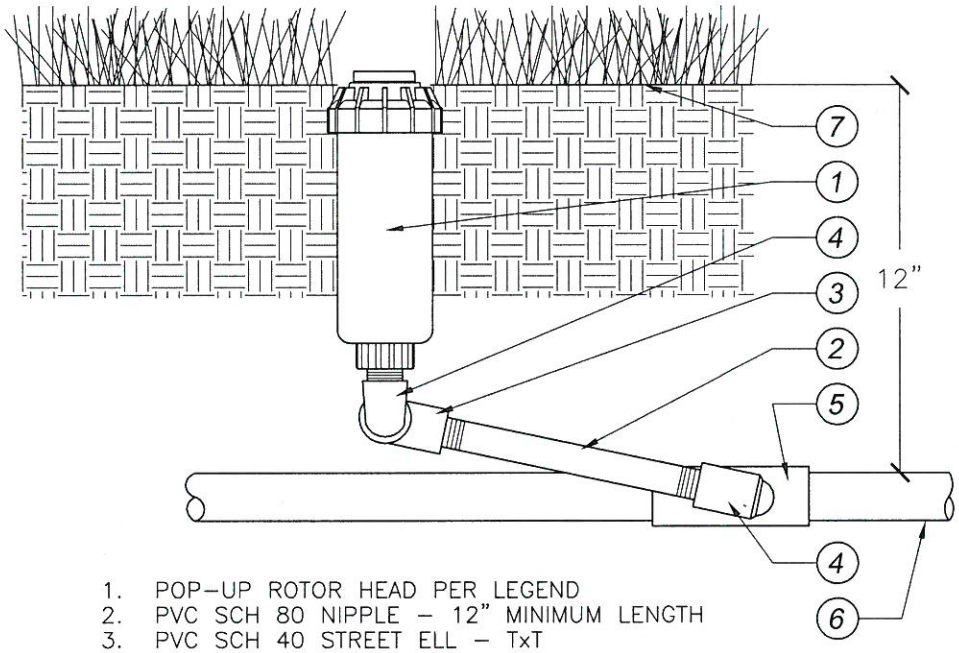
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

DRIP VALVE FILTER ASSEMBLY

Standard Drawing No. 420



1. POP-UP ROTOR HEAD PER LEGEND
2. PVC SCH 80 NIPPLE – 12" MINIMUM LENGTH
3. PVC SCH 40 STREET ELL – TxT
4. MARLEX STREET ELL – TxT
5. PVC SCH 40 LATERAL LINE FITTING
6. LATERAL LINE PER EQUIPMENT LEGEND
7. FINISH GRADE

NOTES:
USE TEFLON TAPE ON ALL MALE PIPE THREADS FOR PVC TO PVC CONNECTIONS. SET PERIMETER HEADS 1"–2" FROM EDGE OF WALK, WALL, OR CURB, ETC. ALL FITTINGS FOR SWING JOINTS MUST BE SAME SIZE AS INLET ON BASE OF HEAD. LATERAL LINE FITTING OUTLET SHALL BE SAME SIZE AS HEAD INLET.

N.T.S

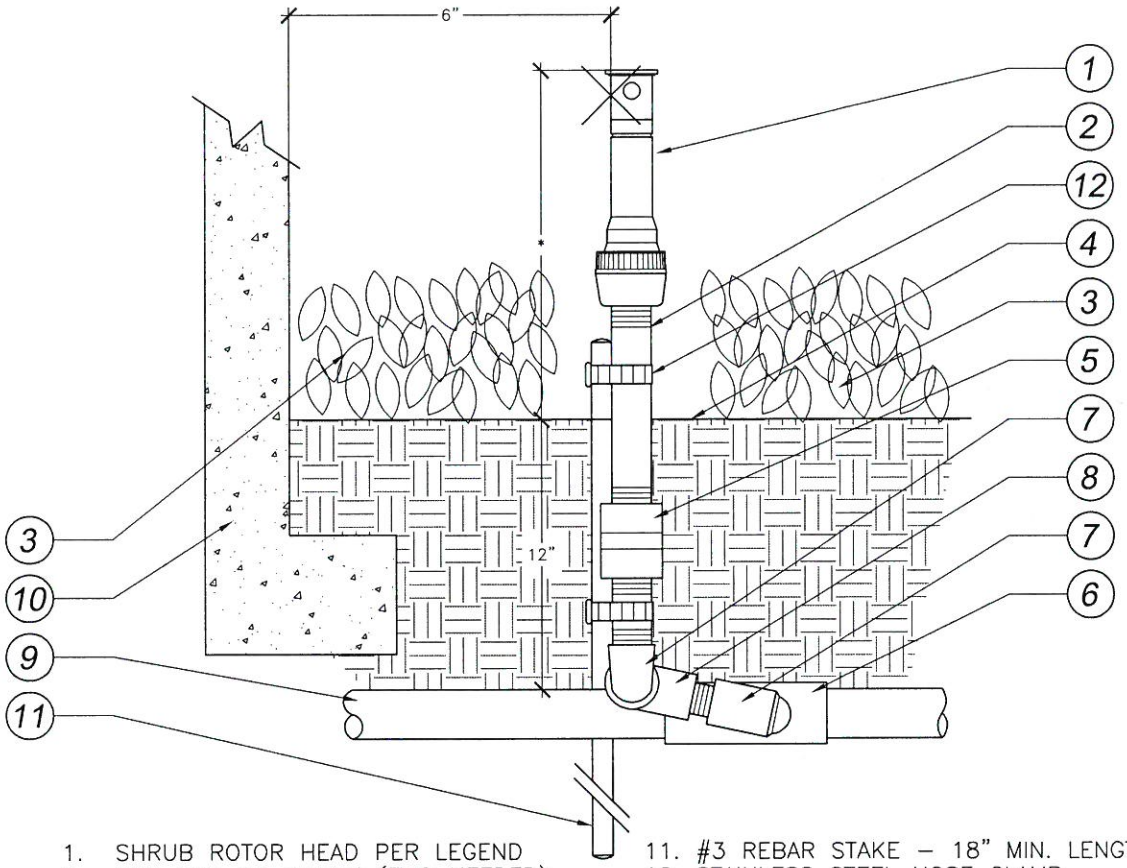
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

ROTOR
POP-UP

Standard Drawing No.
421



1. SHRUB ROTOR HEAD PER LEGEND
2. PVC SCH 80 NIPPLE (TWO NEEDED) LENGTH AS REQUIRED
3. SHRUB AND/OR GROUND COVER PLANTING
4. FINISH GRADE
5. ANTI-DRAIN VALVE AS REQUIRED
6. PVC SCH 40 LATERAL LINE FITTING
7. MARLEX STREET ELL – TxT
8. PVC SCH 40 STREET ELL – TxT
9. LATERAL LINE PIPING PER LEGEND
10. WALL, FENCE, OR CURB, ETC.
11. #3 REBAR STAKE – 18" MIN. LENGTH
12. STAINLESS STEEL HOSE CLAMP (TWO REQUIRED)

* 12" MIN. FOR ROTOR HEADS

NOTES:
LOW HEAD DRAINAGE WILL NOT BE ALLOWED. CONTRACTOR TO INSTALL ANTI-DRAIN VALVES ON ALL HEADS THAT SHOW DRAINAGE AFTER VALVE IS SHUT OFF. THIS SHALL BE INCLUDED AT NO ADDITIONAL COST TO OWNER.

N.T.S

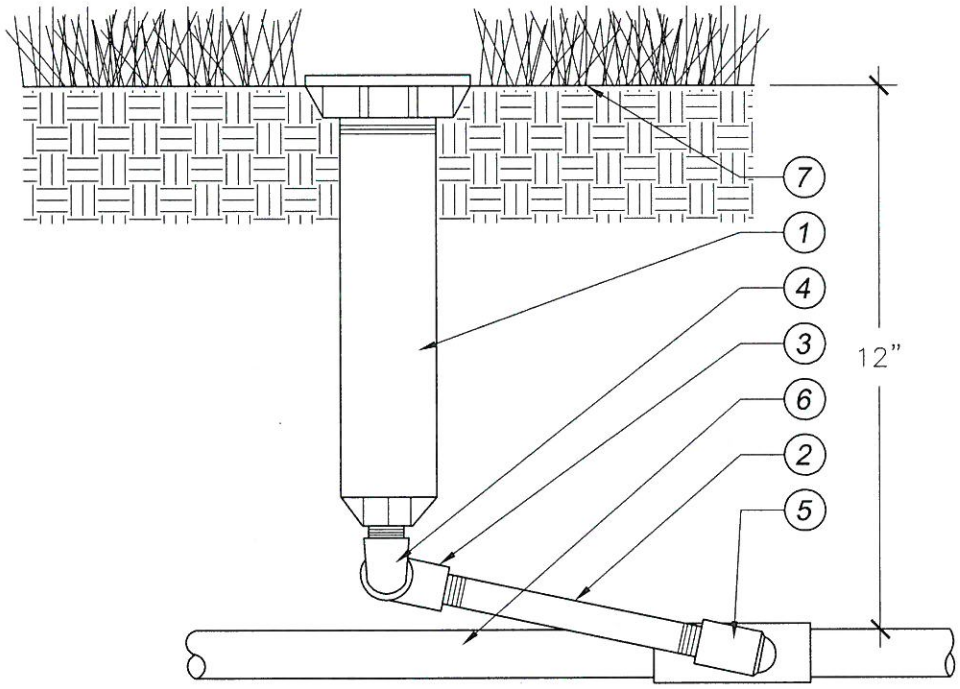
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

ROTOR FIXED

Standard Drawing No. 422



1. POP-UP SPRAY HEAD PER LEGEND
2. PVC SCH 80 NIPPLE – 12" MINIMUM LENGTH
3. PVC SCH 40 STREET ELL – TxT
4. MARLEX STREET ELL – TxT
5. PVC SCH 40 LATERAL LINE FITTING
6. LATERAL LINE PER EQUIPMENT LEGEND
7. FINISH GRADE

NOTES:
USE TEFLON TAPE ON ALL MALE PIPE THREADS FOR PVC TO PVC CONNECTIONS. SET PERIMETER HEADS 1"–2" FROM EDGE OF WALK, WALL, OR CURB, ETC. ALL FITTINGS FOR SWING JOINTS MUST BE SAME SIZE AS INLET ON BASE OF HEAD. LATERAL LINE FITTING OUTLET SHALL BE SAME SIZE AS HEAD INLET.

N.T.S

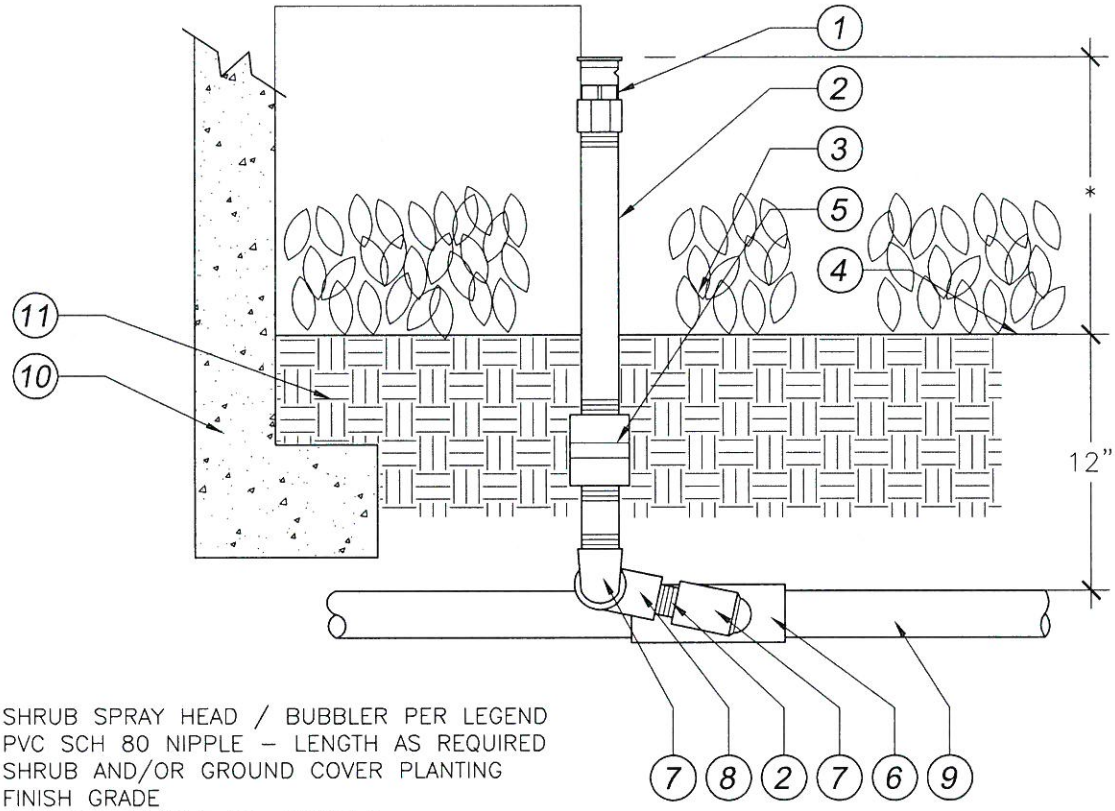
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

ROTORARY SPRAY POP-UP

Standard Drawing No. 423



1. SHRUB SPRAY HEAD / BUBBLER PER LEGEND
2. PVC SCH 80 NIPPLE – LENGTH AS REQUIRED
3. SHRUB AND/OR GROUND COVER PLANTING
4. FINISH GRADE
5. ANTI–DRAIN VALVE AS REQUIRED
6. PVC SCH 40 LATERAL LINE FITTING
7. MARLEX STREET ELL – TxT
8. PVC SCH 40 STREET ELL – TxT
9. LATERAL LINE PIPING PER LEGEND
10. WALL, FENCE, OR CURB, ETC.
11. NATIVE SOIL

* 12" ABOVE FINISH GRADE FOR SHRUB HEADS
3" ABOVE FINISH GRADE FOR BUBBLERS

NOTES:
LOW HEAD DRAINAGE WILL NOT BE ALLOWED. CONTRACTOR TO INSTALL ANTI–DRAIN CHECK VALVES ON ALL HEADS THAT SHOW DRAINAGE AFTER THE VALVE IS SHUT OFF. THIS SHALL BE INCLUDED AT NO ADDITIONAL COST TO THE OWNER.

N.T.S

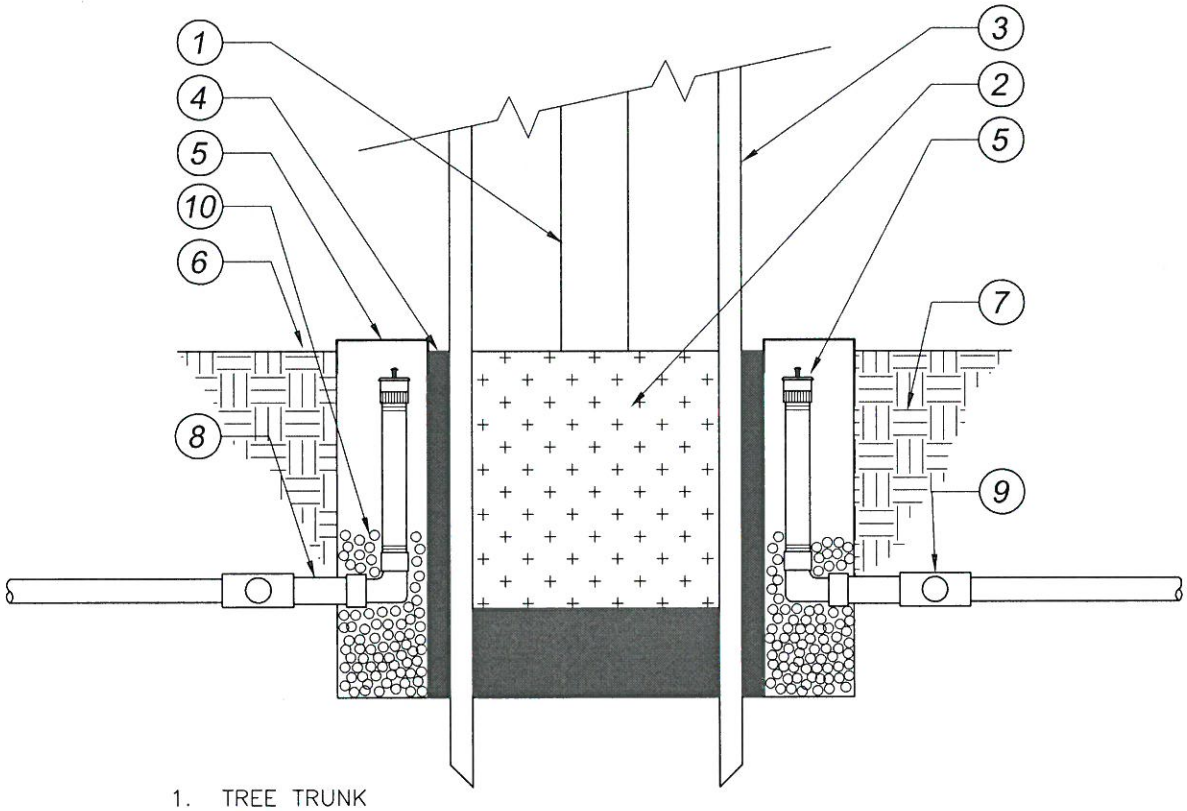
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

ROTARY SPRAY FIXED

Standard Drawing No. 424



1. TREE TRUNK
2. TREE ROOTBALL
3. 3" LODGE POLE PINE STAKES PER PLANTING PLAN
4. PLANT BACKFILL PER PLANTING PLAN
5. BUBBLER ASSEMBLY PER IRRIGATION LEGEND
6. FINISH GRADE
7. UNDISTURBED NATIVE SOIL
8. 1/2" CLASS 315 PVC LATERAL LINE
9. SCH 40 PVC TEE AROUND PLANTING PIT
10. PEA GRAVEL IN BASE OF DRAIN PIPE

* INSTALL ASSEMBLY WITH CAP FLUSH TO GRADE

N.T.S

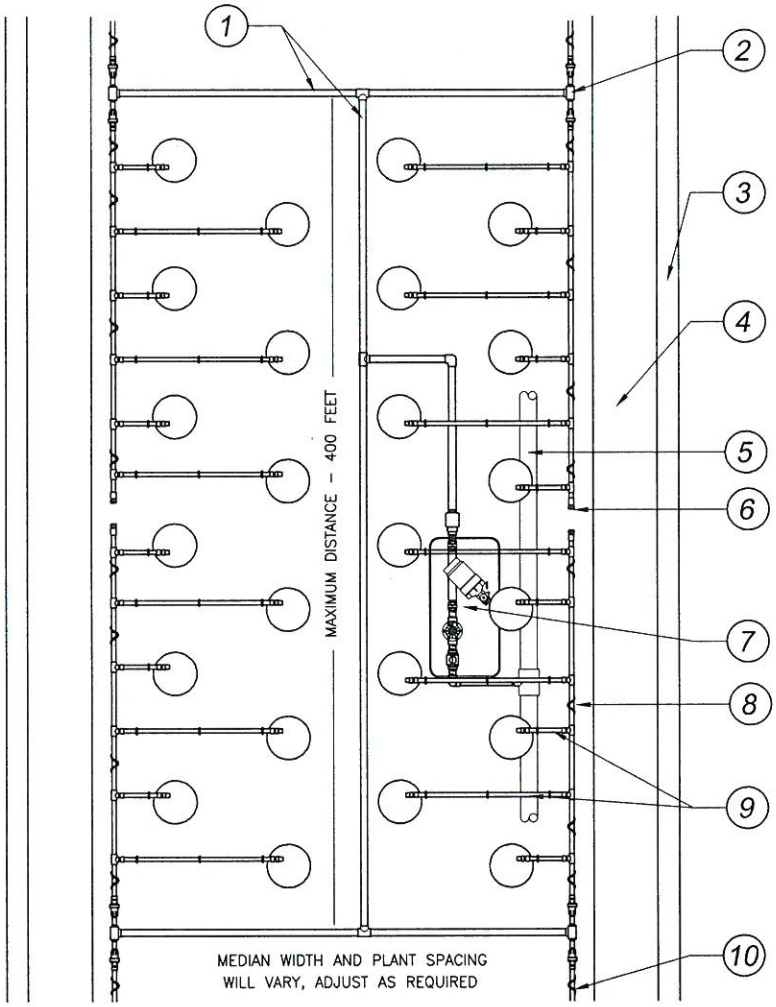
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

TREE ROOT WATERING SYSTEM

Standard Drawing No. 425



1. BURIED SCH. 40 PVC SUBMAIN
2. UVR PVC SST TEE, ON GRADE, TRANSITION UP FROM BURIED PVC SUBMAIN
3. MEDIAN CURB PER PLAN.
4. MAINTENANCE STRIP PER PLAN.
5. BURIED PVC IRRIGATION MAINLINE 18" FROM EDGE OF CONCRETE.
6. FLUSH VALVE PER FLUSH VALVE DETAIL.
7. DRIP REMOTE CONTROL VALVE WITH WYE FILTER AND PRESSURE REGULATOR PER IRRIGATION LEGEND.
8. SCH. 40 PVC LATERAL ON GRADE WITH V.I.T. PS18 PIPE STABILIZERS AT MAX. 6' O.C.
9. DRIP EMITTER ASSEMBLY PER DRIP EMITTER DETAIL.
10. DRIP SYSTEM AND LATERAL PIPING MAY EXTEND NO MORE THAN 200' PAST BURIED PVC CROSS LATERAL. THE TOTAL LENGTH OF ANY ONE DRIP SYSTEM SHALL BE NO MORE THAN 800'.

N.T.S

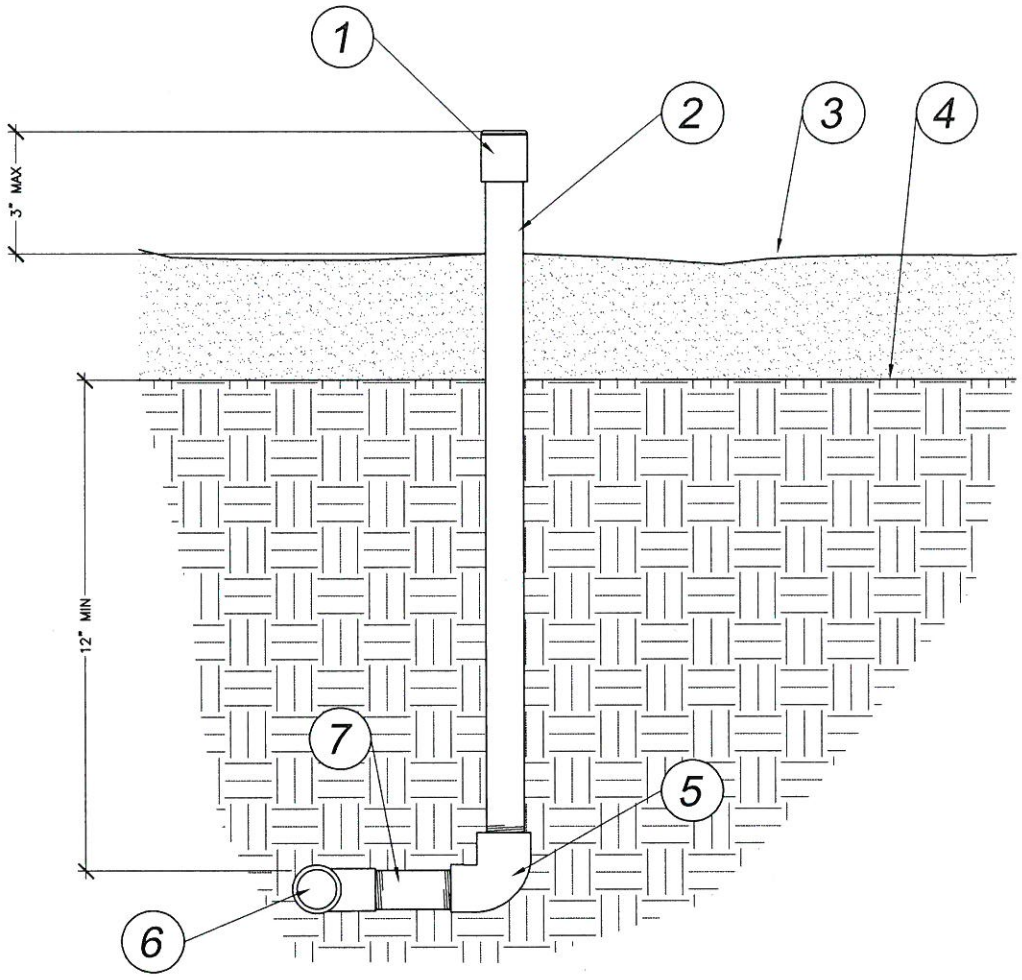
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

POINT-TO-POINT DRIP LAYOUT

Standard Drawing No. 426



1. DRIP EMITTER PER IRRIGATION LEGEND
2. GIH18 18" RISER ASSEMBLY
3. MULCH PER PLAN
4. FINISH GRADE
5. SCHEDULE 40 PVC ELBOW, TXT
6. PVC TEE SCH. 40 OR ELBOW LINE SIZE
7. SCHEDULE 80 PVC NIPPLE, TXT, MAXIMUM 24" LENGTH..

N.T.S

Mark	Revision	By	Date
△			

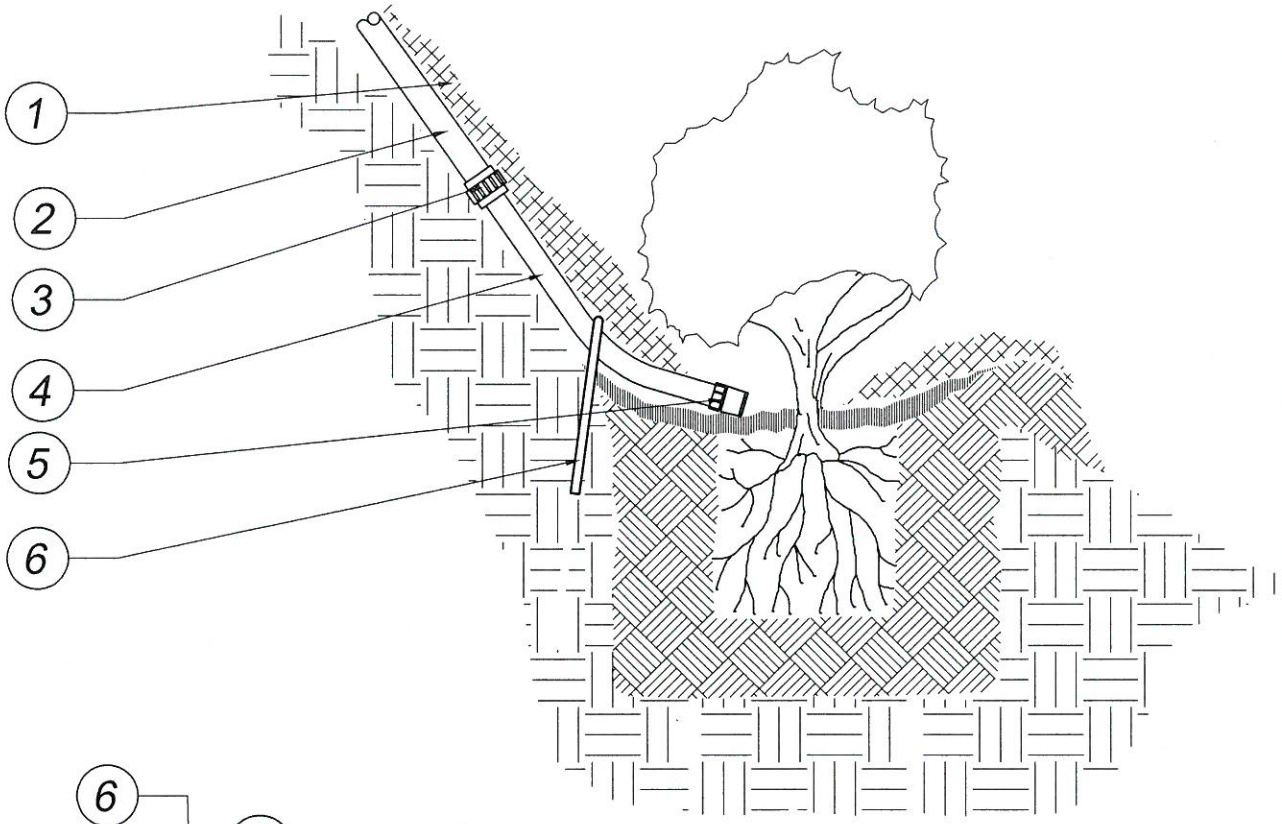
Approved: Ernest Wong Date: 9-6-16

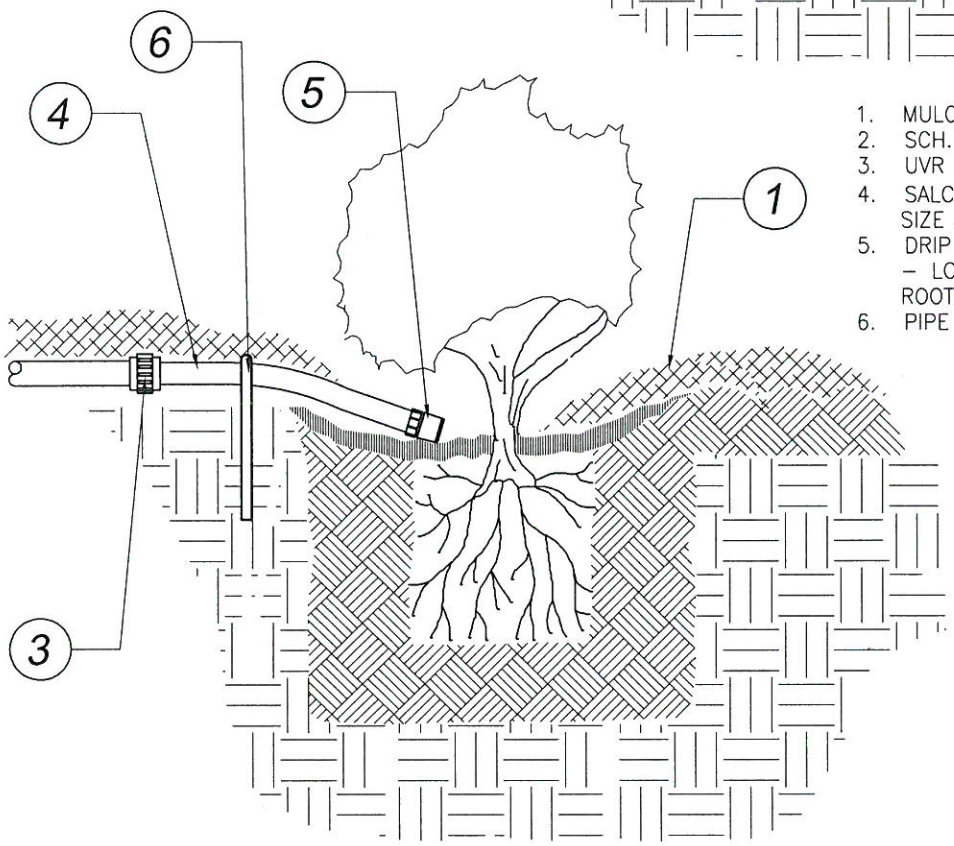
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

POINT-TO-POINT DRIP GPH ASSEMBLY

Standard Drawing No. 427





1. MULCH PER PLANTING PLAN
2. SCH. 40 PVC PIPE
3. UVR FEMALE ADAPTER
4. SALCO ½" IPS FLEX PVC RISER – SIZE AS NEEDED.
5. DRIP EMITTER PER IRRIGATION LEGEND – LOCATE AT REAR OF PLANT ROOTBALL WHERE APPLICABLE.
6. PIPE STAKE PER MEDIAN DRIP LAYOUT.

N.T.S

Mark	Revision	By	Date
△			

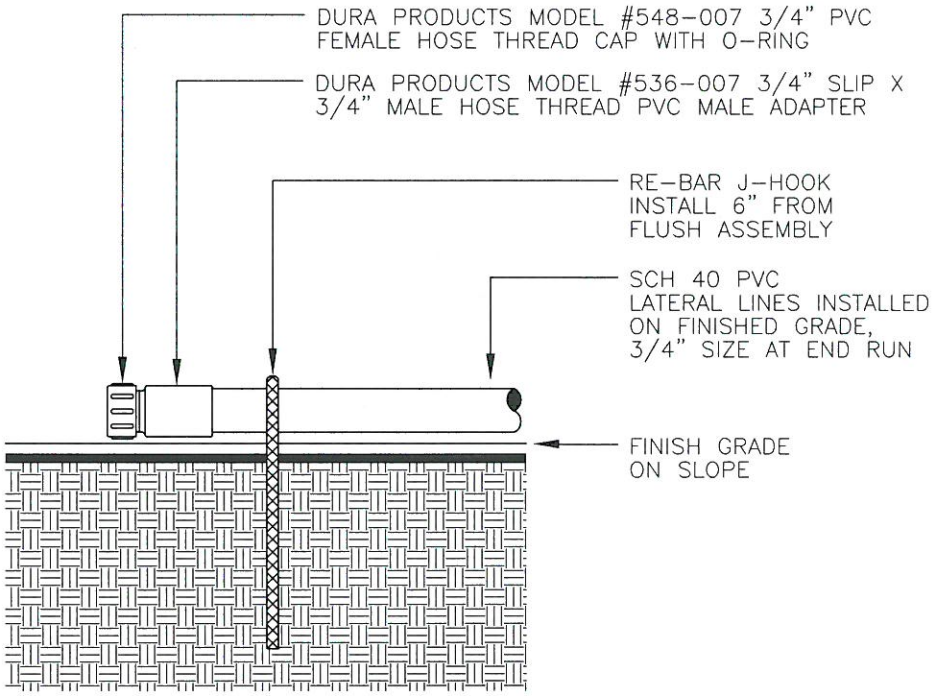
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

POINT-TO-POINT DRIP EMITTER

Standard Drawing No. 428



NOTE:
FLUSH CAP TO REMAIN IN PLACE UNLESS FLUSHING DRIP LATERAL LINES.

A HOSE SHALL BE ATTACHED TO MHT MALE ADAPTER WHENEVER FLUSHING OF LINES IS PERFORMED TO PREVENT EROSION OF SLOPE MATERIALS.

ALL FLUSH VALVES MUST BE LISTED ON AS-BUILTS

N.T.S

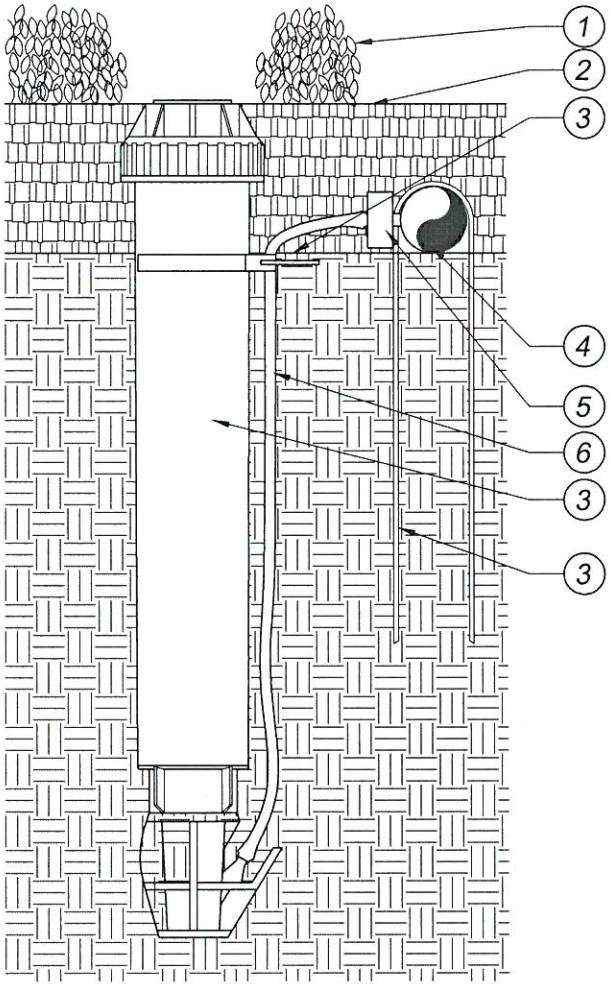
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

POINT-TO-POINT FLUSH VALVE

Standard Drawing No. 429



1. PLANT MATERIAL PER PLANTING PLAN
2. TOP OF MULCH
3. FINISH GRADE PER PLAN
4. DRIP TUBING PER PLAN
5. 1/4" SELF-PIERCING BARB CONNECTOR
6. DISTRIBUTION TUBING
7. DRIP SYSTEM OPERATION INDICATOR PER PLAN
8. DRIP STAKE PER SPECIFICATIONS

NOTES:
SET INDICATOR 2"-6" FROM EDGE OF CURBS AND WALKS, AND 6"-12" FROM FIXED VERTICLE OBJECTS SUCH AS FENCES, WALLS, AND BUILDINGS, ETC.

N.T.S

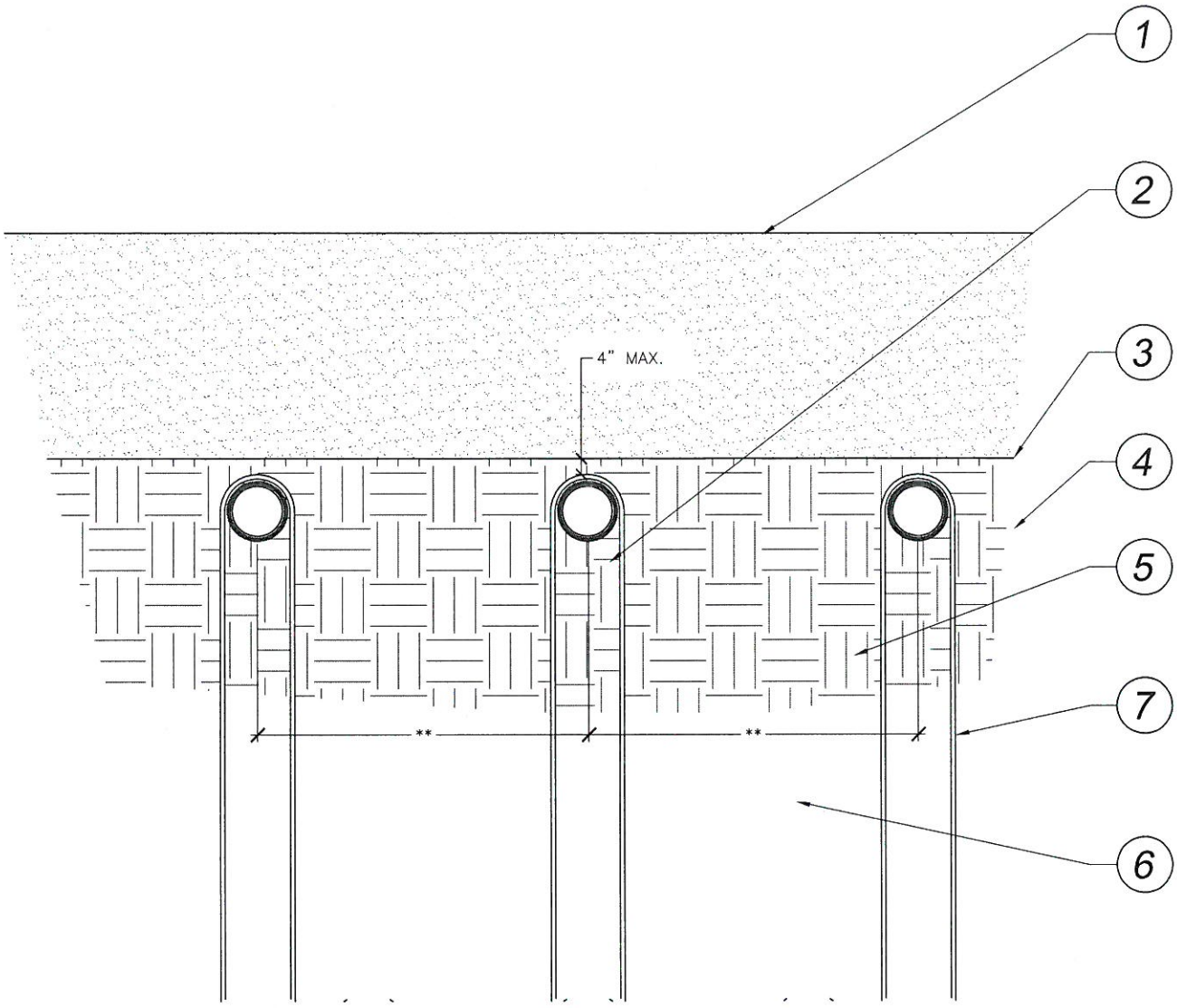
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

DRIP OPERATION INDICATOR

Standard Drawing No. 430



1. TOP OF MULCH
2. LANDSCAPE DRIP LINES
3. FINISH GRADE IN PLANTER AREAS, BACKFILL OVER DRIPLINE
4. FINISHED GRADE
5. SUB-GRADE OF NATIVE SOIL
6. (**) LATERAL DRIP LINE SPACING – SPACING
7. RAINBIRD TDS-050 TIE-DOWN STAKE AT 3' O.C. MAX.

N.T.S

Mark	Revision	By	Date
△			

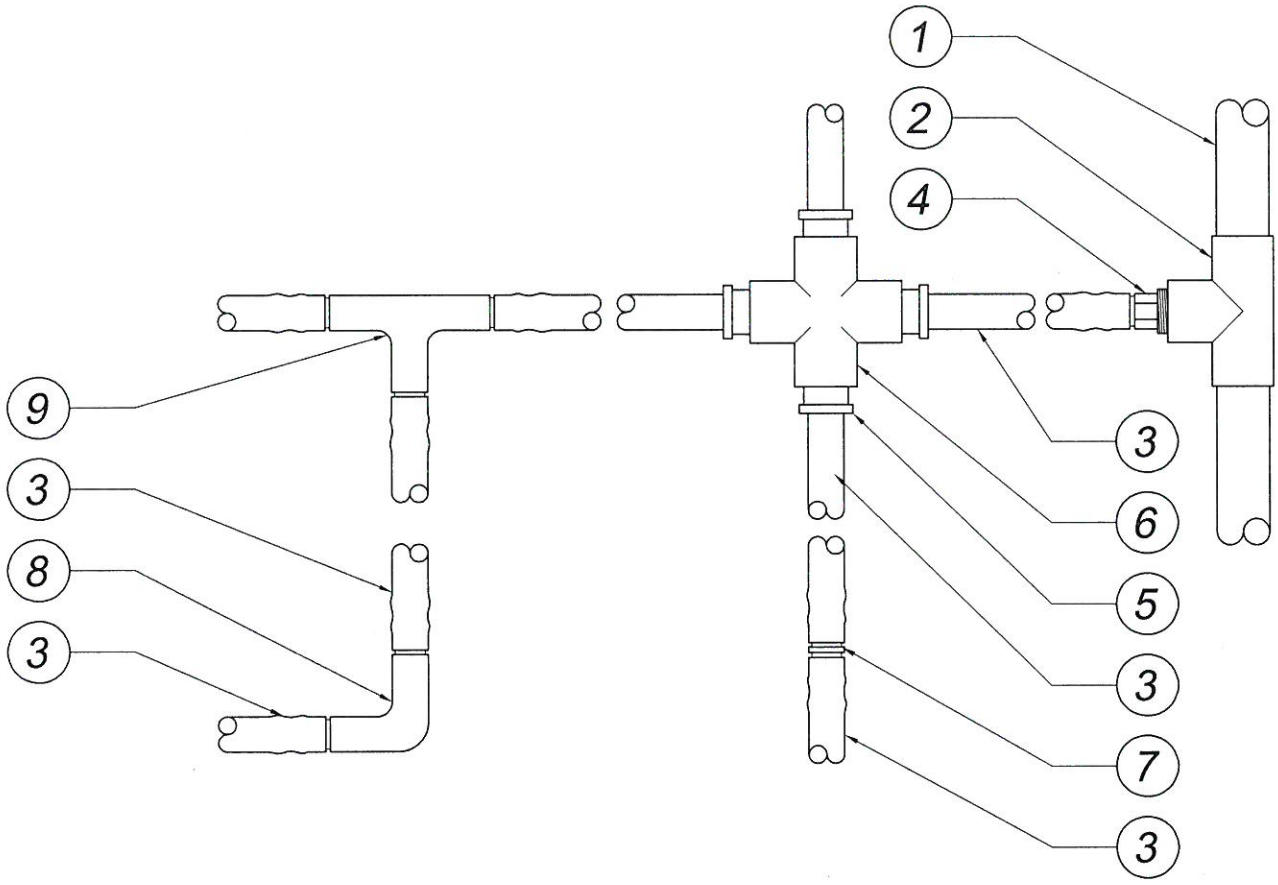
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

DRIPLINE TRENCH

Standard Drawing No. 431



1. PVC PIPE (PER LEGEND)
2. SCH. 40 PVC TEE
3. LANDSCAPE DRIP TUBING (PER LEGEND)
4. SCH. 40 PVC MALE ADAPTER
5. COMPRESSION ADAPTER FITTING
6. SCH. 40 PVC CROSS
7. COMPRESSION COUPLING
8. COMPRESSION ELBOW FITTING
9. COMPRESSION TEE FITTING

NOTES:
ALL PERIMETER LATERALS ARE TO BE 2" TO 4" FROM THE EDGE OF PLANTER AREA. CONTRACTOR TO SIZE PVC SUPPLY MANIFOLD TO COMPENSATE FOR FLUSH VALVE FLOWS. THE TOTAL LENGTH OF ALL INTERCONNECTED DRIP LINE SHALL NOT EXCEED THE MAXIMUM RUN LENGTH.

N.T.S

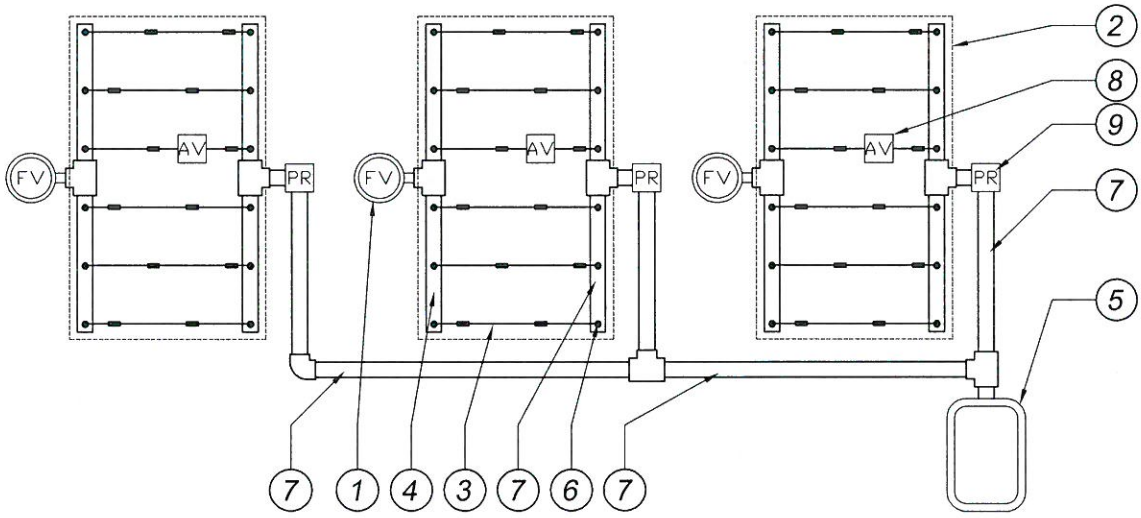
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

DRIPLINE FITTINGS

Standard Drawing No. 432



1. AUTOMATIC FLUSH VALVE (PER LEGEND) PLUMBED TO TUBING
2. AREA PERIMETER
3. LANDSCAPE DRIP TUBING (PER LEGEND)
4. PVC FLUSH MANIFOLD
5. REMOTE CONTROL VALVE WITH FILTER AND PRESSURE REGULATOR (SEE RCV DETAIL)
6. MANIFOLD–TO–ELBOW CONNECTION
7. PVC SUPPLY MANIFOLD
8. AIR/VACUUM RELIEF VALVE (PER LEGEND) PLUMBED TO BLANK TUBING AT EACH HIGH POINT
9. PRESSURE REGULATOR LOCATED AT EACH SUPPLY MANIFOLD

NOTES:
ALL PERIMETER LATERALS ARE TO BE 2" TO 4" FROM THE EDGE OF PLANTER AREA. CONTRACTOR TO SIZE PVC SUPPLY MANIFOLD TO COMPENSATE FOR FLUSH VALVE FLOWS.

N.T.S

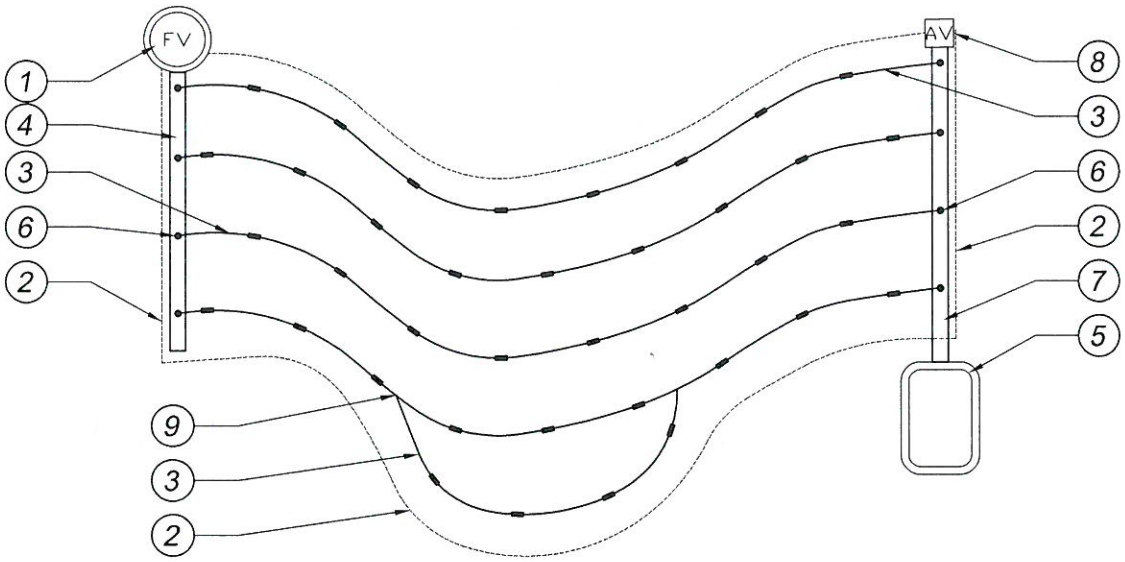
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

DRIPLINE ISLAND

Standard Drawing No. 433



1. AUTOMATIC FLUSH VALVE (PER LEGEND) PLUMBED TO TUBING
2. AREA PERIMETER
3. LANDSCAPE DRIP TUBING (PER LEGEND)
4. PVC FLUSH MANIFOLD
5. REMOTE CONTROL VALVE WITH FILTER AND PRESSURE REGULATOR (SEE RCV DETAIL)
6. MANIFOLD–TO–ELBOW CONNECTION
7. PVC SUPPLY MANIFOLD
8. AIR/VACUUM RELIEF VALVE (PER LEGEND) PLUMBED TO BLANK TUBING AT EACH HIGH POINT
9. COMPRESSION TEE FITTING

NOTES:
ALL PERIMETER LATERALS ARE TO BE 2" TO 4" FROM THE EDGE OF PLANTER AREA. CONTRACTOR TO SIZE PVC SUPPLY MANIFOLD TO COMPENSATE FOR FLUSH VALVE FLOWS. THE TOTAL LENGTH OF ALL INTERCONNECTED DRIP LINE SHALL NOT EXCEED THE MAXIMUM RUN LENGTH.

N.T.S

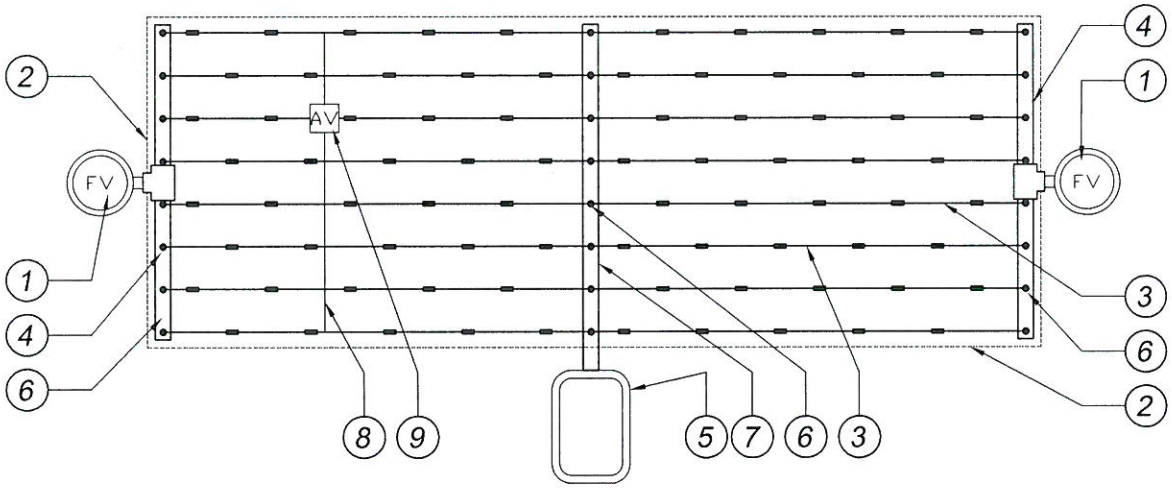
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

DRIPLINE ODD CURVES

Standard Drawing No. 434



1. AUTOMATIC FLUSH VALVE (PER LEGEND) PLUMBED TO TUBING
2. AREA PERIMETER
3. LANDSCAPE DRIP TUBING (PER LEGEND)
4. PVC FLUSH MANIFOLD
5. REMOTE CONTROL VALVE WITH FILTER AND PRESSURE REGULATOR (SEE RCV DETAIL)
6. MANIFOLD–TO–ELBOW CONNECTION
7. PVC SUPPLY MANIFOLD
8. AIR/VACUUM RELIEF VALVE (PER LEGEND) PLUMBED TO BLANK TUBING AT EACH HIGH POINT
9. AIR/RELIEF BLANK TUBING LATERAL ON MOUNDS OR BERMS

NOTES:
ALL PERIMETER LATERALS ARE TO BE 2'' TO 4'' FROM THE EDGE OF PLANTER AREA.

N.T.S

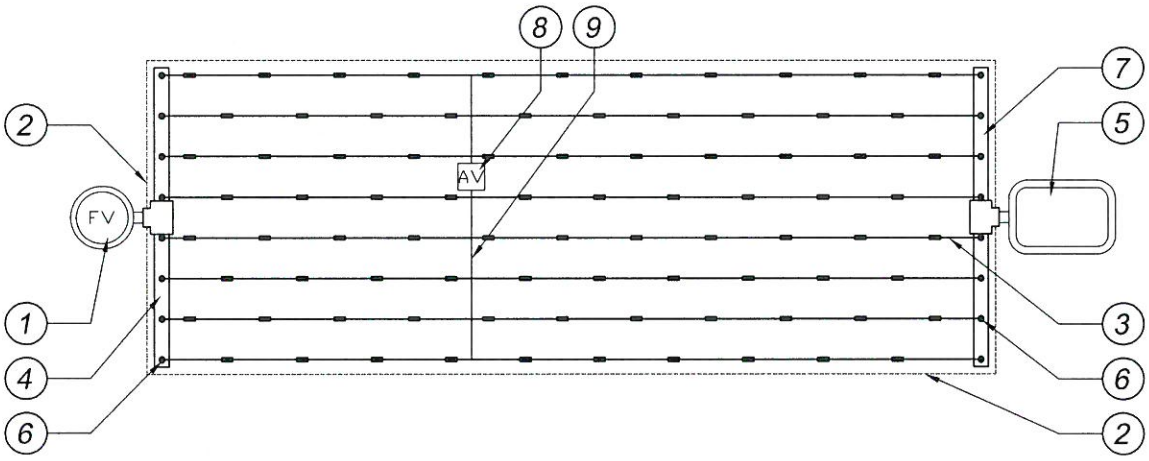
Mark	Revision	By	Date
△			

Approved:
Ernest Wong, Public Works Director/City Engineer
Date: 9-6-16

CITY OF HIGHLAND

DRIPLINE CENTER

Standard Drawing No. 435



1. AUTOMATIC FLUSH VALVE (PER LEGEND) PLUMBED TO TUBING
2. AREA PERIMETER
3. LANDSCAPE DRIP TUBING (PER LEGEND)
4. PVC FLUSH MANIFOLD
5. REMOTE CONTROL VALVE WITH FILTER AND PRESSURE REGULATOR (SEE RCV DETAIL)
6. MANIFOLD–TO–ELBOW CONNECTION
7. PVC SUPPLY MANIFOLD
8. AIR/VACUUM RELIEF VALVE (PER LEGEND) PLUMBED TO BLANK TUBING AT EACH HIGH POINT
9. AIR/RELIEF BLANK TUBING LATERAL ON MOUNDS OR BERMS

NOTES:
ALL PERIMETER LATERALS ARE TO BE 2'' TO 4'' FROM THE EDGE OF PLANTER AREA.

N.T.S

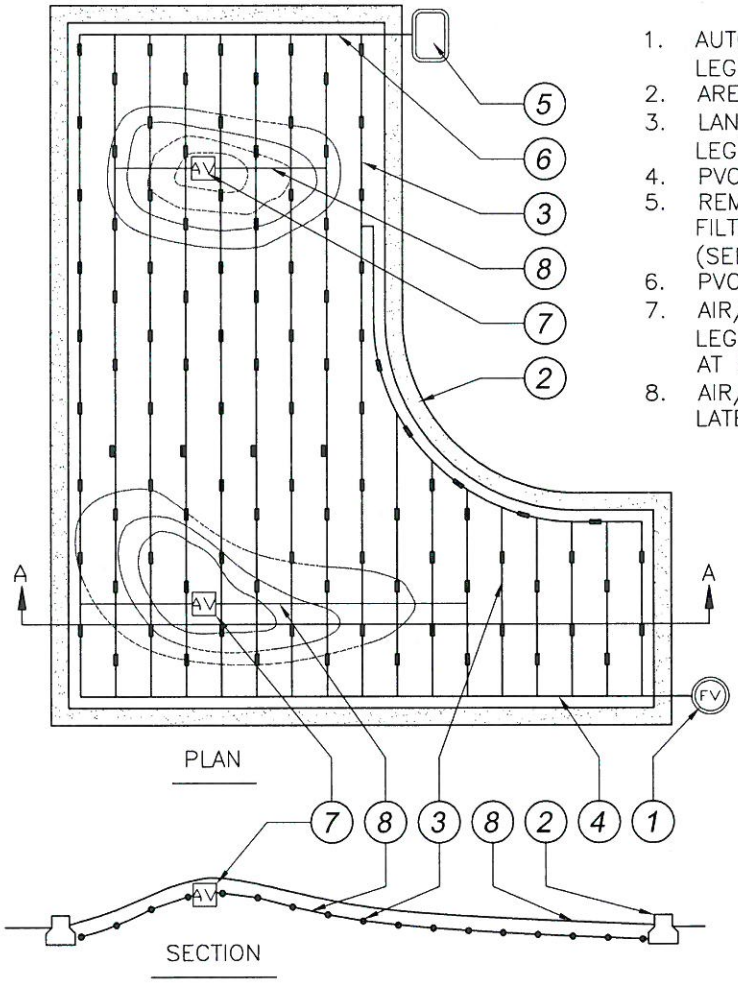
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

DRIPLINE END

Standard Drawing No. 436



1. AUTOMATIC FLUSH VALVE (PER LEGEND) PLUMBED TO TUBING
2. AREA PERIMETER
3. LANDSCAPE DRIP TUBING (PER LEGEND)
4. PVC FLUSH MANIFOLD
5. REMOTE CONTROL VALVE WITH FILTER AND PRESSURE REGULATOR (SEE RCV DETAIL)
6. PVC SUPPLY MANIFOLD
7. AIR/VACUUM RELIEF VALVE (PER LEGEND) PLUMBED TO BLANK TUBING AT EACH HIGH POINT
8. AIR/RELIEF BLANK TUBING LATERAL ON MOUNDS OR BERMS

NOTES:
ALL PERIMETER LATERALS ARE TO BE 2" TO 4" FROM THE EDGE OF PLANTER AREA.

N.T.S

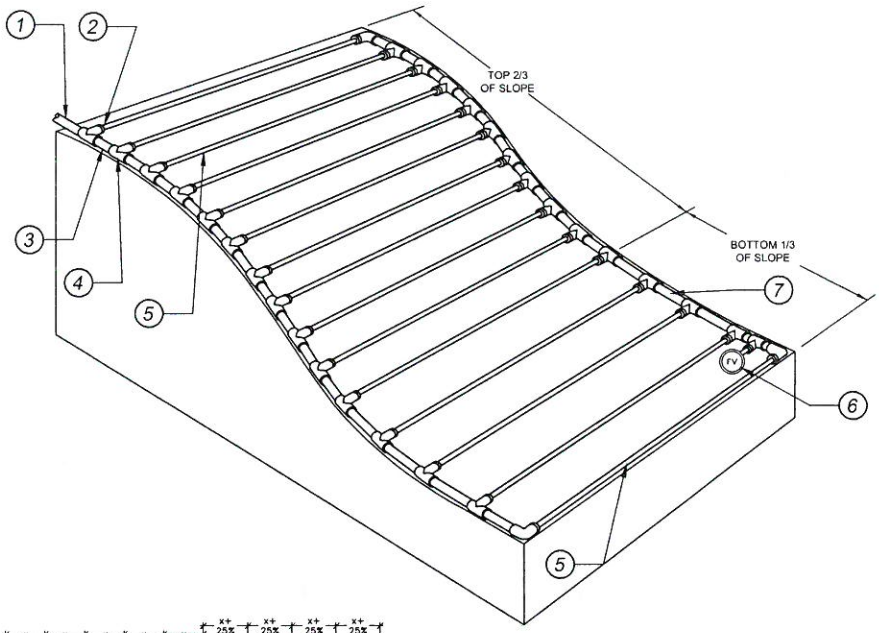
Mark	Revision	By	Date
△			

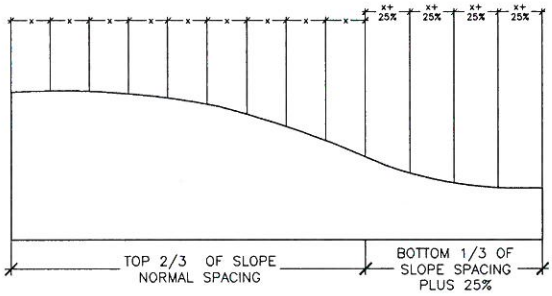
Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

DRIPLINE BERM

Standard Drawing No. 437





1. PVC FEED FROM DRIP CONTROL ZONE
2. BARB X MALE FITTING
3. SCH. 40 PVC SUPPLY HEADER
4. SCH. 40 TEE OR EL
5. DRIPLINE PER IRRIGATION LEGEND
6. FLUSH POINT
7. SCH. 40 PVC FLUSH HEADER

X = DISTANCE BETWEEN DRIP LATERALS PER PLAN

XFD Dripline Maximum Lateral Lengths (Feet)						
	12" Spacing		18" Spacing		24" Spacing	
PSI	0.6 GPH	0.9 GPH	0.6 GPH	0.9 GPH	0.6 GPH	0.9 GPH
15	273	155	314	250	424	322
20	318	169	353	294	508	368
30	360	230	413	350	586	414
40	395	255	465	402	652	474

NOTES:
1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE PER PLAN. DISTANCE BETWEEN LATERAL ROWS FOR BOTTOM 1/3 OF SLOPE TO BE 1.25X OPTIMAL ROW DISTANCE.
2. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM LENGTH SHOWN IN THE ACCOMPANYING TABLE.
3. WHEN ELEVATION CHANGE EXCEEDS 10 FEET IT IS RECOMMENDED THAT A NEW DRIPLINE ZONE BE CREATED.

N.T.S

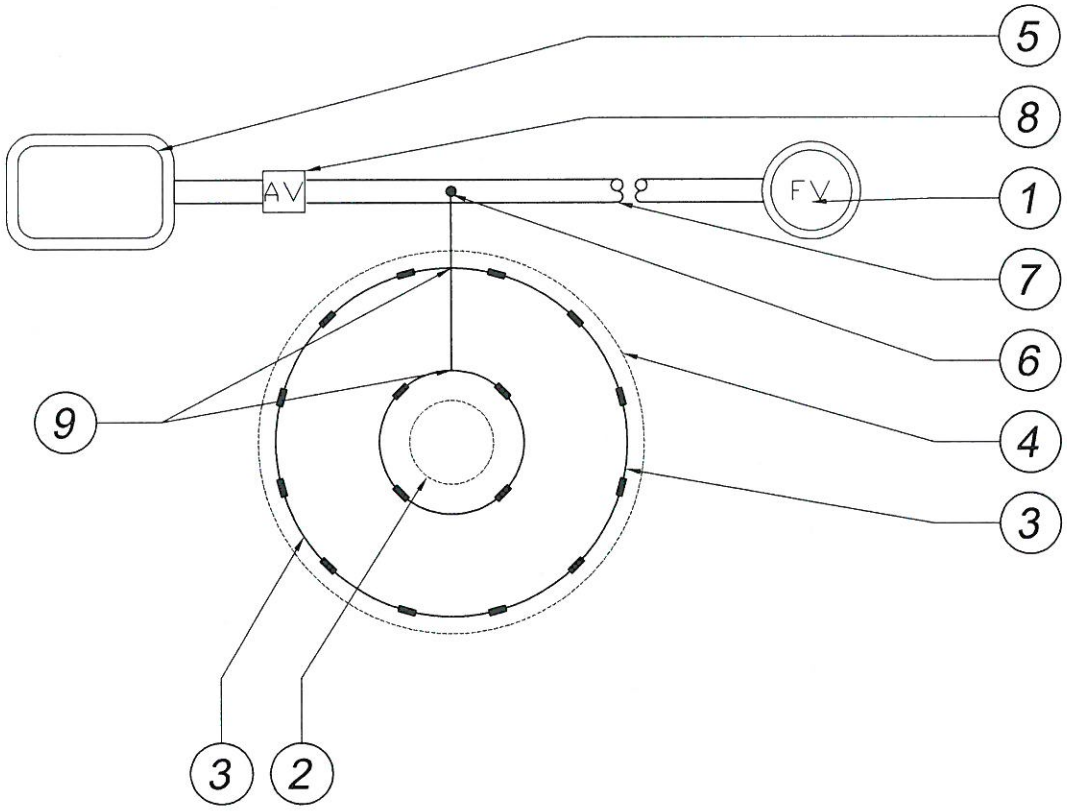
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

DRIPLINE SLOPE

Standard Drawing No. 438



1. AUTOMATIC FLUSH VALVE (PER LEGEND) PLUMBED TO TUBING
2. TREE ROOTBALL
3. LANDSCAPE DRIP TUBING (PER LEGEND)
4. ESTIMATED DRIPLINE OF TREE IN 5 YEARS
5. REMOTE CONTROL VALVE WITH FILTER AND PRESSURE REGULATOR (SEE RCV DETAIL)
6. MANIFOLD–TO–ELBOW CONNECTION
7. PVC SUPPLY MANIFOLD
8. AIR/VACUUM RELIEF VALVE (PER LEGEND) PLUMBED TO BLANK TUBING AT EACH HIGH POINT
9. COMPRESSION FITTING

NOTES:
ALL PERIMETER LATERALS ARE TO BE 2" TO 4" FROM THE EDGE OF PLANTER AREA.

N.T.S

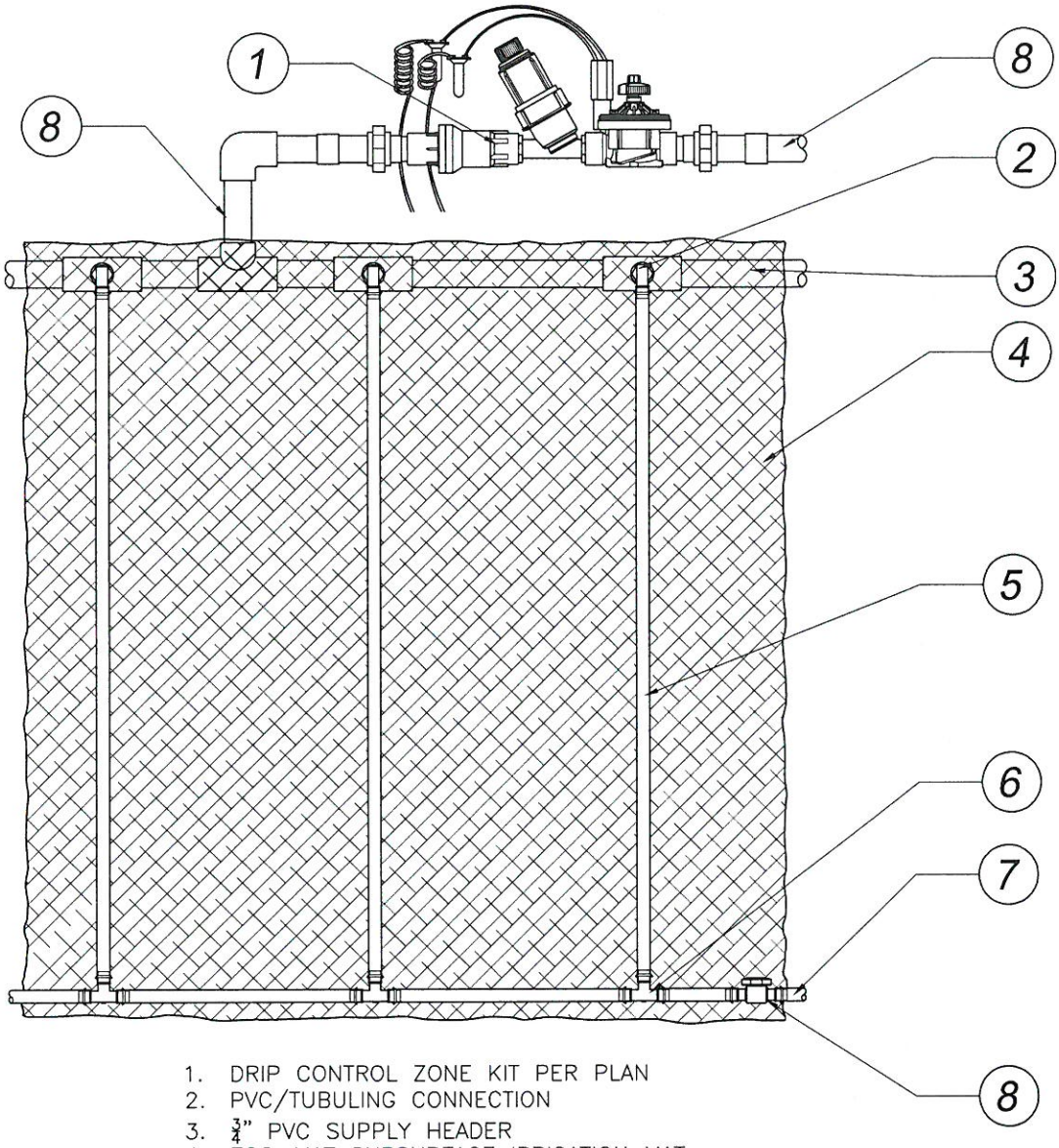
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

DRIPLINE
TREES

Standard Drawing No.
439



1. DRIP CONTROL ZONE KIT PER PLAN
2. PVC/TUBULING CONNECTION
3. ¾" PVC SUPPLY HEADER
4. ECO-MAT SUBSURFACE IRRIGATION MAT
5. DRIP LINE TUBING, WRAPPED IN POLYPROPYLENE FLEECE
6. PLD-TEE 17mm BARB x BARB x BARB TEE FITTING
7. 17mm PLD BLANK TUBING DISCHARGE HEADER
8. LATERAL LINE PER PLAN

NOTES:
ALL PERIMETER LATERALS ARE TO BE 2" TO 4" FROM THE EDGE OF PLANTER AREA.

N.T.S

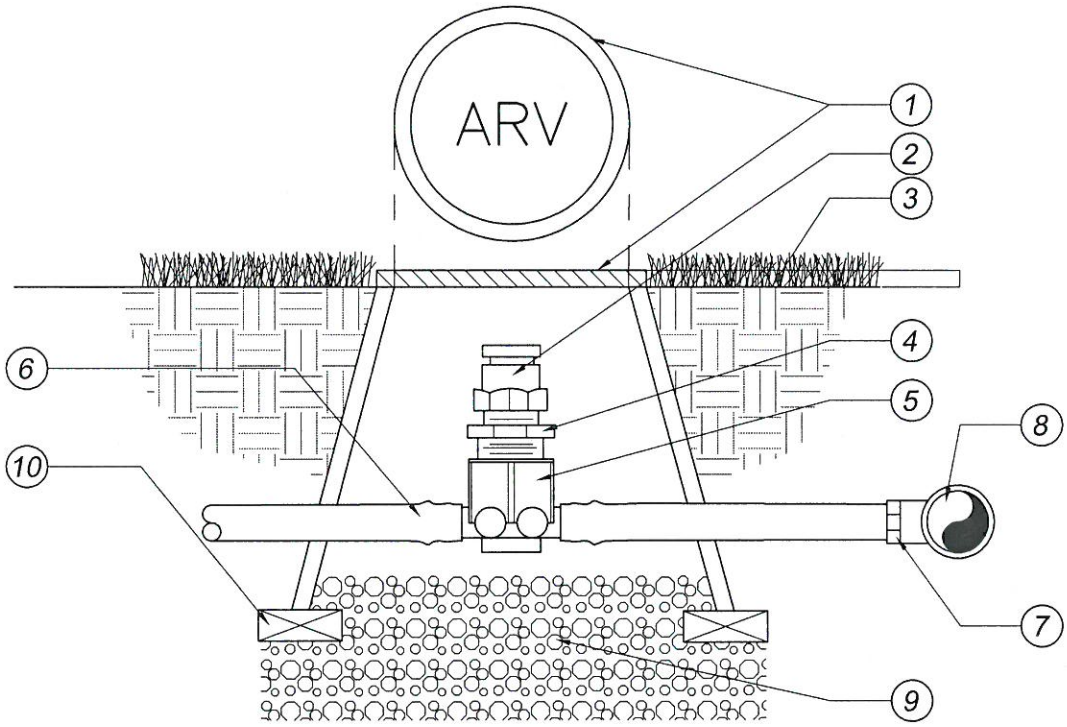
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

DRIPLINE
ECO-MAT

Standard Drawing No.
440



1. RAINBIRD SEB–7XB PLASTIC EMITTER BOX
2. AIR RELIEF PER IRRIGATION LEGEND
3. FINISH GRADE
4. ½" X ¾" PVC REDUCER BUSHING
5. BARB X FEMALE THREAD CONNECTOR: RAIN BIRD XFD–TFA FITTING
6. ½" BLANK DRIPLINE TUBING: RAIN BIRD XF SERIES
7. BARB X MALE THREAD CONNECTOR: RAIN BIRD XFD–MA FITTING
8. PVC TEE CONNECTED TO PVC HEADER PIPE
9. 3" MINIMUM DEPTH OF ¾" WASHED GRAVEL
10. COMMON BRICK – 2 REQUIRED

N.T.S

Mark	Revision	By	Date
△			

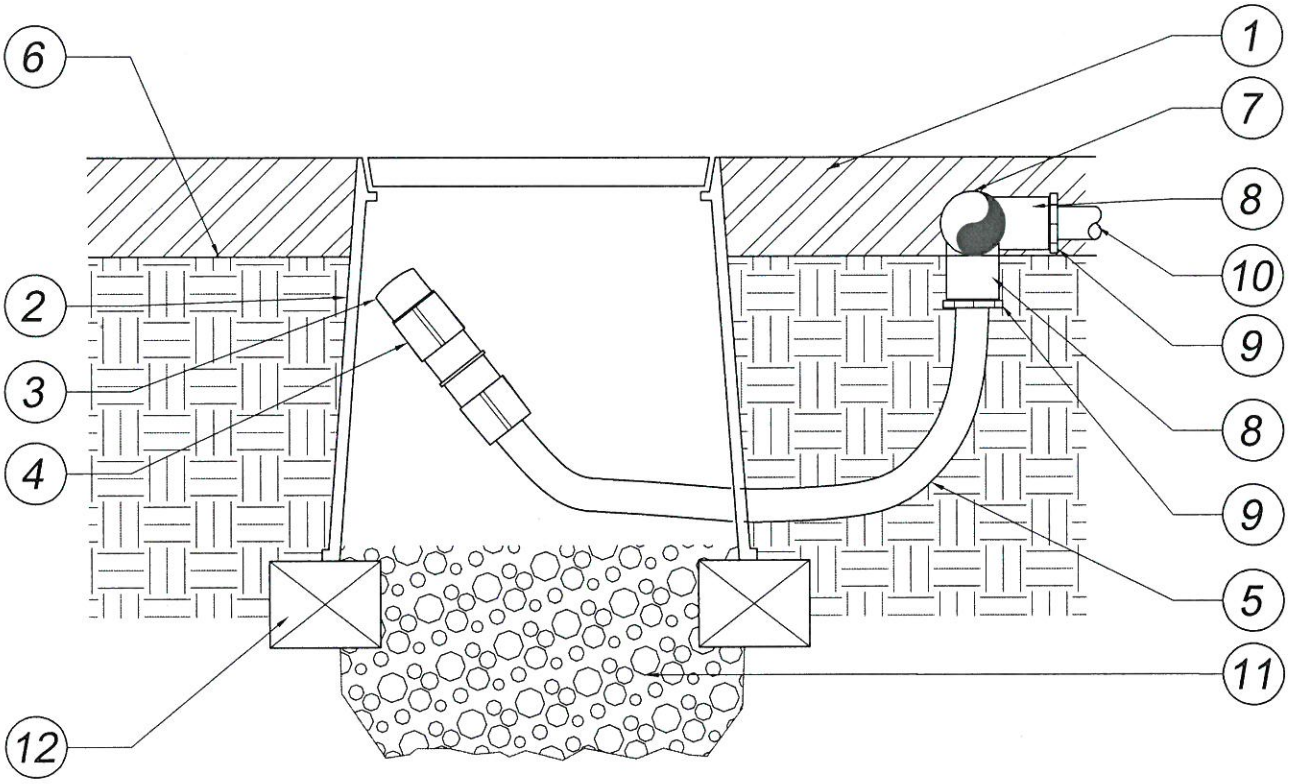
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

DRIPLINE AIR RELIEF VALVE

Standard Drawing No. 441



1. MULCH PER PLAN
2. RAINBIRD SEB 7XB EMITTER BOX
3. FLUSH CAP
4. EASY FIT COUPLING
5. 1/2" BLANK POLYETHYLENE TUBING
6. FINISH GRADE
7. PVC EXHAUST HEADER
8. SCH. 40 PVC TEE OR EL
9. BARB X MALE FITTING
10. DRIPLINE PER IRRIGATION LEGEND
11. 3" MINIMUM DEPTH 3/4" WASHED PEA GRAVEL
12. COMMON BRICK (2 NEEDED)

NOTE:
ALLOW 6" MINIMUM OF DRIPLINE TUBING IN VALVE BOX

N.T.S

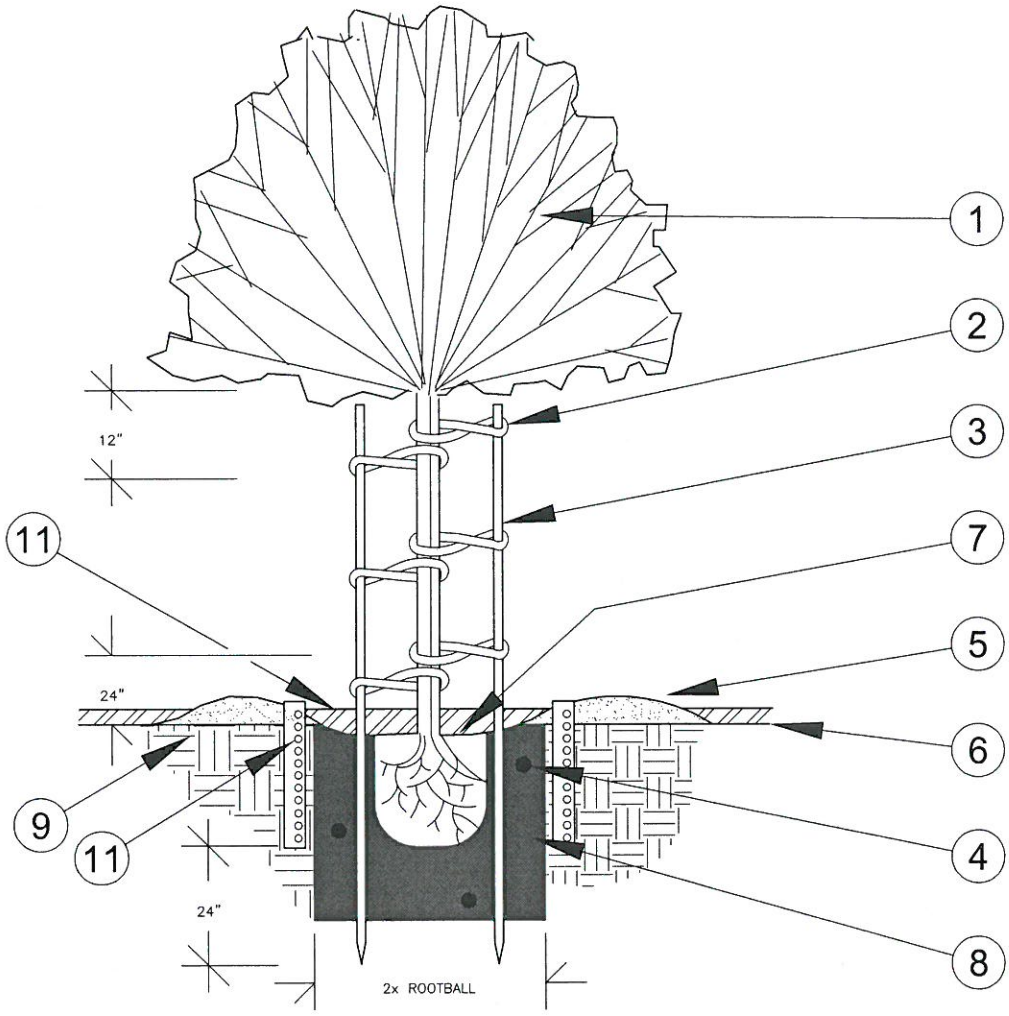
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

DRIPLINE
FLUSH VALVE

Standard Drawing No.
442



1. TREE PER PLANTING PLAN
2. CINCH TIE (6 PER TREE)
3. (MINIMUM 2) 3" DIA. x 10' LONG LODGE POLE STAKES,
4. PLANT TABLETS PER PLANTING SPECS / NOTES
5. EARTH WATERING BASIN IN GROUNDCOVER AREAS
6. FINISH GRADE
7. ROOTBALL: SET CROWN 1"–2" ABOVE FINISH GRADE
8. COMPACT BACKFILL MIX PER PLANTING SPECS / NOTES
9. NATIVE SOIL
10. 2" MINIMUM DEEP MULCH PER PLANTING PLAN
11. TREE BREATHER TUBE 4" DIA. PERFERATED ABS, 2' LONG, GRATE COVER SCREW COVER TO PIPE. PROVIDE 2 ON EACH SIDE OF TREE

NOTE: ROOT BARRIER TO BE PLACED WHEN TREE IS WITHIN 6' OF HARDSCAPE

N.T.S

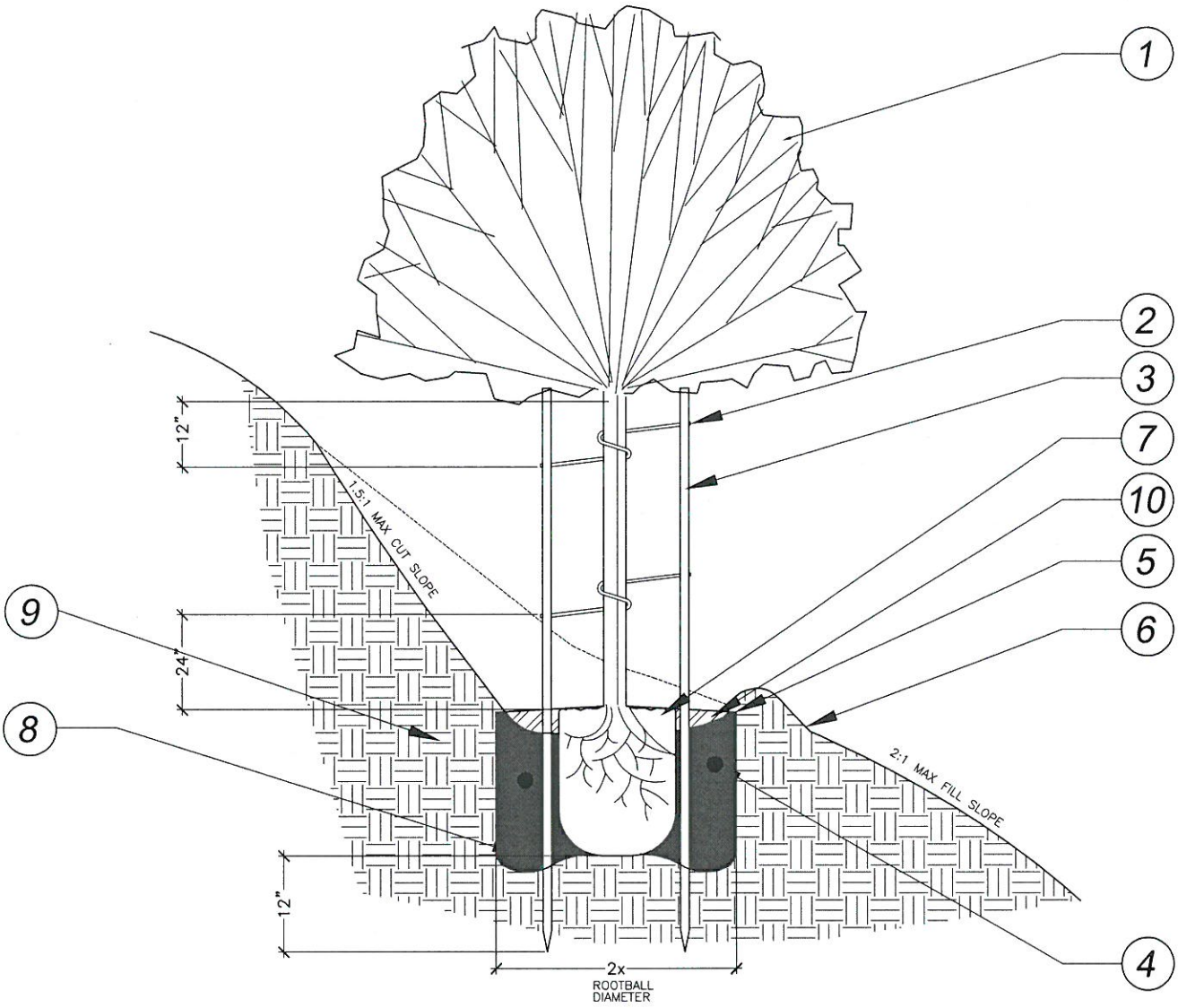
Mark	Revision	By	Date
△			

Approved: Ernie Wong Date: 8-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

TREE PLANTING

Standard Drawing No. 450



1. TREE PER PLANTING PLAN
2. V.I.T. TWIST-BRACE TREE TIES
   15 GAL-24" BOX: MODEL TB24, ATTACH TO STAKE WITH WOOD SCREWS
   24" BOX-36" BOX: MODEL TB36, ATTACH TO STAKE WITH BOLT AND NUT.
   30" BOX-42" BOX: MODEL TB42, ATTACH TO STAKE WITH BOLT AND NUT.
3. 3" DIA. x 10' LONG LODGE POLE STAKES
4. PLANT TABLETS PER PLANTING SPECS/NOTES
5. 'SLOPE GUARD' BY CENTURY PRODUCTS
   (714) 632-7083
6. FINISH GRADE
7. ROOTBALL: SET CROWN 2" ABOVE FINISH GRADE
8. BACKFILL MIX PER PLANTING SPECS/NOTES
9. NATIVE SOIL
10. MULCH - TYPE & DEPTH PER PLANTING PLAN

N.T.S

Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

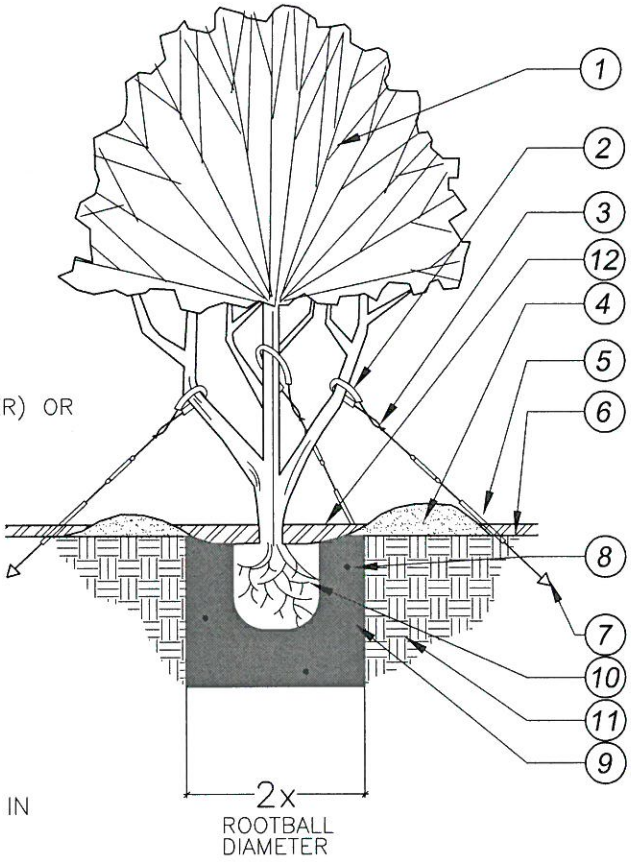
CITY OF HIGHLAND

TREE PLANTING SLOPE

Standard Drawing No. 451

1. SINGLE OR MULTI–TRUNKED TREE PER PLANTING PLAN
2. RUBBER HOSE OVER WIRE AND TRUNK (TYP)
3. GUY WIRE WITH TURN BUCKLE (NO SPLICES)
4. EARTH WATERING BASIN IN GROUNDCOVER AREAS
5. 1/2" SCH 40 PVC PIPE OVER EACH GUY WIRE
6. FINISH GRADE
7. RA–30 RAPID ANCHOR BY 'V.I.T.' (INSTALL PER MANUFACTURER) OR APPROVED EQUAL.
8. PLANT TABLETS PER PLANTING SPECS / NOTES
9. COMPACT BACKFILL MIX PER PLANTING SPECS / NOTES
10. ROOTBALL: SET CROWN 1"–2" ABOVE FINISH GRADE
11. NATIVE SOIL
12. PLANTER AREA MULCH – DEPTH PER PLANTING PLAN

NOTE:
PROVIDE EXPANDABLE TRUNK GUARD IN ALL TURF AREAS



N.T.S

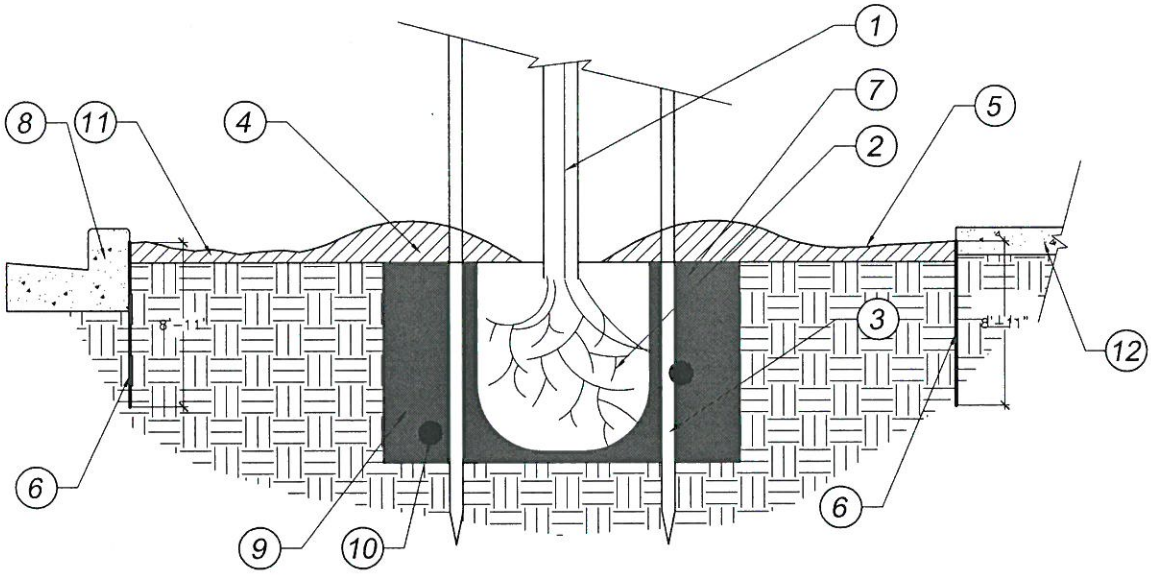
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

TREE GUYING

Standard Drawing No. 452



1. TREE PER PLANTING PLAN
2. ROOTBALL
3. STAKE PER 'TREE PLANTING' DETAIL
4. EARTH WATERING BASIN PER 'TREE PLANTING' DETAIL
5. FINISH GRADE
6. DEEP ROOT BARRIER AT EDGE OF HARDSCAPE – 24" DEEP, 10' LONG CENTERED ON TRUNK
7. TREE PLANTING PIT
8. STREET CURB PER STREET IMPROVEMENT PLANS
9. COMPACTED BACKFILL MIX PER PLANTING SPECS / NOTES
10. PLANT TABLETS PER PLANTING SPECS / NOTES
11. MULCH – TYPE & DEPTH PER PLANTING PLAN
12. CONCRETE PAVING PER PLAN

NOTES:

1. ROOTBARRIER TO EXTEND 6' TO EITHER SIDE OF TREE TRUNK
2. ROOTBARRIER SHALL NOT ENCIRCLE THE TREE ROOTBALL

N.T.S

Mark	Revision	By	Date
△			

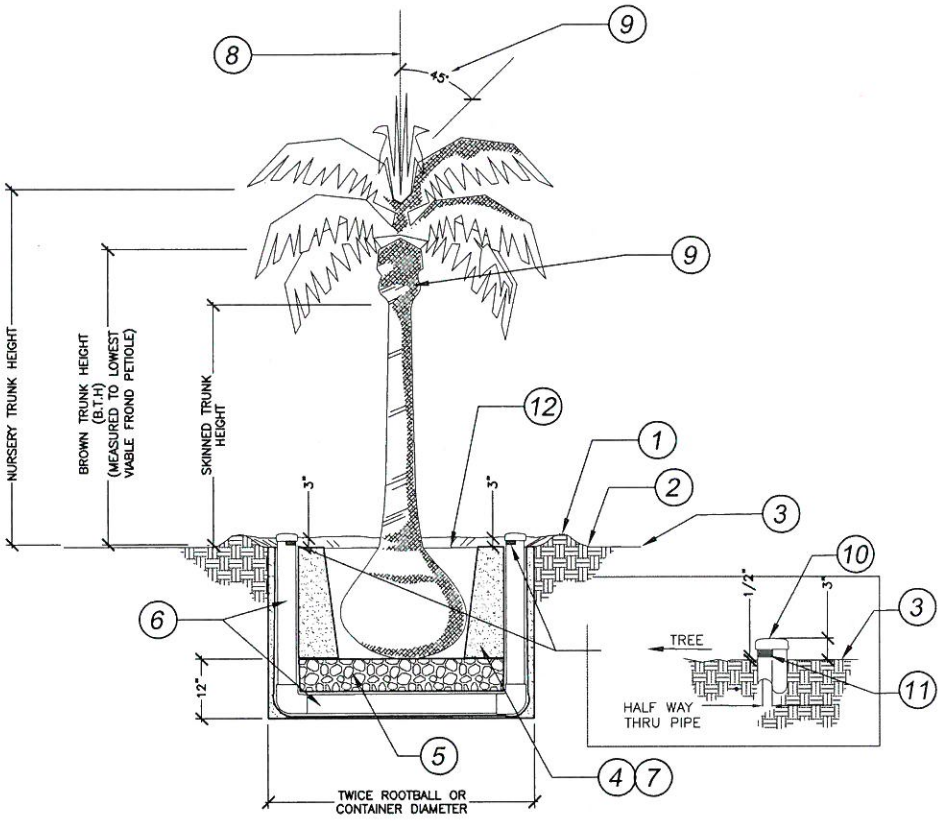
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

TREE ROOT BARRIER

Standard Drawing No. 453



1. 4" HIGH WATER BASIN.
2. MULCH. REFER TO PLANTING PLAN.
3. FINISH GRADE
4. THOROUGHLY SATURATE SAND WITH WATER UPON COMPLETION OF PLANTING
5. ¾" CRUSHED ROCK OR PEA GRAVEL
6. 4" DIAMETER PVC PERFORATED DRAIN LINE WRAPPED WITH FILTER CLOTH WITH 6"OVERLAP
7. WASHED PLASTER SAND BACKFILL
8. PLANT PALMS SO AXIS IS PLUMB.
9. FRONDS MAY BE REMOVED TO NOT LESS THAN 45% OF VERTICAL AXIS.
10. PVC CAP
11. ½" WIDE SLOT HALF WAY THROUGH PIPE
12. PLANT PALM AT ORIGINAL PLANTED DEPTH OR DEEPER AS DIRECT BY LANDSCAPE ARCHITECT.

PALM PLANTING GUIDELINES

A. THE TOP OF THE ROOTBALL SHALL BE AT FINAL GRADE AND NOT MORE THAN 1FT. BELOW THE ORIGINAL GRADE.
B. INSTALL 4" PERFORATED SCH 40 PIPE WITH ENTIRE LENGTH WRAPPED WITH FILTER CLOTH. PLACE PIPE ADJACENT TO PALM BEFORE BACKFILLING. PIPE MUST EXTEND 5% BELOW THE BOTTOM OF THE ROOTBALL. AFFIX LOOSE FITTING CAP ON UPPER ENDS OF PIPE, SO TAPE CAN BE LOWERED INTO PIPE TO CHECK WATER LEVEL. MONITOR DAILY PRIOR TO APPLICATION OF SUPPLEMENTAL WATER.
C. BACKFILL MIX:
   C.a. BACK FILL PITS WITH WASHED PLASTER SAND UP TO THE LEVEL WHERE THE ROOTBALL WILL BE SET.
   C.b. WATER PIT AS IT IS BEING BACKFILLED USING 6' LONG PIPE STICKER TOPPED WITH 90° ELBOW, PLACED ON END OF MIN. ¾" HOSE, WITH ADEQUATE VOLUME. STICKER SHALL BE WORKED UP AND DOWN, AS THE PIT IS BACKFILLED.
   C.c. APPLY A MIXTURE OF 1 OZ. "BASIC H" BY SHAKLEE AND 2 TBSP. "STEM" BY PETERS. INTO 5 GAL. WATER. POUR IN WHEN BACKFILLING IS ALMOST COMPLETE AND THOROUGHLY SATURATE WITH WATER.
D. WATER PALMS WITH SOAKING OF 100–150 GALLONS WATER PER PALM, EVERY 5 DAYS.
E. AFTER 14th DAY. THEN MONTHLY. FRONDS SHALL BE SPRAYED (FOLIAR DRENCH) WITH THE FOLLOWING, AT THE RECOMMENDED RATES FOR A 100 GALLON TANK MIX:
   E.a. KOCIDE 101 W.P. (¾ LB) OR MAZATE (1 QT./1000 GALLONS)
   E.b. W.R. GRACE'S MINOR–GRO (½ CUP)
   E.c. HYDRATED UREA (5 CUPS OR 2–½ LB.)
   E.d. SPREADER STICKER (8 OZ.) "BASIC H"
   E.e. OPTION: ADD GENERAL INSECTICIDE

N.T.S

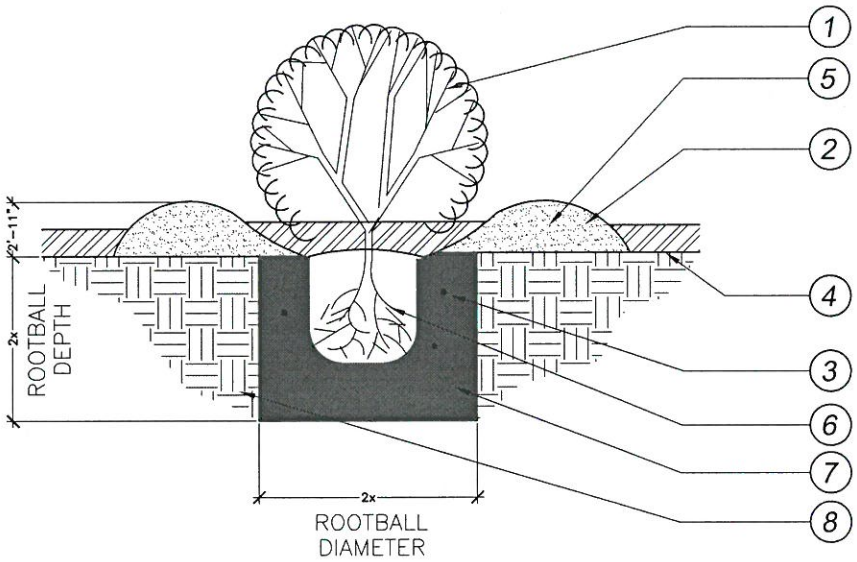
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

PALM PLANTING

Standard Drawing No. 454



1. SHRUB PER PLANTING PLAN
2. WOOD MULCH– DEPTH PER PLANTING PLAN
3. PLANT TABLETS PER PLANTING SPECS / NOTES
4. FINISH GRADE
5. EARTH WATERING BASIN (RAKE SMOOTH PRIOR TO PLANTING GROUNDCOVER)
6. ROOTBALL: SET CROWN SLIGHTLY ABOVE FINISH GRADE
7. COMPACT BACKFILL MIX PER PLANTING SPECS / NOTES
8. NATIVE SOIL

N.T.S

Mark	Revision	By	Date
△			

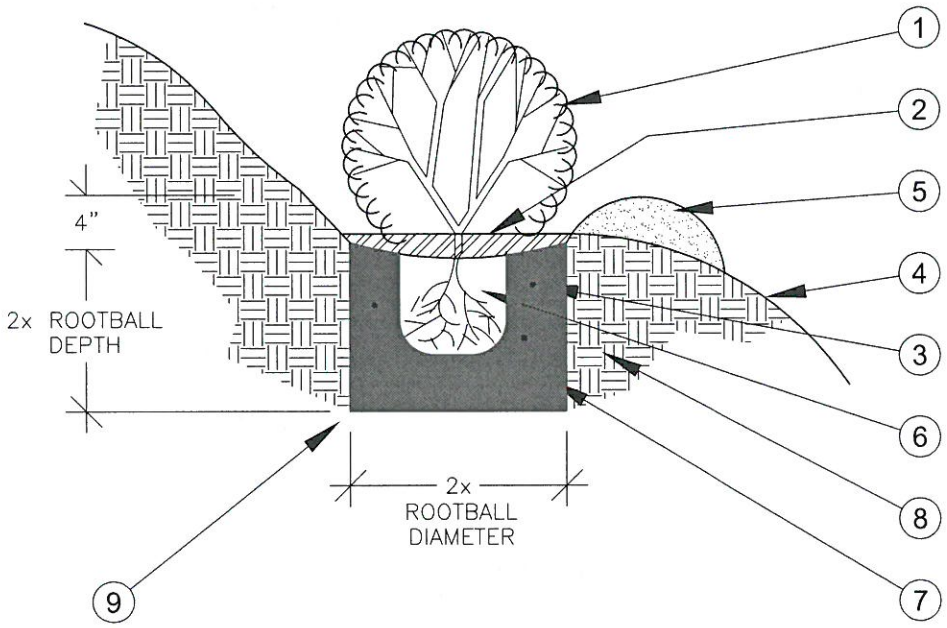
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

SHRUB PLANTING

Standard Drawing No. 455



1. SHRUB PER PLANTING PLAN
2. MULCH – TYPE & DEPTH PER PLANTING PLAN
3. PLANT TABLETS PER PLANTING SPECIFICATIONS
4. FINISH GRADE
5. EARTH WATERING BASIN
6. ROOTBALL: SET CROWN FLUSH WITH FINISH GRADE
7. COMPACT BACKFILL MIX PER PLANTING SPECIFICATIONS / NOTES
8. NATIVE SOIL
9. CUT PLANTING PIT INTO SLOPE TO CREATE LEVEL BASIN

N.T.S

Mark	Revision	By	Date
△			

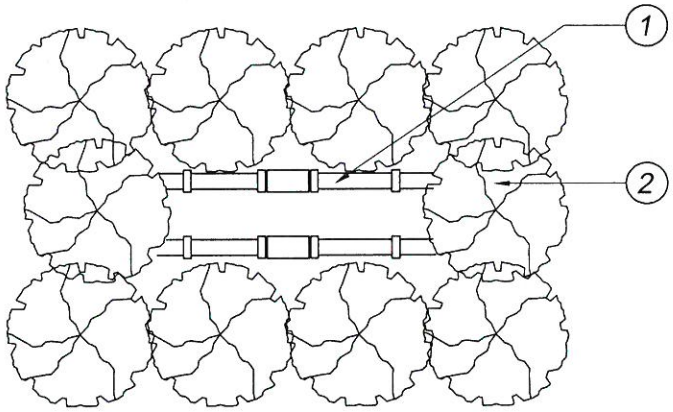
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

SHRUB PLANTING SLOPE

Standard Drawing No. 456



DETAIL NOTES:

1. BACKFLOW PREVENTION DEVICE; REFER TO IRRIGATION PLAN FOR LOCATION
2. MINIMUM 2' TALL SHRUBS. REFER TO PLANTING PLAN FOR TYPE AND SIZE. SHRUBS SHALL VISIBLY SCREEN THE BACKFLOW UNIT FROM VIEW ON ALL FOUR (4) SIDES.

N.T.S

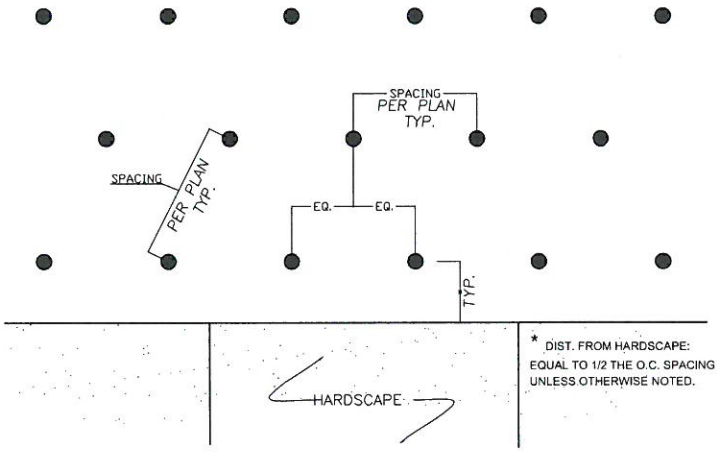
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

SHRUB PLANTING
BACKFLOW SCREENING

Standard Drawing No. 457



N.T.S

Mark	Revision	By	Date
△			

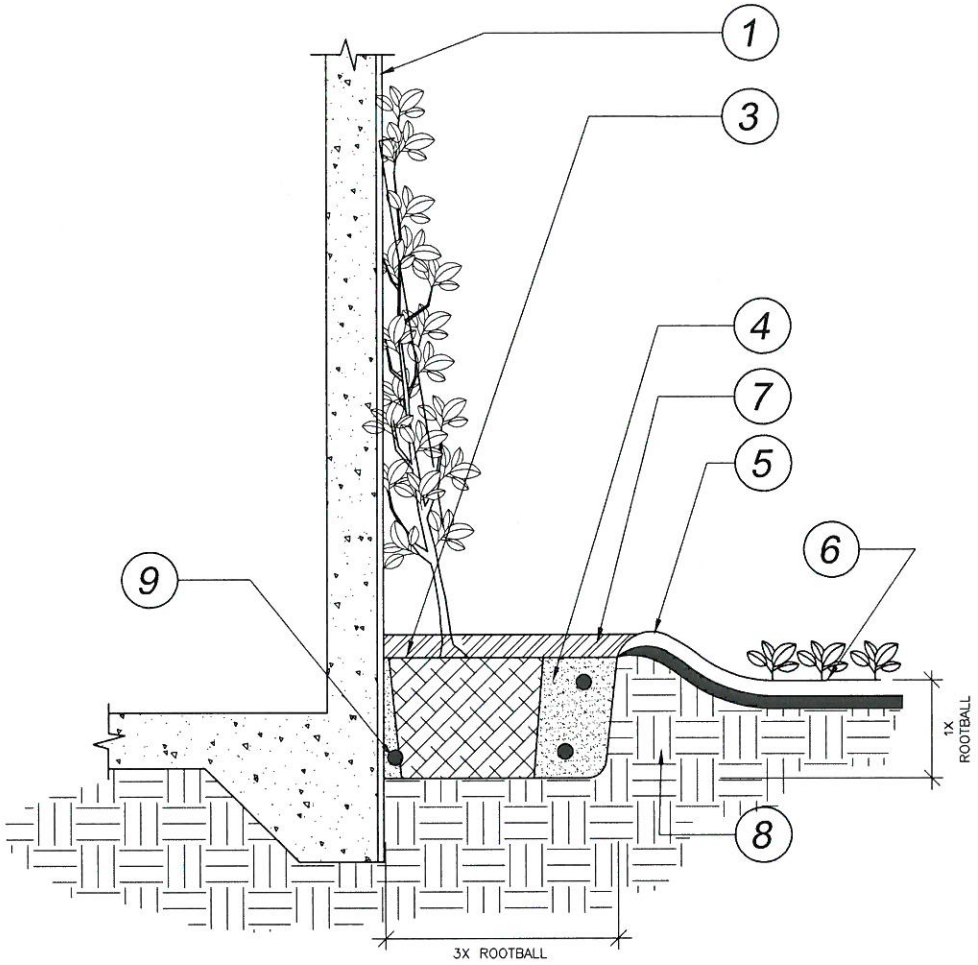
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

GROUNDCOVER PLANTING

Standard Drawing No. 458



1. FACE OF WALL OR BUILDING
2. PROP TOP OF STAKE AGAINST WALL OR BUILDING
3. SET ROOTBALL TIGHT TO FOOTING, REMOVE ALL TRASH OR CONCRETE AT PLANTING HOLE
4. BACKFILL PER PLANTING NOTES/SPECS
5. EARTH WATERING BASIN (RAKE SMOOTH PRIOR TO PLANTING GROUNDCOVER)
6. FINISH GRADE PER PLAN
7. WOOD MULCH – DEPTH PER PLANTING PLAN
8. NATIVE SOIL
9. PLANT TABS PER PLANTING NOTES/SPECS

N.T.S

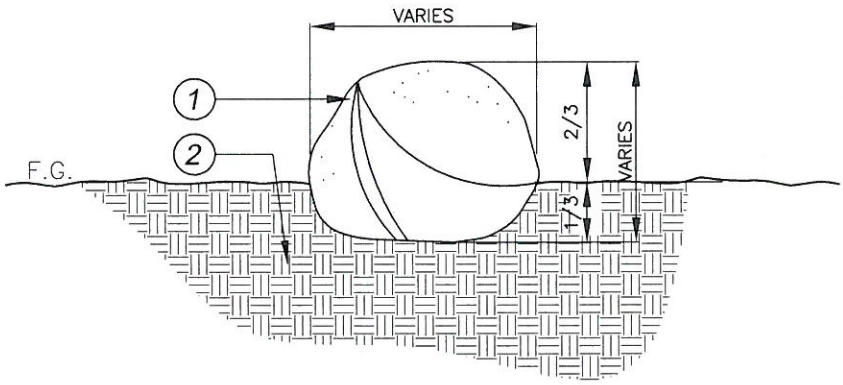
Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

VINE PLANTING

Standard Drawing No. 459



DETAIL NOTES:

1. STONE OR BOULDER. REFER TO PLANS FOR TYPE, SIZE AND SUPPLIERS
2. 90% COMPACTED SUBGRADE

GENERAL NOTES:

BOULDERS SHALL BE PLACED SO AS TO APPEAR "NATURAL." AT NO TIME SHALL ANY BOULDER BE PLACED ON TOP OF SOIL OR D.G. WITHOUT EMBEDDING IN OR COMPACTING THE SURROUNDING SOIL.

N.T.S

Mark	Revision	By	Date
△			

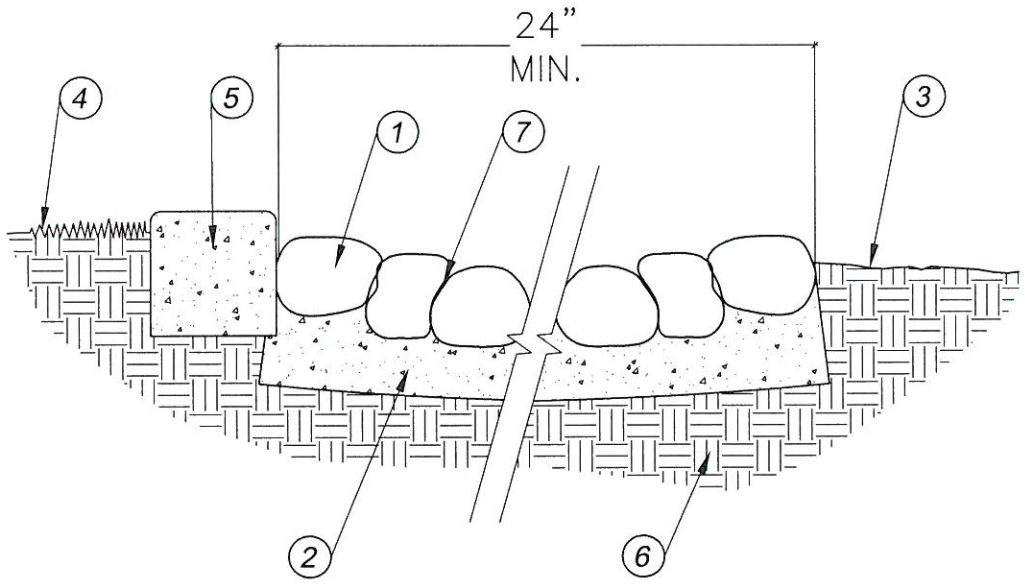
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

BOULDER INSTALLMENT

Standard Drawing No. 460



1. 3"ø–12"ø RIVER ROCK
2. 3" CONCRETE MORTAR BASE
3. FINISH GRADE IN PLANTER AREAS
4. FINISH GRADE IN TURF AREAS
5. CONCRETE MOWCURB AT TURF AREAS ONLY PER DETAIL 'B', SHEET LC–6
6. COMPACTED SUBGRADE PER SOILS REPORT
7. 1/4" – 1/2" MORTAR JOINTS. 3/4" OF COBBLE TO BE IN MORTAR

N.T.S

Mark	Revision	By	Date
△			

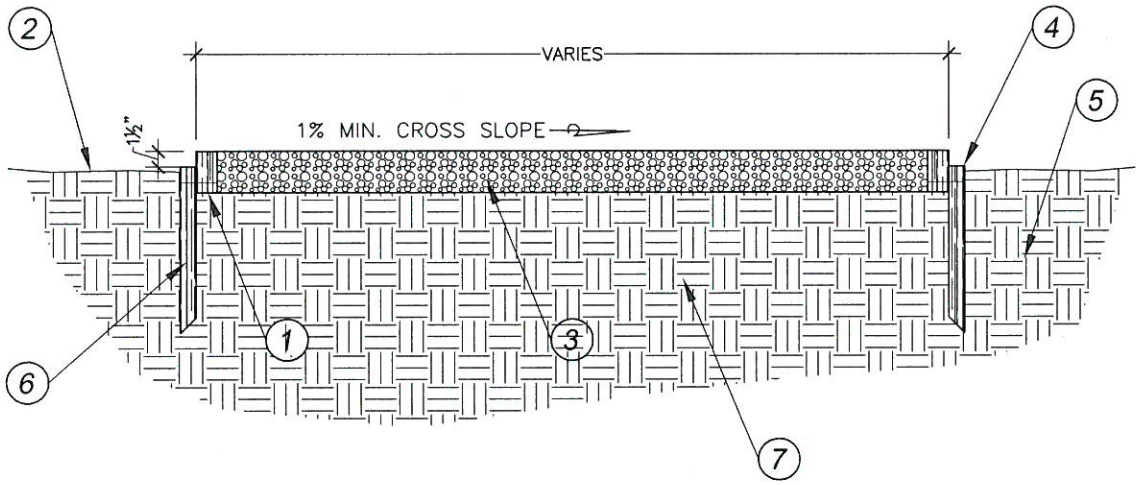
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

ROCK
COBBLE

Standard Drawing No.
461



1. 2x4 REDWOOD OR RECYCLED BENDABOARD
2. FINISH GRADE (TYP.)
3. 4" MIN. DEPTH 1/8"ø–1/4"ø GRAVEL
4. 45 DEGREE BEVELED EDGE
5. UNDISTURBED NATIVE SOIL
6. 1 1/2" X 18" FLAT STEEL STAKES; TOP OF STAKE SHALL BE 1/1/2" BELOW TOP OF EDGING – POINTED, LOCATE AT ALL SPLICES, CORNERS & AT 5' INTERVALS MAX.
7. 90% COMPACTED SUBGRADE

NOTES:

ALL WOOD TO BE CONSTRUCTION GRADE REDWOOD HEADER STOCK TO BE IN LENGTHS OF 10' MINIMUM. NAIL HEADERS TO STAKES WITH (2) GALVANIZED NAILS USE SPLICE PLATES (1"x4"x24") AT ALL BUTT JOINTS, CENTERED ON THE JOINT & NAILED TO EACH HEADER WITH (4) 10D GALVANIZED NAILS.

N.T.S

Mark	Revision	By	Date
△			

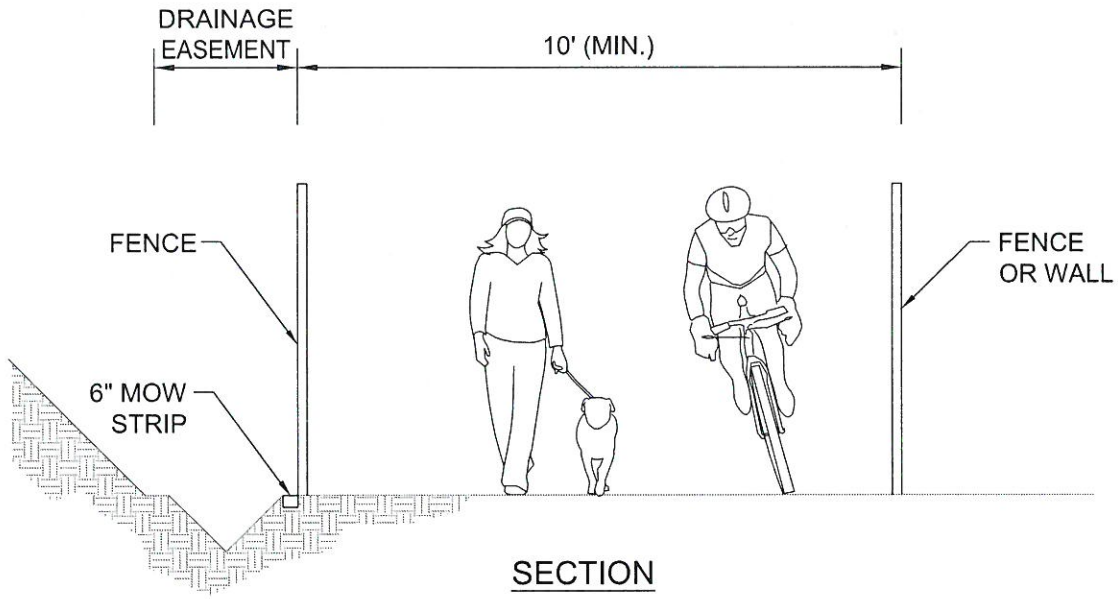
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

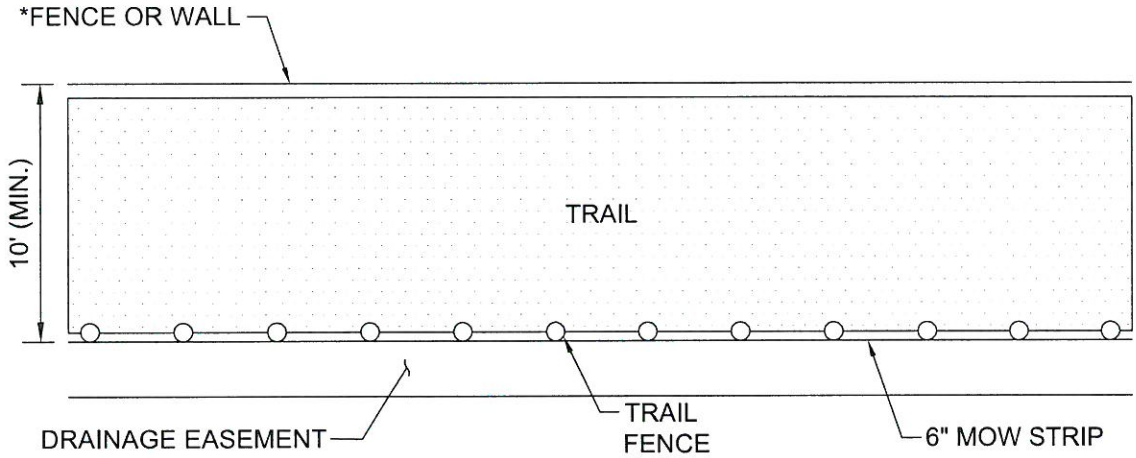
CITY OF HIGHLAND

DECOMPOSED GRANITE (NON-TRAIL)

Standard Drawing No. 462



SECTION



*FENCING MAY NOT BE REQUIRED IF THERE IS AN EXISTING FENCE OR WALL

PLAN

N.T.S.

Mark	Revision	By	Date
△			

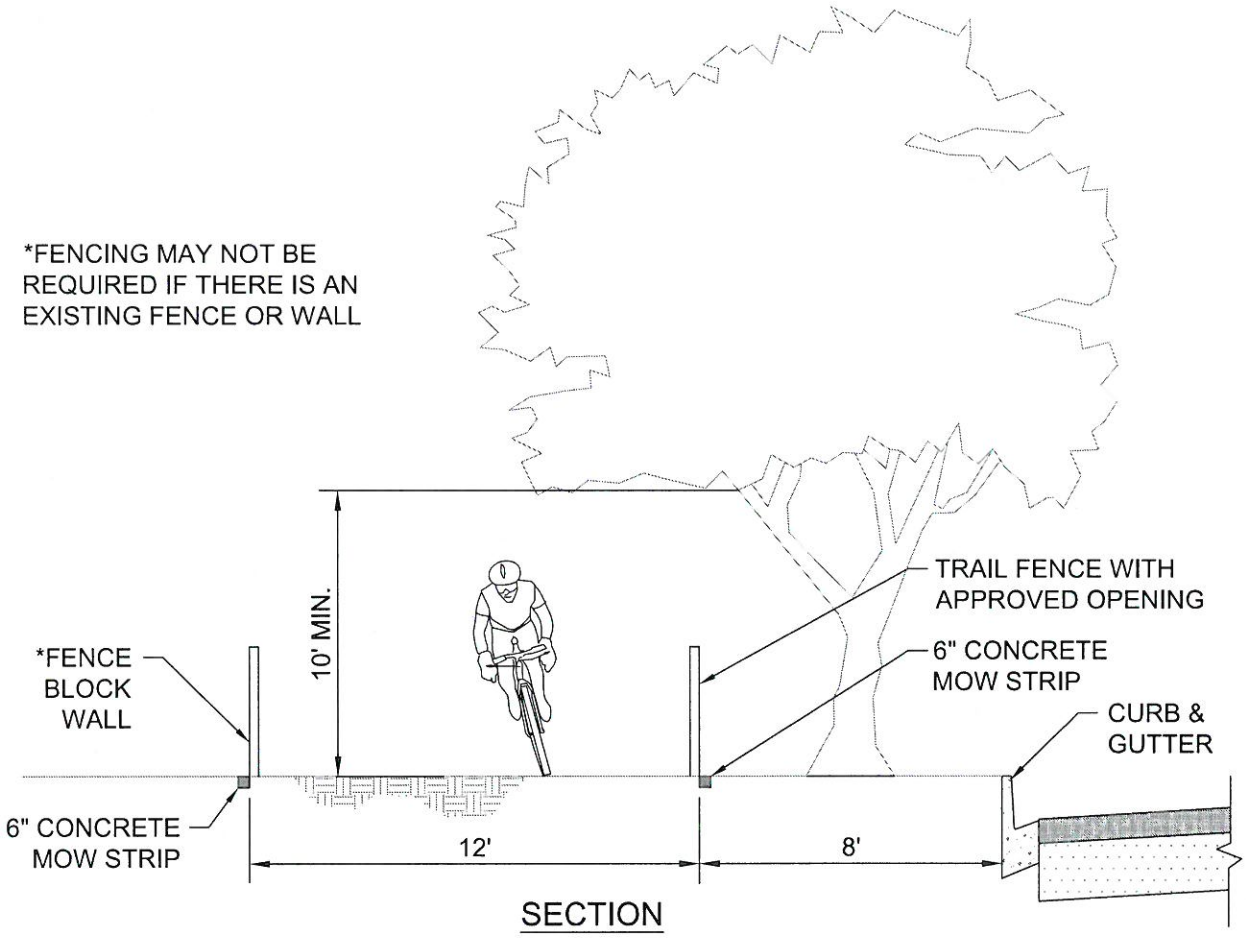
Approved: Lawrence A. Mainez Date: 9/6/16
Lawrence A. Mainez, Community Development Director

CITY OF HIGHLAND

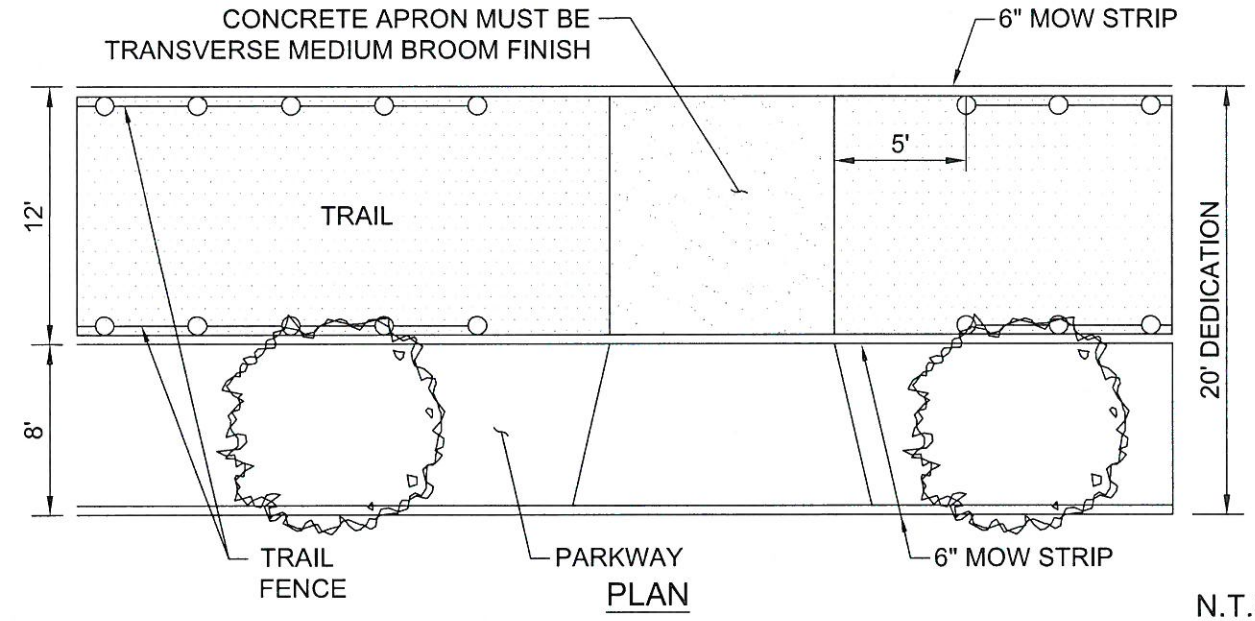
RURAL COMMUNITY TRAIL (NON-STREET ADJACENT)

Standard Drawing No. 500

*FENCING MAY NOT BE REQUIRED IF THERE IS AN EXISTING FENCE OR WALL



SECTION



PLAN

N.T.S.

Mark	Revision	By	Date
△			

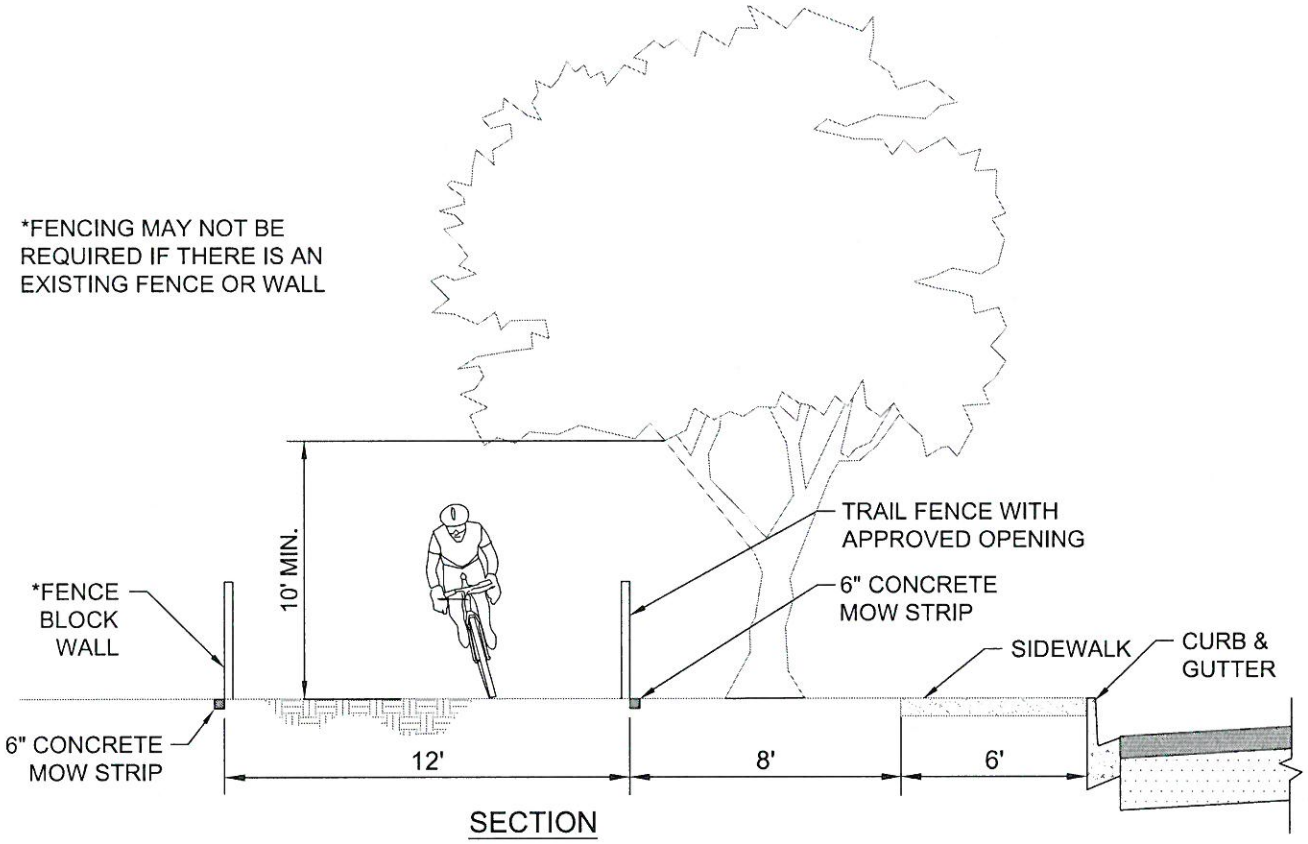
Approved:
Lawrence Mainez
Date: 9/6/16
Lawrence A. Mainez, Community Development Director

CITY OF HIGHLAND

PARKWAY TRAIL
FRONT-ON

Standard Drawing No.
501A

*FENCING MAY NOT BE REQUIRED IF THERE IS AN EXISTING FENCE OR WALL



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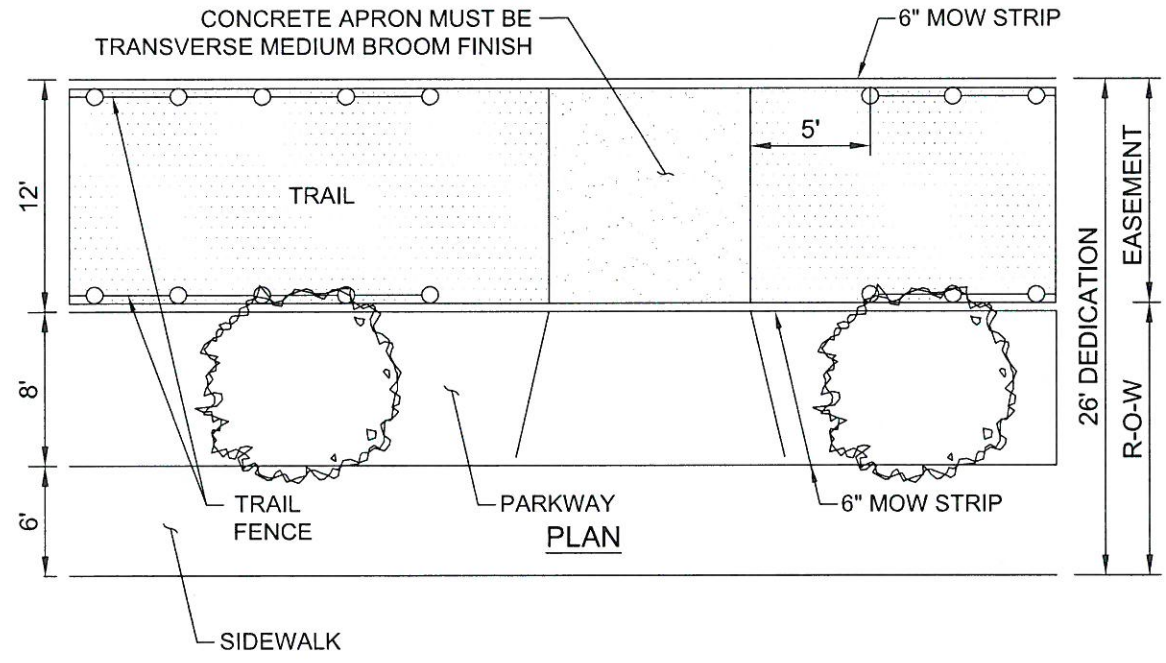


PLAN

N.T.S.

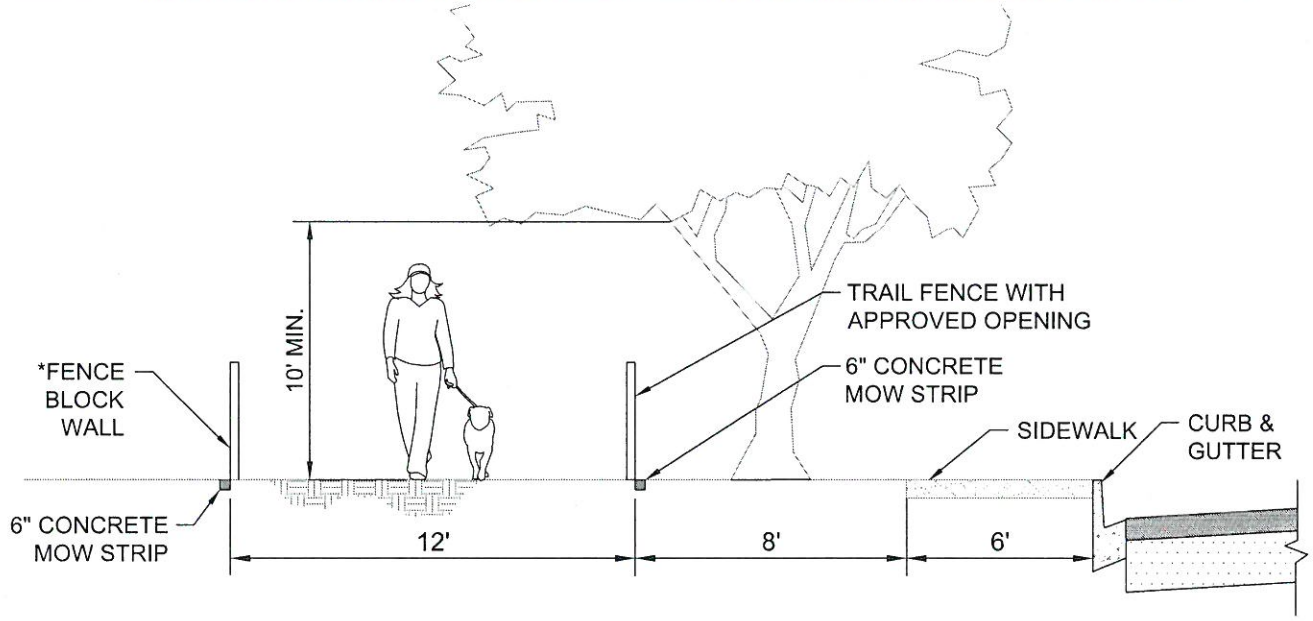
Mark	Revision	By	Date
△			

Approved: Lawrence Mainez Date: 9/6/16
Lawrence A. Mainez, Community Development Director

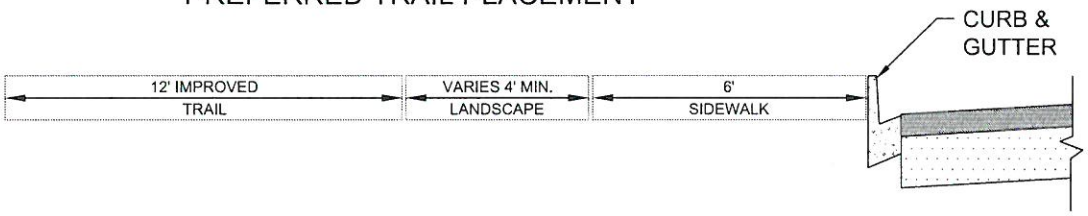
CITY OF HIGHLAND

PARKWAY TRAIL WITH SIDEWALK

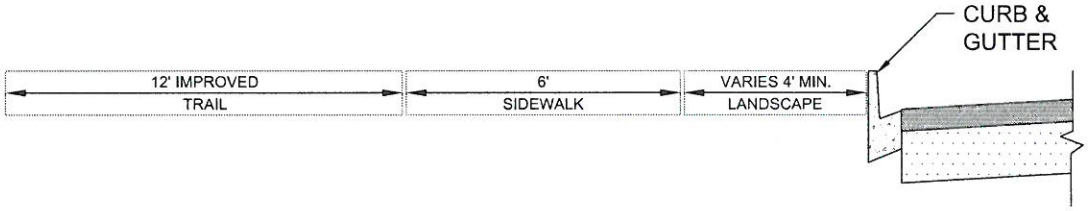
Standard Drawing No. 501B



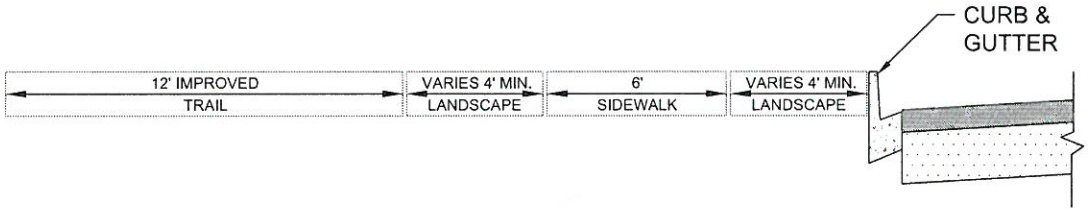
PREFERRED TRAIL PLACEMENT



TRAIL - LANDSCAPE - SIDEWALK



TRAIL - SIDEWALK - LANDSCAPE



TRAIL - LANDSCAPE - SIDEWALK - LANDSCAPE

N.T.S.

Mark	Revision	By	Date
△			

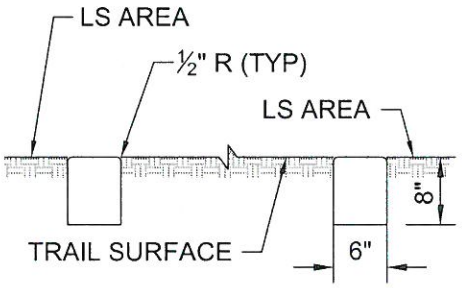
Approved:
Lawrence Mainez
Date: 9/6/16
Lawrence A. Mainez, Community Development Director

CITY OF HIGHLAND

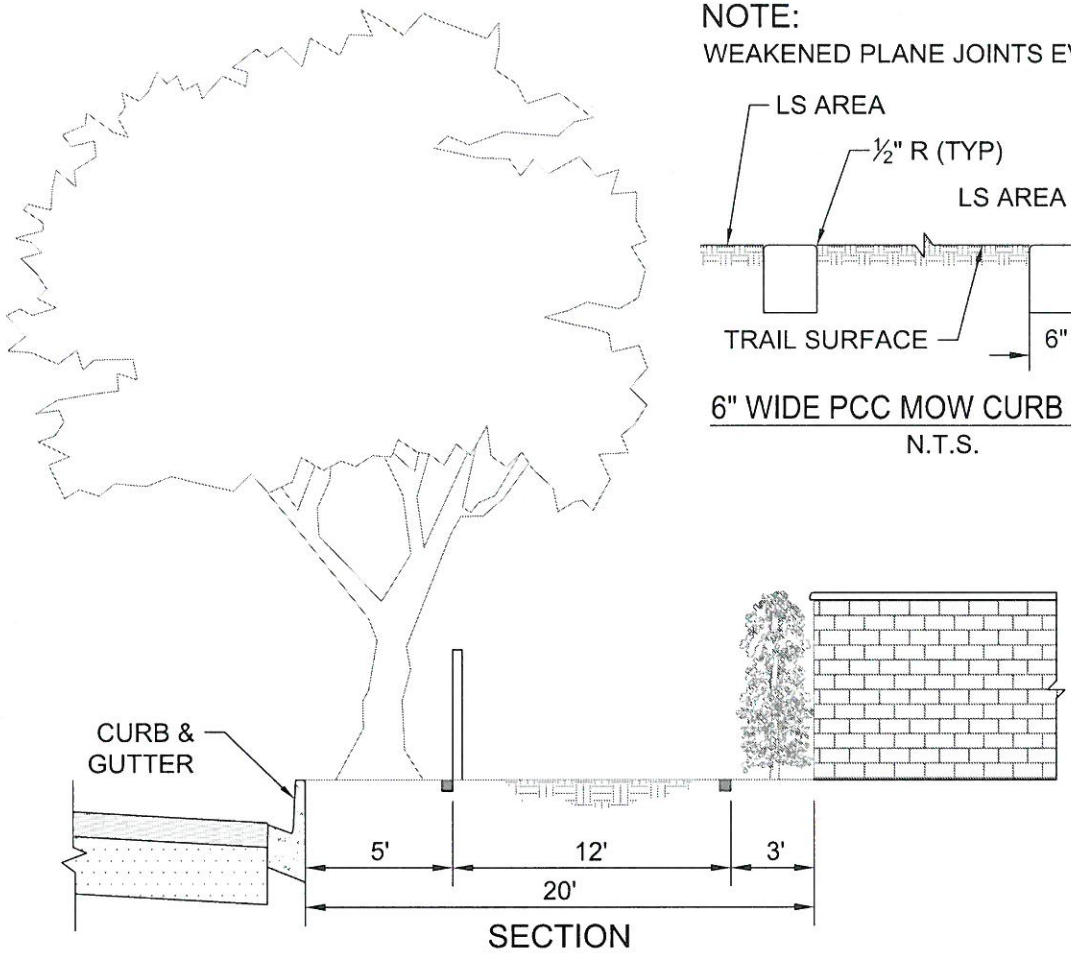
PARKWAY TRAIL WITH SIDEWALK
VARIOUS CONFIGURATIONS

Standard Drawing No.
501C

NOTE:
WEAKENED PLANE JOINTS EVERY 5'.



6" WIDE PCC MOW CURB DETAIL
N.T.S.



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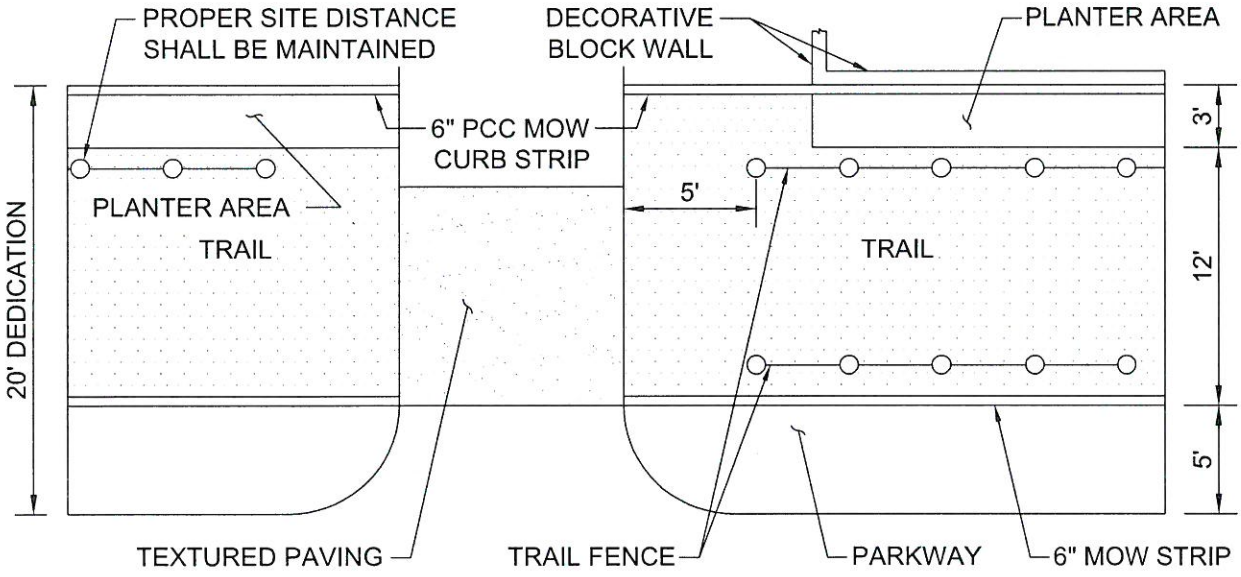


PLAN

N.T.S.

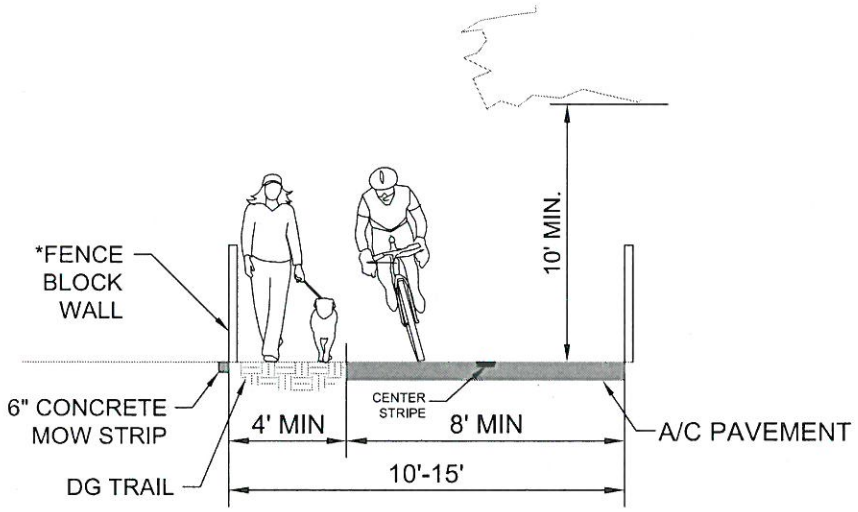
Mark	Revision	By	Date
△			

CITY OF HIGHLAND

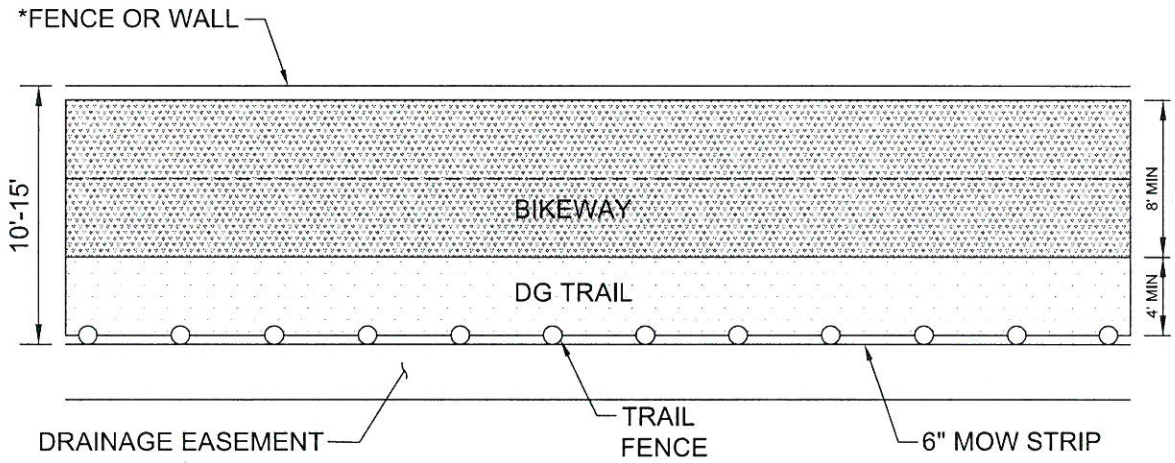
Approved: Lawrence Mainez Date: 9/6/16
Lawrence A. Mainez, Community Development Director

PARKWAY TRAIL
SIDE-ON

Standard Drawing No.
502



MULTI-USE TRAIL/BIKEWAY



PLAN

NOTES:

1. FENCING MAY NOT BE REQUIRED IF THERE IS AN EXISTING FENCE OR WALL.
2. SLOPE DG TRAIL AWAY FROM BIKEWAY AT 2%.

N.T.S.

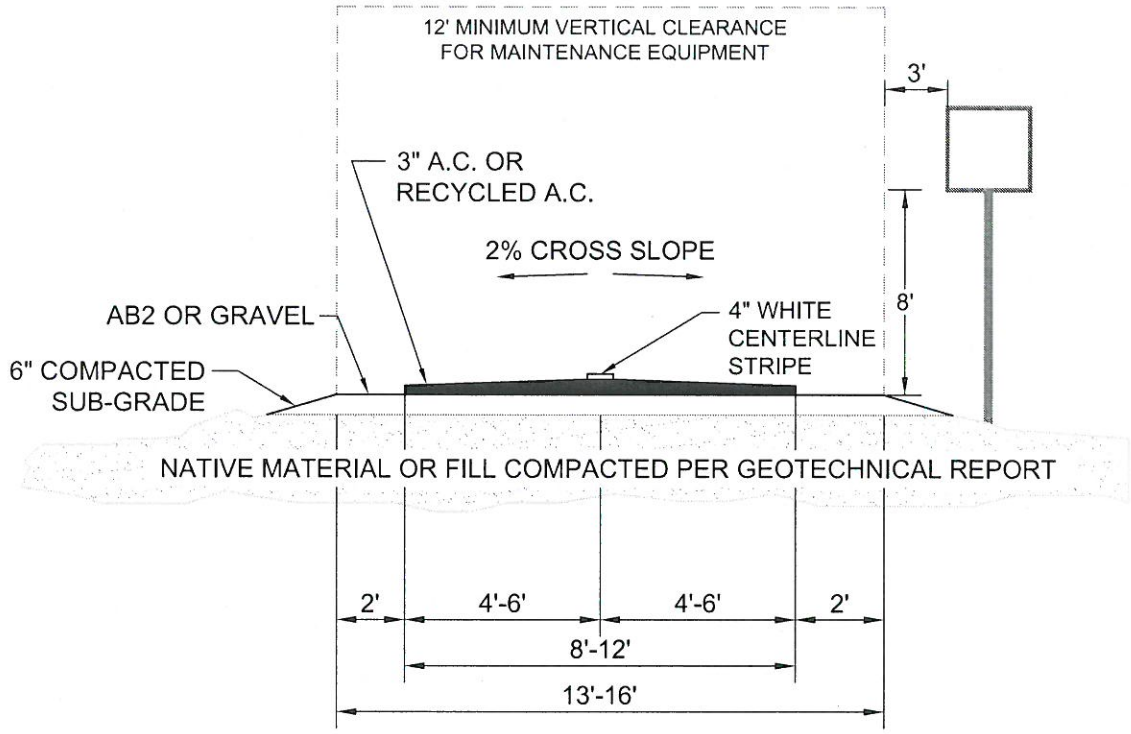
Mark	Revision	By	Date
△			

Approved:
Lawrence Mainez Date: 9/6/16
Lawrence A. Mainez, Community Development Director

CITY OF HIGHLAND

DUAL USE MULTIPURPOSE TRAIL

Standard Drawing No. 503A



N.T.S.

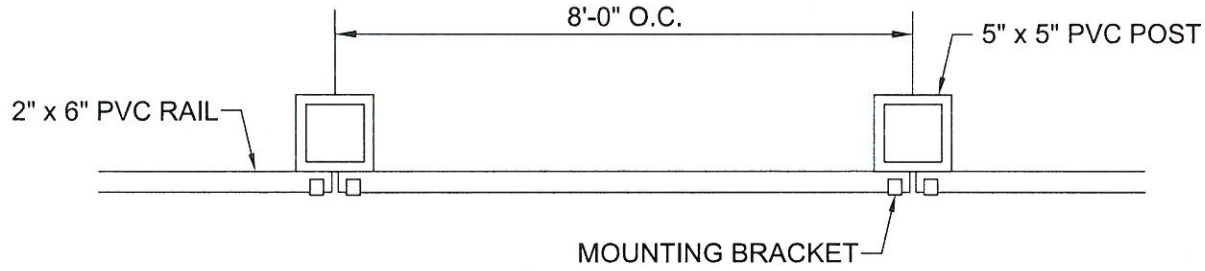
Mark	Revision	By	Date
△			

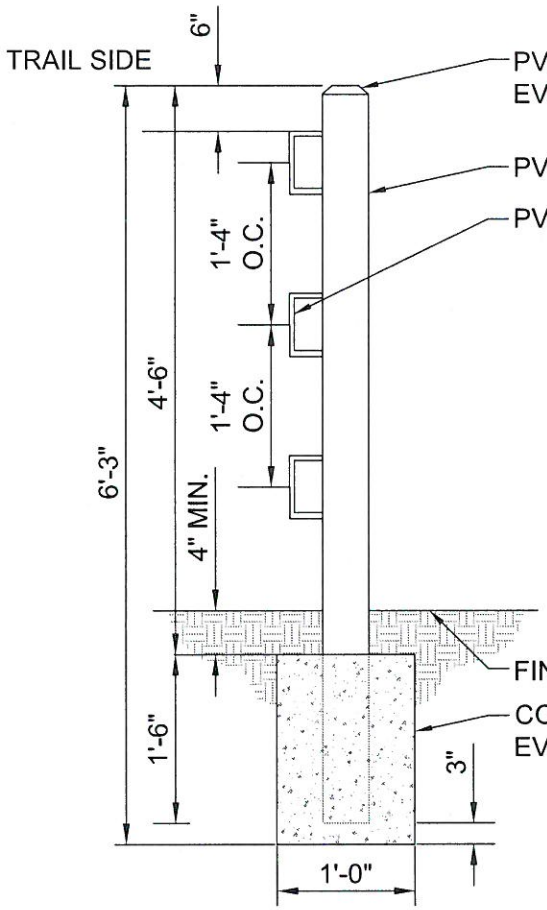
Approved:
Lawrence Mainez
Lawrence A. Mainez, Community Development Director
Date: 9/6/16

CITY OF HIGHLAND

TYPICAL CLASS I
BIKEWAY

Standard Drawing No.
503B





NOTES:

1. EVERY THIRD PVC POST AND ALL PVC POSTS LOCATED AT CHANGES OF DIRECTION ARE REQUIRED TO BE FILLED WITH CONCRETE.
2. CAP ALL POSTS & ENDS OF EXPOSED RAIL. "ATTACH CAPS WITH PVC GLUE."
3. ALL MEMBERS SHALL BE PVC FENCE AVAILABLE FROM COUNTRY ESTATE FENCE OR APPROVED ALTERNATE.
4. RAILS SHALL BE ORIENTED IN TOWARDS TRAIL.

"ALL SCREWS USED ON RAIL OR FOR RAIL MOUNTING BRACKETS SHALL BE OF SUFFICIENT SIZE TO SECURELY HOLD RAIL OR BRACKET IN PLACE".

N.T.S.

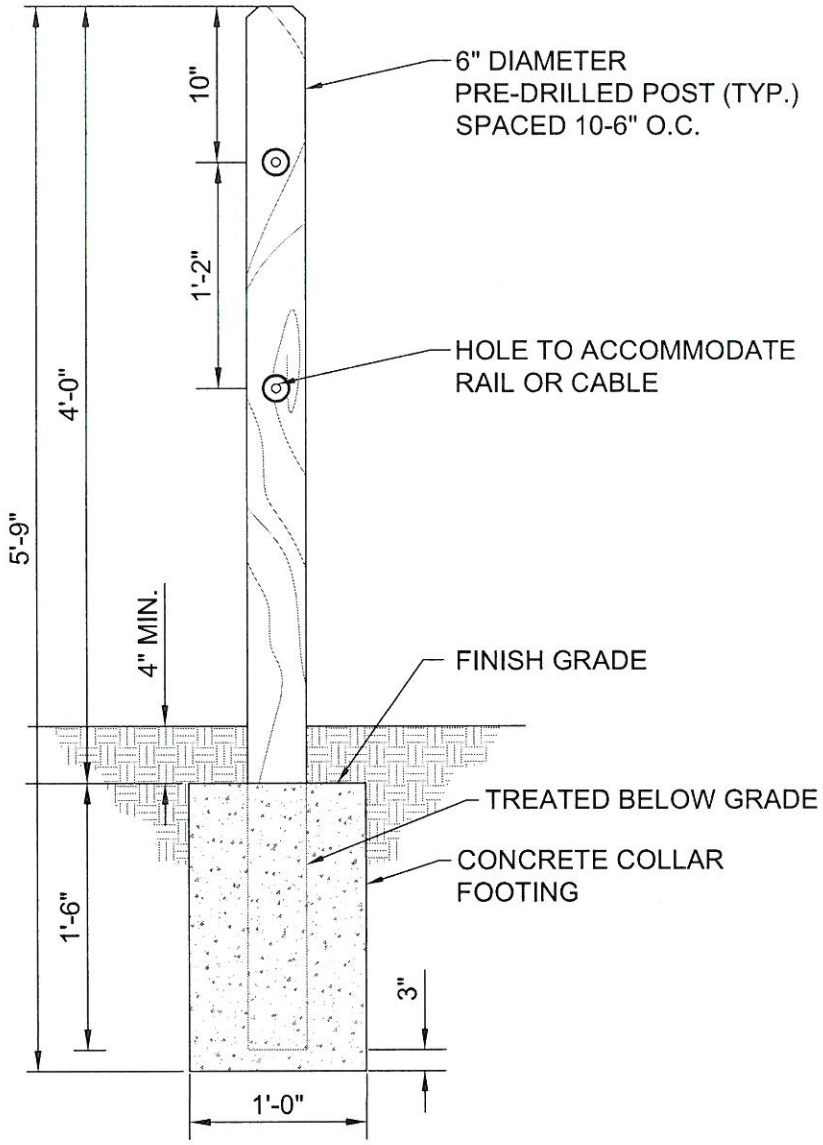
Mark	Revision	By	Date
△			

Approved: Lawrence Mainez Date: 9/6/16
Lawrence A. Mainez, Community Development Director

CITY OF HIGHLAND

PVC RAILING

Standard Drawing No. 504



NOTES:

1. END OR ANGEL POSTS SHOULD BE ANCHORED IN A 24" X 12" FOOTING.
2. ALL POSTS AND RAILS SHALL BE CEDAR LODGEPOLE AND CABLE, RESPECTIVELY.
3. TWO HORIZONTAL RAIL POSTS SHALL BE SUFFICIENT IN MOST CASES EXCEPT WHERE THE CITY HAS DETERMINED FOR SAFETY REASONS THAT THREE RAILS SHALL BE NECESSARY.

N.T.S.

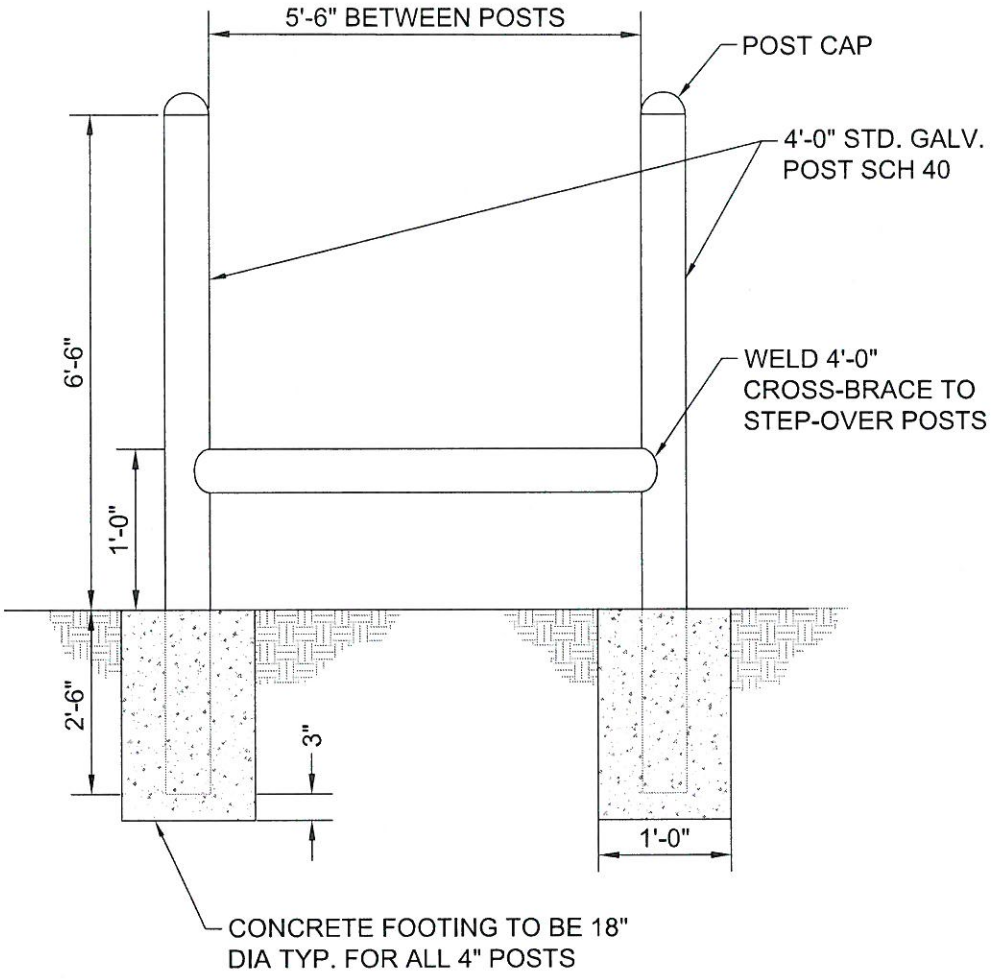
Mark	Revision	By	Date
△			

Approved: Lawrence Mainez Date: 9/6/16
Lawrence A. Mainez, Community Development Director

CITY OF HIGHLAND

RAILING

Standard Drawing No. 505



N.T.S.

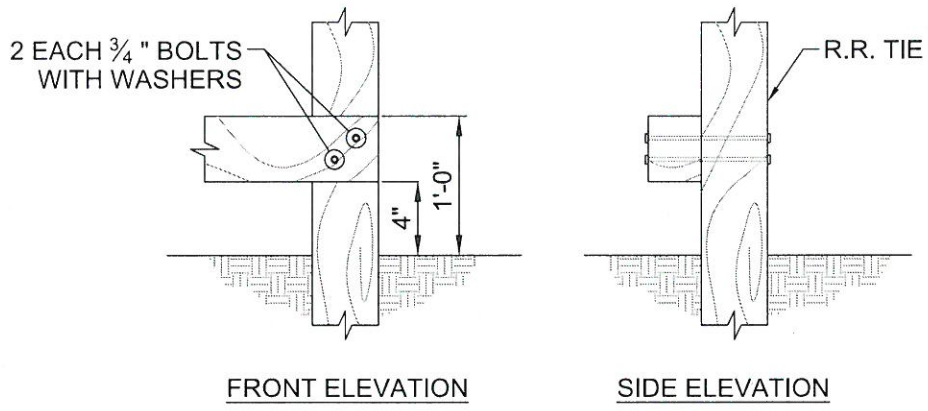
Mark	Revision	By	Date
△			

Approved:
Lawrence A. Mainez, Community Development Director
Date: 9/6/16

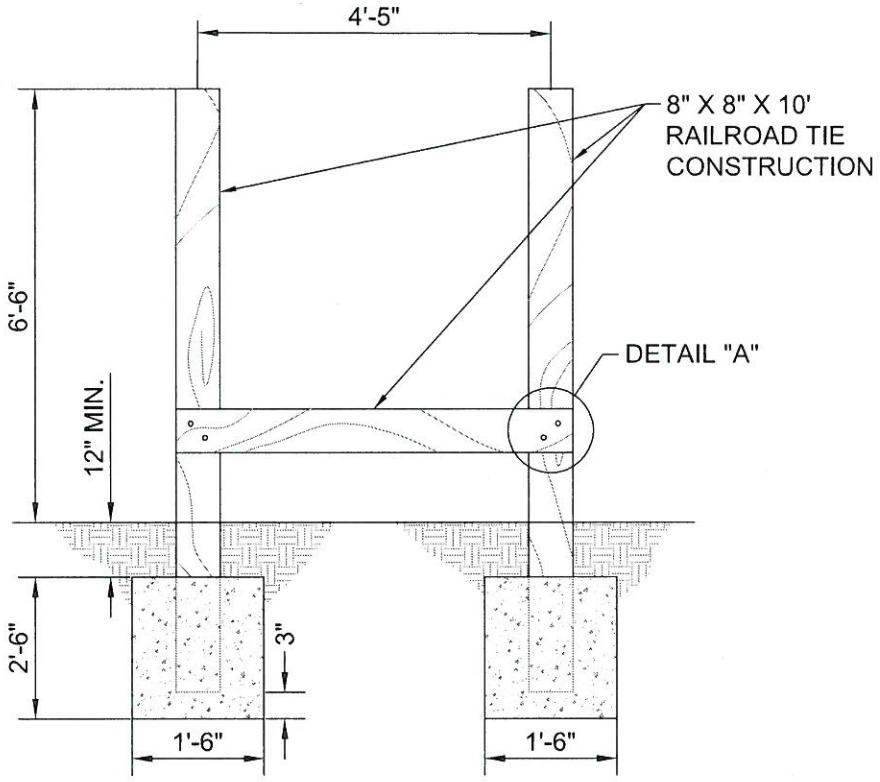
CITY OF HIGHLAND

STEP OVERS (GALVANIZED STEEL)

Standard Drawing No. 506



DETAIL "A"



RAILROAD TIE CONSTRUCTION-STANDARD DETAIL

N.T.S.

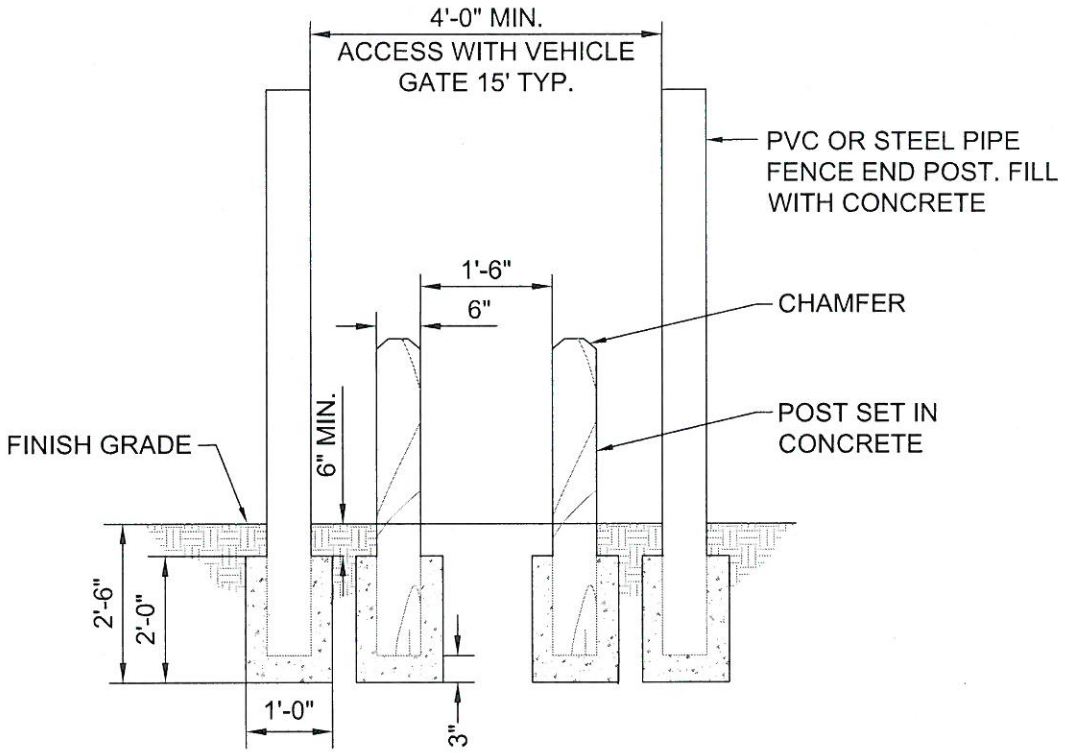
Mark	Revision	By	Date
△			

Approved:
Lawrence Mainez Date: 9/6/16
Lawrence A. Mainez, Community Development Director

CITY OF HIGHLAND

STEP OVERS
(RAILROAD TIE)

Standard Drawing No.
507



NOTES:

1. MINIMUM OF TWO POSTS WITH CENTER PASS THROUGH. MATERIALS USED SHOULD BE SPECIFIED.
2. ALL POST AND STEP THROUGH'S SHOULD BE 30" DEEP AND ANCHORED IN A 24" X 12" CONCRETE FOOTING. CONCRETE SHOULD NOT BE POURED TO GRADE. CONCRETE SHOULD BE POURED UP TO WITHIN 6" BELOW GRADE & BACKFILLED TO FINISH GRADE.

N.T.S.

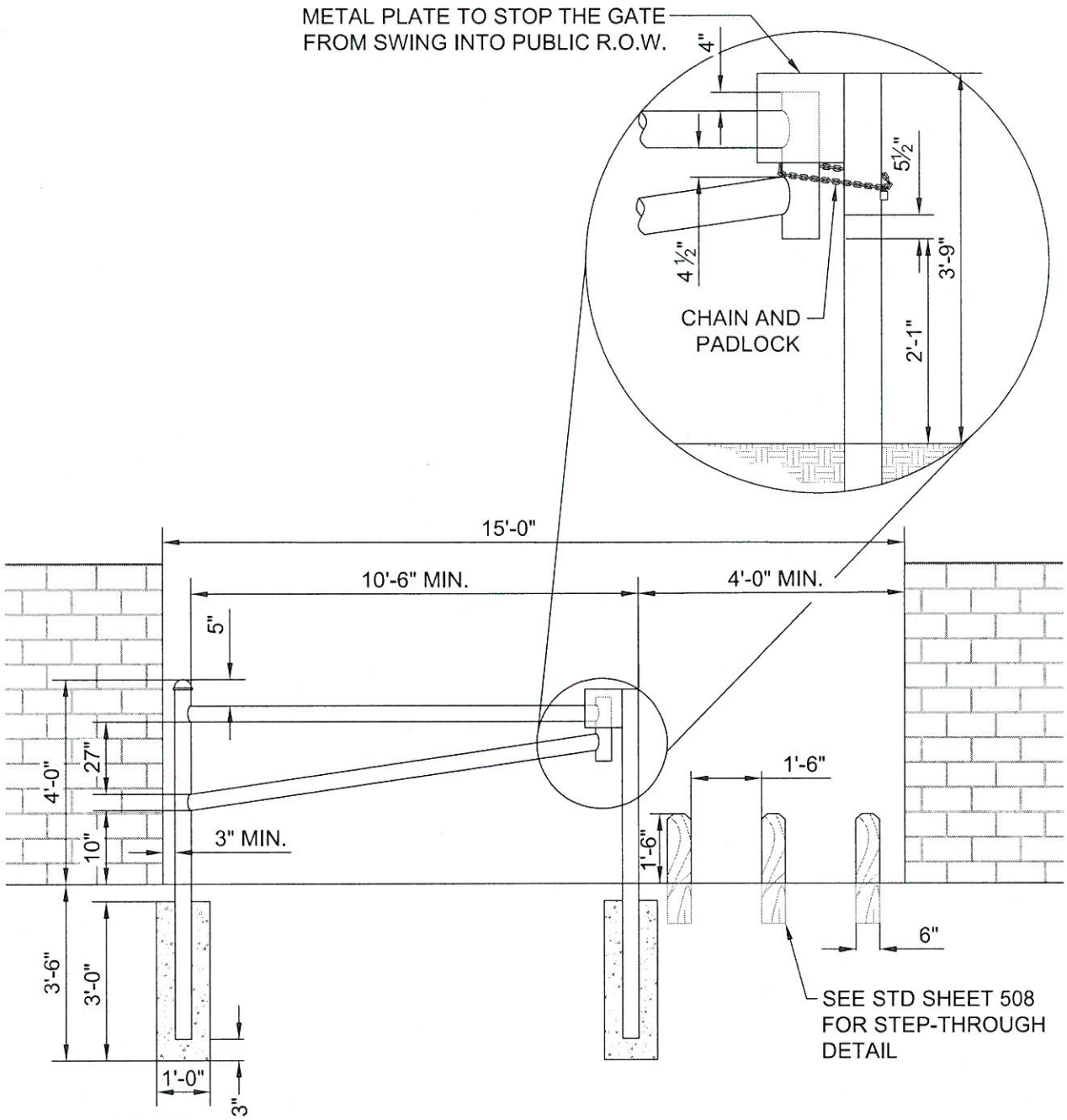
Mark	Revision	By	Date
△			

Approved:
Lawrence Mainez Date: 9/6/16
Lawrence A. Mainez, Community Development Director

CITY OF HIGHLAND

STEP - THROUGH

Standard Drawing No. 508



NOTE:

GATE CONSTRUCTED OF 2 ½" GALVANIZED STEEL MEMBERS. HINGE CREATED BY WELDED CROSS MEMBERS TO A 3" GALVANIZED STEEL SLEEVE WITH CAP SLIPPED OVER 2 ½" UPRIGHT. GATE POST SHOULD BE 40" DEEP AND ANCHOR ON A 36" X 12" CONCRETE FOOTING. GATE SHOULD NOT SWING IN TO PUBLIC RIGHT OF WAY.

N.T.S.

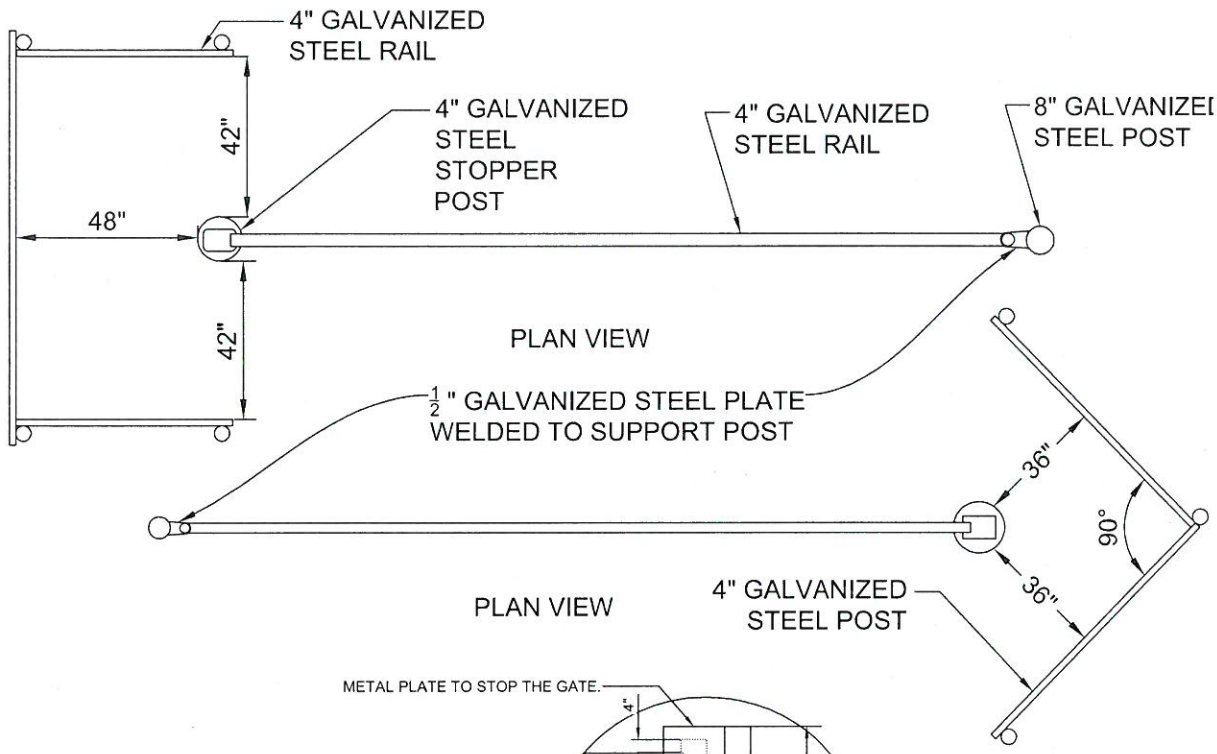
Mark	Revision	By	Date
△			

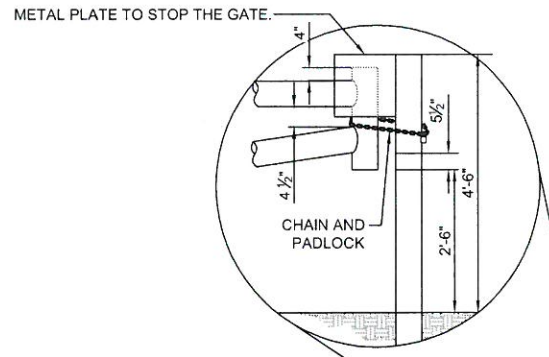
Approved: Lawrence Mainez Date: 9/6/16
Lawrence A. Mainez, Community Development Director

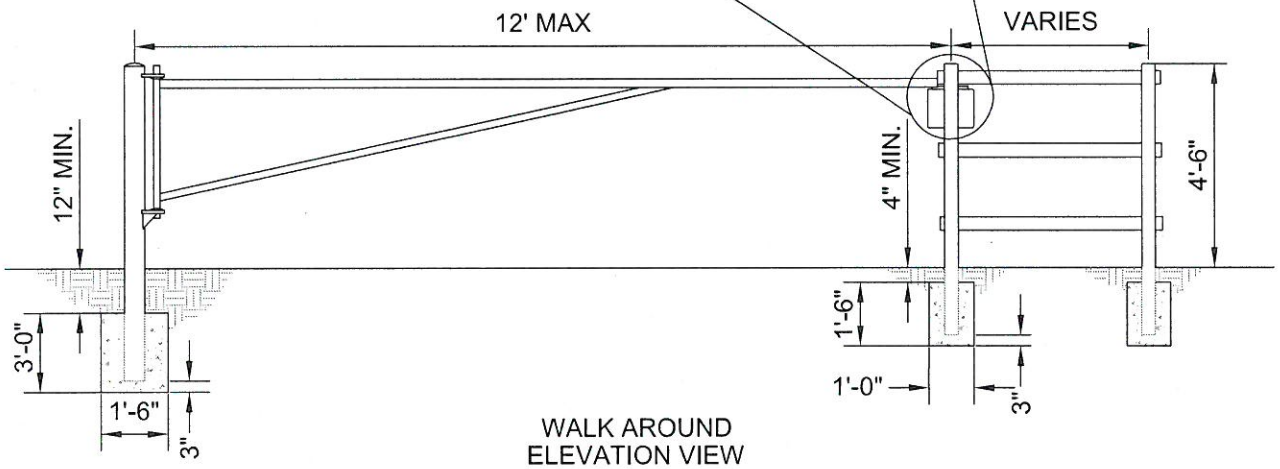
CITY OF HIGHLAND

VEHICLE GATE WITH SIDE ACCESS

Standard Drawing No. 509A







WALK AROUND
ELEVATION VIEW

N.T.S.

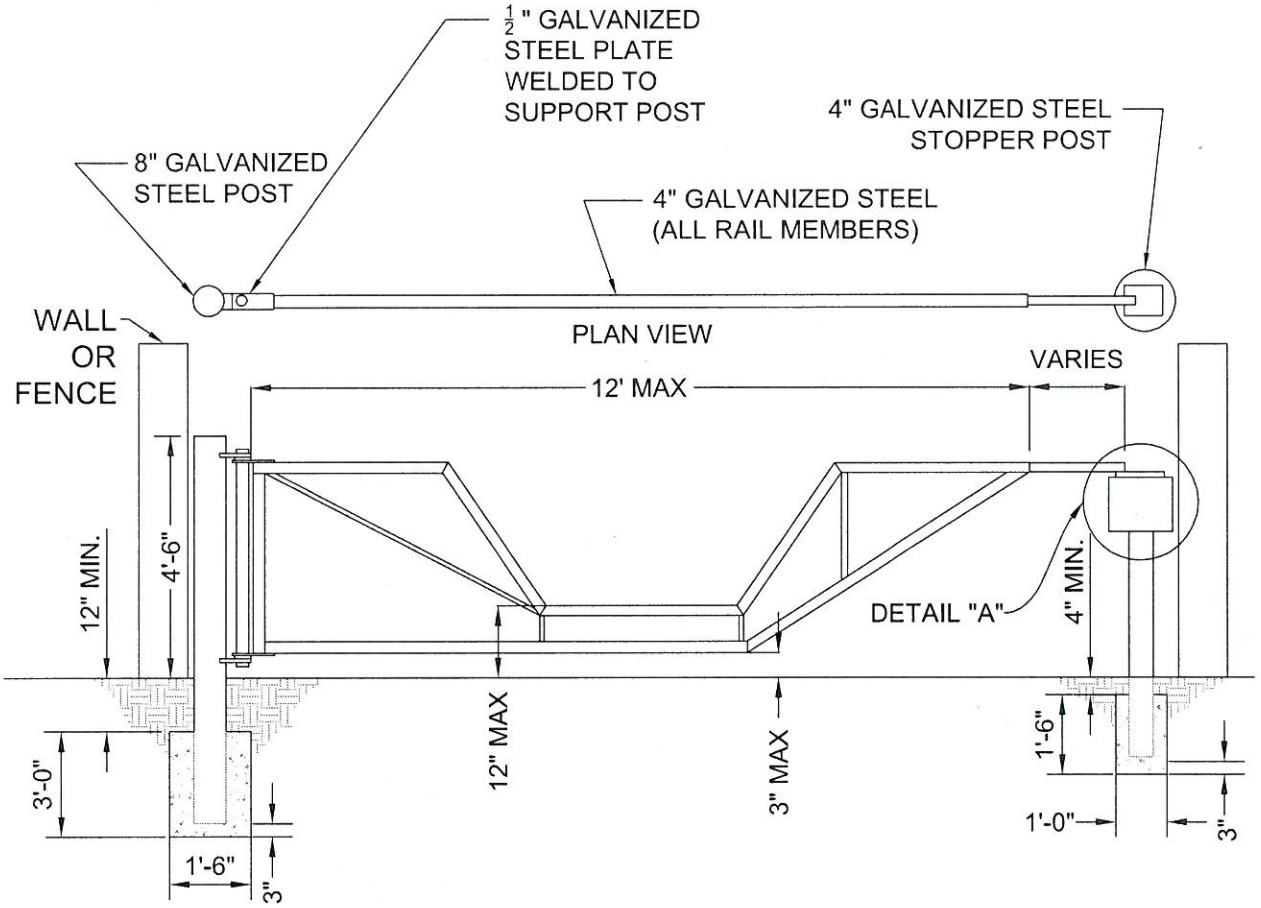
Mark	Revision	By	Date
△			

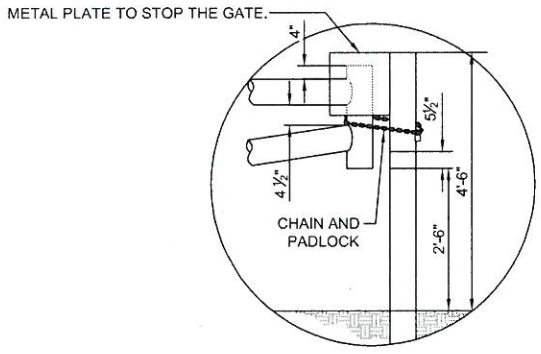
Approved:
Lawrence Mainez
Date: 9/6/16
Lawrence A. Mainez, Community Development Director

CITY OF HIGHLAND

VEHICLE GATE
WALK AROUND

Standard Drawing No.
509B





DETAIL "A"

N.T.S.

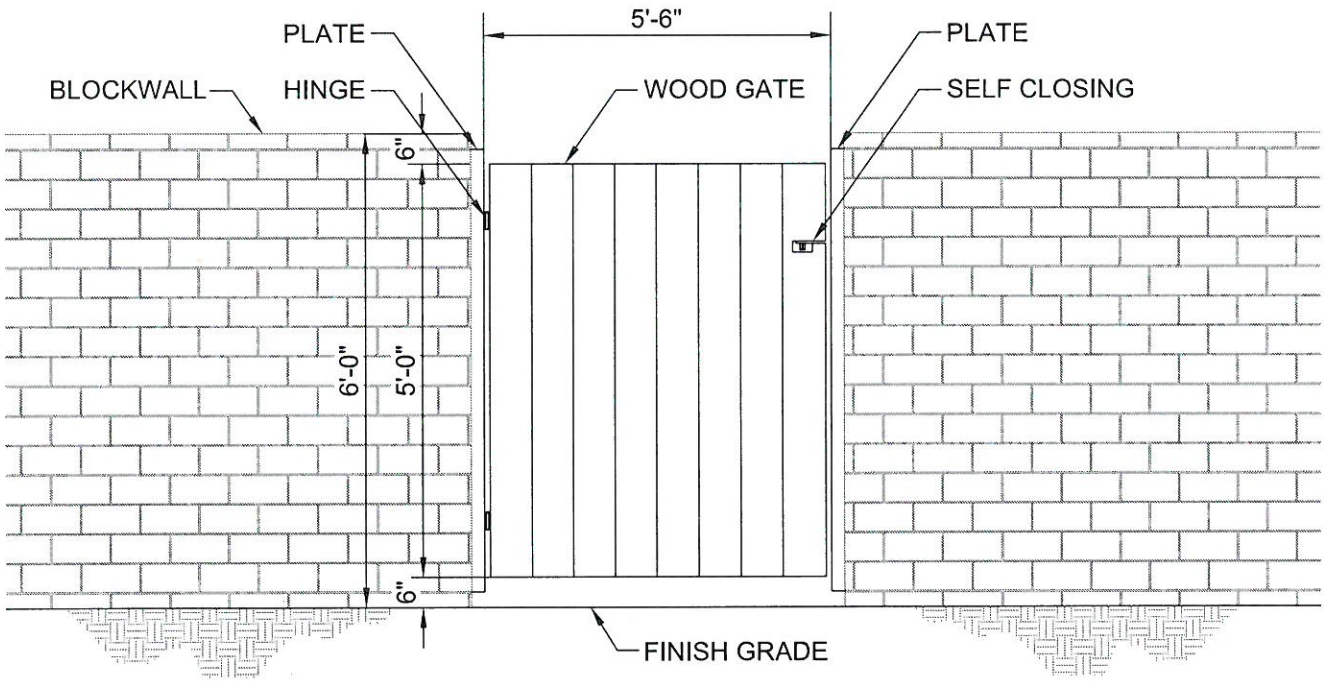
Mark	Revision	By	Date
△			

Approved:
Lawrence Mainez
Date: 9/6/16
Lawrence A. Mainez, Community Development Director

CITY OF HIGHLAND

STEP THROUGH SWING GATE

Standard Drawing No. 509C



NOTES:

1. THE GATE SHALL BE SOLID WOOD AND SELF-CLOSING. THE GATE SHALL BE APPROVED BY THE PLANNING DIVISION.
2. MATERIALS SHALL BE WESTERN RED CEDAR OR APPROVED SUBSTITUTE. DUE TO TOXICITY, MATERIALS SHOULD NOT INCLUDE PRESSURE TREATED DOUGLAS FUR.
3. ALL HARDWARE SHALL BE DIPPED GALVANIZED STEEL.
4. GATE SHALL NOT SWING INTO RIGHT-OF-WAY.

N.T.S.

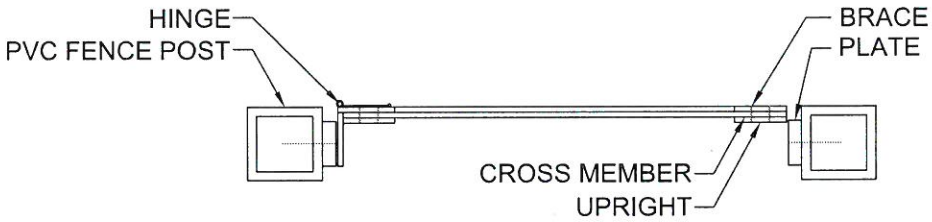
Mark	Revision	By	Date
△			

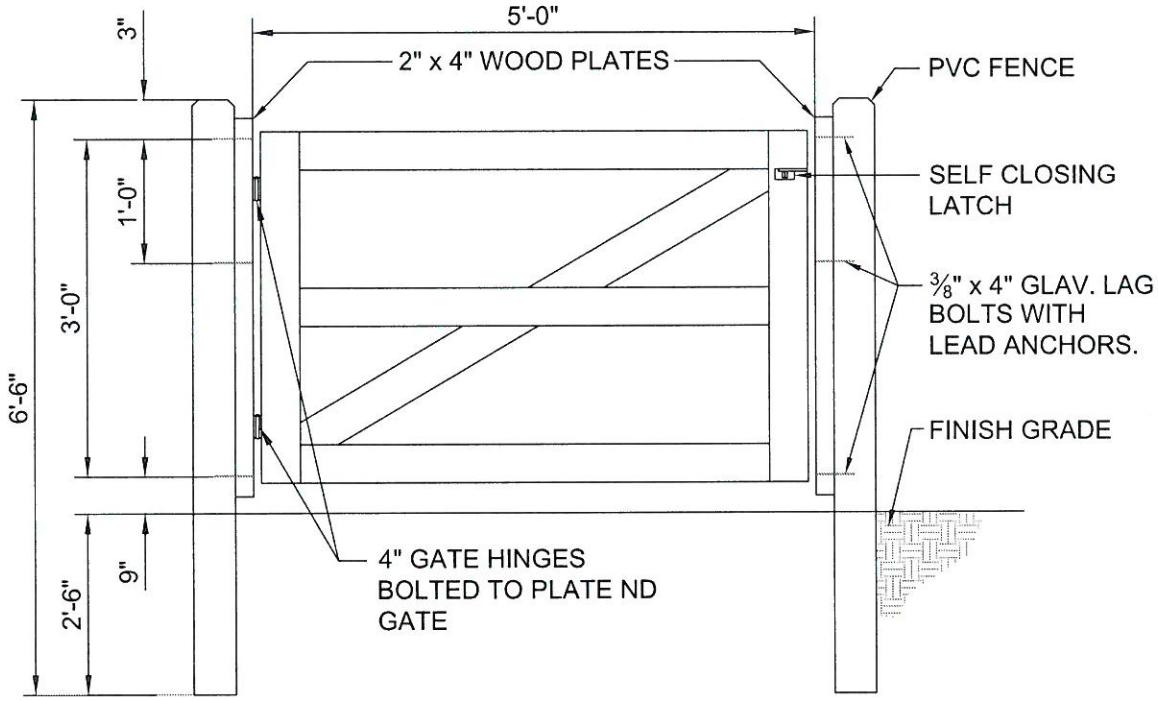
Approved: Lawrence Mainez Date: 9/6/16
Lawrence A. Mainez, Community Development Director

CITY OF HIGHLAND

PARKWAY GATE

Standard Drawing No. 510





NOTES:

1. GATE MEMBERS SHALL BE 1" x 4" WOOD PAINTED WHITE, PRESSURE TREATED WOOD SHOULD BE AVOIDED.
2. MEMBERS SHALL BE ATTACHED WITH ¾" GALV. BOLTS.
3. HINGE SHALL BE ATTACHED TO PLATE PRIOR TO ATTACHING PLATE TO CONCRETE. COUNTER SINK BOLTS SO THAT THE LATE IS FLUSH WITH POST. GATE SHALL NOT SWING INTO RIGHT-OF-WAY.

N.T.S.

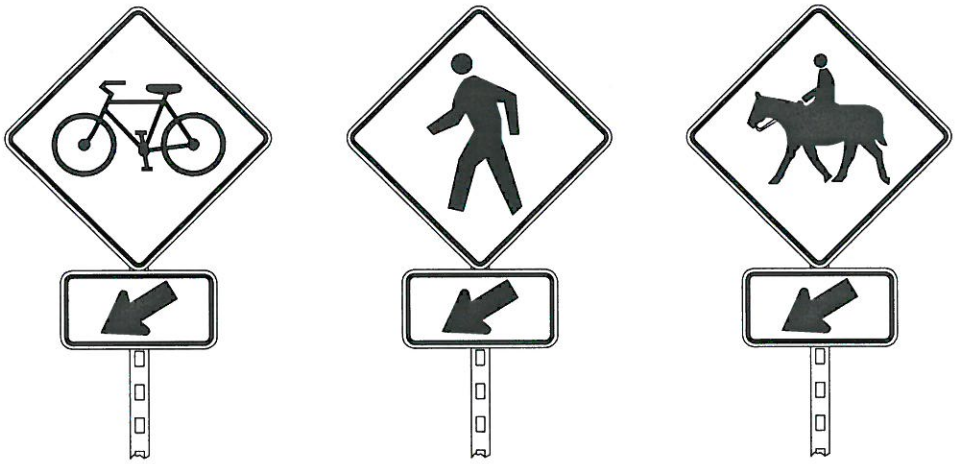
Mark	Revision	By	Date
△			

Approved: Lawrence Mainez Date: 9/6/16
Lawrence A. Mainez, Community Development Director

CITY OF HIGHLAND

COMMUNITY TRAIL GATE

Standard Drawing No. 511



NOTES:

1. TO BE USED ON ROADWAYS TO WARN MOTORISTS OF TRAIL CROSSING.
2. TRAIL SIGNS SHALL BE ATTACHED TO EXISTING METAL POLES WHERE POSSIBLE.
3. TRAIL SIGNS SHALL MEET CURRENT CA MUTCD STANDARDS.

N.T.S.

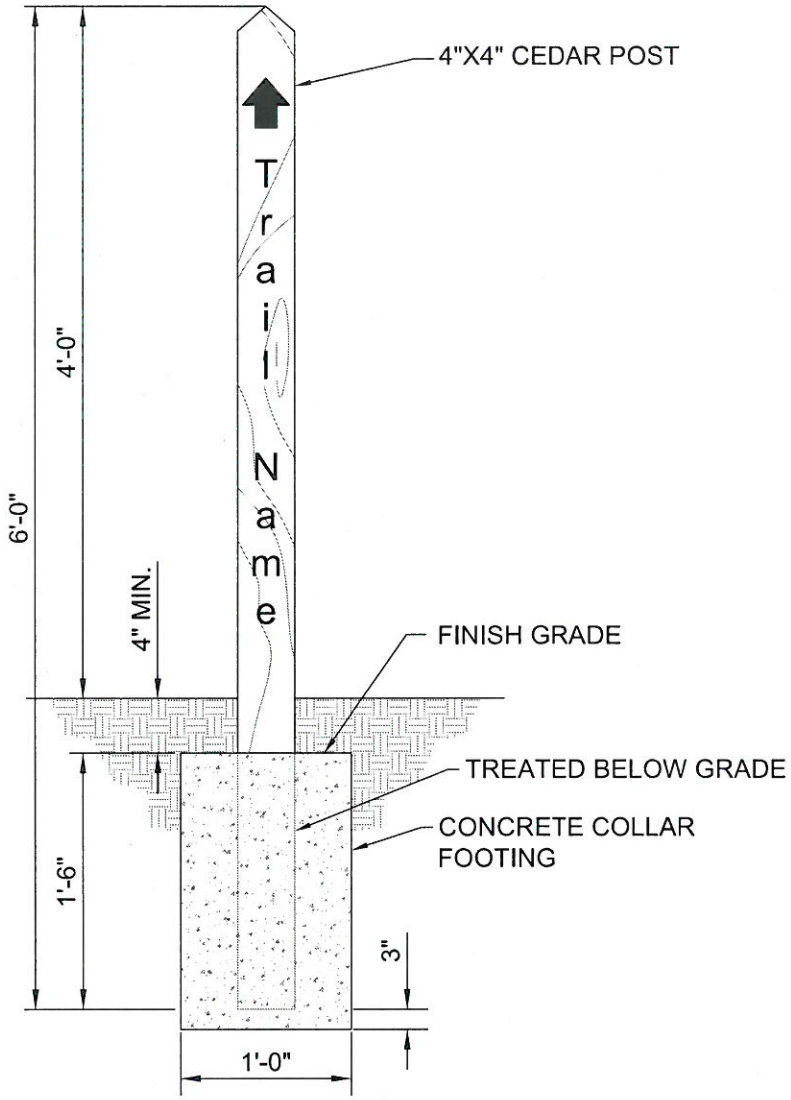
Mark	Revision	By	Date
△			

Approved: Lawrence Mainez Date: 9/6/16
Lawrence A. Mainez, Community Development Director

CITY OF HIGHLAND

WARNING SIGNS

Standard Drawing No. 512



NOTES:

1. LETTERS AND DIRECTIONAL ARROW TO BE ROUTED/RECESSED AND PAINTED WHITE AND MAY BE REQUIRED ON MULTIPLE SIDES.
2. UPPER CASE LETTERS TO BE 3" HIGH, LOWER CASE LETTERS TO BE 2 $\frac{1}{2}$ " HIGH AND DIRECTIONAL ARROW TO BE 7" HIGH.

N.T.S.

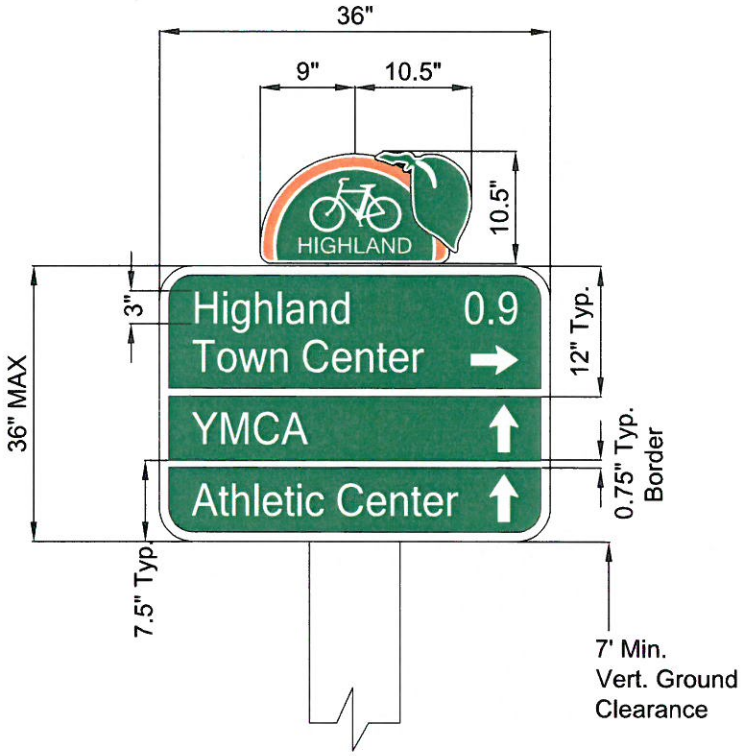
Mark	Revision	By	Date
△			

Approved:
Lawrence Mainez Date: 9/6/16
Lawrence A. Mainez, Community Development Director

CITY OF HIGHLAND

TRAIL MARKER

Standard Drawing No. 513



NOTES:

1. CAPITAL LETTERS TO BE 3" HIGH.
2. LOWER CASE LETTERS TO BE 2.25" HIGH.
3. LETTER & LEGEND COLOR TO BE WHITE.
4. BACKGROUND COLOR TO BE GREEN.
5. LOGO TRIM TO BE ORANGE.
6. SIGN TRIM TO BE WHITE.
7. LEAF COLOR TO BE GREEN.
8. SEE STD. DWG. 603 FOR FOUNDATION.
9. COLOR TONES TO BE APPROVED BY THE CITY.

N.T.S

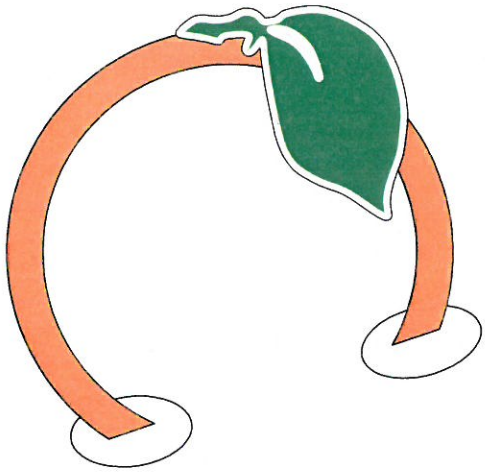
Mark	Revision	By	Date
△			

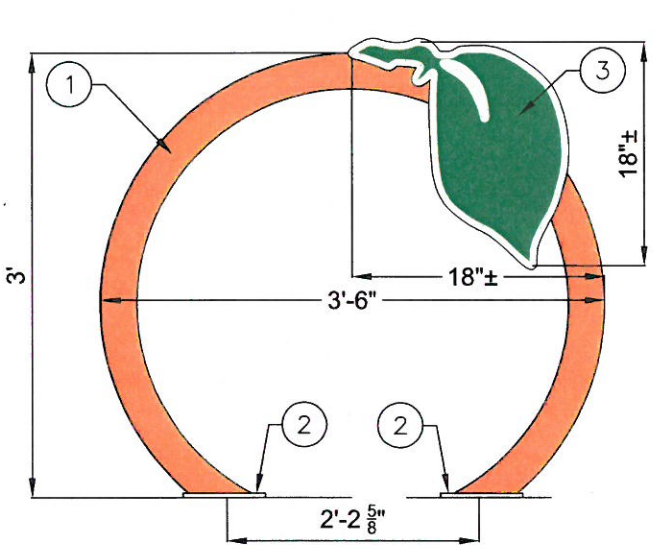
Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

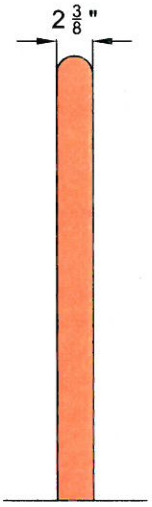
CITY OF HIGHLAND

BIKE WAYFINDING SIGNS

Standard Drawing No. 600







NOTES:

1. 2 $\frac{3}{8}$" Ø O.D. SCH. 40 STEEL PIPE BIKE STAND. POWDER COAT 'ORANGE' TO MATCH CITY LOGO.

2. 6" Ø, $\frac{1}{4}$" THICK SURFACE MOUNT FLANGE; MOUNT TO EXISTING CONCRETE SLAB W/ (4) $\frac{3}{8}$" x 1 $\frac{1}{2}$" CONCRETE EXPANSION ANCHORS PER FLANGE, EVENLY SPACED.

3. $\frac{1}{4}$" THICK PLATE STEEL METAL CITY LOGO. CONTACT CITY FOR LOGO ART AND COLORS. INSTALL BIKE RACK WITH LEAF FACING STREET.

N.T.S

Mark	Revision	By	Date
△			

Approved:

Ernest Wong, Public Works Director/City Engineer Date: 9-6-16

CITY OF HIGHLAND

BIKE RACK

Standard Drawing No. 601

NOTES:

1. USE 24" WIDE R81 (CA) BIKE LANE SIGNS. NO PARKING OR NO STOPPING ANY TIME SIGNS INSTALLED IN CONJUNCTION WITH BIKE LANE SIGNS SHALL BE 24" WIDE.

2. NO PARKING SIGNS SHALL BE R8-3A OR R26 (CA). NEW NO PARKING SIGNS SHALL BE THE SAME TYPE AS EXISTING NOR PARKING SIGNS WITHIN A ROADWAY SEGMENT UNLESS OTHERWISE DIRECTED BY CITY ENGINEER. USE R26 (CA) NO PARKING SIGNS WITHIN ROADWAY SEGMENTS WHERE NO PARKING SIGNS DO NOT EXIST.

3. NO STOPPING ANY TIME SIGNS SHALL BE R26(S) (CA).

N.T.S

Mark	Revision	By	Date
△			

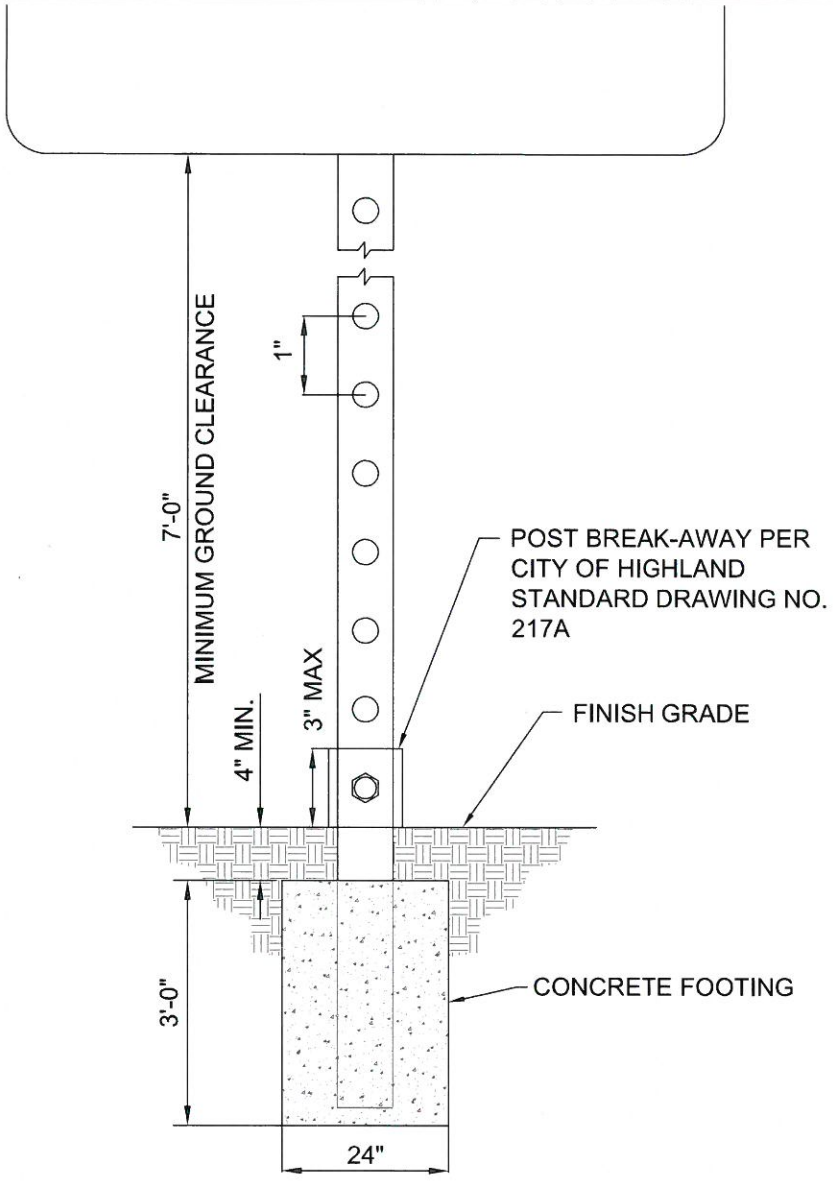
Approved: Ernest Wong Date: 9-6-16

Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

TYPICAL
NO PARKING SIGN CONFIGURATION
WITH BIKE LANE

Standard Drawing No.
602



NOTES:

1. SIGN POSTS SHALL BE 2" X 2" GALVANIZED STEEL AND SHALL BE INSTALLED INTO GROUND WITH 2-1/4" X 2-1/4" X 30" ANCHOR, C.C.S.S. TYPE. ATTACH POST AND ANCHOR WITH TWO (2) DRIVE RIVETS.

2. THERE SHALL BE A CLEARANCE OF 7' BETWEEN FINISHED GRADE AND BOTTOM OF LOWER SIGN. ANCHOR SHALL EXTEND NO MORE THAN 3" ABOVE FINISHED GRADE.

N.T.S

Mark	Revision	By	Date
△			

Approved: Ernest Wong Date: 9-6-16
Ernest Wong, Public Works Director/City Engineer

CITY OF HIGHLAND

SIGN POST INSTALLATION AND FOUNDATION

Standard Drawing No. 603