

# STANDARD PLANS



**City of Oakley**

**Public Works and Engineering Department**

**July 2021**

# Introduction

The City of Oakley presents the second volume of Standard Plans developed by the Public Works and Engineering Department. The City of Oakley has adopted the Caltrans Standard Plans, but the City of Oakley Standard plans are specific to the City's public improvements. The City Standard Plans will govern between conflicting details with Caltrans and Contra Costa County standard details.

These drawings shall be used in conjunction with the latest edition of the Caltrans Standard Specifications, Standard Specifications for Public Works Construction (i.e. "The GREENBOOK"), and project specific City of Oakley Specifications.

All details pertaining to the design of potable water, recycled water, and sanitary sewer systems shall be reviewed and approved by Diablo Water District and Ironhouse Sanitary District respectively.

All curb ramps and accessible routes shall conform to Caltrans Standards, Americans with Disabilities Act Accessibility Guidelines (ADAAG), and Title 24 of the California Building Code.

A hard copy of the City of Oakley Standard Plans is available for purchase at the City of Oakley Permit Center located at 3231 Main Street, Oakley, CA 94561.

# Comments

The City of Oakley is committed to the quality of this publication and desires to correct any errors, omissions, or ambiguities in the next publication of this document. If you have any comments, corrections, or additions you would like to submit for consideration to be included in the next publication, you are encouraged to submit them to:

City of Oakley  
Public Works and Engineering Department  
3231 Main St.  
Oakley, CA 94561  
925-625-7037  
[publicworks@ci.oakley.ca.us](mailto:publicworks@ci.oakley.ca.us)

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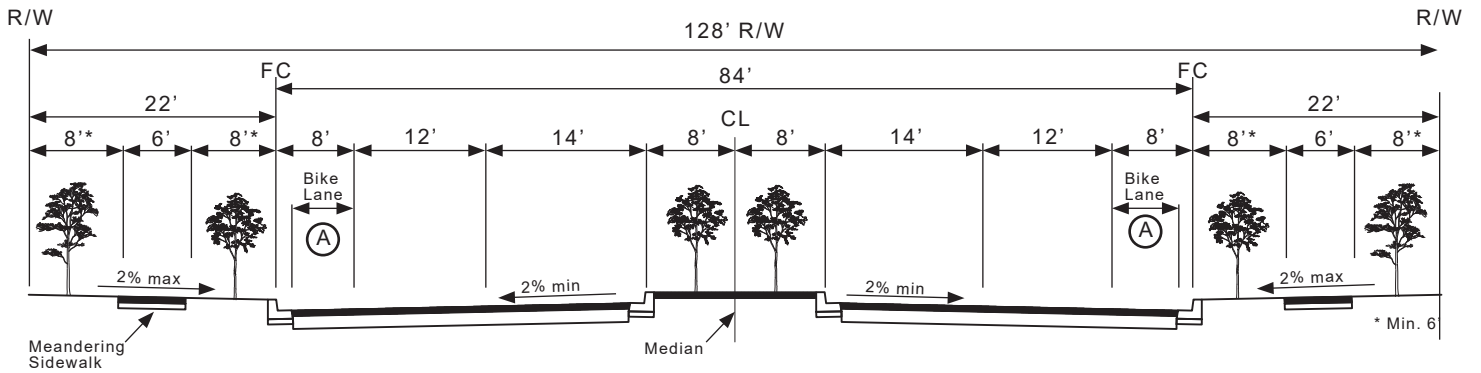
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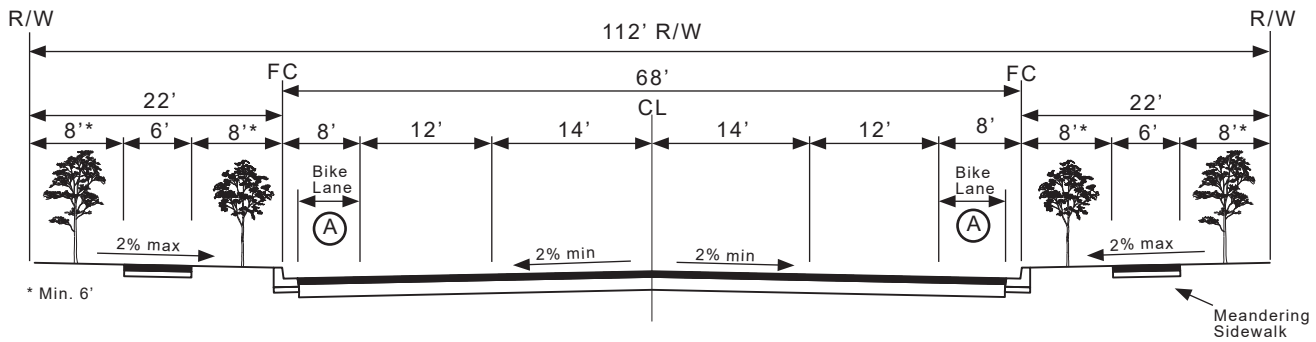
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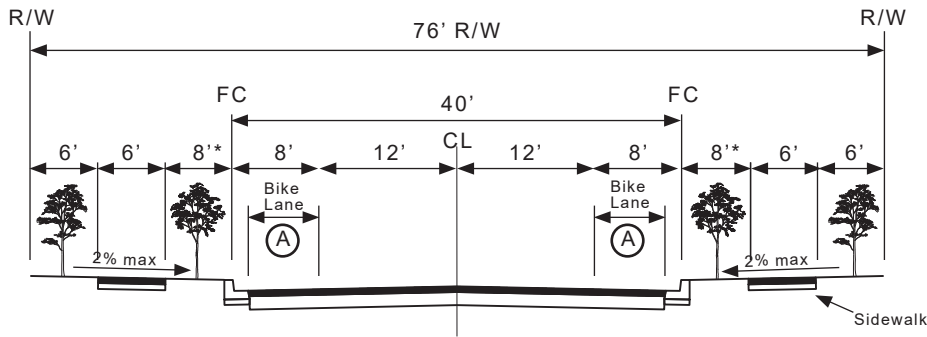
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## FOUR LANE

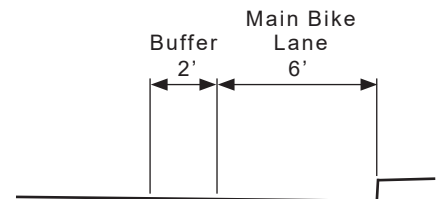


## FOUR LANE



## TWO LANE COLLECTOR

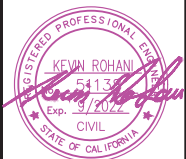
### Ⓐ BIKE LANE



### NOTES:

All pavement sections to be determined by the project soils report and R-value

FC = Face of Curb  
NOT TO SCALE



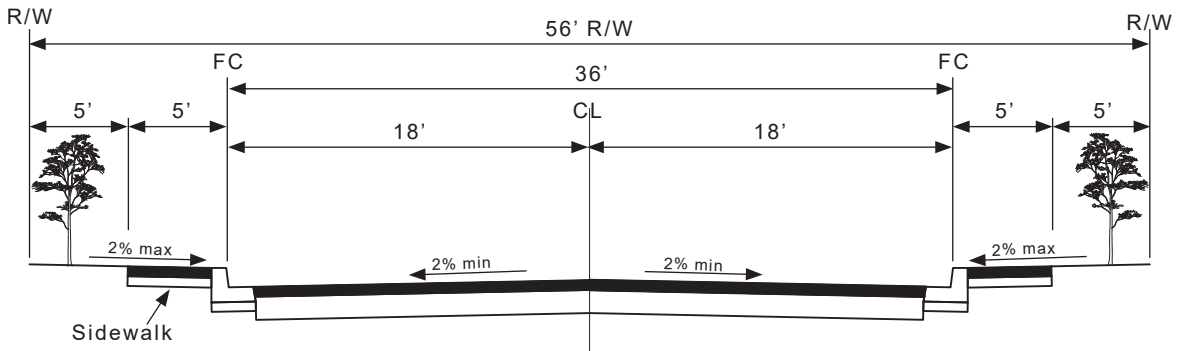
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July 2021



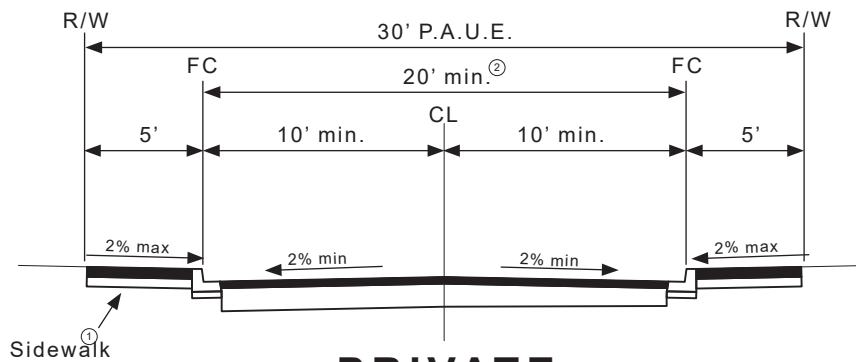
TYPICAL SECTIONS  
MAJOR ROADS

STD. PLAN NO.

X-01



## MINOR / RESIDENTIAL



## PRIVATE

### NOTES:

1. Sidewalk per the approval of the Planning Division
2. Street widths subject to the approval of the Fire District and Planning Division

FC = Face of Curb  
NOT TO SCALE



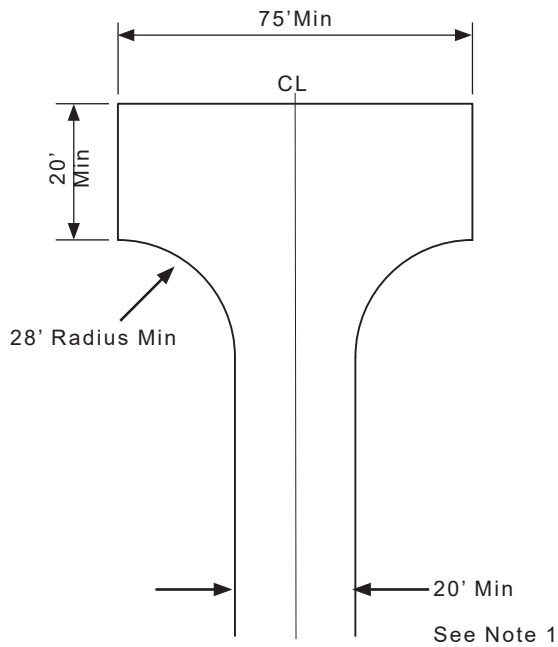
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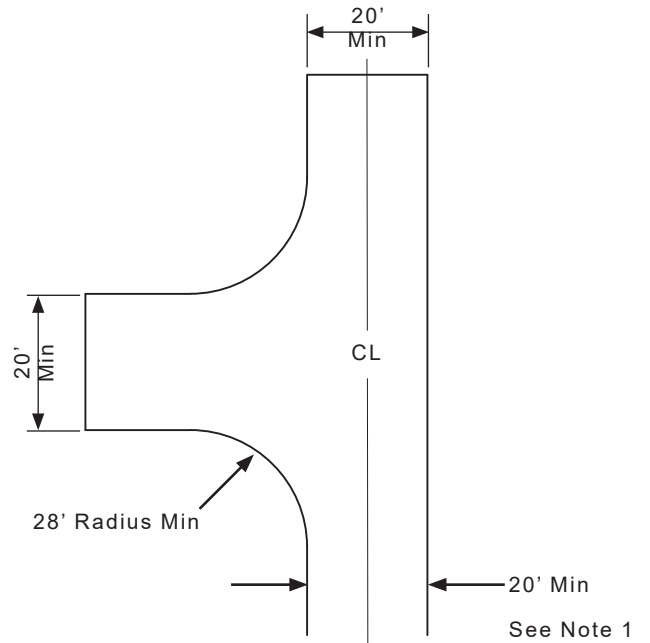
TYPICAL SECTIONS  
RESIDENTIAL

STD. PLAN NO.

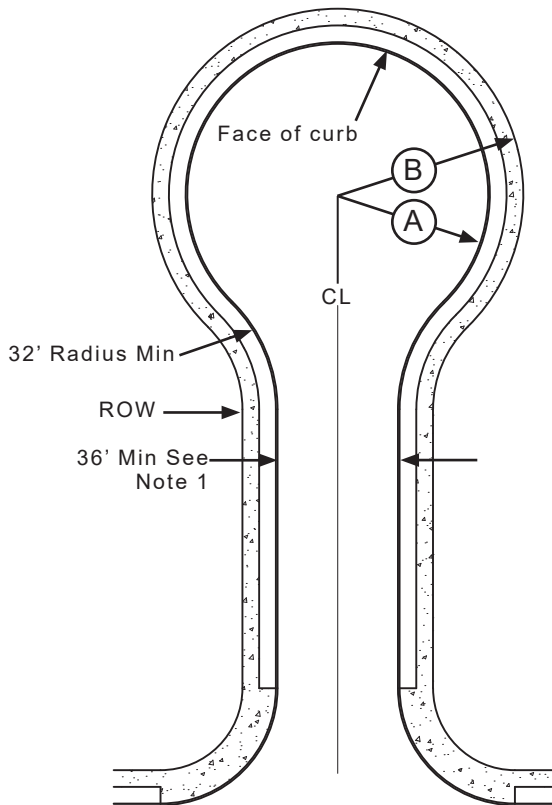
X-02



**HAMMERHEAD**  
(Private Only)



**SHUNT**  
(Private Only)



**CUL-DE-SAC**

<u>Road Type</u>	<u>Radius</u>	
	(A)	(B)
Residential Street	45'	55'
Commercial /Industrial Street	55'	65'

**Notes**

1. Minimum roadway widths:  
20 ft - no parking  
32 ft - parking on one side  
36 ft - parking on both sides
2. Cross slope within turnaround shall not exceed 8% grade.
3. Surface shall be all-weather and capable of supporting a 37 ton vehicle.
4. Cul-de-Sac shall have standard curb and gutter, See Std Plan C-01.
5. Standards are minimum City requirements subject to Fire District approval.
6. No parking signs must be installed where parking is restricted.

NOT TO SCALE

NOT TO SCALE

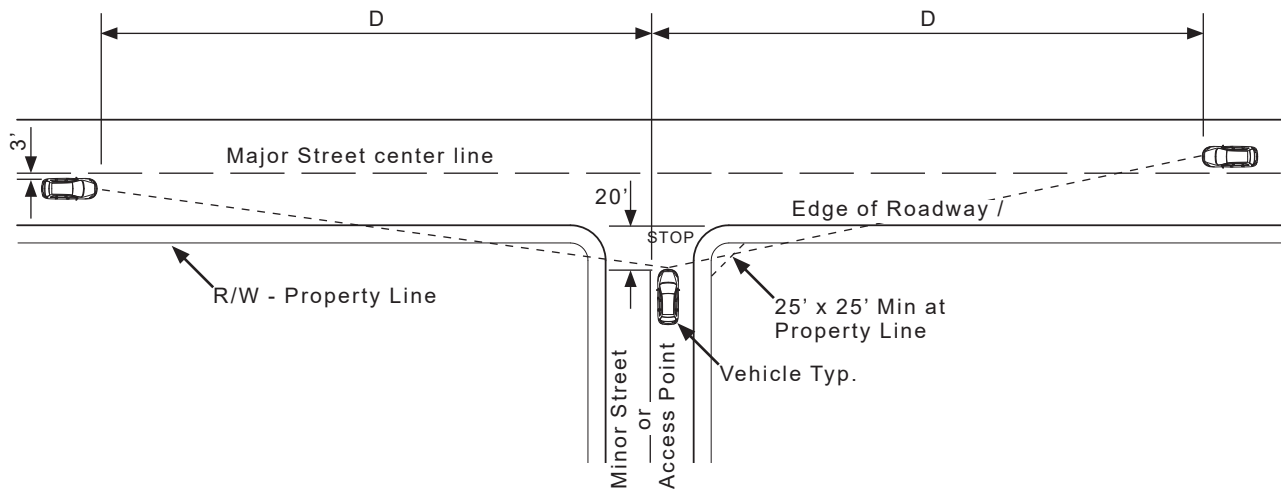


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**STREET END  
LAYOUT OPTIONS**

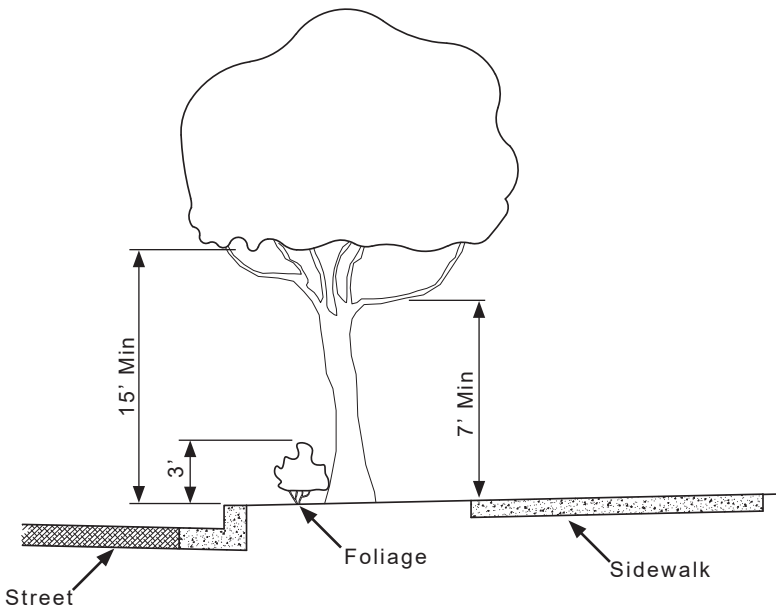
STD. PLAN NO.  
**X-03**



## MAJOR STREET WITH STOP CONTROL ON MINOR STREET

<u>Major Road Posted Speed Limit (MPH)</u>	<u>D Minimum Distance (ft)*</u>
25	280
30	335
35	390
40	445
45	500

\*AASHTO Green Book



### Notes

1. Foliage at maturity and berm, if any, shall not exceed 3 feet in height.
2. A visual clearance from the street to 15 feet in height shall be maintained with all tree foliage within the sight triangle.
3. A visual clearance from the sidewalk to 7 feet in height shall be maintained with all tree foliage within the sight triangle.
4. Site specific sight triangle exhibit to be provided upon request by the Public Works and Engineering Department.

NOT TO SCALE



DATE  
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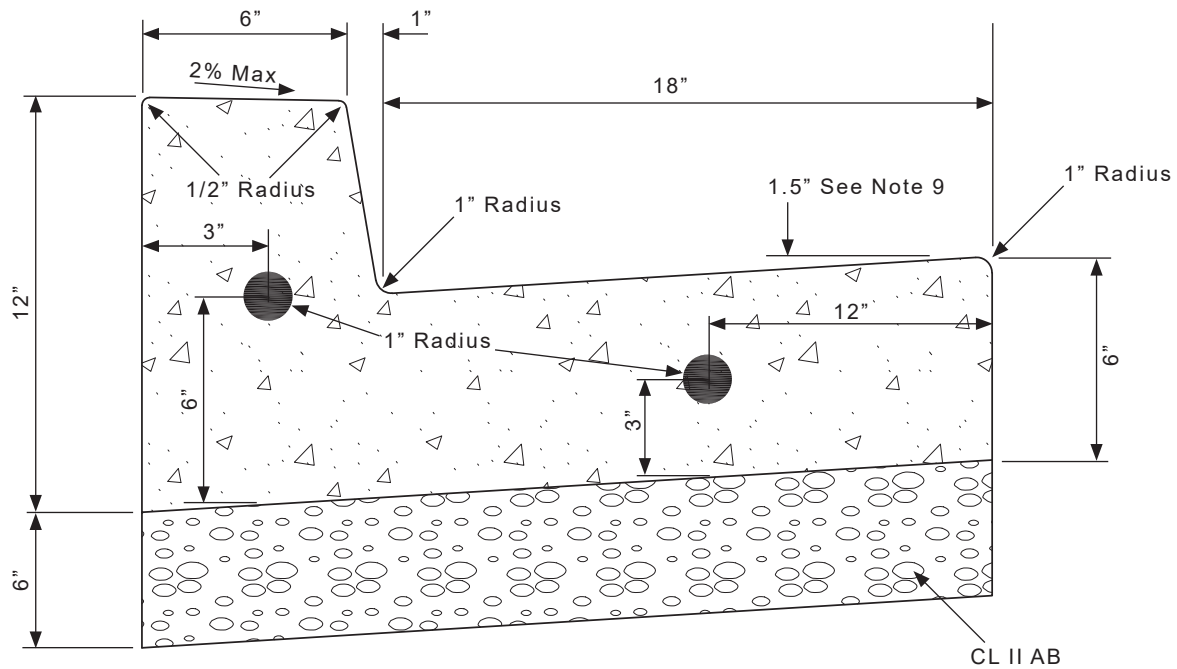


DRIVEWAY AND  
INTERSECTION  
SIGHT TRIANGLES

STD. PLAN NO.

X-04





**Notes:**

1. All radii less than 100' shall use flexible wood or metal forms to eliminate angular points at 10' section points.
2. Saw-cut and remove 18" minimum street section for curb and gutter installation on existing streets.
3. 3/4" expansion joints to be placed at driveway sections, curb returns, curb ramps, and cold joints or a maximum of 30' center to center. Expansion joints shall protrude 1" below the bottom of the gutter.
4. Thru joints shall be placed adjacent to catch basins, inlets at point points of tangency on streets, and at alley and driveway returns. Maximum spacing shall be 30'. Pre-molded joint filler, shall be 1/2" wide and conform to AASHTO design M213. Dummy joints shall be placed every 10'.
5. Finished work shall not vary more than 1/8" in grade and 1/4" in alignment.
6. The finished curb shall immediately be sprayed with transparent curing compound. Curb shall be covered by waterproof paper or plastic membrane in the event of rain or other unsuitable weather. Curing time shall be a minimum of 72 hours.
7. All curb and gutter shall be placed on a minimum of 6" Aggregate Base Class II 95% maximum compaction ASTM D1557 or per the direction of the City Engineer.
8. #4 Rebar shall be extended along full length of the curb and gutter with a 2' overlap at end of rebar.
9. Gutter pan slope shall not exceed 5% at pedestrian curb ramp entry locations. Contractor shall use 1.2" maximum between lip of gutter flow line at these locations.
10. All concrete shall be per current Caltrans Specifications Section 73 "Concrete Curbs and Sidewalks" and Section 90 "Concrete". Concrete shall include 2 pounds of liquid lamp black per cubic yard of concrete. Liquid lamp black color shall be "Davis A 8090 Black" or equal.
11. All curb and gutter shall have 2 #4 Rebar the entire length and embedded on both ends using dowels (one dowel in the center of the gutter; one dowel in the center of the curb).

NOT TO SCALE



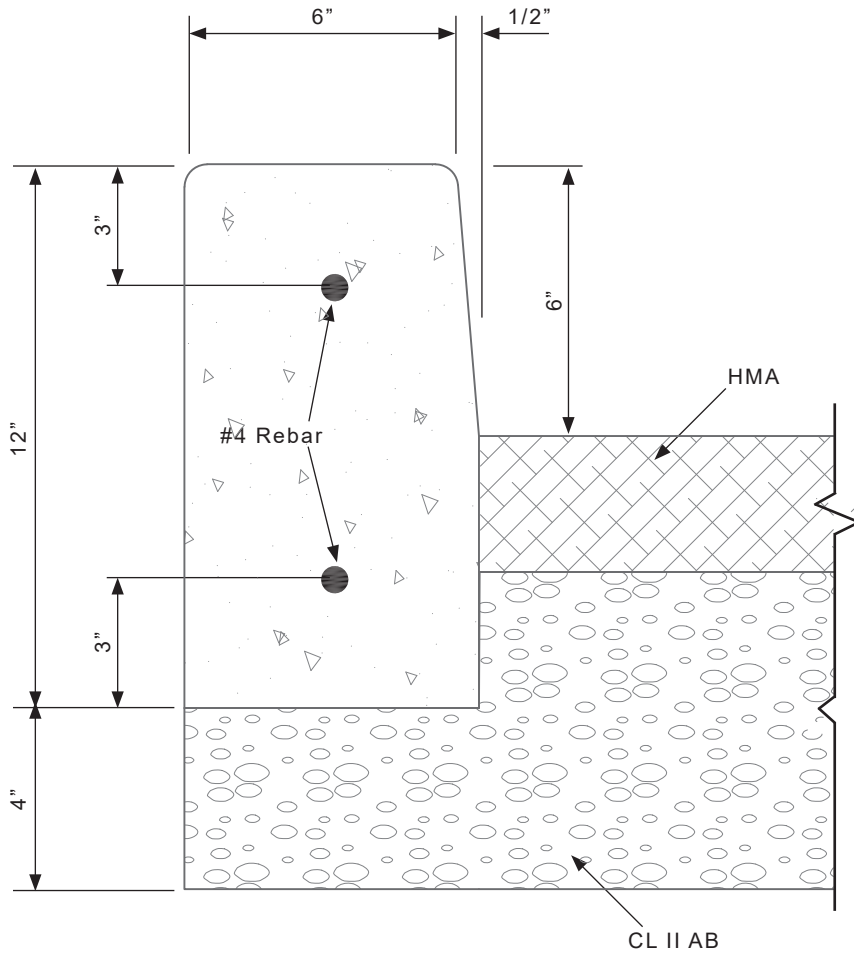
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July 2021



CONCRETE CURB  
AND GUTTER

STD. PLAN NO.

C-01



**Notes:**

1. The construction notes of Standard Plan C-01 apply to concrete vertical curb.
2. Median islands shall have 8" vertical clearance from Top of Curb to Pavement.

NOT TO SCALE



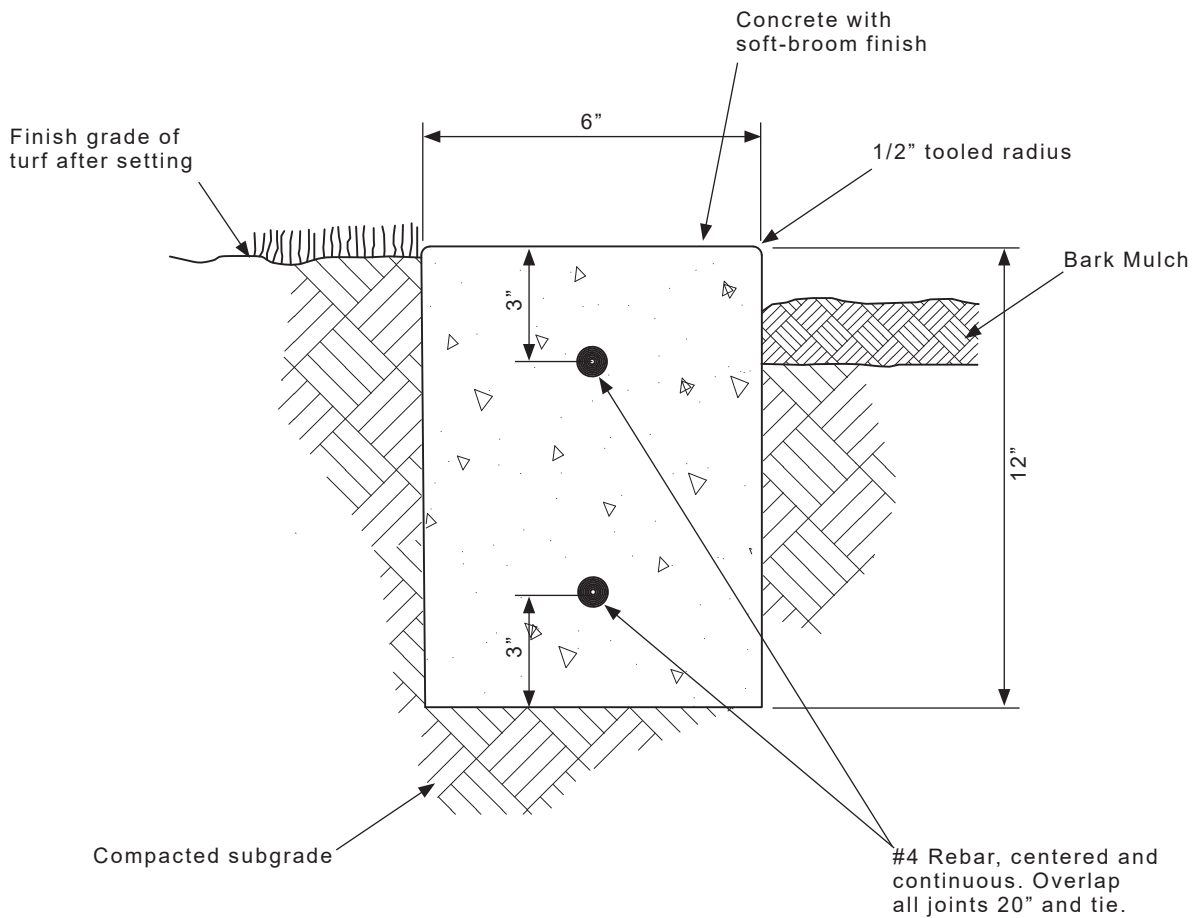
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July 2021



**CONCRETE  
VERTICAL CURB**

STD. PLAN NO.

**C-02**



## SECTION

### Notes:

1. Provide 1/4" wide by 1/2" deep score lines at 8'-0" O.C. and expansion joints at 32'-0" O.C.

NOT TO SCALE



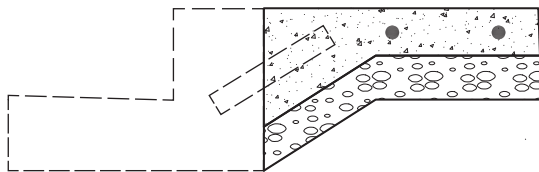
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July 2021

**OAKLEY**  
—  —  
**CALIFORNIA**

**CONCRETE DIVIDER  
/ MOWBAND**

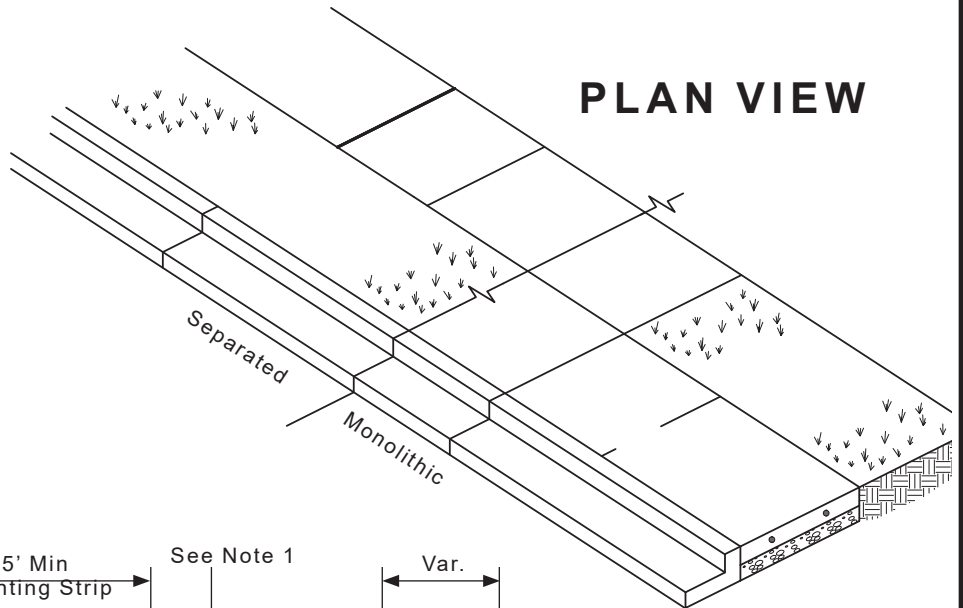
STD. PLAN NO.

**C-03**

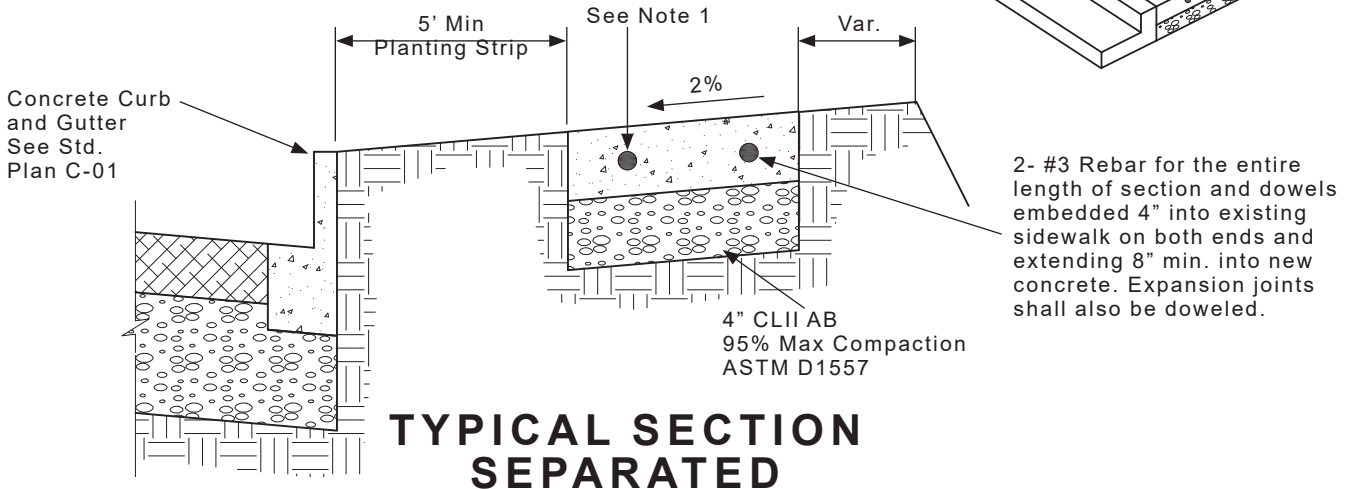


## TYPICAL SECTION MONOLITHIC

Sidewalk when machine poured monolithic to curb shall be 6" thick



## PLAN VIEW



## TYPICAL SECTION SEPARATED

### Notes:

1. Sidewalk shall be a minimum of 4". All concrete shall be per current Caltrans Specifications Section 73 "Concrete Curbs and Sidewalks" and Section 90 "Concrete". Concrete shall include 2 pounds of liquid lamp black per cubic yard of concrete. Liquid lamp black color shall be "Davis A 8090 Black" or equal.
2. Full Expansion Joints shall be placed to match those placed in adjacent Curb and Gutter, with maximum spacing of 30 ft.
3. Subgrade shall have 95% minimum compaction ASTM D1557 or per the direction of the City Engineer.
4. Sidewalk shall be at least 6" thick behind Rolled Curb and Residential Driveways and 8" thick behind Commercial Driveways.
5. The finished sidewalk shall be sprayed with a transparent curing compound covered by waterproof paper or plastic sheeting in the event of rain or other inclement weather; curing time shall be for a minimum of 72 hours.
6. All joints shall be cleaned and edged with an edger having a 1/4" radius.
7. Sidewalk and planter strip widths shall conform to dimensions shown in appropriate street cross section details.
8. The width of the sidewalk directly behind curb without planter shall be a minimum of 5' from back of curb.
9. Exposed surfaces shall be a light broom finish.

NOT TO SCALE



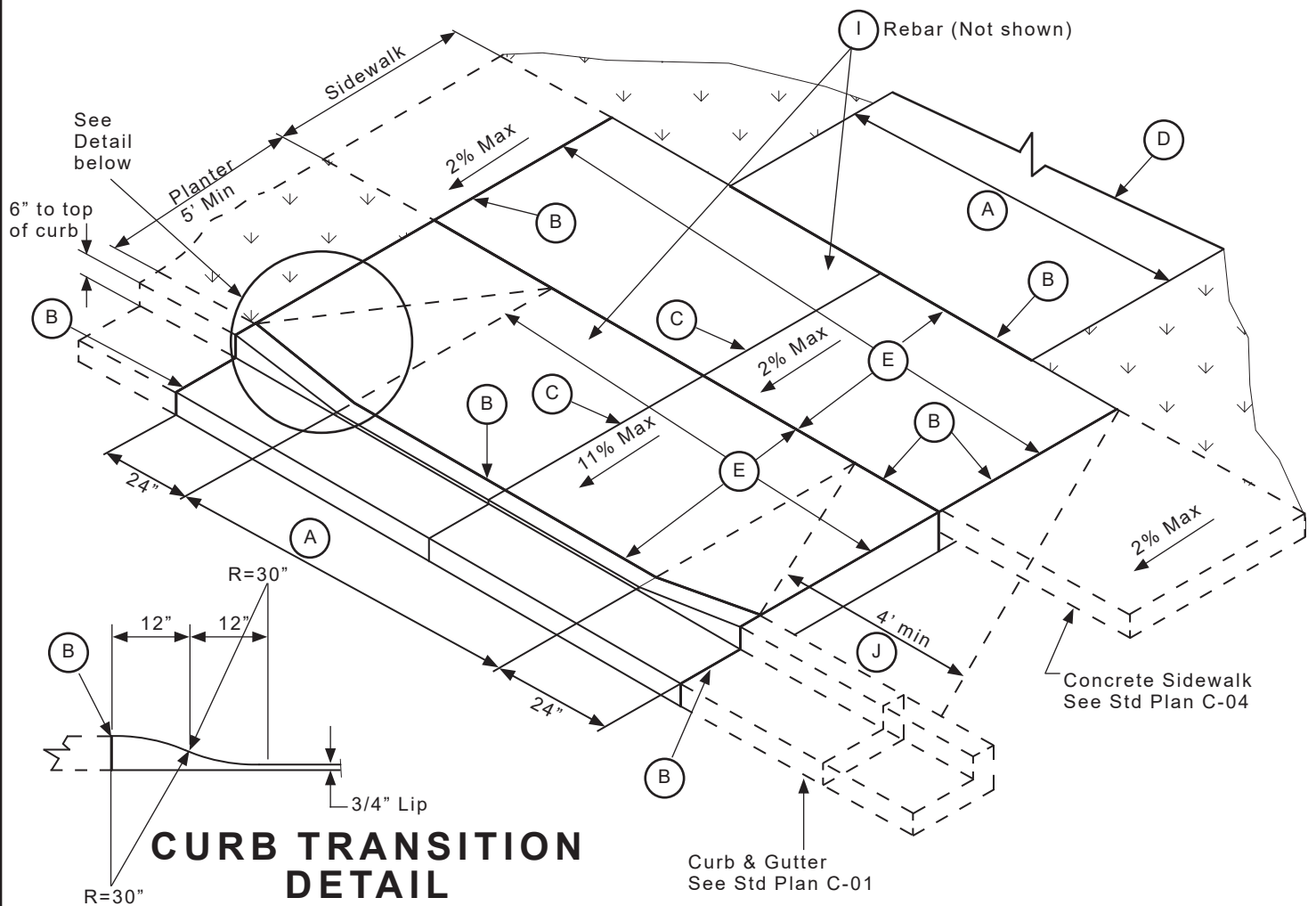
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July 2021



CONCRETE SIDEWALK  
MONOLITHIC AND  
SEPARATED

STD. PLAN NO.

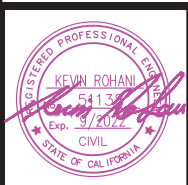
C-04



**Notes:**

- (A) Equals width of driveway at property line, 14' min - 30' max for residential and 25' min - 35' max for commercial.
- (B) 1/2" wide full depth expansion joint
- (C) Full depth expansion joint if A is 15' or greater.
- (D) Driveway to be surfaced with asphalt or concrete.
- (E) Driveway concrete shall be a minimum of 6" thick for residential and 8" thick for commercial locations and is to be placed on a minimum of 4" Class II aggregate base 95% maximum compaction, ASTM D1557. Over 95% compacted subgrade.
- (F) All concrete shall be per current Caltrans Specifications Section 73 "Concrete Curbs and Sidewalks" and Section 90 "Concrete". Concrete shall include two (2) pounds of liquid lamp black per cubic yard of concrete. Liquid lamp black color shall be "Davis A 8090 Black" or equal.
- (G) Sawcut and remove 18" minimum street section for driveway installation in existing streets.
- (H) All work shall conform to current ADA requirements.
- (I) #4 rebar 16" O.C. both ways minimum 3" cover.
- (J) 4' min. at 2% for sidewalk transition to monolithic

NOT TO SCALE

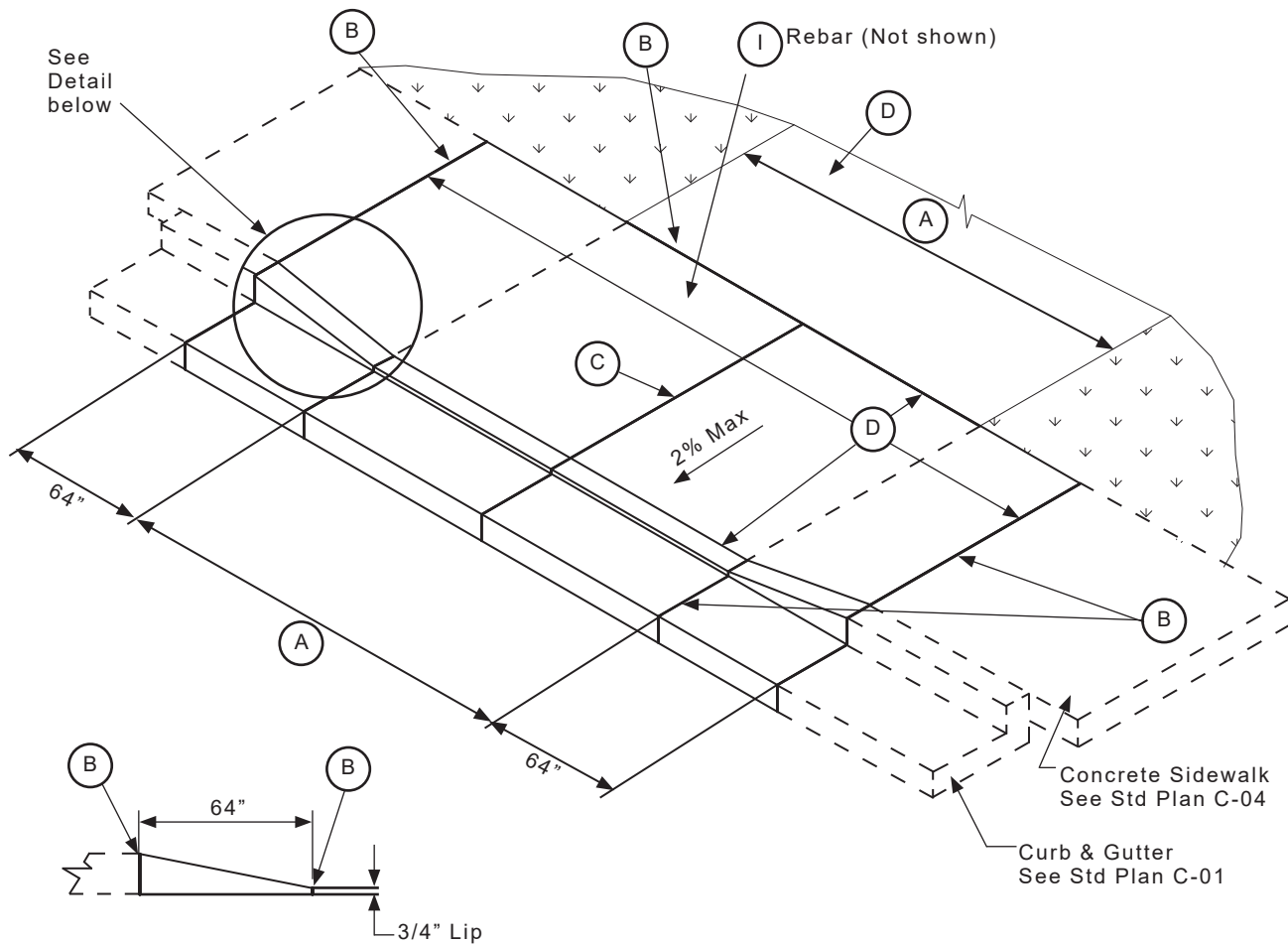


DATE  
July 2021



**CONCRETE DRIVEWAY WITH PLANTER**

STD. PLAN NO.  
**C-05**



## CURB TRANSITION DETAIL

### Notes:

- (A) Equals width of driveway at property line, 14' min - 30' max for residential and 25' min - 35' max for commercial.  
1/2" wide full depth expansion joint
- (B) Full depth expansion joint if A is 15' or greater.
- (C) Driveway to be surfaced with asphalt or concrete.
- (D) Driveway concrete shall be a minimum of 6" thick for residential and 8" thick for commercial locations and is to be placed on a minimum of 4" Class II aggregate base 95% maximum compaction, ASTM D1557. Over 95% compacted subgrade.
- (E) All concrete shall be per current Caltrans Specifications Section 73 "Concrete Curbs and Sidewalks" and Section 90 "Concrete". Concrete shall include two (2) pounds of liquid lamp black per cubic yard of concrete. Liquid lamp black color shall be "Davis A 8090 Black" or equal.
- (G) Sawcut and remove 18" minimum street section for driveway installation in existing streets.
- (H) All work shall conform to current ADA requirements.
- (I) #4 rebar 16" O.C. both ways minimum 3" cover.

NOT TO SCALE



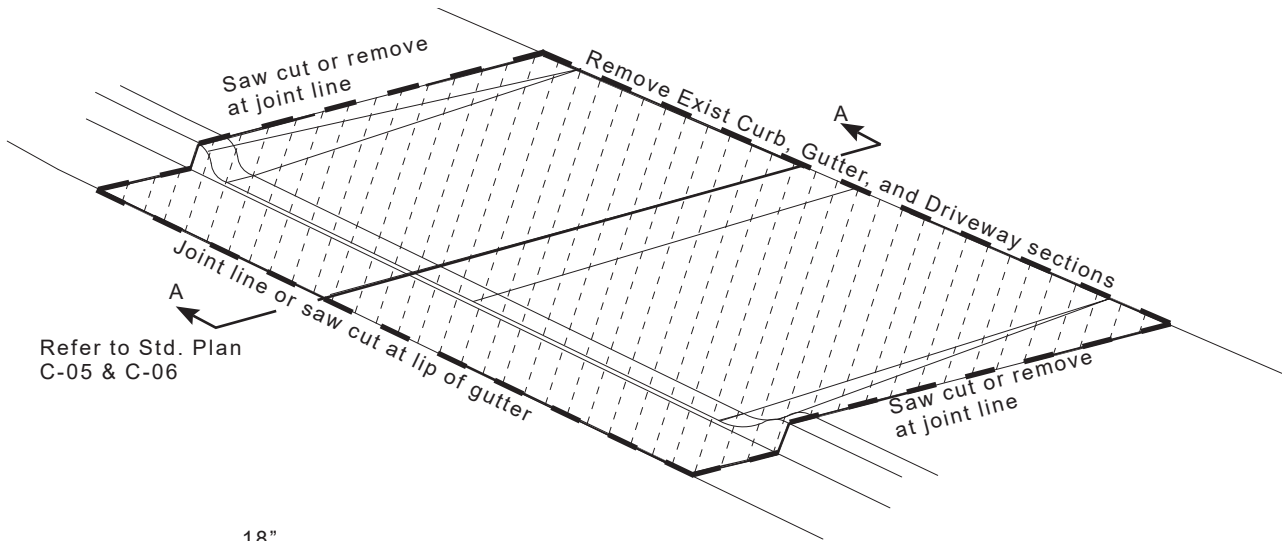
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July 2021

**OAKLEY**  
CALIFORNIA

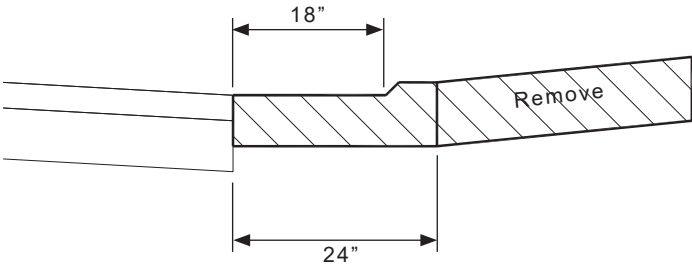
CONCRETE  
DRIVEWAY WITHOUT  
PLANTER

STD. PLAN NO.

C-06



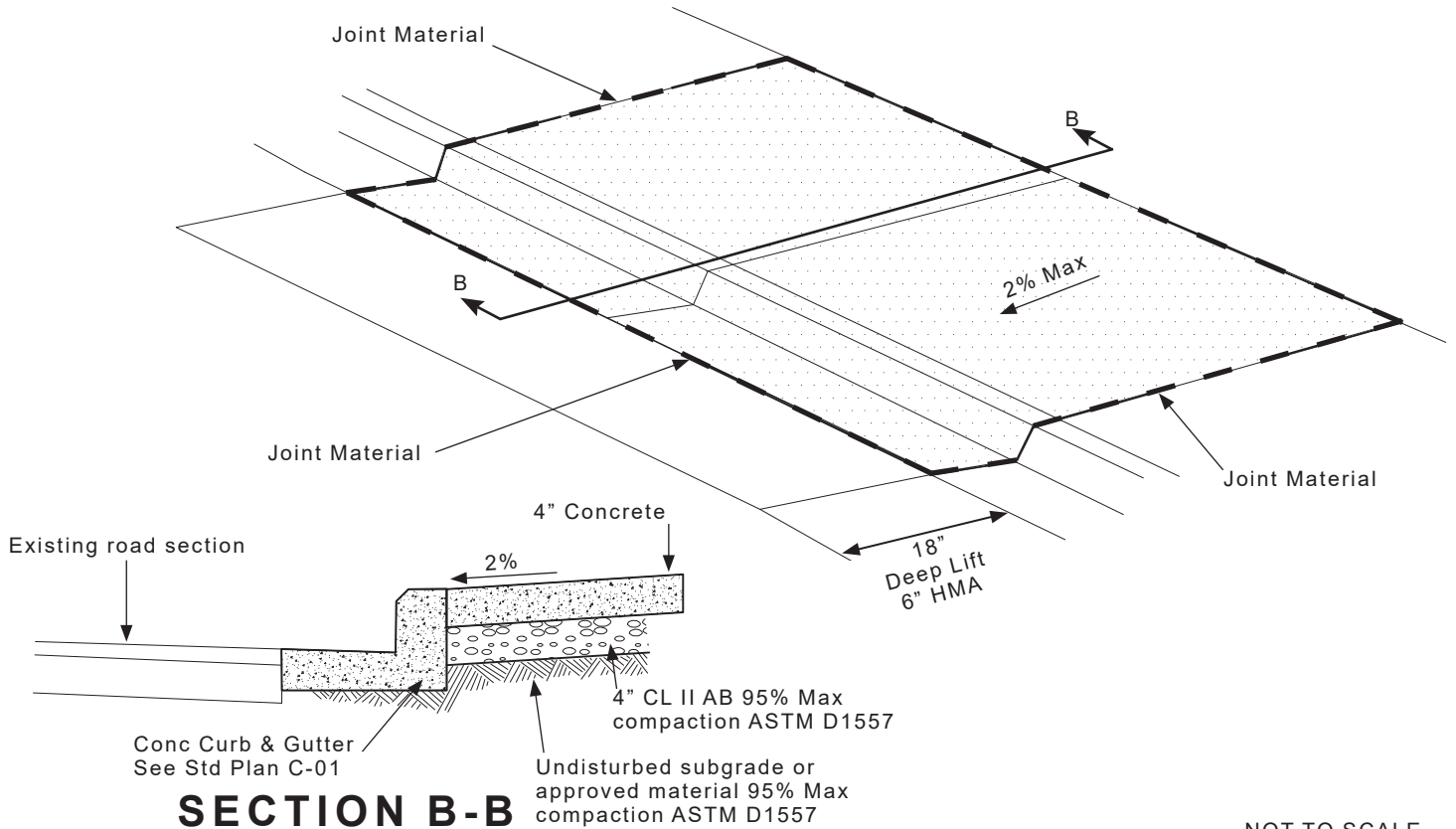
Refer to Std. Plan  
C-05 & C-06



**SECTION A-A**

**Note:**

Rebar: #4 @16" O.C. both ways,  
Min 3" concrete coverage



**SECTION B-B**

NOT TO SCALE



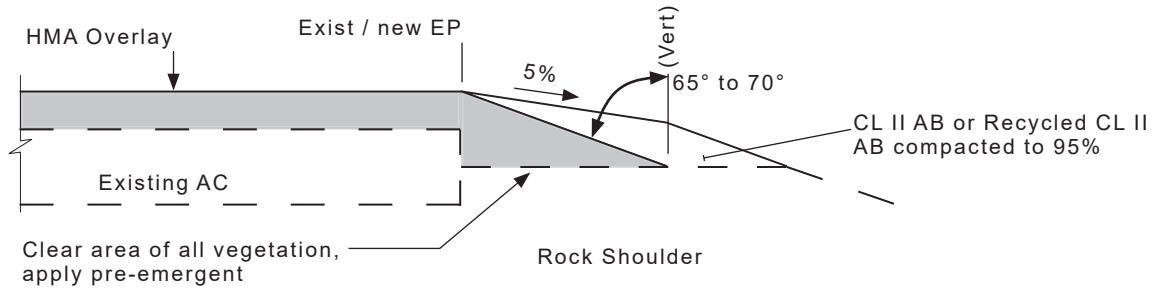
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**CONCRETE  
DRIVEWAY  
TO SIDEWALK  
RECONSTRUCTION**

STD. PLAN NO.

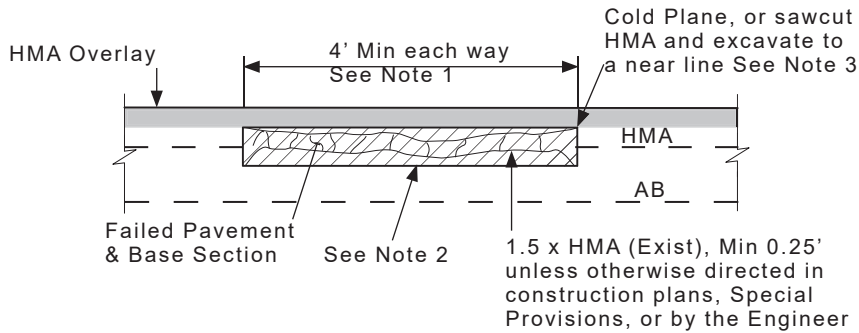
**C-07**



**Notes:**

1. Safety edges shall be used on all roads posted 35 mph or higher with paved shoulders 4' or less.
2. Construction safety edge in conformance with project special provisions or City of Oakley Public Works Department Standard Provision for Construction.

**SAFETY EDGE**

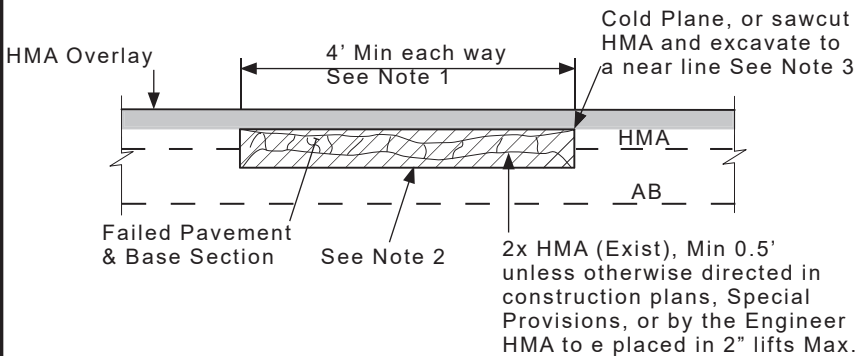


**PAVEMENT FAILURE**

HMA = Hot Mix Asphalt

**Notes:**

1. Limits of pavement failure repairs and base failure shall be as marked in the field by the Engineer / Inspector.
2. For pavement failure repairs and base failure repairs re-compact the existing road base or subgrade to 95% relatively density prior to placing HMA.
3. Place paint binder on all vertical cut faces prior to placing HMA.
4. All sawcut / grind joints shall be sealed using paint binder and fine sand.

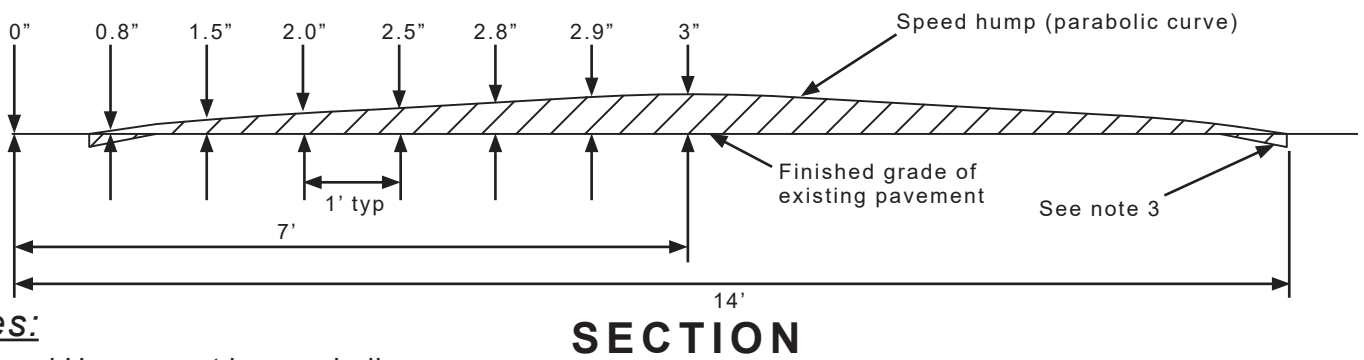
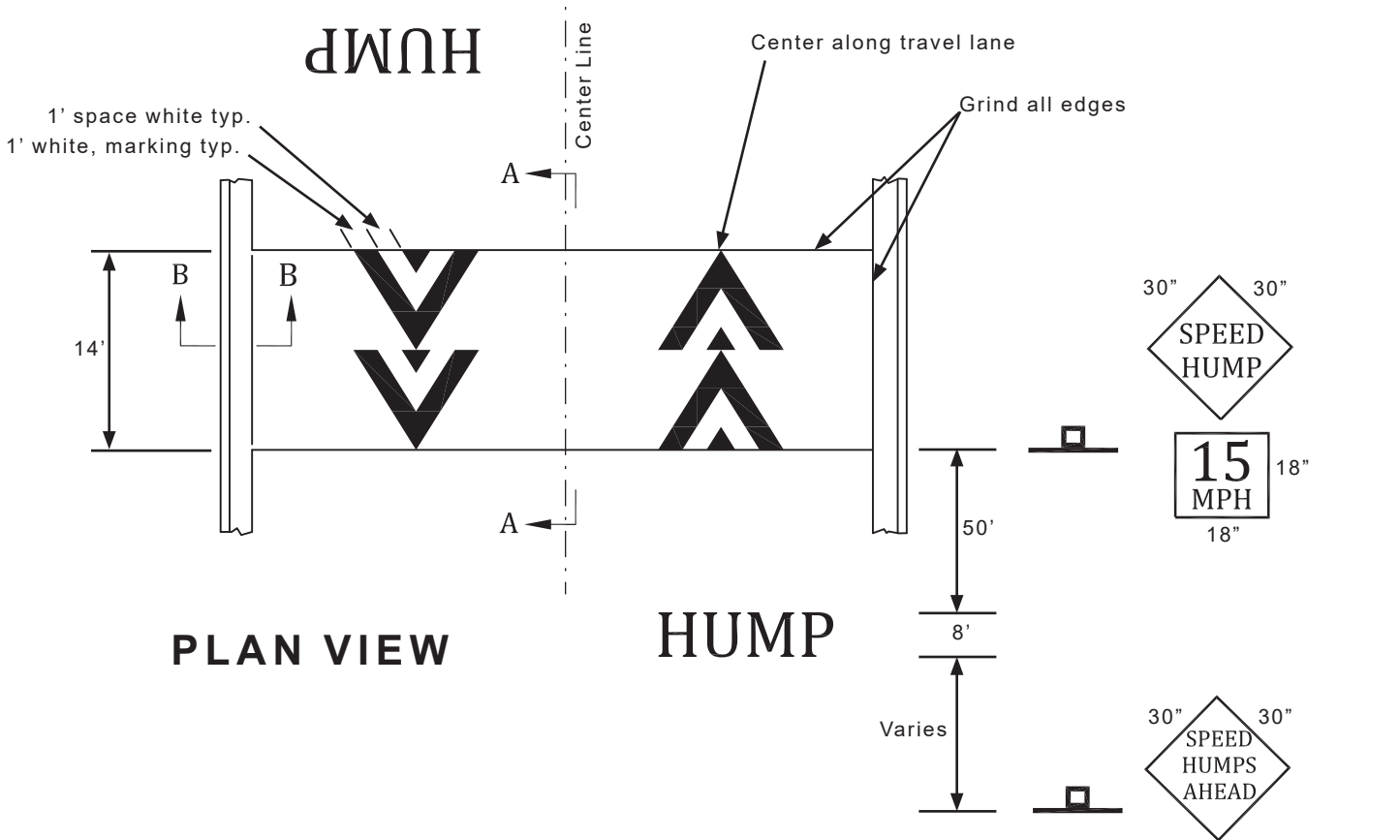


**BASE FAILURE REPAIR DETAIL**

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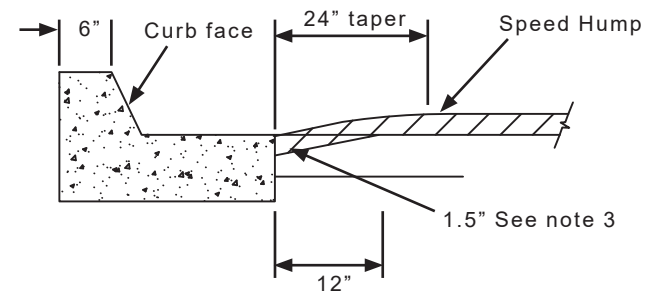
	<p>DATE July 2021</p>		<p>HMA CONFORM DETAILS</p>	<p>STD. PLAN NO. C-08</p>
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**Notes:**

1. Speed Hump must be parabolic
2. Type A HMA AR-4000, max aggregate size 1/2"
3. Grind to key in all edges (1.5" x 12").
4. Signs shown typical in both directions.
5. Sign post must be galvanized square 2" x 2" post with 3/8" diameter holes spaced 1" apart.
6. Signs shall be 3M Diamond Grade.
7. All striping shall be thermoplastic paint.
8. Speed Hump installation must adhere to the Neighborhood Traffic Management Policy.



**SECTION**

NOT TO SCALE

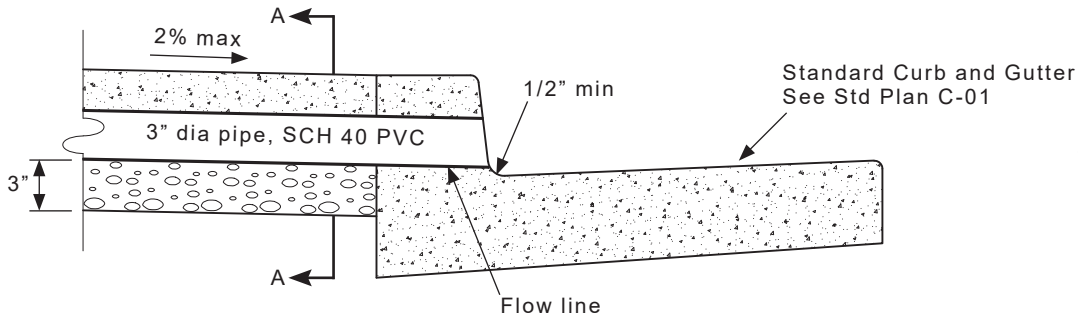


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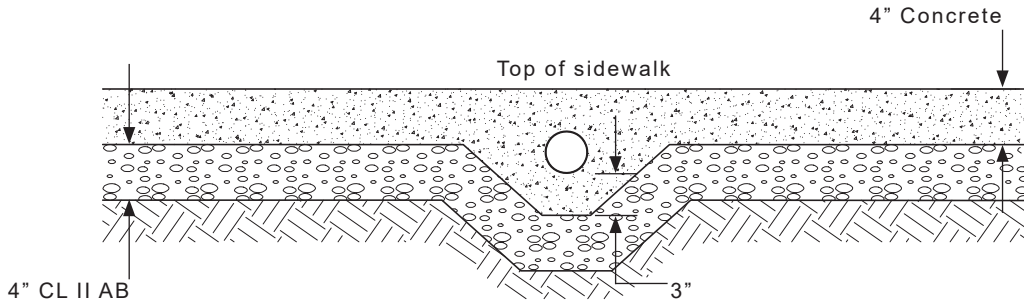


SPEED HUMP

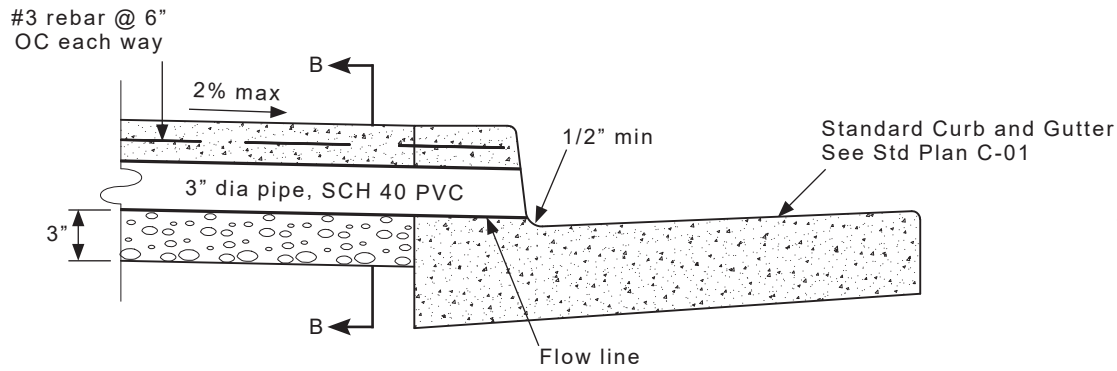
STD. PLAN NO.  
C-09



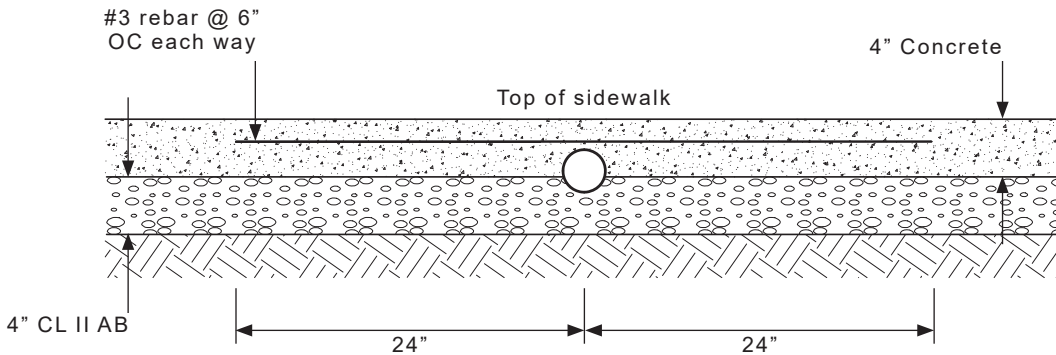
**OPTION 1**



**SECTION A-A**



**OPTION 2**



**SECTION B-B**

NOT TO SCALE



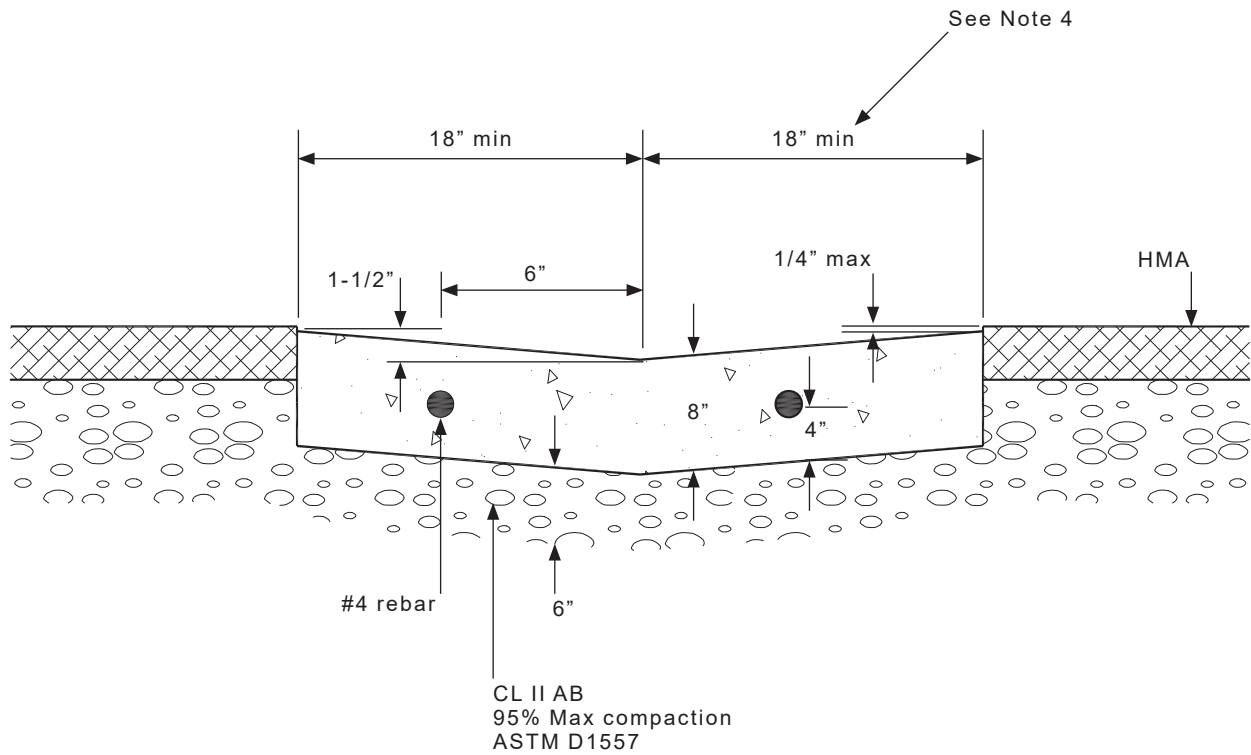
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July 2021



**CURB DRAIN**

STD. PLAN NO.

**SD-01**



**Notes:**

1. Expansion joints with 1/2" x 12" slip
2. Dowels at 20 foot intervals
3. All concrete shall be per current Caltrans Specifications Section 73 "Concrete Curbs and Sidewalks" and Section 90 "Concrete". Concrete shall include two pounds of liquid lamp black per cubic yard of concrete. Liquid lamp black color shall be "Davis A 8090 Black or equal.
4. Valley Gutter width must be designed to meet collect and convey requirements to meet capacity for storm drain.

NOT TO SCALE



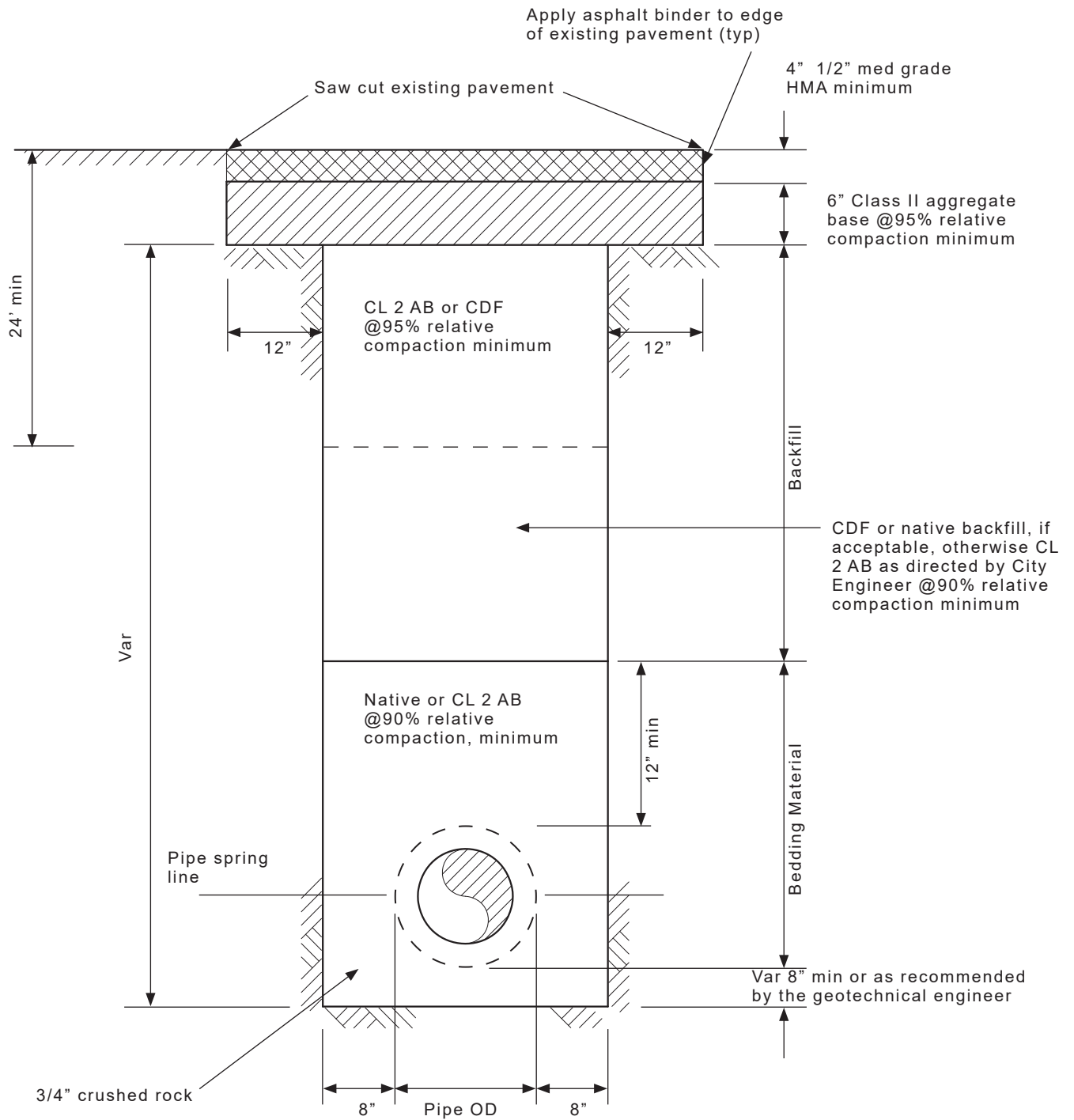
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CONCRETE  
VALLEY GUTTER

STD. PLAN NO.

SD-02



**Notes:**

1. See Standard Plan SD-04 for additional trench requirements.
2. The 4" HMA shall be placed in two 2" lifts
3. Pavement section to match existing or whichever is greater

NOT TO SCALE



DATE  
July 2021



PIPE TRENCH  
DETAIL

STD. PLAN NO.

SD-03

## BEDDING MATERIAL

Granular bedding material requirements  
Caltrans durability index minimum 30

Sleeve Sizes	Percentage Passing
1"	100
3/4"	90-100
3/8"	20-55
#4	0-10
#8	0-5

## STRUCTURAL BACKFILL

Structural backfill requirements percent passing  
Minimum Sand Equivalent of 20

Sleeve Sizes	Percentage Passing
1-1/2"	100
3/4"	80-100
#4"	30-60
#30	5-35
#200	0-12

### Notes

1. All backfill material shall be placed in lifts not to exceed 6 inches before compaction unless authorized by the City Engineer.
  2. Mechanical compaction of backfill material shall not begin until the depth of compacted backfill material is 2 feet above the top of pipe.
  3. Each lift shall be mechanically compacted to the required density prior to placing succeeding lifts of backfill material.
  4. Compaction tests shall be as required by the city construction inspector, but in no case less than 2 tests every 200 feet of trench.
  5. In-place density will be determined by one or more of the following methods.  
(A) ASTM D1557, test for density of soil in place by the sand cone method.  
(B) ASTM D2922- Nuclear method.
  6. Laboratory density will be determined by ASTM D 1557, Moisture-Density Relations of soils and soil-aggregate mixtures.
  7. If the edge of the trench falls within 3 feet of the gutter, the entire pavement shall be removed to the gutter.
  8. On steep slopes, construct clay or concrete dam through the bedding material as determined by the City Engineer.
  9. For concrete streets place 6 inches of Class A Portland Cement Concrete over 6" of Class 2 Aggregate Base for finished surface.
  10. All trench construction shall be in compliance with latest OSHA Standards.
  11. Place permanent pavement within 30 days after backfilling. Install temporary Asphalt Concrete (AC) to finish grade until permanent Hot Mix Asphalt (HMA) is placed.
  12. If existing HMA section is less than 4", grind AC to full depth of existing AC and replace full depth of HMA section (4" minimum).
  13. In paved streets, all cuts shall be smooth and vertical
- with the area being generally rectangular. Native material may be used as backfill if approved by the City Engineer. If sand backfill is used, it must be well graded, tamped with vibratory compactor and lightly jetted, if needed.
14. A semi-finished surface or lowered cross-section (Max lowered depth, 1/2") of AC will be allowed for a maximum of 15 days after backfilling to allow for settling. NO CUT BACK OR COLD PATCH only hot mix asphalt or recessed trench plates allowed. Contractor shall immediately patch any time that excessive settling occurs or as directed by the City Engineer or City representative.
  15. Within 15 days, Contractor shall restore surface to its original condition with hot mix asphalt (HMA) per the requirements below. A 6-inch edge of existing AC shall be removed around the perimeter of the cut before the placement of HMA.
  16. A 6" course of CL II AB and 3" HMA is minimum surface to be restored. No restoration shall be less substantial than existing composition. In cases of concrete streets, a 6" thickness of concrete on a 6" CL II AB is the minimum standard.

NOT TO SCALE



DATE  
July 2021

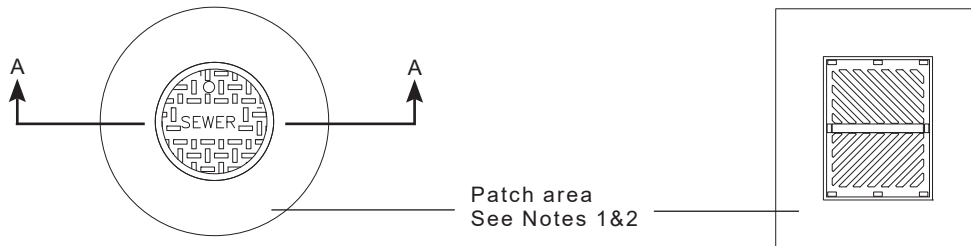


PIPE TRENCH NOTES

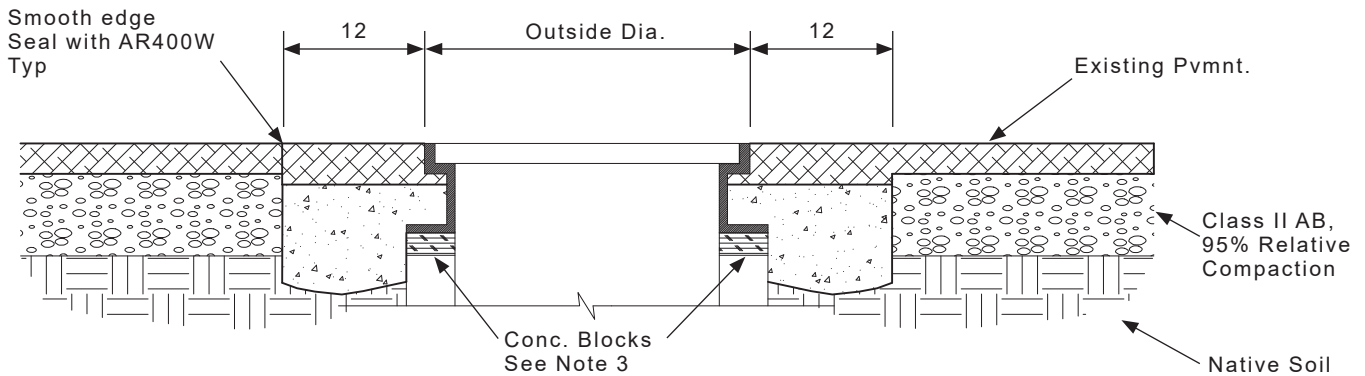
STD. PLAN NO.

SD-04

# MANHOLE & CATCH BASIN ADJUSTMENT

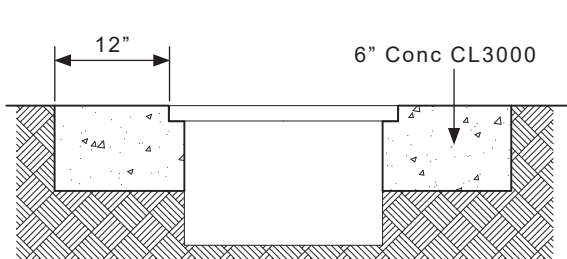


**PLAN**

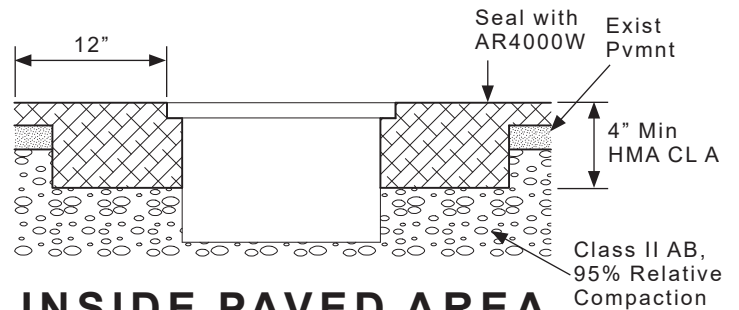


**SECTION A-A**

# VALVE BOX ADJUSTMENT



**OUTSIDE PAVED AREA**



**INSIDE PAVED AREA**

**Notes**

1. Remove pavement and base materials for a distance which is equal to the diameter of the frame plus two feet. Adjust casting frame to new pavement surface using concrete blocks.
2. 2"x4"x8" solid brick used for final

adjustment to grade. 6" high maximum.

NOT TO SCALE



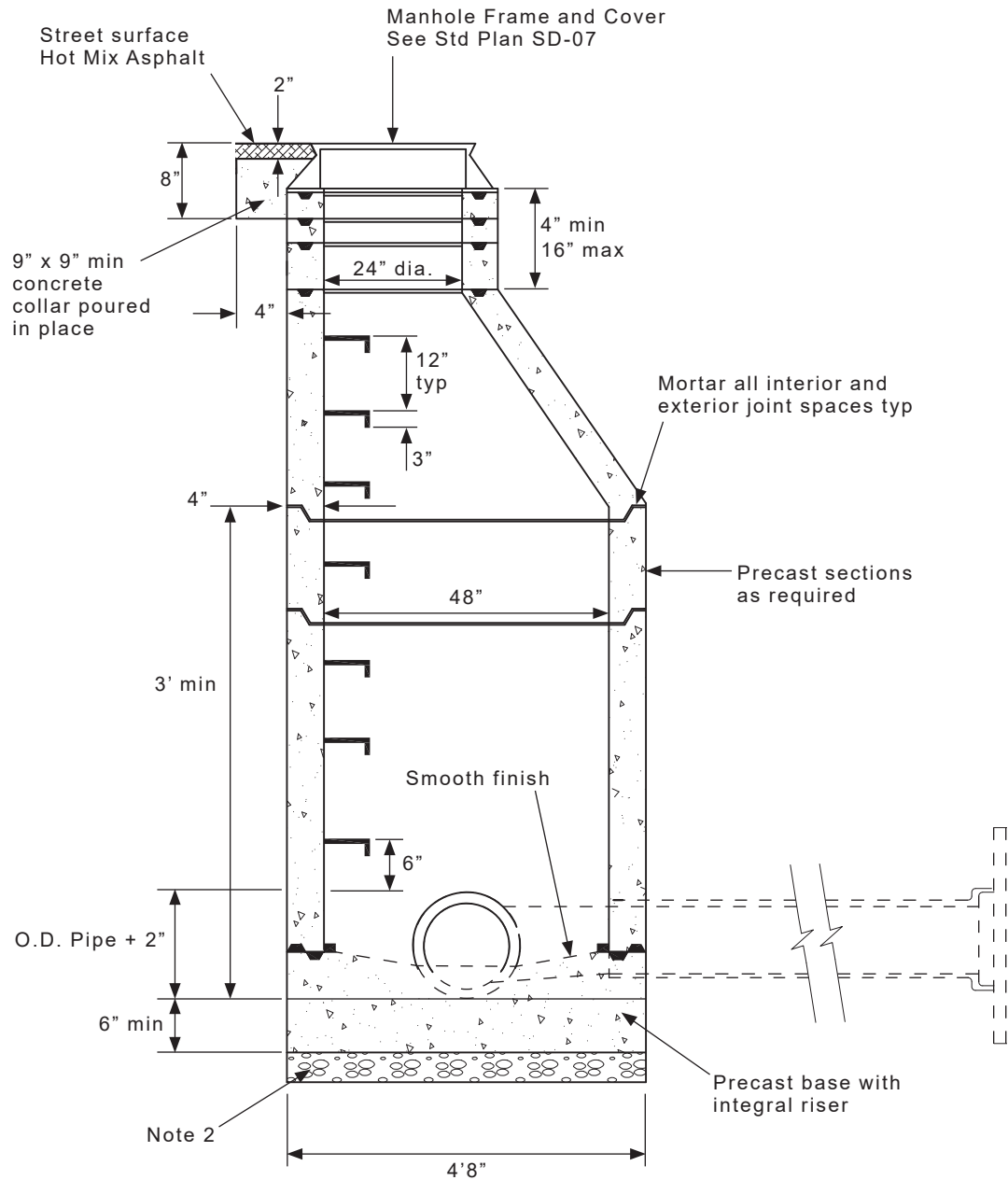
DATE  
July 2021



MANHOLE/CATCH  
BASIN & VALVE BOX  
ADJUSTMENT

STD. PLAN NO.

SD-05



**Notes**

1. Precast Manhole sections shall conform to applicable provisions of ASTM C478.
2. 9" Class II for Aggregate Base bedding compacted to 95% maximum ASTM D1557.
3. Steps shall be galvanized steel 3/4" diameter inserted 3" minimum
4. All joints with flexible plastic Joint

Compound (Ram-Neck, Quick Seal, or equal) two layers may be required to seal base; laster with mortar thereafter.

5. Manhole base must be poured against undisturbed soil. If excavated too deep, fill with concrete.
6. For manhole with large diameter pipes, see Contra Costa County Standard Plans.

NOT TO SCALE



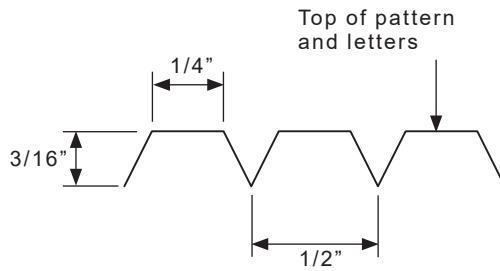
DATE  
July 2021



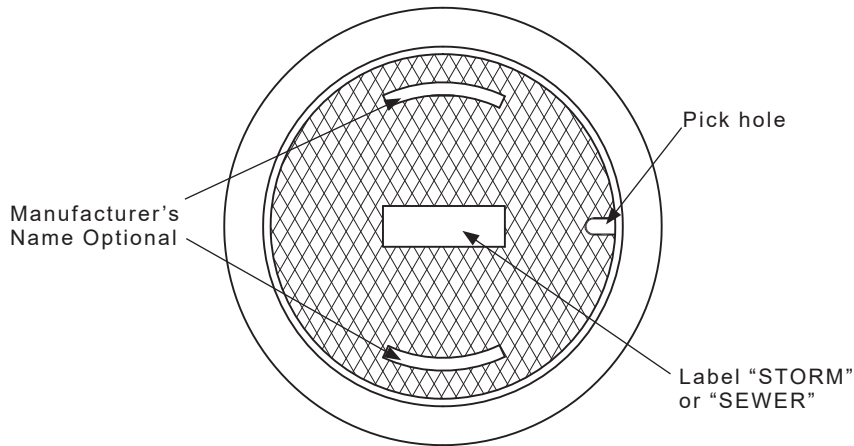
STANDARD  
MANHOLE

STD. PLAN NO.

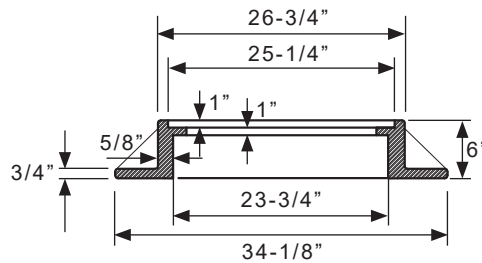
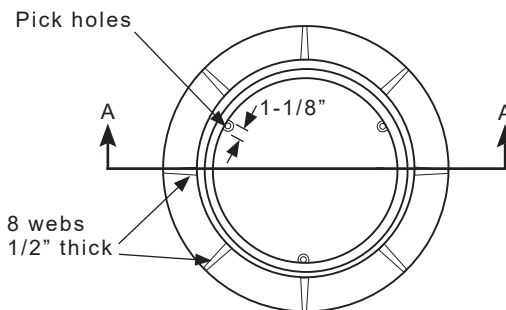
SD-06



## DIAMOND COVER PATTERN DETAIL



## PLAN



## SECTION A-A

NOT TO SCALE



DATE  
July 2021



MANHOLE FRAME  
AND COVER

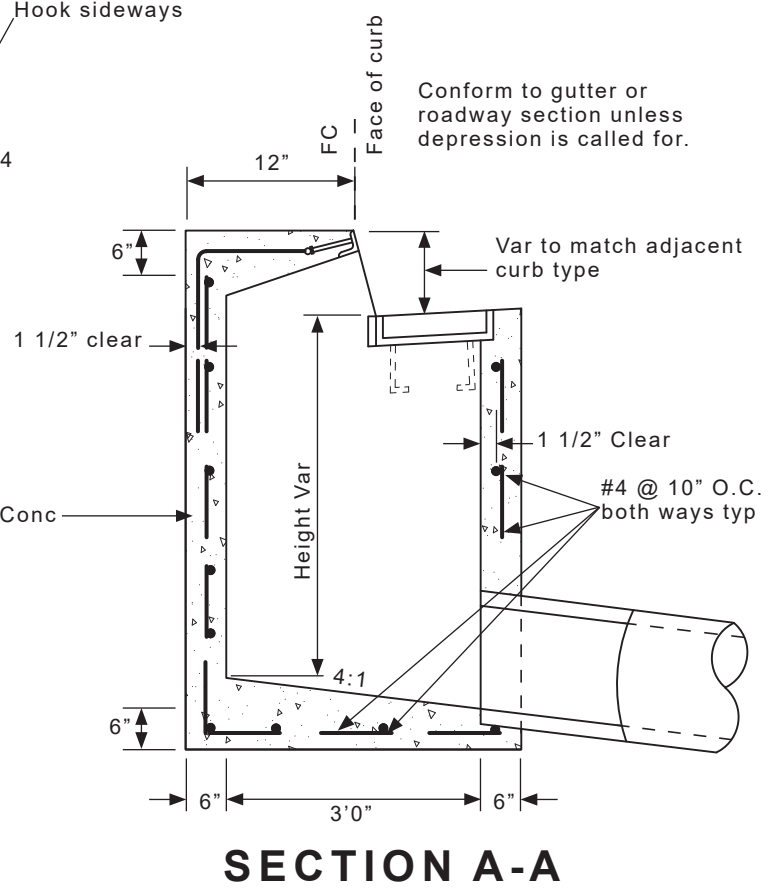
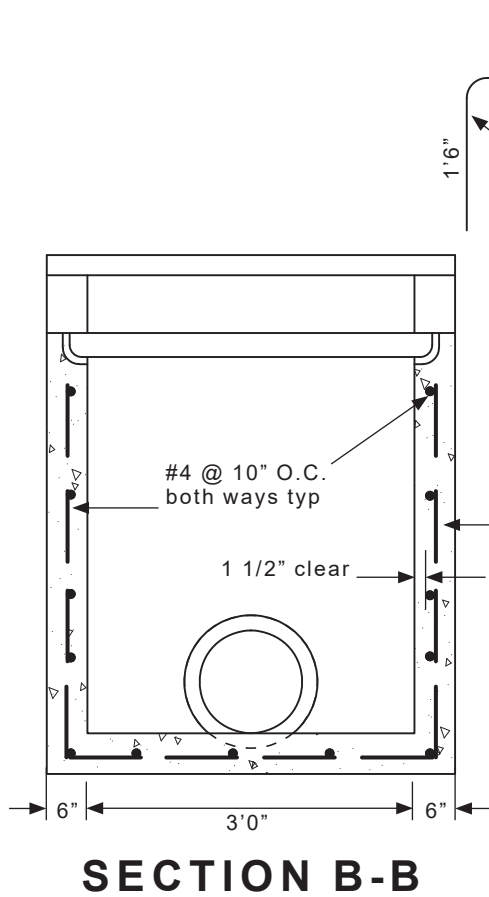
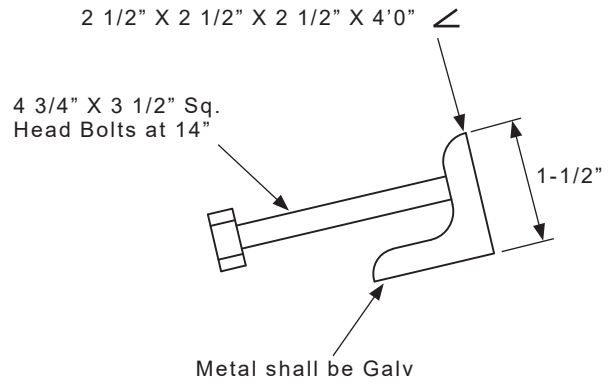
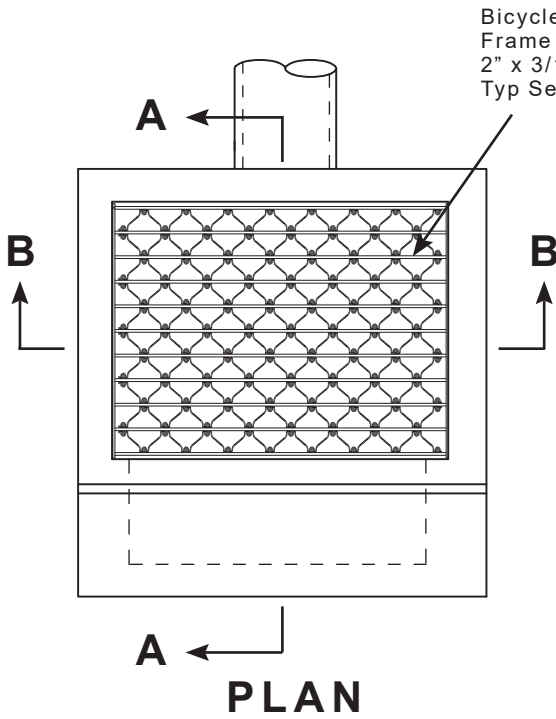
STD. PLAN NO.

SD-07



**Note:**

1. Where inlet is located within a return, angle anchor shall be curved to match face of curb radius
2. When H exceeds 6'-0", use a manhole base with Type "A" inlet top and transition slab.



NOT TO SCALE



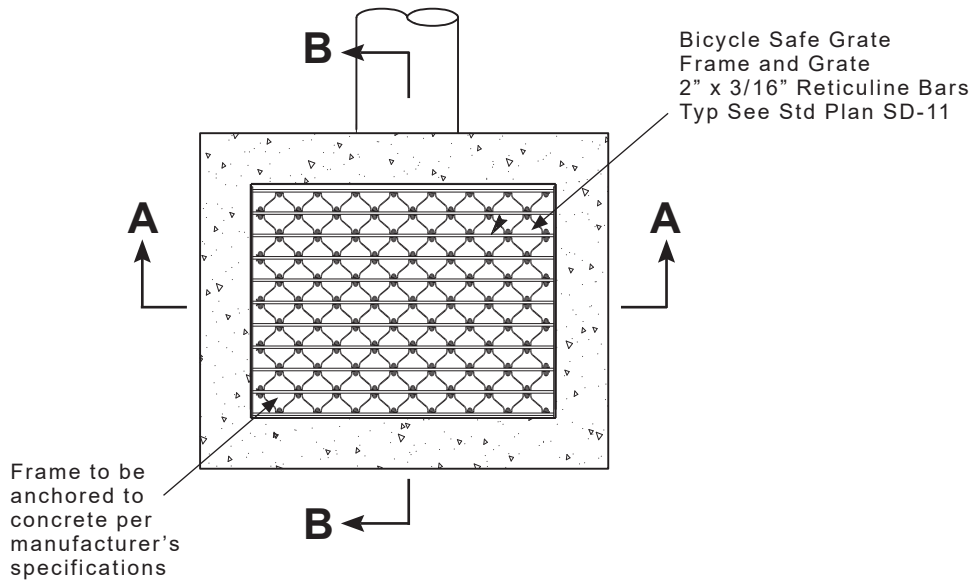
DATE  
July 2021



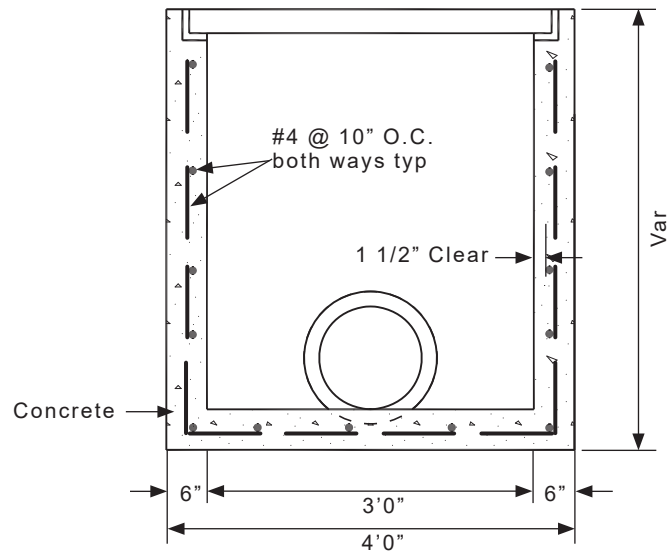
TYPE 1 CURB INLET

STD. PLAN NO.

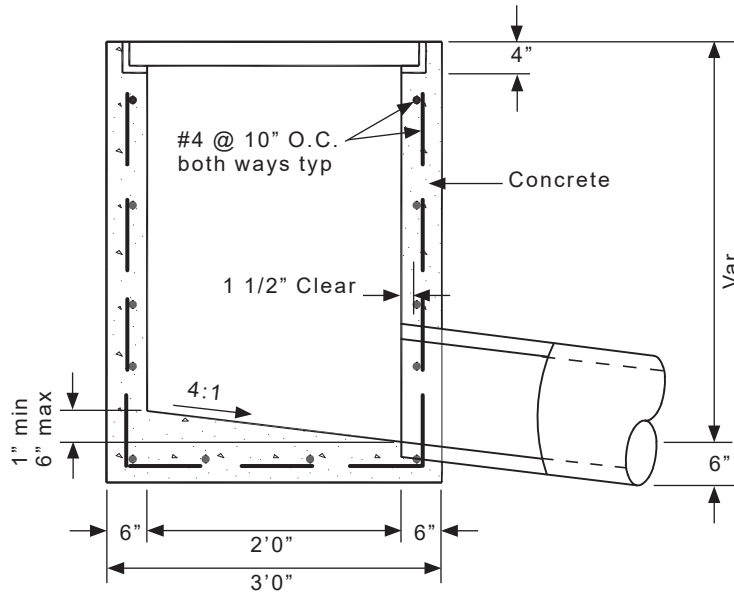
SD-08



**PLAN**



**SECTION A-A**



**SECTION B-B**

NOT TO SCALE



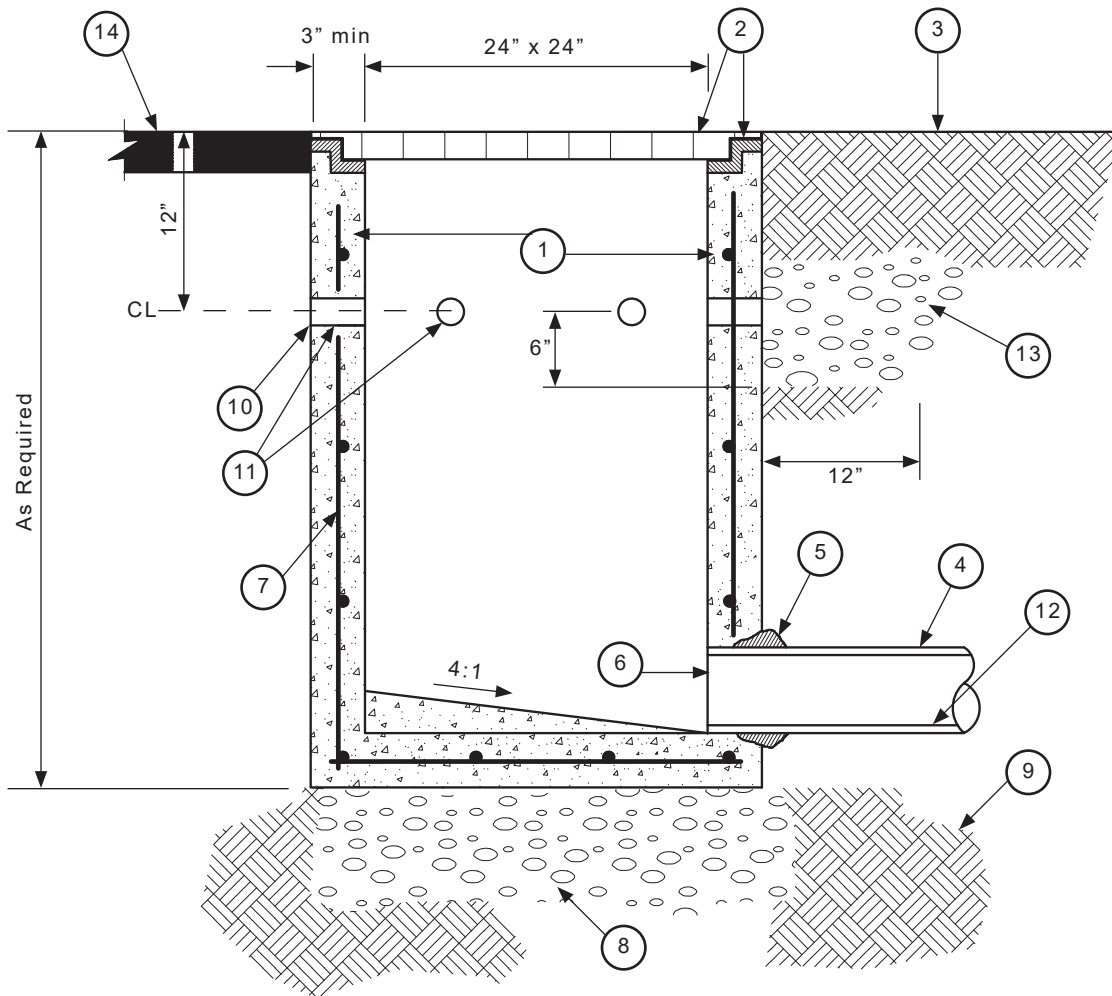
DATE  
July 2021



TYPE II INLET

STD. PLAN NO.

SD-09



## BASIN DETAIL

### Notes

- ① Precast concrete basin, per plan.
- ② Grate and frame, w/grate locking device, per plan.
- ③ Finish grade, flush with top of grate
- ④ Storm drain pipe, per plan.
- ⑤ Grout pipe in place. 1 sack sand-cement slurry
- ⑥ Pipe openings to be cast into concrete
- ⑦ Reinforcement per Manufacturer
- ⑧ Aggregate base, Class II, 9" deep x basin width. Compact to 95% relative density.
- ⑨ Subgrade, compacted to 90% relative density.
- ⑩ At planting areas, 18" wide filter fabric wrapped around and glued at edges to structure where weep holes occur.
- ⑪ At planting areas, 2" weep holes at 10" O.C.
- ⑫ Invert elevation, per plan.
- ⑬ Where weep holes occur surround catch basin with drain rock, 3/4" diameter max size, compacted.
- ⑭ Finish surface, where paving occurs.

NOT TO SCALE



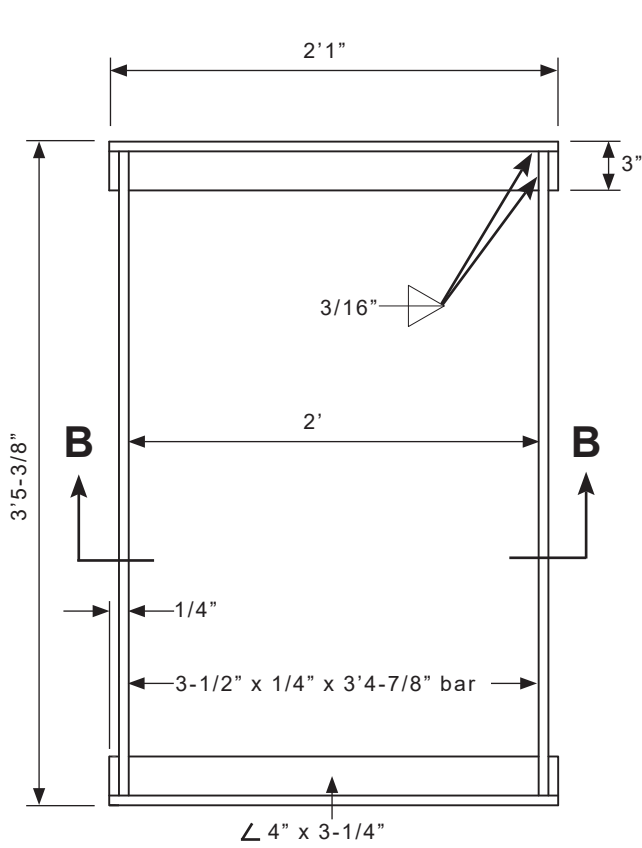
DATE  
July 2021

**OAKLEY**  
CALIFORNIA

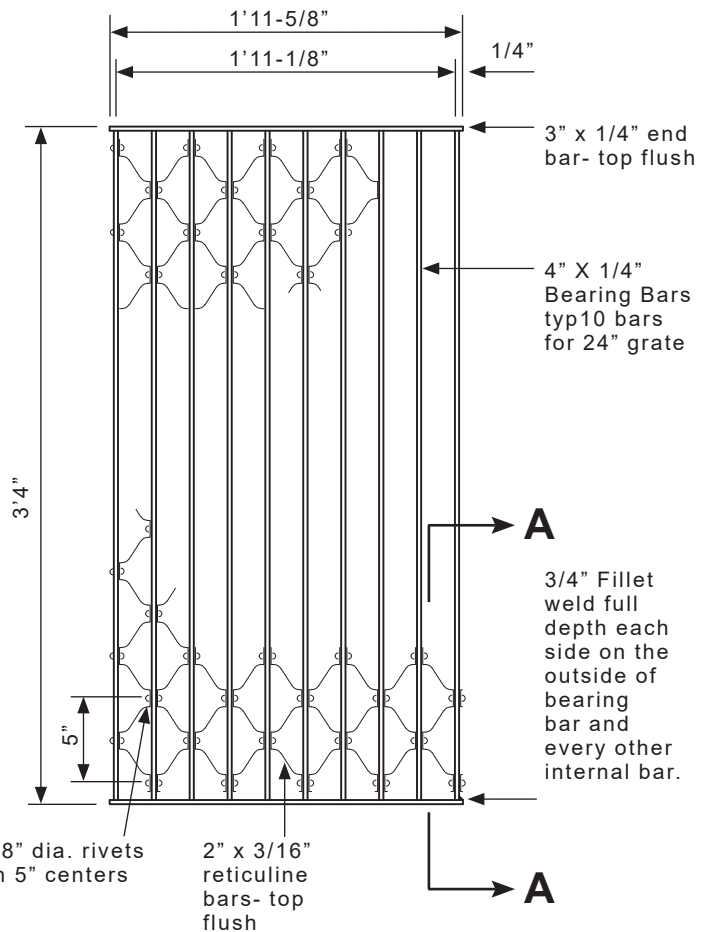
TYPE III LANDSCAPE  
AREA INLET

STD. PLAN NO.

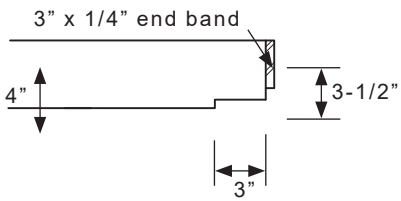
SD-10



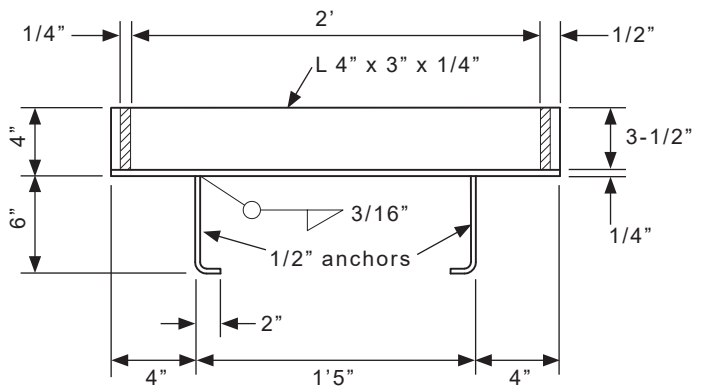
**FRAME**



**GRATE**



**SECTION A-A**



**SECTION B-B**

**Notes**

1. Hinged grate only when specified.
2. Place grate bars parallel to flow.
3. Frame, grate, and anchors shall be galvanized after fabrication
4. Frame and grate to be welded steel or approved alternative.

NOT TO SCALE

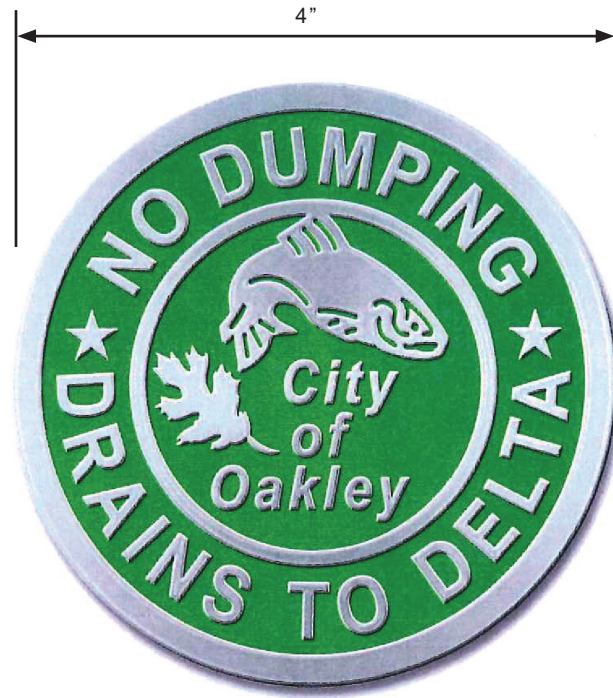


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July 2021

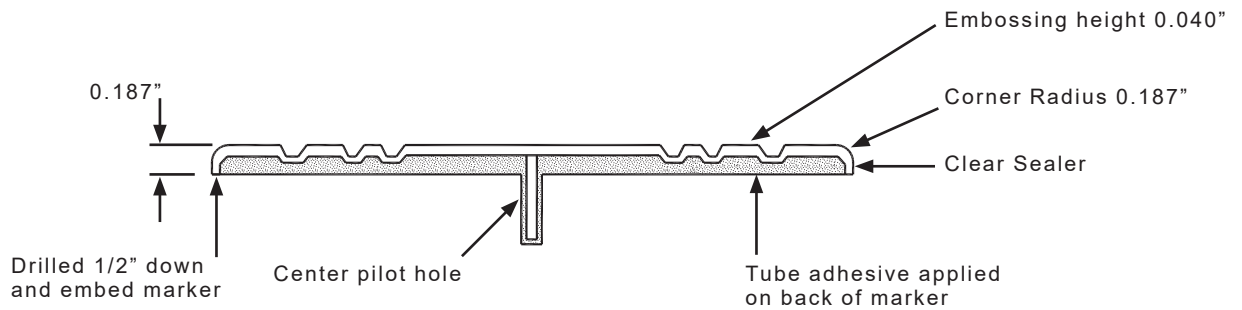


RETICULINE  
FRAME & GRATE

STD. PLAN NO.  
**SD-11**



**TOP VIEW**



**SIDE VIEW**

**Notes**

1. Available for purchase at the City of Oakley Public Works Department
2. Storm Drain marker by Almetek, Item No. STDM-9599-SSP.
3. Sub-surface installation with tube adhesive
4. Wire brush surface, blow dust, apply adhesive press down.

**Hardware**

- SIKS ADH Sikaflex 10.1 fl. oz. caulk tube (1 Tube per 15 markers)
- CDB4 Carbide drill bit
- DCG Dripless caulking gun

NOT TO SCALE



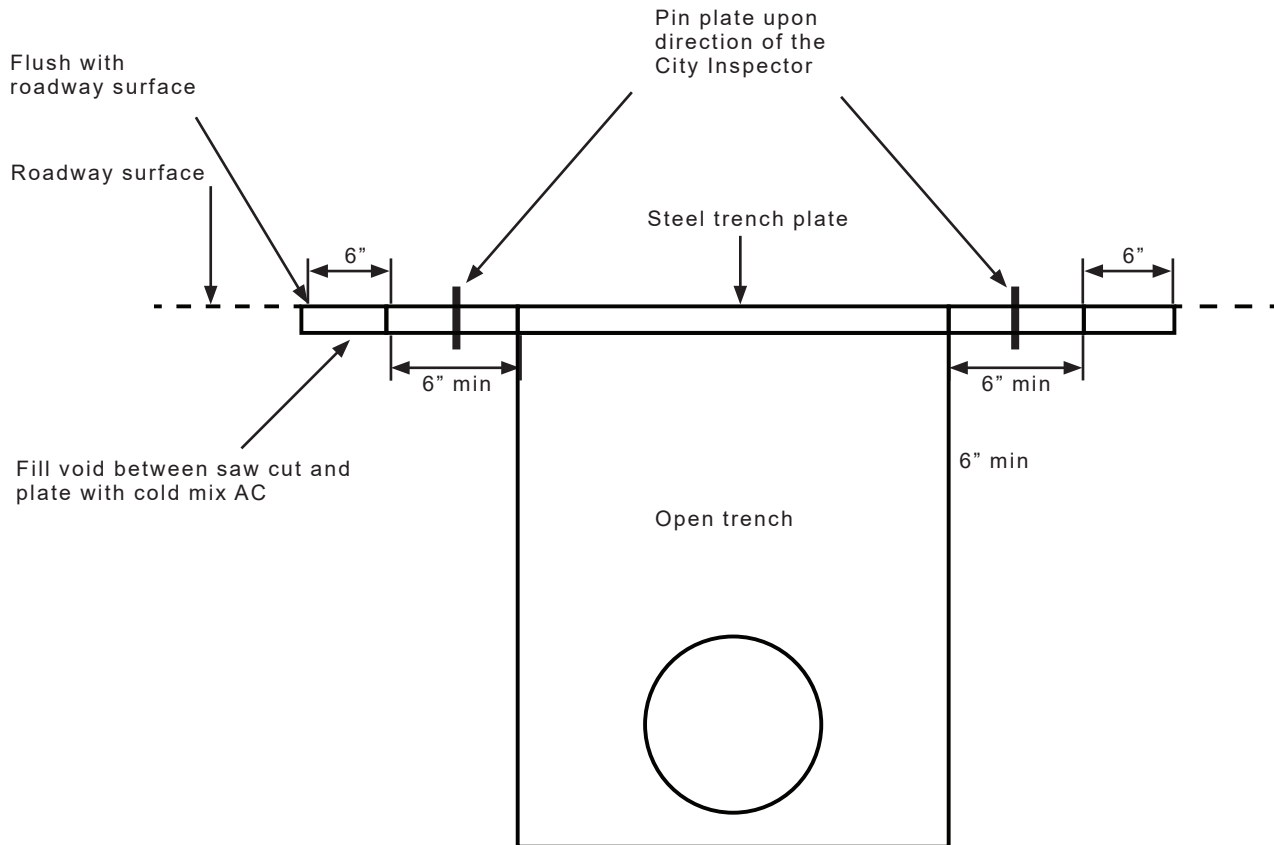
DATE  
July 2021



**STORM DRAIN  
MARKER**

STD. PLAN NO.

**SD-12**



## FLUSH TRENCH PLATE

### Notes

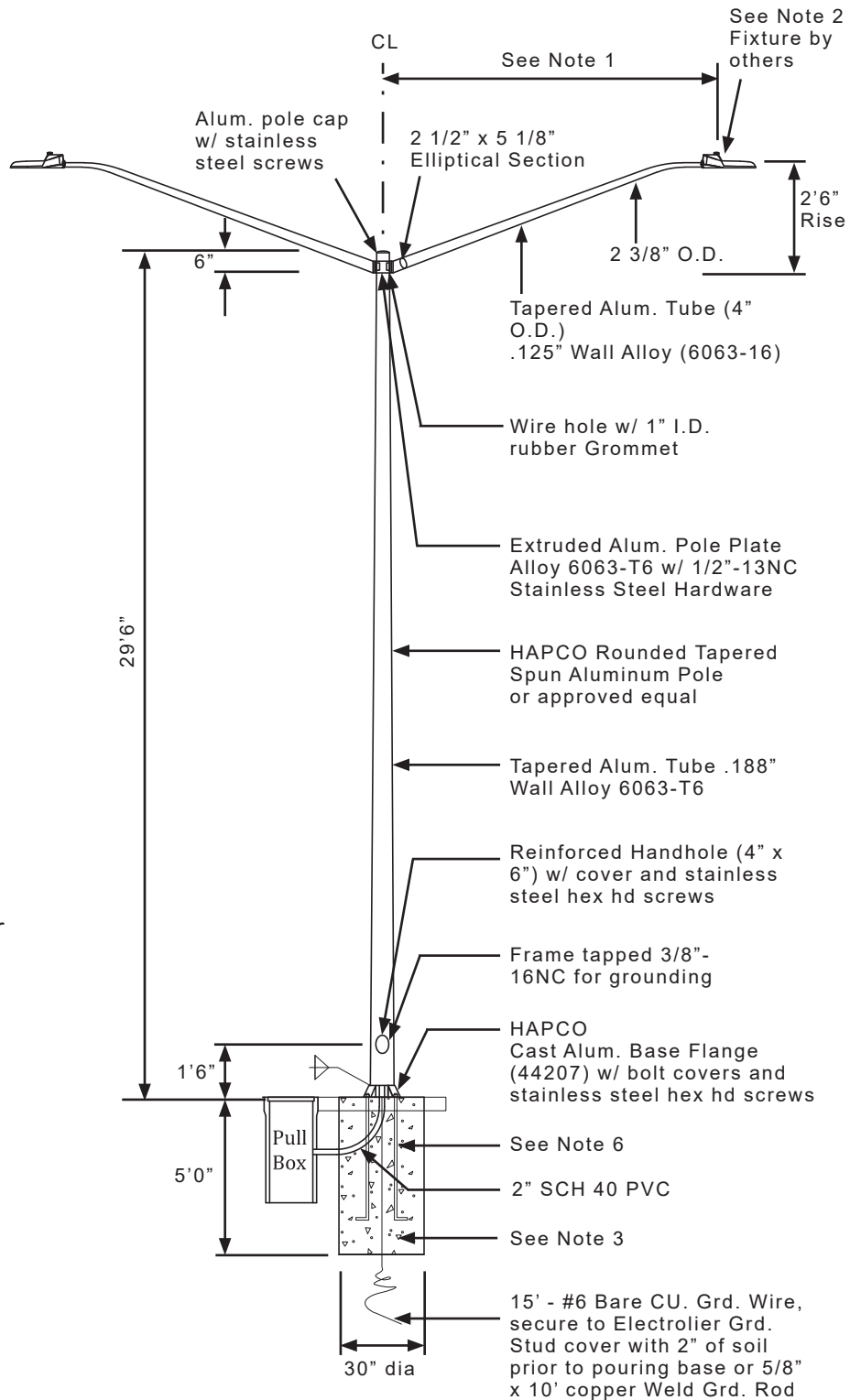
1. Contractor shall install signs per current MUTCD requirements for uneven pavement.
2. If trench plates cannot sit completely flush due to crowns, quarter crowns, or uneven pavement an AC transition will be required. The transition shall be a minimum 3 feet horizontal for every inch vertical on arterials and 1 foot horizontal for every inch vertical on residential streets.

NOT TO SCALE

	DATE July 2021		<h3 style="margin: 0;">FLUSH TRENCH PLATE</h3>	STD. PLAN NO.  SD-13
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**Notes**

1. Pole Specifications:  
HAPCO Round Tapered Spun Aluminum Pole or approved equal. Model No. RTA316D8C4M2C-01 Arm length shall be 12 feet unless noted on the plans. Length may vary based on location and street type.
2. Fixture Specifications:  
LED Fixture by CREE or approved equal. Model No. BXSP-B-HT-2ME-A-40K-UL-SV-N 56W for major streets (arterial / collector) 29W for local streets (residential).
3. Foundation Specifications:  
Class "A" Concrete Field Cast 4,500 PSI minimum.
4. Verify anchor bolt design and bolt circle with manufacturer.
5. Design foundation for 100 mph wind loading.
6. (4) 1"x40"- 8NC Galv. Stl. Anchor Bolts, AASHTO M314-90 Grade 55, 10" Of Threaded End Galv. Per ASTM A153.  
(4) 1"-8NC Galv. Stl. Hex Nuts  
(4) 1" Galv. Stl. Lock Washers  
(4) 1" Galv. Stl. Flat Washers
7. A 6" wide minimum concrete pad around the base of the light pole must be provided



**ELEVATION**

NOT TO SCALE



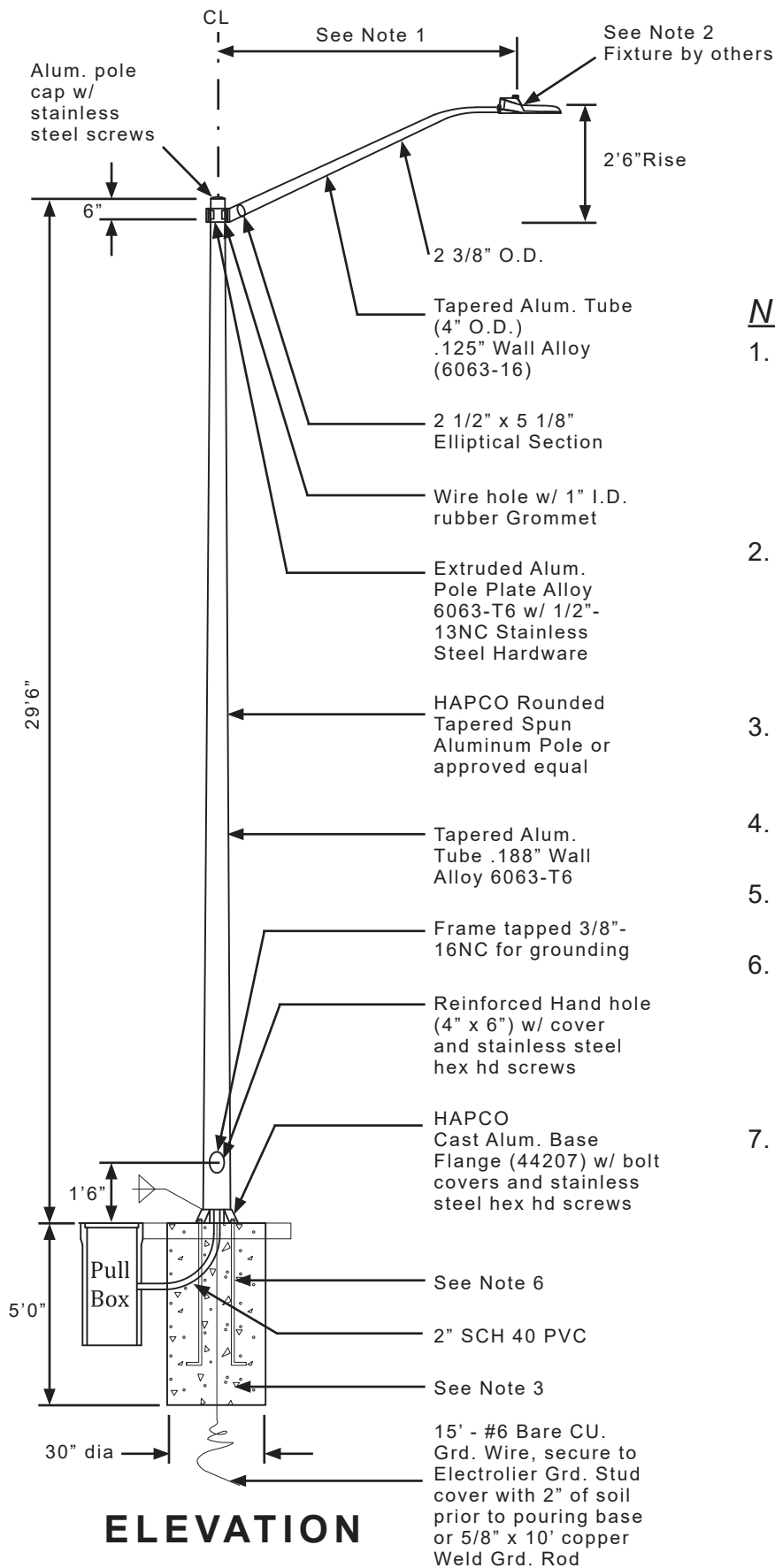
DATE  
July 2021



**STREET LIGHT  
COBRA HEAD  
DOUBLE L.E.D.**

STD. PLAN NO.

**E-01**



### Notes

1. Pole Specifications:  
HAPCO Round Tapered Spun Aluminum Pole or approved equal. Model No. RTA316D8C4M1C-01 Arm length shall be 12 feet unless noted on the plans. Length may vary based on location and street type.
2. Fixture Specifications:  
LED Fixture by CREE or approved equal. Model No. BXSP-B-HT-2ME-A-40K-UL-SV-N 56W for major streets (arterial / collector) 29W for local streets (residential).
3. Foundation Specifications:  
Class "A" Concrete Field Cast 4,500 PSI minimum.
4. Verify anchor bolt design and bolt circle with manufacturer.
5. Design foundation for 100 mph wind loading.
6. (4) 1"x40"- 8NC Galv. Stl. Anchor Bolts, AASHTO M314-90 Grade 55, 10" Of Threaded End Galv. Per ASTM A153.  
(4) 1"-8NC Galv. Stl. Hex Nuts  
(4) 1" Galv. Stl. Lock Washers  
(4) 1" Galv. Stl. Flat Washers
7. A 6" wide minimum concrete pad around the base of the light pole must be provided

NOT TO SCALE



DATE  
July 2021



STREET LIGHT  
COBRA HEAD  
SINGLE L.E.D.

STD. PLAN NO.

E-02



## Notes

1. Pole Specifications:  
BEACON Pole Model No. RSA-B-SHO-F-14-50-B-TN3-BBT+VINYL/5/BBT w/ clam shell base

Pole shall be factory prime coated and electrostatically powder coated "Black" with the allocation of a small 3.5-mil weather resistant powder coat whose base is polyester and thermocured. Base painted both inside and out.

2. Fixture Specifications:  
BEACON  
(2) Model No. T1/AF/H2/24L-55/4K7/DIR3 or DIR4/UNV/SWP/PCR-TL-7P/FINIAL/BBT

Lens: Acrylic, Frosted  
Optics: Type III (residential street)  
Type IV (cul de sac)  
Light: 24LED Engine and Drivers  
Combination  
Voltage: 120 through 227 Volts, 60 Hz

Fixture shall be SiteSync ready to include plug in daughter board or approved equal.

Fixture shall be NRTL Listed for Wet Location.  
Fasteners shall be stainless steel.

3. Foundation Specifications:  
Class "A" Concrete Field Cast  
2,500 PSI minimum @ 28 days.

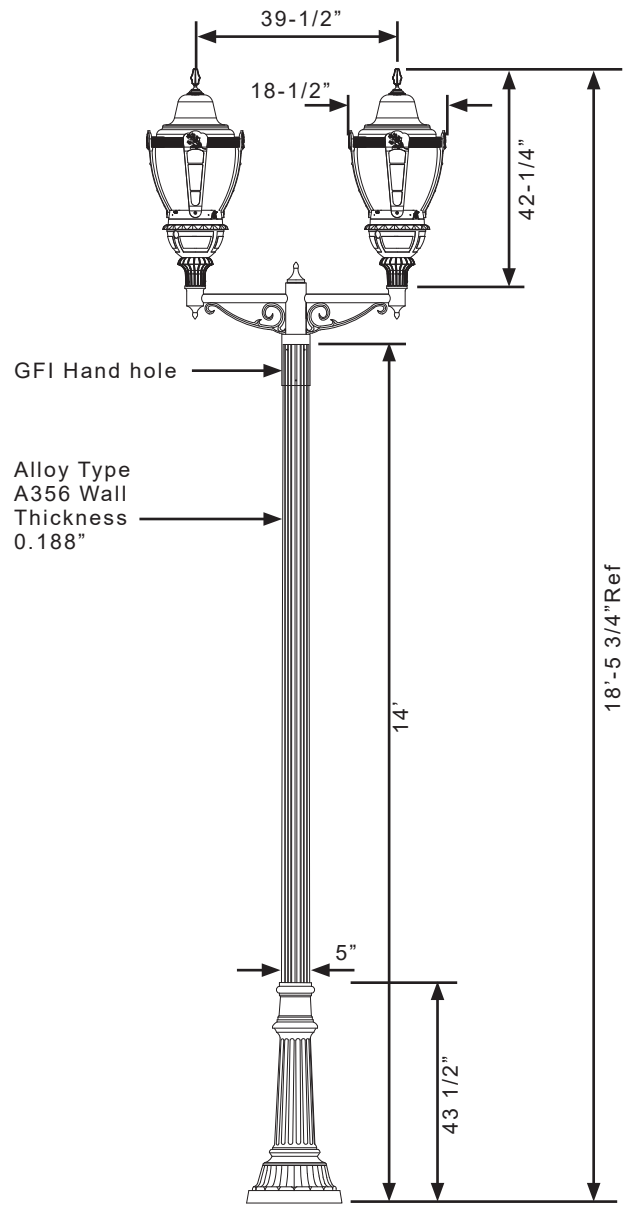
4. Verify anchor bolt design and bolt circle with manufacturer.

5. Design foundation for 100 mph wind loading.

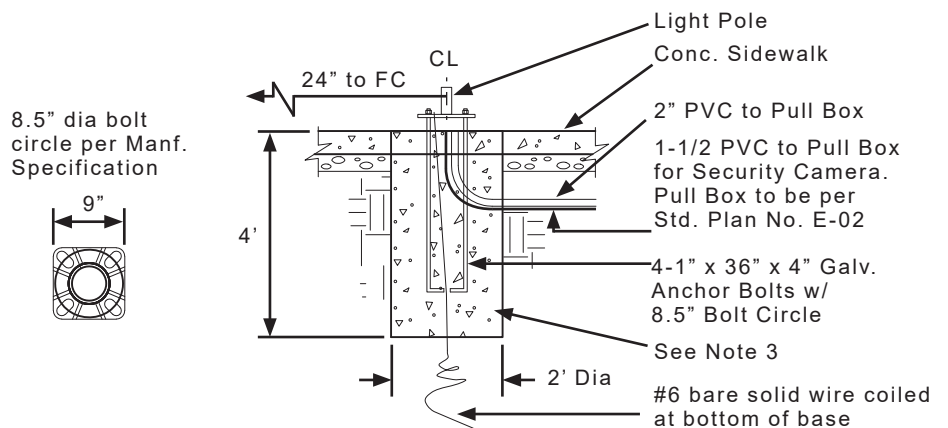
6. Decorative light pole bases shall be provided at the sole cost of Developer or Contractor, with the authorization of the City.

7. Conduit shall be installed with 30" of cover.

8. Contact Oakley Beacon Manufacturer Representative (530) 888-8686.



## ELEVATION



## BASE DETAIL

NOT TO SCALE



DATE  
July 2021



STREET LIGHT  
DECORATIVE  
DOUBLE L.E.D.

STD. PLAN NO.

E-03

**Notes**

1. Pole Specifications:  
BEACON Pole Model No. RSA-B-SHO-F-14-50-B-TN3-BBT+VINY/5/BBT w/ clam shell base

Pole shall be factory prime coated and electrostatically powder coated "Black" with the allocation of a small 3.5-mil weather resistant powder coat whose base is polyester and thermocured. Base painted both inside and out.

2. Fixture Specifications:  
BEACON  
Model No. T1/AF/H2/24L-55/4K7/DIR3 or DIR4/UNV/SWP/PCR-TL-7P/FINIAL/BBT

Lens: Acrylic, Frosted  
Optics: Type III (residential street)  
Type IV (cul de sac)  
Light: 24LED Engine and Drivers  
Combination  
Voltage: 120 through 227 Volts, 60 Hz

Fixture shall be NRTL Listed for Wet Location.  
Fasteners shall be stainless steel and meet AAMA 605.2 performance specification.

3. Foundation Specifications:  
Class "A" Concrete Field Cast  
2,500 PSI minimum @ 28 days.

4. Verify anchor bolt design and bolt circle with manufacturer.

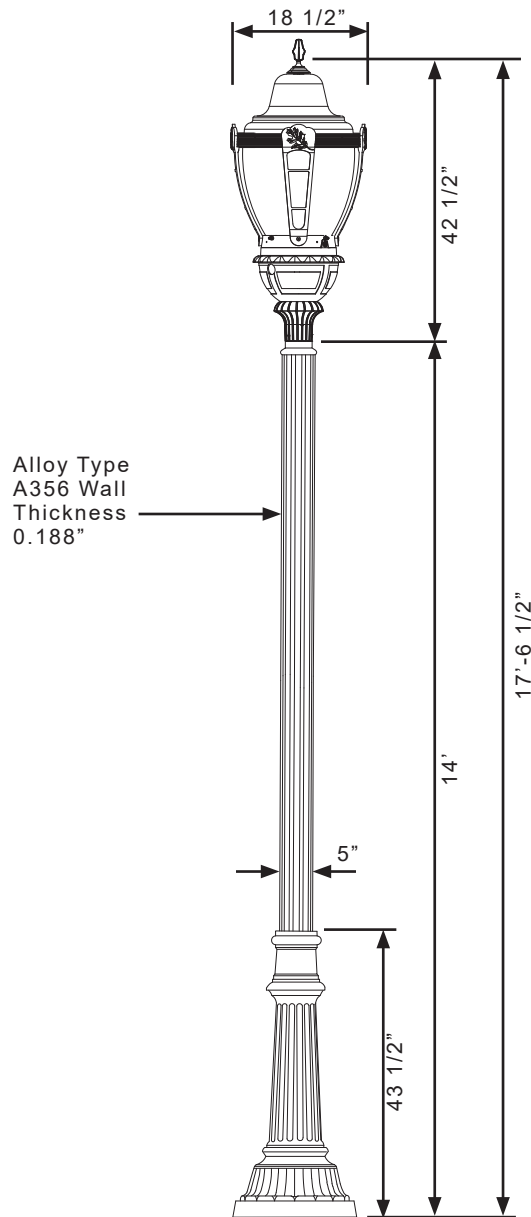
5. Design foundation for 100 mph wind loading.

6. Decorative light pole bases shall be provided at the sole cost of Developer or Contractor, with the authorization of the City.

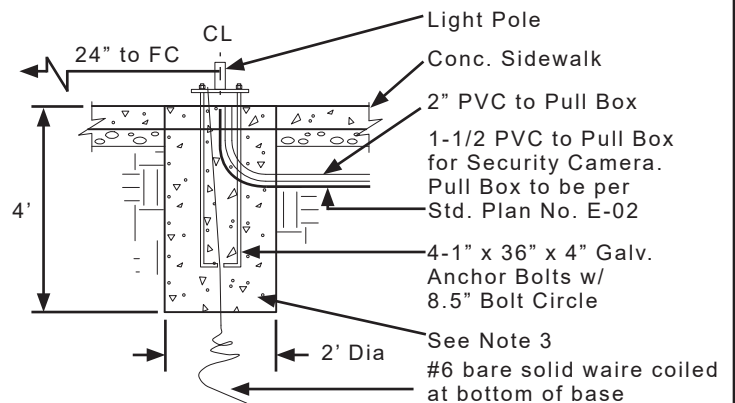
7. Conduit shall be installed with 30" of cover.

8. Contact Oakley Beacon Manufacturer Representative (530) 888-8686.

8.5" dia bolt circle per Manf. Specification



**ELEVATION**



**BASE DETAIL**

NOT TO SCALE



DATE  
July 2021



**STREET LIGHT  
DECORATIVE  
SINGLE L.E.D.**

STD. PLAN NO.

**E-04**

# TRAFFIC SIGNAL SPECIFICATIONS

ITEM	MANUFACTURER/MODEL OR TYPE (OR APPROVED EQUAL)
Signal Controller	Type 2070
Signal Controller Software	McCain Omni Ex Intersection Control Software for ATC Controllers Version 1.6
Video Detection	ITERIS Model Vantage Vector Hybrid Video/Radar Detection System, The Video/Radar processors shall be ITERIS Model Vantage Edge 2 Processors (VEC-EDG201N-PAK)
Traffic Signal Controller Cabinet	McCain Type 332
Pedestrian Countdown Clock	LEOTEK, Model: TSL-PED-16-CIL
Pedestrian Push Button	Campbell Company, Model: 4EVR
Lighted Street Name Sign	Southern Manufacturing, Mode: Clean Profile L.E.D. Illuminated Sign

## Notes

1. Within 14 calendar days of receipt of contractor's Materials List, the City shall have the right to request a sample of any materials used for the construction of the traffic signal or fiber optic system.
2. The right to request includes, but is not limited to: controller, controller cabinet, and any other item deemed necessary to be tested or inspected for compliance to the materials.
3. Materials not received by the City within the time specified shall be deemed to be unsatisfactory, and rejected.
4. All equipment and software installed shall be compatible with the existing City traffic control system.
5. The Contractor shall arrange to have a signal technician (qualified to work on the controller unit and employed by the controller unit manufacturer or his representative) present at the time the equipment is turned on. The contractor shall deliver a fully operating system.
6. The Contractor shall furnish a "Certificate of Compliance" assuring the City that the traffic signal controller and cabinet comply with these Special Provisions and they will operate as shown on the Plans.
7. The maintenance and repair agreement period for furnished equipment shall not commence until the controllers, cabinets, and auxiliary equipment have been installed at the project sites, placed in operation by a factory representative, and the project accepted as complete.

NOT TO SCALE



DATE  
July 2021



SIGNAL  
SPECIFICATIONS

STD. PLAN NO.

E-05

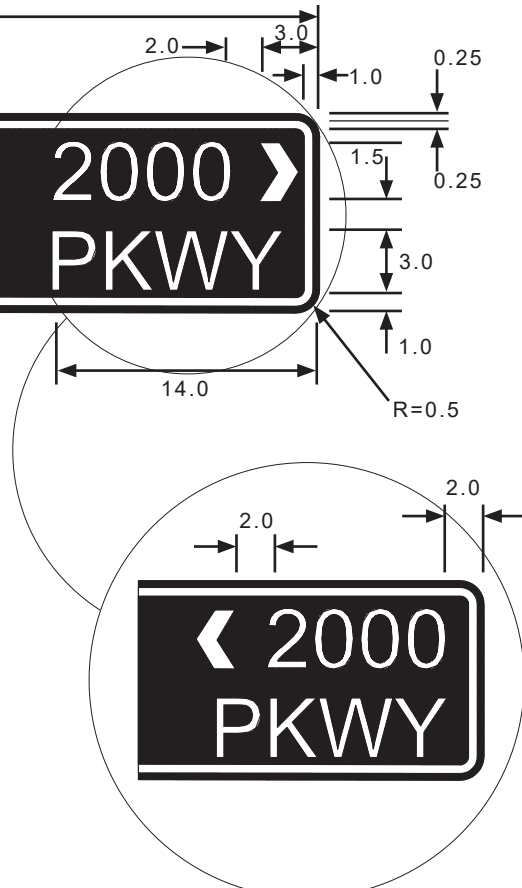
**ALL DIMENSIONS ARE IN INCHES**



**DETAIL**

**Acceptable Sign Abbreviations**

AVE	Avenue	ST	Street
BLVD	Boulevard	TER	Terrace
CIR	Circle	PKWY	Parkway
CT	Court	PVT	Private
DR	Drive		
LN	Lane		
PL	Place		
RD	Road		



**REVERSE SIDE**

**Notes**

1. A combination of 6" "Highway Gothic" Font (UC) with 4.5" "Highway Gothic" Font (LC) shall be used for street name.
2. Supplementary lettering to indicate the type of street (such as Street, Avenue, or Road) shall be in smaller lettering 3" high.
3. The border shall be 0.5" in width. The corners of the sign should be rounded to fit the border.
4. Street name sign blanks shall be 0.125" thick, ASTM B209 Alloy 6061-T6, flat aluminum.
5. Reflective sheeting shall be 3M Visual Impact Performance - Series 3990 (green and white) and shall be coated with 3M Premium Protective Overlay Film - Series 1160 (both sides), or approved equivalents.
6. Sign colors shall be a green background with white letters and white border.
7. Signs shall be double faced (front and rear) with block arrows pointing in same direction (i.e. from to right ad rear to left).
8. Sign locations and mounting shall be as shown on location detail (SS-03) Sheet 3.

NOT TO SCALE



DATE  
July 2021

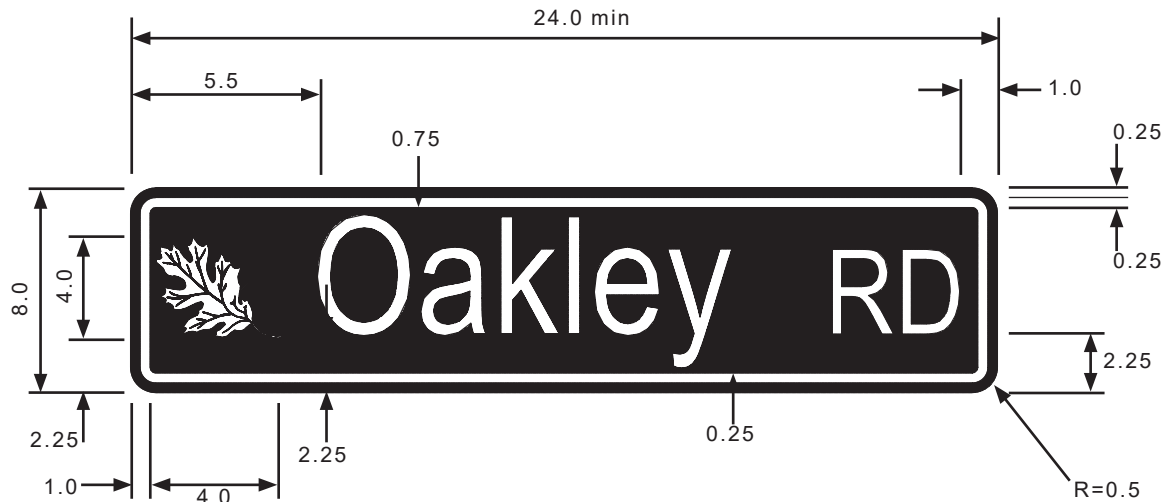


**STREET NAME SIGN  
MAJOR STREET**

STD. PLAN NO.

**SS-01**

# ALL DIMENSIONS ARE IN INCHES



## DETAIL

### Acceptable Sign Abbreviations

AVE	Avenue	ST	Street
BLVD	Boulevard	TER	Terrace
CIR	Circle	PKWY	Parkway
CT	Court	PVT	Private
DR	Drive		
LN	Lane		
PL	Place		
RD	Road		

### Notes

1. A combination of 6" "Highway Gothic" Font (UC) with 4.5" "Highway Gothic" Font (LC) shall be used for street name.
2. Supplementary lettering to indicate the type of street (such as Street, Avenue, or Road) shall be in smaller lettering 3" high.
3. The border shall be 0.25" in width. The corners of the sign should be rounded to fit the border.
4. Street name sign blanks shall be 0.125" thick, ASTM B209 Alloy 6061-T6, flat aluminum.
5. Reflective sheeting shall be 3M Visual Impact Performance - Series 3990 (green and white) and shall be coated with 3M Premium Protective Overlay Film - Series 1160 (both sides), or approved equivalents.
6. Sign colors shall be a green background with white letters and white border.
7. Signs shall be double faced (front and rear)
8. Sign locations and mounting shall be as shown on location detail (SS-03) Sheet 3.
9. At the intersection with public street / private street name sign shall match the Standard Drawings but must have "PVT" where the block would go.

NOT TO SCALE



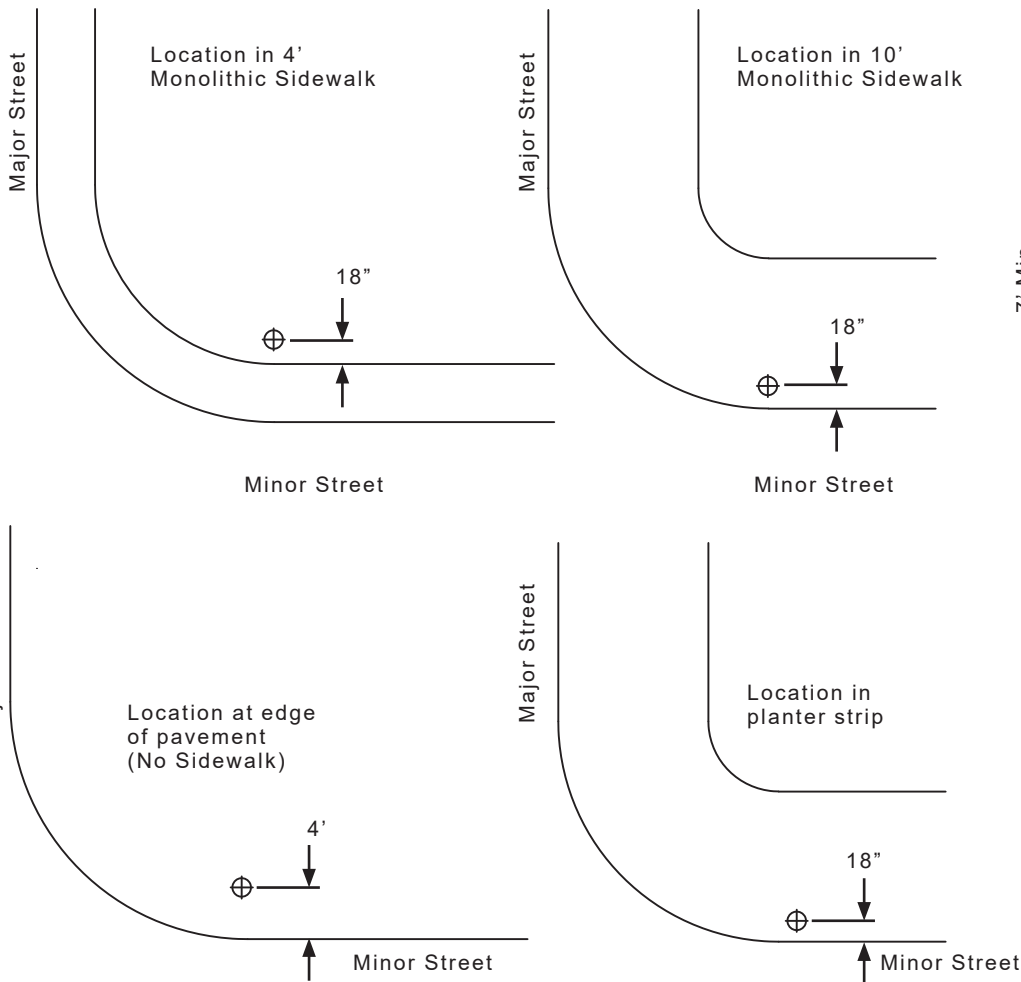
DATE  
July 2021



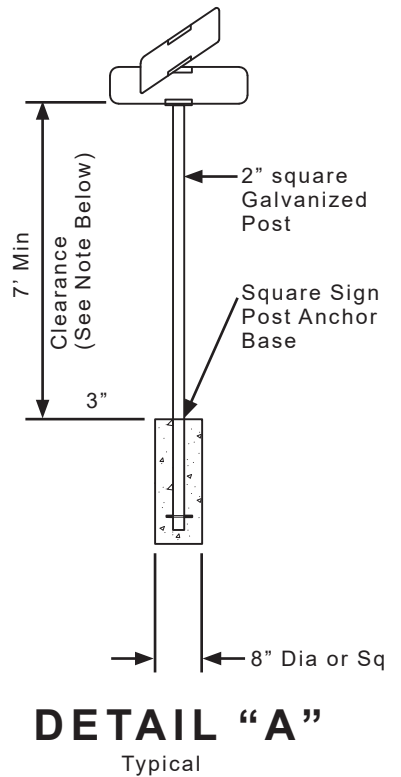
STREET NAME SIGN  
MINOR STREET

STD. PLAN NO.

SS-02



## SIGN LOCATIONS



NOTE:  
 Stop signs mounted on same post as street name signs shall be below street name signs. (See Note 6)

### Notes

1. Sign to be located 18" from face of curb or back of monolithic sidewalk.
2. Bottom of sign shall be mounted 7' min. above ground or sidewalk per Detail "A" shown on this sheet.
3. Signs to be City of Oakley Standard Street Name Sign.
4. Signs shall be mounted with Hawkins' Heavy Duty Aluminum "Vandal Proof" (HD) VP Model #V14F-(HD)VP-2c2P (without finial) or approved equal.
5. Signs mounted on signal standards or electroliers shall be mounted with Hawkins' "Vandal Proof" wing bracket Model #V14F-(HD) VP-AB or approved equal. Brackets shall be fastened to poles with two (2) 3/4" wide x 0.030" thick Type 201 Stainless Steel bends.
6. Street name sign may be combined with stop sign (R1), and placed in a location for maximum visibility as approved by the City Engineer.

NOT TO SCALE



DATE  
 July 2021



STREET NAME  
 SIGN LOCATION  
 AND MOUNTING

STD. PLAN NO.

SS-03

## PREFERRED TREE LIST

List of trees below are suitable for use in the public easement areas in Oakley. Care in selecting the proper tree or the specified need should be foremost in the decision - recommendation process. Small Accent trees can be planted in the easement area but do not meet the criteria of a "Street Tree". Standard trees only. No multi-trunk. The Parks and Landscape Division shall have final decision-making authority on all trees approved in public landscape areas.

### ACCENT TREES - Small Sized (Under 25' high)

TREE NAME	VARIETY	COMMON NAME	COMMENTS
Arbutus	Marina	Hybrid Strawberry Madrone	Do not plant adjacent to City Streets or sidewalks. Fruit can be messy
Cercidphyllum japonicum		Katura Tree	
Parkinsonia hybrid	Desert Museum	Palo Verde	
Cercis canadensis		Eastern Redbud	Male only
Chionanthus retusus		Chinese Fringe Tree	Do not plant adjacent to City Streets or sidewalks due to wet fruit litter.
Crataegus phaenopyrum		Washington Hawthorn	Do not plant adjacent to City Streets or sidewalks due to wet fruit litter.
Geijera parviflora		Australian Willow	
Lagerstroemia indica		Hybrid Crape Myrtle	Select varieties less susceptible to powdery mildew
Laurus nobilis	Saratoga	Saratoga Laurel	
Magnolia grandiflora	Little Gem, Virginiana, or Jim Wilson Moonglow	Magnolia	
Prunus cerasifera	Krauter vesuvius	Purple-Leaf Plum	Do not plant adjacent to City Streets or sidewalks. Fruit can be messy
Vitex agnus-castus		Chaste	

### STREET TREES - Medium Sized (25' to 45' high)

TREE NAME	VARIETY	COMMON NAME	COMMENTS
Acer buergerianum		Trident Maple	
Acer truncatum	Pacific Sunset	Shantung Maple	
Amelanchier laevis		Spring Flurry Serviceberry	
Carpinus caroliniana		American Hornbeam	Insects, other issues?
Koelreuteria bipinnata		Chinese Flame Tree	
Maackia amurensis	Maackia		
Magnolia grandiflora	St. Mary	St. Mary Southern Magnolia	
Magnolia soulangeana		Saucer Magnolia	
Metrosideros excelsa	New Zealand Christmas Tree	Large root area	
Nyssa sylvatica		Sour Gum - Tupelo	
Ostrya virginiana		American Hop Hornbeam	

NOT TO SCALE



DATE  
July 2021



**PREFERRED  
TREE LIST**

STD. PLAN NO.

**L-01A**

## PREFERRED TREE LIST (Cont.)

### STREET TREES - Medium Sized (25' to 45' high) (Cont.)

TREE NAME	VARIETY	COMMON NAME	COMMENTS
Pistacia chinensis	Pearl Street, Red Push or Keith Davey	Chinese Pistacia	Male Only
Pyrus calleryana	Chanticleer, New Bradford	Flowering Pear	Do not plant adjacent to City Streets or sidewalks due to wet fruit litter.
Tilia cordata	Greenspire, Shamrock or Redmond	Little Leaf Linden	Susceptible to Aphids
Tristaniopsis laurina	Elegant	Elegant Water Gum	Susceptible to Aphids
Tristania confertax	Lophostemon	Brisbane Box	Susceptible to Aphids
Ulmus parvifolia	Emerald Flair Elm	Chinese Elm	Potential Anthracnose issue
Ulmus davidiana	Japonica Emerald Sunshine	Emerald Sunshine Elm	
Ulmus wilsoniana	Prospector	Prospector Elm	

### NON-RESIDENTAL TREES - Large Sized (Over 45' high)

TREE NAME	VARIETY	COMMON NAME	COMMENTS
Acer rubrum	Red Sunset or October Glory	Red Maple	
Cedrus atlantica	Glauca	Blue Atlas Cedar	
Celtis australis		European Hackberry	
Magnolia grandiflora	Edith Bogue	Magnolia	
Metasequoia glyptostroboides		Dawn Redwood	
Pinus eldarica		Afghan Pine	
Plantinus acerfolia	Morton Circle	Exclamation Planetree	
Quercus agrifolia		Coast Live Oak	
Quercus ilex		Holly Oak	
Quercus rubra		Red Oak	
Quercus virginiana		Southern Live Oak	
Zelkova serrata	Village Green or Musashimo	Sawleaf Zelkova	

Note: The list above is restricted as the City prohibits the planting of trees in the public easement area with fruit, undesirable seeds, cones, or nuts; Trees with voracious shallow root systems that are known to cause sidewalk or driveway damage; and trees with known pest (disease, insect or invertebrate) problems.

NOT TO SCALE



DATE  
July 2021



**PREFERRED  
TREE LIST**

STD. PLAN NO.

**L-01B**



## TREE SPECIFICATIONS

All trees must meet the following minimum specifications:

1. Height: 7 feet high measured from rootcrown to tip of central leader.
2. Caliper: 1-1/2 inches, measured 6 inches above the root crown (24 inch Box Minimum).
3. Branching: Minimum spread of 2 - 3 feet with good branch distribution.
4. Central Leader: Single, dominant, relatively straight stem.

Any exception to the above must be approved by the City.

All planting stock must have the approval of the City.

City reserves the right to reject trees that do not meet high quality nursery stock of the current edition of the Guideline Specifications for Nursery Tree Quality, published by the Urban Tree Foundation.

## PLANTING SEQUENCE

1. Dig the planting hole as deep as the container and twice as large as its diameter. If over-excavation occurs, foot-tamp bottom of planting hole as necessary to prevent root crown from settling below surrounding grade.
2. Remove the root ball carefully from the container by supporting it from below. Sever any circling roots (3/16 inch or greater) with sharp shears or saw. If the root ball is dense or compacted, carefully loosen the roots at the side and bottom of the root ball. The severing of large roots will encourage new roots initiating at the cuts.
3. Center root ball in hole on undisturbed soil such that root crown is visible at the top of the root crown and 2 inches above grade.
4. Fill planting hole around root ball with backfill mix and foot-tamp in lifts. Be careful not to disturb the root ball.
5. Backfill mix shall be as specified by the soils analysis.
6. Pre-plant and post-plant fertilizers shall be as required by soils analysis.
7. Use the remaining native soil to create a water basin appropriate to the site. Height of water basin shall not exceed height of the root crown.

NOT TO SCALE



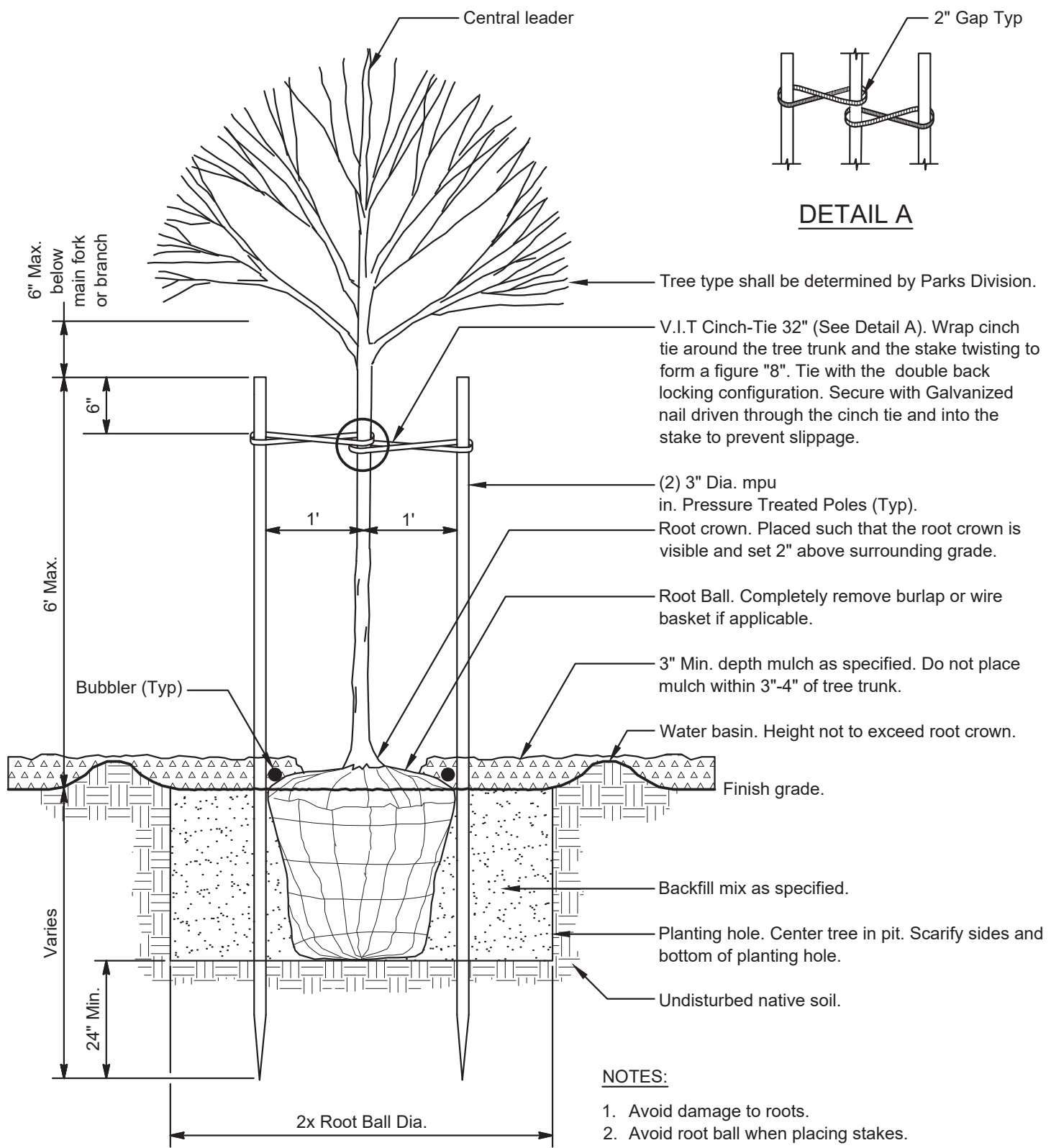
DATE  
July 2021



TREE PLANTING  
SPECIFICATIONS

STD. PLAN NO.

L-02



**NOTES:**

1. Avoid damage to roots.
2. Avoid root ball when placing stakes.
3. Root barrier required for trees 6' or less from paving, wall or building. See Standard Plan L-04 for Root Barrier installation.
4. Backfill mix and post-plant fertilizer as required by soils analysis.

NOT TO SCALE

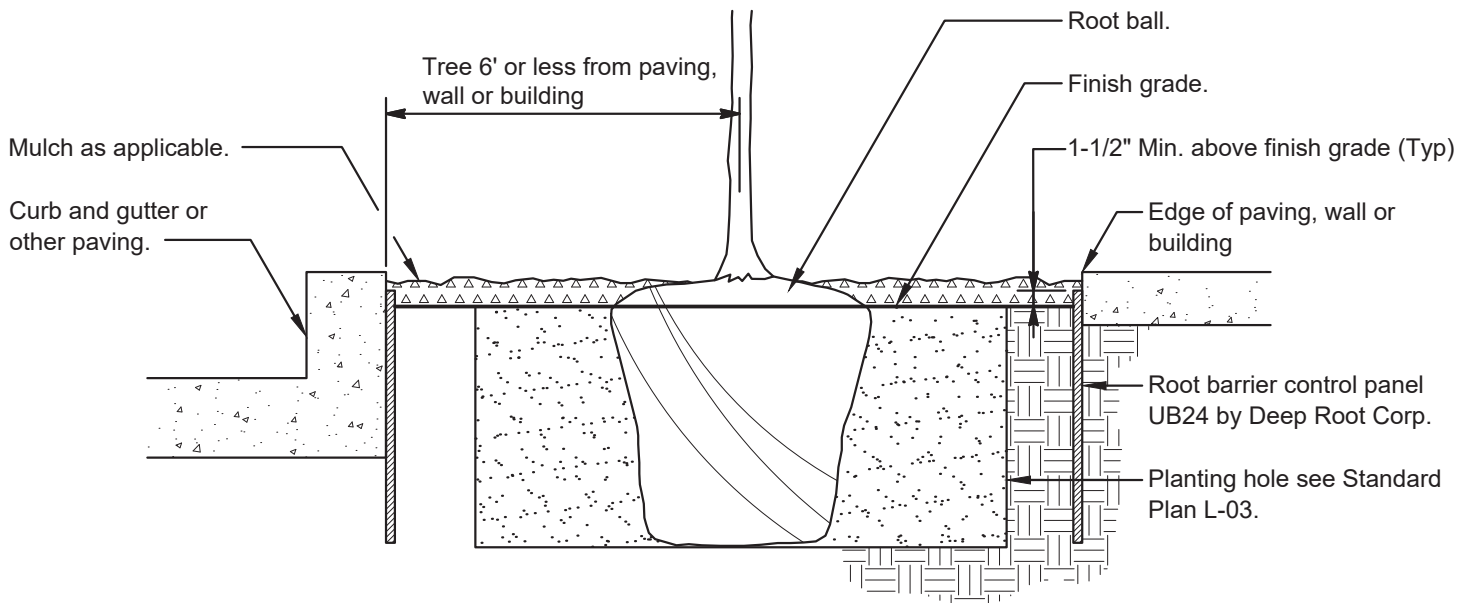


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TREE PLANTING

STD. PLAN NO.  
L-03



**NOTES:**

1. Install per manufacturers specifications directly against edge without voids.
2. Panel length per manufacturers specifications and extend a min. length of 10' from trunk.
3. Linear installation shall extend a min. of 10' from centerline of tree for a min. 20' overall length.
4. Surround installation at perimeter of concrete tree wells only.

NOT TO SCALE



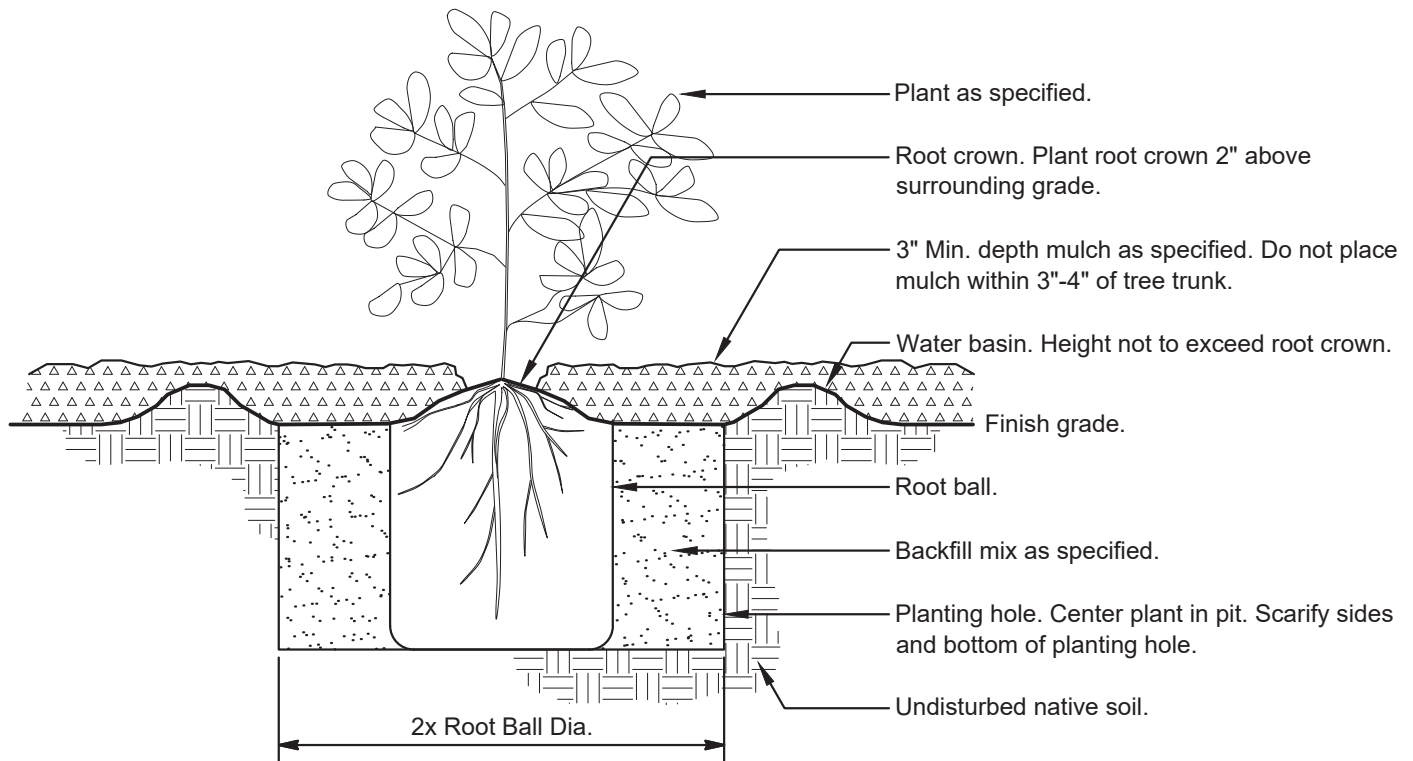
DATE  
July 2021



ROOT BARRIER

STD. PLAN NO.

L-04



**NOTES:**

1. Backfill mix and post-plant fertilizer as required by soils analysis.

NOT TO SCALE



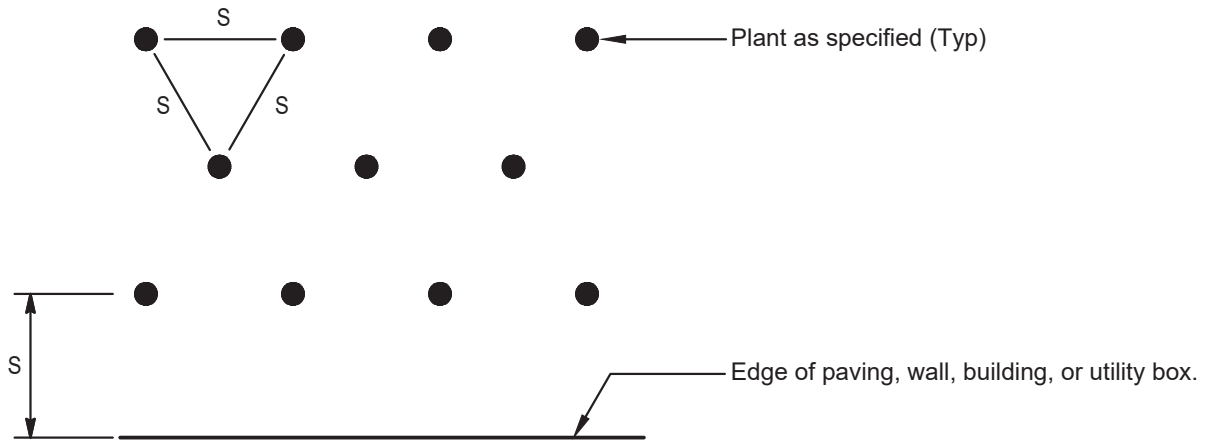
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SHRUB PLANTING

STD. PLAN NO.

L-05



PLANT QUANTITY CHART

Spacing	Plants per Square Foot
6" O.C.	4.60
8" O.C.	2.60
10" O.C.	1.66
12" O.C.	1.15
15" O.C.	0.738
18" O.C.	0.512
24" O.C.	0.290
30" O.C.	0.185
36" O.C.	0.116

NOTES:

1. S = On-center plant spacing.
2. Use the larger on center spacing for spacing at interface of different plant species.
3. This detail is intended as a guide for shrubs and groundcover spaced at equal distance from each other.

NOT TO SCALE



DATE  
July 2021



PLANT SPACING

STD. PLAN NO.

L-06

## IRRIGATION EQUIPMENT LIST

ITEM	MANUFACTURER/MODEL (OR APPROVED EQUAL)
Backflow Preventer, Freeze Protections and Enclosure	Per Diablo Water District Specifications and Details
Pressure Reducing Valve	Wilkins 500HLR Series
Controller Assembly	HydroPoint WeatherTRAK ET Pro 3 or Optiflow XR (Based on application) SiteOne Satellite Assembly (See Note 1 Below)
Master Valve	Included with Controller Assembly (See Note 1 below)
Flow Sensor	Included with Controller Assembly (See Note 1 below)
Gate Valve (4 inch and larger)	Nibco F-619-RWS-SON (Flanged end w/ square operating nut)
Gate Valve (3 inch and smaller)	Leemco LGT-XXSS (Stainless steel gate valve w/ cross handle)
Ball Valve	KBI SCH 80 PVC True Union Type (at Remote Control Valves and Quick Coupling Valves)
Quick Coupling Valve	44 LRC or 44 NP (for Non-Potable)
Remote Control Valve	Hunter ICV Series with Filter Sentry
Remote Control Valve w/ Filter and Pressure Regulator	Hunter PCZ Series (set at 25 PSI)
Valve Boxes with Stainless Steel Lock-Down Bolts	Carson black colored box and t-cover lid in shrub areas and green colored box and t-cover lid for turf areas. Use Carson Specification Grade.
Gate & Quick Coupling Valve Box with Stainless Steel Lock-Down Bolts	
Gear Driven Rotor	Hunter I-20-SS and I-25-SS Series (6" Pop-ups in Turf and 12" Pop-ups in Shrubs), and I-40 Series (Sports Turf)
Pop-Up Stream Rotor	Hunter PROS-PRS40-CV-F Series with MP Rotator Nozzles (6" Pop-ups in Turf and 12" Pop-ups in Shrubs)
Pop-Up Spray	Hunter PROS-PRS30-CV-F Series with PRO Series Nozzles (6" Pop-ups in Turf and 12" Pop-ups in Shrubs)
Bubbler	Hunter PCB Series (0.25 GPM, 1 per Shrub and 2 per Tree) or HEB Series w/ Diffuser Cap (Shrubs only-Size for application)
Tree Bubbler (in paved areas or tree well)	Hunter RZWS-18-25-CV-SLEEVE
Sub-Surface Irrigation (Limited use upon approval by Parks and Landscape Maintenance Manager)	Hunter HDL-CV Series (Size for application) with ECO-Indicator, PLD-AVR, and PLD-BV

**NOTES:**

1. SiteOne Satellite Controller Assembly: SA6-WT5-H2OXX-AX/RSE/FAN-16/GRP-K/UFMVC-150P+200/CAB14-B/FS-CAB with WT2W-H2O-1VD/WT2W-H2O-SA/GR-K for 2-wire path.

HydroPoint WeatherTRAK Optiflow XR 2-wire controller housed in a 16" top entry Strong Box stainless steel enclosure with master valve, flow sensor, enclosure fan, and rain sensor.

All inclusive includes ten years service and warranty. Provide one (1) Apple iPad Pro (12.9 inch size and most current generation 1TB with wi-fi), Smart Keyboard Folio for iPad Pro, Apple Pencil (most current generation), AppleCare with 2 year service coverage.

Contact SiteOne Representative at (800) SITE-ONE for purchase order, preconstruction meeting, test for communication with central computer, warranty, and certifications. Contractor shall verify power availability and install unit per manufacturer's specifications on specified on concrete pad.

2. All shrub areas shall be designed with a 100% bubbler based system (no drip, dripline or micro irrigation). Overhead irrigation may be allowed in some instances for ground cover where area 10' or wider.
3. Rotors are preferred for all turf areas. Where rotors are not feasible, pop-up rotators will be acceptable substitute.



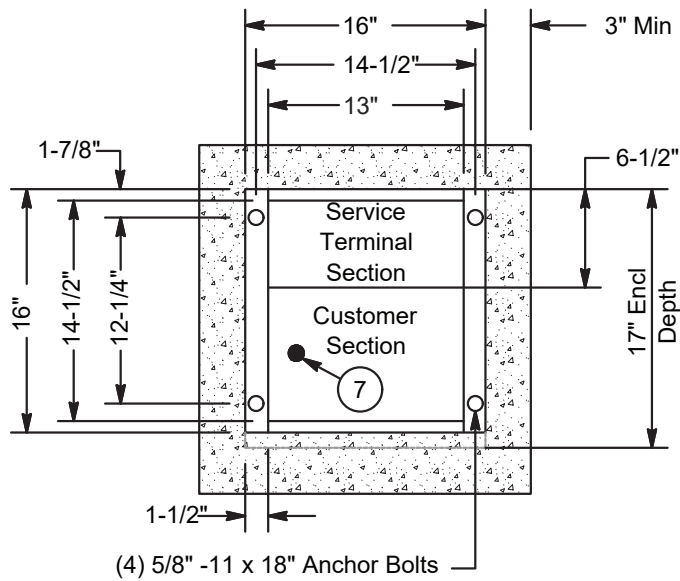
DATE  
July 2021



**IRRIGATION  
EQUIPMENT LIST**

STD. PLAN NO.

**IR-01**



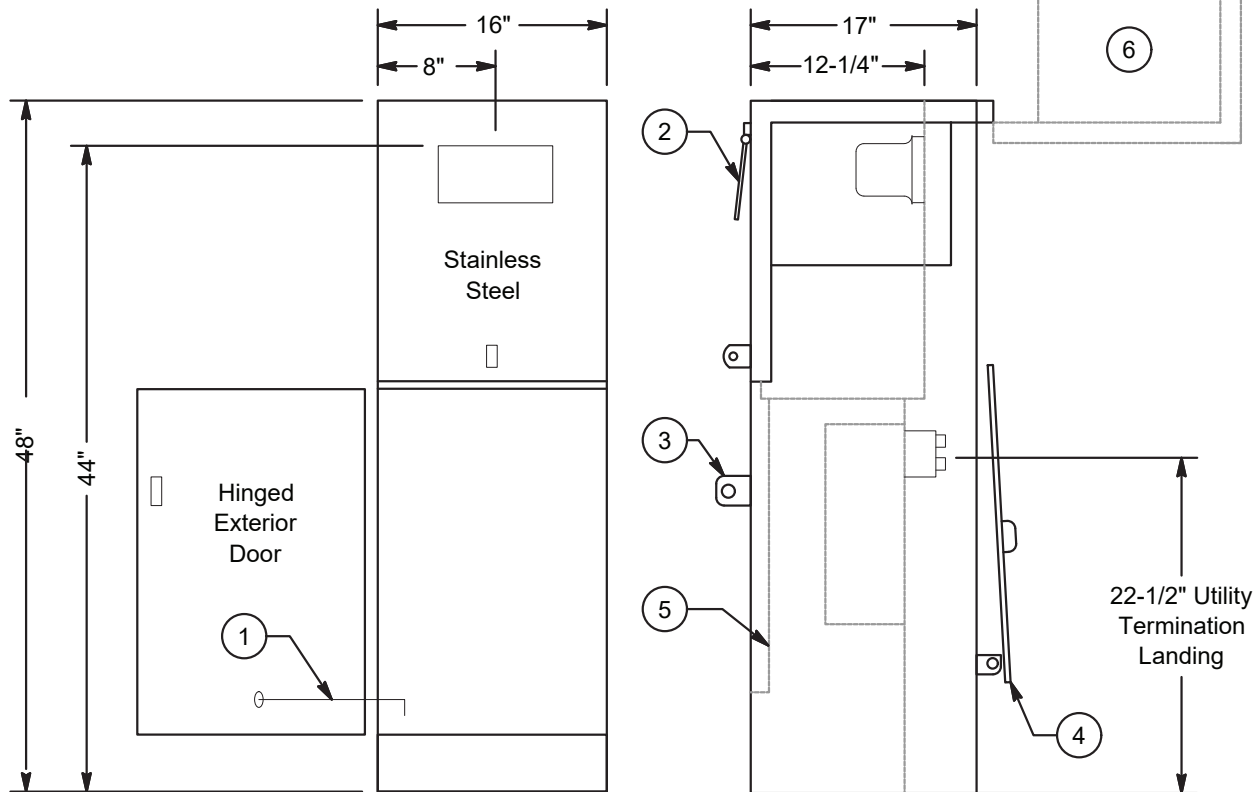
**MOUNTING BASE**

**LEGEND:**

- ① Means provided to hold door in open position
- ② Demand meter reset cover with window
- ③ Padlock Bracket extending thru door for security
- ④ Lift off Service Cover
- ⑤ Hinged Deadfront
- ⑥ Fully hinged meter/test section cover
- ⑦ Ground Rod

**NOTES:**

1. Landscape screening shall be required with 36" min. clearance on the front and back of the enclosure.
2. Service Cabinet shall be type Milbank West CP3B11115A Stainless Steel for 100-Ampere and less or approved equal.



**CABINET SECTION**



DATE  
July 2021

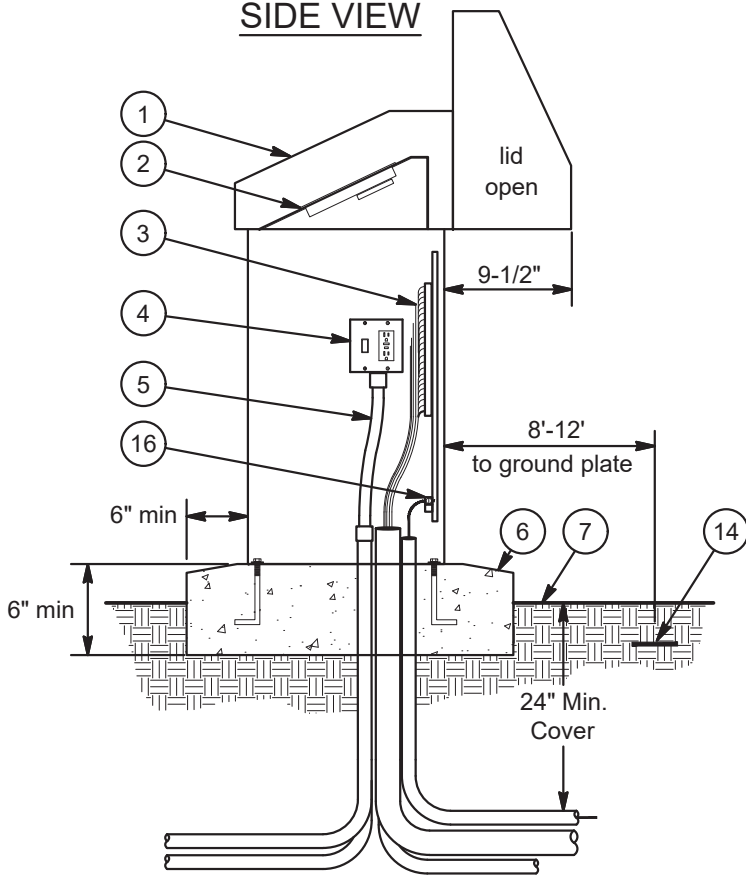


IRRIGATION  
ELECTRICAL  
METER PEDESTAL

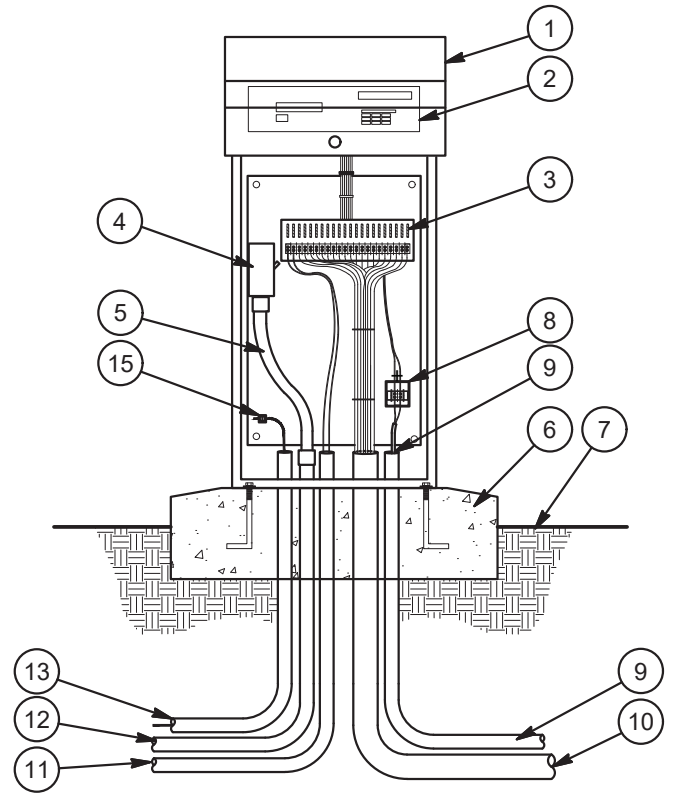
STD. PLAN NO.

IR-02

### SIDE VIEW



### FRONT VIEW



- ① Strongbox Stainless Steel NEMA 3R Rainproof Enclosure (UL listed).
- ② Satellite Assembly by SiteOne GreenTech.
- ③ Terminal strip for control wires.
- ④ Service Disconnect Switch w/ GFCI Receptacle.
- ⑤ Electrical Flex Conduit for power.
- ⑥ Concrete pad with anchor bolts per manufacturer recommendations. 6" min. thick and sloped to drain.
- ⑦ Finished grade.
- ⑧ Flow Sensor Terminal Board.
- ⑨ 1-1/2" SCH 40 PVC electrical conduit w/ sweep ell for Flow Sensor Cable.
- ⑩ Electrical conduit w/ sweep ell for Control Wires. Use 3" SCH 40 PVC for Conventional wire systems or 1-1/2" SCH 40 PVC for 2-Wire systems.
- ⑪ 1-1/2" SCH 40 PVC electrical conduit w/ sweep ell for Master Valve Wires.
- ⑫ 1-1/2" rigid steel electrical conduit w/ sweep ell for 110 VAC Power Line.
- ⑬ 1-1/2" SCH 40 PVC electrical conduit w/ sweep ell for Ground Wire.
- ⑭ Copper grounding plate required, See Detail IR-04.
- ⑮ #6 Ground Wire secured to Backboard Grounding Terminal.

**NOTES:**

1. Installation shall comply with the current edition of the National Electric Code and the manufacturer's specifications.
2. Electrical service from source to controller location shall be provided by the Electrical Contractor.
3. Irrigation Contractor shall provide rigid steel conduit from service stub-out to controller GFCI switch and shall complete electrical service to controller.
4. Enclosure's field location and orientation shall be approved by the City. Provide 12" min. horizontal clearance from edges.
5. Seal all open ends of conduit with non-hardening duct seal.

NOT TO SCALE



DATE  
July 2021

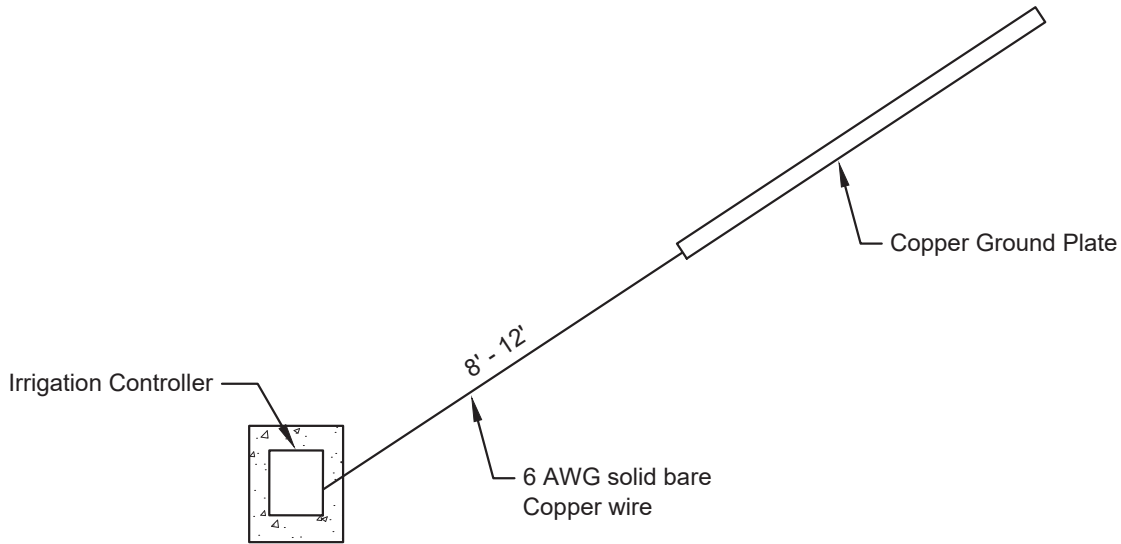


**CONTROLLER  
ASSEMBLY**

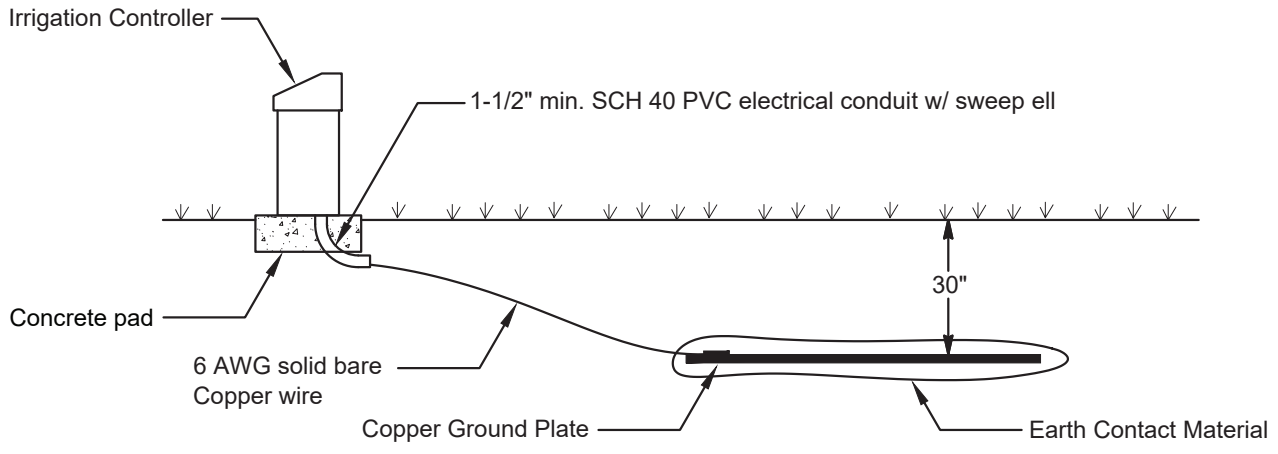
STD. PLAN NO.

**IR-03**





TOP VIEW



SIDE VIEW

NOTES:

1. Grounding shall meet the minimum requirements of the current edition of the National Electric Code, the American Society of Irrigation Consultants Guideline 100-2002 for Earth Grounding Electronic Equipment in Irrigation Systems, and the manufacturer's requirements.
2. Seal all open ends of conduit with non-hardening duct seal.

NOT TO SCALE

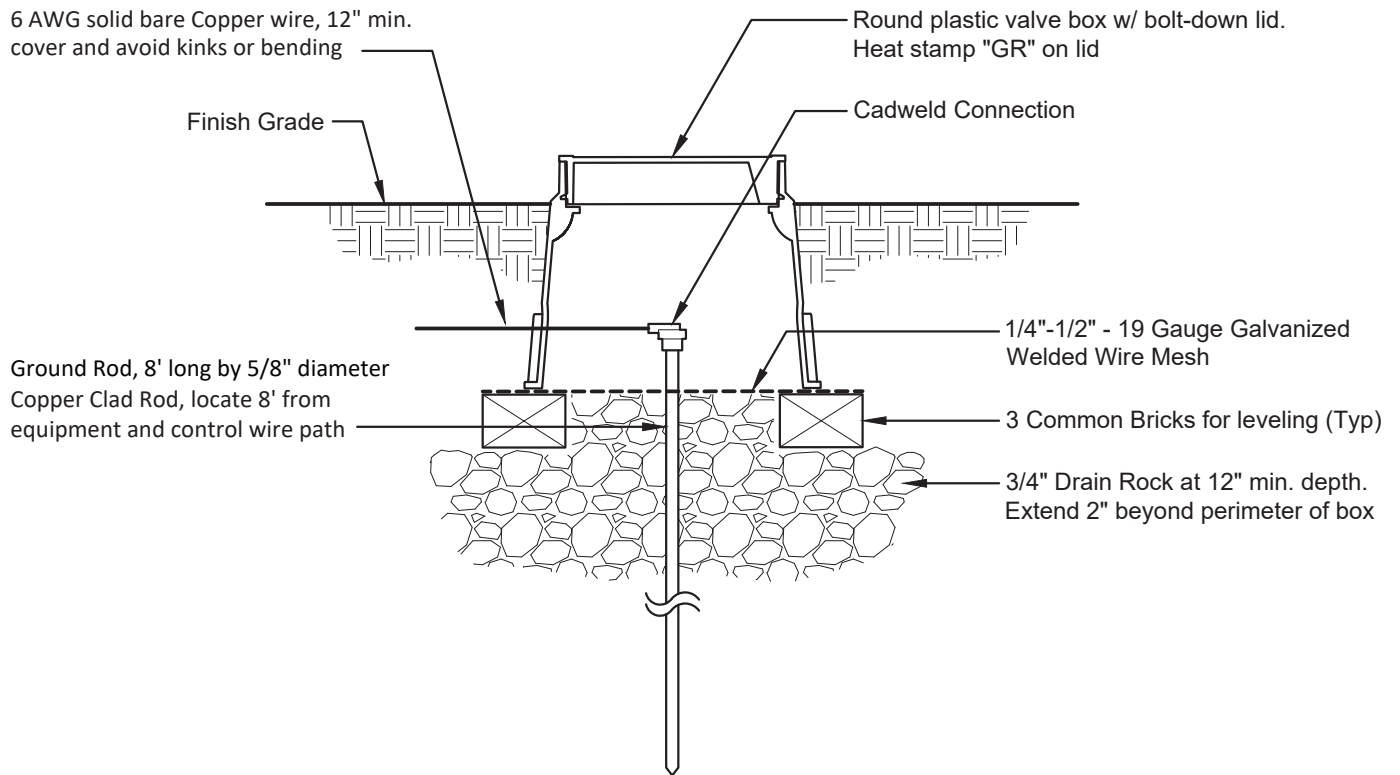


DATE  
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**CONTROLLER  
GROUNDING**

STD. PLAN NO.  
**IR-04**



**NOTES:**

1. Grounding shall meet the minimum requirements of the current edition of the National Electric Code and the American Society of Irrigation Consultants Guideline 100-2002 for Earth Grounding Electronic Equipment in Irrigation Systems.
2. See Standard Plan IR-13 for Irrigation Valve Box Installation.
3. Cover box cut-outs with 10 MIL pipe tape to prevent soil in box.
4. Seal all open ends of conduit with non-hardening duct seal.

NOT TO SCALE



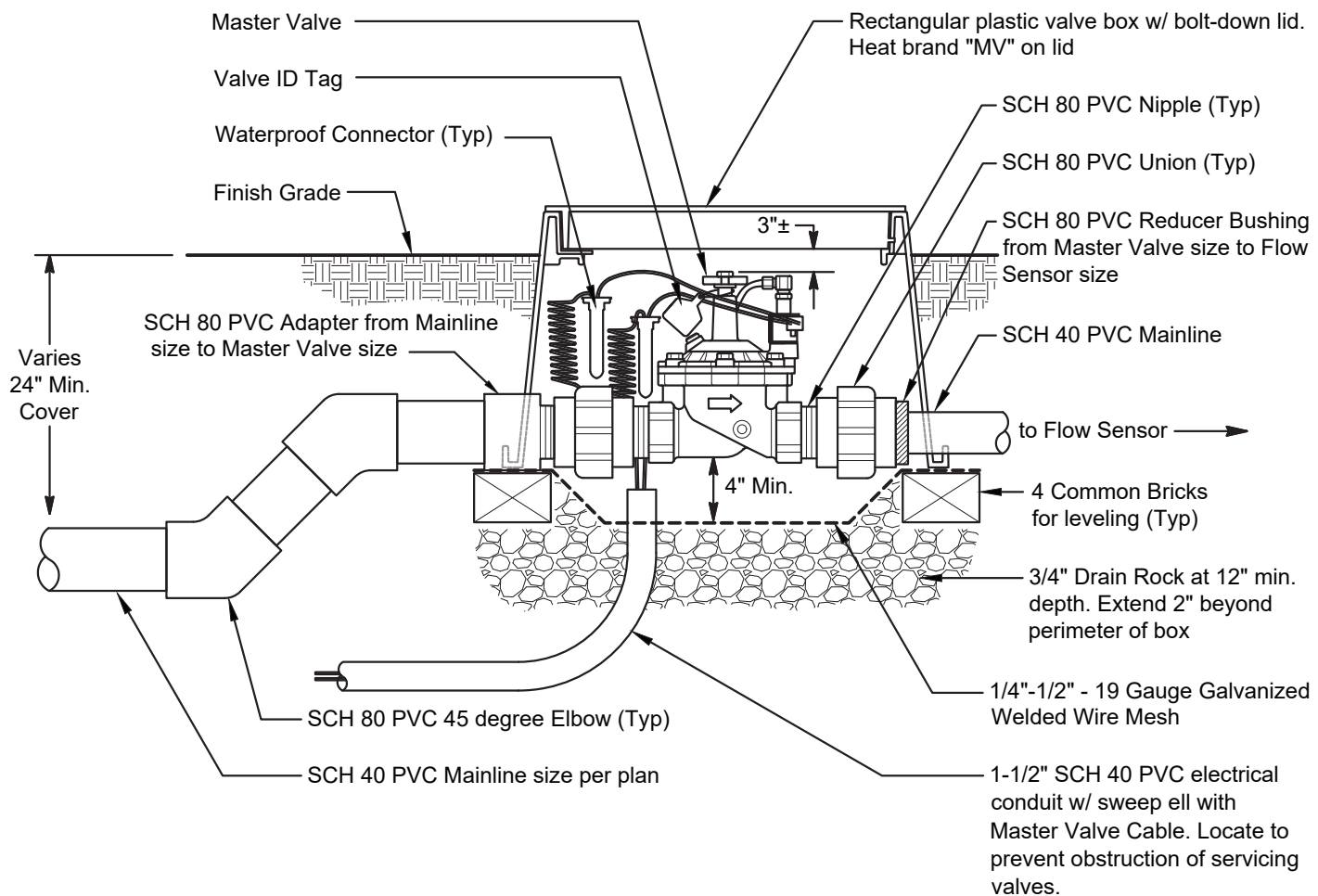
DATE  
July 2021



GROUNDING ROD

STD. PLAN NO.

IR-05



**NOTES:**

1. Provide a 36" expansion coil at wire connections.
2. See Standard Plan IR-13 for Irrigation Valve Box Installation.
3. Designate purple color-coding on appropriate appurtenance and reclaimed water warning tags when used with reclaimed water.
4. Cover box cut-outs with 10 MIL pipe tape to prevent soil in box.
5. Terminate conduit inside valve box in location to prevent obstruction of servicing equipment.
6. Seal all open ends of conduit with non-hardening duct seal.

NOT TO SCALE



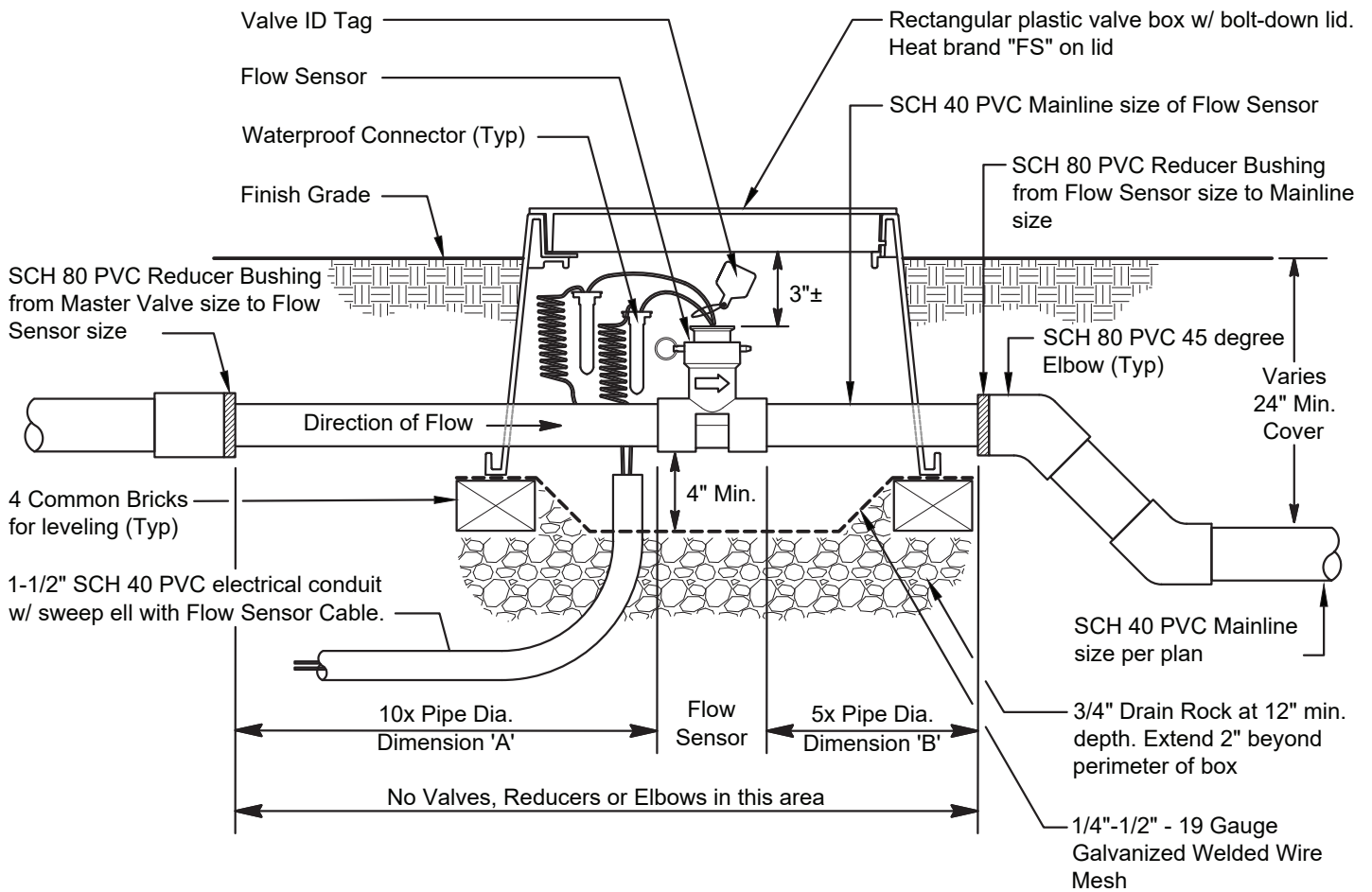
DATE  
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MASTER VALVE

STD. PLAN NO.

IR-06



**NOTES:**

1. Provide a 36" expansion coil at wire connections.
2. See Standard Plan IR-13 for Irrigation Valve Box Installation.
3. Designate purple color-coding on appropriate appurtenance and reclaimed water warning tags when used with reclaimed water.
4. Cover box cut-outs with 10 MIL pipe tape to prevent soil in box.
5. Terminate conduit inside valve box in location to prevent obstruction of servicing equipment.
6. Seal all open ends of conduit with non-hardening duct seal.

NOT TO SCALE



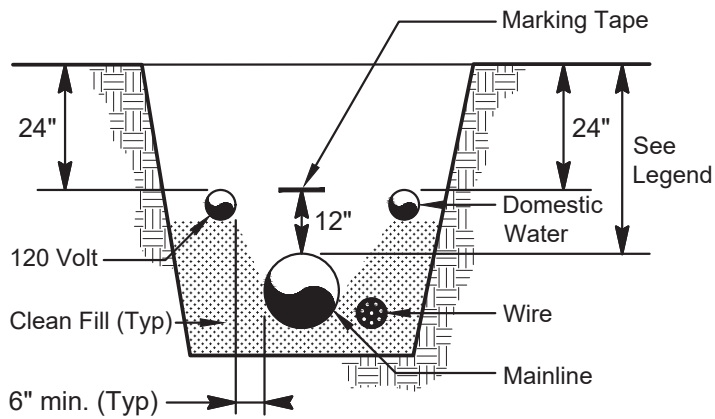
DATE  
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**OAKLEY**  
CALIFORNIA

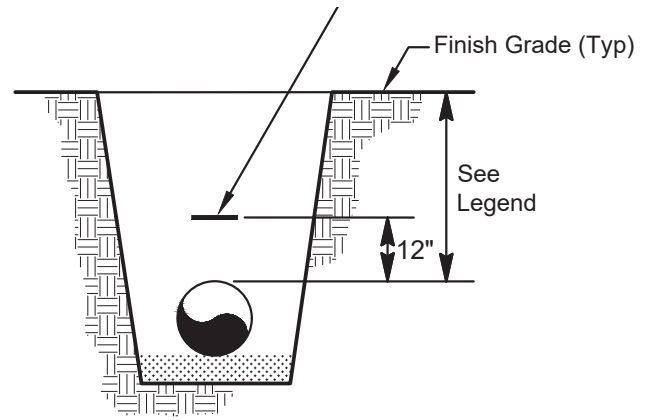
**FLOW SENSOR**

STD. PLAN NO.

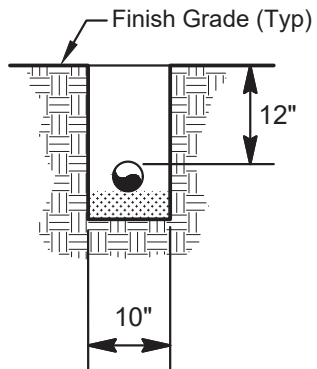
**IR-07**



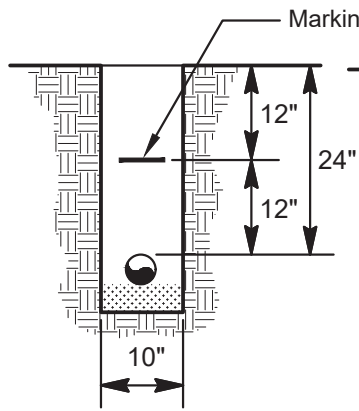
**JOINT TRENCH**



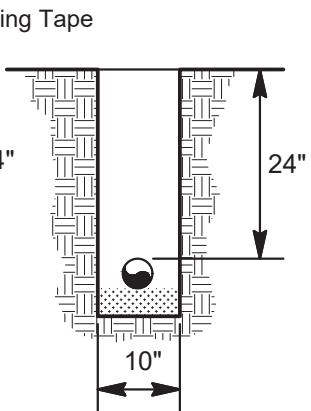
**MAINLINE**



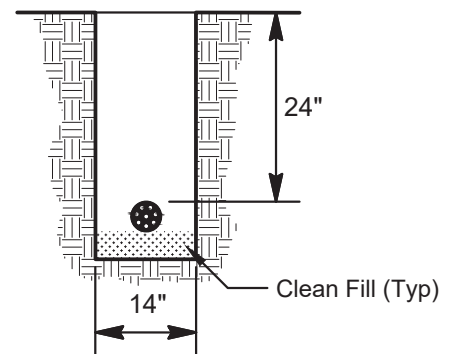
**LATERAL LINE**



**DOMESTIC WATER**



**120 VOLT CONDUIT**



**WIRE IN CONDUIT**

**NOTES:**

1. All mainline shall be installed per manufacturer's specifications.
2. All PVC pipe shall be installed in the trench in a serpentine manner per manufacturer's specifications.
3. All pipe in joint trenches shall be place with 2" min. between pipes. Pipe of other trades shall be placed with a 6" min. between pipes unless specified otherwise.
4. All 120 volt wiring in conduit shall be installed per local ordinances and codes.
5. Tape and bundle wire at 10' intervals. All wire not in joint trench with mainline shall be installed in conduit.

NOT TO SCALE

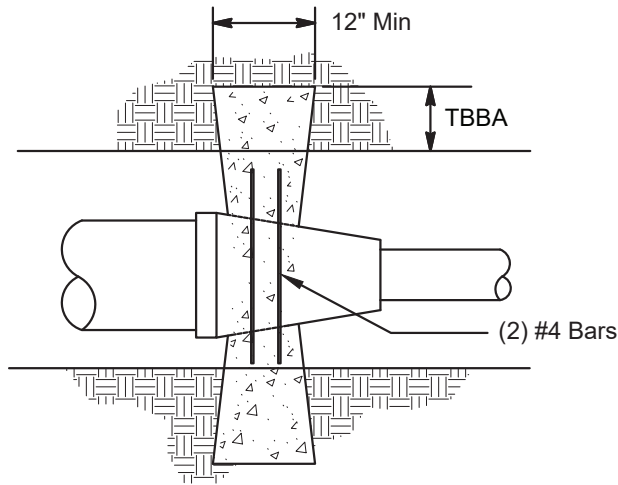


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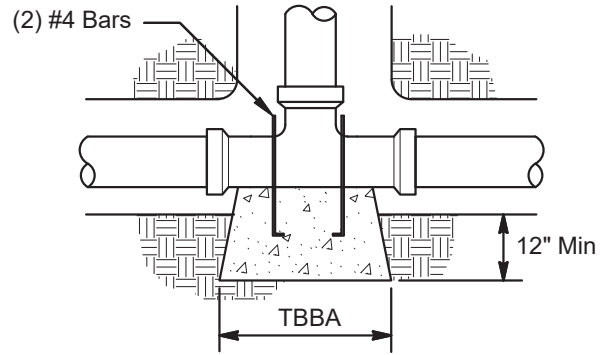


TRENCHING

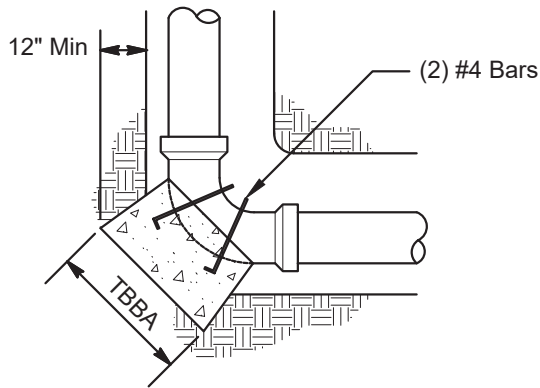
STD. PLAN NO.  
IR-08



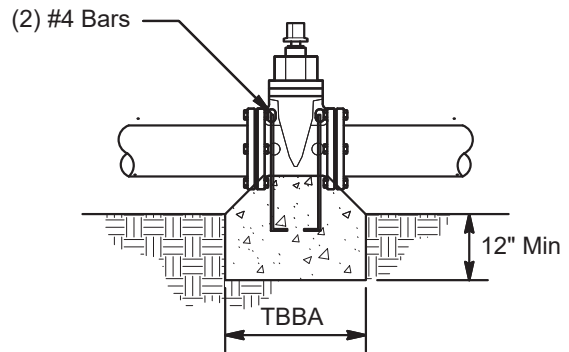
REDUCERS



TEES & DEAD ENDS



ELBOWS



VALVES

NOTES:

1. Thrust Blocks shall only be used if Joint Restraints are not specified. Install joint restraints per the manufacturer's specifications and provide polyethylene encasement of all cast iron and ductile iron pipe and fittings per the City General Notes for Park and Landscape Improvement Plans.
2. Thrust blocks shall not project higher than 1/2 the distance from the bottom of the trench to finish grade. Place concrete against undisturbed soil.
3. Do not cover ends of fittings or bolts with concrete or allow concrete to come in contact with PVC.
4. Concrete shall have compression strength of 2000 PSI.
5. Consult Manufacturer's literature for recommended Thrust Block Bearing Area (TBBA) based on actual field conditions. At Minimum TBBA shall be sized as follows:

<u>PIPE SIZE</u>	<u>90-DEGREE ELLS</u>	<u>45-DEGREE ELLS</u>	<u>VALVES, TEES, REDUCERS, DEAD ENDS</u>
4"	1.5 SQ FT	1.0 SQ FT	1.0 SQ FT*
6"	3.5 SQ FT	2.5 SQ FT	2.5 SQ FT*
8"	6.3 SQ FT	4.5 SQ FT	4.5 SQ FT*

\* OR AS DESIGNED BY THE ENGINEER.

NOT TO SCALE



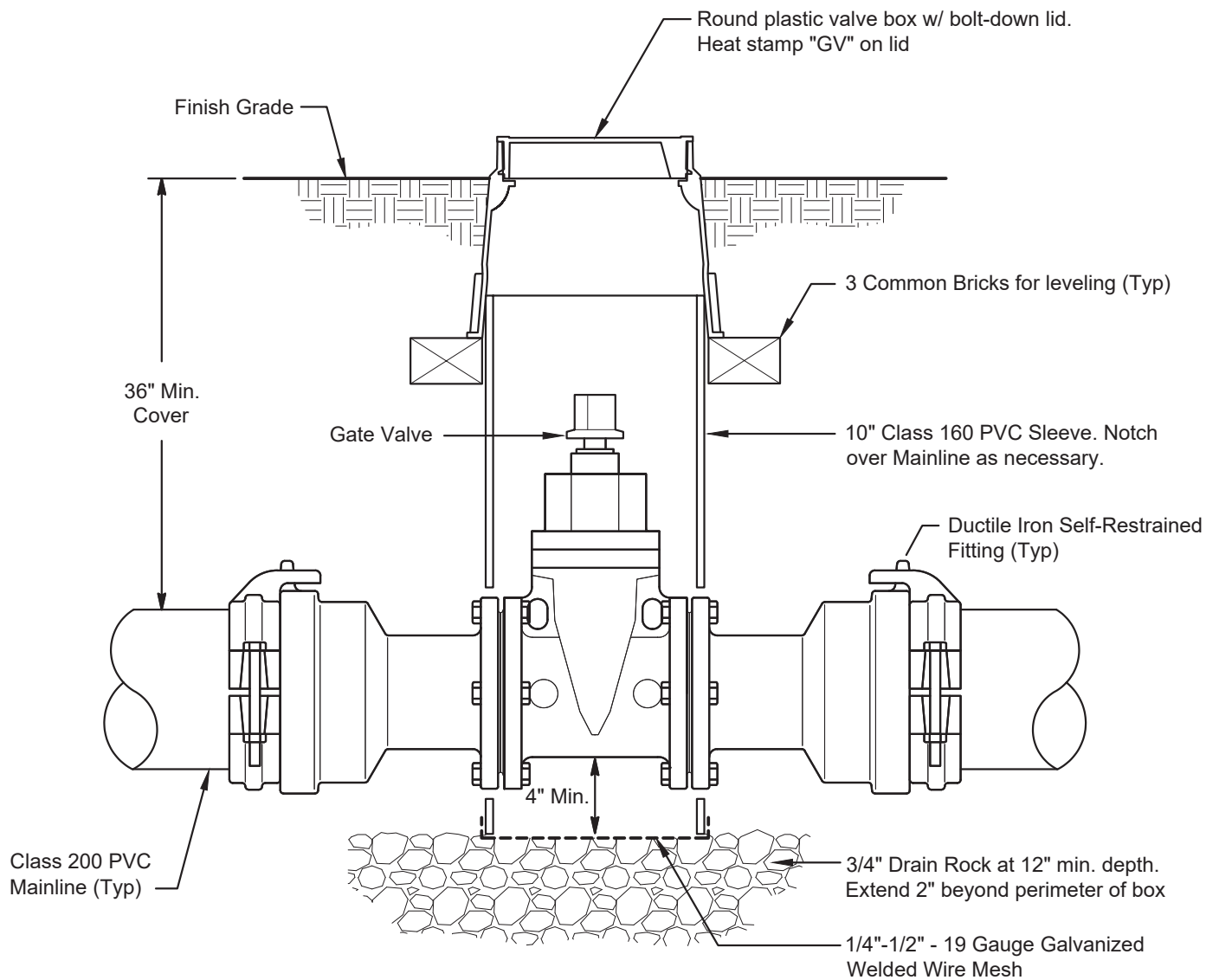
DATE  
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THRUST BLOCKS

STD. PLAN NO.

IR-09



**NOTES:**

1. See Standard Plan IR-13 for Irrigation Valve Box Installation.
2. Install joint restraints per the manufacturer's specifications and provide polyethylene encasement of all cast iron and ductile iron pipe and fittings per the City General Notes for Park and Landscape Improvement Plans.
3. Designate purple color-coding on appropriate appurtenance and reclaimed water warning tags when used with reclaimed water.
4. Cover box cut-outs with 10 MIL pipe tape to prevent soil in box.

NOT TO SCALE



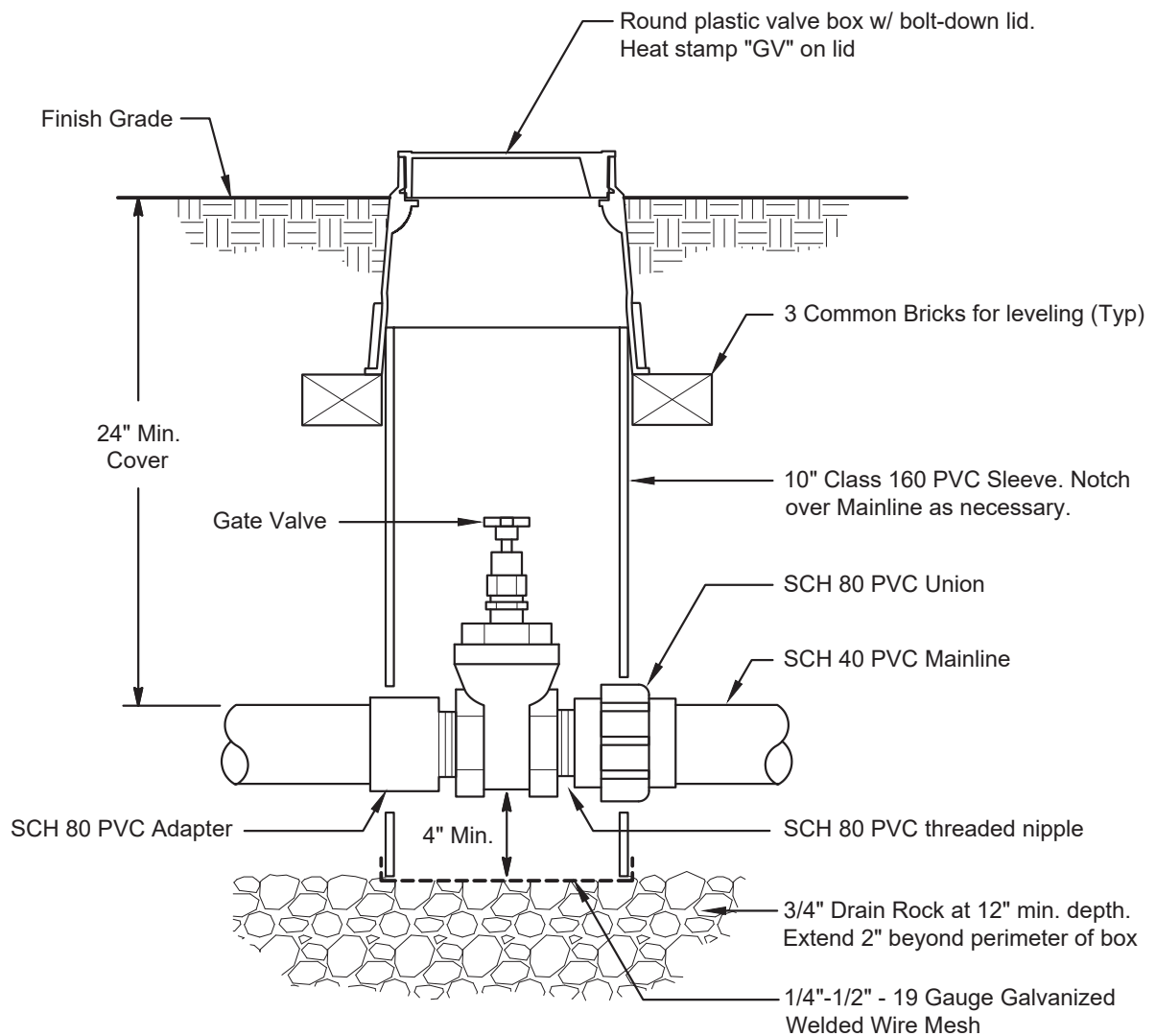
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GATE VALVE  
(4 INCH & LARGER)

STD. PLAN NO.

IR-10



**NOTES:**

1. See Standard Plan IR-13 for Irrigation Valve Box Installation.
2. Designate purple color-coding on appropriate appurtenance and reclaimed water warning tags when used with reclaimed water.
3. Cover box cut-outs with 10 MIL pipe tape to prevent soil in box.

NOT TO SCALE



DATE  
July 2021

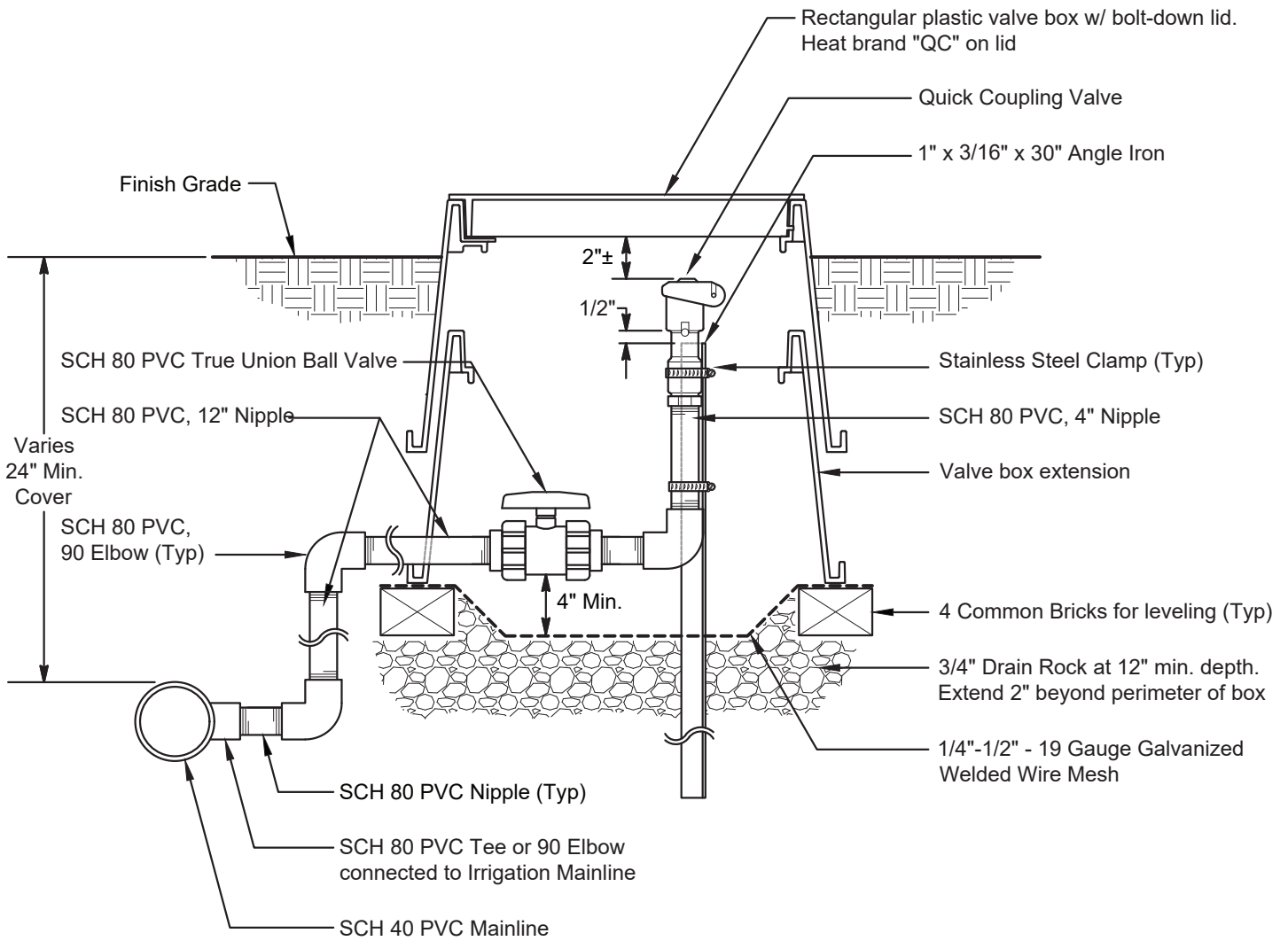


GATE VALVE  
(3 INCH & SMALLER)

STD. PLAN NO.

IR-11





**NOTES:**

1. See Standard Plan IR-13 for Irrigation Valve Box Installation.
2. Adjust valve box to permit full operation and maintenance of equipment.
3. Designate purple color-coding on appropriate appurtenance and reclaimed water warning tags when used with reclaimed water.
4. Cover box cut-outs with 10 MIL pipe tape to prevent soil in box.

NOT TO SCALE

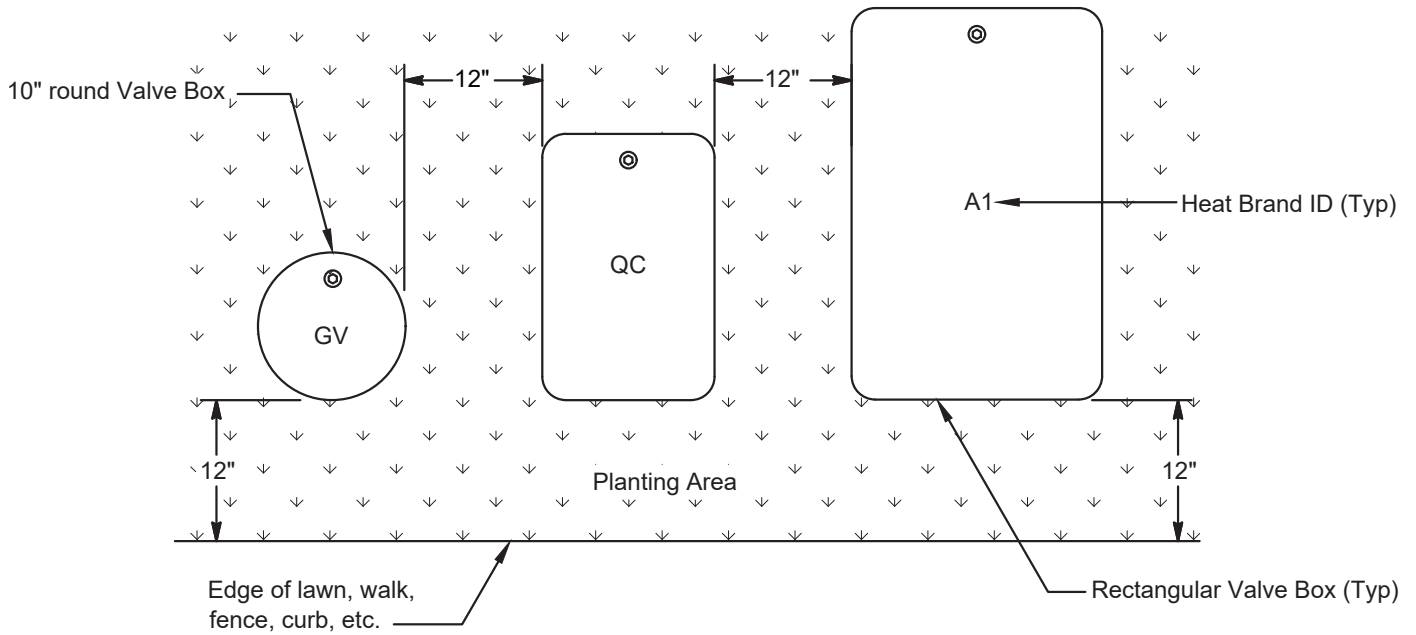


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**QUICK COUPLING  
VALVE**

STD. PLAN NO.  
**IR-12**



PLAN

NOTES:

1. Rectangular valve boxes shall be 11-3/4" X 17" X 12" deep valve box. Use 16" X 25-1/2" X 15" deep rectangular valve box for 1-1/4" and larger valve assemblies.
2. Center boxes over valves to permit service of valves and unions.
3. Set boxes in ground cover/shrub area where possible and maintain a minimum of 5' for trees.
4. Set boxes parallel to each other and perpendicular to edge.
5. Set boxes 1" above grade in turf areas and 3" above grade in shrub areas.
6. Avoid heavily compacting soil around boxes to prevent damaging valve boxes.
7. Heat Brand ID on valve box lid with 2" height letters:
  - 'X1' for Remote Control Valves ('X' = Controller '1' = station number)
  - 'FS' for Flow Sensor
  - 'MV' for Master Control Valve
  - 'GV' for Gate Valve
  - 'QC' for Quick Coupling Valve
  - 'SP' for Splice Box
  - 'PB' for Pull Box
8. Install stainless steel bolts in locking cover.
9. Designate purple colored boxes and lids with reclaimed water warning tags when used with reclaimed water.
10. Install valve box extensions as required to completely enclose valve assemblies.
11. Cover box cut-outs with 10 MIL pipe tape to prevent soil in box.

NOT TO SCALE

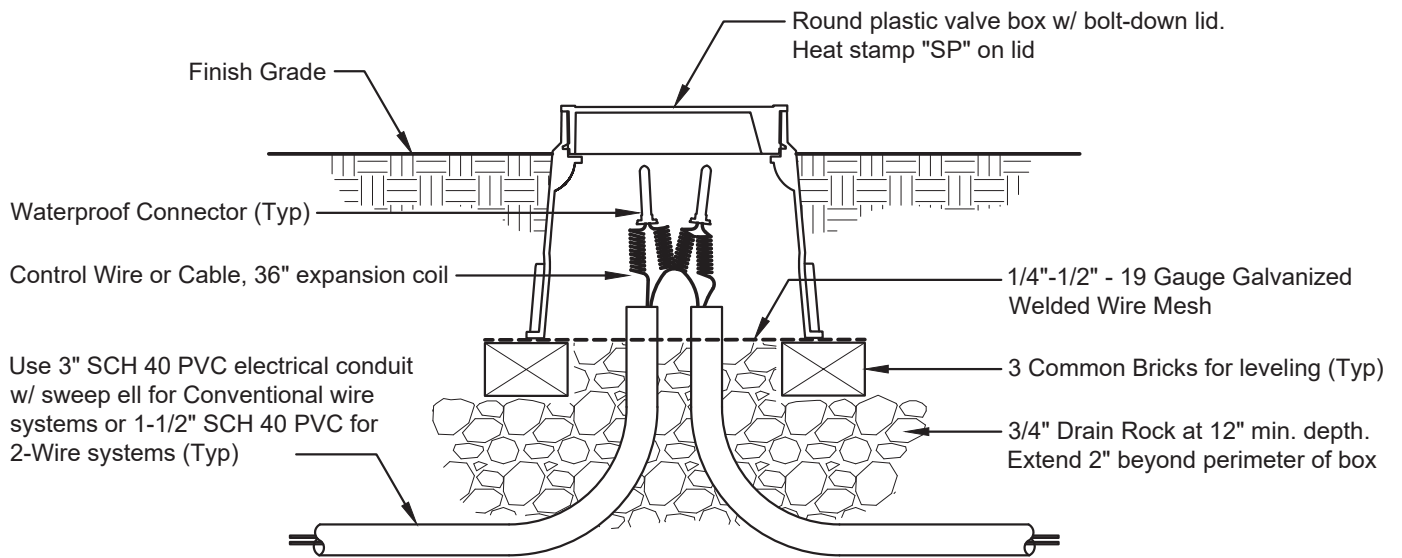


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July 2021

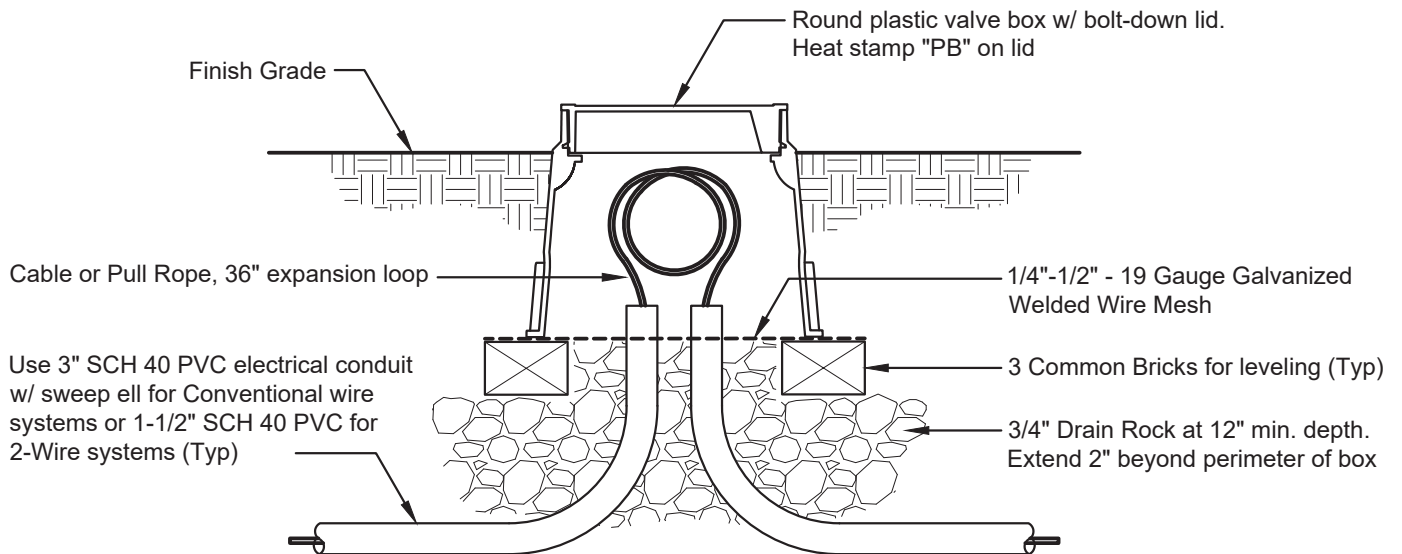


VALVE BOX  
INSTALLATION

STD. PLAN NO.  
IR-13



**SPLICE BOX**



**PULL BOX**

**NOTES:**

1. See Standard Plan IR-13 for Irrigation Valve Box Installation.
2. Cover box cut-outs with 10 MIL pipe tape to prevent soil in box.
3. Seal all open ends of conduit with non-hardening duct seal.
4. Include pull rope for spare or empty conduits to pull boxes intended for future wire installation.
5. See City General Notes for Park and Landscape Improvement Plans for additional requirements.

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**SPLICE BOX/  
PULL BOX**

STD. PLAN NO.

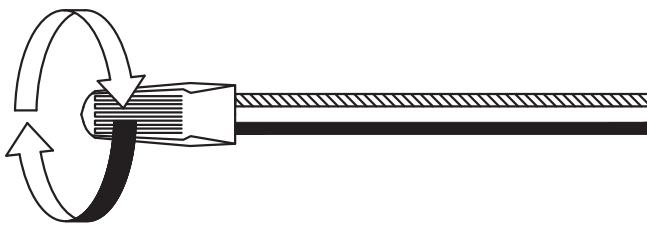
**IR-14**



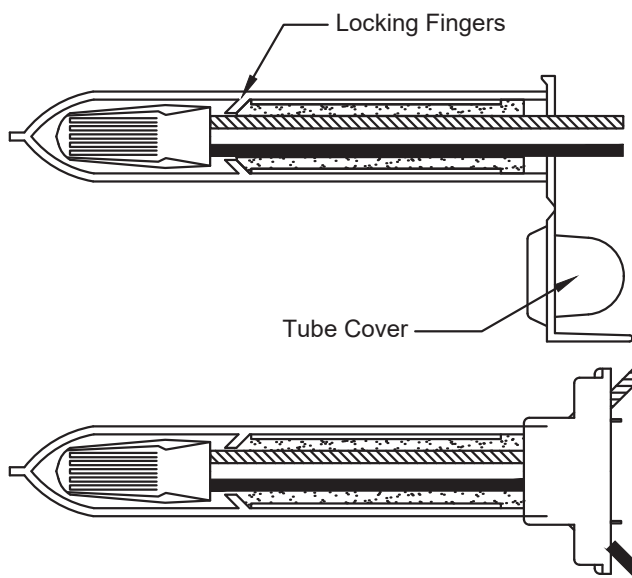
STEP 1: Strip both wires. Twist strand around rigid strand over half the length of stripped wires.



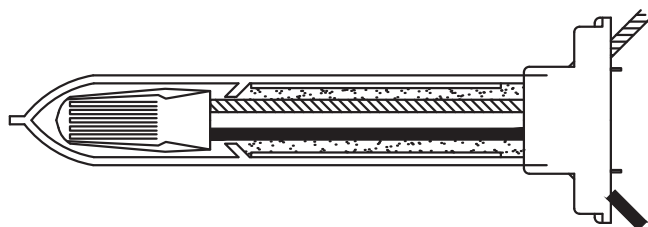
STEP 2: Fold the other half of the rigid strand over twisted strand as shown.



STEP 3: Insert the twisted splice into the "Y" electrical spring connection and twist over wire strands in a clockwise direction.



STEP 4: Insert the connector into the gel-filled direct bury splice kit. Push past the locking fingers to secure connector inside tube.



STEP 5: Position all the wires through the dedicated insulator channels and snap insulator tube cover closed.

**NOTES:**

1. Use 3M DBR/Y-6 Direct Bury Splice Kit or approved equal
2. Maximum wire sizes per connector are 3-#4's or 2-#12's

NOT TO SCALE



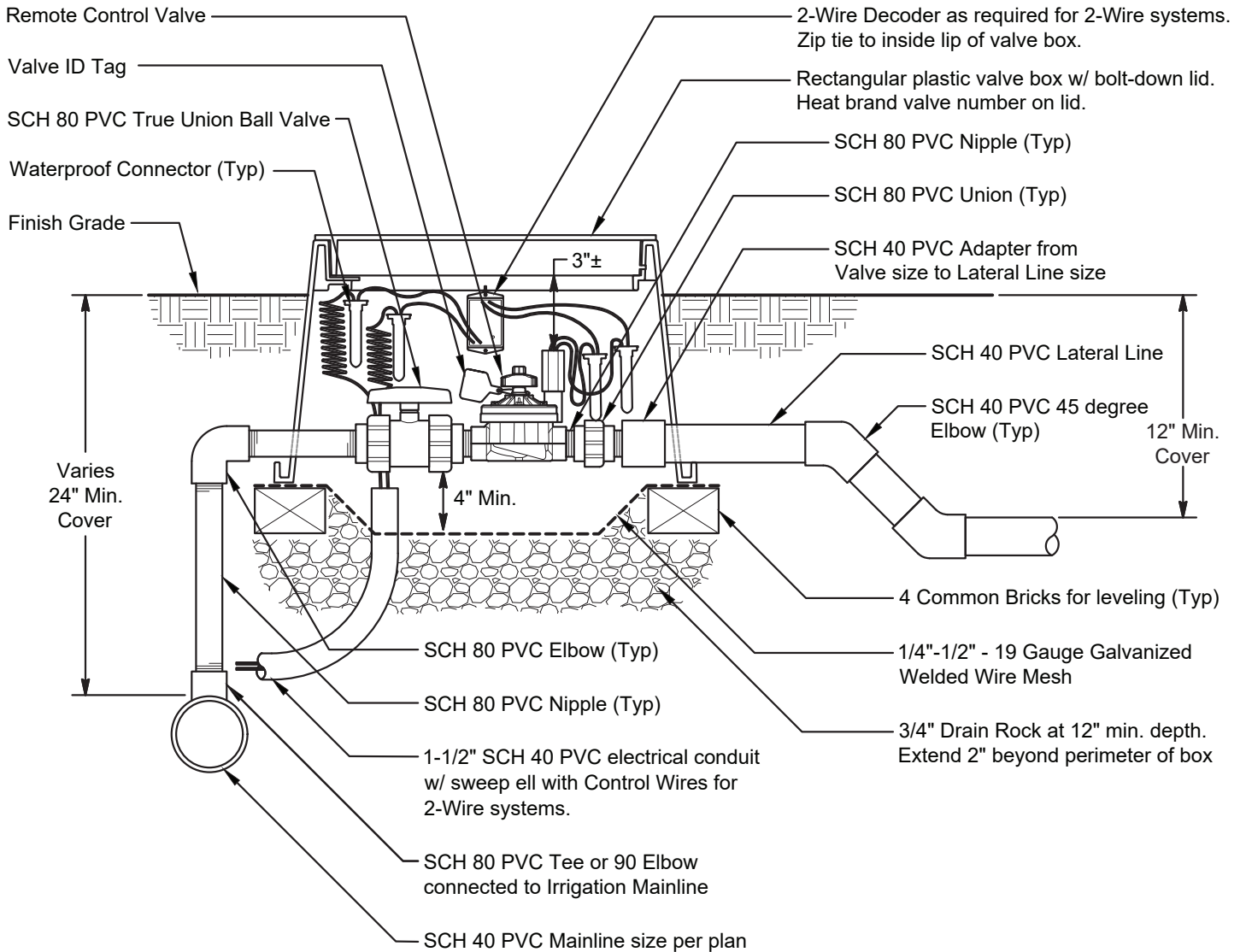
DATE  
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IRRIGATION WIRE  
CONNECTION

STD. PLAN NO.

IR-15



**NOTES:**

1. Provide a 36" expansion coil at wire connections.
2. See Standard Plan IR-13 for Irrigation Valve Box Installation.
3. Designate purple color-coding on appropriate appurtenance and reclaimed water warning tags when used with reclaimed water.
4. Cover box cut-outs with 10 MIL pipe tape to prevent soil in box.
5. Terminate conduit inside valve box in location to prevent obstruction of servicing equipment.
6. Seal all open ends of conduit with non-hardening duct seal.

NOT TO SCALE



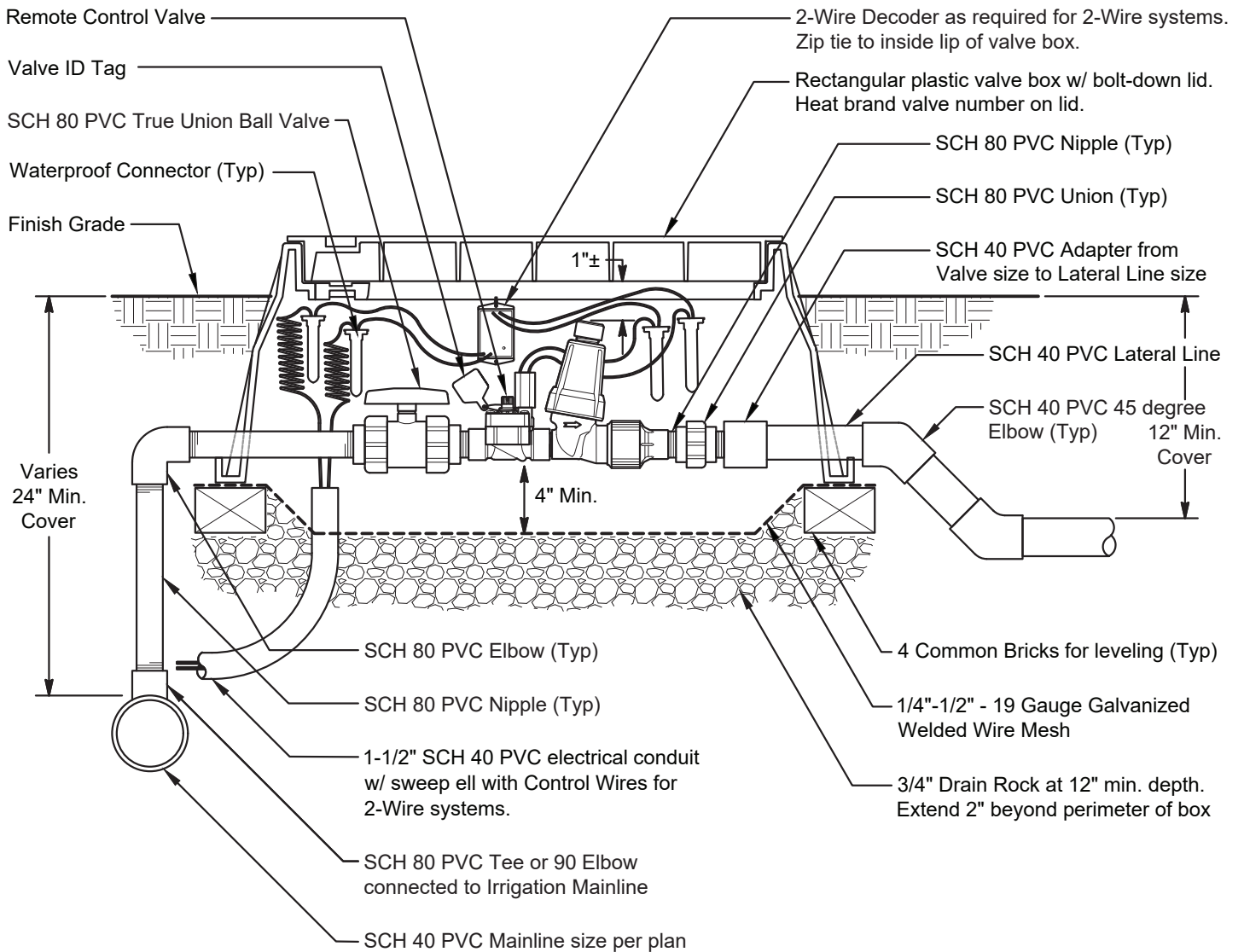
DATE  
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REMOTE CONTROL  
VALVE

STD. PLAN NO.

IR-16



**NOTES:**

1. Provide a 36" expansion coil at wire connections.
2. See Standard Plan IR-13 for Irrigation Valve Box Installation.
3. Designate purple color-coding on appropriate appurtenance and reclaimed water warning tags when used with reclaimed water.
4. Cover box cut-outs with 10 MIL pipe tape to prevent soil in box.
5. Terminate conduit inside valve box in location to prevent obstruction of servicing equipment.
6. Seal all open ends of conduit with non-hardening duct seal.

NOT TO SCALE



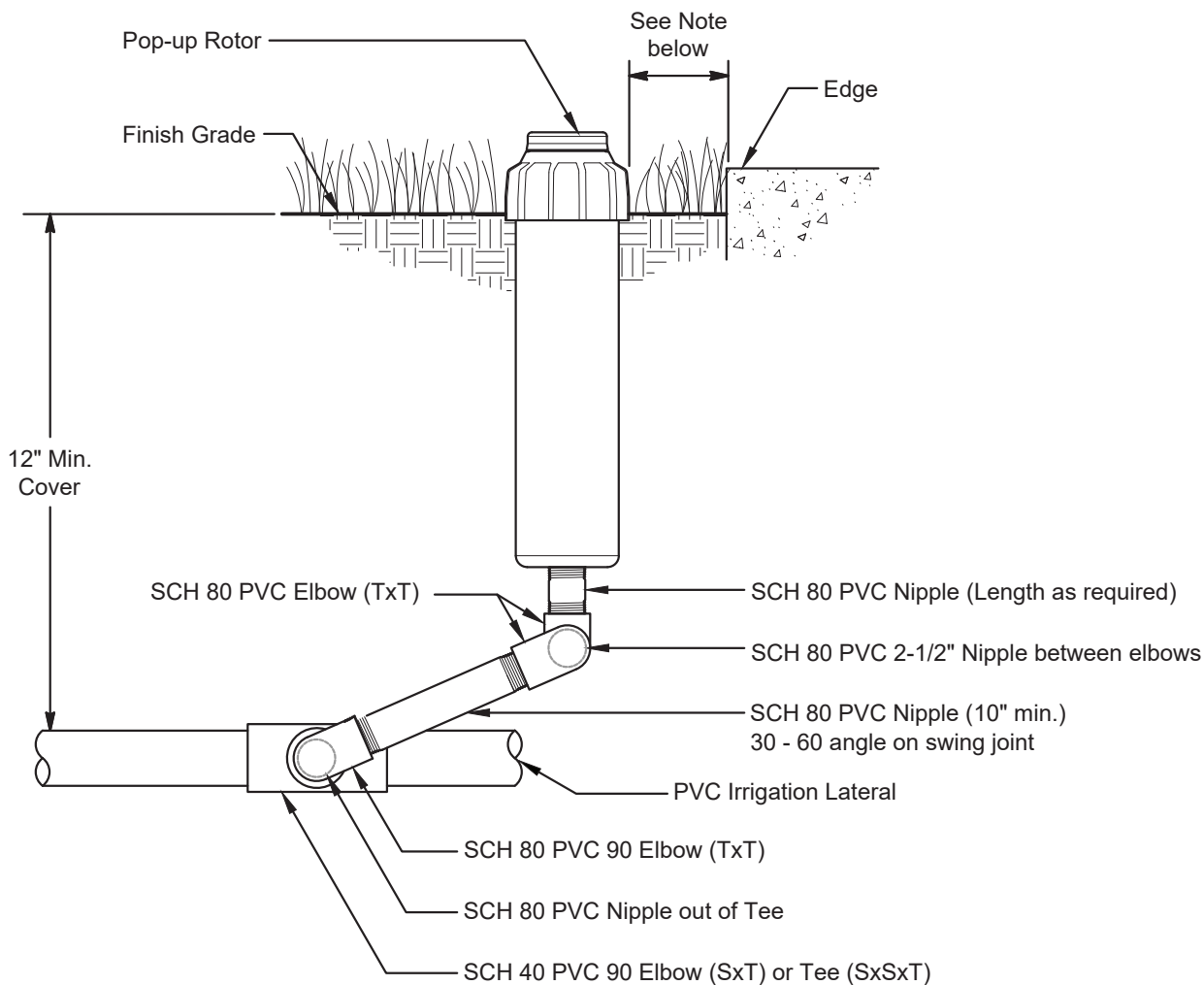
DATE  
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REMOTE CONTROL  
VALVE WITH  
FILTER KIT

STD. PLAN NO.

IR-17



**NOTES:**

1. Set head 1" above grade in turf areas and 3" above grade in shrub areas.
2. 2" clear in turf and 6" clear in shrub areas from edges i.e. header, mowband, wall, fence, or pavement.
3. Set all heads minimum of 24" clear from edge of impervious pavement that does not drain into landscape.

NOT TO SCALE

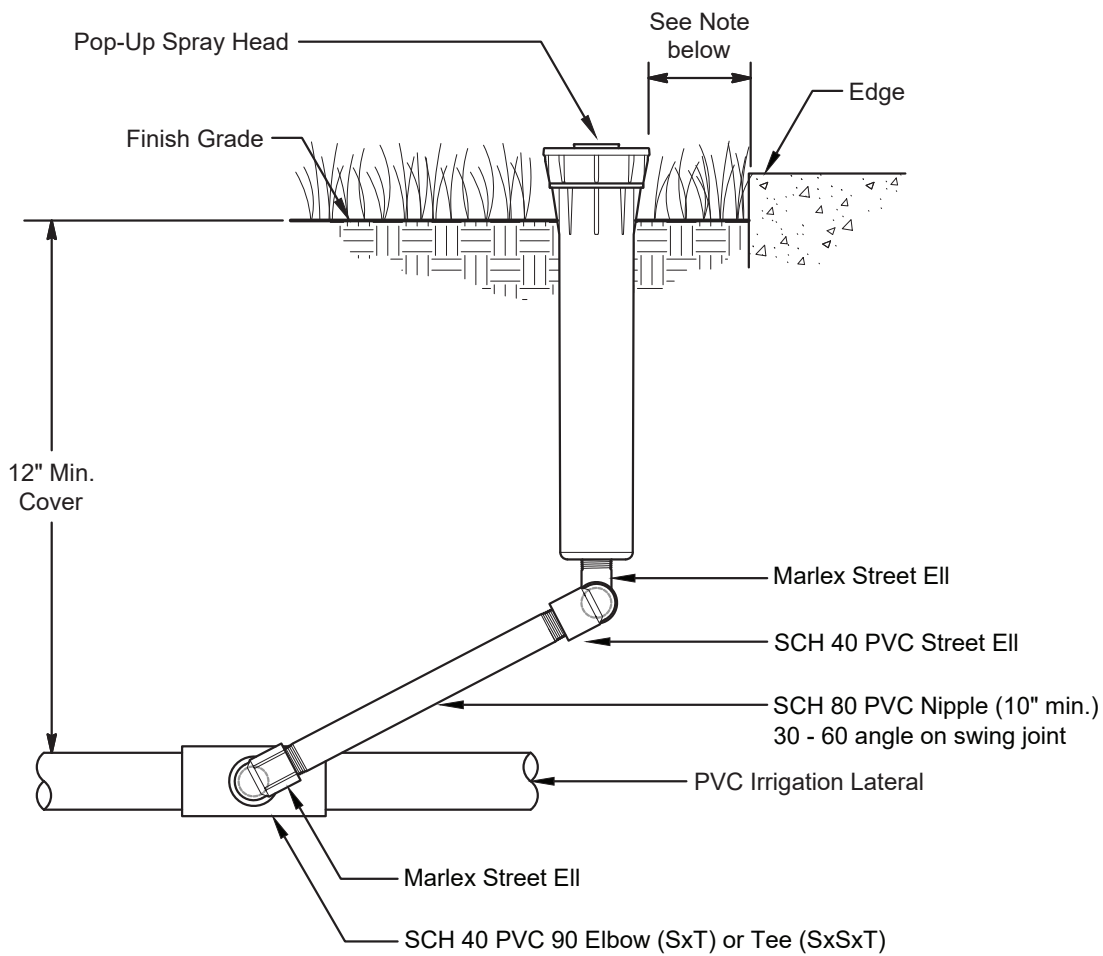


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POP-UP ROTOR  
HEAD

STD. PLAN NO.  
IR-18



**NOTES:**

1. Set head 1" above grade in turf areas and 3" above grade in shrub areas.
2. 2" clear in turf and 6" clear in shrub areas from edges i.e. header, mowband, wall, fence, or pavement.
3. Set all heads minimum of 24" clear from edge of impervious pavement that does not drain into landscape.

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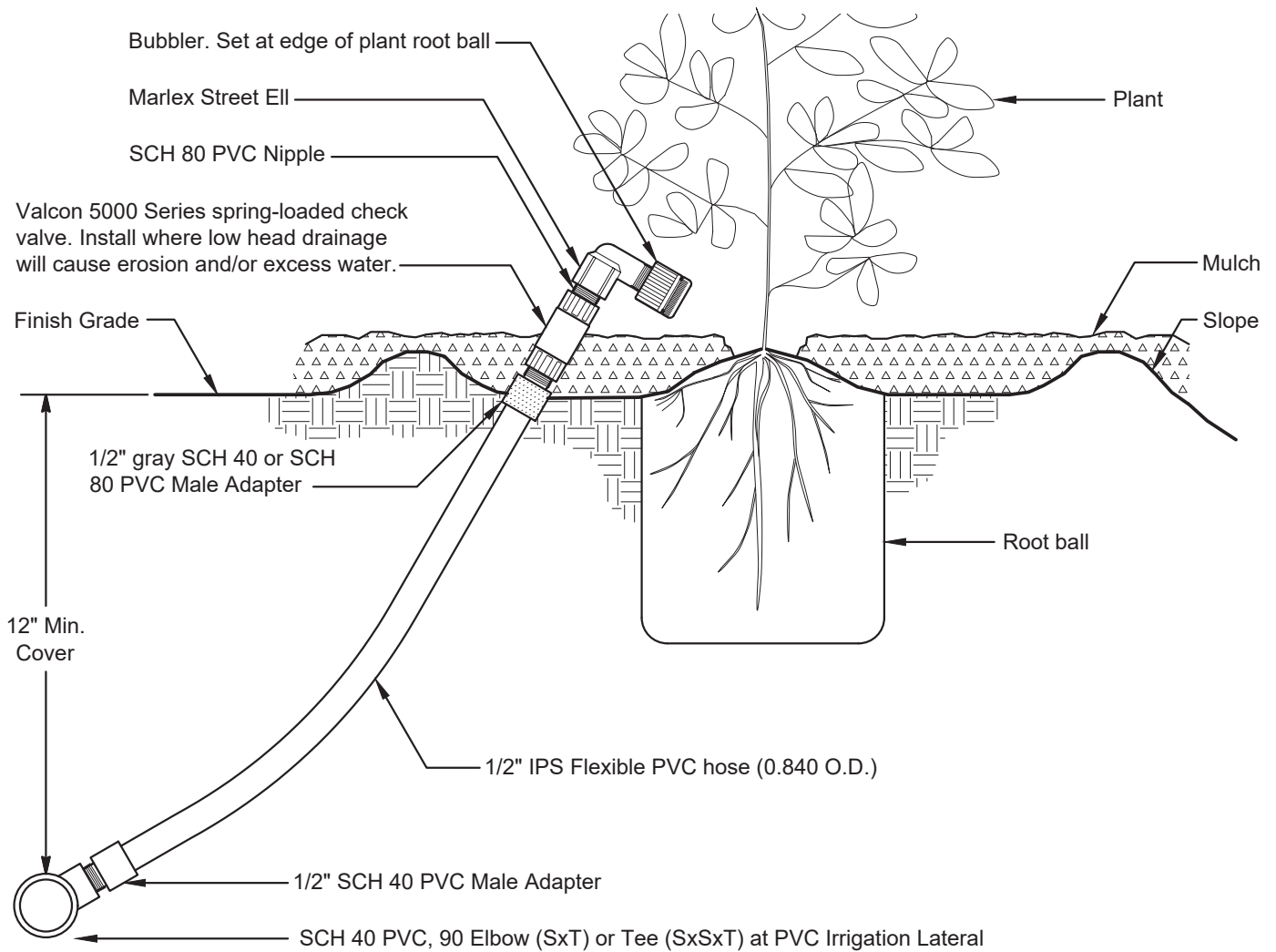


POP-UP SPRAY HEAD

STD. PLAN NO.

IR-19





**NOTES:**

1. Flexible hose shall be algae and UV resistant.
2. Primer ALL solvent weld connections between PVC and flexible hose.
3. Use only IPS Weld-On #795 cement at flexible hose connections.
4. Secure bubbler at edge of plant root ball.
5. Locate bubblers on uphill side of plants on slopes.
6. Locate bubblers on opposite sides of tree and prevent conflicts with tree staking.

NOT TO SCALE



DATE  
July 2021



BUBBLER

STD. PLAN NO.  
IR-20

## SITE AMENITIES

1. All Outdoor Creation Inc. products to include City logo and anti-graffiti Nano Tech Barrier sealer coat.
2. All steel near overhead irrigation shall be galvanized and powder coated or stainless steel.

ITEM	MANUFACTURER/MODEL (OR APPROVED EQUAL)	NOTES
Park Bench	Outdoor Creations Inc. Bench Model: 408SKB	Vertical Slat w/back, Non-skateboard, Black, Middle arm rest
Park Bench - Concrete	Outdoor Creations Inc. Bench Model: 408SKB	Concrete color: Davis Sequoia Sand or approved alternate City of Oakley Logo: 11" x 5.2" in full relief on backrest, no color
Picnic Table	Outdoor Creations Inc. Side Entrance Table Model: 100S and 107S or 108S	Concrete color: Davis Sequoia Sand or approved alternate City of Oakley Logo: 11" x 5.2" in full relief on table legs (2) no color, use skate blocks and ADA accommodations
Group Barbeque - Concrete	Outdoor Creations Inc. Group BBQ Model:3001AG	Concrete color: Davis Sequoia Sand or approved alternate City of Oakley Logo: 11" x 5.2" in full relief on opposing sides (2) of receptacle, no color
Barbeque - Concrete	Outdoor Creations Inc. Family BBQ Model: 3001A	Concrete color: Davis Sequoia Sand or approved alternate City of Oakley Logo: 11" x 5.2" in full relief on opposing sides (2) of receptacle, no color
Drinking Fountain	Haws Barrier Free Stainless Steel Pedestal Fountain Model: 3500D-FR	Vandal resistant, green powder coated finish with pet fountain, use Freeze Resistant Bury Valve as specified by the City
Trash Receptacle	Outdoor Creations Inc. Concrete Trash Receptacle-Round Model: 500	Concrete color: Davis Sequoia Sand or approved alternate City of Oakley Logo: 16" x 6" engraved and painted as specified on 1 side of trash can
Recycle Receptacle	Outdoor Creations Inc. Concrete Trash Receptacle-Round Model: 500	Concrete color: Davis Sequoia Sand or approved alternate City of Oakley Logo: 16" x 6" engraved and painted as specified on 1 side of trash can
Trash & Recycle Receptacle (Option)	Outdoor Creations Inc. Concrete Dual Trash & Receptacle Rectangular Model: 511	Concrete color: Davis Sequoia Sand or approved alternate City of Oakley Logo: 11" x 5.2" in full relief on 1 side of trash can. Blue door for recycle receptacle door
Dog Waste Dispenser	Zero Waste Model: JJ1B008	Install on 6x6 PTDF Post
Bleachers	Patterson Williams Model: 1171-315A	3-Row, 15' aluminum frame bleacher without guardrail
Park Sign	Outdoor Creation Inc. Model: 7070S with 703C Base	Concrete color: Davis Sequoia Sand Park name & address: as approved by City
Bollards - Removable	1-800-Bollards Model: RPSS4000-1	Color: as approved by City
Perimeter Fence	American Precast Concrete Inc. Model: Woodcrete Rails	3'3" tall, 2 rails Color: Buff
Perimeter Fence (Option)	None	3' tall, 2 rails, see detail M-04
Playground Fence	As required by ASTM F2049-11	
Playground Surfacing	sofSURFACES Model: duraSAFE 5.25	Color: as approved by City
Restroom Facility	CXT Precast Product Model: Cortez-19	Color and fixtures: as approved by City

NOT TO SCALE



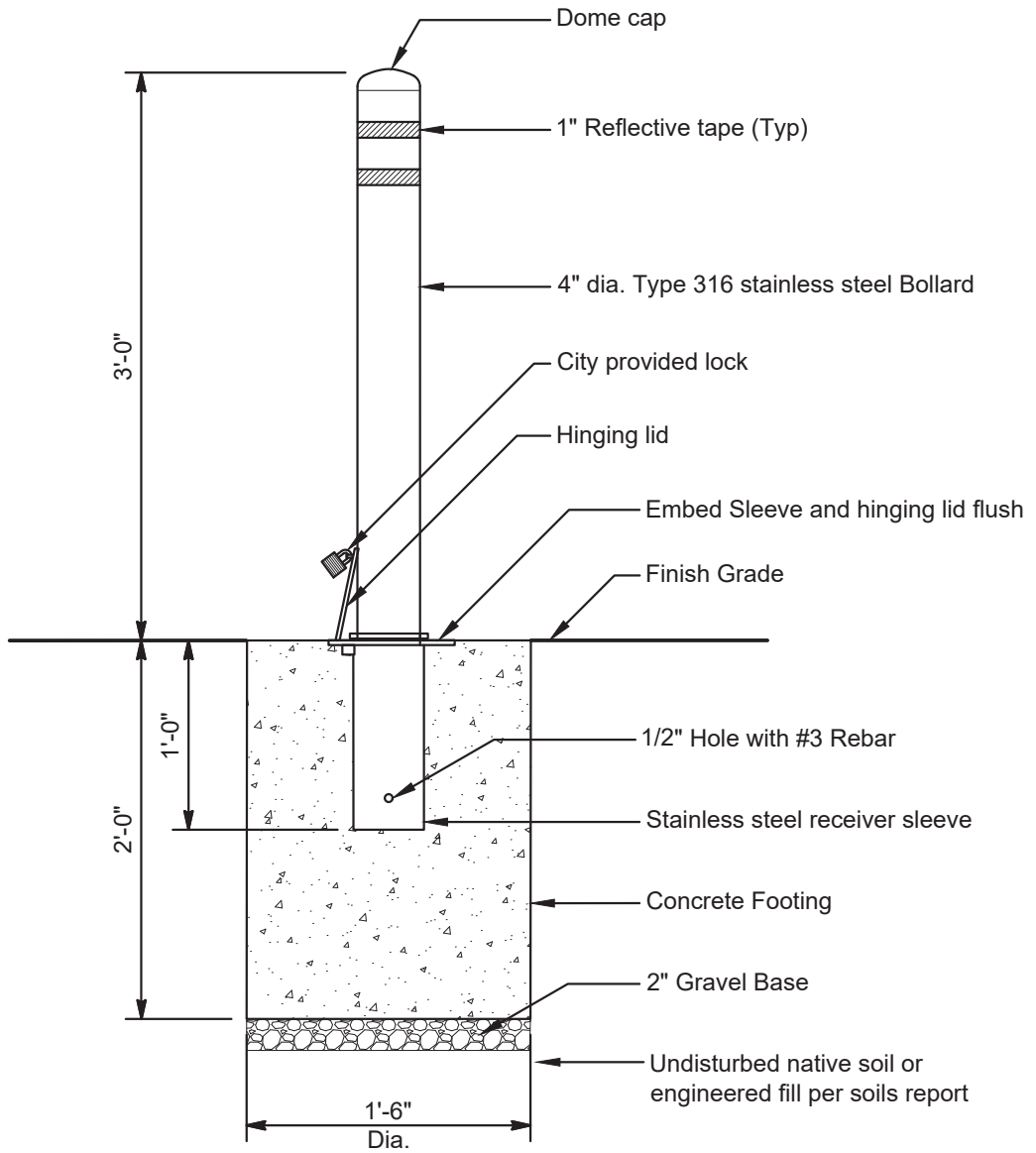
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SITE AMENITIES

STD. PLAN NO.

M-01



**SECTION**

**NOTES:**

1. Add reflective tape, two 1" bands at top.
2. Installation to be completed in accordance with manufacturer's specifications.
3. Bollard shall be as manufactured by 1800Bollards, (800) 265-5273 or www.1800Bollards.com.

NOT TO SCALE

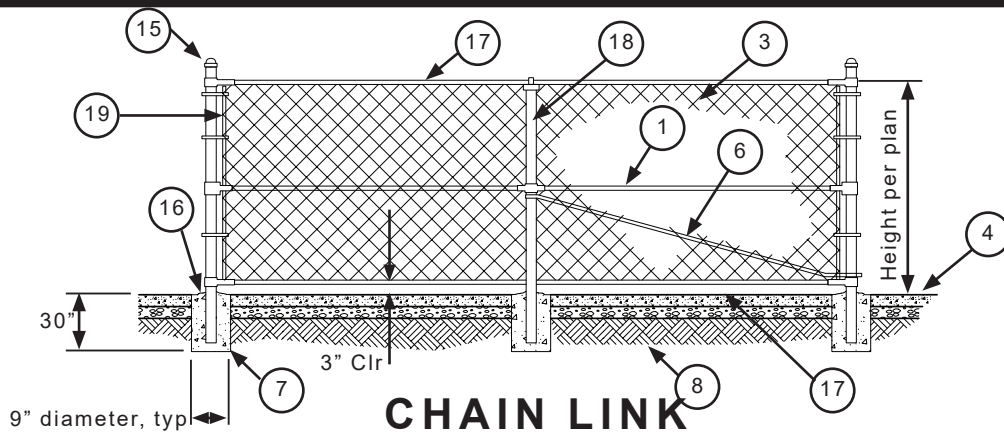


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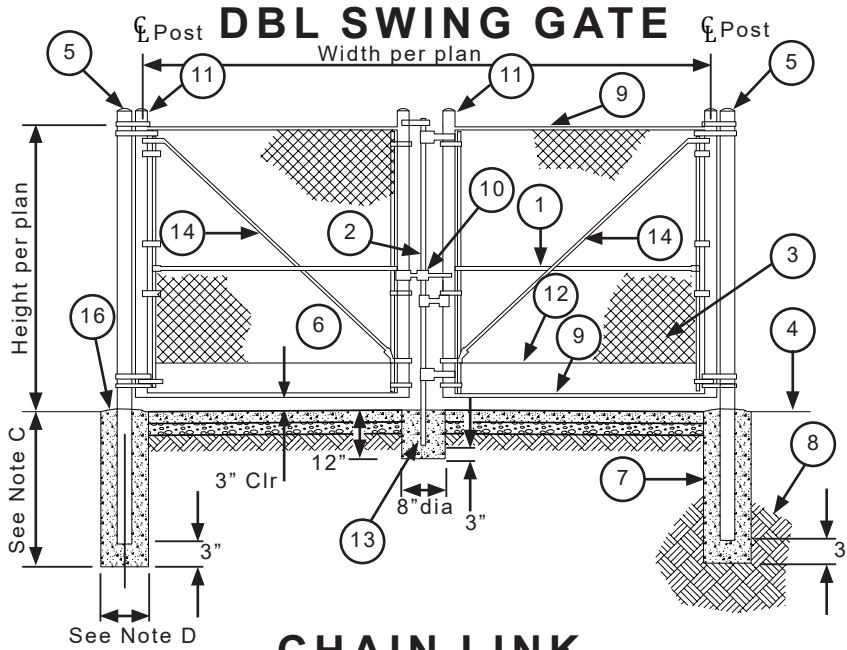


**REMOVABLE  
BOLLARD  
PARK OR TRAIL**

STD. PLAN NO.  
**M-02**



**CHAIN LINK**



**DBL SWING GATE**

**CHAIN LINK**

**DBL SWING GATE**

**Notes:**

A. Concrete for footings shall be Class "B" (2500 PSI) for more information, see specifications.

B. Provide submittal for all materials

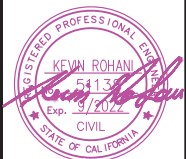
C. 36" depth for 4' high fence, 48" depth for 6' high fence and above.

D. 12" diameter for 4' high fence, 18" diameter for 6' high fence and above.

**Legend**

- ① Midrail 1-5/8" diameter for gates 6' high minimum
- ② Locking mechanism
- ③ Chain link wire mesh, posts and hardware-galvanized and powder coated: black
- ④ Finish grade, or finish surface
- ⑤ Terminal or corner post at gate, 3" diameter
- ⑥ Truss rod, at corners and ends
- ⑦ Post concrete footing, typical
- ⑧ Compacted subgrade to 95% relative compaction
- ⑨ Gate Rail, 1-7/8" outside diameter
- ⑩ Gate lock NIC to be determined by City
- ⑪ Gate frame vertical, 2-1/2" OD for 4' high fence, 3" OD for greater than 4' high fence
- ⑫ Gate bottom, per specifications
- ⑬ Concrete footing with sleeve to accept locking mechanism in closed position, typical of 2 (other location to be where gate is open, to be field approved by City)
- ⑭ Tension or tensil, not compression
- ⑮ Corner post, 2-1/2" diameter, for corner post see 5
- ⑯ Slope away from post
- ⑰ Top and bottom rail, 1-5/8" diameter pipe
- ⑱ Line post, 2-1/4" diameter pipe
- ⑲ Stretcher bar, typical

NOT TO SCALE



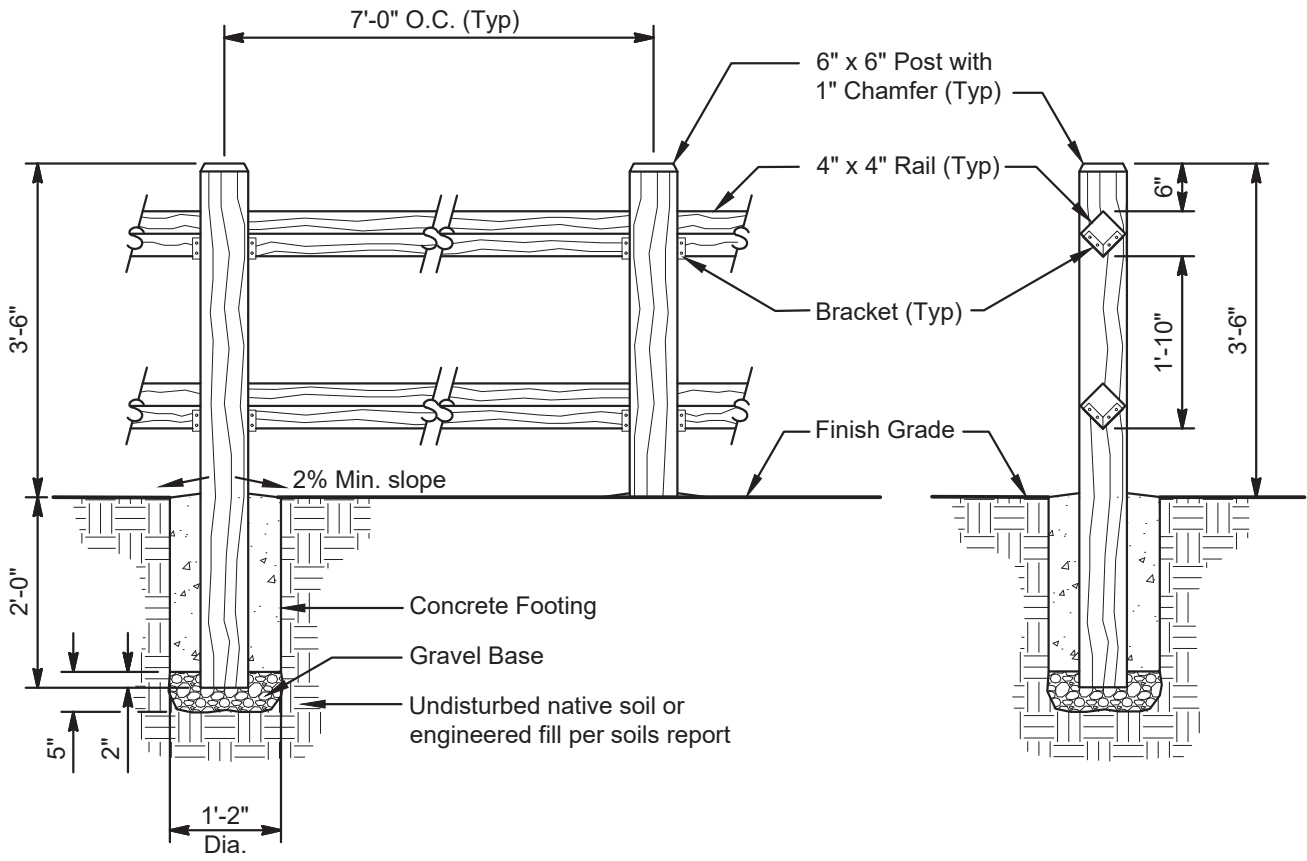
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FENCE CHAIN LINK

STD. PLAN NO.

M-03

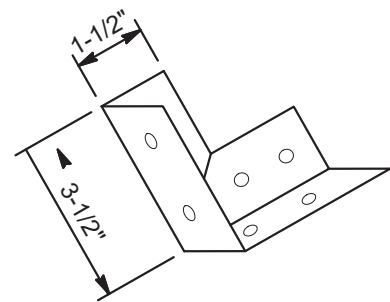


ELEVATION

SECTION

NOTES:

1. All wood to be rough sawn redwood. All posts shall be pressure treated.
2. Slope rails with grade, do not step.
3. Attach brackets with 10d common, galvanized nails.
4. Bracket shall be 18 gauge galvanized steel.



BRACKET ENLARGEMENT

NOT TO SCALE



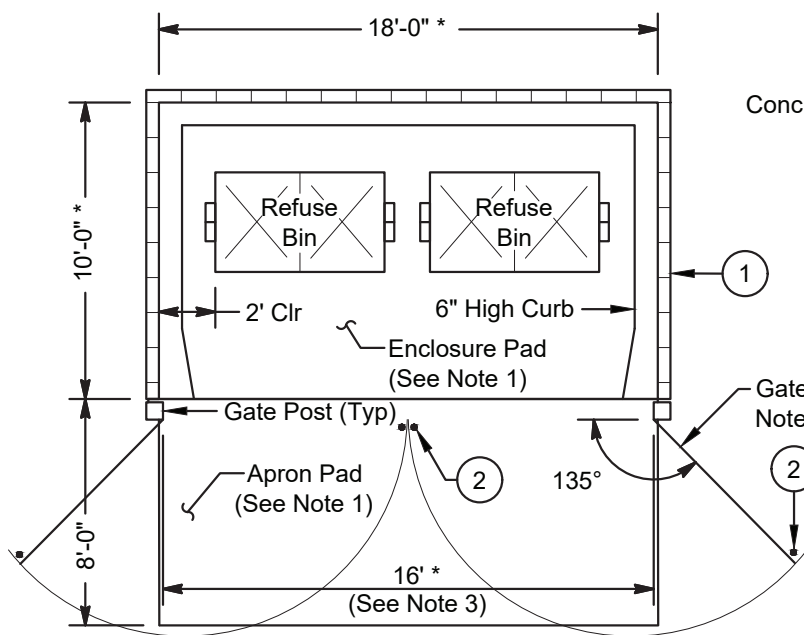
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PERIMETER FENCE

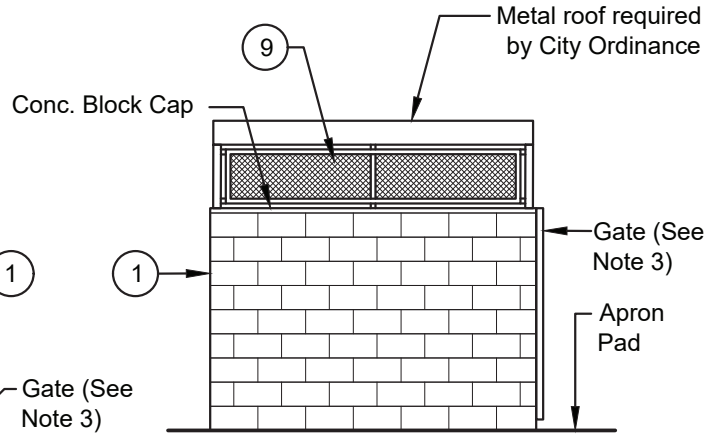
STD. PLAN NO.

M-04



**TOP VIEW**

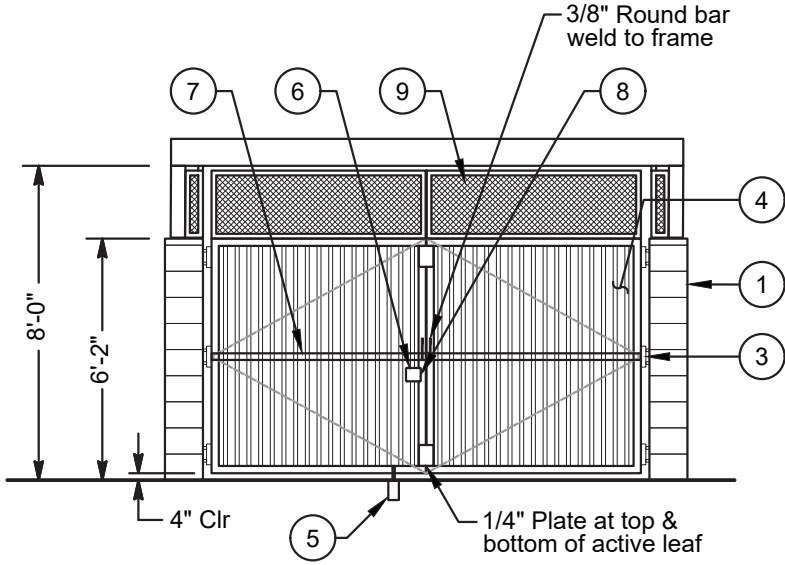
\* Inside Dimension



**SIDE ELEVATION**

**LEGEND:**

- ① Concrete Block or Reinforced Masonry Block shall be split face or decorative or the masonry be painted or plastered to match the main building.
- ② Receiving sleeve. Outside location 135° min. angle from closed gate position.
- ③ Stanley or approved equal. Heavy duty surface mounted external hinges, weld to metal angle.
- ④ ASC Pacific "HR-36" 18 GA G.I. Metal Panels, or approved equal-Paint over shop prime.
- ⑤ Ideal 64-6813 or approved equal. Cane bolt & keeper interior.
- ⑥ King Arch. Metals 30-100 Weldable slide bolt latch or approved equal.
- ⑦ 1-1/2" Square steel tube weld to frame at interior (Typ)
- ⑧ 4" Sq. x 1/4" Plate butt weld with rounded corners for bolt latch.
- ⑨ Metal screen. Stainless woven wire mesh with max. 2" opening. Weld to 1-1/2" square steel tube frame and weld 1-1/2" x 1/4" support plates as necessary (Typ)



**FRONT ELEVATION**

**NOTES:**

1. Pad shall be engineered to withstand 20,000 lbs. of direct force from a single truck axle.
2. Gates shall be solid metal with cane bolts sleeves in the open and closed position. Each gate, with a minimum total span 16' shall swing open a minimum of 135° from closed position. Hung gates have a 4" clearance off the finished pad or apron and surrounding curb.
3. The trash enclosure pad shall be designed to drain to a sewer connection as approved by Oakley Disposal Co. A water connection may be required by the Contra Costa County Health Department.
4. The enclosure exterior shall comply with standard Conditions of Approval for commercial and industrial projects. No enclosure shall be installed behind parking spaces.
5. Only solid waste containers and recycle containers are allowed inside the enclosure. Grease storage bins, soiled rag storage, etc. shall never be stored in the enclosure.
6. Roof and gates shall be powder coated and match in color.
7. Non-sacrificial anti-graffiti coating shall be applied to all visible surfaces of trash enclosure.

NOT TO SCALE

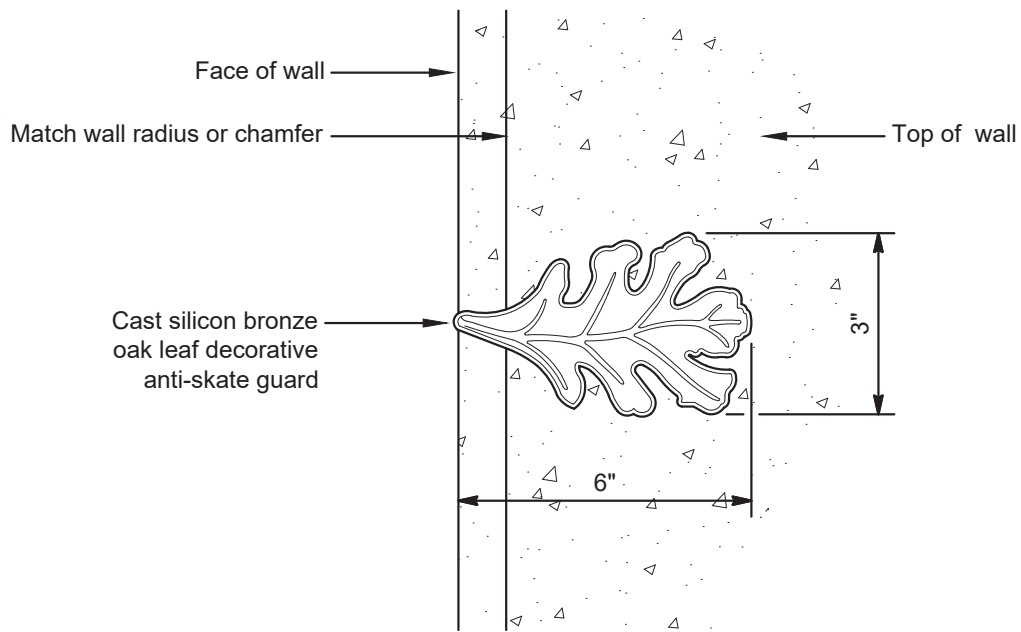


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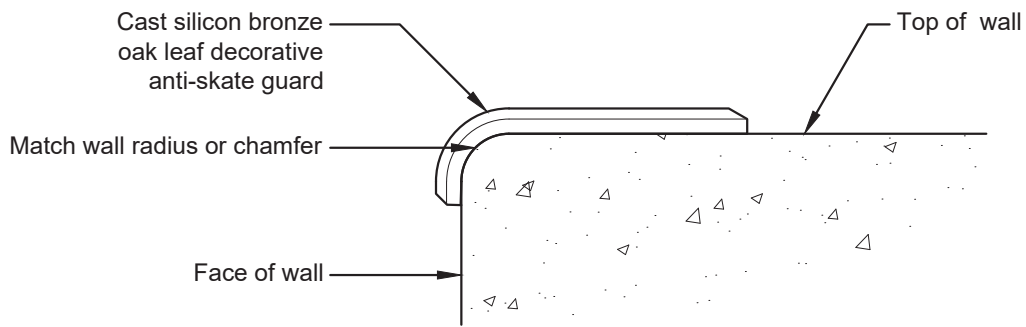


**SOLID WASTE  
TRASH ENCLOSURE**

STD. PLAN NO.  
**M-05**



TOP VIEW



SECTION

NOTES:

1. Installation to be completed in accordance with manufacturer's specifications.
2. Anchor with two blind pin anchors provided. Use anchors in conjunction with two-part epoxy.
3. Space at 18" from end of planters/walls and approximately 36" on centers. Do not apply at grout joints.
4. Decorative anti-skate guard shall be as manufactured by Skate Stoppers, (619) 447-6374 or [www.skatestoppers.com](http://www.skatestoppers.com).

NOT TO SCALE



DATE  
July 2021



OAK LEAF ANTI-  
SKATE GUARD

STD. PLAN NO.

M-06