



# Yucaipa Valley Water District

## Notice and Agenda of a Board Workshop

Tuesday, January 26, 2016 at 4:00 p.m.

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MEETING LOCATION: District Administration Building  
12770 Second Street, Yucaipa

MEMBERS OF THE BOARD: Director Ken Munoz, Division 1  
Director Bruce Granlund, Division 2  
Director Jay Bogh, Division 3  
Director Lonni Granlund, Division 4  
Director Tom Shalhoub, Division 5

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**I. Call to Order**

**II. Public Comments** At this time, members of the public may address the Board of Directors on matters within its jurisdiction; however, no action or significant discussion may take place on any item not on the meeting agenda.

**III. Staff Report**

**IV. Presentations**

- A. Overview of the California Drought and Yucaipa Valley Water District's Action Plan Related to the State Water Resources Control Board Mandatory Restrictions to Achieve a 36% Reduction in Potable Urban Water Use [[Workshop Memorandum No. 16-013 - Page 5 of 220](#)]
- B. Overview of the Yucaipa Valley Water District's Strategic Plan for a Sustainable Future - The Integration and Preservation of Resources and Proposed Enhancements [[Workshop Memorandum No. 16-014 - Page 37 of 220](#)]

**V. Operational Updates**

- A. Overview of Operational Activities in Preparation and Response to the 2016 Winter Storm Events [[Workshop Memorandum No. 16-015 - Page 50 of 220](#)]
- B. Review of Updated Standard Specifications for Drinking Water, Recycled Water, and Sewer Facilities [[Workshop Memorandum No. 16-016 - Page 62 of 220](#)]

**VI. Capital Improvement Projects**

- A. Status Report on the Construction of a 6.0 Million Gallon Drinking Water Reservoir R-12.4 - Calimesa [[Workshop Memorandum No. 16-017 - Page 196 of 220](#)]
  - B. Status Report on the Digester Cleaning and Cover Replacement Project at the Wochholz Regional Water Recycling Facility [[Workshop Memorandum No. 16-018 - Page 200 of 220](#)]
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Any person with a disability who requires accommodation in order to participate in this meeting should telephone Erin Anton at (909) 797-5117, at least 48 hours prior to the meeting in order to make a request for a disability-related modification or accommodation.

Materials related to an item on this agenda submitted to the Board of Directors after distribution of the workshop packet are available for public inspection during normal business hours at the District office located at 12770 Second Street, Yucaipa. Meeting material is also be available on the District's website at [www.yvwd.dst.ca.us](http://www.yvwd.dst.ca.us)

**VII. Administrative Issues**

- A. Demolition of the Building, Basement and Foundation at 35192 Cedar Avenue, Yucaipa (Assessor Parcel Number 0303-232-17) [[Workshop Memorandum No. 16-019 - Page 205 of 220](#)]
- B. Overview of Procurement Methodologies and Emergency Procedures [[Workshop Memorandum No. 16-020 - Page 210 of 220](#)]

**VIII. Director Comments**

**IX. Adjournment**

# Staff Report



Yucaipa Valley Water District

# Presentations



Yucaipa Valley Water District



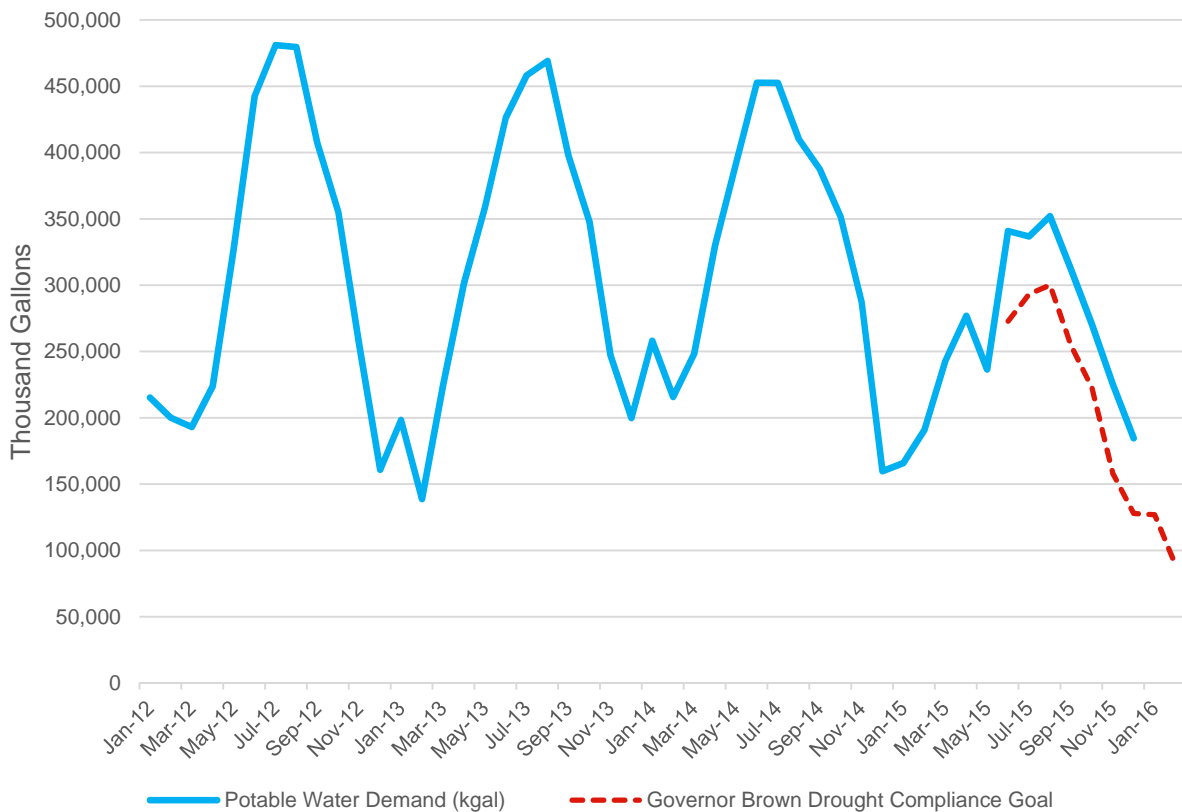


Date: January 26, 2016

Subject: Overview of the California Drought and Yucaipa Valley Water District’s Action Plan Related to the State Water Resources Control Board Mandatory Restrictions to Achieve a 36% Reduction in Potable Urban Water Use

On May 5, 2015, the State Water Resources Control Board (“SWRCB”) adopted emergency regulations to achieve a 25% statewide reduction in potable urban water use. These stringent water use regulations will require the Yucaipa Valley Water District to achieve a 36% reduction from the amount of drinking water produced in 2013. In order to achieve this level of water conservation, the Yucaipa Valley Water District will need to provide water based on the following water demand curve.

Actual Water Consumption and Drought Regulatory Requirements



The chart above illustrates the difference between Governor Brown's Drought Compliance Goal in 2014 at a 25% reduction, and in 2015 at a 36% reduction in potable water use based on the 2013 baseline period.

To achieve Governor Brown's Drought Compliance Goal of a 36% reduction in potable water use from the 2013 baseline period, the Yucaipa Valley Water District has initiated numerous drought conservation programs and conducted a series of monthly community workshops to provide information to our customers.

To achieve the 36% reduction, customers will need to immediately reduce the amount of water used for outdoor landscape purposes by 50% to 60%.

The purpose of this agenda item is to discuss the ongoing and evolving implementation strategy for our community.

### **Drought Status and Update**

The U.S. Seasonal Drought Outlook shows predicted trends for areas experiencing drought, as well as indicating areas where new droughts may develop. The NOAA Climate Prediction Center issues this monthly product in conjunction with their long-lead temperature and precipitation outlooks on the first and third Thursday of each month and when weather events warrant an interim update. The general large-scale trends depicted are based on numerous indicators, including short and long-range forecasts. A discussion detailing the atmospheric, hydrologic, and climatic conditions affecting the drought trends is included.

Human factors, such as water demand and water management, can exacerbate the impact that drought has on a region. Because of the interplay between a natural drought event and various human factors, drought means different things to different people. In practice, drought is defined in a number of ways that reflect various perspectives and interests.

#### **COMMON TYPES OF DROUGHT**

##### **Meteorological Drought**

Meteorological Drought is based on the degree of dryness (rainfall deficit) and the length of the dry period.

##### **Agricultural Drought**

Agricultural Drought is based on the impacts to agriculture by factors such as rainfall deficits, soil water deficits, reduced ground water, or reservoir levels needed for irrigation.

##### **Hydrological Drought**

Hydrological Drought is based on the impact of rainfall deficits on the water supply such as stream flow, reservoir and lake levels, and ground water table decline.

##### **Socioeconomic Drought**

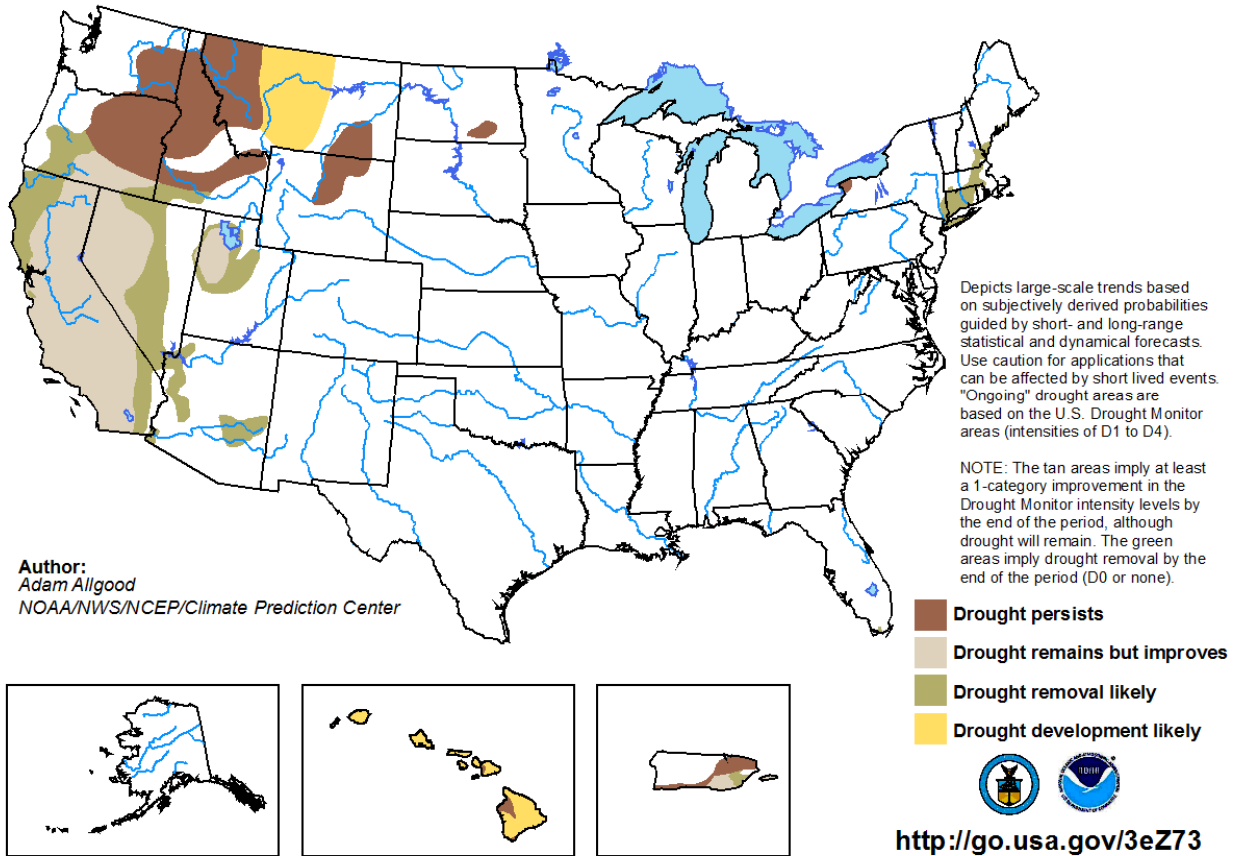
Socioeconomic drought is based on the impact of drought conditions (meteorological, agricultural, or hydrological drought) on supply and demand of some economic goods. Socioeconomic drought occurs when the demand for an economic good exceeds supply as a result of a weather-related deficit in water supply.

Additional information can be found at: [www.drought.unl.edu/DroughtBasics/TypesofDrought.aspx](http://www.drought.unl.edu/DroughtBasics/TypesofDrought.aspx)

# U.S. Seasonal Drought Outlook

## Drought Tendency During the Valid Period

Valid for January 21 - April 30, 2016  
Released January 21, 2016



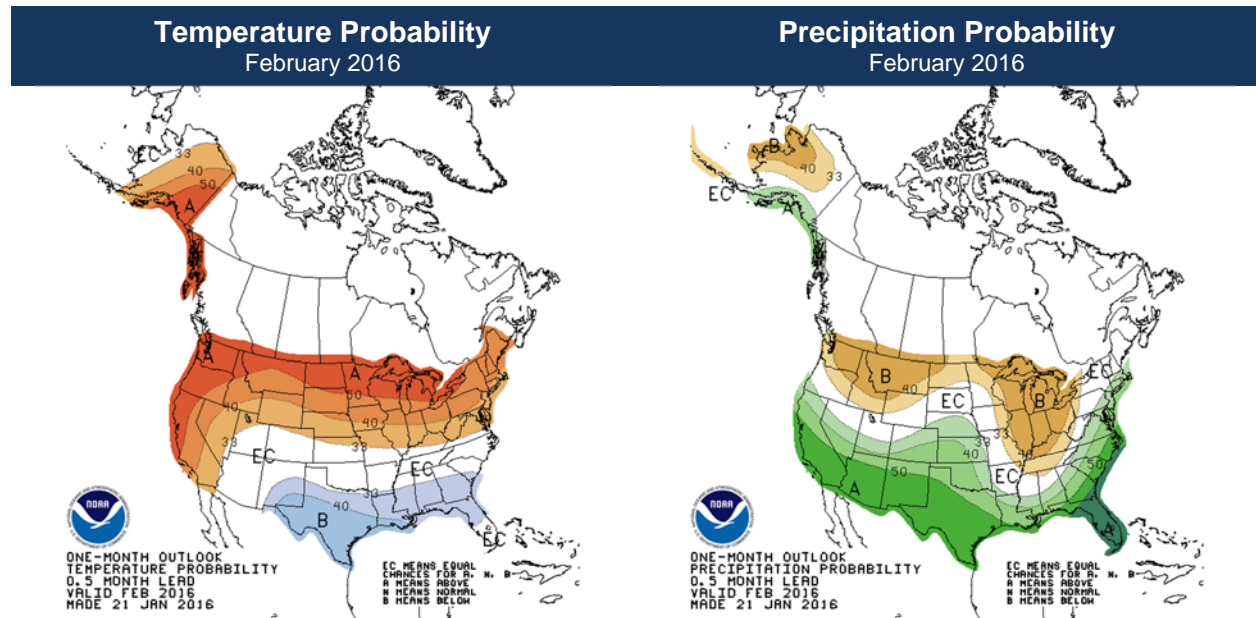
**Latest Seasonal Assessment** - During the past four weeks, widespread heavy rain and mountain snowfall resulted in significant drought reductions across the Northwest. Drought relief also occurred across parts of northern California, the Great Basin, and the Desert Southwest. In contrast, drier than normal conditions promoted short term drought development across parts of the northern High Plains. East of the Mississippi, a potent winter storm removed all remaining drought areas across Indiana, Michigan, and Ohio. While above-normal precipitation alleviated drought across northern New Jersey and eastern Pennsylvania, moderate drought conditions persisted across southeastern New England and near Niagara Falls. During the next 3.5 months, El Niño conditions favor continued drought improvement or removal across southern Oregon, California, the Great Basin, and the Southwest, while an anticipated dry signal supports drought persistence across the Northwest. Despite this dry signal on the seasonal time scale, short range forecasts indicate heavy precipitation across the Pacific Northwest and Intermountain West, which would likely limit additional drought development. Drought expansion becomes more likely across the eastern Rockies and adjacent High Plains, however, where incipient snowpack conditions are poorest and the ENSO signal is strongest. Forecasts favoring wetness at all time scales along the Eastern Seaboard make drought removal the most likely outcome across southeastern New England, while an eastward shifted storm track due to El Niño favors drought persistence near Niagara Falls. Continued drought expansion is likely across Hawaii due to the strong El Niño, while a wetter than normal dry season across Puerto Rico may support drought reductions in areas where drought conditions are less entrenched.

Forecaster: Adam Allgood

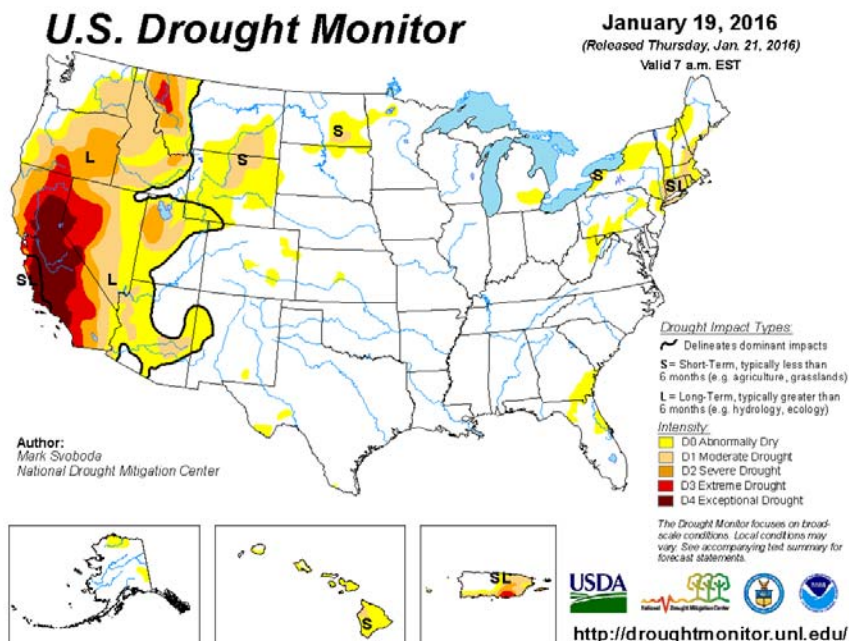
**Next Seasonal Drought Outlook issued: February 18, 2016 at 8:30 AM EST**

Source: [http://www.cpc.ncep.noaa.gov/products/expert\\_assessment/sdo\\_summary.php](http://www.cpc.ncep.noaa.gov/products/expert_assessment/sdo_summary.php)

The National Weather Service and the National Oceanic and Atmospheric Administration provides regular predictions for temperature and precipitation forecasts throughout the United States. The following charts show the temperature and precipitation probability for the next month, as well as a compilation of future forecasts for temperature and precipitation.



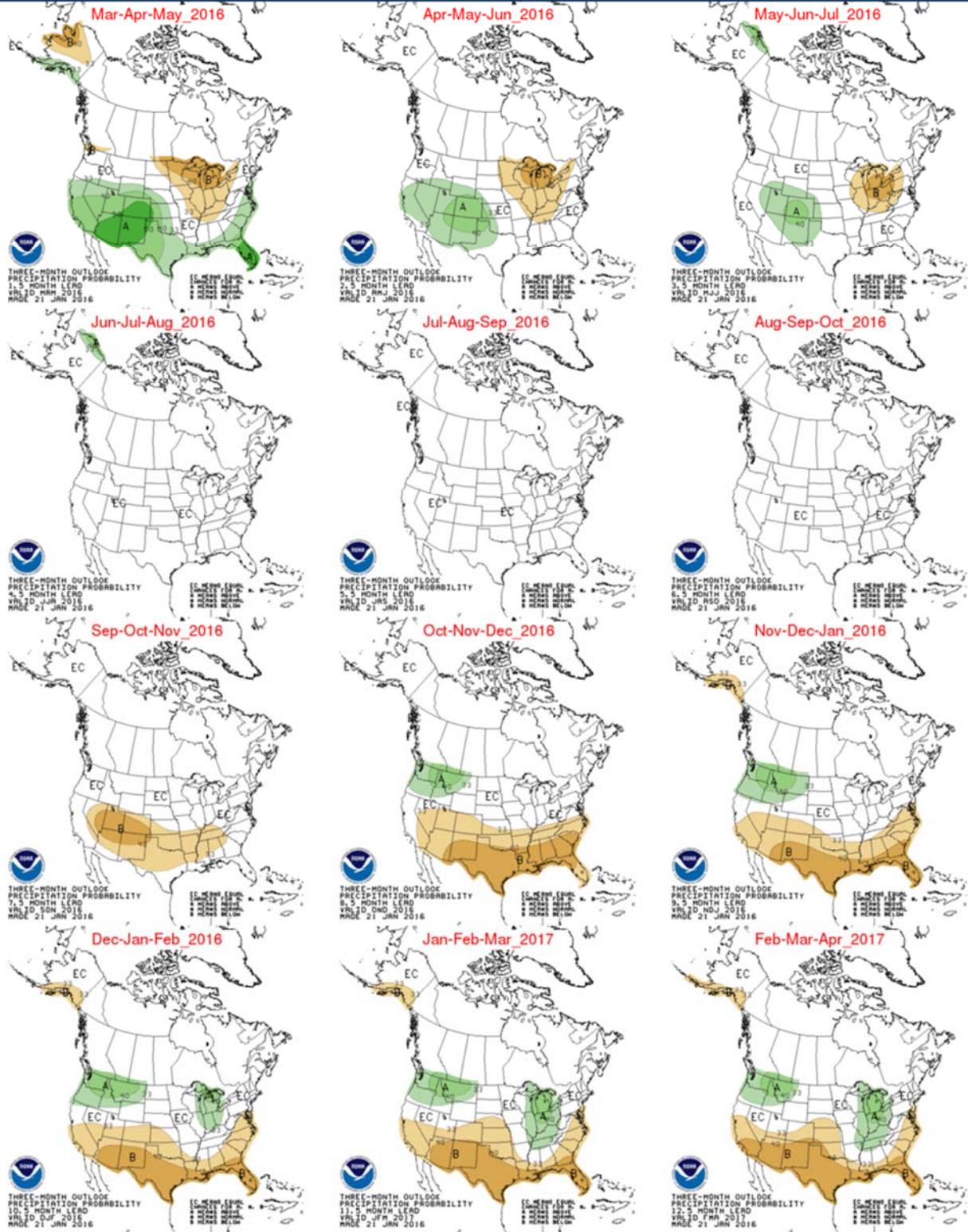
**United States Drought Monitor Illustration**





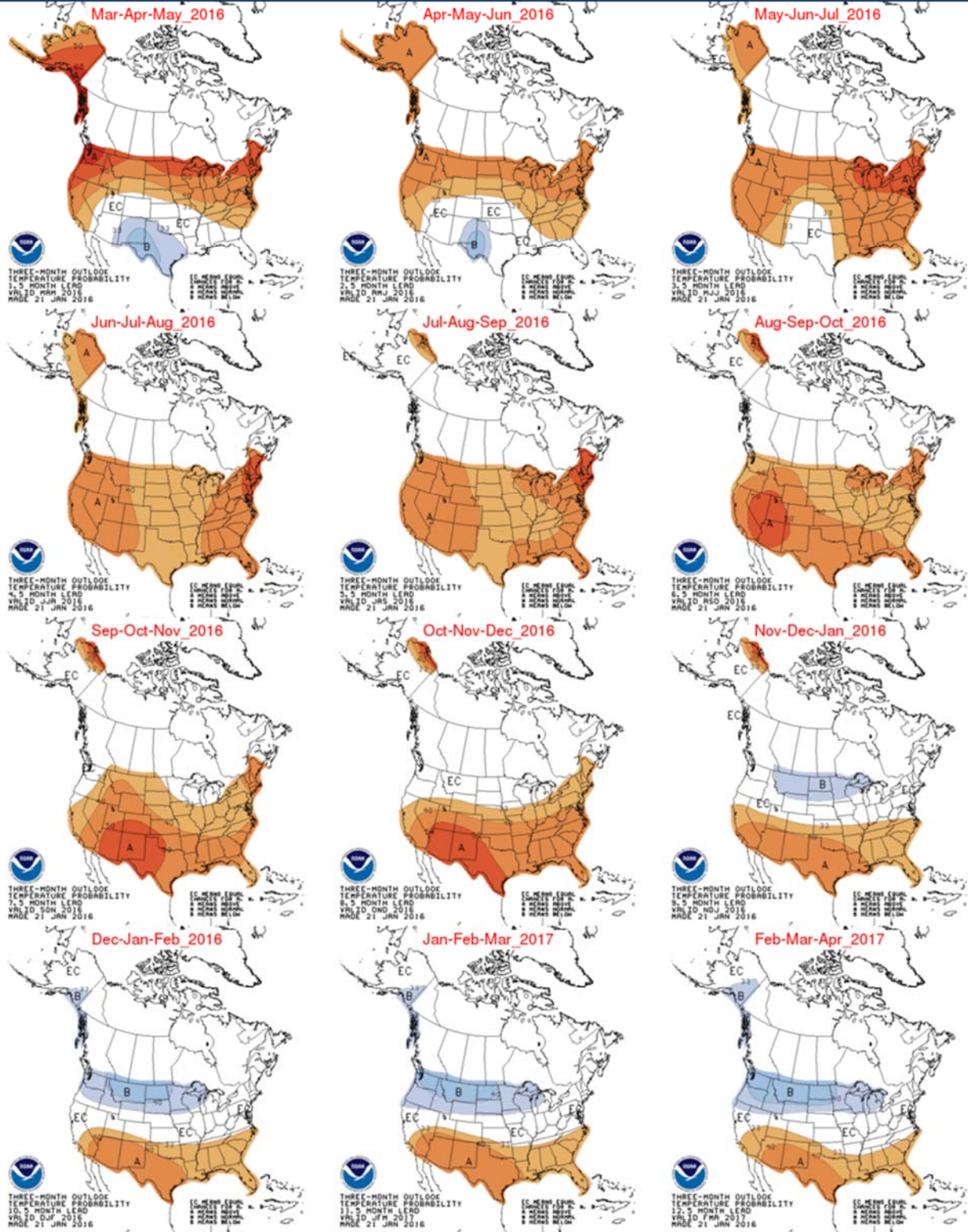
# NOAA Multi-Season Precipitation Predictions - Three Month, Rolling Periods

[http://www.cpc.ncep.noaa.gov/products/predictions/multi\\_season/13\\_seasonal\\_outlooks/color/p.gif](http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/p.gif)



# NOAA Multi-Season Temperature Predictions - Three Month, Rolling Periods

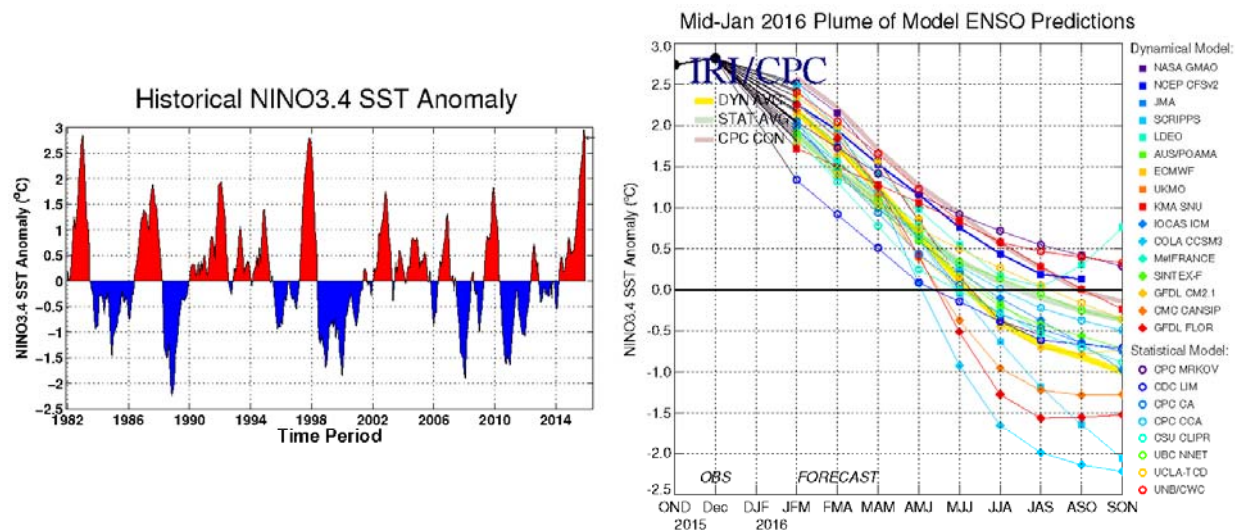
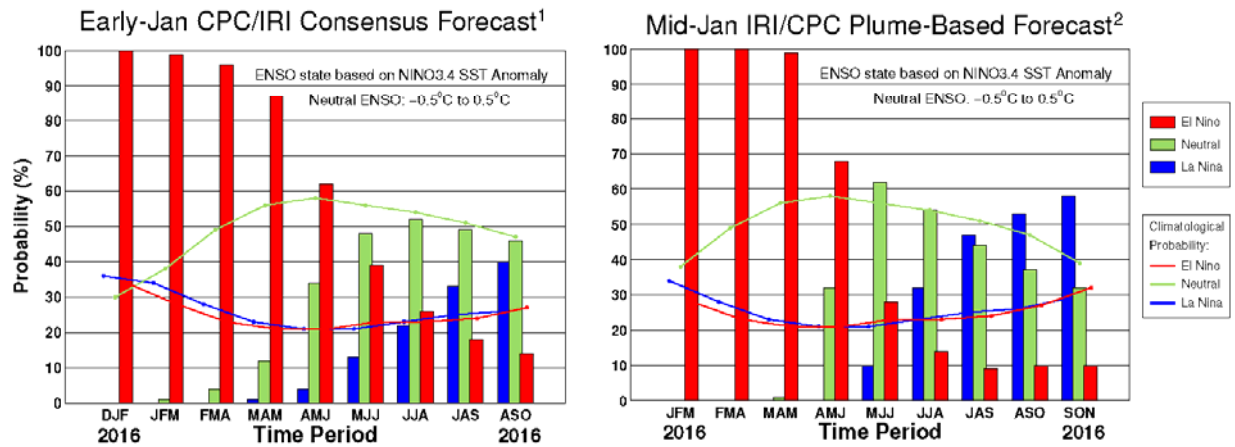
[http://www.cpc.ncep.noaa.gov/products/predictions/multi\\_season/13\\_seasonal\\_outlooks/color/t.gif](http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/t.gif)





## ENSO QUICK LOOK January 21, 2016 A monthly summary of the status of El Niño, La Niña and the Southern Oscillation, or “ENSO”, based on NINO3.4 index (120-170W, 5S-5N)

During mid-January 2015 the tropical Pacific SST was at a strong El Niño level, having peaked in November and December. All atmospheric variables strongly support the El Niño pattern, including weakened trade winds and excess rainfall in the east-central tropical Pacific. The consensus of ENSO prediction models indicate continuation of strong El Niño conditions during the January-March 2016 season in progress. The beginning of a gradual weakening of the SST anomaly is underway, with the event dissipating to neutral conditions by late spring or early summer 2016.



### Historically Speaking

- El Niño and La Niña events tend to develop during the period Apr-Jun and they:*
- Tend to reach their maximum strength during Dec-Feb
  - Typically persist for 9-12 months, though occasionally persisting for up to 2 years
  - Typically recur every 2 to 7 years

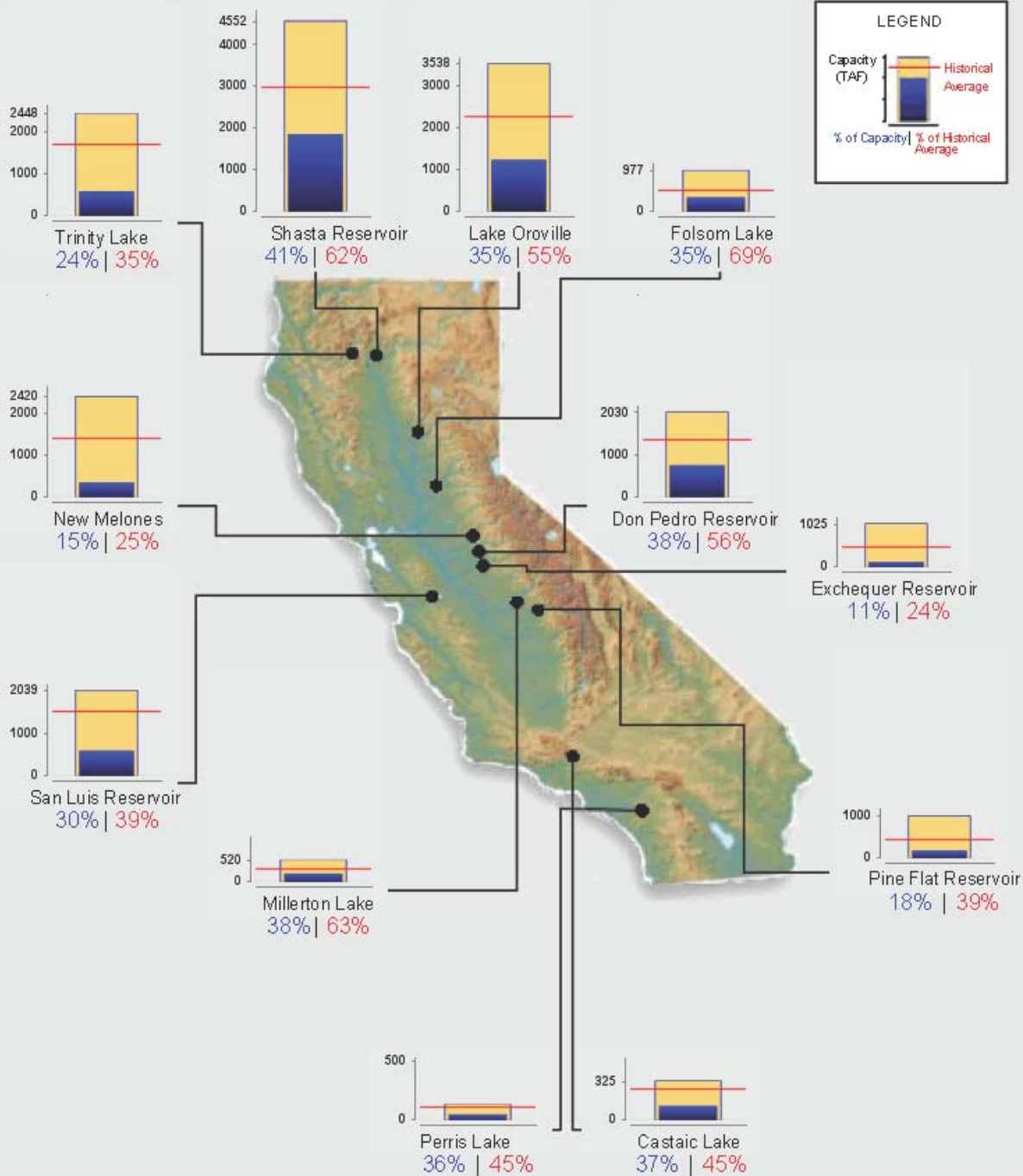
<sup>1</sup>Based on a consensus of CPC and IRI forecasters, in association with the official CPC/IRI ENSO Diagnostic Discussion.



# Reservoir Conditions

Ending At Midnight - January 20, 2016

## CURRENT RESERVOIR CONDITIONS



Graph Updated 01/21/2016 02:45 PM



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## **Proposed Regulatory Framework for Extended Emergency Regulation for Urban Water Conservation**

### **Background:**

On April 1, 2015, Governor Brown issued the fourth in a series of executive orders on actions necessary to address California's drought. On May 5, 2015, the State Water Resources Control Board (State Water Board) adopted an Emergency Regulation to address specific provisions of the April 1 Executive Order, including a mandatory 25 percent statewide reduction in potable urban water use between June 2015 and February 2016. To reach the statewide 25 percent reduction mandate, the Emergency Regulation assigns each urban water supplier a conservation tier that ranges between 4 and 36 percent based residential per capita water use for the months of July – September 2014.

At the time the State Water Board adopted the current Emergency Regulation some urban water suppliers had proposed further refinement to the conservation tiers to reflect a range of factors that contribute to water use. State Water Board Resolution No. 2015-0032 directed staff to work with stakeholders to further develop and consider these factors, including but not limited to temperature, growth, use of drought resilient supplies, and others for adjustment to the Emergency Regulation should it need to be extended into 2016.

On November 13, 2015, Governor Brown issued Executive Order B-36-15 (EO B-36-15) calling for an extension of urban water use restrictions until October 31, 2016, should drought conditions persist through January 2016. Between August and November 2015 State Water Board staff convened a small group of individuals representing a variety of water interests to further explore potential modification of the Emergency Regulation. The State Water Board also held a public workshop on December 7, 2015, to solicit input on elements of the existing Emergency Regulation, if any, that should be modified. The stakeholder process and workshop led to development of several proposals for modification of the Emergency Regulation, which are discussed below, along with staff recommendations.

Staff recommendations are based on the criteria that modifications to the Emergency Regulation be transparent, intelligible, equitable, reasonable, provide sufficient water savings statewide, and be feasible to implement and enforce. As directed by the Governor in EO B-36-15, this proposal would extend until October 31, 2016 restrictions to achieve a statewide reduction in urban potable water usage.

### **Climate adjustment:**

Stakeholder Proposal: Water suppliers in warmer climates would be granted a reduced conservation standard based on their service area evapotranspiration (ET) relative to statewide average ET. The adjustments would be calculated by multiplying the deviation from average ET by the water supplier's conservation standard and would range from a 0-15 percentage point decrease to suppliers existing conservation requirement. As proposed, no supplier would have their standard increased.

Staff Recommendation: **Incorporate a climate adjustment in the Emergency Regulation that reduces the conservation requirement by up to 4 percentage points for water suppliers located in**

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**the warmest regions of the State.** The climate adjustment would be based on each urban water supplier's approximate service area ET for the months of July through September as compared to statewide average ET for the same months. The adjustment would range from a 2-4 percentage point decrease in an urban water supplier's conservation requirement depending on service area ET as follows:

Deviation from Average ET	Reduction in Conservation Standard
>20%	4%
10 to 20%	3%
5 to <10%	2%

Default service area ET will be based on the California Irrigation Management Information System (CIMIS) [Mapped ET Zone](#) for which the supplier's service area has the greatest overlap. Each Urban Water Supplier will have the opportunity to refine its service area ET using specific data from CIMIS stations within its service area, provided each station used has a continuous period of record of at least 5 years.

Staff estimates that this adjustment will result in 1.4 percentage point reduction in statewide water savings from that currently required.

#### Example Calculation of Climate Adjustment

Original Conservation Requirement	32%	
Statewide Average ET Jul-Sep	6.13	inches
Service Area Average ET Jul-Sep (Zone 17)	8.4	inches
Service Area % Deviation from Average ET = $(8.4-6.13)/6.13$	0.37 or 37%	
Climate Adjustment	-4%	
<b>Adjusted Conservation Requirement</b>	<b>28%</b>	

#### Growth adjustment:

**Stakeholder Proposal:** Each urban water supplier's 2013 baseline water use would be increased to account for growth in new service connections since 2013. The volume of water per connection in 2013 would be calculated (based on total use divided by number of connections) and multiplied by the number of connections added since 2013. This volume of water could be added to the 2013 baseline to account for new growth, resulting in a decrease to the supplier's conservation volume requirement but not its conservation standard.

**Staff Recommendation:** **Provide a mechanism to adjust urban water supplier conservation standards to account for water efficient growth since 2013.** The adjustment will be equal to the ratio of the additional volume of water used since 2013 to the baseline water use for 2013, multiplied by the water supplier's conservation standard. The volume of water added due to growth will be calculated as the sum of:

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1. Number of new residential connections since 2013 multiplied by 165 gallons (55 gallons per person per day multiplied by three people) multiplied by 270 days.
2. Area of new residential landscaped area (square feet) served by connections since 2013 multiplied by 55% of total service area ET (inches) for the months of February through October multiplied by a conversion factor of 0.623 (converting inches to gallons).
3. Number of new commercial, industrial, and institutional (CII) connections since 2013 multiplied by the average commercial industrial, and institutional water use per connection during February through October 2015.

Staff estimates that this adjustment will result in about a one percentage point reduction in statewide water savings compared to the current requirements, assuming that growth has increased by 4% since 2013 for every urban water supplier.

#### Example Calculation of Growth Adjustment

# of new residential connections since 2013	4,000	
Residential landscaped area served by connections since 2013	10,000,000	sq. feet
Total ET February through October	44	inches
<b>Volume of water attributable to new residential connections = [4000*165*270] + [10,000,000 * 44 *0.55*0.623]</b>	<b>328,966,000</b>	<b>gallons</b>
# of new commercial, industrial, and institutional connections since 2013	700	
Average use per CII connection Feb-Oct 2015	900,000	gallons
<b>Volume of water attributable to new CII connections = 700 * 900,000</b>	<b>630,000,000</b>	<b>gallons</b>
<b>Total volume of water attributable to growth since 2013</b>	<b>958,966,000</b>	<b>gallons</b>
Baseline 2013 total water production Feb-Oct	16,000,000,000	gallons
Gallons of water attributable to growth	958,966,000	gallons
Percentage change in potable water production due to growth	6%	
Original Conservation Requirement	36%	
Adjusted Conservation Requirement = .36 * [1-0.06]	34%	

#### Drought Resilient Sources of Supply Credit:

Stakeholder Proposal Suppliers would receive a credit for desalinated seawater or indirect potable re-use (IPR) water. The credit would come in the form of a one-to-one reduction from the calculated amount of water that needs to be saved under the Emergency Regulation. A supplier could deduct all water derived from desalination or IPR from their total savings requirement. San

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Diego County Water Authority proposes a similar credit for Colorado River water received through long-term transfers of conserved water. No supplier would be allowed to have an effective conservation rate below 8%.

**Staff Recommendation: Provide a one-tier (four percentage point) reduction to the conservation standard of urban water suppliers using new drought resilient water supplies.** The credit would apply to urban water suppliers that certify, and provide documentation upon request, that at least 4 percent of its potable supply is comprised of indirect potable reuse of coastal wastewater (the creation and use of which does not injure another legal user of water or the environment) or desalinated seawater developed since 2013. Staff does not recommend extending this credit to Colorado River water received through long-term transfer of conserved water.

Staff estimates that this credit will result in about a 0.6 percentage point decrease in statewide water savings.

#### **Non-potable Recycled Water Use Credit:**

**Stakeholder Proposal:** This proposal would apply to suppliers that meet a large portion of irrigation demand with non-potable recycled water. These suppliers would be able to reduce their 2016 monthly potable water production by the ratio of non-potable recycled water use to total potable water production multiplied by their total water production and their conservation. Reducing 2016 total potable water production would have the effect of reducing the required volume of water saved.

**Staff Recommendation: Staff does not recommend providing additional credit for non-potable recycled water use.** Under the current Emergency Regulation, non-potable recycled water is not counted in total potable water production. Suppliers' conservation standards are based on residential use of potable water, and while suppliers have been generally expected to target outdoor irrigation as a means of achieving savings, high use of recycled water should not, by itself, prevent a supplier from meeting those standards with reductions from residential and non-residential customers. These suppliers have already realized the benefit of providing recycled water by not having that water counted as part of their total production and not having to reduce use of that water. Urban water suppliers that cannot meet their conservation standard due to a disproportionate share of recycled water use may pursue relief through the existing alternate compliance process on case by case basis.

#### **Groundwater Credits:**

**Stakeholder Proposal:** This set of proposals would provide credit for "sustainable" groundwater management and groundwater augmentation. Suppliers would provide verification that the groundwater supply is formally certified to meet certain eligibility requirements and then would be eligible to deduct certain groundwater use from their total potable production. In effect, the use of eligible groundwater would be counted the same as conserved water. There are four proposed credit scenarios: 1) Groundwater Banking; (2) Conjunctive Use; (3) "Sustainable" Groundwater Management; and (4) Adjudicated Basins. The proposals include requirements that would govern the use of the credits under each scenario.

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**Staff Recommendation: Staff does not recommend providing credits for groundwater use or management since the effect of such credits are not well-defined and are generally inconsistent with goal of conserving the state's remaining surface and groundwater supplies during the drought.** While groundwater augmentation with surface water is a critical element of drought resilience, it is materially different than creation of new drought-resilient sources of supply, such as through indirect potable reuse of wastewater or seawater desalination. Using seawater and wastewater that, for example, would otherwise have been discharged to the ocean to create supply adds to existing surface and groundwater supplies, whereas groundwater augmentation uses water that was already part of existing freshwater resources. Moreover, the proposed groundwater management credits do not adequately demonstrate how other users of a groundwater basin, whether adjudicated or not, would be impacted from pumping by the supplier receiving a credit. Suppliers whose basins are replenished with imported water would place additional strain on those supplies by using more water under a credit system. Suppliers whose basins fill without imports may impact others by increasing pumping under a credit system. Even self-sufficient, adjudicated basins are not guaranteed to maintain all uses during an extended severe drought, where the next opportunity for recharge is unknown. Additionally, there is no credible estimate of how much credit would accrue for groundwater management and how that credit would impact statewide savings. Credit for sustainable groundwater management may be appropriate for a permanent regulation, and certainly will be addressed by the Sustainable Groundwater Management Act as that legislation is implemented, but it is not adequately transparent, intelligible, implementable, or reasonable for an Emergency Regulation of limited duration, the chief aim of which is to preserve existing surface and groundwater supplies through conservation while extreme drought conditions persist.

#### **Regional Compliance Approach:**

**Stakeholder Proposal:** This proposal would allow suppliers to jointly comply with their aggregated conservation standards as a single entity. Regions would be allowed to form, on a voluntary basis, based on the criteria for forming a SBx7-7 regional alliance, per Water Code Section 10608.28. A lead agency for the region would report the Regional Conservation Standard monthly to the State Water Board on behalf of the region. Each urban retail water supplier would also continue to report their individual monthly water use data. If a group as whole did not meet its regional conservation target, the suppliers would revert back to their individual requirements.

**Staff Recommendation: Staff does not recommend providing an option for regional compliance because it will impede timely compliance and enforcement action by the Board and has the potential to reduce individual water supplier accountability.** While a regional approach could help water suppliers provide a consistent message about a regional target to their customers, residents and businesses need to conserve differing amounts to achieve a supplier's reduction target, so the benefits of this approach are not well substantiated. There is no reason that suppliers (and their regional or wholesale partners) cannot develop consistent messaging under the current Emergency Regulation, such as limits on outdoor watering, nor does the current emergency regulation inhibit regionally-grouped suppliers or wholesalers from working together on messaging to encourage conservation. In addition, there are multiple drawbacks to the proposed regional approach. First, it would impede the Board's enforcement and compliance efforts, by disallowing the Board from using its enforcement tools to timely address the shortcomings of an individual supplier if that supplier's region was meeting its target. In the case where a region dropped out of compliance late



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in the 270 day life of the regulation, the Board would have little time to institute corrective actions for the individual suppliers. Second, it could encourage regional agencies to focus efforts on additional conservation savings in high-performing communities rather than on steps to change the conservation behaviors of poorer performing communities in order to meet the regional target. Finally, the regional approach would undermine the direct accountability for water supply managers established through the existing regulation. Staff encourages suppliers to work together on messaging and outreach, but believes the drawbacks of a regional approach outweigh any potential benefits.

#### **Elimination of Commercial Agriculture Exclusion:**

**Stakeholder Proposal:** The current Emergency Regulation allows water supplied for commercial agricultural use to be excluded from total potable production, if certain conditions are met. The proposal is to eliminate the exclusion or to change the definition of what constitutes commercial agricultural use to prevent exclusion of water attributable to noncommercial agricultural use or non-agricultural use that may be excluded improperly.

**Staff Recommendation:** **Staff recommends modifying the Commercial Agriculture Exclusion to require certification that customers whose water use is subtracted under the exclusion produce a minimum of \$1,000 per year in revenue from agricultural sales and are not subtracting water used on ornamental landscapes.** This change would limit use of the exclusion for properties with minimal agricultural sales or mixed commercial agricultural and ornamental landscape use. The \$1,000 threshold is consistent with the US Department of Agriculture's definition of a farm.<sup>1</sup>

Staff estimates the existing agricultural exclusion has resulted in about an 11,000 acre feet reduction in conserved water since June 2015. Modifying the commercial agriculture exclusion as proposed could result in a slight increase of conserved water.

#### **Exemption for regions without drought conditions and no exports/imports:**

**Stakeholder Proposal:** This proposal would allow isolated hydrogeological regions that do not have drought conditions and do not import or export water to be excluded from the conservation standard element of the Emergency Regulation. Suppliers would apply to the State Water Board for an exemption from the conservation standard and provide verification that water resources in these regions are not available to benefit other regions.

**Staff Recommendation:** **Staff does not recommend exempting or relaxing conservation requirements for isolated hydrogeologic regions.** The current Emergency Regulation contains a reserved four percent tier for suppliers that can demonstrate multiple years of supply and no use of imported water and groundwater. Staff continues to believe the four percent tier is adequate and appropriate for an extended Emergency Regulation given the uncertainty of the state's surface and groundwater suppliers during the drought.

#### **Revisions for suppliers with significant seasonal or transient populations:**

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<sup>1</sup> See <http://www.ers.usda.gov/topics/farm-economy/farm-household-well-being/glossary.aspx>, accessed December 11, 2015.

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**Stakeholder Proposal:** The Emergency Regulation assigned conservation tiers based on R-GPCD during the months of July, August, and September 2014. The proposal is to re-assign tiers based on 12 months of R-GPCD data, because some areas, mainly the desert regions, have the highest population during the winter months.

**Staff Recommendation:** **Staff does not recommend changing the process for assigning conservation tiers to account for year round residential per capita water use because it would reduce the regulation's current emphasis on saving water where outdoor use is highest.** In addition, this proposal would in effect provide allowances for properties that are unoccupied for part of the year but irrigated year-round. However, staff proposes to update each water suppliers R-GPCD values using the most up to date July-September 2014 data that had been provided as of January 1, 2016. Water suppliers have also been encouraged and allowed to correct any inaccurate data and provide modified population information to account for monthly changes in population.

**A Cap on Credits and Adjustments:**

**Staff recommends that all credits and adjustments be capped to allow up to a maximum of a four percentage point decrease to any individual water supplier's conservation standard (tier).**

**Staff Recommendations on Other Elements of an Extended Emergency Regulation:**

Staff recommends maintaining other elements of the current Emergency Regulation in the extended Emergency Regulation. These elements include the alternate compliance approach, the statewide prohibited end-uses, the monthly reporting requirements for urban water suppliers, and the conservation and reporting requirements for small suppliers. Staff proposes that small suppliers again be required to report after six months of conservation under a readopted emergency regulation.

Staff also recommends, based on feedback from both suppliers and the general public, adding a prohibition against homeowners' associations interfering with certain conservation actions of their association members in violation of existing law.

**Next Steps:**

- Comments are due on this proposed regulatory framework by January 6, 2016
- A draft Emergency Regulation will be released for public comment in mid-January 2016
- State Water Board consideration of an extended emergency regulation is anticipated in early February 2016.

**Input Requested:** The State Water Board is interested in receiving feedback on this proposed regulatory framework. Please submit comments with the subject line: "Comments on Proposed Regulatory Framework" by email to: Kathy Frevert at [Kathy.Frevert@waterboards.ca.gov](mailto:Kathy.Frevert@waterboards.ca.gov) by **January 6, 2016.**



## Extending the Emergency Water Conservation Regulation

### Proposed Regulatory Changes to Achieve Statewide Reductions in Urban Potable Water Usage

On November 13, 2015, Governor Edmund G. Brown Jr. issued [Executive Order B-36-15](#) calling for an extension of urban water use restrictions until October 31, 2016, should drought conditions persist. Given the severity of the water deficits over the past four years many of California's reservoirs and groundwater basins remain depleted and the need for continued water conservation persists. The November executive order directs the State Water Resources Control Board (State Water Board) to consider modifying the restrictions on water use and incorporate insights gained from the existing restrictions.

The State Water Board's adoption of [Resolution No. 2015-0032](#) and its May 2015 Emergency Regulation addressed specific provisions of [Executive Order B-29-15](#), including mandating a 25 percent statewide reduction in potable urban water use between June 2015 and February 2016. To reach the statewide 25 percent reduction mandate and consistent with Executive Order B-29-15, the Emergency Regulation identified a conservation tier for each urban water supplier, between four percent and 36 percent, based on residential per capita water use for the months of July - September 2014. As directed under Resolution No. 2015-0032, State Water Board staff worked with stakeholders to develop and consider a range of factors that contribute to water use, including climate, growth and investment in drought-resilient supplies, to devise options for refining the proposed extended emergency regulation.

The proposed Emergency Regulation extends the requirements of the existing May 2015 Emergency Regulation and offers modest adjustments to help to respond to some of the reasonable concerns suppliers have raised to the State Water Board since it first considered the May 2015 Emergency Regulation.

Executive Order B-36-15 directs the State Water Board to extend restrictions to achieve a statewide reduction in urban potable water usage through October 2016, based on drought conditions known through January 2016. While the state has experienced some much-needed snow and rainfall in December and January, surface storage remains at or near historic lows, precipitation has been inconsistent, and snowpack is about average.





It is too early to tell whether or not additional rain and snowfall will put the State in the position where the existing restrictions are no longer necessary, or could be further tempered. State Water Board staff is committed to monitoring and evaluating available data on snowpack, reservoir storage levels and groundwater basin levels, and intends report back to the State Water Board in March and April 2016. If conditions warrant, State Water Board staff will promptly bring a proposal before the State Water Board to adjust or eliminate the Emergency Regulation.

### **Stakeholder Involvement**

In the summer and fall of 2015, State Water Board staff convened a small workgroup, comprised of representatives from the water community, to receive preliminary input on issues to be considered should the emergency conservation regulation be extended due to continuing drought conditions into 2016. The State Water Board subsequently conducted a public workshop on December 7, 2015, and used the input it received from that workshop, the workgroup, and other available stakeholder input and insights gained since the May 2015 Emergency Regulation was adopted, to release a proposed regulatory framework for extending and adjusting the Emergency Regulation on December 21, 2015. The State Water Board solicited and received further public input on that framework; stakeholders - including water suppliers, local government, businesses, individuals, and non-governmental organizations - submitted more than 200 comments on the framework. The text of the proposed Emergency Regulation released on January 15, 2016, is part of a Notice of Proposed Emergency Regulation that will be released on January 22, 2016, which initiates the formal emergency rulemaking process. Formal public comments are due by January 28 and may be submitted as explained below. If approved, the State Water Board expects suppliers and their customers will save more than one million acre-feet of water, or about as much water as is currently in Lake Oroville, in response to the regulation. This savings will be in addition to the 1.2 million acre-feet the State is on track to have saved from June 2015 through February 2016.

### **What's Next**

Release of the Notice of Proposed Emergency Rulemaking begins a formal comment period that will conclude just prior to the State Water Board's consideration of adoption of the proposed Emergency Regulation at its February 2, 2016, public meeting. During this formal notice period, all **comments must be received by 12 p.m. on Thursday, January, 28, 2016, and will not be accepted after that time.** Submittals are to be sent via e-mail to the Clerk to the State Water Board at [commentletters@waterboards.ca.gov](mailto:commentletters@waterboards.ca.gov). Please indicate in the subject line, "*2/2/16 BOARD MEETING (Conservation Extended Emergency Regulation)*." All received comments will be immediately provided to the Board Members and posted on the State Water Board's [webpage](#).



### **Proposed Emergency Regulation - Key Provisions**

The proposed Emergency Regulation will essentially extend the existing May 2015 Emergency Regulation and maintain many of the same requirements that apply now.

***Proposed changes to the May 2015 Emergency Regulation include, but are not limited to:***

- Credits and adjustments to urban water suppliers' conservation standards that consider the differences in climate affecting different parts of the state; growth experienced by urban areas; and significant investments that have been made by some suppliers toward creating new, local, drought-resilient sources of potable water supply;
- Penalties for homeowners' associations or community service organizations impeding homeowners from reducing or eliminating the watering of vegetation or lawns during a declared drought emergency, as described in existing Civil Code provisions;
- Further defining what agricultural uses may be subtracted from a supplier's potable water production total; and
- Updates to compliance and reporting timelines.

### **Conservation Standard for Urban Water Suppliers**

As drought conditions persist, all water suppliers will need to continue to meet their individual conservation standards. Since June 2015, cumulative statewide conservation has eclipsed the 25 percent target. Everyone must continue to conserve, and the greatest opportunities to meet the conservation standards are in the warmer months when outdoor landscape irrigation typically increases. Often, but not always, water suppliers with higher per capita users are located in areas where the majority of water use is directed to outdoor irrigation due to lot size, climate and other factors; thus outdoor irrigation will continue to present the greatest opportunity for the highest reductions. The proposed Emergency Regulation maintains the current tiers of required water reductions, though with additional adjustments in response to stakeholders' concerns.

### **Overview of Conservation Tiers**

The conservation standards for all urban water suppliers continue to be allocated across nine tiers of increasing levels of residential gallons per capita per day (R-GPCD) water use. This approach considers the relative per capita water usage of each water suppliers' service area and requires that those areas with high per capita use achieve proportionally greater reductions than those with low use, while lessening the disparities in reduction requirements between agencies that have similar levels of water consumption but fall on different sides of dividing lines between tiers. Suppliers have been assigned a conservation standard that ranges between eight percent and 36 percent based on their R-GPCD for the months of July - September, 2014. These three months reflect the amount of water used for summer outdoor irrigation, which provides the greatest opportunity for conservation savings. The proposed Emergency Regulation continues the reserved



four percent conservation tier for those suppliers meeting specific criteria relating to not experiencing drought conditions.

The larger urban water suppliers (serving more than 3,000 customers or delivering more than 3,000 acre feet of water per year), which account for more than 90 percent of urban water use, have previously been assigned a conservation standard, as shown in the following table:

Tier	R-GPCD Range		# of Suppliers in Range	Conservation Standard
	From	To		
1	reserved		4	4%
2	0	64.9	27	8%
3	65	79.9	22	12%
4	80	94.9	42	16%
5	95	109.9	61	20%
6	110	129.9	45	24%
7	130	169.9	81	28%
8	170	214.9	62	32%
9	215	612.0	67	36%

**Adjustments to the Conservation Standards**

The proposed Emergency Regulation allows urban water suppliers to update their conservation standards under certain situations, as explained below.

**1. Climate Adjustment**

The proposed Emergency Regulation allows a climate adjustment that, where applicable, will reduce a water supplier’s conservation standard by up to four percentage points for those water suppliers located in the warmer regions of the State. The climate adjustment will be based on each urban water supplier’s average service area evapotranspiration (ETo) for the months of July through September, as compared to the statewide average for the same months. Statewide average ETo will be calculated as the arithmetic mean of all urban water suppliers’ service area ETo for those months. The adjustment will range from a two to four percentage point decrease in an urban water supplier’s conservation standard as follows:

Deviation of Urban Water Supplier Service Area’s ETo from the Statewide Average ETo	Reduction in Conservation Standard
>20%	4%
10 to 20%	3%
5 to <10%	2%



Default service area average ETos are based on the California Irrigation Management Information System (CIMIS) [Mapped ETo Zone](#) for which the supplier's service area has the greatest overlap. In lieu of using the default service area ETo, each urban water supplier will have the opportunity to refine its service area ETo by using data from CIMIS stations within its service area, provided that each station used has a continuous period of record of at least five years. To qualify for the in-lieu climate adjustment, the supplier will be required to submit the following data for each CIMIS station used to the State Water Board by March 15, 2016: CIMIS station ID, CIMIS station location, and monthly ETo in inches per month for July, August and September, for the five-year continuous period of record. The table below provides an example of the climate adjustment calculation, using the default service area average ETo.

Example Calculation of Climate Adjustment	
Original Conservation Standard	32%
Statewide Average ETo July-September	6.33 inches
Service Area Average ETo July-September (Zone 17)	8.4 inches
Service Area % Deviation from Average ETo = $(8.4-6.33)/6.33$	0.33 or 33%
Climate Adjustment	-4%
<b>Adjusted Conservation Standard</b>	<b>28%</b>

**2. Growth Adjustment**

The proposed Emergency Regulation provides a mechanism to adjust urban water supplier conservation standards to account for water efficient growth since 2013. The adjustment is calculated as the product of the supplier's conservation standard and the supplier's reasonable percentage change in total potable water production since 2013, using a specific formula to calculate the percentage change, rounded to the nearest whole percentage point. To qualify for the growth adjustment a supplier will have to provide, at a minimum, the following data to the State Water Board by March 15, 2016: the number of new permanent residents added since January 1, 2013; the area of new residential landscaping, in square feet, served since January 1, 2013; the number of new commercial, industrial and institutional (CII) connections added since January 1, 2013; and the average volume of water served to each CII account from February 1, 2015 to October 31, 2015.

The volume of water added due to growth is calculated as the sum of:

1. Number of new permanent residents added since 2013 multiplied by 55 (the currently-identified per-person reasonable indoor water use standard) multiplied by 270 days; (the duration of the regulation);
2. Area of new residential landscaped area (square feet) served by new residents since 2013 multiplied by 55 percent of total service area Eto (inches) for the months of February through October multiplied by a conversion factor of 0.623 (converting inches to gallons); and





3. Number of new CII connections added since 2013 multiplied by the average CII water use per connection during February through October 2015.

The table below provides an example of the growth adjustment calculation.

Example Calculation of Growth Adjustment	
<b>Step 1: Gather information needed for calculation</b>	
a. Number of new permanent residents added since January 1, 2013	1,300
b. Residential landscaped area served by new residents since January 1, 2013	10,000,000 sq. feet
c. Total ETo February 2015 through October 2015	44 inches
d. Number of new CII connections added since January 1, 2013	700
e. Average use per CII connection February-October 2015	900,000 gallons
<b>Step 2: Calculate volume of water attributable to new permanent residents</b>	
= [1,300 * 55 * 270] + [10,000,000 * 44 * 0.55 * 0.623]	170,071,000 gallons
<b>Step 3: Calculate volume of water from new CII connections</b>	
= 700 * 900,000	630,000,000 gallons
<b>Step 4: Calculate total volume of water attributable to growth since 2013</b>	
Add together results from steps 2 + 3: = 170,071,000 + 630,000,000	800,071,000 gallons
<b>Step 5: Percentage of water attributable to growth since 2013</b>	
Baseline 2013 total water production February-October	16,000,000,000 gallons
Gallons of water attributable to growth	800,071,000 gallons
Percentage change in potable water production due to growth	5%
<b>Step 6: Adjust conservation standard</b>	
Original Conservation Standard	36%
<b>Adjusted Conservation Standard = 0.36 * [1 - 0.05]</b>	<b>34%</b>

### 3. New Local Drought-Resilient Supply Credit

Under the proposed Emergency Regulation, any urban water supplier that obtains at least four percent of its total potable water production from a qualifying new local, drought-resilient water supply will be eligible for a four to eight percent reduction to its conservation standard. This credit will be equal to the urban water supplier's actual percentage of total potable water production that comes from a qualifying new local, drought-resilient water supply up to a maximum of eight percent.

The State Water Board continues to encourage every effort by suppliers to ensure a safe and reliable water supply for their customers, especially through improving security of local water supply sources. However, under the proposed Emergency Regulation, the credit will apply only to urban water suppliers that certify the percentage of their total potable water production comes from a local, drought-resilient source of supply developed after 2013, and that the use of that supply does



not reduce the water available to another legal user of water or the environment (e.g., indirect potable reuse of wastewater in coastal regions where the water would not have otherwise been discharged into a water body that others use as a source of supply). To qualify for the drought-resilient source credit a supplier will have to submit its certification to the State Water Board by March 15, 2016. The table below provides an example of the local drought-resilient supply credit calculation.

Example Local Drought-Resilient Supply Credit	
Original Conservation Standard	32%
Baseline 2013 total water production February-October	16,000,000,000 gallons
Total potable water production comes from a drought resilient-source of supply (developed after January 1, 2013)	1,120,000,000 gallons
Percent of total potable water production from a drought-resilient source of supply	7%
<b>Adjusted Conservation Standard</b>	<b>25%</b>

The maximum reduction in a water supplier’s conservation standard through combined climate, growth and new resilient drought supplies adjustments described above is proposed to be capped at an eight percentage point reduction from any one supplier’s otherwise applicable conservation standard, with no suppliers dropping below an eight percent conservation standard.

Total monthly water production and specific reporting on residential use and enforcement as laid out in the May 2015 Emergency Regulation will remain in effect.

**Commercial Agriculture Exclusion**

Under the May 2015 Emergency Regulation, urban water suppliers are allowed to subtract water delivered for commercial agriculture from total potable water production if the supplier meets certain conditions and submits the agricultural water use certification to the State Water Board. The proposed Emergency Regulation extends and modifies the eligibility requirements for the commercial agricultural exclusion. Suppliers will be allowed to subtract the water delivered for commercial agriculture from total potable water production only for those users that produced at least \$1,000 of revenue in the previous year, or who would have but for circumstances beyond their control.

**Self-Supplied Commercial, Industrial and Institutional (CII) Users**

The proposed Emergency Regulation continues to require self-supplied CII users to either reduce their usage by 25 percent or restrict outdoor irrigation to no more than two days per week. CII facilities with an independent source of supply (i.e., not served by a water supplier) are still not required to submit a report. However, these facilities should be prepared to demonstrate their compliance with the two day per week watering restriction, or the 25 percent reduction in water use if requested to do so by the State Water Board.



### **Conservation Standard for All Other Water Suppliers**

The proposed Emergency Regulation continues to require small water suppliers (serving 3,000 or fewer customers) to either achieve a 25 percent conservation standard, or restrict outdoor irrigation to no more than two days per week through October 2016. These suppliers will again be required to submit a small water supplier report that either (a) identifies total potable water production, by month, from December 2015 through August 2016, or (b) confirms compliance with the maximum two day per week outdoor irrigation restriction. The small water supplier report will be due to the State Water Board by September 15, 2016.

### **End-User Requirements**

The proposed Emergency Regulation maintains the current prohibitions on water use. These include:

- Irrigation with potable water of ornamental turf on public street medians is prohibited; and
- Irrigation with potable water outside of newly-constructed homes and buildings not in accordance with emergency regulations or other requirements established in the California Building Standards Code is prohibited.
- Using potable water to wash sidewalks and driveways;
- Allowing runoff when irrigating with potable water;
- Using hoses with no shutoff nozzles to wash cars;
- Using potable water in decorative water features that do not recirculate the water;
- Irrigating outdoors during and within 48 hours following measureable rainfall; and
- Restaurants from serving water to their customers unless the customer requests it.

Additionally, hotels and motels must offer their guests the option to not have their linens and towels laundered daily, and prominently display this option in each guest room.

It continues to be very important that while these provisions are in effect existing trees remain healthy and do not present a public safety hazard. Trees and other non-turf vegetation within street medians may continue to be watered. Information on how to maintain trees while reducing outdoor water use is available at:

[www.saveourwater.com/trees](http://www.saveourwater.com/trees).

### **Compliance Assessment**

The State Water Board will continue to assess compliance on a cumulative basis, using suppliers' monthly reported data. Each month, State Water Board staff will reassess compliance based on the supplier's cumulative savings since June 2015. Cumulative tracking means that conservation savings will be added together from one month to the next and compared to the amount of water used during the same months in 2013.

The State Water Board will continue to use informational orders to request information from suppliers not meeting their conservation standards and, as appropriate, conservation orders that direct specific actions to correct non-compliance. Both tools are tailored to the



emergency circumstances that the State finds itself in as a result of continuing drought conditions. Violation of an informational order or conservation order carries a penalty of up to \$500 per day.

The State Water Board will continue to work with water suppliers along the way that are not meeting their targets to implement actions to get them back on track. These actions could include changes to rates and pricing, restrictions on outdoor irrigation, public outreach, rebates and audit programs, leak detection and repair and other measures. The State Water Board may use its enforcement tools to ensure that water suppliers are on track to meet their conservation standards at any point during the 270 days that the emergency regulation is in effect.

The alternative compliance process the State Water Board identified in Resolution No. 2015-0032 is not proposed to be modified.

### **Conclusion**

No one knows how the future will unfold. While the State may return to “normal,” or even to above average hydrologic water conditions in 2016 or 2017, such an outcome is far from certain, nor is it certain that one year of average or above-average water conditions will relieve the State from these historic drought conditions. Continued water conservation is imperative. Moving forward, the State Water Board is committed to working with water suppliers on implementing the Emergency Regulation, assessing water conditions throughout the spring, and adapting requirements as appropriate based on water supply conditions in April.

The State is meeting the Governor’s 25 percent cumulative statewide conservation goal because Californians have risen to the occasion. As the State Water Board acts on the Governor’s Executive Order B-36-15, it will consider the lessons learned from the implementation of the current executive order and make adjustments to the Emergency Regulation as needed. The State Water Board will also begin to work with other agencies and stakeholders to develop longer term measures to ensure water continues to be used efficiently.

*(This fact sheet was last updated on January 15, 2016)*



## PROPOSED TEXT OF EMERGENCY REGULATION

### Article 22.5. Drought Emergency Water Conservation.

#### Sec. 863. Findings of Drought Emergency.

(a) The State Water Resources Control Board finds as follows:

(1) On January 17, 2014, the Governor issued a proclamation of a state of emergency under the California Emergency Services Act based on drought conditions;

(2) On April 25, 2014, the Governor issued a proclamation of a continued state of emergency under the California Emergency Services Act based on continued drought conditions;

(3) On April 1, 2015, the Governor issued an Executive Order that, in part, directs the State Board to impose restrictions on water suppliers to achieve a statewide 25 percent reduction in potable urban usage through February, 2016; require commercial, industrial, and institutional users to implement water efficiency measures; prohibit irrigation with potable water of ornamental turf in public street medians; and prohibit irrigation with potable water outside newly constructed homes and buildings that is not delivered by drip or microspray systems;

(4) On November 13, 2015, the Governor issued an Executive Order that directs the State Board to, if drought conditions persist through January 2016, extend until October 31, 2016 restrictions to achieve a statewide reduction in potable usage;

~~(45) The drought conditions that formed the basis of the Governor's emergency proclamations continue to exist; and~~

~~(5) The present year is critically dry and has been immediately preceded by two or more consecutive below normal, dry, or critically dry years; and~~

(6) The drought conditions will likely continue for the foreseeable future and additional action by both the State Water Resources Control Board and local water suppliers will likely be necessary to prevent waste and unreasonable use of water and to further promote conservation.

Authority: Section 1058.5, Water Code.

References: Cal. Const., Art., X § 2; Sections 102, 104, 105, and 275, Water Code; *Light v. State Water Resources Control Board* (2014) 226 Cal.App.4th 1463.

#### Sec. 864. End-User Requirements in Promotion of Water Conservation.

(a) To prevent the waste and unreasonable use of water and to promote water conservation, each of the following actions is prohibited, except where necessary to address an immediate health and safety need or to comply with a term or condition in a permit issued by a state or federal agency:

(1) The application of potable water to outdoor landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures;

(2) The use of a hose that dispenses potable water to wash a motor vehicle, except where the hose is fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use;

(3) The application of potable water to driveways and sidewalks; and

- (4) The use of potable water in a fountain or other decorative water feature, except where the water is part of a recirculating system;
- (5) The application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall;
- (6) The serving of drinking water other than upon request in eating or drinking establishments, including but not limited to restaurants, hotels, cafes, cafeterias, bars, or other public places where food or drink are served and/or purchased;
- (7) The irrigation with potable water of ornamental turf on public street medians;
- and
- (8) The irrigation with potable water of landscapes outside of newly constructed homes and buildings in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development.

(b) To promote water conservation, operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each guestroom using clear and easily understood language.

(c) Immediately upon this subdivision taking effect, all commercial, industrial and institutional properties that use a water supply, any portion of which is from a source other than a water supplier subject to section 865, shall either:

- (1) Limit outdoor irrigation of ornamental landscapes or turf with potable water to no more than two days per week; or
- (2) Reduce potable water usage supplied by sources other than a water supplier by 25 percent for the months of June 2015 through ~~February~~ October 2016 as compared to the amount used from those sources for the same months in 2013.

(d) The taking of any action prohibited in subdivision (a) or (e), or the failure to take any action required in ~~subdivisions~~ subdivision (b) or (c), is an infraction, punishable by a fine of up to five hundred dollars (\$500) for each day in which the violation occurs. The fine for the infraction is in addition to, and does not supersede or limit, any other remedies, civil or criminal.

(e)(1) To prevent the waste and unreasonable use of water and to promote water conservation, any homeowners' association or community service organization or similar entity is prohibited from:

(A) Taking or threatening to take any action to enforce any provision of the governing documents or architectural or landscaping guidelines or policies of a common interest development where that provision is void or unenforceable under section 4735, subdivision (a) of the Civil Code; or

(B) Imposing or threatening to impose a fine, assessment, or other monetary penalty against any owner of a separate interest for reducing or eliminating the watering of vegetation or lawns during a declared drought emergency, as described in section 4735, subdivision (c) of the Civil Code.

(2) As used in this subdivision:

(A) "Architectural or landscaping guidelines or policies" includes any formal or informal rules other than the governing documents of a common interest development.

(B) "Homeowners' association" means an "association" as defined in section 4080 of the Civil Code.

(C)“Common interest development” has the same meaning as in section 4100 of the Civil Code.

(D)“Community service organization or similar entity” has the same meaning as in section 4110 of the Civil Code.

(E) “Governing documents” has the same meaning as in section 4150 of the Civil Code.

(F) “Separate interest” has the same meaning as in section 4185 of the Civil Code.

(3) If a disciplinary proceeding or other proceeding to enforce a rule in violation of subdivision (e)(1) is initiated, each day the proceeding remains pending shall constitute a separate violation of this regulation.

Authority: Section 1058.5, Water Code.

References: Cal. Const., Art., X § 2; Sections 4080, 4100, 4110, 4150, 4185, and 4735, Civil Code; Sections 102, 104, 105, 275, 350, and 10617, Water Code; *Light v. State Water Resources Control Board* (2014) 226 Cal.App.4th 1463.

#### Sec. 865. Mandatory Actions by Water Suppliers.

(a) As used in this section:

(1) “Distributor of a public water supply” has the same meaning as under section 350 of the Water Code, except it does not refer to such distributors when they are functioning solely in a wholesale capacity, but does apply to distributors when they are functioning in a retail capacity.

(2) “R-GPCD” means residential gallons per capita per day.

(3) “Total potable water production” means all potable water that enters into a water supplier’s distribution system, excluding water placed into storage and not withdrawn for use during the reporting period, or water exported outside the supplier’s service area.

(4) “Urban water supplier” means a supplier that meets the definition set forth in Water Code section 10617, except it does not refer to suppliers when they are functioning solely in a wholesale capacity, but does apply to suppliers when they are functioning in a retail capacity.

(b) In furtherance of the promotion of water conservation each urban water supplier shall:

(1) Provide prompt notice to a customer whenever the supplier obtains information that indicates that a leak may exist within the end-user’s exclusive control.

(2) Prepare and submit to the State Water Resources Control Board by the 15th of each month a monitoring report on forms provided by the Board. The monitoring report shall include the amount of potable water the urban water supplier produced, including water provided by a wholesaler, in the preceding calendar month and shall compare that amount to the amount produced in the same calendar month in 2013. The monitoring report shall specify the population served by the urban water supplier, the percentage of water produced that is used for the residential sector, descriptive statistics on water conservation compliance and enforcement efforts, and the number of days that outdoor irrigation is allowed, and monthly commercial, industrial and institutional sector use. The

monitoring report shall also estimate the gallons of water per person per day used by the residential customers it serves.

(c)(1) To prevent the waste and unreasonable use of water and to meet the requirements of the Governor's ~~April 1~~ November 13, 2015 Executive Order, each urban water supplier shall reduce its total potable water production by the percentage identified as its conservation standard in this subdivision. Each urban water supplier's conservation standard considers its service area's relative per capita water usage.

(2) Each urban water supplier whose source of supply does not include groundwater or water imported from outside the hydrologic region in which the water supplier is located, and that has a minimum of four years' reserved supply available may, submit to the Executive Director for approval a request that, in lieu of the reduction that would otherwise be required under paragraphs (3) through (10), the urban water supplier shall reduce its total potable water production by 4 percent for each month as compared to the amount used in the same month in 2013. Any such request shall be accompanied by information showing that the supplier's sources of supply do not include groundwater or water imported from outside the hydrologic region and that the supplier has a minimum of four years' reserved supply available.

(3) Each urban water supplier whose average July-September 2014 R-GPCD was less than 65 shall reduce its total potable water production by 8 percent for each month as compared to the amount used in the same month in 2013.

(4) Each urban water supplier whose average July-September 2014 R-GPCD was 65 or more but less than 80 shall reduce its total potable water production by 12 percent for each month as compared to the amount used in the same month in 2013.

(5) Each urban water supplier whose average July-September 2014 R-GPCD was 80 or more but less than 95 shall reduce its total potable water production by 16 percent for each month as compared to the amount used in the same month in 2013.

(6) Each urban water supplier whose average July-September 2014 R-GPCD was 95 or more but less than 110 shall reduce its total potable water production by 20 percent for each month as compared to the amount used in the same month in 2013.

(7) Each urban water supplier whose average July-September 2014 R-GPCD was 110 or more but less than 130 shall reduce its total potable water production by 24 percent for each month as compared to the amount used in the same month in 2013.

(8) Each urban water supplier whose average July-September 2014 R-GPCD was 130 or more but less than 170 shall reduce its total potable water production by 28 percent for each month as compared to the amount used in the same month in 2013.

(9) Each urban water supplier whose average July-September 2014 R-GPCD was 170 or more but less than 215 shall reduce its total potable water production by 32 percent for each month as compared to the amount used in the same month in 2013.

(10) Each urban water supplier whose average July-September 2014 R-GPCD was 215 or more shall reduce its total potable water production by 36 percent for each month as compared to the amount used in the same month in 2013.

(d)(1) Beginning June 1, 2015, each urban water supplier shall comply with the conservation standard specified in subdivision (c), as modified by subdivision (f).

(2) Compliance with the requirements of this subdivision shall be measured monthly and assessed on a cumulative basis through October 2016.

(e)(1) Each urban water supplier that provides potable water for commercial agricultural use meeting the definition of Government Code section 51201, subdivision (b), may subtract the amount of water provided for commercial agricultural use from its potable water production total, provided that any urban water supplier that subtracts any water provided for commercial agricultural use from its total potable water production shall:

(A) Impose reductions determined locally appropriate by the urban water supplier, after considering the applicable urban water supplier conservation standard specified in subdivision (c), for commercial agricultural users meeting the definition of Government Code section 51201, subdivision (b) served by the supplier;

(B) Report its total potable water production pursuant to subdivision (b)(2) of this section, the total amount of water supplied for commercial agricultural use, and shall identify the reduction imposed on its commercial agricultural users and each recipient of potable water for commercial agricultural use;

(C) Certify that the agricultural uses it serves meet the definition of Government Code section 51201, subdivision (b); ~~and~~

(D) Certify that the water subtracted from the potable water production total pursuant to this subdivision is served only to customers who produced at least \$1,000 of revenue in the previous year from agricultural commodities meeting the definition of Government Code section 51201, subdivision (a), or who would have but for circumstances beyond their control;

(E) Certify that potable water used for ornamental landscapes is not included in the amount of agricultural water subtracted; and

~~(F)~~ Comply with the Agricultural Water Management Plan requirement of paragraph 12 of the April 1, 2015 Executive Order for all commercial agricultural water served by the supplier that is subtracted from its total potable water production.

(2) Submitting any information pursuant to subdivision (e)(1)(B), ~~(C)~~, ~~(D)~~ or ~~(E)~~ of this section that is found to be materially false by the ~~board~~ Board is a violation of this regulation, punishable by civil liability of up to five hundred dollars (\$500) for each day in which the violation occurs. Every day that the error goes uncorrected constitutes a separate violation. Civil liability for the violation is in addition to, and does not supersede or limit, any other remedies, civil or criminal.

(f) In consideration of the differences in climate affecting different parts of the state, growth experienced by urban areas and significant investments that have been made by some suppliers towards creating new, local, drought-resilient sources of potable water supply, an urban water supplier's conservation standard identified in subdivision (c) shall be reduced by an amount, not to exceed eight (8) percentage points total, as follows:

(1) For an urban water supplier whose service area evapotranspiration (ETo) for the months of July through September exceeds the statewide average evapotranspiration for the same months by five (5) percent or more, the supplier's conservation standard identified in subdivision (c) shall be reduced:

(A) By two (2) percentage points if the supplier's service area evapotranspiration exceeds the statewide average by five (5) percent or more but less than ten (10) percent;

(B) By three (3) percentage points if the supplier's service area evapotranspiration exceeds the statewide average by ten (10) percent or more but less than twenty (20) percent;



(C) By four (4) percentage points if the supplier's service area evapotranspiration exceeds the statewide average by twenty (20) percent or more.

(D) Statewide average evapotranspiration is calculated as the arithmetic mean of all urban water suppliers' service area default evapotranspiration values for the months of July through September. Default service area evapotranspiration will be based on the California Irrigation Management System (CIMIS) ETo Zones Map zone for which the supplier's service area has the greatest area of overlap. In lieu of applying its default service area evapotranspiration, a supplier may use specific data from CIMIS stations within its service area that have at least a five-year continuous period of record to identify a more specifically-applicable evapotranspiration for its service area. To qualify for the in-lieu climate adjustment the supplier shall submit the following data to the Board by March 15, 2016 for each station: CIMIS station ID; station location; and monthly evapotranspiration, in inches per month, for July, August, and September for the five-year continuous period of record.

(2) To account for water efficient growth experienced in the state since 2013, urban water suppliers' conservation standards shall be reduced by the product of the percentage change in potable water production since 2013 and the percentage reduction in potable water use required pursuant to subdivision (c), rounded to the nearest whole percentage point. Change in potable water production since 2013 shall be calculated as the sum of the following:

(A) The number of additional permanent residents served since January 1, 2013, multiplied by 55 gallons per day, multiplied by 270 days;

(B) The area of new residential landscaping, in square feet, served by a supplier's service connections since 2013, multiplied by 55 percent of the total service area evapotranspiration, measured in inches, for the months of February through October, converted to gallons; and

(C) The number of new commercial, industrial and institutional connections since January 1, 2013, multiplied by the average commercial, industrial and institutional water use per connection for that supplier's service area during the months of February through October, 2015, in gallons.

(D) To qualify for the growth credit the supplier shall submit to the Board the following data by March 15, 2016: the number of additional connections served since January 1, 2013; the area of new residential landscaping, in square feet, served by a supplier's service connections since January 1, 2013; and the number of new commercial, industrial and institutional connections since January 1, 2013.

(3) For an urban water supplier that supplies four (4) or more percent of its total potable water production from a new local, drought-resilient source of supply, the use of which does not reduce the water available to another legal user of water or the environment, the conservation standard identified in subdivision (c) shall be reduced :

(A) By four (4) percentage points if the supplier's qualifying source of supply provides four (4) percent or more but less than five (5) percent of the supplier's total potable water production;

(B) By five (5) percentage points if the supplier's qualifying source of supply provides five (5) percent or more but less than six (6) percent of the supplier's total potable water production;

(C) By six (6) percentage points if the supplier's qualifying source of supply provides six (6) percent or more but less than seven (7) percent of the supplier's total potable water production;

(D) By seven (7) percentage points if the supplier's qualifying source of supply provides seven (7) percent or more but less than eight (8) percent of the supplier's total potable water production;

(E) By eight (8) percentage points if the supplier's qualifying source of supply provides eight (8) percent or more of the supplier's total potable water production;

(F) To qualify for this reduction the supplier must certify, and provide documentation to the Board upon request, demonstrating the percent of its total potable water production that comes from a local, drought-resilient source of supply developed after 2013 and that the use of that supply does not reduce the water available to another legal user of water or the environment. To qualify for this reduction a supplier shall submit the required certification to the Board by March 15, 2016;

(G) Certifications that do not meet the requirements of subdivision (f)(3)(F), including certifications for which documentation does not support that the source of supply is a local, drought-resilient source of supply, the use of which does not reduce the water available to another legal user of water or the environment, will be rejected. Submitting a certification or supporting documentation pursuant to subdivision (f)(3)(F) that is found to be materially false by the Board is a violation of this regulation, punishable by civil liability of up to five hundred dollars (\$500) for each day in which the violation occurs. Every day that the error goes uncorrected constitutes a separate violation. Civil liability for the violation is in addition to, and does not supersede or limit, any other remedies, civil or criminal.

(4) No supplier's conservation standard shall drop below eight (8) percent as a consequence of the reductions identified in this subdivision. No reduction pursuant to this subdivision shall be applied to any urban water supplier whose conservation standard is four (4) percent based on subdivision (c)(2).

(f)(1) To prevent waste and unreasonable use of water and to promote water conservation, each distributor of a public water supply that is not an urban water supplier shall take one or more of the following actions:

(A) Limit outdoor irrigation of ornamental landscapes or turf with potable water by the persons it serves to no more than two days per week; or

(B) Reduce by 25 percent reduction its total potable water production relative to the amount produced in 2013.

(2) Each distributor of a public water supply that is not an urban water supplier shall submit a report by ~~December 15, 2015~~ September 15, 2016, on a form provided by the Board, that either confirms compliance with subdivision (f)(1)(A) or identifies total potable water production, by month, from ~~June~~ December 2015 through ~~November~~ August, 2015 2016, and total potable water production, by month, for the same months in 2013.

Authority: Section 1058.5, Water Code.

References: Cal. Const., Art., X § 2; Sections 102, 104, 105, 275, 350, 1846, 10617 and 10632, Water Code; *Light v. State Water Resources Control Board* (2014) 226 Cal.App.4th 1463.

Sec. 866. Additional Conservation Tools.

(a)(1) To prevent the waste and unreasonable use of water and to promote conservation, when a water supplier does not meet its conservation standard required by section 865 the Executive Director, or the Executive Director's designee, may issue conservation orders requiring additional actions by the supplier to come into compliance with its conservation standard.

(2) A decision or order issued under this article by the ~~board~~Board or an officer or employee of the ~~board~~Board is subject to reconsideration under article 2 (commencing with section 1122) of chapter 4 of part 1 of division 2 of the California Water Code.

(b) The Executive Director, or his designee, may issue an informational order requiring water suppliers, or commercial, industrial or institutional properties that receive any portion of their supply from a source other than a water supplier subject to section 865, to submit additional information relating to water production, water use or water conservation. The failure to provide the information requested within 30 days or any additional time extension granted is a violation subject to civil liability of up to \$500 per day for each day the violation continues pursuant to Water Code section 1846.

(c) Orders issued under previous versions of this subdivision shall remain in effect and shall be enforceable as if adopted under this version.

Authority: Section 1058.5, Water Code.

References: Cal. Const., Art., X § 2; Sections 100, 102, 104, 105, 174, 186, 187, 275, 350, 1051, 1122, 1123, 1825, 1846, 10617 and 10632, Water Code; *Light v. State Water Resources Control Board* (2014) 226 Cal.App.4th 1463.

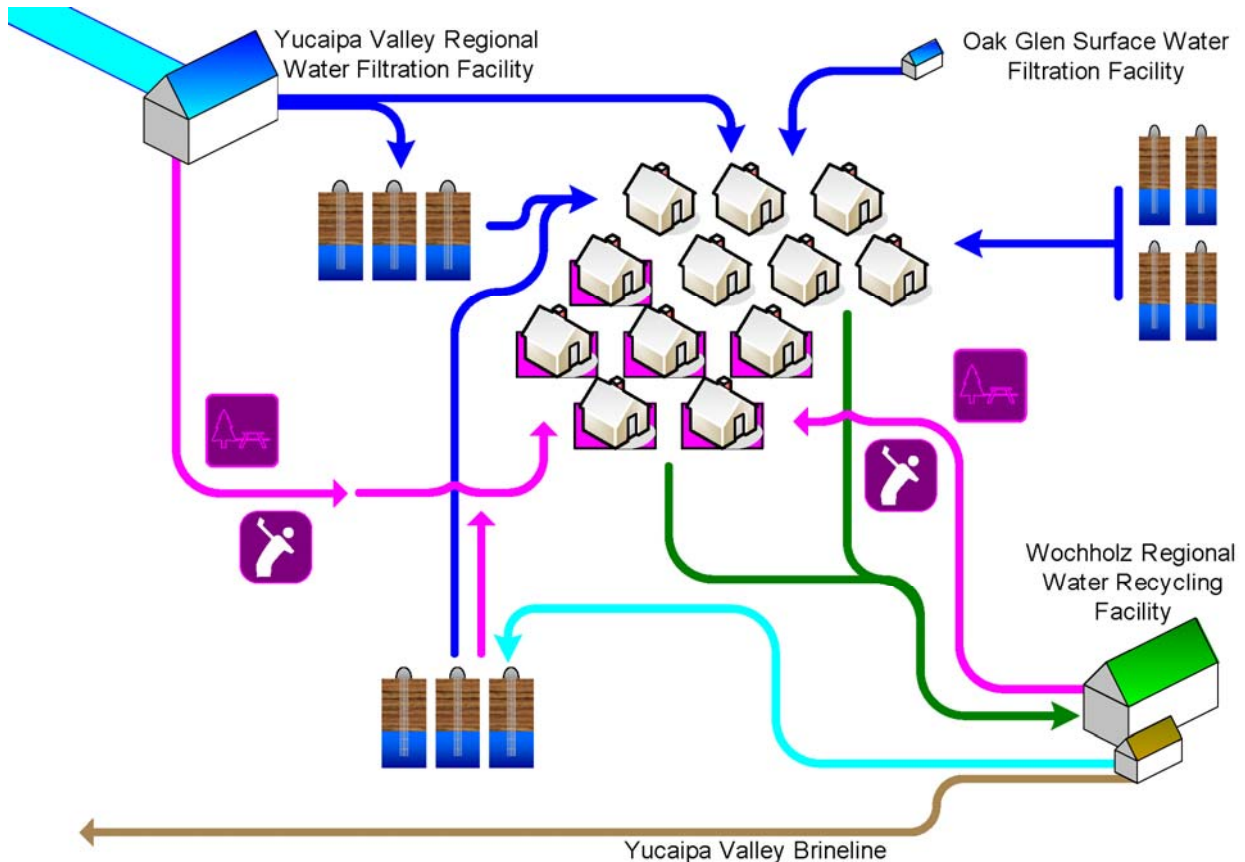




**Date:** January 26, 2016

**Subject:** Overview of the Yucaipa Valley Water District's Strategic Plan for a Sustainable Future - The Integration and Preservation of Resources and Proposed Enhancements

On August 20, 2008, the Board of Directors adopted Resolution No. 11-2008 establishing a strategic plan for the management, integration and preservation of water resources. This Plan embodied the concepts of water resource management and the full integration of services offered by the Yucaipa Valley Water District as shown below.



With an integrated system in place, the Plan outlined specific goals and strategies related to the following topics:

- Planning and Development;
- Surface Water Supplies;
- Groundwater Supplies;

- Recycled Water;
- Water Conservation and Use Efficiency;
- Allocation of Imported Supplemental Water;
- Compatibility with Water Shortage Response Stages;
- Growth and Development;
- Watershed Management;
- Energy Management;
- Pollution Prevention; and
- Infrastructure Management.

The [District's Sustainability Plan](http://www.yvwd.dst.ca.us) is available online from our website at [www.yvwd.dst.ca.us](http://www.yvwd.dst.ca.us).

The purpose of this agenda item is to provide an overview of the strategic plan and a discussion of proposed modifications to the document.

## **Resolution No. 11-2008**

### **RESOLUTION OF THE BOARD OF DIRECTORS OF THE YUCAIPA VALLEY WATER DISTRICT ADOPTING A LONG-TERM WATER RESOURCE SUSTAINABILITY STRATEGY POLICY FOR THE AREA SERVED BY THE YUCAIPA VALLEY WATER DISTRICT**

**WHEREAS**, water is a basic and essential need of every living creature, and, as such, the health, comfort, and standard of living of the citizens of the Yucaipa Valley Water District (the "District") depend on an adequate and reliable long-term supply of potable water; and

**WHEREAS**, water resources are recognized as a limited and precious natural resource in Southern California; and

**WHEREAS**, the Yucaipa Valley Water District relies upon imported water as supplemental water supplies to meet the existing and future potable water demands of our customers; and

**WHEREAS**, declining groundwater levels and unreliable surface water supplies have made it necessary for the District to efficiently use its available potable water supplies and to fully develop all existing water resources in order to assure a sustainable supply of water resources for future generations; and

**WHEREAS**, the Yucaipa Valley Water District has determined that it is prudent, practical and sensible given the uncertainty of importing supplemental water to demonstrate the adequacy of water supply availability by physically receiving supplemental water prior to the issuance of building permits for new development; and

**WHEREAS**, it is in the best interest of the community to provide local solutions to the regional and statewide water issues that are anticipated on impacting the water resources we rely on for our economic prosperity and quality of life; and

**WHEREAS**, this resolution has been prepared based on the extensive review, discussion, and public input associated with the document entitled, *A Strategic Plan for a Sustainable Future - The Integration and Preservation of Resources* adopted on August 20, 2008 (the "Strategic Plan").

**NOW, THEREFORE, BE IT RESOLVED AND ORDERED**, that the Board of Directors of the Yucaipa Valley Water District does hereby order as follows:

#### **SECTION 1. Concepts of Sustainability**

- A. The document entitled, *A Strategic Plan for a Sustainable Future - The Integration and Preservation of Resources* adopted on August 20, 2008, is hereby adopted by the Board of Directors and posted to the District's website to provide a basic foundation for the understanding of this Resolution.

- B. This Resolution has been drafted to provide the implementation strategy of the concepts contained within the *A Strategic Plan for a Sustainable Future - The Integration and Preservation of Resources*. This Strategic Plan makes known the uncertainty, unreliability and unpredictable nature of our imported water supplies while providing a route for navigating the future to protect the interests of our current and future customers. Therefore, while not a guarantee of future conditions or actions by the Board of Directors, this Resolution provides a mechanism to allow for the economic development and expansion of the region based on an understanding of the circumstances as they currently exist.
- C. In the future, when imported water supplies may become unambiguous and certain, the concepts of the Strategic Plan are intended to continue as sound policy for existing customers and new development.

## **SECTION 2. Planning and Development**

- A. Financial Planning. To ensure the safety and reliability of our resources, it is important to ensure adequate finances are available to cover routine operational costs as well as the costs of maintaining and upgrading infrastructure.
  - 1. Financial plans shall be developed every five years and include a forecast of a ten-year period that will illustrate the District's anticipated financial position, financial operations and cash flow.
  - 2. When applicable, the District staff shall present water, wastewater and non-potable rate resolutions for consideration that provide a minimum five year projection of rates to allow customers the ability to plan accordingly for rate adjustments based on the information included in the financial plans.
  - 3. The District staff shall maintain a financial reserve policy outlining the objectives for adequately funding an operating reserve, a capital and equipment replacement reserve, a rate stabilization reserve, and a debt service reserve.
- B. Infrastructure Planning: The planning of infrastructure shall be based on the following general principles and strategies:
  - 1. The District staff shall implement planning tools necessary to reasonably forecast a fifty (50) year planning horizon for Urban Water Management Plans, infrastructure master plans, and other related resource planning documents to ensure long-term objectives are incorporated into the planning process.
  - 2. The District staff shall update infrastructure master planning documents every ten (10) years. Upon adoption of this Resolution, the District staff shall provide a recommendation to the Board of Directors for the completion of a master planning document.
- C. Development Planning. The goal of development planning is to support development based on a diverse portfolio of water resources in order to minimize impacts related to drought, contamination, and other potential source water problems. Common planning



techniques may include the following sustainable planning and development strategies:

1. Long-term water resource planning that incorporates sustainable growth principles;
2. Cooperating with other regional governing agencies and water users in the development planning process;
3. Addressing water quality and quantity issues to provide long-term protection of our natural resources;
4. The District staff shall maximize the use of non-potable water for developments with the use of dual plumbing and other measures to provide for a more reliable water supply system.

### **SECTION 3. Surface Water Supplies**

- A. Storm Water Capture. The District staff is encouraged to coordinate with local planning agencies to develop consistent guidelines for managing storm water on properties in such a manner to maximize recharge and minimize pollution.

### **SECTION 4. Groundwater Supplies**

- A. Groundwater Supplies. It is in the best interest of the District to maintain groundwater withdrawals in existing wells by:
  1. Avoiding pumping of existing well fields beyond long-term recharge capability; and
  2. Cooperating on a regional level in safe sustainable groundwater withdrawal.
- B. Local Water Banks. The District will implement local groundwater banks (“Groundwater Banks”) to store water for existing customers and new development. The Groundwater Banks shall be used in conjunction with the dual-plumbed requirements to ensure sufficient water supplies exist to serve the needs of all new development during normal, single dry, and multiple dry water years. The location of the proposed Groundwater Banks may include, but not be limited to: the Yucaipa Management Zone, Beaumont Management Zone, San Timoteo Management Zone or any other location that provides similar benefits.
  1. Existing Customer Groundwater Deposits. It shall be a priority of the District to secure additional imported water supplies when available to meet the needs of existing customers. Therefore, the District shall collect sufficient funds necessary to obtain an additional 15% of the total annual potable water for future use. Funds collected for this program shall be used solely for the purchase of imported supplemental water to augment the groundwater basins for future groundwater extraction, which includes, but is not limited to: direct groundwater recharge; groundwater injection; in lieu groundwater recharge; or any other form of supplemental water deposited into a groundwater basin for future potable use.

2. New Development Groundwater Requirements. For provisions related to the requirements of new development, see Section 9.

## **SECTION 5. Recycled (Non-Potable) Water**

- A. Non-Potable Water. The District shall strive to maximize the use of non-potable water for beneficial reuse and prioritize non-potable water use over potable water use where regulations permit. This shall be accomplished by:
  1. Enhancing the Wochholz Regional Water Recycling Facility to maintain an exceptional quality of recycled water to maximize the beneficial use of the water resource.
  2. Developing a strategy to expand the District's existing non-potable water distribution system to provide for cost-effective delivery of non-potable water.
  3. Aggressively develop and market the use of recycled water as a substitute for potable water where regulations permit.
  4. The District staff shall maximize the use of non-potable water for developments with the use of dual plumbing and other measures to provide for a more reliable water supply system.

## **SECTION 6. Water Conservation and Use Efficiency**

- A. Water Use Efficiency. The District shall develop and maintain policies that reduce peak seasonal water demands and encourages the reduction of per capita/per day consumption of potable water through:
  1. The use of non-potable water for residential, commercial, institutional and agricultural irrigation demands;
  2. Educational programs;
  3. Rate structures;
- B. Statewide Conservation Efforts. The District shall participate in the California Urban Water Conservation Council and implement those best management practices (BMPs) that provide the District with a reasonable cost : benefit relationship.
- C. Conservation Programs. The District shall develop and implement water conservation tools that focus on education based programs that can be implemented at the local schools and information campaigns for our current customers.

## **SECTION 7. Allocation of Imported Supplemental Water**

- A. Allocation of Supplemental Water Resources. Due to the limitations on imported supplemental water as the result of drought conditions, lawsuits, environmental

regulations and possibly climate change, the District will hereby allocate supplemental water resources as follows:

1. Priority One - Direct Delivery for Existing Customers. The highest priority for supplemental water shall be for the direct delivery of filtered water delivered to our customers from the Yucaipa Valley Regional Water Filtration Facility. Upon fulfilling this priority, any remaining available supplemental water shall be allocated to the next priority.
2. Priority Two - Groundwater Adjudication Obligations. The second highest priority for supplemental water shall be for the replenishment obligations associated with any groundwater adjudication. This priority shall generally be achieved with the production of water from the Yucaipa Valley Regional Water Filtration Facility. Upon fulfilling this priority, any remaining available supplemental water shall be allocated to the next priority.
3. Priority Three - Groundwater Banking for Future Reliability. Existing residential, business and institutional customers above shall contribute 15% of their potable water consumption to the Water Bank for the next year. Delivery of this water shall be based on the ability of District staff to fulfill this priority within the following calendar year. This priority shall be required of all existing water customers and begin immediately upon establishment of water service for new customers. Upon fulfilling this priority, any remaining available supplemental water shall be allocated to the next priority.
4. Priority Four - Parcel Development Process. The Parcel Development Process is a component of the Water Resource Validation Program which accomplishes the objectives of (A) demonstrating that sufficient water supplies exist for development to occur; and (B) providing sufficient water to enhance the resource reliability and sustainability of new development. This Program requires the deposit of supplemental water to the Water Bank prior to the issuance of a building permit. The provisions for the Parcel Development Process are included below as part of the Water Resource Validation Program.

## **SECTION 8. Compatibility with Water Shortage Response Stages**

- A. Water Shortage Response Stages. The 2005 Urban Water Management Plan provides for voluntary and mandatory levels of progressively more aggressive water demand reduction requirements. The triggers for these stages will likely be those affecting imported water sources, provided the Yucaipa, Beaumont and San Timoteo Management Zones continues to be managed in a safe yield condition over the long-term. The response stages may also be invoked during an emergency to handle short-term events, such as earthquake damage, pipeline ruptures, and water quality issues.

The Board of Directors will determine the appropriate state of implementation, with authority hereby delegated to the General Manager for the implementation of Stage 1 and Stage 2 Water Shortage Response Stages.

The following Water Use Restrictions have been modified from the 2005 Urban Water Management Plan to more accurately incorporate the operation of the filtration facility and

include anticipated impacts on new development based upon consideration and implementation of Water Shortage Response Stages 3, 4 and 5 by the Board of Directors. The implementation of Water Shortage Response Stages 3, 4 and 5 shall explicitly state the allowable uses of water and impacts on new developments. The Board reserves the right to modify and implement any number of water curtailment activities based on the actual conditions at the time.

	<i>Program Type</i>	<i>Water Use Restrictions</i>	<i>Overall Goal</i>	<i>Anticipated Impact on New Development</i>
<b>Stage 1</b>	Voluntary	Up to a 10% Reduction from Selected Areas	--	No anticipated impacts to new development.
<b>Stage 2</b>	Voluntary	Up to 10% District-wide	10% Reduction	New applicants for the Crystal Development Program may not be accepted under Stage 2.
<b>Stage 3</b>	Mandatory	Up to 20% District-wide	20% Reduction	Previously secured Crystal developments may proceed. New applicants for the Crystal Development Program may not be accepted under State 3.
<b>Stage 4</b>	Mandatory	Up to 35% District-wide	35% Reduction	Crystal Standard developments may be restricted. New applicants for the Crystal Development Program may not be accepted.
<b>Stage 5</b>	Mandatory	Up to 50% District-wide	50% Reduction	No new standard developments of Crystal development projects.

## SECTION 9. Growth and Development

- A. Dual Plumbing for New Developments. Each new residential, commercial, industrial and institutional development shall design and construct infrastructure sufficient to provide potable drinking water and non-potable irrigation water to each lot.
1. At a minimum, each new home shall be constructed with the necessary on-site improvements to receive potable water and non-potable water from two separate water meters. These two water service connections shall be installed per District standards and regulations to allow for non-potable irrigation service and potable water service to each property. In cases where non-potable water unavailable, the non-potable irrigation meter shall be supplied potable water in the interim.
  2. For developments of ten units or more, the District shall require on-site improvements as provided above, in addition to in tract non-potable infrastructure to support the non-potable irrigation system.
  3. The District staff shall consider the size of the development, the proximity to existing non-potable infrastructure, and other pertinent information when off-site non-potable water infrastructure is required as part of a development agreement.
- B. Elimination of Septic Systems. The stringent water quality objectives established by the Regional Water Quality Control Board requires the Yucaipa Valley Water District to minimize the salinity impacts to the groundwater supplies in the Yucaipa Management



Zone, the San Timoteo Management Zone and the Beaumont Management Zone. See Section 12 for the pollution prevention requirements associated with new development.

- C. Groundwater Deposits for New Development. The District provides potable water based on a long-term average of approximately 50% groundwater and 50% imported supplemental water to our existing customers. This average will fluctuate based on the water resource management strategies of the District.

Any supplemental imported water provided during the entitlement process shall become the property of the District at the time building permits are issued.

1. All New Developments. For all building permits issued after July 1, 2009, new development shall be required to appropriately fund the purchase of seven (7) acre feet of imported supplemental water prior to the issuance of a grading or building permit. The rate for this supplemental imported water shall be based on the anticipated imported water delivery rate charged by the State Water Project Contractor providing service to the location of the new development. The District shall accommodate the early payment of this fee for any parcel proposed to be developed.

In response to water shortage conditions, the Board of Directors may at any time cease the authorization of grading or building permits based on the implementation of certain Water Shortage Response Stages. Based on information at the time this Resolution was prepared, the District staff anticipates recommending that the Board of Directors cease the authorization of grading and building permits for Standard Developments during Water Shortage Response Stages 3, 4 and 5, except as provided below.

2. Achieving a Crystal Status Development. Any new development may achieve the status of a Crystal Development by securing the physical delivery of 15.68 acre feet of imported supplemental water per Equivalent Dwelling Unit (EDU). The rate for this supplemental imported water shall be based on the charges to the District by the respective State Water Project Contractor.

In response to water shortage conditions, the Board of Directors may at any time cease the authorization of grading or building permits based on the implementation of certain Water Shortage Response Stages. Based on information at the time this Resolution was prepared, the District staff anticipates recommending that the Board of Directors cease the authorization of grading and building permits for Crystal Developments during Water Shortage Response Stage 5 with possible restrictions impacting development during Water Shortage Response Stage 4.

- a. The developer shall submit an application for each parcel within the proposed development (by Assessor's Parcel Number) and deposits sufficient funds for the purchase and delivery of imported supplemental water.
- b. The District staff will assign a completed application to the appropriate processing bin for supplemental imported water deliveries based on the availability of supply and facilities required to deposit (by recharge or injection) the supplemental water into the Groundwater Bank.
- c. The availability of supplemental imported water to fulfill the requests associated

with the Crystal Status Development Program shall be based on the priorities provided in the *Allocation of Supplemental Water Resources* provisions above.

- d. Based on the total size of the tract, parcel map, or planning area (not including phased portions of developments), the District staff shall deposit (by recharge or injection) imported supplemental water into the Water Bank equally from each of the following categories based on the completed applications:
    - i. Residential Development - 1 lot development
    - ii. Residential Development - 2-10 lot development
    - iii. Residential Development - 11-50 lot development
    - iv. Residential Development - 51-100 lot development
    - v. Residential Development - 101-150 lot development
    - vi. Residential Development - 151-200 lot development
    - vii. Residential Development - 200 or more lot development
    - viii. Commercial Development
    - ix. Institutional Development
  - e. The District shall charge the developer for any additional costs related to the deposit (by recharge or injection) of supplemental water into the Water Bank and payment shall be received prior to issuing the Crystal Status Achievement for the project.
  - f. Upon completing the deposit (by recharge or injection) of imported supplemental water into the Groundwater Bank, the District shall issue a Notice of Crystal Status Development. This Notice provides documentation of achieving one component of the development process by the District and does not relieve the developer from completing any other requirements established by the District.
  - g. The Board of Directors may elect to consider other creative conservation measures to be used to achieve the status of a Crystal Development. Upon adoption of a subsequent resolution that provides quantifiable comparable benefits this program may be expanded to include automatic meter reading, existing home retrofits, landscape retrofits, etc..
3. Parcel Boundary Changes (Splits and Divisions). Imported supplemental water previously paid and delivered as part of the standard development process or a Crystal Status Development shall be allocated equally to all new parcels in the event of a realignment of the parcel boundary or a division of the parcel. This may change the compliance of properties, whereby additional funds will be needed for compliance with this section. In the event new parcels results in an excess of groundwater supply, the property owner shall provide a written request for reimbursement at the cost previously

paid to secure the imported supplemental water.

## **SECTION 10. Watershed Management**

- A. Management Zone Protection. Develop programs for the Yucaipa Management Zone and the Beaumont Management Zone that maintain the water quality and quantity in a manner that protects the local water supplies and is consistent with the 2004 Basin Plan adopted by the Regional Water Quality Control Board.
- B. Sanitary Surveys. Conduct a routine sanitary survey of the Yucaipa Management Zone and develop a sanitary survey that identifies active and potential points of pollution.
- C. Pollution Prevention. Develop methods for eliminating pollution sources related to the contribution of salinity in excess of the objectives set by the Regional Water Quality Control Board for the Yucaipa

## **SECTION 11. Energy Management**

- A. Energy Conservation. Research methods to utilize less power at District facilities and lessen dependence of bundled power generators.

## **SECTION 12. Pollution Prevention**

- A. Basin Plan Objectives. The District staff shall develop methods for eliminating pollution sources related to the contribution of salinity in excess of the objectives set by the Regional Water Quality Control Board for the Yucaipa, Beaumont and San Timoteo Management Zone in the 2004 Basin Plan.
- B. Sanitary Survey. The District staff shall conduct a routine sanitary survey of the Yucaipa Management Zone and develop a sanitary survey that identifies active and potential points of pollution as required by the Department of Public Health.
- C. Requirement to Connect to the Sewer System. In order to protect the Yucaipa and Beaumont Groundwater Management Zones in a manner consistent with Section 12, paragraph A above, the District shall require new developments consisting of five or more Equivalent Dwelling Units within 1,000 feet of any existing or previously agreed upon sewage collection facility must extend the public sewer line to serve said development.
- D. Dry Sewer Collection System. In order to protect the groundwater quality as required by the Basin Plan adopted by the Santa Ana Regional Water Quality Control Board, the District shall require new developments to install dry sewer collection systems if existing active sewer collection facilities are not available.
  - 1. Construction of One to Four Units or Development on Five Acres or More. Developments consisting of one to four Equivalent Dwelling Units, or a development on more than five acres (average gross) per lot shall not be required to install dry sewers or connect to the sewer collection system unless any portion of the property

- being developed is within 500 feet from the sewer system which could serve the parcel.
2. Installation of Dry Sewer Collection Infrastructure. The installation of a dry sewer collection system shall extend the full length of the property to the property boundary generally upstream of the parcel/development. The dry sewer collection system shall also be extended downstream offsite of the subject property a distance of 100 feet per Equivalent Dwelling Unit (EDU) after the first EDU. For example, a development of five EDUs shall extend the dry sewer collection system 400 feet downstream toward the existing sewer collection system.
- E. Sewer Septic System Offset Program. Any new development not connected to an active sewer collection system shall be required to participate in a Sewer Septic System Offset Program to mitigate the pollution created by the addition of a new septic system. This Program requires the conversion/connection of existing septic systems to the sewer in the service area of the Yucaipa Valley Water District. Participation in this program does not relieve the property owner from future participation in the construction of sewer infrastructure when available or paying current fees for the property receiving the septic system offset.

### **SECTION 13. Infrastructure Management**

- A. Implement a program of sufficient detail to record the procurement, maintenance, management, and disposal of assets related to the divisions of the District.
- B. Propose operating budgets and price structures that maintain full cost pricing of services provided while maintaining full depreciation funding of assets.

**ADOPTED** this 20<sup>th</sup> day of August 2008.

/s/ Tom Shalhoub, President of the Board of Directors

/s/ Joseph B. Zoba, Secretary of the Board of Directors



# Operational Updates



Yucaipa Valley Water District



Date: January 26, 2016

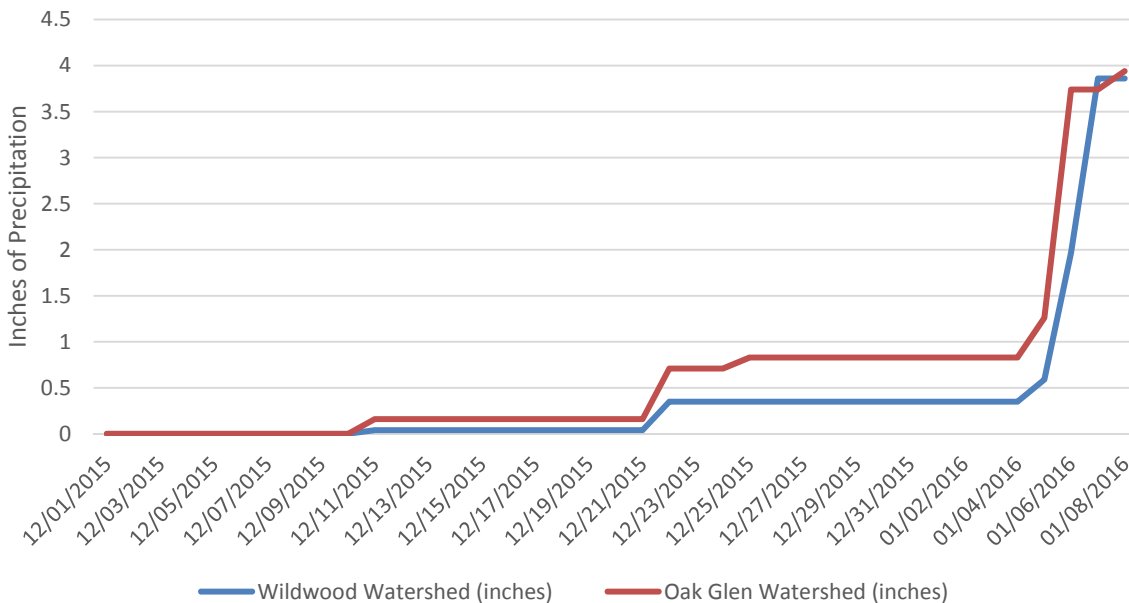
Subject: Overview of Operational Activities in Preparation and Response to the 2016 Winter Storm Events

The Yucaipa Valley Water District has been actively preparing for the El Nino weather conditions by reanalyzing all of the District facilities to identify potential problems associated with severe winter weather conditions and initiating appropriate mitigation strategies.

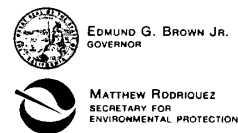
For the period of December 1, 2015, to January 8, 2016, the Yucaipa Valley has received nearly 4 inches of rainfall. The Wildwood Watershed has received 3.86 inches and the Oak Glen Watershed has received 3.94 inches. On an average year, the Yucaipa Valley receives about 16 inches of rainfall.



Seasonal Rainfall Totals as of January 8, 2016



The purpose of this agenda item is to provide an update on storm related issues.



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**Santa Ana Regional Water Quality Control Board**

October 16, 2015

By Electronic Mail

**Attention: Sewage Collection System Owners  
and Operators Enrolled Under the State Water  
Resources Control Board Order No. 2006-0003-DWQ****Subject: Collection System Preparation for Anticipated 2015-2016 El Nino Rainy  
Season**

The Santa Ana Regional Water Quality Control Board (Santa Ana Regional Board) is sending you this courtesy reminder to prepare your sanitary sewer collection system for the 2015-2016 rainy season.

As you know, municipalities and other public entities that own and operate a sewage collection system within the Santa Ana Regional Board jurisdiction (Region) are regulated under the Statewide General Waste Discharge Requirements (WDR) for Sanitary Sewer System, Order No. 2006-0003- DWQ<sup>1</sup> (General Order). The General Order prohibits the discharge of untreated or partially treated wastewater to the waters of the United States. The General Order also requires the development and implementation of sanitary sewer management plans (SSMPs) that contain requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows (SSOs). Proper collection system operation and maintenance includes the periodic or continuing process to identify problems including proactive identification and elimination of inflow and infiltration and structural vulnerabilities to prevent or minimize SSOs during rain events.

For months, the National Oceanic and Atmospheric Administration (NOAA) has been predicting that El Nino, a condition that occurs when a band of warm ocean water develops in the Pacific Ocean that causes changes in rainfall, will continue through the Northern Hemisphere during the winter of 2015-2016. As with past El Nino years, this weather pattern has the potential to produce higher than average rainfall amounts in the Region.

Since the prediction for El Nino has been anticipated for quite some time, the Regional Board is notifying all Enrollees in the Region to ensure that necessary actions to prevent SSOs during the rainy season has been taken. You are reminded that failure to demonstrate that adequate preventative measures were taken that could have minimized or prevented a known or otherwise anticipated wet weather problem that resulted in an SSO may result in civil monetary penalties pursuant to the California Water Code.

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<sup>1</sup> As amended by Order Nos. 2008-0002-EXEC and 2013-0058-EXEC

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WILLIAM RUH, CHAIR | KURT V. BERCHTOLD, EXECUTIVE OFFICER

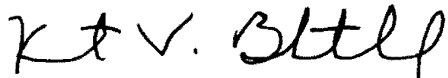
3737 Main St., Suite 500, Riverside, CA 92501 | [www.waterboards.ca.gov/santaana](http://www.waterboards.ca.gov/santaana)

♻️ RECYCLED PAPER

Page 2 of 2

We appreciate your urgent attention in this matter to protect public health and water quality. Should you have any questions or comments please contact the Regional Board staff assigned to your facility in the enclosed list.

Sincerely,

A handwritten signature in black ink, appearing to read "Kurt V. Berchtold". The signature is written in a cursive style with a large initial "K" and a distinct "V".

Kurt V. Berchtold  
Executive Officer

Enclosure: List of Enrollees under Order No. 2006-0003-DWQ and Regional Board Staff Assignment



**2015-2016 El Nino Rainy Season Notice Mailing List  
Enrollees Under Order No. 2006-0003-DWQ and Regional Board Staff Contact**

<b>Agency</b>	<b>Contact</b>	<b>Email Address</b>	<b>Staff Assigned to Discharger/Facility</b>
CA Dept of Corrections & Rehab	David Huskey	david.huskey@cdcr.ca.gov	Kathleen Fong 951-774-0114
Corona City	Tom Moody	tom.moody@ci.corona.ca.us	kathleen.fong@waterboards.ca.gov
Eastern Municipal Water District	Jayne Joy	joyj@emwd.org	
Edgemont Community Services Dist	Jessica Pfalmer	jessicaecsd@yahoo.com	
Elsinore Valley MWD	John Vega	ivega@evmwd.net	
Elsinore Valley MWD	Dennis McBride	dmcbride@evmwd.net	
Hemet City	Victor Monz	vmonz@cityofhemet.org	
Home Garden Sanitary District	Janey Gress	hgscd@sbcglobal.net	
Idyllwild Water District	Tom Lynch	tom@idyllwildwater.com	
Lake Hemet Municipal Water District	Mike Gow	mgow@lhmwd.org	
Lee Lake Water District	Jeff Pape	jeffp@llwd.org	
Norco City	Bill Thompson	bthompson@ci.norco.ca.us	
Perris City	Daryl Hartwill	dhartwill@cityofperris.org	

<b>Agency</b>	<b>Contact</b>	<b>Email Address</b>	<b>Staff Assigned to Discharger/Facility</b>
Beaumont City	Public Works	kdubar@utilitypartnersllc.com	Najah Amin 951-320-6362
CA State Parks Inland Empire District	Jerry Weatherman	jerry.weatherman@parks.ca.gov	najah.amin@waterboards.ca.gov
Colton City	Gary Ethridge	gethridge@ci.colton.ca.us	
CSU San Bernardino	Jon Mohoroski	jmohoros@csusb.edu	
East Valley Water District	Thomas R. Holliman	tholliman@eastvalley.org	
Grand Terrace City	Martin Guerrero	mguerrero@cityofgrandterrace.org	
Jurupa Community Services District	Todd Corbin	tcorbin@jcsd.us	
Loma Linda City	Lynette Arreola	rhandy@lomalinda-ca.gov	
Patton State Hospital	Steve Nerkowski	steven.nerkowski@dsh.ca.gov	
Redlands City	Chris Diggs	cdiggs@cityofredlands.org	
Rialto City	Julie Carver	jcarver@rialto.ca.gov	
Riverside City	Regulatory Compliance	cjustice@riversideca.gov	
Rubidoux Community Services District	Brian Jennings	bjennings@rcsd.org	
San Bernardino City Public Services	Randy Kuettle	kuettle_ra@sbcity.org	
San Bernardino Community College Distr	Kelly Goodrich	kgoodric@sbccd.cc.ca.us	
San Bernardino County Sheriff	Doyle Jenkins	jbaldwin@sdd.sbcounty.gov	
San Jacinto City	Dan Mudrovich	dmudrovich@sanjacinto.ca.us	
UC Riverside	Russell Vernon	russell.vernon@ucr.edu	
Western Municipal Water District	Brenda Meyer	bmeyer@wmwd.com	
Western Riverside Cnty Regional WA	Steve Schultz	sschultz@wmwd.com	
Yucaipa Valley Water District	Jack Nelson	jnelson@yvwd.dst.ca.us	

<b>Agency</b>	<b>Contact</b>	<b>Email Address</b>	<b>Staff Assigned to Discharger/Facility</b>
Anaheim City	Jonathan Heffernan	jheffernan@anaheim.net	Julio Lara
Brea City	Will Wenz	willw@ci.brea.ca.us	951-782-4901
Buena Park City	Jim Biery	jbiery@buenapark.com	julio.lara@waterboards.ca.gov
Chino Hills City	Mike Maestas	mmaestas@chinohills.org	
Costa Mesa Sanitary District	Steve Cano	scano@cmsdca.gov	
CSU Fullerton	Curtis P. Plotkin	cplotkin@fullerton.edu	

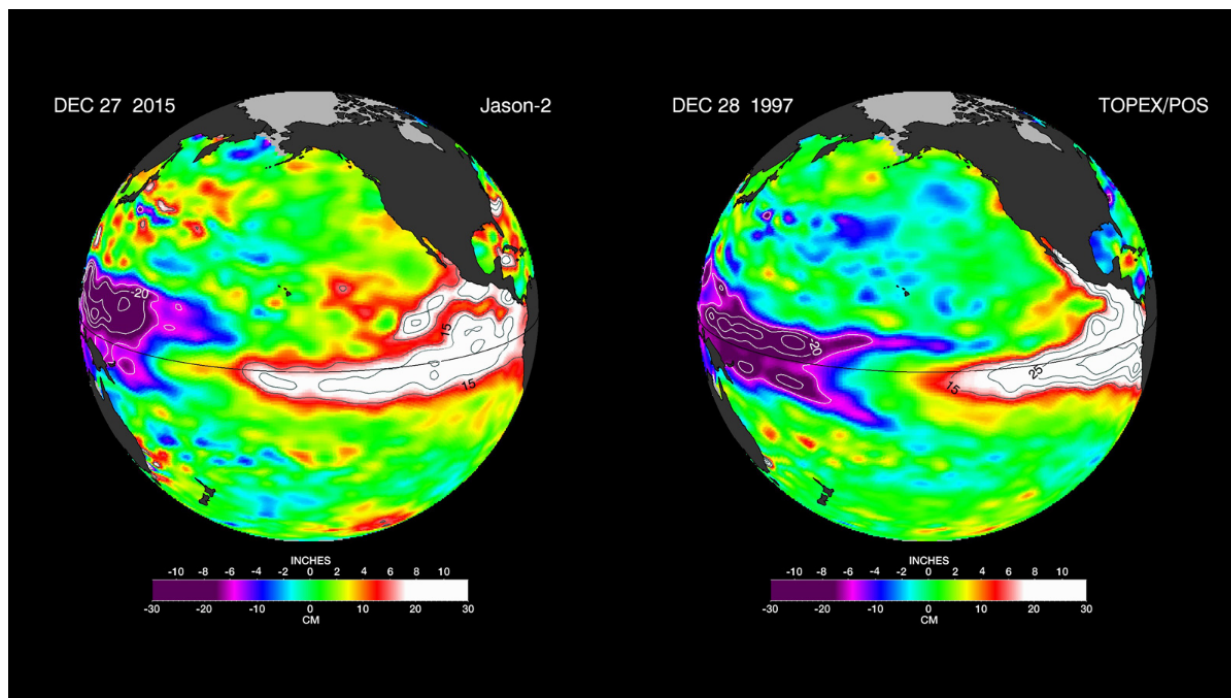
**2015-2016 El Nino Rainy Season Notice Mailing List  
Enrollees Under Order No. 2006-0003-DWQ and Regional Board Staff Contact**

<b>Agency</b>	<b>Contact</b>	<b>Email Address</b>	<b>Staff Assigned to Discharger/Facility</b>
Cypress City	Matt Burton	MBurton@ci.cypress.ca.us	<b>Julio Lara</b> <b>951-782-4901</b> <a href="mailto:julio.lara@waterboards.ca.gov">julio.lara@waterboards.ca.gov</a>
El Toro Water District	Robert R Hill	<a href="mailto:nadiar@etwd.com">nadiar@etwd.com</a>	
Upland City	Acquanetta Warren	<a href="mailto:awarren@ci.upland.ca.us">awarren@ci.upland.ca.us</a>	
Fullerton City	William Roseberry	<a href="mailto:billr@ci.fullerton.ca.us">billr@ci.fullerton.ca.us</a>	
Garden Grove Sanitary District	Bill Murray	<a href="mailto:publicworks@ci.garden-grove.ca.us">publicworks@ci.garden-grove.ca.us</a>	
Huntington Beach City	Brian Ragland, PE	<a href="mailto:brian.ragland@surfcity-hb.org">brian.ragland@surfcity-hb.org</a>	
Inland Empire Utilities Agency	Chris Berch	<a href="mailto:cberch@ieua.org">cberch@ieua.org</a>	
La Habra City	Brian Jones	<a href="mailto:brianj@lahabracity.com">brianj@lahabracity.com</a>	
La Palma City	Jeff C Moneda	<a href="mailto:jeffm@cityoflapalma.org">jeffm@cityoflapalma.org</a>	
Irvine Ranch Water District	Kevin Burton	<a href="mailto:burton@irwd.com">burton@irwd.com</a>	
Midway City Sanitation District	Ken Robbins	<a href="mailto:krobbins@mcsandist.com">krobbins@mcsandist.com</a>	
Newport Beach City	George Murdoch	<a href="mailto:gmurdoch@newportbeachca.gov">gmurdoch@newportbeachca.gov</a>	
Orange City	Gene Estrada	<a href="mailto:gestrada@cityoforange.com">gestrada@cityoforange.com</a>	
Placentia City	Gerry Hubble	<a href="mailto:ghubble@placentia.org">ghubble@placentia.org</a>	
Rossmoor/Los Alamitos Area Sanitary District	Susan Bell	<a href="mailto:sewerdistrict@aol.com">sewerdistrict@aol.com</a>	
Santa Ana City	Nabil Saba	<a href="mailto:nsaba@ci.santa-ana.ca.us">nsaba@ci.santa-ana.ca.us</a>	
Santa Ana Watershed Project Authority	Karen Williams	<a href="mailto:kwilliams@sawpa.org">kwilliams@sawpa.org</a>	
Seal Beach City	Sean Crumby	<a href="mailto:scrumby@sealbeachca.gov">scrumby@sealbeachca.gov</a>	
Stanton City	Robert Doss	<a href="mailto:bdoss@ci.stanton.ca.us">bdoss@ci.stanton.ca.us</a>	
Sunset Beach Sanitary District	Tom Dawes	<a href="mailto:info@sunsetbeachsd.org">info@sunsetbeachsd.org</a>	
UC Irvine	Marc Gomez	<a href="mailto:magomez@uci.edu">magomez@uci.edu</a>	
Villa Park City	Akram Hindiye	<a href="mailto:ahindiye@villapark.org">ahindiye@villapark.org</a>	
Orange County Sanitation District	Nick Arhontes	<a href="mailto:narhontes@ocsd.com">narhontes@ocsd.com</a>	
Yorba Linda Water District	John DeCriscio	<a href="mailto:idecriscio@ylwd.com">idecriscio@ylwd.com</a>	
CA Dept of Corrections & Rehab	Lawrence Dimock	<a href="mailto:lawrence.dimock@cdcr.ca.gov">lawrence.dimock@cdcr.ca.gov</a>	
CA Dept of Corrections & Rehab	John Dickson	<a href="mailto:john.dickson@cdcr.ca.gov">john.dickson@cdcr.ca.gov</a>	
CA Dept of Corrections & Rehab	Michael Thompson	<a href="mailto:michael.thompson@cdcr.ca.gov">michael.thompson@cdcr.ca.gov</a>	
Ontario City	Mohamed El-Amamy	<a href="mailto:melamamy@ci.ontario.ca.us">melamamy@ci.ontario.ca.us</a>	
Cucamonga Valley Water District	John Bosler	<a href="mailto:johnb@cvwdwater.com">johnb@cvwdwater.com</a>	
Chino City	Jim Hill	<a href="mailto:jhill@cityofchino.org">jhill@cityofchino.org</a>	
Fontana City	Todd Heagstedt	<a href="mailto:theagste@fontana.org">theagste@fontana.org</a>	
Montclair City	Michael C. Hudson	<a href="mailto:mhudson@cityofmontclair.org">mhudson@cityofmontclair.org</a>	
Irvine Ranch Water District	Lyndy Lewis	<a href="mailto:lewis@irwd.com">lewis@irwd.com</a>	
CA Dept of Parks & Rec Winterhaven	Steve Scott	<a href="mailto:steve.scott@parks.ca.gov">steve.scott@parks.ca.gov</a>	
San Bernardino Cnty Dept of Airports	Mitch Kinser	<a href="mailto:mkinser@airports.sbcounty.gov">mkinser@airports.sbcounty.gov</a>	
CA Dept of Parks & Rec San Clemente	Steve Scott	<a href="mailto:steve.scott@parks.ca.gov">steve.scott@parks.ca.gov</a>	
<b>Agency</b>	<b>Contact</b>	<b>Email Address</b>	<b>Staff Assigned to Discharger/Facility</b>
Arrowhead Regional Medical Center	Tim Plumb	<a href="mailto:plumbt@armc.sbcounty.gov">plumbt@armc.sbcounty.gov</a>	<b>Bill Norton</b> <b>951-782-4381</b> <a href="mailto:bill.norton@waterboards.ca.gov">bill.norton@waterboards.ca.gov</a>
Big Bear Area Regional WWA	Joe Hanford	<a href="mailto:ops@bbarwa.org">ops@bbarwa.org</a>	
Big Bear City Community Services District	Nathan Zamorano	<a href="mailto:nzamorano@bbccsd.org">nzamorano@bbccsd.org</a>	
Big Bear Lake City	Kevin Sebourn	<a href="mailto:ksebourn@citybigbearlake.com">ksebourn@citybigbearlake.com</a>	
Running Springs Water District	Joan C. Eaton	<a href="mailto:jeaton@runningspringswd.com">jeaton@runningspringswd.com</a>	
San Bernardino Cnty Special Districts	Manuel M Benitez	<a href="mailto:mбенитез@sdd.sbcounty.gov">mбенитез@sdd.sbcounty.gov</a>	
San Bernardino Cnty Special Districts	Manuel Benitez	<a href="mailto:mбенитез@sdd.sbcounty.gov">mбенитез@sdd.sbcounty.gov</a>	
San Bernardino Cnty Special Districts	Steve Samaras	<a href="mailto:ssamaras@sdd.sbcounty.gov">ssamaras@sdd.sbcounty.gov</a>	



NEWS | DECEMBER 29, 2015

## A Still-Growing El Niño Set to Bear Down on U.S.



The latest satellite image of Pacific sea surface heights from Jason-2 (left) differs slightly from one 18 years ago from Topex/Poseidon (right). In Dec. 1997, sea surface height was more intense and peaked in November. This year the area of high sea levels is less intense but considerably broader. Credit: NASA/JPL-Caltech

The current strong El Niño brewing in the Pacific Ocean shows no signs of waning, as seen in the latest satellite image from the U.S./European Ocean Surface Topography Mission (OSTM)/Jason-2 mission.

El Niño 2015 has already created weather chaos around the world. Over the next few months, forecasters expect the United States to feel its impacts as well.

The latest Jason-2 image bears a striking resemblance to one from December 1997, by Jason-2's predecessor, the NASA/Centre National d'Etudes Spatiales (CNES) Topex/Poseidon mission, during the last large El Niño event. Both reflect the classic pattern of a fully developed El Niño.

The images can be viewed at: <http://sealevel.jpl.nasa.gov/elNino2015/index.html>

The images show nearly identical, unusually high sea surface heights along the equator in the central and eastern Pacific: the signature of a big and powerful El Niño. Higher-than-normal sea surface heights are an indication that a thick layer of warm water is present.

El Niños are triggered when the steady, westward-blowing trade winds in the Pacific weaken or even reverse direction, triggering a dramatic warming of the upper ocean in the central and eastern tropical

Pacific. Clouds and storms follow the warm water, pumping heat and moisture high into the overlying atmosphere. These changes alter jet stream paths and affect storm tracks all over the world.

This year's El Niño has caused the warm water layer that is normally piled up around Australia and Indonesia to thin dramatically, while in the eastern tropical Pacific, the normally cool surface waters are blanketed with a thick layer of warm water. This massive redistribution of heat causes ocean temperatures to rise from the central Pacific to the Americas. It has sapped Southeast Asia's rain in the process, reducing rainfall over Indonesia and contributing to the growth of massive wildfires that have blanketed the region in choking smoke.

El Niño is also implicated in Indian heat waves caused by delayed monsoon rains, as well as Pacific island sea level drops, widespread coral bleaching that is damaging coral reefs, droughts in South Africa, flooding in South America and a record-breaking hurricane season in the eastern tropical Pacific. Around the world, production of rice, wheat, coffee and other crops has been hit hard by droughts and floods, leading to higher prices.

In the United States, many of El Niño's biggest impacts are expected in early 2016. Forecasters at the National Oceanic and Atmospheric Administration favor an El Niño-induced shift in weather patterns to begin in the near future, ushering in several months of relatively cool and wet conditions across the southern United States, and relatively warm and dry conditions over the northern United States. The latest El Niño forecast from NOAA's Climate Prediction Center is at:

<http://www.cpc.ncep.noaa.gov/>

While scientists still do not know precisely how the current El Niño will affect the United States, the last large El Niño in 1997-98 was a wild ride for most of the nation. The "Great Ice Storm" of January 1998 crippled northern New England and southeastern Canada, but overall, the northern tier of the United States experienced long periods of mild weather and meager snowfall. Meanwhile, across the southern United States, a steady convoy of storms slammed most of California, moved east into the Southwest, drenched Texas and -- pumped up by the warm waters of the Gulf of Mexico -- wreaked havoc along the Gulf Coast, particularly in Florida.

"In 2014, the current El Niño teased us -- wavering off and on," said Josh Willis, project scientist for the Jason missions at JPL. "But in early 2015, atmospheric conditions changed, and El Niño steadily expanded in the central and eastern Pacific. Although the sea surface height signal in 1997 was more intense and peaked in November of that year, in 2015, the area of high sea levels is larger. This could mean we have not yet seen the peak of this El Niño."

During normal, non-El Niño conditions, the amount of warm water in the western equatorial Pacific is so large that sea levels are about 20 inches (50 centimeters) higher in the western Pacific than in the eastern Pacific. "You can see it in the latest Jason-2 image of the Pacific," said Willis. "The 8-inch [20-centimeter] drop in the west, coupled with the 10-inch [25-centimeter] rise in the east, has completely wiped out the tilt in sea level we usually have along the equator."

The new Jason-2 image shows that the amount of extra-warm surface water from the current El Niño (depicted in red and white shades) has continuously increased, especially in the eastern Pacific within 10 degrees latitude north and south of the equator. In the western Pacific, the area of low sea level (blue and purple) has decreased somewhat from late October. The white and red areas indicate unusual patterns of

heat storage. In the white areas, the sea surface is between 6 and 10 inches (15 to 25 centimeters) above normal, while in the red areas, it is about 4 inches (10 centimeters) above normal. The green areas indicate normal conditions. The height of the ocean water relates, in part, to its temperature, and is an indicator of the amount of heat stored in the ocean below.

Within this area, surface temperatures are greater than 86 degrees Fahrenheit (30 degrees Celsius) in the central equatorial Pacific and near 70 degrees Fahrenheit (21 degrees Celsius) off the coast of the Americas. This El Niño signal encompasses a surface area of 6 million square miles (16 million square kilometers) -- more than twice as big as the continental United States.

While no one can predict the exact timing or intensity of U.S. El Niño impacts, for drought-stricken California and the U.S. West, it's expected to bring some relief.

"The water story for much of the American West over most of the past decade has been dominated by punishing drought," said JPL climatologist Bill Patzert. "Reservoir levels have fallen to record or near-record lows, while groundwater tables have dropped dangerously in many areas. Now we're preparing to see the flip side of nature's water cycle -- the arrival of steady, heavy rains and snowfall."

In 1982-83 and 1997-98, large El Niños delivered about twice the average amount of rainfall to Southern California, along with mudslides, floods, high winds, lightning strikes and high surf. But Patzert cautioned that El Niño events are not drought busters. "Over the long haul, big El Niños are infrequent and supply only seven percent of California's water," he said.

"Looking ahead to summer, we might not be celebrating the demise of this El Niño," cautioned Patzert. "It could be followed by a La Niña, which could bring roughly opposite effects to the world's weather."

La Niñas are essentially the opposite of El Niño conditions. During a La Niña episode, trade winds are stronger than normal, and the cold water that normally exists along the coast of South America extends to the central equatorial Pacific. La Niña episodes change global weather patterns and are associated with less moisture in the air over cooler ocean waters. This results in less rain along the coasts of North and South America and along the central and eastern equatorial Pacific, and more rain in the far Western Pacific.

El Niño events are part of the long-term, evolving state of global climate, for which measurements of sea surface height are a key indicator.

For an animation of the evolution of the 2015 and 1997 El Niños, visit:

<https://sealevel.jpl.nasa.gov/elnino2015/2015-animated.gif>

For more information on how NASA studies El Niño, visit:

<http://climatesciences.jpl.nasa.gov/enso>

To learn more about NASA's satellite altimetry programs, visit:

<http://sealevel.jpl.nasa.gov>

For more information about NASA's Earth science activities, visit:

<http://www.nasa.gov/earth>



# Los Angeles Times

## California has 'a shot out of the drought' if El Niño rain persists



John Mamola shovels snow from the driveway leading to his cabin near Echo Summit, Calif., last month. (Rich Pedroncelli / Associated Press)



By **Joseph Serna** · Contact Reporter

JANUARY 21, 2016, 5:00 AM

With a couple of weeks of rain and snow behind them and more on the horizon for the Sierra Nevada in Northern California, state water officials expressed cautious hope that this El Niño season could lift California out of its historic drought.

“The recent rains have put us on a good trajectory to perhaps have a shot out of the drought if it were to continue at the current rate,” said Doug Carlson, a spokesman with the California Department of Water Resources.

As of Wednesday, the northern Sierra Nevada had received 114% of the average rainfall typical during strong El Niño years, while the central Sierra Nevada in the San Joaquin basin was doing even better, having received 122% of average rainfall typical during big El Niño years.

The number was slightly below average for the southern Sierra Nevada, the state reported.

But not all precipitation is the same, officials caution. The mountains need snow, and lots of it, that can accumulate and slowly melt through the spring and summer, feeding the state's streams, rivers and lakes.

"Right now, we're doing better than last year. But nowhere near the 150% of normal that we had been predicting," Carlson said. "It remains to be seen if we're going to be end-of-the-drought happy or better-than-last-year happy."

Many of the state's major reservoirs are below historical averages -- Lake Shasta is at 40% when the average is 60%, while Lake Oroville is at 34% compared with the historical average of 54%.

"We have such a huge deficit, it's a very large number we have to recoup," said Craig Shoemaker, a meteorologist in Sacramento.

But Shoemaker said the pattern for the first part of the year so far has been good.

Though the storms hitting the Bay Area, Lake Tahoe and beyond are typical for the winter, they're carrying more moisture because of El Niño, Shoemaker said.

Another significant rain storm was expected in Northern California over the weekend, he said.

"Every storm we get is a little bit stronger than it would have been without El Niño," Shoemaker said. "We're off to a good start. We just need it to continue for the rest of the winter."



## Thanks El Niño! 44-foot rise of Folsom Lake offers hope for California's worst ever drought

By **Brandon Mercer**

Updated 5:01 pm, Wednesday, January 20, 2016

California lake levels are rising as fast as the stock market is falling, with Folsom Lake east of Sacramento rising an astonishing 44 feet in just over a month and Lake Oroville, the second most expansive water storage facility in the state rising another 20 feet.

Early December saw Folsom Lake, just off Highway 50 on the way up to South Lake Tahoe, dwindle to the hydrological equivalent of a mud puddle.

It reached its lowest levels since they started filling it up after building the dam of around 349 feet above sea level.

By today, it has risen over 44 feet to just under 393 feet above sea level.

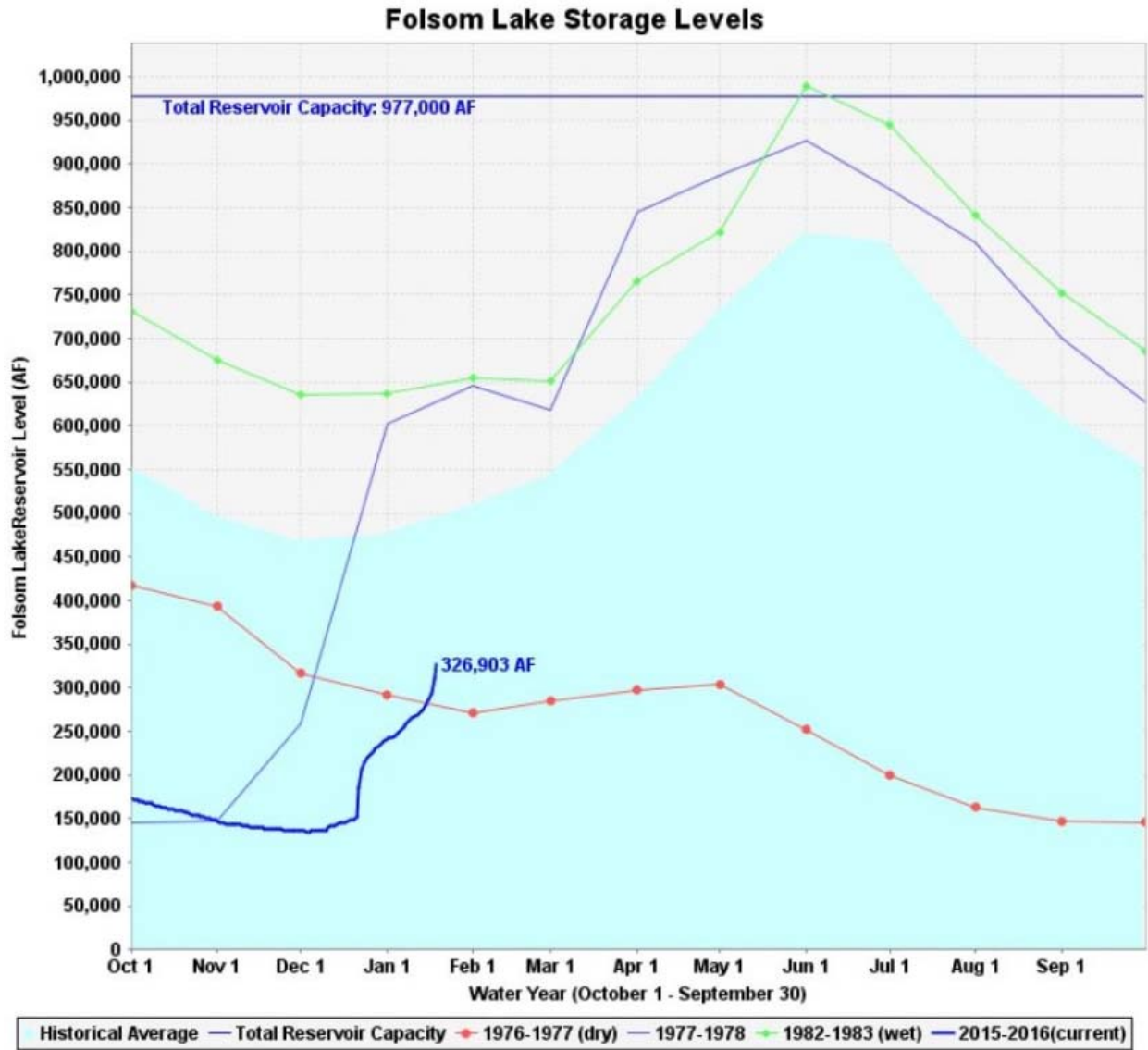
The worst year previously was 1976-1977. Then, in fall of 1977, it began filling up again, following a trajectory that looks rather similar to what's happening right now.

And, to be clear, as you can see in the shaded aqua area in the graph below, the lake ALWAYS rises a hundred feet or much more every winter or spring. The difference is it was on a track similar to 1976-1977 of flatlining over the past years, and now it's getting the hoped-for rocket-like rise.

The real answers will be found by checking back in a month to see if the chart is still going upward, toward that normal trend line.

The photograph gallery shows the lake through a dry December, and then photos of Lake Oroville dry, then significantly higher in new photos this week.

See <http://www.sfgate.com/bayarea/article/el-nino-california-drought-folsom-lake-6772009.php>





Date: January 26, 2016

Subject: Review of Updated Standard Specifications for Drinking Water, Recycled Water, and Sewer Facilities

On August 20, 2014, the Board of Directors adopted Resolution No. 2014-08 related to updated Standard Specifications for drinking water, recycled water and sewer facilities. The District staff has made minor changes to the standard drawings and recommends the adoption of the entire packet due to the modified title block shown on each page.

The drinking water standard drawings begin on page 3 of 133, the sewer standard drawings begin on page 71 of 133, and the recycled water standard drawings begin on page 107 of 133.

Following the approval of the standard drawings, the District's website will be updated to include the entire package of standard drawings as well as individual standards for use by consultants, engineers and contractors.

The screenshot shows the website's navigation menu and three columns of standard design drawings. Each column includes a title, a brief description, and a table of standards with their descriptions and PDF links.

Drinking Water Standard Design Drawings		Sewer Standard Design Drawings		Recycled Water Standard Design Drawings	
Standard Number	Description	Standard Number	Description	Standard Number	Description
W-0	Water Standard Index - <a href="#">PDF</a>	S-0	Sewer Standard Index - <a href="#">PDF</a>	R-0	Recycled Water Standard Index - <a href="#">PDF</a>
W-1	Standard Legend - <a href="#">PDF</a>	S-1	Standard Legend - <a href="#">PDF</a>	R-1	Standard Legend - <a href="#">PDF</a>
W-2	Potable Water Pipeline Location - <a href="#">PDF</a>	S-2	Sewer Mainline Location - <a href="#">PDF</a>	R-2	Recycled Water Pipeline Location - <a href="#">PDF</a>
W-3	Utility Locations - Sections - <a href="#">PDF</a>	S-3	Manhole Detail - <a href="#">PDF</a>	R-3	Recycled Water Notes for Non-Residential Sites - <a href="#">PDF</a>
W-4	Dual Plumbed Residential Properties Requiring 1" Fire Sprinkler Service - <a href="#">PDF</a>	S-4	Concrete Base and Joint Detail - <a href="#">PDF</a>	R-4	Recycled Water Notes for Onsite Residential Use - <a href="#">PDF</a>
W-5	Residential Properties Requiring 1" Fire Sprinkler Service - <a href="#">PDF</a>	S-5	Adjust Existing Manhole to Grade - <a href="#">PDF</a>	R-5	3/4" Dual Recycled Water Meter Assembly - <a href="#">PDF</a>
W-6	Manifold Assembly for Four to Ten 3/4" and 1" Water Services - <a href="#">PDF</a>	S-6	Manhole Shaft Location Details - <a href="#">PDF</a>	R-6	1" Recycled Water Meter Assembly - <a href="#">PDF</a>
W-7	1-1/2" and 2" Copper Water Service Installation - <a href="#">PDF</a>	S-7	Traffic Manhole Frame and Cover - <a href="#">PDF</a>	R-7	1-1/2" and 2" Recycled Water Service Installation - <a href="#">PDF</a>
W-8	3" and 4" Water Meter Installation - <a href="#">PDF</a>	S-8	Special Manhole (20' to 30' Deep) - <a href="#">PDF</a>	R-8	Not In Use
		S-9	Special Manhole (30'+ Deep) - <a href="#">PDF</a>	R-9	Not In Use
		S-10	Drop Manhole Detail (Special Acceptance Only) - <a href="#">PDF</a>		



**RESOLUTION NO. 2016-0x**

**RESOLUTION OF THE YUCAIPA VALLEY WATER DISTRICT  
ADOPTING THE STANDARD SPECIFICATIONS FOR THE DESIGN AND  
PROCESSING, FURNISHING OF MATERIALS, AND CONSTRUCTION OF  
DRINKING WATER, RECYCLED WATER AND SEWER FACILITIES**

**Whereas**, the Yucaipa Valley Water District’s Board of Directors desires to adopt revised and updated comprehensive drinking water, recycled water and sewer standard specifications that reflect technological advances, product and material availability, regulatory requirements, and District policies.

**NOW, THEREFORE, BE IT HEREBY RESOLVED AND ORDERED**, that the Board of Directors of the Yucaipa Valley Water District hereby adopts the drinking water, recycled water and sewer standard specifications attached hereto as Exhibit “A”.

PASSED, APPROVED and ADOPTED this \_\_\_<sup>th</sup> day of January 2016.

YUCAIPA VALLEY WATER DISTRICT

ATTEST:

\_\_\_\_\_  
Lonni Granlund, President Board of Directors

\_\_\_\_\_  
Joseph B. Zoba, General Manager



Yucaipa Valley Water District

12770 Second Street, Yucaipa, California 92399 Phone: (909) 797-5117

# **Standard Specifications for the Design and Processing, Furnishing of Materials, and Construction of Drinking Water Facilities**

January \_\_, 2016

**YVWD WATER FACILITY STANDARDS**  
**DRAWING INDEX (NUMERICAL)**

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W-2	POTABLE WATER PIPELINE LOCATION
W-3	UTILITY LOCATIONS – SECTIONS
W-4	DUAL PLUMBED RESIDENTIAL PROPERTIES REQUIRING 1" FIRE SPRINKLER SERVICE
W-5	RESIDENTIAL PROPERTIES REQUIRING 1" SPRINKLER SERVICE
W-6	MANIFOLD ASSEMBLY FOR FOUR TO TEN 3/4" AND 1" SERVICES
W-7	1 1/2" AND 2" COPPER WATER SERVICE INSTALLATION
W-8	3" AND 4" WATER METER INSTALLATION
W-9	6" AND 8" WATER METER INSTALLATION
W-10	DOUBLE CHECK BACKFLOW ASSEMBLY
W-11	REDUCED PRESSURE BACKFLOW ASSEMBLY
W-12	REDUCED PRESSURE BACKFLOW ASSEMBLY WITH BYPASS
W-13	DOUBLE CHECK OR REDUCED PRESSURE DETECTOR ASSEMBLY ABOVE GROUND FIRE LINE
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W-15	1" AND 2" AIR AND VACUUM VALVE ASSEMBLY
W-16	WATER QUALITY SAMPLING STATION
W-17	NOT IN USE
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W-19	BLOW-OFF ASSEMBLY
W-20	VALVE AND VALVE BOX INSTALLATION
W-21	VALVE STEM EXTENSION
W-22	THRUST BLOCK DETAILS FOR RETROFIT ONLY
W-23	PRESSURE REDUCING STATION DETAILS
W-24	PREFABRICATED VAULT WITH LID AND VENT ASSEMBLY
W-25	ADJUSTABLE PIPE SUPPORT
W-26	STEEL CASING PIPE
W-27	MORTAR LINED AND COATED STEEL PIPE JOINT DETAILS
W-28	MORTAR LINED AND COATED STEEL PIPE CLOSURE DETAILS
W-29	NOT IN USE
W-30	TRENCH REPAIR DETAIL
W-31	PIPE BEDDING DETAIL
W-32	WATER PIPELINE PROTECTION DETAIL

**WATER STANDARD INDEX**

2016



Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 1 of 2

**YVWD WATER FACILITY STANDARDS**  
**DRAWING INDEX (SUBJECT)**

**STANDARDS**

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- W-2 POTABLE WATER PIPELINE LOCATION
- W-3 UTILITY LOCATIONS – SECTIONS
- W-22 THRUST BLOCK DETAILS FOR RETRO-FIT ONLY
- W-30 TRENCH REPAIR DETAIL
- W-31 PIPE BEDDING DETAILS

**SERVICES**

- W-4 DUAL PLUMBED RESIDENTIAL PROPERTIES REQUIRING 1" FIRE SPRINKLER SERVICE
- W-5 RESIDENTIAL PROPERTIES REQUIRING 1" FIRE SPRINKLER SERVICE
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- W-7 1 1/2" AND 2" COPPER WATER SERVICE INSTALLATION
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**FIRE HYDRANTS AND VALVES**

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- W-19 BLOW-OFF ASSEMBLY
- W-20 VALVE AND VALVE BOX INSTALLATION
- W-21 VALVE STEM EXTENSION

**PIPE AND CASING DETAILS**

- W-22 THRUST BLOCK DETAILS FOR RETROFIT ONLY
- W-25 ADJUSTABLE PIPE SUPPORT
- W-26 STEEL CASING PIPE
- W-27 MORTAR LINED AND COATED STEEL PIPE JOINT DETAILS
- W-28 MORTAR LINED AND COATED STEEL PIPE CLOSURE DETAILS
- W-31 PIPE BEDDING DETAIL
- W-32 WATER PIPELINE PROTECTION DETAIL

**PRESSURE REDUCING STATION AND VAULT DETAILS**

- W-23 PRESSURE REDUCING STATION DETAILS
- W-24 PREFABRICATED VAULT WITH LID AND VENT ASSEMBLY

**WATER STANDARD INDEX**

**2016**



**Yucaipa Valley Water District**

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 2 of 2

**STANDARD DESIGN REQUIREMENTS:**

PLAN SCALE SIZES ARE REQUIRED TO BE DESIGNED AT 1:40. SPECIAL CONSTRUCTION DETAILS MAY BE ADJUSTED AS NECESSARY FOR DESIGN AND CONSTRUCTION PURPOSES.

ALL PLAN SHEETS SHALL BE ON 24-INCH BY 36-INCH ARCHITECTURAL SHEET SIZE D.

ALL PROJECTS SHALL BE SUBMITTED TO THE DISTRICT ON MYLAR PRIOR TO CONSTRUCTION.

ALL PROJECTS, UPON COMPLETION, SHALL UPDATE THE MYLAR PLANS AND PROVIDE AUTOCAD FILES FOR DISTRICT USE AND RECORDS UPON COMPLETION.

**STANDARD LEGEND**

	RIGHT OF WAY (R.O.W.)		
	CENTERLINE		
	EXISTING WATER LINE		
	PROPOSED WATER LINE		
	EXISTING RECYCLED WATER LINE		
	PROPOSED RECYCLED WATER LINE		
	EXISTING SEWER LINE		
	PROPOSED SEWER LINE		
	EXISTING GAS LINE		
	PROPOSED GAS LINE		
	SERVICE LATERAL		
	ENCASEMENT		
	EXISTING ELECTRICAL CONDUIT		
	PROPOSED ELECTRICAL CONDUIT		
	EXISTING TELEPHONE CONDUIT		
	PROPOSED TELEPHONE CONDUIT		
	EXISTING FIBER OPTIC CABLE		
	PROPOSED FIBER OPTIC CABLE		
	PORTLAND CEMENT CONCRETE IN SECTION		
	PORTLAND CEMENT CONCRETE IN PLAN		
	POWER POLE AND GUY LINE		CLEAN-OUT
	TRAFFIC SIGNAL EXISTING		HOUSE CONNECTION SEWER
	WATER WELL		WYE BRANCH
	BUTTERFLY VALVE		CUT-OFF WALL
	GATE VALVE	<b>C.O.</b>	CLEAN-OUT
	FIRE HYDRANT	<b>D.I.P.</b>	DUCTILE IRON PIPE
	BLOW-OFF	<b>D.M.H.</b>	DROP MANHOLE
	AIR & VACUUM VALVE ASSEMBLY (SIZE PER PLAN)	<b>J.M.H.</b>	JUNCTION MANHOLE
	POTABLE WATER QUALITY SAMPLE STATION	<b>M.H.</b>	MANHOLE
	RECYCLED WATER QUALITY SAMPLE STATION	<b>V.C.P.</b>	VITRIFIED CLAY PIPE

**STANDARD DESIGN REQUIREMENTS AND LEGEND**

2016



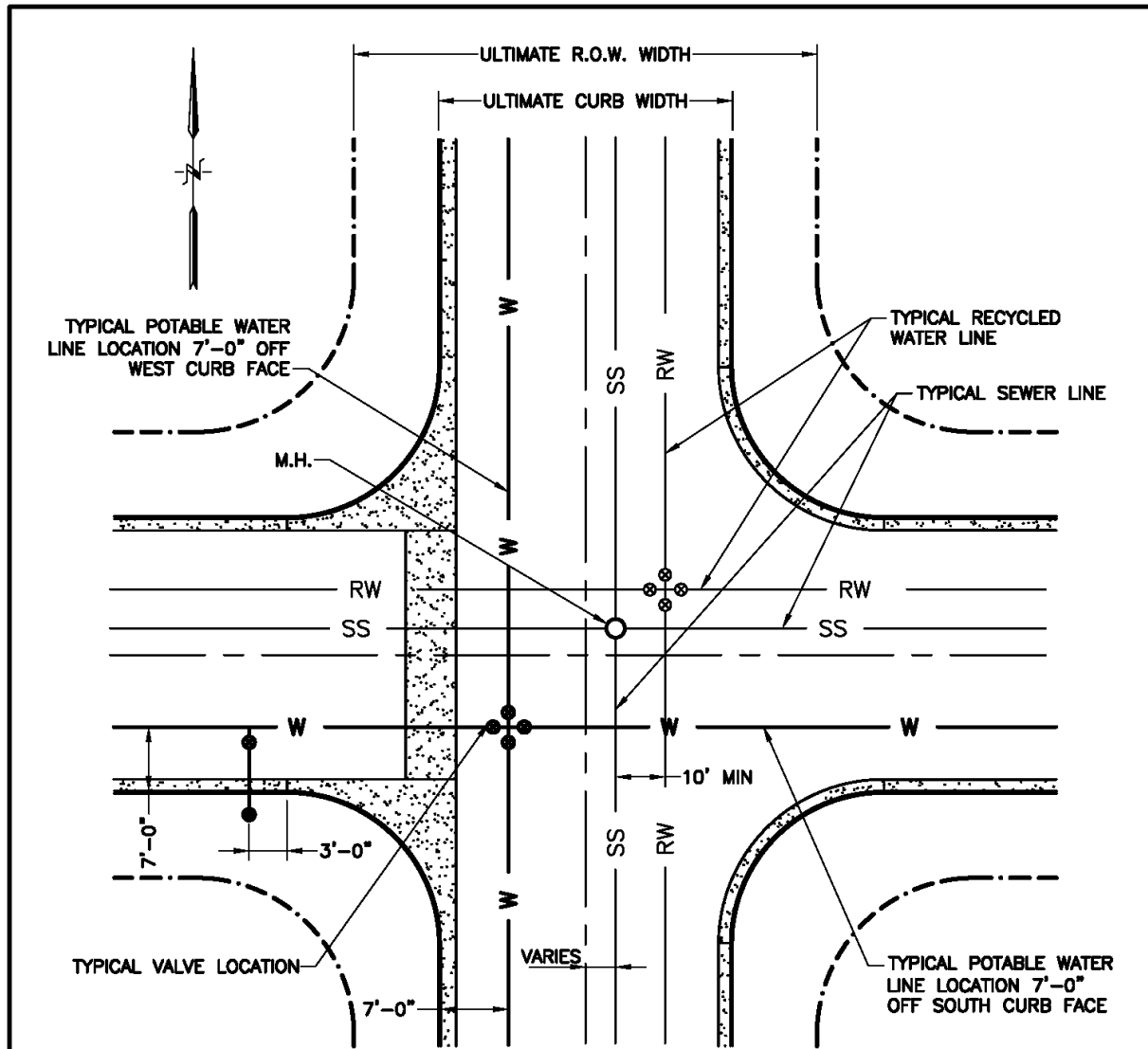
Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 1 of 1





**NOTES:**

POTABLE WATER LINE SIZE TO BE DETERMINED BY Y.V.W.D.

PLAN SCALE SIZES ARE REQUIRED TO BE DESIGNED AT 1:40. SPECIAL CONSTRUCTION DETAILS MAY BE ADJUSTED AS NECESSARY FOR DESIGN AND CONSTRUCTION PURPOSES.

ALL PLAN SHEETS SHALL BE ON 24-INCH BY 36-INCH ARCHITECTURAL SHEET SIZE D.

ALL PROJECTS SHALL BE SUBMITTED TO THE DISTRICT ON BOTH MYLAR AND AUTOCAD FORMATS FOR DISTRICT USE AND RECORDS.

## POTABLE WATER PIPELINE LOCATION

2016

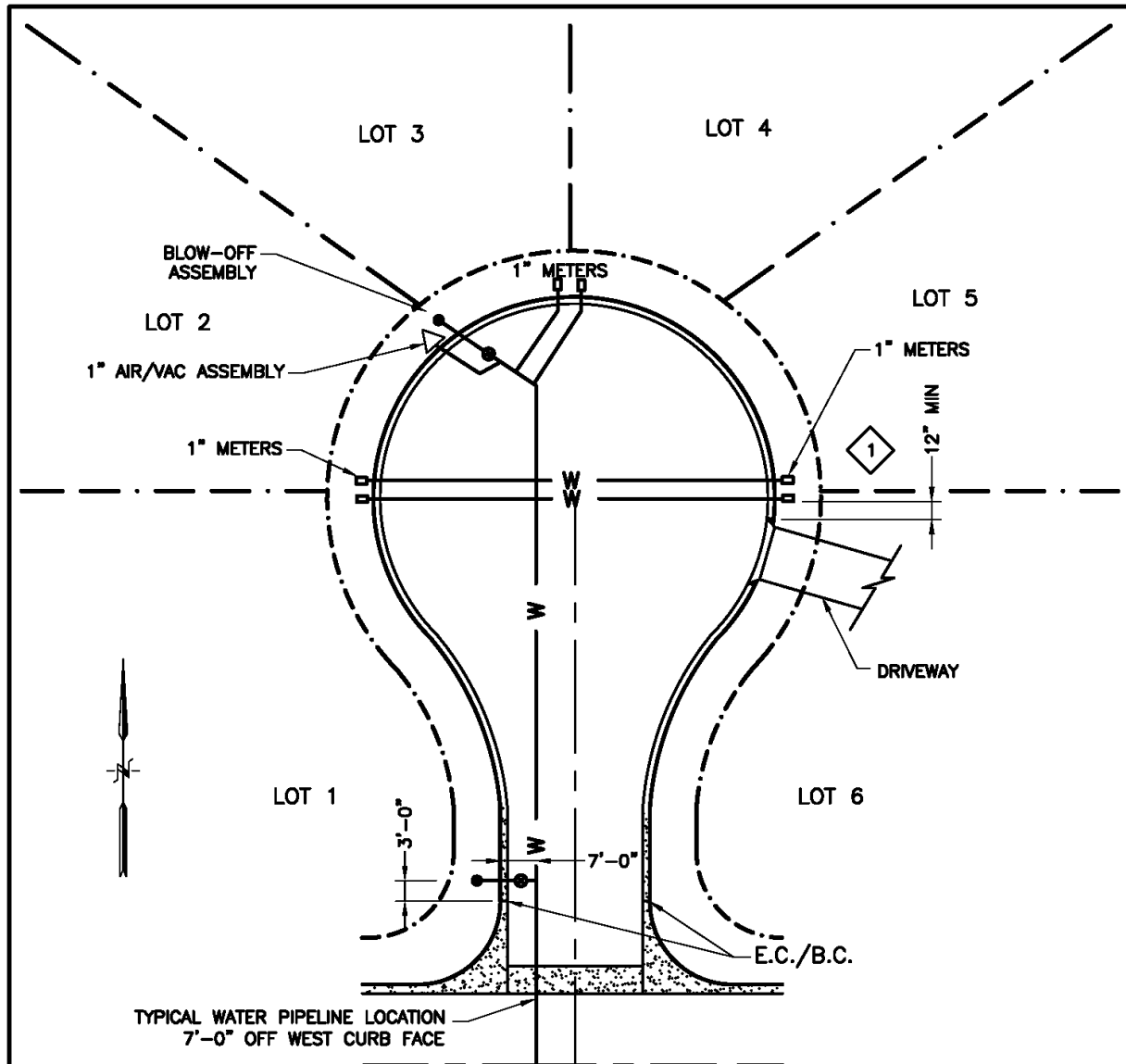


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 1 of 2



**NOTE:**

**1** METERS, AIR/VAC ASSEMBLIES, FIRE HYDRANTS, AND BLOW OFFS SHALL NOT BE LOCATED WITHIN 12" OF DRIVEWAY APPROACH OR OTHER UTILITIES.

**POTABLE WATER PIPELINE LOCATION**

2016

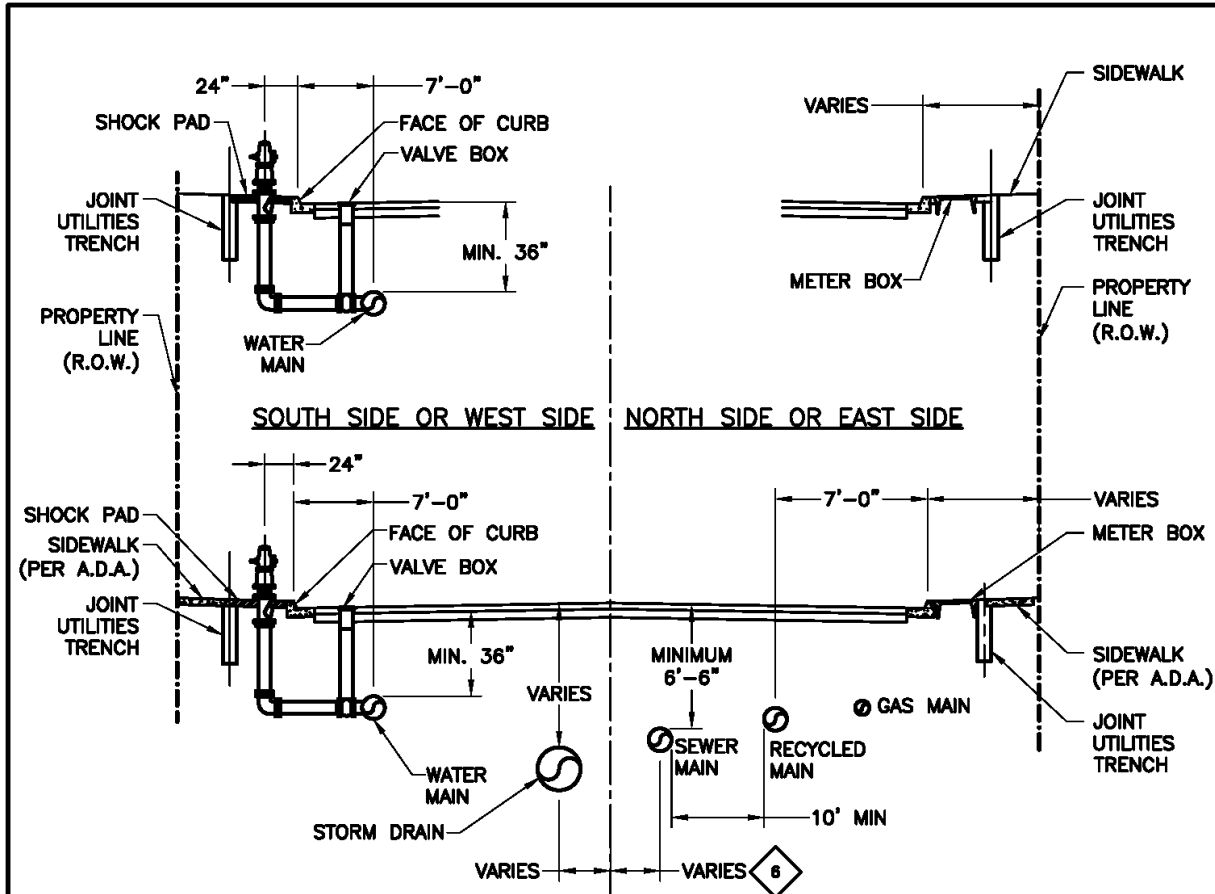


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 2 of 2



**NOTES:**

1. LOCATION AND DEPTH OF EXISTING AND PROPOSED UTILITIES MUST BE PROVIDED BY THE SUBDMIDER AND SHOWN ON ANY PLANS SUBMITTED TO Y.V.W.D. FOR APPROVAL.
2. FIRE HYDRANTS SHALL BE PLACED WITHIN THE SIDEWALK 2'-0" TO CENTER LINE OF BARREL BEHIND FACE OF CURB.
3. CHANGES MAY BE PERMITTED BY Y.V.W.D. IN CASES OF CONFLICTING FACILITIES.
4. CONFLICTS BETWEEN UTILITY COMPANIES FACILITIES, EXISTING AND PROPOSED, MUST BE MUTUALLY RESOLVED BY THE UTILITY COMPANIES.
5. BACKFILL UNDER EXISTING CURB WITHIN THE CITY OF YUCAIPA, MUST BE 2 SACK SLURRY PER CITY STANDARDS.

◊ PIPING SHOULD BE LOCATED 6'-0" TO ROAD CENTERLINE WHEN POSSIBLE, EXCEPT IN DIVIDED ROADWAYS.

**UTILITY LOCATIONS – SECTIONS**

2016

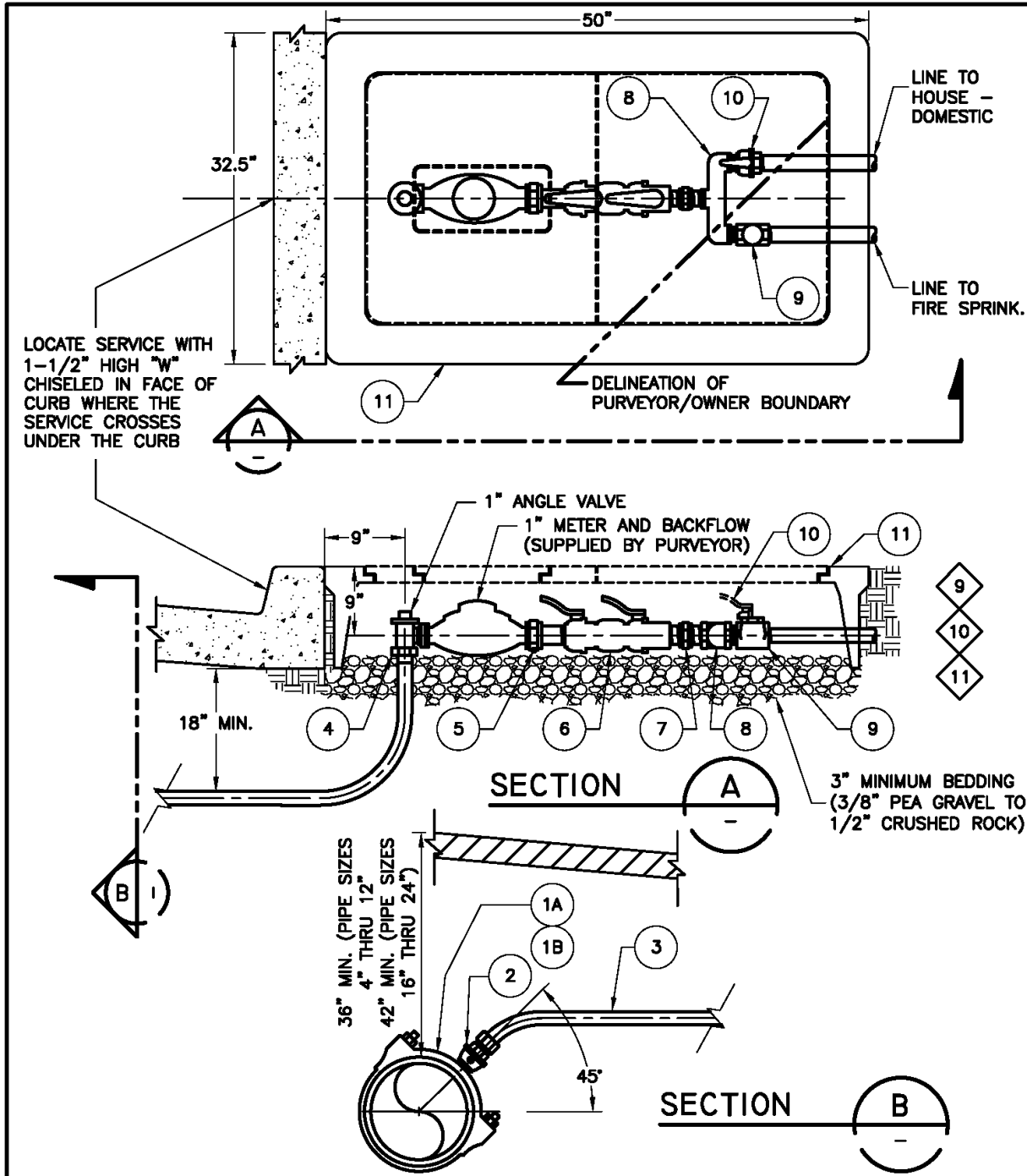


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 1 of 1



SEE SHEET 2 OF 3 FOR ADDITIONAL NOTES, SHEET 3 OF 3 FOR LIST OF MATERIALS

## DUAL PLUMBED RESIDENTIAL PROPERTIES REQUIRING 1" FIRE SPRINKLER SERVICE

2016



Yucaipa Valley Water District

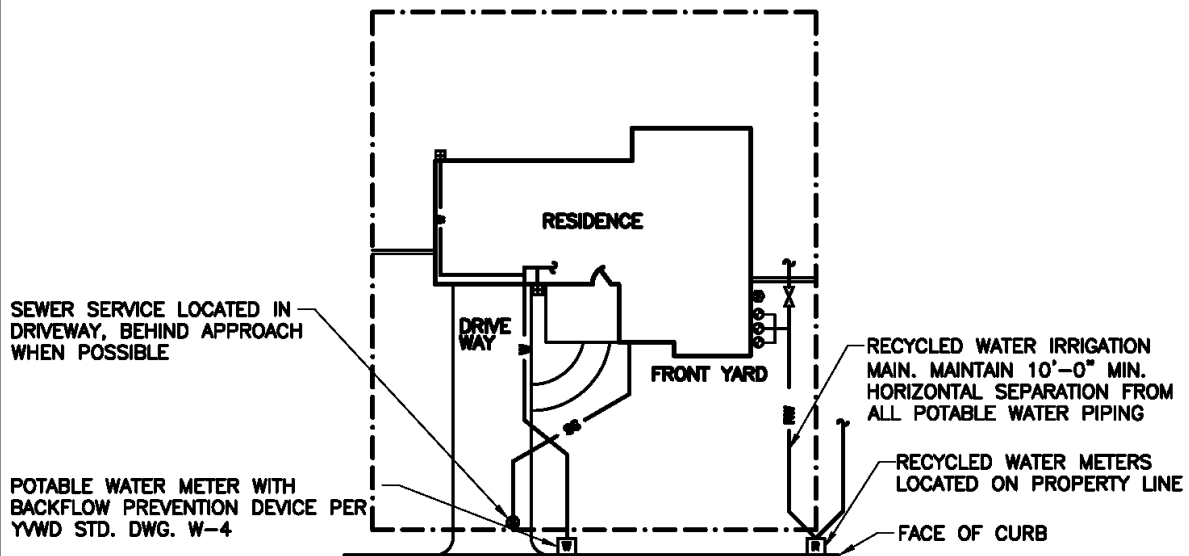
Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 1 of 3

**NOTES:**

1. SERVICE SADDLE SHALL NOT BE INSTALLED WITHIN 12" OF VALVE, COUPLING, JOINT OR FITTING.
2. BLUE POLY-SLEEVE SHALL BE SECURED AT THE CORP. AND THE ANGLE VALVE WITH 10 MIL. TAPE.
3. SET TOP OF METER BOX FLUSH WITH DRIVEWAY, SIDEWALK OR CURB, AS SHOWN.
4. THE CORPORATION STOP TAP SHALL BE MADE AT A 45° DEGREE ANGLE FROM THE TOP OF THE PIPE.
5. THE WATER SERVICE SHALL EXTEND PERPENDICULAR TO THE CENTERLINE OF THE STREET FROM THE WATER MAIN TO THE METER STOP.
6. ALL CONNECTIONS TO COPPER TUBING SHALL BE COMPRESSION FITTINGS.
7. RECYCLED SERVICES WILL BE LOCATED ON THE PROPERTY LINES IN PAIRS. MINIMUM SEPARATION FROM POTABLE TO RECYCLED SERVICES IS (10').
8. METERS AND BACKFLOW BRANCH ASSEMBLY TO BE CENTERED IN METER BOXES TO ALLOW FOR ACCESS, TESTING, AND MAINTENANCE.
9. METER, METER COUPLINGS, BACKFLOW BRANCH ASSEMBLY LOCK ON/LOCK OFF BALL VALVES, AND SINGLE CHECK VALVE ARE TO BE PROVIDED BY THE PURVEYOR.
10. ALL DUAL PLUMBED SERVICES WITH A FIRE SERVICE ARE REQUIRED TO HAVE A DOUBLE CHECK BACKFLOW PREVENTION ASSEMBLY INSTALLED AND TESTED PRIOR TO SERVICES BEING TURNED ON.
11. SUBJECT TO PURVEYOR REVIEW AND APPROVAL, THE METER AND METER BOX INCLUDING THE BRANCH ASSEMBLY MAY BE INSTALLED PARALLEL TO THE CURB IF NECESSARY.



\*POTABLE WATER METER SHALL BE LOCATED A MINIMUM OF 10- FEET AWAY FROM THE RECYCLED WATER SERVICE AND SEWER LATERAL, AND 3- FEET AWAY FROM THE E.C./B.C. OF THE DRIVEWAY APPROACH. IF THESE SEPARATIONS ARE NOT POSSIBLE, THE POTABLE WATER METER MAY BE LOCATED WITHIN THE DRIVEWAY BEHIND THE APPROACH BY SPECIAL PERMISSION ONLY.

**DUAL PLUMBED RESIDENTIAL PROPERTIES REQUIRING 1" FIRE SPRINKLER SERVICE**

2016



Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 2 of 3



LIST OF MATERIALS			
ITEM NO.	SIZE & DESCRIPTION	MANUFACTURER	SPEC. NO.
1A	DOUBLE STRAP SERVICE SADDLE 1" I.P. OUTLET (FOR D.I.P. MAINS)	JONES ROMAC FORD MUELLER	J-979-PIPE O.D. -1" I.P. 202BS-PIPE O.D. -1" I.P. 202BS-PIPE O.D. -1" I.P. BR2B-PIPE O.D. -I.P. 100
1B	CAST SERVICE SADDLE WITH 1" I.P. OUTLET (FOR D.I.P. MAINS)	ROMAC FORD MUELLER	202S-PIPE O.D.-1" I.P. F-202-PIPE O.D.-1" I.P. DR2A-PIPE O.D.-I.P. 100
2	1" BRONZE BALL CORPORATION STOP (M.I.P.T. X COMPRESSION)	JONES MULLER McDONALD FORD	E-1935SG H-15028N 74704BQ
3	1" BLUE PLASTIC COATED COPPER TUBING		COPPER TYPE "K" SOFT
4	BRONZE BALL ANGLE METER STOP W/LOCKWING (1" COMPRESSION X METER)	JONES MUELLER McDONALD FORD	1963WSG H-14258N 74602BQ
5	1" METER x 3" "METER SPUD"	JONES	J-130
6	1" MINIMUM - DOUBLE CHECK BACKFLOW ASSEMBLY	AMES FEBCO WILKINS ARI	2000SS 850 950XL DC-500
7	1" BRASS UNION		
8	1" "U"-BRANCH (M.I.P.T. X M.I.P.T.)	McDONALD	AYM-708UMM
9	1" DOUBLE CHECK (INLINE DOUBLE CHECK)	McDONALD	711-4FE 44
10	BALL VALVE WITH LOCKWING (F.I.P. X F.I.P.)	JONES MUELLER McDONALD FORD	E-1900W B20283 N AYM76101W
11	METER BOX AND COVER WITH READING LID	ARMOR CAST	A6001430PCX12 W/ (1)-A6001470 - COVER (1)-A6001470DZ - COVER (1)-A6000482

DUAL PLUMBED RESIDENTIAL PROPERTIES REQUIRING  
1" FIRE SPRINKLER SERVICE

2016

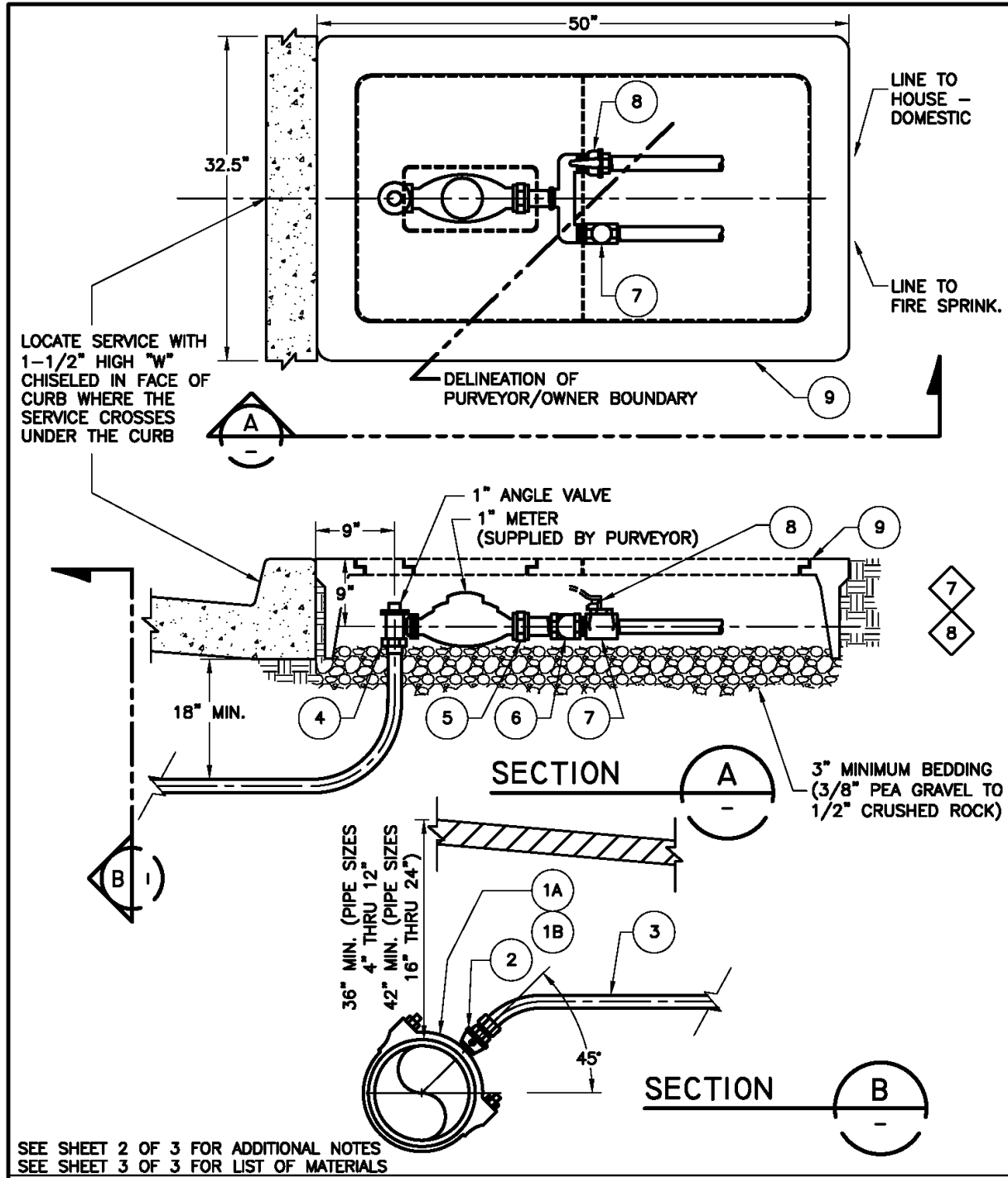


Yucaipa Valley Water District

Approved by the Yucaipa  
Valley Water District Board of  
Directors on January ##, 2016  
as Resolution No. 2016-##

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Sheet 3 of 3



## RESIDENTIAL PROPERTIES REQUIRING 1" FIRE SPRINKLER SERVICE

2016



Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 1 of 3

**NOTES:**

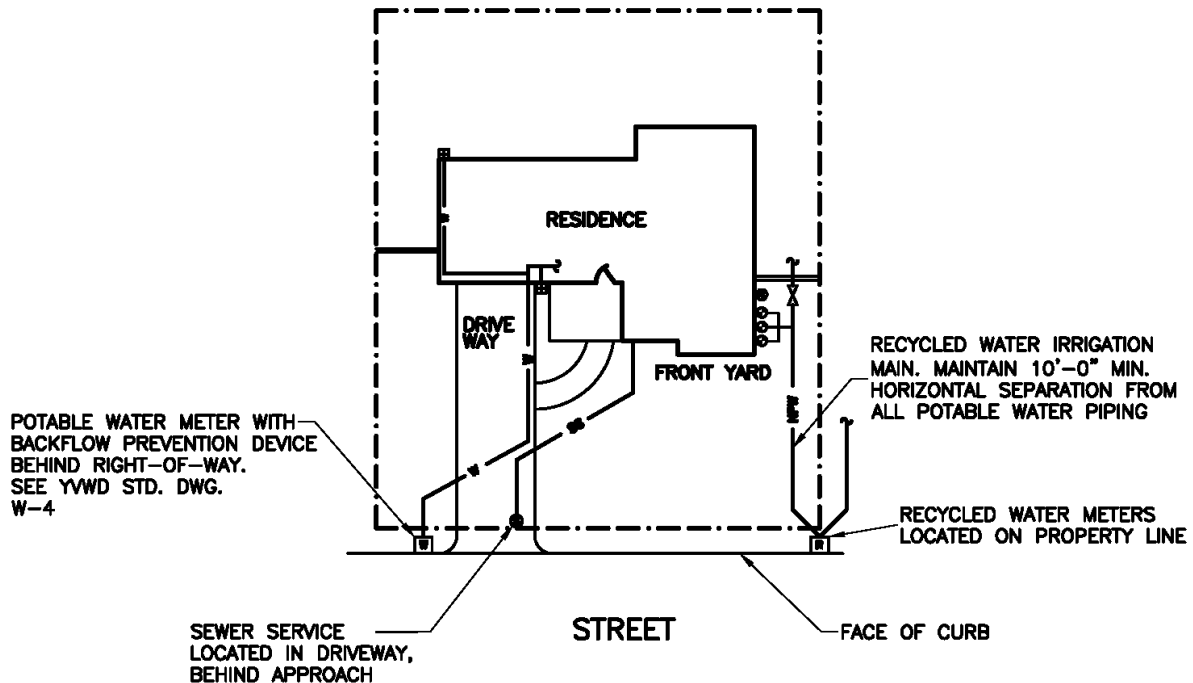
1. SERVICE SADDLE SHALL NOT BE INSTALLED WITHIN 12" OF VALVE, COUPLING, JOINT OR FITTING.
2. SET TOP OF METER BOX FLUSH WITH DRIVEWAY, SIDEWALK OR CURB, AS SHOWN.
3. THE CORPORATION STOP TAP SHALL BE MADE AT A 45° DEGREE ANGLE FROM THE TOP OF THE PIPE.
4. THE WATER SERVICE SHALL EXTEND PERPENDICULAR TO THE CENTERLINE OF THE STREET FROM THE WATER MAIN TO THE METER STOP.
5. ALL CONNECTIONS TO COPPER TUBING SHALL BE COMPRESSION FITTINGS.
6. METERS AND BRANCH ASSEMBLY TO BE CENTERED IN METER BOXES TO ALLOW FOR ACCESS AND MAINTENANCE



METER, CUSTOMER SHUT OFF VALVE, RANCH ASSEMBLY, LOCK OFF BALL VALVE, AND DUAL CHECK VALVE ARE TO BE PROVIDED BY THE PURVEYOR.



SUBJECT TO PURVEYOR REVIEW AND APPROVAL, THE METER AND METER BOX INCLUDING THE BRANCH ASSEMBLY MAY BE INSTALLED PARALLEL TO THE CURB IF NECESSARY.



**RESIDENTIAL PROPERTIES REQUIRING  
1" FIRE SPRINKLER SERVICE**

2016



Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 2 of 3

LIST OF MATERIALS			
ITEM NO.	SIZE & DESCRIPTION	MANUFACTURER	SPEC. NO.
1A	DOUBLE STRAP SERVICE SADDLE 1" I.P. OUTLET (FOR D.I.P. MAINS)	JONES ROMAC FORD MUELLER	J-979-PIPE O.D. -1" I.P. 202BS-PIPE O.D. -1" I.P. 202BS-PIPE O.D. -1" I.P. BR2B-PIPE O.D. -I.P. 100
1B	CAST SERVICE SADDLE WITH 1" I.P. OUTLET (FOR D.I.P. MAINS)	ROMAC FORD MUELLER	202S-PIPE O.D.-1" I.P. F-202-PIPE O.D.-1" I.P. DR2A-PIPE O.D.-I.P. 100
2	1" BRONZE BALL CORPORATION STOP (M.I.P.T. X COMPRESSION)	JONES MULLER McDONALD FORD	E-1935SG H15028N 74704BQ
3	1" BLUE PLASTIC COATED COPPER TUBING		COPPER TYPE "K" SOFT
4	BRONZE BALL ANGLE METER STOP W/LOCKWING (1" COMPRESSION X METER)	JONES MUELLER McDONALD FORD	1963WSG H14258N 74602BQ
5	1" METER x 3" "METER SPUD"	JONES	J-130
6	1" "U"-BRANCH (M.I.P.T. X M.I.P.T.)	McDONALD	AYM-708UMM
7	1" DOUBLE CHECK (INLINE DOUBLE CHECK)	McDONALD	711-4FE 44
8	BALL VALVE WITH LOCKWING (F.I.P. X F.I.P.)	JONES MUELLER McDONALD FORD	E-1900W B20283 N AYM76101W
9	METER BOX AND COVER WITH READING LID	ARMOR CAST	A6001430PCX12 W/ (1)-A6001470 - COVER (1)-A6001470DZ - COVER (1)-A6000482

**RESIDENTIAL PROPERTIES REQUIRING  
1" FIRE SPRINKLER SERVICE**

2016

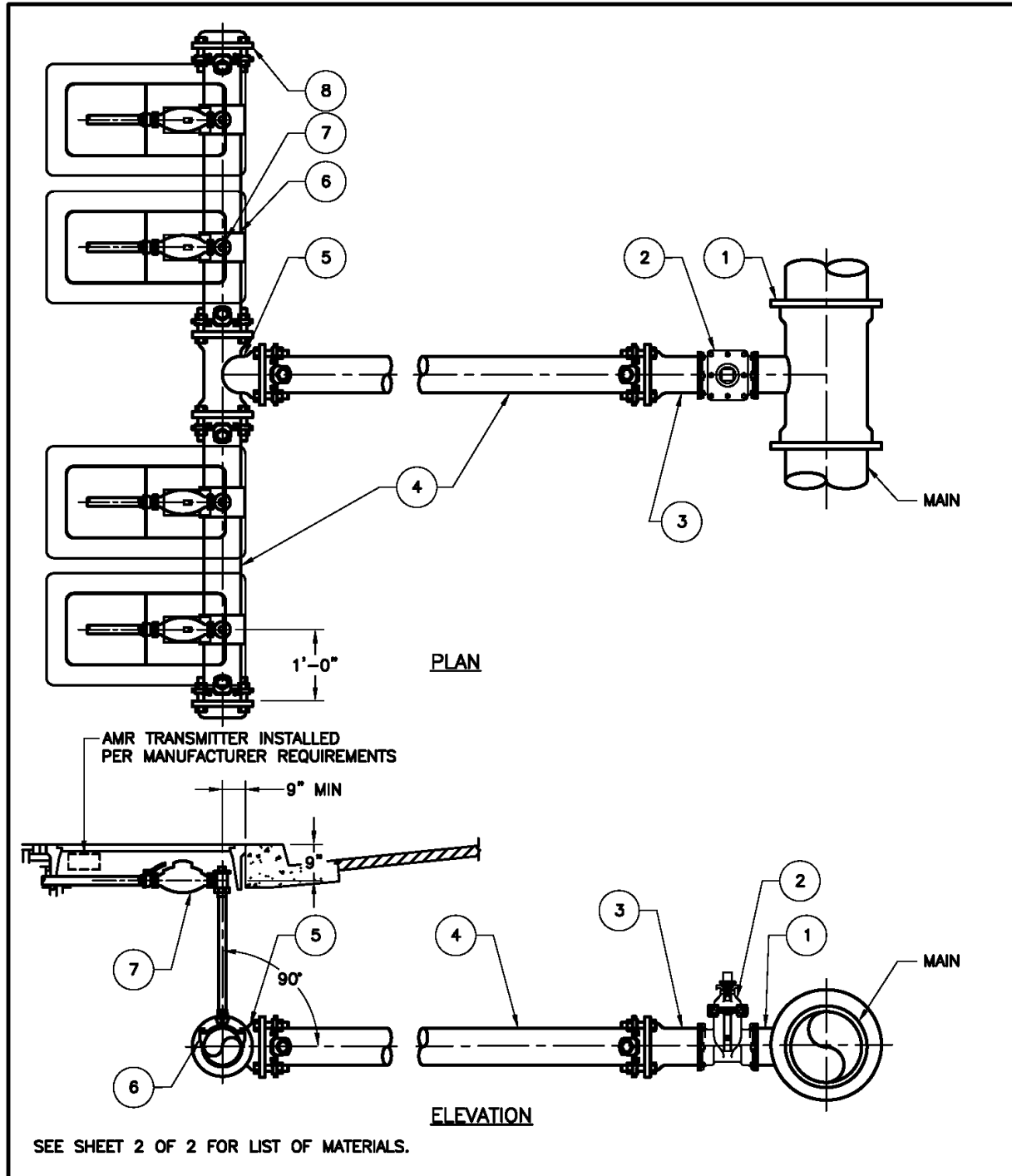


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 3 of 3



## MANIFOLD ASSEMBLY FOR FOUR TO TEN 3/4" AND 1" WATER SERVICES

2016



Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 1 of 2

LIST OF MATERIALS	
ITEM NUMBER	DESCRIPTION
1	D.I. TEE, MJ X MJ X FLG, RESTRAINED
2	4" FLG X FLG VALVE
3	MJ X FLG ADAPTOR, RESTRAINED
4	4" D.I.P. RESTRAINED
5	D.I. TEE, MJ X MJ X MJ, RESTRAINED WITH MEGA LUGS (SHORT BODY MAY BE USED)
6	CAST SERVICE SADDLE WITH I.P. OUTLET
7	1" COPPER SERVICE INSTALLATION - SEE YVWD STD. DWG. W-5
8	RESTRAINED MECHANICAL JOINT END CAP WITH MEGA LUG RESTRAINT

**NOTE:**

1. BACKFILL UNDER EXISTING CURB WITHIN CITY OF YUCAIPA, MUST BE 2 SACK SLURRY PER CITY STANDARDS.

**MANIFOLD ASSEMBLY FOR FOUR TO TEN  
3/4" AND 1" WATER SERVICES**

2016



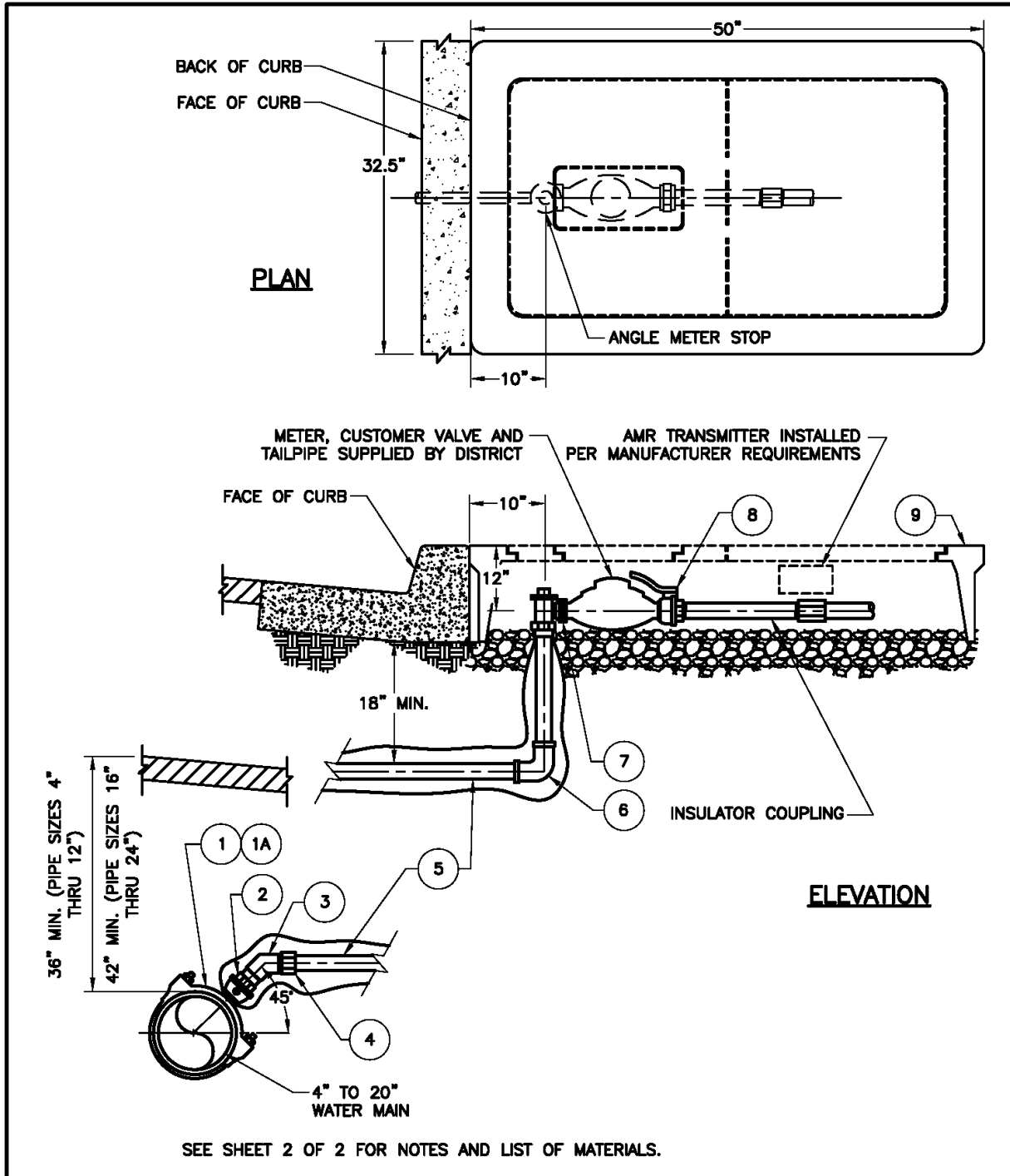
Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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## 1-1/2" AND 2" COPPER WATER SERVICE INSTALLATION

2016



Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 1 of 2

**NOTES:**

1. SERVICE SADDLE SHALL NOT BE INSTALLED WITHIN 12" OF VALVE, COUPLING, JOINT OR FITTING.
2. POLY-SLEEVE (BLUE FOR POTABLE WATER, PURPLE FOR RECYCLED/IRRIGATION) SHALL BE SECURED AT THE CORP. AND THE ANGLE VALVE WITH 10 MIL. TAPE.
3. SET TOP OF METER BOX FLUSH WITH SIDEWALK OR CURB AS SHOWN.
4. THE CORPORATION STOP TAP SHALL BE MADE AT A 45° ANGLE FROM THE TOP OF THE PIPE.
5. THE WATER SERVICE SHALL EXTEND PERPENDICULAR TO THE CENTERLINE OF THE STREET FROM THE WATER MAIN TO THE METER STOP.
6. METER BOX SHALL BE SET BEHIND CURB WHERE SIDEWALK IS ADJACENT TO CURB, OR IN PARKWAY BETWEEN CURB AND SIDEWALK.
7. METER BOX READING LID FOR ALL RECLAIMED WATER SERVICE SHALL BE PAINTED PER SPECIFICATIONS.
8. A 1" BYPASS LINE WITH LOCKING CURB STOP MAY BE REQUIRED FOR INSTALLATIONS NEEDING CONTINUOUS SERVICE.
9. METER, CUSTOMER VALVE AND TAILPIPE TO BE PROVIDED BY THE DISTRICT.
10. BACKFILL UNDER EXISTING CURB WITHIN THE CITY OF YUCAIPA, MUST BE 2 SACK SLURRY PER CITY STANDARDS.

LIST OF MATERIALS			
ITEM NO.	SIZE & DESCRIPTION	MANUFACTURER	SPEC. NO.
1	DOUBLE STRAP SERVICE SADDLE I.P. OUTLET (FOR D.I.P. MAINS)	JONES ROMAC FORD MUELLER	J-979-PIPE O.D.-2" I.P. 202BS-PIPE O.D.-2" I.P. 202B-PIPE O.D.-2" I.P. BR2B-PIPE O.D.-I.P. 200
1A	CAST SERVICE SADDLE WITH I.P. OUTLET (FOR D.I.P. MAINS)	ROMAC FORD MUELLER	202S-PIPE O.D.-2" I.P. F-202-PIPE O.D.-2" I.P. DR2A-PIPE O.D.-I.P. 200
2	BRONZE CORPORATION STOP MIPT X MIPT	JONES MUELLER FORD	J-1943 B-2989 FB500-7
3	BRASS 45° ELBOW 2" X 2" F.I.P.T. X F.I.P.T.	-	-
4	M.I.P.T. X COMPRESSION ADAPTOR	JONES MUELLER FORD	J-2605 H-15428 C84-77
5	2" COPPER PIPE/POLY SLEEVED	-	-
6	BRASS 90° ELBOW 2" X 2" COMPRESSION X COMPRESSION.	JONES MUELLER	J-2611 H-15526
7	BRONZE ANGLE METER STOP W/LOCKWING F.I.P. X FLANGE 1 1/2" THRU 2" COMBO ANGLE VALVE.	MUELLER	H14286N
8	BRONZE CUSTOMER SERVICE VALVE-METER FLANGE X F.I.P.	JONES FORD	J-1913 BF13-777 W/HH-67
9	METER BOX W/READING LID	ARMORCAST	A6001430PCX12 W/ (1)-A6001470 - COVER (1)-A6001470DZ - COVER (1)-A6000482

**1-1/2" THRU 2" COPPER WATER SERVICE INSTALLATION**

2016

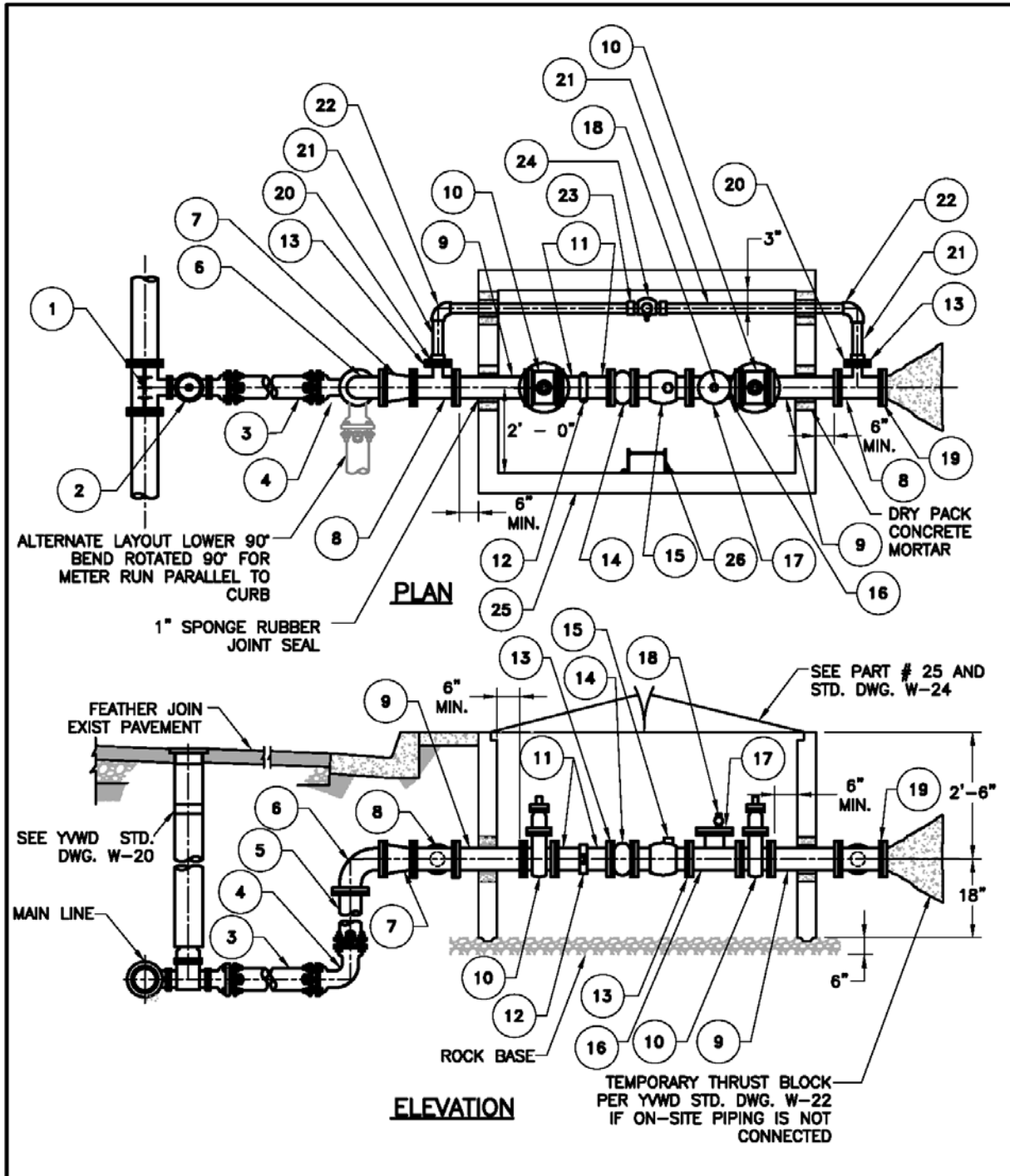


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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### 3" AND 4" WATER METER INSTALLATION

2016



Yucaipa Valley Water District

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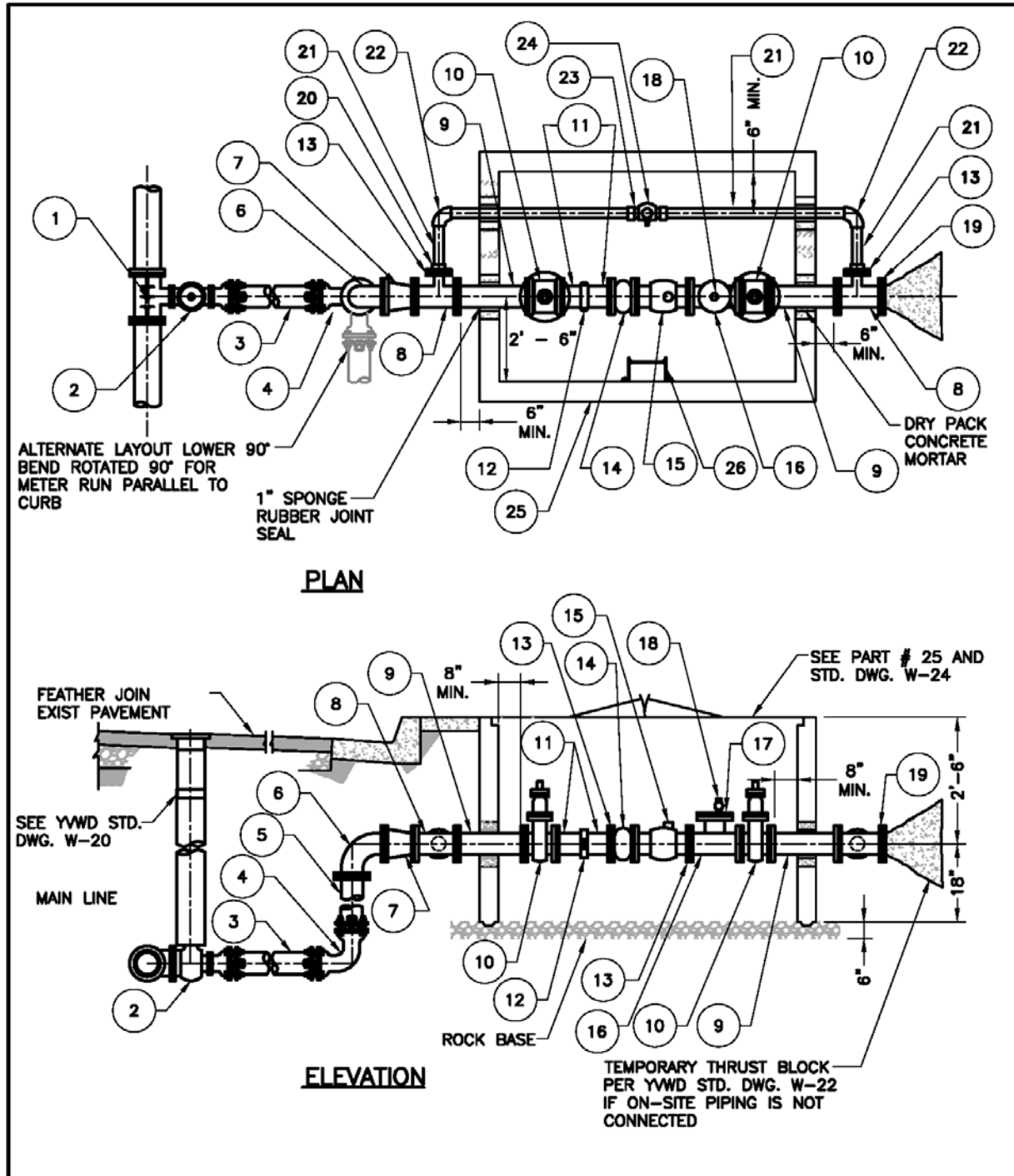
LIST OF MATERIALS		
ITEM	QUANTITY	DESCRIPTION
1	1 EA	SIZE X 4" TAPPING SLEEVE (USE MJ X FLG. TEE IF HOT TAP IS NOT REQUIRED).
2	1 EA	4" FLG. X FLG. TAPPING VALVE (USE RW OR GATE VALVE IF HOT TAP IS NOT REQUIRED).
3	AS REQ'D	4" D.I. PIPE LATERAL, RESTRAINED JOINTS
4	1 EA	4" D.I. 90° ELL, MJ. X MJ (IF REQUIRED).
5	2 EA	4" D.I. HALF SPOOL – FLG. X PLAIN END (IF REQUIRED)
6	1 EA	4" D.I. 90° ELL, FLG. X FLG (IF REQUIRED).
7	1 EA	4" X 3" D.I. REDUCER FLG. X FLG. (FOR 3" SERVICE ONLY)
8	2 EA	METER SIZE FLANGED D.I. TEE
9	2 EA	FLG x FLG. D.I. SPOOL – METER SIZE X 2'-6"
10	2 EA	RW OR GATE VALVE FLG. X FLG.
11	2 EA	D.I.P. HALF SPOOL, VICTAULIC X FLG., 6" LENGTH
12	1 EA	GROOVED-END COUPLING (VICTAULIC)
13	4 EA	BOLT AND FLANGE INSULATING KIT
14	1 EA	STRAINER (BY DISTRICT)
15	1 EA	METER (BY DISTRICT)
16	1 EA	METER SIZE D.I. TEE – FLANGED
17	2 EA	METER-SIZE D.I. COMPANION FLANGE TAPPED FOR 2" I.P.
18	1 EA	2" CORPORATION STOP – MIP X MIP
19	1 EA	D.I. BLIND FLANGE
20	2 EA	METER SIZE COMPANION FLANGE WITH 2" THREADED I.P. OUTLET
21	AS REQ'D	2" GALVANIZED PIPE
22	2 EA	2" 90° ELBOW
23	1 EA	2" UNION
24	1 EA	2" BALL VALVE WITH LOCKING WING – F.I.P. X F.I.P.
25	1 EACH	PRECAST CONCRETE VAULT WITH SPRING ASSIST HINGED DIAMOND PLATE ALUMINUM COVER AND RECESSED LOCKING HASP. PROVIDE 6" x 12" HINGED READING LID INSTALLED OVER METER REGISTER. (REFER TO YVWD STD. DWG. W-24)
26	1 EA	GALV. STEEL LADDER ( ALHAMBRA FOUNDRY A3400 ) W/LADDER – UP AND S.S. ANCHOR BOLTS.

**NOTES:**

1. VAULT SHOWN IS FOR PARKWAY USE ONLY. FOR TRAFFIC LOADING AND OTHER REQUIREMENTS, CONTACT DISTRICT REPRESENTATIVE.
2. VAULT COVER TO BE SET TO CONFORM TO PARKWAY GRADE.
3. WHEN A BY-PASS LINE IS NOT REQUIRED, DO NOT INSTALL ITEMS 21 TO 24.
4. BACKFILL UNDER EXISTING CURB WITHIN THE CITY OF YUCAIPA, MUST BE 2 SACK SLURRY PER CITY STANDARDS.

## 3" AND 4" WATER METER INSTALLATION

<b>2016</b>	 <p style="font-size: 1.2em; margin: 0;">Yucaipa Valley Water District</p>	<p style="font-size: 0.9em; margin: 0;">Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##</p>	<b>W-8</b>
			Sheet 2 of 2



## 6" AND 8" WATER METER INSTALLATION

2016



Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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LIST OF MATERIALS		
ITEM	QUANTITY	DESCRIPTION
1	1 EA	SIZE X 8" TAPPING SLEEVE (USE MJ X FLG. TEE IF HOT TAP IS NOT REQUIRED).
2	1 EA	8" FLG. X FLG. TAPPING VALVE (USE RW OR GATE VALVE IF HOT TAP IS NOT REQUIRED).
3	AS REQ'D	8" D.I. PIPE LATERAL, RESTRAINED JOINTS
4	1 EA	8" D.I. 90° ELL, MJ. X MJ (IF REQUIRED).
5	2 EA	8" D.I. HALF SPOOL – FLG. X PLAIN END (IF REQUIRED)
6	1 EA	8" D.I. 90° ELL, FLG. X FLG (IF REQUIRED).
7	1 EA	8" X 6" D.I. REDUCER FLG. X FLG. (FOR 6" SERVICE ONLY)
8	2 EA	METER SIZE FLANGED D.I. TEE
9	2 EA	FLG x FLG. D.I. SPOOL – METER SIZE X 2'-6"
10	2 EA	RW OR GATE VALVE FLG. X FLG.
11	2 EA	D.I.P. HALF SPOOL, VICTAULIC X FLG., 6" LENGTH
12	1 EA	GROOVED-END COUPLING (VICTAULIC)
13	4 EA	BOLT AND FLANGE INSULATING KIT
14	1 EA	STRAINER (BY DISTRICT)
15	1 EA	METER (BY DISTRICT)
16	1 EA	METER SIZE D.I. TEE – FLANGED
17	2 EA	METER-SIZE D.I. COMPANION FLANGE TAPPED FOR 2" I.P.
18	1 EA	2" CORPORATION STOP – MIP X MIP
19	1 EA	D.I. BLIND FLANGE
20	2 EA	METER SIZE COMPANION FLANGE WITH 2" THREADED I.P. OUTLET
21	AS REQ'D	2" GALVANIZED PIPE
22	2 EA	2" 90° ELBOW
23	1 EA	2" UNION
24	1 EA	2" BALL VALVE WITH LOCKING WING – F.I.P. X F.I.P.
25	1 EACH	PRECAST CONCRETE VAULT WITH SPRING ASSIST HINGED DIAMOND PLATE ALUMINUM COVER AND RECESSED LOCKING HASP. PROVIDE 6" x 12" HINGED READING LID INSTALLED OVER METER REGISTER. (REFER TO YVWD STD. DWG. W-24)
26	1 EA	GALV. STEEL LADDER ( ALHAMBRA FOUNDRY A3400 ) W/LADDER – UP AND S.S. ANCHOR BOLTS.

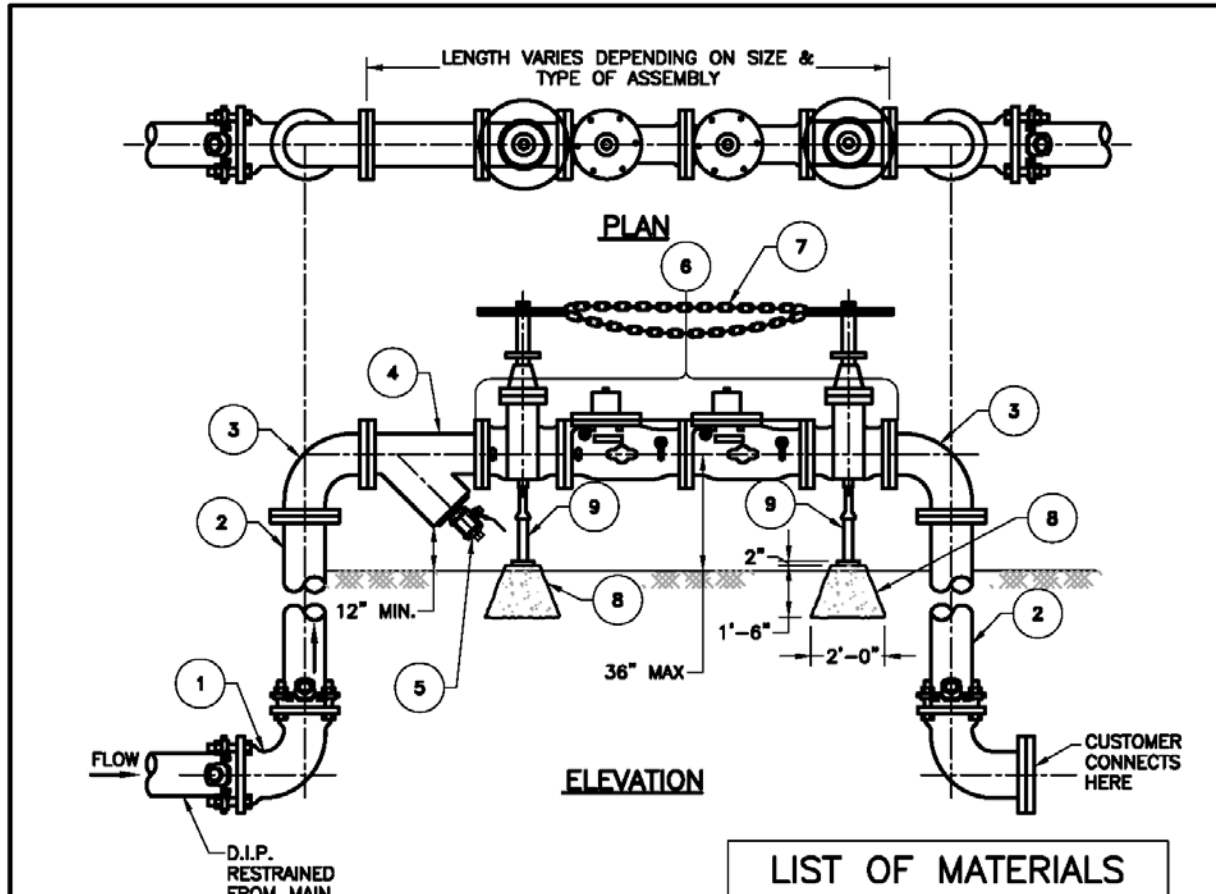
**NOTES:**

1. VAULT SHOWN IS FOR PARKWAY USE ONLY. FOR TRAFFIC LOADING AND OTHER REQUIREMENTS, CONTACT DISTRICT REPRESENTATIVE.
2. VAULT COVER TO BE SET TO CONFORM TO PARKWAY GRADE.
3. WHEN A BY-PASS LINE IS NOT REQUIRED, DO NOT INSTALL ITEMS 21 TO 24.
4. BACKFILL UNDER EXISTING CURB WITHIN THE CITY OF YUCAIPA, MUST BE 2 SACK SLURRY PER CITY STANDARDS.

**6" AND 8" WATER METER INSTALLATION**

2016	 <p>Yucaipa Valley Water District</p>	Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##	W-9
		Sheet 2 of 2	





**NOTES:**

1. NOTIFY Y.V.W.D. PRIOR TO INSTALLATION OF UNIT.
2. INSTALLATION SHALL COMPLY WITH THE LATEST PLUMBING CODES AND APPLICABLE LOCAL AGENCY REQUIREMENTS. DOUBLE CHECK ASSEMBLY MAY BE INSTALLED IN AN UNDERGROUND VAULT AS SHOWN IN YVWD STD. DWG. W-14.
3. ALL TEST VALVES MUST BE PLUGGED TO PREVENT TAMPERING.
4. MATERIALS 8 AND 9 ARE REQUIRED ON ALL ASSEMBLIES 6" AND LARGER. ASSEMBLIES SMALLER THAN 6" MAY REQUIRE A FULL LENGTH CONCRETE PAD BELOW THE DEVICE.
5. ALL BACKFLOW ASSEMBLIES ARE TO BE INSTALLED AS CLOSE AS POSSIBLE TO THE METER AND ON THE CUSTOMER SIDE OF RIGHT OF WAY.

LIST OF MATERIALS	
1	D.I.P. 90° ELBOW, MJ X MJ WITH MEGA LUGS
2	D.I.P. HALF SPOOL, FLG x PE
3	D.I.P. 90° ELBOW, FLG x FLG
4	WYE STRAINER
5	FULL SIZE BLOWOFF VALVE WITH PLUG TO PREVENT TAMPERING
6	APPROVED DOUBLE CHECK BACKFLOW ASSEMBLY
7	CHAIN AND LOCK BETWEEN VALVE HANDLES TO PREVENT TAMPERING
8	CONCRETE FOOTING
9	GALVANIZED ADJUSTABLE PIPE SUPPORT. SEE YVWD STD. DWG. W-25

## DOUBLE CHECK BACKFLOW ASSEMBLY

2016

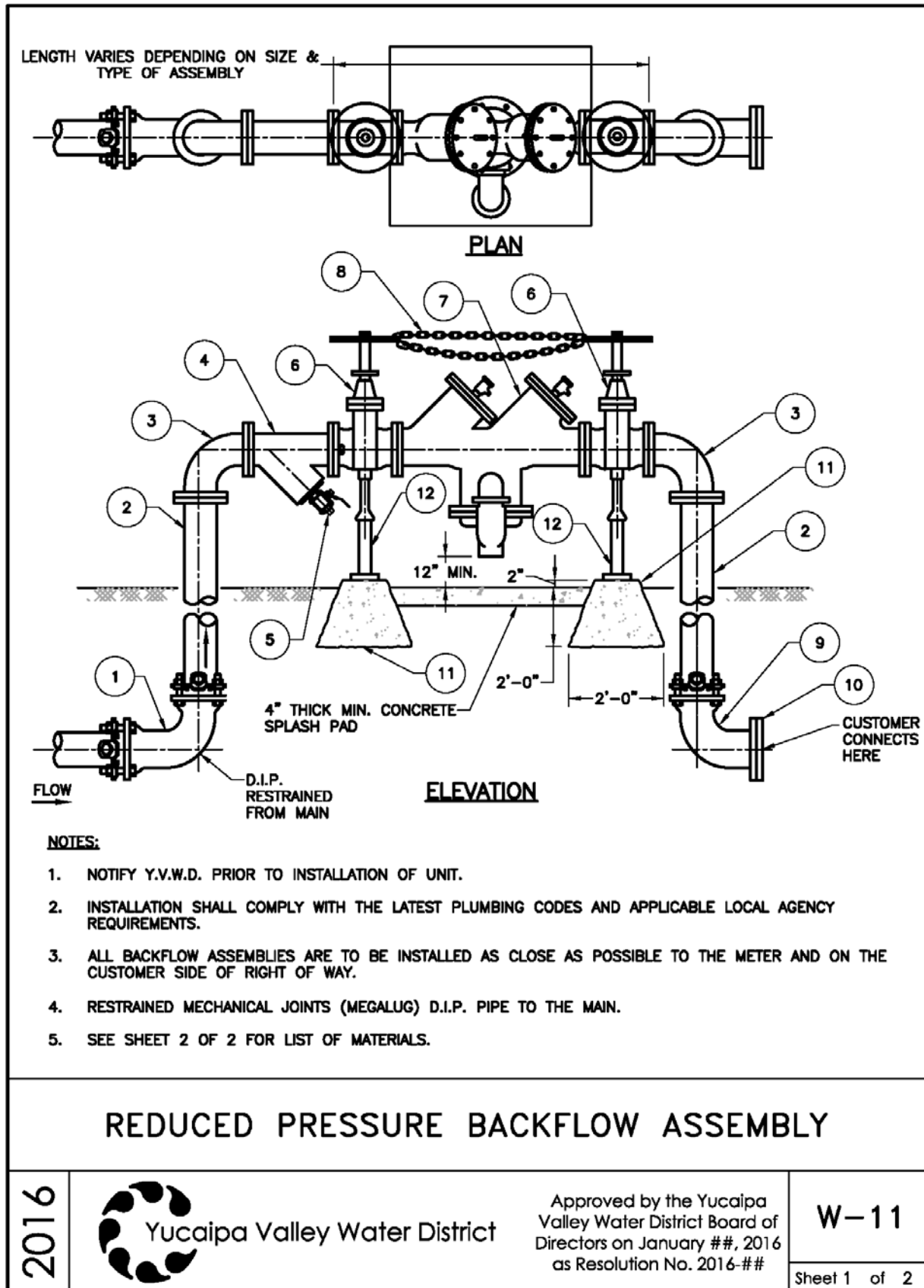


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 1 of 1



LIST OF MATERIALS	
1	D.I.P. 90° ELBOW, MJ X MJ WITH MEGA LUGS
2	D.I.P. HALF SPOOL, FLG X PE
3	D.I.P. 90° ELBOW, FLG x FLG
4	WYE STRAINER
5	FULL SIZE BLOWOFF VALVE WITH PLUG TO PREVENT TAMPERING
6	U.S.C.-APPROVED SHUT-OFF VALVES. SEE SPECIFICATIONS FOR ASSEMBLY
7	APPROVED REDUCED PRESSURE BACKFLOW ASSEMBLY (SIZE PER REQUIREMENT)
8	CHAIN AND LOCK BETWEEN VALVE HANDLES TO PREVENT TAMPERING
9	D.I.P. 90° ELBOW, MJ X FLG WITH MEGA LUG
10	BLIND FLANGE IF NOT CONNECTING IMMEDIATELY AFTER INSTALL OF DEVICE
11	CONCRETE FOOTING
12	GALVANIZED ADJUSTABLE PIPE SUPPORT. SEE YVWD STD. DWG. W-25

**REDUCED PRESSURE BACKFLOW ASSEMBLY**

2016

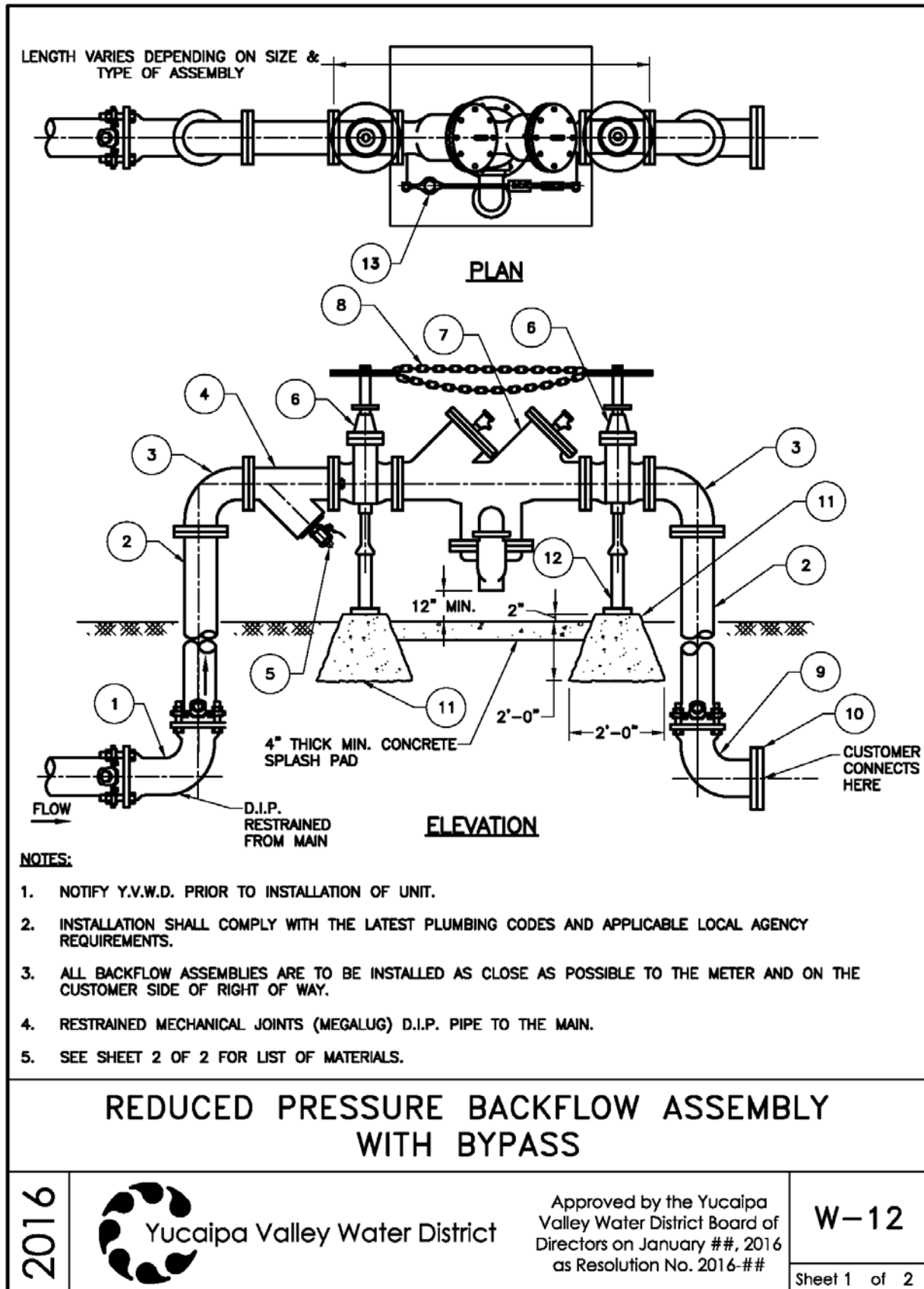


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 2 of 2



LIST OF MATERIALS	
1	D.I.P. 90° ELBOW, MJ X MJ WITH MEGA LUGS
2	D.I.P. HALF SPOOL, FLG X PE
3	D.I.P. 90° ELBOW, FLG x FLG
4	WYE STRAINER
5	FULL SIZE BLOWOFF VALVE WITH PLUG TO PREVENT TAMPERING
6	U.S.C.-APPROVED SHUT-OFF VALVES. SEE SPECIFICATIONS FOR ASSEMBLY
7	APPROVED REDUCED PRESSURE BACKFLOW ASSEMBLY (SIZE PER REQUIREMENT)
8	CHAIN AND LOCK BETWEEN VALVE HANDLES TO PREVENT TAMPERING
9	D.I.P. 90° ELBOW, MJ X FLG WITH MEGA LUG
10	BLIND FLANGE IF NOT CONNECTING IMMEDIATELY AFTER INSTALL OF DEVICE
11	CONCRETE FOOTING
12	GALVANIZED ADJUSTABLE PIPE SUPPORT. SEE YVWD STD. DWG. W-25
13	FACTORY INSTALLED BY-PASS METER ASSEMBLY CONSISTING OF APPRIVED POSITIVE DISPLACEMENT METER, DOUBLE CHECK VALVE AND ASSOCIATED PIPING. BY-PASS METER TO BE SUPPLIED BY THE DISTRICT.

**REDUCED PRESSURE BACKFLOW ASSEMBLY  
WITH BYPASS**

2016

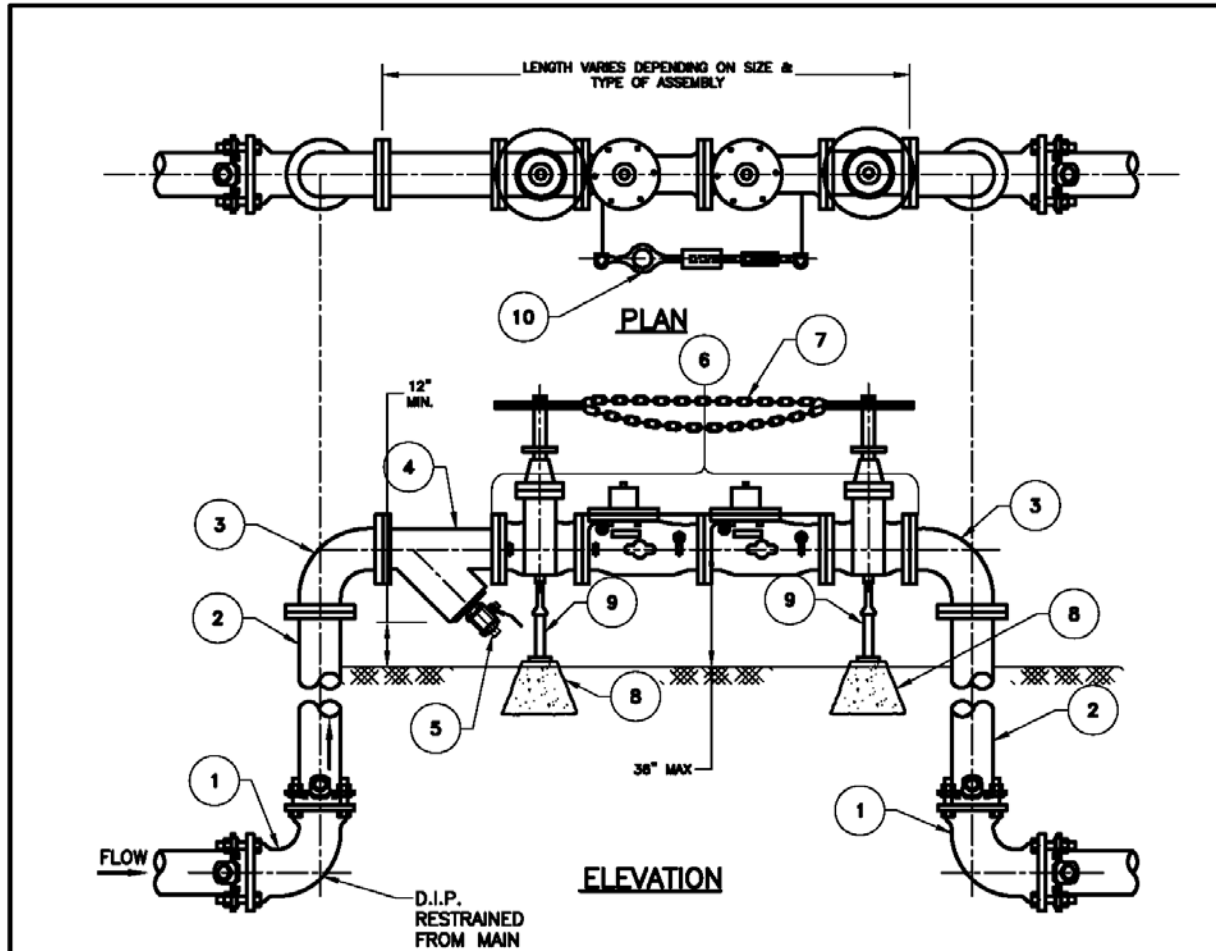


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 2 of 2



**NOTES:**

1. NOTIFY Y.V.W.D. PRIOR TO INSTALLATION OF UNIT.
2. INSTALLATION SHALL COMPLY WITH THE LATEST PLUMBING CODES AND APPLICABLE LOCAL AGENCY REQUIREMENTS.
3. DOUBLE CHECK ASSEMBLIES MAY BE INSTALLED UNDERGROUND AS SHOWN IN STANDARD DRAWING W-14. RP ASSEMBLIES MAY NOT BE INSTALLED WITHIN A VAULT. ABOVE GROUND ONLY.
4. ALL TEST VALVES MUST BE PLUGGED TO PREVENT TAMPERING.
5. MATERIALS 8 AND 9 ARE REQUIRED ON ALL ASSEMBLIES 6" AND LARGER. ASSEMBLIES SMALLER THAN 6" MAY REQUIRE A FULL LENGTH CONCRETE PAD BELOW THE DEVICE.
6. ALL BACKFLOW ASSEMBLIES ARE TO BE INSTALLED AS CLOSE AS POSSIBLE TO THE METER AND ON THE CUSTOMER SIDE OF RIGHT OF WAY.
7. SEE SHEET 2 OF 2 FOR LIST OF MATERIALS.

**DOUBLE CHECK OR REDUCED PRESSURE DETECTOR ASSEMBLY ABOVE GROUND FIRE LINE**

2016



Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 1 of 2



<b>LIST OF MATERIALS</b>	
1	D.I.P. 90° ELBOW, MJ X MJ WITH MEGA LUGS
2	D.I.P. HALF SPOOL, FLG x PE
3	D.I.P. 90° ELBOW, FLG x FLG
4	WYE STRAINER
5	FULL SIZE BLOWOFF VALVE WITH PLUG TO PREVENT TAMPERING
6	APPROVED DOUBLE CHECK BACKFLOW ASSEMBLY
7	CHAIN AND LOCK BETWEEN VALVE HANDLES TO PREVENT TAMPERING
8	CONCRETE FOOTING
9	GALVANIZED ADJUSTABLE PIPE SUPPORT. SEE YWWD STD. DWG. W-25.
10	FACTORY INSTALLED BY-PASS METER ASSEMBLY CONSISTING OF APPROVED POSITIVE DISPLACEMENT METER, DOUBLE CHECK VALVE AND ASSOCIATED PIPING. BY-PASS METER TO BE SUPPLIED BY THE DISTRICT.

**DOUBLE CHECK OR REDUCED PRESSURE DETECTOR ASSEMBLY ABOVE GROUND FIRE LINE**

**2016**

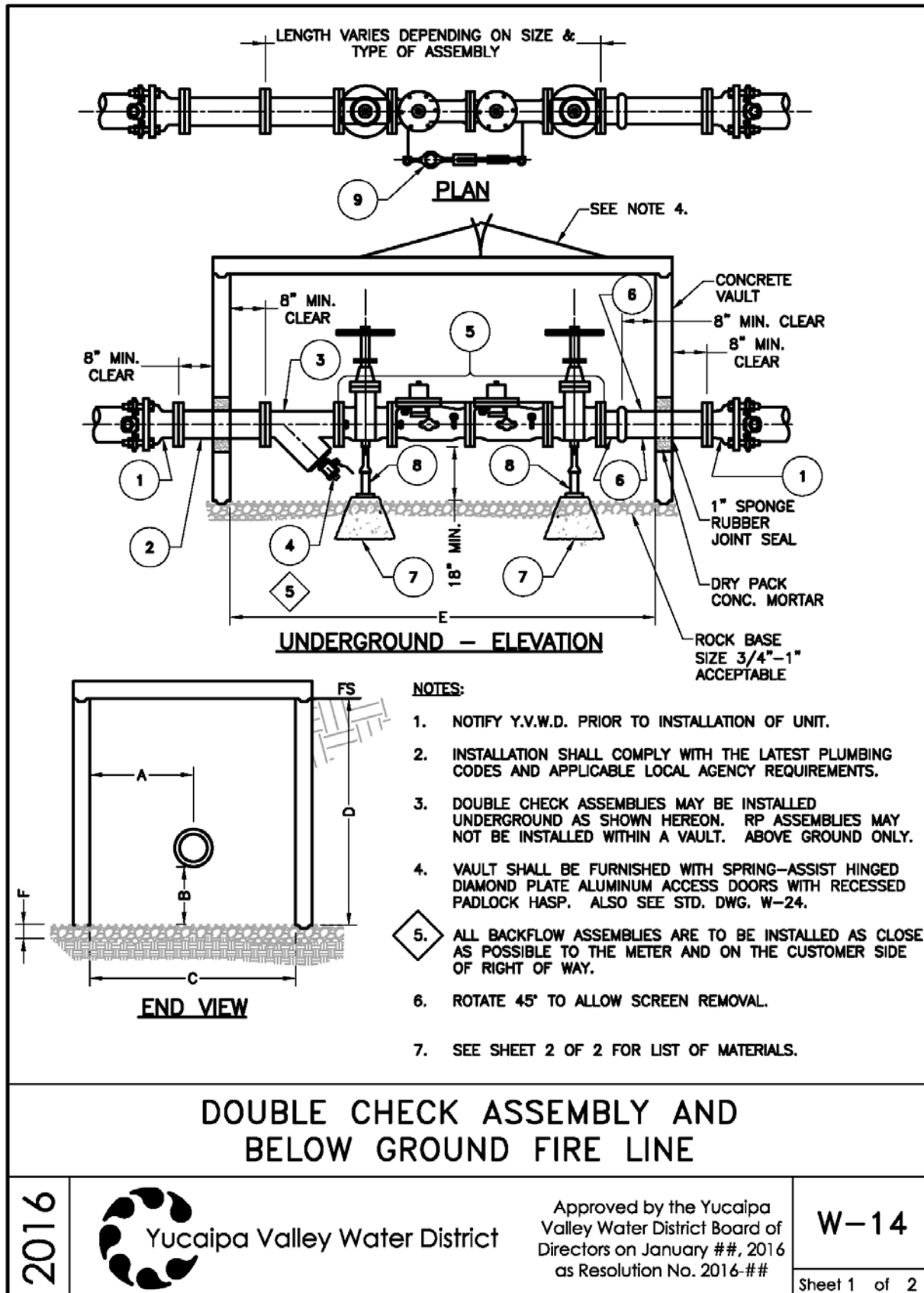


**Yucaipa Valley Water District**

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 2 of 2



LIST OF MATERIALS	
1	MJ X FLG ADAPTOR WITH MEGA LUG
2	D.I.P. SPOOL, FLG X FLG
3	WYE STRAINER
4	FULL SIZE BLOWOFF VALVE WITH PLUG TO PREVENT TAMPERING
5	APPROVED DOUBLE CHECK BACKFLOW ASSEMBLY
6	D.I.P. HALF SPOOL, VICTAULIC X FLG
7	CONCRETE FOOTING
8	GALVANIZED ADJUSTABLE PIPE SUPPORT, SEE YVWD STD. DWG. W-25
9	FACTORY INSTALLED BY-PASS METER ASSEMBLY CONSISTING OF APPROVED POSITIVE DISPLACEMENT METER, DOUBLE CHECK VALVE AND ASSOCIATED PIPING. BY-PASS METER TO BE SUPPLIED BY THE DISTRICT

UNDERGROUND INSTALLATIONS							
PIPE SIZE	A	B	C	D	E	F	VAULT DIM
2"	24"	18"	4'	5'	4'	6"	4'x4'
4"	24"	18"	4'	5'	6'	6"	4'x6'
6"	24"	18"	4'	5'	8'	6"	4'x8'
8"	24"	18"	4'	5'	12'	6"	4'x12'
10"	24"	8"	4'	5'	12'	6"	4'x12'

### DOUBLE CHECK ASSEMBLY AND BELOW GROUND FIRE LINE

2016

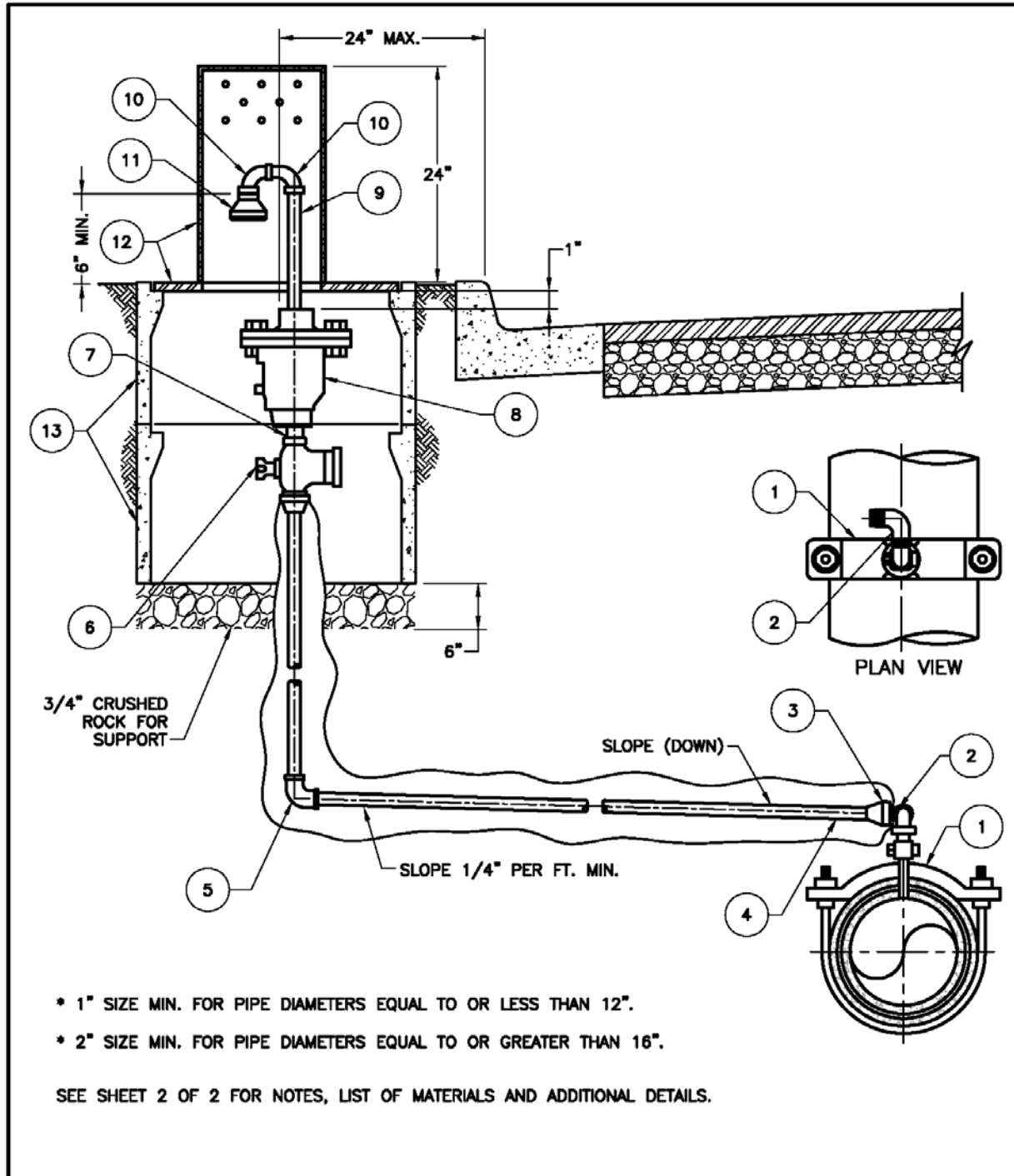


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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## 1" AND 2" AIR AND VACUUM VALVE ASSEMBLY

2016

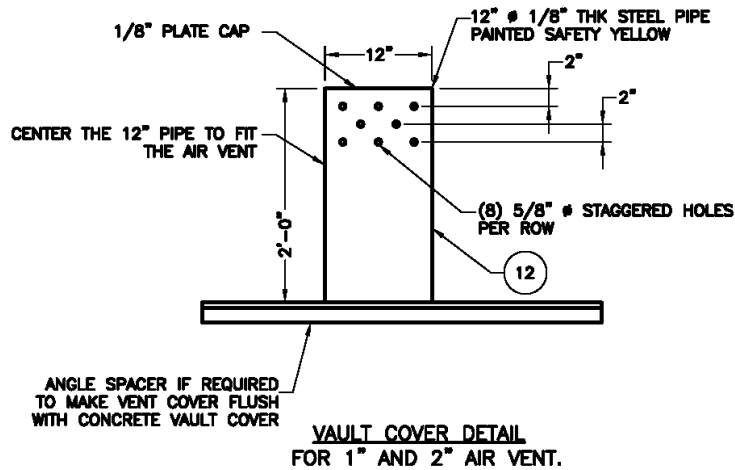


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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**LIST OF MATERIAL**

ITEM NO.	SIZE & DESCRIPTION	MANUFACTURER	SPEC. NO.
1	CONNECTION PER YVWD STD. DWG W-5 OR DWG. W-7 OFF THE TOP	-	-
2	CORPORATION STOP WITH 2-90° ELBOW SWING JOINTS, BRASS	-	-
3	F.I.P. X COMPRESSION ADAPTOR	FORD JONES MUELLER	C14-44 J-2807 H-15451
4	TYPE "K" COPPER TUBING, POLY SLEEVED		
5	COMPRESSION X COMPRESSION 90° ELBOW	JONES MUELLER	J-2811 H-15526
6	CURB VALVE-SHUT OFF PARALLEL WITH CURB	FORD JONES MUELLER	B41-444 J-1921 B-25172
7	3" X SIZE NIPPLE, BRASS	-	-
8	CRISPIN STAINLESS STEEL TRIM, NPT OUTLET, COMBINATION, AIR & VACUUM VALVE, 1" MIN. VAULT SIZE PER PLAN	-	-
9	1/8" X SIZE NIPPLE, G.I.P.	-	-
10	90° STREET ELL, G.I.P.	-	-
11	BUG SCREEN	-	-
12	VAULT COVER (SEE DETAIL, ABOVE)	-	-
13	2-DOUBLE STACKED #6 CONCRETE METER VAULTS	-	-

**NOTE:**

1. ALL CONNECTIONS TO COPPER TUBING SHALL BE COMPRESSION FITTINGS.
2. THE AIR VAC BOX IS TO BE SET PERPENDICULAR TO THE BACK OF THE CURB.
3. BACKFILL UNDER EXISTING CURB WITHIN THE CITY OF YUCAIPA, MUST BE 2 SACK SLURRY PER CITY STANDARDS.

**1" AND 2" AIR AND VACUUM VALVE ASSEMBLY**

2016

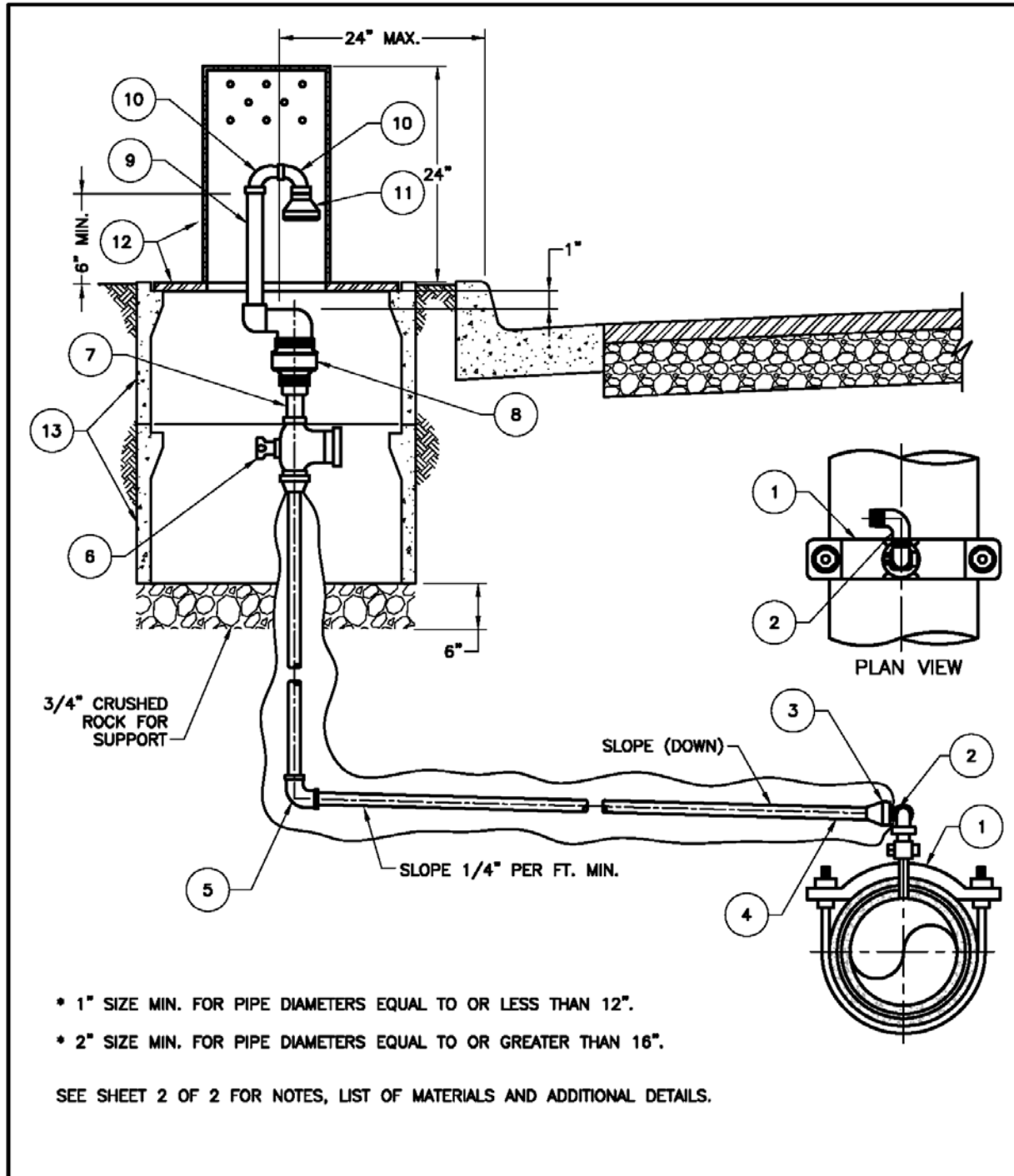


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 2 of 4



## 1" AND 2" AIR AND VACUUM VALVE ASSEMBLY

2016



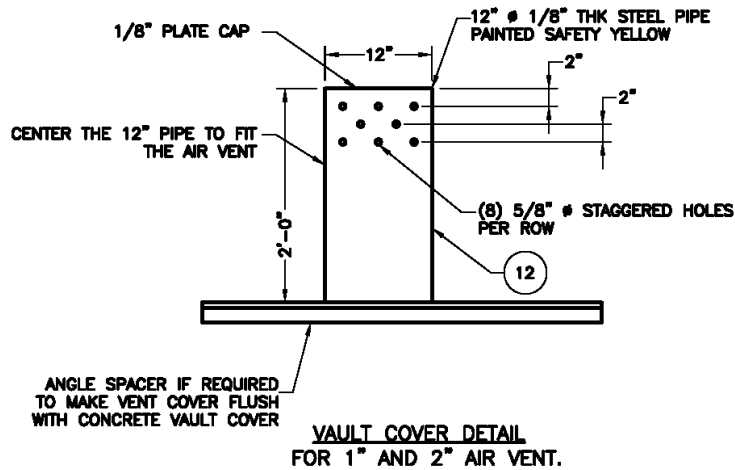
Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 3 of 4





**LIST OF MATERIAL**

ITEM NO.	SIZE & DESCRIPTION	MANUFACTURER	SPEC. NO.
1	CONNECTION PER YVWD STD. DWG W-5 OR DWG. W-7 OFF THE TOP	-	-
2	CORPORATION STOP WITH 2-90° ELBOW SWING JOINTS, BRASS	-	-
3	F.I.P. X COMPRESSION ADAPTOR	FORD JONES MUELLER	C14-44 J-2807 H-15451
4	TYPE "K" COPPER TUBING, POLY SLEEVED		
5	COMPRESSION X COMPRESSION 90° ELBOW	JONES MUELLER	J-2811 H-15526
6	CURB VALVE-SHUT OFF PARALLEL WITH CURB	FORD JONES MUELLER	B41-444 J-1921 B-25172
7	3" X SIZE NIPPLE, BRASS	-	-
8	A.R.I. NPT OUTLET, COMBINATION, AIR & VACUUM VALVE, 1" MIN. VAULT SIZE PER PLAN	A.R.I.	D-040
9	1/8" X SIZE NIPPLE	-	-
10	90° STREET ELL	-	-
11	BUG SCREEN	-	-
12	VAULT COVER (SEE DETAIL, ABOVE)	-	-
13	2-DOUBLE STACKED #6 CONCRETE METER VAULTS		

**NOTE:**

1. ALL CONNECTIONS TO COPPER TUBING SHALL BE COMPRESSION FITTINGS.
2. THE AIR VAC BOX IS TO BE SET PERPENDICULAR TO THE BACK OF THE CURB.
3. BACKFILL UNDER EXISTING CURB WITHIN THE CITY OF YUCAIPA, MUST BE 2 SACK SLURRY PER CITY STANDARDS.

**1" AND 2" AIR AND VACUUM VALVE ASSEMBLY**

2016

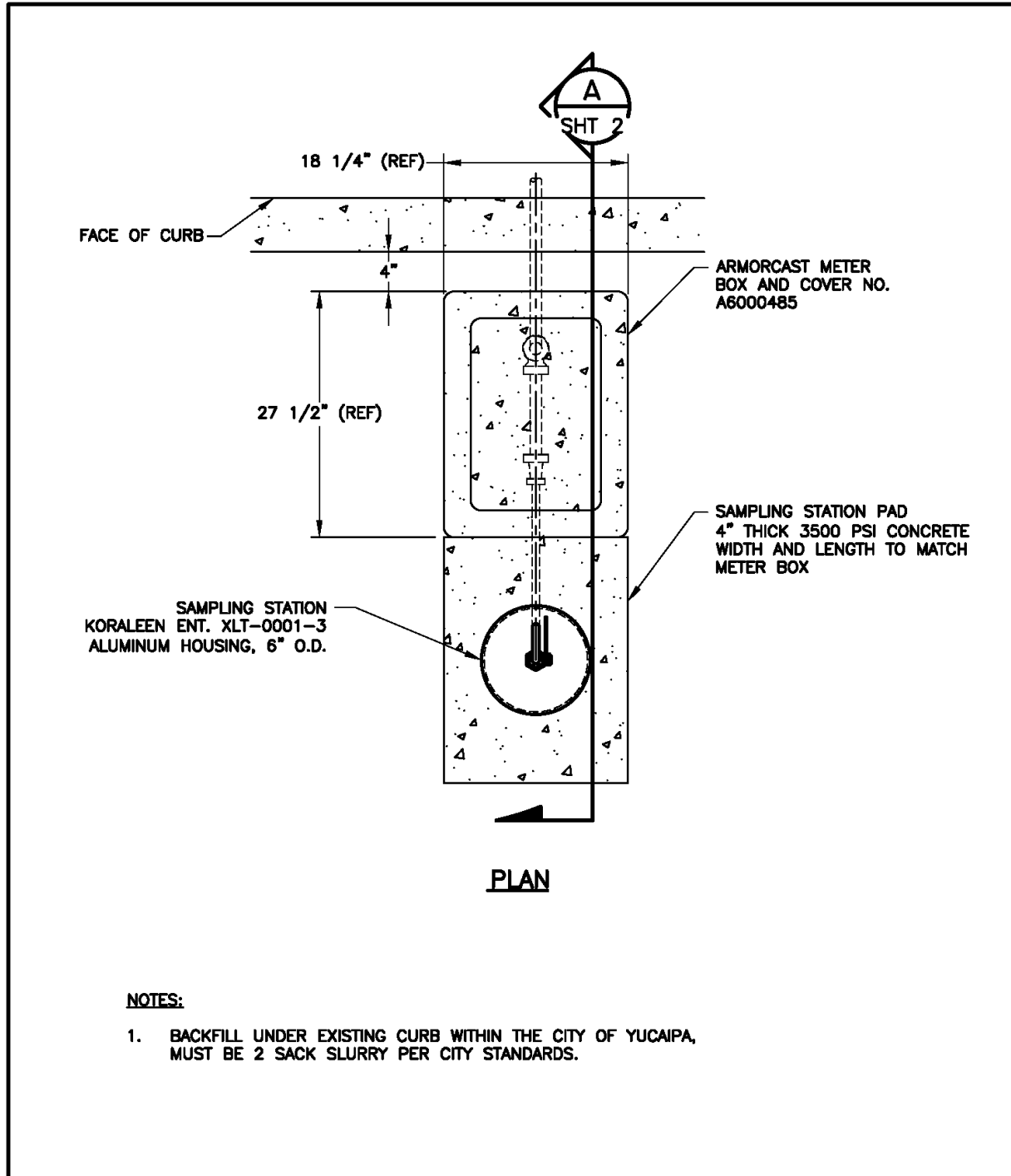


Yucaipa Valley Water District

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**PLAN**

**NOTES:**

1. BACKFILL UNDER EXISTING CURB WITHIN THE CITY OF YUCAIPA, MUST BE 2 SACK SLURRY PER CITY STANDARDS.

**WATER QUALITY SAMPLING STATION**

2016

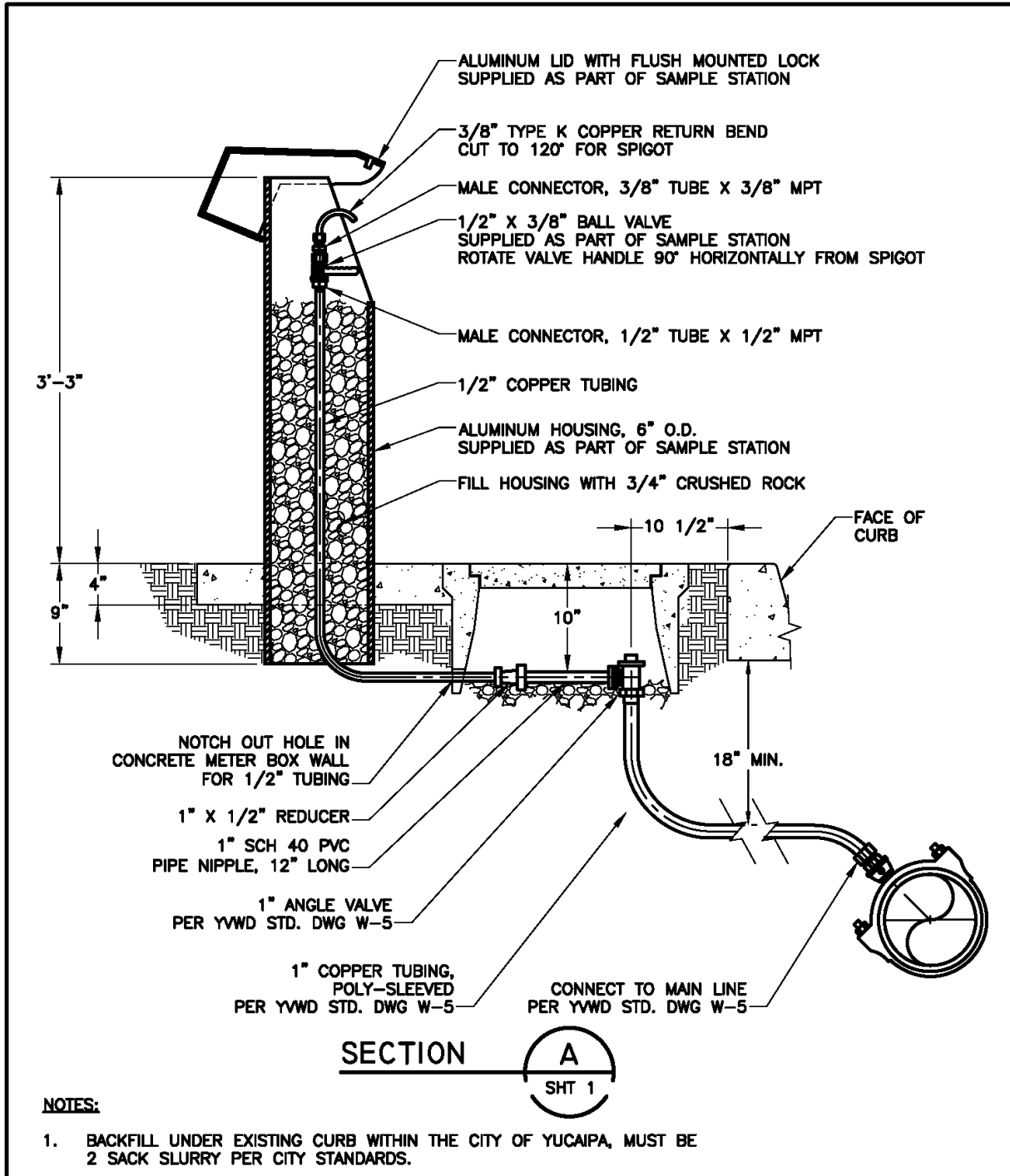


Yucaipa Valley Water District

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## WATER QUALITY SAMPLING STATION

2016

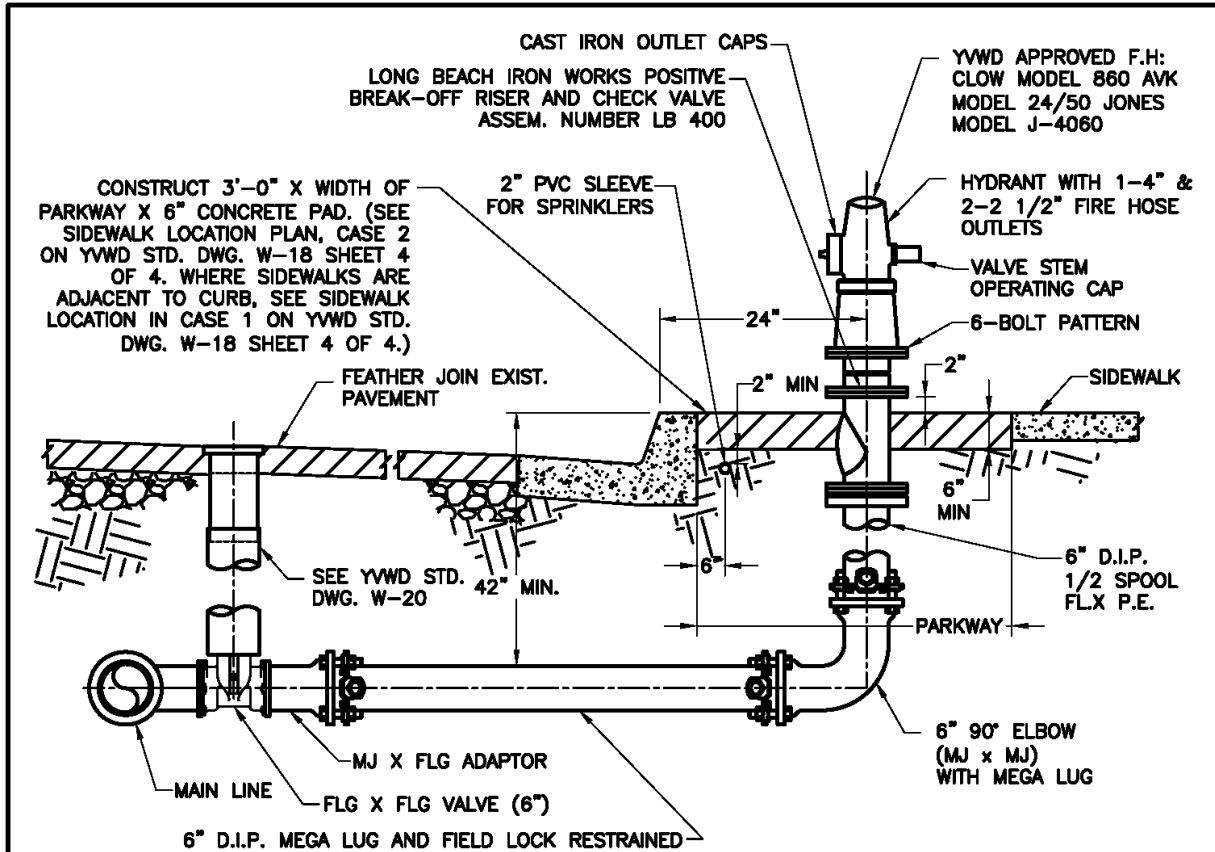


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 2 of 2



**NOTES:**

1. IF A RESIDENTIAL FIRE HYDRANT IS INSTALLED AS A LONG SIDE HYDRANT, THEN IT MUST BE INSTALLED PER SPECIFICATION W-18 SHEET 2 OF 4.
2. PRIOR TO PAINTING, FIRE HYDRANTS SHALL BE PREPARED PER SSPC-SP5. PAINT WITH 2 COATS, 3 TO 5 MILS EACH, OF RUST-OLEUM 7543 SAFETY YELLOW 025F.
3. PROVIDE "BREAK-OFF" RISER AT HYDRANT FLANGE. BOLTS FROM THE "BREAK-OFF" SPOOL TO THE CHECK VALVE ASSEMBLY MUST BE INSTALLED FROM TOP TO BOTTOM.
4. HYDRANT FLANGE GASKET SHALL BE "FULL FACE" AND OF RUBBER COMPOSITION 1/8" THICK.
5. DRY BARREL HYDRANTS ARE REQUIRED AT ELEVATIONS ABOVE 3,500 FT.
6. ALL HYDRANT FLANGE BOLTS ARE TO BE INSTALLED WITH THE CAP OF THE BOLT ON TOP AND THE NUT ON THE BOTTOM.
7. BACKFILL UNDER EXISTING CURB WITHIN THE CITY OF YUCAIPA, MUST BE 2 SACK SLURRY PER CITY STANDARDS.
8. SEE SHEET 4 OF 4 FOR HYDRANT FLOW COLOR CODING.
9. ALL HYDRANTS AND BLOW-OFFS SHALL BE LOCATED A MINIMUM OF 3- FEET AWAY FROM THE E.C./B.C. OF DRIVEWAY APPROACHES AND CURB RETURNS FROM INTERSECTIONS.

## RESIDENTIAL FIRE HYDRANT INSTALLATION

2016

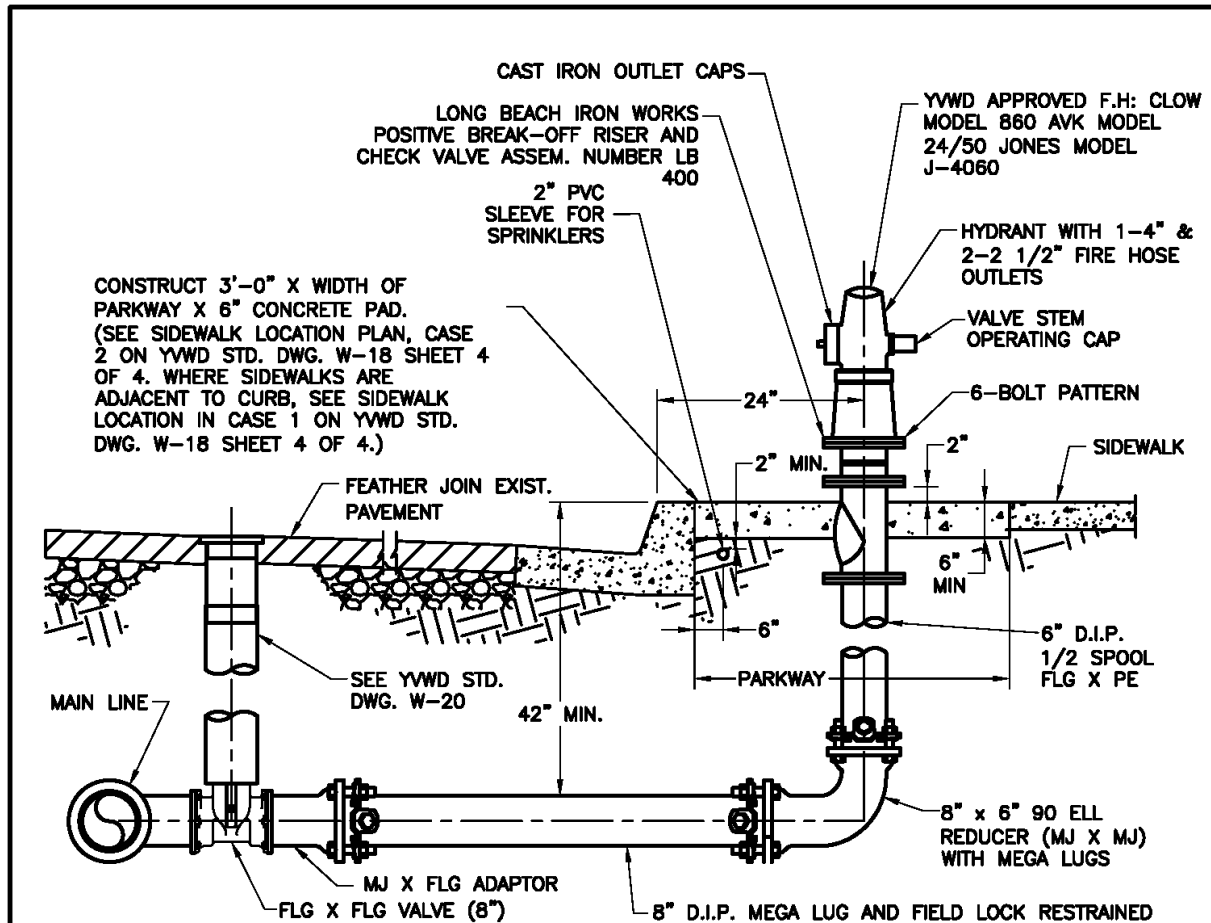


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 1 of 4



**NOTES:**

1. PRIOR TO PAINTING, FIRE HYDRANTS SHALL BE PREPARED PER SSPC-SP5. PAINT WITH 2 COATS, 3 TO 5 MILS EACH, OF RUST-OLEUM 7543 SAFETY YELLOW 025F.
2. PROVIDE "BREAK-OFF" RISER AT HYDRANT FLANGE. BOLTS FROM THE "BREAK-OFF" TO THE CHECK VALVE ASSEMBLY MUST BE INSTALLED FROM TOP TO BOTTOM.
3. HYDRANT FLANGE GASKET SHALL BE "FULL FACE" AND OF RUBBER COMPOSITION 1/8" THICK.
4. DRY BARREL HYDRANTS ARE REQUIRED AT ELEVATIONS ABOVE 3,500 FT.
5. ALL HYDRANT FLANGE BOLTS ARE TO BE INSTALLED WITH THE CAP OF THE BOLT ON TOP AND THE NUT ON THE BOTTOM.
6. BACKFILL UNDER EXISTING CURB WITHIN THE CITY OF YUCAIPA, MUST BE 2 SACK SLURRY PER CITY STANDARDS.
7. SEE SHEET 4 OF 4 FOR HYDRANT FLOW COLOR CODING.
8. ALL HYDRANTS AND BLOW-OFFS SHALL BE LOCATED A MINIMUM OF 3- FEET AWAY FROM THE E.C./B.C. OF DRIVEWAY APPROACHES AND CURB RETURNS FROM INTERSECTIONS.

## COMMERCIAL FIRE HYDRANT INSTALLATION

2016

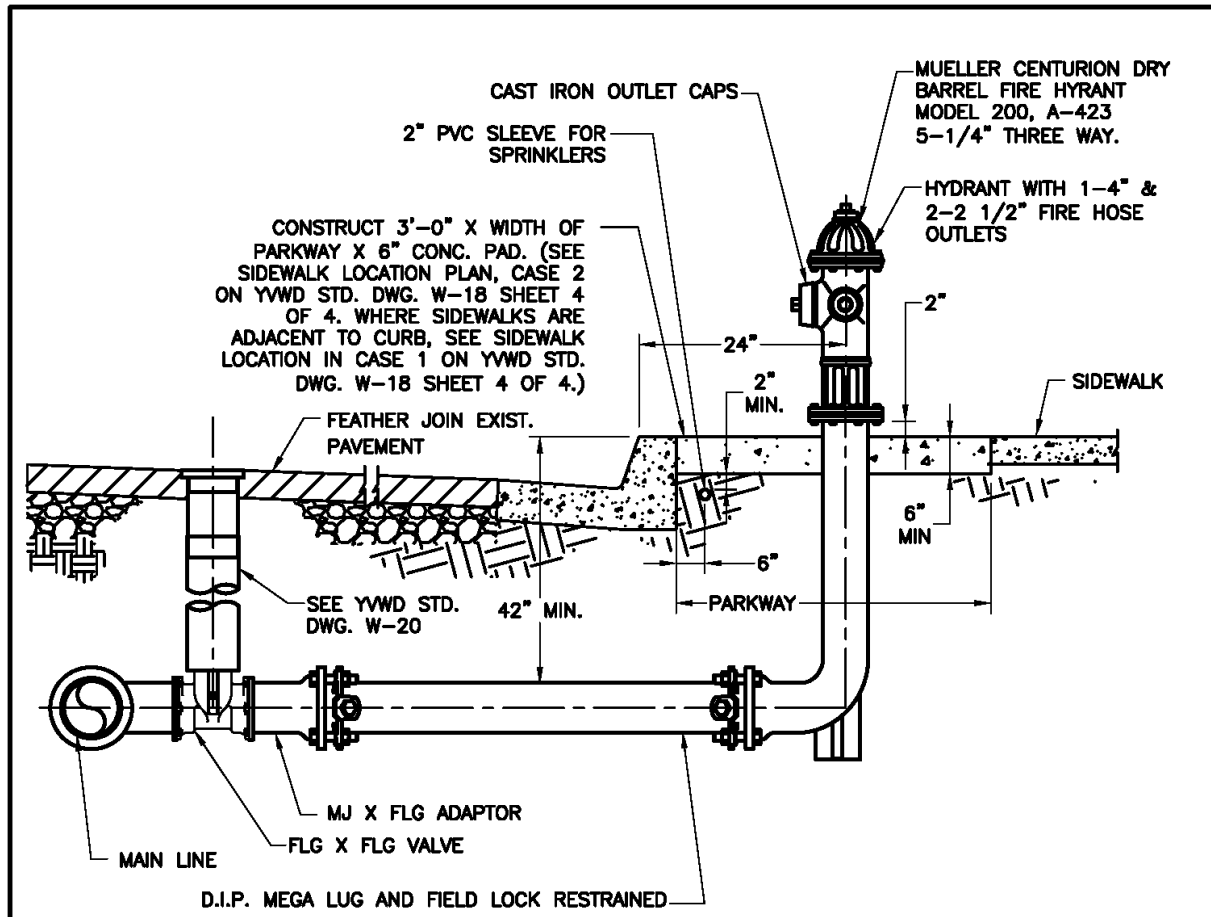


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 2 of 4



**NOTES:**

1. PRIOR TO PAINTING, FIRE HYDRANTS SHALL BE PREPARED PER SSPC-SP5. PAINT WITH 2 COATS, 3 TO 5 MILS EACH, OF RUST-OLEUM 7543 SAFETY YELLOW 025F.
2. HYDRANT FLANGE GASKET SHALL BE "FULL FACE" AND OF RUBBER COMPOSITION 1/8" THICK.
3. DRY BARREL HYDRANTS ARE REQUIRED AT ELEVATIONS ABOVE 3,500 FT.
4. ALL HYDRANT FLANGE BOLTS ARE TO BE INSTALLED WITH THE CAP OF THE BOLT ON TOP AND THE NUT ON THE BOTTOM.
5. BACKFILL UNDER EXISTING CURB WITHIN THE CITY OF YUCAIPA, MUST BE 2 SACK SLURRY PER CITY STANDARDS.
6. SEE SHEET 4 OF 4 FOR HYDRANT FLOW COLOR CODING.
7. ALL HYDRANTS AND BLOW-OFFS SHALL BE LOCATED A MINIMUM OF 3- FEET AWAY FROM THE E.C./B.C. OF DRIVEWAY APPROACHES AND CURB RETURNS FROM INTERSECTIONS.

## DRY BARREL FIRE HYDRANT INSTALLATION

2016



Yucaipa Valley Water District

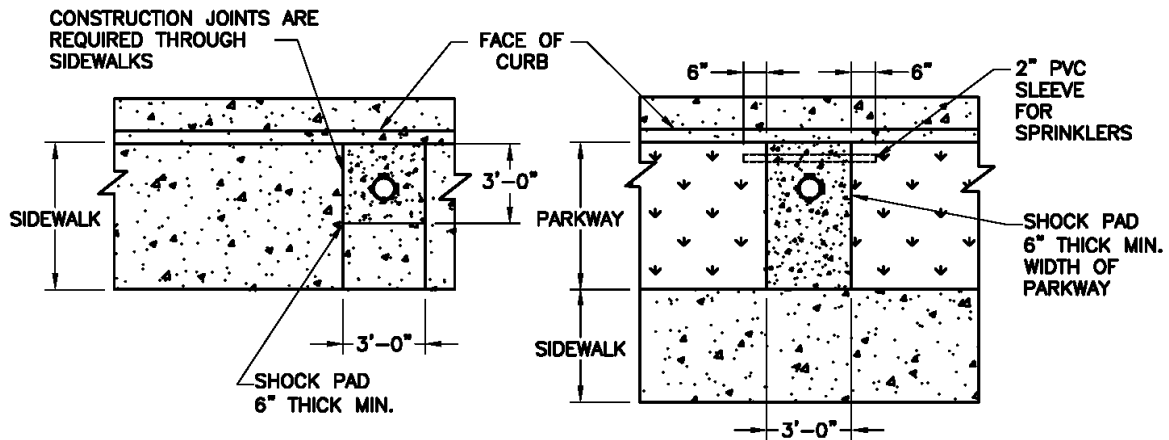
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**SIDEWALK LOCATION PLANS**



**CASE 1  
SIDEWALK ADJACENT TO CURB**

**CASE 2  
SIDEWALK NOT ADJACENT TO CURB**

**NOTES:**

1. PRIOR TO PAINTING, FIRE HYDRANTS SHALL BE PREPARED PER SSPC-SP5. PAINT WITH 2 COATS, 3 TO 5 MILS EACH, OF RUST-OLEUM 7543 SAFETY YELLOW 025F.
2. PROVIDE "BREAK-OFF" RISER AT HYDRANT FLANGE.
3. HYDRANT FLANGE GASKET SHALL BE "FULL FACE" AND OF RUBBER COMPOSITION 1/8" THICK.
4. ALL HYDRANT FLANGE BOLTS ARE TO BE INSTALLED WITH THE CAP OF THE BOLT ON TOP AND THE NUT ON THE BOTTOM.
5. DRY BARREL HYDRANTS ARE REQUIRED AT ELEVATIONS ABOVE 3,500 FT.
6. ALL HYDRANTS AND BLOW-OFFS SHALL BE LOCATED A MINIMUM OF 3- FEET AWAY FROM THE E.C./B.C. OF DRIVEWAY APPROACHES AND CURB RETURNS FROM INTERSECTIONS.
7. HYDRANT FLOW COLOR CODING;
  - 1,500 + GPM = BLUE CAPS
  - 1,000 + GPM = GREEN CAPS
  - 500 to 1,000 GPM = ORANGE CAPS
  - LESS THAN 500 GPM = RED CAPS

**FIRE HYDRANT SHOCK PAD DESIGN**

2016

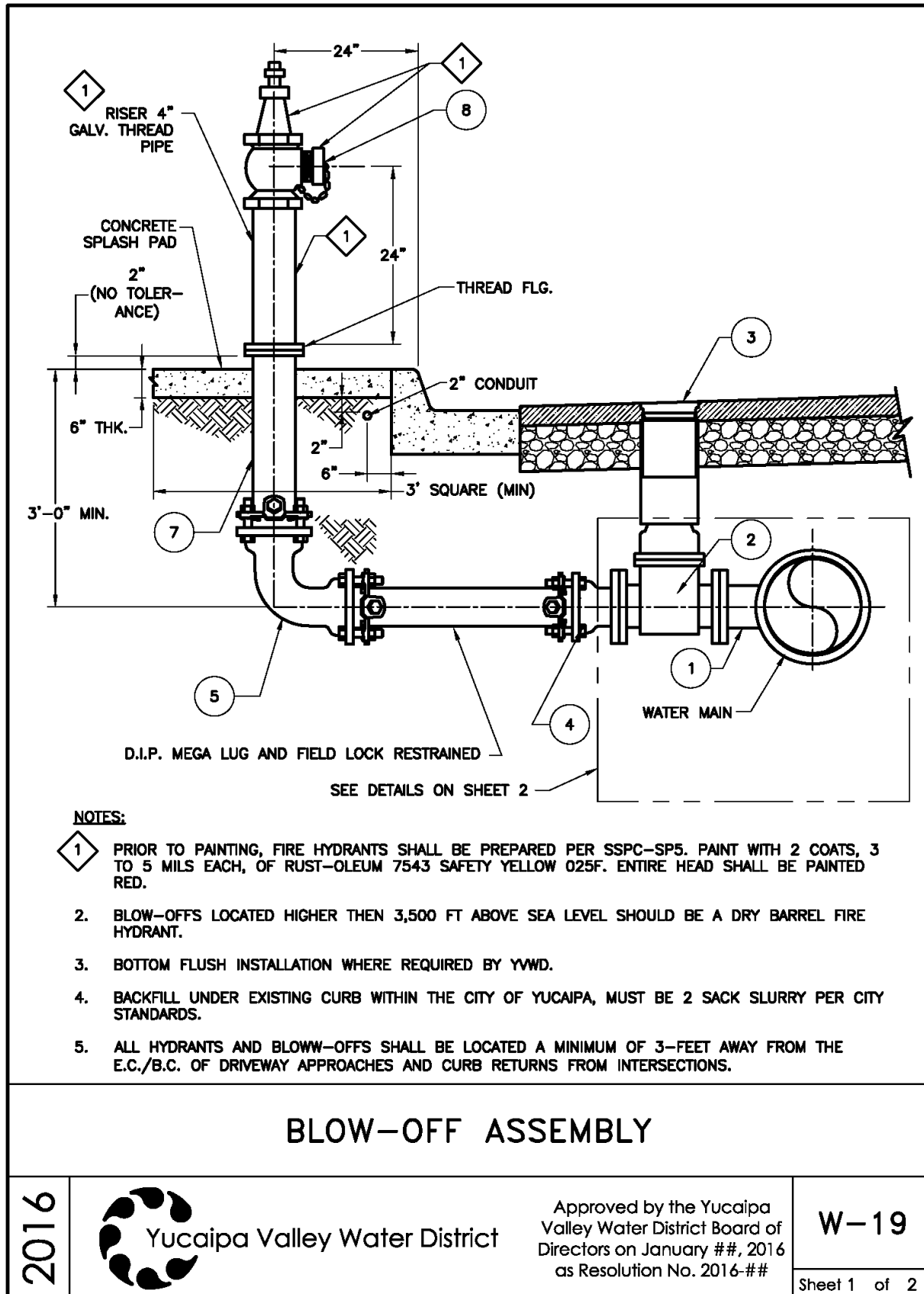


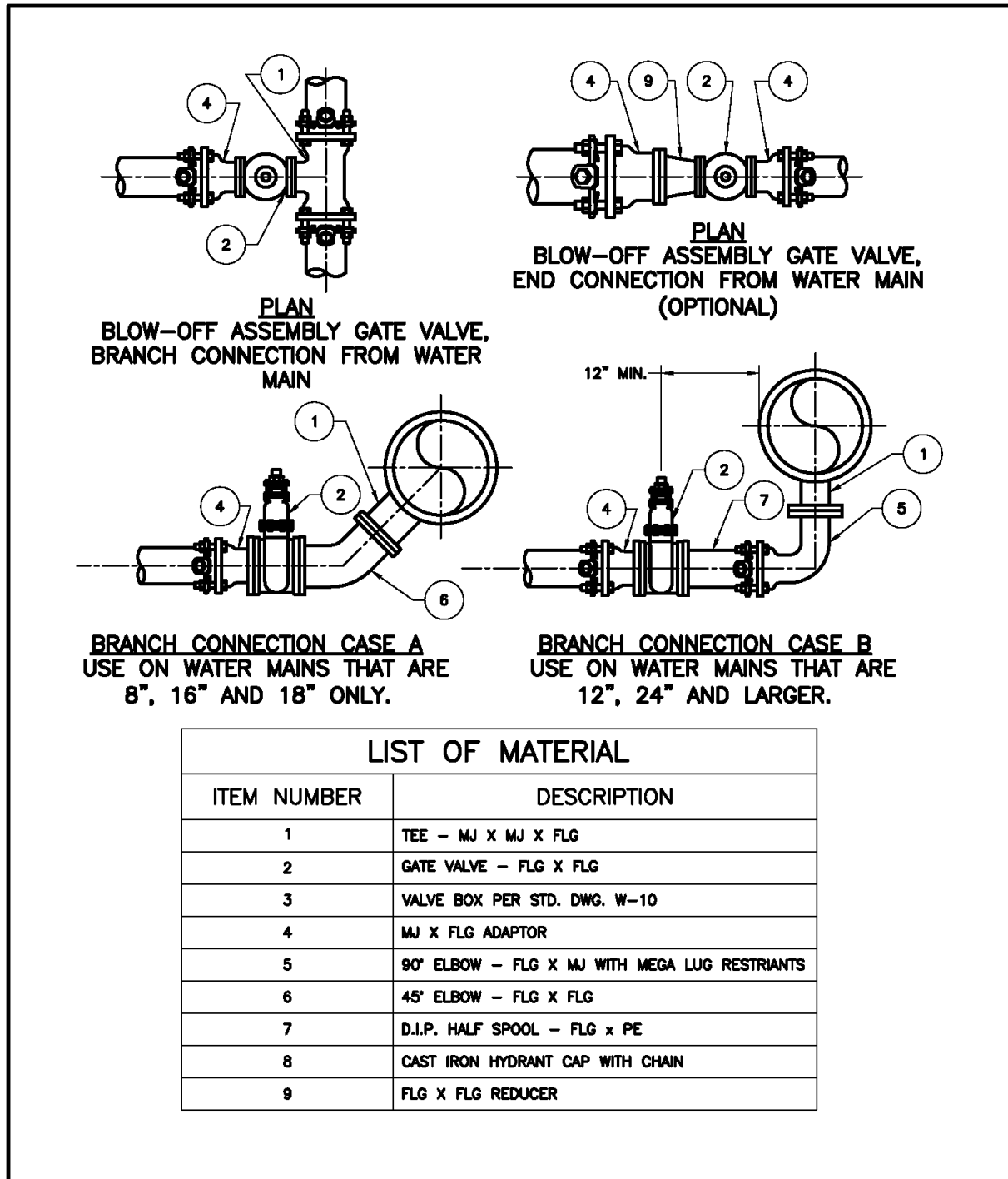
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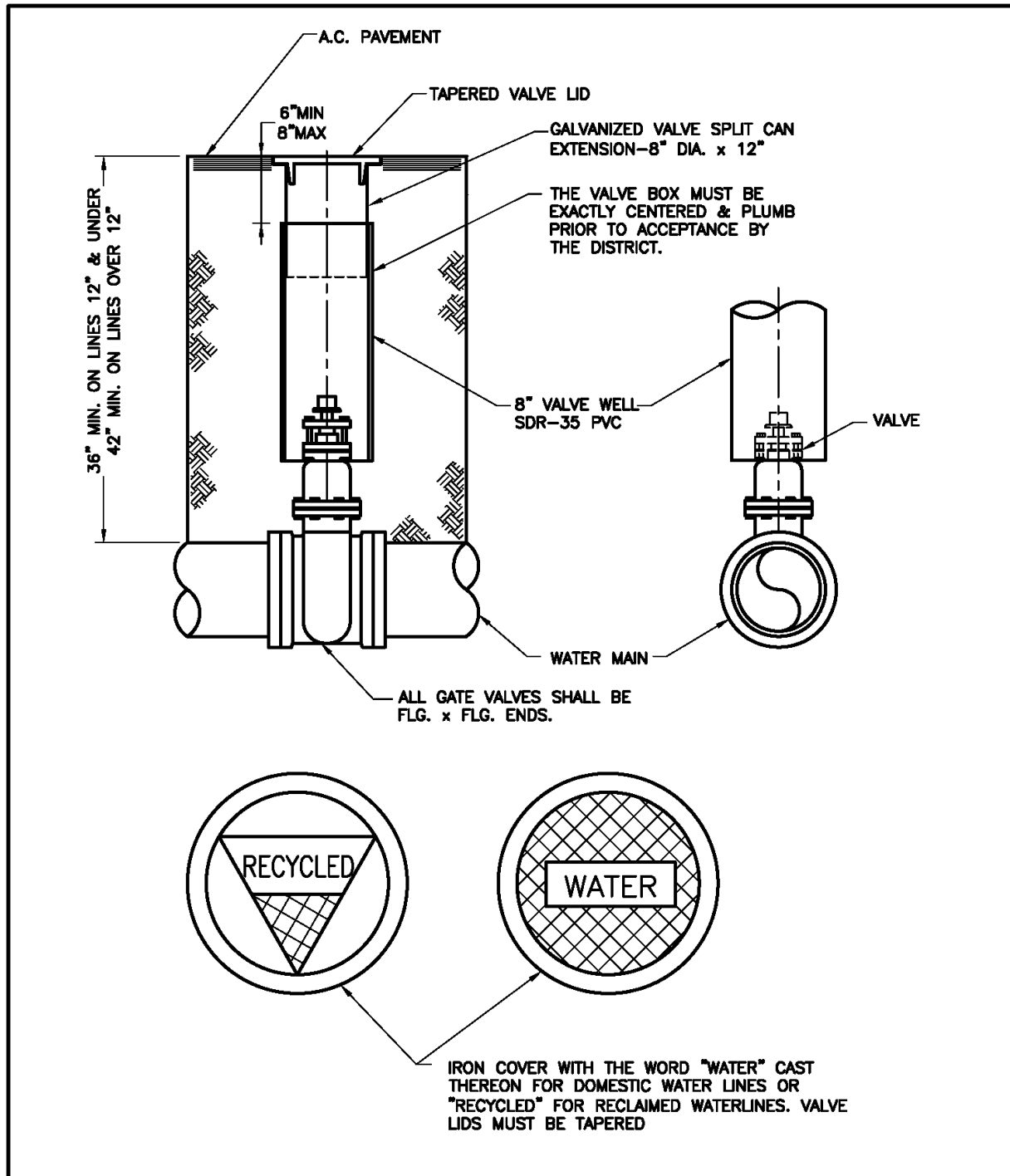




LIST OF MATERIAL	
ITEM NUMBER	DESCRIPTION
1	TEE - MJ X MJ X FLG
2	GATE VALVE - FLG X FLG
3	VALVE BOX PER STD. DWG. W-10
4	MJ X FLG ADAPTOR
5	90° ELBOW - FLG X MJ WITH MEGA LUG RESTRIANTS
6	45° ELBOW - FLG X FLG
7	D.I.P. HALF SPOOL - FLG x PE
8	CAST IRON HYDRANT CAP WITH CHAIN
9	FLG X FLG REDUCER

**BLOW OFF ASSEMBLY**

<p style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: 2em;">2016</p>  <p style="font-size: 1.2em;">Yucaipa Valley Water District</p>	<p>Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##</p>	<p style="font-size: 1.5em;">W-19</p>
	<p>Sheet 2 of 2</p>	



## VALVE AND VALVE BOX INSTALLATION

2016

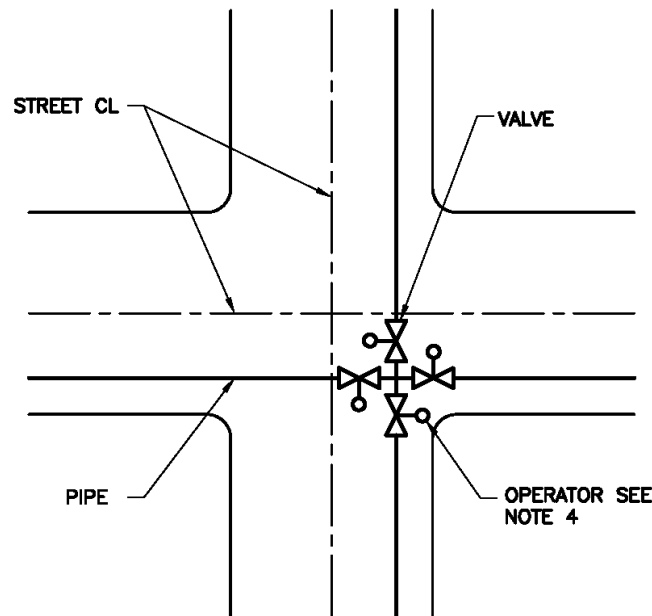


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**TYPICAL BUTTERFLY  
VALVE OPERATOR  
POSITION**

**NOTES:**

1. PROVIDE VALVE STEM EXTENSION IF DEPTH TO VALVE NUT EXCEEDS 4 FEET. SEE YVWD STD. DWG. W-21.
2. IN NEW TRACT DEVELOPMENTS EXTEND VALVE WELL PIPE 2' ABOVE GROUND ON "KEY VALVES" FOR EMERGENCY SHUTOFFS.
3. BUTTERFLY VALVE OPERATORS SHALL BE LOCATED ON THE LEFT-HAND SIDE OF THE VALVE (AT THE TEE OR CROSS), LOOKING THROUGH THE VALVE TOWARD THE PIPE END.
4. WHERE CONCRETE CROSS GUTTERS AT STREET INTERSECTIONS WILL INTERFERE WITH VALVE BOXES, THE PIPELINE SHALL BE MOVED TO A POSITION 7 FEET OFF THE CURB FACE TO CLEAR THE CROSS GUTTER.
5. VALVES TO BE LOCATED ADJACENT TO FITTINGS WHEREVER POSSIBLE.
6. VALVES BOLTED TO FITTINGS WILL NOT REQUIRE ANCHOR BLOCKS.
7. ALL GATE VALVES SHALL BE MUELLER, RESILIENT WEDGE, EPOXY COATED, FLG. X FLG. ENDS.
8. ALL BURRIED METALIC SURFACES SHALL BE PROTECTED BY AN ASPHALTIC OR BITUMINUOS COATING IN ACCORDANCE WITH AWWA C151 (ANSI A21.51).

**VALVE AND VALVE BOX INSTALLATION**

2016

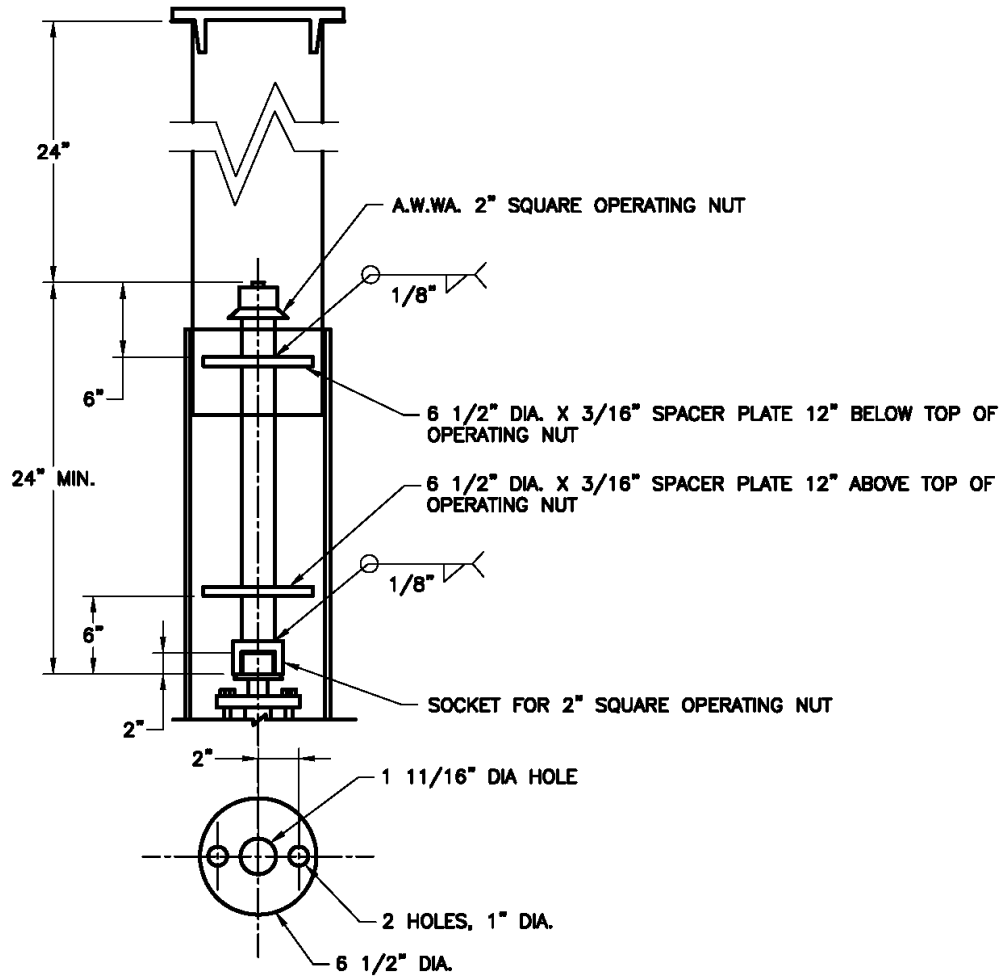


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**SPACER PLATE PLAN**

**NOTES:**

1. PROVIDE VALVE STEM EXTENSION WHEN DEPTH TO OPERATING NUT EXCEEDS 48" (FABRICATE EXTENSION TO FIELD MEASUREMENT - SEE NOTE 2)
2. NO VALVE STEM EXTENSION SHALL BE LESS THAN 2 FEET IN LENGTH UNLESS APPROVED BY DISTRICT ENGINEER.
3. PROVIDE TWO SPACER PLATES. FIRST PLATE IS 6" DOWN FROM TOP OF EXTENSION. SECOND PLATE IS 6" UP FROM BOTTOM OF EXTENSION

**VALVE STEM EXTENSION**

2016



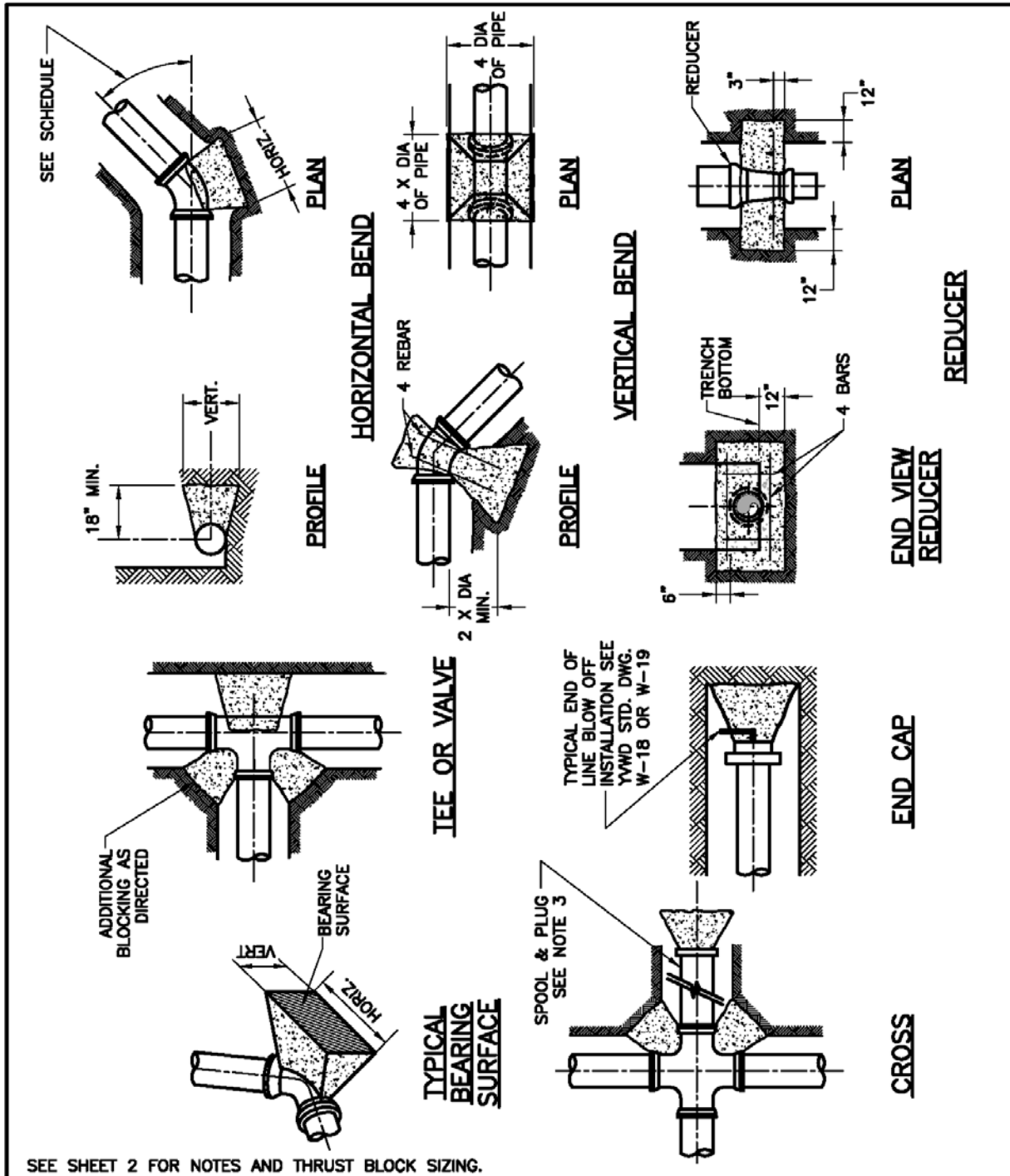
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SEE SHEET 2 FOR NOTES AND THRUST BLOCK SIZING.

**THRUST BLOCK DETAILS FOR RETROFIT ONLY**

2016



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MINIMUM SIZE OF THRUST BLOCK BEARING SURFACE						
PIPE SIZE	END CAP.	TEE	90° BEND	45° BEND	22 1/2" BEND	11 1/4" BEND
	HORIZ. VERT.	HORIZ. VERT.	HORIZ. VERT.	HORIZ. VERT.	HORIZ. VERT.	HORIZ. VERT.
4"	1'-6" 1'-6"	1'-6" 1'-0"	2'-3" 1'-3"	1'-6" 1'-0"	1'-6" 0'-9"	1'-6" 0'-9"
6"	2'-6" 1'-9"	4'-0" 2'-0"	4'-6" 2'-3"	3'-6" 1'-6"	2'-6" 1'-0"	2'-6" 1'-0"
8"	3'-9" 2'-0"	5'-0" 2'-6"	5'-6" 3'-0"	4'-3" 2'-3"	3'-0" 1'-6"	3'-0" 1'-6"
10"	4'-6" 2'-6"	5'-6" 3'-3"	7'-0" 3'-6"	5'-0" 2'-9"	3'-9" 1'-9"	3'-9" 1'-9"
12"	5'-3" 3'-0"	7'-0" 3'-6"	8'-3" 4'-0"	5'-6" 3'-6"	4'-3" 2'-3"	4'-3" 2'-3"

**NOTES:**

1. THRUST BLOCK BEARING AREA BASED ON ALLOWABLE SOIL BEARING VALUE OF 1500 psf PRESSURE AND 225 psi LINE PRESSURE WITH 3'-0" COVER MINIMUM.  
FOR BEARING = 1000 psf, 1.5 X AREA SHOWN  
FOR BEARING = 500 psf, 3.0 X AREA SHOWN
2. ALL THRUST BLOCKS SHALL BE 3,250 PSI CONCRETE AND PLACED AGAINST UNDISTURBED SOIL. DESIGN ENGINEER SHALL DETERMINE SIZES NOT SHOWN.
3. THRUST BLOCKS ON CROSSES SHALL BE USED ONLY WHEN THERE IS A STUB-OUT ON ONE OR MORE SIDES.
4. REINFORCING STEEL SHALL CONFORM TO ASTM A15 AND A305 INTERMEDIATE GRADE.
5. CONCRETE SHALL NOT EXTEND ONTO FLANGE OR ADJOINING PIPE.
6. ALL FITTINGS SHALL BE WRAPPED WITH 10 MIL PLASTIC.
7. ALL FITTINGS SHALL BE MECHANICALLY RESTRAINED UNLESS APPROVED BY YWWD.

**THRUST BLOCK DETAILS FOR RETROFIT ONLY**

2016

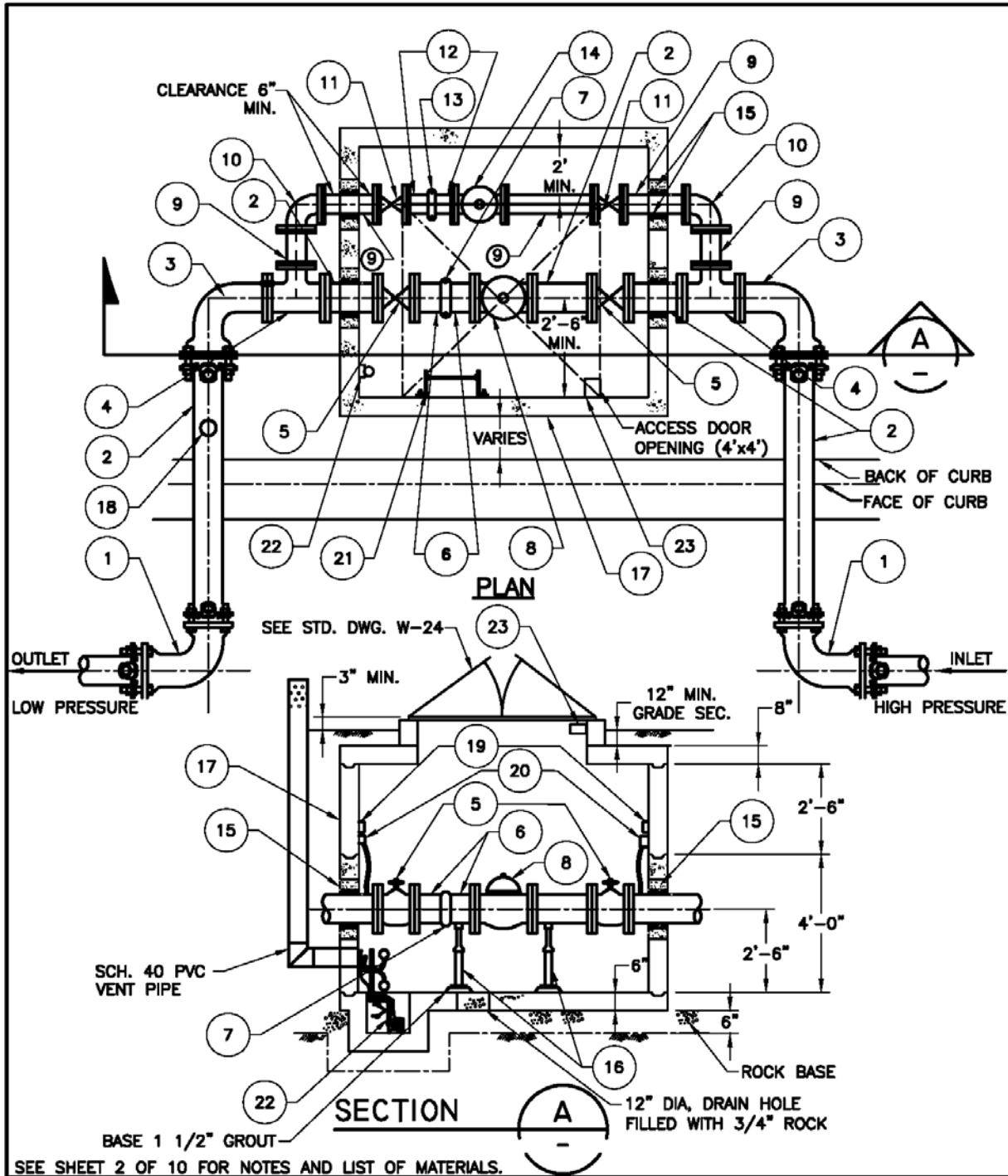


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**PRESSURE REDUCING STATION  
TYPICAL ASSEMBLY – FINAL DESIGN BY ENGINEER**

2016



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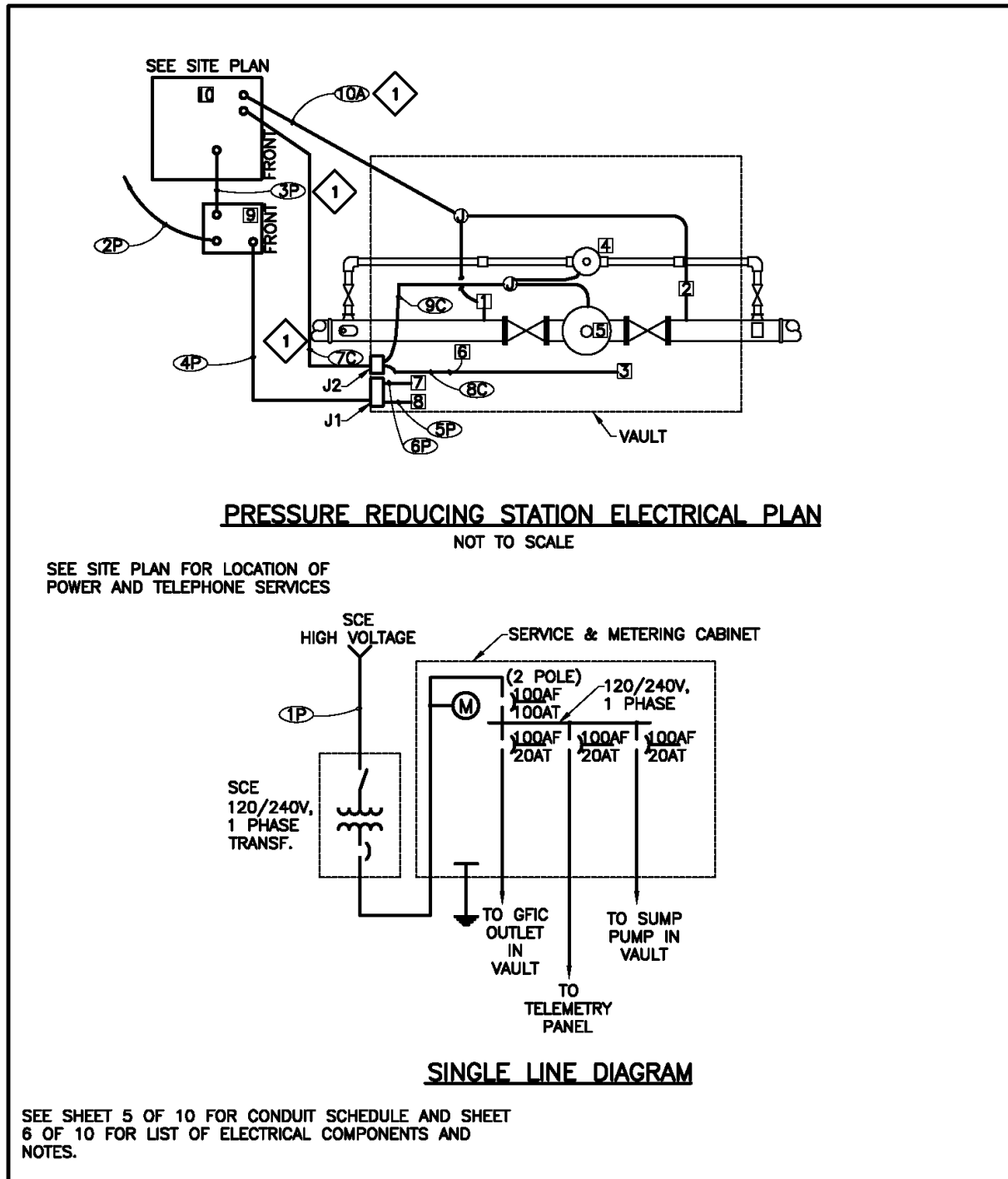
LIST OF MATERIALS		
ITEM	QUANTITY	DESCRIPTION
<b>MAIN LINE</b>		
1	2 EA	D.I.P. 90° ELBOW, MJ X MJ, RESTRAINED
2	5 EA	D.I.P. SPOOL, LENGTH AS REQUIRED, RESTRAINED
3	2 EA	D.I.P. 90° ELBOW, MJ X FLG
4	2 EA	FLANGED TEE D.I.
5	2 EA	RESILIENT SEAT GATE VALVE
6	2 EA	FLG x GROOVED-END SPOOL, VICTAULIC
7	1 EA	GROOVED-END COUPLING, VICTAULIC
8	1 EA	PRESSURE REDUCING VALVE, W/FULL CLOSED POSITION SWITCH. MANUFACTURED BY CLA-VAL COMPANY ONLY.
15	4 EA	1" SPONGE RUBBER SEAL AROUND PIPE. DRYPACK WITH CONCRETE MORTAR
16	4 EA	ADJUSTABLE PIPE SUPPORT. SEE YVWD STD. DWG. W-25
<b>BY-PASS LINE</b>		
9	5 EA	D.I. SPOOL, LENGTH AS REQUIRED, FLG'D ENDS
10	2 EA	FLG x FLG D.I. 90° ELL
11	2 EA	RESILIENT SEATED GATE VALVE
12	2 EA	FLG x GROOVED-END SPOOL, VICTAULIC
13	1 EA	GROOVED-END COUPLING, VICTAULIC
14	1 EA	PRESSURE REDUCING VALVE, W/FULL CLOSED POSITION SWITCH.
<b>MISCELLANEOUS</b>		
17	1 EA	PRECAST CONCRETE VAULT 6'-0"x8'-0" OR 6'-0"x10'-0" WITH 4'x4" HATCH. PROVIDE DIAMOND PLATE ALUMINUM ACCESS DOORS WITH RECESSED PADLOCK HASP.
18	1 EA	1" AIR VAC DOWNSTREAM OR LOW PRESSURE SIDE OF CLAY-VAL STATION PER YVWD STD. DWG. W-15
19	2 EA	PRESSURE GAUGE (ASHCROFT 0-150 PSI)
20	2 EA	PRESSURE TRANSMITTER, PER W-23 SHEET 10 OF 10
21	1 EA	GALV. STEEL LADDER (ALHAMBRA FOUNDRY) W/LADDER UP AND SS ANCHOR BOLTS
22	1 EA	FLOOD LEVEL SWITCH & SUMP PUMP. NO SUMP PUMP REQUIRED IF A POSITIVE CONNECTION TO STORM DRAIN IS PROVIDED.
23	1 EA	DOOR ENTRY SWITCH, PER W-23 SHEET 9 OF 10

**NOTES:**

1. THESE DRAWINGS ARE GENERAL IN NATURE AND MAY NEED TO BE MODIFIED TO FIT SPECIFIC SITE REQUIREMENTS.

## PRESSURE REDUCING STATION TYPICAL ASSEMBLY – FINAL DESIGN BY ENGINEER

2016	 <p style="font-size: 1.2em;">Yucaipa Valley Water District</p>	<p style="font-size: 0.8em;">Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##</p>	W-23
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## PRESSURE REDUCING STATION ELECTRICAL DIAGRAM AND DETAILS

2016

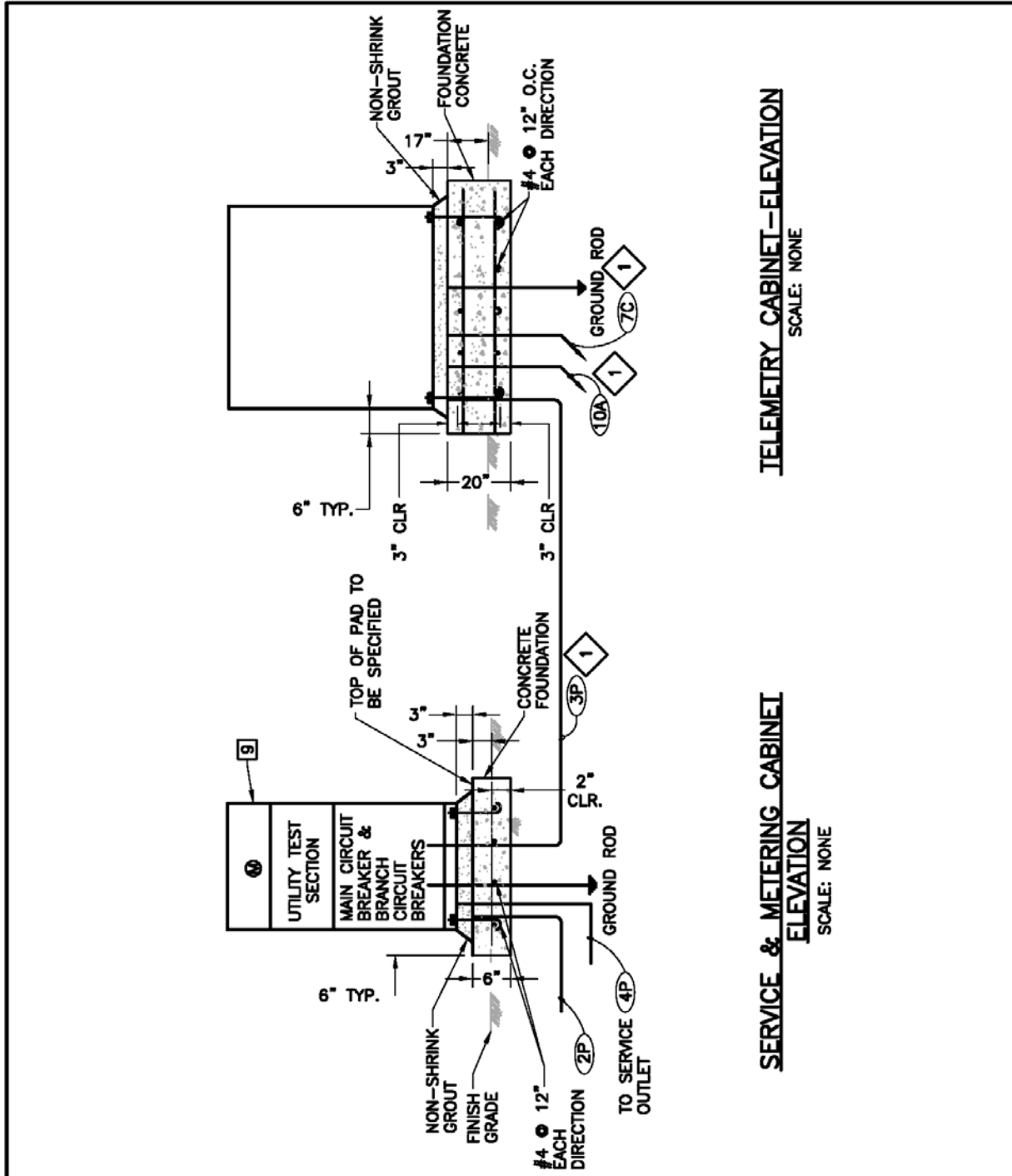


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**PRESSURE REDUCING STATION  
ELECTRICAL DIAGRAM AND DETAILS**

2016



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CONDUIT SCHEDULE									
SYMBOL #	CONDUIT QTY. SIZE	WIRE QTY. SIZE	DESCRIPTION USE	LOCATION		REMARKS			
				FROM	TO				
(1P)	1 4"	C.O.	POWER	SCE XFMR	EXISTING SCE POWER	IF REQ'D			
(2P)	1 2"	C.O.	POWER	SCE XFMR	SVS & MTR CAB	120/240 SVS FDR			
(3P)	1 3/4"	2#12&1#12 GND	POWER	SVS & MTR CAB	TELEMETRY CAB	SEE NOTE			
(4P)	1 3/4"	4#12&1#12 GND	POWER	SVS & MTR CAB	PULL BOX J1	SUMP PUMP & OUTLET			
(5P)	1 3/4"	2#12&1#12 GND	POWER	PULL BOX J1	OUTLET W/GFI				
(6P)	1 3/4"	2#12&1#12 GND	POWER	PULL BOX J1	SUMP PUMP & CONTROLS				
(7C)	1 1"	8#14&1#12 GND	CONTROL	TELEMETRY CAB	PULL BOX J2	SEE NOTE			
(8C)	1 3/4"	4#14&1#12 GND	CONTROL	PULL BOX J2	XS-1,LS-1				
(9C)	1 3/4"	4#14&1#12 GND	CONTROL	PULL BOX J2	XS-2,XS-3				
(10A)	1 1"	2,2/C#18 SH.&1#12GND	CONTROL	TELEMETRY CAB	PT-1,PT-2	SEE NOTE			

**PRESSURE REDUCING STATION  
ELECTRICAL DIAGRAM AND DETAILS**

2016



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ELECTRICAL COMPONENTS					
ITEM NO.	DEVICE ID.	DESCRIPTION	MANUFACTURE	MODEL NUMBER	REMARKS
1	PT-1	DOWNSTREAM PRESS. XMTR	ROSE MOUNT	#3051CG-X-A22 AUJ-M6210-S-140	150/250 PSI
2	PT-2	UPSTREAM PRESS. XMTR	ROSE MOUNT	#3051CG-X-A22 AUJ-M6210-S-140	150/250 PSI
3	XS-1	HATCH ENTRY SWITCH	ALLEN BRADLEY	E50DRI	W/CUTLER HAMMER ROLLER #E50KL546
4	XS-2	STEM POS. SWITCH (CLOSED)			SUP. W/VALVE
5	XS-3	STEM POS. SWITCH (CLOSED)			SUP. W/VALVE
6	LS-1	VAULT FLOODED SWITCH	GEMS	LS270	
7	P-1	SUMP PUMP AND CONTROLS	ZOELLER	GRANGER CAT. #2P547	
8	NA	SERVICE OUTLET WITH GFI	NA		20A
9	NA	SERVICE AND METERING CAB	MEYERS	MEUGQ100	120/240 V, 100A
10	NA	TELEMETRY CABINET			SEE YVWD SDT DWG W-23D, DETAIL A

**NOTE:**

1 COIL 3" OF CONDUCTORS 3P, 7C, AND 10A IN TELEMETRY PANEL.

## PRESSURE REDUCING STATION ELECTRICAL DIAGRAM AND DETAILS

2016

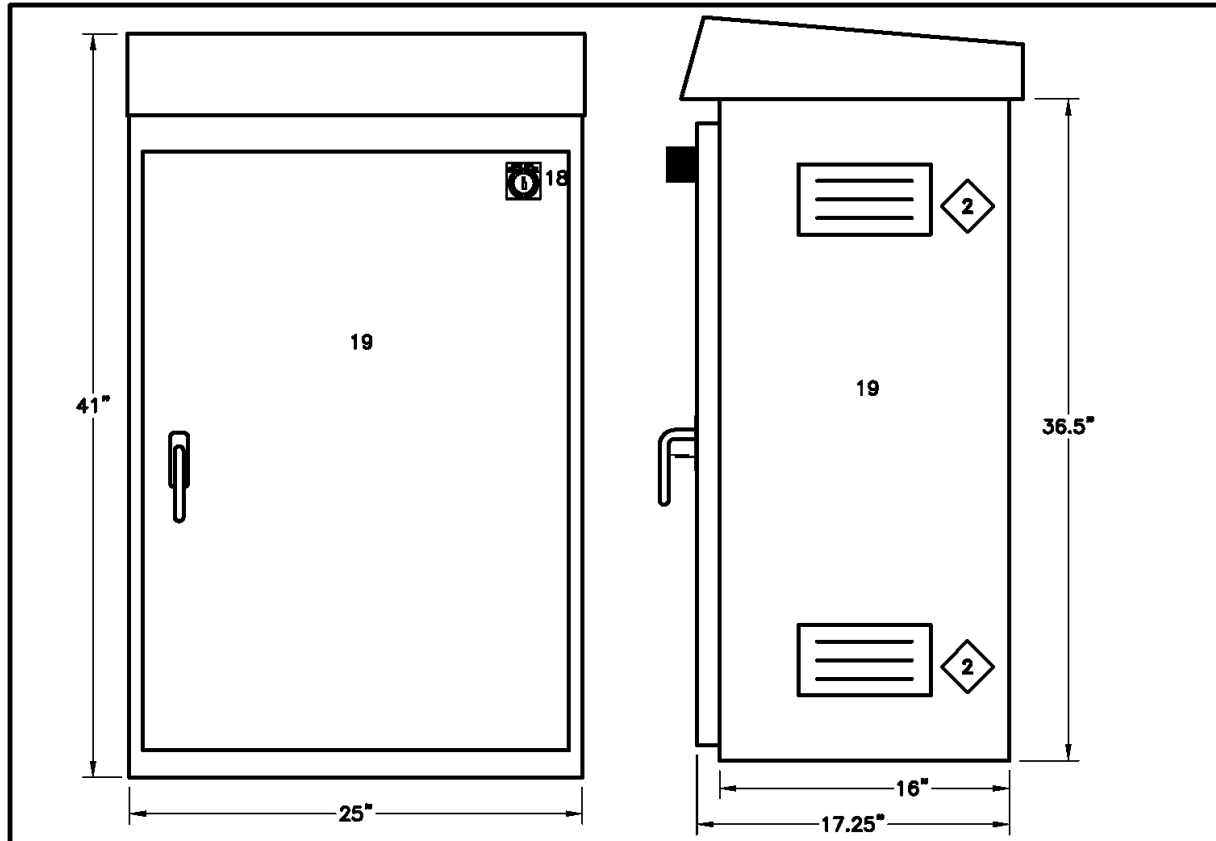


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**NOTES:**

- 1 PROVIDE CABINET WITH SUB BACK PANEL.
- 2 PROVIDE VENTILATION WITH LOUVERS TOP AND BOTTOM.
- 3 CREATE POSITIVE PRESSURE WITH SUPPLY FAN ON THERMOSTAT.

**PRESSURE REDUCING STATION  
TELEMETRY DETAILS**

2016



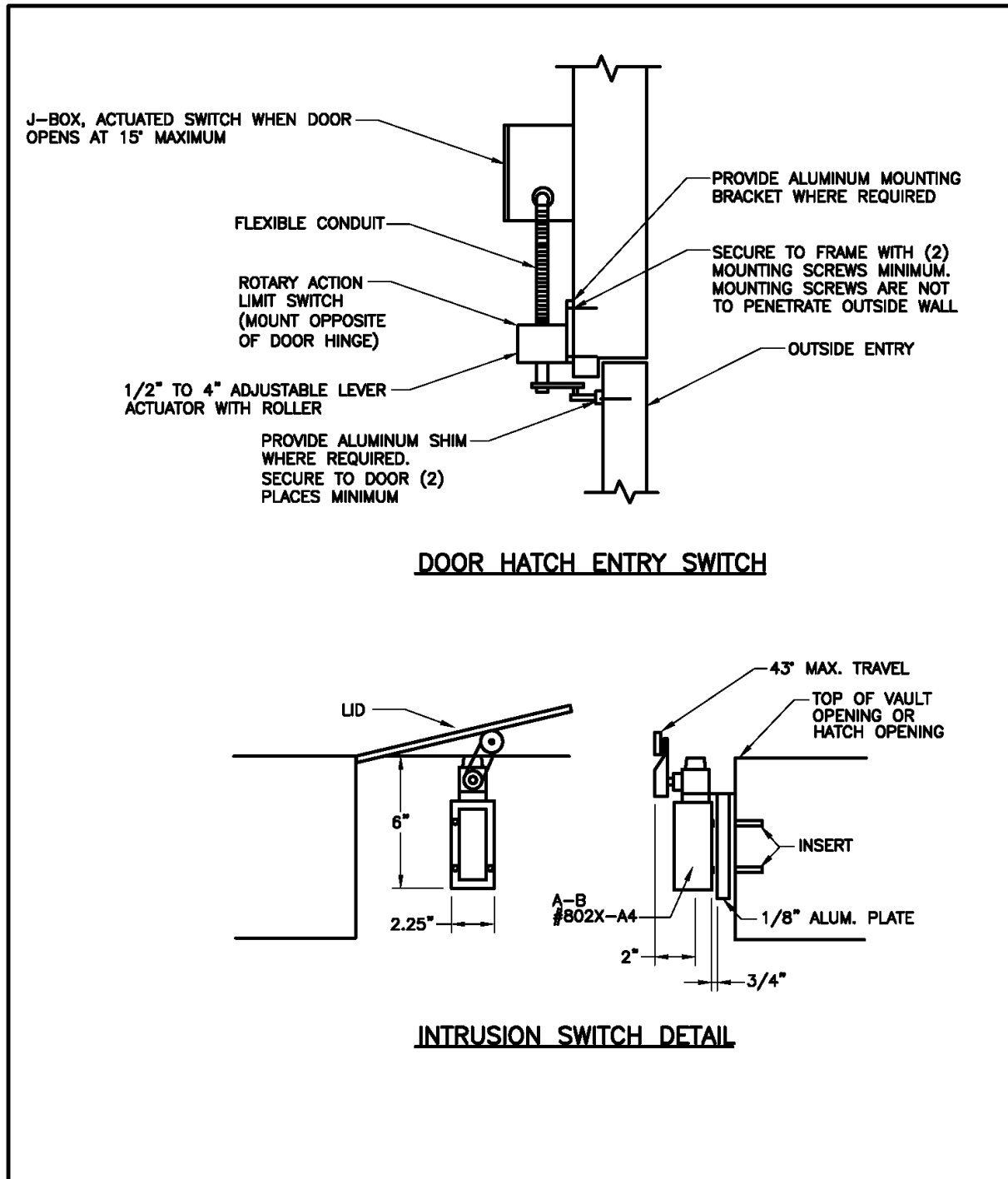
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LIST OF TELEMETRY CABINET COMPONENTS					
ITEM NO.	QTY.	DESCRIPTION	PART NUMBER	MANUFACTURER	TYPE
1	1				
1	2	MULTIPLEXER	245-19	BIF/AQUA	FREQ. T.B.D.
1	1	TRANSMITTER	245-05	BIF/AQUA	FREQ. T.B.D.
1	1	RECEIVER	245-09	BIF/AQUA	FREQ. T.B.D.
1	1	DEMULTIPLEXER	245-20	BIF/AQUA	FREQ. T.B.D.
2	1	DC POWER SUPPLY	HC-28-2-A	POWER-ONE	28VDC, 2A
3	3	CONTROL RELAYS	RR2P-UL-120	IDEC	2PDT
4	1	TIME DELAY RELAY	TCB-115-2-10	R-K	ON DELAY
4	2	TIME DELAY RELAY	TFB-115-2-180	R-K	OFF DELAY
5	1	LOW VOLTAGE PROTECTOR	258-40	BIF/AQUA	ELECTRONIC
6	8	POWER/SIGNAL TERM.	1492-CA1	ALLEN-BRADLEY	600V, 55A
7	1	LINE SURGE PROTECTOR	245-23	BIF/AQUA	ELECTRONIC
8	1	POWER TRANSFER UNIT	258-36	BIF/AQUA	ELECTRONIC
9	8	POWER/SIGNAL TERM.	1492-CA1	ALLEN-BRADLEY	600V, 55A
10	48	TELEMETRY TERMINALS	UK4	PHOENIX	600V, 20A
11	1	UTILITY RECEPTACLE	1591FI	PASS & SEYMOUR	GFI 15A
12	1	TELEPHONE CO. RECPT.	GE5251-2	G.E.	SIMPLEX 15A
13	1	SPACE HEATER	D-AH4001B	HOFFMAN	400 WATT
14	4	GELL CELL BATTERY	NP24-12	YUASA-EXIDE	12V 24AH
15	1	PLYWOOD BAT. SUPPORT	N/A		
16	1	FLUORESCENT LIGHT	2V687/1V173	GRAINGER	15 WATT
17	1	INTRUSION LIGHT SWITCH	10316H2042	CUTLER-HAMMER	LIMIT SWITCH
18	1	INTRUSION AL. OVERRIDE	10250T15113	CUTLER-HAMMER	2 POS. SEL SW.
19	1	TELEMETRY CABINET. THREE POINT PAD LOCKABLE DOOR HANDLE. SOLID BOTTOM.	LS412516AL	HENNESSY	NEMA 4X 5052-H32 ALUMINUM ALLOY 0.125" THICK
20	1	CIRCUIT BREAKER	1492-CB1H20	ALLEN-BRADLEY	20A ONE POLE
<b>PRESSURE REDUCING STATION TELEMETRY DETAILS</b>					
2016	 Yucaipa Valley Water District			Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##	<b>W-23</b>  Sheet 8 of 10



**PRESSURE REDUCING STATION  
ENTRY SWITCH DETAILS**

2016

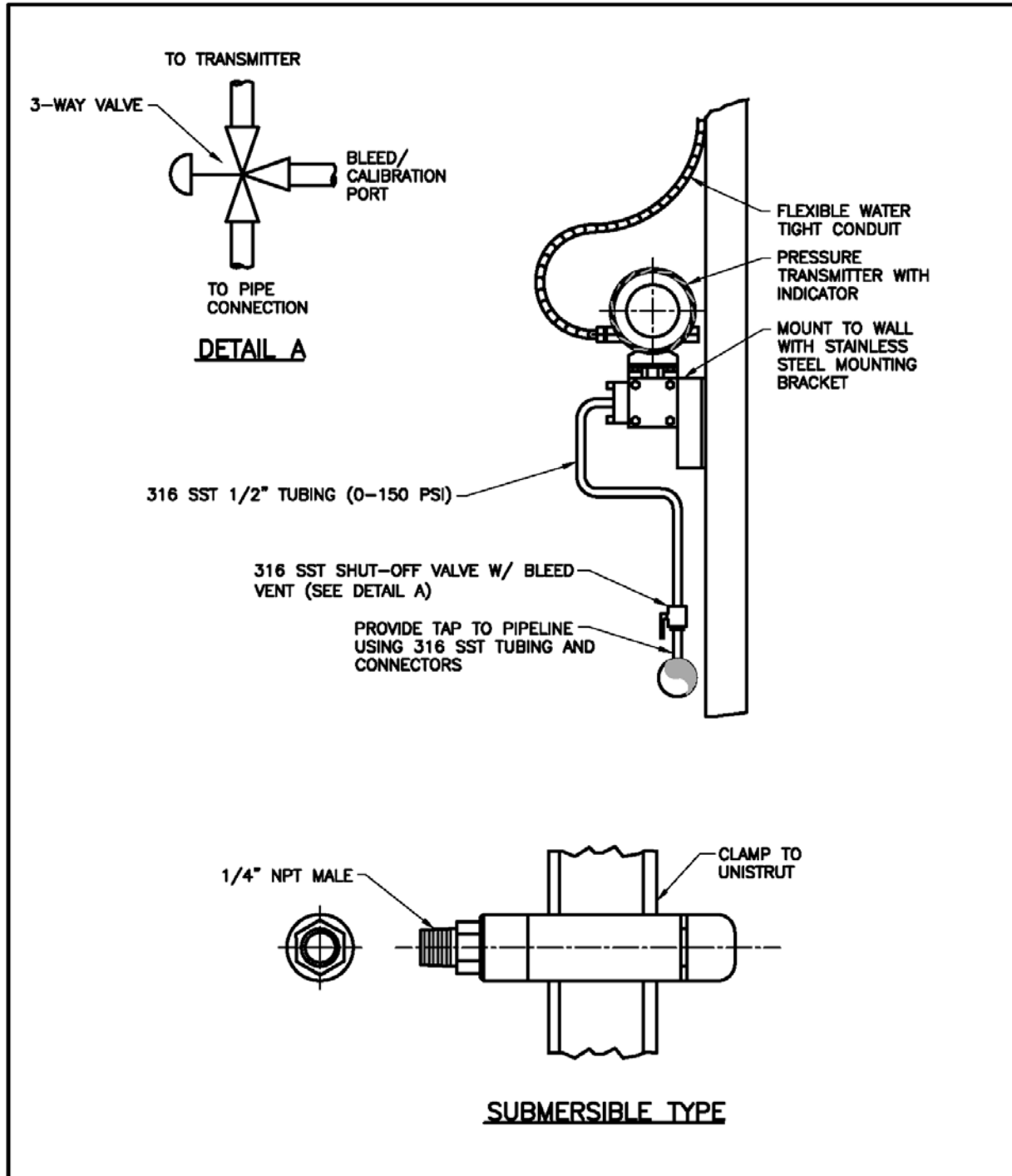


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**PRESSURE REDUCING STATION  
PRESSURE TRANSMITTER INSTALLATION DETAILS**

2016



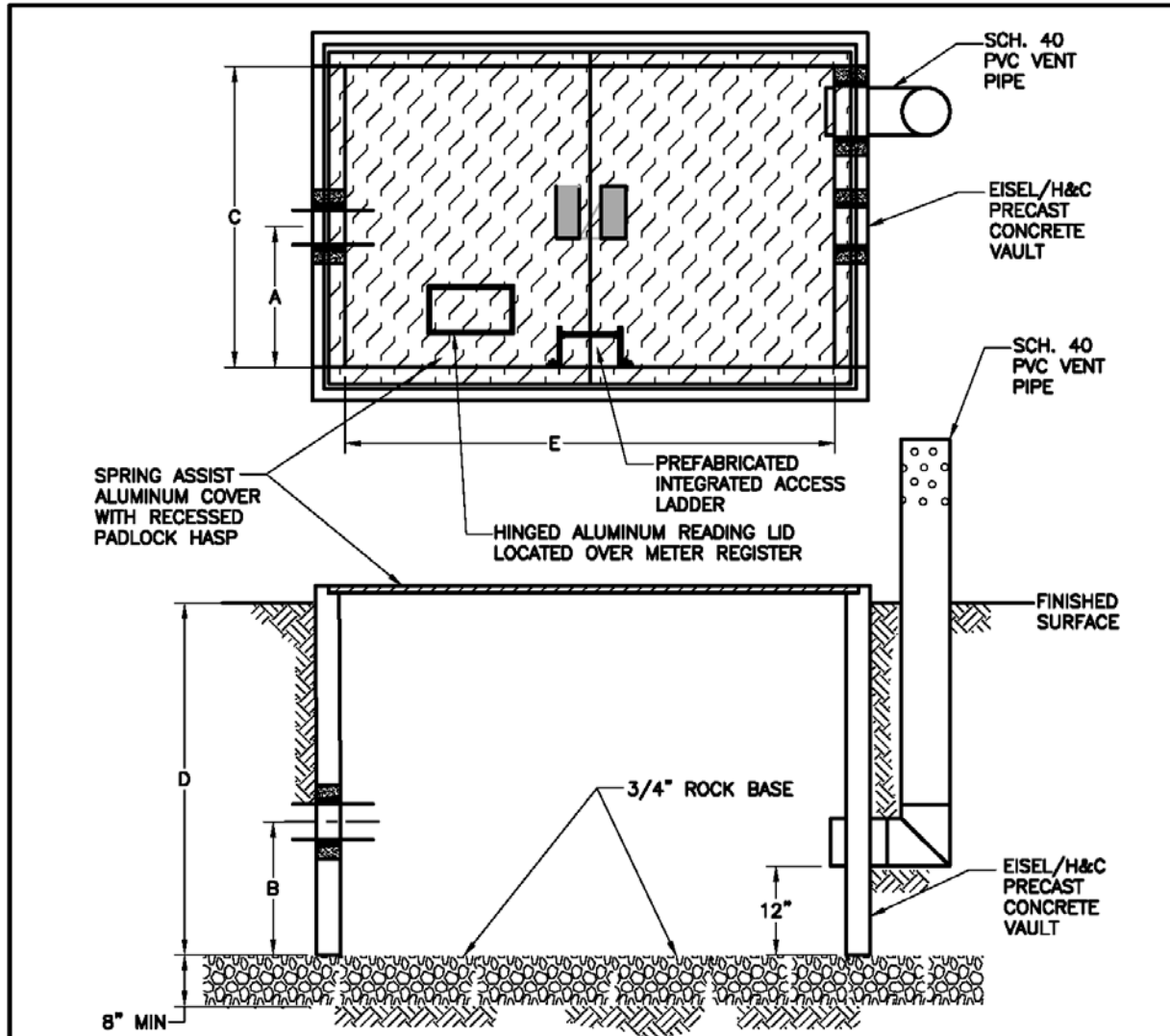
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UNDERGROUND INSTALLATIONS						
PIPE SIZE	A	B	C	D	E	VAULT DIM
3"	24"	18"	4'	5'	6'	4'x6'
4"	24"	18"	4'	5'	6'	4'x6'
6"	24"	18"	4'	5'	8'	4'x8'
8"	24"	18"	4'	5'	12'	4'x12'
12"	36"	18"	6'	5'	12'	6'x12'

### PREFABRICATED VAULT WITH LID AND VENT ASSEMBLY

2016

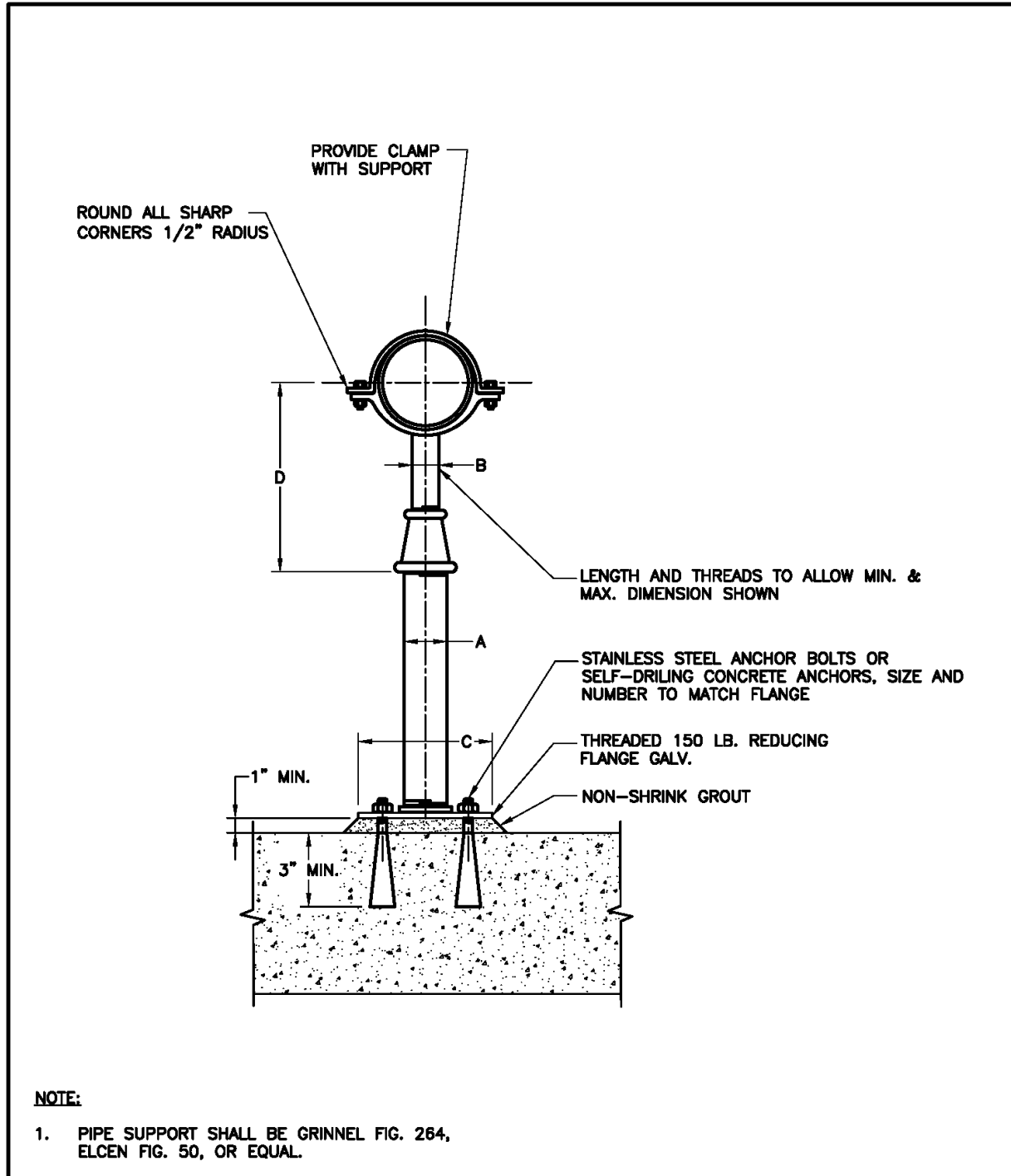


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## ADJUSTABLE PIPE SUPPORT

2016



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ADJUSTABLE PIPE SADDLE SUPPORT SCHEDULE DIMENSIONS IN INCHES					
PIPE SIZE	A	B	C	D	
				MINIMUM	MINIMUM
2 1/2	2 1/2	1 1/2	9	8	13
3	2 1/2	1 1/2	9	8 1/2	13 1/2
3 1/2	2 1/2	1 1/2	9	8 1/2	13 1/2
4	3	2 1/2	9	9 1/2	14
6	3	2 1/2	9	10 1/2	15 1/2
8	3	2 1/2	9	11 1/2	16 1/2
10	3	2 1/2	9	13 1/2	18 1/2
12	3	2 1/2	9	15	19 1/2
14	4	3	11	16 1/2	20 1/2
16	4	3	11	17 1/2	22 1/2
18	6	3 1/2	13 1/2	19 1/2	24
20	6	3 1/2	13 1/2	21	25 1/2
24	6	4	13 1/2	23 1/2	28 1/2
30	6	4	13 1/2	27	31 1/2
32	6	4	13 1/2	28 1/2	32 1/2
36	6	4	13 1/2	30 1/2	34 1/2

**ADJUSTABLE PIPE SUPPORT**

2016



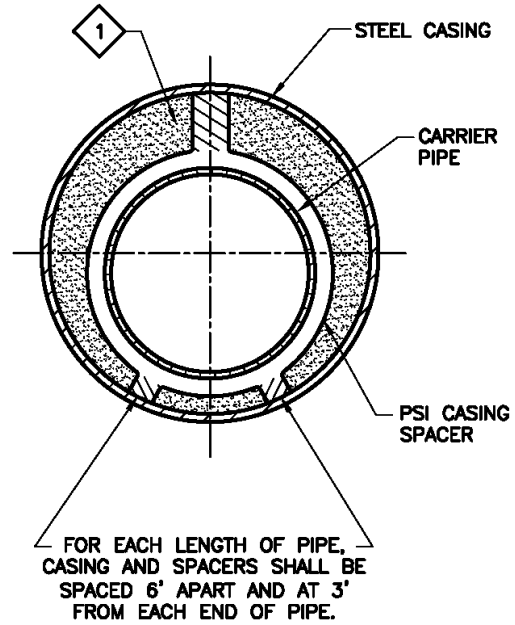
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SCHEDULE STEEL CASING		
NOMINAL CARRIER PIPE SIZE	MINIMUM CASING SIZE	MIN. WALL THICK.
4"	10 3/4 O.D.	1/4"
6"	12 3/4 O.D.	1/4"
8"	16" O.D.	5/16"
12"	24" O.D.	3/8"
16"	30" O.D.	3/8"
20"	36" O.D.	3/8"
24"	36" O.D.	3/8"
30"	48" O.D.	3/8"



**NOTES:**

- 1 THE ANNULAR SPACE BETWEEN THE CASING AND THE CARRIER PIPE SHALL BE FILLED WITH AIR-BLOWN SAND.
2. CASING SHALL BE INSTALLED BY THE BORE, JACK AND/OR TUNNEL METHOD.
3. SIZE AND THICKNESS OF CASING SHALL BE AS SHOWN IN SCHEDULE. FOR LONG BORES OR SPECIAL SITUATIONS, GREATER WALL THICKNESS THAN SHOWN IN THE SCHEDULE MAY BE REQUIRED.
4. ALL STEEL CASING PIPE FIELD JOINTS SHALL BE WELDED FULL-CIRCUMFERENCE.
5. PSI CASING SPACERS SHALL BE PROVIDED PER DETAIL ABOVE.
6. CARRIER PIPE SHALL BE PRESSURE TESTED PRIOR TO FILLING CASING.
7. EACH END OF CASING SHALL BE SEALED WITH CONCRETE.
8. CONTRACTOR SHALL FURNISH ALL NECESSARY THRUST RESTRAINT DEVICES.
9. BACK FILL FOR CASING IN OPEN CUT SHALL BE IN ACCORDANCE WITH YVWD STD. DWG. W-30.
10. PSI CASING SPACERS REQUIRED, SIZE PER PLAN.

**STEEL CASING PIPE**

2016

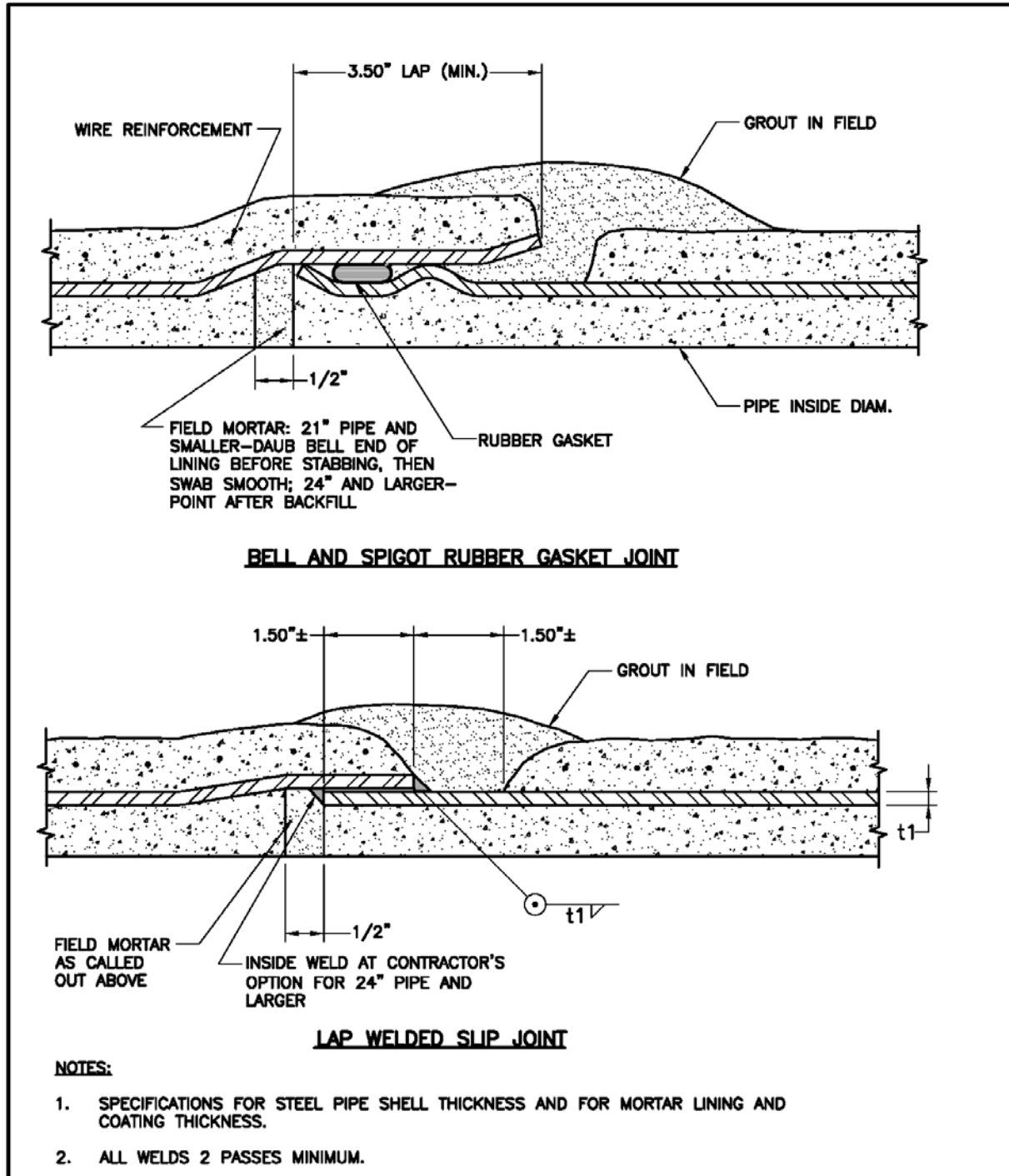


Yucaipa Valley Water District

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**MORTAR LINED AND COATED STEEL PIPE JOINT DETAILS**

2016

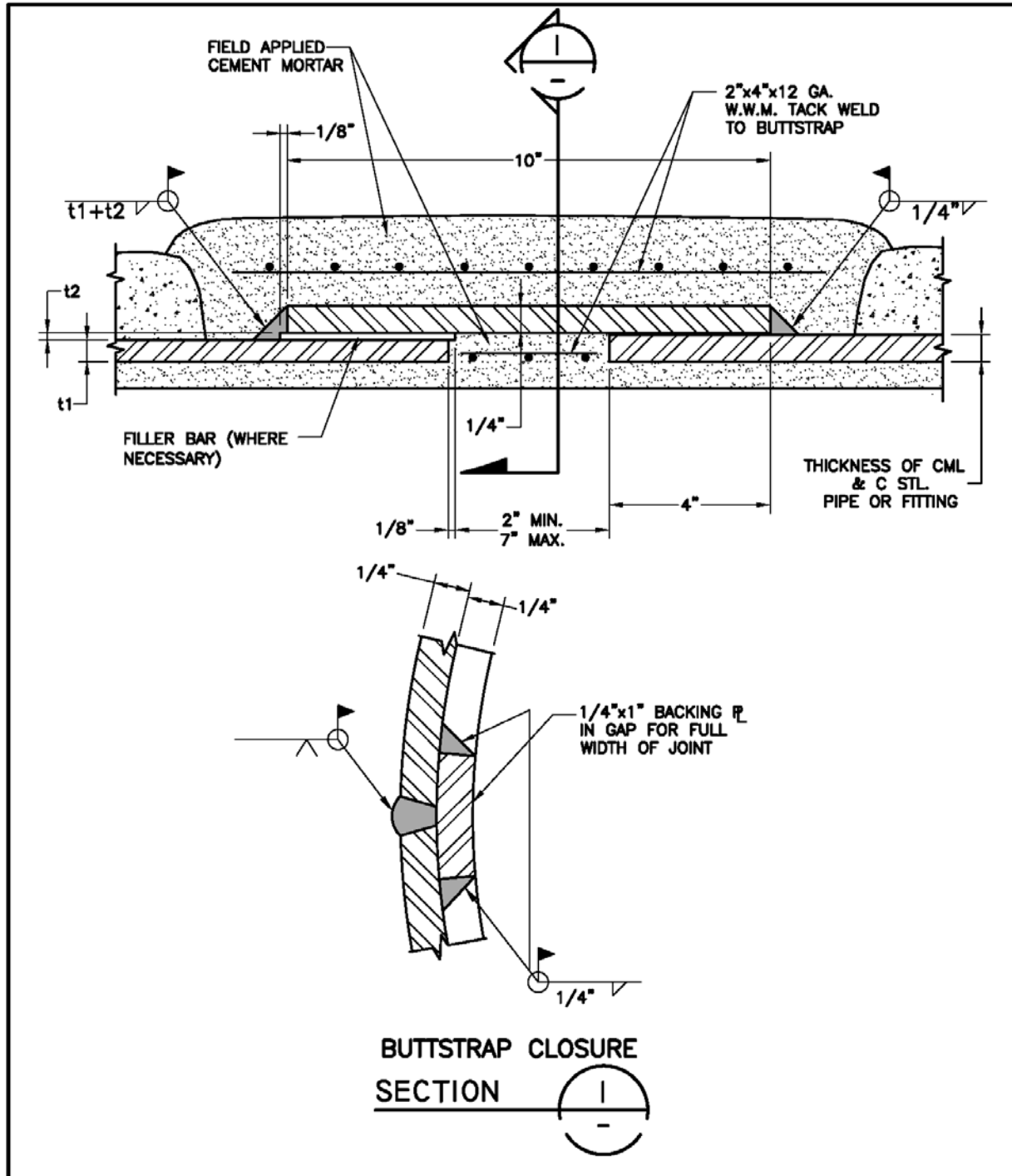


Yucaipa Valley Water District

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**MORTAR LINED AND COATED STEEL  
PIPE CLOSURE DETAILS**

2016

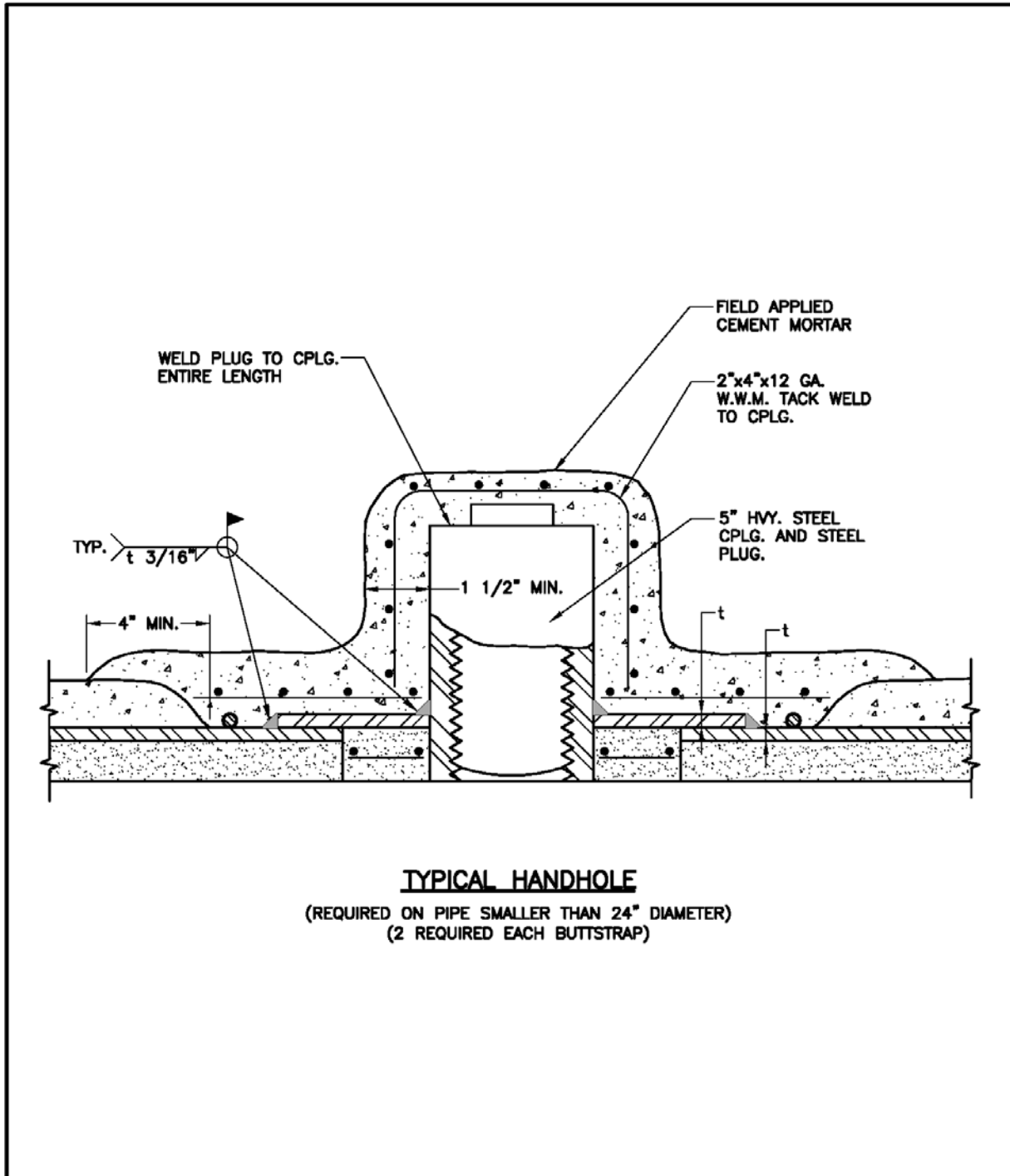


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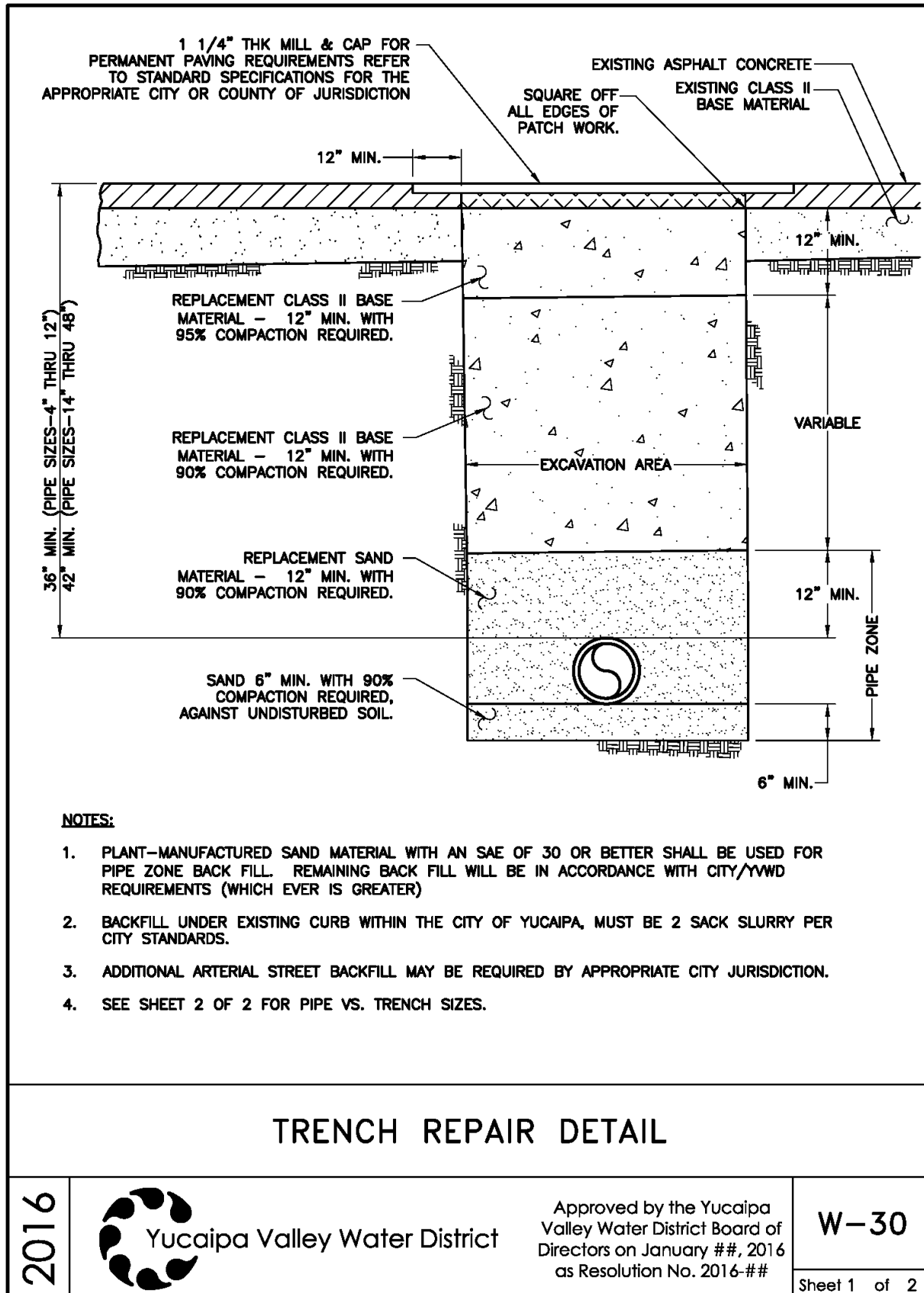


**TYPICAL HANDHOLE**  
 (REQUIRED ON PIPE SMALLER THAN 24" DIAMETER)  
 (2 REQUIRED EACH BUTTSTRAP)

**MORTAR LINED AND COATED STEEL  
 PIPE CLOSURE DETAILS**

<p>2016</p>	 <p>Yucaipa Valley Water District</p>	<p>Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##</p>	<p>W-28</p>
			<p>Sheet 2 of 2</p>





<b>TRENCH REPAIR—PIPE SIZE VS TRENCH SIZE</b>		
<b>PIPE SIZE—INCHES (INSIDE DIAMETER)</b>	<b>TRENCH WIDTH—INCHES</b>	
	<b>MINIMUM</b>	<b>MAXIMUM</b>
<b>4</b>	<b>18</b>	<b>24</b>
<b>6</b>	<b>20</b>	<b>30</b>
<b>8</b>	<b>24</b>	<b>32</b>
<b>10</b>	<b>24</b>	<b>36</b>
<b>12</b>	<b>30</b>	<b>36</b>
<b>14</b>	<b>32</b>	<b>42</b>
<b>16</b>	<b>34</b>	<b>42</b>
<b>24</b>	<b>38</b>	<b>46</b>
<b>29</b>	<b>42</b>	<b>46</b>
<b>30</b>	<b>46</b>	<b>48</b>
<b>36</b>	<b>—</b>	<b>—</b>
<b>48</b>	<b>—</b>	<b>—</b>

**TRENCH REPAIR DETAIL**

**2016**

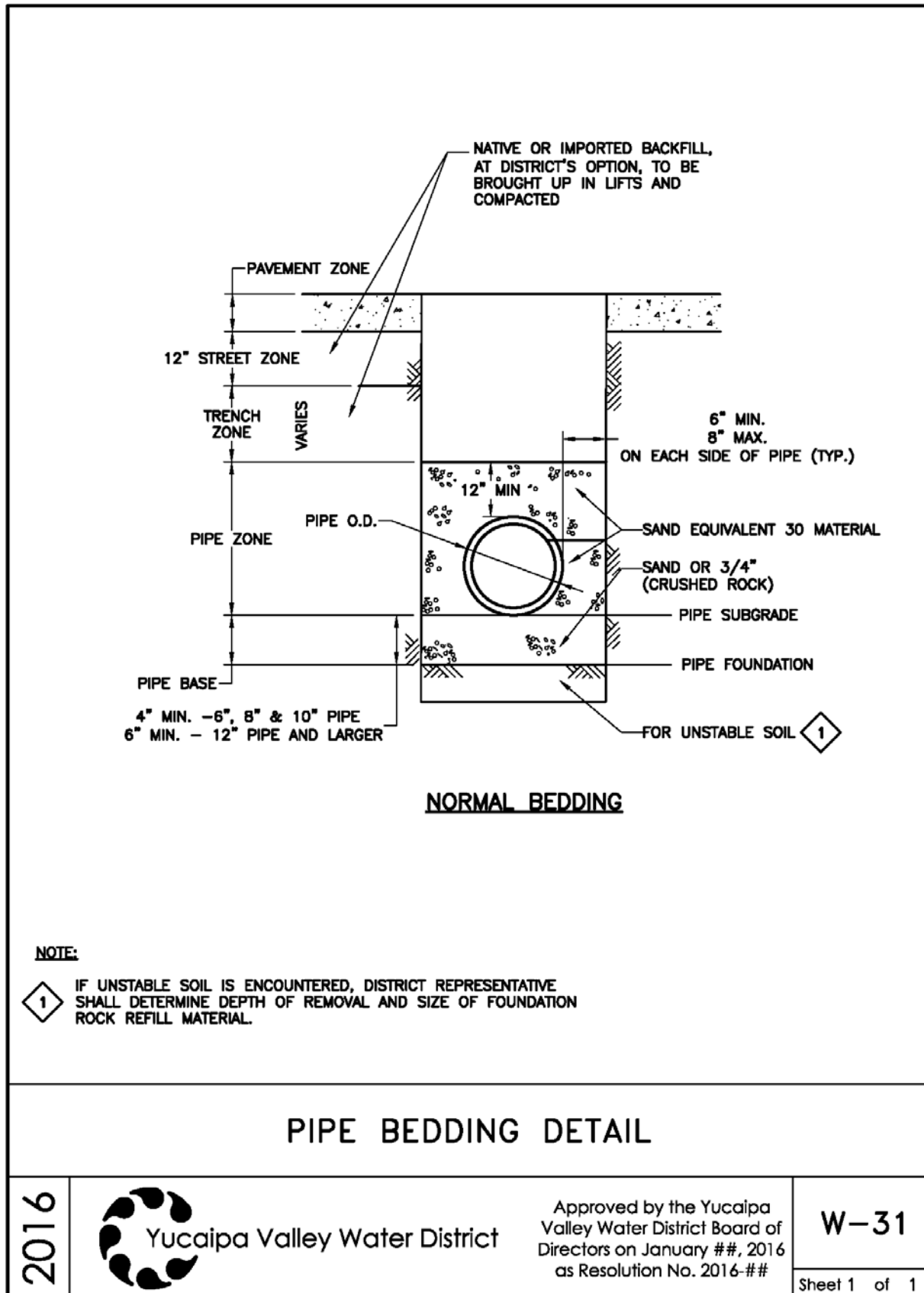


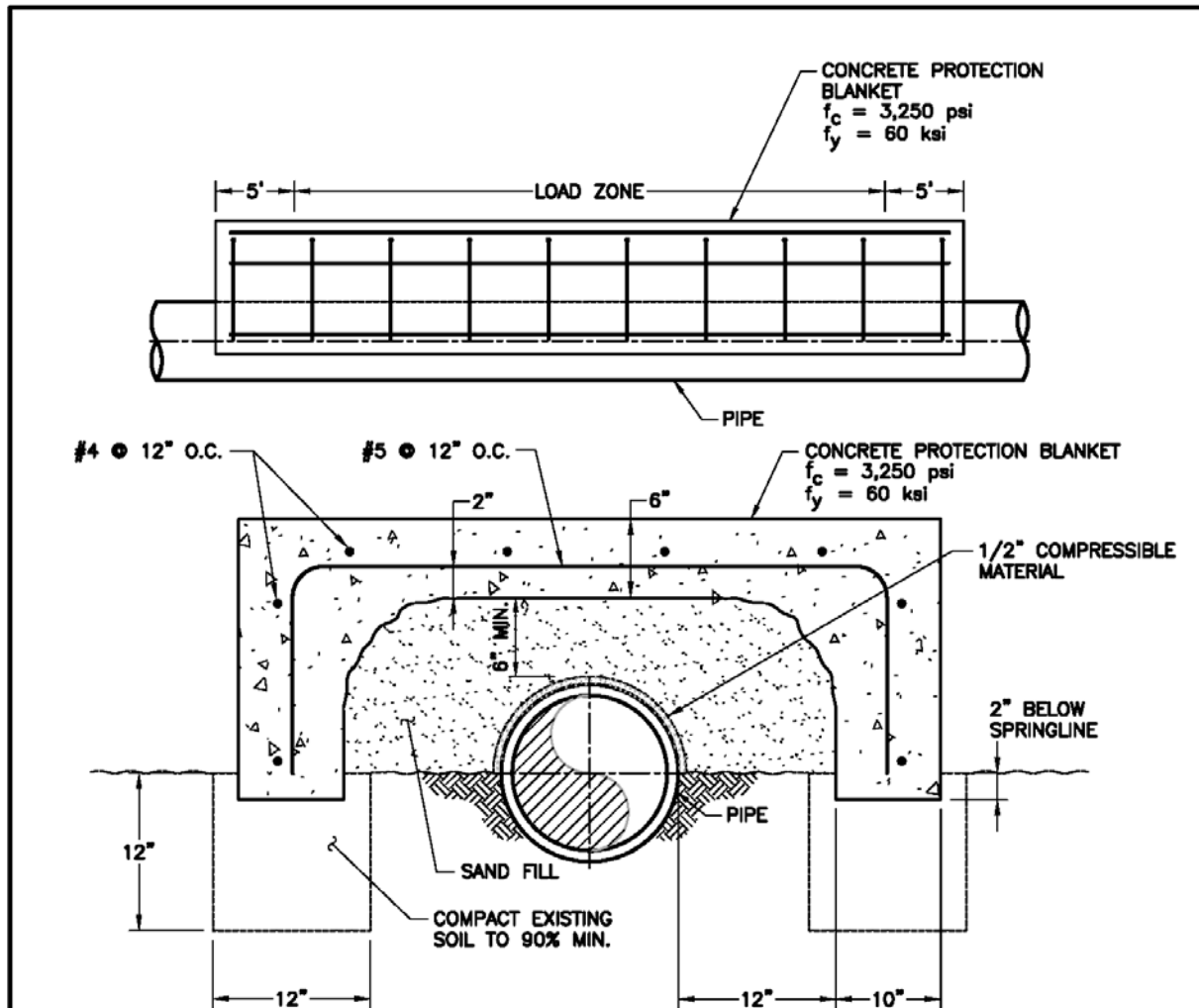
**Yucaipa Valley Water District**

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**NOTES:**

1. CONCRETE ENCASEMENT SHALL BE USED WHEN COVER IS LESS THAN 36".
2. ENCASEMENT TO BE PLACED AGAINST UNDISTURBED NATURAL GROUND OR FILL COMPACTED TO 90% RELATIVE DENSITY.
3. NO.4 AND NO.5 STEEL REINFORCING BARS SHALL BE USED AS SPECIFIED.
4. TYPE OF CONCRETE ENCASEMENT TO BE USED WILL BE SHOWN ON PLANS OR AS SPECIFIED BY DISTRICT REPRESENTATIVE TO MEET UNFORESEEN FIELD CONDITIONS. UNLESS NOTED OTHERWISE, ENCASEMENT SHALL BE 3,250 PSI CONCRETE.
5. WHERE SLOPED TRENCHES ARE USED, WALLS WILL NOT BEGIN TO SLOPE CLOSER THAN 12" FROM THE TOP OF THE PIPE.

## WATER PIPELINE PROTECTION DETAIL

2016



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Yucaipa Valley Water District

12770 Second Street, Yucaipa, California 92399 Phone: (909) 797-5117

# **Standard Specifications for the Design and Processing, Furnishing of Materials, and Construction of Sewer Facilities**

January \_\_, 2016

**YVWD SEWER FACILITY STANDARDS**  
**DRAWING INDEX (NUMERICAL)**

S-1	STANDARD LEGEND
S-2	SEWER MAINLINE LOCATION
S-3	MANHOLE DETAIL
S-4	CONCRETE BASE AND JOINT DETAIL
S-5	ADJUSTING EXISTING MANHOLE TO GRADE
S-6	MANHOLE SHAFT LOCATION DETAILS
S-7	TRAFFIC MANHOLE FRAME AND COVER
S-8	SPECIAL MANHOLE (20'-0" TO 30'-0" DEEP)
S-9	SPECIAL MANHOLE (30'+ DEEP)
S-10	DROP MANHOLE DETAIL (SPECIAL ACCEPTANCE ONLY)
S-11	GUARD POST DETAIL (EASEMENT AND OUTSIDE OF PAVING MANHOLE)
S-12	TERMINAL OR MAINLINE CLEANOUT DETAIL (SPECIAL ACCEPTANCE ONLY)
S-13	TERMINUS (CUL-DE-SAC) MANHOLE
S-14	NOT IN USE
S-15	VITRIFIED CLAY PIPELINE BEDDING DETAIL
S-16	PIPELINE BEDDING AND SPECIAL DETAILS
S-17	TRENCH REPAIR DETAIL
S-18	SEWER MAINLINE PROTECTION DETAIL
S-19	CONCRETE SLOPE ANCHORS
S-20	STEEL CASING PIPE
S-21	4" AND 6" SEWER SADDLE CONNECTION TO EXISTING MAINLINE
S-22	TYPICAL SEWER LATERAL
S-23	DEEP SEWER LATERAL DETAIL
S-24	BACKWATER VALVE DETAIL
S-25	BACKWATER VALVE INSTALLATION DETAIL
S-26	SEWER SAMPLING BOX
S-27	SEWER LATERAL CUTOFF WALL DETAIL
S-28	EROSION CONTROL CUTOFF WALL DETAIL

**SEWER STANDARD INDEX**

2016



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**YVWD SEWER FACILITY STANDARDS**  
**DRAWING INDEX (SUBJECT)**

**STANDARDS**

- S-1 STANDARD LEGEND
- S-2 SEWER MAINLINE LOCATION

**MANHOLES**

- S-3 MANHOLE DETAIL
- S-4 CONCRETE BASE AND JOINT DETAIL
- S-5 ADJUSTING EXISTING MANHOLE TO GRADE
- S-6 MANHOLE SHAFT LOCATION DETAILS
- S-7 TRAFFIC MANHOLE FRAME AND COVER
- S-8 SPECIAL MANHOLE (20'-0" TO 30'-0" DEEP)
- S-9 SPECIAL MANHOLE (30'+ DEEP)
- S-10 DROP MANHOLE DETAIL (SPECIAL ACCEPTANCE ONLY)
- S-11 GUARD POST DETAIL (EASEMENT AND OUTSIDE OF PAVING MANHOLE)
- S-12 TERMINAL OR MAIN CLEANOUT DETAIL (SPECIAL ACCEPTANCE ONLY)
- S-13 TERMINUS (CUL-DE-SAC) MANHOLE

**PIPE AND CASING DETAILS**

- S-15 VITRIFIED CLAY PIPELINE BEDDING DETAIL
- S-16 PIPELINE BEDDING AND SPECIAL DETAILS
- S-17 TRENCH REPAIR DETAIL
- S-18 SEWER MAINLINE PROTECTION DETAIL
- S-19 CONCRETE SLOPE ANCHORS
- S-20 STEEL CASING PIPE

**LATERALS**

- S-21 4" AND 6" SEWER SADDLE CONNECTION TO EXISTING MAINLINE
- S-22 TYPICAL SEWER LATERAL
- S-23 DEEP SEWER LATERAL DETAIL
- S-24 BACKWATER VALVE DETAIL
- S-25 BACKWATER VALVE INSTALLATION DETAIL
- S-26 SEWER SAMPLING BOX
- S-27 SEWER LATERAL CUTOFF WALL DETAIL
- S-28 EROSION CONTROL CUTOFF WALL DETAIL

**SEWER STANDARD INDEX**

2016



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**STANDARD DESIGN REQUIREMENTS:**





















PLAN SCALE SIZES ARE REQUIRED TO BE DESIGNED AT 1:40. SPECIAL CONSTRUCTION DETAILS MAY BE ADJUSTED AS NECESSARY FOR DESIGN AND CONSTRUCTION PURPOSES.

ALL PLAN SHEETS SHALL BE ON 24-INCH BY 36-INCH ARCHITECTURAL SHEET SIZE D.













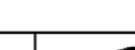

ALL PROJECTS SHALL BE SUBMITTED TO THE DISTRICT ON MYLAR PRIOR TO CONSTRUCTION.

ALL PROJECTS, UPON COMPLETION, SHALL UPDATE THE MYLAR PLANS AND PROVIDE AUTOCAD FILES FOR DISTRICT USE AND RECORDS UPON COMPLETION.

**STANDARD LEGEND**

	RIGHT OF WAY (R.O.W.)		
	CENTERLINE		
	EXISTING WATER LINE		
	PROPOSED WATER LINE		
	EXISTING RECYCLED WATER LINE		
	PROPOSED RECYCLED WATER LINE		
	EXISTING SEWER LINE		
	PROPOSED SEWER LINE		
	EXISTING GAS LINE		
	PROPOSED GAS LINE		
	SERVICE LATERAL		
	ENCASEMENT		
	EXISTING ELECTRICAL CONDUIT		
	PROPOSED ELECTRICAL CONDUIT		
	EXISTING TELEPHONE CONDUIT		
	PROPOSED TELEPHONE CONDUIT		
	EXISTING FIBER OPTIC CABLE		
	PROPOSED FIBER OPTIC CABLE		
	PORTLAND CEMENT CONCRETE IN SECTION		
	PORTLAND CEMENT CONCRETE IN PLAN		

	POWER POLE AND GUY LINE		CLEAN-OUT
	TRAFFIC SIGNAL EXISTING		HOUSE CONNECTION SEWER
	WATER WELL		WYE BRANCH
	BUTTERFLY VALVE		CUT-OFF WALL
	GATE VALVE	<b>C.O.</b>	CLEAN-OUT
	FIRE HYDRANT	<b>D.I.P.</b>	DUCTILE IRON PIPE
	BLOW-OFF	<b>D.M.H.</b>	DROP MANHOLE
	AIR & VACUUM VALVE ASSEMBLY (SIZE PER PLAN)	<b>J.M.H.</b>	JUNCTION MANHOLE
	POTABLE WATER QUALITY SAMPLE STATION	<b>M.H.</b>	MANHOLE
	RECYCLED WATER QUALITY SAMPLE STATION	<b>V.C.P.</b>	VITRIFIED CLAY PIPE

**STANDARD DESIGN REQUIREMENTS AND LEGEND**

2016

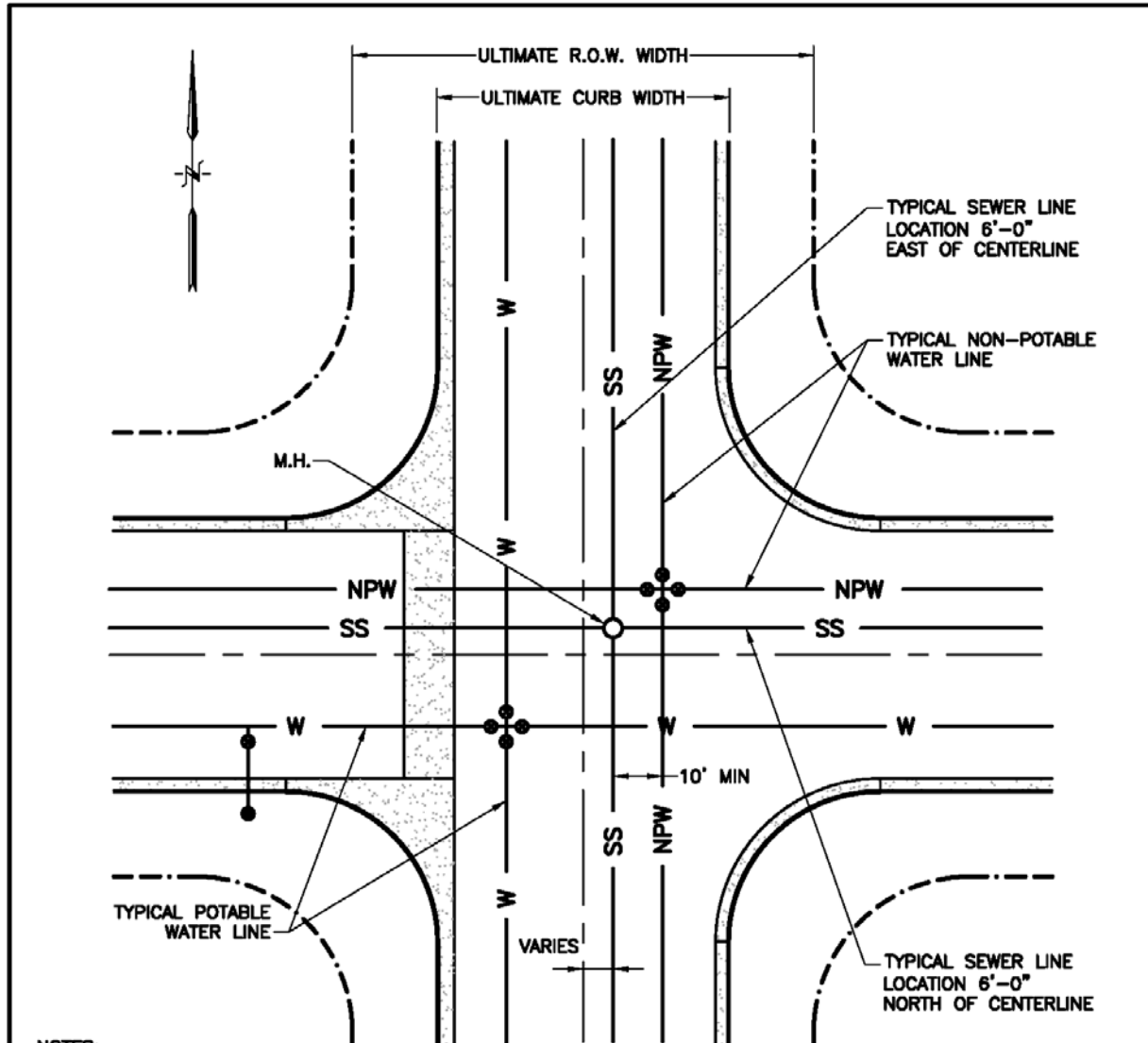


Yucaipa Valley Water District

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**NOTES:**

SEWER PIPELINE SIZE TO BE DETERMINED BY Y.V.W.D.

PLAN SCALE SIZES ARE REQUIRED TO BE DESIGNED AT 1:40. SPECIAL CONSTRUCTION DETAILS MAY BE ADJUSTED AS NECESSARY FOR DESIGN AND CONSTRUCTION PURPOSES.

ALL PLAN SHEETS SHALL BE ON 24-INCH BY 36-INCH ARCHITECTURAL SHEET SIZE D.

ALL PROJECTS SHALL BE SUBMITTED TO THE DISTRICT ON MYLAR PRIOR TO CONSTRUCTION.

ALL PROJECTS, UPON COMPLETION, SHALL UPDATE THE MYLAR PLANS AND PROVIDE AUTOCAD FILES FOR DISTRICT USE AND RECORDS UPON COMPLETION.

## SEWER MAINLINE LOCATION

2016

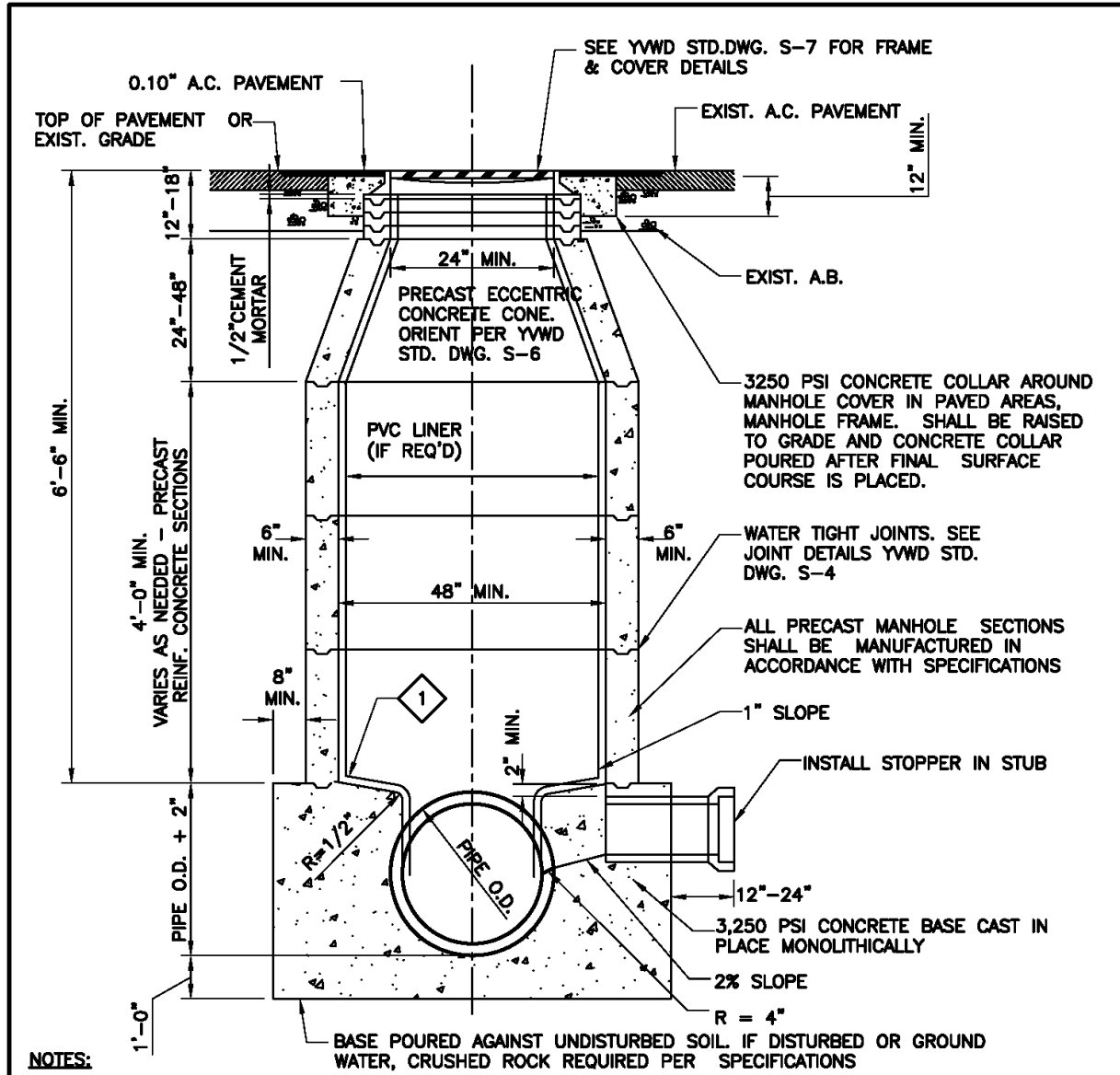


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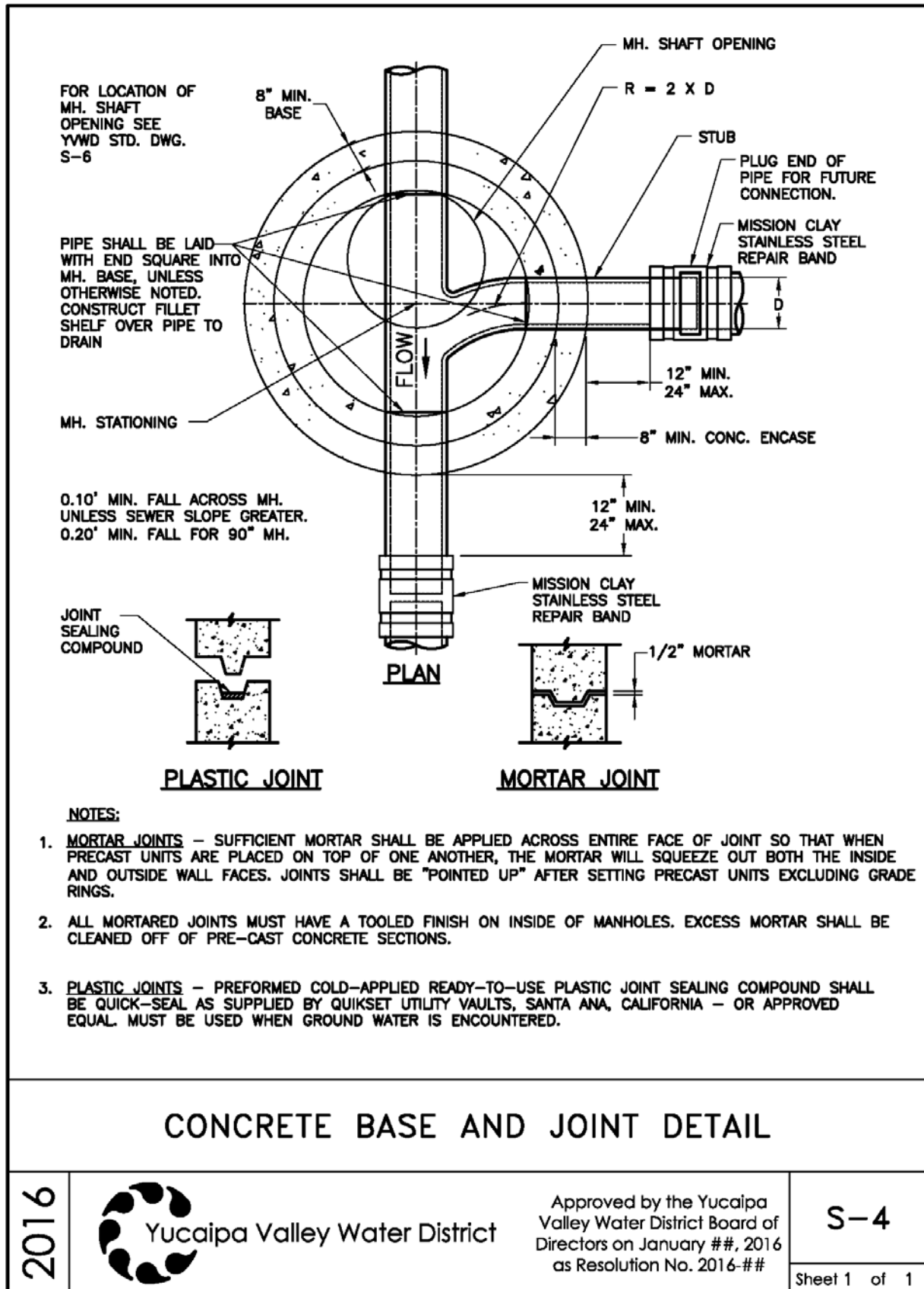


**NOTES:**

1. PLACE TWO HALF MOON SHAPED PLYWOOD COVERS (5/8" THICK MINIMUM) IN BOTTOM OF MANHOLE AFTER SHAFTS HAVE BEEN SET TO KEEP DEBRIS FROM ENTERING SEWER.
2. FOR DROP MANHOLE DETAIL SEE YWWD STD. DWG. S-10. (SPECIAL ACCEPTANCE BY DISTRICT ENGINEER ONLY).
3. FOR MANHOLES LOCATED OUTSIDE PAVED AREAS THE FRAME AND COVER SHOULD BE SET A MINIMUM OF 0.1 FT. ABOVE FINISH GRADE IN SHOULDER AREAS, UNPAVED ROADS OR LANDSCAPED AREAS, AND 18" IN UNFINISHED AREAS.
4. ALL INLETS AND OUTLETS SHALL BE SUPPORTED WITH CONCRETE SUPPORTS PRIOR TO POURING MANHOLE BASE.

**MANHOLE DETAIL**

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2016

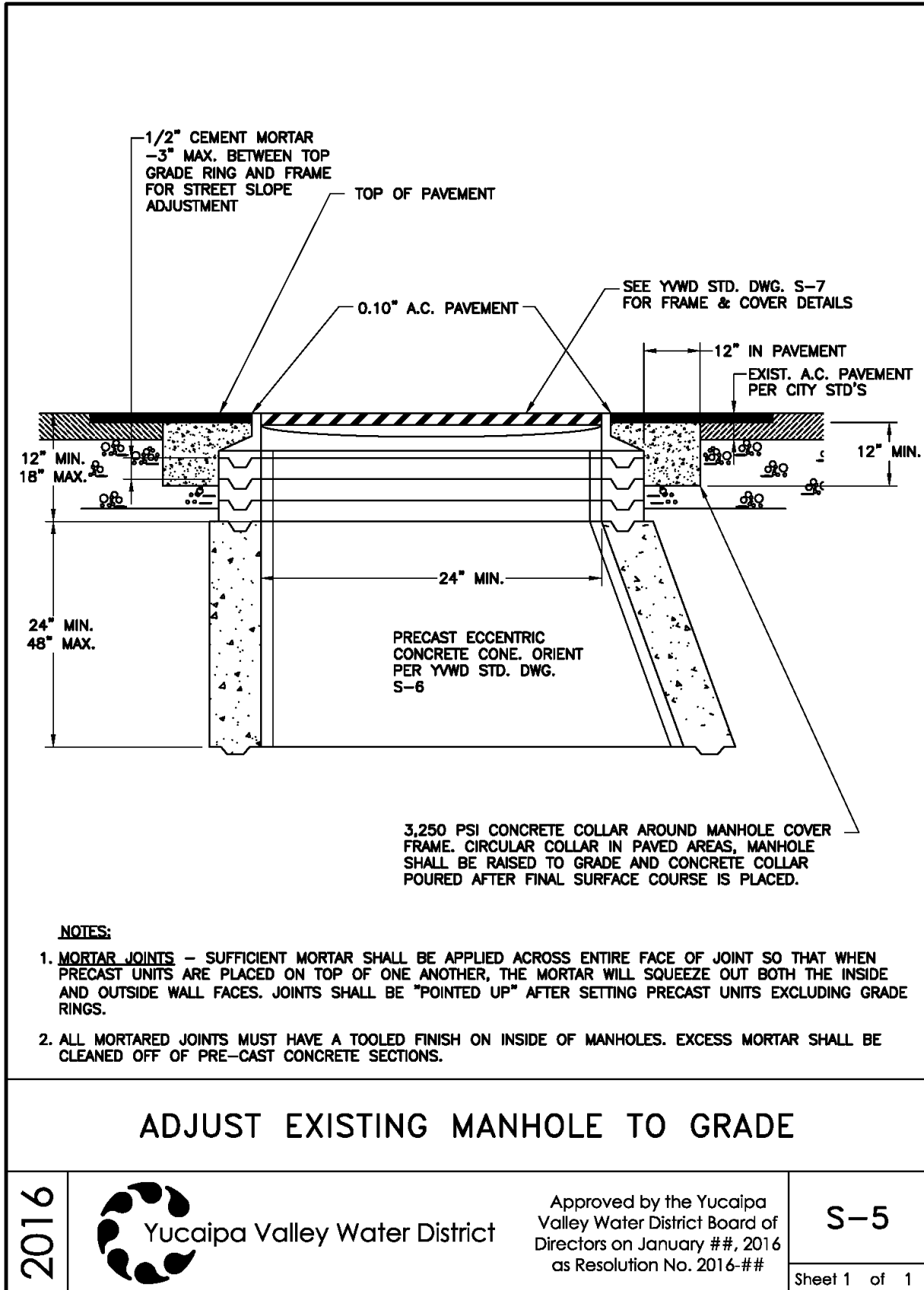


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2016

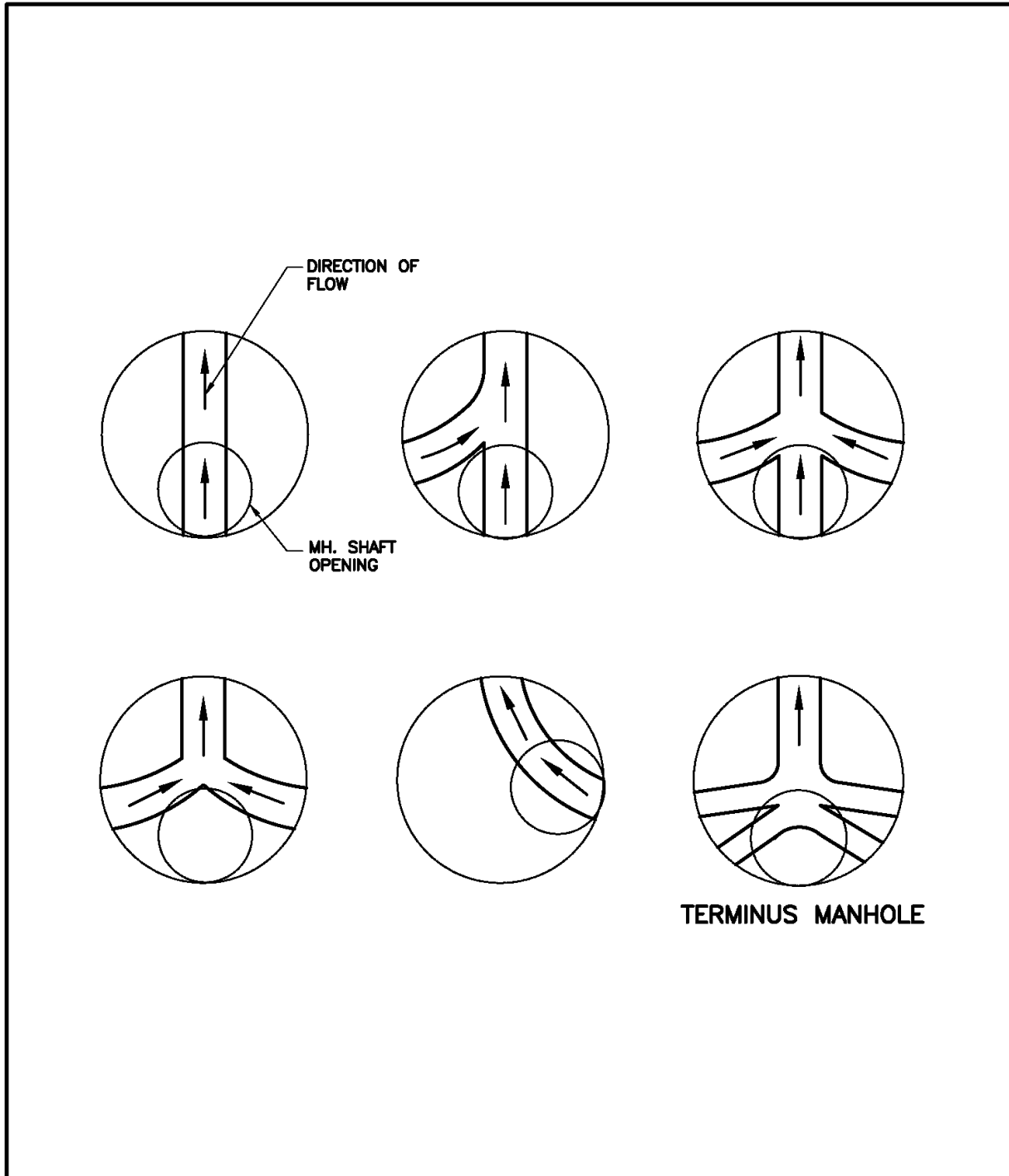


Yucaipa Valley Water District

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Valley Water District Board of  
Directors on January ##, 2016  
as Resolution No. 2016-##


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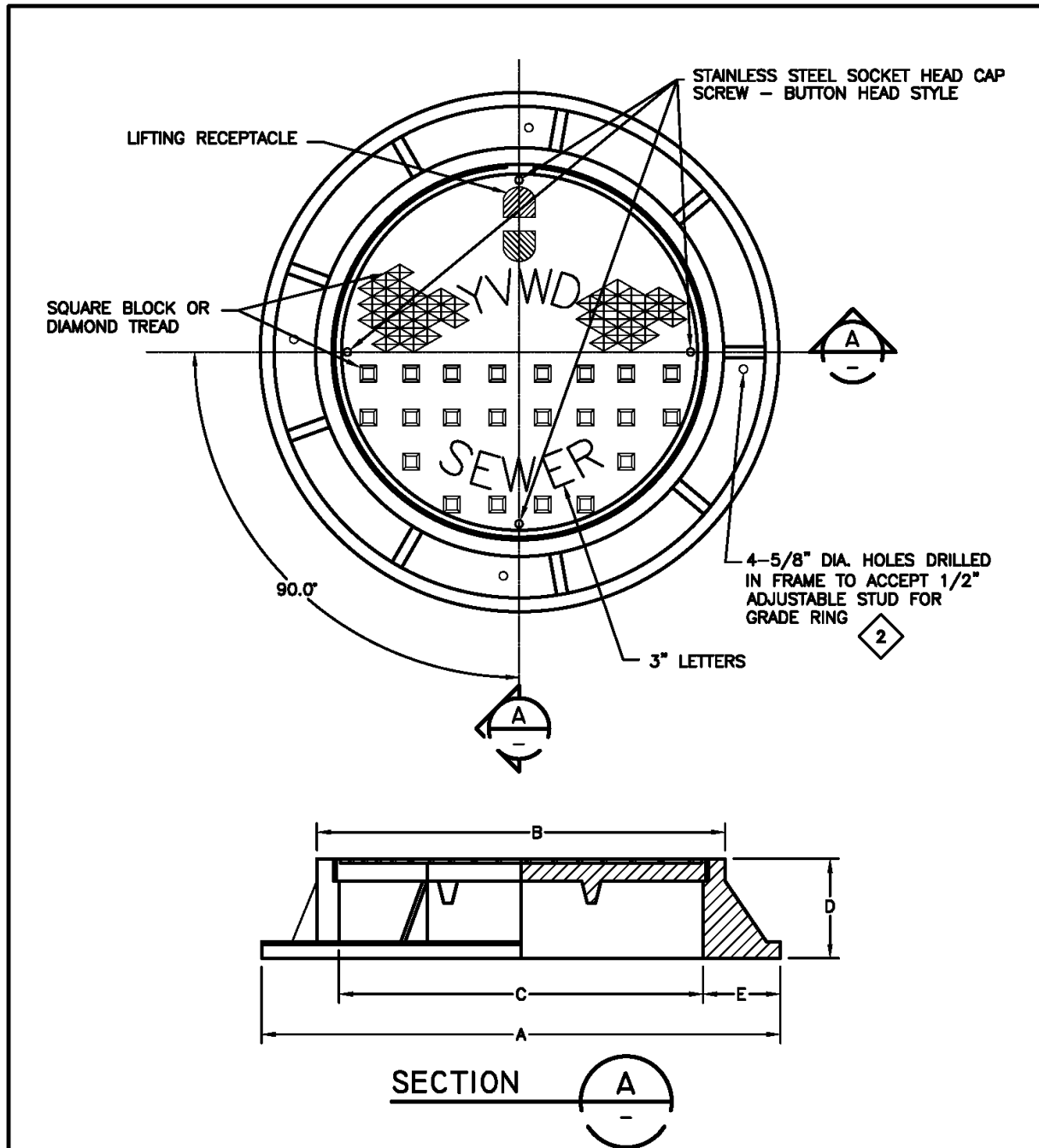
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TERMINUS MANHOLE

MANHOLE SHAFT LOCATION DETAILS

2016	 Yucaipa Valley Water District	Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##	S-6
			Sheet 1 of 1



SEE S-7 SHEET 2 OF 2 FOR NOTES, MANHOLE DIMENSION SCHEDULE, AND MANHOLE SIZE SCHEDULE.

## TRAFFIC MANHOLE FRAME AND COVER

2016



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**NOTES:**

1. 48" AND 60" MANHOLES SHALL HAVE 24" COVERS. 72" MANHOLES SHALL HAVE 30" COVERS.
2. WHERE FRAME AND COVER ARE SET 18" ABOVE GRADE, 4 1/2" DIA. INSERTS FOR ADJUSTABLE STUDS SHALL BE CAST IN TOP GRADE RING, ALIGNED AS DETAILED ON SHEET 1 OF 2. FRAME SHALL BE BOLTED TO GRADE RING.
3. WHERE MANHOLE IS LOCATED WITHIN AN EASEMENT, BOLT DOWN FRAME AND COVER SHALL BE REQUIRED.

MANHOLE DIMENSIONS		
SIZE	24"	30"
A	32"	38"
B	27 1/4"	33"
C	24"	30"
D	3.5"	6"
E	4"	4"

MANHOLE SIZES			
SEWER MAIN	MAX BRANCH SIZE	MANHOLE SIZE	FRAME AND COVER
8" - 15"	10"	48"	24"
18" - 21"	12"	60"	24"
24" - 36"	15"	72"	30"

**TRAFFIC MANHOLE FRAME AND COVER**

2016

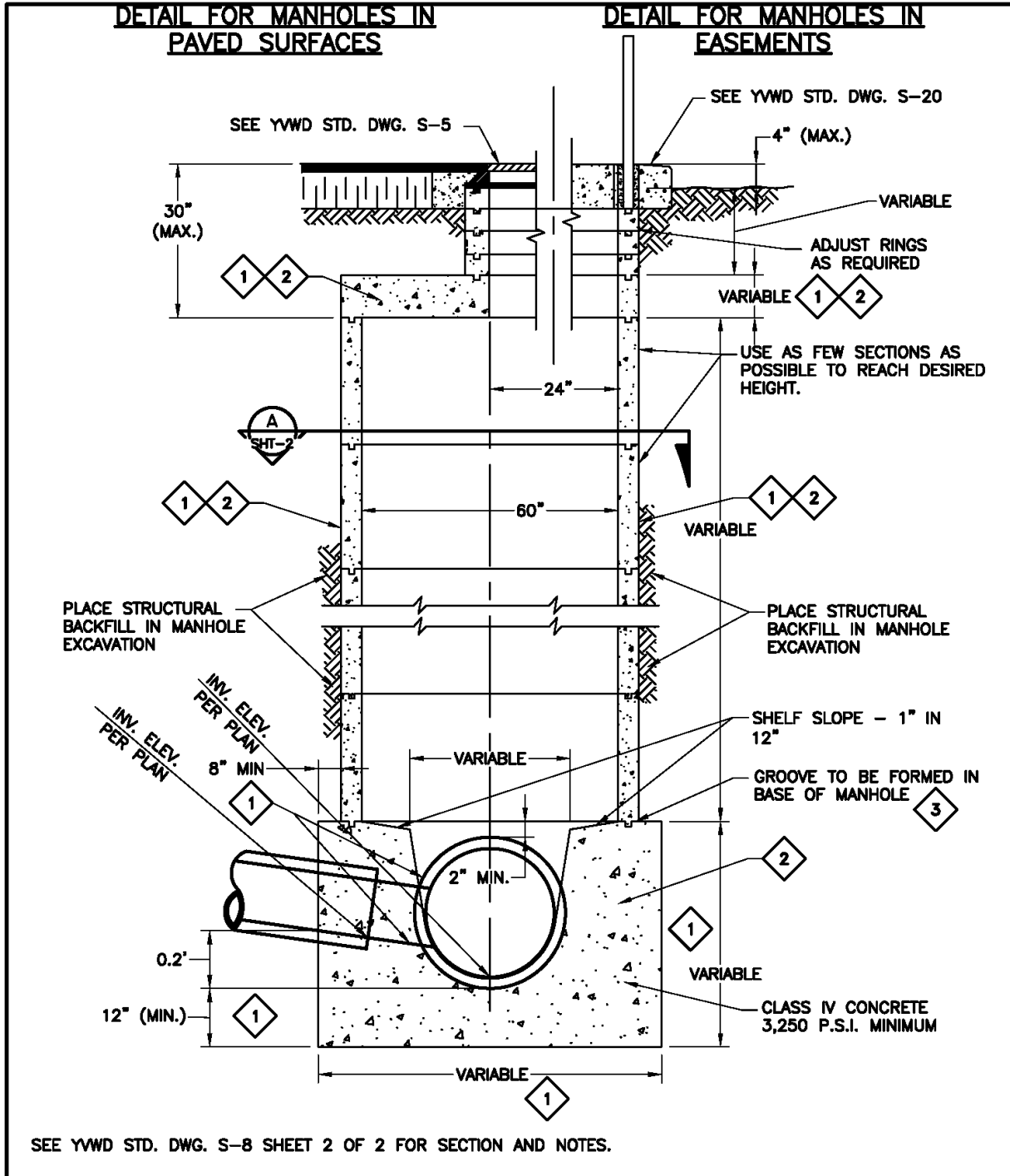


Yucaipa Valley Water District

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**SPECIAL MANHOLE (20' TO 30' DEEP)**

2016

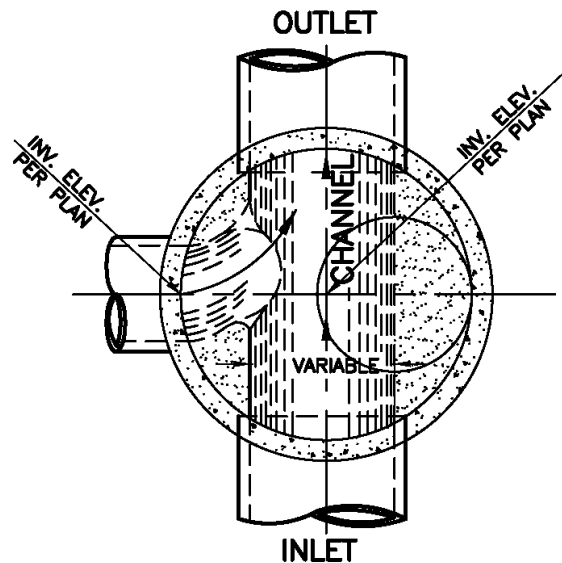


Yucaipa Valley Water District

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SECTION A  
SHT-1

**NOTES:**

1. DIMENSIONS PER MANHOLE MANUFACTURER'S SPEC.
2. STEEL REINFORCEMENT PER MANHOLE MANUFACTURER'S SPECIFICATIONS.
3. INVERT CHANNELS, SHELF AND GROOVE SHALL BE FORMED MONOLITHICALLY WITH THE MANHOLE BASE, NO REWORKING OF CONCRETE WHICH HAS PARTIALLY HARDENED.
4. ALL SECTIONS TO BE WASHED, TO REMOVE ANY LOOSE MATERIAL AND WHILE STILL WET, THEY ARE TO BE SET IN 1:3 MORTAR TRIMMED SMOOTH INSIDE AND OUTSIDE AT TIME OF SETTING, INCLUDING FRAME. INSIDE MORTARED JOINTS MUST HAVE A TOOLED FINISH. EXCESS MORTAR SHALL BE CLEANED OFF PRE-CAST CONCRETE SECTIONS.
5. CONCRETE FOR MANHOLE SECTION 3,250 P.S.I. MIN.
6. PROVIDE FLEXIBLE JOINT IN ALL SEWER PIPES OUTSIDE MANHOLE BUT WITHIN 12"-24" OF CONCRETE BASE. NO BELLS, USE MISSION CLAY STAINLESS STEEL BAND REPAIR COUPLINGS OR EQUAL.
7. ADJUSTMENT OF FRAME AND COVER AFTER FINAL PAVING OPERATIONS. FRAME AND COVER SHALL BE SET 1/4" BELOW PAVING TO ALLOW FOR PAVING SETTLEMENT.
8. PRECAST MANHOLE SUPPLIER TO SUBMIT STRUCTURAL CALCULATION TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.  
 USE: SOIL ACTIVE PRESSURE = 49 P.C.F.  
 SOIL BEARING PRESSURE = 1,500 P.S.F. (OR VALUES PER APPROVED SOIL REPORT)

**SPECIAL MANHOLE (20' TO 30' DEEP)**

2016

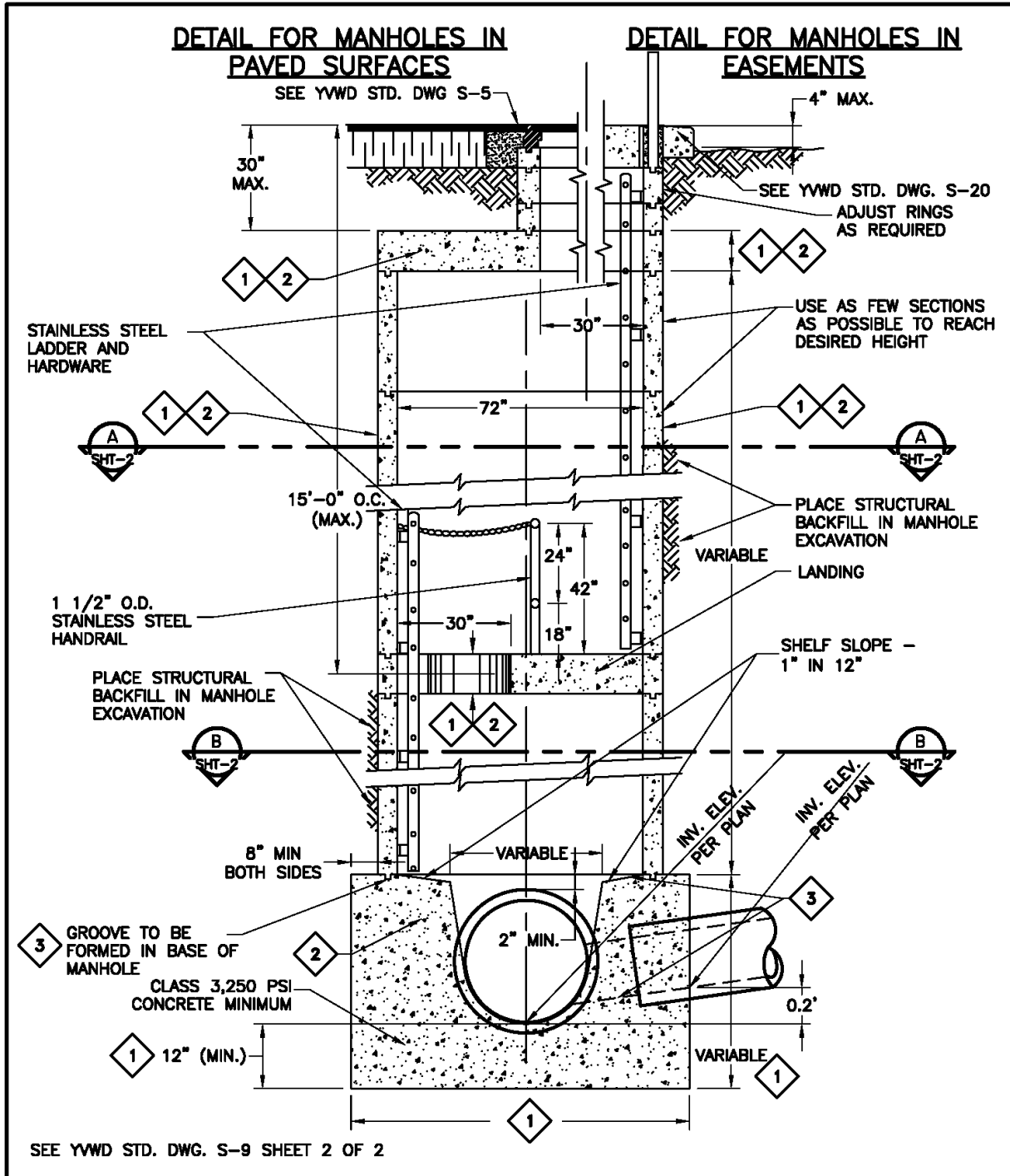


Yucaipa Valley Water District

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**SPECIAL MANHOLE (30'+ DEEP)**

2016

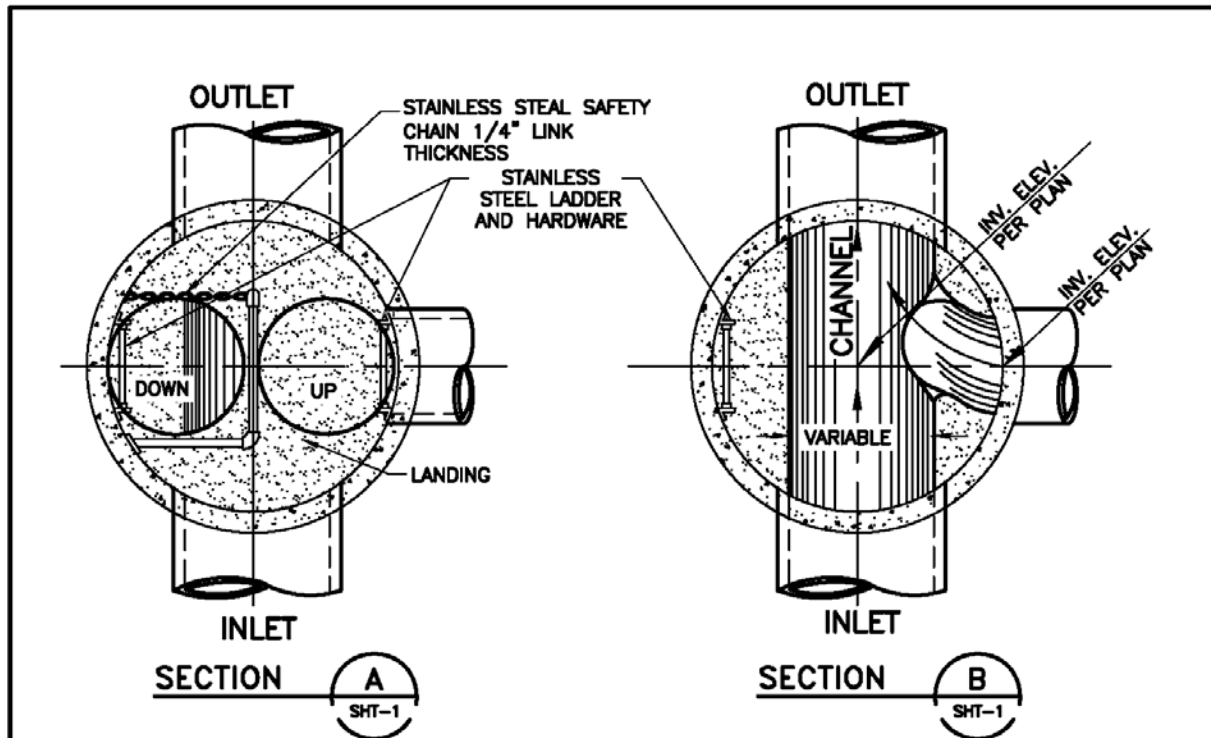


Yucaipa Valley Water District

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**NOTES:**

SEE YVWD STD. DWG. S-9 SHEET 1 OF 2

1. DIMENSIONS PER MANHOLE MANUFACTURER'S SPEC.
2. STEEL REINFORCEMENT PER MANHOLE MANUFACTURER'S SPECIFICATIONS.
3. INVERT CHANNELS, SHELF AND GROOVE SHALL BE FORMED MONOLITHICALLY WITH THE MANHOLE BASE, NO REWORKING OF CONCRETE WHICH HAS PARTIALLY HARDENED.
4. ALL SECTIONS TO BE WASHED, TO REMOVE ANY LOOSE MATERIAL AND WHILE STILL WET, THEY ARE TO BE SET IN 1:3 MORTAR TRIMMED SMOOTH INSIDE AND OUTSIDE AT TIME OF SETTING, INCLUDING FRAME. INSIDE MORTARED JOINTS MUST HAVE A TOOLED FINISH. EXCESS MORTAR SHALL BE CLEANED OFF PRE-CAST CONCRETE SECTIONS.
5. CONCRETE FOR MANHOLE SECTION 3,250 PSI MIN.
6. PROVIDE FLEXIBLE JOINT IN ALL SEWER PIPES OUTSIDE MANHOLE BUT WITHIN 12"-24" OF CONCRETE BASE. NO BELLS, USE MISSION CLAY STAINLESS STEEL BAND REPAIR COUPLINGS OR EQUAL.
7. ADJUSTMENT OF FRAME AND COVER AFTER FINAL PAVING OPERATIONS. FRAME AND COVER SHALL BE SET 1/4" BELOW PAVING TO ALLOW FOR PAVEMENT SETTLEMENT.
8. PRECAST MANHOLE SUPPLIER TO SUBMIT STRUCTURAL CALCULATION TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.  
 USE: SOIL ACTIVE PRESSURE = 49 P.C.F.  
 SOIL BEARING PRESSURE = 1,500 P.S.F. (OR VALUES PER APPROVED SOIL REPORT)

**SPECIAL MANHOLE (30'+ DEEP)**

2016

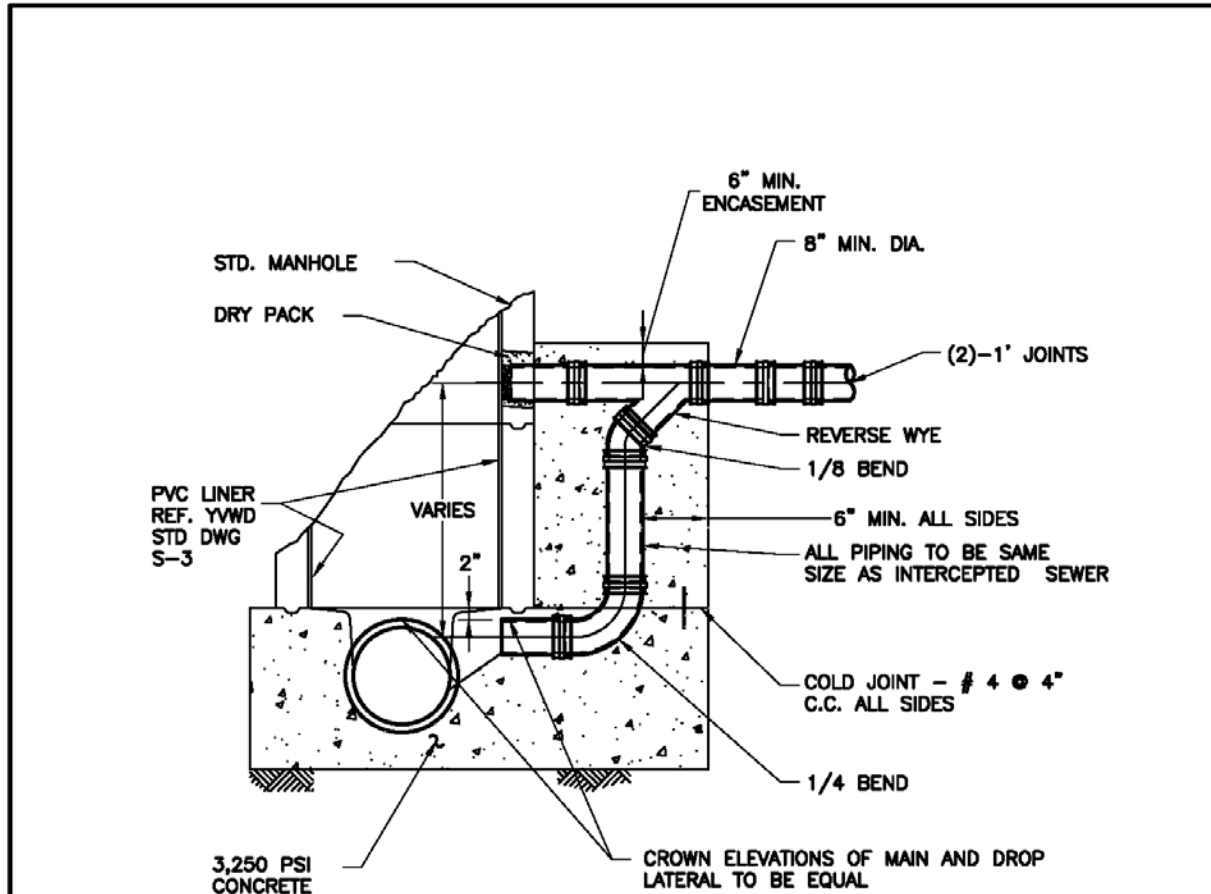


Yucaipa Valley Water District

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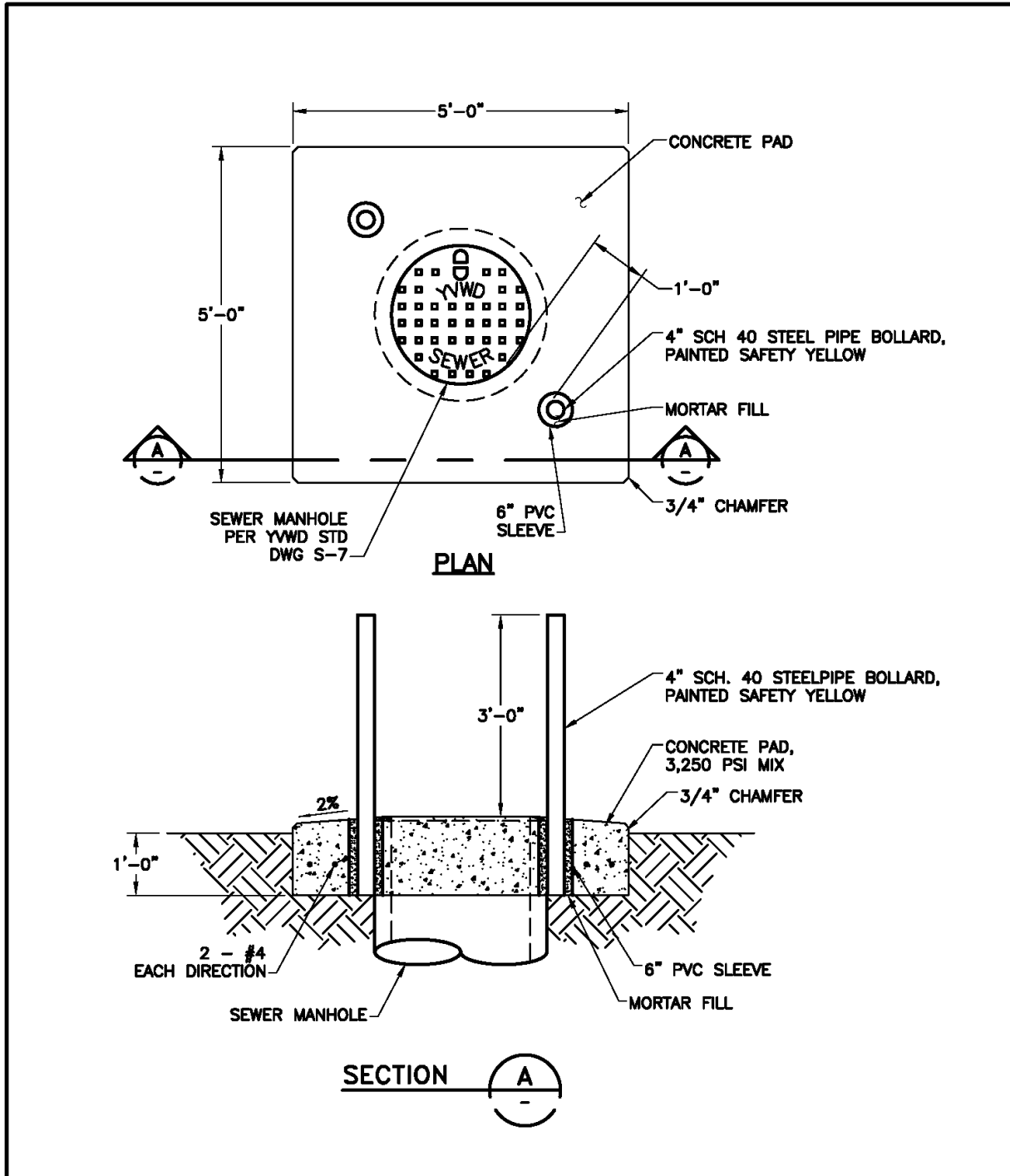
**SECTION**

**NOTES:**

1. DROP MANHOLE ONLY TO BE USED FOR SPECIAL SITUATIONS, AND SHALL NOT BE CONSTRUCTED WITHOUT PRIOR APPROVAL.
2. ALL NEW OPENINGS CONSTRUCTED INTO MANHOLE SHALL BE DONE BY CORE DRILLING.
3. INTERIOR WALL OF MANHOLE TO BE LINED WITH PVC LINER PER SPECIFICATIONS.

**DROP MANHOLE DETAIL  
(SPECIAL ACCEPTANCE ONLY)**

2016	 <p>Yucaipa Valley Water District</p>	<p>Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##</p>	S-10
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**GUARD POST DETAIL  
(EASEMENT AND OUTSIDE OF PAVING MANHOLE)**

2016



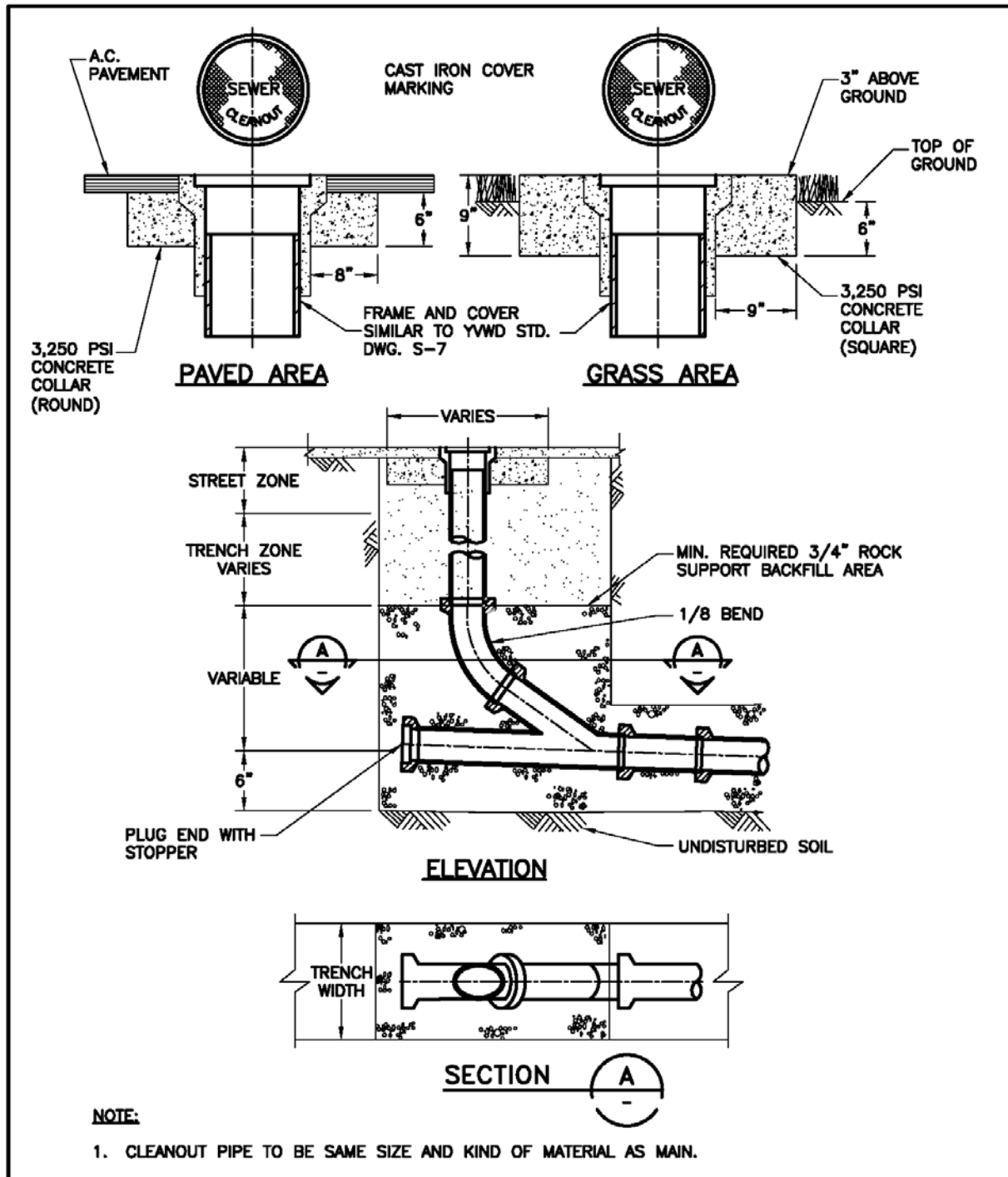
Yucaipa Valley Water District

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### TERMINAL OR MAINLINE CLEANOUT DETAIL (SPECIAL ACCEPTANCE ONLY)

2016

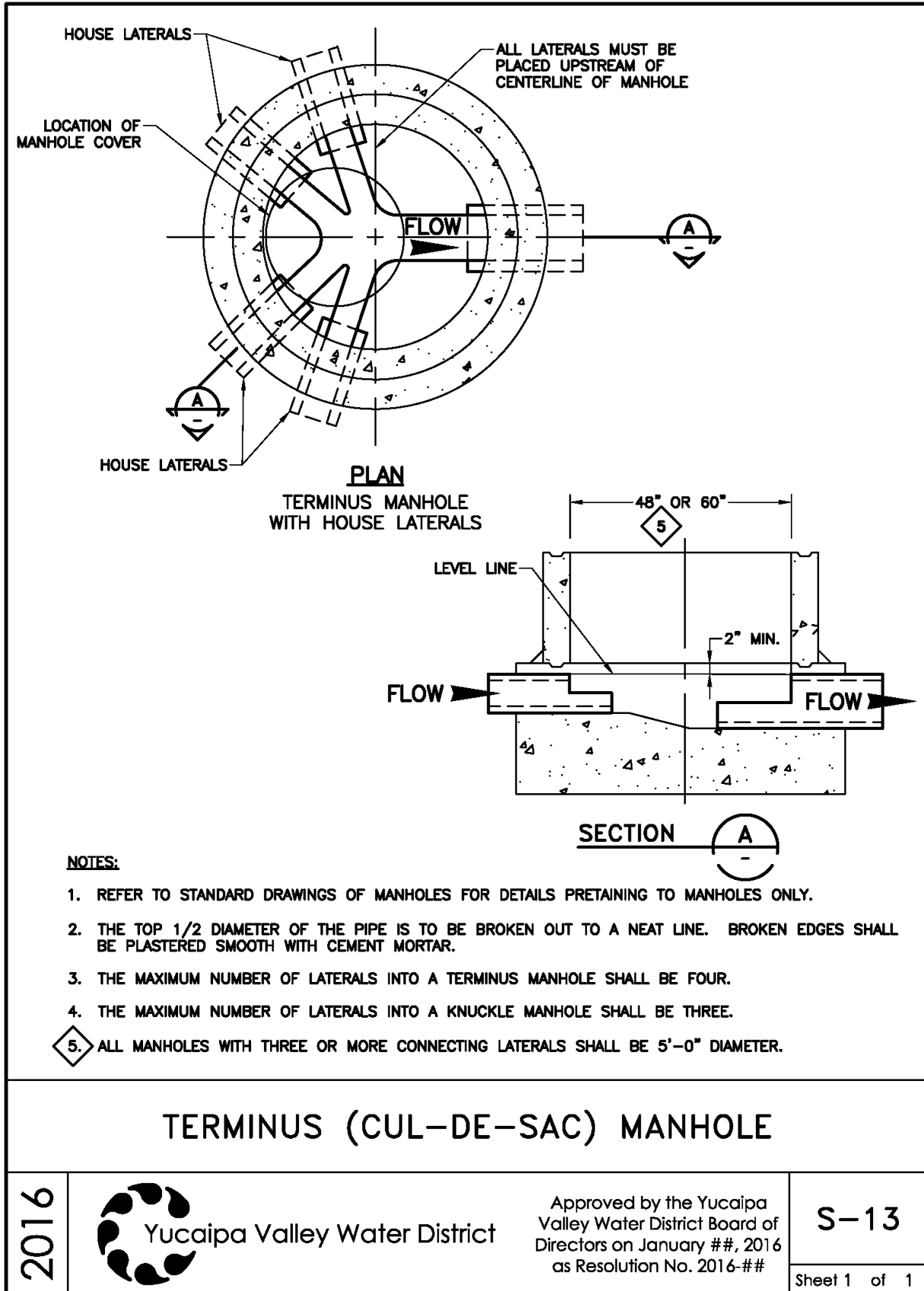


Yucaipa Valley Water District

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## TERMINUS (CUL-DE-SAC) MANHOLE

2016

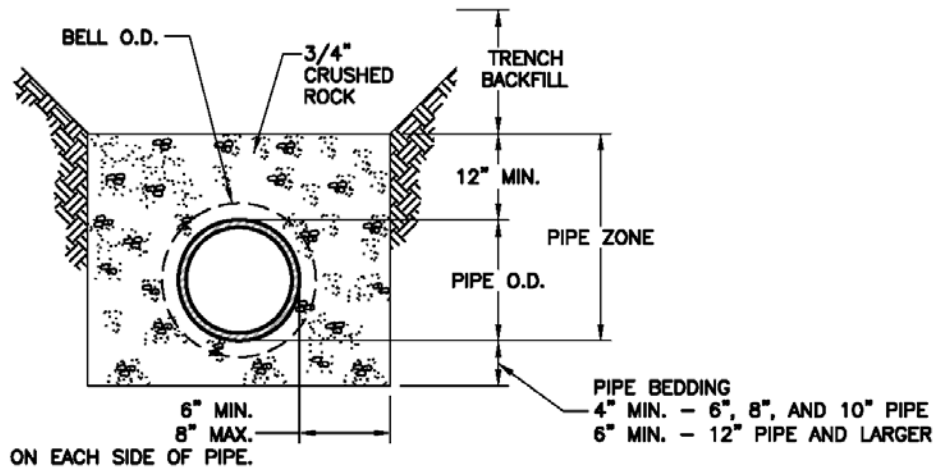


Yucaipa Valley Water District

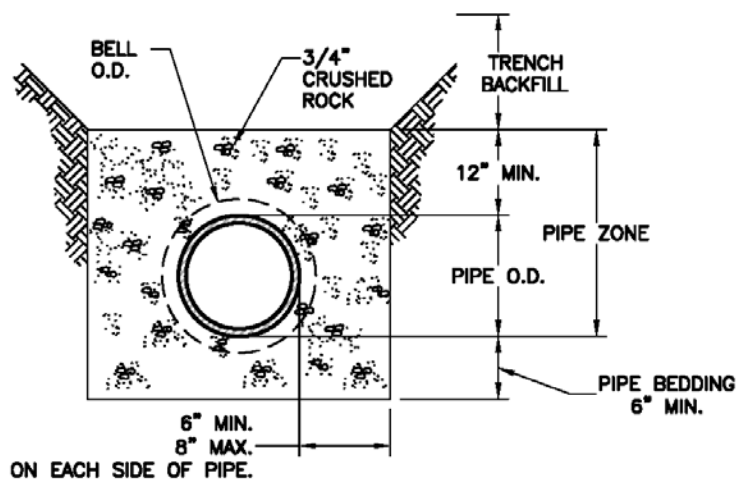
Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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**LOAD FACTOR=1.1**



**LOAD FACTOR=2.2**

**NOTES:**

1. IF UNSTABLE SOIL IS ENCOUNTERED, DISTRICT REPRESENTATIVE SHALL DETERMINE DEPTH OF REMOVAL AND SIZE OF FOUNDATION ROCK REFILL MATERIAL.

**VITRIFIED CLAY PIPELINE BEDDING DETAIL**

2016



Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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MINIMUM LOAD FACTOR – UNLIMITED TRENCH WIDTH							
SEWER DIAMETER	DEPTH OF COVER						
	6'-0"	8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	18'-0"
8"	1.1	1.1	1.1	2.2	2.2	2.2	2.2
10"	1.1	1.1	2.2	2.2	2.2	2.2	-
12"	1.1	2.2	2.2	2.2	2.2	-	-
15"	1.1	2.2	2.2	2.2	-	-	-

**NOTES:**

- 3/4" CRUSHED ROCK SHALL BE PER STANDARD SPECIFICATIONS, WITH THE FOLLOWING GRADATIONS:

SIEVE	% PASSING
1"	100 %
3/4"	90 - 100%
1/2"	20 - 55%
3/8"	0 - 15%
NO. 4	0 - 5%

- FOR SEWER DIAMETERS DIFFERENT THAN SHOWN AND FOR DEPTHS OF COVER DIFFERENT THAN SHOWN, DISTRICT SHALL APPROVE PIPE BEDDING AND PIPE ZONE BACKFILL PRIOR TO CONSTRUCTION.
- WHEN DEPTH REACHES 10'-0", ALL PIPE ZONE BEDDING SHALL BE 3/4" CRUSHED ROCK WITH A MINIMUM DEPTH OF 6" BELOW PIPE UNLESS OTHERWISE NOTED ON PLANS.

**VITRIFIED CLAY PIPELINE BEDDING DETAIL**

2016

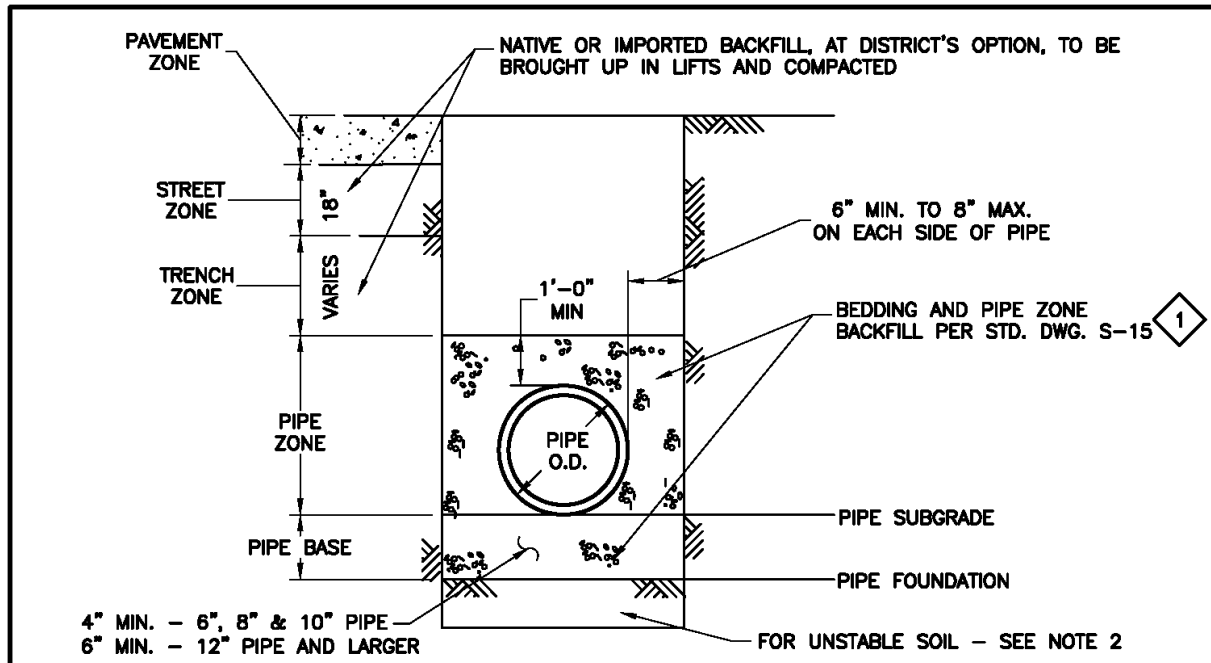


Yucaipa Valley Water District

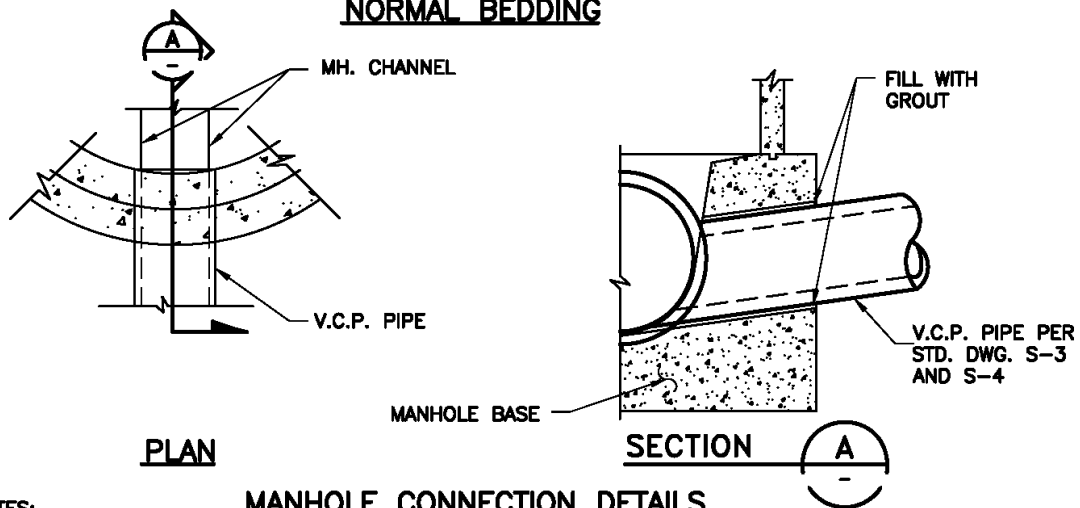
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**NORMAL BEDDING**



**MANHOLE CONNECTION DETAILS**

**NOTES:**

1. CONCRETE ENCASEMENT PER YVWD STD. DWG. S-18 SHALL BE USED WHERE THE TRENCH WIDTH AT THE UPPER LIMIT OF THE PIPE ZONE EXCEEDS THE MAX. WIDTH SPECIFIED ABOVE.
2. IF UNSTABLE SOIL IS ENCOUNTERED, DISTRICT REPRESENTATIVE SHALL DETERMINE DEPTH OF REMOVAL AND SIZE OF FOUNDATION ROCK REFILL MATERIAL.
3. SEE YVWD STD. DWGS. S-3, S-4, AND S-5 FOR MANHOLE DETAILS.

**PIPELINE BEDDING AND SPECIAL DETAILS**

2016

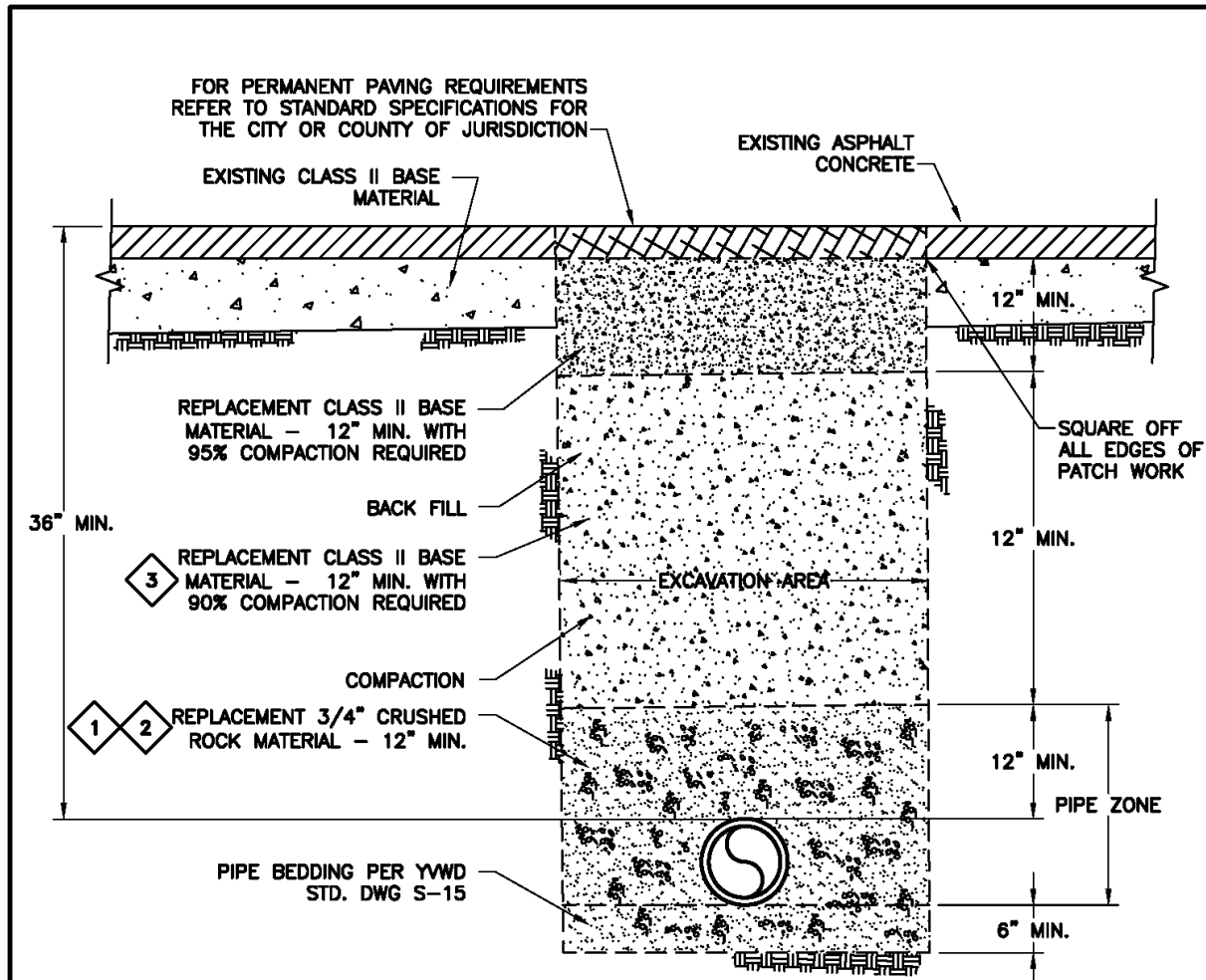


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**NOTES:**

- 1. 3/4" CRUSHED ROCK MATERIAL SHALL BE USED FOR PIPE ZONE BACK FILL. REMAINING BACK FILL WILL BE IN ACCORDANCE WITH DISTRICT REQUIREMENTS.
- 2. WHEN DEPTH REACHES 10'-0", ALL PIPE ZONE BEDDING SHALL BE 3/4" CRUSHED ROCK WITH A MINIMUM DEPTH OF 6" BELOW PIPE UNLESS OTHERWISE NOTED ON PLANS.
- 3. OUTSIDE OF STREET RIGHT OF WAY, COMPACTION SHALL BE 90%.
  - 4. ADDITIONAL ARTERIAL STREET BACKFILL MAY BE REQUIRED BY APPROPRIATE CITY JURISDICTION.
  - 4. SEE SHEET 2 OF 2 FOR PIPE VS. TRENCH SIZES.

## TRENCH REPAIR DETAIL

2016



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TRENCH REPAIR—PIPE SIZE VS TRENCH SIZE		
PIPE SIZE—INCHES (INSIDE DIAMETER)	TRENCH WIDTH—INCHES	
	MINIMUM	MAXIMUM
4	20	28
6	22	32
8	24	32
10	26	36
12	30	36
14	32	42
16	34	42

**TRENCH REPAIR DETAIL**

2016



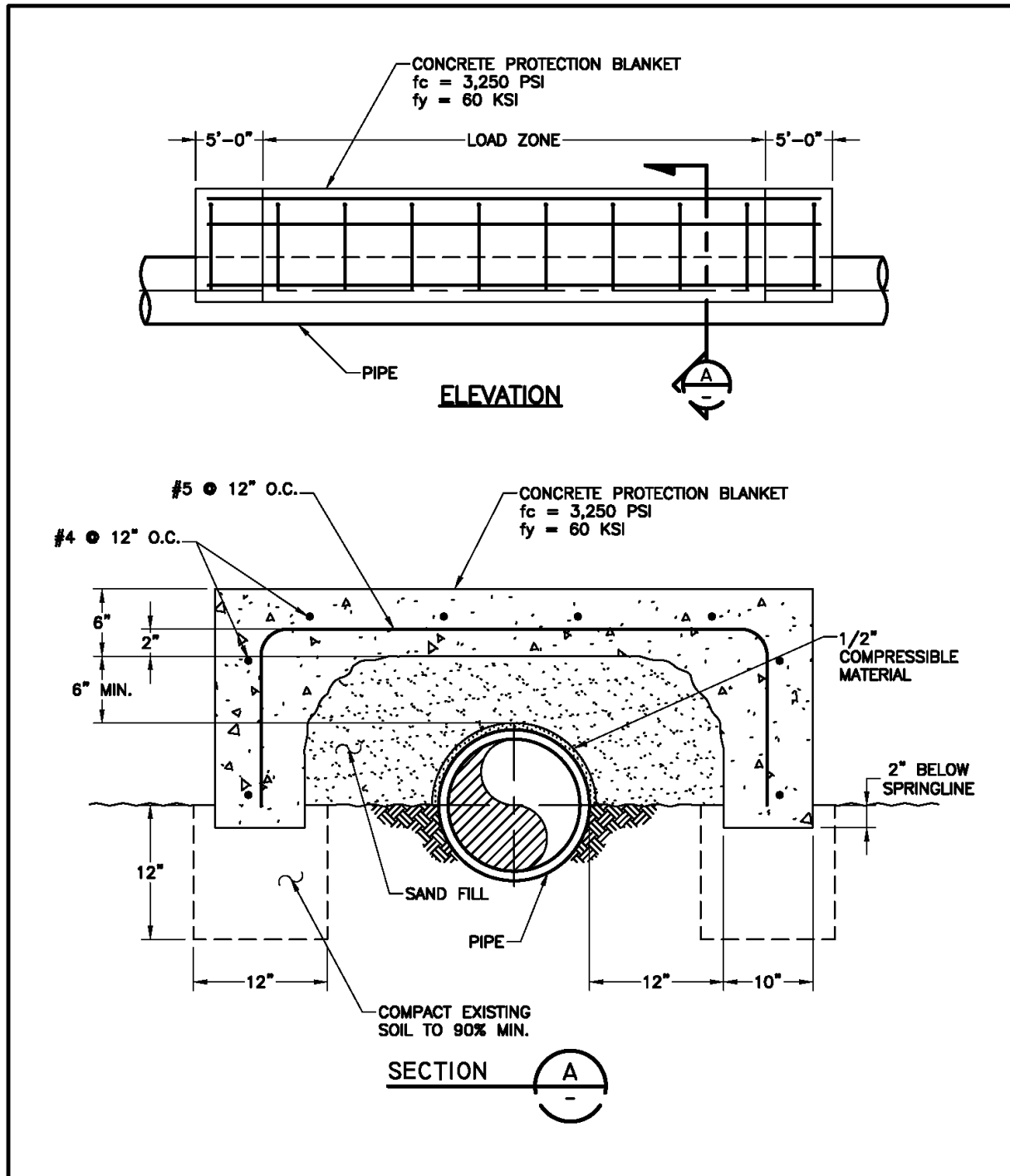
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**SEWER MAINLINE PROTECTION DETAIL**

2016

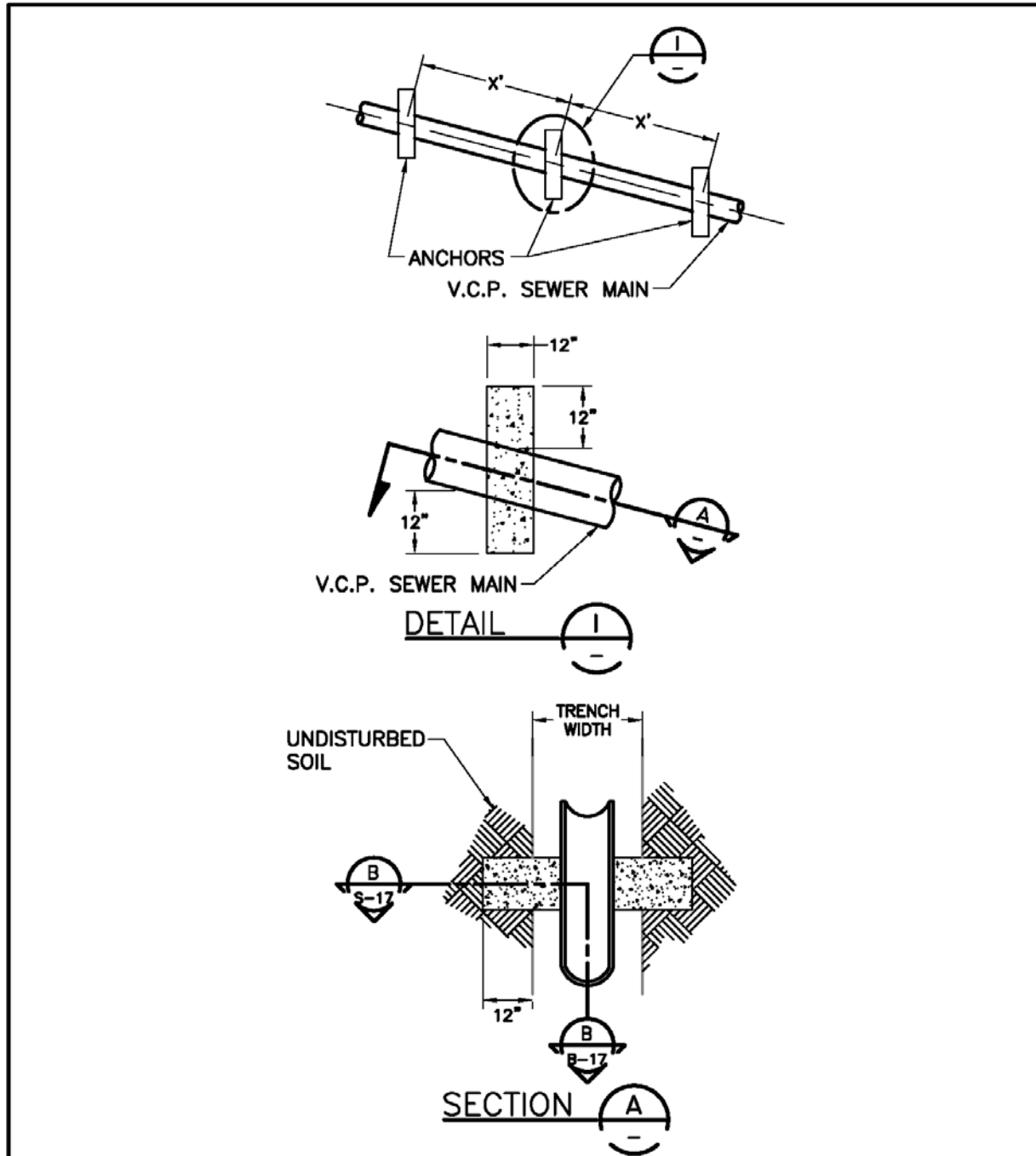


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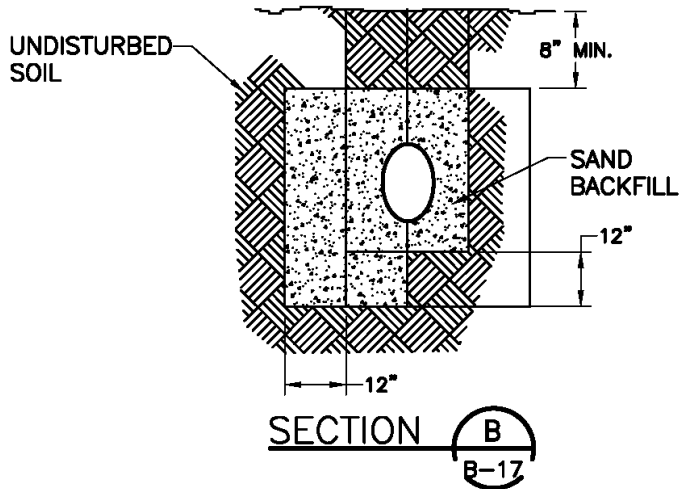
Sheet 1 of 1



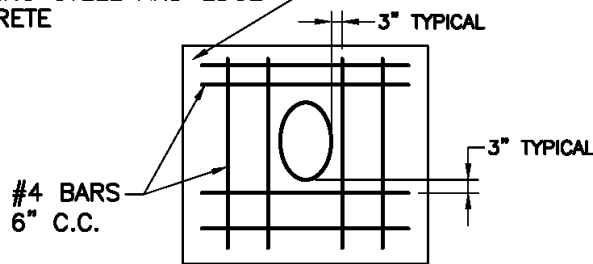
SEE YWV. STD. DWG. S-17 SHEET 2 OF 2 FOR SECTION B, REINFORCING STEEL PATTERN, PIPE SLOPE SCHEDULE, AND NOTES.

### CONCRETE SLOPE ANCHORS

<p>2016</p>	 <p>Yucaipa Valley Water District</p>	<p>Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##</p>	<p>S-19</p>
			<p>Sheet 1 of 2</p>



3" MIN. CLEARANCE BETWEEN REINFORCING STEEL AND EDGE OF CONCRETE



**REINFORCING STEEL PATTERN**

PIPE SLOPE	PIPE SLOPE	X DISTANCE
100%	1:1	12'-0"
66.6%	1-1/2:1	14'-0"
50%	2:1	16'-0"
40%	2-1/2:1	18'-0"
33.3%	3:1	20'-0"

**NOTES:**

1. PIPE ANCHORS REQUIRED ON ALL SLOPES OF 3:1 OR STEEPER.
2. ANCHOR SHALL EXTEND 12" INTO NATURAL UNDISTURBED SOIL.
3. CONCRETE SHALL BE 3250 PSI MINIMUM.
4. ANCHORS FOR TRAPEZOIDAL TRENCH SECTIONS WILL CONFORM TO TRENCH CROSS SECTION AND EXTEND 12" INTO UNDISTURBED SOIL.

**CONCRETE SLOPE ANCHORS**

2016

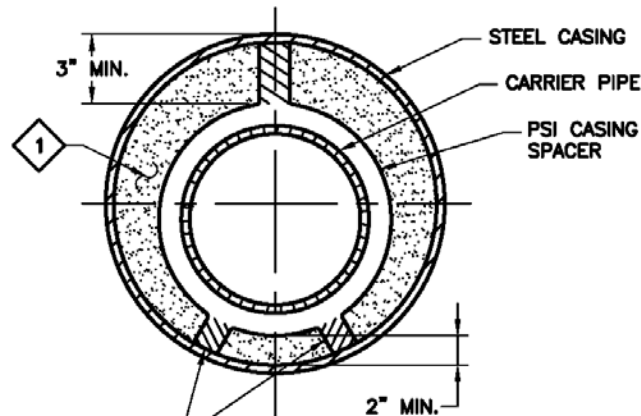


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FOR EACH LENGTH OF DUCTILE IRON PIPE, CASING SPACERS SHALL BE LOCATED 6'-0" APART AND 3'-0" FROM EACH END OF PIPE. FOR VCP, SPACERS SHALL LOCATED 1' FROM EACH END OF PIPE.

### STEEL CASING SCHEDULE

V.C.P. SIZE	MINIMUM CASING SIZE	MIN. WALL THICK.
6"	16" I.D.	1/4"
8"	18" I.D.	1/4"
10"	21" I.D.	5/16"
12"	24" I.D.	5/16"

**NOTES:**

1. THE ANNULAR SPACE BETWEEN THE CASING AND THE CARRIER PIPE SHALL BE FILLED WITH AIR BLOWN SAND.
2. UNLESS OTHERWISE NOTED, CASING SHALL BE INSTALLED BY THE BORE, JACK AND/OR TUNNEL METHOD. IF OPEN-CUT INSTALLATION OF CASING IS ALLOWED, BACKFILL SHALL BE IN ACCORDANCE WITH YVWD STD. DWG S-17.
3. SIZE AND THICKNESS OF CASING SHALL BE AS SHOWN IN SCHEDULE.
4. ALL STEEL CASING PIPE FIELD JOINTS SHALL BE WELDED FULL-CIRCUMFERENCE.
5. PSI CASING SPACERS SHALL BE PROVIDED PER DETAIL ABOVE.
6. CARRIER PIPE SHALL BE AIR PRESSURE TESTED PRIOR TO FILLING CASING AND AGAIN WITH ENTIRE ENTIER PIPLINE
7. UPSTREAM AND DOWNSTREAM ELEVATIONS OF CARRIER PIPE TO BE VERIFIED PRIOR TO FILLING.
8. EACH END OF CASING SHALL BE SEALED WITH CONCRETE MORTAR.

### STEEL CASING PIPE

2016

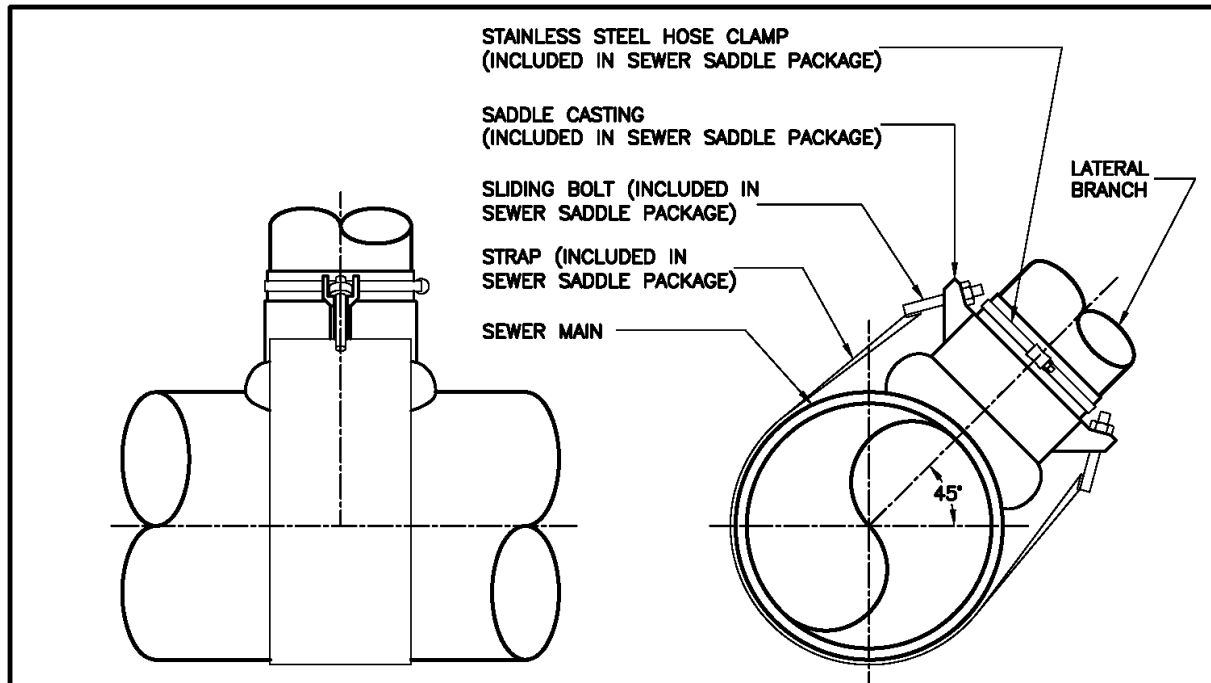


Yucaipa Valley Water District

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### SEWER SADDLE FOR 4" – 6" CLAY PIPE LATERAL CONNECTION

SEWER DIAMETER	ROMAC INDUSTRIES, INC. PART NUMBER	
	4" LATERAL BRANCH	6" LATERAL BRANCH
8" – 12"	CB-5.38	CB-7.56
14" – 24"	CB-5.38LS	CB-7.56LS
24" – 48"	CB-5.38XLS	CB-7.56XLS

**NOTES:**

1. LATERAL CONNECTION BY SADDLE METHOD SHALL BE USED ON PIPES 8" IN DIAMETER AND LARGER.
2. THE HOLE FOR THE COLLAR WYE FITTING FOR A SEWER SADDLE SHALL BE MADE WITH A TAPPING MACHINE. THE HOLE SHALL BE CLEANLY MACHINED, AND IF NECESSARY, WORKED BY HAND WITH A RASP OR SANDED TO ACCOMPLISH A TRUE AND NEAT OPENING FOR THE COLLAR WYE.
3. THE COLLAR WYE SADDLE SHALL BE SECURED TO THE SEWER MECHANICALLY.
4. DAMAGED PIPE SHALL BE REPAIRED AS DIRECTED BY THE DISTRICT REPRESENTATIVE.

## 4" AND 6" SEWER SADDLE CONNECTION TO EXISTING MAINLINE

2016

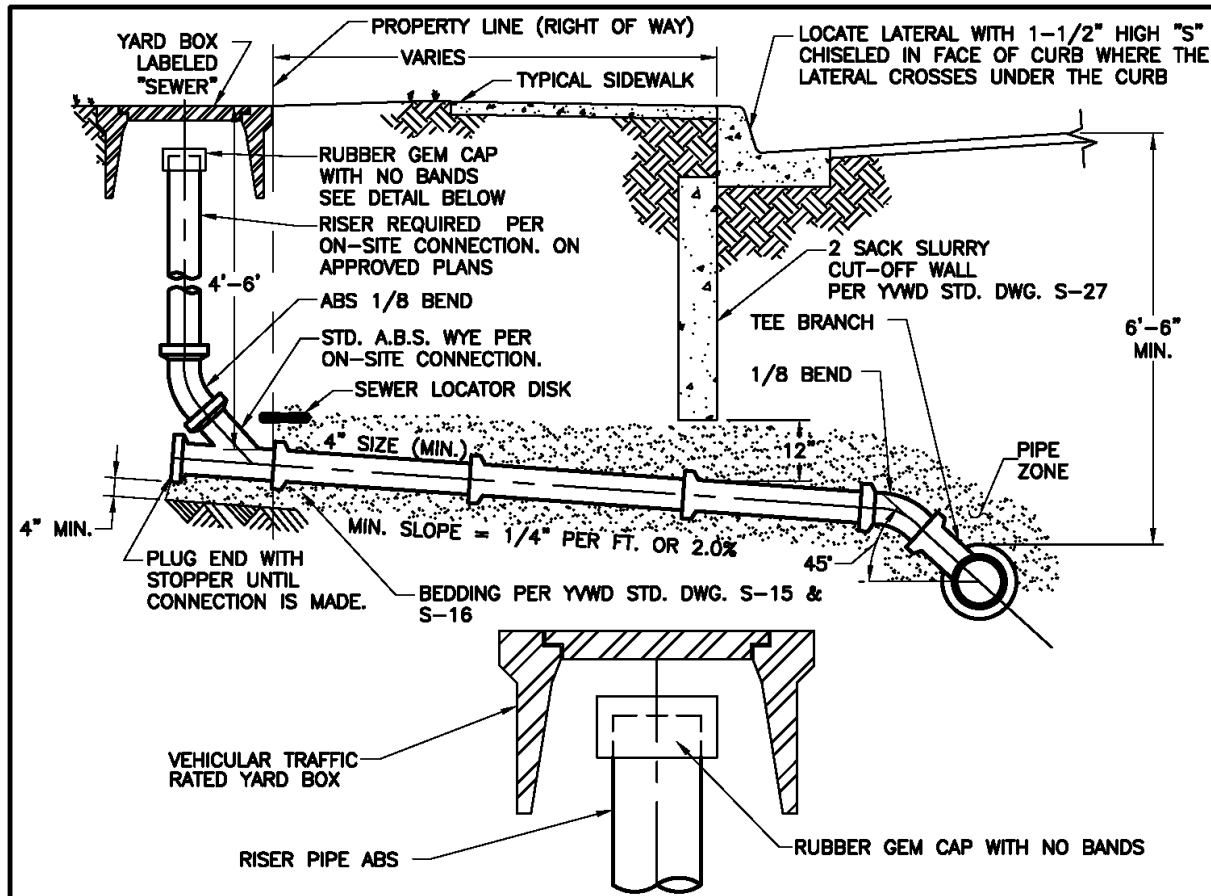


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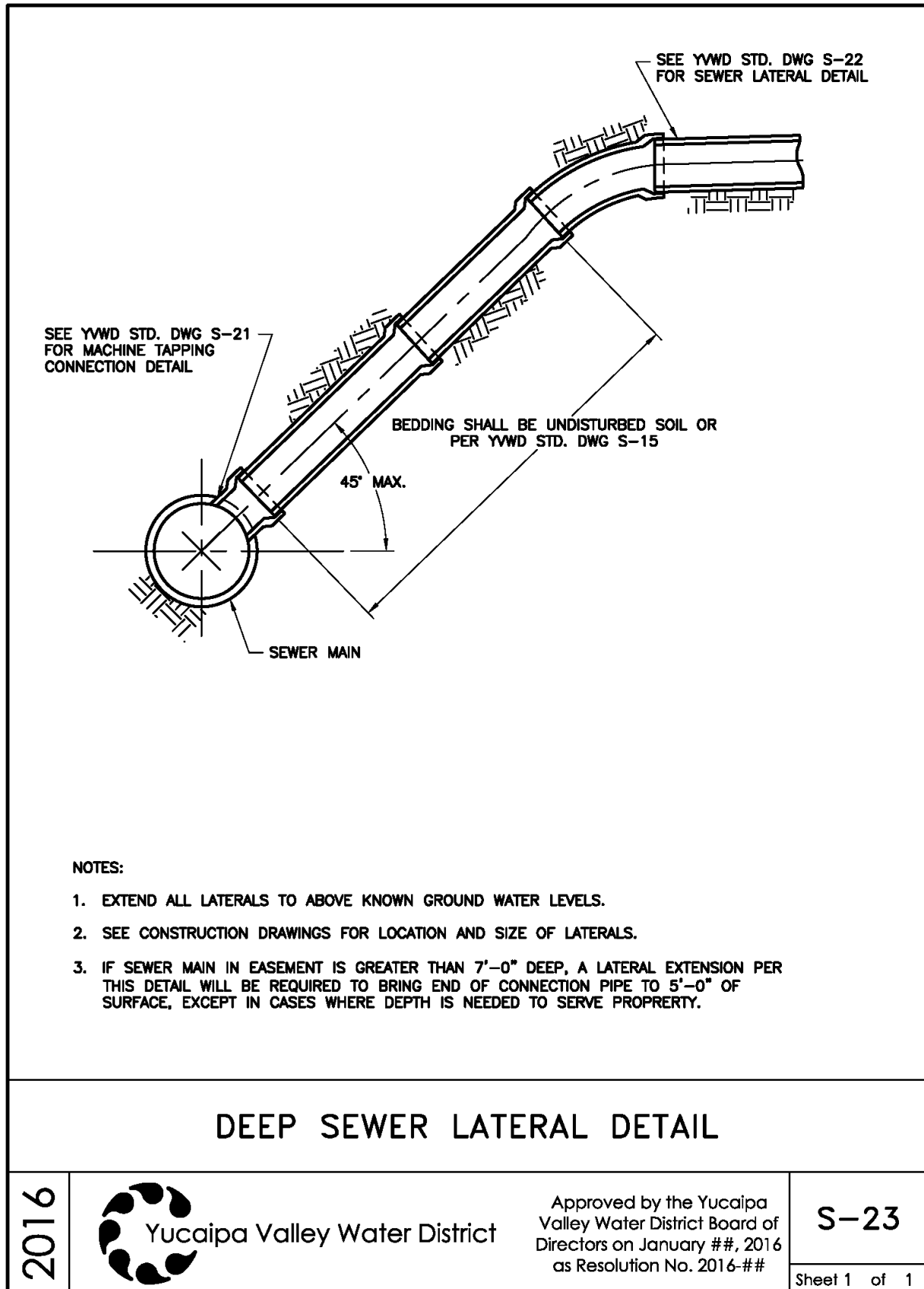


**NOTES:**

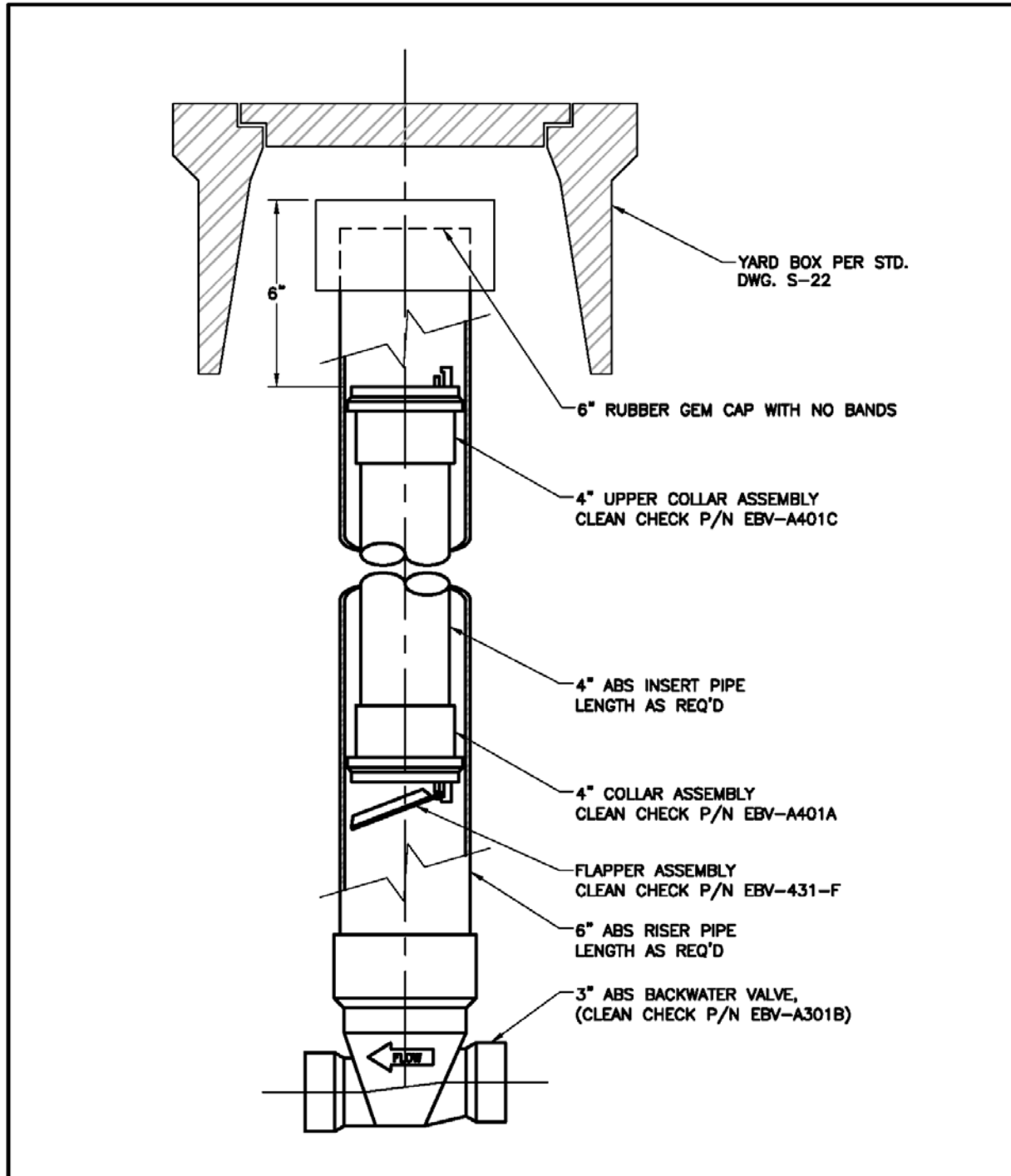
1. LATERAL SIZE TO BE DETERMINED ON THE BASIS OF TOTAL NUMBER OF FIXTURE UNITS DRAINED, BUT IN NO CASE SHALL THE LATERAL DIAMETER BE LESS THAN FOUR INCHES FOR SINGLE OR MULTIPLE FAMILY RESIDENTIAL AND SIX INCHES FOR COMMERCIAL OR INDUSTRIAL. RISERS SHALL BE THE SAME SIZE AS THE LATERAL.
2. LATERAL TO BE INSTALLED TO PROPERTY LINE. ALL LATERALS ARE TO BE CONSTRUCTED OF EXTRA STRENGTH VITRIFIED CLAY PIPE. MUST BE INSTALLED WITH A MINIMUM HORIZONTAL OFFSET OF 36" FROM ALL OTHER UTILITIES.
3. PLACE 3/4" CRUSHED ROCK A MINIMUM OF 4" BELOW THE PIPE AND 1' ABOVE THE TEE OR WYE, AND LATERAL
4. IF RISER IS NOT BUILT, PLUG WYE BRANCH WITH STOPPER.
5. INSTALL A SEWER LOCATOR DISK AT THE END OF ALL LATERAL RUNS AT RIGHT OF WAY.
6. ONLY LATERAL RUNS ARE PERMITTED TO BE EITHER "BELL AND SPIGOT", OR "BAND SEAL".
7. WHERE LATERALS ARE INSTALLED IN DRIVEWAYS, A TRAFFIC RATED BOX IS REQUIRED.
8. IF THE LATERAL IS INSTALLED UNDER A PERMANENT HARDSCAPE SUCH AS A CONCRETE DRIVEWAY ALL THE WAY TO THE STRUCTURE, THEN A CUT OFF WALL IS NOT REQUIRED.

**TYPICAL SEWER LATERAL**

2016	 <p style="font-size: 1.2em; font-weight: bold;">Yucaipa Valley Water District</p>	<p>Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##</p>	S-22
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**BACKWATER VALVE DETAIL**

2016

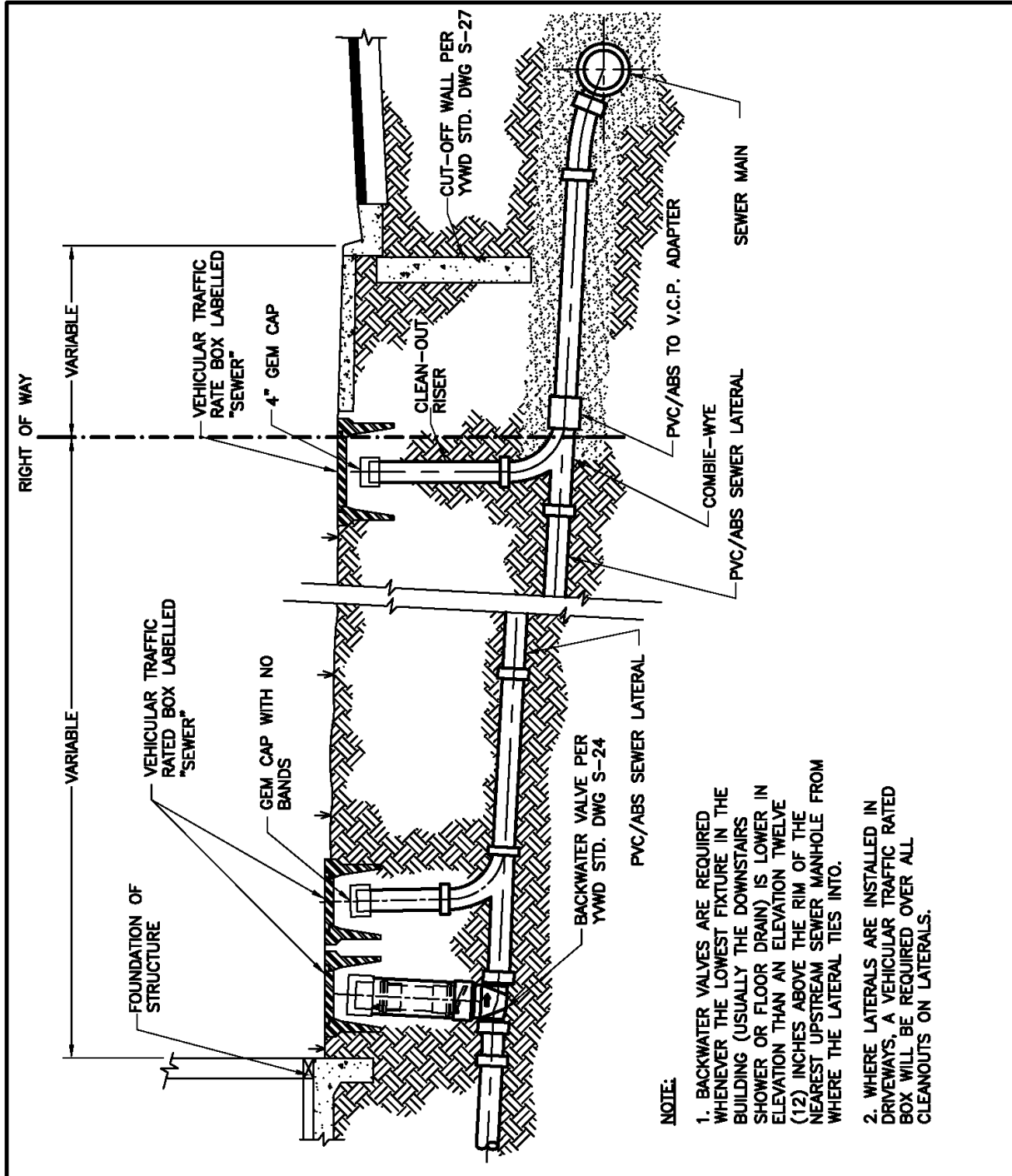


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**NOTE:**

1. BACKWATER VALVES ARE REQUIRED WHENEVER THE LOWEST FIXTURE IN THE BUILDING (USUALLY THE DOWNSTAIRS SHOWER OR FLOOR DRAIN) IS LOWER IN ELEVATION THAN AN ELEVATION TWELVE (12) INCHES ABOVE THE RIM OF THE NEAREST UPSTREAM SEWER MANHOLE FROM WHERE THE LATERAL TIES INTO.
2. WHERE LATERALS ARE INSTALLED IN DRIVEWAYS, A VEHICULAR TRAFFIC RATED BOX WILL BE REQUIRED OVER ALL CLEANOUTS ON LATERALS.

## BACKWATER VALVE INSTALLATION DETAIL

2016

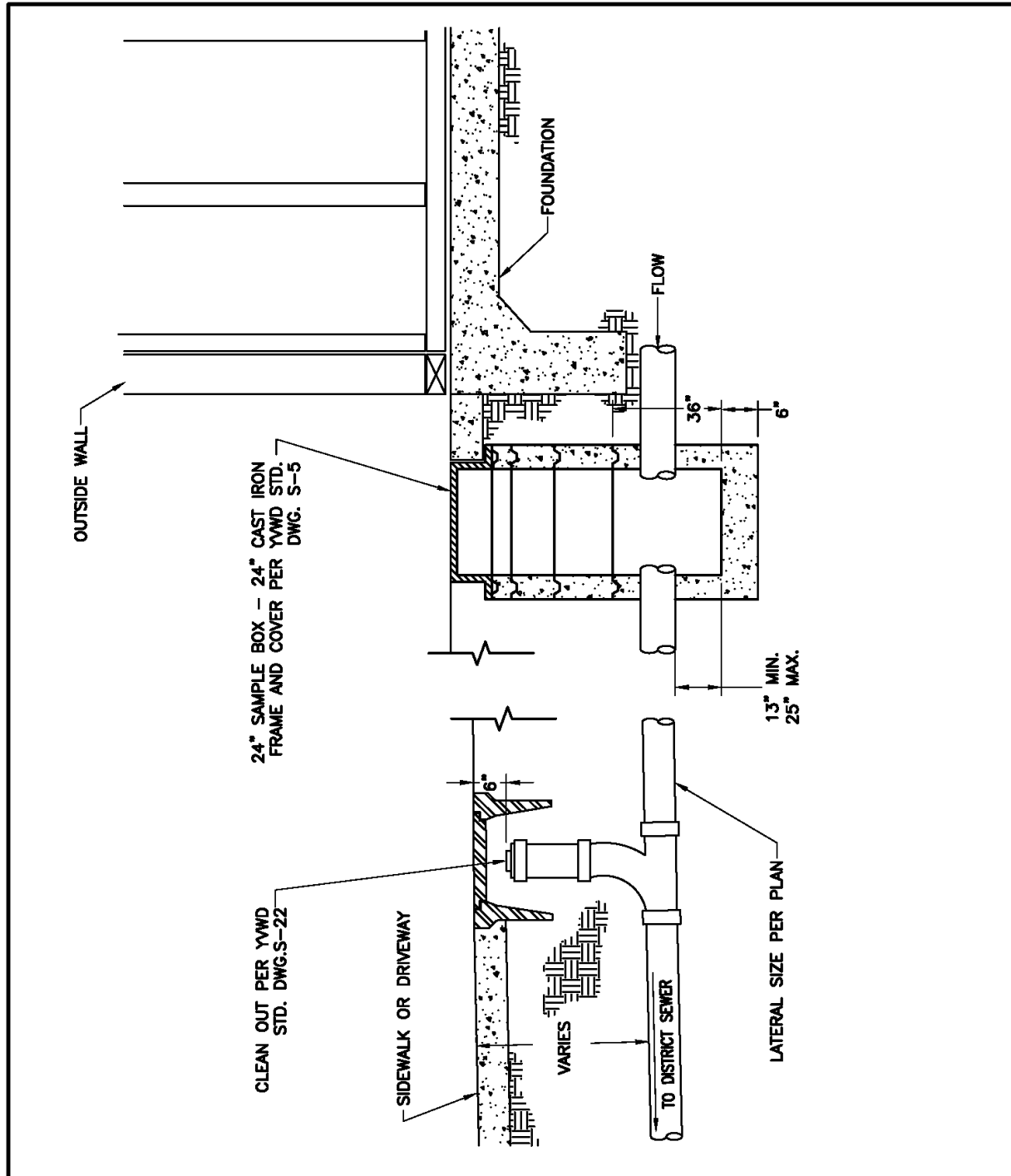


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### SEWER SAMPLING BOX

2016

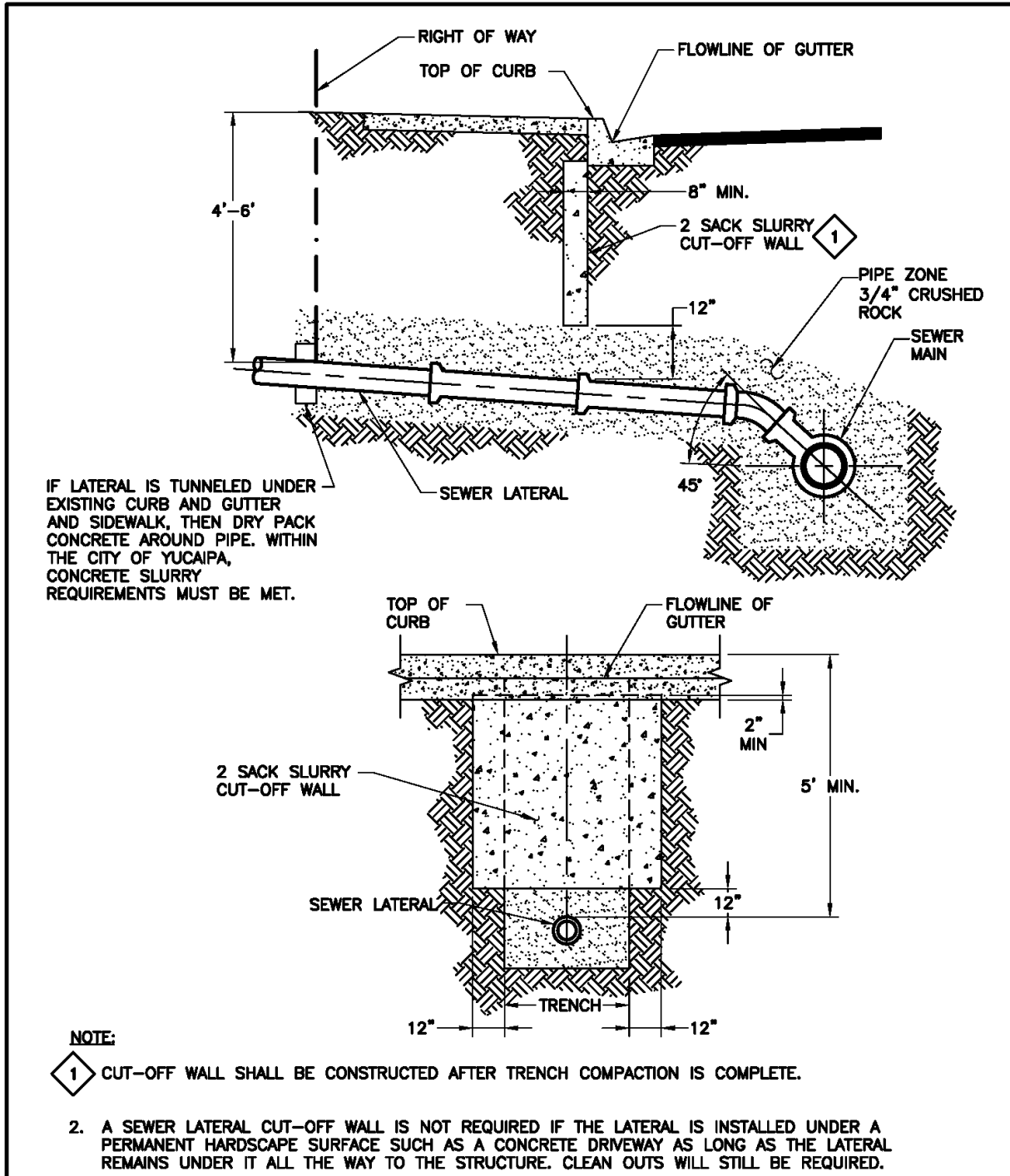


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## SEWER LATERAL CUTOFF WALL DETAIL

2016

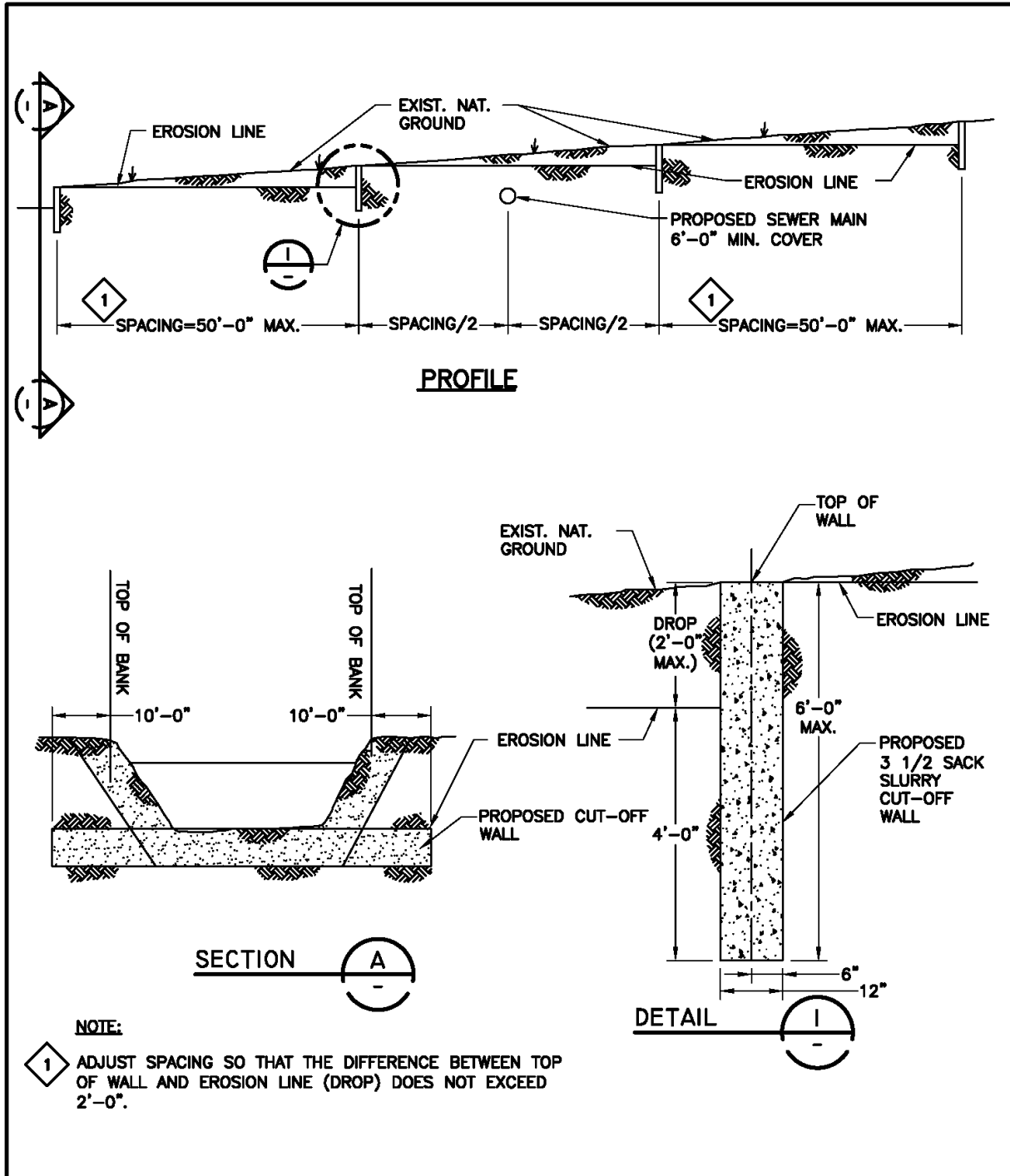


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**EROSION CONTROL CUTOFF WALL DETAIL**

2016



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Yucaipa Valley Water District

12770 Second Street, Yucaipa, California 92399 Phone: (909) 797-5117

# **Standard Specifications for the Design and Processing, Furnishing of Materials, and Construction of Recycled Water Facilities**

January \_\_, 2016

**YVWD RECYCLED WATER FACILITY STANDARDS**  
**DRAWING INDEX (NUMERICAL)**

- R-1 STANDARD LEGEND
- R-2 RECYCLED WATER PIPELINE LOCATION
- R-3 RECYCLED WATER NOTES FOR NON-RESIDENTIAL SITES
- R-4 RECYCLED WATER NOTES - FOR ONSITE RESIDENTIAL USE
- R-5 3/4" DUAL RECYCLED WATER METER ASSEMBLY
- R-6 1" RECYCLED WATER METER ASSEMBLY
- R-7 1 1/2" AND 2" RECYCLED WATER SERVICE INSTALLATION
- R-15 1" AND 2" RECYCLED WATER AIR AND VACUUM VALVE ASSEMBLIES
- R-19 4" RECYCLED WATER BLOW-OFF ASSEMBLY
- R-20 RESIDENTIAL DUAL PLUMBED SERVICE SCHEMATIC
- R-21 RESIDENTIAL LOT IRRIGATION LAYOUT PLAN SUBMITAL EXAMPLE
- R-22 ONSITE IRRIGATION PIPELINE TRENCHING DETAIL FOR PLANNED RECYCLED WATER USE
- R-23 NON-RESIDENTIAL RECYCLED WATER CROSS-CONNECTION CONTROL TEST STATION DETAIL
- R-24 ONSITE IRRIGATION AUTOMATIC CONTROLLER - WALL MOUNT
- R-25 ONSITE IRRIGATION BURIED ELECTRIC REMOTE CONTROL VALVE

**NOTE:** - DRAWINGS R-8 THRU R-14 ARE NOT IN USE  
 - (W) DRAWINGS LISTED BELOW ARE YVWD WATER STANDARD DRAWINGS APPLICABLE TO RECYCLED FACILITIES.

- W-1 STANDARD LEGEND
- W-3 UTILITY LOCATIONS - SECTIONS
- W-6 MANIFOLD ASSEMBLY FOR FOUR TO TEN 3/4" AND 1" SERVICES
- W-8 3" AND 4" WATER METER INSTALLATION
- W-9 6" AND 8" WATER METER INSTALLATION
- W-10 DOUBLE CHECK BACKFLOW ASSEMBLY
- W-11 REDUCED PRESSURE BACKFLOW ASSEMBLY
- W-16 WATER QUALITY SAMPLING STATION
- W-18 RESIDENTIAL FIRE HYDRANT INSTALLATION
- W-20 VALVE AND VALVE BOX INSTALLATION
- W-21 VALVE STEM EXTENSION
- W-22 THRUST BLOCK DETAILS FOR RETROFIT ONLY
- W-23 PRESSURE REDUCING STATION DETAILS
- W-24 PREFABRICATED VAULT AND LID WITH VENT ASSEMBLY
- W-25 ADJUSTABLE PIPE SUPPORT
- W-26 STEEL CASING PIPE
- W-30 TRENCH REPAIR DETAIL
- W-31 PIPE BEDDING DETAIL
- W-32 WATER PIPELINE PROTECTION DETAIL

**RECYCLED WATER STANDARD INDEX**

2016



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**YVWD RECYCLED WATER FACILITY STANDARDS**  
**DRAWING INDEX (SUBJECT)**

**STANDARDS**

- R-1 STANDARD LEGEND
- R-2 RECYCLED WATER PIPELINE LOCATION
- R-3 RECYCLED WATER NOTES FOR NON-RESIDENTIAL SITES
- R-4 RECYCLED WATER NOTES – FOR ONSITE RESIDENTIAL USE

- W-1 STANDARD LEGEND
- W-3 UTILITY LOCATIONS – SECTIONS
- W-30 TRENCH REPAIR DETAIL
- W-31 PIPE BEDDING DETAIL

**SERVICES**

- R-5 3/4" DUAL RECYCLED WATER METER ASSEMBLY
- R-6 1" RECYCLED WATER METER ASSEMBLY
- R-7 1 1/2" AND 2" RECYCLED WATER SERVICE INSTALLATION
- R-15 1" AND 2" RECYCLED WATER AIR AND VACUUM VALVE ASSEMBLY

- W-6 MANIFOLD ASSEMBLY FOR FOUR TO TEN 3/4" AND 1" SERVICES
- W-8 3" AND 4" WATER METER INSTALLATION
- W-9 6" AND 8" WATER METER INSTALLATION
- W-16 WATER QUALITY SAMPLING STATION
- W-24 PREFABRICATED VAULT AND LID WITH VENT ASSEMBLY

**SERVICE PROTECTION**

- W-10 DOUBLE CHECK BACKFLOW ASSEMBLY
- W-11 REDUCED PRESSURE BACKFLOW ASSEMBLY

**BLOW-OFF AND VALVES**

- R-19 4" RECYCLED WATER BLOW-OFF ASSEMBLY
- W-18 RESIDENTIAL FIRE HYDRANT INSTALLATION
- W-20 VALVE AND VALVE BOX INSTALLATION
- W-21 VALVE STEM EXTENSION

**NOTE: W- DWGS LISTED ARE YVWD WATER STANDARD DRAWINGS APPLICABLE TO RECYCLED FACILITIES.**

**RECYCLED WATER STANDARD INDEX**

2016



Yucaipa Valley Water District

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**YVWD RECYCLED WATER FACILITY STANDARDS**  
**DRAWING INDEX (SUBJECT)**

**PIPE AND CASING DETAILS**

- W-22            THRUST BLOCK DETAILS FOR RETROFIT ONLY
- W-26            STEEL CASING PIPE
- W-32            WATER PIPELINE PROTECTION DETAIL

**PRESSURE REDUCING STATION AND VAULT DETAILS**

- W-23            PRESSURE REDUCING STATION DETAILS
- W-24            PREFABRICATED VAULT AND LID WITH VENT ASSEMBLY
- W-25            ADJUSTABLE PIPE SUPPORT

**IRRIGATION DESIGN REQUIREMENT DETAILS**














- R-20            RESIDENTIAL DUAL PLUMBED SERVICE SCHEMATIC
- R-21            HOUSE IRRIGATION LAYOUT PLAN SUBMITAL EXAMPLE
- R-22            ONSITE IRRIGATION PIPELINE TRENCHING DETAIL FOR PLANNED RECYCLED WATER USE
- R-23            NON-RESIDENTIAL RECYCLED WATER CROSS-CONNECTION CONTROL TEST STATION DETAIL
- R-24            ONSITE IRRIGATION AUTOMATIC CONTROLLER – WALL MOUNT
- R-25            ONSITE IRRIGATION BURIED ELECTRIC REMOTE CONTROL VALVE

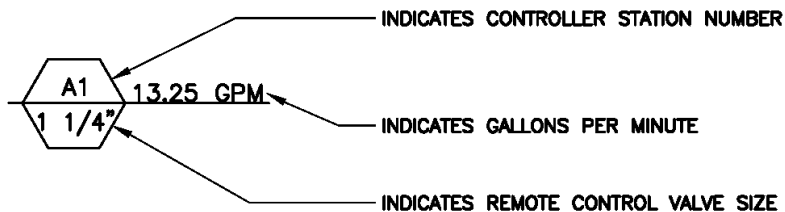
**NOTE: W- DWGS LISTED ARE YVWD WATER STANDARD DRAWINGS APPLICABLE TO DUAL PLUMBED FACILITIES.**

**RECYCLED WATER STANDARD INDEX**

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**IRRIGATION LEGEND**

	REMOTE CONTROL VALVE	ELECTRIC CONTROL VALVE WITH RECYCLED ID TAGS
	PRESSURE REGULATING VALVE	WILKINS 70 SERIES, 3/4" SIZE
	ISOLATION VALVE	WITH RECYCLED ID TAGS
	IRRIGATION CONTROLLER	EXTERIOR MOUNT WITH RECYCLED WATER LABEL
	POTABLE WATER HOSE BIB	
	VALVE	
	BACKFLOW PREVENTER	
	RECYCLED WATER MAINLINE	SCH. 40 PURPLE PVC PIPE, SIZE PER PLAN
	POTABLE WATER MAINLINE	SCH 40 WHITE PVC WITH 3" WARNING TAPE
	RECYCLED WATER LATERAL	CLASS 200 PURPLE PVC PIPE, SIZE PER PLAN FOR NON-CONSTANT PRESSURE PIPE.
	RECYCLED WATER SLEEVING	2" MIN. SCHEDULE 40 PURPLE PVC PIPE
	POTABLE WATER FEATURE FILL LINE	COPPER TUBING, TYPE K
	POINT OF CONNECTION (P.O.C.)	LOCKED VALVE TO BACK YARD

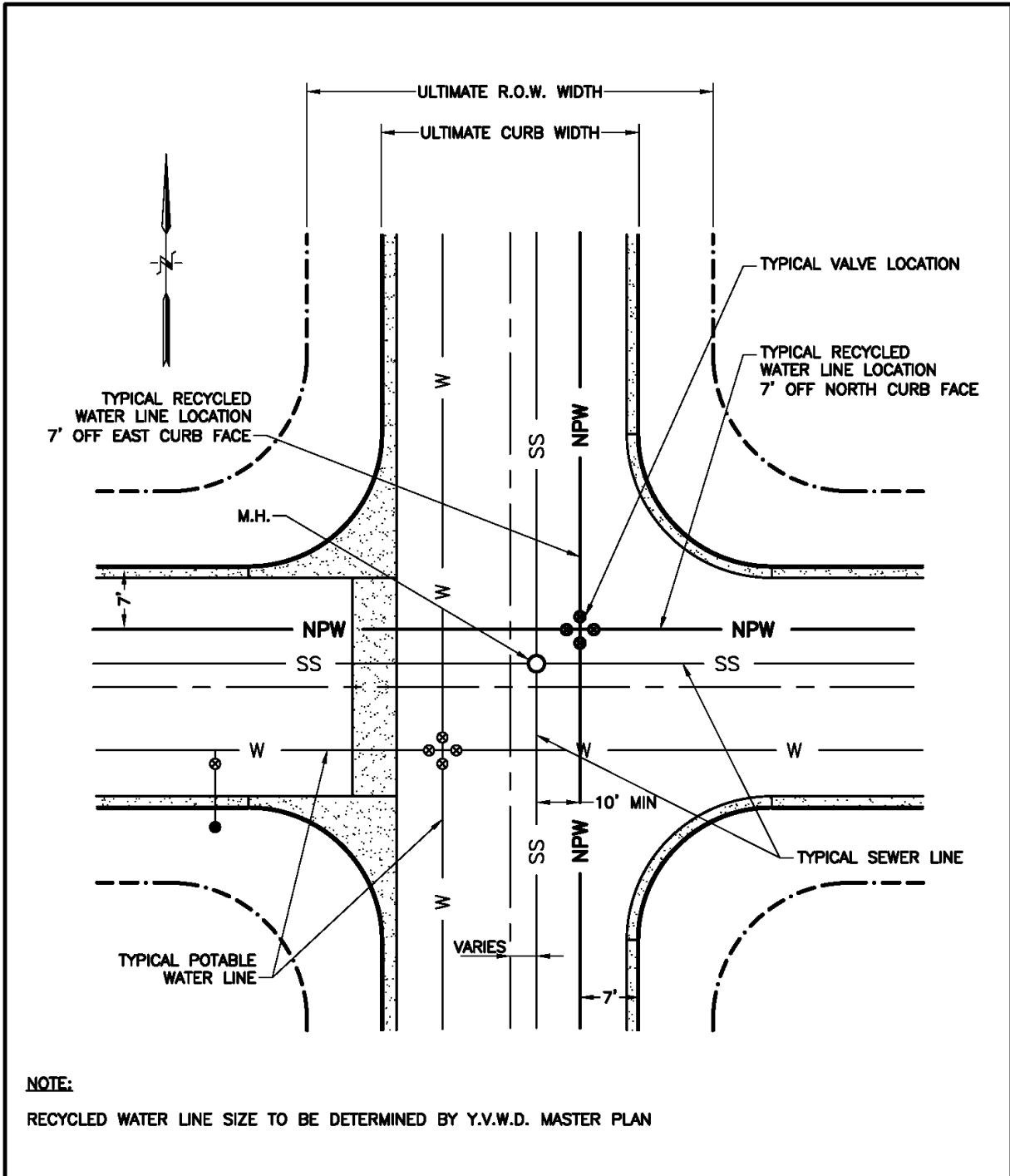


**NOTE:**

1. INSTALLATION OF RECYCLED WATER IRRIGATION SYSTEM SHALL BE IN CONFORMANCE WITH YVWD ON-SITE DESIGN AND CONSTRUCTION STANDARDS.

**STANDARD LEGEND**

2016	 <p>Yucaipa Valley Water District</p>	Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##	R-1



## RECYCLED WATER PIPELINE LOCATION

2016



Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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1. THE INSTALLATION OF THE RECYCLED WATER SYSTEM SHALL BE ACCOMPLISHED UNDER THE APPROVAL, INSPECTION, AND TO THE SATISFACTION OF THE YUCAIPA VALLEY WATER DISTRICT (YVWD).
2. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH YVWD AT (909)797-5117 TWO (2) WORKING DAYS IN ADVANCE OF STARTING WORK. CONSTRUCTION SHALL BEGIN NO LATER THEN FIVE (5) DAYS AFTER THE PRE-CONSTRUCTION MEETING. YVWD SHALL BE NOTIFIED OF EACH WORKDAY THEREAFTER UNTIL COMPLETION OF THE PROJECT.
3. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR PROVIDING ACCESS TO AND COOPERATION WITH THE DISTRICT INSPECTOR TO PERFORM ALL INSPECTIONS AND TESTING.
4. CONNECTIONS TO THE EXISTING RECYCLED WATER FACILITIES SHALL BE DONE BY A LICENSED CONTRACTOR PER THE YVWD RECYCLED WATER ON-SITE DESIGN AND CONSTRUCTION STANDARDS.
5. THERE SHALL NEVER BE DIRECT CONNECTIONS BETWEEN THE POTABLE AND RECYCLED WATER SYSTEMS.
6. RECYCLED WATER SHALL NOT BE USED FOR ANY PURPOSE OTHER THAN LANDSCAPE IRRIGATION AND APPROVED USES SUCH AS INDUSTRIAL USE OR IMPOUNDMENTS.
7. HOSE BIBS ARE PROHIBITED ON RECYCLED WATER SYSTEMS.
8. WATER USED IN HOSE BIBS SHALL BE POTABLE WATER AND ALL HOSE BIBS SHALL BE AFFIXED TO THE BUILDING.
9. THE POTABLE WATER SYSTEM SHALL BE PROTECTED BY AN APPROVED BACKFLOW PREVENTION DEVICE. THE RECYCLED WATER SERVICE WILL NORMALLY NOT REQUIRE BACKFLOW PROTECTION (AT YVWD DISCRETION).
10. A MINIMUM OF TEN (10) FEET HORIZONTAL SEPARATION MUST BE MAINTAINED AT ALL TIMES BETWEEN THE CONSTANT PRESSURE POTABLE AND RECYCLED WATER LINES. A MINIMUM OF ONE (1) FOOT VERTICAL SEPARATION MUST BE MAINTAINED AT ALL TIMES BETWEEN THE POTABLE AND RECYCLED WATER LINES WITH THE RECYCLED WATERLINE BELOW THE POTABLE.
11. ALL CROSSINGS BETWEEN POTABLE AND RECYCLED WATER LINES SHALL BE AS NEAR TO PERPENDICULAR AS POSSIBLE AND THE RECYCLED WATER LINES SHALL BE SLEEVED A MINIMUM OF FIVE (5) FEET ON BOTH SIDES OF THE POTABLE WATER LINE.
12. HE USE OF CONTINUOUS LETTERING ON 3-INCH MINIMUM WIDTH BLUE TAPE WITH 1-INCH BLACK OR WHITE CONTRASTING LETTERING BEARING THE CONTINUOUS WORDING "POTABLE WATER" PERMANENTLY AFFIXED AT 10-FOOT INTERVALS ATOP ALL HORIZONTAL PIPING, LATERALS, AND MAINS. REFER TO T. CHRISTY'S OR APPROVED EQUAL. IDENTIFICATION TAPE IS NOT NECESSARY FOR EXTRUDED BLUE-COLORED PVC WITH CONTINUOUS WORDING "POTABLE WATER" PRINTED IN CONTRASTING LETTERING ON OPPOSITE SIDES OF THE PIPE.
13. THE USE OF CONTINUOUS LETTERING ON 3-INCH MINIMUM WIDTH PURPLE TAPE WITH 1-INCH BLACK OR WHITE CONTRASTING LETTERING BEARING THE CONTINUOUS WORDING "CAUTION- RECYCLED WATER" PERMANENTLY AFFIXED AT 10-FOOT INTERVALS ATOP ALL HORIZONTAL PIPING, LATERALS, AND MAINS. REFER TO T. CHRISTY'S OR APPROVED EQUAL. IDENTIFICATION TAPE IS NOT NECESSARY FOR EXTRUDED PURPLE-COLORED PVC WITH CONTINUOUS WORDING "CAUTION - RECYCLED WATER" PRINTED IN CONTRASTING LETTERING ON OPPOSITE SIDES OF THE PIPE.

(CONTINUED ON SHEET 2 OF 2)

## RECYCLED WATER NOTES FOR NON-RESIDENTIAL SITES

<b>2016</b>	 <p style="font-size: 1.2em;">Yucaipa Valley Water District</p>	<p style="font-size: 0.8em;">Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##</p>	<b>R-3</b>
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(CONTINUED FROM SHEET 1 OF 2)

14. ALL NEW BURIED RECYCLED WATER LINES (PRESSURE/NON-PRESSURE) MUST BE PURPLE-COLORED SCHEDULE 40 (MINIMUM) PVC PIPE WITH CONTINUOUS WORDING "CAUTION - RECYCLED WATER" PRINTED ON OPPOSITE SIDES OF THE PIPE.
15. RECYCLED WATER ISOLATION AND CONTROL VALVE BOXES SHALL BE WEATHERPROOF PURPLE PLASTIC AND MARKED "RECYCLED WATER". \*NOTE-ALL CONTROL VALVES SHALL BE BURIED BELOW GRADE AUTOMATIC CONTROL VALVES OPERATED BY A PROGRAMMABLE CONTROLLER. ABOVE GROUND ANTI-SIPHON CONTROL VALVES ARE NOT ALLOWED.
16. ALL RECYCLED WATER IRRIGATION SYSTEM CONTROL VALVES, ISOLATION VALVES, QUICK COUPLERS, REGULATORS, AND APPURTENANCES SHALL BE TAGGED. IDENTIFICATION SHALL BE WEATHERPROOF PURPLE PLASTIC, 3-INCHES BY 4-INCHES AND IMPRINTED WITH "WARNING RECYCLED WATER - DO NOT DRINK" IN BOTH ENGLISH AND SPANISH. REFER TO T. CHRISTY'S OR APPROVED EQUAL.
17. ALL AREAS WHERE RECYCLED WATER IS USED SHALL BE POSTED WITH APPROVED SIGNAGE. EACH SIGN SHALL STATE "RECYCLED WATER - DO NOT DRINK" AND DISPLAY THE INTERNATIONAL "DO NOT DRINK" SYMBOL.
18. BEFORE ACTIVATION OF THE POTABLE WATER SERVICE THE BACKFLOW DEVICE SHALL BE TESTED AND APPROVED BY A LICENSED BACKFLOW TESTER. ARRANGEMENTS WITH YVWD MUST BE MADE AT LEAST TWO (2) WORKING DAYS IN ADVANCE TO TURN ON THE POTABLE SERVICE TO ALLOW TESTING OF THE DEVICE. POTABLE WATER SERVICE WILL NOT BE ACTIVATED UNTIL THE BACKFLOW DEVICE PASSES INSPECTION.
19. BEFORE ACTIVATION OF THE RECYCLED WATER SERVICE, A CROSS CONNECTION TEST AND FINAL INSPECTION AND APPROVAL OF THE IRRIGATION SYSTEM SHALL BE PERFORMED. THE PROPERTY OWNER OR CONTRACTOR SHALL ARRANGE WITH THE DISTRICT FOR AN IRRIGATION COVERAGE TEST AND MAKE ANY MODIFICATIONS OR ADJUSTMENTS DEEMED REQUIRED BEFORE FINAL APPROVAL.
20. ALL SPRAY HEADS SHALL BE ADJUSTED TO ELIMINATE OVERSPRAY AND RUNOFF ONTO ADJACENT HARDSCAPES, DRINKING FOUNTAINS OR WATER FEATURES, AND OUTDOOR FURNITURE SUCH AS PICNIC TABLES, ETC.
21. RECYCLED WATER IRRIGATION SYSTEMS SHALL ONLY BE OPERATED BETWEEN THE HOURS OF 9:00 PM AND 6:00 AM.
22. FAILURE TO COMPLY WITH ANY OF THE YUCAIPA VALLEY WATER DISTRICT STANDARDS MAY RESULT IN TERMINATION OF RECYCLED WATER AND/OR POTABLE WATER SERVICE.

## RECYCLED WATER NOTES FOR NON-RESIDENTIAL SITES

2016	 <p style="font-size: 1.2em;">Yucaipa Valley Water District</p>	<p style="font-size: 0.9em;">Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##</p>	R-3
			Sheet 2 of 2

1. THE INSTALLATION OF THE RECYCLED WATER SYSTEM SHALL BE ACCOMPLISHED UNDER THE APPROVAL, INSPECTION, AND TO THE SATISFACTION OF THE YUCAIPA VALLEY WATER DISTRICT (YVWD).
2. THE HOMEOWNER OR CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH YVWD AT (909)797-5118 TWO (2) WORKING DAYS IN ADVANCE OF STARTING WORK. CONSTRUCTION SHALL BEGIN NO LATER THEN FIVE (5) DAYS AFTER THE PRE-CONSTRUCTION MEETING. YVWD SHALL BE NOTIFIED OF EACH WORKDAY THEREAFTER UNTIL COMPLETION OF THE PROJECT.
3. THE HOMEOWNER SHALL BE RESPONSIBLE FOR PROVIDING ACCESS TO AND COOPERATION WITH THE DISTRICT INSPECTOR TO PERFORM ALL INSPECTIONS AND TESTING.
4. CONNECTIONS TO THE EXISTING RECYCLED WATER FACILITIES SHALL BE PERFORMED BY A LICENSED CONTRACTOR IN ACCORDANCE WITH THE YVWD RECYCLED ON-SITE DESIGN AND CONSTRUCTION STANDARDS.
5. THERE SHALL NEVER BE ANY DIRECT CONNECTIONS BETWEEN THE POTABLE AND RECYCLED WATER SYSTEMS.
6. RECYCLED WATER SHALL NOT BE USED FOR ANY PURPOSE OTHER THAN LANDSCAPE IRRIGATION.
7. HOSE BIBS ARE PROHIBITED ON RECYCLED WATER SYSTEMS.
8. WATER USED IN HOSE BIBS SHALL BE POTABLE WATER AND ALL HOSE BIBS SHALL BE AFFIXED TO THE HOUSE.
9. THE POTABLE WATER SYSTEM SHALL BE PROTECTED BY AN APPROVED BACKFLOW PREVENTION DEVICE. THE RECYCLED WATER SERVICE WILL NORMALLY NOT REQUIRE BACKFLOW PROTECTION (AT YVWD DISCRETION).
10. A MINIMUM OF TEN (10) FEET HORIZONTAL SEPARATION MUST BE MAINTAINED AT ALL TIMES BETWEEN THE CONSTANT PRESSURE POTABLE AND RECYCLED WATER LINES. A MINIMUM OF ONE (1) FOOT VERTICAL SEPARATION MUST BE MAINTAINED AT ALL TIMES BETWEEN THE POTABLE AND RECYCLED WATER LINES WITH THE RECYCLED WATER LINE BELOW THE POTABLE.
11. ALL CROSSINGS BETWEEN POTABLE AND RECYCLED WATER LINES SHALL BE AS NEAR TO PERPENDICULAR AS POSSIBLE AND THE RECYCLED WATER LINES SHALL BE SLEEVED A MINIMUM OF FIVE (5) FEET ON BOTH SIDES OF THE POTABLE WATER LINE.
12. THE USE OF CONTINUOUS LETTERING ON 3-INCH MINIMUM WIDTH BLUE TAPE WITH 1-INCH BLACK OR WHITE CONTRASTING LETTERING BEARING THE CONTINUOUS WORDING "POTABLE WATER" PERMANENTLY AFFIXED AT 10-FOOT INTERVALS ATOP ALL HORIZONTAL PIPING, LATERALS, AND MAINS, REFER TO T. CHRISTY'S OR APPROVED EQUAL. IDENTIFICATION TAPE IS NOT NECESSARY FOR EXTRUDED BLUE-COLORED PVC WITH CONTINUOUS WORDING "POTABLE WATER" PRINTED IN CONTRASTING LETTERING ON OPPOSITE SIDES OF THE PIPE.
13. THE USE OF CONTINUOUS LETTERING ON 3-INCH MINIMUM WIDTH PURPLE TAPE WITH 1-INCH BLACK OR WHITE CONTRASTING LETTERING BEARING THE CONTINUOUS WORDING "CAUTION - RECYCLED WATER" PERMANENTLY AFFIXED AT 10-FOOT INTERVALS ATOP ALL HORIZONTAL PIPING, LATERALS, AND MAINS. REFER TO T. CHRISTY'S OR APPROVED EQUAL. IDENTIFICATION TAPE IS NOT NECESSARY FOR EXTRUDED PURPLE-COLORED PVC WITH CONTINUOUS WORDING "CAUTION - RECYCLED WATER" PRINTED IN CONTRASTING LETTERING ON OPPOSITE SIDES OF THE PIPE.

(CONTINUED ON SHEET 2 OF 2)

## RECYCLED WATER NOTES FOR ONSITE RESIDENTIAL USE

<b>2016</b>	 <p style="font-size: 1.2em;">Yucaipa Valley Water District</p>	<p style="font-size: 0.8em;">Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##</p>	<b>R-4</b>
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(CONTINUED FROM SHEET 1 OF 2)

14. RECYCLED WATER PIPING SHALL BE PURPLE AND IDENTIFIED AS RECYCLED WATER PIPE BY CONTINUOUS MARKING ON BOTH SIDES. THE MARKINGS SHALL INCLUDE THE FOLLOWING: "WARNING RECYCLED WATER – DO NOT DRINK", NOMINAL PIPE SIZE, PRESSURE RATING, AND ASTM DESIGNATIONS.
15. RECYCLED WATER ISOLATION AND CONTROL VALVE BOXES SHALL BE WEATHERPROOF PURPLE PLASTIC AND MARKED "RECYCLED WATER". \*NOTE – ALL CONTROL VALVES SHALL BE BURIED BELOW GRADE AUTOMATIC CONTROL VALVES OPERATED BY A PROGRAMMABLE CONTROLLER. ABOVE GROUND ANIT-SIPHON CONTROL VALVES ARE NOT ALLOWED.
16. ALL RECYCLED WATER IRRIGATION SYSTEM CONTROL VALVES, ISOLATION VALVES, QUICK COUPLERS, REGULATORS, AND APPURTENANCES SHALL BE TAGGED. IDENTIFICATION SHALL BE WEATHERPROOF PURPLE PLASTIC, 3-INCHES BY 4-INCHES AND IMPRINTED WITH "WARNING RECYCLED WATER – DO NOT DRINK". REFER TO T. CHRISTY'S OR APPROVED EQUAL.
17. ALL AREAS WHERE RECYCLED WATER IS USED SHALL BE POSTED WITH APPROVED SIGNAGE. EACH SIGN SHALL STATE "RECYCLED WATER – DO NOT DRINK" AND DISPLAY THE INTERNATIONAL "DO NOT DRINK" SYMBOL.
18. BEFORE ACTIVATION OF THE POTABLE WATER SERVICE THE BACKFLOW DEVICE SHALL BE TESTED AND APPROVED BY A LICENSED BACKFLOW TESTER. ARRANGEMENTS WITH YVWD MUST BE MADE AT LEAST TWO (2) WORKING DAYS IN ADVANCE TO TURN ON THE POTABLE SERVICE TO ALLOW TESTING OF THE DEVICE. POTABLE WATER SERVICE WILL NOT BE ACTIVATED UNTIL THE BACKFLOW DEVICE PASSES INSPECTION.
19. BEFORE ACTIVATION OF THE RECYCLED WATER SERVICE, A CROSS CONNECTION TEST AND FINAL INSPECTION AND APPROVAL OF THE IRRIGATION SYSTEM SHALL BE PERFORMED. THE PROPERTY OWNER OR CONTRACTOR SHALL ARRANGE WITH THE DISTRICT FOR AN IRRIGATION COVERAGE TEST AND MAKE ANY MODIFICATIONS OR ADJUSTMENTS DEEMED REQUIRED BEFORE FINAL APPROVAL.
20. ALL SPRAY HEADS SHALL BE ADJUSTED TO ELIMINATE OVERSPRAY AND RUNOFF ONTO ADJACENT HARDSCAPES, DRINKING FOUNTAINS OR WATER FEATURES, AND OUTDOOR FURNITURE SUCH AS PICNIC TABLES, ETC.
21. RECYCLED WATER IRRIGATION SYSTEMS SHALL ONLY BE OPERATED BETWEEN THE HOURS OF 9:00 PM AND 6:00 AM.
22. FAILURE TO COMPLY WITH ANY OF THE YUCAIPA VALLEY WATER DISTRICT STANDARDS MAY RESULT IN TERMINATION OF RECYCLED WATER AND/OR POTABLE WATER SERVICE.

## RECYCLED WATER NOTES FOR ONSITE RESIDENTIAL USE

2016

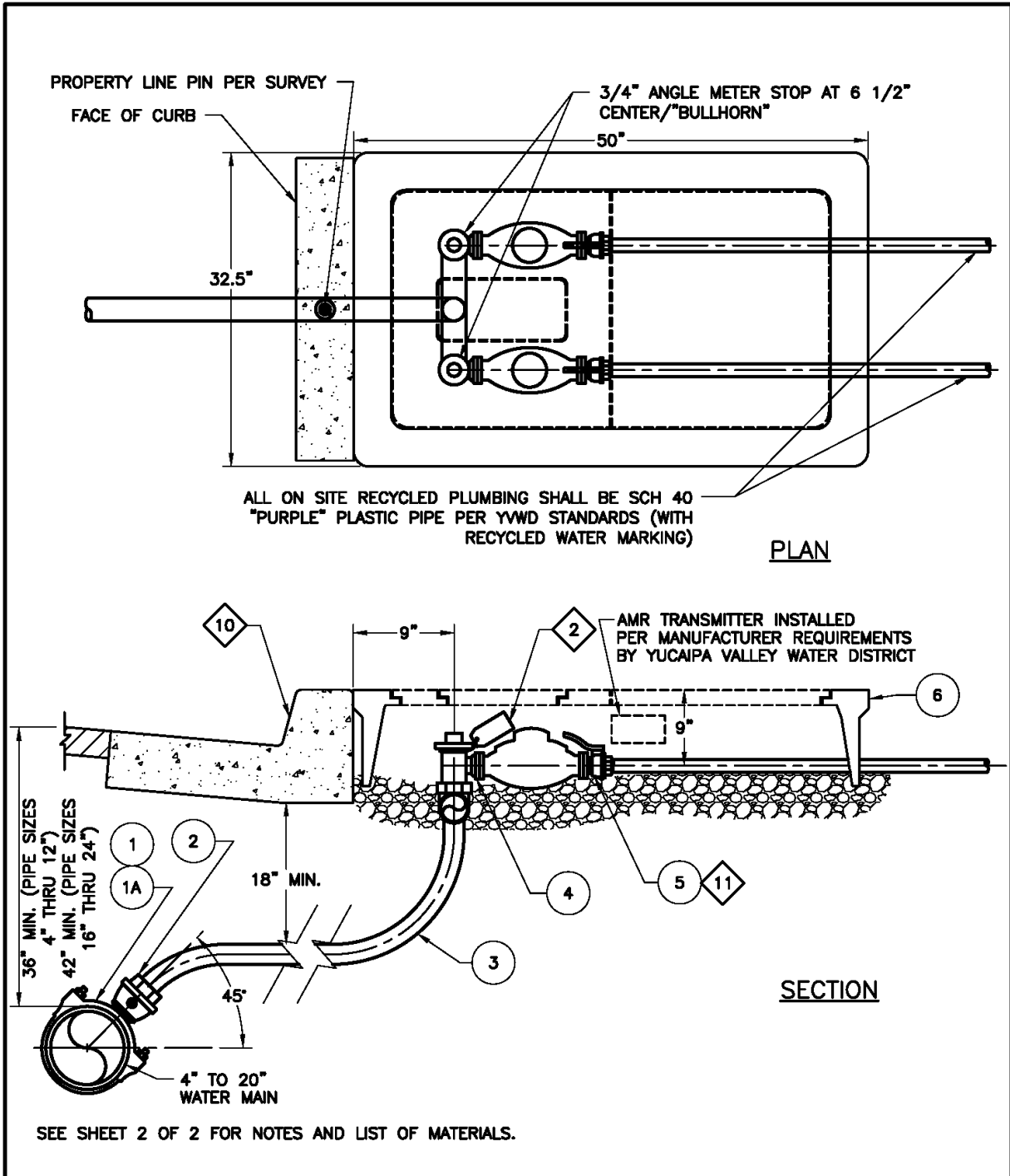


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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## 3/4" DUAL RECYCLED WATER METER ASSEMBLY

2016



Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

R-5

Sheet 1 of 2

**NOTES:**

1. SERVICE SADDLE SHALL NOT BE INSTALLED WITHIN 12-INCHES OF VALVE, COUPLING, JOINT OR FITTING.
2. METERS SHALL BE TAGGED. IDENTIFICATION SHALL BE WEATHERPROOF PURPLE PLASTIC, 3-INCHES BY 4-INCHES WITH THE WORDS "WARNING RECYCLED WATER - DO NOT DRINK". IMPRINTING SHALL BE PERMANENT AND BLACK IN COLOR. USE TAGS MANUFACTURED BY T. CHRISTY ENTERPRISES OR APPROVED EQUAL.
3. SET TOP OF METER BOX FLUSH WITH SIDEWALK OR TOP OF CURB AS SHOWN.
4. THE CORPORATION STOP TAP SHALL BE MADE AT A 45° DEGREE ANGLE FROM THE TOP OF PIPE.
5. THE WATER SERVICE SHALL EXTEND PERPENDICULAR TO CENTERLINE OF STREET FROM THE WATER MAIN TO THE STOP.
6. METER BOX SHALL BE SET BEHIND CURB WHERE SIDEWALK IS ADJACENT TO CURB, OR IN PARKWAY BETWEEN CURB AND SIDEWALK.
7. ALL CONNECTIONS TO "PURPLE P.E." TUBING SHALL BE 1-INCH CTS (COPPER TUBE SIZE) COMPRESSION FITTINGS.
8. METER BOX COVER AND READING LID FOR ALL RECLAIMED WATER SERVICES SHALL BE PAINTED OR CAST/FORMED "PURPLE".
9. ALL SERVICE LATERALS WILL BE LOCATED AT PROPERTY LINES.
10. LOCATE SERVICE WITH 1-1/2-INCH HIGH "RW" CHISELED IN FACE OF CURB WHERE THE SERVICE CROSSES UNDER THE CURB.
11. CUSTOMER SERVICE VALVE REQUIRED ON CUSTOMER SIDE OF METER. METER, CUSTOMER SERVICE VALVE & TAIL PIPE TO BE PROVIDED BY THE DISTRICT.

**LIST OF MATERIALS**

ITEM NO.	SIZE & DESCRIPTION	MANUFACTURER	SPEC. NO.
1	DOUBLE STRAP SERVICE SADDLE I.P. OUTLET (FOR DUCTILE IRON PIPE MAINS)	JONES MUELLER ROMAC ROCKWELL	J-979 I.P. H-16102 TO H-16116 202B-SIZE 1.P.7 323-SIZE-14
1A	CAST SERVICE SADDLE WITH I.P. OUTLET	JONES ROMAC FORD	J-995 101S S91-SIZE 04
2	BRONZE CORPORATION STOP (MIP) THREAD X COMPRESSION (CTS)	JONES MUELLER FORD	J-41 H-10013 F500-04
3	1" PURPLE POLYETHYLENE TUBING-CTS	WESFLEX	1" SDR 9 LAVENDER
4	BRONZE ANGLE METER STOP BRANCH ASSEMBLY 6 1/2" CENTER TO CENTER, 1" CTS X 3/4" M (2)	JONES FORD McDONALD	J-2201 UVB43-42W-65 09U2AW
5	BRONZE CUSTOMER SERVICE VALVE-METER NUT X F.I.P.	JONES FORD	J-1908 B13-342 W/H-34
6	METER BOX AND COVER WITH READING LID	ARMOR CAST	A6001430PCX12 W/ (1)-A6001470 - COVER (1)-A6001470DZ - COVER (1)-A6000482

**3/4" DUAL RECYCLED WATER METER ASSEMBLY**

2016

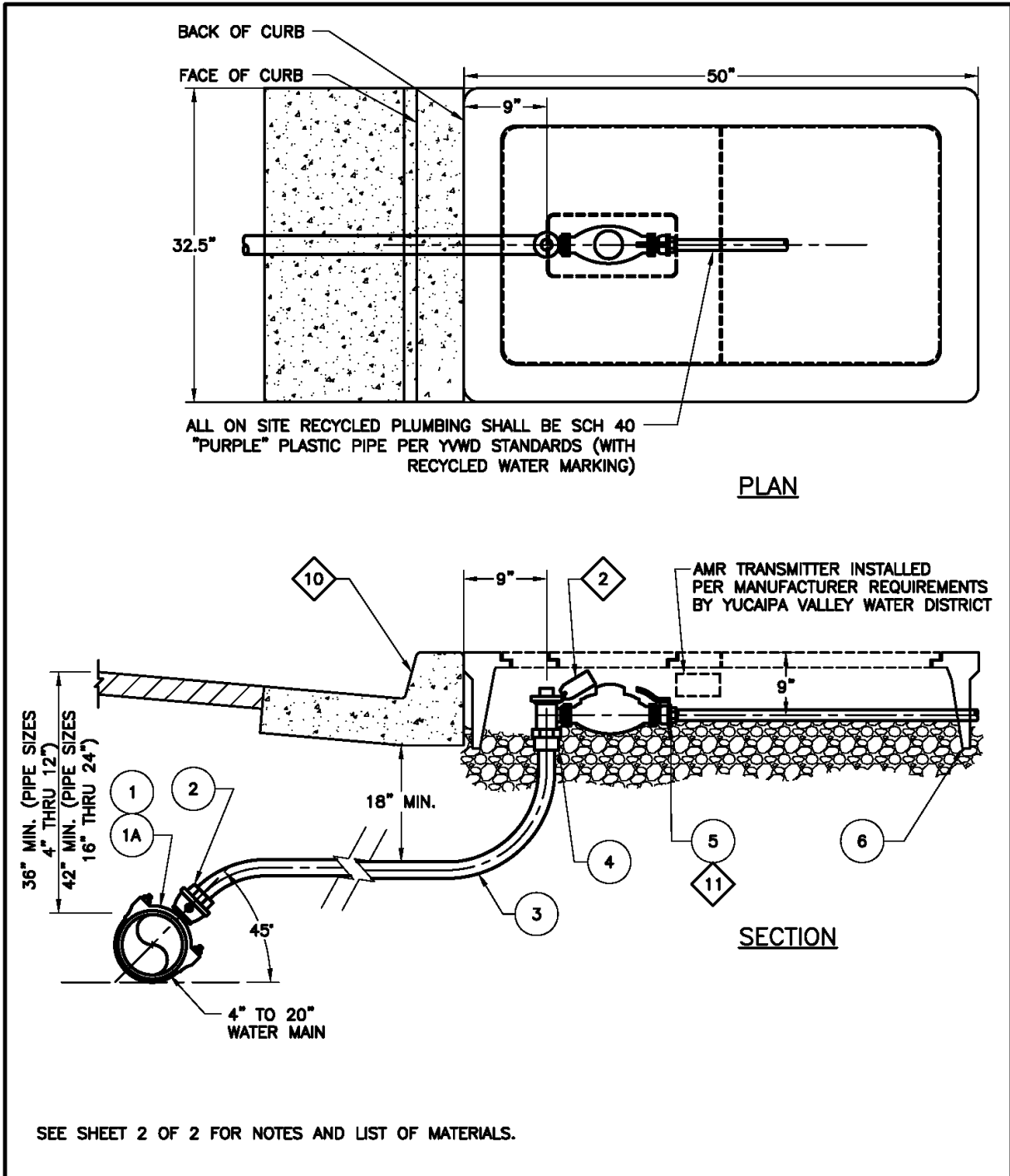


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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## 1" RECYCLED WATER METER ASSEMBLY

2016



Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 1 of 2

**NOTES:**

1. SERVICE SADDLE SHALL NOT BE INSTALLED WITHIN 12-INCHES OF VALVE, COUPLING, JOINT OR FITTING.
2. METERS SHALL BE TAGGED. IDENTIFICATION SHALL BE WEATHERPROOF PURPLE PLASTIC, 3-INCHES BY 4-INCHES WITH THE WORDS "WARNING RECYCLED WATER - DO NOT DRINK". IMPRINTING SHALL BE PERMANENT AND BLACK IN COLOR. USE TAGS MANUFACTURED BY T. CHRISTY ENTERPRISES OR APPROVED EQUAL.
3. SET TOP OF METER BOX FLUSH WITH SIDEWALK OR TOP OF CURB AS SHOWN.
4. THE CORPORATION STOP TAP SHALL BE MADE AT A 45° DEGREE ANGLE FROM THE TOP OF PIPE.
5. THE WATER SERVICE SHALL EXTEND PERPENDICULAR TO CENTERLINE OF STREET FROM THE WATER MAIN TO THE STOP.
6. METER BOX SHALL BE SET BEHIND CURB WHERE SIDEWALK IS ADJACENT TO CURB, OR IN PARKWAY BETWEEN CURB AND SIDEWALK.
7. ALL CONNECTIONS TO "PURPLE P.E." TUBING SHALL BE 1-INCH CTS (COPPER TUBE SIZE) COMPRESSION FITTINGS.
8. METER BOX COVER AND READING LID FOR ALL RECLAIMED WATER SERVICES SHALL BE PAINTED OR CAST/FORMED "PURPLE".
9. ALL SERVICE LATERALS WILL BE LOCATED AT PROPERTY LINES.
10. LOCATE SERVICE WITH 1-1/2-INCH HIGH "RW" CHISELED IN FACE OF CURB WHERE THE SERVICE CROSSES UNDER THE CURB.
11. CUSTOMER SERVICE VALVE REQUIRED ON CUSTOMER SIDE OF METER. METER, CUSTOMER SERVICE VALVE & TAIL PIPE TO BE PROVIDED BY THE DISTRICT.

**LIST OF MATERIALS**

ITEM NO.	SIZE & DESCRIPTION	MANUFACTURER	SPEC. NO.
1	DOUBLE STRAP SERVICE SADDLE I.P. OUTLET (FOR DUCTILE IRON PIPE MAINS)	JONES MUELLER ROMAC ROCKWELL	J-979 I.P. H-16102 TO H-16116 202B-SIZE 1.P.7 323-SIZE-14
1A	CAST SERVICE SADDLE WITH I.P. OUTLET	JONES ROMAC FORD	J-995 101S S91-SIZE 04
2	BRONZE CORPORATION STOP (MIP) THREAD X COMPRESSION (CTS)	JONES MUELLER FORD	J-41 H-10013 F500-04
3	1" PURPLE POLYETHYLENE TUBING-CTS	WESFLEX	1" SDR 9 LAVENDER
4	BRONZE ANGLE METER STOP BRANCH ASSEMBLY 6 1/2" CENTER TO CENTER, 1" CTS X 3/4" M (2)	JONES FORD McDONALD	J-2201 UVB43-42W-65 09U2AW
5	BRONZE CUSTOMER SERVICE VALVE-METER NUT X F.I.P.	JONES FORD	J-1908 B13-342 W/H-34
6	METER BOX AND COVER WITH READING LID	ARMOR CAST	A6001430PCX12 W/ (1)-A6001470 - COVER (1)-A6001470DZ - COVER (1)-A6000482

**1" RECYCLED WATER METER ASSEMBLY**

2016

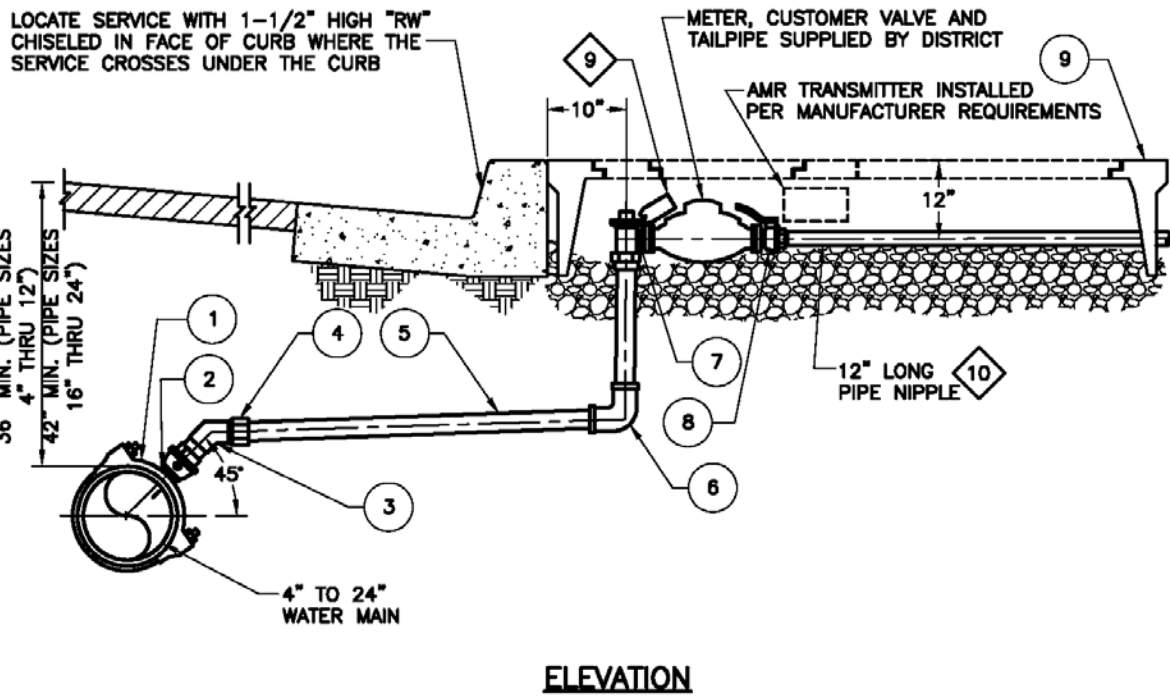
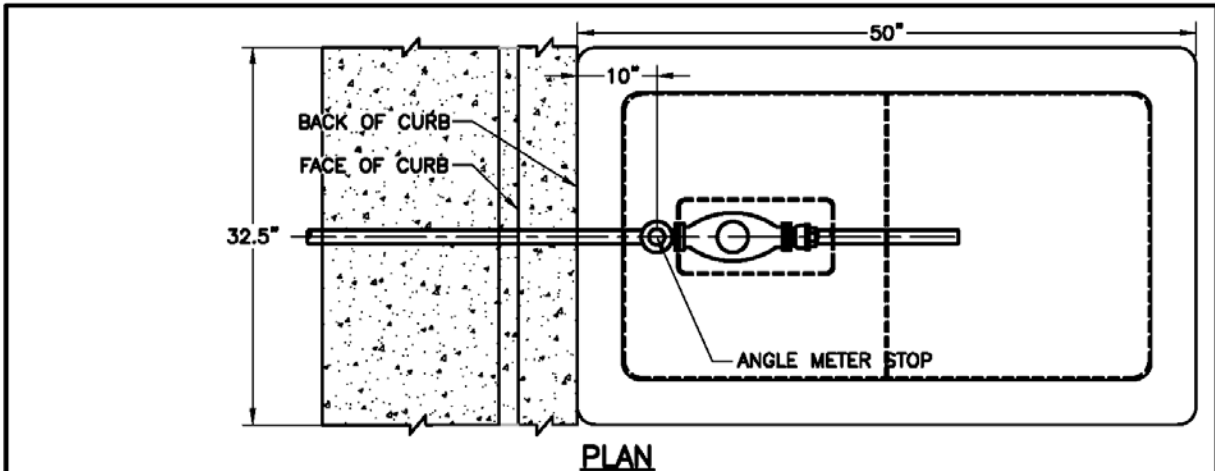


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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SEE SHEET 2 OF 2 FOR NOTES AND LIST OF MATERIALS.

## 1-1/2" AND 2" RECYCLED WATER SERVICE INSTALLATION

2016



Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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Sheet 1 of 2

**NOTES:**

1. SERVICE SADDLE SHALL NOT BE INSTALLED WITHIN 12-INCHES OF VALVE, COUPLING, JOINT OR FITTING.
2. IF PURPLE PE TUBING CAN NOT BE USED, PURPLE POLY-SLEEVE SHALL BE USED AND SECURED AT THE CORP. AND THE ANGLE VALVE WITH 10 MIL. TAPE.
3. SET TOP OF METER BOX FLUSH WITH SIDEWALK OR CURB AS SHOWN.
4. THE CORPORATION STOP TAP SHALL BE MADE AT A 45° DEGREE ANGLE FROM THE TOP OF THE PIPE.
5. THE WATER SERVICE SHALL EXTEND PERPENDICULAR TO THE CENTERLINE OF THE STREET FROM THE WATER MAIN TO THE METER STOP.
6. METER BOX SHALL BE SET BEHIND CURB WHERE SIDEWALK IS ADJACENT TO CURB, OR IN PARKWAY BETWEEN CURB AND SIDEWALK.
7. METER BOX COVER AND READING LID FOR ALL RECLAIMED WATER SERVICE SHALL BE PAINTED PURPLE AND STAMPED WITH "RECYCLED WATER" LOGO.
8. METER BOX COVER AND READING LID FOR ALL RECLAIMED WATER SERVICES SHALL BE PAINTED OR CAST/FORMED "PURPLE".



METERS SHALL BE TAGGED. IDENTIFICATION SHALL BE WEATHERPROOF PURPLE PLASTIC, 3-INCHES BY 4-INCHES WITH THE WORDS "WARNING RECYCLED WATER - DO NOT DRINK". IMPRINTING SHALL BE PERMANENT AND BLACK IN COLOR. USE TAGS MANUFACTURED BY T. CHRISTY ENTERPRISES OR APPROVED EQUAL.



ALL ONSITE PIPING IS PURPLE SCH 40 PVC PER YVWD RECYCLED DESIGN AND CONSTRUCTION STANDARDS.

**LIST OF MATERIALS**

ITEM NO.	SIZE & DESCRIPTION	MANUFACTURER	SPEC. NO.
1	DOUBLE STRAP SERVICE SADDLE I.P. OUTLET ( FOR DUCTILE IRON PIPE MAINS )	JONES MUELLER FORD ROCKWELL	J-979 I.P. H-18102 TO H-18118 202B-SIZE 1.P.7 323-SIZE-14
2	BRONZE CORPORATION STOP MIPT X MIPT	JONES FORD MUELLER	J-1943 FB500-7 B-2969
3	45° DEGREE BRASS ELBOW	-	-
4	M.I.P. X COMPRESSION ADAPTOR	MUELLER FORD JONES	H-15428 C84-77 J-2605
5	2" POLYETHYLENE TUBING - CTS - PURPLE OR WITH PURPLE POLY SLEEVE	-	-
6	BRASS 90° ELBOW, 2" X 2" COMPRESSION X COMPRESSION	JONES MUELLER	J-2611 H-15528
7	BRONZE ANGLE METER STOP W/LOCKWING COMPRESSION CTS X FLANGE 1 1/2" THRU 2" COMBO ANGLE VALVE.	JONES MUELLER FORD	J-4205 P-14277 FV43-777W
8	BRONZE CUSTOMER SERVICE VALVE-METER FLANGE X F.I.P.	JONES FORD	J-1913 BF13-777 W/HH-67
9	METER BOX AND COVER WITH READING LID	ARMOR CAST	A6001430PCX12 W/ (1)-A6001470 - COVER (1)-A6001470DZ - COVER (1)-A6000482

**1-1/2" AND 2" RECYCLED WATER SERVICE INSTALLATION**

2016



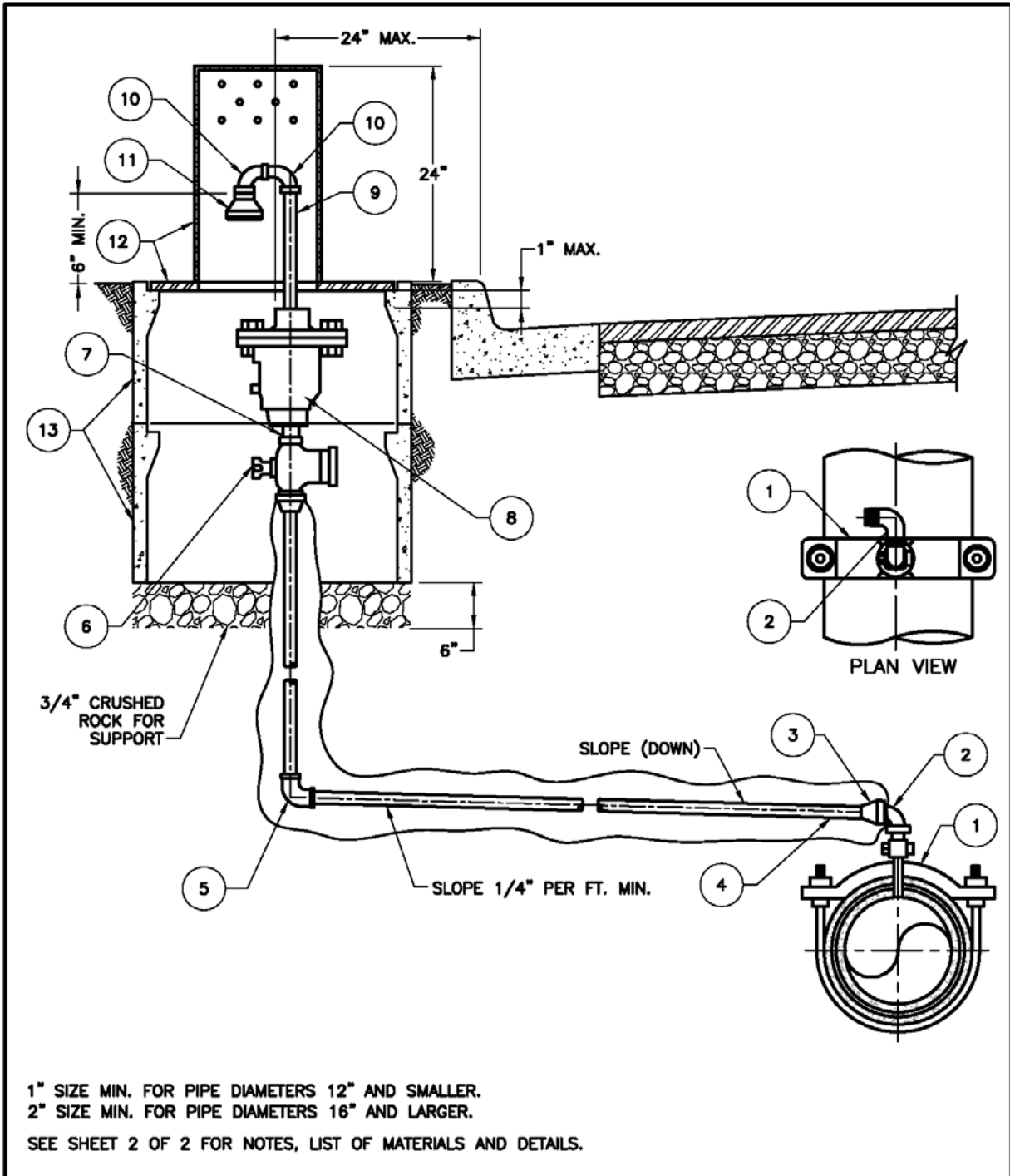
Yucaipa Valley Water District

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## 1" AND 2" RECYCLED WATER AIR AND VACUUM VALVE ASSEMBLIES

2016



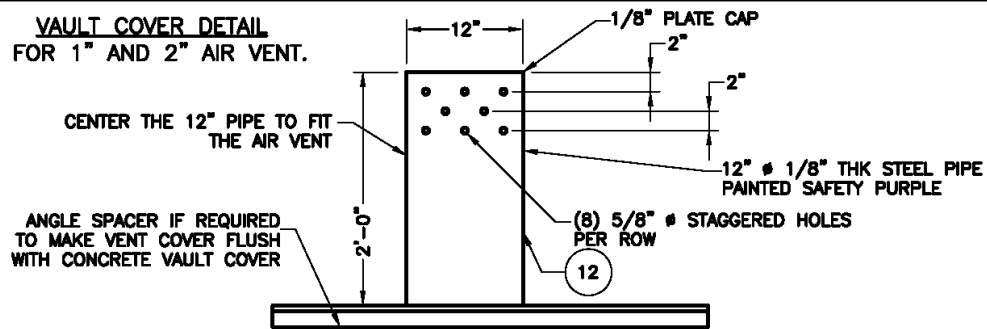
Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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**VAULT COVER DETAIL  
FOR 1" AND 2" AIR VENT.**



**LIST OF MATERIAL**

ITEM NO.	SIZE & DESCRIPTION	MANUFACTURER	SPEC. NO.
1	CONNECTION PER YWD STD. DWG. R-5 OR DWG. R-7 OFF THE TOP OF PIPE	-	-
2	CORPORATION STOP WITH (2)-90° ELBOW SWING JOINTS, BRASS	-	-
3	F.I.P. X COMPRESSION ADAPTOR	FORD JONES MUELLER	C14-44 J-2607 H-15451
4	P.E. TUBING, CTS, PURPLE OR WITH PURPLE POLY SLEEVE.		
5	COMPRESSION X COMPRESSION 90° ELBOW	JONES MUELLER	J-2611 H-15526
6	CURB VALVE-SHUT OFF PARALLEL WITH CURB	FORD JONES MUELLER	B41-444 J-1921 B-25172
7	3" NIPPLE, BRASS	-	-
8	COMBINATION, AIR & VACUUM VALVE, 1" MINIMUM VAULT SIZE PER PLAN	A.R.I. CRISPIN	D-040 S.S. TRIM, N.P.T. OUTLET
9	18" +/- G.I.P.	-	-
10	90° DEGREE STREET ELL G.I.P.	-	-
11	BUG SCREEN	-	-
12	VAULT COVER (SEE DETAIL, ABOVE)	-	-
13	2-DOUBLE STACKED #6 CONCRETE METER VAULTS	-	-

**NOTE:**

1. THE AIR VAC BOX IS TO BE SET PERPENDICULAR TO THE BACK OF THE CURB.
2. BACKFILL UNDER EXISTING CURB WITHIN THE CITY OF YUCAIPA, MUST BE 2 SACK SLURRY PER CITY STANDARDS.
3. IF AN A.R.I. COMBINATION AIR VAC IS USED THEN ITEMS 9 AND 10 NOT REQUIRED, AND ITEM 13 ONLY REQUIRES 1 METER VAULT.

**1" AND 2" RECYCLED WATER  
AIR AND VACUUM VALVE ASSEMBLIES**

2016

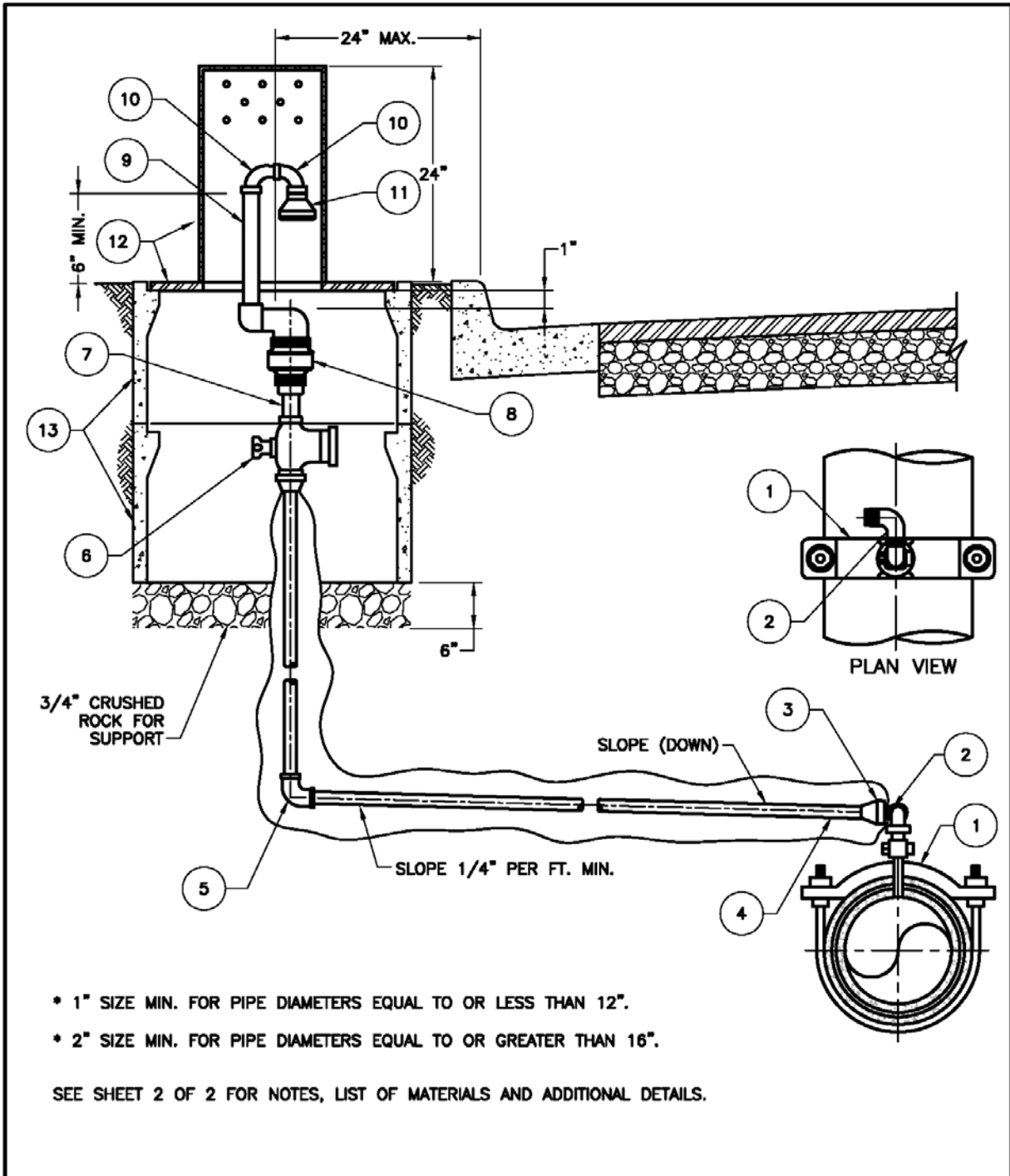


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## 1" AND 2" RECYCLED WATER AIR AND VACUUM VALVE ASSEMBLIES

2016

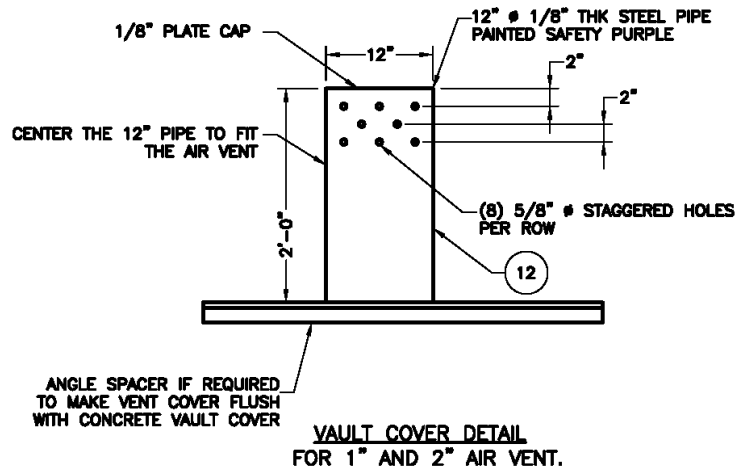


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

R-15

Sheet 3 of 4



**LIST OF MATERIAL**

ITEM NO.	SIZE & DESCRIPTION	MANUFACTURER	SPEC. NO.
1	CONNECTION PER YVWD STD. DWG W-5 OR DWG. W-7 OFF THE TOP	-	-
2	CORPORATION STOP WITH 2-90° ELBOW SWING JOINTS, BRASS	-	-
3	F.I.P. X COMPRESSION ADAPTOR	FORD JONES MUELLER	C14-44 J-2807 H-15451
4	P.E. TUBING, CTS, PURPLE OR WITH PURPLE POLY SLEEVE		
5	COMPRESSION X COMPRESSION 90° ELBOW	JONES MUELLER	J-2811 H-15528
6	CURB VALVE-SHUT OFF PARALLEL WITH CURB	FORD JONES MUELLER	B41-444 J-1921 B-25172
7	3" X SIZE NIPPLE, BRASS	-	-
8	A.R.I., NPT OUTLET, COMBINATION, AIR & VACUUM VALVE, 1" MIN. VAULT SIZE PER PLAN	A.R.I.	D-040
9	1/8" X SIZE NIPPLE	-	-
10	90° STREET ELL	-	-
11	BUG SCREEN	-	-
12	VAULT COVER (SEE DETAIL, ABOVE)	-	-
13	2-DOUBLE STACKED #8 CONCRETE METER VAULTS		

**NOTE:**

1. ALL CONNECTIONS TO COPPER TUBING SHALL BE COMPRESSION FITTINGS.
2. THE AIR VAC BOX IS TO BE SET PERPENDICULAR TO THE BACK OF THE CURB.
3. BACKFILL UNDER EXISTING CURB WITHIN THE CITY OF YUCAIPA, MUST BE 2 SACK SLURRY PER CITY STANDARDS.

**1" AND 2" AIR AND VACUUM VALVE ASSEMBLY**

2016

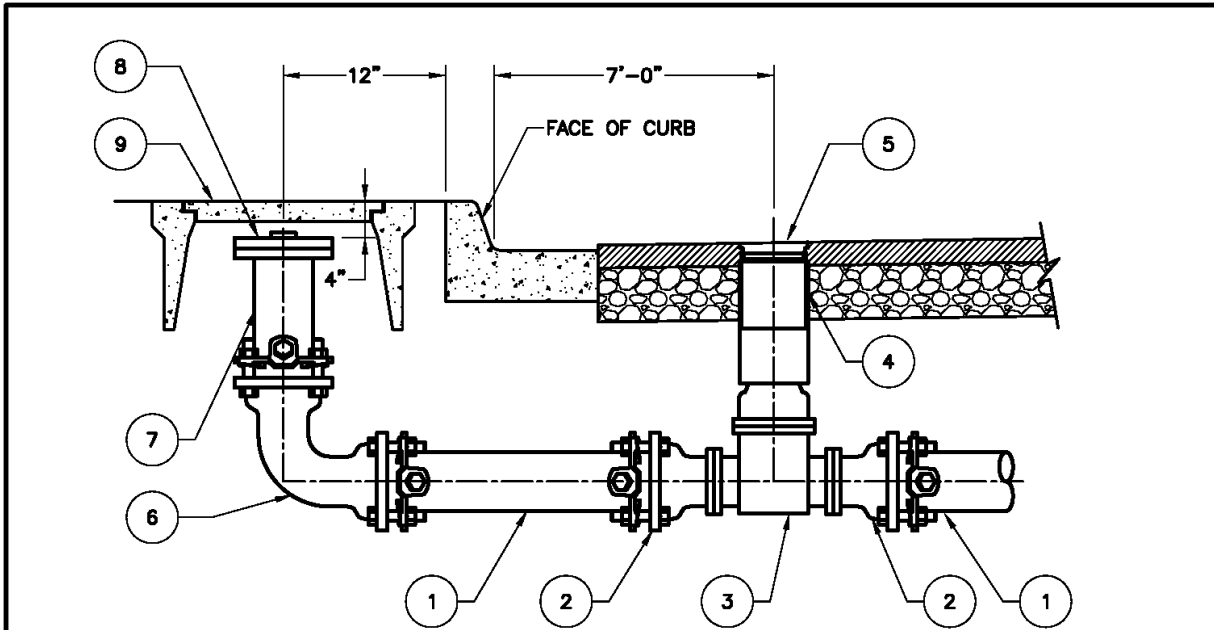


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

**R-15**


Sheet 4 of 4

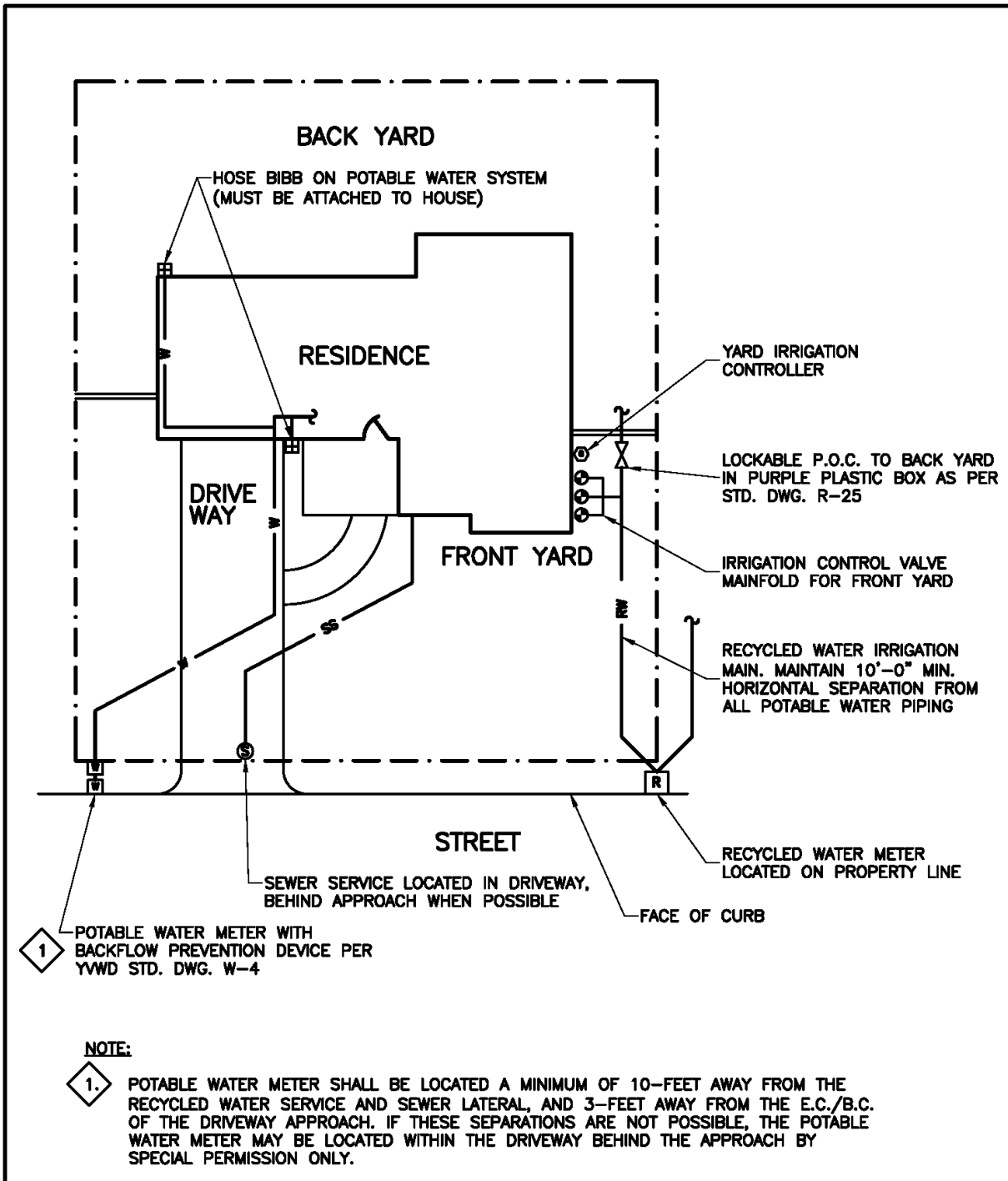


**NOTE:**  
 1. ALL RECYCLED WATER LINES BELOW GROUND ARE TO BE FULLY BAGGED USING PURPLE POLY SLEEVE.

LIST OF MATERIAL			
ITEM NUMBER	DESCRIPTION	MANUFACTURER	PART NUMBER
1	4" DIP, RESTRAINED		
2	4" MJ X FLG ADAPTER WITH MEGALUG RESTRAINTS		
3	4" GATE VALVE, FLG X FLG, RESILIENT WEDGE, EPOXY COATED	MUELLER	
4	VALVE BOX PER YVWD STD. W-20		
5	VALVE CAN LID, LABELED "RECYCLED" PER YVWD STD. W-20		
6	4" DIP 90° ELBOW, MJ X MJ WITH MEGALUG RESTRAINTS		
7	4" DIP, FLG X PLAIN END (HALF SPOOL)		
8	4" X 2" FIP THD X COMPANION FLG W/2" BRASS PLUG		
9	METER BOX W/SOLID LID, PURPLE IN COLOR W/ "RECYCLED" LOGO	ARMORCAST	BOX - A6000485 LID - A6000484

### 4" RECYCLED WATER BLOW-OFF ASSEMBLY

2016	 Yucaipa Valley Water District	Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##	R-19
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## RESIDENTIAL DUAL PLUMBED SERVICE SCHEMATIC

2016

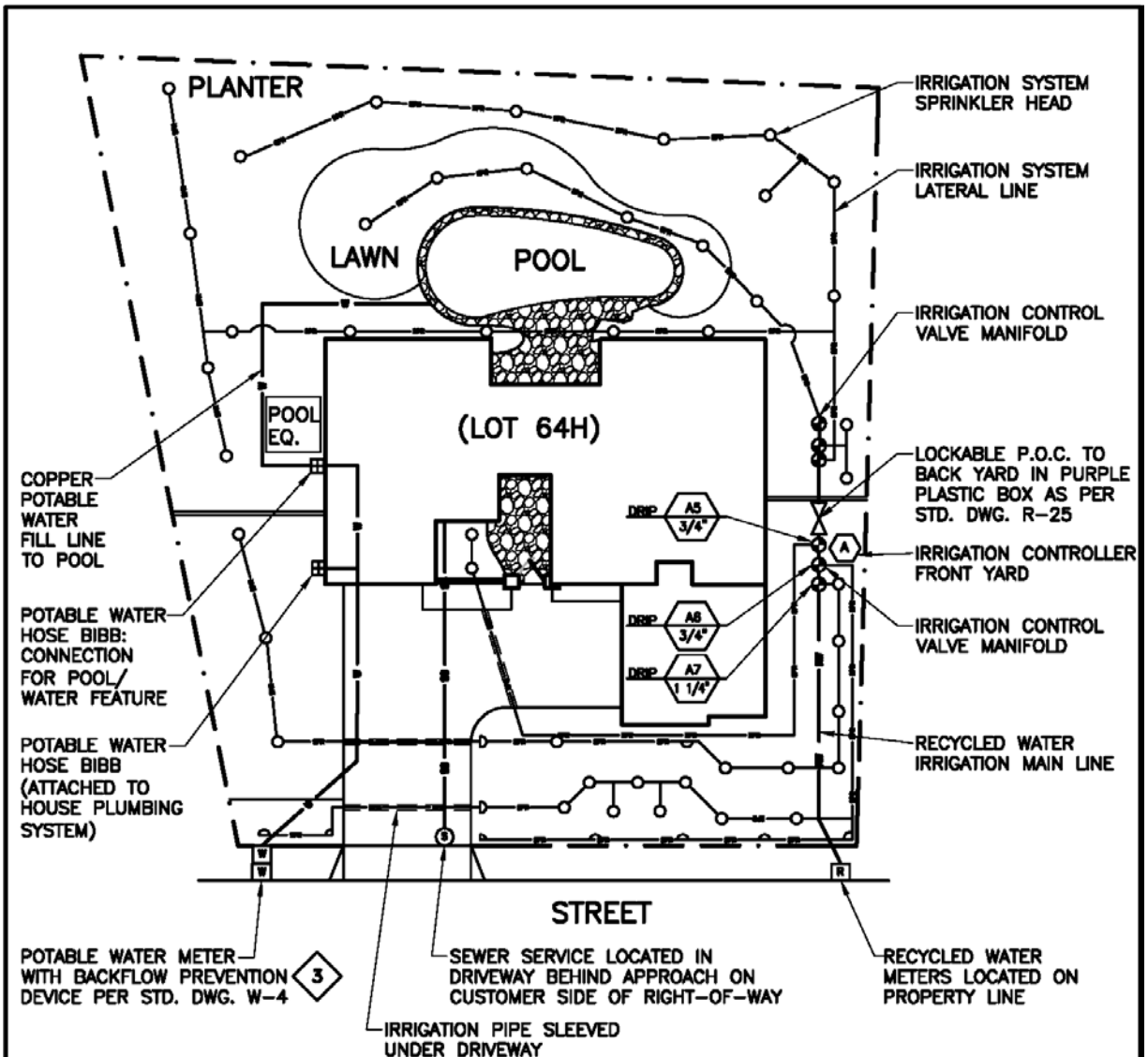


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

R-20


Sheet 1 of 1



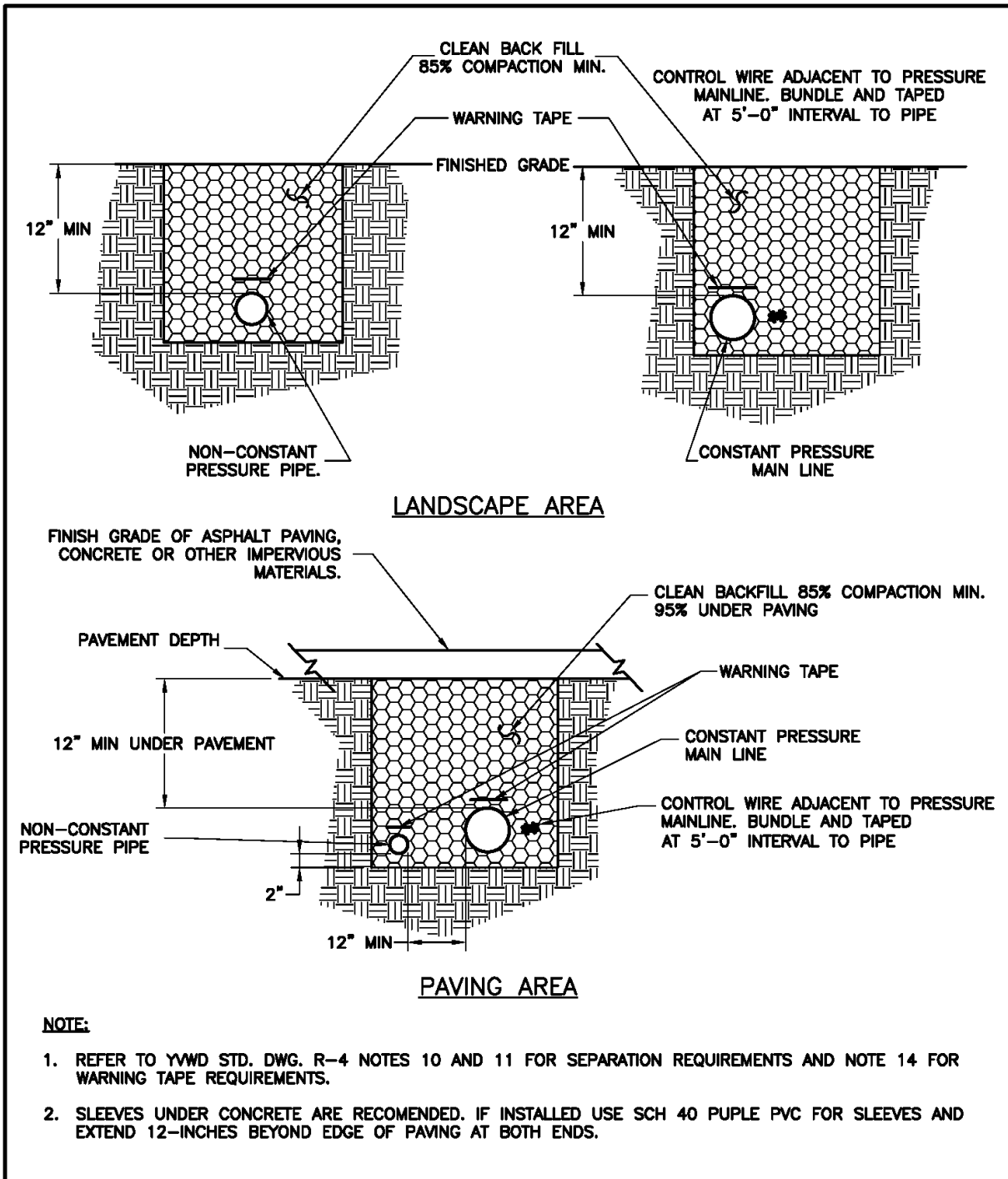
**NOTES:**

1. THIS EXAMPLE OF AN IRRIGATION PLAN SUBMITTAL REPRESENTS THE MINIMUM PLAN SUBMITTAL REQUIREMENT.
2. IRRIGATION LEGEND SHALL BE INCLUDED ON THE PLAN. SEE YVWD STD. DWG. R-1 FOR EXAMPLE OF IRRIGATION PLAN LEGEND.
3. POTABLE WATER METER SHALL BE LOCATED A MINIMUM OF 10- FEET AWAY FROM THE RECYCLED WATER SERVICE AND SEWER LATERAL, AND 3- FEET AWAY FROM THE E.C./B.C. OF THE DRIVEWAY APPROACH. IF THESE SEPARATIONS ARE NOT POSSIBLE, THE POTABLE WATER METER MAY BE LOCATED WITHIN THE DRIVEWAY BEHIND THE APPROACH BY SPECIAL PERMISSION ONLY.

## RESIDENTIAL LOT IRRIGATION LAYOUT PLAN SUBMITAL EXAMPLE

2016	 <p style="font-size: 1.2em; font-weight: bold;">Yucaipa Valley Water District</p>	<p style="font-size: 0.9em;">Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##</p>	R-21
			Sheet 1 of 1





## ONSITE IRRIGATION PIPELINE TRENCHING DETAIL FOR PLANNED RECYCLED WATER USE

2016

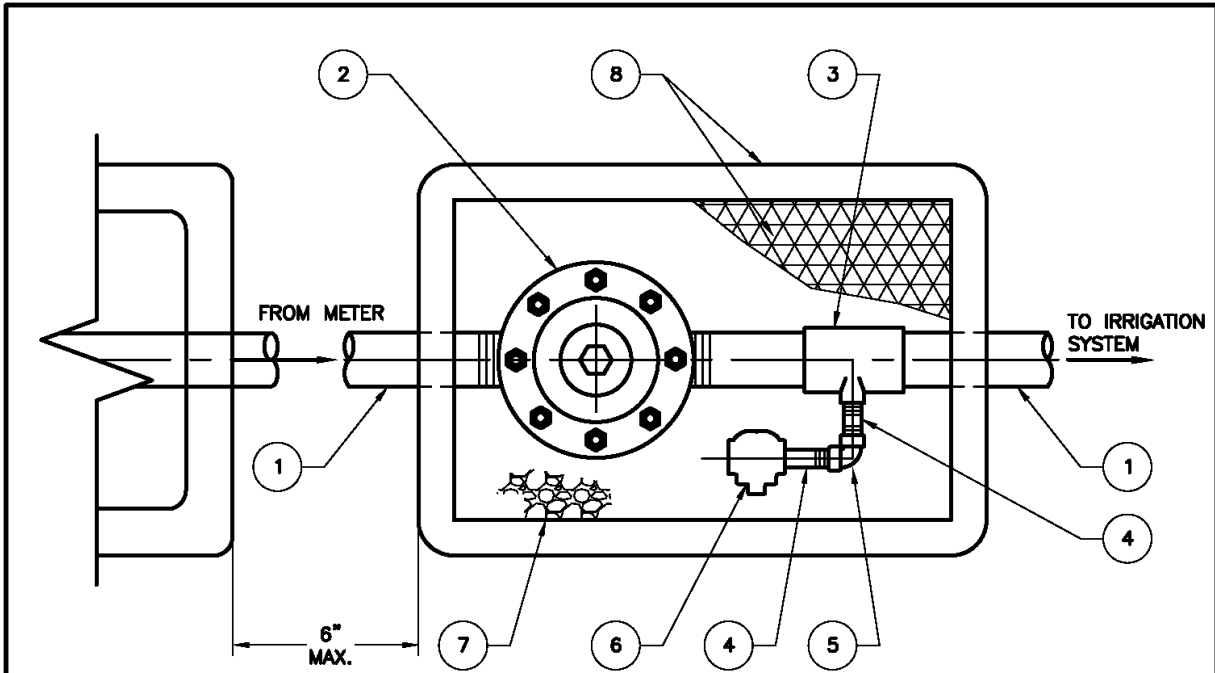


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

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LIST OF MATERIALS	
ITEM NO.	DESCRIPTION
1	SCH 80 MAINLINE
2	PRESSURE REDUCING REGULATOR AS REQUIRED
3	LINE SIZE X LINE SIZE X 3/4" SCH 80 TEE (SOC X SOC X THD)
4	3/4" SCH 80 NIPPLE
5	3/4" SCH 80 ELBOW (THD X THD)
6	1/4" BRONZE BALL VALVE (FIP X FIP)
7	3/8" DIA. PEA GRAVEL SUMP (MIN. 1 CUBIC FT.)
8	PURPLE COLOR JUMBO VALVE BOX AND LID

**NON-RESIDENTIAL RECYCLED WATER  
CROSS CONNECTION CONTROL TEST STATION DETAIL**

2016

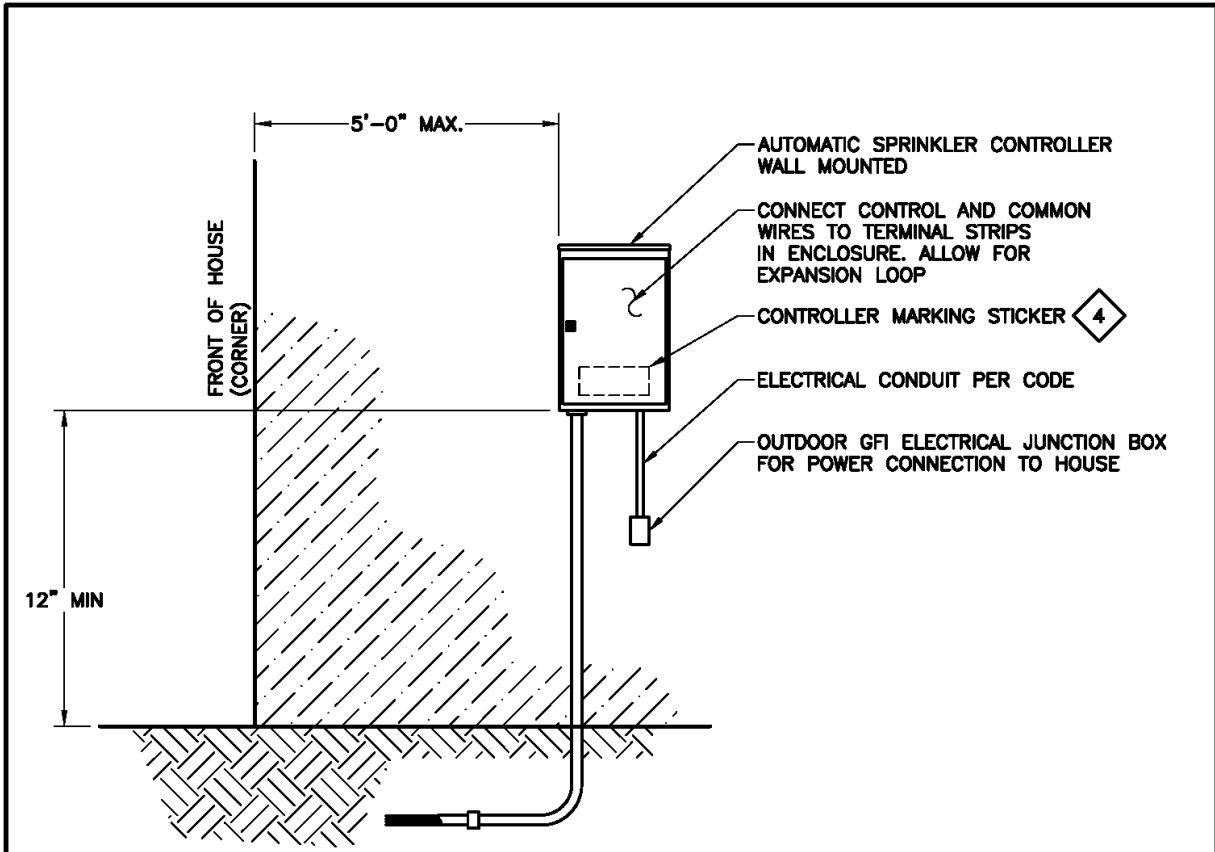


Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

**R-23**


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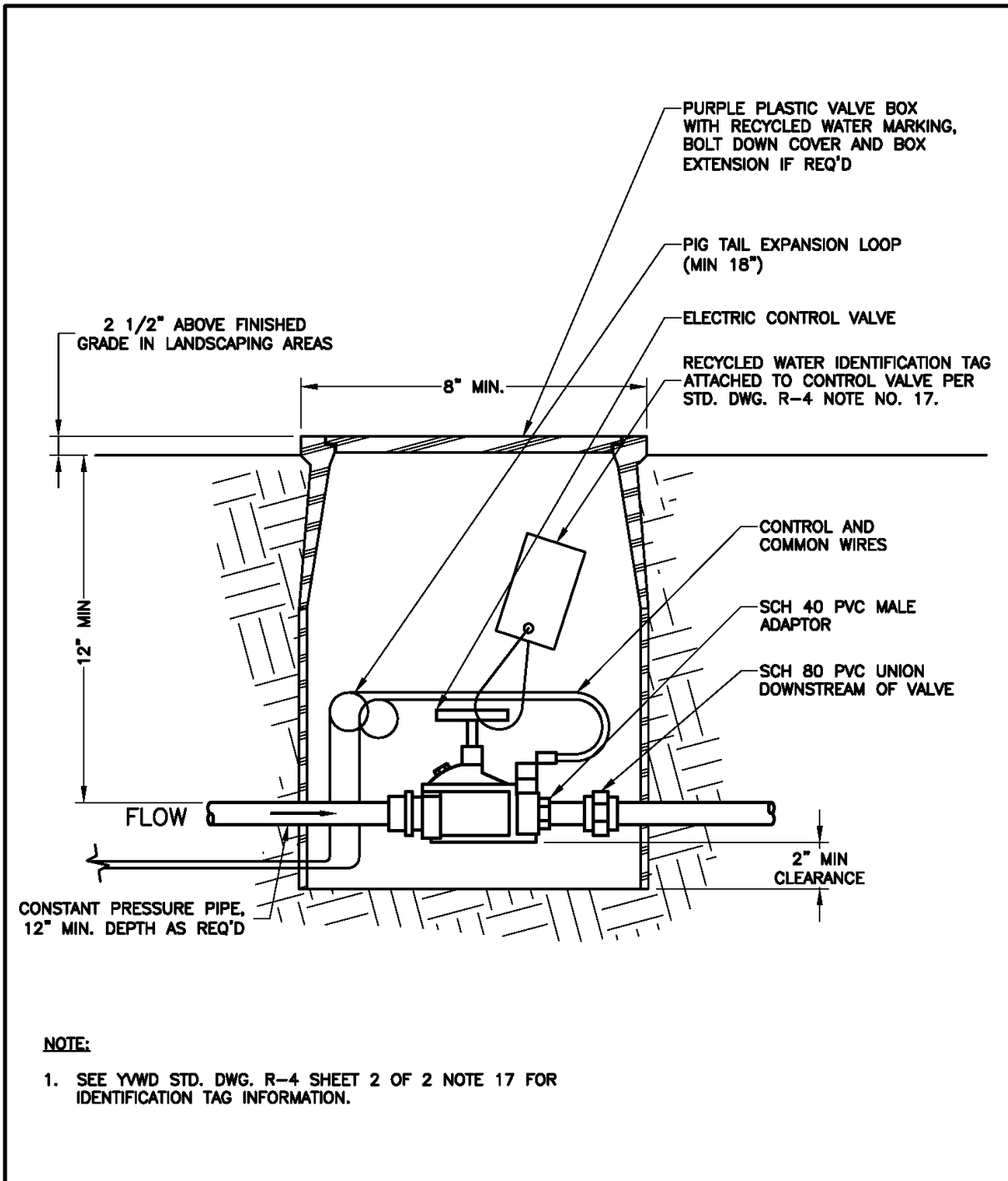


**NOTES:**

1. CONTROL WIRING (AWG. UF #14.). SECURE TO TERMINAL STRIP PROVIDED IN ENCLOSURE.
2. COMMON WIRE TO BE WHITE AND CONTROL WIRE TO BE RED. BUNDLE AND TAPE WIRING AT INTERVALS OF 5'-0" O.C.
3. INSTALL ON/OFF SWITCH FOR ELECTRICAL SUPPLY INSIDE OF CONTROLLER.
4. INSTALL CONTROLLER MARKING STICKER: "ATTENTION - CONTROLLER UNIT FOR RECYCLED WATER" ATTACH STICKER INSIDE CONTROLLER CABINET DOOR.

**ONSITE IRRIGATION AUTOMATIC  
CONTROLLER - WALL MOUNT**

<b>2016</b>	 <p style="font-size: 1.2em;">Yucaipa Valley Water District</p>	<p style="font-size: 0.8em;">Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##</p>	<b>R-24</b>
			Sheet 1 of 1



**ONSITE IRRIGATION  
BURIED ELECTRIC REMOTE CONTROL VALVE**

2016



Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

**R-25**

Sheet 1 of 1

# Capital Improvement Projects



Yucaipa Valley Water District



**Date:** January 26, 2016

**Subject:** Status Report on the Construction of a 6.0 Million Gallon Drinking Water Reservoir R-12.4 - Calimesa

At the regular meeting on July 16, 2014, the Board authorized the solicitation of bids for the construction of a 6.0 Million Gallon R-12.4 Reservoir located on Singleton Road in Calimesa [Director Memorandum No. 14-060]. On November 19, 2014, the Board of Directors awarded the construction contract for the reservoir facility to Gateway Pacific Contractors [Director Memorandum No. 14-091].



The purpose of this agenda item is to provide an update on the progress of the reservoir construction project.















**Date:** January 26, 2016

**Subject:** Status Report on the Digester Cleaning and Cover Replacement Project at the Wochholz Regional Water Recycling Facility

The Yucaipa Valley Water District operates and maintains four anaerobic digesters for sludge conditioning, each with a diameter of 45 feet and a side water depth of 22 feet, yielding a working capacity of approximately 262,000 gallons per digester. The digesters treat sludge drawn from both the primary clarifiers and from the dissolved air flotation thickeners. Digested sludge flows by gravity and can be stored temporarily in a sludge holding tank before being conveyed to the belt presses for dewatering. To keep the digesters functioning properly they should be cleaned every 8-10 years in order to remove the accumulated build-up of sand, grit, and other debris.

Projects	Construction Timeline	Summary of Work
Wastewater Treatment Plant	1976-design 1984-constr	<ul style="list-style-type: none"> <li>Construction of Digester Nos. 1 and 2 and appurtenant equipment, (e.g. heaters)</li> <li>Digester No. 1 equipped with a fixed cover and Digester No. 2 equipped with a floating cover</li> </ul>
Stage I Expansion Project	1992	<ul style="list-style-type: none"> <li>Construction of Digester Nos. 3 and 4</li> <li>Both Digester No. 3 and Digester No. 4 equipped with fixed covers</li> </ul>
Digester No. 2 Cover Modifications	1994	<ul style="list-style-type: none"> <li>Digester No. 2 cover converted from floating to fixed configuration</li> </ul>
Digester Cleaning	2004	<ul style="list-style-type: none"> <li>Digester Nos. 1-4 Cleaning</li> </ul>
Digester Coating	2005	<ul style="list-style-type: none"> <li>Digester Nos. 1-4 Coating of Cover</li> </ul>
Digester and Sludge Holding Tank Modifications Project	2005	<ul style="list-style-type: none"> <li>Digester Nos. 1-4 and Digester Holding Tank Pump Mix System installation</li> </ul>

When the digesters were cleaned in 2005, the District staff assessed the condition of the digesters and related equipment. Based on corrosion identified at this time, the District made a decision to replace at least two covers the next time the digesters were scheduled to be cleaned.

In 2015, the District staff worked with RMC to develop a construction bid schedule that included a series of construction alternatives for cleaning and/or replacement of the digester covers. After carefully evaluating the cleaning/construction bids received for this project, the Board of Directors decided to award a construction contract to Pascal & Ludwig for the cleaning and replacement of four digester covers for a sum not to exceed \$2,175,000. [DM 15-041]

The purpose of this agenda item is to provide an update on the status of the construction project.













# Administrative Items



Yucaipa Valley Water District

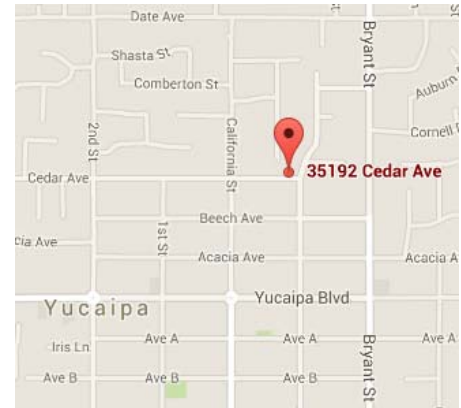




**Date:** January 26, 2016

**Subject:** Demolition of the Building, Basement and Foundation at 35192 Cedar Avenue, Yucaipa (Assessor Parcel Number 0303-232-17)

At the board workshop held on May 27, 2014, the District staff discussed the need to demolish the existing building at 35192 Cedar Avenue. With concurrence from the Board of Directors, the District staff proceeded to move the documents stored and this facility, remove the windows, and physically disconnect all utilities (water, sewer, electrical, phone and gas services). At the board meeting on June 17, 2015, the Board of Directors authorized District staff to proceed with the demolition of the structures on the property.

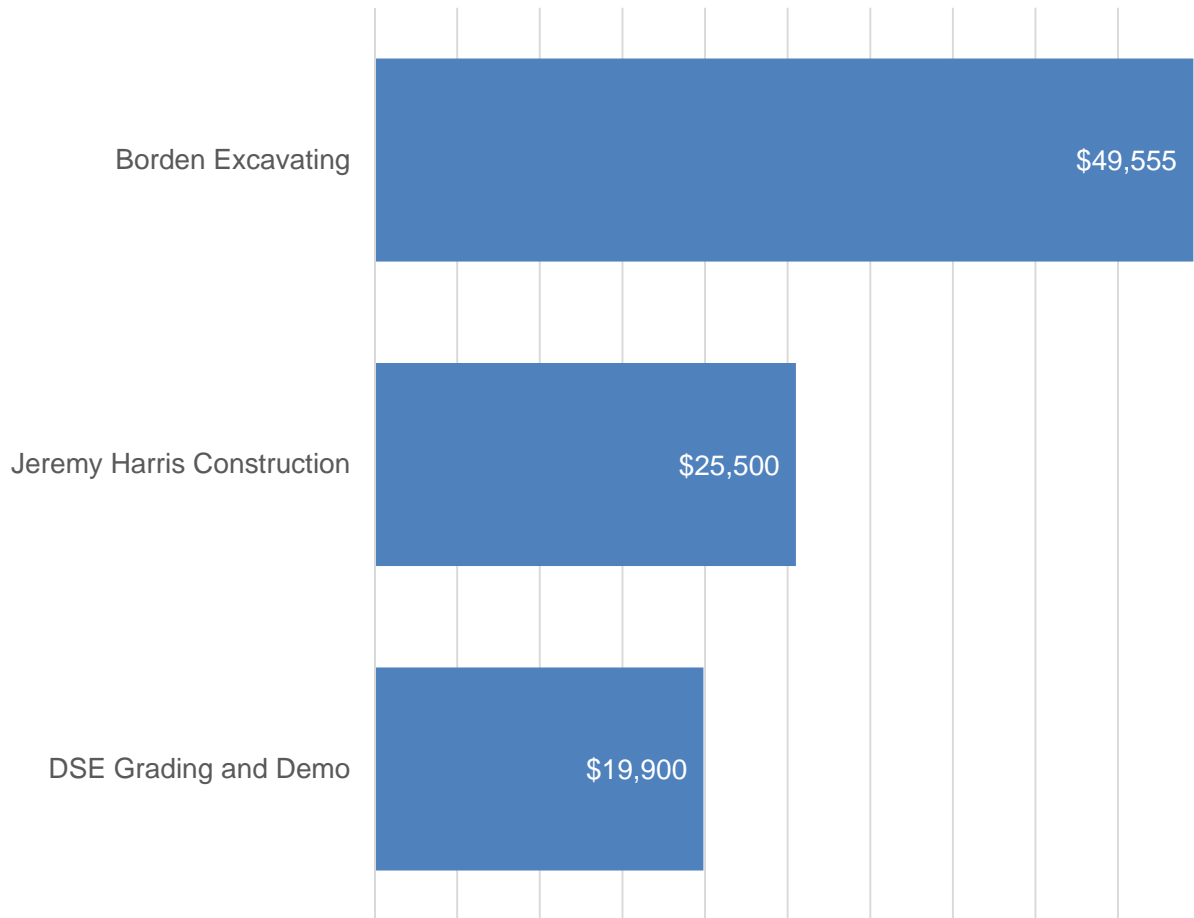


The District staff has completed the Request for Proposals (RFP) to demolish the structure on the property. The well site located to the north of the building will remain as a monitoring well, to be surrounded by a 6' tubular steel fence. This well site is important to meet our groundwater monitoring and management obligations pursuant to the recently enacted Sustainable Groundwater Management Act (<http://groundwater.ca.gov/>).



The District received three bids for the demolition of the structures at this site:

- Dusting Smith Equipment as DSE Grading and Demo - \$19,900
- Jeremy Harris Construction - \$25,500
- Borden Excavating - \$49,555



Yucaipa Valley Water District  
Demolition of Structures at 35192 Cedar Avenue, Yucaipa

Page 20 of 60

The undersigned bidder hereby proposes to furnish all labor, materials, equipment, tools, methods, and services necessary to perform all work proposed herein and the undersigned also acknowledges that all bid prices include sales tax and all other applicable taxes and fees, including any amounts payable by the District for taxes which may result from this proposal.

Said bidder fully understands the scope of the work and has checked carefully all words and figures inserted in the Bid and he/she further understands that the Owner will in no way be responsible for any errors or omissions in the preparation of this Bid.

The undersigned is licensed in accordance with the Laws of the State of California:

License: Corp Number: 893161 Class: A

Said bidder further agrees to complete all work required under the contract within the time stipulated in the Contract Completion Schedule set forth below, and to accept in full payment therefore the price as follows:

**Demolition of Structures Located at 35192 Cedar Avenue, Yucaipa**

Total Bid in Figures: \$ 19,900.<sup>00</sup>

Total Bid in Words: NINETEEN THOUSAND NINE HUNDRED -

The Contract Work shall be complete within 20 working days after date of Notice to Proceed.

Dated: 1/19/2016

MARK KOPPELHNER - PROJECT ESTIMATOR  
(Bidder - Print Name / Title)



(Signature)

Contractor Name: DUSTIN SMITH EQUIPMENT, INC.

Address: 22421 BARTON RD # 508

Contact Name: MARK KOPPELHNER

Contact Phone: 951 679-719

Contact Email: MARK.EDSEEDING.COM

Yucaipa Valley Water District  
Demolition of Structures at 35192 Cedar Avenue, Yucaipa

Page 20 of 60

The undersigned bidder hereby proposes to furnish all labor, materials, equipment, tools, methods, and services necessary to perform all work proposed herein and the undersigned also acknowledges that all bid prices include sales tax and all other applicable taxes and fees, including any amounts payable by the District for taxes which may result from this proposal.

Said bidder fully understands the scope of the work and has checked carefully all words and figures inserted in the Bid and he/she further understands that the Owner will in no way be responsible for any errors or omissions in the preparation of this Bid.

The undersigned is licensed in accordance with the Laws of the State of California:

License: CSLB Number: 924979 Class: A

Said bidder further agrees to complete all work required under the contract within the time stipulated in the Contract Completion Schedule set forth below, and to accept in full payment therefore the price as follows:

**Demolition of Structures Located at 35192 Cedar Avenue, Yucaipa**

Total Bid in Figures: \$ 25,500.00

Total Bid in Words: Twenty Five Thousand, Five Hundred Dollars

The Contract Work shall be complete within 20 working days after date of Notice to Proceed.

Dated: 1-19-2016

Jeremy Harris / President  
(Bidder - Print Name / Title)

*Jeremy Harris*  
(Signature)

Contractor Name: Jeremy Harris Construction, Inc.

Address: 19466 Lurin Avenue; Riverside, CA 92508

Contact Name: Jeremy Harris

Contact Phone: 909-234-8264

Contact Email: info@jhcinc.net

**RECEIVED**  
**JAN 20 2016**  
**YUCAIPA VALLEY**  
**WATER DISTRICT**

Yucaipa Valley Water District  
Demolition of Structures at 35192 Cedar Avenue, Yucaipa

Page 20 of 60

The undersigned bidder hereby proposes to furnish all labor, materials, equipment, tools, methods, and services necessary to perform all work proposed herein and the undersigned also acknowledges that all bid prices include sales tax and all other applicable taxes and fees, including any amounts payable by the District for taxes which may result from this proposal.

Said bidder fully understands the scope of the work and has checked carefully all words and figures inserted in the Bid and he/she further understands that the Owner will in no way be responsible for any errors or omissions in the preparation of this Bid.

The undersigned is licensed in accordance with the Laws of the State of California:

License: General Number: 741879 Class: A

Said bidder further agrees to complete all work required under the contract within the time stipulated in the Contract Completion Schedule set forth below, and to accept in full payment therefore the price as follows:

**Demolition of Structures Located at 35192 Cedar Avenue, Yucaipa**

Total Bid in Figures: \$ 49,555.00

Total Bid in Words: Fourty Nine Thousand Five Hundred Fifty Five Dollars and No Cents

The Contract Work shall be complete within 20 working days after date of Notice to Proceed.

Dated: 1/12/2016

Borden Excavating, Inc. Shaun Borden / President  
(Bidder - Print Name / Title)

  
(Signature)

Contractor Name: Borden Excavating, Inc.

Address: 1014 Second Street Calimesa, CA. 92320

Contact Name: Shaun Borden

Contact Phone: 951-543-5856

Contact Email: Shaun@BEI.bid



Date: January 26, 2016

Subject: Overview of Procurement Methodologies and Emergency Procedures

As discussed at the regular board meeting on January 20, 2016 [Director Memorandum No. 16-011], the District staff has implemented a new procurement system that has been used to solicit bids for the demolition of the Cedar Avenue facilities [Workshop Memorandum No. 16-019]. This system will be used by the Public Works Department for the solicitation of paving costs associated with District construction projects.

The screenshot shows the website interface for the Yucaipa Valley Water District. The header includes the district logo and name, along with a search bar. A navigation menu is located below the header. The main content area is titled 'Request For Proposals' and features a table with the following data:

RFP NUMBER	TITLE	STARTING	CLOSING	STATUS
151201	<a href="#">Demolition of Cedar Avenue Structures</a>	12/16/2015 5:00 PM	01/20/2016 2:00 PM	Open

Below the table, there is a text block inviting interested parties to register for email notifications, followed by a 'Receive RFPs by Email' button.

Over the past twenty years, the Board of Directors and the District staff responded to three significant emergency facility repairs that were beyond the capability of the District staff to repair in an efficient and effective manner. Two of the emergencies involved sewer force mainline failures near Lift Station No. 1, and the third involved the sewer bridge south of Interstate 10. While these issues do not occur on a regular basis, the Board of Directors requested the preparation of a policy that outlines the process and procedure used to respond to emergency situations. The attached resolution has been prepared as a draft document for discussion by the Board of Directors.



## **DRAFT RESOLUTION**

### **RESOLUTION NO. 2016-0x**

#### **RESOLUTION OF THE YUCAIPA VALLEY WATER DISTRICT ADOPTING EXCEPTIONS TO STANDARD PROCUREMENT PRACTICES TO AVOID POTENTIAL EMERGENCIES AND TO RESPOND TO EMERGENCY SITUATIONS**

**Whereas**, the Yucaipa Valley Water District maintains and operates drinking water, sewer, recycled water and brineline related infrastructure that is necessary to protect public health, safety and property in the region; and

**Whereas**, the Yucaipa Valley Water District Board of Directors recognize that there will be times when the District staff must use vendors, contractors and consultants to meet the needs of emergency situations for the immediate supplies, services, or construction that otherwise cannot be met through traditional procurement methods.

**NOW, THEREFORE, BE IT HEREBY RESOLVED AND ORDERED**, that the Board of Directors of the Yucaipa Valley Water District hereby adopts the following process for the procurement of services in advance of a disaster or in response to an emergency situation.

#### **Emergency Procurement - Award of a Contract without Competition**

An emergency procurement involves a specialized situation or event whereby the District staff, through the General Manager or his/her designee, is pre-authorized to procure services, supplies or construction repairs without the use of a competitive procurement process.

An emergency procurement may only be used when circumstances create potential harm or risk of harm to public health, welfare, safety, or property. Circumstances that may create harm or risk to health, welfare, safety, or property are defined by the General Manager and include, but are not limited to:

- A. Damage or potential damage to a facility or infrastructure resulting from flood, fire, earthquake, storm, explosion or other conditions;
- B. Failure or potential failure of a public building, equipment, road, bridge, utility, pipeline, reservoir, pump/lift station, treatment plant, treatment process, or similar situation that may impact an ancillary service provider to the District;

- C. Terrorist activity;
- D. Epidemics;
- E. Civil unrest;
- F. Events that impair the ability of the District to function or perform required services;
- G. Situations that may cause harm or injury to life or property; or
- H. Other conditions as determined by the General Manager.

Emergency procurements are those procurements necessary to mitigate an emergency situation or the reasonable potential of an emergency.

While a standard procurement process is not required under an emergency procurement, when practicable, the District should seek to obtain as much competition as possible through use of phone quotes, Internet quotes, limited invitations to bid, or other selection methods while avoiding harm, or risk of harm, to the public health, safety, welfare, property, or impairing the ability of a public entity to function or perform required services.

The District staff shall provide information about the emergency procurement of supplies, services or construction activity in the form of a written memorandum or presentation at a publicly noticed board meeting or board workshop.

PASSED, APPROVED and ADOPTED this \_\_\_ day of February 2016.

YUCAIPA VALLEY WATER DISTRICT

ATTEST:

\_\_\_\_\_  
Lonni Granlund, President Board of Directors

\_\_\_\_\_  
Joseph B. Zoba, General Manager

# Director Comments



Yucaipa Valley Water District



## FACTS ABOUT THE YUCAIPA VALLEY WATER DISTRICT

**Service Area Size:** 40 square miles (sphere of influence is 68 square miles)

**Elevation Change:** 3,140 foot elevation change (from 2,044 to 5,184 feet)

**Number of Employees:** 5 elected board members  
57 full time employees

**Operating Budget:** Water Division - \$13,072,750  
Sewer Division - \$11,689,000  
Recycled Water Division - \$433,500  
Total Annual Budget - \$25,195,250

**Number of Services:** 12,206 water connections serving 16,843 units  
13,492 sewer connections serving 20,312 units  
62 recycled water connections

**Water System:** 215 miles of drinking water pipelines  
27 reservoirs - 34 million gallons of storage capacity  
18 pressure zones  
12,000 ac-ft annual water demand (3.9 billion gallons)  
Two water filtration facilities:  
- 1 mgd at Oak Glen Surface Water Filtration Facility  
- 12 mgd at Yucaipa Valley Regional Water Filtration Facility

**Sewer System:** 8.0 million gallon treatment capacity - current flow at 4.0 mgd  
205 miles of sewer mainlines  
5 sewer lift stations  
4,500 ac-ft annual recycled water prod. (1.46 billion gallons)

**Recycled Water:** 22 miles of recycled water pipelines  
5 reservoirs - 12 million gallons of storage  
1,200 ac-ft annual recycled demand (0.4 billion gallons)

**Brine Disposal:** 2.2 million gallon desalination facility at sewer treatment plant  
1.108 million gallons of Inland Empire Brine Line capacity  
0.295 million gallons of treatment capacity in Orange County



## THE MEASUREMENT OF WATER PURITY

**One part per hundred** is generally represented by the percent (%).

This is equivalent to about fifteen minutes out of one day.

**One part per thousand** denotes one part per 1000 parts.

This is equivalent to about one and a half minutes out of one day.

**One part per million (ppm)** denotes one part per 1,000,000 parts.

This is equivalent to about 32 seconds out of a year.

**One part per billion (ppb)** denotes one part per 1,000,000,000 parts.

This is equivalent to about three seconds out of a century.

**One part per trillion (ppt)** denotes one part per 1,000,000,000,000 parts.

This is equivalent to about three seconds out of every hundred thousand years.

**One part per quadrillion (ppq)** denotes one part per 1,000,000,000,000,000 parts.

This is equivalent to about two and a half minutes out of the age of the Earth (4.5 billion years).





## GLOSSARY OF COMMONLY USED TERMS

Every profession has specialized terms which generally evolve to facilitate communication between individuals. The routine use of these terms tends to exclude those who are unfamiliar with the particular specialized language of the group. Sometimes jargon can create communication cause difficulties where professionals in related fields use different terms for the same phenomena.

Below are commonly used water terms and abbreviations with commonly used definitions. If there is any discrepancy in definitions, the District's Regulations Governing Water Service is the final and binding definition.

**Acre Foot of Water** - The volume of water (325,850 gallons, or 43,560 cubic feet) that would cover an area of one acre to a depth of 1 foot.

**Activated Sludge Process** – A secondary biological sewer treatment process where bacteria reproduce at a high rate with the introduction of excess air or oxygen, and consume dissolved nutrients in the wastewater.

**Annual Water Quality Report** - The document is prepared annually and provides information on water quality, constituents in the water, compliance with drinking water standards and educational material on tap water. It is also referred to as a Consumer Confidence Report (CCR).

**Aquifer** - The natural underground area with layers of porous, water-bearing materials (sand, gravel) capable of yielding a supply of water; see Groundwater basin.

**Backflow** - The reversal of water's normal direction of flow. When water passes through a water meter into a home or business it should not reverse flow back into the water mainline.

**Best Management Practices (BMPs)** - Methods or techniques found to be the most effective and practical means in achieving an objective. Often used in the context of water conservation.

**Biochemical Oxygen Demand (BOD)** – The amount of oxygen used when organic matter undergoes decomposition by microorganisms. Testing for BOD is done to assess the amount of organic matter in water.

**Biosolids** – Biosolids are nutrient rich organic and highly treated solid materials produced by the sewer treatment process. This high-quality product can be used as a soil amendment on farm land or further processed as an earth-like product for commercial and home gardens to improve and maintain fertile soil and stimulate plant growth.

**Catch Basin** – A chamber usually built at the curb line of a street, which conveys surface water for discharge into a storm sewer.

**Capital Improvement Program (CIP)** – Projects for repair, rehabilitation, and replacement of assets. Also includes treatment improvements, additional capacity, and projects for the support facilities.

**Collector Sewer** – The first element of a wastewater collection system used to collect and carry wastewater from one or more building sewer laterals to a main sewer.

**Coliform Bacteria** – A group of bacteria found in the intestines of humans and other animals, but also occasionally found elsewhere and is generally used as an indicator of sewage pollution.

**Combined Sewer Overflow** – The portion of flow from a combined sewer system, which discharges into a water body from an outfall located upstream of a wastewater treatment plant, usually during wet weather conditions.

**Combined Sewer System**– Generally older sewer systems designed to convey both sewage and storm water into one pipe to a wastewater treatment plant.



**Conjunctive Use** - The coordinated management of surface water and groundwater supplies to maximize the yield of the overall water resource. Active conjunctive use uses artificial recharge, where surface water is intentionally percolated or injected into aquifers for later use. Passive conjunctive use is to simply rely on surface water in wet years and use groundwater in dry years.

**Consumer Confidence Report (CCR)** - see Annual Water Quality Report.

**Cross-Connection** - The actual or potential connection between a potable water supply and a non-potable source, where it is possible for a contaminant to enter the drinking water supply.

**Disinfection By-Products (DBPs)** - The category of compounds formed when disinfectants in water systems react with natural organic matter present in the source water supplies. Different disinfectants produce different types or amounts of disinfection byproducts. Disinfection byproducts for which regulations have been established have been identified in drinking water, including trihalomethanes, haloacetic acids, bromate, and chlorite

**Drought** - a period of below average rainfall causing water supply shortages.

**Dry Weather Flow** – Flow in a sanitary sewer during periods of dry weather in which the sanitary sewer is under minimum influence of inflow and infiltration.

**Fire Flow** - The ability to have a sufficient quantity of water available to the distribution system to be delivered through fire hydrants or private fire sprinkler systems.

**Gallons per Capita per Day (GPCD)** - A measurement of the average number of gallons of water use by the number of people served each day in a water system. The calculation is made by dividing the total gallons of water used each day by the total number of people using the water system.

**Groundwater Basin** - An underground body of water or aquifer defined by physical boundaries.

**Groundwater Recharge** - The process of placing water in an aquifer. Can be a naturally occurring process or artificially enhanced.

**Hard Water** - Water having a high concentration of minerals, typically calcium and magnesium ions.

**Hydrologic Cycle** - The process of evaporation of water into the air and its return to earth in the form of precipitation (rain or snow). This process also includes transpiration from plants, percolation into the ground, groundwater movement, and runoff into rivers, streams and the ocean; see Water cycle.

**Infiltration** – Water other than sewage that enters a sewer system and/or building laterals from the ground through defective pipes, pipe joints, connections, or manholes. Infiltration does not include inflow. See *Inflow*.

**Inflow** - Water other than sewage that enters a sewer system and building sewer from sources such as roof vents, yard drains, area drains, foundation drains, drains from springs and swampy areas, manhole covers, cross connections between storm drains and sanitary sewers, catch basins, cooling towers, storm waters, surface runoff, street wash waters, or drainage. Inflow does not include infiltration. See *Infiltration*.

**Inflow / Infiltration (I/I)** – The total quantity of water from both inflow and infiltration.

**Mains, Distribution** - A network of pipelines that delivers water (drinking water or recycled water) from transmission mains to residential and commercial properties, usually pipe diameters of 4" to 16".

**Mains, Transmission** - A system of pipelines that deliver water (drinking water or recycled water) from a source of supply the distribution mains, usually pipe diameters of greater than 16".

**Meter** - A device capable of measuring, in either gallons or cubic feet, a quantity of water delivered by the District to a service connection.

**Overdraft** - The pumping of water from a groundwater basin or aquifer in excess of the supply flowing into the basin. This pumping results in a depletion of the groundwater in the basin which has a net effect of lowering the levels of water in the aquifer.

**Peak Flow** – The maximum flow that occurs over a specific length of time (e.g., daily, hourly, instantaneously).

**Pipeline** - Connected piping that carries water, oil or other liquids. See Mains, Distribution and Mains, Transmission.

**Point of Responsibility, Metered Service** - The connection point at the outlet side of a water meter where a landowner's responsibility for all conditions, maintenance, repairs, use and replacement of water service facilities begins, and the District's responsibility ends.

**Potable Water** - Water that is used for human consumption and regulated by the California Department of Public Health.

**Pressure Reducing Valve** - A device used to reduce the pressure in a domestic water system when the water pressure exceeds desirable levels.

**Pump Station** - A drinking water or recycled water facility where pumps are used to push water up to a higher elevation or different location.

**Reservoir** - A water storage facility where water is stored to be used at a later time for peak demands or emergencies such as fire suppression. Drinking water and recycled water systems will typically use concrete or steel reservoirs. The State Water Project system considers lakes, such as Shasta Lake and Folsom Lake to be water storage reservoirs.

**Runoff** - Water that travels downward over the earth's surface due to the force of gravity. It includes water running in streams as well as over land.

**Sanitary Sewer System** - Sewer collection system designed to carry sewage, consisting of domestic, commercial, and industrial wastewater. This type of system is not designed nor intended to carry water from rainfall, snowmelt, or groundwater sources. See *Combined Sewer System*.

**Sanitary Sewer Overflow** – Overflow from a sanitary sewer system caused when total wastewater flow exceeds the capacity of the system. See *Combined Sewer Overflow*.

**Santa Ana River Interceptor (SARI) Line** – A regional brine line designed to convey 30 million gallons per day of non-reclaimable wastewater from the upper Santa Ana River basin to the sewer treatment plant operated by Orange County Sanitation District.

**Secondary Treatment** – Biological sewer treatment, particularly the activated-sludge process, where bacteria and other microorganisms consume dissolved nutrients in wastewater.

**Supervisory Control and Data Acquisition (SCADA)** - A computerized system which provides the ability to remotely monitor and control water system facilities such as reservoirs, pumps and other elements of water delivery.

**Service Connection** - The water piping system connecting a customer's system with a District water main beginning at the outlet side of the point of responsibility, including all plumbing and equipment located on a parcel required for the District's provision of water service to that parcel.

**Sludge** – Untreated solid material created by the treatment of sewage.

**Smart Irrigation Controller** - A device that automatically adjusts the time and frequency which water is applied to landscaping based on real-time weather such as rainfall, wind, temperature and humidity.

**Special District** - A political subdivision of a state established to provide a public services, such as water supply or sanitation, within a specific geographic area.

**Surface Water** - Water found in lakes, streams, rivers, oceans or reservoirs behind dams.

**Total Suspended Solids (TSS)** – The amount of solids floating and in suspension in water or sewage.

**Transpiration** - The process by which water vapor is released into the atmosphere by living plants.

**Trickling Filter** – A biological secondary treatment process in which bacteria and other microorganisms, growing as slime on the surface of rocks or plastic media, consume nutrients in primary treated sewage as it trickles over them.

**Underground Service Alert (USA)** - A free service that notifies utilities such as water, telephone, cable and sewer companies of pending excavations within the area (dial 8-1-1 at least 2 working days before you dig).

**Urban Runoff** - Water from city streets and domestic properties that typically carries pollutants into the storm drains, rivers, lakes, and oceans.

**Valve** - A device that regulates, directs or controls the flow of water by opening, closing or partially obstructing various passageways.

**Wastewater** – Any water that enters the sanitary sewer.

**Water Banking** - The practice of actively storing or exchanging in-lieu surface water supplies in available groundwater basin storage space for later extraction and use by the storing party or for sale or exchange to a third party. Water may be banked as an independent operation or as part of a conjunctive use program.

**Water cycle** - The continuous movement water from the earth's surface to the atmosphere and back again; see Hydrologic cycle.

**Water Pressure** - Pressure created by the weight and elevation of water and/or generated by pumps that deliver water to the tap.

**Water Service Line** - The pipeline that delivers potable water to a residence or business from the District's water system. Typically the water service line is a 1" to 1½" diameter pipe for residential properties.

**Watershed** - A region or land area that contributes to the drainage or catchment area above a specific point on a stream or river.

**Water Table** - The upper surface of the zone of saturation of groundwater in an unconfined aquifer.

**Water Transfer** - A transaction, in which a holder of a water right or entitlement voluntarily sells/exchanges to a willing buyer the right to use all or a portion of the water under that water right or entitlement.

**Water Well** - A hole drilled into the ground to tap an underground water aquifer.

**Wetlands** - Lands which are fully saturated or under water at least part of the year, like seasonal vernal pools or swamps.

**Wet Weather Flow** – Dry weather flow combined with stormwater introduced into a combined sewer system, and dry weather flow combined with infiltration/inflow into a separate sewer system.





## COMMONLY USED ABBREVIATIONS

<b>AQMD</b>	Air Quality Management District
<b>BOD</b>	Biochemical Oxygen Demand
<b>CARB</b>	California Air Resources Board
<b>CCTV</b>	Closed Circuit Television
<b>CWA</b>	Clean Water Act
<b>EIR</b>	Environmental Impact Report
<b>EPA</b>	U.S. Environmental Protection Agency
<b>FOG</b>	Fats, Oils, and Grease
<b>GPD</b>	Gallons per day
<b>MGD</b>	Million gallons per day
<b>O &amp; M</b>	Operations and Maintenance
<b>OSHA</b>	Occupational Safety and Health Administration
<b>POTW</b>	Publicly Owned Treatment Works
<b>PPM</b>	Parts per million
<b>RWQCB</b>	Regional Water Quality Control Board
<b>SARI</b>	Santa Ana River Inceptor
<b>SAWPA</b>	Santa Ana Watershed Project Authority
<b>SBVMWD</b>	San Bernardino Valley Municipal Water District
<b>SCADA</b>	Supervisory Control and Data Acquisition system
<b>SSMP</b>	Sanitary Sewer Management Plan
<b>SSO</b>	Sanitary Sewer Overflow
<b>SWRCB</b>	State Water Resources Control Board
<b>TDS</b>	Total Dissolved Solids
<b>TMDL</b>	Total Maximum Daily Load
<b>TSS</b>	Total Suspended Solids
<b>WDR</b>	Waste Discharge Requirements
<b>YVWD</b>	Yucaipa Valley Water District