Yucaipa Valley Water District

# Notice and Agenda of a Board Workshop

Tuesday, January 12, 2016 at 4:00 p.m.

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

**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. 16-001 - Page 5 of 279]

B. 2015 Update on the Determination of the Usable Capacity and Safe Yield for each Subbasin within the Yucaipa Basin Area [Workshop Memorandum No. 16-002 - Page 23 of 279]

C. Status Report on the Yucaipa Basin Investigation in Conjunction with the San Bernardino Valley Municipal Water District [Workshop Memorandum No. 16-003 - Page 36 of 279]

D. 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. 16-004 - Page 44 of 279]

E. Overview of a Draft Recycled Water Agreement Between Yucaipa Valley Water District and Western Heights Mutual Water Company [Workshop Memorandum No. 16-005 - Page 56 of 279]

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

**V. Operational Updates**

A. Overview of Operational Activities in Preparation and Response to the 2016 Winter Storm Events [Workshop Memorandum No. 16-006 - Page 64 of 279]

**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. 16-007 - Page 73 of 279]

B. Status Report on the Digester Cleaning and Cover Replacement Project at the Wochholz Regional Water Recycling Facility [Workshop Memorandum No. 16-008 - Page 77 of 279]

**VII. Administrative Issues**

A. Discussion Regarding a Disputed Invoice for the Installation of a New Water Service at 8290 Overview Court, Yucaipa - Mr. Ralph Monge [Workshop Memorandum No. 16-009 - Page 87 of 279]

B. Review of the Unaudited Financial Report for the Period Ending on December 31, 2015 [Workshop Memorandum No. 16-010 - Page 97 of 279]

C. Review of Updated Standard Specifications for Drinking Water, Recycled Water, and Sewer Facilities [Workshop Memorandum No. 16-011 - Page 129 of 279]

D. Groundwater and Surface Water Monitoring Related to the Yucaipa Valley Water District's Maximum Benefit Monitoring Program [Workshop Memorandum No. 16-012 - Page 262 of 279]

**VIII. Director Comments**

**IX. Adjournment**

# Staff Report

Yucaipa Valley Water District

# Presentations

Yucaipa Valley Water District

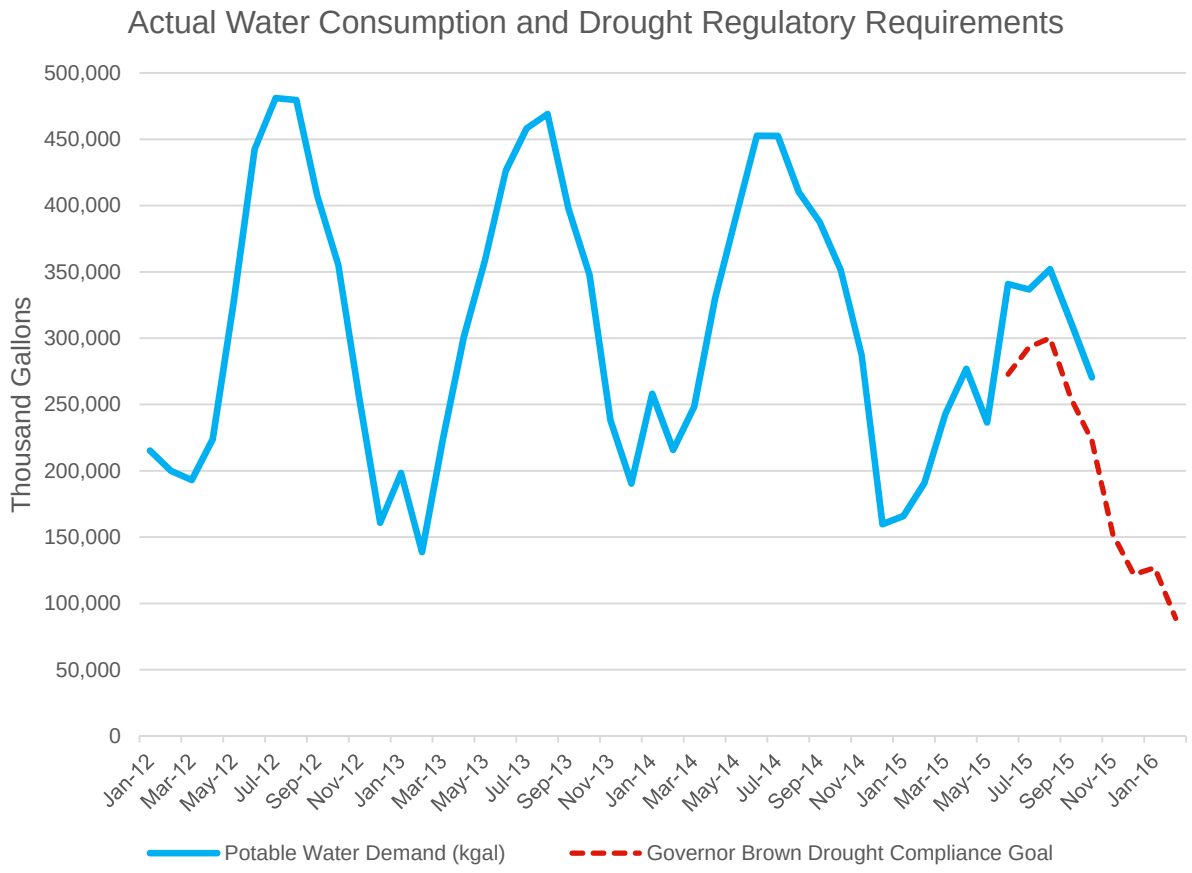
Yucaipa Valley Water District

# Workshop Memorandum 16-001

**Date:** **January 12, 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.



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.

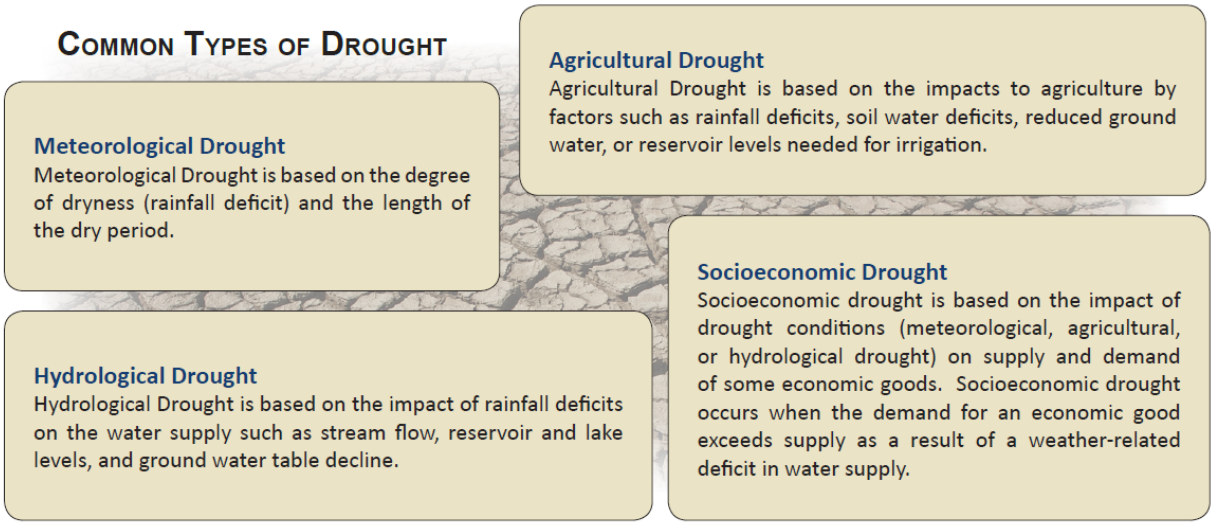
To achieve the 36% reduction, customers will need to immediately reduce the amount of water used for outdoor landscape purposes by 50% to 60%.

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

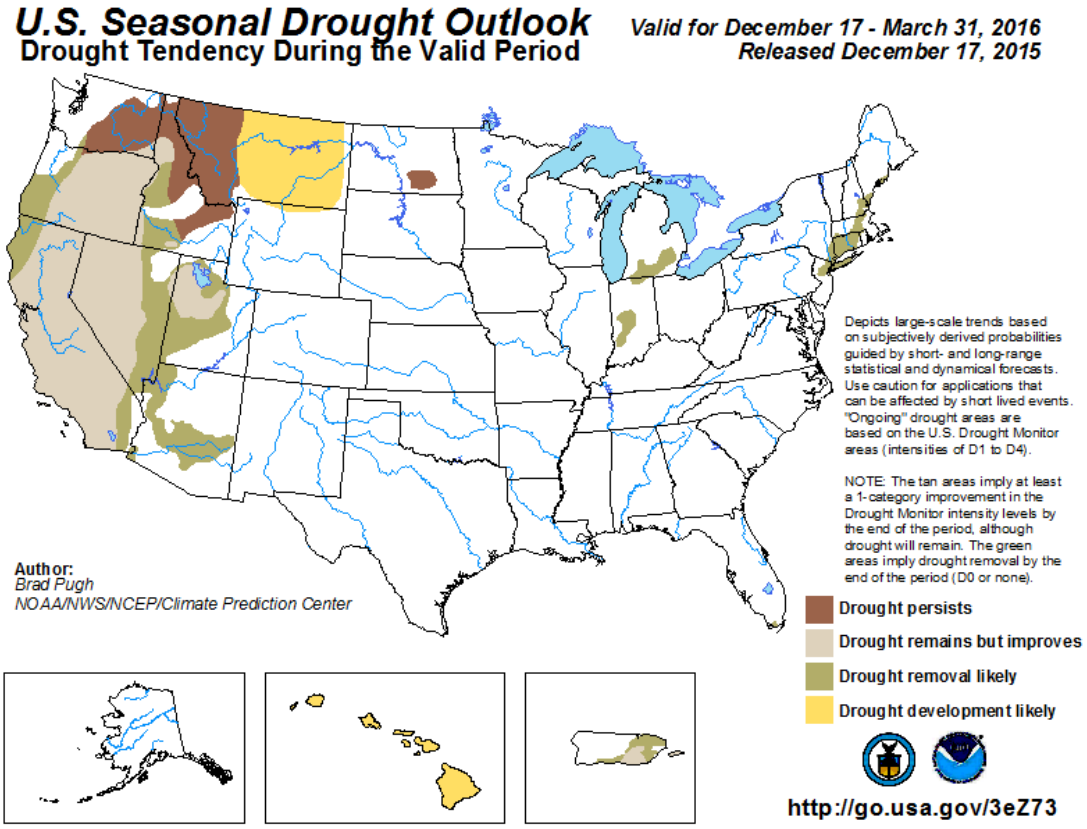
## Drought Status and Update

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.




**Additional information can be found at: www.drought.unl.edu/DroughtBasics/TypesofDrought.aspx**




**Latest Seasonal Assessment -** Since the previous outlook issued on November 19, drought improvement or removal occurred across the central/southern Great Plains, Mississippi Valley, and parts of the western U.S. The drought coverage across the continental U.S. is at its lowest since December 2010 and much of the existing drought is designated as long-term.

The drought outlook valid from December 17, 2015 through March 31, 2016 is based primarily on the ongoing El Niño, the CPC January-March (JFM) precipitation and temperature outlooks, precipitation forecasts during the remainder of December, recent precipitation anomalies, and climatology.

El Niño and a wet time of year favor improvement or removal of drought across California by the end of March 2016. The most likely area for removal exists across extreme northwest California due to abnormal wetness during early to mid-December and a continued wet pattern forecast during the remainder of the month. Effects from the multi-year California drought such as low reservoir levels may continue beyond the outlook period. The predicted longwave pattern during the remainder of December along with El Niño also favors improvement or removal of existing drought across the desert Southwest and Great Basin.

Improvement or removal of drought across Oregon and southwest Idaho is based mostly on the anomalous wetness during December, while persistence is more likely across northeast Idaho and western Montana. Development is forecast by the end of March across the Plains of eastern Montana due to increased chances of below-median precipitation and above-normal temperatures during JFM.

Most areas of the continental U.S. east of the Rockies are drought-free. The lingering areas of short-term drought across lower Michigan and Indiana are likely to be eliminated with a wet pattern during the next two weeks. Although below-median precipitation is favored during JFM across the Great Lakes region, drought is not expected to return by the end of March.

Meanwhile, the long-term drought across the Northeast is expected to end during the outlook period.

Although it is a drier time of year across Puerto Rico, rainfall is typically enhanced during El Niño winters. Therefore, removal or limited improvement is forecast for Puerto Rico.

El Niño increases chances for below-median precipitation during JFM across Hawaii, which favors drought development.

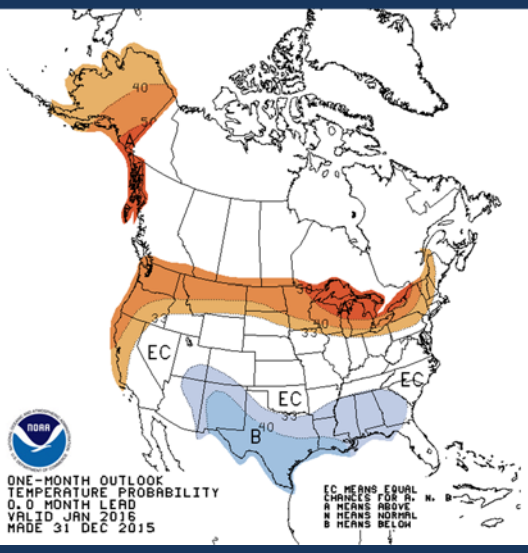
Forecaster: Brad Pugh

**Next Seasonal Drought Outlook issued: January 21, 2016 at 8:30 AM EST**

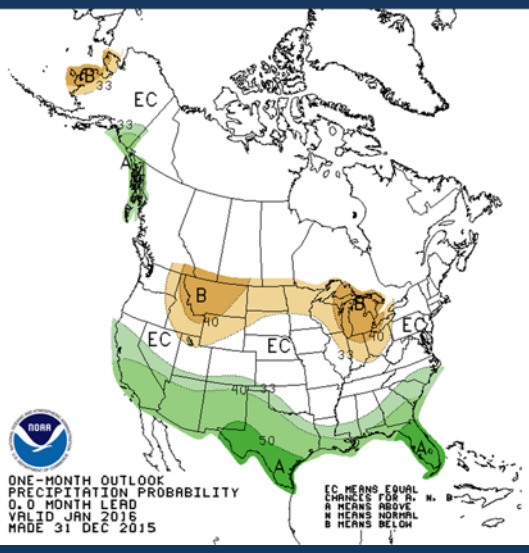
**Source:** http://www.cpc.ncep.noaa.gov/products/expert_assessment/sdo_summary.php

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.

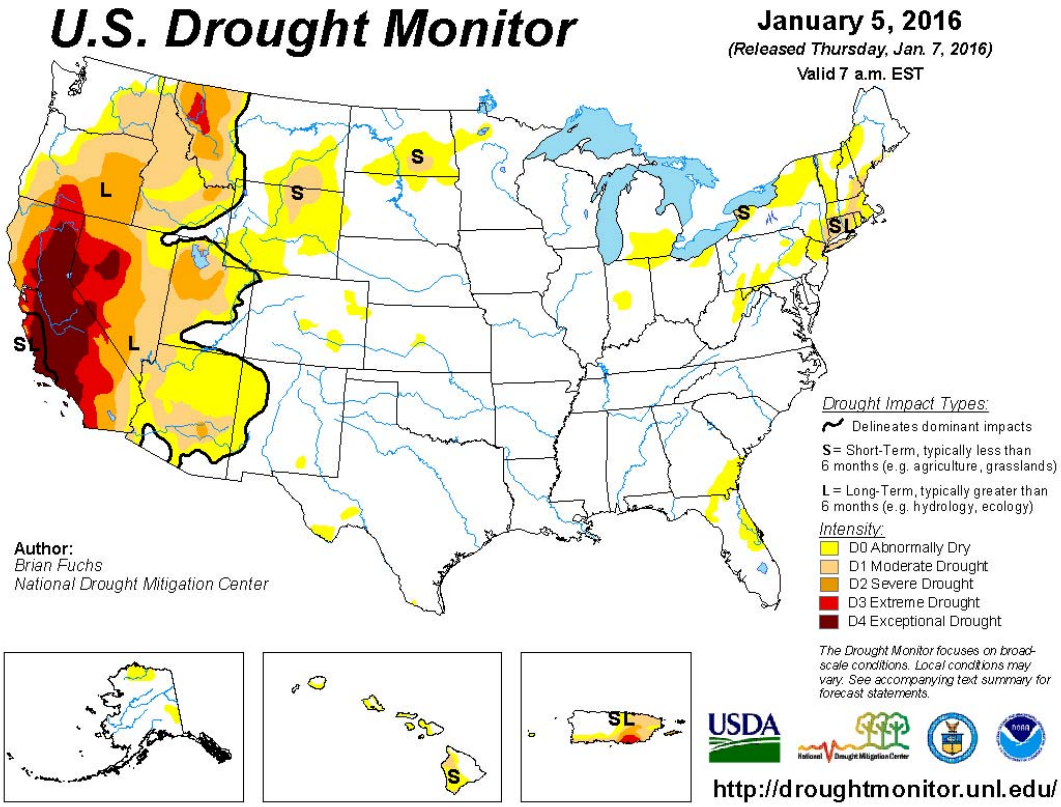
**Temperature Probability**
January 2016




**Precipitation Probability**
January 2016

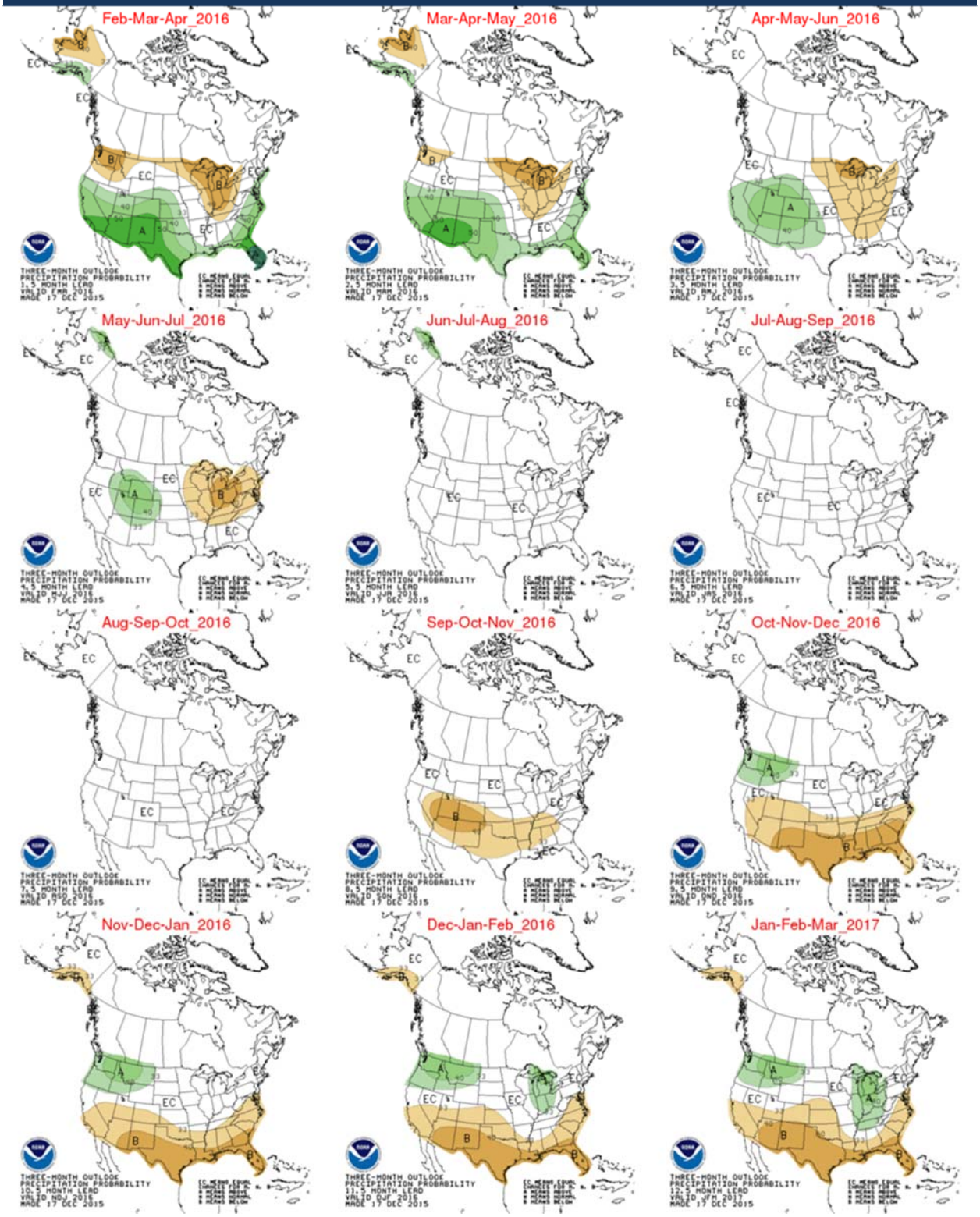



**United Stated Drought Monitor Illustration**



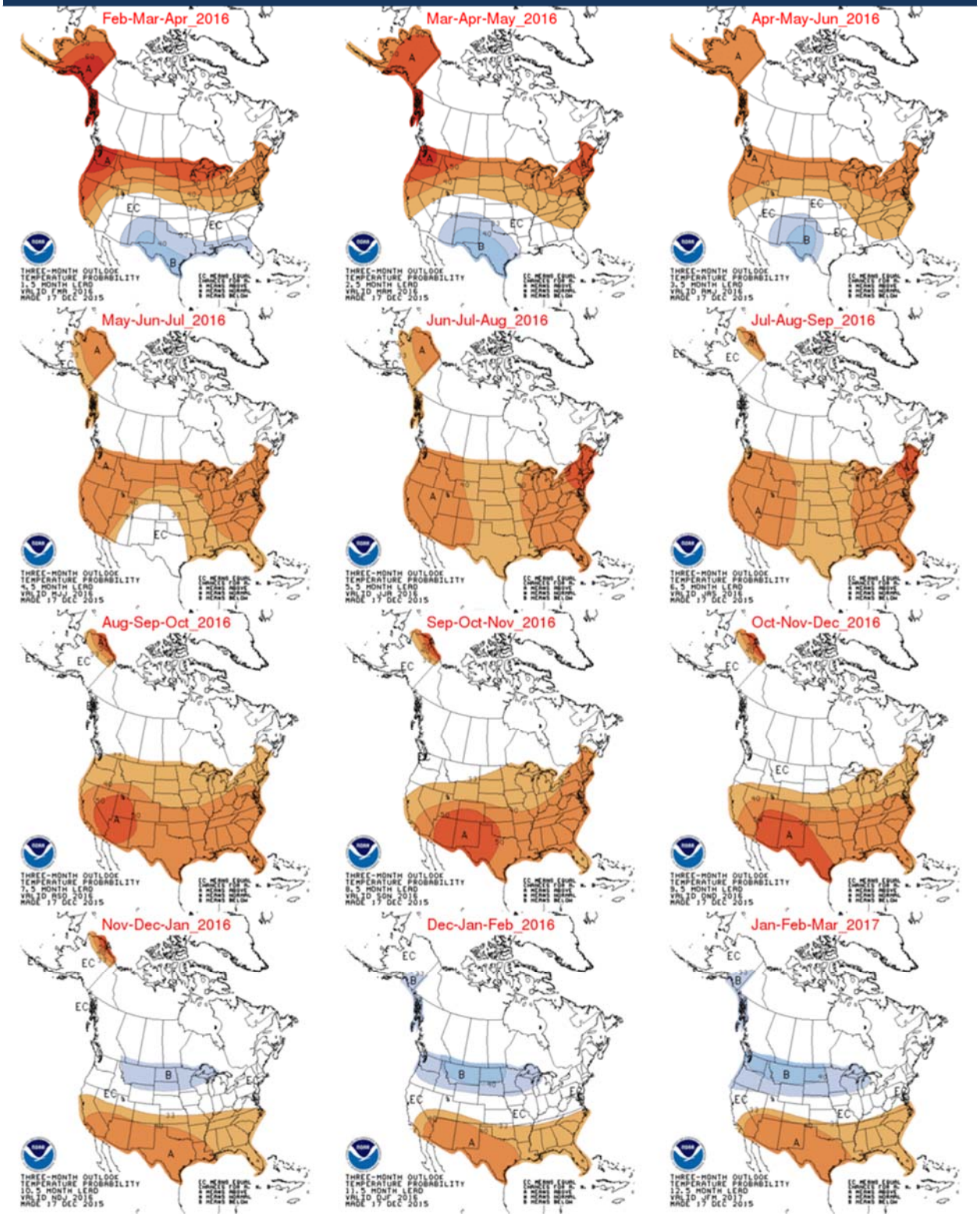
## NOAA Multi-Season Precipitation Predictions - Three Month, Rolling Periods

http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/p.gif



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

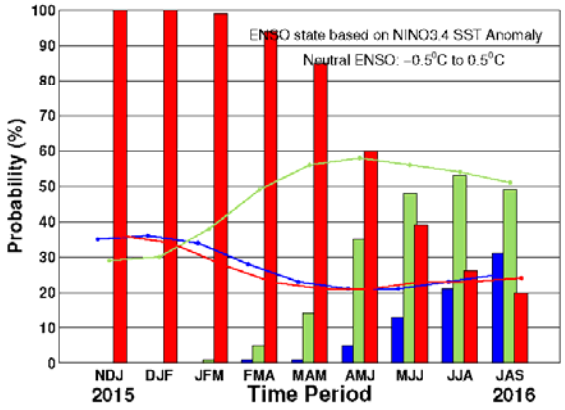
http://www.cpc.ncep.noaa.gov/products/predictions//multi_season/13_seasonal_outlooks/color/t.gif



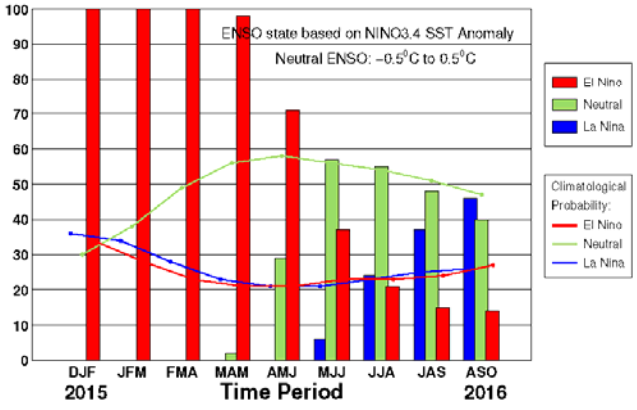
**ENSO** *QUICK LOOK* **December 17, 2015 A monthly summary of the status of El Niño, La Niña and the Southern Oscillation, or "ENSO",** based on NINO3.4 index (120-170W, 5S-5N)

During mid-December 2015 the tropical Pacific SST was at a strong El Niño level. 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 December-February 2015-16 season in progress. Further strengthening is possible, but unlikely, into mid-winter 2015-16, with the event slowly weakening during spring 2016.

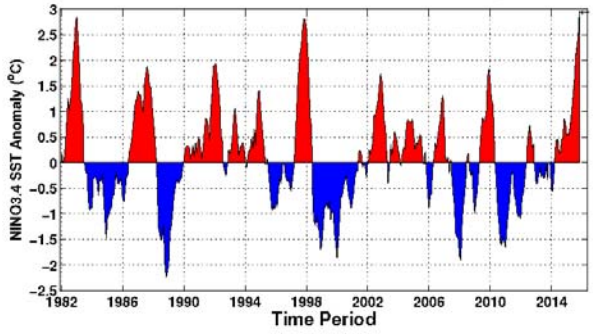
Early-Dec CPC/IRI Consensus Forecast[1]



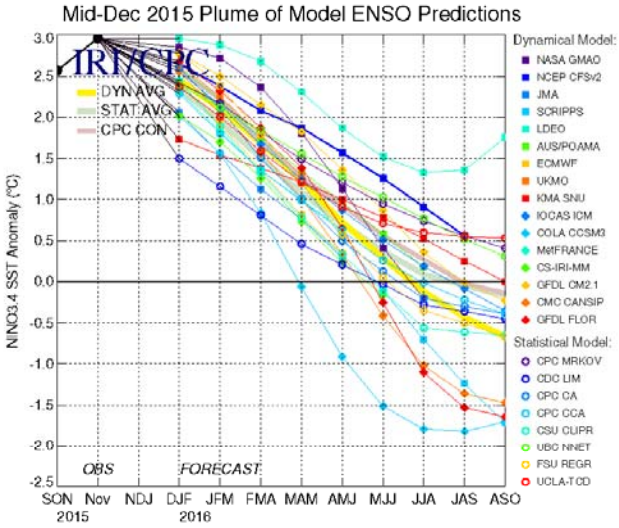

Mid-Dec IRI/CPC Plume-Based Forecast[2]




Historical NINO3.4 SST Anomaly



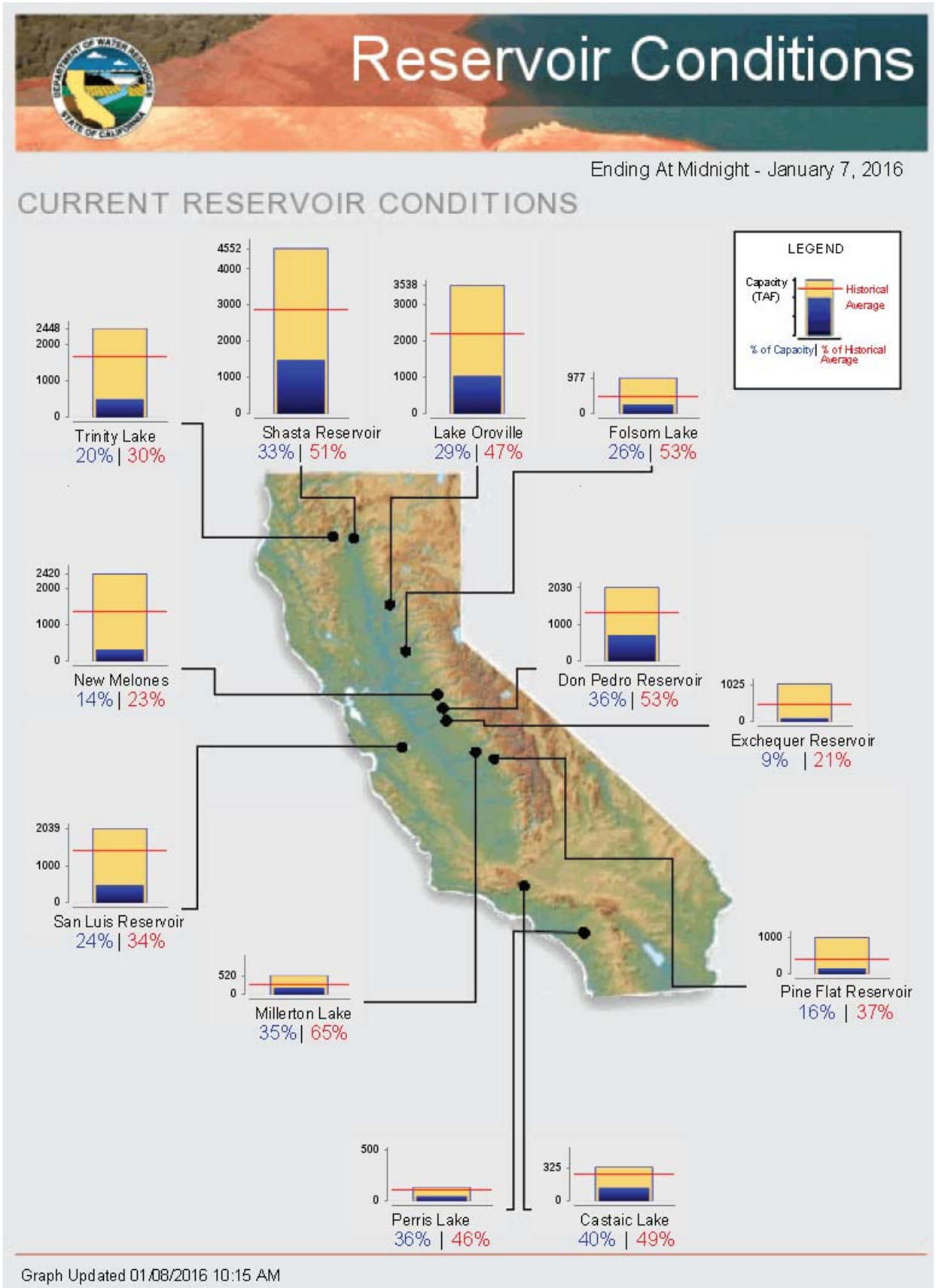

Mid-Dec 2015 Plume of Model ENSO Predictions




## 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*

[1]Based on a consensus of CPC and IRI forecasters, in association with the official CPC/IRI ENSO Diagnostic Discussion.
[2]Purely objective, based on regression, using equally weighted model predictions from the plume.


Reservoir Conditions
Ending At Midnight - January 7, 2016
CURRENT RESERVOIR CONDITIONS
LEGEND
Capacity (TAF)
Historical Average
% of Capacity | % of Historical Average
Trinity Lake
20% | 30%
Shasta Reservoir
33% | 51%
Lake Oroville
29% | 47%
Folsom Lake
26% | 53%
New Melones
14% | 23%
Don Pedro Reservoir
36% | 53%
Exchequer Reservoir
9% | 21%
San Luis Reservoir
24% | 34%
Millerton Lake
35% | 65%
Pine Flat Reservoir
16% | 37%
Perris Lake
36% | 46%
Castaic Lake
40% | 49%
Graph Updated 01/08/2016 10:15 AM

December 21, 2015

## 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**

**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% | |
| **Adjusted Conservation Requirement** | **28%** | |

### 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:

December 21, 2015

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 intuitional (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 |
| **Volume of water attributable to new residential connections = [4000*165*270] + [10,000,000 * 44 *0.55*0.623]** | **328,966,000** | gallons |
| | | |
| # of new commercial, industrial, and institutional connections since 2013 | 700 | |
| Average use per CII connection Feb-Oct 2015 | 900,000 | gallons |
| **Volume of water attributable to new CII connections = 700 * 900,000** | **630,000,000** | gallons |
| | | |
| **Total volume of water attributable to growth since 2013** | **958,966,000** | gallons |
| | | |
| **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

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.

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

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.[1]

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:

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

December 21, 2015

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 **by January 6, 2016.**

QUARTZ
India

NOMENCLATURE MATTERS

# India has decided that it won't have drought years anymore

India will no longer have drought years—at least on paper.

WRITTEN BY
Manu Balachandran
@MBalachandran88

January 08, 2016 | Quartz India

The Indian Meteorological Department (IMD), the country's 140-year-old public weather forecaster, on Jan. 07 announced that it is doing away with the word "drought", and will instead use "deficient year" and "large deficient year" to describe years when India receives poor rainfall.

For years, the met department had resorted to using the term "drought" to signify a year in which rainfall deficiency was more than 10%. When the deficit was between 20%-40%, it was called an "All-India Drought Year". And when the deficit was in excess of 40%, it was called an "All-India Severe Drought Year."

The calculations are made against a 50-year-old benchmarked index.

"Declaring droughts is in the domain of state governments and there are technicalities involved in it," Laxman Singh Rathore, director general of the IMD, told the DNA newspaper. "Our work is to monitor rainfall and its deficiency. The meteorological field is vast and we have our own way of defining droughts purely on the basis of rainfall deficiency."

The change in name comes at a time when the country is staring at a 14% deficit in the annual monsoon rainfall through 2015, which has affected more than 300 districts across India. The monsoon, which typically begins at the end of May and goes on till September, accounts for about 70% of India's annual rainfall.

2015 also marked the fourth time in over a century when India faced back-to-back drought years, with a rain shortfall of more than 10% in consecutive years. The last time the country faced a similar situation was between 1985 and 1987. So far, 10 state government have declared droughts, and the Narendra Modi government has sanctioned Rs10,000 crore to seven of these states.

"There is a lot of politics involved in declaring droughts," Rathore told the Mint newspaper. "Sometimes, rainfall can be good and crops bad or vice-versa."

Source: http://qz.com/589483/india-has-decided-that-it-wont-have-drought-years-anymore/

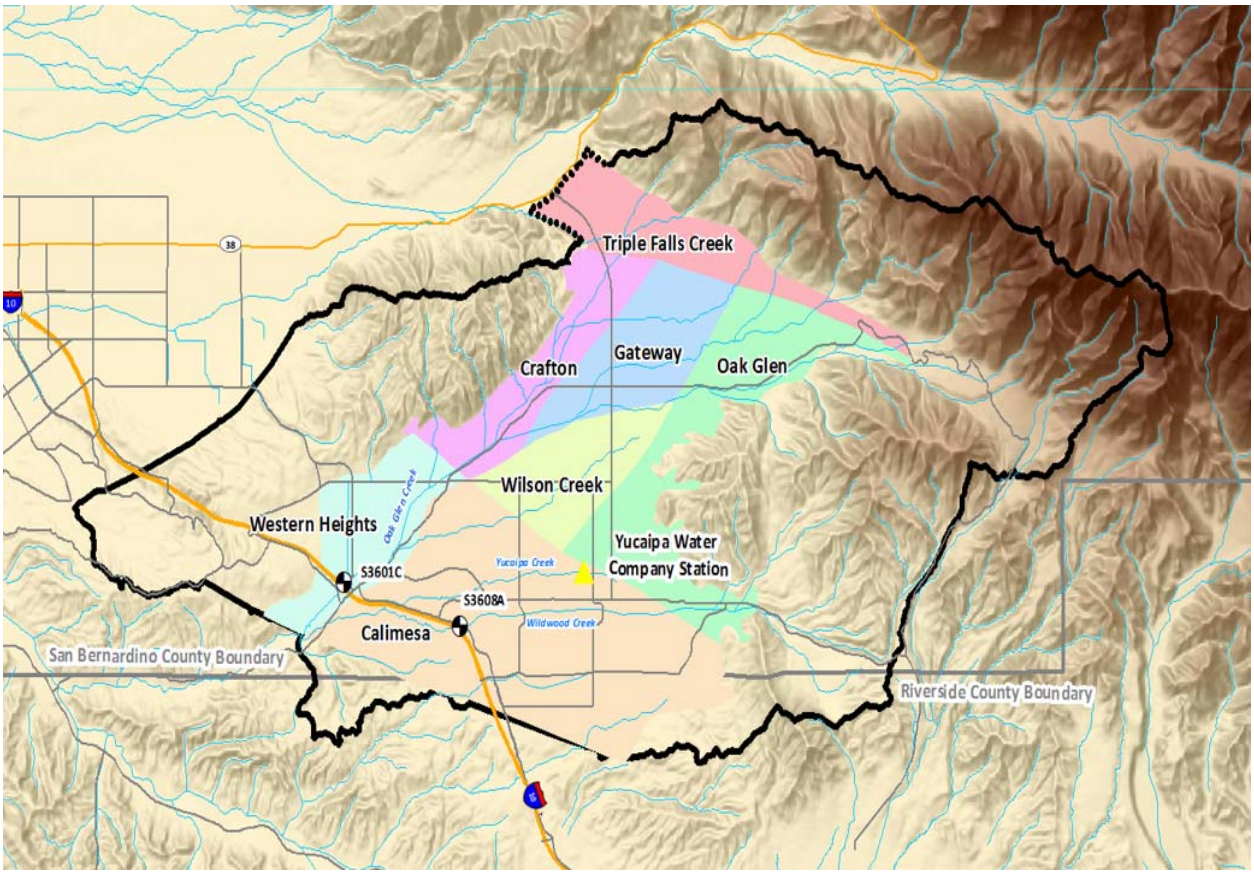
Yucaipa Valley Water District

# Workshop Memorandum 16-002

**Date:** **January 12, 2016**

**Subject:** **2015 Update on the Determination of the Usable Capacity and Safe Yield for each Subbasin within the Yucaipa Basin Area**

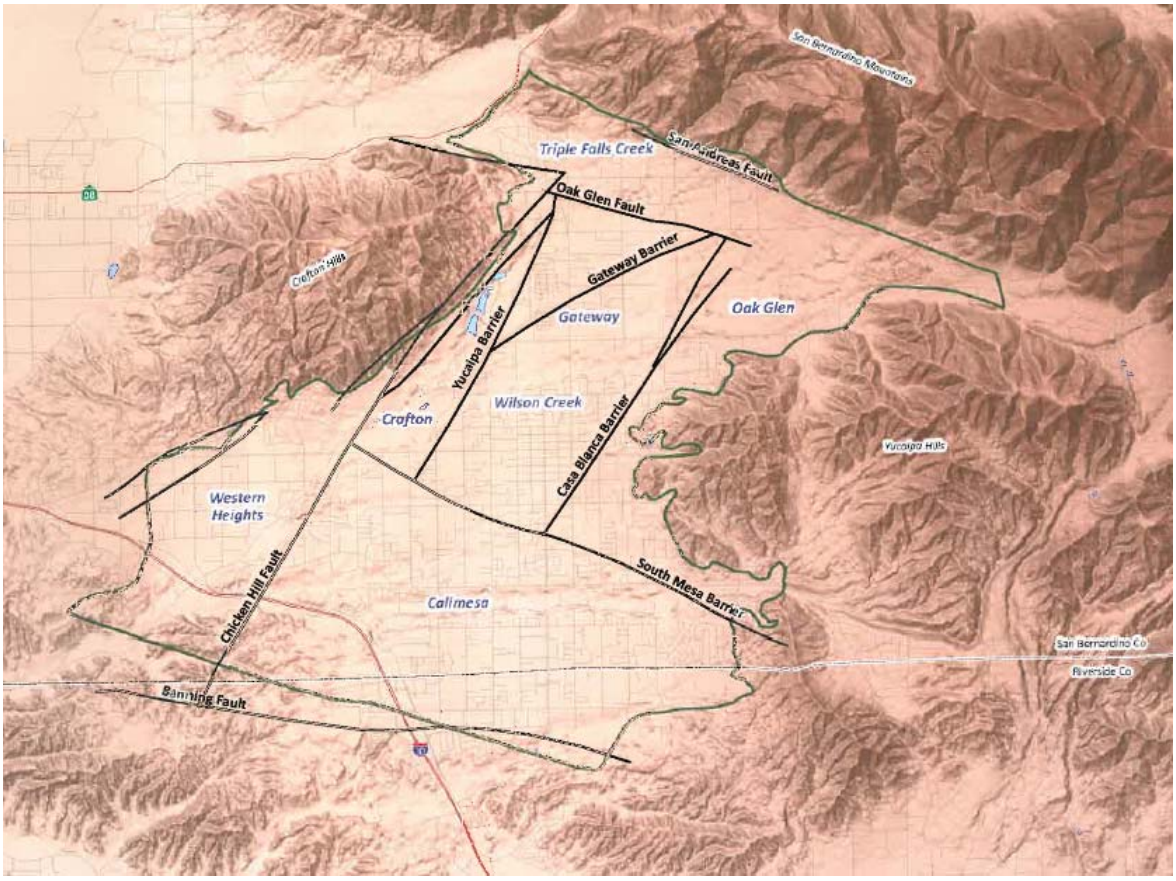
In 2013, the San Bernardino Valley Municipal Water District in partnership with the City of Redlands, San Gorgonio Pass Water Agency, South Mesa Mutual Water Company, Western Heights Mutual Water Company, City of Yucaipa and Yucaipa Valley Water District completed a study of the usable capacity of the subbasins in the Yucaipa area. On November 12, 2013, Brian Villalobos, Senior Geohydrologist from Geoscience Support Services, provided a summary of the results of this important study to the Board of Directors and outlined the next steps for the project partners.



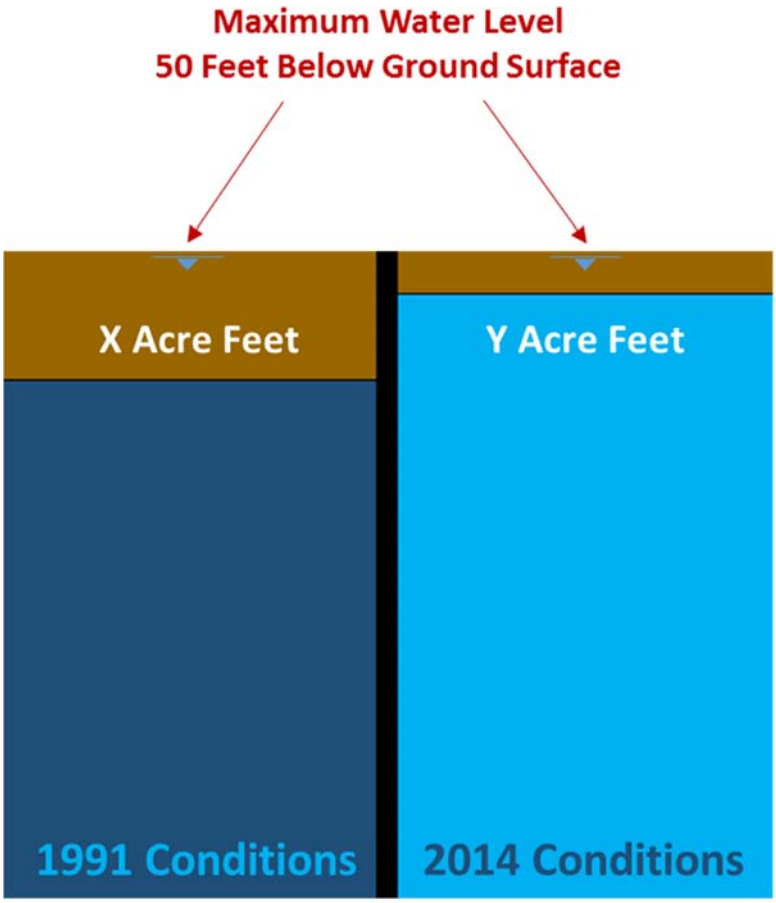

Following the presentation, the District staff elaborated on the complexities of water storage and recharge in the Yucaipa and Calimesa area. In the Yucaipa Valley, our groundwater basins are heavily partitioned with a series of earthquake faults. The earthquake faults create a geological

compression zone at a pinch point between the North American tectonic plate and the Pacific tectonic plate. The numerous faults in our area create subterranean barriers that typically imped the movement of groundwater resulting is a complex array of highly compartmentalized subsurface structures in the area.


On December 4, 2013, the Board of Directors authorized participation in the Phase II activities of the Yucaipa Basin study which included: (1) the drilling of monitoring wells to further investigate the opportunity for groundwater recharge in the area; and (2) the calculation of the Annual Change in Storage for the groundwater basins. The District staff continues to engage the services of Geoscience to provide an annual update of the change in storage as an important tool to manage our groundwater resources.

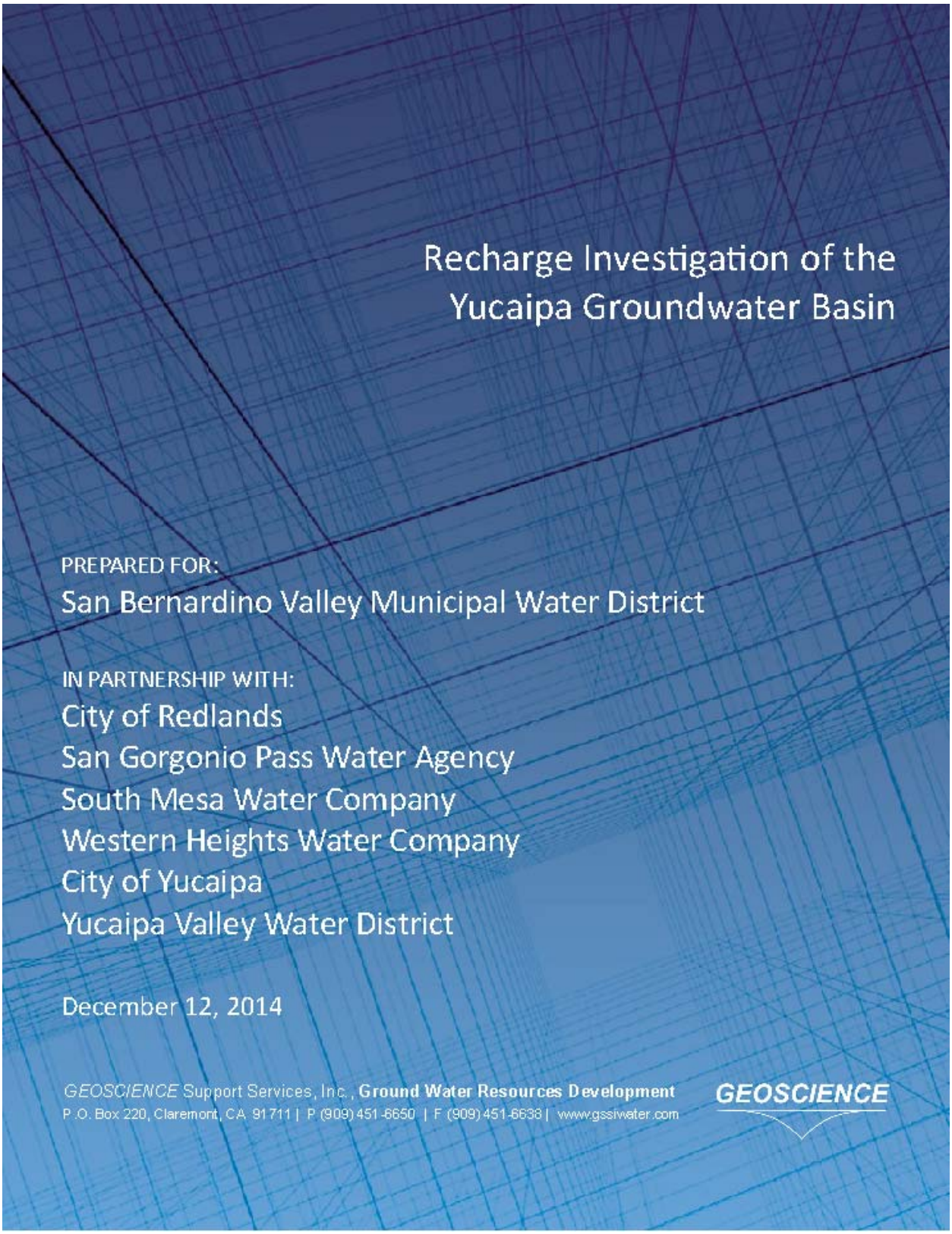


The change in storage calculations are a useful tool for the overall water management in our area. The change in storage ("available storage space") calculation quantifies the amount of water that can be added to a groundwater basin to bring the ground water levels up to 50 feet below the ground surface. By analogy, while a fuel gauge tells you how much gas is in your fuel tank, the available storage space calculation tells you how much fuel your tank needs to be completely full.




The figure on page 13 of 13 of this memorandum compares the available storage space in 1991 with the available storage space in 2014. Based on this information, five of the seven local groundwater basins need less water to be completely full in 2014 than they required in 1991. This is a good indication that the groundwater management activities implemented by Yucaipa Valley Water District are working.

The purpose of this agenda item is to provide the draft 2015 change in storage calculations that will be used as an internal draft document that augments the data included in the attached report.


Recharge Investigation of the
Yucaipa Groundwater Basin
PREPARED FOR:
San Bernardino Valley Municipal Water District
IN PARTNERSHIP WITH:
City of Redlands
San Gorgonio Pass Water Agency
South Mesa Water Company
Western Heights Water Company
City of Yucaipa
Yucaipa Valley Water District
December 12, 2014
GEOSCIENCE Support Services, Inc., Ground Water Resources Development
P.O. Box 220, Claremont, CA 91711 | P (909) 451-6650 | F (909) 451-6638 | www.gssiwater.com
GEOSCIENCE

# SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT
# RECHARGE INVESTIGATION OF THE YUCAIPA GROUNDWATER BASIN

## 1.0 EXECUTIVE SUMMARY

### 1.1 Introduction

The continuation of development of the Yucaipa Groundwater Basin (Basin; see Figure 1) is dependent upon imported water supplies. However, imported water may not always be reliable or available in the quantities needed each year. Reserve or banked water supplies in storage in the Basin can insure the continued development of the Yucaipa area in the event imported water is not available for some period of time. According to a recent study by GEOSCIENCE Support Services, Inc. (GEOSCIENCE, 2014) the Basin has a storage capacity totaling more than 356,000 acre-ft. Our calculations show that from 2007 to 2012 artificial recharge efforts increased the total groundwater storage in the Basin to 1998 levels. However, since 2012 groundwater storage has been in decline, reflecting current drought conditions. Therefore, additional artificial recharge continues to be a necessary management strategy in order to mitigate and prepare for long-term drought conditions.

To develop sustainable groundwater supply, an assessment of locations that could take State Water Project (SWP) water for potential surface spreading to augment natural groundwater recharge was planned by the project partners[1]. Exploratory boring locations were selected based on access to San Bernardino Valley Municipal Water District (Valley District) infrastructure, available storage capacity in sub-basins, and areas of potentially available land including the existing Wildwood Creek retention basins. Wilson Creek Spreading Grounds are already active and successful recharge basins; therefore, a boring was drilled at Wilson Creek Spreading Grounds (YRP-EX1) to collect baseline data for subsurface materials that have good infiltration rates. Alternatively, a boring was drilled at the Oak Glen Creek Spreading Grounds (YRP-EX2) to evaluate potential subsurface conditions leading to the historical poor infiltration rates. The other boreholes drilled for this study could then be compared to boring YRP-EX1 to determine each site's infiltration potential.

Ten exploratory boreholes were strategically located within the Basin. Sites 1-7 and site 9 are located in the City of Yucaipa and County of San Bernardino, and sites 10 and 11 are located in the City of Calimesa. Total borehole depth ranged from 138 feet (ft) below ground surface (bgs) to 400 ft bgs.

[1] The project partners consist of the San Bernardino Valley Municipal Water District, City of Redlands, San Gorgonio Pass Water Agency, South Mesa Water Company, Western Heights Water Company, City of Yucaipa, and Yucaipa Valley Water District.

Three of the boreholes were used to construct piezometers and the other seven were sealed and abandoned. The piezometers allow for measurement of groundwater levels at the site. Piezometer YRP-PZ1 was constructed in boring YRP-EX1, YRP-PZ2 in boring YRP-EX2, and YRP-PZ3 in boring YRP-EX4. Mechanical grading analyses, field water quality samples, and geophysical logging were performed at all ten boreholes. Field water quality samples were analyzed for conductivity, pH, temperature, total dissolved solids (TDS), and turbidity, when possible. In addition, samples were collected for the United States Geological Society (USGS) at sites YRP-EX7 and YRP-EX9. The samples were analyzed for various chemical analytes, including sulfates, ammonia, nitrates, nitrites, and chloride.

## 1.2 Findings

### 1.2.1 General

In general, the lithologic materials encountered in the exploratory boreholes suggest infiltration rates will be enough to allow for groundwater recharge from surface spreading. Significant barriers to vertical infiltration were not encountered in the boreholes, except in boring YRP-EX9. A summary of findings are presented in the following sections.

### 1.2.2 Findings

Ten exploratory boreholes were drilled in the Basin between June 9, 2014 and July 18, 2014 for this recharge investigation. At each borehole, field water quality samples were bailed and analyzed for conductivity, TDS, pH, temperature, and turbidity. Three of the borings were completed as piezometers (see Figure 2 for locations of borings and piezometers). Each piezometer includes 50 ft of screened PVC casing to measure groundwater levels changes. All other borings not converted to piezometers were destroyed by backfilling with bentonite and cement.

This investigation shows that sediments encountered at eight out of the ten locations are generally suitable for surface spreading of water to recharge the groundwater basin. The areas with suitable subsurface conditions for groundwater recharge include the area around YRP-EX1 (existing Wilson Creek Basins), YRP-EX2 (existing Oak Glen Creek Basins with some modifications), YRP-EX3 (proposed Wilson Creek III Retention Basins), YRP-EX4 (existing Wildwood Creek Basins), YRP-EX6, YRP-EX10, and YRP-EX11. Results of this investigation show that the location at YRP-EX7 may be considered for surface spreading; however, the proximity to the Chicken Hills Fault and potentially adverse water quality must be taken into consideration. The materials penetrated at YRP-EX9 indicate that surface water spread in these areas may not reach the deeper portion of the aquifer.

### 1.2.3 Site-Specific Considerations

Short-term pilot recharge tests should be conducted at sites selected by the project partners. The pilot testing should be conducted in a pilot basin approximately one acre in size and for a period of approximately four months and/or when monitoring instrumentation shows a steady infiltration rate. The basins should be equipped with a staff gage, transducer for monitoring water levels, and a totalizing meter on the flows into the basin.

A monitoring plan should be developed and include monitoring of nearby local wells or installation of piezometers and vadose instrumentation to evaluate the rate and subsurface movement of water spread at the surface.

Based on the data collected and reported in this study, calculation of the volume of water should assume a long-term infiltration rate of 1 ft/day while maintaining several ft of water in the basin. A 120 to 240 acre-ft test volume of water should be made available for each pilot test to insure that recharge surface spreading during the test period is not interrupted.

In addition to pilot testing at selected locations, the following are site-specific considerations at each of the investigation areas:

Wilson Creek Spreading Basins (YRP-EX1): These basins have historically demonstrated good infiltration rates and groundwater recharge from water spread by the Yucaipa Valley Water District. The Piezometer constructed at this site during this investigation should be equipped with a pressure transducer to allow analysis of groundwater level changes with surface spreading and stormwater inflow.

Oak Glen Creek Spreading Basins (YRP-EX2): These basins have historically shown poor infiltration. The materials in the boring were very similar to YRP-EX1. Therefore, it appears that the sediments at and in the near-surface may be impeding surface water infiltration. Backhoe pits should be used to investigate the near-surface for this condition. However, it may be possible that fine-grained material associated with the Chicken Hills Fault, which underlies Oak Glen Creek at this location, may not have been penetrated with a single boring and may also be a factor in low infiltration rates.

Wilson III Site South of Oak Glen Rd and 2nd St (YRP-EX3): The materials penetrated in the boring suggest a good infiltration potential at this location. However, review of data from available existing geotechnical investigations for Wilson Creek III Basins or shallow excavations should be considered to determine whether conditions like those at Oak Glen Creek Spreading Basins are not in this location.

Wildwood Creek Basins (YRP-EX4): The YRP-EX4 location is close to the South Mesa Barrier. This condition was validated by groundwater levels recorded from the boring. Further investigation should be completed to delineate the location and effective barrier depth of the South Mesa Barrier to determine whether the barrier will impede the lateral flow of water spread at the surface. The piezometer constructed at this site should be equipped with a pressure transducer to allow analysis of groundwater level changes.

South of Wildwood Canyon Rd and California St (YRP-EX5): This area showed the presence of fine-grained units in the boring. However, it is possible that percolating water can flow around these units but would result in overall lower infiltration rates than other sites.

South of Wildwood Canyon Rd and 6th Pl (YRP-EX6): The materials penetrated in the boring suggest a good infiltration potential at this location. Additional shallow subsurface exploration should be conducted over the footprint of the proposed basins to confirm the material type.

YRP-EX7 South of Avenue E and 10th St (YRP-EX6): This site is located within the Chicken Hills Fault Zone. This condition was validated by groundwater levels recorded in YRP-EX7. Therefore, storage volume and movement of groundwater may be impeded by the Fault. Further investigation should be completed to delineate the location and effective barrier depth of the Chicken Hills Fault to determine whether the barrier will impede the lateral flow of water spread at the surface. It is possible that mounding associated with recharge may result in a production of a southward groundwater gradient away from the Fault within the Calimesa Sub-basin.

YRP-EX10 South of County Line Rd and Chaparral Trail (YRP-EX6) and South of Bryant St and Greentree Circle (YRP-EX11): The materials penetrated in the two exploratory borings suggest a good infiltration potential at each location. Additional shallow subsurface exploration should be conducted over the footprint of the proposed basins to confirm the material type.

Table 1-1 below provides a preliminary ranking of the selected investigation sites for potential to conduct artificial recharge which are ranked by: (1) Potential Infiltration Rates; (2) Potential Horizontal and Vertical Barriers; (3) Nearness to Valley District Pipeline; and, (4) Potentially Available Land.

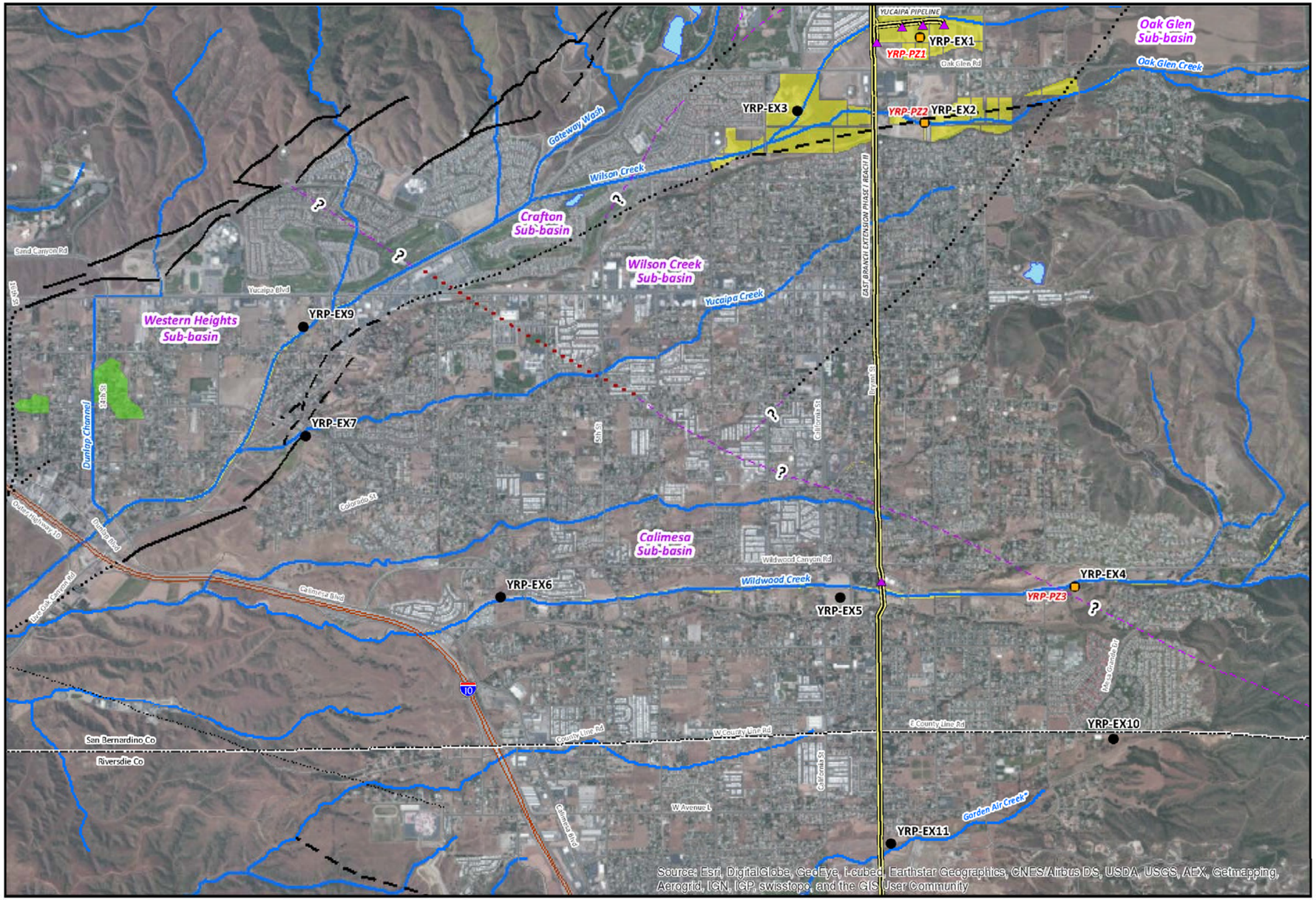
**Table 1-1 - Ranking of the Selected Investigation Sites for Potential Artificial Recharge**

| Area of Investigation | Exploratory Site | Expected Infiltration Rate | Potential Horizontal and/or Vertical Barriers | Nearness to Pipeline | Land Availability | Total Score | Site Recommendation |
|---|---|---|---|---|---|---|---|
| Wilson Creek and Oak Glen Creek | 1 | 5 | 5 | 5 | 5 | 20 | A |
| | 2 | 1 | 2 | 5 | 5 | 13 | C[1] |
| | 3 | 4 | 5 | 5 | 5 | 19 | A |
| Wildwood Creek | 4 | 5 | 1 | 3 | 5 | 14 | B |
| | 5 | 5 | 3 | 5 | 4 | 17 | B |
| | 6 | 5 | 4 | 2 | 3 | 14 | B |
| Area East of Chicken Hills Fault (see Figure 4) | 7 | 4 | 1 | 1 | 3 | 9 | D |
| Western Heights | 9 | 1 | 1 | 1 | 3 | 6 | D |
| Garden Air Creek | 10 | 4 | 3 | 3 | 4 | 14 | B |
| | 11 | 4 | 3 | 5 | 4 | 16 | B |

Notes:
Scale of 1-5, with 1 rated as "Low" and 5 rated as "High" potential for artificial recharge.
Total Score: 18-20 = A, 14-17 = B, 10-13 = C, and 5-9 = D
[1] The score of "C" for Oak Glen Creek Basins may increase if additional investigations confirm that surficial low permeability material can be removed to increase infiltration rates.
Exploratory Site 8 was not included in this investigation due to the likely presence of a subsurface barrier to vertical flow.

SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT

RECHARGE INVESTIGATION OF THE YUCAIPA GROUNDWATER BASIN




## LOCATION OF EXPLORATORY BORINGS AND PIEZOMETERS

EXPLANATION

- 2014 Exploratory Borehole
- 2014 Piezometer
- SBVMWD Pipeline
- SBVMWD Pipeline Turnout
- SBCFCD Property
- Marshland (Mendenhall and Lippincott, 1905)

Fault Classification
(Source unless otherwise indicated: USGS Quaternary Fault and Fold Database of the US Updated Nov. 3, 2010)

- Well Constrained
- Moderately Constrained
- Inferred
- South Mesa Barrier (USGS OFR, 1970)
- Banning Fault (USGS OFR 03-301)
- Interpolated Fault (GEOSCIENCE, 2014)

*Wilson Creek* — Yucaipa Groundwater Basin Sub-basin Defined by Faults

* Local Creek Name

12-Dec-14

Prepared by: DB. Map Projection: State Plane 1983, Zone V.



NORTH

0 0.5 1 Miles

GEOSCIENCE
GEOSCIENCE Support Services, Inc.
P.O. Box 220, Claremont, CA 91711
Tel: (909) 451-6650 Fax: (909) 451-6638
www.gssiwater.com

**Figure 2**

San Bernardino Valley Municipal Water District
Historical Annual Change in Groundwater Storage Capacity - Yucaipa Groundwater Basin

**TABLE 3**
**DRAFT**

## Yucaipa Groundwater Sub-basins: Historical Storage Capacity
## 2005 - 2013 DRAFT

| Sub-basin | | Land Area | 2005 | | 2006 | | | 2007 | | | 2008 | | | 2009 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Overall Weighted Sub-basin Specific Yield | Storage Capacity[1] | Overall Weighted Sub-basin Specific Yield | Storage Capacity | Change in Storage Capacity (2005-2006) | Overall Weighted Sub-basin Specific Yield | Storage Capacity | Change in Storage Capacity (2006-2007) | Overall Weighted Sub-basin Specific Yield | Storage Capacity | Change in Storage Capacity (2007-2008) | Overall Weighted Sub-basin Specific Yield | Storage Capacity | Change in Storage Capacity (2008-2009) |
| | | [acres] | [%] | [acre-ft] | [%] | [acre-ft] | [acre-ft] | [%] | [acre-ft] | [acre-ft] | [%] | [acre-ft] | [acre-ft] | [%] | [acre-ft] | [acre-ft] |
| 1 | **Triple Falls** | 1,491 | 7.8 | 8,646 | 7.8 | 9,547 | 901 | 7.9 | 9,723 | 176 | 7.6 | 10,913 | 1,190 | 7.7 | 8,400 | -2,513 |
| 2 | **Oak Glen** | 2,540 | 9.3 | 41,705 | 9.6 | 43,836 | 2,132 | 9.6 | 34,466 | -9,370 | 9.4 | 38,296 | 3,830 | 9.6 | 36,104 | -2,192 |
| 3 | **Gateway** | 1,499 | 13.8 | 67,284 | 14.0 | 69,136 | 1,851 | 13.9 | 71,908 | 2,772 | 14.0 | 68,437 | -3,471 | 13.8 | 63,649 | -4,788 |
| 4 | **Crafton** | 1,333 | 12.8 | 23,046 | 12.9 | 23,636 | 590 | 11.7 | 19,603 | -4,033 | 12.0 | 22,076 | 2,473 | 11.6 | 16,355 | -5,721 |
| 5 | **Western Heights** | 1,429 | 15.1 | 31,742 | 14.4 | 52,829 | 21,087 | 14.2 | 41,086 | -11,744 | 14.0 | 58,479 | 17,394 | 13.9 | 53,593 | -4,886 |
| 6 | **Wilson Creek** | 1,249 | 13.6 | 65,863 | 13.6 | 66,449 | 586 | 13.2 | 66,539 | 90 | 13.5 | 69,455 | 2,916 | 13.3 | 63,696 | -5,759 |
| 7 | **Calimesa** | 5,317 | 11.7 | 153,861 | 11.6 | 155,942 | 2,081 | 11.7 | 153,807 | -2,135 | 11.6 | 156,045 | 2,238 | 11.6 | 157,401 | 1,357 |
| | ***All Sub-basins*** | **14,858** | | **392,147** | | **421,375** | **29,228** | | **397,130** | **-24,245** | | **423,701** | **26,570** | | **399,199** | **-24,501** |

[1] Storage capacity based on water levels indicated and a maximum elevation at 50 ft below land surface.

San Bernardino Valley Municipal Water District
Historical Annual Change in Groundwater Storage Capacity - Yucaipa Groundwater Basin

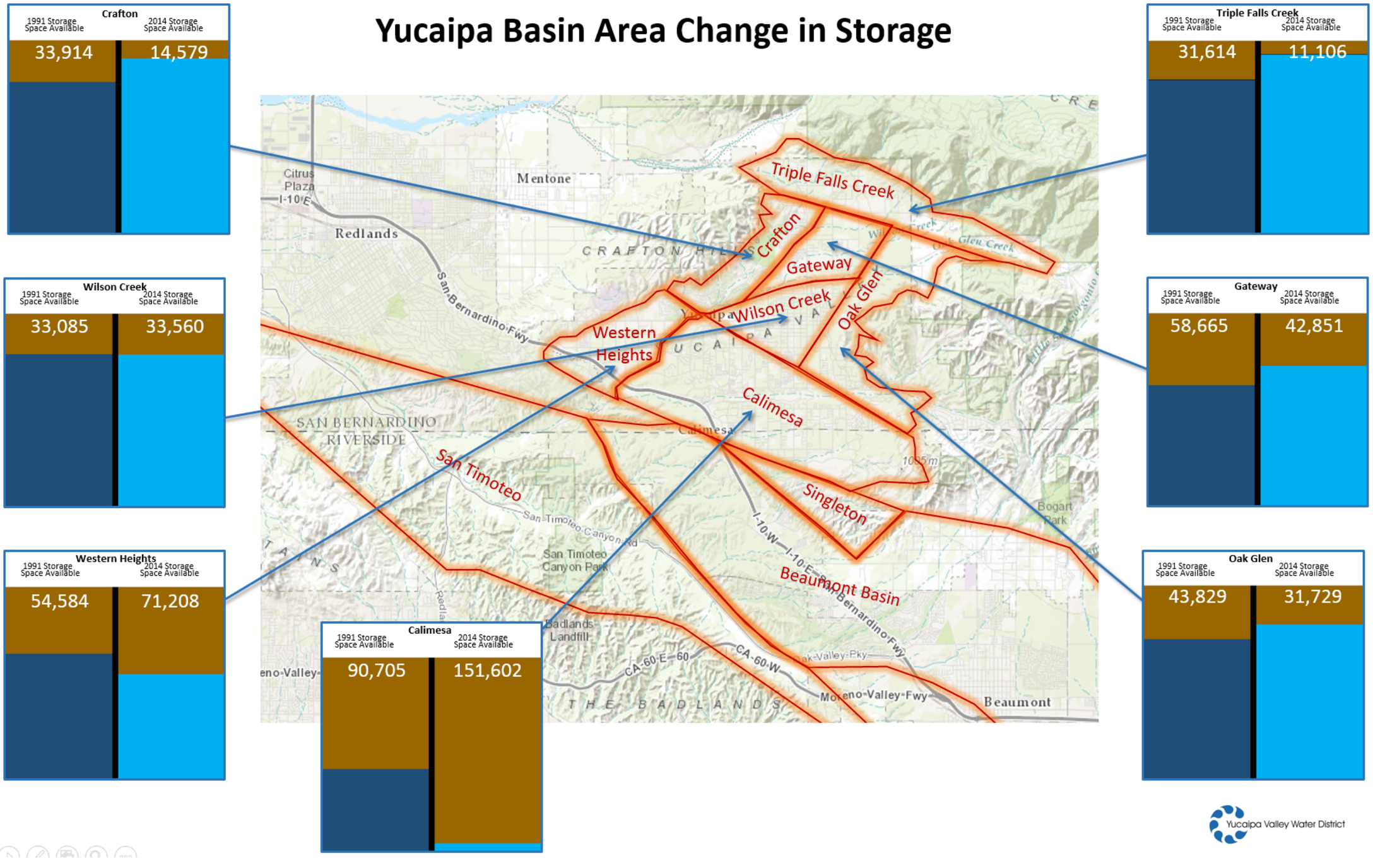
**TABLE 3**
**DRAFT**

**Yucaipa Groundwater Sub-basins: Historical and Current Storage Capacity**
**2005 - 2013 DRAFT**

| Sub-basin | | 2010 | | | 2011 | | | 2012 | | | 2013 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Overall Weighted Sub-basin Specific Yield | Storage Capacity[1] | Change in Storage Capacity (2009-2010) | Overall Weighted Sub-basin Specific Yield | Storage Capacity | Change in Storage Capacity (2010-2011) | Overall Weighted Sub-basin Specific Yield | Storage Capacity | Change in Storage Capacity (2011-2012) | Overall Weighted Sub-basin Specific Yield | Storage Capacity | Change in Storage Capacity (2012-2013) |
| | | [%] | [acre-ft] | [acre-ft] | [%] | [acre-ft] | [acre-ft] | [%] | [acre-ft] | [acre-ft] | [%] | [acre-ft] | [acre-ft] |
| **1** | **Triple Falls** | 7.7 | 10,187 | 1,787 | 7.9 | 9,396 | -791 | 8.0 | 9,183 | -213 | 7.9 | 11,251 | 2,068 |
| **2** | **Oak Glen** | 9.6 | 35,622 | -482 | 9.6 | 33,689 | -1,932 | 11.3 | 38,753 | 5,063 | 9.7 | 36,226 | -2,527 |
| **3** | **Gateway** | 13.6 | 59,888 | -3,762 | 13.8 | 52,117 | -7,770 | 14.8 | 61,192 | 9,075 | 14.2 | 45,807 | -15,385 |
| **4** | **Crafton** | 11.4 | 14,133 | -2,222 | 11.8 | 16,761 | 2,628 | 11.8 | 15,824 | -937 | 11.9 | 17,528 | 1,705 |
| **5** | **Western Heights** | 13.8 | 51,524 | -2,070 | 13.7 | 55,786 | 4,263 | 13.9 | 56,355 | 569 | 13.9 | 56,575 | 220 |
| **6** | **Wilson Creek** | 13.3 | 64,187 | 490 | 13.6 | 55,510 | -8,677 | 14.1 | 57,065 | 1,555 | 13.9 | 47,833 | -9,231 |
| **7** | **Calimesa** | 11.6 | 158,636 | 1,234 | 11.6 | 160,881 | 2,245 | 11.6 | 156,531 | -4,350 | 11.6 | 160,781 | 4,251 |
| ***All Sub-basins*** | | | **394,175** | **-5,024** | | **384,140** | **-10,035** | | **394,902** | **10,762** | | **376,001** | **-18,901** |

[1] Storage capacity based on water levels indicated and a maximum elevation at 50-ft below land surface.

# Yucaipa Basin Area Change in Storage



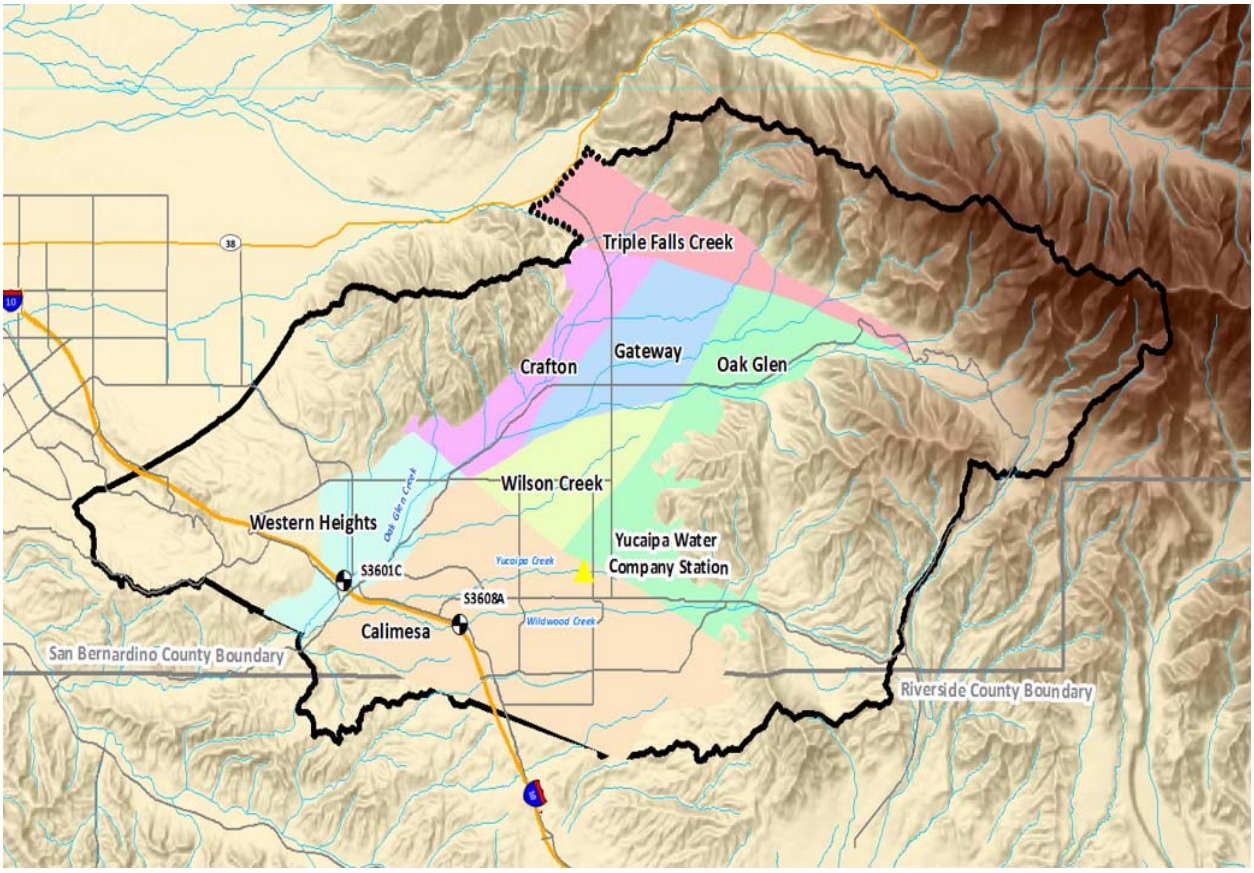
Yucaipa Valley Water District

# Workshop Memorandum 16-003

**Date:** **January 12, 2016**

**Subject:** **Status Report on the Yucaipa Basin Investigation in Conjunction with the San Bernardino Valley Municipal Water District**

In 2013, the San Bernardino Valley Municipal Water District in partnership with the City of Redlands, San Gorgonio Pass Water Agency, South Mesa Mutual Water Company, Western Heights Mutual Water Company, City of Yucaipa and Yucaipa Valley Water District completed a study of the usable capacity of the subbasins in the Yucaipa area. The study has provided and update on the basin boundaries and included exploratory drilling in various locations to learn more about potential water recharge capabilities in our area.



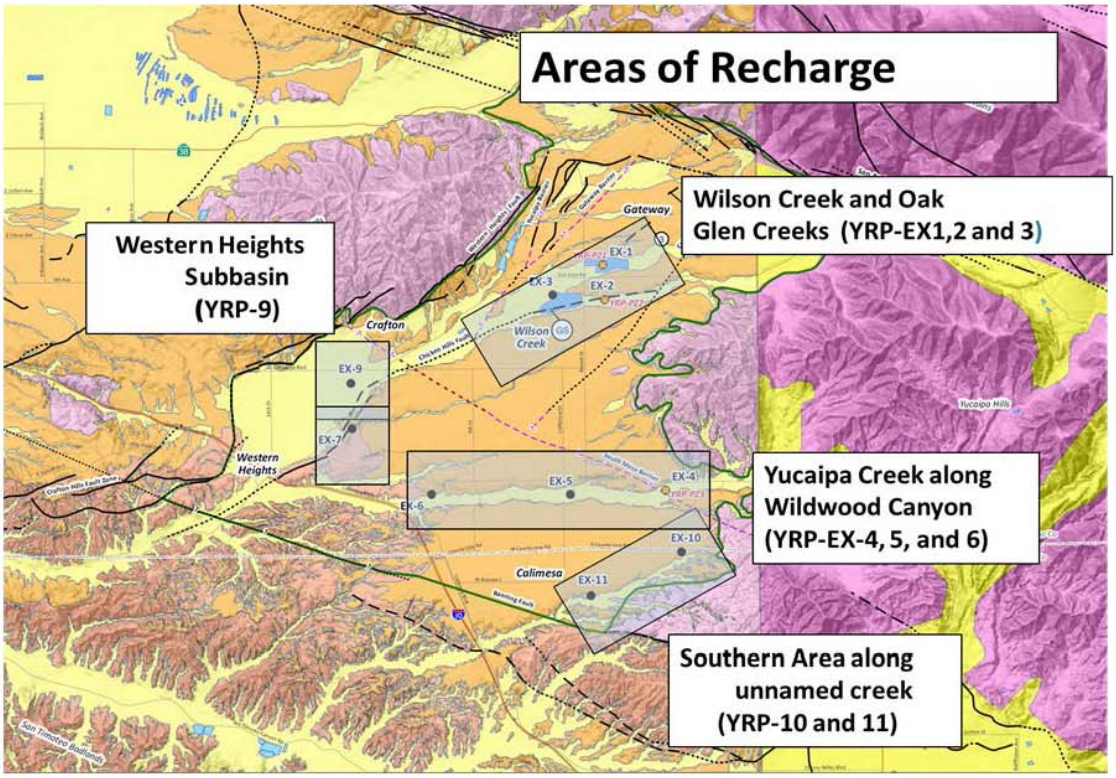

The San Bernardino Valley Municipal Water District and the Yucaipa Valley Water District staff conducted interviews of three consultants that responded to the attached Request for Proposals. The purpose of this agenda item is to discuss the next steps for this study.

# Request for Proposals

DEVELOP FIELD RECHARGE TEST WORK PLAN FOR LOCATIONS WITHIN YUCAIPA BASIN AREA

**San Bernardino Valley Municipal Water District**
in partnership with:

**San Gorgonio Pass Water Agency**
**South Mesa Water Company**
**Western Heights Water Company**
**City of Yucaipa**
**Yucaipa Valley Water District**




The Filing Deadline is:

December 17, 2015, 4:00PM

## 1) INTRODUCTION

Conjunctive use can be generally defined as the coordinated management of water supplies to enhance water reliability. Under a conjunctive use scenario, water is stored underground by recharge in wet years for extraction and use in dry years. Water agencies in the Yucaipa area are working to develop the contractual relationships and facilities necessary to manage the basin conjunctively to enhance water supply reliability for the region.

Conjunctive use has already been partially implemented in the Yucaipa Basin Area (Basin) during the last 10 years by Yucaipa Valley Water District (YVWD) who has been importing State Water Project (SWP) water. However, other agencies in the Basin are interested in participating in a larger, basin-wide program. San Bernardino Valley Municipal Water District (Valley District), San Gorgonio Pass Water Agency (Pass Agency) and the retail water agencies in the Basin are working together to develop a basin-wide conjunctive use program.

The Basin extends from the Crafton Hills and San Timoteo Badlands on the west to the Yucaipa Hills, San Gorgonio Mountains on the east and from the San Bernardino Mountains (Yucaipa Ridge) to the Banning Fault on the South. The Basin includes numerous faults that act as groundwater barriers, dividing the Basin into sub-basins. The South Mesa Water Company, Western Heights Water Company and Yucaipa Valley Water District utilize the Basin resources to meet most, if not all of the water needs for their nearly 50,000 customers. In addition, the City of Redlands also pumps water from the Basin.

To determine the suitability for groundwater recharge throughout the Basin, the agencies conducted exploratory soil borings. Ten (10) locations for exploratory borings were chosen based upon the availability of land for potential recharge basins and based upon their proximity to the East Branch Extension of the State Aqueduct. Three of the ten (10) boreholes (Sites 1, 2 and 3) were converted to simple monitoring wells and the other seven were sealed and abandoned. The proposed recharge areas have been generally labeled (see *Exhibits*, p.7, for how to download the map):

1. Existing Oak Glen Basins (YRP-EX2) and Proposed Wilson Creek III Retention Basins (YRP-EX3)
2. Existing Wildwood Creek Basins (YRP-EX4) and Wildwood Creek (YRP-EX 5 & 6)
3. Southern area along Garden Air Creek (YRP-EX 10 & 11)
4. Western Heights Subbasin Area (YRP-EX 7 & 9)

Characterization of the subsurface geological conditions based upon the exploratory borings is included in the *Exhibits* for download.

Valley District, on behalf of the other agencies, is soliciting proposals from qualified consultants for the development of a field recharge work plan that will determine the recharge capability and recharge rate (ft/day). The consultant shall provide a separate scope of services and cost for each of the following recharge investigation locations listed below:

| Recharge Investigation Location | 2014 Exploratory Borehole Name | Groundwater Basin |
|---|---|---|
| Wildwood Creek Stormwater Detention Basins | YRP - EX 4 | Calimesa Basin |
| Wildwood Creek at California Street | YRP - EX 5 | Calimesa Basin |
| Wilson Creek at Avenue D | YRP - EX 9 | Western Heights Basin |
| Garden Air Creek at County Line Road | YRP - EX 10 | Calimesa Basin |
| Garden Air Creek at Bryant Street | YRP - EX 11 | Calimesa Basin |

Valley District reserves the right to negotiate with the consultants to eliminate any of the following study areas without impacting the cost for the remaining investigatory sites identified above.

**The cost for this project may not exceed $35,000 (excluding the optional task).**

## 2) PROPOSAL SCHEDULE

| Date | Event |
|---|---|
| 11/17/2015 | Release of Request for Proposal |
| 12/15/2015 by 4:00PM | Deadline for Valley District Receipt of Proposals |
| 12/21/2015 | Notice of Interviews (optional) |
| 1/6/2016 | Interviews (optional) |
| 1/19/2016 | Board of Directors Approval |
| 1/20/2016 | Award Contract |

## 3) CONSULTING TEAM

Proposer (Consultant) is responsible for assembling a team which meets all of the requirements outlined in this RFP.

## 4) REQUIRED EXPERIENCE AND QUALIFICATIONS

Proposer shall demonstrate the qualifications and experience necessary for the successful development and implementation of a regional pilot recharge and monitoring workplan. If choosing to partner with another consultant, please indicate and/or explain the purpose and need for their professional services.

## 5) SCOPE OF SERVICES

### a) Develop field recharge testing and monitoring work plan.

During this task, the consulting team will develop a detailed field recharge testing and monitoring work plan necessary to quantify the recharge capability and recharge rate (ft/day) at each location. Consultant is to provide a methodology that will use the least amount of water without significantly impacting the results. Proposal must include, at a minimum, for each site (1) a site layout, (2) site preparation, (3) the duration of the recharge test, and (4) the estimated quantity of water needed for each site. Consultant shall prepare a concept-level sketch for each recharge location that generally describes the size of the test area, materials used to construct the recharge test area (if any), and any other information that would be useful for the permitting agency.

Valley District will obtain the necessary permits for the field recharge tests and the involved water agencies will provide a valved water source to each recharge location.

Deliverables:

1. Concept level sketches for each recharge location. Sketch must meet the needs of the permitting agency.
2. Draft Field Recharge Work Plan (100%) including schedules, figures, tables and anything else necessary to explain the work plan
3. Final Work Plan

### b) CONDUCT RECHARGE TEST (Optional Task):

This task includes the labor and equipment to implement the Field Recharge Work Plan. Proposals must provide a unit cost per site. Tasks should include, but not be limited to, construction of any temporary facilities to conduct the test, labor to conduct the pilot recharge testing and monitoring, security, de-construction of the basins and providing the results in a final report.

Deliverables:

1. Labor and equipment necessary to conduct the field recharge test developed in the above task to achieve a recharge rate in ft/day
2. Analysis of data (e.g. recharge curve)
3. Preparation of a final report presenting the results, limitations and any recommendations

## 6) DELIVERABLE(S)

Once finalized, all electronic files must be submitted to Valley District in PDF format (latest edition) and in the latest editions of the following software programs: AutoCAD, Arc/Info, Microsoft Excel, Microsoft Word, and Microsoft Project. No other electronic file format will be accepted without written approval from Valley District.

**7) PERMITS**

The water agencies will obtain the permits necessary for this project. In some cases, information may be required from the consultant in order to process the permit (site plan, etc.). Proposal should include some time to provide supporting documenting for permitting.

**8) WATER**

Valley District will provide a valved water source to each recharge site.

**9) MEETINGS**

Consultant shall conduct and coordinate all meetings necessary to complete this project. It is anticipated that the selected consultant will work closely and collaboratively with the stakeholders and water agencies of the Basin and will provide regular updates on the progress of the work to the stakeholders.

**10) PROJECT SCHEDULE**

The proposal shall include a detailed, project schedule which shows the project tasks. The schedule will be reviewed and finalized with the Consultant prior to start of the project.

Once the schedule has been finalized, no extension will be allowed unless the extension has been requested, in writing, and approved by Valley District before a submittal deadline. Failure to submit required work by scheduled deadlines may result in cancellation of the remainder of the contract and all outstanding invoices. Should cancellation occur, all materials collected and/or developed during the process will become property of Valley District as stated in Valley District's standard agreement for consulting services.

**11) PROPOSAL REQUIREMENTS**

**a) Body of the proposal** (may not exceed 8 pages in length with a minimum font size of 12 point)

i) Project Understanding. A clear statement of the project.

ii) Project Approach. The project approach shall include a detailed description of all the tasks needed for successful completion of the project and shall follow the general outline provided in the Scope of Services section above.

iii) Organizational chart illustrating the individuals who will actually work on the project complete with names, firm names, addresses, telephone numbers, email addresses and chain of responsibility (qualifications are to be provided in the appendix, see below).

iv) Project Schedule

v) Any other information that may assist Valley District in making its determination in the selection process: Consultant is encouraged to include any other information that will help Valley District make its selection.

vi) Fee schedule: Fee schedule shall be organized to follow the general tasks in the Scope of Services. The fee shall be organized to show the costs, by site, as much as possible. Services outlined in each proposal must comply with all requirements set

forth in this RFP. The costs shall provide **hourly rates and hours** to complete each task, including sub consultants hourly rates and hours, and any other costs for a complete project. The level of effort and associated costs are to be easily understood by Valley District. Valley District accepts no responsibility for costs incurred by any individual or firm submitting a proposal pursuant to this RFP. The proposal must include a complete and fixed price. If the scope of services requires modification during the course of the work, Valley District will determine whether to amend the current agreement or to issue a subsequent RFP for additional services. The price specified must remain firm and irrevocable for 60 days following the RFP submission date. All proposals become property of Valley District and will not be returned.

**b) Appendix**

i) Qualifications, licenses, certificates and resumes for all persons, including sub-consultants that will actually work on the project. Please limit individual experience to similar projects. For each project used as experience, *highlight* the name(s) of each individual on the project team that is also proposed for this Project. Please include photograph(s) and reference(s) (be sure they are current).

One PDF copy of the proposal must be received by the filing deadline. Please submit your proposals to aaronj@sbvmwd.com.

Aaron Jones
Assistant Engineer
San Bernardino Valley Municipal Water District
380 East Vanderbilt Way
San Bernardino, CA 92408

Please direct all questions regarding this RFP to Aaron Jones by email or by phone 909-387-9254. Answers may be sent via email to the entire distribution list for this RFP.

## 12) INTERVIEW

Interviews may be scheduled with select firms following initial review of the proposals and will take place on the date specified in the introduction. Interview must be attended by the actual team members that will work on the project including any sub-consultants. The interview will consist of a 20-minute presentation by the project team followed by a 20-minute question and answer period.

## 13) EVALUATION PROCESS AND CRITERIA

Evaluation of proposals shall be based upon a competitive selection process. Review and evaluation of the submitted proposals will be based upon the following criteria:

a. Project approach
b. Experience on similar projects and/or projects of similar complexity and size
c. Amount of time to complete the project
d. Fee

Valley District reserves the right to issue additional RFPs, to modify or to abandon this project before award of contract.

## 14) CONTRACT

A sample copy of Valley District's Standard Agreement for Consulting Services is included for your information within the *Exhibits*. Upon approval of the Valley District Board of Directors, the selected consultant is required to execute the agreement. Consultant is to notify Valley District immediately if they are unwilling to sign the contract so that Valley District can begin negotiation with another firm



## EXHIBITS

1. Map: 2014\1738_Yucaipa Study*Recharge.pdf*
2. GEOSCIENCE Support Services, Inc., Ground Water Resources Development, *Yucaipa Recharge Investigation—Summary of Findings, 25 August 2014.*
3. GEOSCIENCE Support Services, Inc., Ground Water Resources Development, *Recharge Investigation of the Yucaipa Groundwater Basin—DRAFT*, 7 November 2014.
4. GEOSCIENCE Support Services, Inc., Ground Water Resources Development, *Determination of the Usable Capacity and Safe Yield for Each Sub-basin within the Yucaipa Basin Area*, 17 April 2014.
5. Kennedy/Jenks Consultants, *2010 San Bernardino Valley Urban Water Management Plan (Amended Draft)*, September 2012.
6. Standard Agreement for Consulting Services

The EXHIBITS are available on the Valley District FTP site in folder titled "*Yucaipa Basin Recharge Study*". The files can be accessed using the below link:

ftp://sbvmwdftp:sbvmwdftp1@logos.sbvmwd.com/Yucaipa%20Basin%20Recharge/

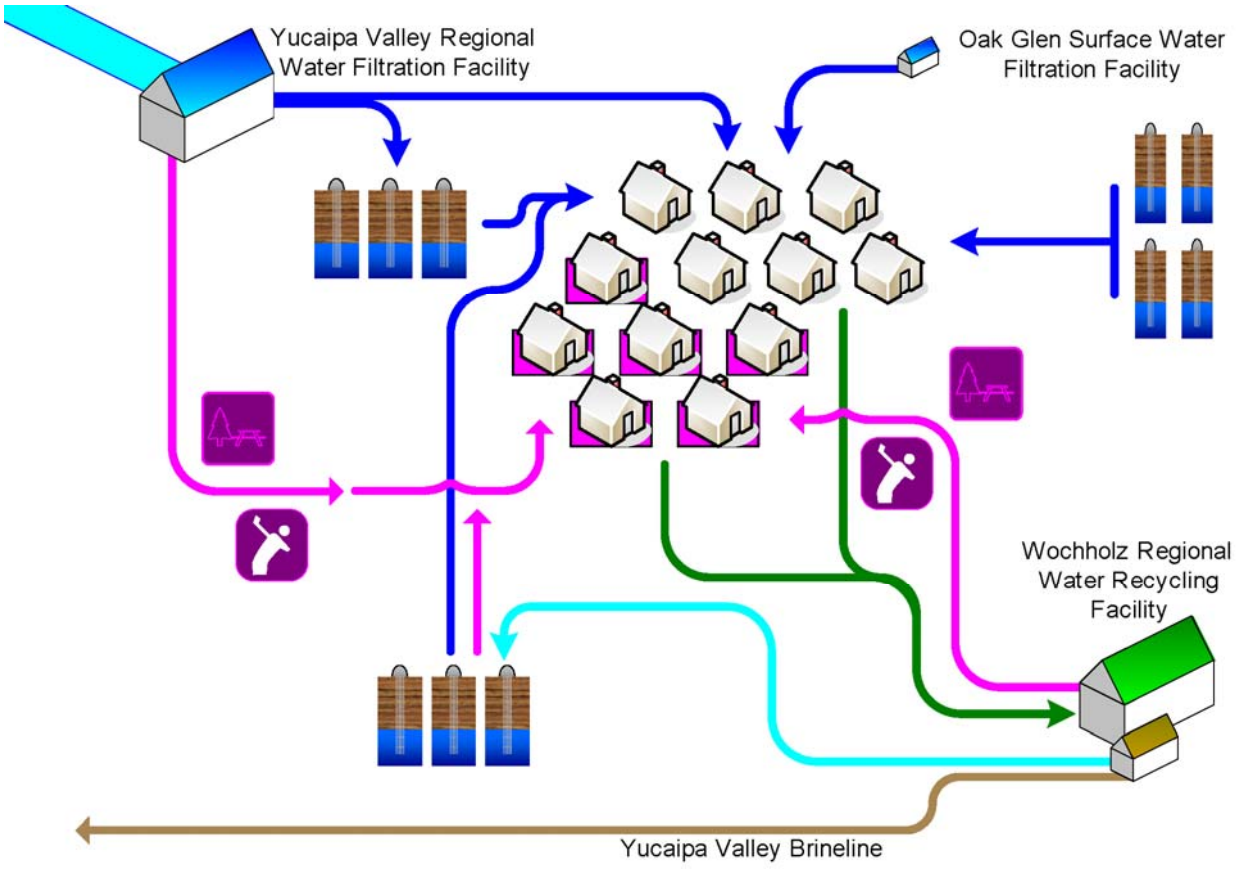
Yucaipa Valley Water District

# Workshop Memorandum 16-004

**Date:** **January 12, 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 is available online from our website at 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 interested 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.

| | ***Program Type*** | ***Water Use Restrictions*** | ***Overall Goal*** | ***Anticipated Impact on New Development*** |
|---|---|---|---|---|
| **Stage 1** | Voluntary | Up to a 10% Reduction from Selected Areas | - - | No anticipated impacts to new development. |
| **Stage 2** | Voluntary | Up to 10% District-wide | 10% Reduction | New applicants for the Crystal Development Program may not be accepted under Stage 2. |
| **Stage 3** | 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. |
| **Stage 4** | 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. |
| **Stage 5** | 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 20th day of August 2008.

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

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

Yucaipa Valley Water District

# Workshop Memorandum 16-005

**Date:** **January 12, 2016**

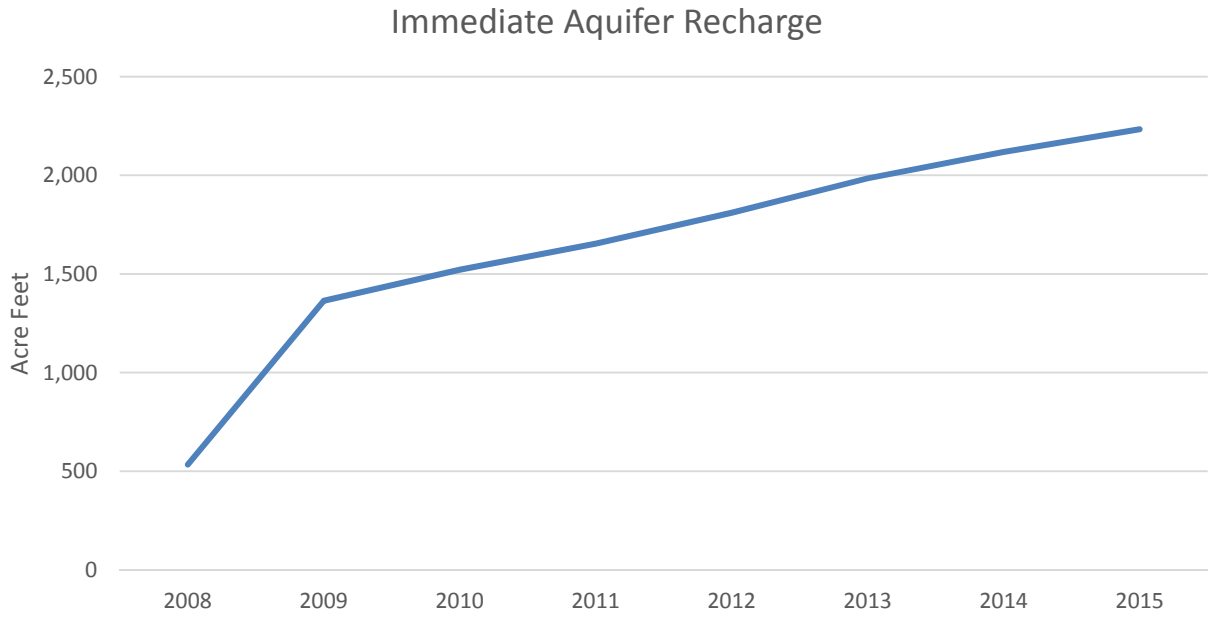
**Subject:** **Overview of a Draft Recycled Water Agreement Between Yucaipa Valley Water District and Western Heights Mutual Water Company**

The Yucaipa Valley Water District and the Western Heights Mutual Water Company have been working together to manage our limited local water resources with the development of the following two specific programs.

Immediate Aquifer Recharge (In Lieu Recharge)

The Yucaipa Valley Water District and the Western Heights Mutual Water Company have recognized the value in using imported water resources as a method to immediately replenish our groundwater basins with the use of Immediate Aquifer Recharge, commonly referred to as in-lieu recharge. By resting the production from local groundwater sources and instead using highly treated surface water supplies from the State Water Project and the Yucaipa Valley Regional Water Filtration Facility, the local drinking water supplies in the ground are able to be saved for future use. The use of the Immediate Aquifer Recharge technique protects water quality and uses existing infrastructure instead of constructing groundwater recharge facilities which are typically land-intensive and do not generally function well based on the geology of the Yucaipa Valley.

Since 2008, the Western Heights Mutual Water Company has purchased and reduced pumping in their service area by 2,233 acre feet. This was accomplished by purchasing drinking water from the Yucaipa Valley Water District.



While the Western Heights Mutual Water Company does not own capacity in the District's treatment or conveyance facilities, the Western Heights Mutual Water Company is able to use excess treatment, reservoir and pipeline capacity until it is needed for an expanded customer base in the District's service area.

## Recycled Water Use

In June 2009, the Yucaipa Valley Water District and the Western Heights Mutual Water Company entered into a cooperative agreement (attached) to provide recycled water to the 13th Street Sports Park. While the park has been under development by the City of Yucaipa for the past several years, the recent completion of the facility and the agreement between the two water agencies will ensure that drinking water sources are not used for irrigation purposes at this park.


## Proposed Agreement for Yucaipa High School

The Yucaipa Valley Water District and the Western Heights Mutual Water Company have now completed a new recycled water agreement that will provide recycled water to the Yucaipa High School.

The attached draft agreement is provided for your review and comment.

06/16/09

**AGREEMENT AUTHORIZING
YUCAIPA VALLEY WATER DISTRICT
TO PROVIDE WATER SERVICE WITHIN
WESTERN HEIGHTS WATER COMPANY'S
SERVICE TERRITORY FOR THE 13TH STREET SPORTS PARK**

This Agreement is made and effective this 19th day of June, 2009, by and between the CITY OF YUCAIPA, a public agency ("City"), the YUCAIPA VALLEY WATER DISTRICT, a public agency ("District") and WESTERN HEIGHTS WATER COMPANY, a mutual water company ("Water Company"). Each is sometimes referred to herein as a "Party" and collectively as the "Parties".

1. District's Authority to Provide Water Service in Water Company's Service Territory. The Water Company hereby authorizes the District to serve potable and non-potable water to the City for use at the City's 13th Street Sports Park and the City's existing adjacent medians on Yucaipa Boulevard. Such water service shall be provided to the City directly and shall not be provided through Water Company.

2. District's and Water Company's Billings to City. The City shall become a customer of the District and the District shall bill the City directly for such water service, including, without limitation, any connection, capacity, or metering rates, fees or charges. No portion of the District's rates, fees or charges levied on the City shall be shared with the Water Company.

   The Water Company shall levy a separate annual fee, based on the size of the District water meter, directly to the City for the basic Water Company semi-monthly fee charged to other Water Company customers for each City water service connection within the boundary of the Water Company. Additionally, the Water Company requires the City to maintain an active share of stock and to pay an annual facility fee (amount determined by the Water Company Board each year and charged to all Water Company customers) for each City-District water service connection within the Water Company service area pursuant to this Agreement.

3. District's Design Requirements for Water Service. The water service provided to the City shall be in accordance with the District's design requirements. The District assumes complete responsibility for the provision of service. The District is responsible for operation and maintenance of the District's facilities used to provide potable and non-potable water service to the City. The District shall comply with regulatory requirements in the provision of such water service.

4. Termination of Service. If the City fails to pay the Water Company's annual facility fee or other fees and charges assessed by the Water Company or the City fails to pay the rates, fees and charges levied by the District for such water service, the District will terminate service in accordance with the District's rules and regulations.

5. Notices. Notices under this Agreement shall be addressed to the General Manager of the Party receiving such notice and mailed or faxed to that Party's official principal office address of record.

6. Amendment and Assignment. This Agreement may only be amended or assigned by a written amendment or assignment signed by all Parties.

7. No Agency or Partnership; No Third Party Beneficiaries. This Agreement is not intended to create, and nothing herein contained shall be construed to create, an association, a joint venture, a partnership, an agency or any other entity of any kind, and no Party is intended to be the agent, employee, joint venturer, associate or partner of the other. This Agreement is only for the benefit of the Parties to this Agreement, and their successors and assigns. No other person or entity shall be entitled to rely on any matter set forth in this Agreement.

8. Indemnification. Each Party shall indemnify and defend the other Parties from any claims, lawsuits, damages, fines, penalties, attorneys' fees and litigation costs arising from the negligence, recklessness or willful misconduct of the indemnifying Party arising out of, related to, or in the performance of this Agreement.

9. Dispute Resolution. All disputes relating to this Agreement shall first be submitted to non-binding mediation.

10. Warranty of Authority. The Parties and the individuals signing this Agreement hereby warrant and represent that the governing boards of the respective Parties have approved this Agreement and authorized its execution.

CITY OF YUCAIPA
34272 Yucaipa Boulevard
Yucaipa, California 92399

By _____
DICK RIDDELL, Mayor

WESTERN HEIGHTS WATER COMPANY
32352 Avenue D
Yucaipa, California 92399

By _____
ROBERT J. ZAPPIA, Board President

YUCAIPA VALLEY WATER DISTRICT
12770 Second Street
Yucaipa, California 92399

By _____
JAY BOGH, Board President

Final 12/22/2015

**AGREEMENT CONCERNING RECYCLED WATER SERVICE**

As of _____, 2015, the YUCAIPA VALLEY WATER DISTRICT, a public agency ("District"), and WESTERN HEIGHTS WATER COMPANY, a mutual water company ("Water Company"), agree as follows:

1. Purpose. This agreement sets forth the terms under which the District may serve recycled water within Water Company's service area. This agreement does not authorize District to serve potable water within the Water Company's service area.

2. Service Territory. District may serve recycled water specific parcels within the Water Company's service area as depicted on the map attached as Exhibit A.

3. Customer Charges by Water Company. Water Company will continue to levy its usual and customary fees and charges against the subject parcel pursuant to the rules, regulations, and bylaws of the Water Company. Fees and changes may include volumetric charges imposed on recycled water customers by the Water Company. These charges are intended to offset the loss of revenue incurred by the Water Company as the result of recycled water sales. Such fees and charges shall be billed to the Water Company's customers directly by the Water Company. The District shall have no obligation to bill the Water Company's customers for such fees and charges.

4. District Responsibility and District's Charges to Water Company's Customers.

The District shall:

(a) Bill the Water Company's customers directly for recycled water service, including, without limitation, connection, capacity, or metering rates, fees, or charges pursuant to the rules and regulations established by the Board of

Directors of the Yucaipa Valley Water District. Payment of such bills by the Water Company's customers shall be made directly to the District;

(b) Allow the Water Company to read the District's recycled water meter totalizer(s) at any time to determine the volume of recycled water delivered to recycled water customers within the Water Company's service territory;

(c) Cooperate with Water Company's cross-connection control program.

5. Notices. Notices under this agreement shall be addressed to the General Manager of the Party receiving such notice and mailed or faxed to that Party's official principal office address of record.

6. Amendment. This Agreement may only be amended by a written amendment approved by the Parties. The Parties anticipate that parcels receiving recycled water in the future will be identified and approved as amendments to this Agreement and this agreement does not obligate a party to approve service to additional parcels.

7. No Agency or Partnership; No Third Party Beneficiaries. This Agreement is not intended to create, and nothing herein contained shall be construed to create, an association, a joint venture, a partnership, an agency or any other entity of any kind, and no Party is intended to be the agent, employee, joint venturer, associate, or partner of the other. This Agreement is only for the benefit of the Parties to this Agreement, and their successors and assigns. No other person or entity shall be entitled to rely on any matter set forth in this Agreement.

8. Indemnification. Each Party shall indemnify and defend the other Parties from any claims, lawsuits, damages, fines, penalties, attorneys' fees, and litigation costs arising from the negligence, recklessness, or willful misconduct of the

indemnifying Party arising out of, related, or in the performance of this Agreement.

9. Dispute Resolution. All disputes relating to this Agreement shall first be submitted to non-binding mediation.

10. Warranty of Authority. The Parties and the individuals signing this Agreement hereby warrant and represent that the governing boards of the respective Parties have approved this Agreement and authorized its execution.

WESTERN HEIGHTS WATER COMPANY
32352 Avenue D
Yucaipa, California 92399

By:_____
Dr. Robert J. Zappia, Board President

YUCAIPA VALLEY WATER DISTRICT
12770 Second Street
Yucaipa, California 92399

By:_____
Lonni Granlund, Board President

# Operational Updates

Yucaipa Valley Water District

Yucaipa Valley Water District

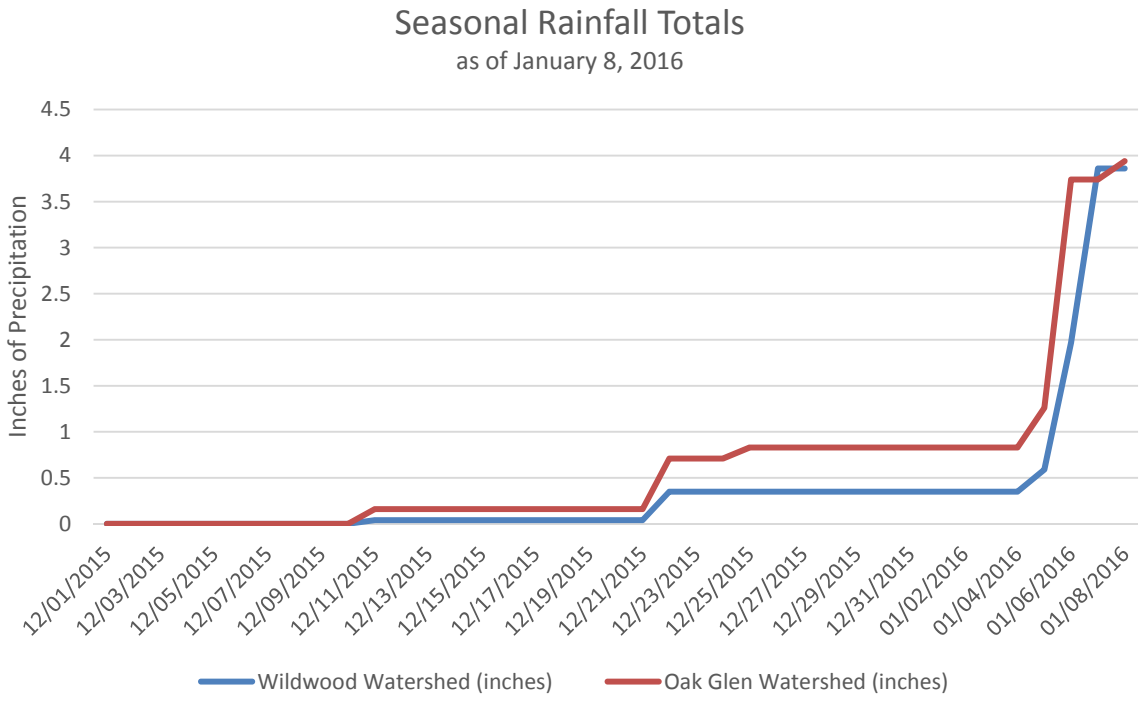
# Workshop Memorandum 16-006

**Date:** **January 12, 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.




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

CALIFORNIA Water Boards

EDMUND G. BROWN JR. GOVERNOR

MATTHEW RODRIQUEZ SECRETARY FOR ENVIRONMENTAL PROTECTION

**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[1] (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.

[1] As amended by Order Nos. 2008-0002-EXEC and 2013-0058-EXEC

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,

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**

| Agency | Contact | Email Address | Staff Assigned to Discharger/Facility |
|---|---|---|---|
| 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 | jvega@evmwd.net | |
| Elsinore Valley MWD | Dennis McBride | dmcbride@evmwd.net | |
| Hemet City | Victor Monz | vmonz@cityofhemet.org | |
| Home Garden Sanitary District | Janey Gress | hgsd@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 | |

| Agency | Contact | Email Address | Staff Assigned to Discharger/Facility |
|---|---|---|---|
| Beaumont City | Public Works | kdunbar@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@rialtoca.gov | |
| Riverside City | Regulatory Compliand | 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 | |

| Agency | Contact | Email Address | Staff Assigned to Discharger/Facility |
|---|---|---|---|
| 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**

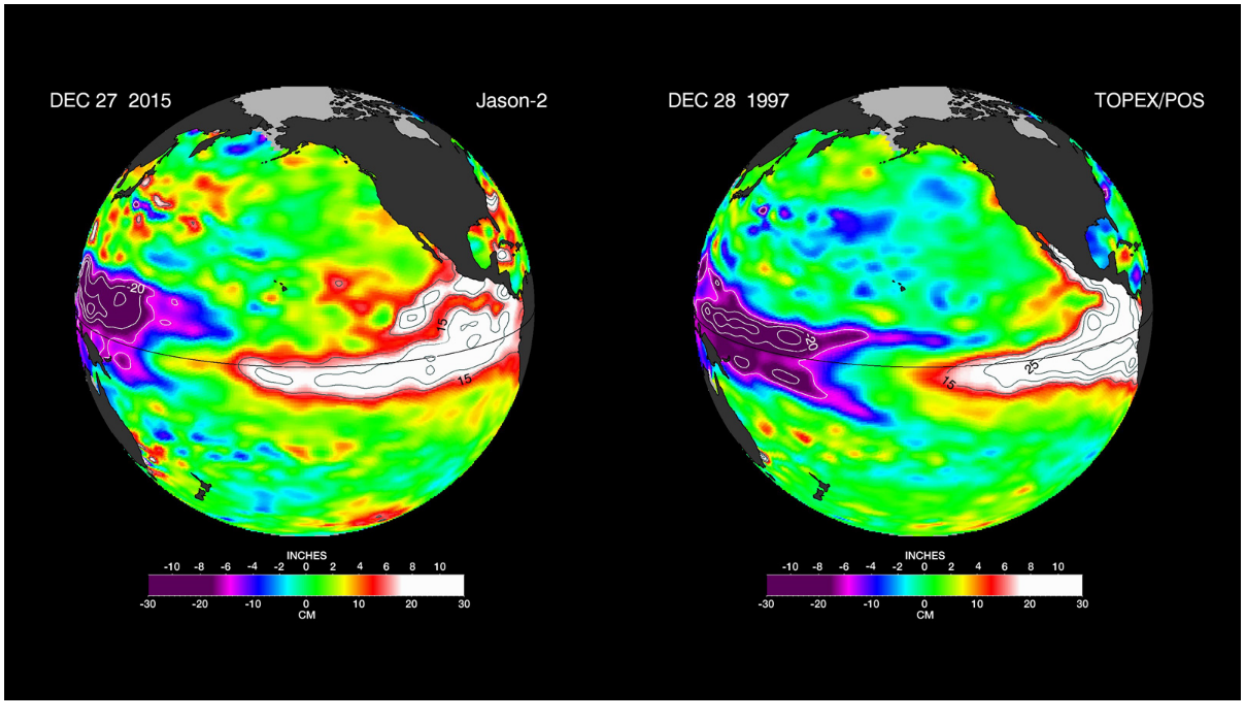
| Agency | Contact | Email Address | Staff Assigned to Discharger/Facility |
|---|---|---|---|
| Cypress City | Matt Burton | MBurton@ci.cypress.ca.us | **Julio Lara** |
| El Toro Water District | Robert R Hill | nadiar@etwd.com | **951-782-4901** |
| Upland City | Acquanetta Warren | awarren@ci.upland.ca.us | julio.lara@waterboards.ca.gov |
| Fullerton City | William Roseberry | billr@ci.fullerton.ca.us | |
| Garden Grove Sanitary District | Bill Murray | publicworks@ci.garden-grove.ca.us | |
| Huntington Beach City | Brian Ragland, PE | brian.ragland@surfcity-hb.org | |
| Inland Empire Utilities Agency | Chris Berch | cberch@ieua.org | |
| La Habra City | Brian Jones | brianj@lahabracity.com | |
| La Palma City | Jeff C Moneda | jeffm@cityoflapalma.org | |
| Irvine Ranch Water District | Kevin Burton | burton@irwd.com | |
| Midway City Sanitation District | Ken Robbins | krobbins@mcsandist.com | |
| Newport Beach City | George Murdoch | gmurdoch@newportbeachca.gov | |
| Orange City | Gene Estrada | gestrada@cityoforange.com | |
| Placentia City | Gerry Hubble | ghubble@placentia.org | |
| Rossmoor/Los Alamitos Area Sanitary Dis | Susan Bell | sewerdistrict@aol.com | |
| Santa Ana City | Nabil Saba | nsaba@ci.santa-ana.ca.us | |
| Santa Ana Watershed Project Authority | Karen Willlams | kwilliams@sawpa.org | |
| Seal Beach City | Sean Crumby | scrumby@sealbeachca.gov | |
| Stanton City | Robert Doss | bdoss@ci.stanton.ca.us | |
| Sunset Beach Sanitary District | Tom Dawes | info@sunsetbeachsd.org | |
| UC Irvine | Marc Gomez | magomez@uci.edu | |
| Villa Park City | Akram Hindiyeh | ahindiyeh@villapark.org | |
| Orange County Sanitation District | Nick Arhontes | narhontes@ocsd.com | |
| Yorba Linda Water District | John DeCriscio | jdecriscio@ylwd.com | |
| CA Dept of Corrections & Rehab | Lawerence Dimock | lawrence.dimock@cdcr.ca.gov | |
| CA Dept of Corrections & Rehab | John Dickson | john.dickson@cdcr.ca.gov | |
| CA Dept of Corrections & Rehab | Michael Thompson | michael.thompson@cdcr.ca.gov | |
| Ontario City | Mohamed El-Amamy | melamamy@ci.ontario.ca.us | |
| Cucamonga Valley Water District | John Bosler | johnb@cvwdwater.com | |
| Chino City | Jim Hill | jhill@cityofchino.org | |
| Fontana City | Todd Heagstedt | theagste@fontana.org | |
| Montclair City | Michael C. Hudson | mhudson@cityofmontclair.org | |
| Irvine Ranch Water District | Lyndy Lewis | lewis@irwd.com | |
| CA Dept of Parks & Rec Winterhaven | Steve Scott | steve.scott@parks ca.gov | |
| San Bernardino Cnty Dept of Airports | Mitch Kinser | mkinser@airports.sbcounty.gov | |
| CA Dept of Parks & Rec San Clemente | Steve Scott | steve.scott@parks.ca.gov | |

| Agency | Contact | Email Address | Staff Assigned to Discharger/Facility |
|---|---|---|---|
| Arrowhead Regional Medical Center | Tim Plumb | plumbt@armc.sbcounty.gov | **Bill Norton** |
| Big Bear Area Regional WWA | Joe Hanford | ops@bbarwa.org | **951-782-4381** |
| Big Bear City Community Services Dist | Nathan Zamorano | nzamorano@bbccsd.org | bill.norton@waterboards.ca.gov |
| Big Bear Lake City | Kevin Sebourn | ksebourn@citybigbearlake.com | |
| Running Springs Water District | Joan C. Eaton | jeaton@runningspringswd.com | |
| San Bernardino Cnty Special Districts | Manuel M Benitez | mbenitez@sdd.sbcounty.gov | |
| San Bernardino Cnty Special Districts | Manuel Benitez | mbenitez@sdd.sbcounty.gov | |
| San Bernardino Cnty Special Districts | Steve Samaras | ssamaras@sdd.sbcounty.gov | |

Jet Propulsion Laboratory
California Institute of Technology

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

# Capital Improvement Projects

Yucaipa Valley Water District

Yucaipa Valley Water District

# Workshop Memorandum 16-007

**Date:** **January 12, 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.


10/12/2015


23490
MK-30
10/12/2015


CAT
CAT
323F


CAT
SKYTRAK


CAT

Yucaipa Valley Water District

# Workshop Memorandum 16-008

**Date:** **January 12, 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<br>1984-constr | • Construction of Digester Nos. 1 and 2 and appurtenant equipment, (e.g. heaters)<br>• Digester No. 1 equipped with a fixed cover and Digester No. 2 equipped with a floating cover |
| Stage I Expansion Project | 1992 | • Construction of Digester Nos. 3 and 4<br>• Both Digester No. 3 and Digester No. 4 equipped with fixed covers |
| Digester No. 2 Cover Modifications | 1994 | • Digester No. 2 cover converted from floating to fixed configuration |
| Digester Cleaning | 2004 | • Digester Nos. 1-4 Cleaning |
| Digester Coating | 2005 | • Digester Nos. 1-4 Coating of Cover |
| Digester and Sludge Holding Tank Modifications Project | 2005 | • Digester Nos. 1-4 and Digester Holding Tank Pump Mix System installation |

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.

Yucaipa Valley Water District

# Director Memorandum 16-0xx

**Date:** January 12, 2016

**Prepared By:** Kevin King, Operations Manager

**Subject:** Change Order No. 1 WRWRF Digester Cleaning and Cover Replacement Project for Coating Repair and Coatings Change to Epoxy

**Recommendation:** That the Board approves Change Order No. 1 for a sum not to exceed $67,347.

After the completion of cleaning Digester Nos. 1 and 2, Harper and Associates conducted an inspection of the interior of the digesters. At this time it was determined that the coatings on the mixing equipment had failed and showing signs of corrosion.

Working with Harper & Associates and Sherwin Williams it was determined that the equipment needed to be sand basted to white metal and recoated with an epoxy coating at a cost of $37,998.

Also the original specification for the coatings on the interior of the digesters called for a polyurethane coating system. Harper recommended not using the polyurethane coating on the interior of the digester domes due to the recent failures they have experienced. Harper's recommendation is to use the same epoxy coating system that is being used on the mixing equipment. The total cost to utilize the epoxy coating system on the interior of the digester domes is $29,349. District staff agrees with the proposed recommendations.

Therefore, the total cost for completing this additional work as Change Order No. 1 is $67,347.

| | Contract Changes | Contract Amount | Percentage Change from Original Bid Amount | Reference |
|---|---|---|---|---|
| Original Bid Amount | | $2,175,000 | - - | DM 15-041 |
| Change Order No. 1 | $67,347 | $2,242,347 | 3.10% increase | DM 16-0xx |

District staff recommends that the Board approves Change Order No. 1 for an increase of $67,347 changing the current contract amount from $2,175,000 to 2,242,347.

Financial Considerations:

This project is being funded from Sewer Division, Depreciation Reserves, #03-10310.

C.O. NO. 1

PAGE 1 OF 1

CONTRACT CHANGE ORDER NO. 1

CONTRACT *WRWRF DIGESTER CLEANING AND COVER REPLACEMENT PROJECT*

DATED 6/24/2015 BY AND BETWEEN YUCAIPA VALLEY WATER DISTRICT (OWNER),

AND PASCAL & LUDWIG CONSTRUCTORS (CONTRACTOR),

is hereby directed to make the following change(s) in Contract Work:

| ITEM NO. | DESCRIPTION OF CHANGE | DECREASE $ | INCREASE $ |
|---|---|---|---|
| 1 | DIGESTER SLUDGE MIXING PIPE COATING REPAIRS<br>Piping in Digester Nos. 1 and 2 shall be abrasively blasted to White Metal SSPC SP-5, in accordance with Specification Section 13201 Part 3.3 and recoated with the Sherwin Williams Fast Clad ER epoxy coating system to a minimum dry film thickness of 40 mils, in accordance with Section 13201 Parts 2.2 and 3.6. The stainless steel pipe support stands and mixing nozzles shall be protected in place during the blasting and coating work. | | 37,998 |
| 2 | DIGESTER COVER INTERIOR COATING CHANGE TO EPOXY<br>The underside of the covers for Digester Nos. 1, 2, 3 and 4 shall be coated with the Sherwin Williams Fast Clad ER epoxy coating system following submittal and approval of a revised version of submittal no. 23. | | 29,349 |

| | |
|---|---|
| Total DECREASE in Contract Amount | N/A |
| Total INCREASE in Contract Amount | $67,347 |
| Net change in Contract Amount | $67,347 |
| Contract Amount Prior to Change | $2,175,000 |
| Contract Amount Adjusted for Change | $2,242,347 |

By reason of Change Order No. 1, time of completion shall be adjusted as follows:

0 Working Days. Adjusted Contract Completion Date shall be 8/29/2016.

All provisions of the Contract shall apply hereto, and shall become effective when fully executed (signed and dated) by both parties.

Recommended by (Engineer) _____ Date: December 1, 2015

Accepted by (Contractor) _____ Date: _____

Approved by (Owner) _____ Date: _____

Remarks _____

**PASCAL & LUDWIG CONSTRUCTORS**

2049 EAST FRANCIS STREET
ONTARIO, CALIFORNIA 91761

TELEPHONE:
(909) 947-4631
FAX: (909) 947-4722

ENGINEERS & CONSTRUCTORS

November 24, 2015

Yucaipa Valley Water District
12770 Second Street
Yucaipa, CA 92399

Attention: Kevin King

Reference: WRWRF Digester Cleaning & Cover Replacement

Subject: Change Order #1 – Epoxy Coating System

Dear Mr. King:

Pursuant to your request at our Owner's meeting on Thursday, November 19, 2015 we are submitting the pertinent back up documents in support of our Change Order Request #1. I am including the breakdown pricing for the mixing pipe coating for just Digesters 1 and 2 at this time as detailed in Field Order #1, as well as the cost to supply the recommended epoxy coating system to the underside of the four digester covers in lieu of a polyurethane system which was included in the bid.

As discussed, the condition of the mixing pipe system in Digesters 3 and 4 cannot be determined at this time and has not been included in the discussions pertaining to this change order request.

Please see the attached Cor-Ray Change Order Request with Pascal and Ludwig estimate for the mixing pipe repairs. The additional cost to adjust pipe supports, provide scaffold stairway, sandblast, and coat the existing mixing pipe per digester is $16,473. With mark-up the cost for both is $37,998.

We have also attached the Change order Request from Cor-Ray Painting Company in regard to the epoxy coating. Cor-Ray is requesting an additional payment of $6,380 per digester to supply the referenced epoxy coating system. With mark-up the additional total cost for all four digesters is $29,349.

Please issue a Contract Change Oder in the amount of $67,347 at your earliest convenience. You may contact me at 909-947-4631 to further discuss this matter as needed.

Respectfully,

PASCAL & LUDWIG CONSTRUCTORS

William A. Singleton

Bill Singleton
Project Manager

BS:sz

Enclosure: as indicated

Item Summary - Analysis

**PASCAL & LUDWIG CONSTRUCTORS**

Project Description - **Yucaipa Digester Project**

Description - **Sandblast/Coat Digester Mixing Pipe in Digesters 1 and 2**

Item No.: _____

Sheet No.: 1

Estimator: WAS

Date: 11/25/15

| DESCRIPTION | RATE | CODE | Quantity SHIFTS | Equipment Rentals CO. | Equipment Rentals OTHER | 40 ST & S | 530 LABOR | MAN-DAYS | FIELD COST | SUB. | PERM. MATL. | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lower and raise pipe supports to paint | | | | 200 | | 80 | 1,100 | 2.00 | 1,380 | | | |
| mixing pipe (4 times) 16 MH's | | | | | | | | | | | | |
| Scaffold Rental | | | | | | | | | | 375 | | |
| Painter | | | | | | | | | | 14,718 | | |
| | | | | 200 | | 80 | 1,100 | | 1,380 | 15,093 | | |
| **O/H & Markup** | | | | 15% | | 15% | 20% | | | 15% | | |
| | | | | 230 | | 92 | 1,320 | | 1,642 | 17,357 | | 18,999 |
| | | | | | | | | | | | | x 2 |
| | | | | | | | | | | | **TOTAL** | **37,998** |

Item Summary - Analysis

PASCAL & LUDWIG CONSTRUCTORS

**COR-RAY PAINTING CO.**

**Painting • Sandblasting • Fireproofing • Specialty Coatings**
**ISO 9001:2008 Certified**

November 16, 2015

Pascal & Ludwig Constructors
2049 E. Francis Street
Ontario, Ca. 91761
Attn: Bill Singleton, Project Manager

Subject: WRWRF Digester Cleaning and Cover Replacement Project
**FO No 001, Request for Change Order Breakdown**

CRPC Ref 305383

Gentlemen,

With reference to FO No 001 and our Lump Sum proposal of November 12, we offer the requested breakdown:

Lump Sum Price per each:

| | Supernatant Box Recoat | Digester Sludge Mixing System Piping |
|---|---|---|
| LABOR HOURS | 90 | 136 |
| LABOR COST | $6,210.00 | $9,384.00 |
| EQUIPMENT | $3,192.00 | $4,161.00 |
| MATERIAL | $4,487.00 | $1,173.00 |
| | $13,889.00 EACH | $14,718.00 EACH |

4 Unit Total $114,428.00

Respectfully,

John T. McClellan
562-321-0727

COR-RAY PAINTING CO.
STATE OF CA LIC. 233474 A/C33, C35 - STATE OF CA. PWC REG 1000004748
10114 SHOEMAKER AVENUE - SANTA FE SPRINGS, CALIFORNIA 90670
PHONE (562) 906-9770- FAX (562) 906-6104 www.corraypainting.com

**COR-RAY PAINTING CO.**

**Painting • Sandblasting • Fireproofing • Specialty Coatings**
**ISO 9001:2008 Certified**

November 16, 2015

Pascal & Ludwig Constructors
2049 E. Francis Street
Ontario, Ca. 91761
Attn: Bill Singleton, Project Manager

Subject: WRWRF Digester Cleaning and Cover Replacement Project
**Request for Change Order**

CRPC Ref 305383, PCO #2

Gentlemen,

Pursuant to the rejection of our submittal for Specification 09900 and 13232 for use of Sherwin Williams 98% Solids Polyurethane and your request for a substitution of a 98% Epoxy material, we are requesting a Change Order for the impact of this Specification Change.

We are requesting an amount of $6,380.32 per Digester for the coating of the underside of the new Digester covers with Sherwin Williams Fast Clad ER Epoxy.

Should you have any questions, please contact the undersigned.

Respectfully,

John T. McClellan
562-321-0727

COR-RAY PAINTING CO.
STATE OF CA LIC. 233474 A/C33, C35 - STATE OF CA. PWC REG 1000004748
10114 SHOEMAKER AVENUE - SANTA FE SPRINGS, CALIFORNIA 90670
PHONE (562) 906-9770- FAX (562) 906-6104 www.corraypainting.com

SHERWIN-WILLIAMS
Protective & Marine Coatings

November 13th 2015

Cor-Ray Painting
10114 Shoemaker
Santa Fe Springs, CA 90670

Attention: John MC Clellan

Reference: Pricing summary from e mails reguarding Yucaipa Valley WD Digester Covers

| | | |
|---|---|---|
| Macropoxy 646 100 | $27.75 | |
| Hi-Solids Polyurethane 100 | $52.00 | |
| Poly Cote 115 | $28.00 | |
| Fastclad ER | $65.00 | |
| Durplate 2300 | $75.00 | Kit |
| AW Cook MSM | $40.00 | 60 lb bag |

If you have any additional questions, please call me.

Todd McDonald
Industrial Sales Representative

Todd Mc Donald, Protective Coatings Specialist The Sherwin-Williams Company
7613 Somerset Blvd Paramount, California 90723 Ph (562) 531-1850 Fax: (562) 531-2137 Cell (714) 697-1472 Email: swrep4954@sherwin.com

# Administrative Items

Yucaipa Valley Water District

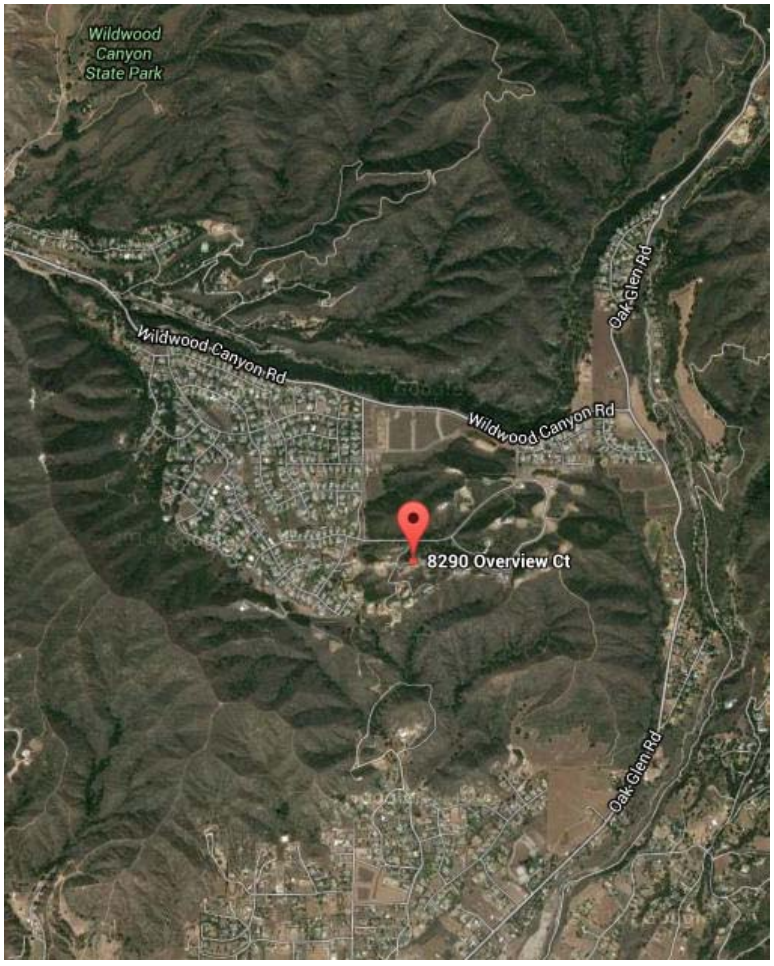
Yucaipa Valley Water District

# Workshop Memorandum 16-009

**Date:** **January 12, 2016**

**Subject:** **Discussion Regarding a Disputed Invoice for the Installation of a New Water Service at 8290 Overview Court, Yucaipa - Mr. Ralph Monge**

On January 4, 2016 the Yucaipa Valley Water District received a request from Ralph Monge to address the Board of Directors regarding the installation cost of a water service to property located at 8290 Overview Court, Yucaipa.




The Yucaipa Valley Water District requires a $3,500 deposit for water service installations prior to District staff scheduling the work. The water service installations are performed on a time and material basis, with any monies remaining from the deposit refunded to the customer and any shortages for the cost of installation to be invoiced to the customer. Using a time and material invoicing system ensures that the costs performed for new services are not subsidized by the existing customers.

Mr. Monge deposited the required amount of $3,500 with the District for the installation of the water services on October 29, 2015, and the work was completed on December 17, 2015.

Upon receipt of the invoice (copy attached) for an additional $3,804.75, Mr. Monge contacted District staff requesting an explanation for the additional expenses. District staff reviewed the costs and confirmed that all the costs were valid and pertinent to the job. Mr. Monge was advised of his option to address the Board of Directors on this matter and subsequently requested a meeting with the board at the next workshop.

January 4, 2006



Yucaipa Valley Water District
12770 Second St
Yucaipa Ca 92399

Attn: Mr Jack Nelson

On December 18, 2015 I received a final Statement of $3804.7 for the installation of a 2" water line located on 8290 overview Ct Yucaipa Ca. I believe that the statement is above of what I expected, I am requesting that you enter my name on the workshop Agenda for January 12. 2006 .

Sincerely,

Ralph Monge
8290 Overview Ct
Yucaipa Ca, 92399

Yucaipa Valley Water District
12770 Second Street * P.O. Box 730 * Yucaipa, California 92399-0730
(909) 797-5117 *Fax: (909) 797-6381 * www.yvwd.dst.ca.us

Invoice Sent To: Ralph Monge
8290 Overview Ct
Yucaipa, Ca 92399

Attention:

**INVOICE**

Phone Number: (909)797-5706

Invoice Number: A-6996

Invoice Date: December 18, 2015

Project Reference: 65-20014

Project Location: 8290 Overview Ct

Message/Notes: Install 1 1/2" Fire Service for 2nd unit fire sprinklers

Invoice Details:

| | | Amount |
|---|---|---|
| Labor | | $1,568.58 |
| Equipment | | $1,801.22 |
| Inventory/Material | | $2,144.81 |
| A/P | | $1,790.14 |
| | Subtotal | $7,304.75 |
| Less Deposit | | ($3,500.00) |
| | Total Balance Due | $3,804.75 |

GL Account #: 02.11119

Invoice due upon receipt and will be considered delinquent within 30 days of the invoice date. A late charge will be applied on delinquent accounts of 10% for the first month and 0.5% monthly thereafter.

Yucaipa Valley Water District

**Work Order 65-20014**
YVWD
Printed 12/18/2015 - 11:14 AM (Duplicate Copy)

# Statement of Work

## Maintenance Details

**Requested By:** Hull, John on 10/30/2015 2:53:00 PM
**Target:** 11/18/2015 (1) hr
**Contact:** Hull, John
**Phone:** (909) 790-3310
**Priority/Type:** 2 - Normal / Corrective
**Procedure:** Service Installation (02)
**Supervisor:** Hull, John
**Shop:** W

**Reason:** 02 8290 Overview Ct. Ralph Monge (909) 936-9432

☐ Warranty ☐ Shutdown ☐ Lockout ☐ Attach ☑ Charge

## Tasks

| # | Description | Rating | Meas. | Initials | Failed | Complete |
|---|---|---|---|---|---|---|
| 1 | Special Instructions:<br>Comments: Install 1-1/2 fire service call customer to coordinate. 11/10/15 Installed, 1-1/2" Sensus meter #79174123 | | | | ☐ | ☑ |
| | **Underground Service Alert** | | | | | |
| 20 | USA #<br>**Comments: A53070095** | | | | ☐ | ☑ |
| 30 | Call Date:<br>**Comments: 11/3/15** | | | | ☐ | ☑ |
| 40 | Call Time:<br>**Comments: 0800** | | | | ☐ | ☑ |
| 50 | Caller Name:<br>**Comments: Joe D** | | | | ☐ | ☑ |
| 60 | County: | | | | ☐ | ☐ |
| 70 | Page/Grid: | | | | ☐ | ☐ |
| 80 | Type of Work: | | | | ☐ | ☐ |
| 90 | Descriptive Location: | | | | ☐ | ☐ |
| 100 | Update On/Before Date:<br>**Comments: 12/1/15** | | | | ☐ | ☑ |
| 110 | Subsidence: [ ] Water [ ] Sewer AD#_____ | | | | ☐ | ☐ |
| 120 | Water Loss: GPM_____<br>HR_____ | | | | ☐ | ☐ |
| 130 | Paving: [ ] No [ ] Yes<br>SF_____<br>**Comments: 100 SQ FT** | | | | ☐ | ☑ |
| 140 | Sawcutting: [ ] Yes [ ] No | | | | ☐ | ☐ |
| 150 | Task<br>**Comments: Mike R 11-6-15 - Striped black top, excavated to main and plated excavation. (Great job by Sean Ferris)** | | | | ☐ | ☑ |
| 160 | TASK<br>**Comments: Tapped and installed 2" PE fire service and 1-1/2" meter. Completed on 11/10/15** | | | | ☐ | ☑ |

Work Order Charge Statements-EA Page 2 of 3

| Labor | Reg Hrs | OT Hrs | Other Hrs | Date | Charge |
|---|---|---|---|---|---|
| Ferris, Sean | 6 | 0 | 0 | 11/6/2015 | $265.56 |
| Dump Truck (small & large) Boom | 0 | 0 | 6 | 11/6/2015 | $179.86 |
| Service Truck (1-1/2 to 2 ton) | 0 | 0 | 6 | 11/6/2015 | $157.37 |
| Vactor Truck | 0 | 0 | 2 | 11/6/2015 | $312.25 |
| Crane Truck | 0 | 0 | 1 | 11/6/2015 | $48.71 |
| Rivera, Michael | 1 | 0 | 0 | 11/6/2015 | $71.70 |
| Tractor - Backhoe | 0 | 0 | 6 | 11/6/2015 | $288.52 |
| Duncan, Jacob | 6 | 0 | 0 | 11/6/2015 | $174.66 |
| Risaliti, Geoffrey | 6 | 0 | 0 | 11/6/2015 | $174.66 |
| Risaliti, Geoffrey | 6 | 0 | 0 | 11/10/2015 | $174.66 |
| Duncan, Jacob | 6 | 0 | 0 | 11/10/2015 | $174.66 |
| DeSalliers, Joe | 1 | 0 | 0 | 11/10/2015 | $71.70 |
| Ferris, Sean | 6 | 0 | 0 | 11/10/2015 | $265.56 |
| Westerlin, Kyle | 6 | 0 | 0 | 11/10/2015 | $195.42 |
| Autos & Pickups (1/2 to 3/4 ton) | 0 | 0 | 1 | 11/10/2015 | $12.49 |
| Dump Truck (small & large) Boom | 0 | 0 | 6 | 11/10/2015 | $179.86 |
| Dump Truck (small & large) Boom | 0 | 0 | 6 | 11/10/2015 | $179.86 |
| Crane Truck | 0 | 0 | 1 | 11/10/2015 | $48.71 |
| Tapping Machine ($40/inch x size) | 0 | 0 | 2 | 11/10/2015 | $99.92 |
| Tractor - Backhoe | 0 | 0 | 6 | 11/10/2015 | $288.52 |
| Vibratory Plate/Wacker Rammer (compactor) | 0 | 0 | 1.5 | 11/10/2015 | $5.15 |
| **Labor Totals:** | | | | | $3,369.80 |

**Materials**

| Item Name | Location | Quantity | Other Cost | Charge |
|---|---|---|---|---|
| AC box #6-A6001640PCX12 (172-260010) | | 1 | $0.00 | $96.04 |
| AC outer cover #6-A6001643DZ (172-260020) | | 1 | $0.00 | $56.80 |
| AC inner lid #6-A6000482 (172-260030) | | 1 | $0.00 | $15.89 |
| 1-1/2 brass meter flange " (621-501150) | | 1 | $0.00 | $48.71 |
| Full-face 1 1/2x1/8 meter fl g (621-615181) | | 2 | $0.00 | $3.75 |
| 2 PE (732-350020) | | 60 | $0.00 | $173.11 |
| Saddle, 6.63- 7.60 x 2 " (801-076020) | | 1 | $0.00 | $47.85 |
| AMV LW 2 cts110xmf double dri" (821-202015) | | 1 | $0.00 | $256.05 |
| Elbow 2 90 c110 (831-209011) | | 1 | $0.00 | $218.58 |
| Coup/Adpt 2 cts110xfpt (841-202012) | | 1 | $0.00 | $78.77 |
| Corp stop 2 mpt x mpt " (851-202044) | | 1 | $0.00 | $244.90 |
| Brass nipple 1 1/2 x 3" " (871-515030) | | 1 | $0.00 | $10.58 |
| Ball valve, 1 1/2 fpt x fpt " (931-140150) | | 1 | $0.00 | $37.32 |
| Meter 1.5 Gal 8 wh Omni R2 " (990-150112) | | 1 | $0.00 | $664.87 |

| | | | | |
|---|---|---|---|---|
| 2 Meter bolt set plated " (991-00200) | | 2 | $0.00 | $7.49 |
| Delivery, sand/base/CMB (995-054300) | | 10 | $0.00 | $85.43 |
| Sand, fill (995-054310) | | 4 | $0.00 | $58.20 |
| CMB (995-054321) | | 6 | $0.00 | $40.47 |
| **Material Totals:** | | | $0.00 | $2,144.81 |

## Other Costs

| Name | Description | Invoice # | Date | Charge |
|---|---|---|---|---|
| Ralph Monge | Fire Service Deposit | Ck# 9832 | 10/29/2015 | ($3,500.00) |
| JB Paving and Engineering, Inc. | paving | | 12/5/2015 | $1,790.14 |
| **Other Cost Totals:** | | | | ($1,709.86) |

## Totals

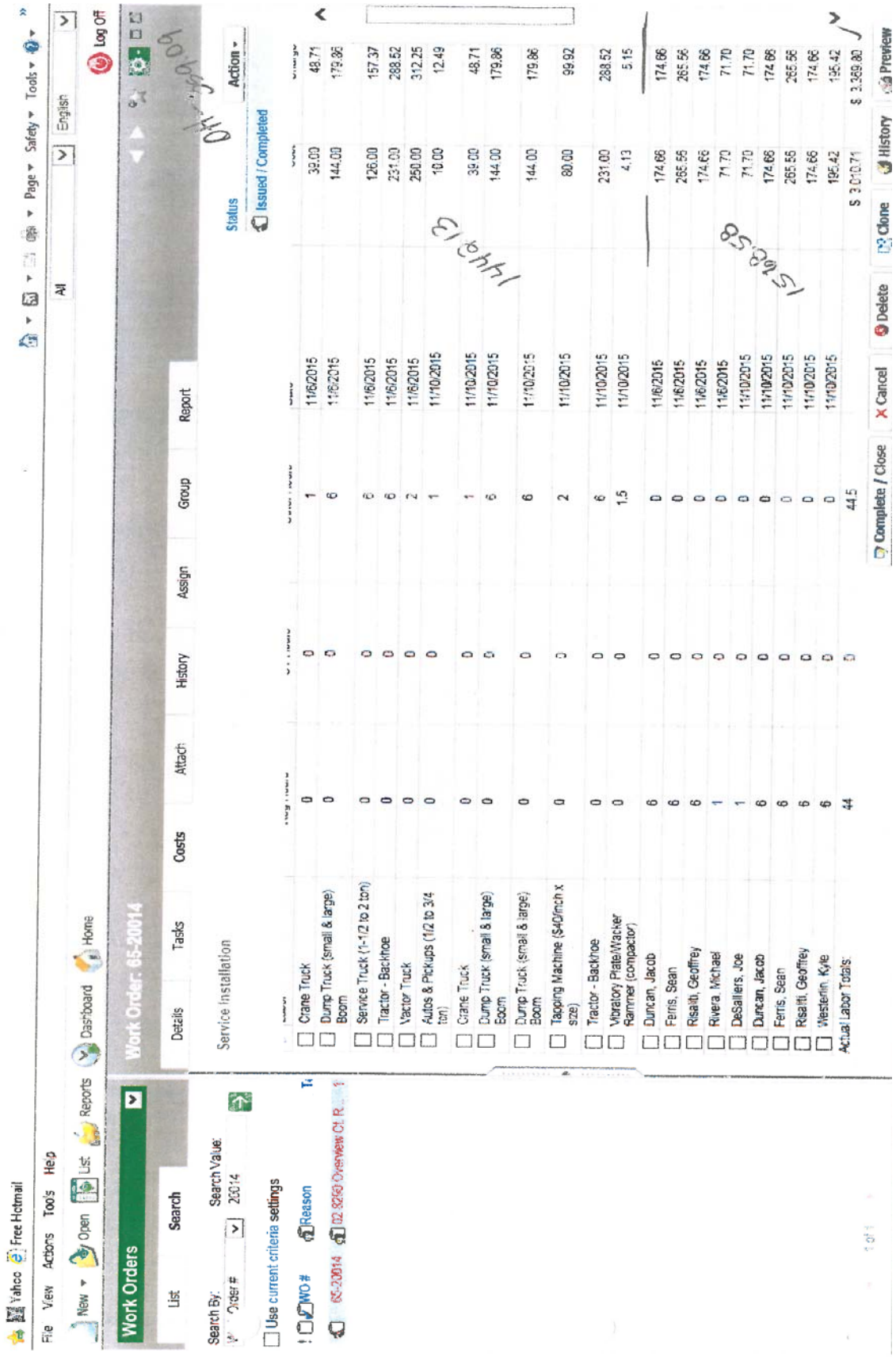
| Section | Charge |
|---|---|
| Labor Total | $3,369.80 |
| Materials Total | $2,144.81 |
| Other Costs Total | ($1,709.86) |
| **Grand Total:** | $3,804.75 |

## Labor Report

**Completed:** 12/17/2015 8:21:00 AM **Failure:** / **Meter(s):**

**Report:** **151217 Complete ready to invoice John Hull**

Work Orders
Work Order: 65-20014
Details
Tasks
Costs
Attach
History
Assign
Group
Report
Reason
02 8290 Overview Ct. Ralph Monge (909) 936-9432
Problem:
Requester ID: 18
Name: Hull, John
Phone: (909) 790-3310
Email: jhull@yvwd.dst.ca.us
Asset / Location
Attach...
Details
Procedure: 02
Service Installation
Target Date: 11/18/2015
Target Hours: 1
Type: CO
Corrective
Category: CONST-02
Account: 02-5-03-51021
Priority: 2
2 - Normal
Project:
Repair Center: 65
Shop: W
Supervisor: 16
Shift:
Department: 02-03 US
Customer:
Taken By: 16
Status
Action
Requested 10/30/2015 2:53 PM
Issued / Completed
Sub-Status:
Approval
Action
(Not Required)
Assignments
Action
DeSalliers, Joe
New Assignment
Indicators
Warranty
Attachments
Chargeable
Survey
Shutdown Required
Lockout/Tagout
Follow-up Work
Printed / E-Mailed
Complete / Close
Cancel
Delete
Clone
History
Preview
Page 1 / Page 2 / User-Defined
Ralph Monge
8290 Overview Ct
Yucaipa, CA 92399
02-2/2003 3500.00
02-5-03-51021 - (1568.58)
02-5-03-51092 - (1442.13)
02-5-03-51021 - (1717.22)
02-5-03-51021 - (1738.00)
02-5-03-51091 - (838.84)
02.11119 3804.75
A-6996


Work Orders
Work Order: 05-20014
Details
Tasks
Costs
Attach
History
Assign
Group
Report
Service Installation
Status
Issued / Completed
Action
Crane Truck
Dump Truck (small & large) Boom
Service Truck (1-1/2 to 2 ton)
Tractor - Backhoe
Vactor Truck
Autos & Pickups (1/2 to 3/4 ton)
Crane Truck
Dump Truck (small & large) Boom
Dump Truck (small & large) Boom
Taping Machine ($40/inch x size)
Tractor - Backhoe
Vibratory Plate/Wacker Rammer (compactor)
Duncan, Jacob
Ferris, Sean
Risalti, Geoffrey
Rivera, Michael
DeSallers, Joe
Duncan, Jacob
Ferris, Sean
Risalti, Geoffrey
Westerlin, Kyle
Actual Labor Totals:
Complete / Close
Cancel
Delete
Clone
History
Preview

Work Orders
Work Order: 65-20014
Details
Tasks
Costs
Attach
History
Assign
Group
Report
Service Installation
Status
Issued / Completed
Action
Parts (Actuals)
Add...
Remove
Part #
Part Name
Location
Bin
PO #
Est. Qty
Actual Qty
Other Cost
Cost
Charge
172-260010 AC box #6-A6001640PCX12 (Directly Issued) (Not Specified) 0 1 0.00 76.89 96.04
172-260020 AC outer cover #6-A60016643DZ (Directly Issued) (Not Specified) 0 1 0.00 45.48 56.80
172-260030 AC inner lid #6-A60000482 (Directly Issued) (Not Specified) 0 1 0.00 12.72 15.89
621-501150 1-1/2 brass meter flange " (Directly Issued) (Not Specified) 0 1 0.00 39.00 48.71
621-515181 Fus-face 1 1/2x1½ meter flg (Directly Issued) (Not Specified) 0 2 0.00 3.00 3.75
732-350020 2 PE (Directly Issued) (Not Specified) 0 60 0.00 138.60 173.11
801-976020 Saddle, 6.63- 7.60 x 2 " (Directly Issued) (Not Specified) 0 1 0.00 38.31 47.85
821-202015 AWV LW 2 cts110xmf double dm (Directly Issued) (Not Specified) 0 1 0.00 205.00 256.05
831-209011 Elbow 2 90 c110 (Directly Issued) (Not Specified) 0 1 0.00 175.00 218.58
841-202012 Coup/Adpt 2 cts110xfpt (Directly Issued) (Not Specified) 0 1 0.00 63.07 78.77
851-202044 Corp stop 2 mpt x mpt " (Directly Issued) (Not Specified) 0 1 0.00 196.06 244.90
871-515030 Brass nipple 1 1/2 x 3 " (Directly Issued) (Not Specified) 0 1 0.00 8.47 10.58
931-140150 Ball valve, 1 1/2 fpt x fpt " (Directly Issued) (Not Specified) 0 1 0.00 29.86 37.32
960-150112 Meter 1.5 Gal S wh Omni R2 " (Directly Issued) (Not Specified) 0 1 0.00 532.32 664.87
961-00200 2 Meter bolt set plated " (Directly Issued) (Not Specified) 0 2 0.00 6.00 7.49
965-054300 Delivery, sandbase/CMB (Directly Issued) (Not Specified) 0 10 0.00 68.40 85.43
965-054310 Sand, fill (Directly Issued) (Not Specified) 0 4 0.00 46.60 58.20
965-054321 CMB (Directly Issued) (Not Specified) 0 6 0.00 32.40 40.47
Actual Parts Totals: $ 1,717.22 $ 2,144.81
Other Costs (Actuals)
Add...
Remove
Name
Company
Date
Est. Cost
Actual Cost
Markup
Charge
Ralph Monge 10/29/2015 0.00 -3500.00 0% -3500.00
Complete / close
Cancel
Delete
Clone
History
Preview
65-20014-HO

Work Orders
Work Order: 65-20014
Details
Tasks
Costs
Attach
History
Assign
Group
Report
Service Installation
Status
Issued / Completed
Action
Other Costs (Actuals)
Actual Parts Totals:
Actual Other Costs Totals:
Actual Totals:
Complete / Close
Cancel
Delete
Clone
History
Preview

Yucaipa Valley Water District

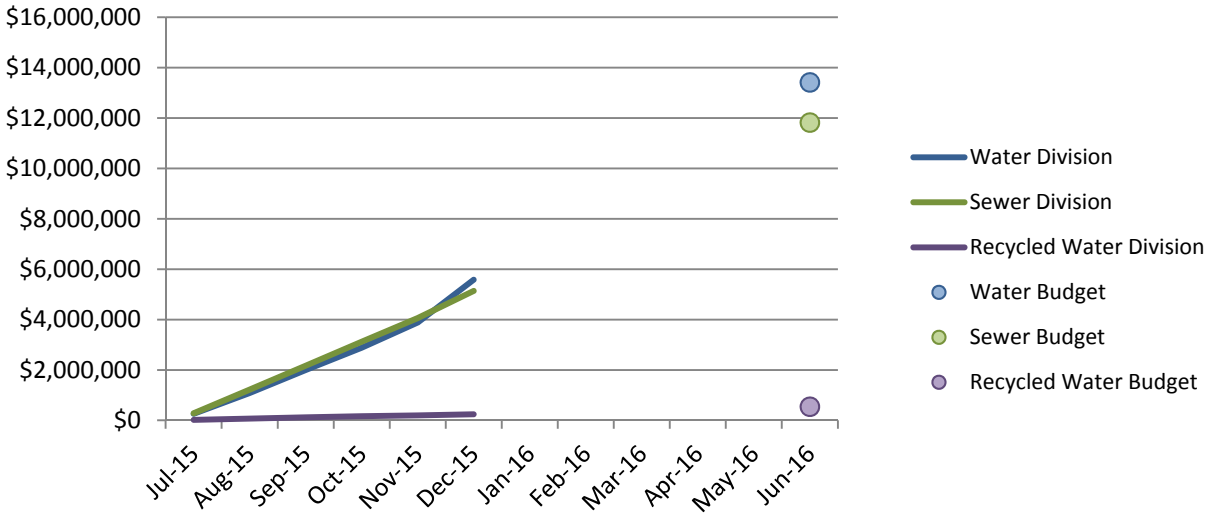
# Workshop Memorandum 16-010

**Date:** **January 12, 2016**

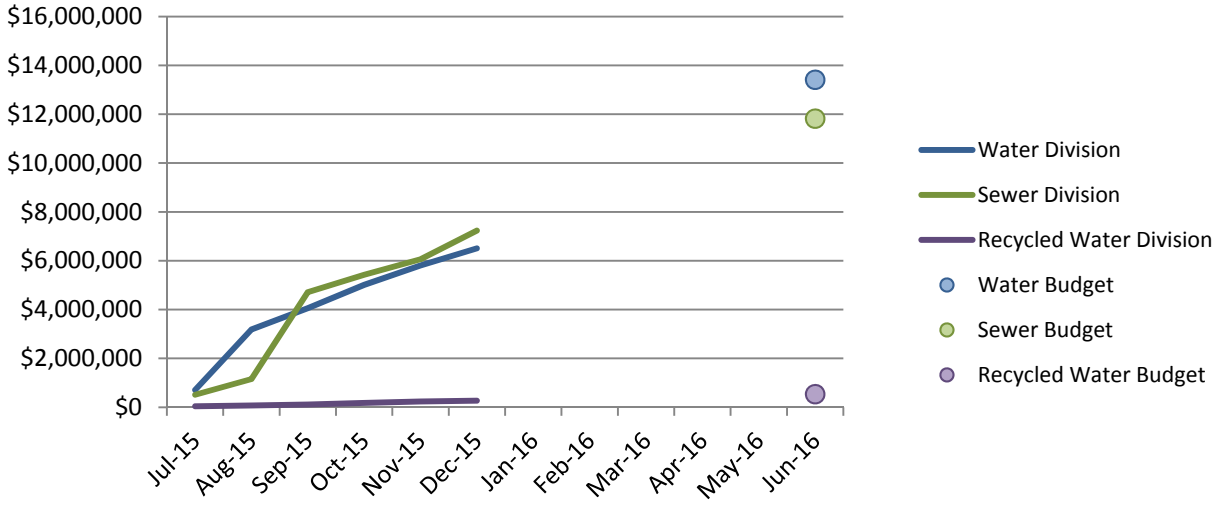
**Subject:** **Review of the Unaudited Financial Report for the Period Ending on December 31, 2015**

The District staff has prepared the attached Unaudited Financial Report for the period ending on December 31, 2015. A graphical summary of the current operating budget is provided below and detailed information follows as part of the monthly unaudited financial report.

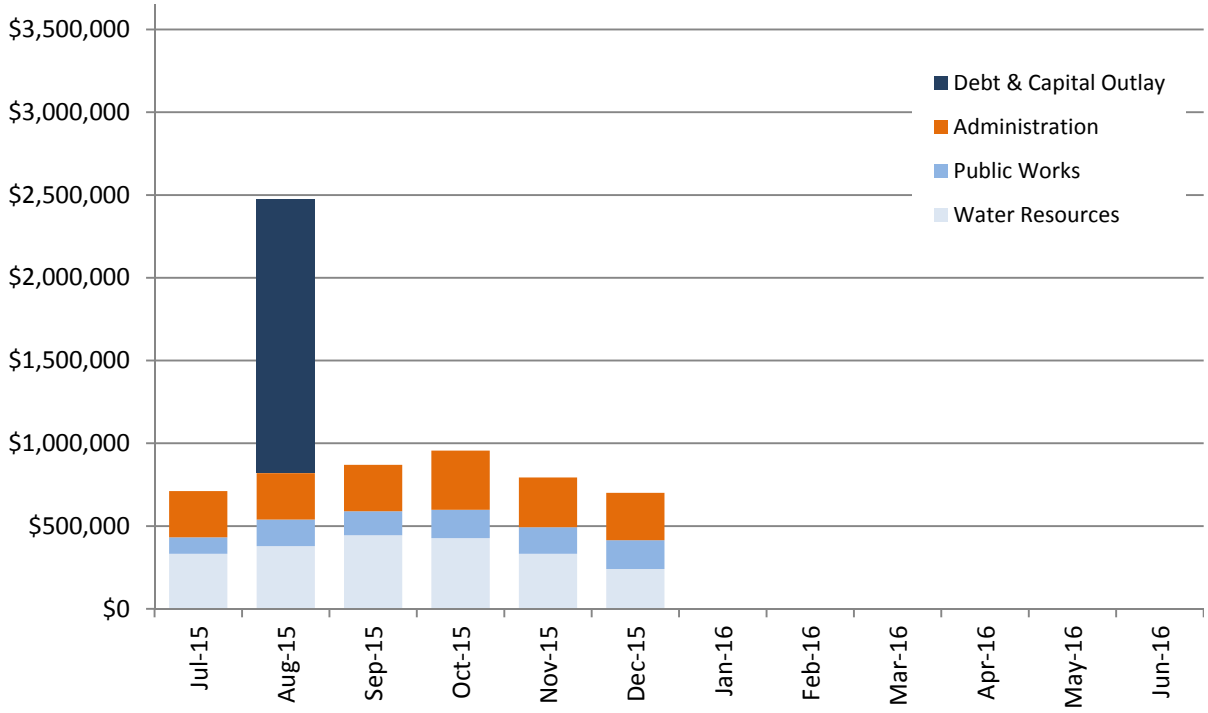
## Fiscal Year 2016 YTD Revenues & Budget Targets



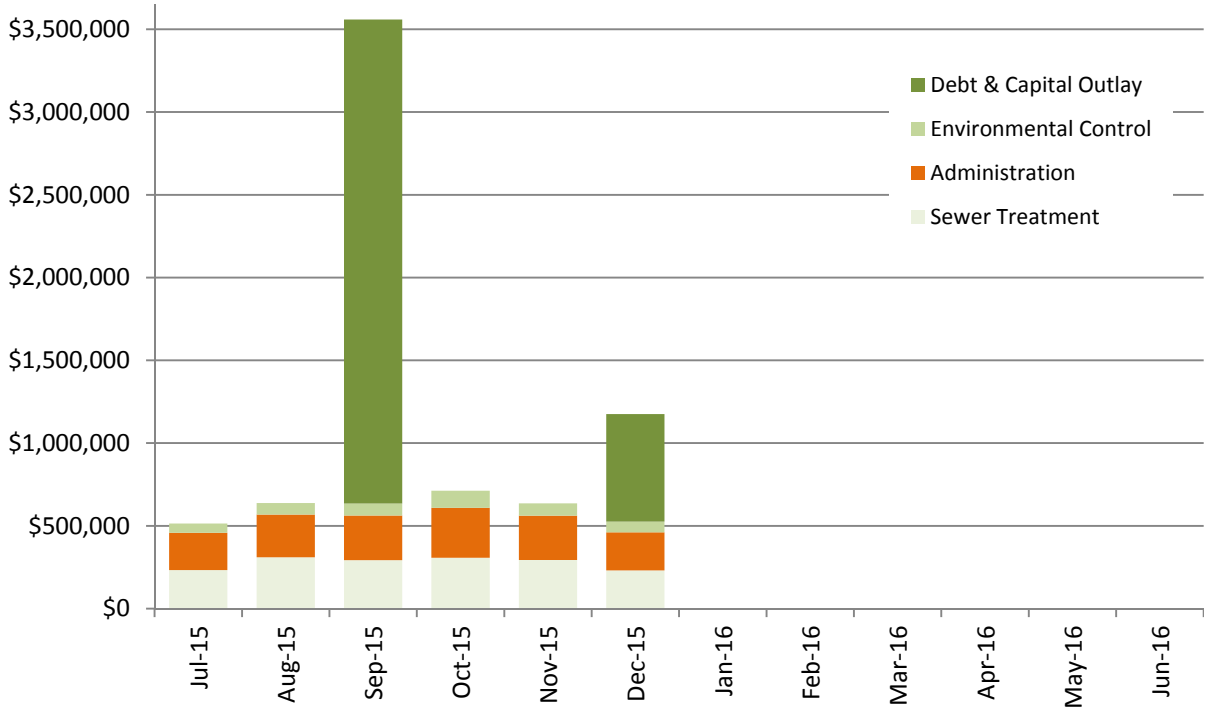

## Fiscal Year 2016 YTD Expenses & Budget Targets



## Water Division Monthly Expense Summary - FY 2016




## Sewer Division Monthly Expense Summary - FY 2016



Yucaipa Valley Water District

# Director Memorandum 16-0xx

**Date:** January 20, 2016

**Prepared By:** Vicky Elisalda, Controller
Peggy Little, Administrative Supervisor

**Subject:** Unaudited Financial Report for the Period Ending on December 31, 2015

**Recommendation:** That the Board receives and files the unaudited financial report as presented.

The following unaudited financial report has been prepared by the Administrative Department for your review. The report has been divided into six sections to clearly disseminate information pertaining to the financial status of the District. Please remember that the following financial information has not been audited.

## Cash Fund Balance Report

[Detailed information can be found on page 5 to 6 of 30]

The Cash Fund Balance Report provides a summary of how the total amount of funds maintained by financial institutions is distributed throughout the enterprise and non-enterprise funds of the District. A summary of the report is as follows:

| Fund Source | Operating Funds | Restricted Funds | Total Funds |
|---|---|---|---|
| Water Division | $7,786,978.89 | $1,240,266.56 | $9,027,245.45 |
| Sewer Division | $12,561,048.70 | ($5,337,938.61) | $7,223,110.09 |
| Recycled Water Division | $2,745,268.15 | $386,293.32 | $3,131,561.47 |
| **Total** | **$23,093,295.74** | **($3,711,378.73)** | **$19,381,917.01** |

Most of the funds reflected in the Cash Fund Balance Report are designated for specific purposes and are therefore restricted, either by law or by District policy.

## Check Register

[Detailed information can be found on pages 7 to 11 of 30]

The check register lists each check processed during the month of December 2015. The District processed 262 checks during the month of December for a total sum of $2,389,449.09. All checks are reviewed by District staff for accuracy and completeness, and usually signed by the General Manager and one Director, but may be signed by two Directors.

The Controller will make any check, invoice or supporting documentation available for review to any board member upon request.

## Financial Account Information

[Detailed information can be found on pages 12 to 15 of 30]

The District currently deposits all revenue received into the Deposit Checking account. The General Checking account is used as a sole processing account for all District checks and electronic payroll. The Investment Checking account is used for the purchase and redemption of US treasury notes and bills and for the transfer of LAIF funds. The US treasury notes and bills are booked at cost.

The LAIF investment account is a pooled money account administered by the State of California. Additional information on the LAIF account is provided below in the investment summary report.

## Investment Summary

[Detailed information can be found on pages 16 to 17 of 30]

The investment summary report illustrates the District's investments in US treasury notes and bills in addition to the investments held by the Local Agency Investment Fund or LAIF. The yields for the treasury notes and bills are provided for each individual transaction. The historical annual yield for funds invested with LAIF is also provided.

Separate pooled money investment reports prepared by the State of California are maintained by the District and available for review.

## Monthly Revenue Allocation

[Detailed information can be found on pages 18 to 20 of 30]

During the month of December 2015 the District’s deposit checking account received a sum total of $2,450,550.58 in revenues from the following categories:

- A total of $1,652,970.37 was received from 14,718 customers for utility bill payments. This is the total amount of utility bill payments received from water, sewer and recycled services.
- A total of $1,846.25 was received for construction meter deposits, customer deposits and internet fee payments.
- A total of $334,562.18 was received from miscellaneous water related activities (other than utility bill charges).
- A total of $431,981.00 was received from miscellaneous sewer related activities (other than utility bill charges).
- A total of $29,190.78 was received from miscellaneous recycled related activities (other than utility bill charges).
- The District’s general checking account (pages 12 & 14 of 30) received 2 ACH deposits for San Bernardino Property Taxes in the amount of $1,102,374.90.

## Fiscal Year 2016 Budget Status

[Detailed information can be found on pages 21 to 30 of 30]

The revenue and expense budget status for the 2016 Fiscal Year is provided for your review.

**Summary of Revenue Budget**
**As of December 31, 2015 (46% of Budget Cycle)**

| Division | Budget Amount | Current Month | Year-To-Date | Percentage |
|---|---|---|---|---|
| Water | 13,412,500 | 1,697,769 | 5,580,439 | 41.61% |
| Sewer | 11,820,000 | 1,085,689 | 5,140,629 | 43.49% |
| Recycled Water | 537,250 | 45,648 | 241,371 | 44.93% |
| **District Revenue** | **25,769,750** | **2,829,106** | **10,962,439** | **42.54%** |

**Summary of Water Budget**
**As of December 31, 2015 (46% of Budget Cycle)**

| Department | Budget Amount | Current Month | Year-To-Date | Percentage |
|---|---|---|---|---|
| Water Resources | 5,050,200 | 240,787 | 2,156,138 | 42.69% |
| Public works | 2,385,800 | 173,439 | 909,095 | 38.10% |
| Administration | 3,682,486 | 286,888 | 1,786,449 | 48.51% |
| Long Term Debt | 2,294,014 | 0 | 1,653,457 | 72.08% |
| Asset Acquisition | 0 | 0 | 0 | 0.00% |
| TOTAL | **13,412,500** | **701,114** | **6,505,139** | **48.50%** |

**Summary of Sewer Budget**
**As of December 31, 2015 (46% of Budget Cycle)**

| Department | Budget Amount | Current Month | Year-To-Date | Percentage |
|---|---|---|---|---|
| Treatment | 3,789,816 | 230,742 | 1,668,093 | 44.02% |
| Administration | 3,151,840 | 230,452 | 1,552,834 | 49.27% |
| Environmental Control | 982,300 | 64,758 | 441,530 | 44.95% |
| Long Term Debt | 3,896,044 | 649,274 | 3,572,942 | 91.71% |
| Asset Acquisition-Palmer | 0 | 0 | 0 | 0.00% |
| TOTAL | **11,820,000** | **1,175,226** | **7,235,399** | **61.21%** |

**Summary of Recycled Water Budget**
**As of December 31, 2015 (46% of Budget Cycle)**

| Department | Budget Amount | Current Month | Year-To-Date | Percentage |
|---|---|---|---|---|
| Administration | 537,250 | 34,343 | 271,127 | 50.47% |
| TOTAL | **537,250** | **28,006** | **198,923** | **37.03%** |
| **District Expenses** | **25,769,750** | **1,904,346** | **13,939,461** | **54.09%** |

## Investment Policy Disclosure

The District is currently compliant with the portfolio of its Investment Policy and State Law.

The District is using Sandy Gage with Merrill Lynch Wealth Management (Bank of America Corporation) for Treasury investments. The District expects to meet its expenditure requirements for the next six months.

## Questions or Comments

If you have any questions about a particular budget account, please do not hesitate to contact the Controller directly. If you need additional information, the members of the Administrative Department would be happy to provide you with any detailed information you may desire.

# Cash Fund Balance Report - December 2015

| Water Division | GL# | | Balance |
|---|---|---|---|
| *ID 1 Construction Funds | 02-10216 | $ | 293,145.85 |
| *ID 2 Construction Funds | 02-10217 | $ | 80,409.31 |
| *FCC - Debt Service YVRWFF Phase I | 02-10401 | $ | (223,411.92) |
| *FCC - Future YVRWFF Phase II & III | 02-10403 | $ | 311,960.03 |
| *FCC - Recycled System | 02-10410 | $ | (1,031,841.75) |
| *FCC - Booster Pumping Plants | 02-10411 | $ | 509,964.08 |
| *FCC - Pipeline Facilities | 02-10412 | $ | (495,332.63) |
| *FCC - Water Storage Reservoirs | 02-10413 | $ | 1,795,373.59 |
| Depreciation Reserves | 02-10310 | $ | 1,623,336.13 |
| Infrastructure Reserves | 02-10311 | $ | 2,330,439.00 |
| Sustainability Fund | 02-10313 | $ | 701,105.16 |
| Rate Stabilization Fund | 02-10314 | $ | 500,209.14 |
| Imported Water Fund - MUNI | 02-10315 | $ | 230,833.92 |
| Imported Water Fund - SGPWA | 02-10316 | $ | 885,369.85 |
| Operating Funds: | | $ | 1,515,685.69 |
| | **Total Water Division** | **$** | **9,027,245.45** |

| Sewer Division | GL# | | Balance |
|---|---|---|---|
| *SRF Reserve Fund - Brineline | 03-10218 | $ | 637,449.00 |
| *SRF Reserve Fund - WISE | 03-10219 | $ | 184,928.00 |
| *SRF Reserve Fund - R 10.3 | 03-10220 | $ | 51,531.00 |
| *SRF Reserve Fund - Crow St | 03-10221 | $ | - |
| *FCC - Debt Service WWTP Expansion & Upgrade | 03-10405 | $ | 1,091,435.60 |
| *FCC - Future WWTP Expansion | 03-10407 | $ | 957,008.84 |
| *FCC - Sewer Interceptors | 03-10415 | $ | (1,027,342.67) |
| *FCC - Lift Stations | 03-10416 | $ | 235,922.90 |
| *FCC - Effluent Disposal Facilities | 03-10417 | $ | (1,751,625.91) |
| *FCC - Salt Mitigation Facilities | 03-10418 | $ | (5,717,245.37) |
| Project Fund - Encumbered | 03-10215 | $ | 189,000.00 |
| Depreciation Reserves | 03-10310 | $ | 5,038,625.29 |
| Infrastructure Reserves | 03-10311 | $ | 3,586,280.00 |
| Rate Stabilization Fund | 03-10314 | $ | 1,464,394.90 |
| Operating Funds: | | $ | 2,282,748.51 |
| | **Total Wastewater Division** | **$** | **7,223,110.09** |

| Recycled Water Division | GL# | | Balance |
|---|---|---|---|
| *FCC - Recycled System | 04-10410 | $ | 38,865.49 |
| *FCC - Booster Pumping Plants | 04-10411 | $ | 41,485.84 |
| *FCC - Pipeline Facilities | 04-10412 | $ | 189,752.70 |
| *FCC - Water Storage Reservoirs | 04-10413 | $ | 116,189.29 |
| Project Fund - Encumbered | 04-10215 | $ | 200,000.00 |
| Depreciation Reserves | 04-10310 | $ | 511,928.00 |
| Infrastructure Reserves | 04-10311 | $ | 240,422.00 |
| Operating Funds: | | $ | 1,792,918.15 |
| | **Total Recycled Water Division** | **$** | **3,131,561.47** |

**DISTRICT TOTAL** **$ 19,381,917.01**

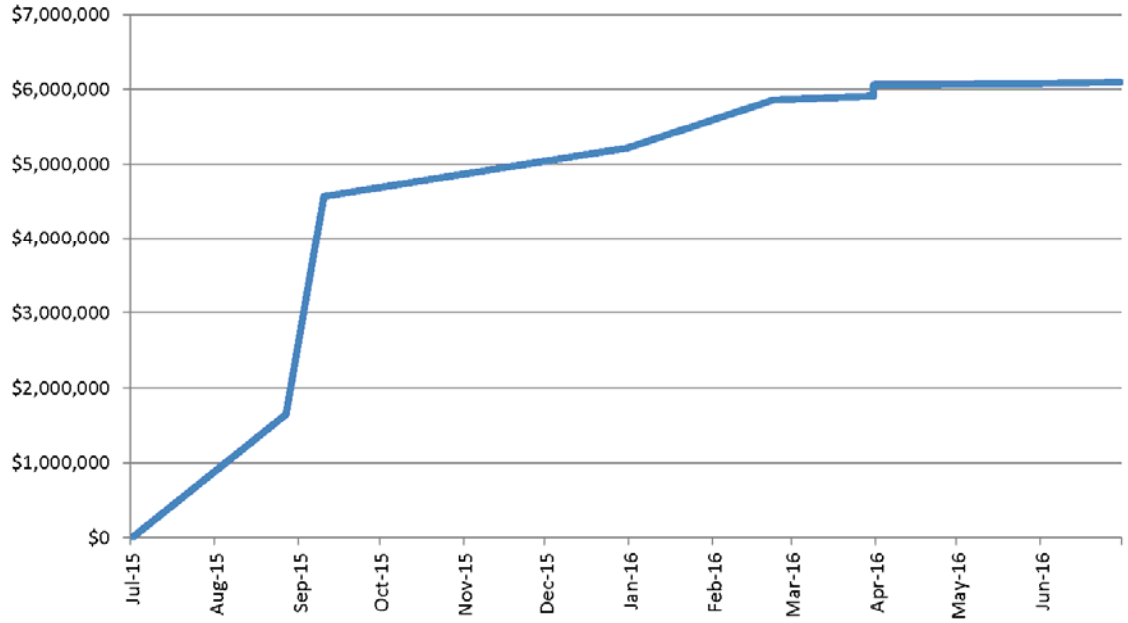
*=Restricted Funds

# Cash Fund Balance Report - December 2015

**Pending Financial Obligations for Fiscal Year 2015/16**

| Due Date | Fund | Description | Term of Obligation | | Amount |
|---|---|---|---|---|---|
| 08/27/2015 | Water | 2015A Bond Payment - YVRWFF | 2015-2034 | $ | 1,646,177.19 |
| 09/10/2015 | Sewer | SRF Payment - WRWRF | 2009-2028 | $ | 2,923,688.75 |
| 12/31/2015 | Sewer | SRF Payment - Yucaipa Regional Brineline | 2013-2032 | $ | 649,273.50 |
| 02/23/2016 | Water | 2015A Bond Payment - YVRWFF | 2015-2034 | $ | 640,556.25 |
| 03/31/2016 | Sewer | SRF Payment - Recycled Reservoir R-10.3 | 2014-2033 | $ | 54,277.31 |
| 03/31/2016 | Sewer | SRF Payment - Desalinization at WRWRF | 2014-2033 | $ | 185,251.30 |
| 06/01/2016 | Sewer | SBVMWD - Inland Empire Brineline Payment | 2013-2016 | $ | 20,000.00 |
| 06/30/2016 | Sewer | SRF Payment - Crow Street/Recycled Booster B-12.1 | Estimated | $ | 19,254.37 |
| | | | **Total** | **$** | **6,138,478.67** |

**Payment Schedule and Cash Flow Requirements for Fiscal Year 2015-2016**



# Check Register - December 2015

| Check Date | Check Number | Name | Check Amount |
|---|---|---|---|
| 12/01/2015 | 24770 | Addiction Medicine Consultants | 2,900.00 |
| 12/01/2015 | 24771 | State Water Resources Control | 110.00 |
| 12/01/2015 | 24772 | California Water Environment A | 164.00 |
| 12/01/2015 | 24773 | Michael J. O'Day | 562.00 |
| 12/01/2015 | 24774 | Southwest Membrane Operator As | 975.00 |
| 12/01/2015 | 24775 | Matthew Porras | 180.00 |
| 12/01/2015 | 24776 | Ameripride Uniform Services | 482.18 |
| 12/01/2015 | 24777 | Redlands Employment Services | 948.40 |
| 12/01/2015 | 24778 | Dinosaur Tire Inc. | 12.50 |
| 12/01/2015 | 24779 | Harry Berg | 100.00 |
| 12/01/2015 | 24780 | Incode Division-Tyler Technolo | 350.00 |
| 12/01/2015 | 24781 | Kelly Services, Inc. | 855.36 |
| 12/01/2015 | 24782 | Krieger & Stewart | 105,319.81 |
| 12/01/2015 | 24783 | Leroy's Landscape Services | 5,700.00 |
| 12/01/2015 | 24784 | Praxair Inc. | 26.32 |
| 12/01/2015 | 24785 | Pro-Pipe & Supply, Inc. | 72.80 |
| 12/01/2015 | 24786 | RMC Water and Environment | 3,067.00 |
| 12/01/2015 | 24787 | SCE Rosemead | 114,314.25 |
| 12/01/2015 | 24788 | U.S. Telepacific Corp | 3,875.36 |
| 12/01/2015 | 24789 | U.S. Postal Service (AMS-TMS) | 2,000.00 |
| 12/01/2015 | 24790 | Verizon | 144.04 |
| 12/01/2015 | 24791 | Yucaipa Disposal, Inc. | 1,407.16 |
| 12/01/2015 | 24792 | Anthony Joseph Sobral | 124.49 |
| 12/01/2015 | 24793 | Ampak Chemicals, Inc. | 4,422.60 |
| 12/01/2015 | 24794 | Armorcast Products Company | 2,543.09 |
| 12/01/2015 | 24795 | Auto Care Clinic | 718.48 |
| 12/01/2015 | 24796 | Edward S Babcock & Sons, Inc. | 1,185.00 |
| 12/01/2015 | 24797 | Bob Walker | 86.40 |
| 12/01/2015 | 24798 | Fastenal Company | 829.48 |
| 12/01/2015 | 24799 | Grainger | 713.74 |
| 12/01/2015 | 24800 | Main's Lock Supply Inc. | 56.70 |
| 12/01/2015 | 24801 | Nuckles Oil Company, Inc. | 1,851.95 |
| 12/01/2015 | 24802 | Nagem, Inc. | 530.00 |
| 12/01/2015 | 24803 | Nalco Company | 5,176.48 |
| 12/01/2015 | 24804 | NCL Of Wisconsin Inc | 277.37 |
| 12/01/2015 | 24805 | REVCO Landscape, Concrete, Mas | 3,087.00 |
| 12/01/2015 | 24806 | Safety Kleen Systems, Inc. | 64.00 |
| 12/01/2015 | 24807 | T.T. Technologies, Inc. | 109.18 |
| 12/01/2015 | 24808 | Fleet Metal Box Corp. | 1,481.31 |
| 12/01/2015 | 24809 | Rodd Greene | 601.00 |
| 12/01/2015 | 24810 | YVWD-Petty Cash | 271.43 |
| 12/01/2015 | 24811 | Gregory N. Godwin | 400.00 |
| 12/01/2015 | 24812 | Standard Insurance Company | 2,342.20 |
| 12/01/2015 | 24813 | Western Dental Services, Inc. | 302.27 |
| 12/01/2015 | 24814 | Workboot Warehouse | 318.25 |
| 12/01/2015 | 24815 | Robert Hines | 601.00 |
| 12/01/2015 | 24816 | Anthem Blue Cross L and H | 392.50 |
| 12/01/2015 | 24817 | Standard Insurance Company | 2,712.63 |
| 12/01/2015 | 24818 | Aetna Health of California | 65,028.00 |
| 12/01/2015 | 24819 | Standard Insurance Vision Plan | 711.76 |
| 12/01/2015 | 24820 | MetLife Small Business Center | 483.00 |
| 12/01/2015 | 24821 | Taylor Corporation | 118.63 |
| 12/07/2015 | 24822 | ADS, LLC | 2,634.00 |
| 12/07/2015 | 24823 | Ralph C. Casas | 58.00 |
| 12/07/2015 | 24824 | Ameripride Uniform Services | 554.46 |

# Check Register - December 2015

| Check Date | Check Number | Name | Check Amount |
|---|---|---|---|
| 12/07/2015 | 24825 | Redlands Employment Services | 569.04 |
| 12/07/2015 | 24826 | Auto Care Clinic | 120.40 |
| 12/07/2015 | 24827 | Corelogic, Inc. | 330.00 |
| 12/07/2015 | 24828 | Coverall North America, Inc. | 1,021.00 |
| 12/07/2015 | 24829 | First American Data Tree, LLC | 50.00 |
| 12/07/2015 | 24830 | InfoSend, Inc. | 5,248.39 |
| 12/07/2015 | 24831 | Inland Empire Resource Conserv | 1,650.80 |
| 12/07/2015 | 24832 | Janet Mercier | 588.40 |
| 12/07/2015 | 24833 | Kelly Services, Inc. | 1,069.20 |
| 12/07/2015 | 24834 | Konica Minolta Business Soluti | 1,823.70 |
| 12/07/2015 | 24835 | NetComp Technologies,Inc. | 1,437.35 |
| 12/07/2015 | 24836 | San Gorgonio Pass Water Agency | 19,513.35 |
| 12/07/2015 | 24837 | Separation Processes, Inc. | 390.00 |
| 12/07/2015 | 24838 | South Coast A.Q.M.D. | 3,142.99 |
| 12/07/2015 | 24839 | Association of San Bernardino | 275.00 |
| 12/07/2015 | 24840 | State Water Resources Control | 23,378.40 |
| 12/07/2015 | 24841 | The Gas Company | 317.85 |
| 12/07/2015 | 24842 | Underground Service Alert Of S | 144.00 |
| 12/07/2015 | 24843 | USDA Forest Service | 121.82 |
| 12/07/2015 | 24844 | George F. Siddle | 70.50 |
| 12/07/2015 | 24845 | All American Sewer Tools | 440.36 |
| 12/07/2015 | 24846 | AmeriGas Propane LP | 7,428.49 |
| 12/07/2015 | 24847 | Crown Ace Hardware - Yucaipa | 2,060.05 |
| 12/07/2015 | 24848 | VOID CHECK | 0.00 |
| 12/07/2015 | 24849 | ePower Network, Inc. | 1,422.92 |
| 12/07/2015 | 24850 | Grainger | 1,317.56 |
| 12/07/2015 | 24851 | Hach Company | 896.28 |
| 12/07/2015 | 24852 | Hasa, Inc. | 3,817.88 |
| 12/07/2015 | 24853 | HD Supply Waterworks, Ltd. | 758.16 |
| 12/07/2015 | 24854 | House Of Quality, Parts Plus | 3,006.77 |
| 12/07/2015 | 24855 | Industrial Safety Supply Corp | 226.16 |
| 12/07/2015 | 24856 | Inland Water Works Supply Co. | 108.00 |
| 12/07/2015 | 24857 | Innerline Engineering | 5,250.00 |
| 12/07/2015 | 24858 | Johnson Power Systems | 1,288.88 |
| 12/07/2015 | 24859 | Kevin E. French | 1,316.00 |
| 12/07/2015 | 24860 | Lowe's Companies, Inc. | 869.56 |
| 12/07/2015 | 24861 | Nagem, Inc. | 225.00 |
| 12/07/2015 | 24862 | Office Solutions Business Prod | 275.93 |
| 12/07/2015 | 24863 | Riverside Winnelson Company | 12,859.11 |
| 12/07/2015 | 24864 | SB CNTY-Solid Waste Mgmt Div | 271.21 |
| 12/07/2015 | 24865 | Steven Enterprises, Inc | 2,885.43 |
| 12/07/2015 | 24866 | Donald Kent Stone | 500.00 |
| 12/07/2015 | 24867 | Tri County Pump Company | 13,173.96 |
| 12/07/2015 | 24868 | Association of San Bernardino | 252.00 |
| 12/07/2015 | 24869 | State Water Resources Control | 2,037.00 |
| 12/07/2015 | 24870 | State Water Resources Control | 360.00 |
| 12/11/2015 | 24871 | PAYROLL CHECK | 2,001.34 |
| 12/11/2015 | 24872 | PAYROLL CHECK | 425.13 |
| 12/11/2015 | 24873 | CA-PERS Supplemental Income 45 | 23,842.43 |
| 12/11/2015 | 24874 | WageWorks, Inc. | 1,328.07 |
| 12/11/2015 | 24875 | Public Employees' Retirement S | 22,515.84 |
| 12/11/2015 | 24876 | Hong Nelson | 125.00 |
| 12/11/2015 | 24877 | Sheriff's Court Services Centr | 465.16 |
| 12/11/2015 | 24878 | IBEW Local 1436 | 243.00 |
| 12/11/2015 | 24879 | California State Disbursement | 115.38 |

# Check Register - December 2015

| Check Date | Check Number | Name | Check Amount |
|---|---|---|---|
| 12/11/2015 | 24880 | COHEN, HEATH | 1,067.48 |
| 12/11/2015 | 24881 | HASSELMAN, SHELLEY | 437.11 |
| 12/14/2015 | 24882 | Aklufi & Wysocki | 6,375.00 |
| 12/14/2015 | 24883 | Borden Excavating, Inc. | 20,212.50 |
| 12/14/2015 | 24884 | Citizens Business Bank | 9,620.00 |
| 12/14/2015 | 24885 | Delta Partners, LLC | 7,500.00 |
| 12/14/2015 | 24886 | Dudek & Associates, Inc | 18,606.83 |
| 12/14/2015 | 24887 | Harper & Associates Eng., Inc. | 2,283.00 |
| 12/14/2015 | 24888 | Krieger & Stewart | 30,339.91 |
| 12/14/2015 | 24889 | One Stop Landscape Supply Inc | 23,579.00 |
| 12/14/2015 | 24890 | Pascal & Ludwig Constructors I | 182,780.00 |
| 12/14/2015 | 24891 | Platinum Advisors, LLC | 5,000.00 |
| 12/14/2015 | 24892 | RMC Water and Environment | 34,038.64 |
| 12/14/2015 | 24893 | Sacramento Bank of Commerce | 8,681.00 |
| 12/14/2015 | 24894 | Security Bank of California | 9,948.86 |
| 12/14/2015 | 24895 | Separation Processes, Inc. | 12,645.55 |
| 12/14/2015 | 24896 | Skydrop, LLC | 118,411.20 |
| 12/14/2015 | 24897 | VTD, Vavrinek, Trine, Day & CO | 3,800.00 |
| 12/14/2015 | 24898 | Weka, Inc. | 189,028.14 |
| 12/14/2015 | 24899 | Borden Excavating, Inc. | 26,419.00 |
| 12/14/2015 | 24900 | American Water Works Assoc. | 1,200.00 |
| 12/14/2015 | 24901 | Watereuse Association | 1,236.04 |
| 12/14/2015 | 24902 | Dale A. Fundak | 42.00 |
| 12/14/2015 | 24903 | Ameripride Uniform Services | 552.95 |
| 12/14/2015 | 24904 | Redlands Employment Services | 948.40 |
| 12/14/2015 | 24905 | Central Communications | 295.91 |
| 12/14/2015 | 24906 | Geoscience Support Services, I | 2,793.75 |
| 12/14/2015 | 24907 | Kelly Services, Inc. | 641.52 |
| 12/14/2015 | 24908 | Krieger & Stewart | 2,056.10 |
| 12/14/2015 | 24909 | Peggy Little | 1,340.65 |
| 12/14/2015 | 24910 | SCCI, Inc. | 800.00 |
| 12/14/2015 | 24911 | Sims Welding & Supply Co., Inc | 196.70 |
| 12/14/2015 | 24912 | Tattletale Portable Alarm Syst | 3,105.00 |
| 12/14/2015 | 24913 | Verizon | 138.72 |
| 12/14/2015 | 24914 | WESTCAS | 750.00 |
| 12/14/2015 | 24915 | News Mirror Publishing, Inc. | 845.20 |
| 12/14/2015 | 24916 | Advance Refrigeration & Ice Sy | 979.17 |
| 12/14/2015 | 24917 | All American Sewer Tools | 310.60 |
| 12/14/2015 | 24918 | Ampak Chemicals, Inc. | 4,843.80 |
| 12/14/2015 | 24919 | BofA Credit Card | 519.06 |
| 12/14/2015 | 24920 | Best Home Center | 475.19 |
| 12/14/2015 | 24921 | Cal-Mesa Steel Supply, Inc. | 64.80 |
| 12/14/2015 | 24922 | Calolympic Glove & Safety Co., | 125.84 |
| 12/14/2015 | 24923 | Victor James Valenti | 2,600.58 |
| 12/14/2015 | 24924 | Fastenal Company | 47.47 |
| 12/14/2015 | 24925 | Fresno Oxygen | 5,653.55 |
| 12/14/2015 | 24926 | Grainger | 75.53 |
| 12/14/2015 | 24927 | Alan L. Grubel Automotive Inc. | 30.00 |
| 12/14/2015 | 24928 | Hemet Valley Tool & Supply | 79.48 |
| 12/14/2015 | 24929 | Industrial Safety Supply Corp | 1,340.20 |
| 12/14/2015 | 24930 | Inland Water Works Supply Co. | 1,204.20 |
| 12/14/2015 | 24931 | JB Paving & Engineering, Inc. | 9,639.50 |
| 12/14/2015 | 24932 | Lowe's Companies, Inc. | 79.56 |
| 12/14/2015 | 24933 | Nuckles Oil Company, Inc. | 2,711.04 |
| 12/14/2015 | 24934 | Nagem, Inc. | 112.50 |

# Check Register - December 2015

| Check Date | Check Number | Name | Check Amount |
|---|---|---|---|
| 12/14/2015 | 24935 | NCL Of Wisconsin Inc | 479.76 |
| 12/14/2015 | 24936 | Office Solutions Business Prod | 227.70 |
| 12/14/2015 | 24937 | Pro-Pipe & Supply, Inc. | 130.96 |
| 12/14/2015 | 24938 | Q Versa, LLC | 8,672.92 |
| 12/14/2015 | 24939 | Smart & Final Stores, LLC | 318.37 |
| 12/14/2015 | 24940 | Sterling Water Technologies LL | 17,597.82 |
| 12/14/2015 | 24941 | Wilbur's | 42.10 |
| 12/14/2015 | 24942 | Sims Welding & Supply Co., Inc | 382.48 |
| 12/14/2015 | 24943 | Boot Barn #4 | 356.95 |
| 12/14/2015 | 24944 | YVWD-Petty Cash | 185.89 |
| 12/14/2015 | 24945 | Cypress Insurance Company | 15,735.86 |
| 12/14/2015 | 24946 | WageWorks, Inc. | 191.75 |
| 12/21/2015 | 24947 | Abate Technologies Intl, Inc. | 275.00 |
| 12/21/2015 | 24948 | Ralph C. Casas | 43.50 |
| 12/21/2015 | 24949 | Ameripride Uniform Services | 475.65 |
| 12/21/2015 | 24950 | Redlands Employment Services | 948.40 |
| 12/21/2015 | 24951 | AT&T Mobility | 1,617.53 |
| 12/21/2015 | 24952 | Best Home Center | 32.39 |
| 12/21/2015 | 24953 | Jason Gokei | 127.00 |
| 12/21/2015 | 24954 | InfoSend, Inc. | 2,042.72 |
| 12/21/2015 | 24955 | Kelly Services, Inc. | 1,069.20 |
| 12/21/2015 | 24956 | Mission Communications, LLC | 563.40 |
| 12/21/2015 | 24957 | NetComp Technologies,Inc. | 700.00 |
| 12/21/2015 | 24958 | Pro-Pipe & Supply, Inc. | 110.64 |
| 12/21/2015 | 24959 | RMC Water and Environment | 5,982.40 |
| 12/21/2015 | 24960 | San Bdno. Valley Muni. Water D | 27,485.76 |
| 12/21/2015 | 24961 | South Coast A.Q.M.D. | 935.96 |
| 12/21/2015 | 24962 | State Water Resources Control | 649,273.50 |
| 12/21/2015 | 24963 | The Counseling Team Internatio | 360.00 |
| 12/21/2015 | 24964 | UPS Store#1504/ Mail Boxes Etc | 22.58 |
| 12/21/2015 | 24965 | George F. Siddle | 48.25 |
| 12/21/2015 | 24966 | AmeriGas Propane LP | 8,698.35 |
| 12/21/2015 | 24967 | Ampak Chemicals, Inc. | 4,633.20 |
| 12/21/2015 | 24968 | Aqua-Metric Sales Company | 7,318.14 |
| 12/21/2015 | 24969 | Ashton Tucker, LLC | 4,939.24 |
| 12/21/2015 | 24970 | Auto Care Clinic | 400.93 |
| 12/21/2015 | 24971 | Edward S Babcock & Sons, Inc. | 438.00 |
| 12/21/2015 | 24972 | BofA Credit Card | 2,502.63 |
| 12/21/2015 | 24973 | Bear Communications, Inc. | 744.36 |
| 12/21/2015 | 24974 | Brenntag Pacific, Inc | 6,592.31 |
| 12/21/2015 | 24975 | Burgeson's Heating & Air Cond. | 1,200.00 |
| 12/21/2015 | 24976 | Cal-Mesa Steel Supply, Inc. | 199.80 |
| 12/21/2015 | 24977 | Calolympic Glove & Safety Co., | 285.54 |
| 12/21/2015 | 24978 | Center Electric | 5,496.22 |
| 12/21/2015 | 24979 | CHJ Consultants | 6,831.50 |
| 12/21/2015 | 24980 | Clinical Laboratory of San Ber | 6,817.00 |
| 12/21/2015 | 24981 | Evans-Hydro Inc. | 7,019.06 |
| 12/21/2015 | 24982 | Evoqua Water Technologies LLC | 2,642.89 |
| 12/21/2015 | 24983 | Fresno Oxygen | 351.73 |
| 12/21/2015 | 24984 | G&G Environmental Compliance,I | 2,985.09 |
| 12/21/2015 | 24985 | Hach Company | 1,766.46 |
| 12/21/2015 | 24986 | Hasa, Inc. | 3,309.79 |
| 12/21/2015 | 24987 | Hub Construction Specialties I | 445.56 |
| 12/21/2015 | 24988 | Inland Water Works Supply Co. | 5.83 |
| 12/21/2015 | 24989 | Innerline Engineering | 5,250.00 |

# Check Register - December 2015

| Check Date | Check Number | Name | Check Amount |
|---|---|---|---|
| 12/21/2015 | 24990 | Larry Jacinto Farming, Inc. | 110.00 |
| 12/21/2015 | 24991 | JB Paving & Engineering, Inc. | 600.00 |
| 12/21/2015 | 24992 | Lowe's Companies, Inc. | 328.21 |
| 12/21/2015 | 24993 | MBC Applied Environmental Scie | 1,300.00 |
| 12/21/2015 | 24994 | Nuckles Oil Company, Inc. | 1,806.06 |
| 12/21/2015 | 24995 | Microflex Corp #774353 | 1,333.58 |
| 12/21/2015 | 24996 | Nagem, Inc. | 315.66 |
| 12/21/2015 | 24997 | NCL Of Wisconsin Inc | 867.31 |
| 12/21/2015 | 24998 | Office Solutions Business Prod | 171.68 |
| 12/21/2015 | 24999 | Patton Sales Corporation | 135.59 |
| 12/21/2015 | 25000 | Red Alert Special Couriers | 344.26 |
| 12/21/2015 | 25001 | Riverside Winnelson Company | 11,682.18 |
| 12/21/2015 | 25002 | United Rentals Northwest, Inc. | 20,498.40 |
| 12/21/2015 | 25003 | Wilbur's | 38.55 |
| 12/21/2015 | 25004 | American Family Life Assurance | 2,505.43 |
| 12/24/2015 | 25005 | PAYROLL CHECK | 1,975.49 |
| 12/24/2015 | 25006 | CA-PERS Supplemental Income 45 | 19,166.77 |
| 12/24/2015 | 25007 | WageWorks, Inc. | 1,328.07 |
| 12/24/2015 | 25008 | Public Employees' Retirement S | 22,515.84 |
| 12/24/2015 | 25009 | Hong Nelson | 125.00 |
| 12/24/2015 | 25010 | Sheriff's Court Services Centr | 465.16 |
| 12/24/2015 | 25011 | California State Disbursement | 115.38 |
| 12/28/2015 | 25012 | CHAPMAN HEIGHTS 17,L | 1,389.24 |
| 12/28/2015 | 25013 | YBARRA, JOHN | 32.22 |
| 12/28/2015 | 25014 | Atkinson, Andelson, Loya, Ruud | 118.00 |
| 12/28/2015 | 25015 | California Water Environment A | 984.00 |
| 12/28/2015 | 25016 | Ameripride Uniform Services | 475.65 |
| 12/28/2015 | 25017 | Redlands Employment Services | 948.40 |
| 12/28/2015 | 25018 | BofA Credit Card | 1,605.52 |
| 12/28/2015 | 25019 | Bay Alarm Company | 4,622.49 |
| 12/28/2015 | 25020 | Fedex | 23.66 |
| 12/28/2015 | 25021 | Kelly Services, Inc. | 1,069.20 |
| 12/28/2015 | 25022 | Leroy's Landscape Services | 2,955.00 |
| 12/28/2015 | 25023 | Pro-Pipe & Supply, Inc. | 48.62 |
| 12/28/2015 | 25024 | SCE Rosemead | 153,780.53 |
| 12/28/2015 | 25025 | Southern CA Emergency Medicine | 1,490.00 |
| 12/28/2015 | 25026 | U.S. Telepacific Corp | 3,871.02 |
| 12/28/2015 | 25027 | Verizon | 144.18 |
| 12/28/2015 | 25028 | Auto Care Clinic | 1,114.62 |
| 12/28/2015 | 25029 | Brenntag Pacific, Inc | 11,287.61 |
| 12/28/2015 | 25030 | Evans-Hydro Inc. | 15,230.16 |
| 12/28/2015 | 25031 | Knorr Systems, Inc. | 4,889.22 |
| | | **December 2015 Check Register Total** | **2,389,449.09** |

# Financial Account Information - December 2015

| DATE | DESCRIPTION | Deposit Checking | General Checking | Investment Checking | Treasuries at cost | LAIF Invest. Fund | TOTAL ACTIVITY |
|---|---|---|---|---|---|---|---|
| **11/30/2015** | **bal forward** | **1,912,100.75** | **30,000.00** | **17,469.16** | **501,629.33** | **16,118,508.75** | **18,579,707.99** |
| *11/30* | *rev retained in MM* | | | | *(501,629.33)* | | **(501,629.33)** |
| 12/01/2015 | Deposit | 21,094.93 | | | | | **21,094.93** |
| | Credit Card-11/30 | 879.35 | | | | | **879.35** |
| | Credit Card-12/1 | 3,053.52 | | | | | **3,053.52** |
| | Electronic | 21,513.37 | | | | | **21,513.37** |
| | Website-12/1 | 5,180.34 | | | | | **5,180.34** |
| | Website-12/2 | 1,013.06 | | | | | **1,013.06** |
| 12/02/2015 | Deposit | 54,910.73 | | | | | **54,910.73** |
| | Credit Card-12/1 | 1,552.00 | | | | | **1,552.00** |
| | Credit Card-12/2 | 5,612.40 | | | | | **5,612.40** |
| | Electronic | 21,426.67 | | | | | **21,426.67** |
| | Website-12/2 | 4,241.06 | | | | | **4,241.06** |
| | Website-12/3 | 71.72 | | | | | **71.72** |
| | Website-12/3 | 1,577.73 | | | | | **1,577.73** |
| | ETS Fees | (1,436.47) | | | | | **(1,436.47)** |
| | ETS Fees | (1,100.17) | | | | | **(1,100.17)** |
| | Ck#24770-24821 | | (341,106.12) | | | | **(341,106.12)** |
| | **TRF#1383-AP** | **(341,106.12)** | **341,106.12** | | | | **0.00** |
| 12/03/2015 | Deposit | 15,760.10 | | | | | **15,760.10** |
| | Credit Card-12/2 | 1,558.58 | | | | | **1,558.58** |
| | Credit Card-12/3 | 2,722.01 | | | | | **2,722.01** |
| | Electronic | 18,490.91 | | | | | **18,490.91** |
| | Website-12/3 | 2,501.73 | | | | | **2,501.73** |
| | Website-12/4 | 566.98 | | | | | **566.98** |
| | Website-12/4 | 603.52 | | | | | **603.52** |
| | ACH pmts | 53,044.66 | | | | | **53,044.66** |
| 12/04/2015 | Deposit | 56,574.32 | | | | | **56,574.32** |
| | Credit Card -12/3 | 761.05 | | | | | **761.05** |
| | Credit Card -12/4 | 3,700.12 | | | | | **3,700.12** |
| | Electronic | 18,263.90 | | | | | **18,263.90** |
| | Website-12/4 | 2,906.33 | | | | | **2,906.33** |
| | Website-12/5 | 59.83 | | | | | **59.83** |
| | Website-12/5 | 1,665.36 | | | | | **1,665.36** |
| | Website-12/6 | 1,938.76 | | | | | **1,938.76** |
| | Website-12/7 | 42.43 | | | | | **42.43** |
| | Website-12/7 | 522.98 | | | | | **522.98** |
| 12/07/2015 | Deposit | 55,173.76 | | | | | **55,173.76** |
| | Credit Card-12/4 | 933.90 | | | | | **933.90** |
| | Credit Card-12/7 | 3,335.36 | | | | | **3,335.36** |
| | Electronic | 17,669.51 | | | | | **17,669.51** |
| | Website-12/7 | 3,486.11 | | | | | **3,486.11** |
| | Website-12/8 | 242.25 | | | | | **242.25** |
| | Deposit - SBC Tax | | 206,048.96 | | | | **206,048.96** |
| | **TRF#1384 - to Dep Ck** | **206,048.96** | **(206,048.96)** | | | | **0.00** |
| 12/08/2015 | Deposit | 30,878.96 | | | | | **30,878.96** |
| | MC - Deposit | 19,383.92 | | | | | **19,383.92** |
| | Credit Card-12/7 | 275.36 | | | | | **275.36** |
| | Credit Card-12/8 | 2,397.94 | | | | | **2,397.94** |
| | Electronic | 24,194.80 | | | | | **24,194.80** |
| | Website-12/8 | 2,205.60 | | | | | **2,205.60** |
| | Website-12/9 | 58.13 | | | | | **58.13** |
| | Website-12/9 | 742.82 | | | | | **742.82** |

# Financial Account Information - December 2015

| DATE | DESCRIPTION | Deposit Checking | General Checking | Investment Checking | Treasuries at cost | LAIF Invest. Fund | TOTAL ACTIVITY |
|---|---|---|---|---|---|---|---|
| **11/30/2015** | **bal forward** | **1,912,100.75** | **30,000.00** | **17,469.16** | **501,629.33** | **16,118,508.75** | **18,579,707.99** |
| 12/09/2015 | Deposit | 75,146.76 | | | | | **75,146.76** |
| | Credit Card-12/8 | 836.35 | | | | | **836.35** |
| | Credit Card-12/9 | 3,498.81 | | | | | **3,498.81** |
| | Electronic | 14,264.36 | | | | | **14,264.36** |
| | Website-12/9 | 2,724.23 | | | | | **2,724.23** |
| | Website-12/10 | 78.52 | | | | | **78.52** |
| | Website-12/10 | 695.69 | | | | | **695.69** |
| *12/11/15-PR* | Federal Taxes | | (48,266.31) | | | | **(48,266.31)** |
| *12/11/15-PR* | State Taxes | | (7,718.97) | | | | **(7,718.97)** |
| *12/11/15-PR* | PR Direct Deposit | | (117,864.95) | | | | **(117,864.95)** |
| *12/11/15-PR* | VOYA 457 | | (10,233.39) | | | | **(10,233.39)** |
| | Cks. #24822-24881 | | (180,121.30) | | | | **(180,121.30)** |
| | **TRF#1385- AP & PR** | **(364,204.92)** | **364,204.92** | | | | **0.00** |
| 12/10/2015 | Deposit | 24,098.52 | | | | | **24,098.52** |
| | Deposit-M/C | 13,050.00 | | | | | **13,050.00** |
| | Credit Card-12/9 | 1,308.42 | | | | | **1,308.42** |
| | Credit Card-12/10 | 1,367.54 | | | | | **1,367.54** |
| | Electronic | 12,008.98 | | | | | **12,008.98** |
| | Website-12/10 | 2,797.96 | | | | | **2,797.96** |
| | Website-12/11 | 399.71 | | | | | **399.71** |
| | ACH pmts | 56,452.30 | | | | | **56,452.30** |
| 12/11/2015 | Deposit | 59,289.51 | | | | | **59,289.51** |
| | Deposit-M/C | 1,303.62 | | | | | **1,303.62** |
| | Credit Card-12/10 | 918.43 | | | | | **918.43** |
| | Credit Card-12/11 | 2,073.08 | | | | | **2,073.08** |
| | Electronic | 13,072.17 | | | | | **13,072.17** |
| | Website-12/11 | 2,344.82 | | | | | **2,344.82** |
| | Website-12/12 | 186.23 | | | | | **186.23** |
| | Website-12/12 | 1,090.87 | | | | | **1,090.87** |
| | Website-12/13 | 222.83 | | | | | **222.83** |
| | Website-12/13 | 2,067.91 | | | | | **2,067.91** |
| | Website-12/14 | 336.06 | | | | | **336.06** |
| | Website-12/14 | 2,847.83 | | | | | **2,847.83** |
| 12/14/2015 | Deposit | 76,402.80 | | | | | **76,402.80** |
| | Deposit-M/C | 403,972.00 | | | | | **403,972.00** |
| | Deposit-M/C | 5,407.00 | | | | | **5,407.00** |
| | Credit Card-12/12 | 785.67 | | | | | **785.67** |
| | Credit Card-12/14 | 3,409.51 | | | | | **3,409.51** |
| | Electronic | 10,988.27 | | | | | **10,988.27** |
| | Website-12/14 | 2,338.48 | | | | | **2,338.48** |
| | Website-12/15 | 252.31 | | | | | **252.31** |
| | Website-12/15 | 317.72 | | | | | **317.72** |
| 12/15/2015 | Deposit | 12,083.26 | | | | | **12,083.26** |
| | Deposit-M/C | 25,984.60 | | | | | **25,984.60** |
| | Credit Card-12/14 | 2,043.95 | | | | | **2,043.95** |
| | Credit Card-12/15 | 3,008.28 | | | | | **3,008.28** |
| | Electronic | 20,196.82 | | | | | **20,196.82** |
| | Website-12/15 | 4,239.35 | | | | | **4,239.35** |
| | Website-12/16 | 533.36 | | | | | **533.36** |
| | ACH pmts | 62,643.38 | | | | | **62,643.38** |
| | ACH pmts | 78.52 | | | | | **78.52** |
| | Cks. #24882-24946 | | (801,426.20) | | | | **(801,426.20)** |
| | **TRF#1386 - AP** | **(801,426.20)** | **801,426.20** | | | | **0.00** |

# Financial Account Information - December 2015

| DATE | DESCRIPTION | Deposit Checking | General Checking | Investment Checking | Treasuries at cost | LAIF Invest. Fund | TOTAL ACTIVITY |
|---|---|---|---|---|---|---|---|
| **11/30/2015** | **bal forward** | **1,912,100.75** | **30,000.00** | **17,469.16** | **501,629.33** | **16,118,508.75** | **18,579,707.99** |
| 12/16/2015 | Deposit | 48,939.49 | | | | | **48,939.49** |
| | Credit Card-12/15 | 478.50 | | | | | **478.50** |
| | Credit Card-12/16 | 5,443.96 | | | | | **5,443.96** |
| | Electronic | 12,300.16 | | | | | **12,300.16** |
| | Website-12/16 | 3,218.88 | | | | | **3,218.88** |
| | Website-12/17 | 138.49 | | | | | **138.49** |
| | Website-12/17 | 1,104.86 | | | | | **1,104.86** |
| 12/17/2015 | Deposit | 24,392.70 | | | | | **24,392.70** |
| | Deposit-Riv taxes | 50,224.04 | | | | | **50,224.04** |
| | Deposit-M/C | 21,655.08 | | | | | **21,655.08** |
| | Deposit-M/C | 320.71 | | | | | **320.71** |
| | Credit Card-12/16 | 799.28 | | | | | **799.28** |
| | Credit Card-12/17 | 1,406.31 | | | | | **1,406.31** |
| | Electronic | 11,444.58 | | | | | **11,444.58** |
| | Website-12/17 | 3,044.90 | | | | | **3,044.90** |
| | Website-12/18 | 222.67 | | | | | **222.67** |
| | Website-12/18 | 890.96 | | | | | **890.96** |
| 12/18/2015 | Deposit | 16,774.41 | | | | | **16,774.41** |
| | Credit Card-12/17 | 467.79 | | | | | **467.79** |
| | Credit Card-12/18 | 2,000.18 | | | | | **2,000.18** |
| | Electronic | 16,233.21 | | | | | **16,233.21** |
| | Website-12/18 | 1,898.23 | | | | | **1,898.23** |
| | Website-12/19 | 83.00 | | | | | **83.00** |
| | Website-12/19 | 1,892.32 | | | | | **1,892.32** |
| | Website-12/20 | 5,803.84 | | | | | **5,803.84** |
| | Website-12/21 | 71.77 | | | | | **71.77** |
| 12/21/2015 | Deposit | 47,590.46 | | | | | **47,590.46** |
| | Deposit-Singleton Rd LLC | 244,545.00 | | | | | **244,545.00** |
| | Credit Card-12/18 | 696.18 | | | | | **696.18** |
| | Credit Card-12/21 | 3,231.07 | | | | | **3,231.07** |
| | Electronic | 13,537.88 | | | | | **13,537.88** |
| | Website-12/21 | 1,988.86 | | | | | **1,988.86** |
| | Website-12/22 | 127.76 | | | | | **127.76** |
| | Website-12/22 | 185.77 | | | | | **185.77** |
| | ACH pmts | 27,252.63 | | | | | **27,252.63** |
| 12/22/2015 | Deposit | 9,798.68 | | | | | **9,798.68** |
| | Deposit-M/C | 8,985.00 | | | | | **8,985.00** |
| | Credit Card-12/21 | 714.56 | | | | | **714.56** |
| | Credit Card-12/22 | 2,860.74 | | | | | **2,860.74** |
| | Electronic | 17,745.05 | | | | | **17,745.05** |
| | Website-12/22 | 2,263.13 | | | | | **2,263.13** |
| | Website-12/23 | 752.82 | | | | | **752.82** |
| | Deposit-SB taxes | | 896,325.94 | | | | **896,325.94** |
| | **TRF#1388- to Dep Ck** | **896,325.94** | **(896,325.94)** | | | | **0.00** |
| 12/23/2015 | Deposit | 33,751.82 | | | | | **33,751.82** |
| | Credit Card-12/22 | 519.36 | | | | | **519.36** |
| | Credit Card-12/23 | 7,645.16 | | | | | **7,645.16** |
| | Electronic | 10,386.26 | | | | | **10,386.26** |
| | Website-12/23 | 2,672.18 | | | | | **2,672.18** |
| | Website-12/24 | 649.32 | | | | | **649.32** |
| *12/24/15-PR* | Federal Taxes | | (43,301.44) | | | | **(43,301.44)** |
| *12/24/15-PR* | State Taxes | | (7,105.47) | | | | **(7,105.47)** |
| *12/24/15-PR* | PR Direct Deposit | | (115,167.42) | | | | **(115,167.42)** |
| *12/24/15-PR* | VOYA 457 | | (7,348.68) | | | | **(7,348.68)** |

# Financial Account Information - December 2015

| DATE | DESCRIPTION | Deposit Checking | General Checking | Investment Checking | Treasuries at cost | LAIF Invest. Fund | TOTAL ACTIVITY |
|---|---|---|---|---|---|---|---|
| 11/30/2015 | bal forward | 1,912,100.75 | 30,000.00 | 17,469.16 | 501,629.33 | 16,118,508.75 | 18,579,707.99 |
| *12/23* | Cks. #24947-25011 | | (860,716.13) | | | | (860,716.13) |
| | **TRF#1387- AP & PR** | **(1,033,639.14)** | **1,033,639.14** | | | | 0.00 |
| 12/24/2015 | Deposit | 21,023.83 | | | | | 21,023.83 |
| | Credit Card-12/23 | 301.15 | | | | | 301.15 |
| | Credit Card-12/24 | 2,314.28 | | | | | 2,314.28 |
| | Electronic | 11,319.81 | | | | | 11,319.81 |
| | Website-12/24 | 1,246.09 | | | | | 1,246.09 |
| | Website-12/25 | 521.70 | | | | | 521.70 |
| | Website-12/26 | 42.43 | | | | | 42.43 |
| | Website-12/26 | 1,875.61 | | | | | 1,875.61 |
| | Website-12/27 | 116.94 | | | | | 116.94 |
| | Website-12/27 | 1,964.97 | | | | | 1,964.97 |
| | Website-12/28 | 228.71 | | | | | 228.71 |
| | Website-12/28 | 397.60 | | | | | 397.60 |
| 12/28/2015 | Deposit | 64,675.03 | | | | | 64,675.03 |
| | Credit Card-12/24 | 68.37 | | | | | 68.37 |
| | Credit Card-12/28 | 5,750.59 | | | | | 5,750.59 |
| | Electronic | 22,767.32 | | | | | 22,767.32 |
| | Website-12/28 | 3,192.16 | | | | | 3,192.16 |
| | Website-12/29 | 198.52 | | | | | 198.52 |
| | ACH pmts | 67,149.46 | | | | | 67,149.46 |
| | ACH pmts | 1,072.14 | | | | | 1,072.14 |
| 12/29/2015 | Deposit | 9,011.94 | | | | | 9,011.94 |
| | Credit Card-12/28 | 913.39 | | | | | 913.39 |
| | Credit Card-12/29 | 2,625.58 | | | | | 2,625.58 |
| | Electronic | 19,907.81 | | | | | 19,907.81 |
| | Website-12/29 | 3,706.09 | | | | | 3,706.09 |
| | Website-12/30 | 45.48 | | | | | 45.48 |
| | Website-12/30 | 230.83 | | | | | 230.83 |
| | Cks. #25012-25031 | | (206,079.34) | | | | (206,079.34) |
| | **TRF#1389 - AP** | **(206,079.34)** | **206,079.34** | | | | 0.00 |
| | **TRF#1390 - Dep to Inv Ck** | **(1,200,000.00)** | | **1,200,000.00** | | | 0.00 |
| 12/30/2015 | Deposit | 46,791.22 | | | | | 46,791.22 |
| | Credit Card-12/29 | 1,387.81 | | | | | 1,387.81 |
| | Credit Card-12/30 | 6,690.26 | | | | | 6,690.26 |
| | Electronic | 10,882.26 | | | | | 10,882.26 |
| | Website-12/30 | 2,691.20 | | | | | 2,691.20 |
| | Website-12/31 | 147.96 | | | | | 147.96 |
| | Website-12/31 | 418.76 | | | | | 418.76 |
| 12/31/2015 | Deposit | 21,454.25 | | | | | 21,454.25 |
| | Deposit-M/C | 902.99 | | | | | 902.99 |
| | Credit Card-12/30 | 1,051.53 | | | | | 1,051.53 |
| | Credit Card-12/31 | 3,046.01 | | | | | 3,046.01 |
| | Credit Card-12/31 | 185.77 | | | | | 185.77 |
| | Electronic | 14,068.41 | | | | | 14,068.41 |
| | Website-12/31 | 2,494.34 | | | | | 2,494.34 |
| | Website-1/1 | 200.00 | | | | | 200.00 |
| | Website-1/1 | 3,364.21 | | | | | 3,364.21 |
| | Website-1/2 | 295.22 | | | | | 295.22 |
| | Website-1/2 | 4,403.86 | | | | | 4,403.86 |
| | Website-1/3 | 3,019.67 | | | | | 3,019.67 |
| | Website-1/4 | 1,052.72 | | | | | 1,052.72 |
| | December '15 NSF's | (1,495.94) | | | | | (1,495.94) |
| 12/3 | Cusip #912796HT9 purchased | | | | 499,485.32 | | 499,485.32 |
| *12/31* | *retained in MM* | | | | *2,144.48* | | 2,144.48 |
| | | | | | | | *19,381,917.01* |
| | **TOTALS** | **1,514,309.30** | **30,000.00** | **1,217,469.16** | **501,629.80** | **16,118,508.75** | **19,381,917.01** |

# Investment Summary - December 2015

## U.S. TREASURIES

| Quantity | Description | Cusip | Maturity Date | Yield | Cost of Purchase | Market Value |
|---|---|---|---|---|---|---|
| 500,000 | US Treasury Bill | 912796HT9 | June 2, 2016 | 0.020% | 499,485.32 | 499,100.00 |
| **500,000** | | | **Total Values** | | **499,485.32** | **499,100.00** |

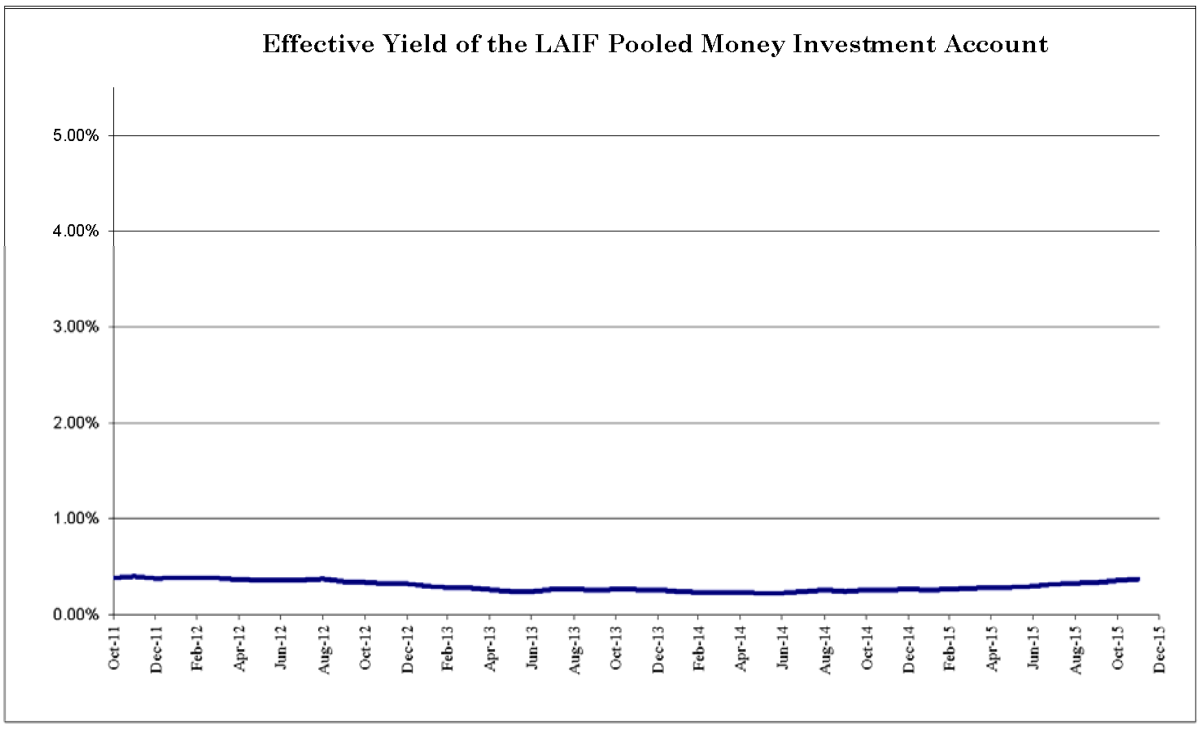
| | |
|---|---|
| **Money Market Account Activity-Beginning Balance** | **501,629.33** |
| 12/31/15 - Dividend/Interest | 0.47 |
| **Income** | **0.47** |
| Intra-Bank Transfers to/from Investment Checking | 0.00 |
| **Fund Transfers** | **0.00** |
| Cusip Maturity | 0.00 |
| **Redemptions** | **0.00** |
| Cusip #912796HT9 | (499,485.32) |
| **Purchases** | **(499,485.32)** |
| **Ending Balance - Money Market** | **2,144.48** |
| **US Treasury Securities Investment Principal** | **499,485.32** |
| **Total Assets** | **501,629.80** |

# Investment Summary - December 2015

## LOCAL AGENCY INVESTMENT FUND

| PERIOD | TOTAL WITHDRAWAL AMOUNT | TOTAL DEPOSIT AMOUNT | ACCRUED INTEREST (QUARTERLY) | ENDING BALANCE |
|---|---|---|---|---|
| July 31, 2015 | ($525,000.00) | $0.00 | $12,375.46 | $19,103,970.94 |
| August 31, 2015 | ($3,000,000.00) | $0.00 | $0.00 | $16,103,970.94 |
| September 30, 2015 | $0.00 | $0.00 | $0.00 | $16,103,970.94 |
| October 31, 2015 | $0.00 | $0.00 | $14,537.81 | $16,118,508.75 |
| November 30, 2015 | $0.00 | $0.00 | $0.00 | $16,118,508.75 |
| December 31, 2015 | $0.00 | $0.00 | $0.00 | $16,118,508.75 |
| January 31, 2016 | $0.00 | $0.00 | $0.00 | $16,118,508.75 |
| February 28, 2016 | $0.00 | $0.00 | $0.00 | $16,118,508.75 |
| March 31, 2016 | $0.00 | $0.00 | $0.00 | $16,118,508.75 |
| April 30, 2016 | $0.00 | $0.00 | $0.00 | $16,118,508.75 |
| May 31, 2016 | $0.00 | $0.00 | $0.00 | $16,118,508.75 |
| June 30, 2016 | $0.00 | $0.00 | $0.00 | $16,118,508.75 |

| L.A.I.F. INCOME SUMMARY | CURRENT QUARTER | FY YEAR-TO-DATE |
|---|---|---|
| INCOME RECEIVED | $14,537.81 | $26,913.27 |



# Monthly Revenue Allocation - December 2015

| DATE | Description | Qty | DEPOSIT CHECKING DEPOSITS | AR Mail & Counter | AR Payment Centers | AR Credit Card | AR Electronic Rapid Pay | AR Web Site | AR ACH Auto Pay | AR TOTAL | AR Water Fees & Deposits | Water Allocation | Sewer Allocation | Recycled Allocation | RECAP TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12/01/2015 | Mail & Counter | 248 | 21,094.93 | 21,094.93 | | | | | | 21,094.93 | | | | | 21,094.93 |
| | Credit Cards | 35 | 3,932.87 | | | 3,932.87 | | | | 3,932.87 | | | | | 3,932.87 |
| | Electronic | 260 | 21,513.37 | | | | 21,513.37 | | | 21,513.37 | | | | | 21,513.37 |
| | Website-6 fees | 62 | 6,193.40 | | | | | 6,086.65 | | 6,086.65 | 106.75 | | | | 6,193.40 |
| 12/02/2015 | Mail & Counter | 402 | 54,910.73 | 54,910.73 | | | | | | 54,910.73 | | | | | 54,910.73 |
| | Credit Cards | 55 | 7,164.40 | | | 7,164.40 | | | | 7,164.40 | | | | | 7,164.40 |
| | Electronic | 276 | 21,426.67 | | | | 21,426.67 | | | 21,426.67 | | | | | 21,426.67 |
| | Website-31 fees | 36 | 5,890.51 | | | | | 5,836.26 | | 5,836.26 | 54.25 | | | | 5,890.51 |
| 12/03/2015 | Mail & Counter | 118 | 15,760.10 | 15,760.10 | | | | | | 15,760.10 | | | | | 15,760.10 |
| | Credit Cards | 31 | 4,280.59 | | | 4,280.59 | | | | 4,280.59 | | | | | 4,280.59 |
| | Electronic | 233 | 18,490.91 | | | | 18,490.91 | | | 18,490.91 | | | | | 18,490.91 |
| | Website-39 fees | 41 | 3,672.23 | | | | | 3,603.98 | | 3,603.98 | 68.25 | | | | 3,672.23 |
| | ACH payment | 488 | 53,044.66 | | | | | | 53,044.66 | 53,044.66 | | | | | 53,044.66 |
| 12/04/2015 | Mail & Counter | 311 | 56,574.32 | 56,574.32 | | | | | | 56,574.32 | | | | | 56,574.32 |
| | Credit Cards | 38 | 4,461.17 | | | 4,461.17 | | | | 4,461.17 | | | | | 4,461.17 |
| | Electronic | 234 | 18,263.90 | | | | 18,263.90 | | | 18,263.90 | | | | | 18,263.90 |
| | Website | 81 | 7,135.69 | | | | | 6,993.94 | | 6,993.94 | 141.75 | | | | 7,135.69 |
| 12/07/2015 | Mail & Counter | 364 | 55,173.76 | 55,173.76 | | | | | | 55,173.76 | | | | | 55,173.76 |
| | Credit Cards | 42 | 4,269.26 | | | 4,269.26 | | | | 4,269.26 | | | | | 4,269.26 |
| | Electronic | 210 | 17,669.51 | | | | 17,669.51 | | | 17,669.51 | | | | | 17,669.51 |
| | Website-35 fees | 37 | 3,728.36 | | | | | 3,667.11 | | 3,667.11 | 61.25 | | | | 3,728.36 |
| 12/08/2015 | Mail & Counter | 359 | 30,878.96 | 30,878.96 | | | | | | 30,878.96 | | | | | 30,878.96 |
| | MC - Deposit | | 19,383.92 | | | | | | | 0.00 | | 19,383.92 | | | 19,383.92 |
| | Credit Cards | 29 | 2,673.30 | | | 2,673.30 | | | | 2,673.30 | | | | | 2,673.30 |
| | Electronic | 273 | 24,194.80 | | | | 24,194.80 | | | 24,194.80 | | | | | 24,194.80 |
| | Website | 30 | 3,006.55 | | | | | 2,954.05 | | 2,954.05 | 52.50 | | | | 3,006.55 |
| 12/09/2015 | Mail & Counter | 300 | 75,146.76 | 75,146.76 | | | | | | 75,146.76 | | | | | 75,146.76 |
| | Credit Cards | 37 | 4,335.16 | | | 4,335.16 | | | | 4,335.16 | | | | | 4,335.16 |
| | Electronic | 150 | 14,264.36 | | | | 14,264.36 | | | 14,264.36 | | | | | 14,264.36 |
| | Website-34 fees | 35 | 3,498.44 | | | | | 3,438.94 | | 3,438.94 | 59.50 | | | | 3,498.44 |
| 12/10/2015 | Mail & Counter | 199 | 24,098.52 | 24,098.52 | | | | | | 24,098.52 | | | | | 24,098.52 |
| | Deposit-M/C | | 13,050.00 | | | | | | | 0.00 | | 850.00 | 12,200.00 | | 13,050.00 |
| | Credit Cards | 27 | 2,675.96 | | | 2,675.96 | | | | 2,675.96 | | | | | 2,675.96 |
| | Electronic | 139 | 12,008.98 | | | | 12,008.98 | | | 12,008.98 | | | | | 12,008.98 |
| | Website-32 fees | 34 | 3,197.67 | | | | | 3,141.67 | | 3,141.67 | 56.00 | | | | 3,197.67 |
| | ACH payment | 567 | 56,452.30 | | | | | | 56,452.30 | 56,452.30 | | | | | 56,452.30 |
| 12/11/2015 | Mail & Counter | 181 | 59,289.51 | 59,289.51 | | | | | | 59,289.51 | | | | | 59,289.51 |
| | Deposit-M/C | | 1,303.62 | | | | | | | 0.00 | | 1,101.84 | | 201.78 | 1,303.62 |
| | Credit Cards | 32 | 2,991.51 | | | 2,991.51 | | | | 2,991.51 | | | | | 2,991.51 |
| | Electronic | 161 | 13,072.17 | | | | 13,072.17 | | | 13,072.17 | | | | | 13,072.17 |
| | Website | 73 | 9,096.55 | | | | | 8,968.80 | | 8,968.80 | 127.75 | | | | 9,096.55 |
| 12/14/2015 | Mail & Counter | 460 | 76,402.80 | 76,402.80 | | | | | | 76,402.80 | | | | | 76,402.80 |
| | Deposit-M/C | | 403,972.00 | | | | | | | 0.00 | | 251,612.00 | 141,401.00 | 10,959.00 | 403,972.00 |
| | Deposit-M/C | | 5,407.00 | | | | | | | 0.00 | | 5,407.00 | | | 5,407.00 |
| | Credit Cards | 41 | 4,195.18 | | | 4,195.18 | | | | 4,195.18 | | | | | 4,195.18 |
| | Electronic | 145 | 10,988.27 | | | | 10,988.27 | | | 10,988.27 | | | | | 10,988.27 |
| | Website | 31 | 2,908.51 | | | | | 2,854.26 | | 2,854.26 | 54.25 | | | | 2,908.51 |
| 12/15/2015 | Mail & Counter | 94 | 12,083.26 | 12,083.26 | | | | | | 12,083.26 | | | | | 12,083.26 |
| | Deposit-M/C | | 25,984.60 | | | | | | | 0.00 | | 17,583.60 | 8,401.00 | | 25,984.60 |
| | Credit Cards | 34 | 5,052.23 | | | 5,052.23 | | | | 5,052.23 | | | | | 5,052.23 |
| | Electronic | 262 | 20,196.82 | | | | 20,196.82 | | | 20,196.82 | | | | | 20,196.82 |
| | Website-42 fees | 45 | 4,772.71 | | | | | 4,699.21 | | 4,699.21 | 73.50 | | | | 4,772.71 |
| | ACH payment | 637 | 62,721.90 | | | | | | 62,721.90 | 62,721.90 | | | | | 62,721.90 |

# Monthly Revenue Allocation - December 2015

| DATE | Description | Qty | DEPOSIT CHECKING DEPOSITS | AR Mail & Counter | AR Payment Centers | AR Credit Card | AR Electronic Rapid Pay | AR Web Site | AR ACH Auto Pay | AR TOTAL | AR Water Fees & Deposits | Water Allocation | Sewer Allocation | Recycled Allocation | RECAP TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12/16/2015 | Mail & Counter | 274 | 48,939.49 | 48,939.49 | | | | | | 48,939.49 | | | | | 48,939.49 |
| | Credit Cards | 43 | 5,922.46 | | | 5,922.46 | | | | 5,922.46 | | | | | 5,922.46 |
| | Electronic | 157 | 12,300.16 | | | | 12,300.16 | | | 12,300.16 | | | | | 12,300.16 |
| | Website | 34 | 4,462.23 | | | | | 4,402.73 | | 4,402.73 | 59.50 | | | | 4,462.23 |
| 12/17/2015 | Mail & Counter | 268 | 24,392.70 | 24,392.70 | | | | | | 24,392.70 | | | | | 24,392.70 |
| | Deposit-M/C | - | 21,655.08 | | | | | | | 0.00 | | 21,491.08 | 164.00 | | 21,655.08 |
| | Deposit-Riv Taxes | - | 50,224.04 | | | | | | | 0.00 | | 50,224.04 | | | 50,224.04 |
| | Deposit-Riv Taxes | - | 320.71 | | | | | | | 0.00 | | 320.71 | | | 320.71 |
| | Credit Cards | 20 | 2,205.59 | | | 2,205.59 | | | | 2,205.59 | | | | | 2,205.59 |
| | Electronic | 133 | 11,444.58 | | | | 11,444.58 | | | 11,444.58 | | | | | 11,444.58 |
| | Website | 41 | 4,158.53 | | | | | 4,086.78 | | 4,086.78 | 71.75 | | | | 4,158.53 |
| 12/18/2015 | Mail & Counter | 170 | 16,774.41 | 16,774.41 | | | | | | 16,774.41 | | | | | 16,774.41 |
| | Credit Cards | 27 | 2,467.97 | | | 2,467.97 | | | | 2,467.97 | | | | | 2,467.97 |
| | Electronic | 199 | 16,233.21 | | | | 16,233.21 | | | 16,233.21 | | | | | 16,233.21 |
| | Website -66 fees | 68 | 9,749.16 | | | | | 9,633.66 | | 9,633.66 | 115.50 | | | | 9,749.16 |
| 12/21/2015 | Mail & Counter | 476 | 47,590.46 | 47,590.46 | | | | | | 47,590.46 | | | | | 47,590.46 |
| | Deposit-Singleton Rd | | 244,545.00 | | | | | | | 0.00 | | 121,230.00 | 123,315.00 | | 244,545.00 |
| | Credit Cards | 40 | 3,927.25 | | | 3,927.25 | | | | 3,927.25 | | | | | 3,927.25 |
| | Electronic | 171 | 13,537.88 | | | | 13,537.88 | | | 13,537.88 | | | | | 13,537.88 |
| | Website | 25 | 2,302.39 | | | | | 2,258.64 | | 2,258.64 | 43.75 | | | | 2,302.39 |
| | ACH payment | 518 | 27,252.63 | | | | | | 27,252.63 | 27,252.63 | | | | | 27,252.63 |
| 12/22/2015 | Mail & Counter | 112 | 9,798.68 | 9,798.68 | | | | | | 9,798.68 | | | | | 9,798.68 |
| | Deposit-M/C | | 8,985.00 | | | | | | | 0.00 | | 8,955.00 | | 30.00 | 8,985.00 |
| | Credit Cards | 36 | 3,575.30 | | | 3,575.30 | | | | 3,575.30 | | | | | 3,575.30 |
| | Electronic | 222 | 17,745.05 | | | | 17,745.05 | | | 17,745.05 | | | | | 17,745.05 |
| | Website | 34 | 3,015.95 | | | | | 2,956.45 | | 2,956.45 | 59.50 | | | | 3,015.95 |
| 12/23/2015 | Mail & Counter | 271 | 33,751.82 | 33,751.82 | | | | | | 33,751.82 | | | | | 33,751.82 |
| | Credit Cards | 67 | 8,164.52 | | | 8,164.52 | | | | 8,164.52 | | | | | 8,164.52 |
| | Electronic | 130 | 10,386.26 | | | | 10,386.26 | | | 10,386.26 | | | | | 10,386.26 |
| | Website | 25 | 3,321.50 | | | | | 3,277.75 | | 3,277.75 | 43.75 | | | | 3,321.50 |
| 12/24/2015 | Mail & Counter | 138 | 21,023.83 | 21,023.83 | | | | | | 21,023.83 | | | | | 21,023.83 |
| | Credit Cards | 21 | 2,615.43 | | | 2,615.43 | | | | 2,615.43 | | | | | 2,615.43 |
| | Electronic | 153 | 11,319.81 | | | | 11,319.81 | | | 11,319.81 | | | | | 11,319.81 |
| | Website | 77 | 6,394.05 | | | | | 6,259.30 | | 6,259.30 | 134.75 | | | | 6,394.05 |
| 12/28/2015 | Mail & Counter | 431 | 64,675.03 | 64,675.03 | | | | | | 64,675.03 | | | | | 64,675.03 |
| | Credit Cards | 54 | 5,818.96 | | | 5,818.96 | | | | 5,818.96 | | | | | 5,818.96 |
| | Electronic | 169 | 22,767.32 | | | | 22,767.32 | | | 22,767.32 | | | | | 22,767.32 |
| | Website-36 fees | 37 | 3,390.68 | | | | | 3,327.68 | | 3,327.68 | 63.00 | | | | 3,390.68 |
| | ACH payment | 589 | 68,221.60 | | | | | | 68,221.60 | 68,221.60 | | | | | 68,221.60 |
| 12/29/2015 | Mail & Counter | 103 | 9,011.94 | 9,011.94 | | | | | | 9,011.94 | | | | | 9,011.94 |
| | Credit Cards | 34 | 3,538.97 | | | 3,538.97 | | | | 3,538.97 | | | | | 3,538.97 |
| | Electronic | 263 | 19,907.81 | | | | 19,907.81 | | | 19,907.81 | | | | | 19,907.81 |
| | Website-41 fees | 43 | 3,982.40 | | | | | 3,910.65 | | 3,910.65 | 71.75 | | | | 3,982.40 |
| 12/30/2015 | Mail & Counter | 278 | 46,791.22 | 46,791.22 | | | | | | 46,791.22 | | | | | 46,791.22 |
| | Credit Cards | 57 | 8,078.07 | | | 8,078.07 | | | | 8,078.07 | | | | | 8,078.07 |
| | Electronic | 125 | 10,882.26 | | | | 10,882.26 | | | 10,882.26 | | | | | 10,882.26 |
| | Website | 31 | 3,257.92 | | | | | 3,203.67 | | 3,203.67 | 54.25 | | | | 3,257.92 |

# Monthly Revenue Allocation - December 2015

| DATE | Description | Qty | DEPOSIT CHECKING DEPOSITS | AR Mail & Counter | AR Payment Centers | AR Credit Card | AR Electronic Rapid Pay | AR Web Site | AR ACH Auto Pay | AR TOTAL | AR Water Fees & Deposits | Water Allocation | Sewer Allocation | Recycled Allocation | RECAP TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12/31/2015 | Mail & Counter | 220 | 21,454.25 | 21,454.25 | | | | | | 21,454.25 | | | | | 21,454.25 |
| | Deposit-M/C | | 902.99 | | | | | | | 0.00 | | 902.99 | | | 902.99 |
| | Credit Cards | 31 | 4,097.54 | | | 4,097.54 | | | | 4,097.54 | | | | | 4,097.54 |
| | Credit Cards | 1 | 185.77 | | | 184.02 | | | | 184.02 | 1.75 | | | | 185.77 |
| | Electronic | 170 | 14,068.41 | | | | 14,068.41 | | | 14,068.41 | | | | | 14,068.41 |
| | Website | 155 | 14,830.02 | | | | | 14,558.77 | | 14,558.77 | 271.25 | | | | 14,830.02 |
| Dec-15 | Utility Pmt Cntr-278 | | | (21,080.00) | 21,080.00 | | | | | 0.00 | | | | | 0.00 |
| *SB tax-ach* | **$206,048.96 (12/7)** | - | *1,724.57* | *1,724.57* | | | | | | *1,724.57* | *budget JE* | *(164,500.00)* | *146,500.00* | *18,000.00* | *1,724.57* |
| *SB tax-ach* | **$896,325.94 (12/22)** | - | | | | | | | | *0.00* | | | | | *0.00* |
| | Dec '15 NSF's | | (1,495.94) | (1,495.94) | | | | | | (1,495.94) | | | | | (1,495.94) |
| | **TOTALS** | **14,718** | **2,450,550.58** | **804,766.11** | **21,080.00** | **96,627.71** | **352,682.51** | **110,120.95** | **267,693.09** | **1,652,970.37** | **1,846.25** | **334,562.18** | **431,981.00** | **29,190.78** | **2,450,550.58** |
| **TOTAL # AR PAYMENTS** | | | | 5,499 | 278 | 831 | 4,235 | 1,075 | 2,799 | **14,717** | | | | | |
| **PERCENT OF TOTAL RECEIVED** | | | | 37.36% | 1.89% | 5.65% | 28.77% | 7.30% | 19.02% | **100%** | | | | | |

# FY 2016 - Water Revenue

| ACCOUNT# | DESCRIPTION | BUDGET | July '15 | Aug '15 | Sept '15 | Oct '15 | Nov '15 | Dec '15 | Year to Date | Percentage YTD |
|---|---|---|---|---|---|---|---|---|---|---|
| 02-40010 | Sales - Water | 6,165,000 | 135,209 | 451,047 | 522,845 | 496,039 | 361,517 | 364,040 | **2,330,697** | 37.81% |
| 02-40011 | Sales - Construction Water | 20,000 | 110 | 1,622 | 793 | 1,116 | 1,055 | 726 | **5,422** | 27.11% |
| 02-40012 | Sales - Imported Water (SGPWA) | 250,000 | 22,872 | 15,360 | 17,510 | 16,567 | 13,722 | 11,909 | **97,940** | 39.18% |
| 02-40013 | Sales - Imported Water (MUNI) | 850,000 | 2,347 | 63,765 | 72,431 | 69,464 | 51,720 | 52,484 | **312,212** | 36.73% |
| 02-40014 | Sales Disc.-Multi Units Usage Chrg. | (130,000) | (2,401) | (8,631) | (11,032) | (10,054) | (8,245) | (9,449) | **(49,813)** | 38.32% |
| 02-40015 | Water Wholesale Revenue | 70,000 | 4,146 | 4,862 | 4,645 | 4,419 | 4,247 | 4,402 | **26,721** | 38.17% |
| 02-40016 | Service Establishment Fee | 3,000 | 525 | 575 | 375 | 575 | 25 | 425 | **2,500** | 83.33% |
| 02-41000 | Service Demand Charges | 3,000,000 | 54,947 | 254,450 | 254,935 | 255,502 | 255,700 | 256,013 | **1,331,547** | 44.38% |
| 02-41001 | Fire Service Standby Fees | 25,000 | 771 | 2,261 | 2,154 | 2,578 | 2,387 | 2,939 | **13,090** | 52.36% |
| 02-41003 | Construction Service Charge | 14,000 | 127 | 1,212 | 1,095 | 1,235 | 1,152 | 1,325 | **6,146** | 43.90% |
| 02-41005 | Sales Disc-Multi Units Service Chrg. | (120,000) | (2,549) | (11,376) | (11,376) | (11,376) | (11,376) | (11,376) | **(59,431)** | 49.53% |
| 02-41010 | Unauthorized Use of Water Charge | 2,000 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | 0.00% |
| 02-41110 | Meter/Lateral installation | 35,000 | 7,875 | 7,550 | 5,625 | 8,625 | 0 | 5,625 | **35,300** | 100.86% |
| 02-41112 | Fire Flow Test Fees | 3,500 | 225 | 300 | 375 | 525 | 225 | 450 | **2,100** | 60.00% |
| 02-41113 | Disconnect/Reconnect Fees | 130,000 | 9,120 | 9,895 | 12,350 | 9,185 | 8,575 | 12,390 | **61,515** | 47.32% |
| 02-41121 | Penalty - Late Charges | 150,000 | 7,218 | 13,053 | 11,833 | 10,053 | 12,295 | 8,852 | **63,305** | 42.20% |
| 02-42123 | Management & Accounting Fees | 160,000 | 13,326 | 13,334 | 13,334 | 13,334 | 13,334 | 13,334 | **79,996** | 50.00% |
| 02-41124 | Bad Debt | (20,000) | 0 | 0 | 0 | 0 | 0 | 0 | **0** | 0.00% |
| 02-43010 | Interest Earned | 15,000 | 0 | 0 | 4,066 | 8,668 | 28 | 0 | **12,763** | 85.09% |
| 02-43110 | Property Tax - Unsecured | 110,000 | 0 | 0 | 6,630 | 0 | 103,227 | (10,541) | **99,315** | 90.29% |
| 02-43120 | Property Tax - Secured | 2,400,000 | 0 | 0 | 0 | 0 | 168,567 | 983,767 | **1,152,334** | 48.01% |
| 02-43130 | Tax Collection - Prior | 15,000 | 0 | 0 | 0 | 3,330 | 10,922 | (9,280) | **4,973** | 33.15% |
| 02-43140 | Other Taxes | 185,000 | 0 | 0 | (17) | (9) | 3,804 | 9,994 | **13,773** | 7.44% |
| 02-49150 | Revenue - Misc. Non-Operating | 80,000 | 4,013 | 11,277 | 3,712 | 3,582 | 5,712 | 9,741 | **38,037** | 47.55% |
| | | | | | | | | | | |
| | **WATER OPERATING REVENUE** | **13,412,500** | **257,879** | **830,556** | **912,283** | **883,359** | **998,593** | **1,697,769** | **5,580,439** | **41.61%** |
| | | | | | | | | | | |
| | Grants | 0 | **0** | 0 | 0 | 41,089 | 0 | 0 | **41,089** | |
| 02-89901 | Facility Capacity Charges | 0 | 283,038 | 172,099 | 202,170 | 309,994 | 21,156 | 322,693 | **1,311,150** | |
| 02-89902 | Sustainability | 0 | 19,373 | 42,935 | 13,209 | 49,749 | 3,924 | 50,762 | **179,952** | |
| | | | | | | | | | | |
| | **TOTAL WATER REVENUE** | **13,412,500** | **560,290** | **1,045,590** | **1,127,662** | **1,284,191** | **1,023,673** | **2,071,224** | **7,112,631** | |

# FY 2016 - Sewer Revenue

| ACCOUNT# | DESCRIPTION | BUDGET | July '15 | Aug '15 | Sept '15 | Oct '15 | Nov '15 | Dec '15 | Year to Date | Percentage YTD |
|---|---|---|---|---|---|---|---|---|---|---|
| 03-40016 | Sales - Establish Service Fee | 500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00% |
| 03-41000 | Sales - Sewer Charges | 11,675,000 | 273,261 | 950,328 | 946,804 | 953,641 | 942,143 | 947,505 | 5,013,683 | 42.94% |
| 03-41005 | Sales Disc-Multi Units Service Chrg. | (200,000) | (5,440) | (18,294) | (18,295) | (18,246) | (18,235) | (18,252) | (96,763) | 48.38% |
| 03-41110 | Meter/Lateral Installation | 1,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00% |
| 03-41121 | Penalty - Late Charges | 150,000 | 8,583 | 10,361 | 11,760 | 9,484 | 11,987 | 9,757 | 61,931 | 41.29% |
| 03-41124 | Bad Debt | (20,000) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00% |
| 03-42122 | Revenue - Other Operating | 2,000 | 360 | 105 | 0 | 0 | 0 | 180 | 645 | 32.25% |
| 03-43010 | Interest Earned | 15,000 | 0 | 0 | 4,062 | 8,668 | 28 | 0 | 12,758 | 85.05% |
| 03-43110 | Property Tax - Unsecured | 10,000 | 0 | 0 | 0 | 0 | 0 | 10,000 | 10,000 | 100.00% |
| 03-43120 | Property Tax - Secured | 125,000 | 0 | 0 | 0 | 0 | 0 | 125,000 | 125,000 | 100.00% |
| 03-43130 | Tax Collection - Prior | 10,000 | 0 | 0 | 0 | 0 | 0 | 10,000 | 10,000 | 100.00% |
| 03-43140 | Other Taxes | 1,500 | 0 | 0 | 0 | 0 | 0 | 1,500 | 1,500 | 100.00% |
| 03-49150 | Misc. Non-Oper Revenue | 50,000 | 0 | 1,875 | 0 | 0 | 0 | 0 | 1,875 | 3.75% |
| | | | | | | | | | | |
| | SEWER OPERATING REVENUE | 11,820,000 | 276,764 | 944,375 | 944,331 | 953,547 | 935,924 | 1,085,689 | 5,140,629 | 43.49% |
| | | | | | | | | | | |
| | Grants | 0 | | | | | | | 0 | |
| 03-89901 | Facility Capacity Charges | 0 | 172,641 | 184,377 | 123,315 | 189,083 | 8,221 | 285,137 | 962,774 | |
| 03-89903 | Contrib Capital-Front Footage Fees | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 03-89905 | Contrib Capital-Infrastructure | 0 | 0 | 0 | 0 | 34,500 | 0 | 0 | 34,500 | |
| | | | | | | | | | | |
| | TOTAL SEWER REVENUE | 11,820,000 | 449,405 | 1,128,752 | 1,067,646 | 1,177,130 | 944,145 | 1,370,826 | 6,137,903 | |

# FY 2016 - Recycled Revenue

| ACCOUNT# | DESCRIPTION | BUDGET | July '15 | Aug '15 | Sept '15 | Oct '15 | Nov '15 | Dec '15 | Year to Date | Percentage YTD |
|---|---|---|---|---|---|---|---|---|---|---|
| 04-40010 | Sales - Recycled Water | 450,000 | 19,891 | 42,017 | 46,193 | 41,986 | 26,911 | 23,271 | 200,270 | 44.50% |
| 04-40011 | Sales - Construction Water | 10,000 | 104 | 347 | 818 | 472 | 600 | 587 | 2,929 | 29.29% |
| 04-41000 | Sales - Service Demand Chrg. | 42,500 | 1,101 | 3,124 | 3,177 | 3,176 | 3,145 | 3,237 | 16,960 | 39.91% |
| 04-41003 | Const. Water Minimum Chrg. | 5,000 | 21 | 214 | 193 | 221 | 214 | 221 | 1,083 | 21.67% |
| 04-41110 | Meter/Lateral installation | 1,500 | 0 | 0 | 0 | 0 | 0 | 325 | 325 | 21.67% |
| 04-41121 | Penalty - Late Charges | 500 | 15 | 10 | 229 | 39 | 44 | 7 | 344 | 68.86% |
| 04-41122 | Revenue - Other Operating | 250 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00% |
| 04-43010 | Interest Earned | 8,000 | 0 | 0 | 0 | 1,454 | 6 | 0 | 1,460 | 18.25% |
| 04-43110 | Property Tax - Unsecured | 1,000 | 0 | 0 | 0 | 0 | 0 | 1,000 | 1,000 | 100.00% |
| 04-43120 | Property Tax - Secured | 15,000 | 0 | 0 | 0 | 0 | 0 | 15,000 | 15,000 | 100.00% |
| 04-43130 | Property Tax - Prior | 1,000 | 0 | 0 | 0 | 0 | 0 | 1,000 | 1,000 | 100.00% |
| 04-43140 | Property Tax - Other | 1,000 | 0 | 0 | 0 | 0 | 0 | 1,000 | 1,000 | 100.00% |
| 04-49150 | Misc. Non-Operating Revenue | 1,500 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00% |
| | | | | | | | | | | |
| | RECYCLED OPERATING REVENUE | 537,250 | 21,132 | 45,712 | 50,610 | 47,348 | 30,921 | 45,648 | 241,371 | 44.93% |
| | | | | | | | | | | |
| | Grants | 0 | | | | | | | 0 | |
| 04-89901 | Facility Capacity Charges | 0 | 0 | 0 | 5,800 | 0 | 5,800 | 10,634 | 22,234 | |
| | | | | | | | | | | |
| | TOTAL RECYCLED REVENUE | 537,250 | 21,132 | 45,712 | 56,410 | 47,348 | 36,721 | 56,282 | 263,605 | |

# FY 2016 - Water Expenses

| ACCOUNT# | DESCRIPTION | BUDGET | July '15 | Aug '15 | Sept '15 | Oct '15 | Nov '15 | Dec '15 | Year to Date | Percentage YTD |
|---|---|---|---|---|---|---|---|---|---|---|
| 02-5-01-50010 | Labor-Water Resources | 884,000 | 48,986 | 60,934 | 62,120 | 91,592 | 65,105 | 63,390 | **392,127** | 44.36% |
| 02-5-01-50011 | Labor Credit | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | |
| 02-5-01-50013 | Benefits-Fica | 63,000 | 4,012 | 4,997 | 5,113 | 7,517 | 5,345 | 5,044 | **32,029** | 50.84% |
| 02-5-01-50014 | Benefits-Life Insurance | 3,200 | 302 | 259 | 284 | 278 | 286 | 277 | **1,686** | 52.68% |
| 02-5-01-50016 | Benefits-Health\Defrd Comp | 145,000 | 13,501 | 14,476 | 15,028 | 15,223 | 14,508 | 14,533 | **87,269** | 60.19% |
| 02-5-01-50017 | Benefits-Disability Insurance | 11,000 | 785 | 851 | 885 | 1,166 | 855 | 769 | **5,310** | 48.27% |
| 02-5-01-50019 | Benefits-Workers Compensation | 42,000 | 3,995 | 3,995 | 0 | 781 | 4,084 | 0 | **12,855** | 30.61% |
| 02-5-01-50021 | Benefits-PERS | 47,000 | 2,542 | 3,831 | 3,831 | 5,747 | 3,868 | 3,831 | **23,652** | 50.32% |
| 02-5-01-50022 | Benefits-PERS-Employer | 100,000 | 2,773 | 4,091 | 4,091 | 6,136 | 4,091 | 4,091 | **25,271** | 25.27% |
| 02-5-01-50023 | Benefits-Uniforms | 3,500 | 298 | 244 | 223 | 402 | 1,516 | 425 | **3,108** | 88.80% |
| 02-5-01-50024 | Benefits-Vacation & Sick Pay | 7,500 | 595 | 595 | 388 | 892 | 459 | 595 | **3,522** | 46.96% |
| 02-5-01-50025 | Benefits-Boot Allowance | 2,000 | 200 | 194 | 200 | 0 | 200 | 0 | **794** | 39.71% |
| 02-5-01-51003 | R&M - Structures | 275,000 | 5,095 | 12,074 | 8,934 | 24,272 | 13,392 | 13,665 | **77,431** | 28.16% |
| 02-5-01-51011 | R&M - CLA Valves | 10,000 | 0 | 0 | 0 | 0 | 0 | 18 | **18** | 0.18% |
| 02-5-01-51140 | General Supplies & Expenses | 2,000 | 77 | 128 | 29 | 136 | 31 | 55 | **455** | 22.75% |
| 02-5-01-51210 | Utilities - Power Purchases | 1,650,000 | 92,179 | 137,843 | 195,277 | 115,268 | 44,080 | 84,658 | **669,306** | 40.56% |
| 02-5-01-51211 | Utilities - Electricity & Fuel | 5,000 | 268 | 154 | 777 | 480 | 419 | 433 | **2,531** | 50.62% |
| 02-5-01-51316 | Imported Water Purchases | 1,100,000 | 84,857 | 85,692 | 91,153 | 93,414 | 91,779 | 0 | **446,895** | 40.63% |
| 02-5-01-54019 | Licenses & Permits | 25,000 | 0 | 2,062 | 1,071 | 0 | 1,404 | 1,404 | **5,941** | 23.76% |
| 02-5-01-54110 | Laboratory Services | 75,000 | 1,600 | 2,508 | 3,765 | 16,798 | 13,234 | 3,030 | **40,934** | 54.58% |
| 02-5-01-57040 | YVRWFF Operating Expense | 600,000 | 70,841 | 44,298 | 51,038 | 46,890 | 67,366 | 44,571 | **325,004** | 54.17% |
| | **WATER RESOURCE TOTALS** | **5,050,200** | **332,904** | **379,226** | **444,208** | **426,991** | **332,021** | **240,787** | **2,156,138** | **42.69%** |
| | | | | | | | | | | |
| 02-5-03-50010 | Labor-Public Works | 1,042,800 | 33,636 | 54,528 | 53,200 | 74,970 | 81,368 | 86,707 | **384,409** | 36.86% |
| 02-5-03-50011 | Labor Credit | 0 | 0 | (1,076) | 0 | (2,524) | (4,114) | (2,169) | **(9,883)** | |
| 02-5-03-50013 | Benefits-Fica | 92,000 | 2,770 | 4,471 | 4,368 | 6,193 | 6,649 | 6,929 | **31,380** | 34.11% |
| 02-5-03-50014 | Benefits-Life Insurance | 7,000 | 372 | 372 | 372 | 366 | 367 | 436 | **2,287** | 32.66% |
| 02-5-03-50016 | Benefits-Health\Defrd Comp | 300,000 | 18,302 | 21,374 | 21,311 | 21,469 | 22,615 | 32,430 | **137,501** | 45.83% |
| 02-5-03-50017 | Benefits-Disability Insurance | 16,500 | 694 | 872 | 860 | 1,077 | 1,086 | 1,062 | **5,652** | 34.25% |
| 02-5-03-50019 | Benefits-Workers Compensation | 45,000 | 3,995 | 3,995 | 0 | 781 | 4,084 | 0 | **12,855** | 28.57% |
| 02-5-03-50021 | Benefits-PERS | 73,000 | 2,557 | 3,761 | 3,790 | 5,152 | 3,051 | 3,027 | **21,339** | 29.23% |
| 02-5-03-50022 | Benefits-PERS Employer | 160,000 | 2,617 | 3,848 | 3,879 | 5,352 | 5,374 | 5,750 | **26,820** | 16.76% |
| 02-5-03-50023 | Benefits-Uniforms | 6,000 | 364 | 221 | 223 | 322 | 4,144 | 542 | **5,815** | 96.92% |
| 02-5-03-50024 | Benefits-Vacation & Sick Pay | 4,000 | 243 | 243 | 243 | 542 | 420 | 299 | **1,989** | 49.74% |
| 02-5-03-50025 | Benefits-Boot Allowance | 3,500 | 0 | 330 | 0 | 1,378 | 949 | 579 | **3,236** | 92.46% |
| 02-5-03-51001 | R & M -Vehicles & Equipment | 150,000 | 8,281 | 17,364 | 33,929 | 6,192 | 9,418 | 9,915 | **85,100** | 56.73% |
| 02-5-03-51011 | R&M - Valves | 10,000 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | 0.00% |
| 02-5-03-51020 | R&M - Pipelines | 275,000 | 13,897 | 22,544 | 14,586 | 29,012 | 7,743 | 17,346 | **105,129** | 38.23% |
| 02-5-03-51021 | R&M - Service Lines | 100,000 | 5,140 | 11,868 | 3,519 | 12,242 | 1,449 | 4,706 | **38,924** | 38.92% |
| 02-5-03-51022 | R&M - Fire Hydrants | 25,000 | 990 | 303 | 0 | (2,518) | 2,401 | 5,086 | **6,263** | 25.05% |
| 02-5-03-51030 | R&M - Water Meters | 75,000 | 4,853 | 15,502 | 4,814 | 11,927 | 16,233 | 2,691 | **56,020** | 74.69% |
| 02-5-03-51092 | Equipment Credits | 0 | 0 | (417) | 0 | (1,071) | (2,919) | (1,939) | **(6,345)** | |
| 02-5-03-51140 | General Supplies & Expenses | 1,000 | 115 | 0 | 0 | 57 | 390 | 43 | **605** | 60.54% |
| | **PUBLIC WORKS TOTALS** | **2,385,800** | **98,827** | **160,104** | **145,095** | **170,918** | **160,711** | **173,439** | **909,095** | **38.10%** |

# FY 2016 - Water Expenses

| ACCOUNT# | DESCRIPTION | BUDGET | July '15 | Aug '15 | Sept '15 | Oct '15 | Nov '15 | Dec '15 | Year to Date | Percentage YTD |
|---|---|---|---|---|---|---|---|---|---|---|
| 02-5-06-50010 | Labor-Administration | 705,000 | 33,424 | 49,321 | 48,728 | 72,408 | 48,727 | 39,442 | **292,051** | 41.43% |
| 02-5-06-50011 | Labor Credit | 0 | 0 | 2,252 | 0 | 0 | 2,925 | 0 | **5,177** | |
| 02-5-06-50012 | Director Fees | 19,000 | 0 | 1,474 | 1,742 | 2,144 | 1,742 | 492 | **7,595** | 39.98% |
| 02-5-06-50013 | Benefits-Fica | 47,500 | 2,696 | 3,829 | 3,782 | 5,545 | 3,298 | 2,792 | **21,942** | 46.19% |
| 02-5-06-50014 | Benefits-Life Insurance | 3,200 | 220 | 220 | 222 | 215 | 220 | 255 | **1,351** | 42.22% |
| 02-5-06-50016 | Benefits-Health\Defrd Comp | 165,000 | 10,559 | 13,027 | 13,525 | 15,288 | 13,548 | 13,451 | **79,398** | 48.12% |
| 02-5-06-50017 | Benefits-Disability Insurance | 7,500 | 467 | 580 | 579 | 655 | 387 | 355 | **3,023** | 40.30% |
| 02-5-06-50019 | Benefits-Workers Compensation | 15,750 | 1,000 | 1,000 | 0 | 781 | 1,000 | 0 | **3,781** | 24.01% |
| 02-5-06-50021 | Benefits-PERS | 40,286 | 2,269 | 3,337 | 3,337 | 5,006 | 3,337 | 3,337 | **20,624** | 51.20% |
| 02-5-06-50022 | Benefits PERS Employer | 85,000 | 2,322 | 3,415 | 3,415 | 5,123 | 3,415 | 3,415 | **21,105** | 24.83% |
| 02-5-06-50023 | Uniforms | 2,000 | 110 | 88 | 95 | 110 | 408 | 86 | **897** | 44.87% |
| 02-5-06-50024 | Benefits-Vacation & Sick Pay | 10,000 | 843 | 1,184 | 982 | 1,534 | 888 | 943 | **6,374** | 63.74% |
| 02-5-06-50025 | Benefits-Boots | 1,000 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | 0.00% |
| 02-5-06-51003 | R&M - Structures | 20,000 | 283 | 551 | 234 | 11,117 | 7,020 | 745 | **19,949** | 99.75% |
| 02-5-06-51091 | Expense Credits (overhead) | 0 | 0 | (236) | 0 | (1,207) | (1,972) | (494) | **(3,909)** | |
| 02-5-06-51120 | Safety Equipment/Supplies | 25,000 | 218 | 135 | 6,315 | 1,501 | 1,651 | 2,267 | **12,087** | 48.35% |
| 02-5-06-51125 | Petroleum Products | 125,000 | 4,642 | 12,208 | 6,760 | 5,894 | 6,597 | 7,148 | **43,247** | 34.60% |
| 02-5-06-51130 | Office Supplies & Expenses | 30,000 | 2,366 | 3,084 | 2,131 | 883 | 4,584 | 904 | **13,953** | 46.51% |
| 02-5-06-51140 | General Supplies & Expenses | 30,000 | 799 | 308 | 1,135 | 7,291 | 2,378 | 2,434 | **14,345** | 47.82% |
| 02-5-06-51199 | Disaster Incidences | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | |
| 02-5-06-51211 | Utilities - Electricity | 28,000 | 2,282 | 39 | 6,869 | 2,742 | 1,962 | 1,858 | **15,752** | 56.26% |
| 02-5-06-51213 | Utilities - Natural Gas | 3,000 | 28 | 26 | 29 | 28 | 148 | 455 | **714** | 23.79% |
| 02-5-06-54002 | Dues & Subscriptions | 10,000 | 1,182 | 0 | 164 | 3,045 | 4,500 | 2,704 | **11,594** | 115.94% |
| 02-5-06-54005 | Computer Expenses | 65,000 | 3,902 | 7,645 | 5,157 | 14,879 | 1,860 | 12,943 | **46,386** | 71.36% |
| 02-5-06-54010 | Postage | 6,000 | 71 | 2,284 | 118 | 54 | 2,023 | 24 | **4,573** | 76.22% |
| 02-5-06-54011 | Printing & Publications | 7,500 | 268 | 178 | 0 | 0 | 0 | 0 | **446** | 5.95% |
| 02-5-06-54012 | Education & Training | 15,000 | 1,164 | 158 | 433 | 158 | 158 | 272 | **2,342** | 15.61% |
| 02-5-06-54013 | Utility Billing Expenses | 180,000 | 12,045 | 11,723 | 12,175 | 11,972 | 12,097 | 4,978 | **64,990** | 36.11% |
| 02-5-06-54014 | Public Relations | 9,000 | 25,371 | 8,457 | 7,056 | 5,617 | 19,306 | 52,611 | **118,418** | 1315.75% |
| 02-5-06-54016 | Travel Related Expenses | 10,000 | 207 | 188 | 15 | 500 | 42 | 42 | **994** | 9.94% |
| 02-5-06-54017 | Certifications & Renewals | 6,000 | 140 | 245 | 345 | 215 | 1,780 | 212 | **2,937** | 48.94% |
| 02-5-06-54020 | Meeting Related Expenses | 6,000 | 89 | 219 | 358 | 600 | 60 | 1,076 | **2,403** | 40.05% |
| 02-5-06-54024 | Utilities - Waste Disposal | 2,750 | 177 | 177 | 177 | 177 | 241 | 177 | **1,124** | 40.88% |
| 02-5-06-54025 | Utilities - Telephone | 42,000 | 3,453 | 3,329 | 3,336 | 3,503 | 3,362 | 2,343 | **19,325** | 46.01% |
| 02-5-06-54099 | Conservation & Rebates | 0 | (8,250) | (64) | 183 | 1,960 | 300 | (18,854) | **(24,726)** | |
| 02-5-06-54104 | Contractual Services | 65,000 | 17,192 | 3,207 | 6,885 | 10,652 | 4,645 | 15,290 | **57,870** | 89.03% |
| 02-5-06-54107 | Legal | 45,000 | 1,913 | 3,225 | 3,385 | 1,838 | 3,959 | 0 | **14,319** | 31.82% |
| 02-5-06-54108 | Audit & Accounting | 16,000 | 4,725 | 3,600 | 450 | 1,710 | 0 | 0 | **10,485** | 65.53% |
| 02-5-06-54109 | Professional Fees | 150,000 | 21,277 | 7,494 | 9,888 | 7,789 | 13,020 | 2,500 | **61,968** | 41.31% |
| 02-5-06-55500 | Depreciation Reserves | 200,000 | 16,663 | 16,667 | 16,667 | 16,667 | 16,667 | 16,667 | **99,998** | 50.00% |
| | Infrastructure Replacement | 1,265,000 | 105,417 | 105,416 | 105,416 | 105,416 | 105,416 | 105,416 | **632,497** | 50.00% |
| 02-5-06-56001 | Insurance | 105,000 | 8,325 | 8,328 | 8,328 | 8,328 | 8,328 | 8,328 | **49,965** | 47.59% |
| 02-5-06-57030 | Regulatory Compliance | 55,000 | 4 | 2,458 | 100 | 263 | 535 | 275 | **3,634** | 6.61% |
| 02-5-06-57090 | Election Related Expenses | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | |
| 02-5-06-57096 | Beaumont Basin Watermaster | 60,000 | 0 | 0 | 0 | 25,451 | 0 | 0 | **25,451** | 42.42% |
| 02-5-06-57199 | Suspense | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | |
| | **ADMINISTRATION TOTALS** | **3,682,486** | **279,862** | **280,774** | **280,515** | **357,847** | **300,562** | **286,888** | **1,786,449** | **48.51%** |

## FY 2016 - Water Expenses

| ACCOUNT# | DESCRIPTION | BUDGET | July '15 | Aug '15 | Sept '15 | Oct '15 | Nov '15 | Dec '15 | Year to Date | Percentage YTD |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| | | | | | | | | | | |
| 02-5-40-57201 | Debt Srv-Series 2015A Princ.(25009) | 980,000 | 0 | 980,000 | 0 | 0 | 0 | 0 | 980,000 | 100.00% |
| 02-5-40-57402 | Interest-Long-Term Debt Bonds | 1,314,014 | 0 | 673,457 | 0 | 0 | 0 | 0 | 673,457 | 51.25% |
| | **40 - Debt** | **2,294,014** | **0** | **1,653,457** | **0** | **0** | **0** | **0** | **1,653,457** | **72.08%** |
| | | | | | | | | | | |
| 02-5-40-57001 | Asset Acq. - Water Resources | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -- |
| 02-5-40-57003 | Asset Acq. - Public works | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -- |
| 02-5-40-57006 | Asset Acq. - Administration | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -- |
| | **40 - Capital Outlay** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **--** |
| | | | | | | | | | | |
| | | | | | | | | | *6,505,139* | |
| | **TOTAL WATER EXPENSES** | **13,412,500** | **711,594** | **2,473,562** | **869,818** | **955,756** | **793,294** | **701,115** | **6,505,139** | **48.50%** |

# FY 2016 - Sewer Expenses

| ACCOUNT# | DESCRIPTION | BUDGET | July '15 | Aug '15 | Sept '15 | Oct '15 | Nov '15 | Dec '15 | Year to Date | Percentage YTD |
|---|---|---|---|---|---|---|---|---|---|---|
| 03-5-02-50010 | Labor-S Treatment | 985,300 | 36,805 | 60,938 | 60,831 | 91,656 | 65,988 | 60,926 | **377,143** | 38.28% |
| 03-5-02-50013 | Benefits-Fica | 75,000 | 2,994 | 4,961 | 4,988 | 7,482 | 5,385 | 4,990 | **30,800** | 41.07% |
| 03-5-02-50014 | Benefits-Life Insurance | 5,000 | 356 | 277 | 310 | 302 | 310 | 309 | **1,862** | 37.24% |
| 03-5-02-50016 | Benefits-Health\Defrd Comp | 200,000 | 14,455 | 16,255 | 16,826 | 17,176 | 9,701 | 15,010 | **89,423** | 44.71% |
| 03-5-02-50017 | Benefits-Disability Insurance | 15,000 | 705 | 868 | 900 | 1,189 | 864 | 731 | **5,257** | 35.04% |
| 03-5-02-50019 | Benefits-Workers Compensation | 45,000 | 3,995 | 3,995 | 0 | 781 | 4,084 | 0 | **12,855** | 28.57% |
| 03-5-02-50021 | Benefits-PERS | 60,000 | 2,784 | 3,935 | 3,935 | 5,903 | 3,954 | 3,954 | **24,465** | 40.77% |
| 03-5-02-50022 | Benefits-PERS Employer | 130,000 | 3,089 | 4,197 | 4,197 | 6,295 | 4,197 | 4,197 | **26,171** | 20.13% |
| 03-5-02-50023 | Benefits-Uniforms | 4,500 | 479 | 278 | 211 | 325 | 1,753 | 353 | **3,400** | 75.55% |
| 03-5-02-50024 | Benefits-Vacation & Sick Pay | 5,000 | 323 | 323 | 252 | 484 | 323 | 323 | **2,026** | 40.52% |
| 03-5-02-50025 | Benefits-Boot Allowance | 2,400 | 200 | 314 | 200 | 200 | 0 | 140 | **1,053** | 43.89% |
| 03-5-02-51003 | R&M - Structures | 225,000 | 45,310 | 57,002 | 35,001 | 40,879 | 43,159 | 30,154 | **251,505** | 111.78% |
| 03-5-02-51010 | R&M - Automation Control | 65,000 | 0 | 3,298 | 0 | 5,361 | 5,177 | 390 | **14,226** | 21.89% |
| 03-5-02-51106 | Chemicals | 490,000 | 30,010 | 19,314 | 32,069 | 21,102 | 26,864 | 19,160 | **148,518** | 30.31% |
| 03-5-02-51111 | Propane | 5,000 | 0 | 2,357 | 0 | 0 | 3,940 | 16,127 | **22,424** | 448.47% |
| 03-5-02-51115 | Laboratory Supplies | 30,000 | 2,776 | 1,407 | 4,673 | 939 | 277 | 3,493 | **13,565** | 45.22% |
| 03-5-02-51140 | General Supplies & Expenses | 1,000 | 0 | 22 | 66 | 31 | 321 | 0 | **440** | 43.96% |
| 03-5-02-51210 | Utilities - Power Purchases | 830,000 | 66,332 | 97,886 | 102,045 | 79,486 | 56,816 | 57,501 | **460,066** | 55.43% |
| 03-5-02-54110 | Laboratory Services | 115,000 | 512 | 8,988 | 3,857 | 4,277 | 9,086 | 12,202 | **38,922** | 33.85% |
| 03-5-02-57031 | Sludge Disposal | 300,000 | 22,069 | 23,758 | 22,772 | 21,823 | 23,579 | 0 | **114,000** | 38.00% |
| 03-5-02-57034 | Brine Operating Expenses | 201,616 | 27 | 35 | 72 | 1,202 | 27,852 | 786 | **29,974** | 14.87% |
| | | | | | | | | | | |
| | **TREATMENT TOTALS** | **3,789,816** | **233,218** | **310,405** | **293,205** | **306,894** | **293,629** | **230,742** | **1,668,093** | **44.02%** |

# FY 2016 Sewer Expenses

| ACCOUNT# | DESCRIPTION | BUDGET | July '15 | Aug '15 | Sept '15 | Oct '15 | Nov '15 | Dec '15 | Year to Date | Percentage YTD |
|---|---|---|---|---|---|---|---|---|---|---|
| 03-5-06-50010 | Labor-Administration | 660,000 | 29,938 | 45,835 | 45,242 | 67,179 | 45,241 | 35,520 | **268,956** | 40.75% |
| 03-5-06-50011 | Labor Credit | 0 | 0 | 2,252 | 0 | 0 | 2,925 | 0 | **5,177** | |
| 03-5-06-50012 | Directors Fees | 19,000 | 0 | 1,474 | 1,742 | 2,144 | 1,742 | 492 | **7,595** | 39.98% |
| 03-5-06-50013 | Benefits-Fica | 43,000 | 2,399 | 3,532 | 3,485 | 5,101 | 3,004 | 2,643 | **20,164** | 46.89% |
| 03-5-06-50014 | Benefits-Life Insurance | 3,600 | 217 | 217 | 217 | 211 | 217 | 182 | **1,259** | 34.96% |
| 03-5-06-50016 | Benefits-Health\Defrd Comp | 145,000 | 9,454 | 11,974 | 12,472 | 14,049 | 12,495 | 12,398 | **72,842** | 50.24% |
| 03-5-06-50017 | Benefits-Disability Insurance | 7,500 | 416 | 545 | 543 | 608 | 387 | 355 | **2,854** | 38.06% |
| 03-5-06-50019 | Benefits-Workers Compensation | 27,500 | 1,000 | 1,000 | 0 | 781 | 1,000 | 0 | **3,781** | 13.75% |
| 03-5-06-50021 | Benefits-PERS | 36,000 | 2,103 | 3,093 | 3,093 | 4,640 | 3,093 | 3,093 | **19,116** | 53.10% |
| 03-5-06-50022 | Benefits PERS Employer | 75,000 | 2,152 | 3,165 | 3,165 | 4,748 | 3,165 | 3,165 | **19,561** | 26.08% |
| 03-5-06-50023 | Benefits-Uniforms | 2,000 | 79 | 63 | 63 | 84 | 246 | 113 | **647** | 32.37% |
| 03-5-06-50024 | Benefits-Vacation & Sick Pay | 10,000 | 843 | 1,184 | 982 | 1,534 | 888 | 943 | **6,374** | 63.74% |
| 03-5-06-50025 | Benefits-Boot Allowance | 1,740 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | 0.00% |
| 03-5-06-51120 | Safety Equipment/Supplies | 10,000 | 1,577 | 0 | 130 | 0 | 1,197 | 1,060 | **3,963** | 39.63% |
| 03-5-06-51125 | Petroleum Products | 22,500 | 1,111 | 1,000 | 2,510 | 1,000 | 1,000 | 1,000 | **7,621** | 33.87% |
| 03-5-06-51130 | Office Supplies | 4,000 | 1,889 | 21 | 372 | 211 | 338 | 329 | **3,160** | 79.01% |
| 03-5-06-51140 | General Supplies & Expenses | 17,500 | 313 | 362 | 176 | 6,387 | 1,450 | 1,262 | **9,950** | 56.86% |
| 03-5-06-51199 | Disaster Repairs (lift station 2) | 0 | 0 | 15,262 | 18,381 | 0 | 3,307 | 0 | **36,949** | |
| 03-5-06-54002 | Dues & Subscriptions | 10,000 | 422 | 654 | 164 | 3,045 | 656 | 1,115 | **6,055** | 60.55% |
| 03-5-06-54003 | Management & Admin Services | 160,000 | 13,326 | 13,334 | 13,334 | 13,334 | 13,334 | 13,334 | **79,996** | 50.00% |
| 03-5-06-54005 | Computer Expenses | 95,000 | 6,052 | 6,114 | 8,196 | 15,120 | 1,460 | 13,198 | **50,141** | 52.78% |
| 03-5-06-54011 | Printing & Publications | 1,500 | 235 | 178 | 0 | 81 | 0 | 0 | **494** | 32.93% |
| 03-5-06-54012 | Education & Training | 7,000 | 158 | 443 | 317 | 158 | 158 | 158 | **1,390** | 19.85% |
| 03-5-06-54014 | Public Relations | 7,500 | 467 | 0 | 0 | 825 | 0 | 0 | **1,293** | 17.24% |
| 03-5-06-54016 | Travel Related Expenses | 5,000 | 174 | 791 | 252 | 816 | 42 | 42 | **2,116** | 42.31% |
| 03-5-06-54017 | Certifications & Renewals | 5,000 | 136 | 270 | 0 | 340 | 1,658 | 480 | **2,884** | 57.68% |
| 03-5-06-54019 | Licenses & Permits | 50,000 | 0 | 0 | 10,929 | 0 | 40,242 | 3,776 | **54,947** | 109.89% |
| 03-5-06-54020 | Meeting Related Expenses | 5,000 | 91 | 88 | 359 | 605 | 30 | 953 | **2,126** | 42.52% |
| 03-5-06-54024 | Utilities - Waste Disposal | 12,500 | 1,054 | 1,054 | 1,054 | 1,054 | 1,054 | 1,054 | **6,323** | 50.58% |
| 03-5-06-54025 | Utilities - Telephone | 20,000 | 1,395 | 1,318 | 1,320 | 1,489 | 1,389 | 927 | **7,836** | 39.18% |
| 03-5-06-54030 | Drinking Water | 1,000 | 65 | 109 | 123 | 58 | 51 | 102 | **508** | 50.75% |
| 03-5-06-54104 | Contractual Services | 30,000 | 11,019 | 992 | 4,241 | 4,791 | 993 | 13,005 | **35,041** | 116.80% |
| 03-5-06-54107 | Legal | 45,000 | 1,050 | 1,425 | 1,285 | 1,275 | 1,784 | 0 | **6,819** | 15.15% |
| 03-5-06-54108 | Audit & Accounting | 16,000 | 4,725 | 3,600 | 450 | 1,710 | 0 | 0 | **10,485** | 65.53% |
| 03-5-06-54109 | Professional Fees | 150,000 | 13,794 | 18,741 | 18,126 | 31,912 | 6,978 | 2,500 | **92,052** | 61.37% |
| 03-5-06-55500 | Depreciation Reserves | 500,000 | 41,663 | 41,667 | 41,667 | 41,667 | 41,667 | 41,667 | **249,998** | 50.00% |
| | Infrastructure Replacement | 800,000 | 66,667 | 66,670 | 66,670 | 66,670 | 66,670 | 66,670 | **400,017** | 50.00% |
| 03-5-06-56001 | Insurance | 105,000 | 8,325 | 8,328 | 8,328 | 8,328 | 8,328 | 8,916 | **50,554** | 48.15% |
| 03-5-06-57030 | Regulatory Compliance | 42,000 | 1,000 | 790 | 0 | 0 | 0 | 0 | **1,790** | 4.26% |
| | | | | | | | | | | |
| | **ADMINISTRATION TOTALS** | **3,151,840** | **225,307** | **257,545** | **269,388** | **301,955** | **268,188** | **230,452** | **1,552,834** | 49.27% |

# FY 2016 - Sewer Expenses

| ACCOUNT# | DESCRIPTION | BUDGET | July '15 | Aug '15 | Sept '15 | Oct '15 | Nov '15 | Dec '15 | Year to Date | Percentage YTD |
|---|---|---|---|---|---|---|---|---|---|---|
| 03-5-07-50010 | Labor-Enviromental Control | 310,000 | 18,519 | 30,843 | 33,094 | 43,991 | 31,864 | 30,771 | **189,083** | 60.99% |
| 03-5-07-50011 | Labor Credit | 0 | 0 | (310) | 0 | 0 | (916) | 0 | **(1,225)** | |
| 03-5-07-50013 | Benefits-Fica | 28,000 | 1,461 | 2,423 | 2,598 | 3,498 | 2,503 | 2,415 | **14,899** | 53.21% |
| 03-5-07-50014 | Benefits-Life Insurance | 2,000 | 142 | 142 | 142 | 139 | 142 | 142 | **849** | 42.46% |
| 03-5-07-50016 | Benefits-Health\Defrd Comp | 75,000 | 8,397 | 8,978 | 8,978 | 9,851 | 8,978 | 8,978 | **54,159** | 72.21% |
| 03-5-07-50017 | Benefits-Disability Insurance | 4,500 | 308 | 423 | 444 | 561 | 437 | 379 | **2,552** | 56.72% |
| 03-5-07-50019 | Benefits-Workers Compensation | 30,000 | 1,197 | 1,197 | 0 | 781 | 1,286 | 0 | **4,461** | 14.87% |
| 03-5-07-50021 | Benefits-PERS | 20,000 | 1,210 | 1,780 | 1,832 | 2,749 | 1,832 | 1,832 | **11,237** | 56.18% |
| 03-5-07-50022 | Benefits-PERS Employer | 45,000 | 1,239 | 1,821 | 1,875 | 2,813 | 1,875 | 1,875 | **11,498** | 25.55% |
| 03-5-07-50023 | Benefits-Uniforms | 2,000 | 107 | 130 | 84 | 105 | 1,386 | 190 | **2,001** | 100.05% |
| 03-5-07-50024 | Benefits-Vacation & Sick Pay | 2,000 | 140 | 154 | 169 | 253 | 169 | 169 | **1,053** | 52.66% |
| 03-5-07-50025 | Benefits-Boot Allowance | 800 | 157 | 0 | 0 | 0 | 199 | 0 | **356** | 44.52% |
| 03-5-07-51003 | R&M - Structures | 270,000 | 11,106 | 10,057 | 9,878 | 20,728 | 8,153 | 9,852 | **69,775** | 25.84% |
| 03-5-07-51140 | General Supplies & Expenses | 1,000 | 0 | 0 | 34 | 172 | 147 | 6 | **360** | 36.01% |
| 03-5-07-51241 | Lift Station #1 | 85,000 | 4,725 | 7,866 | 5,120 | 6,839 | 5,517 | 3,309 | **33,377** | 39.27% |
| 03-5-07-51242 | Lift Station #2 | 15,000 | 960 | 226 | 3,688 | 2,826 | 1,770 | 749 | **10,219** | 68.13% |
| 03-5-07-51243 | Lift Station #3 | 5,000 | 203 | 0 | 577 | 1,154 | 214 | 210 | **2,357** | 47.13% |
| 03-5-07-51244 | Lift Station #4 | 20,000 | 6,265 | 33 | 1,402 | 4,046 | 468 | 601 | **12,816** | 64.08% |
| 03-5-07-51248 | Lift Station #8 | 3,000 | 39 | 0 | 106 | 58 | 49 | 48 | **299** | 9.97% |
| 03-5-07-54109 | Professional Fees | 60,000 | 0 | 4,071 | 2,590 | 3,287 | 7,038 | 2,795 | **19,781** | 32.97% |
| 03-5-07-54110 | Laboratory Services | 4,000 | 0 | 0 | 0 | 0 | 1,185 | 438 | **1,623** | 40.58% |
| | | | | | | | | | | |
| | **ENVIRONMENTAL CONTROL TOTAL** | **982,300** | **56,176** | **69,836** | **72,611** | **103,851** | **74,297** | **64,758** | **441,530** | 44.95% |
| | | | | | | | | | | |
| 03-5-40-57202 | Debt Service - Principal - WRWRF | 2,097,629 | 0 | 0 | 2,097,629 | 0 | 0 | 0 | **2,097,629** | 100.00% |
| 03-5-40-57203 | Debt Service - Principal - Brineline | 401,939 | 0 | 0 | 0 | 0 | 0 | 401,939 | **401,939** | 100.00% |
| 03-5-40-57204 | Debt Service - Principal - WISE | 125,600 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | 0.00% |
| 03-5-40-57205 | Debt Service - Principal - R 10.3 | 36,663 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | 0.00% |
| 03-5-40-57206 | Debt Service - Principal - Crow & B12-1 | 18,357 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | 0.00% |
| 03-5-40-57403 | Debt Service - Interest | 1,215,856 | 0 | 0 | 826,039 | 0 | 0 | 247,335 | **1,073,374** | 88.28% |
| | **40 - Debt** | **3,896,044** | **0** | **0** | **2,923,669** | **0** | **0** | **649,274** | **3,572,942** | 91.71% |
| | | | | | | | | | | |
| 03-5-40-57002 | Asset Acq. - Treatment | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | |
| 03-5-40-57006 | Asset Acq. - Administration | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | |
| 03-5-40-57007 | Asset Acq. - Environmental Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | |
| | **40 - Capital Outlay** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | |
| | | | | | | | | | | |
| | | | | | | | | | *7,235,399* | |
| | **TOTAL SEWER EXPENSES** | **11,820,000** | **514,702** | **637,786** | **3,558,872** | **712,700** | **636,114** | **1,175,226** | **7,235,399** | 61.21% |

# FY 2016 - Recycled Expenses

| ACCOUNT# | DESCRIPTION | BUDGET | July '15 | Aug '15 | Sept '15 | Oct '15 | Nov '15 | Dec '15 | Year to Date | Percentage YTD |
|---|---|---|---|---|---|---|---|---|---|---|
| 04-5-06-50010 | Labor-Recycled Water | 226,630 | 15,010 | 15,240 | 15,224 | 21,977 | 15,398 | 15,948 | **98,797** | 43.59% |
| 04-5-06-50012 | Director Fees | 2,500 | 0 | 0 | 0 | 0 | 0 | 2,500 | **2,500** | 100.00% |
| 04-5-06-50013 | Benefits-FICA | 5,000 | 1,253 | 1,183 | 1,173 | 1,695 | 1,128 | 942 | **7,374** | 147.49% |
| 04-5-06-50014 | Benefits-Life Insurance | 250 | (2) | (2) | (2) | (4) | (2) | (2) | **(13)** | -5.38% |
| 04-5-06-50016 | Benefits-Health & Def Comp | 15,000 | 2,084 | 2,136 | 2,136 | 2,563 | 2,136 | 2,136 | **13,191** | 87.94% |
| 04-5-06-50017 | Benefits-Disability Insurance | 500 | 137 | 136 | 136 | 179 | 81 | 64 | **733** | 146.58% |
| 04-5-06-50019 | Benefits-Workers Compensation | 3,000 | 197 | 197 | 0 | 781 | 197 | 0 | **1,372** | 45.73% |
| 04-5-06-50021 | Benefits-PERS Employee | 2,200 | 83 | 122 | 122 | 183 | 122 | 122 | **754** | 34.28% |
| 04-5-06-50022 | Benefits-PERS Employer | 5,000 | 85 | 125 | 125 | 187 | 125 | 125 | **771** | 15.43% |
| 04-5-06-50023 | Benefits-Uniforms | 200 | 30 | 88 | 60 | 75 | 775 | 75 | **1,103** | 551.37% |
| 04-5-06-50024 | Benefits-Vacation & Sick Pay | 500 | 27 | 27 | 27 | 60 | 47 | 33 | **221** | 44.22% |
| 04-5-06-50025 | Benefits-Boots | 250 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | 0.00% |
| 04-5-06-51003 | R & M-Structures | 50,000 | 2,826 | 42 | 508 | 396 | 0 | 110 | **3,883** | 7.77% |
| 04-5-06-51020 | R & M-Pipelines | 7,500 | 0 | 0 | 0 | 0 | 335 | 1,506 | **1,840** | 24.54% |
| 04-5-06-51021 | R & M-Service Lines | 15,000 | 17 | 549 | 135 | 147 | 3 | 348 | **1,199** | 7.99% |
| 04-5-06-51022 | R & M-Fire Hydrants | 5,000 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | 0.00% |
| 04-5-06-51030 | R & M-Meters | 1,500 | 0 | 2,639 | 3,062 | 12,010 | 2,084 | 3,526 | **23,321** | 1554.76% |
| 04-5-06-51140 | General Supplies & Expenses | 250 | 58 | 0 | 0 | 0 | 262 | 235 | **554** | 221.57% |
| 04-5-06-51210 | Utilities-Power Purchases | 77,720 | 10 | 288 | 288 | 288 | 288 | 288 | **1,451** | 1.87% |
| 04-5-06-54002 | Dues & Subscriptions | 4,000 | 40 | 0 | 0 | 0 | 0 | 412 | **452** | 11.30% |
| 04-5-06-54005 | Computer Expense | 5,000 | 165 | 53 | 137 | 3,084 | 0 | 2,781 | **6,220** | 124.39% |
| 04-5-06-54011 | Printing & Publications | 1,000 | 33 | 89 | 0 | 0 | 0 | 0 | **122** | 12.25% |
| 04-5-06-54012 | Education & Training | 3,500 | 35 | 35 | 115 | 35 | 1,225 | 35 | **1,480** | 42.28% |
| 04-5-06-54014 | Public Relations | 3,500 | 104 | 0 | 0 | 724 | 0 | 46 | **873** | 24.95% |
| 04-5-06-54016 | Travel Related Expenses | 2,000 | 0 | 0 | 0 | 250 | 1,664 | 0 | **1,914** | 95.71% |
| 04-5-06-54017 | Certifications & Renewals | 250 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | 0.00% |
| 04-5-06-54019 | Licenses & Permits | 2,500 | 0 | 0 | 0 | 8,185 | 23,378 | 0 | **31,564** | 1262.55% |
| 04-5-06-54020 | Meeting Related Expenses | 250 | 0 | 0 | 30 | 0 | 0 | 184 | **214** | 85.71% |
| 04-5-06-54025 | Telephone | 750 | 139 | 139 | 140 | 140 | 140 | 0 | **698** | 93.08% |
| 04-5-06-54010 | Contractural Services | 1,500 | 2,025 | 19 | 674 | 19 | 14 | 0 | **2,751** | 183.41% |
| 04-5-06-54107 | Legal | 1,000 | 225 | 188 | 375 | 563 | 750 | 0 | **2,100** | 210.00% |
| 04-5-06-54108 | Audit & Accounting | 0 | 1,050 | 800 | 100 | 380 | 0 | 0 | **2,330** | |
| 04-5-06-54109 | Professional Fees | 25,000 | 13,529 | 6,498 | 12,062 | 4,606 | 6,710 | 0 | **43,406** | 173.62% |
| 04-5-06-54110 | Laboratory Services | 1,000 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | 0.00% |
| 04-5-06-55500 | Depreciation | 8,000 | 630 | 670 | 670 | 670 | 670 | 670 | **3,980** | 49.75% |
| | Infrastructure Replacement | 25,000 | 2,083 | 2,083 | 2,083 | 2,083 | 2,083 | 2,083 | **12,498** | 49.99% |
| 04-5-06-57030 | Regulatory Compliance | 25,000 | 19 | 8 | 0 | 154 | 1,115 | 177 | **1,473** | 5.89% |
| 04-5-06-57040 | Environmental Compliance | 10,000 | 0 | 0 | 0 | 0 | 0 | 0 | **0** | 0.00% |
| | | | | | | | | | *271,127* | |
| | **TOTAL RECYCLED EXPENSES** | **537,250** | **41,892** | **33,352** | **39,380** | **61,432** | **60,727** | **34,343** | **271,127** | 50.47% |

Yucaipa Valley Water District

# Workshop Memorandum 16-011

**Date:** **January 12, 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.

Yucaipa Valley Water District

An independent special district proudly serving Yucaipa and Calimesa

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**Drinking Water Standard Design Drawings**

The entire volume of drinking water standard design drawings can be viewed as a pdf, or in a web browser. The individual standard design drawings are available below.

| Standard Number | Description |
|---|---|
| W-0 | Water Standard Index - PDF |
| W-1 | Standard Legend - PDF |
| W-2 | Potable Water Pipeline Location - PDF |
| W-3 | Utility Locations - Sections - PDF |
| W-4 | Dual Plumbed Residential Properties Requiring 1" Fire Sprinkler Service - PDF |
| W-5 | Residential Properties Requiring 1" Fire Sprinkler Service - PDF |
| W-6 | Manifold Assembly for Four to Ten 3/4" and 1" Water Services - PDF |
| W-7 | 1-1/2" and 2" Copper Water Service Installation - PDF |
| W-8 | 3" and 4" Water Meter Installation - PDF |

**Sewer Standard Design Drawings**

The entire volume of sewer standard design drawings can be viewed as a pdf, or in a web browser. The individual standard design drawings are available below.

| Standard Number | Description |
|---|---|
| S-0 | Sewer Standard Index - PDF |
| S-1 | Standard Legend - PDF |
| S-2 | Sewer Mainline Location - PDF |
| S-3 | Manhole Detail - PDF |
| S-4 | Concrete Base and Joint Detail - PDF |
| S-5 | Adjust Existing Manhole to Grade - PDF |
| S-6 | Manhole Shaft Location Details - PDF |
| S-7 | Traffic Manhole Frame and Cover - PDF |
| S-8 | Special Manhole (20' to 30' Deep) - PDF |
| S-9 | Special Manhole (30'+ Deep) - PDF |
| S-10 | Drop Manhole Detail (Special Acceptance Only) - PDF |

**Recycled Water Standard Design Drawings**

The entire volume of recycled water standard design drawings can be viewed as a pdf, or in a web browser. The individual standard design drawings are available below.

| Standard Number | Description |
|---|---|
| R-0 | Recycled Water Standard Index - PDF |
| R-1 | Standard Legend - PDF |
| R-2 | Recycled Water Pipeline Location - PDF |
| R-3 | Recycled Water Notes for Non-Residential Sites - PDF |
| R-4 | Recycled Water Notes for Onsite Residential Use - PDF |
| R-5 | 3/4" Dual Recycled Water Meter Assembly - PDF |
| R-6 | 1" Recycled Water Meter Assembly - PDF |
| R-7 | 1-1/2" and 2" Recycled Water Service Installation - PDF |
| R-8 | Not In Use |
| R-9 | Not In Use |

**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 __th day of January 2016.

YUCAIPA VALLEY WATER DISTRICT

Lonni Granlund, President Board of Directors

ATTEST:

Joseph B. Zoba, General Manager


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)



# 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-##

W-0

Sheet 1 of 2

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



# 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-##

W-0

Sheet 2 of 2

## STANDARD DESIGN REQUIREMENTS:

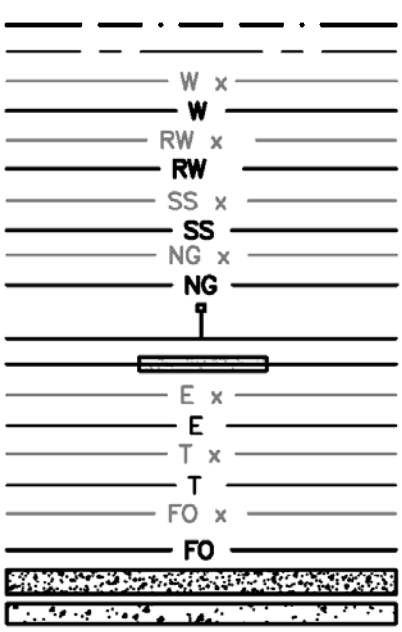
PLAN SCALE SIZES ARE REQUIRED TO BE DESIGNED AT 1:40. SPECIAL CONSTRUCTION DETAILS MAY BE ADJUSTED AS NECESSARY FOR DESIGN AND CONSTRUCTION PURPOSES.

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

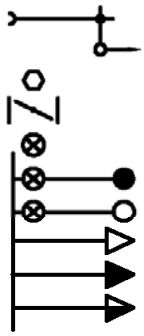
ALL PROJECTS SHALL BE SUBMITTED TO THE DISTRICT ON MYLAR PRIOR TO CONSTRUCTION.

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
TRAFFIC SIGNAL EXISTING
WATER WELL
BUTTERFLY VALVE
GATE VALVE
FIRE HYDRANT
BLOW–OFF
AIR & VACUUM VALVE ASSEMBLY (SIZE PER PLAN)
POTABLE WATER QUALITY SAMPLE STATION
RECYCLED WATER QUALITY SAMPLE STATION

CLEAN–OUT
HOUSE CONNECTION SEWER
WYE BRANCH
CUT–OFF WALL

| | |
|---|---|
| C.O. | CLEAN–OUT |
| D.I.P. | DUCTILE IRON PIPE |
| D.M.H. | DROP MANHOLE |
| J.M.H. | JUNCTION MANHOLE |
| M.H. | MANHOLE |
| V.C.P. | VITRIFIED CLAY PIPE |

# STANDARD DESIGN REQUIREMENTS AND LEGEND

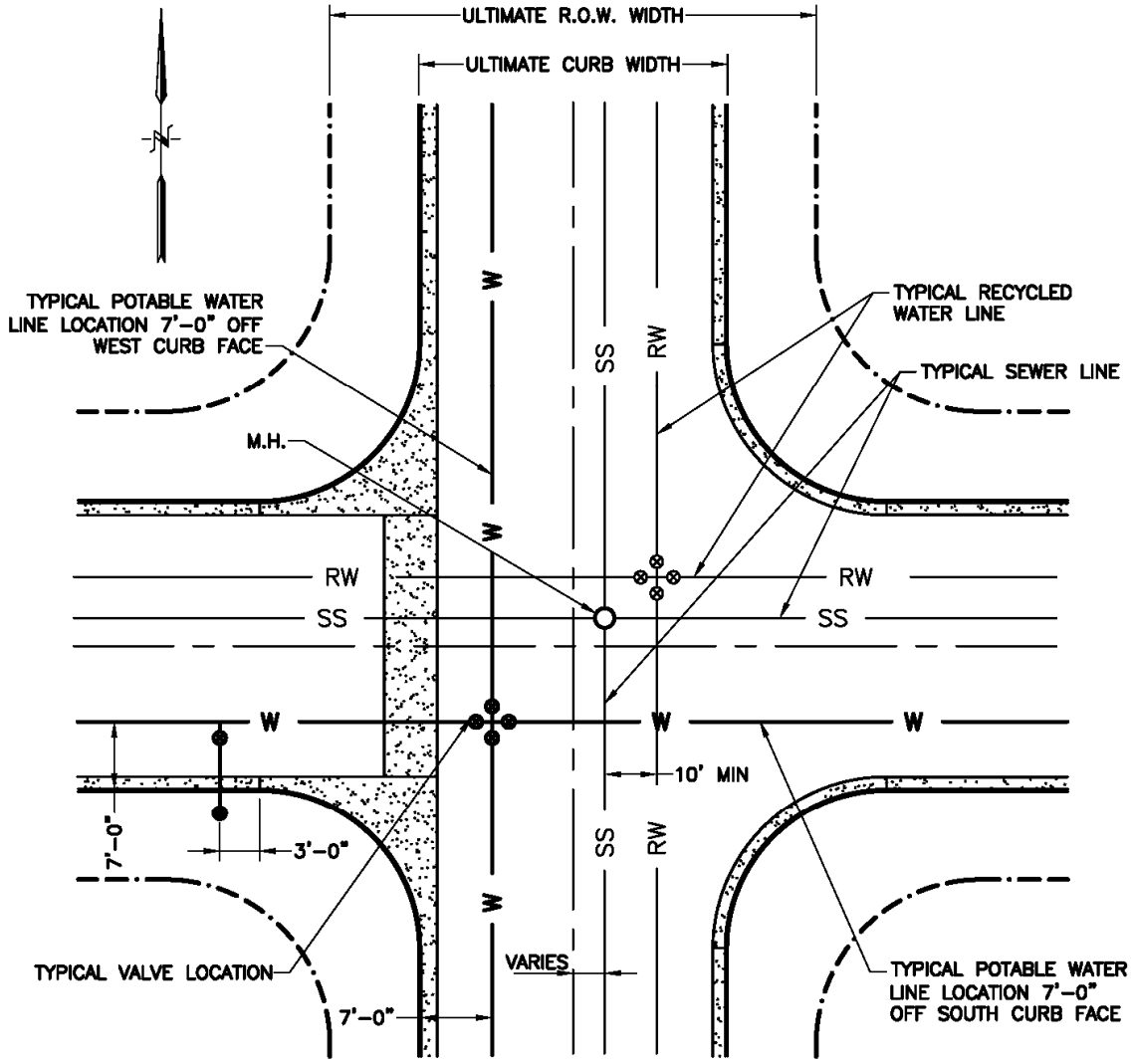
2016

Yucaipa Valley Water District

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

W–1

Sheet 1 of 1




NOTES:

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

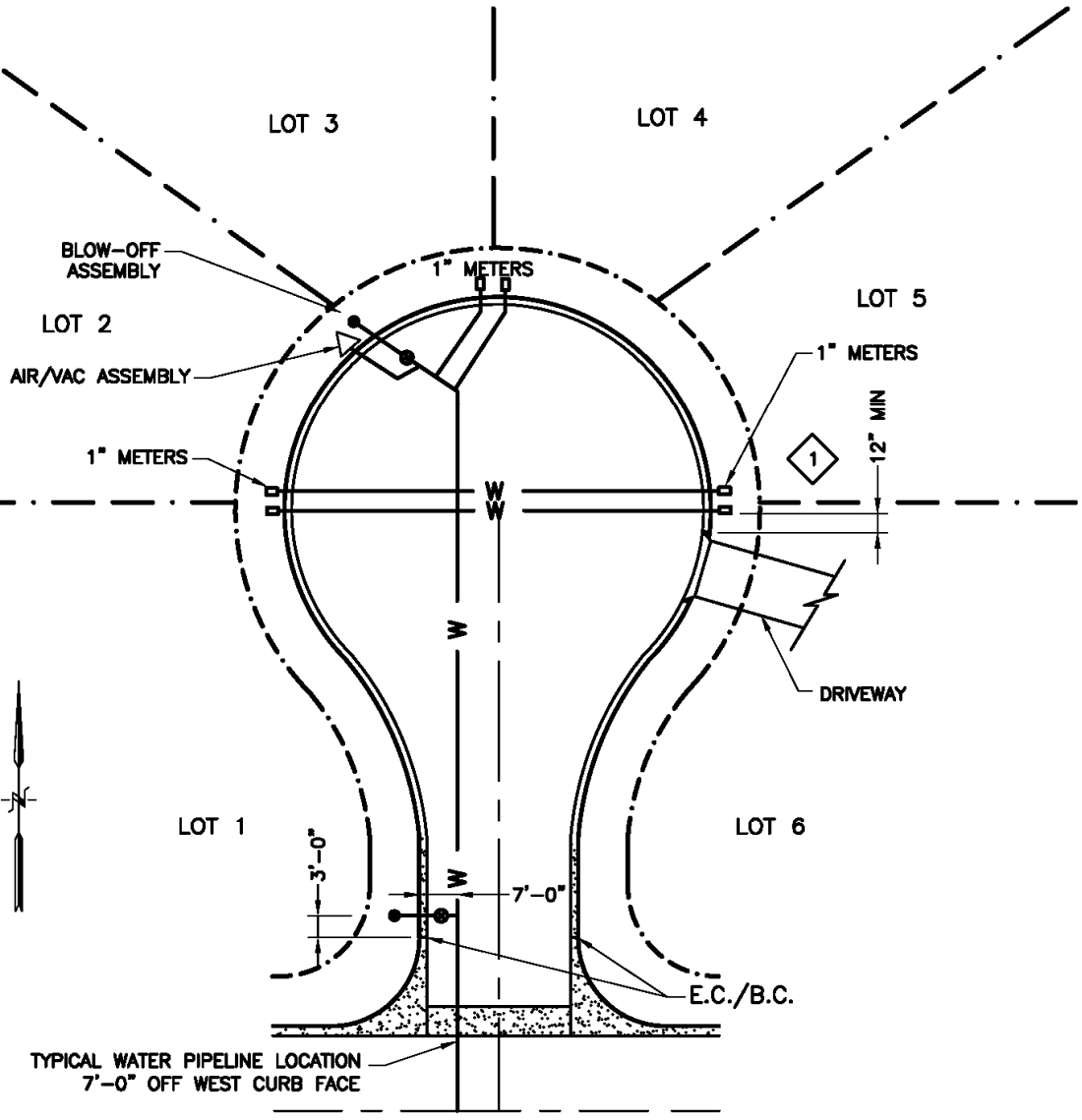
PLAN SCALE SIZES ARE REQUIRED TO BE DESIGNED AT 1:40. SPECIAL CONSTRUCTION DETAILS MAY BE ADJUSTED AS NECESSARY FOR DESIGN AND CONSTRUCTION PURPOSES.

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-## | W-2 |
|---|---|---|---|
| | | | 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

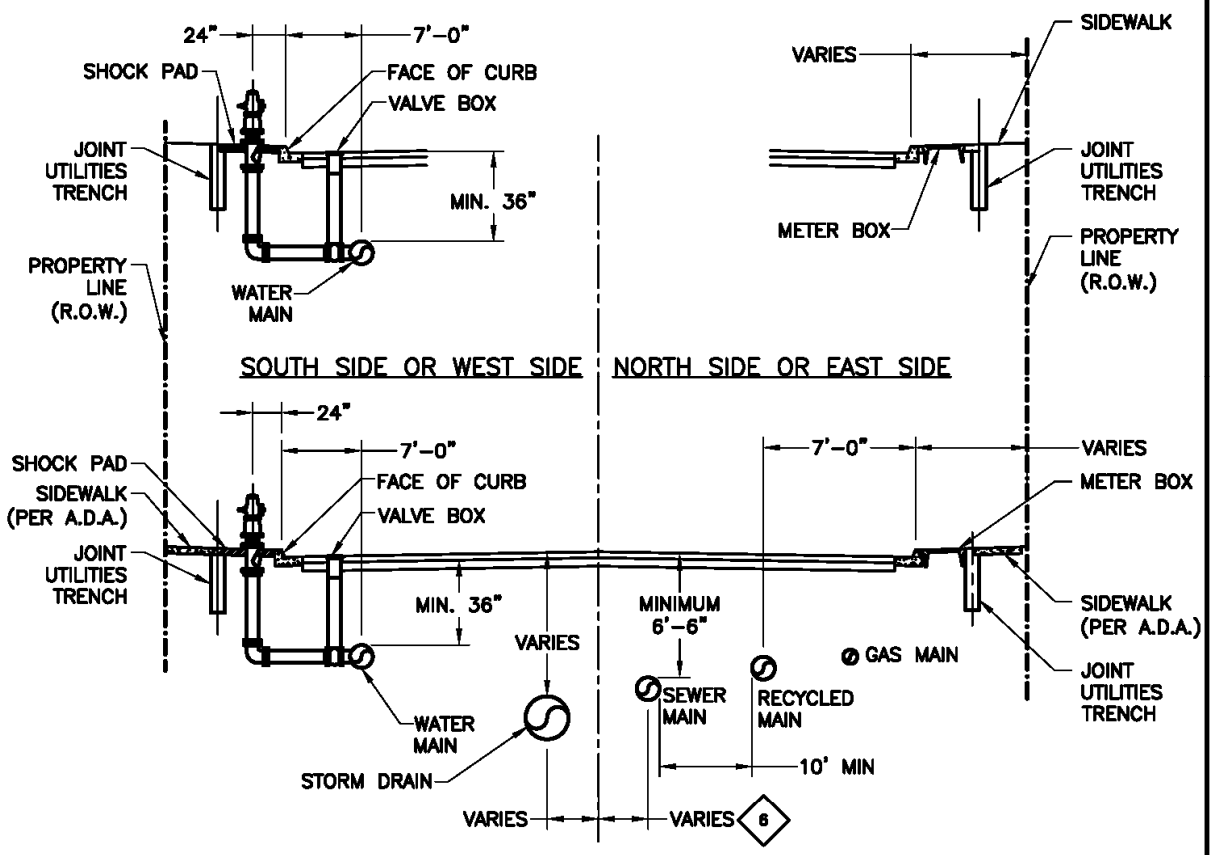
2016

Yucaipa Valley Water District

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

W-2

Sheet 2 of 2




NOTES:

1. LOCATION AND DEPTH OF EXISTING AND PROPOSED UTILITIES MUST BE PROVIDED BY THE SUBDIVIDER 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.

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

# UTILITY LOCATIONS – SECTIONS

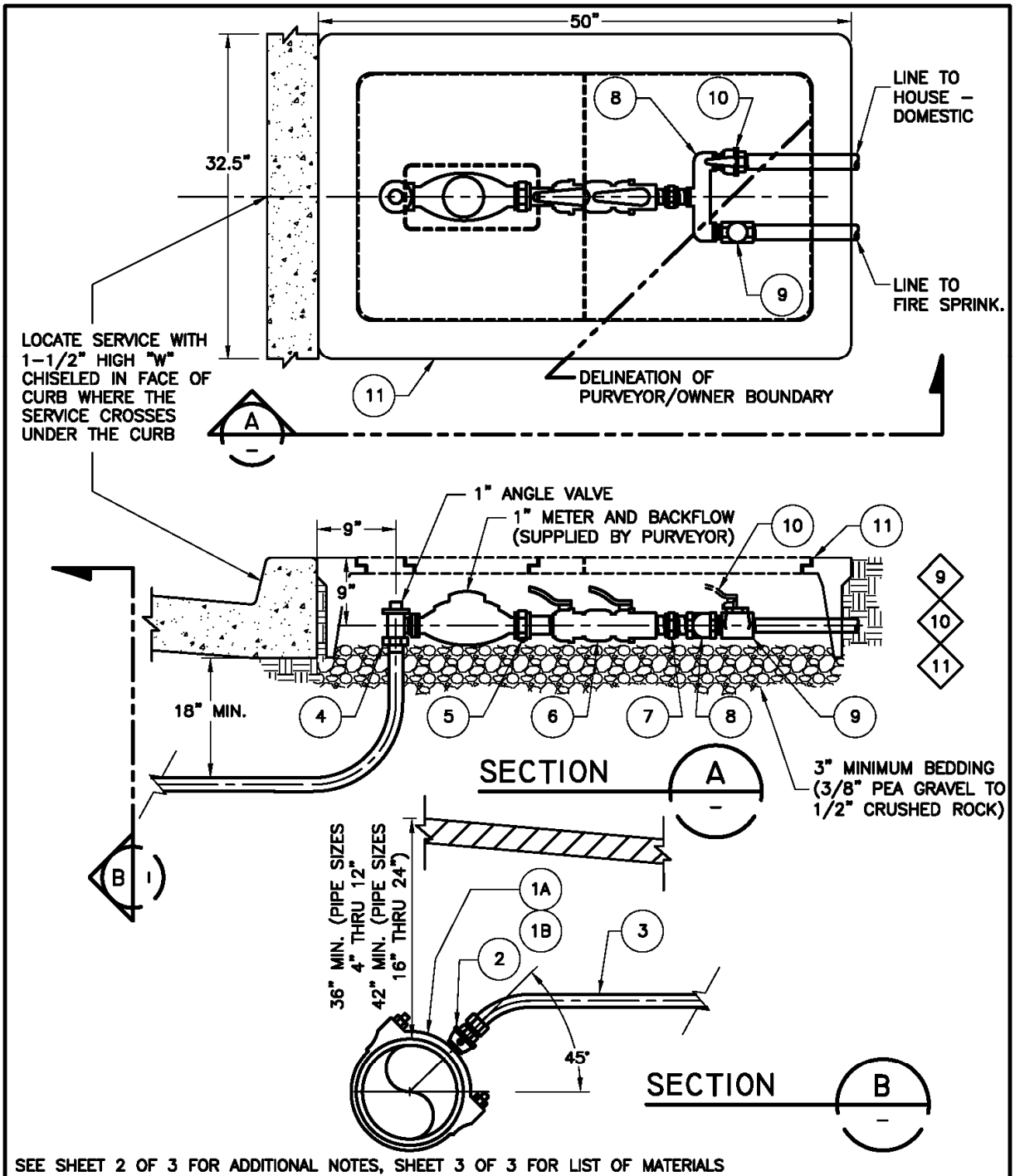
2016

Yucaipa Valley Water District

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

W–3

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-##

W–4

Sheet 1 of 3

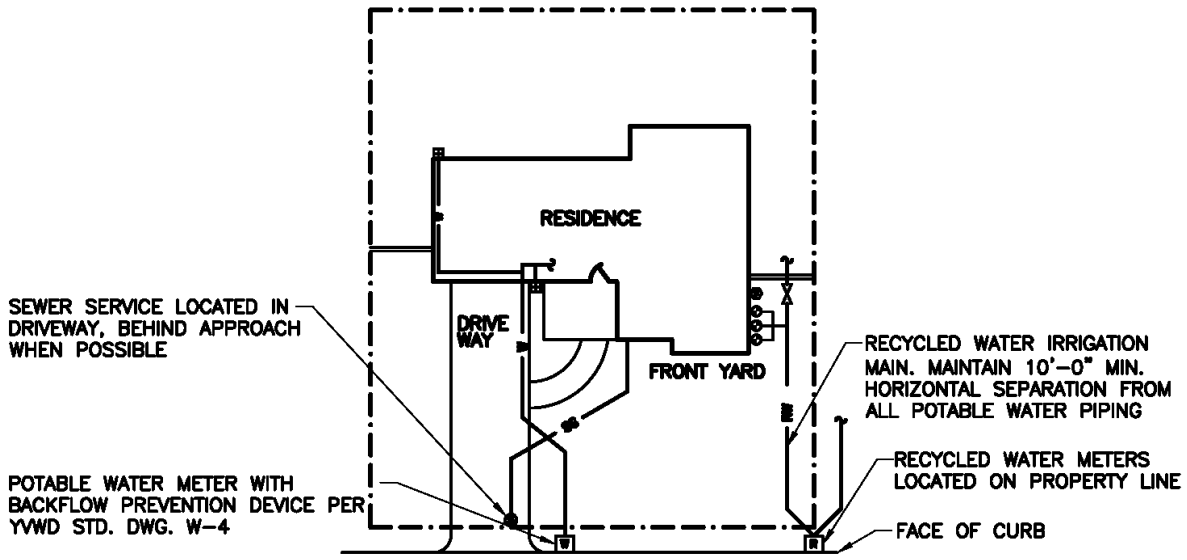
NOTES:

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-## | W-4 |
|---|---|---|---|
| | | | 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<br>ROMAC<br>FORD<br>MUELLER | J-979-PIPE O.D. -1" I.P.<br>202BS-PIPE O.D. -1" I.P.<br>202BS-PIPE O.D. -1" I.P.<br>BR2B-PIPE O.D. -I.P. 100 |
| 1B | CAST SERVICE SADDLE WITH 1" I.P. OUTLET (FOR D.I.P. MAINS) | ROMAC<br>FORD<br>MUELLER | 202S-PIPE O.D.-1" I.P.<br>F-202-PIPE O.D.-1" I.P.<br>DR2A-PIPE O.D.-I.P. 100 |
| 2 | 1" BRONZE BALL CORPORATION STOP (M.I.P.T. X COMPRESSION) | JONES<br>MULLER<br>McDONALD<br>FORD | E-1935SG<br>H-15028N<br>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<br>MUELLER<br>McDONALD<br>FORD | 1963WSG<br>H-14258N<br>74602BQ |
| 5 | 1" METER x 3" "METER SPUD" | JONES | J-130 |
| 6 | 1" MINIMUM - DOUBLE CHECK BACKFLOW ASSEMBLY | AMES<br>FEBCO<br>WILKINS<br>ARI | 2000SS<br>850<br>950XL<br>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<br>MUELLER<br>McDONALD<br>FORD | E-1900W<br>B20283 N<br>AYM76101W |
| 11 | METER BOX AND COVER WITH READING LID | ARMOR CAST | A6001430PCX12 W/<br>(1)-A6001470 - COVER<br>(1)-A6001470DZ - COVER<br>(1)-A6000482 |

# DUAL PLUMBED RESIDENTIAL PROPERTIES REQUIRING 1" FIRE SPRINKLER SERVICE

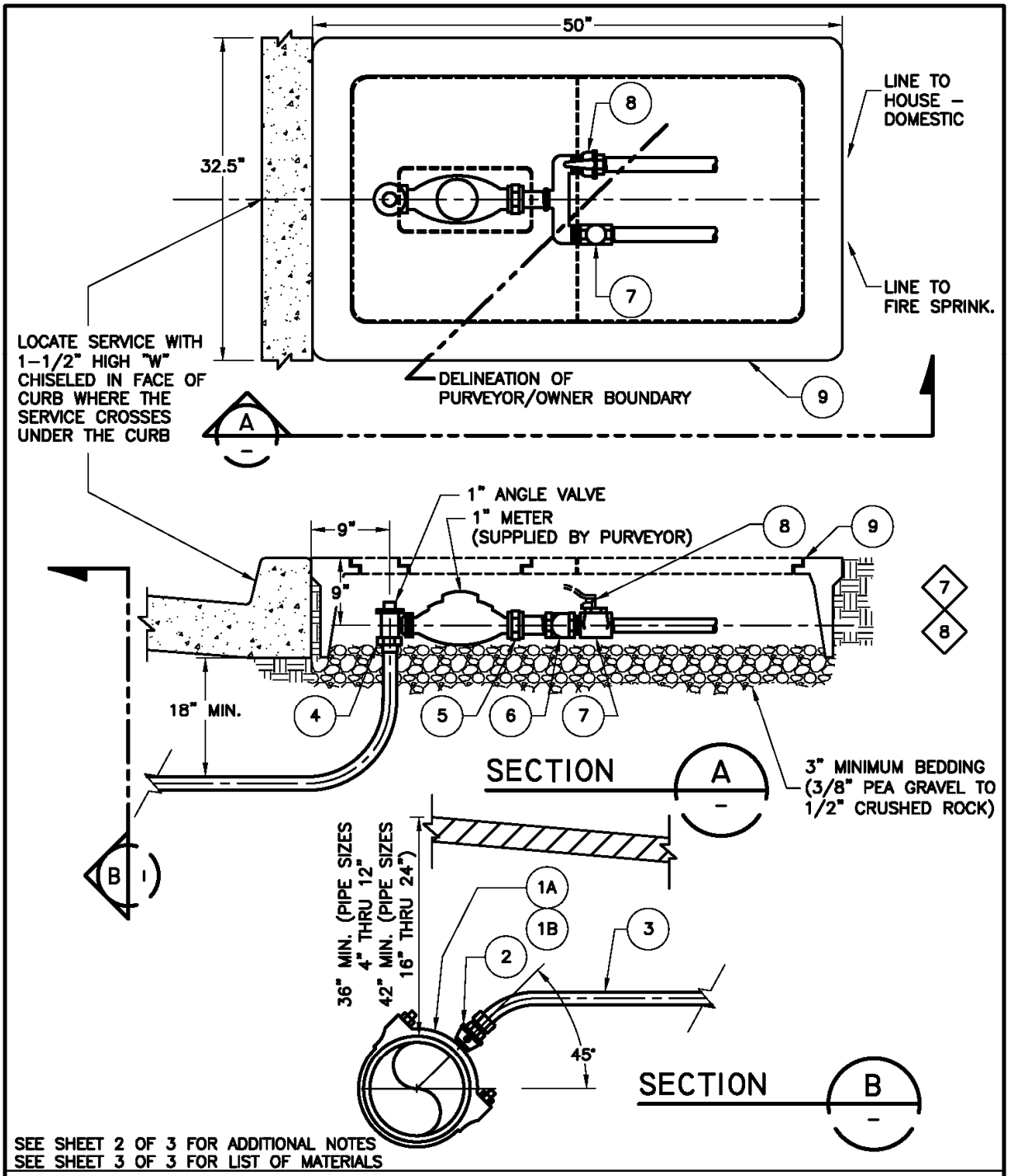
2016

Yucaipa Valley Water District

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

W-4

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-##

W–5

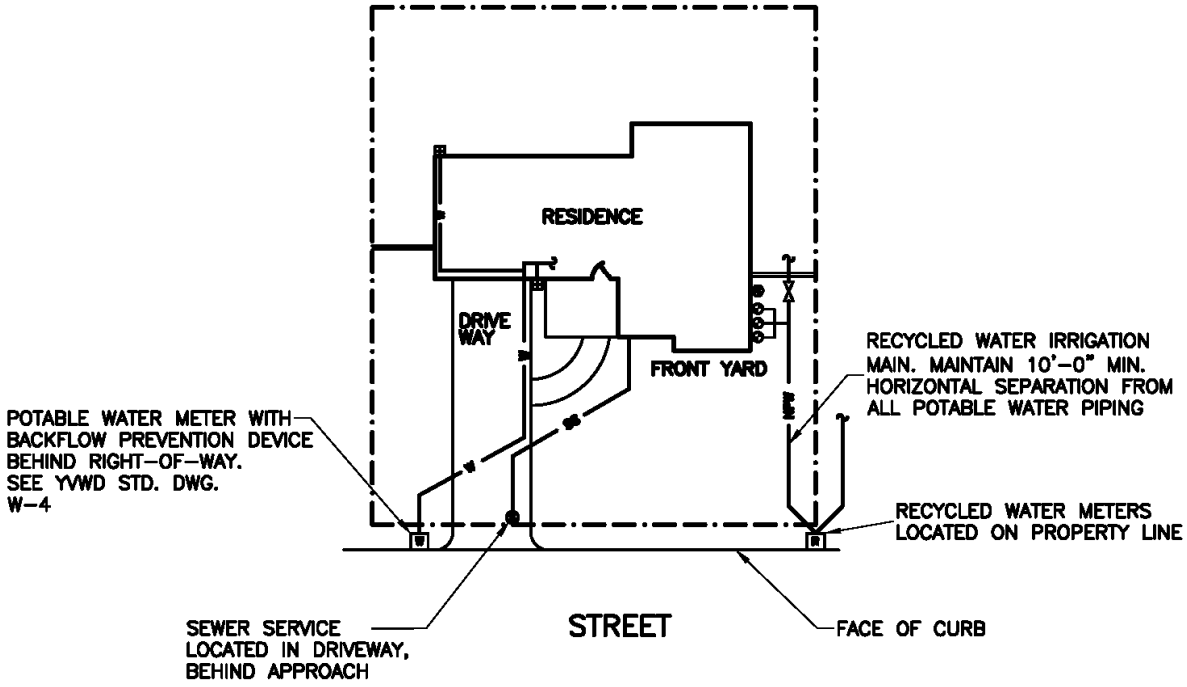
Sheet 1 of 3

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

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

◇8 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-##

W-5

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<br>ROMAC<br>FORD<br>MUELLER | J-979-PIPE O.D. -1" I.P.<br>202BS-PIPE O.D. -1" I.P.<br>202BS-PIPE O.D. -1" I.P.<br>BR2B-PIPE O.D. -I.P. 100 |
| 1B | CAST SERVICE SADDLE WITH 1" I.P. OUTLET (FOR D.I.P. MAINS) | ROMAC<br>FORD<br>MUELLER | 202S-PIPE O.D.-1" I.P.<br>F-202-PIPE O.D.-1" I.P.<br>DR2A-PIPE O.D.-I.P. 100 |
| 2 | 1" BRONZE BALL CORPORATION STOP (M.I.P.T. X COMPRESSION) | JONES<br>MULLER<br>McDONALD<br>FORD | E-1935SG<br>H15028N<br>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<br>MUELLER<br>McDONALD<br>FORD | 1963WSG<br>H14258N<br>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<br>MUELLER<br>McDONALD<br>FORD | E-1900W<br>B20283 N<br>AYM76101W |
| 9 | METER BOX AND COVER WITH READING LID | ARMOR CAST | A6001430PCX12 W/<br>(1)-A6001470 - COVER<br>(1)-A6001470DZ - COVER<br>(1)-A6000482 |

# RESIDENTIAL PROPERTIES REQUIRING 1" FIRE SPRINKLER SERVICE

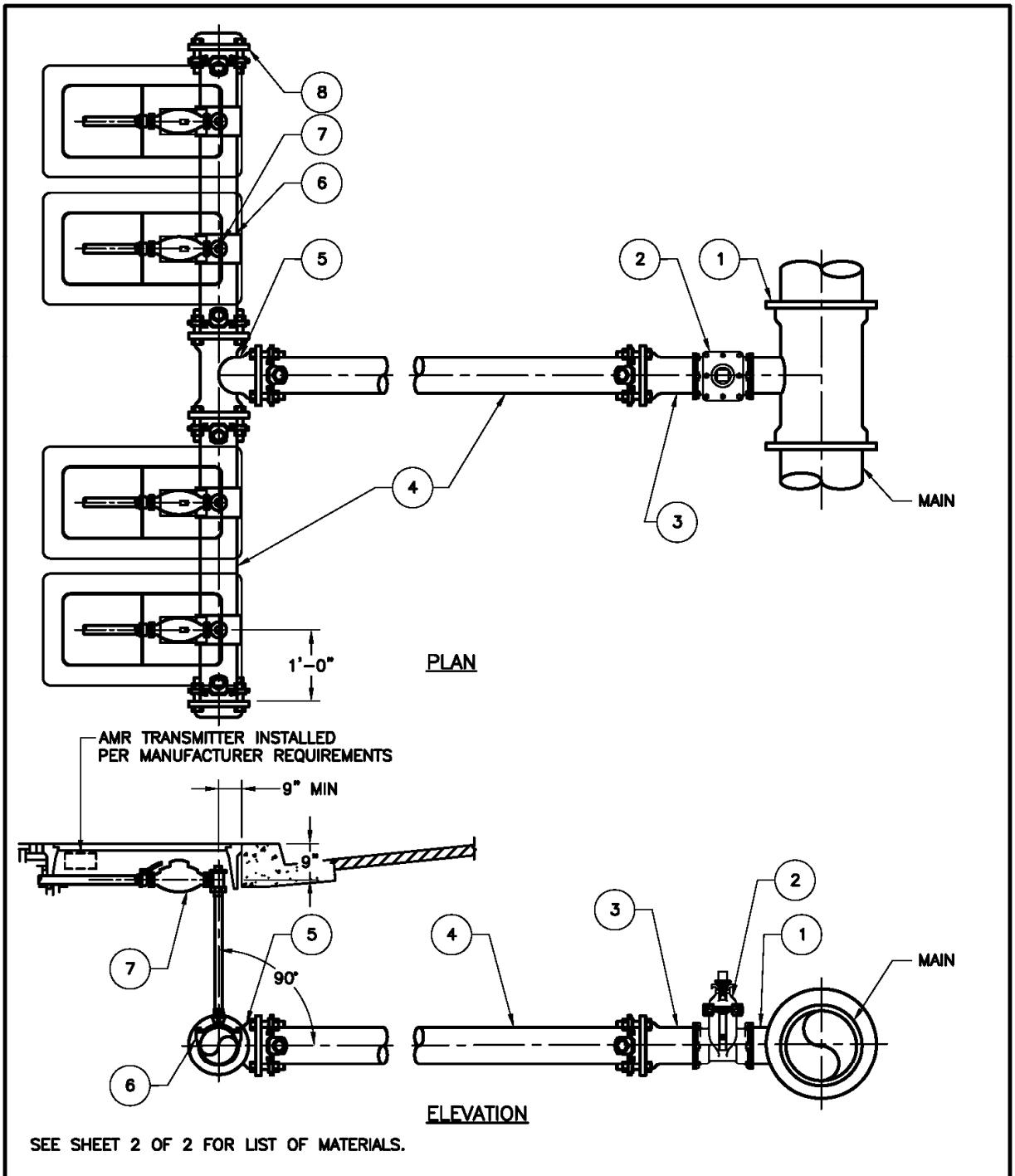
2016

Yucaipa Valley Water District

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

W-5

Sheet 3 of 3




SEE SHEET 2 OF 2 FOR LIST OF MATERIALS.

# 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-##

W-6

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

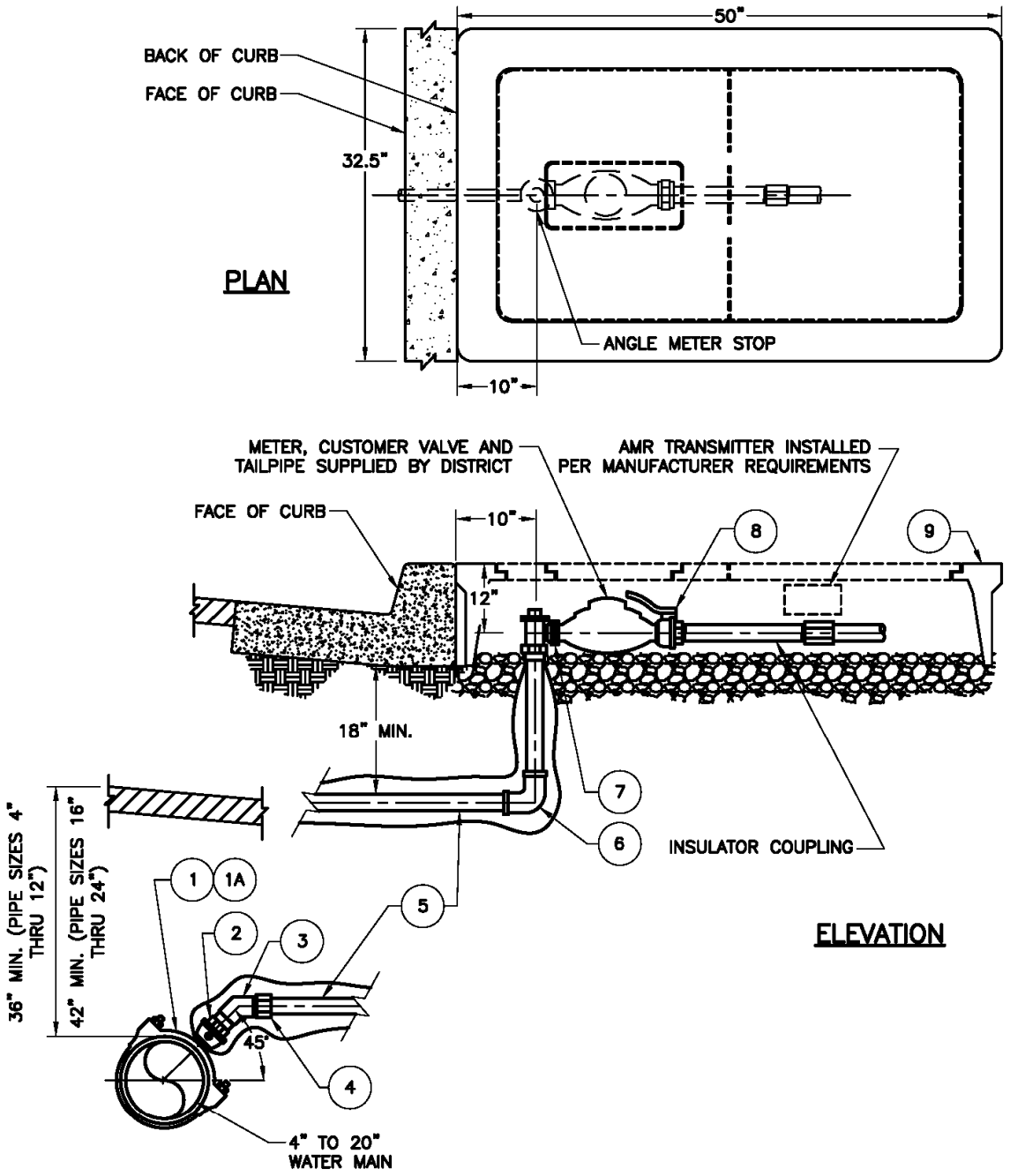
2016

Yucaipa Valley Water District

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

W–6

Sheet 2 of 2




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

# 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-##

W-7

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<br>ROMAC<br>FORD<br>MUELLER | J-979-PIPE O.D.-2" I.P.<br>202BS-PIPE O.D.-2" I.P.<br>202B-PIPE O.D.-2" I.P.<br>BR2B-PIPE O.D.-I.P. 200 |
| 1A | CAST SERVICE SADDLE WITH I.P. OUTLET (FOR D.I.P. MAINS) | ROMAC<br>FORD<br>MUELLER | 202S-PIPE O.D.-2" I.P.<br>F-202-PIPE O.D.-2" I.P.<br>DR2A-PIPE O.D.-I.P. 200 |
| 2 | BRONZE CORPORATION STOP MIPT X MIPT | JONES<br>MUELLER<br>FORD | J-1943<br>B-2969<br>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<br>MUELLER<br>FORD | J-2605<br>H-15428<br>C84-77 |
| 5 | 2" COPPER PIPE/POLY SLEEVED | - | - |
| 6 | BRASS 90° ELBOW 2" X 2" COMPRESSION X COMPRESSION. | JONES<br>MUELLER | J-2611<br>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<br>FORD | J-1913<br>BF13-777<br>W/HH-67 |
| 9 | METER BOX W/READING LID | ARMORCAST | A6001430PCX12 W/<br>(1)-A6001470 - COVER<br>(1)-A6001470DZ - COVER<br>(1)-A6000482 |

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

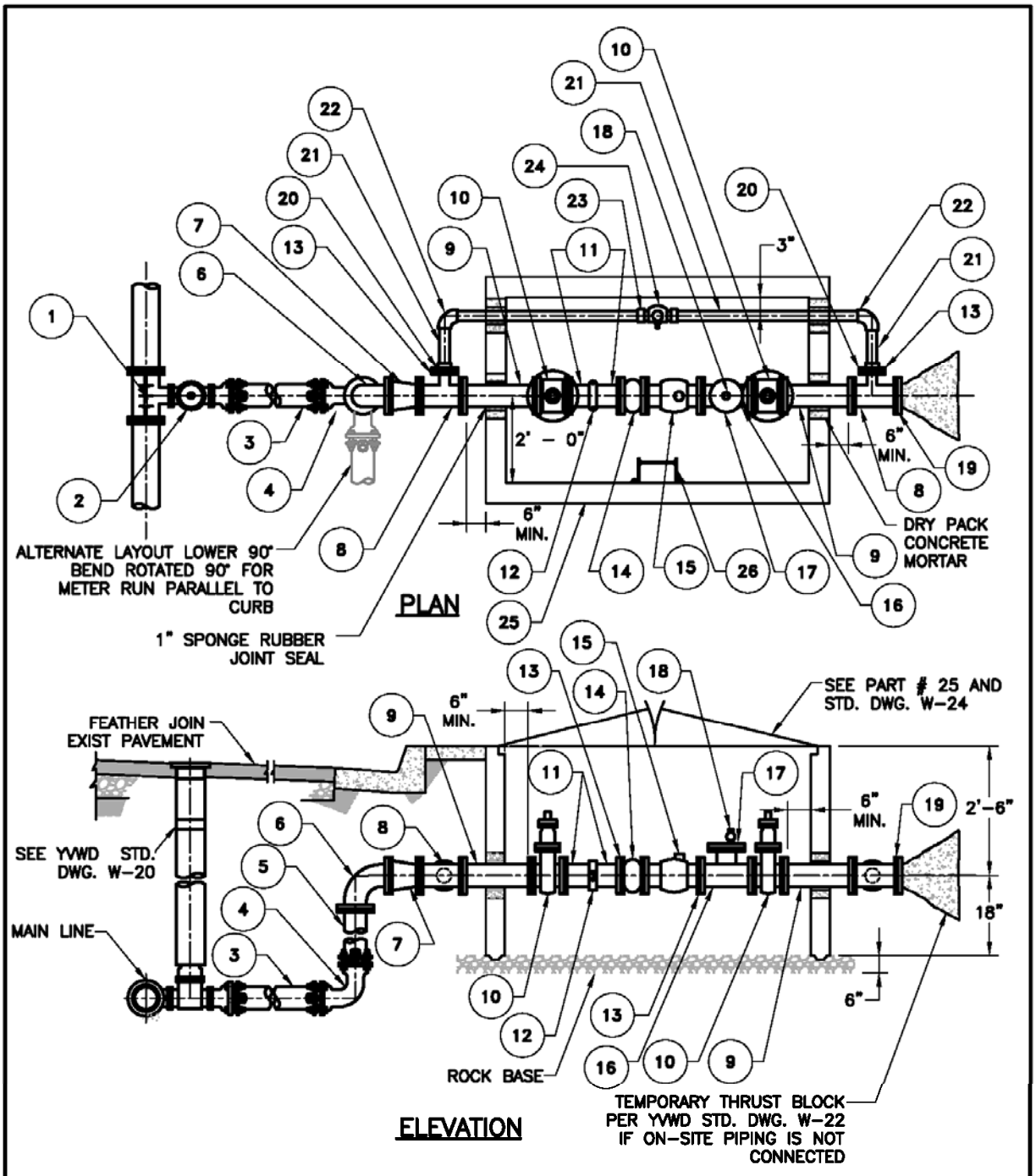
2016

Yucaipa Valley Water District

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

W-7

Sheet 2 of 2




# 3" AND 4" 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-##

W–8

Sheet 1 of 2

| 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

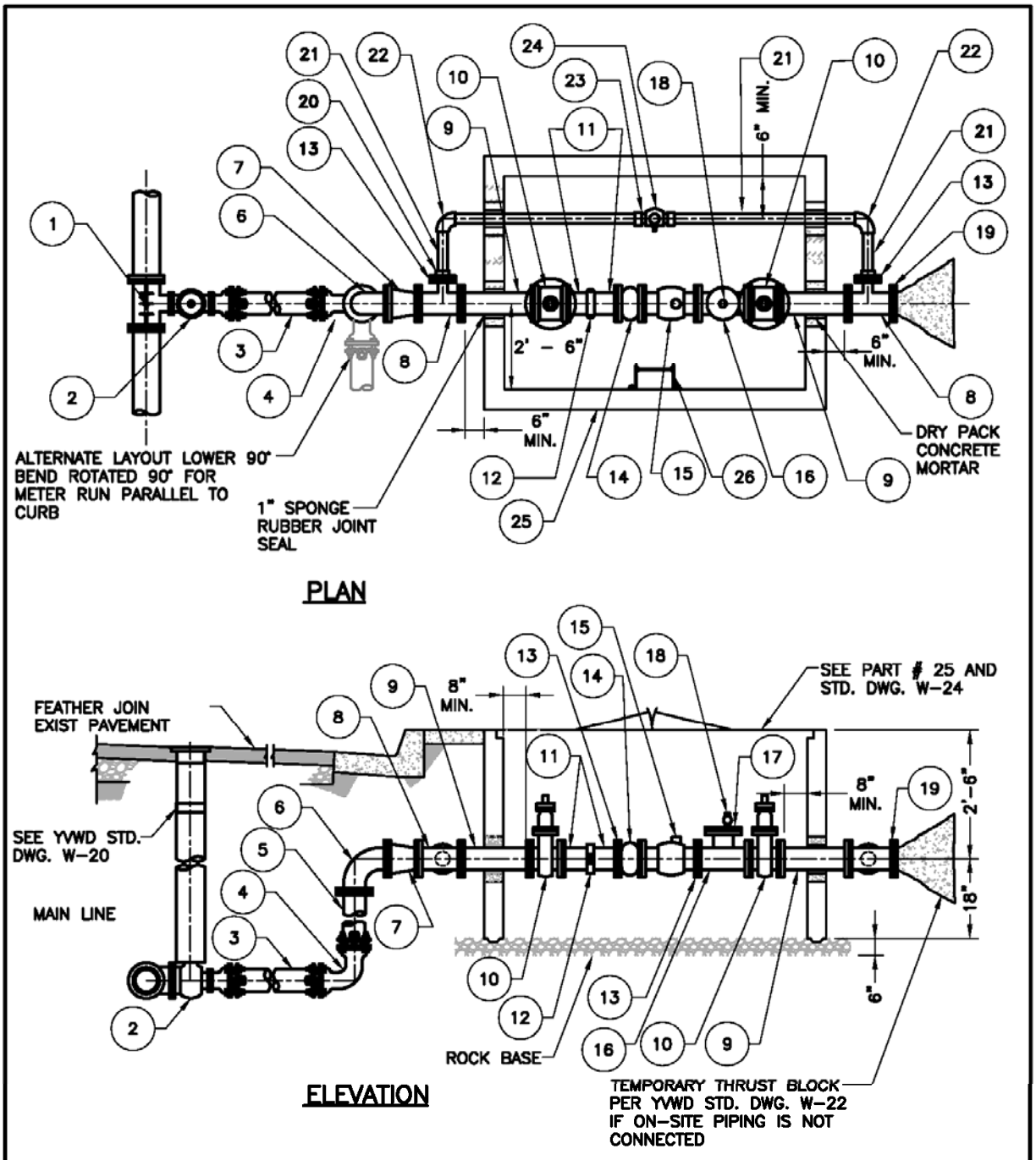
2016

Yucaipa Valley Water District

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

W–8

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-##

W–9

Sheet 1 of 2

## 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

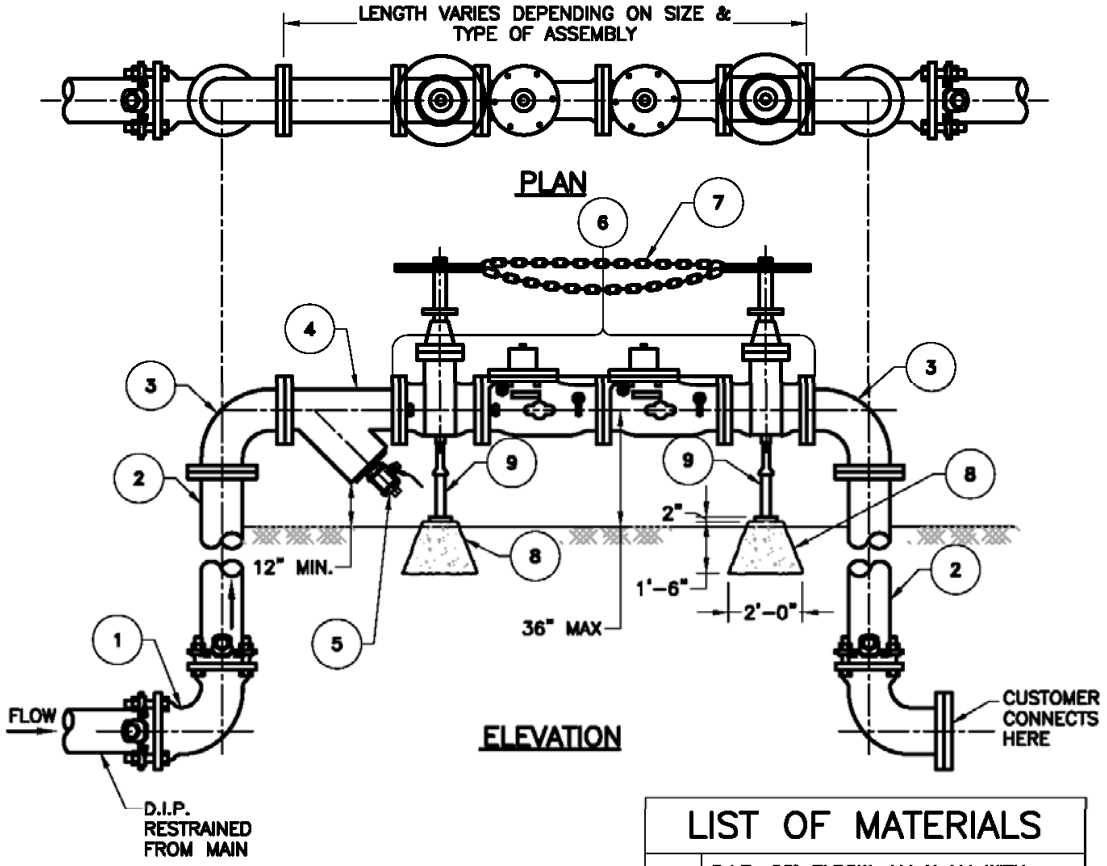
2016

Yucaipa Valley Water District

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

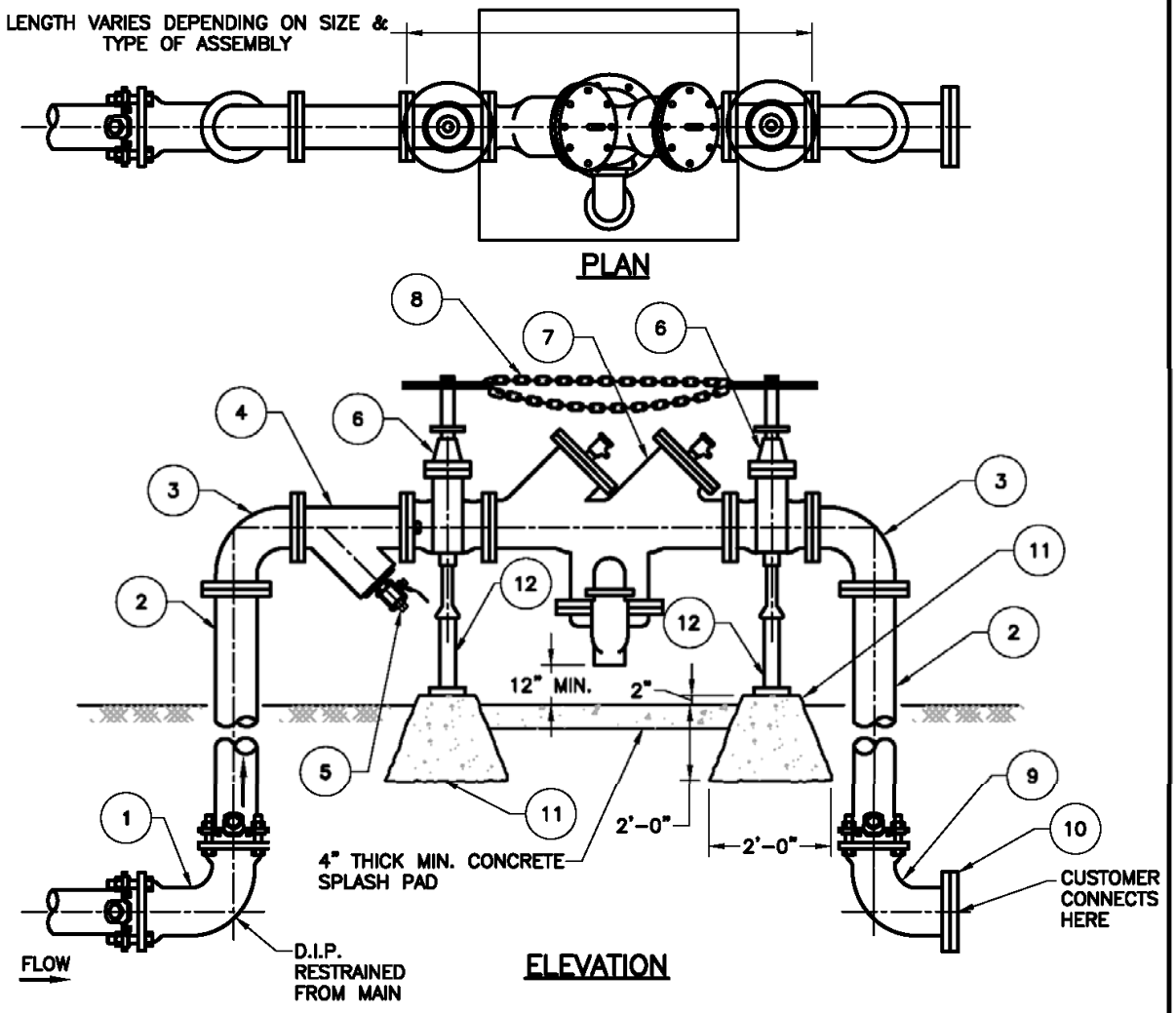
2016

Yucaipa Valley Water District

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

W-10

Sheet 1 of 1




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. ALL BACKFLOW ASSEMBLIES ARE TO BE INSTALLED AS CLOSE AS POSSIBLE TO THE METER AND ON THE CUSTOMER SIDE OF RIGHT OF WAY.
4. RESTRAINED MECHANICAL JOINTS (MEGALUG) D.I.P. PIPE TO THE MAIN.
5. SEE SHEET 2 OF 2 FOR LIST OF MATERIALS.

# 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-## | W-11 |
|---|---|---|---|
| | | | Sheet 1 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 |

# REDUCED PRESSURE BACKFLOW ASSEMBLY

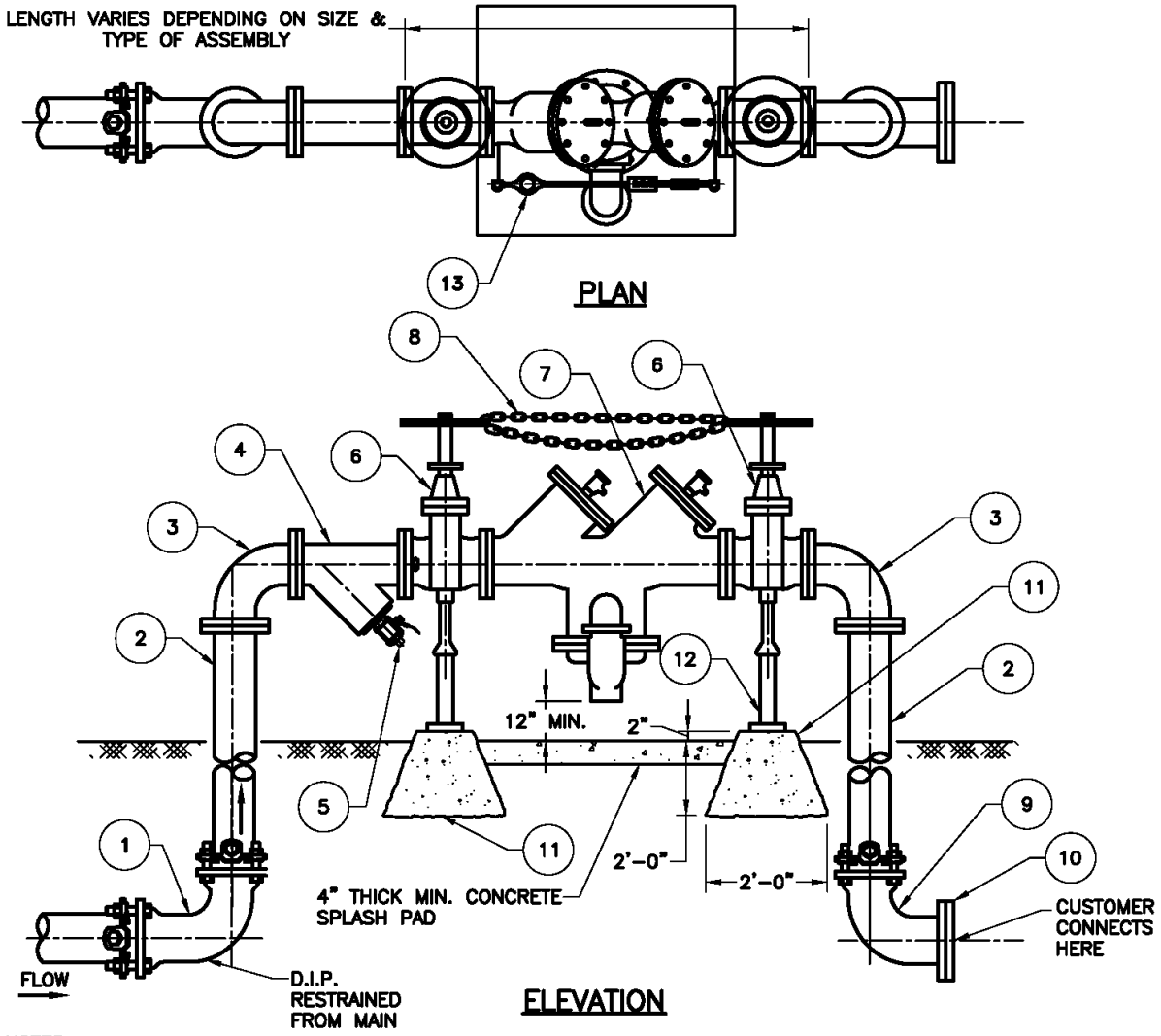
2016

Yucaipa Valley Water District

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

W–11

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. ALL BACKFLOW ASSEMBLIES ARE TO BE INSTALLED AS CLOSE AS POSSIBLE TO THE METER AND ON THE CUSTOMER SIDE OF RIGHT OF WAY.
4. RESTRAINED MECHANICAL JOINTS (MEGALUG) D.I.P. PIPE TO THE MAIN.
5. SEE SHEET 2 OF 2 FOR LIST OF MATERIALS.

# 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-## | W-12 |
|---|---|---|---|
| | | | Sheet 1 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

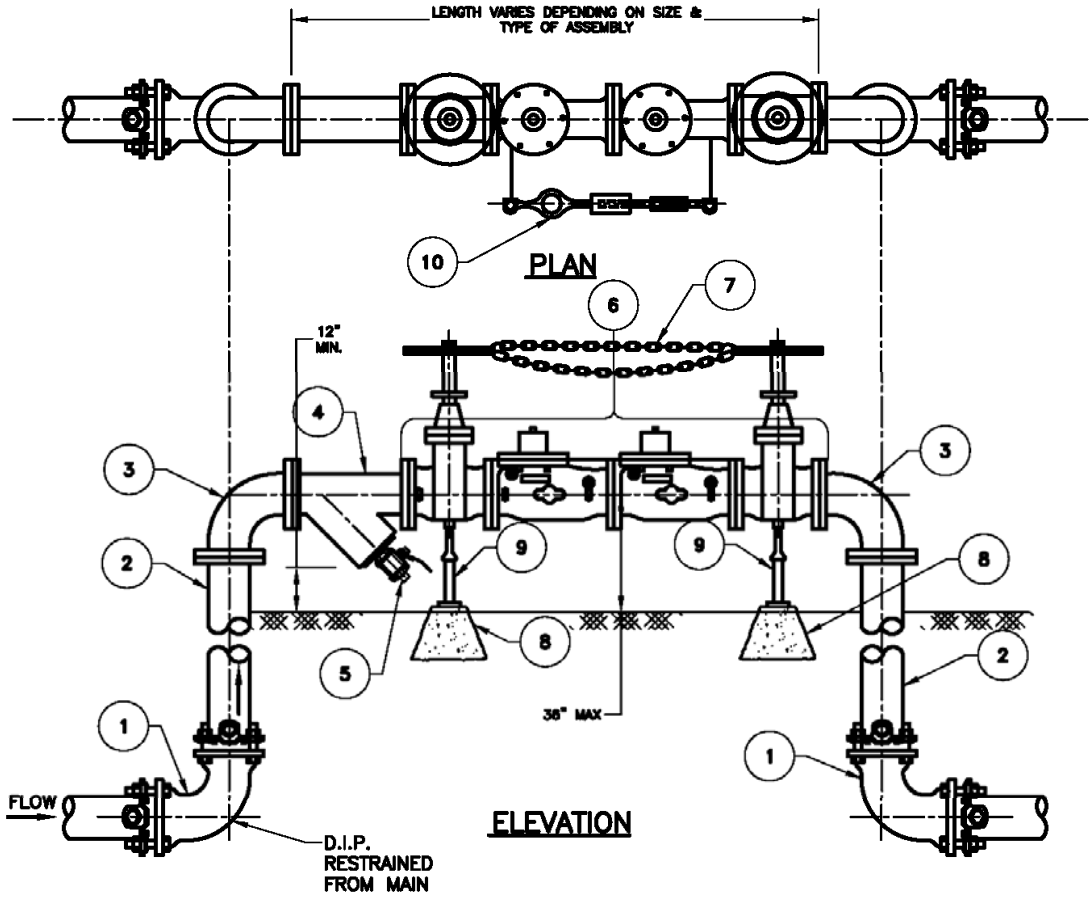
2016

Yucaipa Valley Water District

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

W–12

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-## | W-13 |
|---|---|---|---|
| | | | Sheet 1 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 | 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. |
| 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

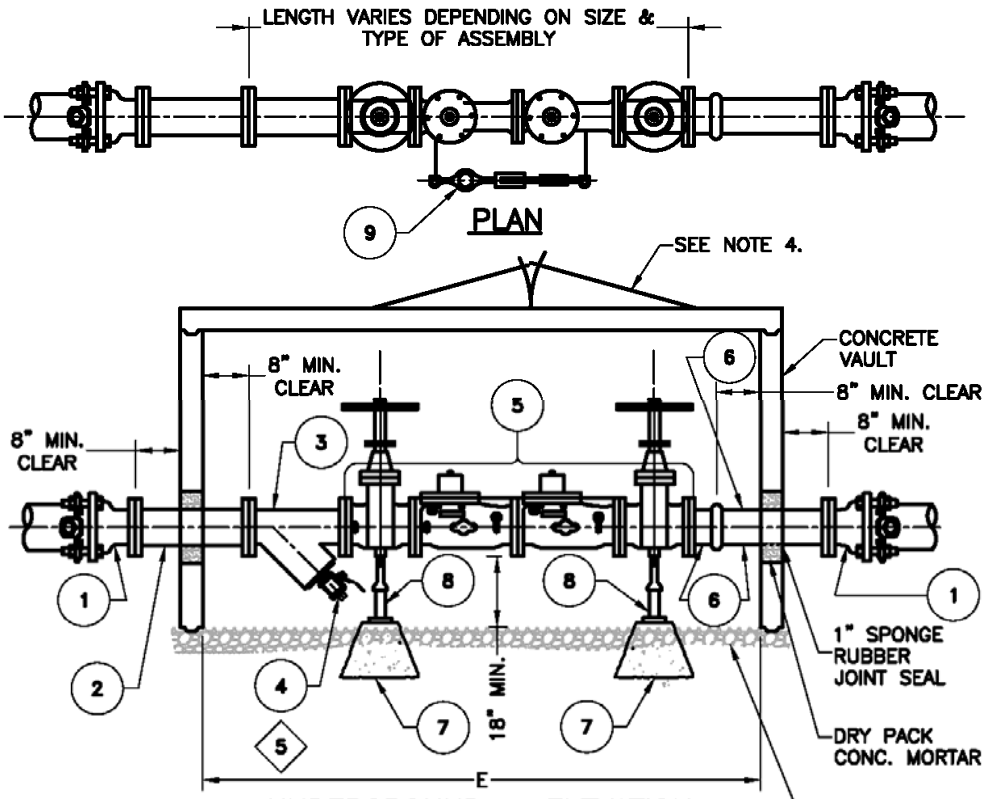
2016

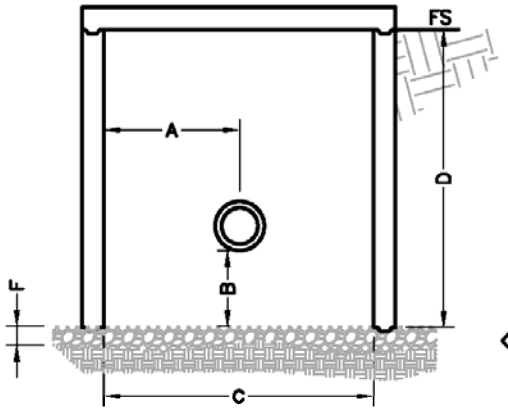
Yucaipa Valley Water District

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

W-13

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 HEREON. RP ASSEMBLIES MAY NOT BE INSTALLED WITHIN A VAULT. ABOVE GROUND ONLY.
4. VAULT SHALL BE FURNISHED WITH SPRING-ASSIST HINGED DIAMOND PLATE ALUMINUM ACCESS DOORS WITH RECESSED PADLOCK HASP. ALSO SEE STD. DWG. W-24.
5. ALL BACKFLOW ASSEMBLIES ARE TO BE INSTALLED AS CLOSE AS POSSIBLE TO THE METER AND ON THE CUSTOMER SIDE OF RIGHT OF WAY.
6. ROTATE 45° TO ALLOW SCREEN REMOVAL.
7. SEE SHEET 2 OF 2 FOR LIST OF MATERIALS.

# 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-##

W-14

Sheet 1 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

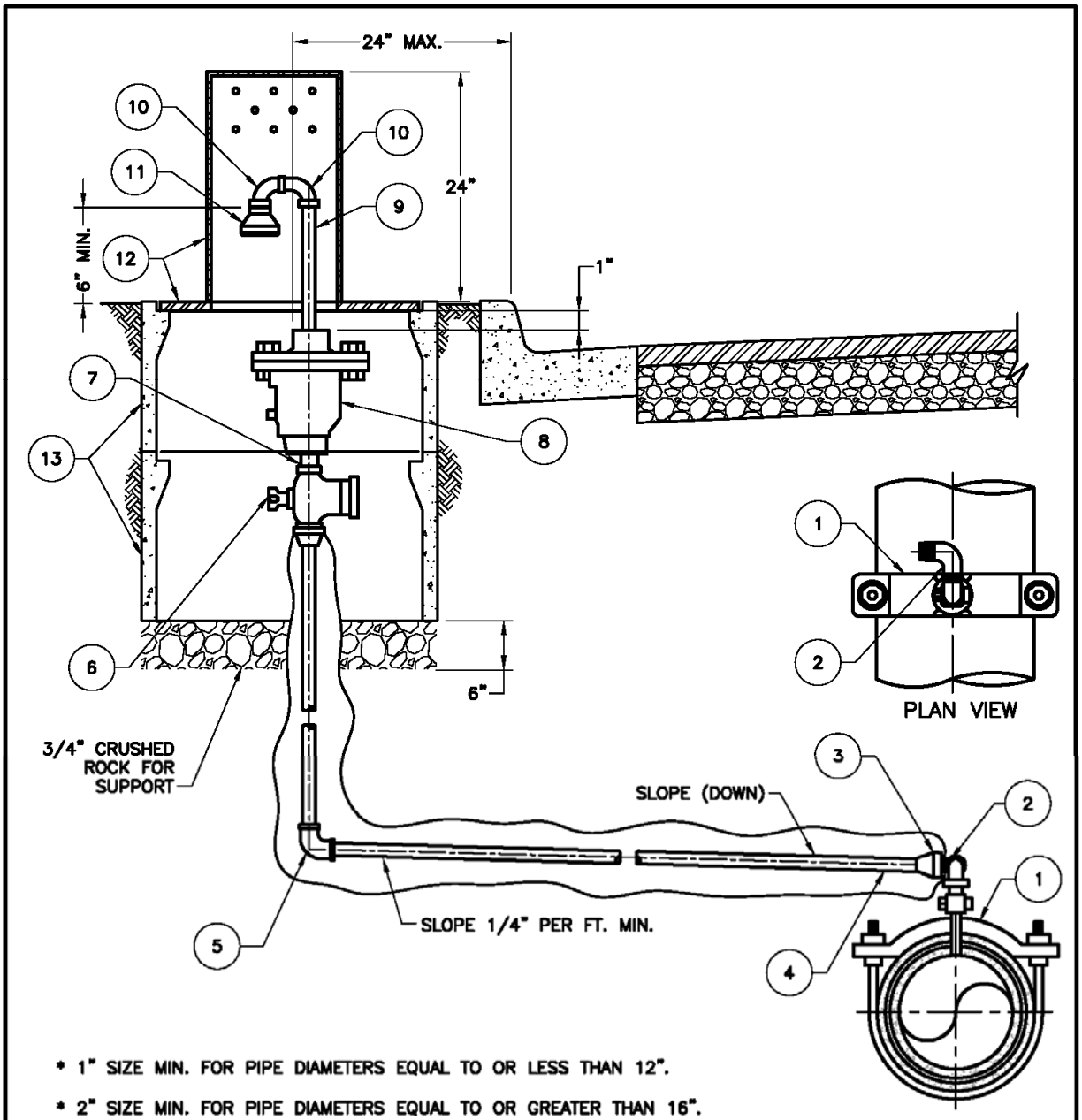
2016

Yucaipa Valley Water District

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

W-14

Sheet 2 of 2




* 1" SIZE MIN. FOR PIPE DIAMETERS EQUAL TO OR LESS THAN 12".
* 2" SIZE MIN. FOR PIPE DIAMETERS EQUAL TO OR GREATER THAN 16".

SEE SHEET 2 OF 2 FOR NOTES, LIST OF MATERIALS AND ADDITIONAL DETAILS.

# 1" AND 2" AIR AND VACUUM VALVE ASSEMBLY

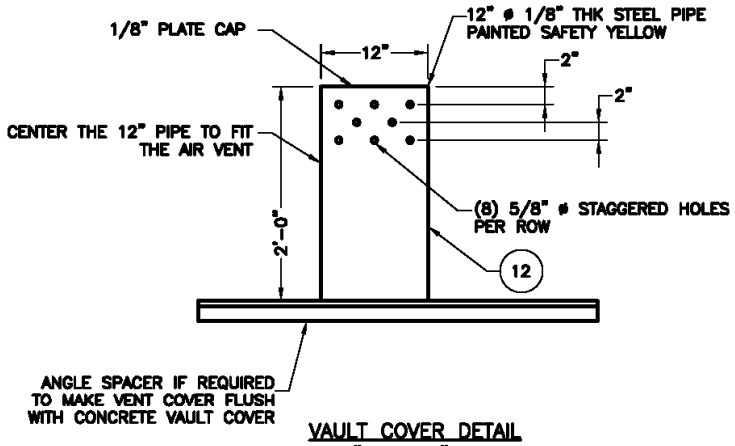
2016

Yucaipa Valley Water District

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

W–15

Sheet 1 of 4




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

## 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<br>JONES<br>MUELLER | C14-44<br>J-2607<br>H-15451 |
| 4 | TYPE "K" COPPER TUBING, POLY SLEEVED | | |
| 5 | COMPRESSION X COMPRESSION 90° ELBOW | JONES<br>MUELLER | J-2611<br>H-15526 |
| 6 | CURB VALVE-SHUT OFF PARALLEL WITH CURB | FORD<br>JONES<br>MUELLER | B41-444<br>J-1921<br>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 | 18" 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

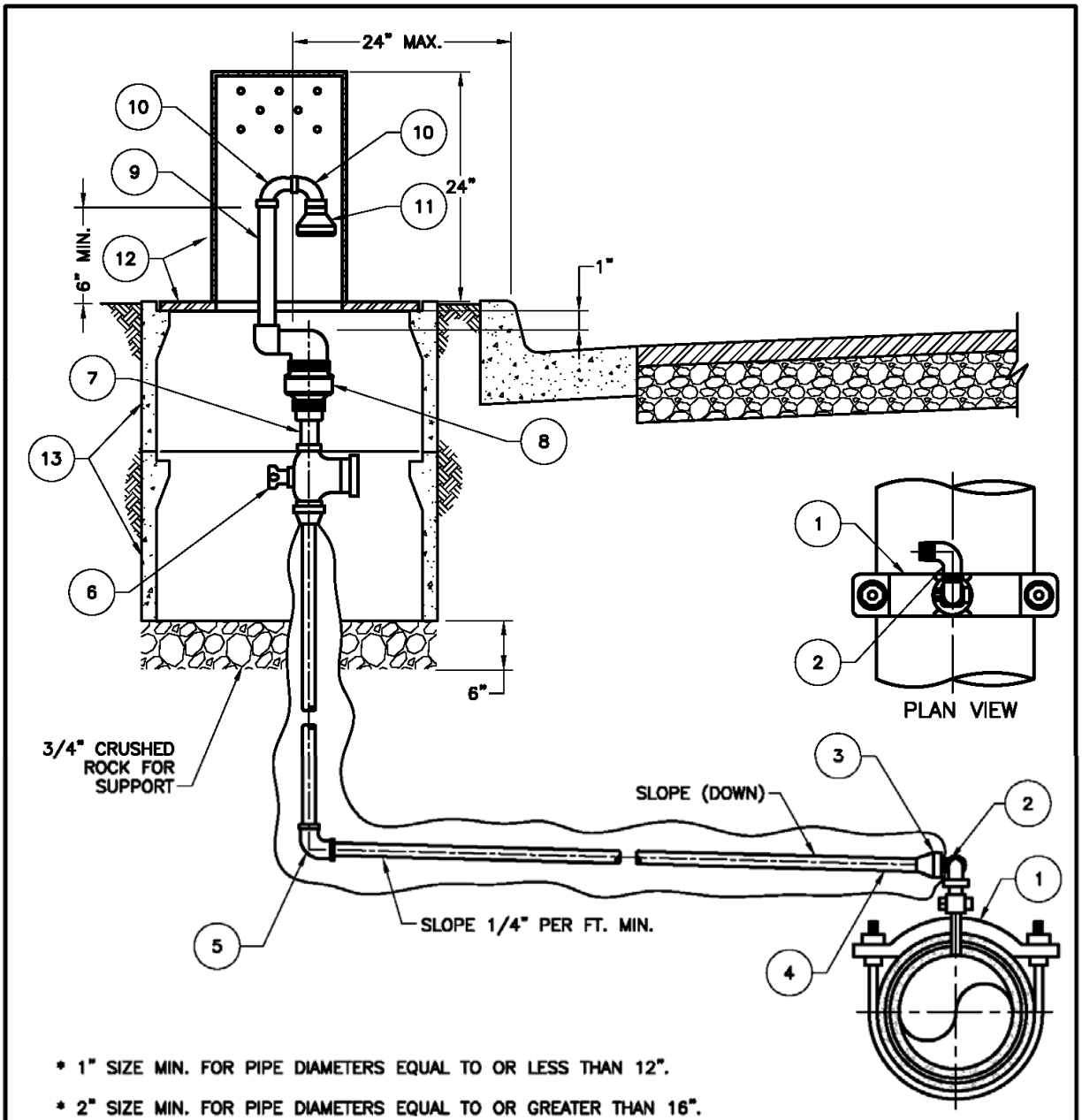
2016

Yucaipa Valley Water District

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

W-15

Sheet 2 of 4



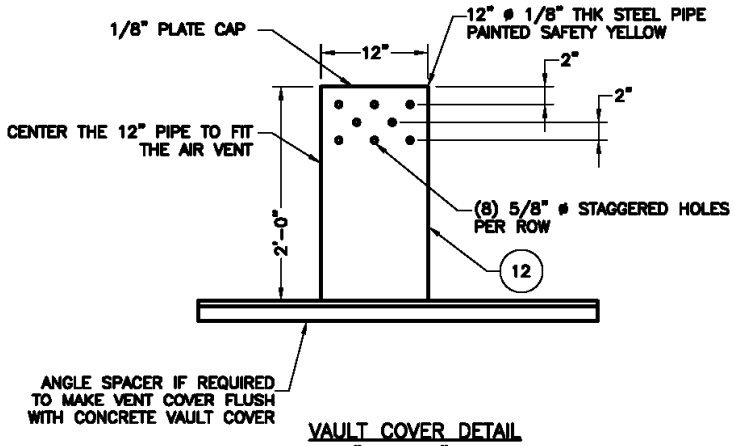

* 1" SIZE MIN. FOR PIPE DIAMETERS EQUAL TO OR LESS THAN 12".

* 2" SIZE MIN. FOR PIPE DIAMETERS EQUAL TO OR GREATER THAN 16".

SEE SHEET 2 OF 2 FOR NOTES, LIST OF MATERIALS AND ADDITIONAL DETAILS.

# 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-## | W–15 |
|---|---|---|---|
| | | | Sheet 3 of 4 |




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

## 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<br>JONES<br>MUELLER | C14-44<br>J-2607<br>H-15451 |
| 4 | TYPE "K" COPPER TUBING, POLY SLEEVED | | |
| 5 | COMPRESSION X COMPRESSION 90° ELBOW | JONES<br>MUELLER | J-2611<br>H-15526 |
| 6 | CURB VALVE-SHUT OFF PARALLEL WITH CURB | FORD<br>JONES<br>MUELLER | B41-444<br>J-1921<br>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 | 18" 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

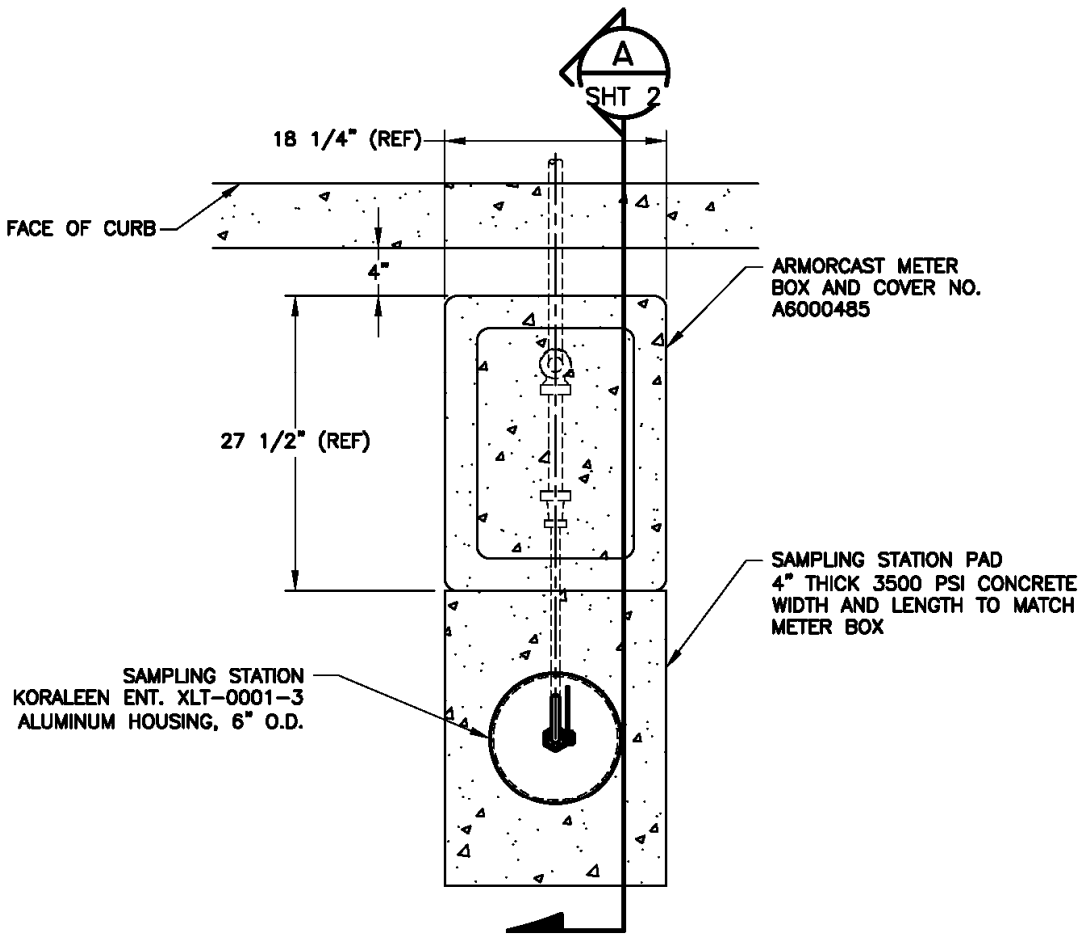
2016

Yucaipa Valley Water District

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

W-15

Sheet 4 of 4



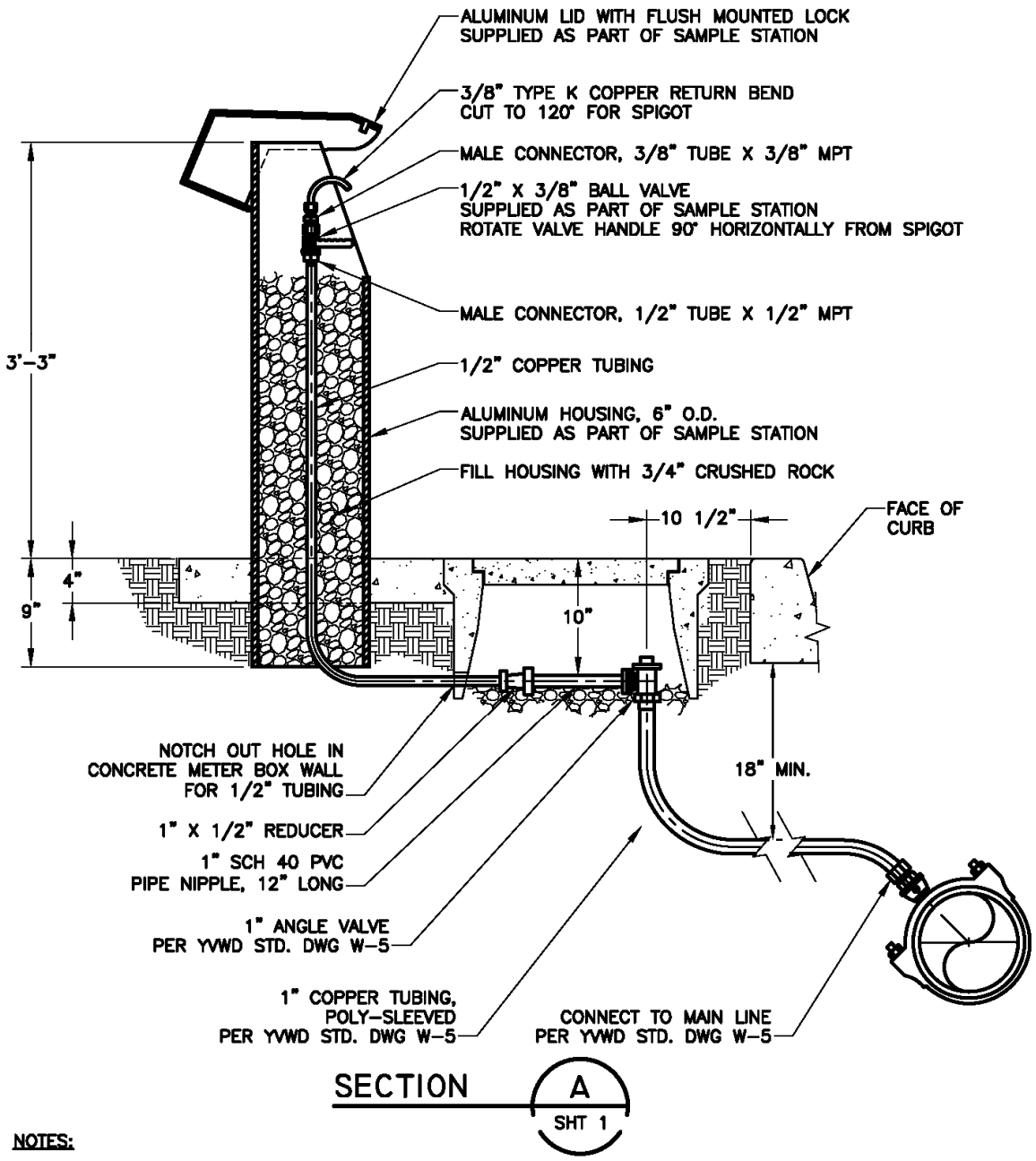

PLAN

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 | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | W-16 |
|---|---|---|---|
| | | | Sheet 1 of 2 |




NOTES:

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

# WATER QUALITY SAMPLING STATION

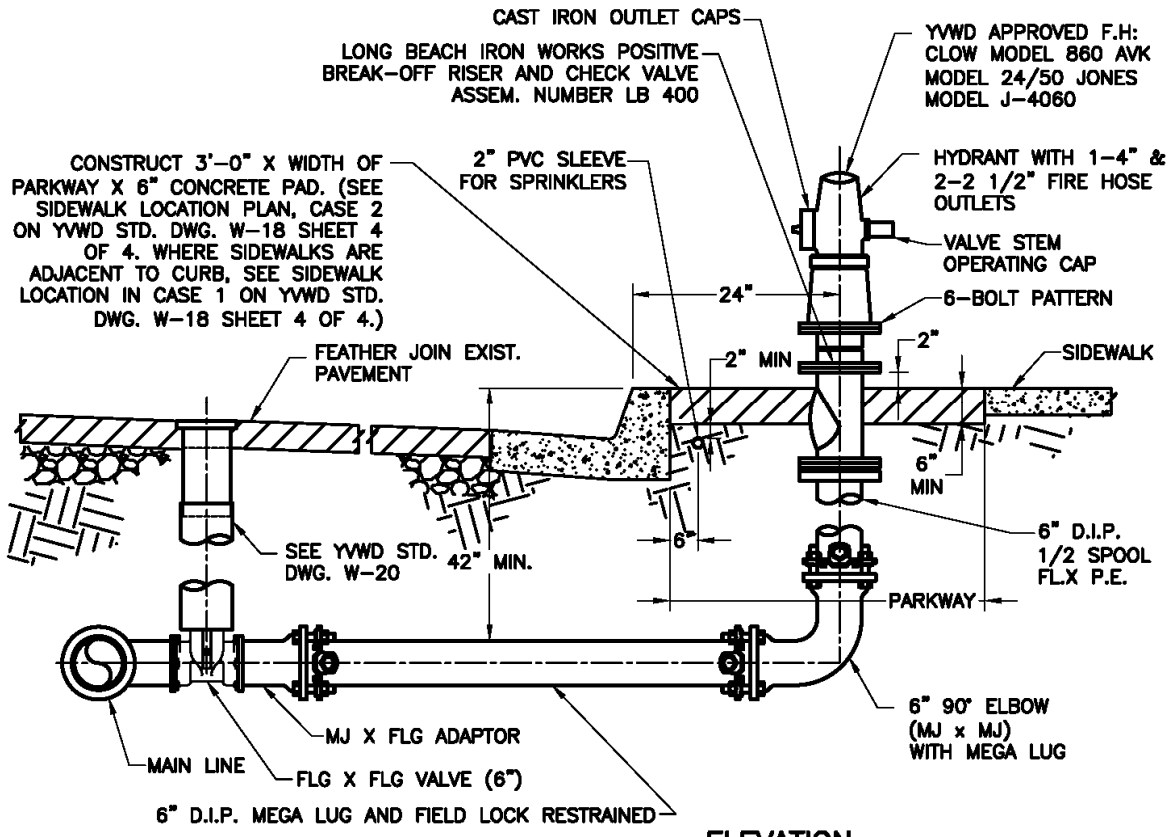
2016

Yucaipa Valley Water District

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

W-16

Sheet 2 of 2



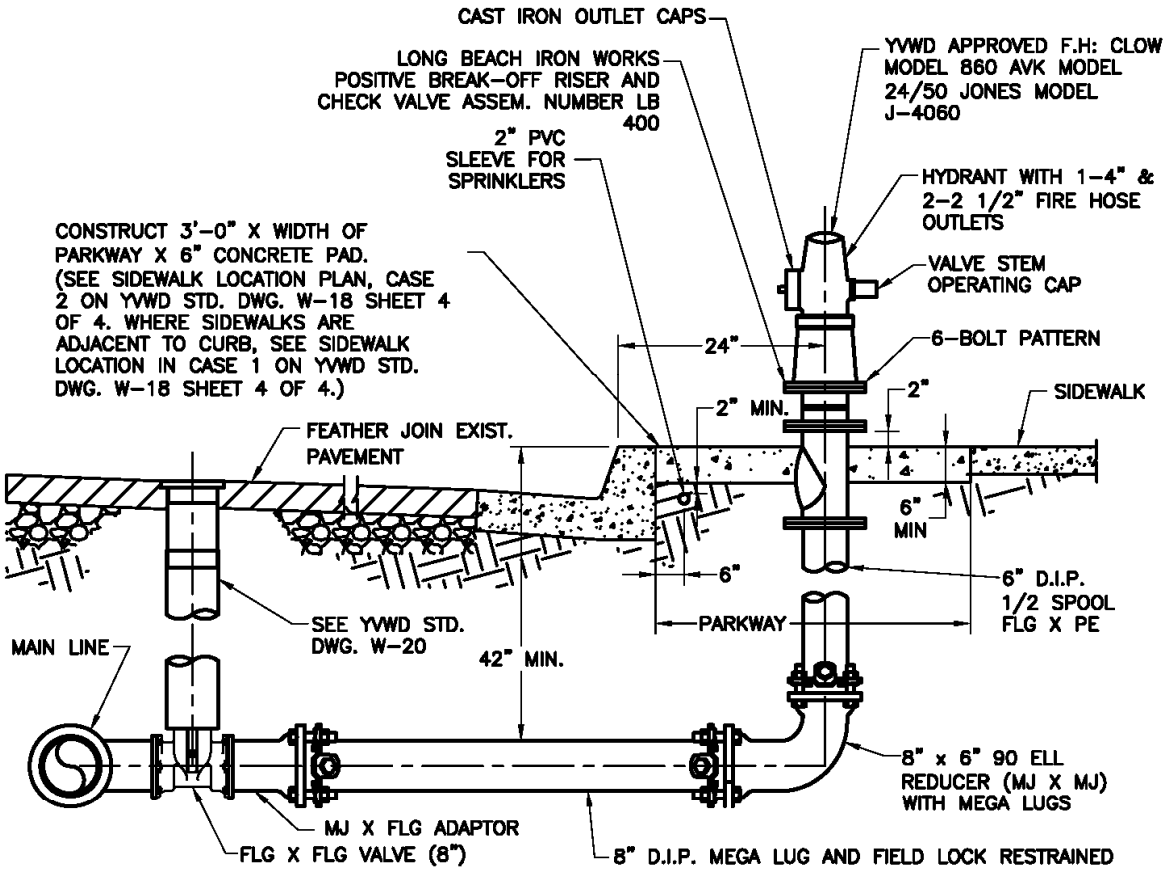

ELEVATION

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-## | W-18 |
|---|---|---|---|
| | | | Sheet 1 of 4 |

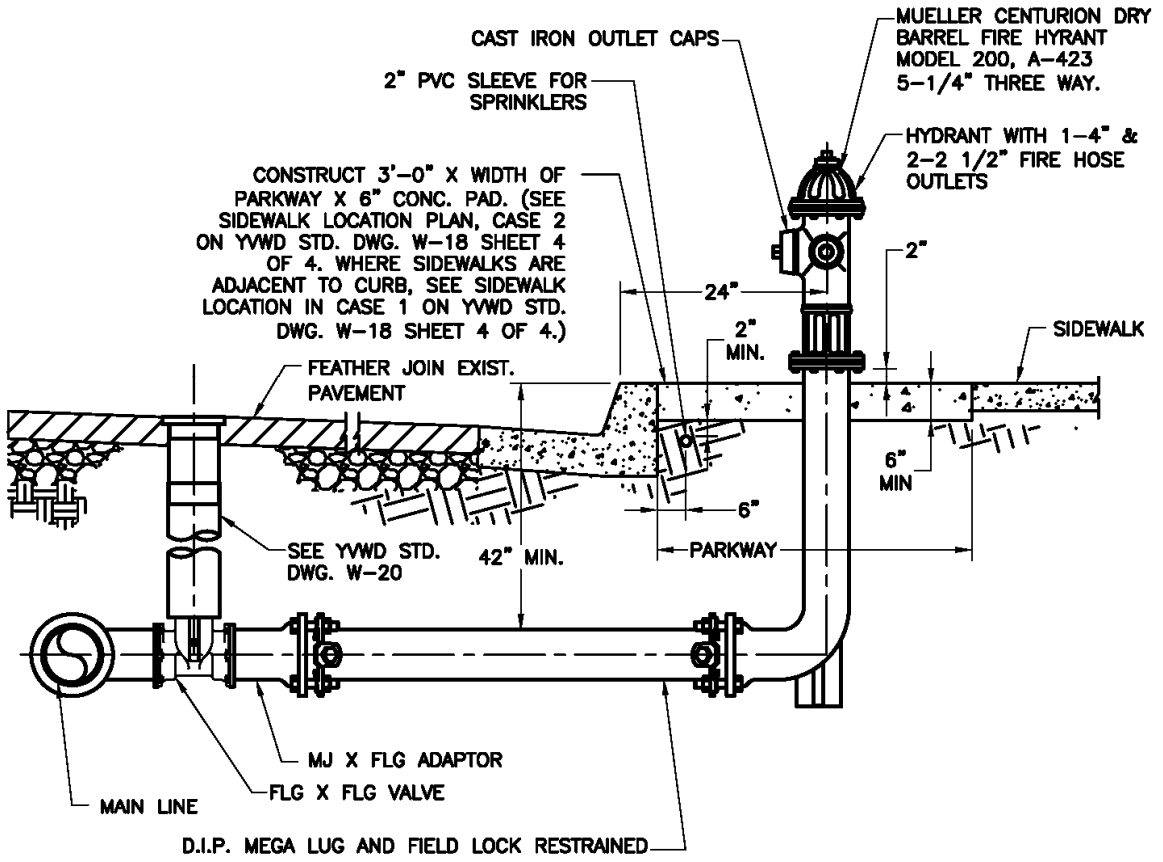



NOTES:

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-## | W-18 |
|---|---|---|---|
| | | | Sheet 2 of 4 |



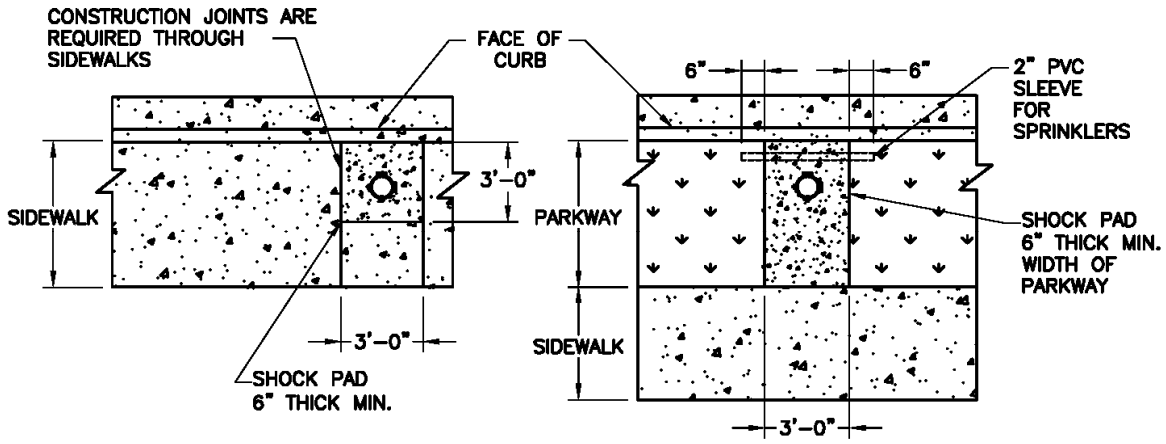

NOTES:

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 | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | W-18 |
|---|---|---|---|
| | | | Sheet 3 of 4 |

## 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

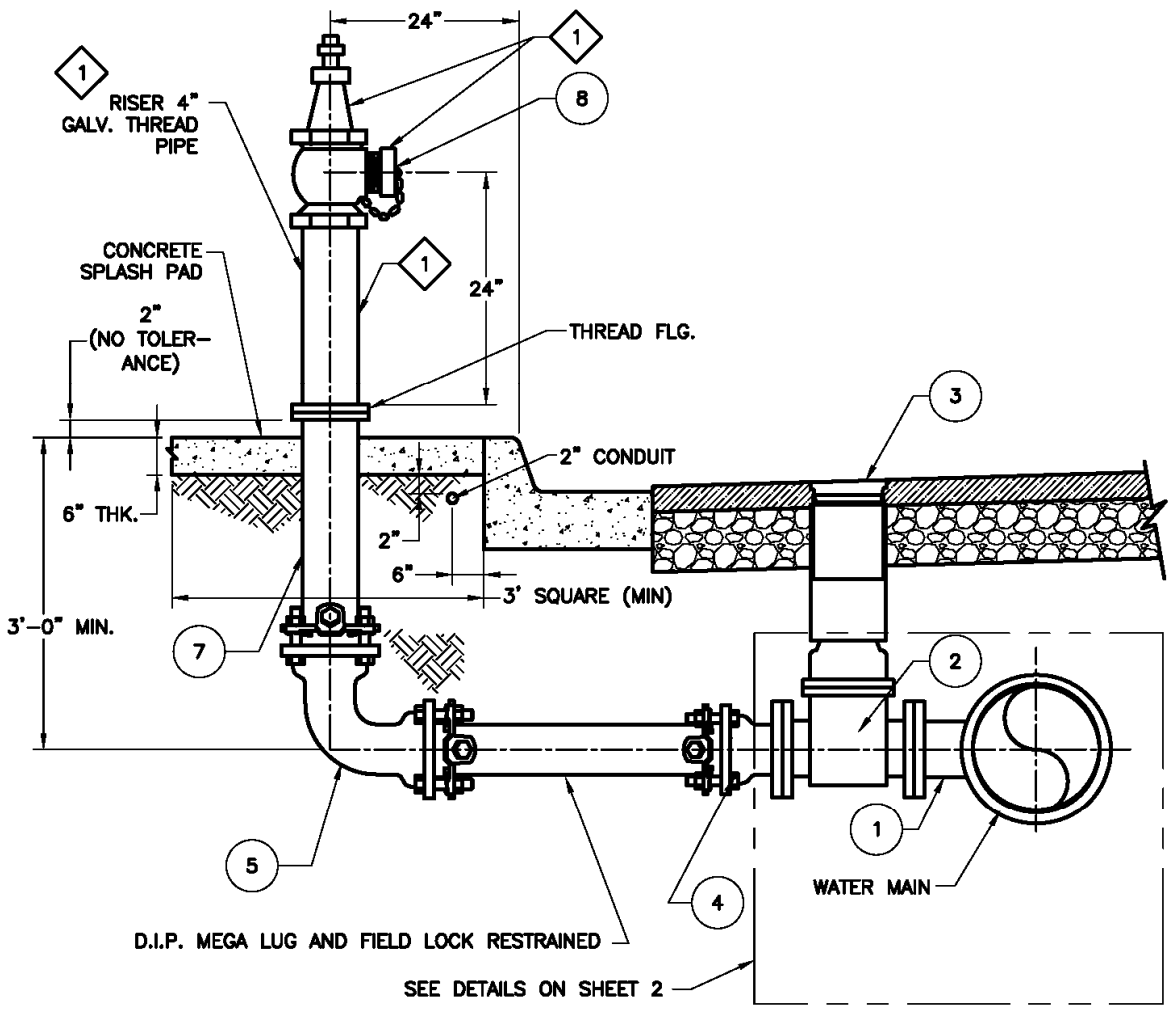
2016

Yucaipa Valley Water District

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

W-18

Sheet 4 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. ENTIRE HEAD SHALL BE PAINTED RED.
2. BLOW-OFFS LOCATED HIGHER THEN 3,500 FT ABOVE SEA LEVEL SHOULD BE A DRY BARREL FIRE HYDRANT.
3. BOTTOM FLUSH INSTALLATION WHERE REQUIRED BY YVWD.
4. BACKFILL UNDER EXISTING CURB WITHIN THE CITY OF YUCAIPA, MUST BE 2 SACK SLURRY PER CITY STANDARDS.
5. ALL HYDRANTS AND BLOWW-OFFS SHALL BE LOCATED A MINIMUM OF 3-FEET AWAY FROM THE E.C./B.C. OF DRIVEWAY APPROACHES AND CURB RETURNS FROM INTERSECTIONS.

# BLOW-OFF ASSEMBLY

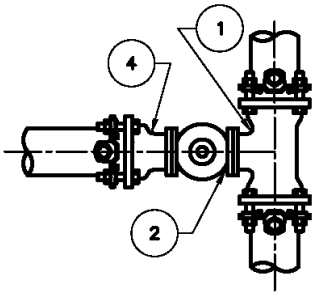
2016

Yucaipa Valley Water District

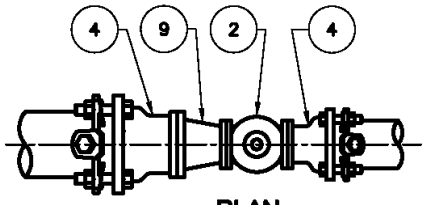
Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

W-19

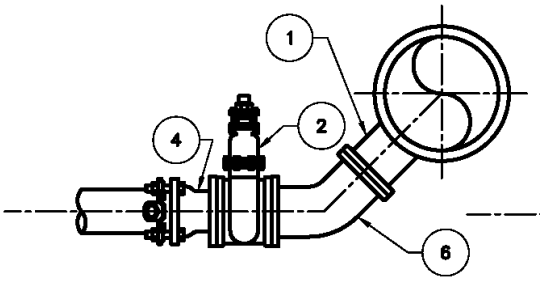
Sheet 1 of 2



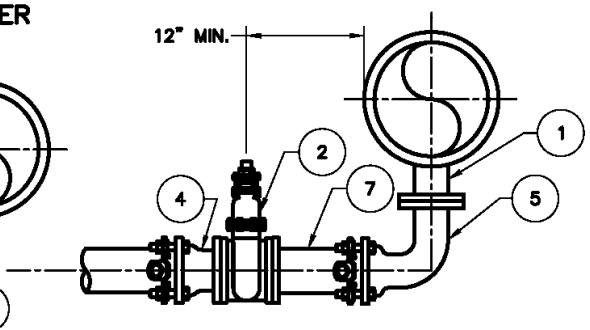

PLAN
BLOW–OFF ASSEMBLY GATE VALVE, BRANCH CONNECTION FROM WATER MAIN




PLAN
BLOW–OFF ASSEMBLY GATE VALVE, END CONNECTION FROM WATER MAIN (OPTIONAL)




BRANCH CONNECTION CASE A
USE ON WATER MAINS THAT ARE 8", 16" AND 18" ONLY.




BRANCH CONNECTION CASE B
USE ON WATER MAINS THAT ARE 12", 24" AND LARGER.

| 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

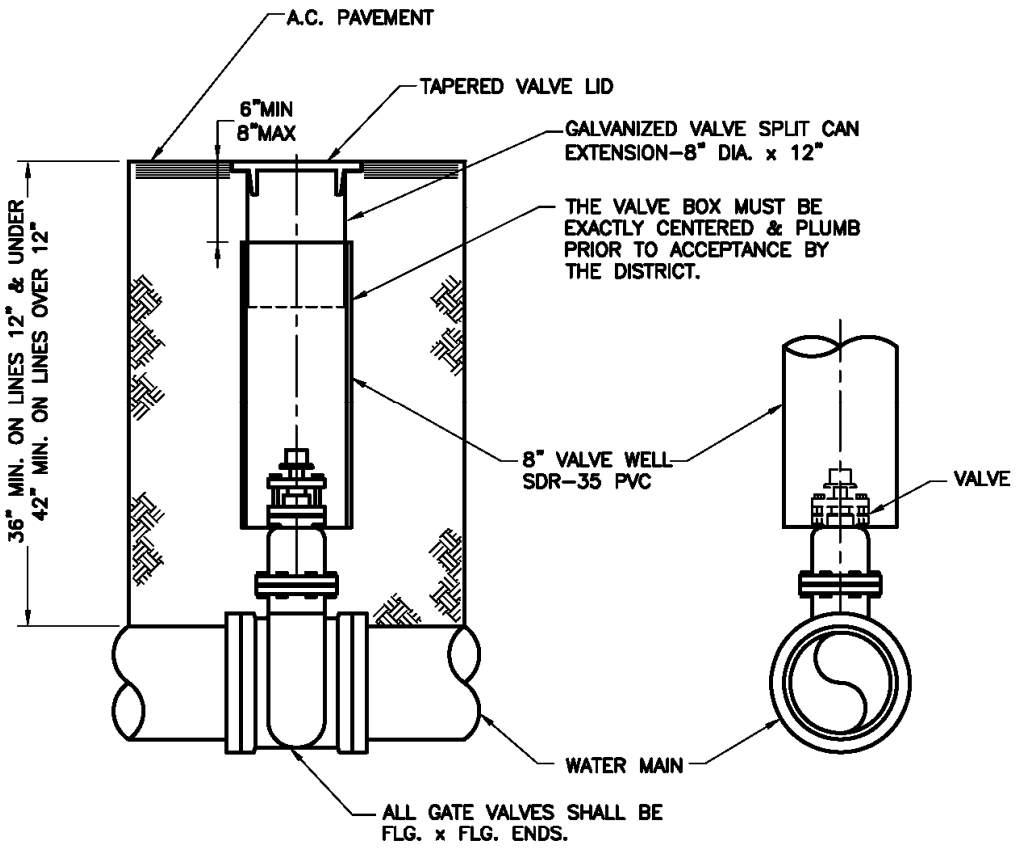
2016

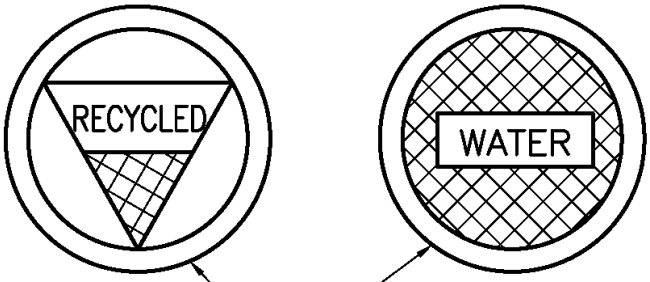
Yucaipa Valley Water District

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

W–19

Sheet 2 of 2

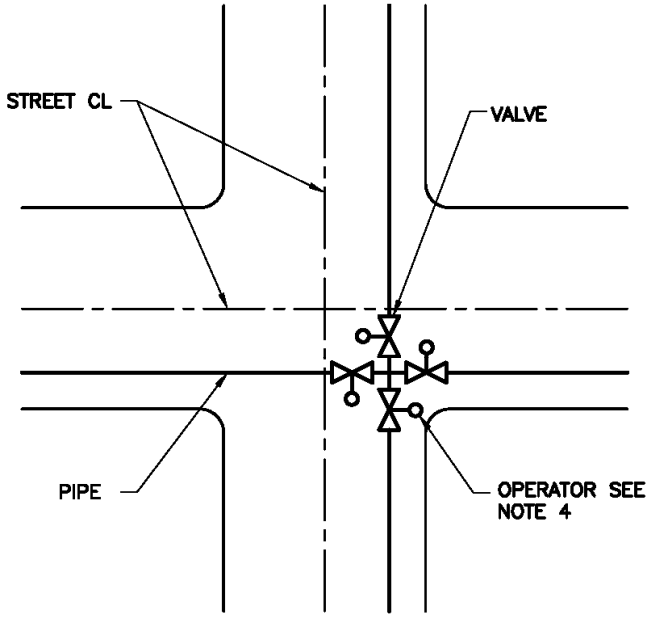



IRON COVER WITH THE WORD "WATER" CAST THEREON FOR DOMESTIC WATER LINES OR "RECYCLED" FOR RECLAIMED WATERLINES. VALVE LIDS MUST BE TAPERED

# VALVE AND VALVE BOX INSTALLATION

| 2016 | Yucaipa Valley Water District | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | W–20 |
|---|---|---|---|
| | | | Sheet 1 of 2 |



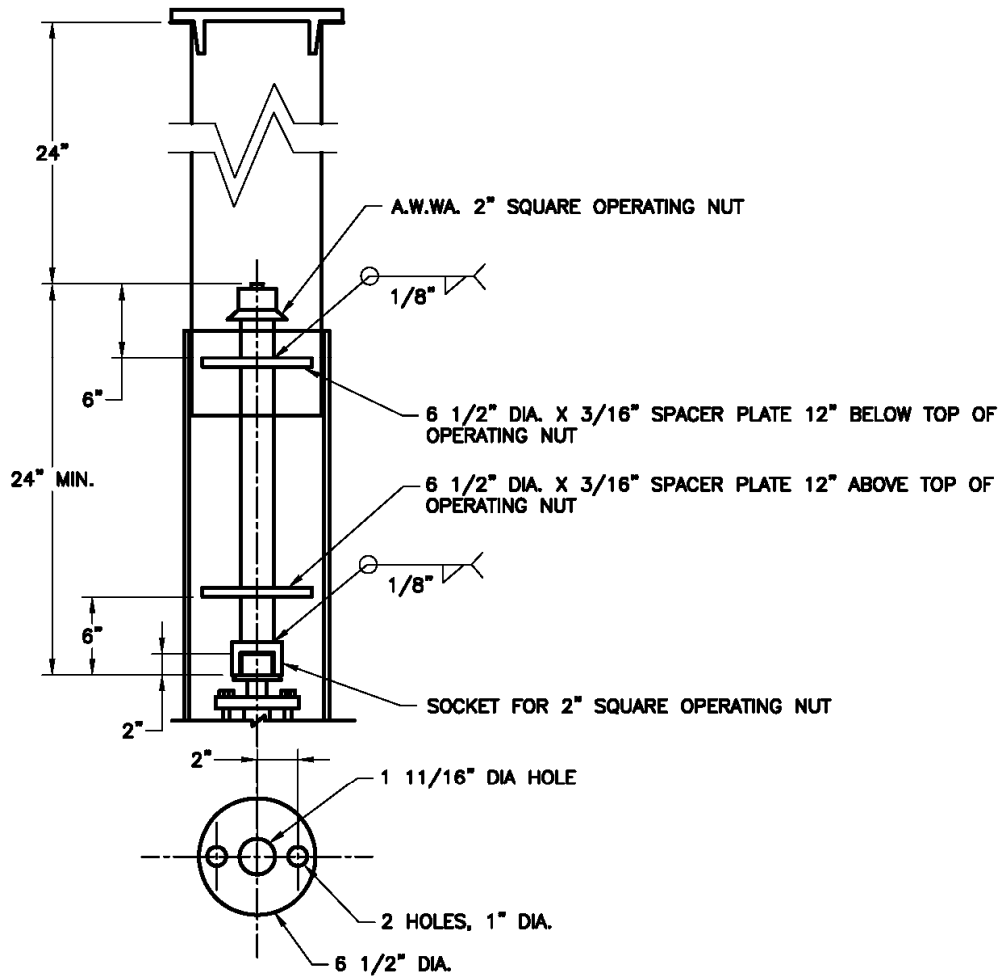

TYPICAL BUTTERFLY VALVE OPERATOR POSITION

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 | Yucaipa Valley Water District | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | W-20 Sheet 2 of 2 |
|---|---|---|---|



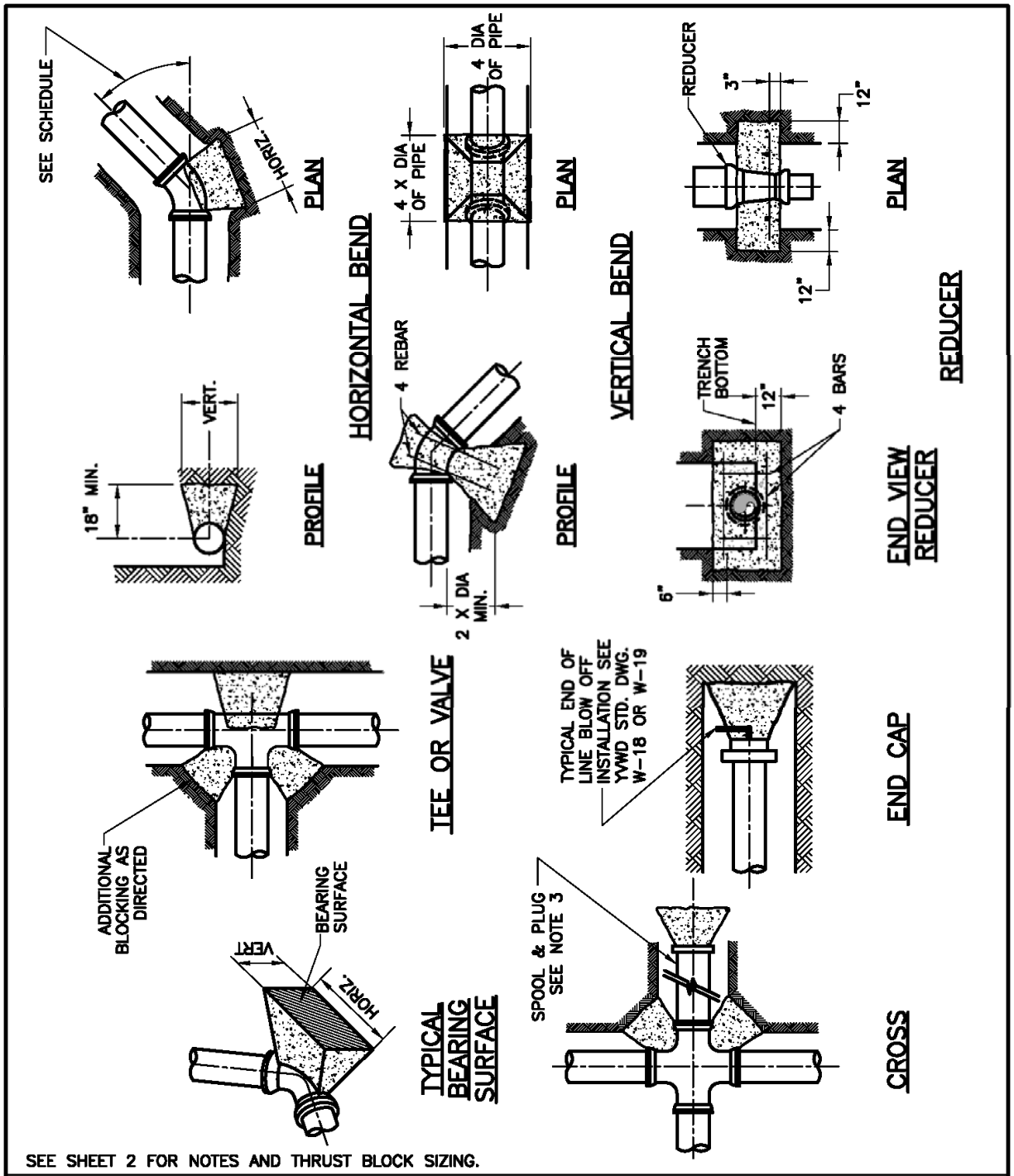

SPACER PLATE PLAN

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 | Yucaipa Valley Water District | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | W–21 |
|---|---|---|---|
| | | | Sheet 1 of 1 |




SEE SHEET 2 FOR NOTES AND THRUST BLOCK SIZING.

# THRUST BLOCK DETAILS FOR RETROFIT ONLY

2016

Yucaipa Valley Water District

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

W-22

Sheet 1 of 2

| 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 YVWD.

# THRUST BLOCK DETAILS FOR RETROFIT ONLY

2016

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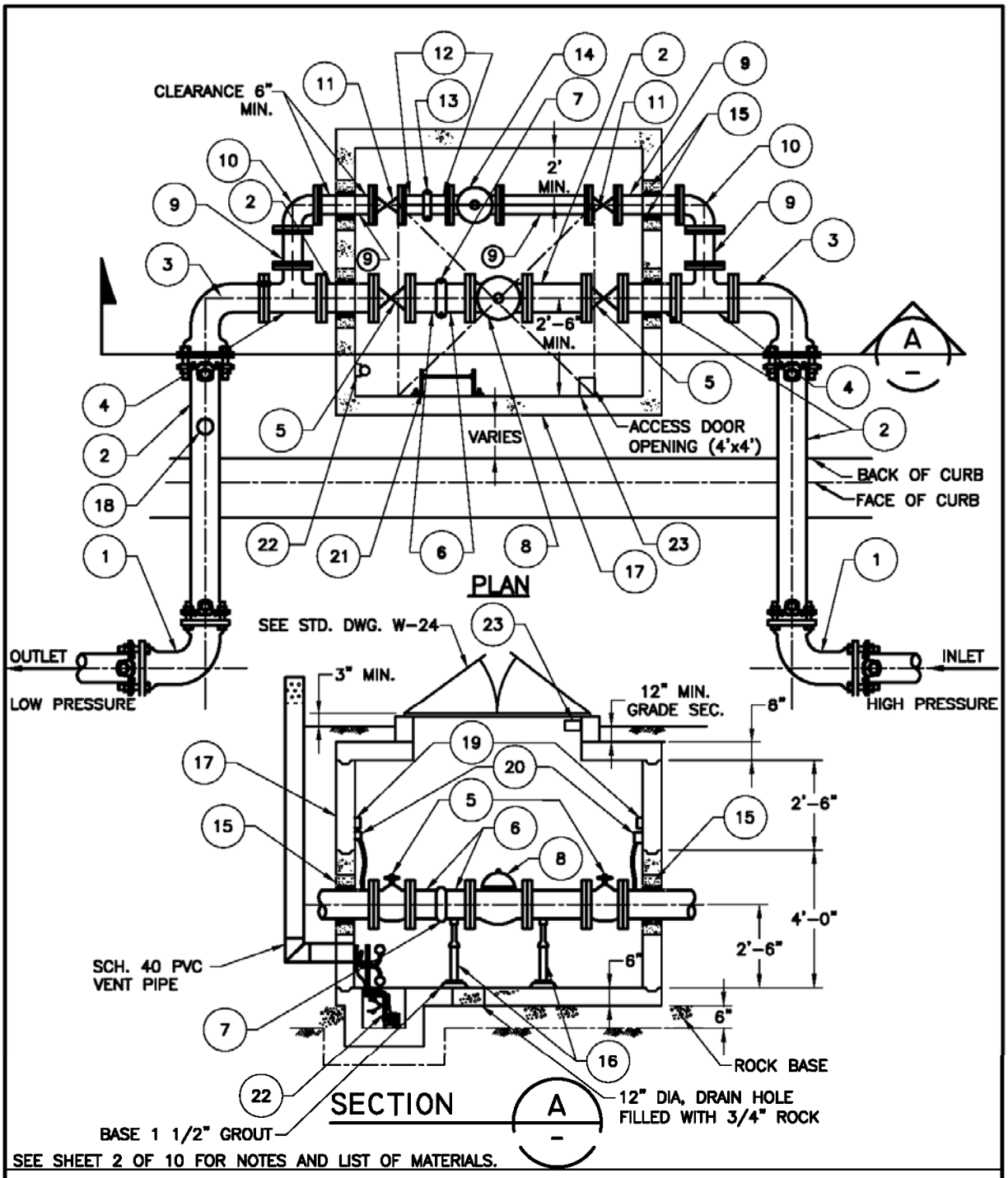
Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

W-22

Sheet 2 of 2




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

2016

Yucaipa Valley Water District

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

W–23

Sheet 1 of 10

## LIST OF MATERIALS

| ITEM | QUANTITY | DESCRIPTION |
|---|---|---|
| MAIN LINE | | |
| 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 |
| BY-PASS LINE | | |
| 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. |
| MISCELLANEOUS | | |
| 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

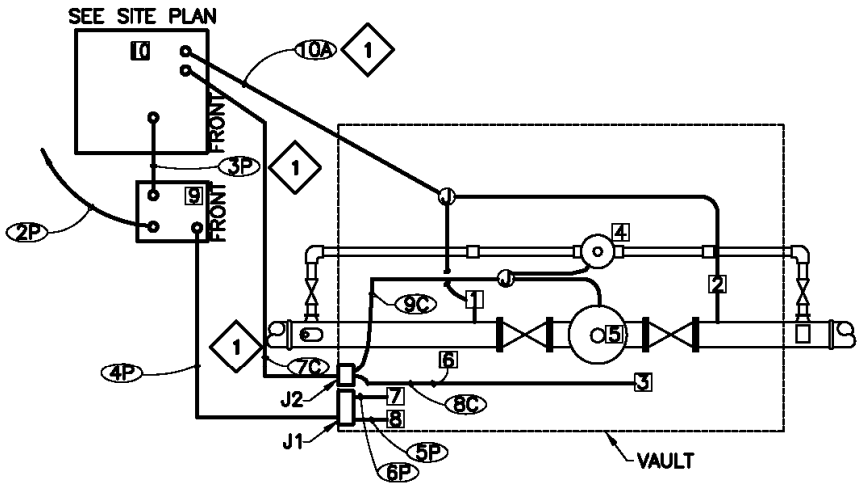
2016

Yucaipa Valley Water District

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

W-23

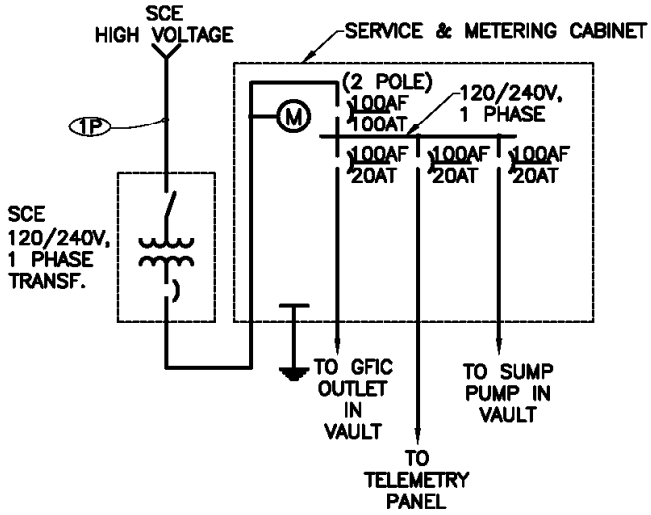
Sheet 2 of 10




## PRESSURE REDUCING STATION ELECTRICAL PLAN

NOT TO SCALE

SEE SITE PLAN FOR LOCATION OF POWER AND TELEPHONE SERVICES




## SINGLE LINE DIAGRAM

SEE SHEET 5 OF 10 FOR CONDUIT SCHEDULE AND SHEET 6 OF 10 FOR LIST OF ELECTRICAL COMPONENTS AND NOTES.

# PRESSURE REDUCING STATION ELECTRICAL DIAGRAM AND DETAILS

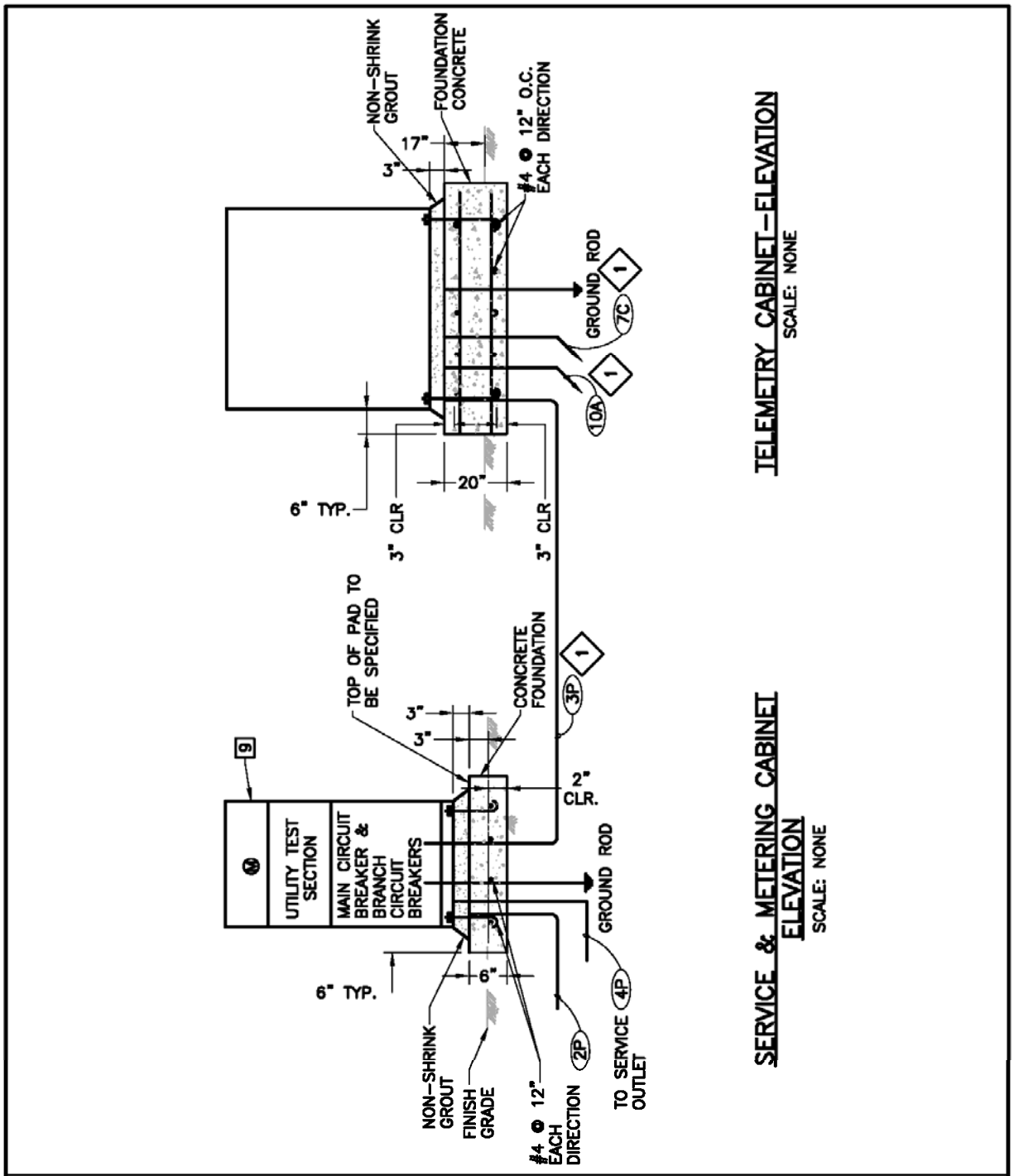
2016

Yucaipa Valley Water District

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

W-23

Sheet 3 of 10




# PRESSURE REDUCING STATION ELECTRICAL DIAGRAM AND DETAILS

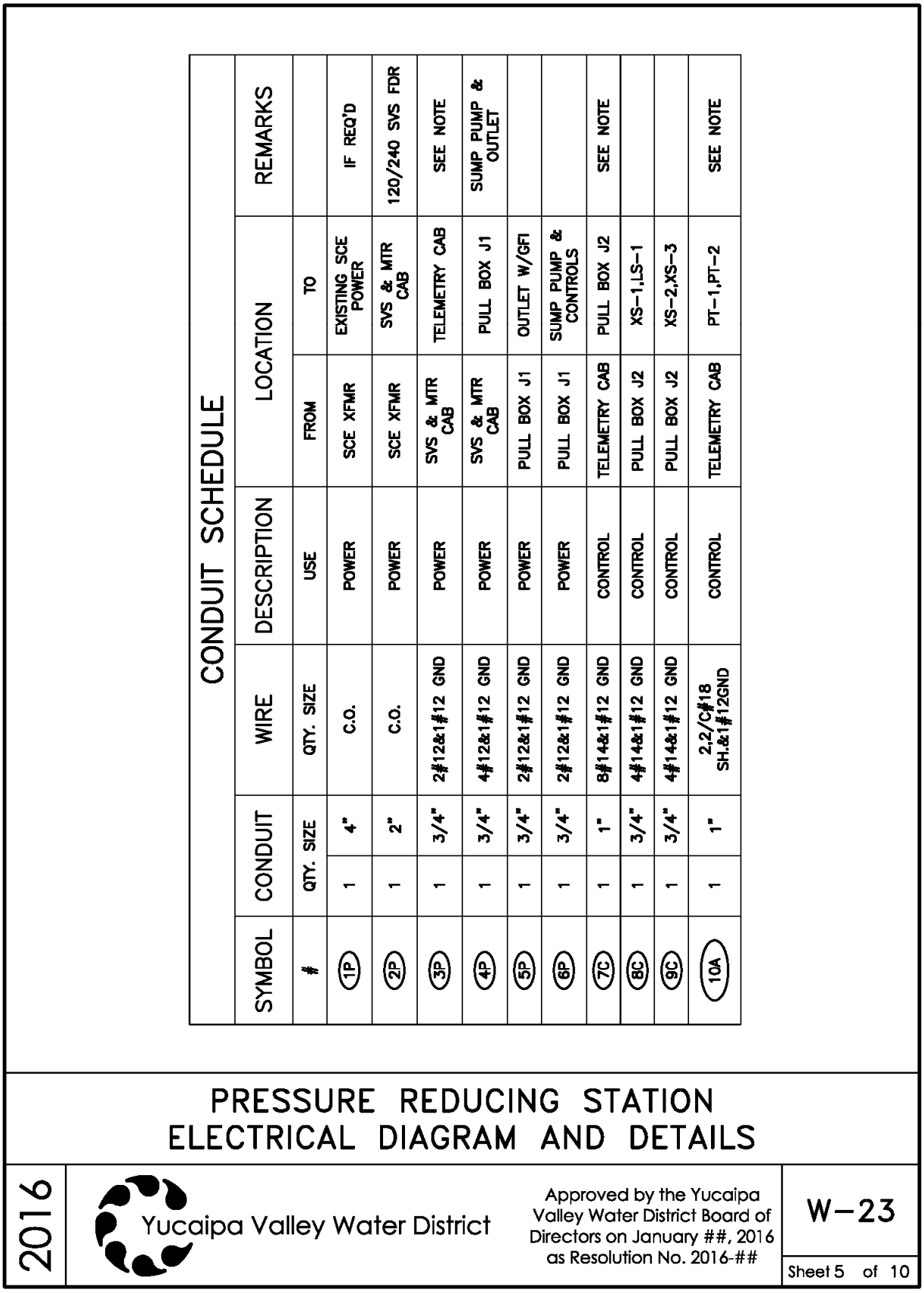
2016

Yucaipa Valley Water District

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

W-23

Sheet 4 of 10



## CONDUIT SCHEDULE

| SYMBOL | CONDUIT | | WIRE | DESCRIPTION | LOCATION | | REMARKS |
|---|---|---|---|---|---|---|---|
| # | QTY. | SIZE | QTY. SIZE | USE | 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

Yucaipa Valley Water District

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

W-23

Sheet 5 of 10

## ELECTRICAL COMPONENTS

| ITEM NO. | DEVICE ID. | DESCRIPTION | MANUFACTURE | MODEL NUMBER | REMARKS |
|---|---|---|---|---|---|
| 1 | PT-1 | DOWNSTREAM PRESS. XMTR | ROSE MOUNT | #3051CG-X-A22 AJ-M6210-S-140 | 150/250 PSI |
| 2 | PT-2 | UPSTREAM PRESS. XMTR | ROSE MOUNT | #3051CG-X-A22 AJ-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

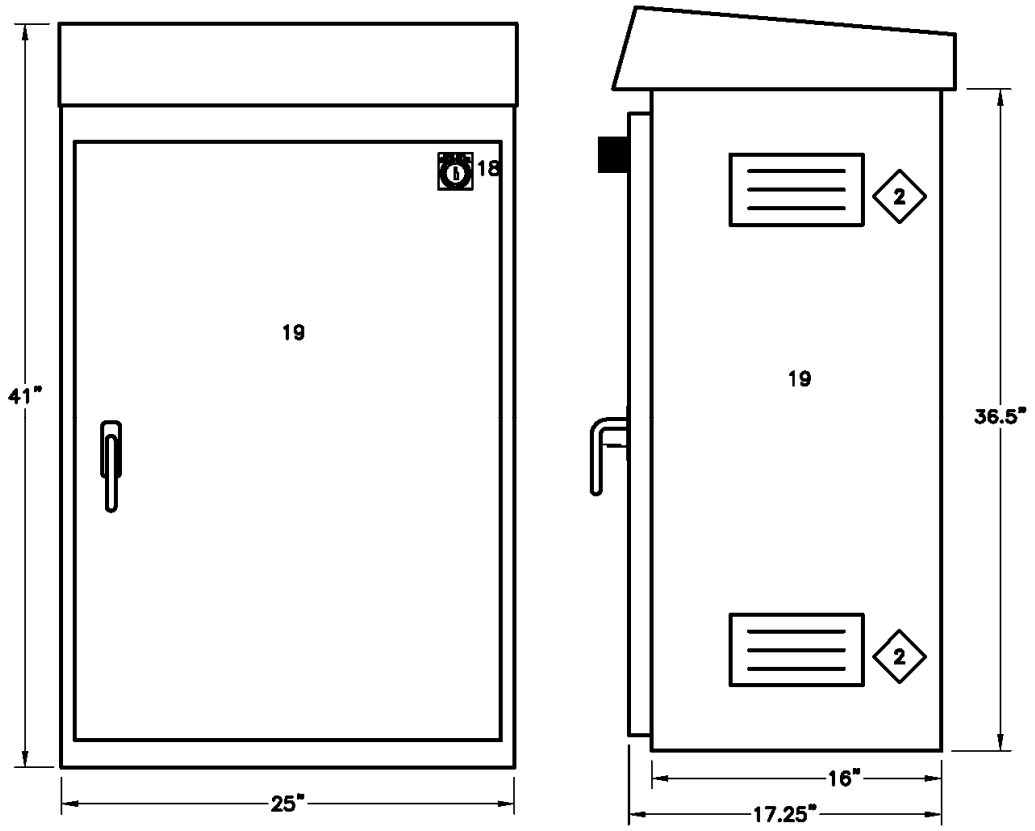
2016

Yucaipa Valley Water District

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

W-23

Sheet 6 of 10




**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 | Yucaipa Valley Water District | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | W–23 Sheet 7 of 10 |
|---|---|---|---|

## 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) | 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 |

## PRESSURE REDUCING STATION TELEMETRY DETAILS

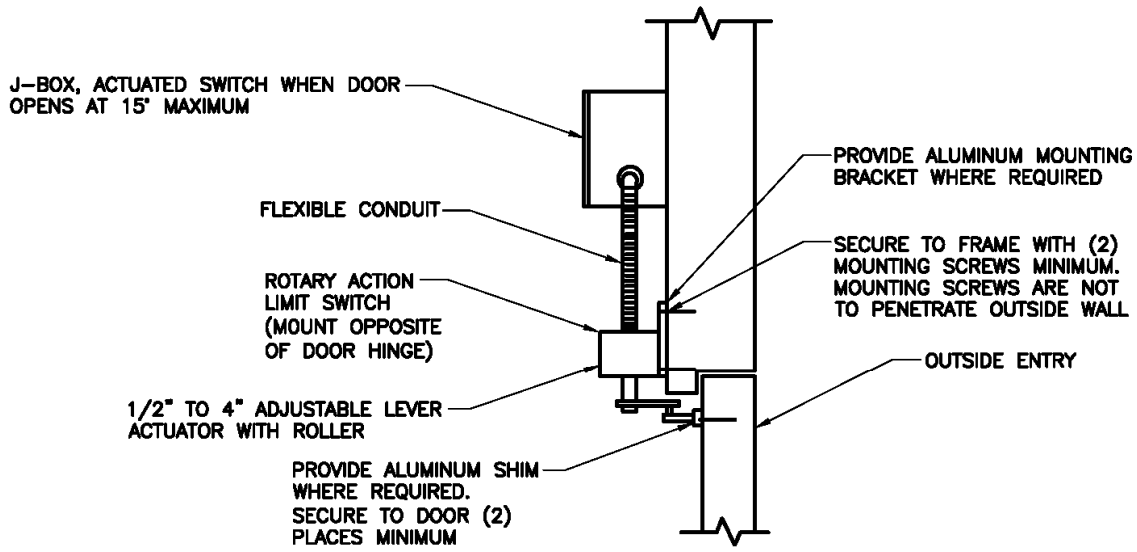
2016

Yucaipa Valley Water District

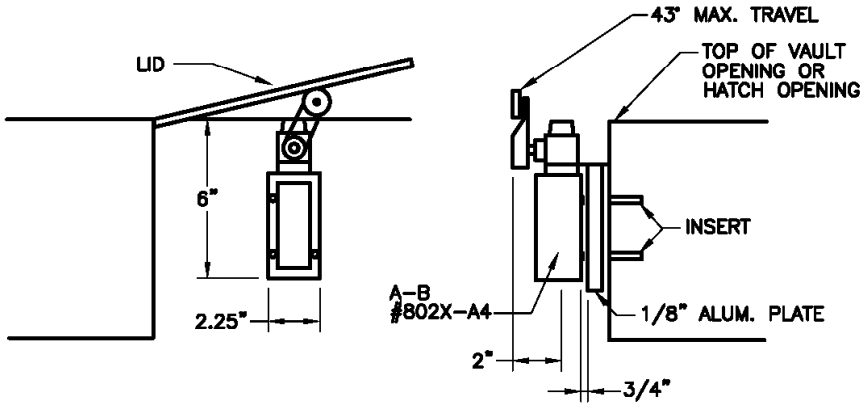
Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

W-23

Sheet 8 of 10




DOOR HATCH ENTRY SWITCH




INTRUSION SWITCH DETAIL

# PRESSURE REDUCING STATION ENTRY SWITCH DETAILS

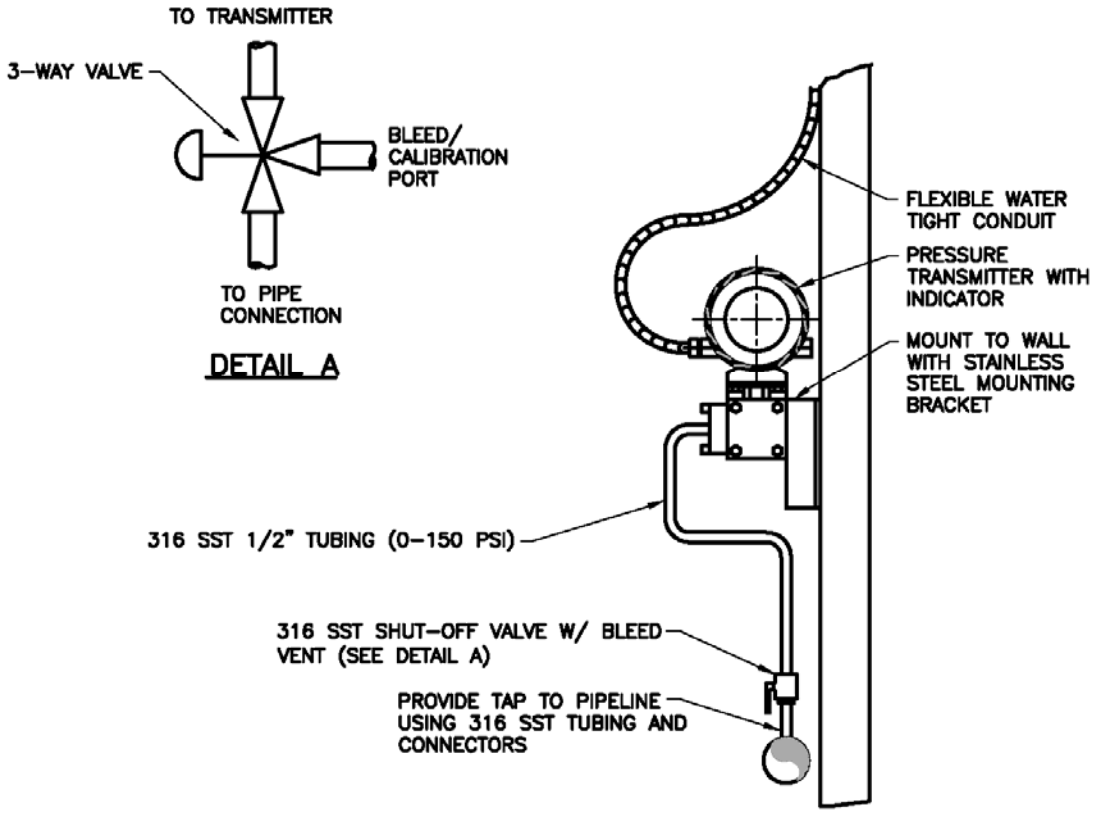
2016

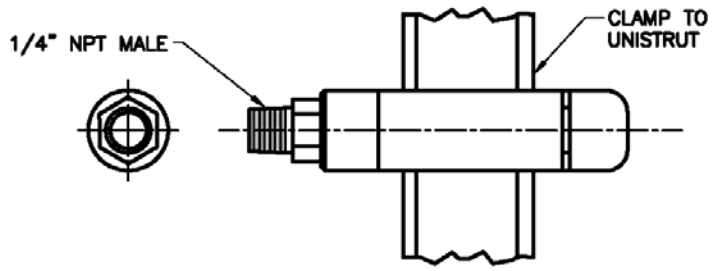
Yucaipa Valley Water District

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

W–23

Sheet 9 of 10




SUBMERSIBLE TYPE

# PRESSURE REDUCING STATION
# PRESSURE TRANSMITTER INSTALLATION DETAILS

2016

Yucaipa Valley Water District

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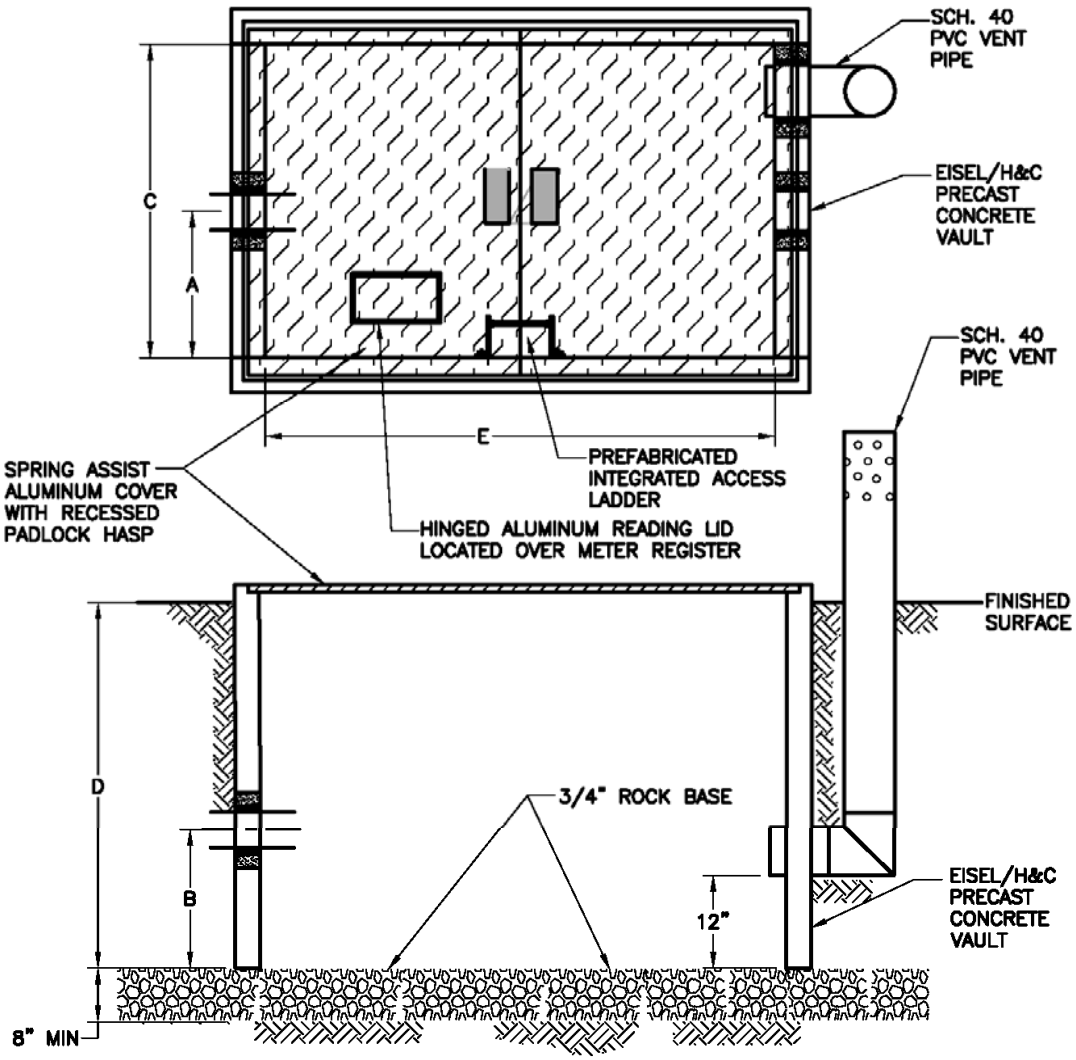
W-23

Sheet10 of 10




| 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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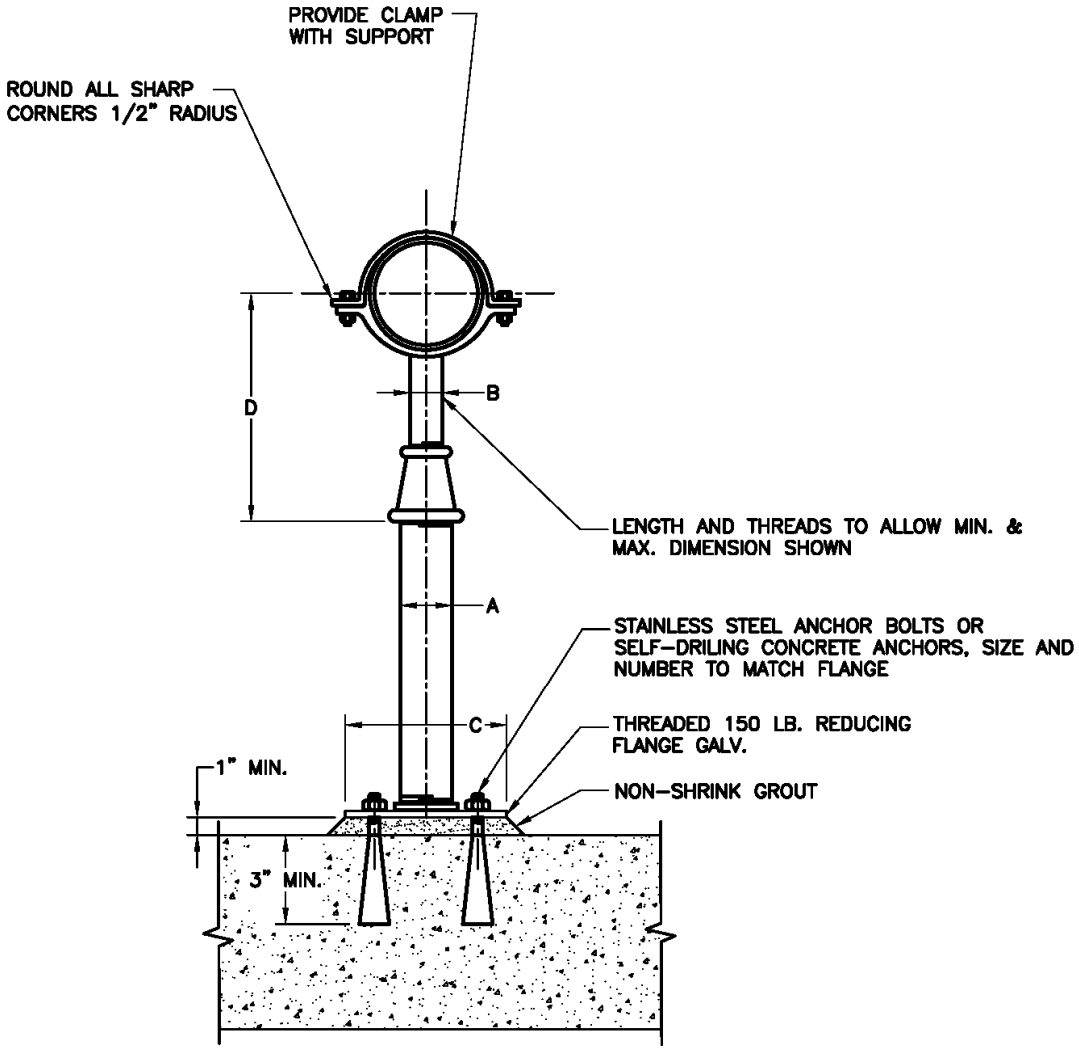
W-24

Sheet 1 of 1




NOTE:

1. PIPE SUPPORT SHALL BE GRINNEL FIG. 264, ELCEN FIG. 50, OR EQUAL.

# ADJUSTABLE PIPE SUPPORT

2016

Yucaipa Valley Water District

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

W-25

Sheet 1 of 2

## 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

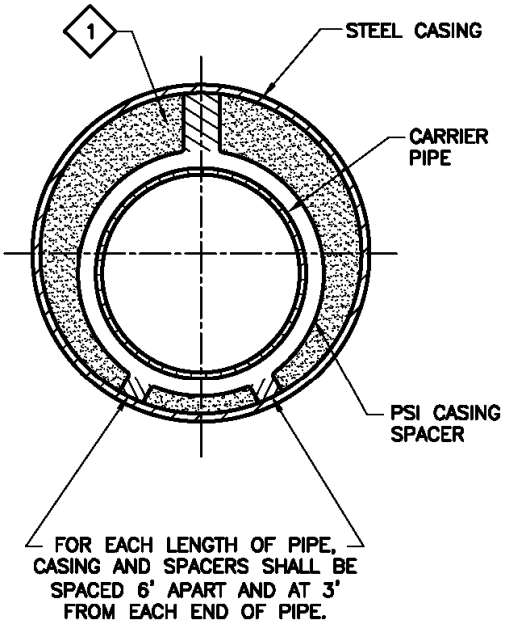
Yucaipa Valley Water District

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

W-25

Sheet 2 of 2

| 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

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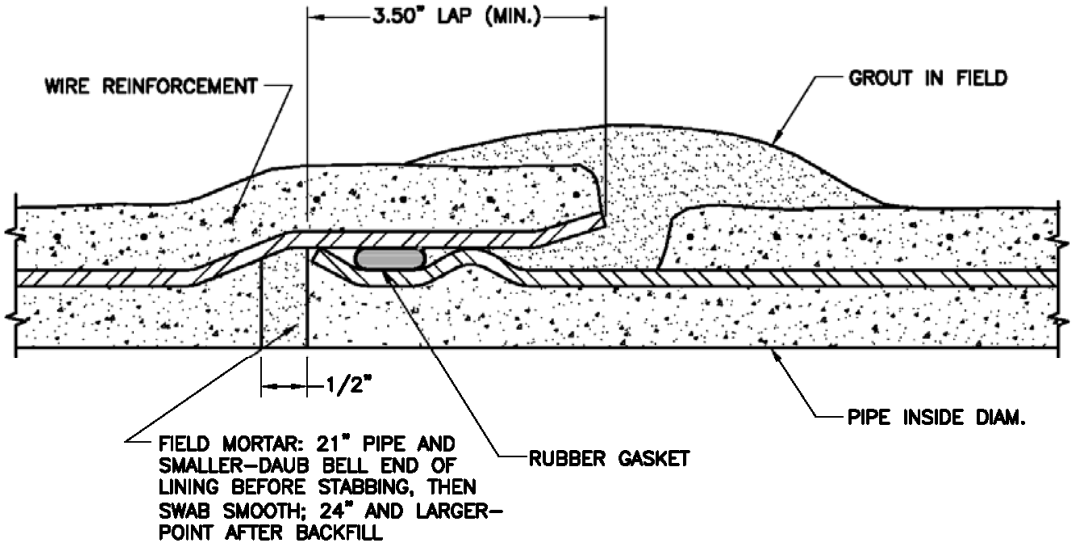
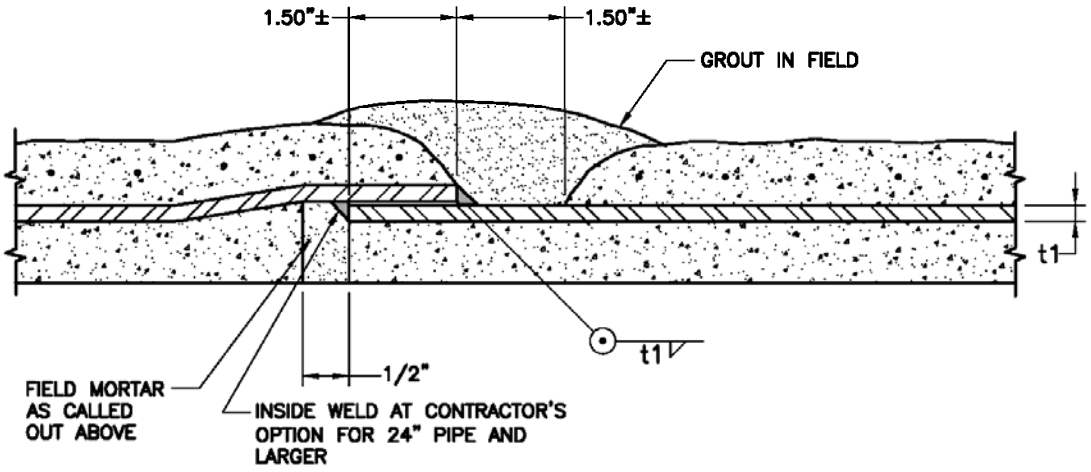
W-26

Sheet 1 of 1




BELL AND SPIGOT RUBBER GASKET JOINT




LAP WELDED SLIP JOINT

NOTES:

1. SPECIFICATIONS FOR STEEL PIPE SHELL THICKNESS AND FOR MORTAR LINING AND COATING THICKNESS.
2. ALL WELDS 2 PASSES MINIMUM.

# MORTAR LINED AND COATED STEEL PIPE JOINT DETAILS

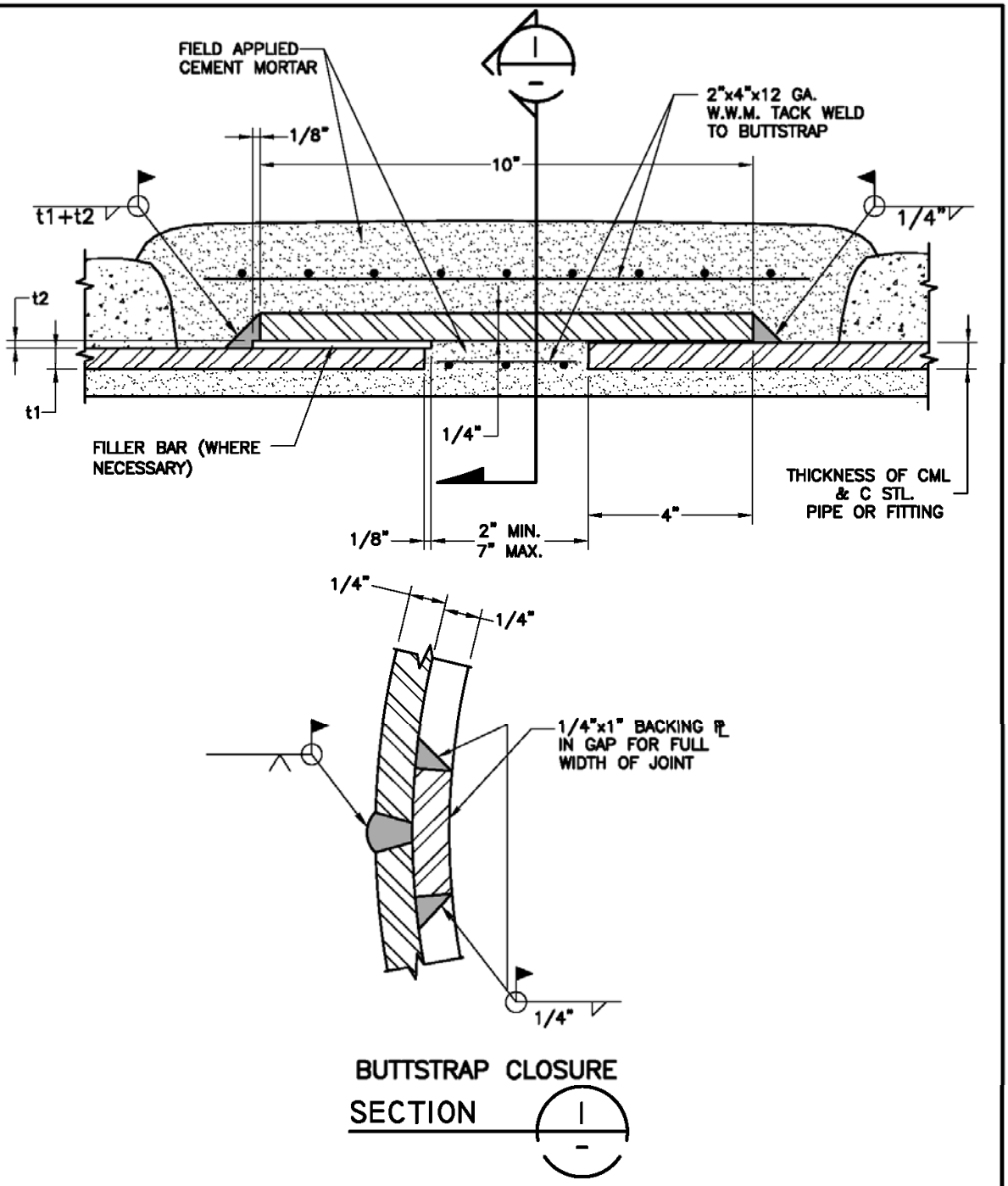
2016

Yucaipa Valley Water District

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

W–27

Sheet 1 of 1




# MORTAR LINED AND COATED STEEL PIPE CLOSURE DETAILS

2016

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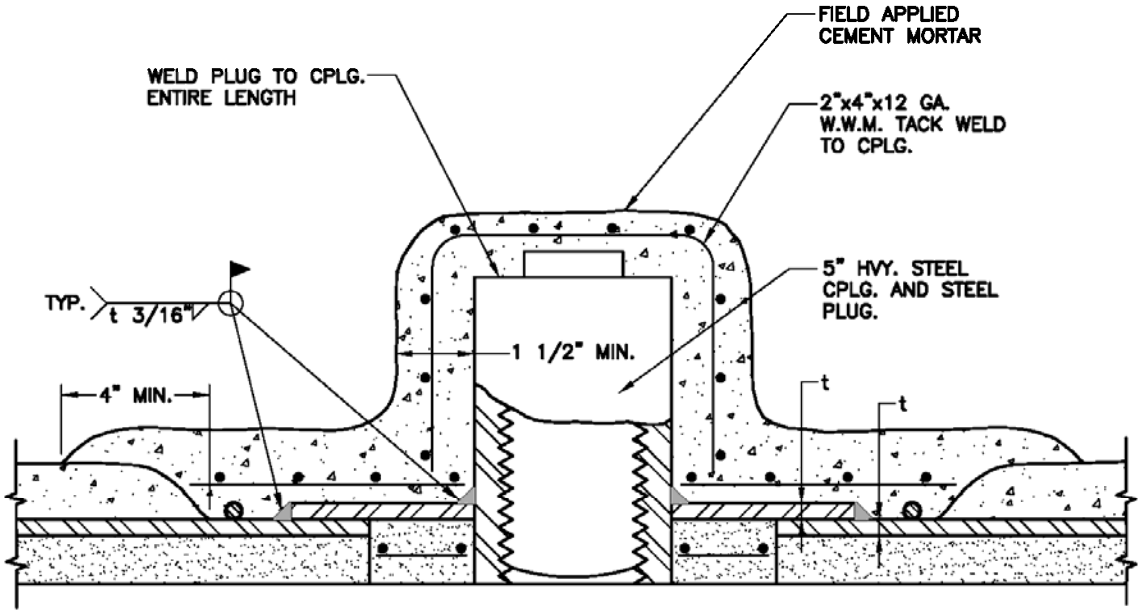
Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

W-28

Sheet 1 of 2




TYPICAL HANDHOLE

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

# MORTAR LINED AND COATED STEEL PIPE CLOSURE DETAILS

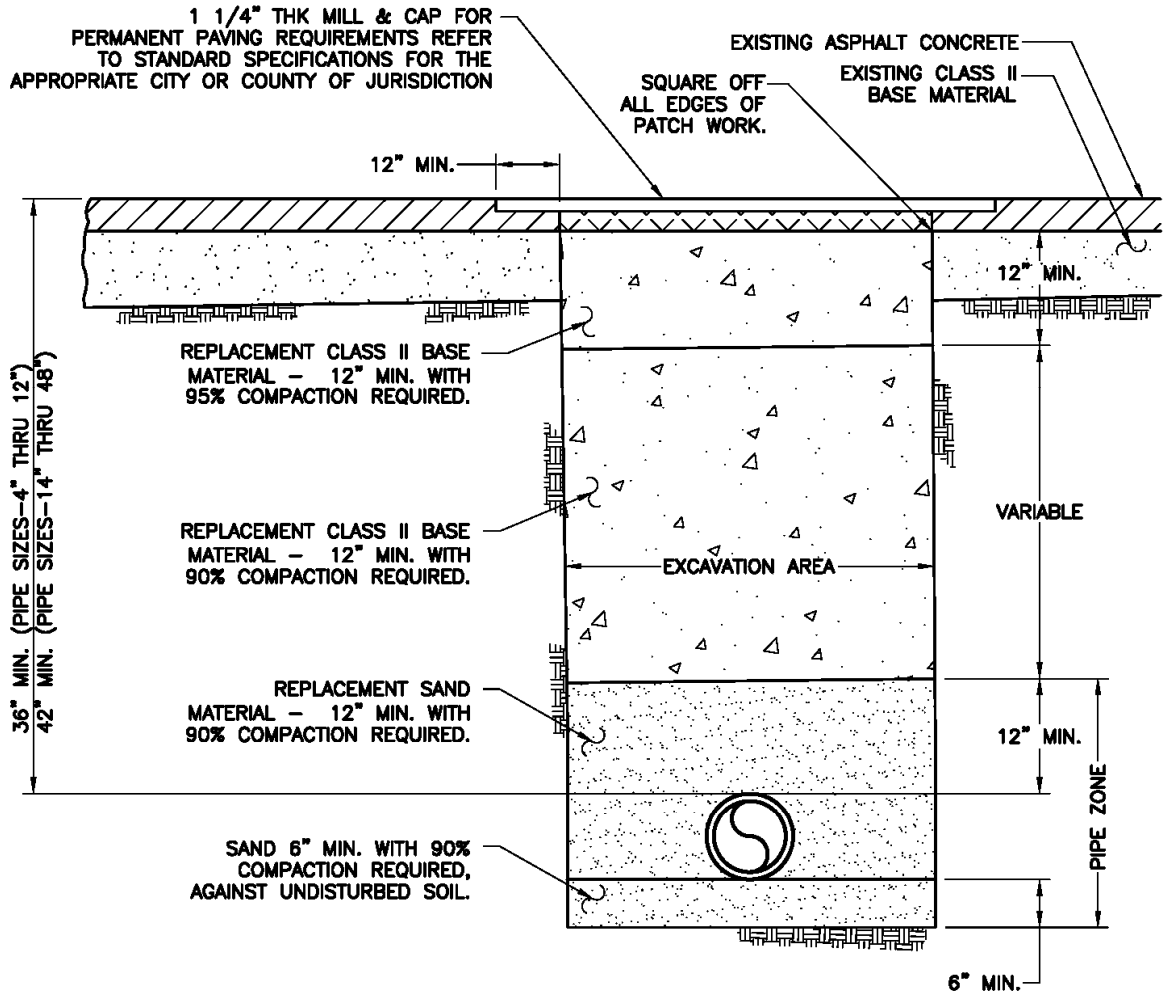
2016

Yucaipa Valley Water District

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

W–28

Sheet 2 of 2




NOTES:

1. PLANT–MANUFACTURED SAND MATERIAL WITH AN SAE OF 30 OR BETTER SHALL BE USED FOR PIPE ZONE BACK FILL. REMAINING BACK FILL WILL BE IN ACCORDANCE WITH CITY/YVWD REQUIREMENTS (WHICH EVER IS GREATER)
2. BACKFILL UNDER EXISTING CURB WITHIN THE CITY OF YUCAIPA, MUST BE 2 SACK SLURRY PER CITY STANDARDS.
3. 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 | Yucaipa Valley Water District | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | W–30 |
|---|---|---|---|
| | | | Sheet 1 of 2 |

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

# TRENCH REPAIR DETAIL

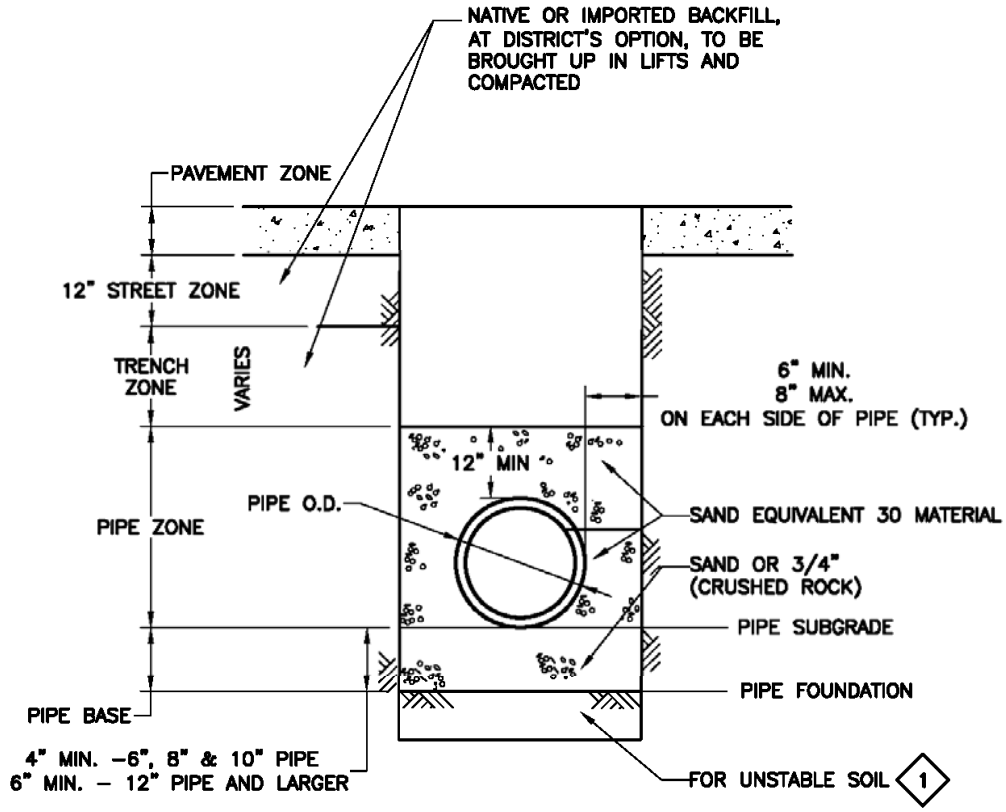
2016

Yucaipa Valley Water District

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

W–30

Sheet 2 of 2



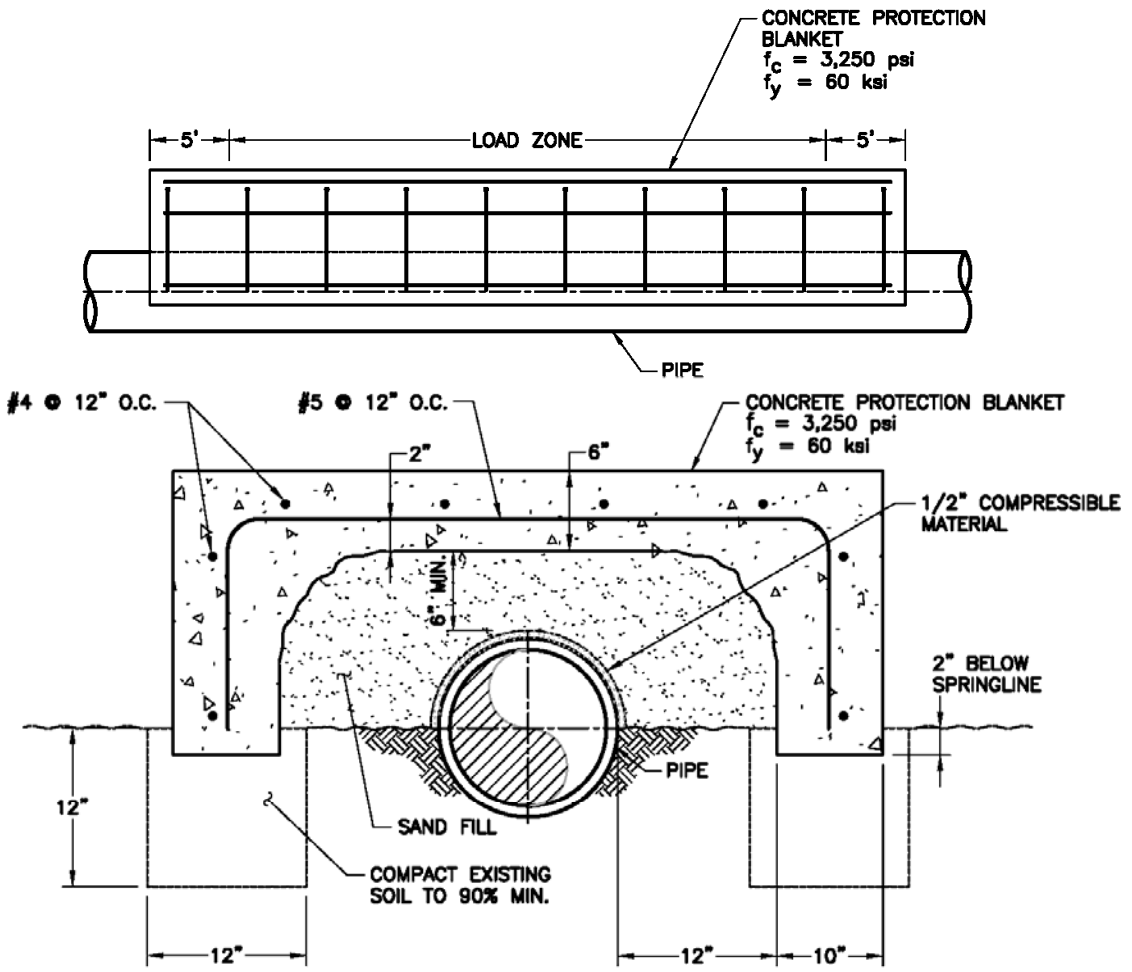

## NORMAL BEDDING

NOTE:

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

# PIPE BEDDING DETAIL

| 2016 | Yucaipa Valley Water District | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | W-31 |
|---|---|---|---|
| | | | Sheet 1 of 1 |




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 | Yucaipa Valley Water District | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | W–32 |
|---|---|---|---|
| | | | Sheet 1 of 1 |


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)



# SEWER STANDARD INDEX

2016

Yucaipa Valley Water District

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

S-0

Sheet 1 of 2

# YVWD SEWER FACILITY STANDARDS
# DRAWING INDEX (SUBJECT)



## SEWER STANDARD INDEX

2016

Yucaipa Valley Water District

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

S-0

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 |
| W x | EXISTING WATER LINE |
| W | PROPOSED WATER LINE |
| RW x | EXISTING RECYCLED WATER LINE |
| RW | PROPOSED RECYCLED WATER LINE |
| SS x | EXISTING SEWER LINE |
| SS | PROPOSED SEWER LINE |
| NG x | EXISTING GAS LINE |
| NG | PROPOSED GAS LINE |
| | SERVICE LATERAL |
| | ENCASEMENT |
| E x | EXISTING ELECTRICAL CONDUIT |
| E | PROPOSED ELECTRICAL CONDUIT |
| T x | EXISTING TELEPHONE CONDUIT |
| T | PROPOSED TELEPHONE CONDUIT |
| FO x | EXISTING FIBER OPTIC CABLE |
| FO | 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 | C.O. | CLEAN–OUT |
| | FIRE HYDRANT | D.I.P. | DUCTILE IRON PIPE |
| | BLOW–OFF | D.M.H. | DROP MANHOLE |
| | AIR & VACUUM VALVE ASSEMBLY (SIZE PER PLAN) | J.M.H. | JUNCTION MANHOLE |
| | POTABLE WATER QUALITY SAMPLE STATION | M.H. | MANHOLE |
| | RECYCLED WATER QUALITY SAMPLE STATION | V.C.P. | VITRIFIED CLAY PIPE |

# STANDARD DESIGN REQUIREMENTS AND LEGEND

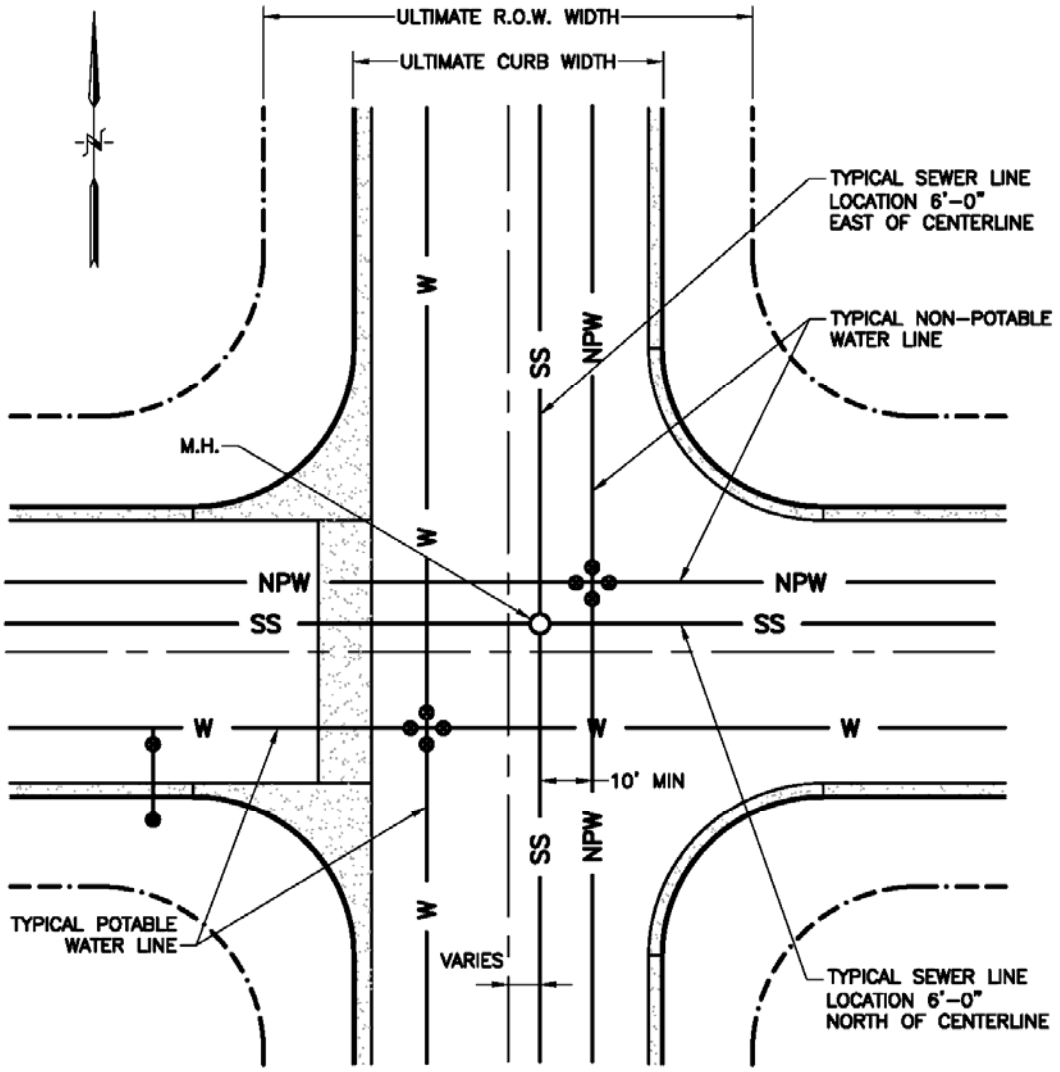
2016

Yucaipa Valley Water District

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

S–1

Sheet 1 of 1




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.

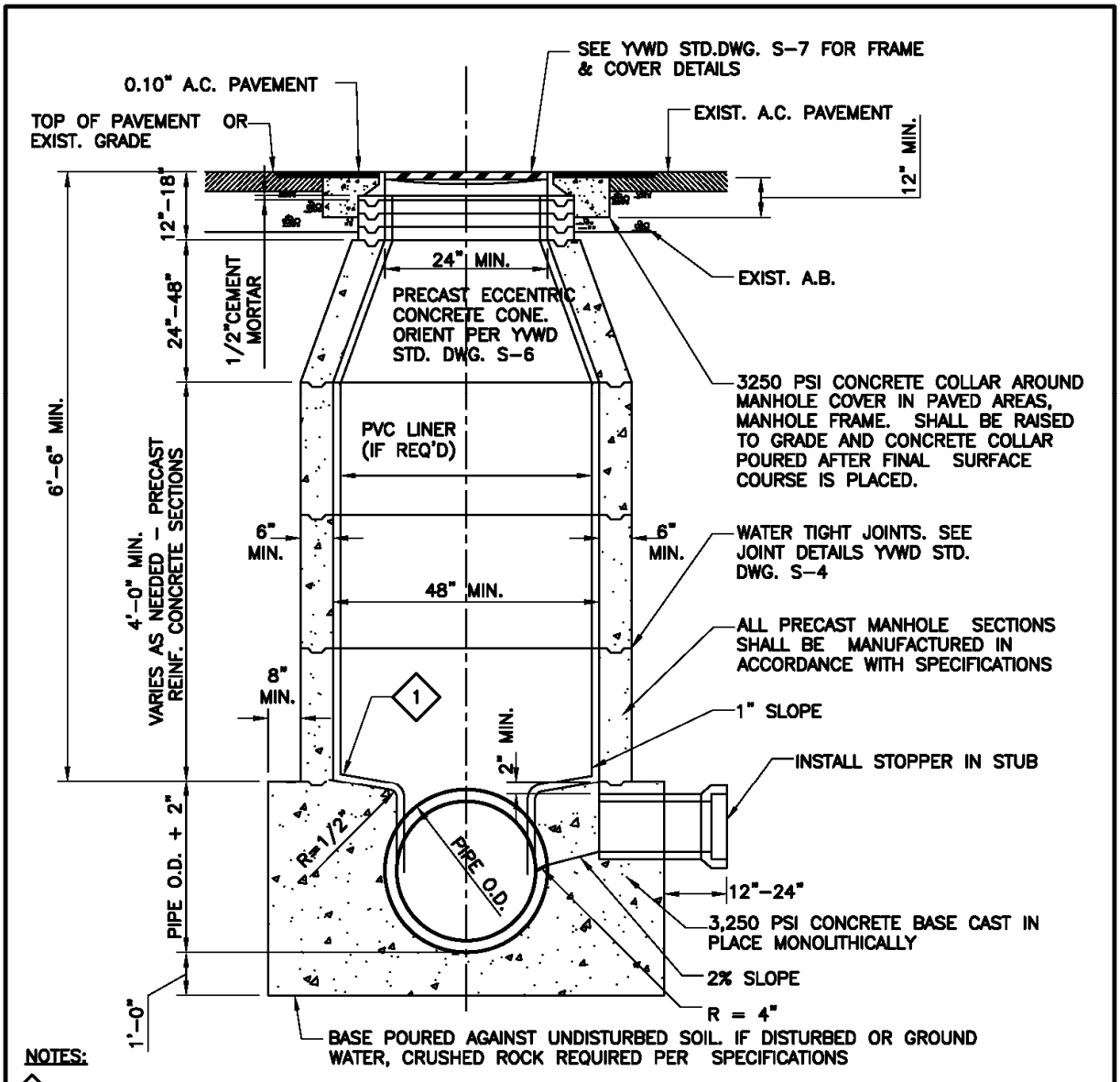
ALL PLAN SHEETS SHALL BE ON 24-INCH BY 36-INCH ARCHITECTURAL SHEET SIZE D.

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




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 YVWD 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

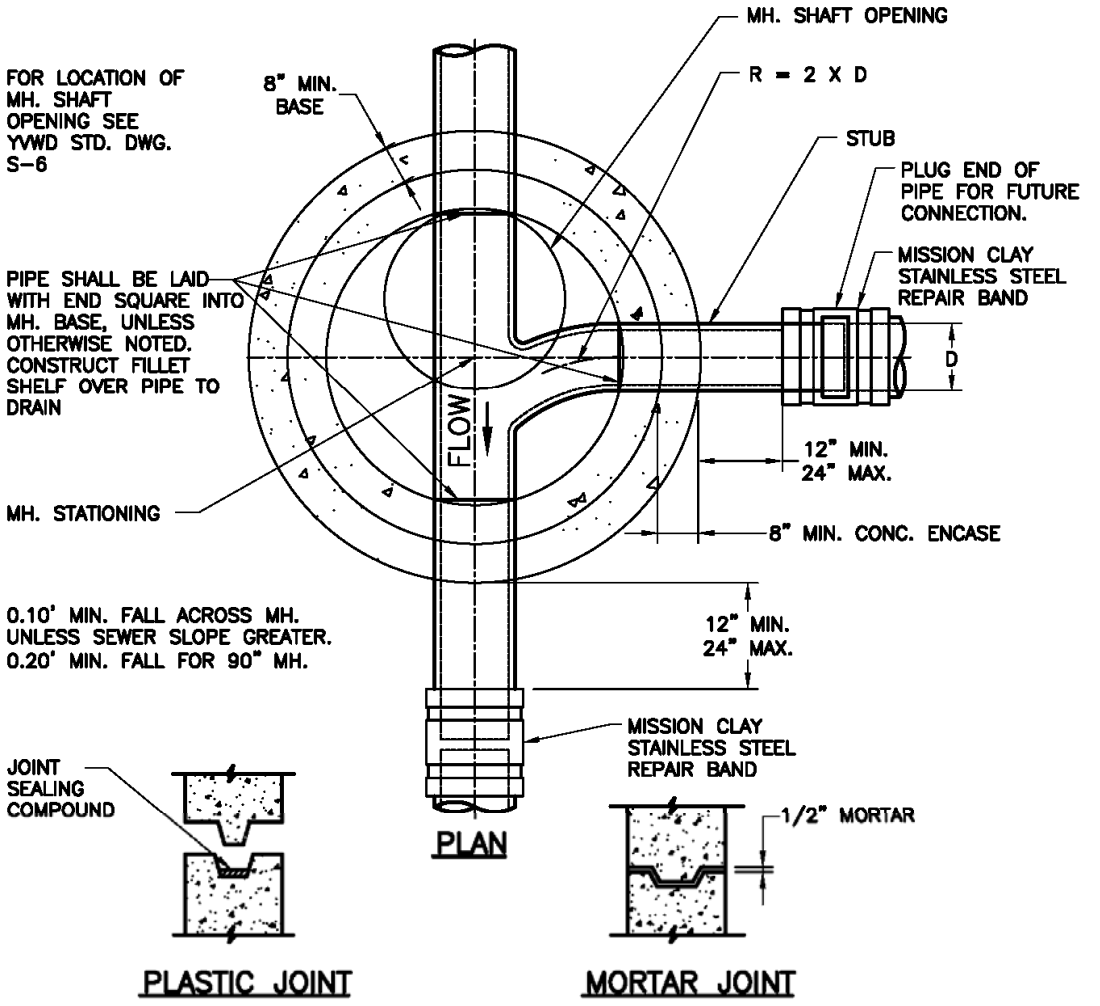
2016

Yucaipa Valley Water District

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

S-3

Sheet 1 of 1

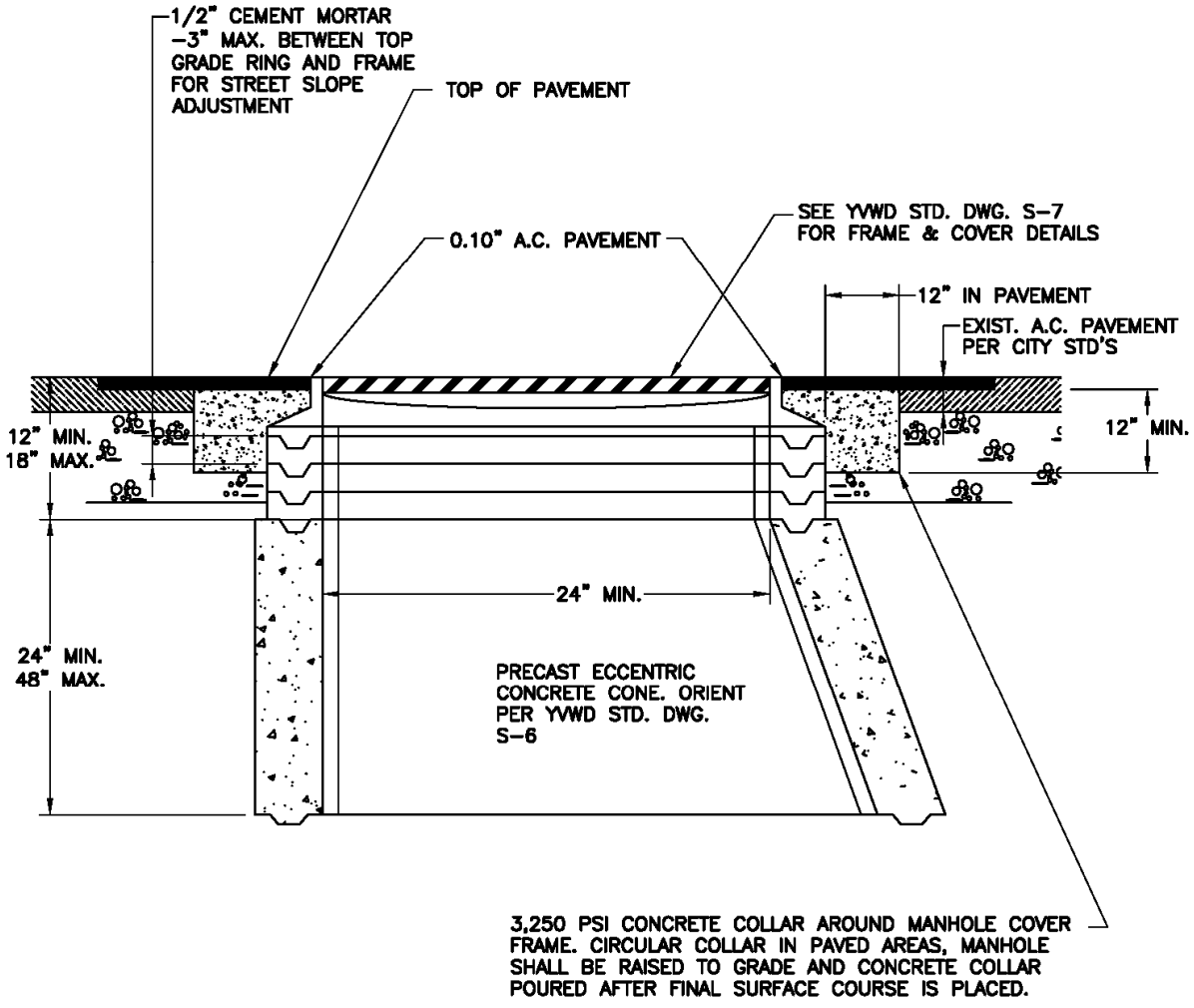



NOTES:

1. MORTAR JOINTS – SUFFICIENT MORTAR SHALL BE APPLIED ACROSS ENTIRE FACE OF JOINT SO THAT WHEN PRECAST UNITS ARE PLACED ON TOP OF ONE ANOTHER, THE MORTAR WILL SQUEEZE OUT BOTH THE INSIDE AND OUTSIDE WALL FACES. JOINTS SHALL BE "POINTED UP" AFTER SETTING PRECAST UNITS EXCLUDING GRADE RINGS.
2. ALL MORTARED JOINTS MUST HAVE A TOOLED FINISH ON INSIDE OF MANHOLES. EXCESS MORTAR SHALL BE CLEANED OFF OF PRE-CAST CONCRETE SECTIONS.
3. PLASTIC JOINTS – PREFORMED COLD-APPLIED READY-TO-USE PLASTIC JOINT SEALING COMPOUND SHALL BE QUICK-SEAL AS SUPPLIED BY QUIKSET UTILITY VAULTS, SANTA ANA, CALIFORNIA – OR APPROVED EQUAL. MUST BE USED WHEN GROUND WATER IS ENCOUNTERED.

# CONCRETE BASE AND JOINT DETAIL

| 2016 | Yucaipa Valley Water District | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | S-4 |
|---|---|---|---|
| | | | Sheet 1 of 1 |

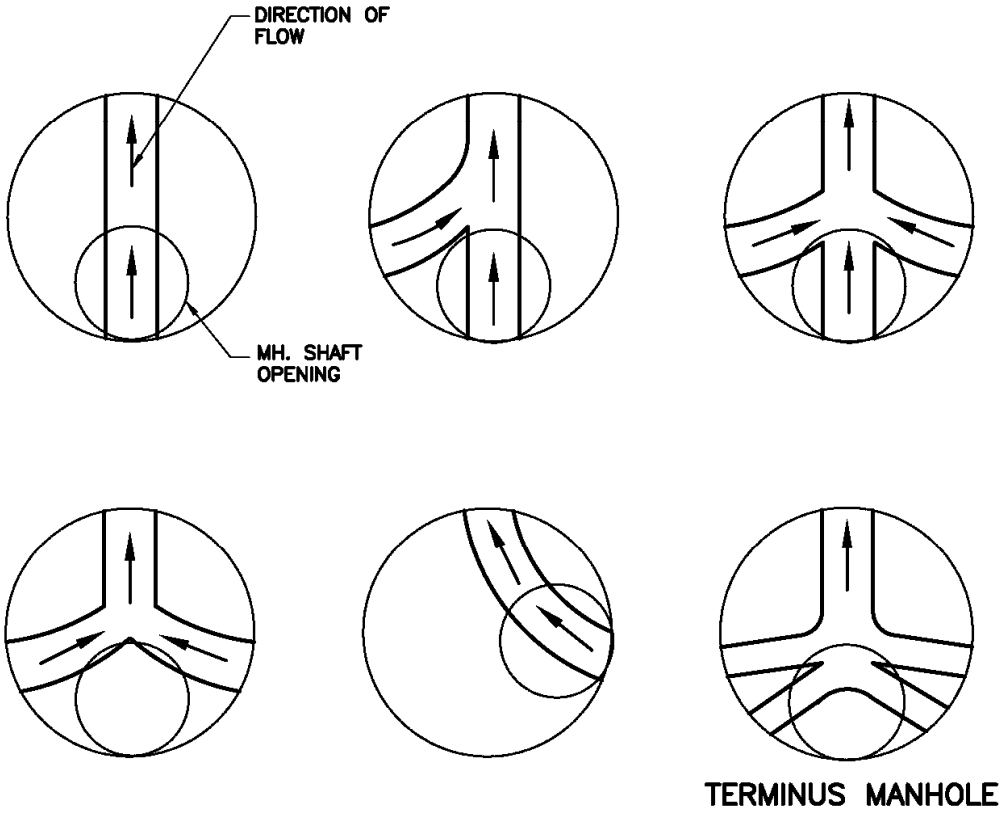



NOTES:

1. MORTAR JOINTS – SUFFICIENT MORTAR SHALL BE APPLIED ACROSS ENTIRE FACE OF JOINT SO THAT WHEN PRECAST UNITS ARE PLACED ON TOP OF ONE ANOTHER, THE MORTAR WILL SQUEEZE OUT BOTH THE INSIDE AND OUTSIDE WALL FACES. JOINTS SHALL BE "POINTED UP" AFTER SETTING PRECAST UNITS EXCLUDING GRADE RINGS.
2. ALL MORTARED JOINTS MUST HAVE A TOOLED FINISH ON INSIDE OF MANHOLES. EXCESS MORTAR SHALL BE CLEANED OFF OF PRE-CAST CONCRETE SECTIONS.

# ADJUST EXISTING MANHOLE TO GRADE

| 2016 | Yucaipa Valley Water District | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | S-5 |
|---|---|---|---|
| | | | Sheet 1 of 1 |




# MANHOLE SHAFT LOCATION DETAILS

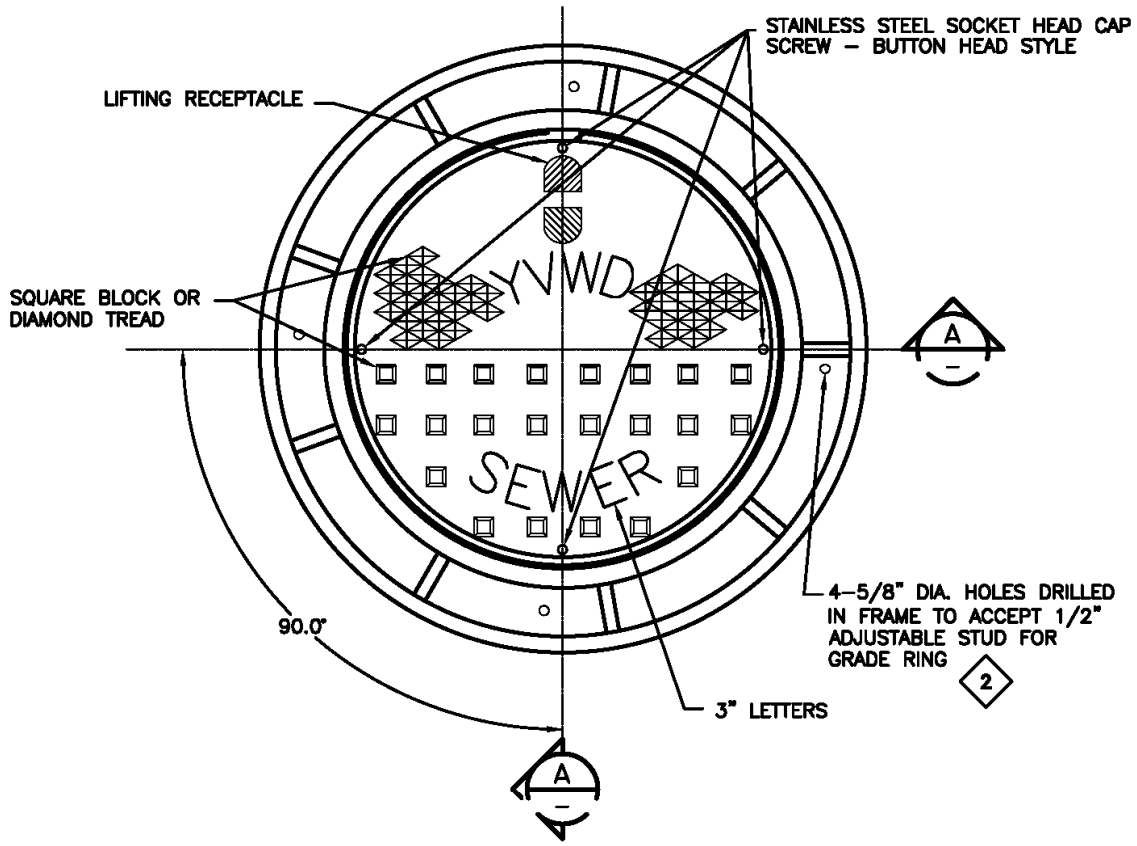
2016

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 | Yucaipa Valley Water District | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | S–7 |
|---|---|---|---|
| | | | Sheet 1 of 2 |

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 ½" 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

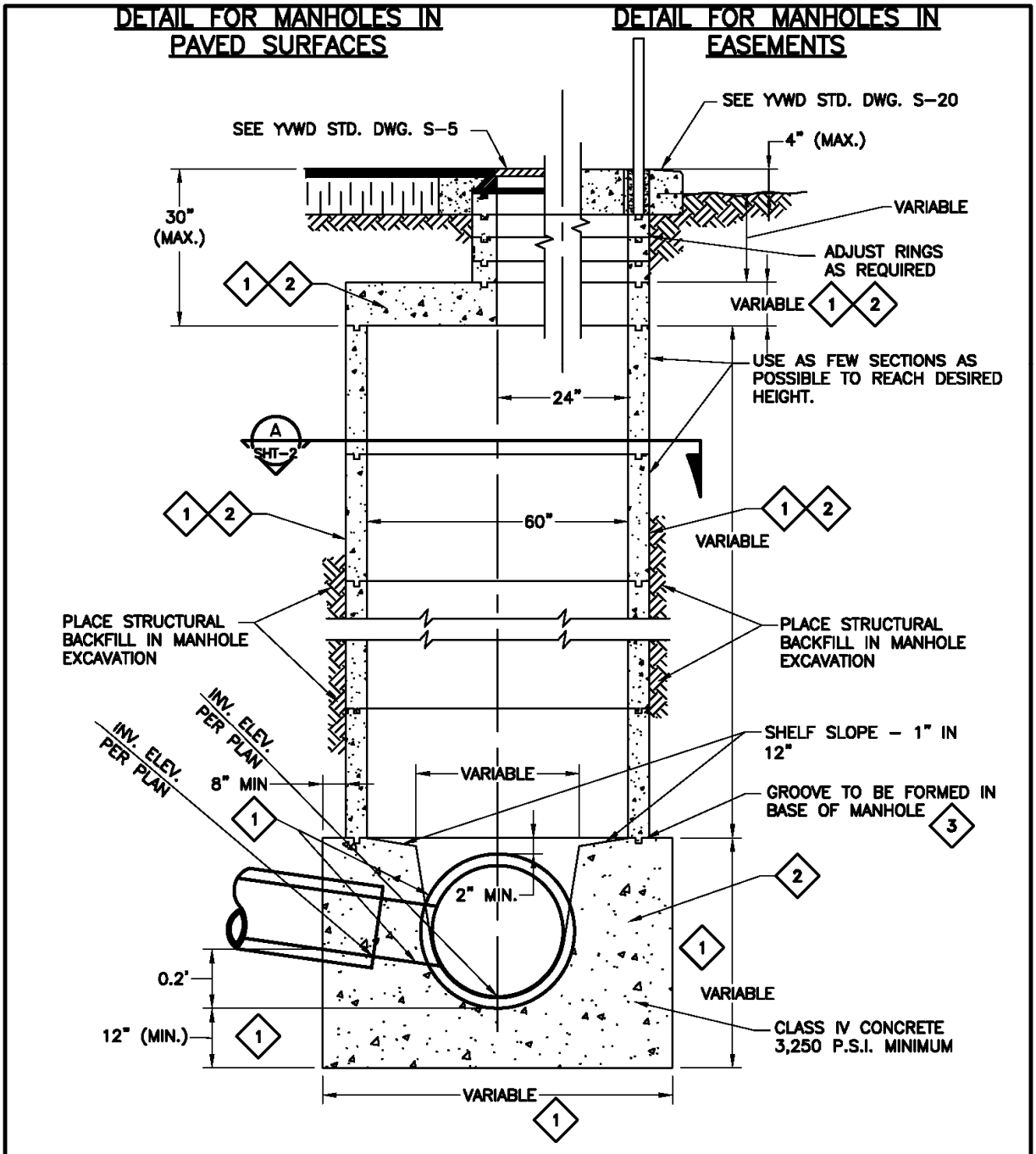
2016

Yucaipa Valley Water District

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

S–7

Sheet 2 of 2




# SPECIAL MANHOLE (20' TO 30' DEEP)

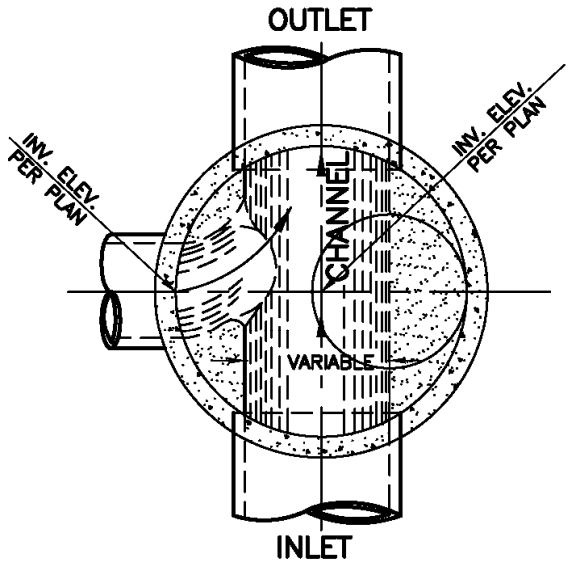
2016

Yucaipa Valley Water District

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

S-8

Sheet 1 of 2



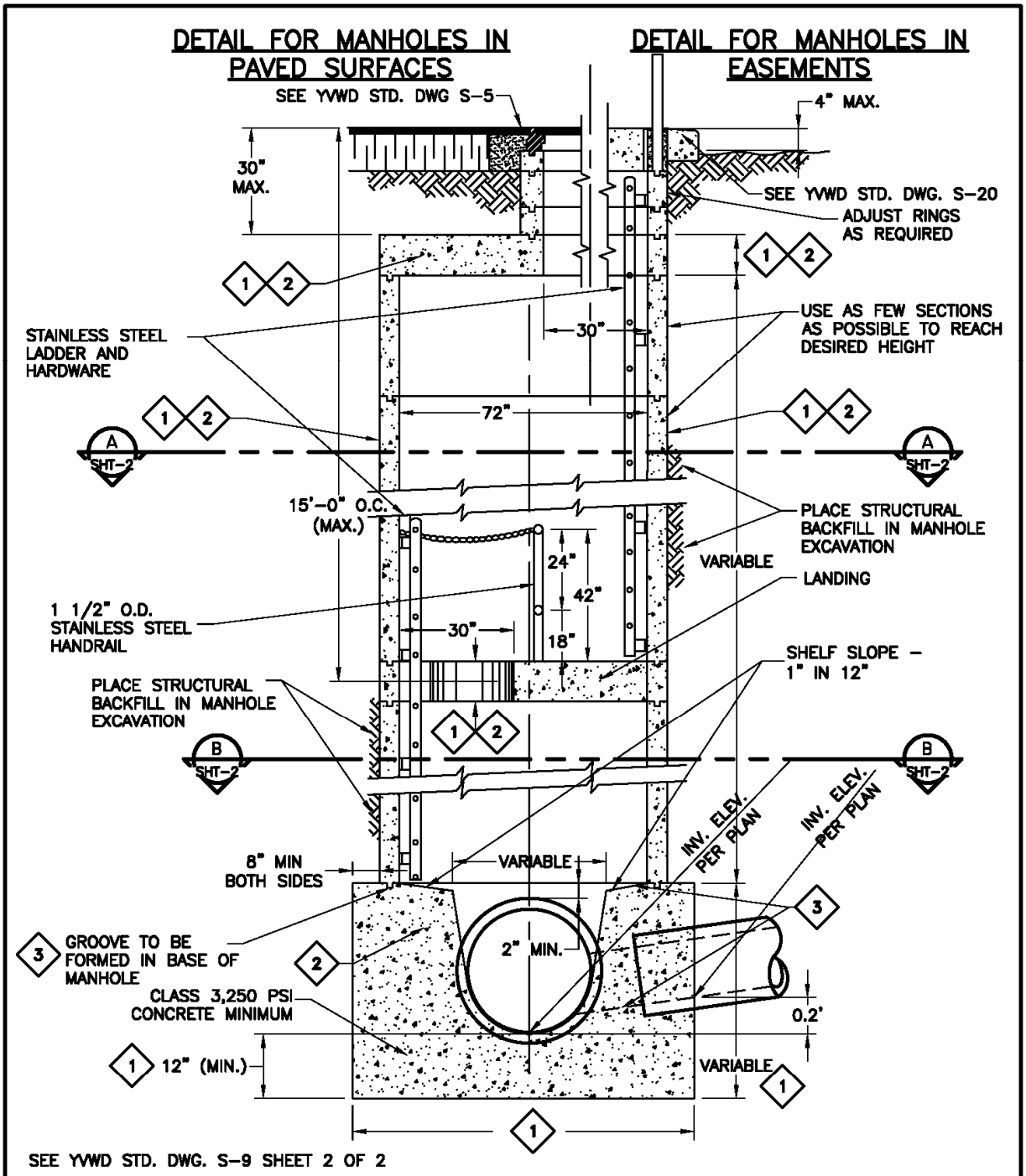

SECTION A SHT-1

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 | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | S-8 |
|---|---|---|---|
| | | | Sheet 2 of 2 |




# SPECIAL MANHOLE (30'+ DEEP)

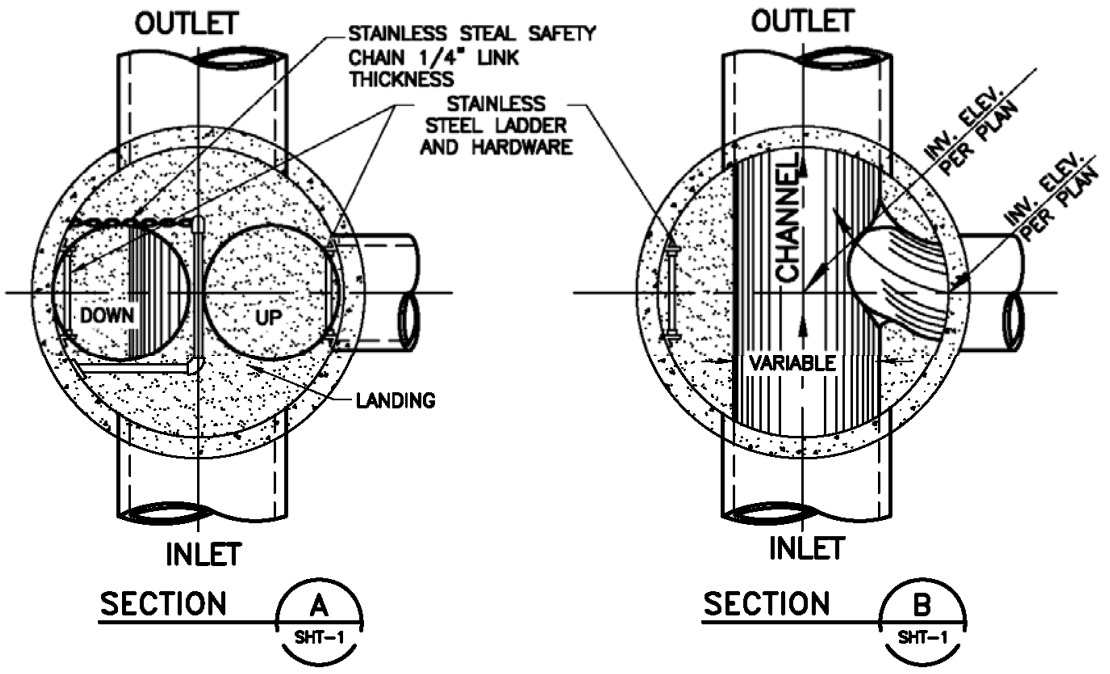
2016

Yucaipa Valley Water District

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

S-9

Sheet 1 of 2



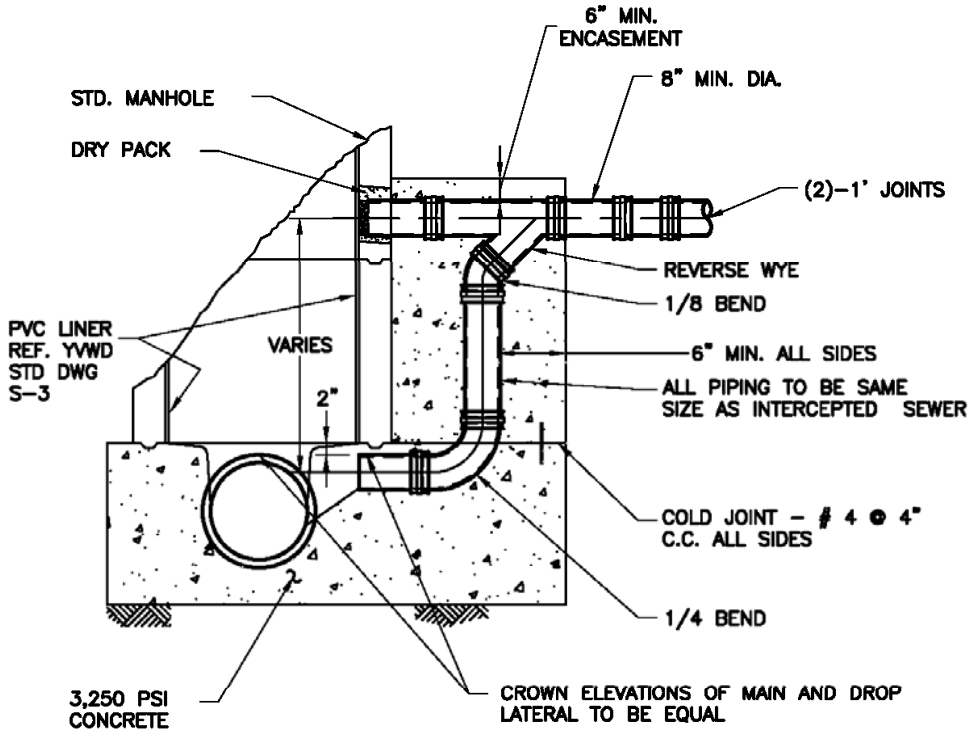

NOTES:

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 | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | S-9 |
|---|---|---|---|
| | | | Sheet 2 of 2 |



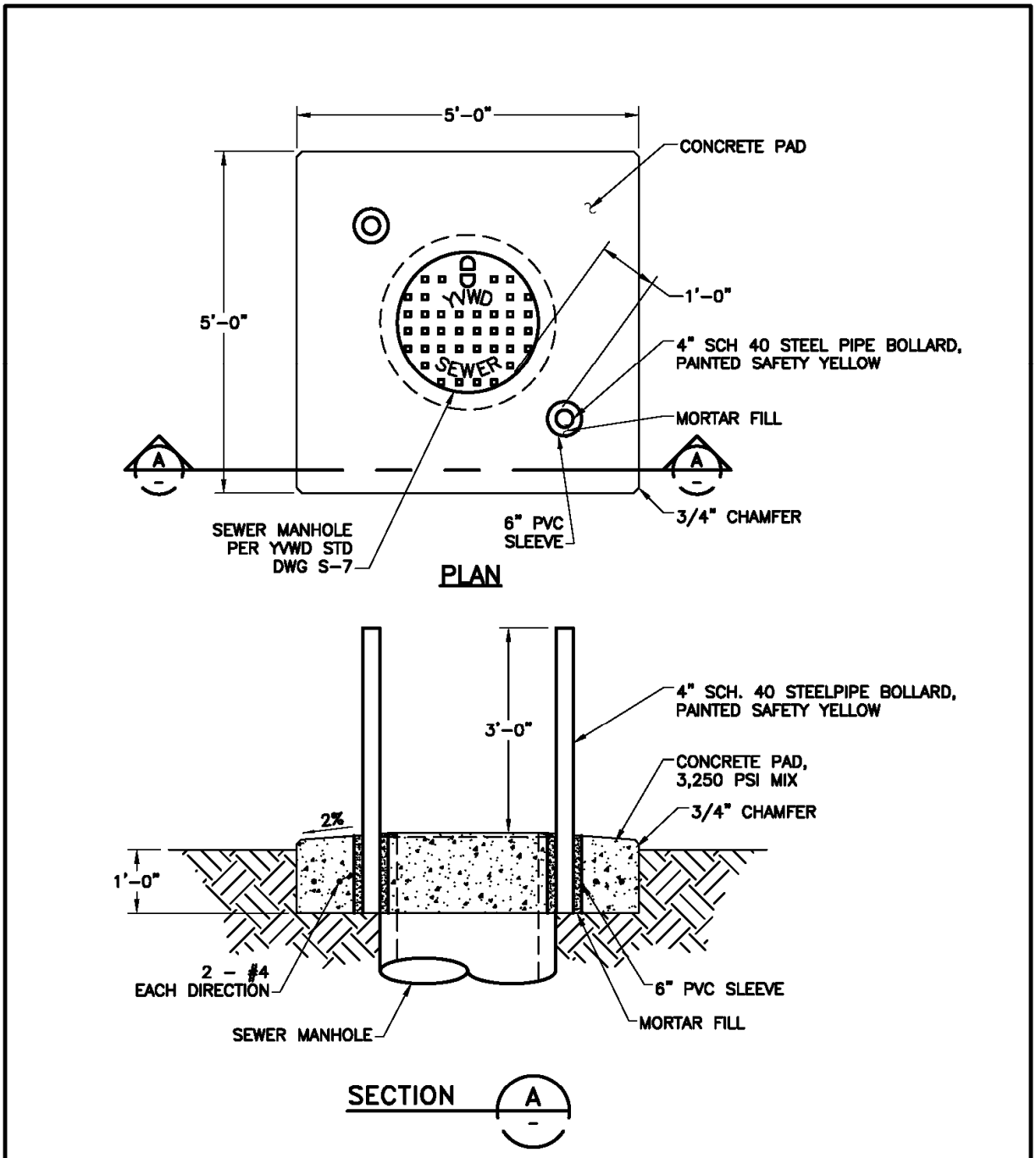

## SECTION

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 | Yucaipa Valley Water District | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | S–10 |
|---|---|---|---|
| | | | Sheet 1 of 1 |




# GUARD POST DETAIL (EASEMENT AND OUTSIDE OF PAVING MANHOLE)

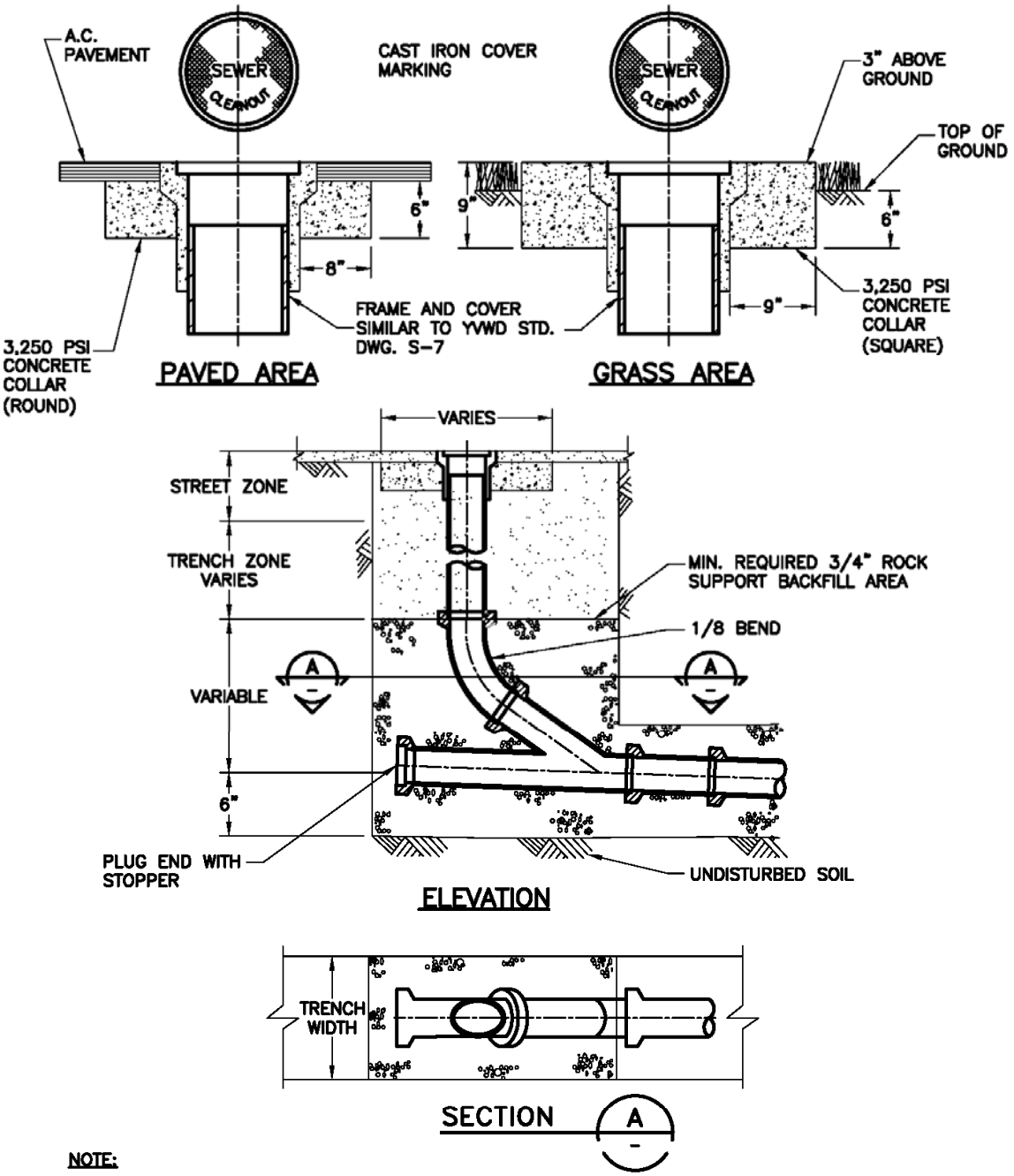
2016

Yucaipa Valley Water District

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

S-11

Sheet 1 of 1




NOTE:

1. CLEANOUT PIPE TO BE SAME SIZE AND KIND OF MATERIAL AS MAIN.

# TERMINAL OR MAINLINE CLEANOUT DETAIL (SPECIAL ACCEPTANCE ONLY)

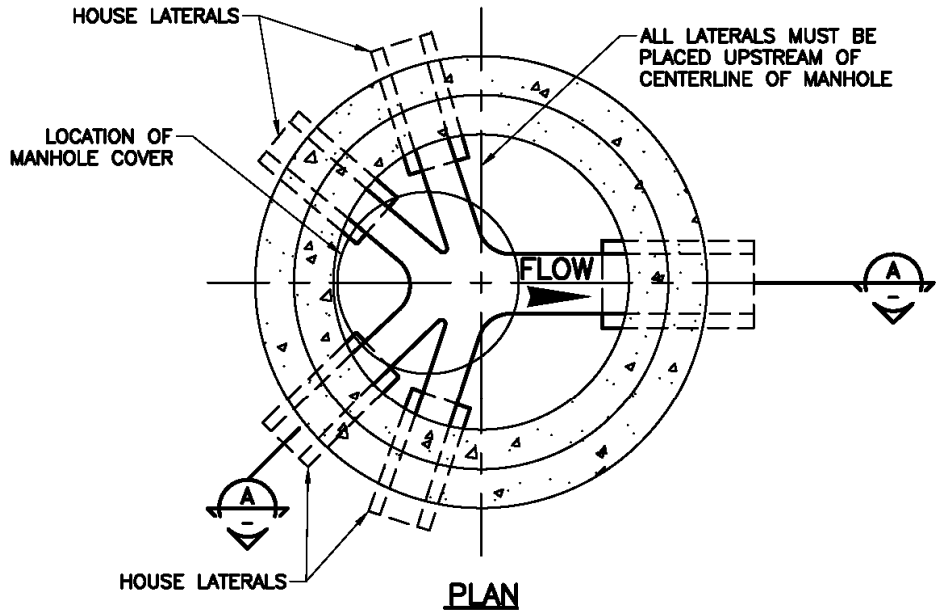
2016

Yucaipa Valley Water District

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

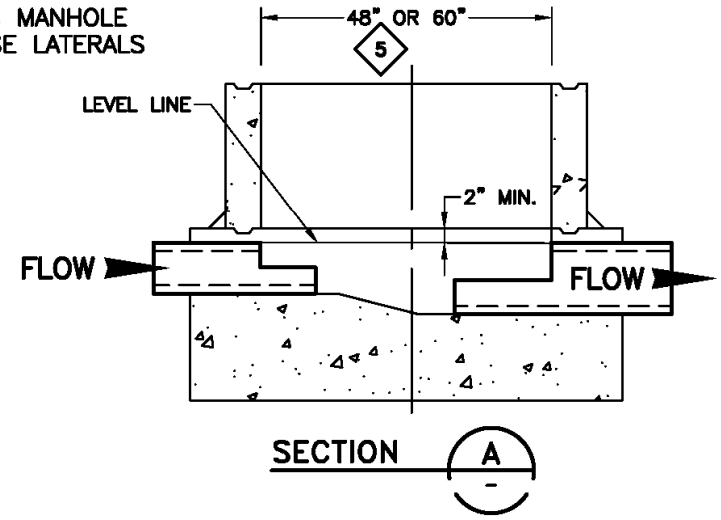
S-12

Sheet 1 of 1




PLAN

TERMINUS MANHOLE WITH HOUSE LATERALS

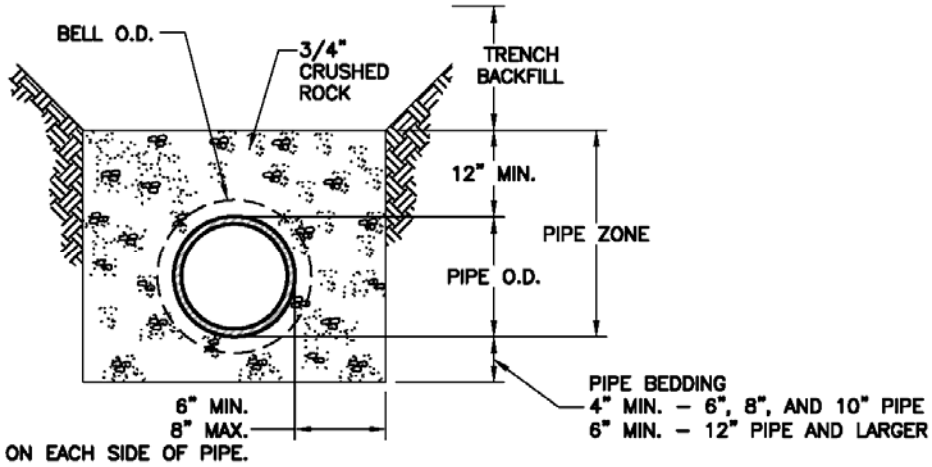



NOTES:

1. REFER TO STANDARD DRAWINGS OF MANHOLES FOR DETAILS PRETAINING TO MANHOLES ONLY.
2. THE TOP 1/2 DIAMETER OF THE PIPE IS TO BE BROKEN OUT TO A NEAT LINE. BROKEN EDGES SHALL BE PLASTERED SMOOTH WITH CEMENT MORTAR.
3. THE MAXIMUM NUMBER OF LATERALS INTO A TERMINUS MANHOLE SHALL BE FOUR.
4. THE MAXIMUM NUMBER OF LATERALS INTO A KNUCKLE MANHOLE SHALL BE THREE.
5. ALL MANHOLES WITH THREE OR MORE CONNECTING LATERALS SHALL BE 5'-0" DIAMETER.

# 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-## | S-13 |
|---|---|---|---|
| | | | Sheet 1 of 1 |

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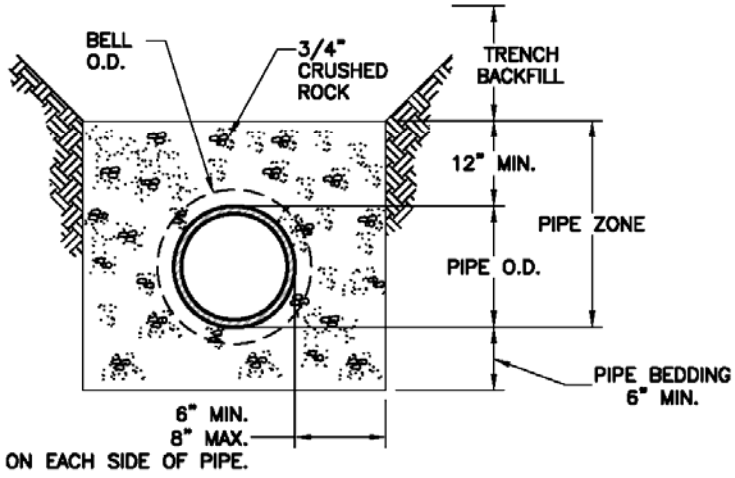



LOAD FACTOR=2.2

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-## | S–15 |
|---|---|---|---|
| | | | Sheet 1 of 2 |

## 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:**

1. 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% |

2. FOR SEWER DIAMETERS DIFFERENT THAN SHOWN AND FOR DEPTHS OF COVER DIFFERENT THAN SHOWN, DISTRCT SHALL APPROVE PIPE BEDDING AND PIPE ZONE BACKFILL PRIOR TO CONSTRUCTION.

3. 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

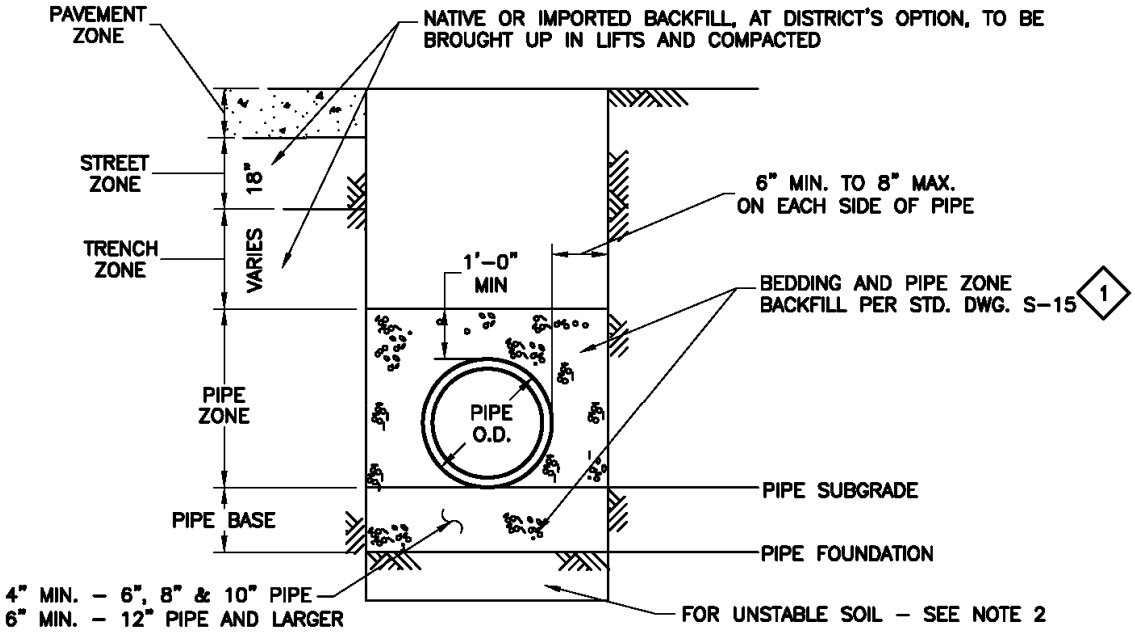
2016

Yucaipa Valley Water District

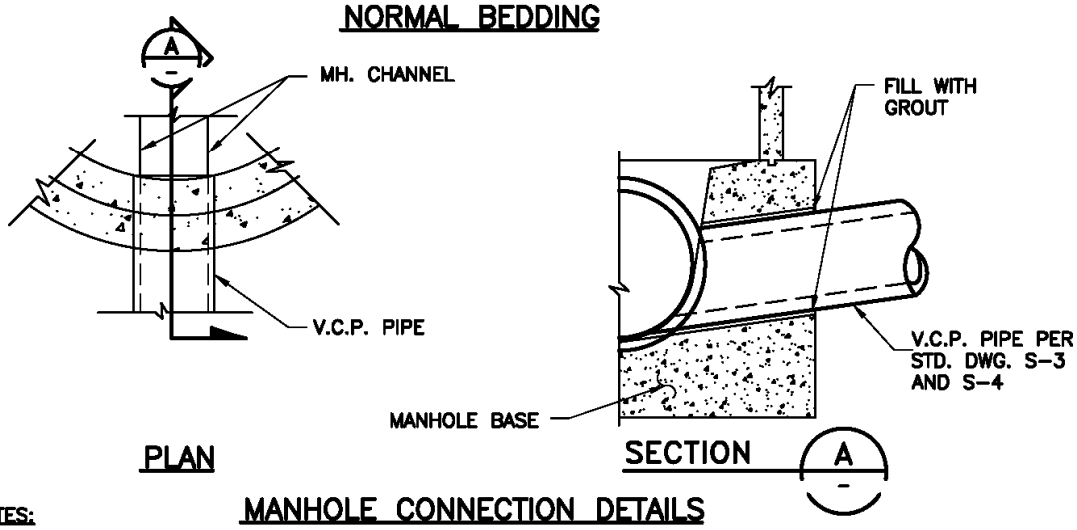
Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

S–15

Sheet 2 of 2




## 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

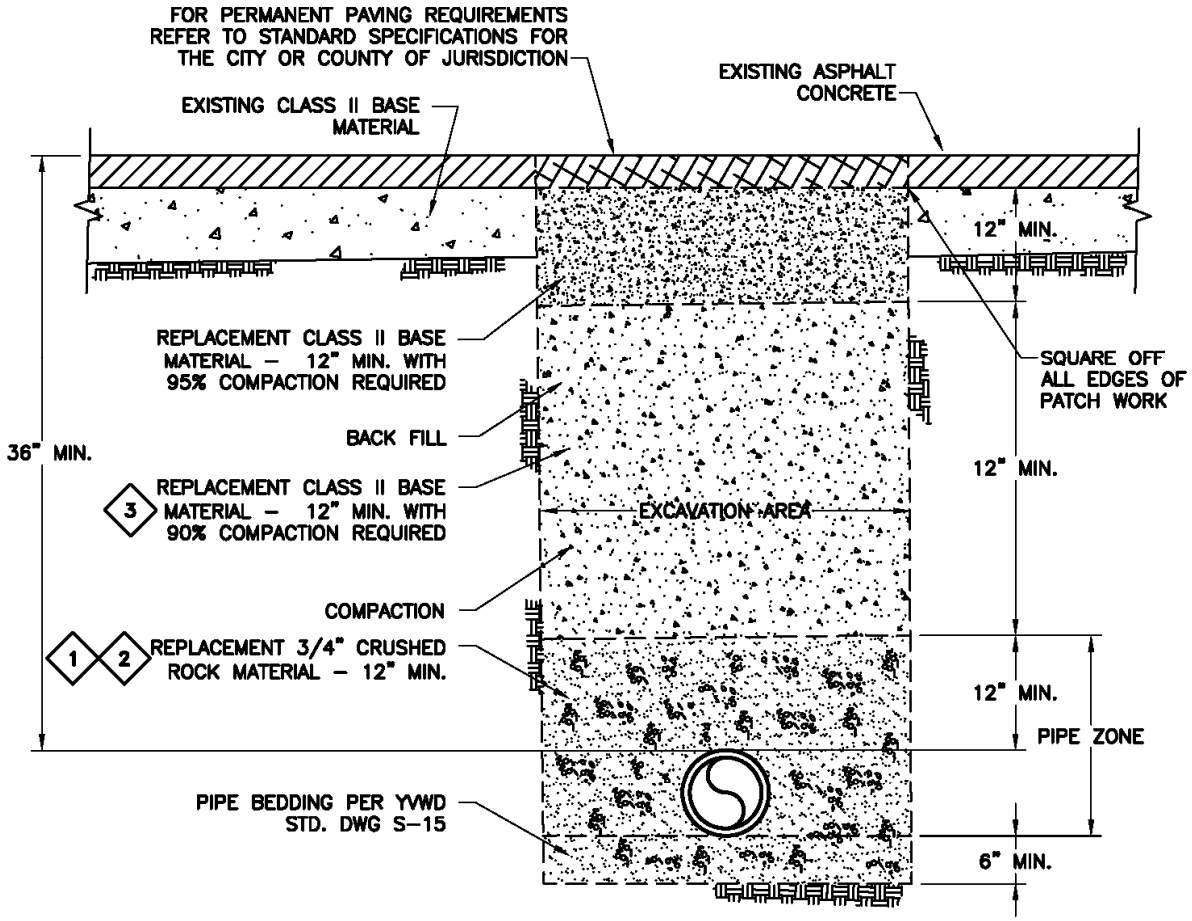
2016

Yucaipa Valley Water District

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

S-16

Sheet 1 of 1




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

Yucaipa Valley Water District

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

S–17

Sheet 1 of 2

| 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

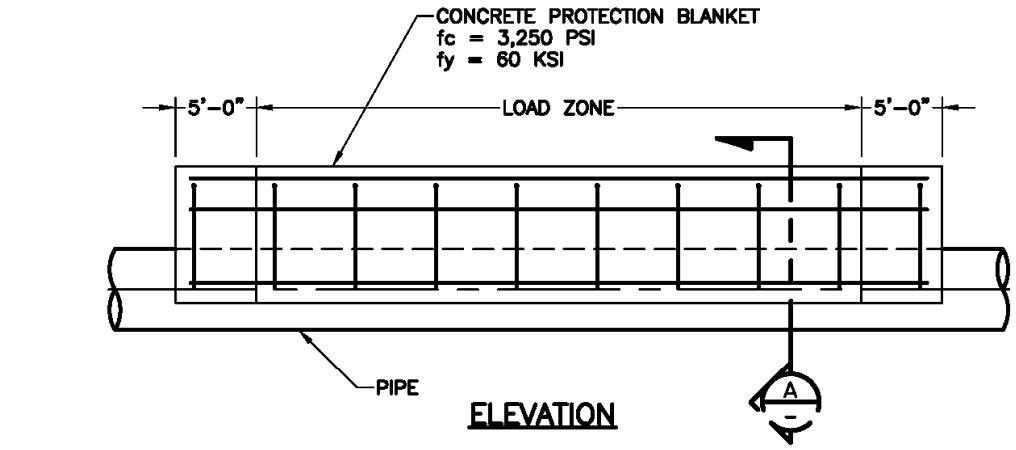
2016

Yucaipa Valley Water District

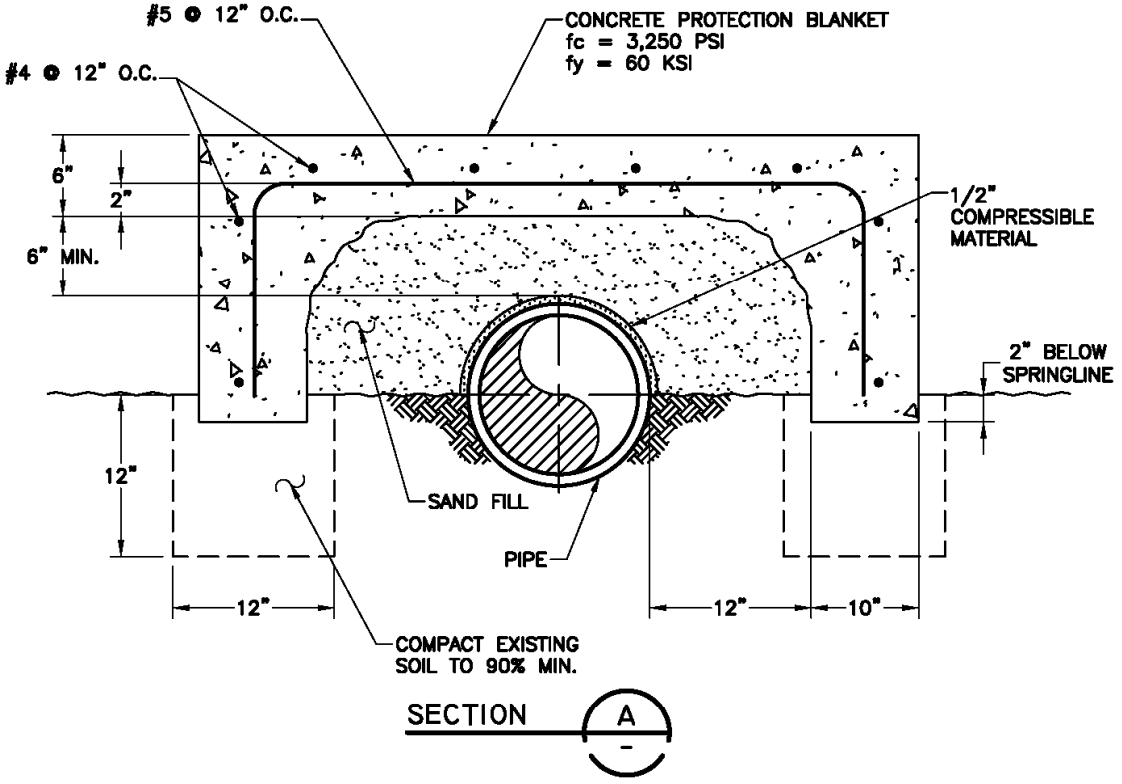
Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

S–17

Sheet 2 of 2




ELEVATION




SECTION A

# SEWER MAINLINE PROTECTION DETAIL

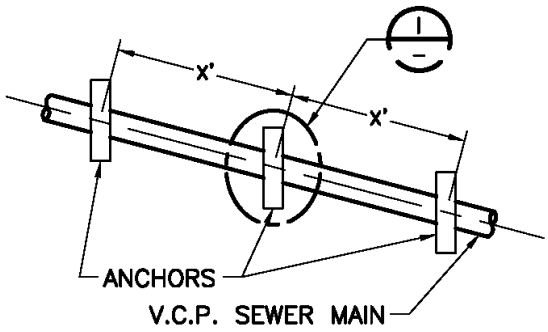
2016

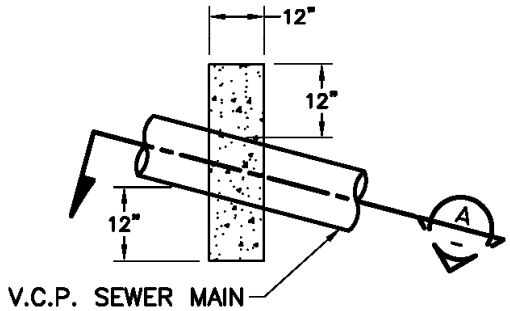
Yucaipa Valley Water District

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

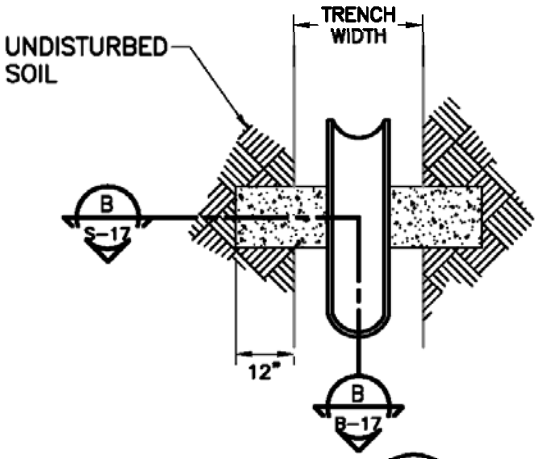
S-18

Sheet 1 of 1




DETAIL I




SECTION A

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

# CONCRETE SLOPE ANCHORS

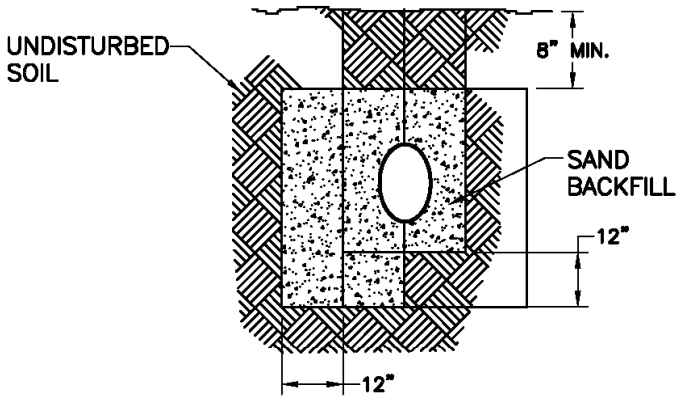
2016

Yucaipa Valley Water District

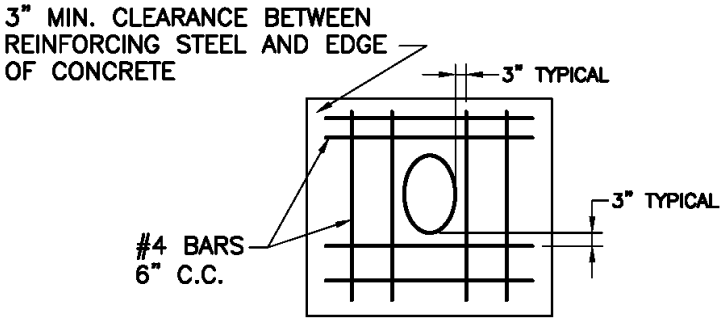
Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

S-19

Sheet 1 of 2




SECTION B
B-17




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

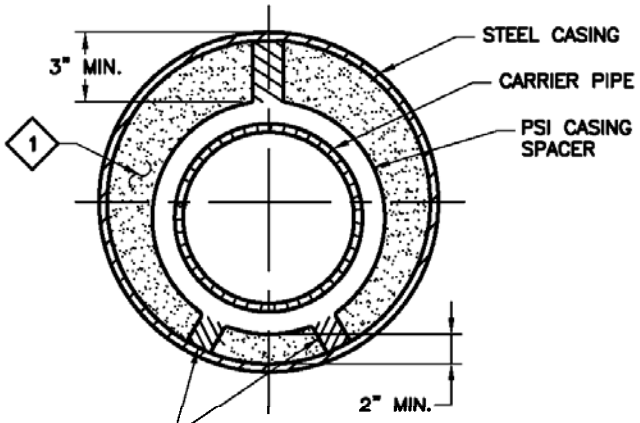
2016

Yucaipa Valley Water District

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

S-19

Sheet 2 of 2




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

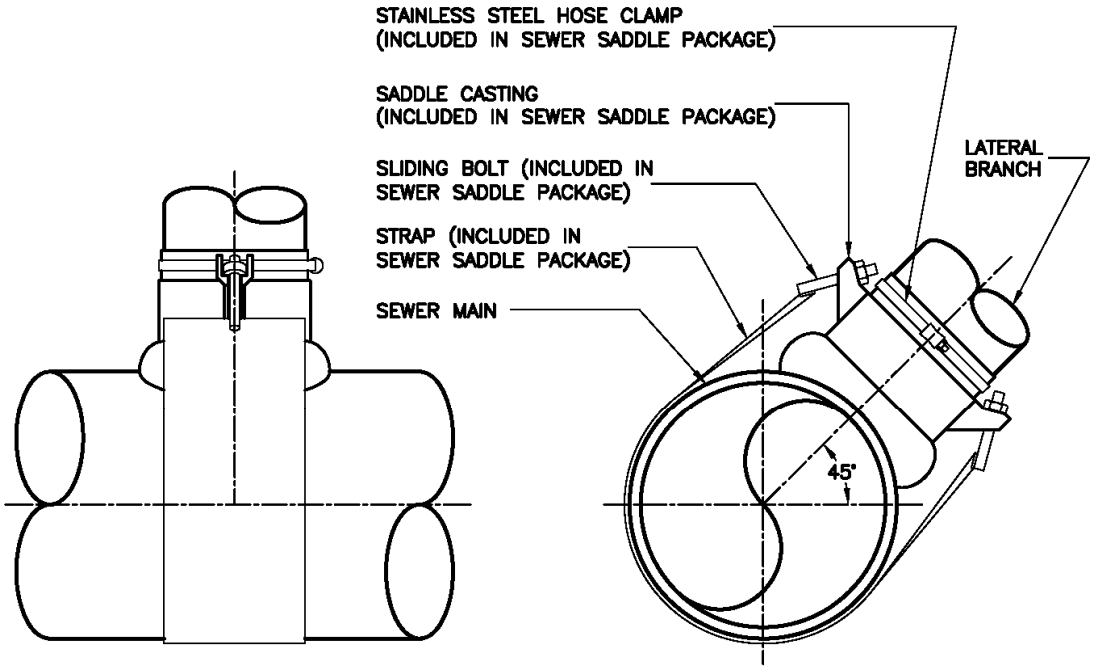
2016

Yucaipa Valley Water District

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

S–20

Sheet 1 of 1




## 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

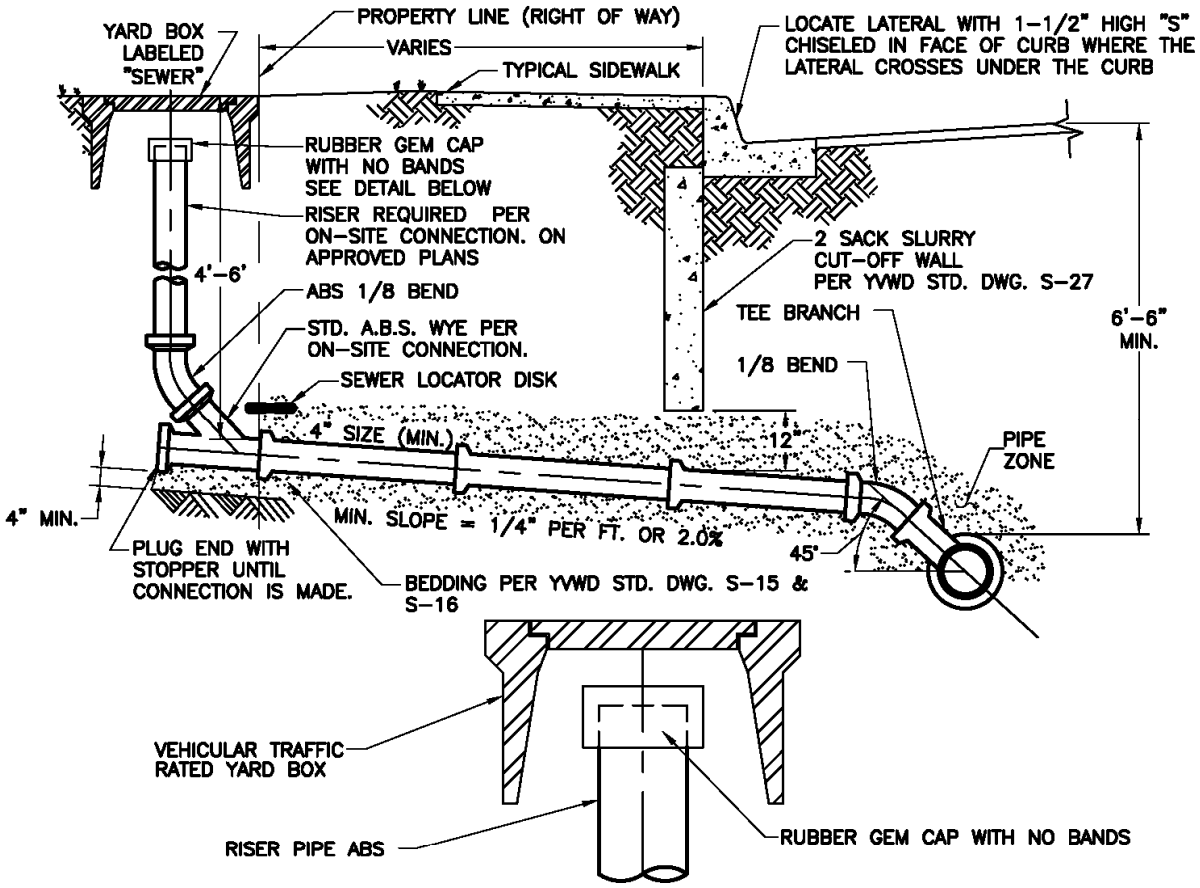
2016

Yucaipa Valley Water District

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

S–21

Sheet 1 of 1



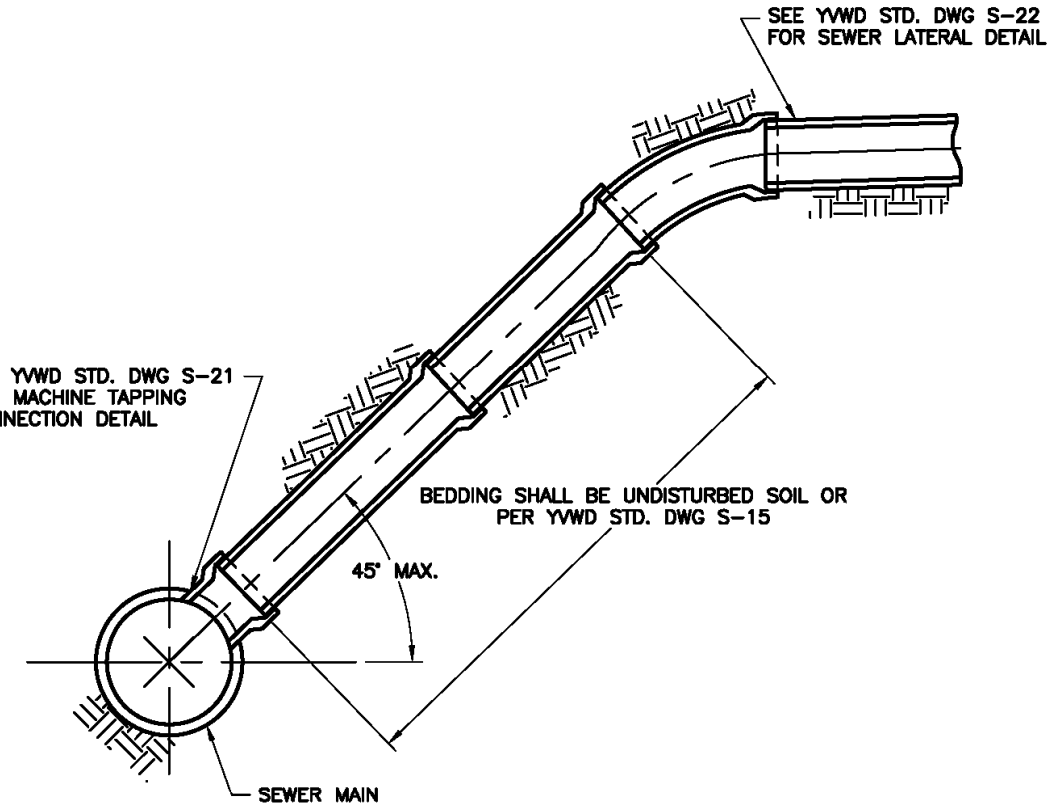

## STOPPER DETAIL

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 INDUSTRAL. 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 MINIMUN 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 PERMITED 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 | Yucaipa Valley Water District | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | S-22 |
|---|---|---|---|
| | | | Sheet 1 of 1 |

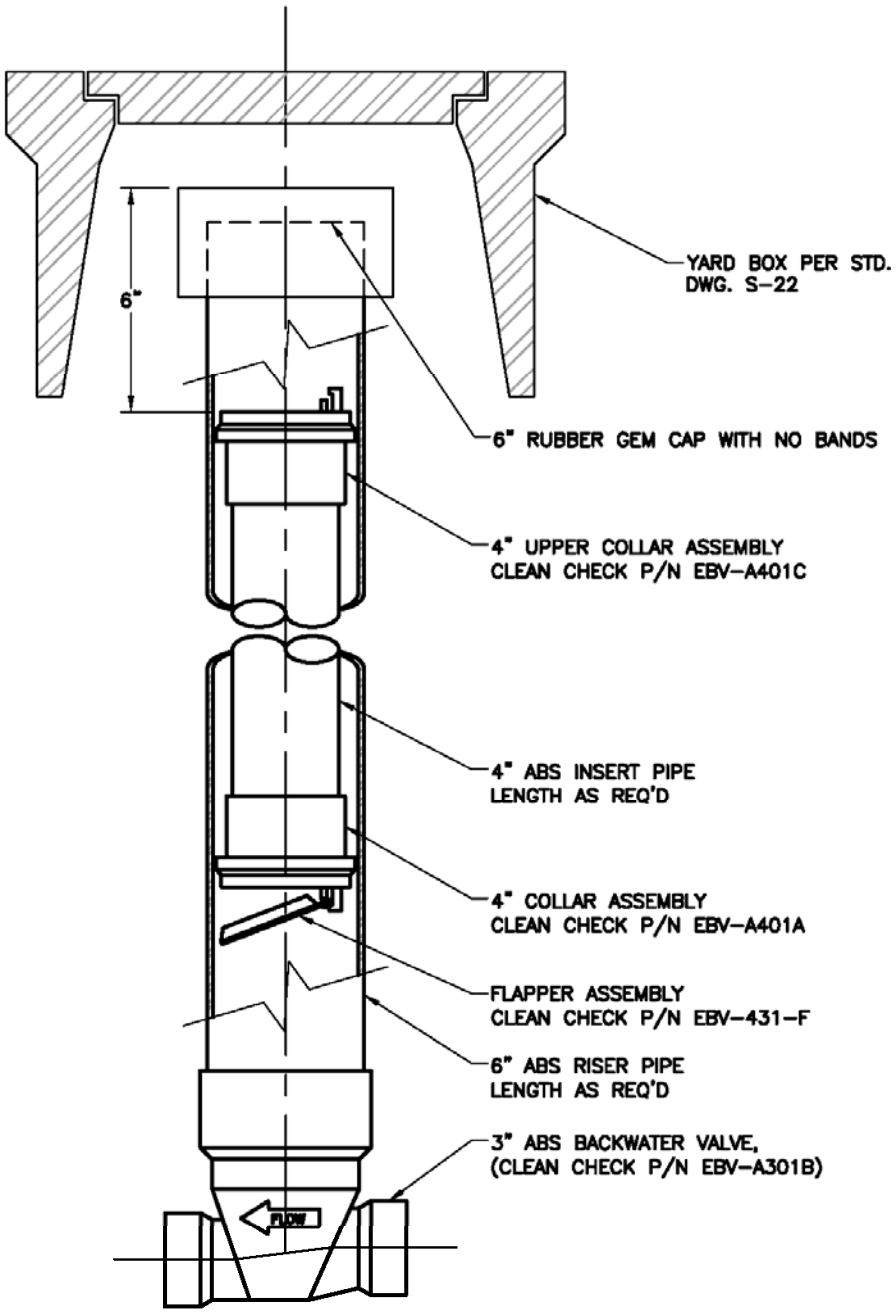



NOTES:

1. EXTEND ALL LATERALS TO ABOVE KNOWN GROUND WATER LEVELS.
2. SEE CONSTRUCTION DRAWINGS FOR LOCATION AND SIZE OF LATERALS.
3. IF SEWER MAIN IN EASEMENT IS GREATER THAN 7'-0" DEEP, A LATERAL EXTENSION PER THIS DETAIL WILL BE REQUIRED TO BRING END OF CONNECTION PIPE TO 5'-0" OF SURFACE, EXCEPT IN CASES WHERE DEPTH IS NEEDED TO SERVE PROPRERTY.

# DEEP SEWER LATERAL DETAIL

| 2016 | Yucaipa Valley Water District | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | S-23 |
|---|---|---|---|
| | | | Sheet 1 of 1 |




# BACKWATER VALVE DETAIL

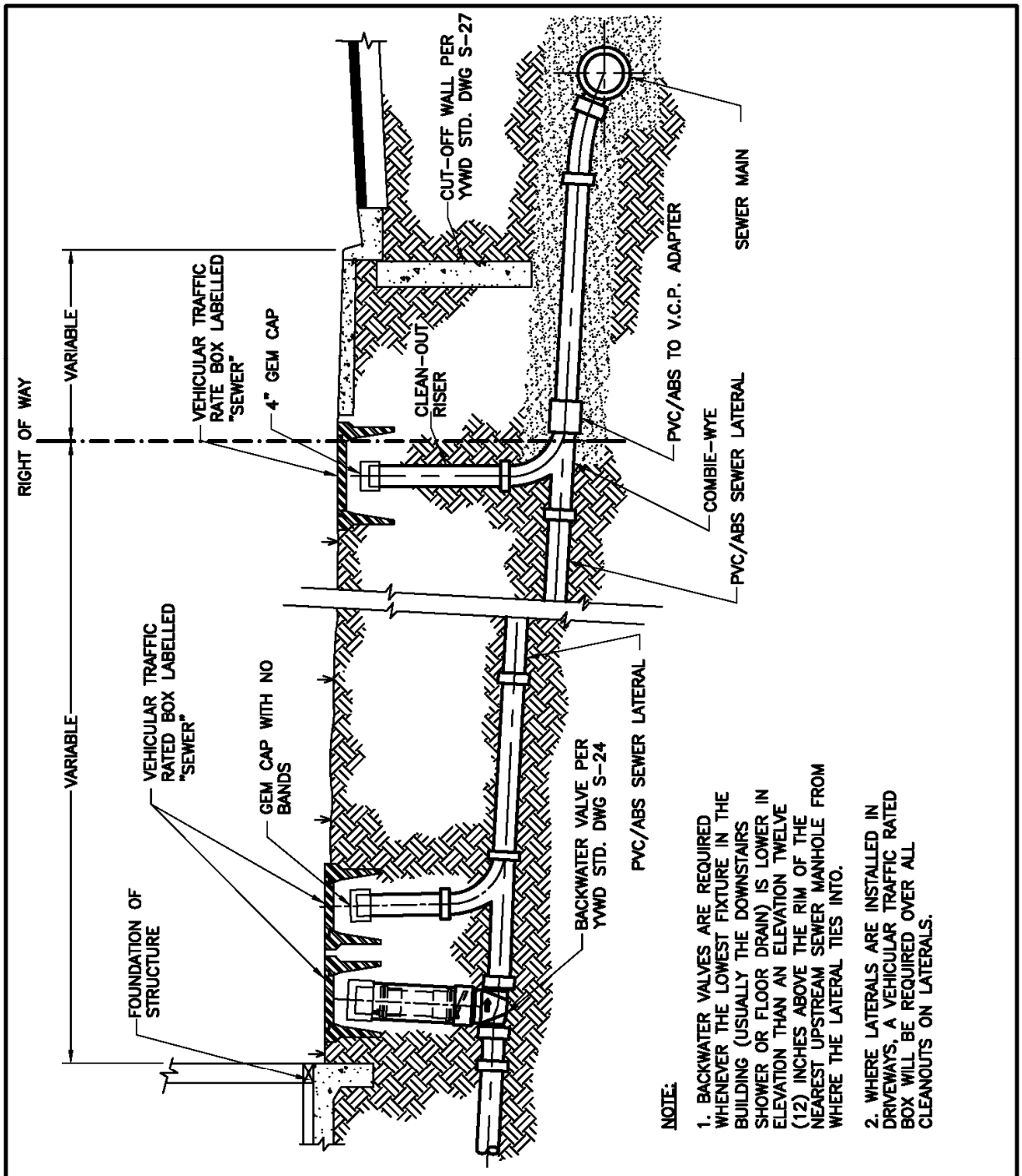
2016

Yucaipa Valley Water District

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

S-24

Sheet 1 of 1




# BACKWATER VALVE INSTALLATION DETAIL

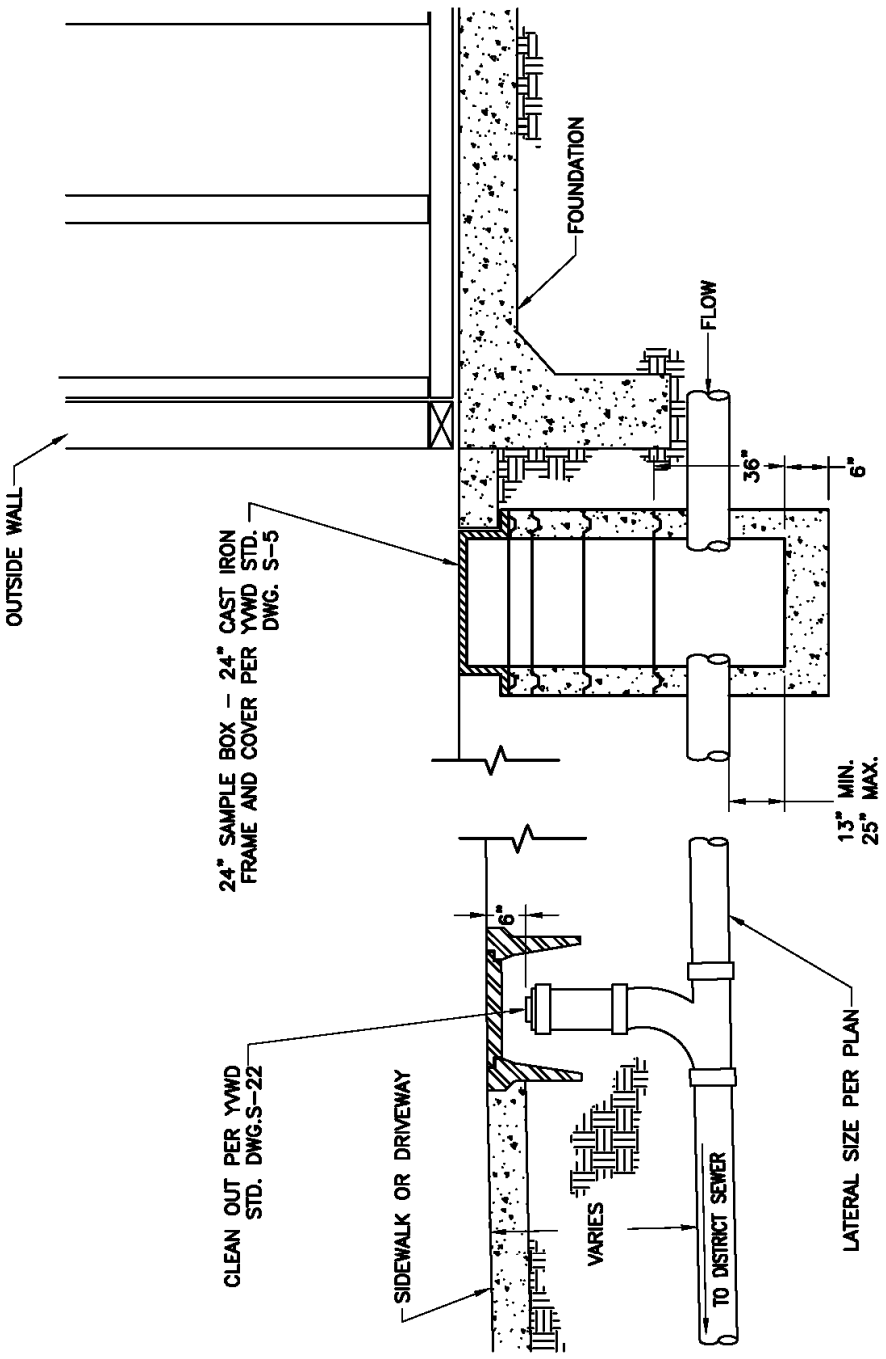
2016

Yucaipa Valley Water District

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

S-25

Sheet 1 of 1




# SEWER SAMPLING BOX

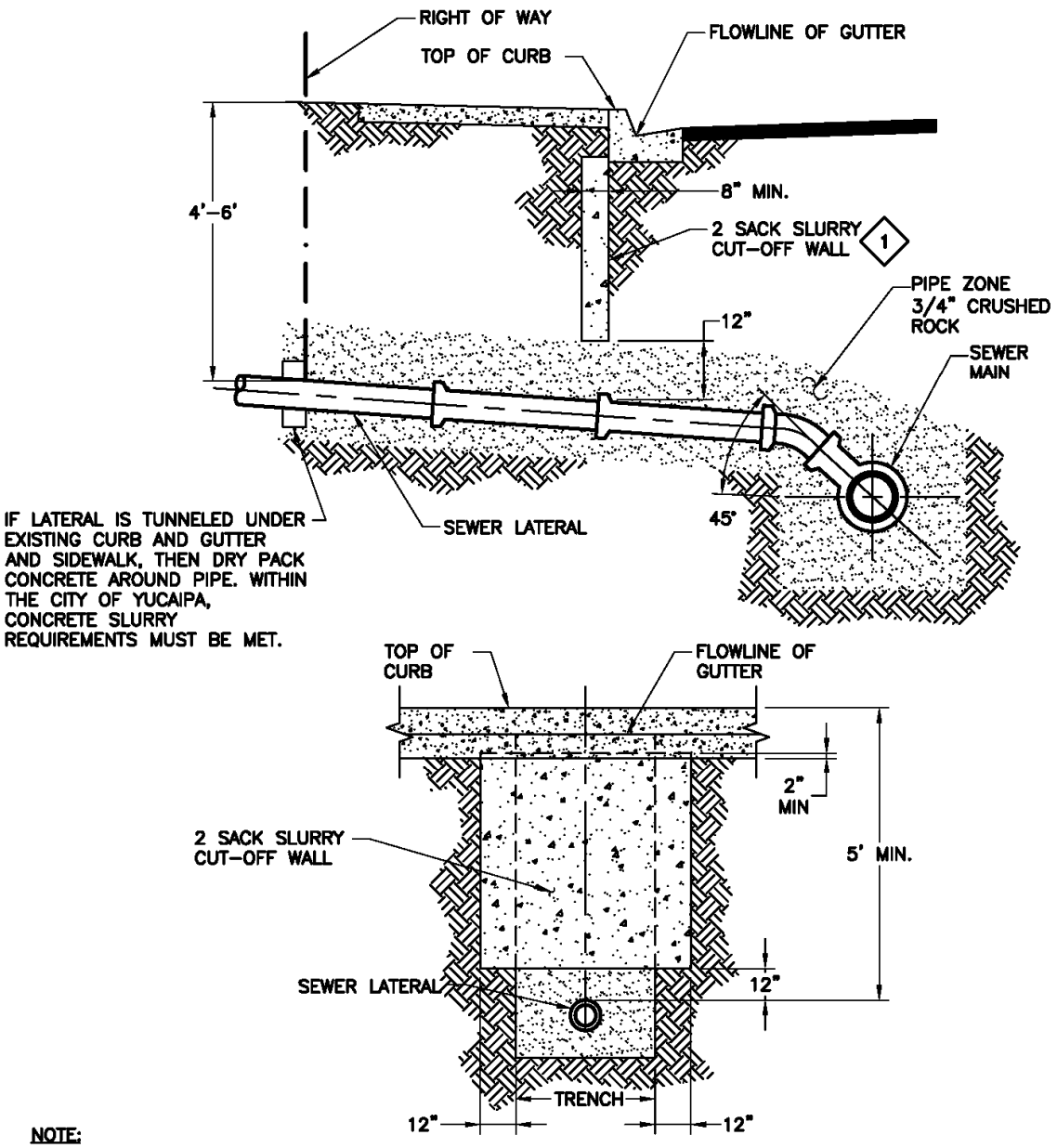
2016

Yucaipa Valley Water District

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

S-26

Sheet 1 of 1




NOTE:

1. CUT-OFF WALL SHALL BE CONSTRUCTED AFTER TRENCH COMPACTION IS COMPLETE.

2. A SEWER LATERAL CUT-OFF WALL IS NOT REQUIRED IF THE LATERAL IS INSTALLED UNDER A PERMANENT HARDSCAPE SURFACE SUCH AS A CONCRETE DRIVEWAY AS LONG AS THE LATERAL REMAINS UNDER IT ALL THE WAY TO THE STRUCTURE. CLEAN OUTS WILL STILL BE REQUIRED.

# SEWER LATERAL CUTOFF WALL DETAIL

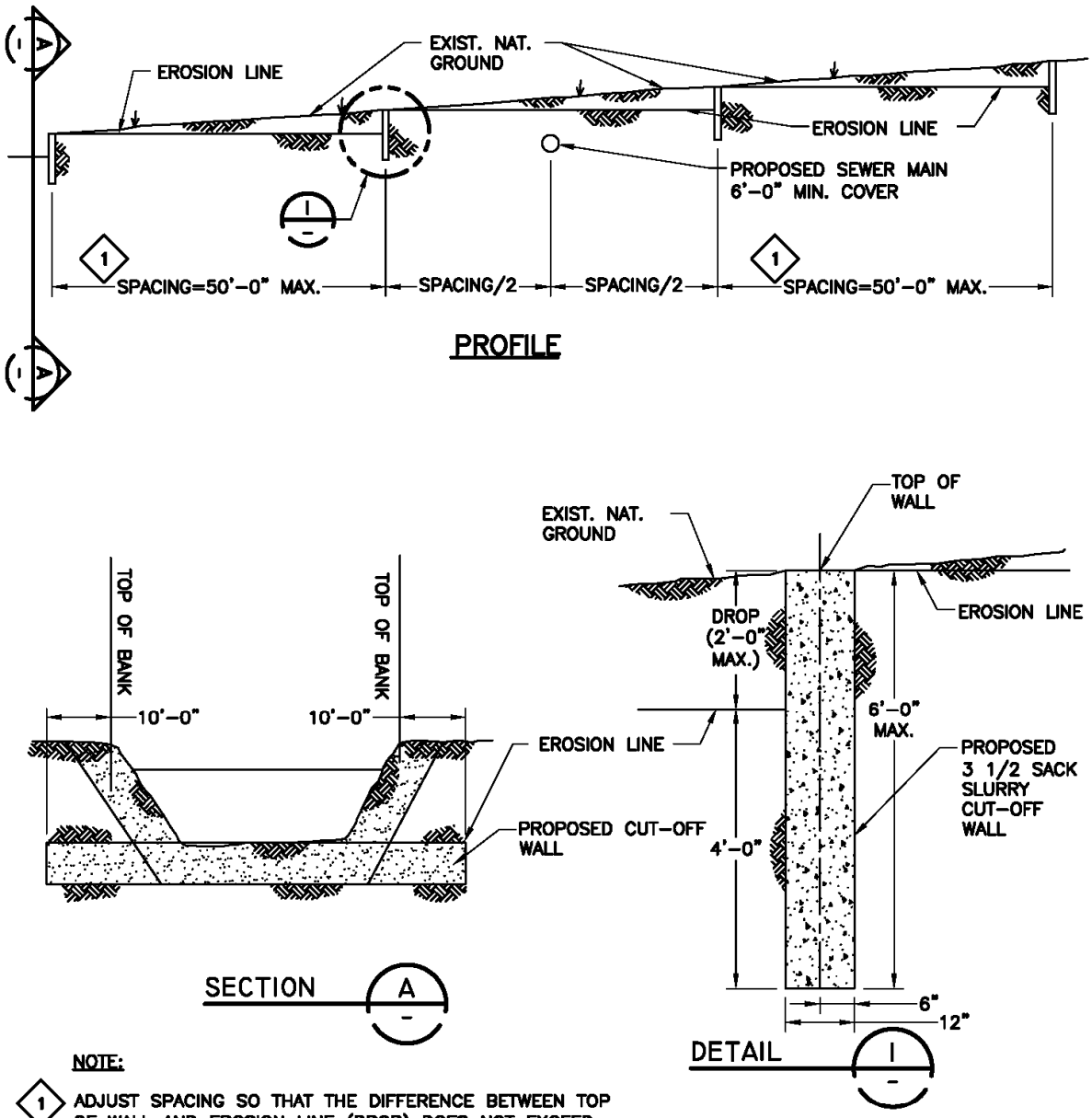
2016

Yucaipa Valley Water District

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

S-27

Sheet 1 of 1




# EROSION CONTROL CUTOFF WALL DETAIL

2016

Yucaipa Valley Water District

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

S-28

Sheet 1 of 1


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

Yucaipa Valley Water District

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

R-0

Sheet 1 of 3

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



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

## RECYCLED 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-##

R-0

Sheet 2 of 3

# 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

2016

Yucaipa Valley Water District

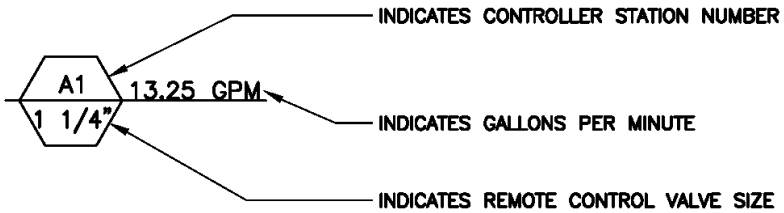
Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-##

R-0

Sheet 3 of 3

## 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 |
| ⬡ C | 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

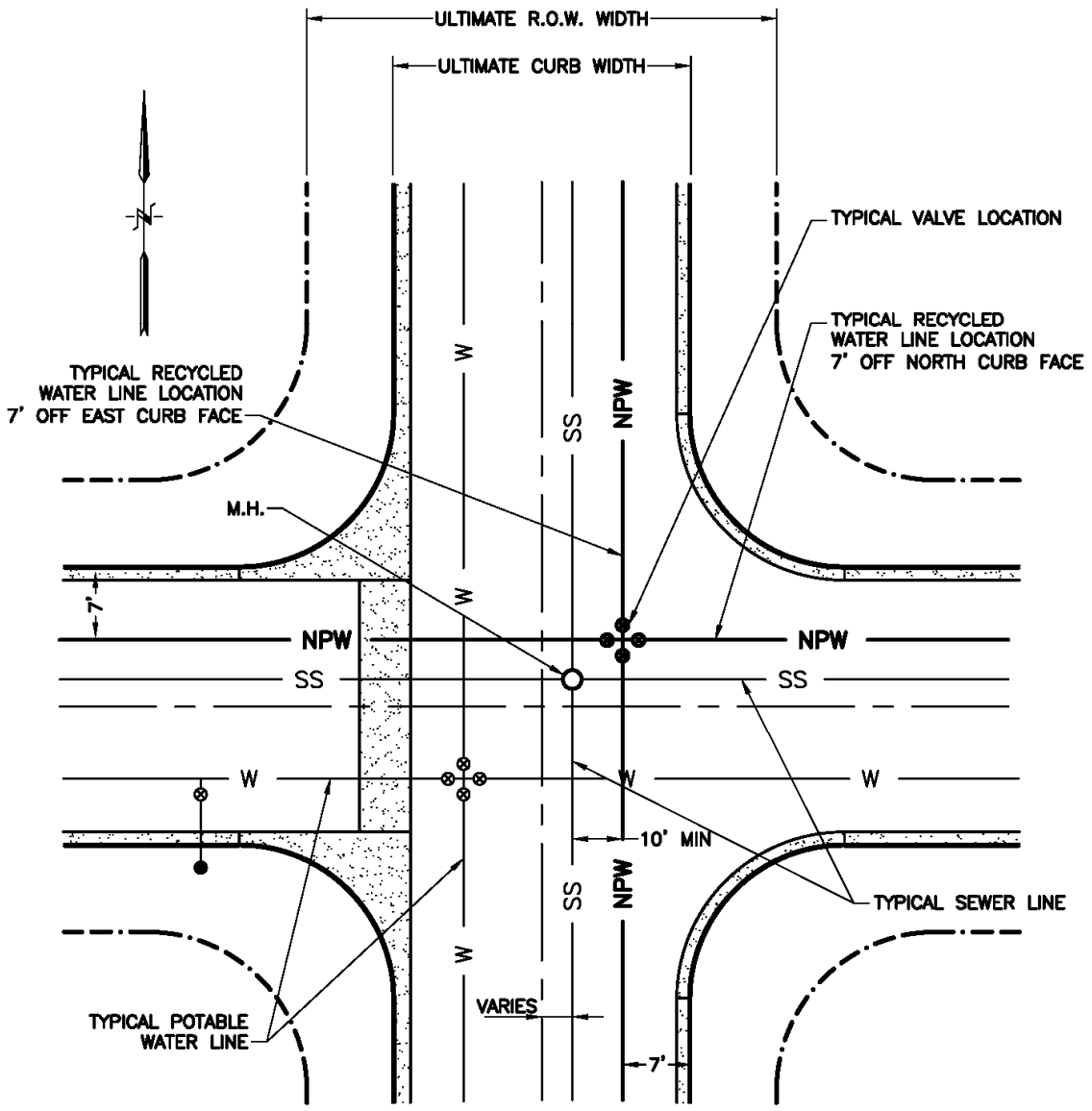
2016

Yucaipa Valley Water District

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

R-1

Sheet 1 of 1




NOTE:

RECYCLED WATER LINE SIZE TO BE DETERMINED BY Y.V.W.D. MASTER PLAN

# 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-##

R–2

Sheet 1 of 1

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

| 2016 | Yucaipa Valley Water District | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | R-3 |
|---|---|---|---|
| | | | Sheet 1 of 2 |

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

| 2016 | Yucaipa Valley Water District | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | R-4 |
|---|---|---|---|
| | | | Sheet 1 of 2 |

(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

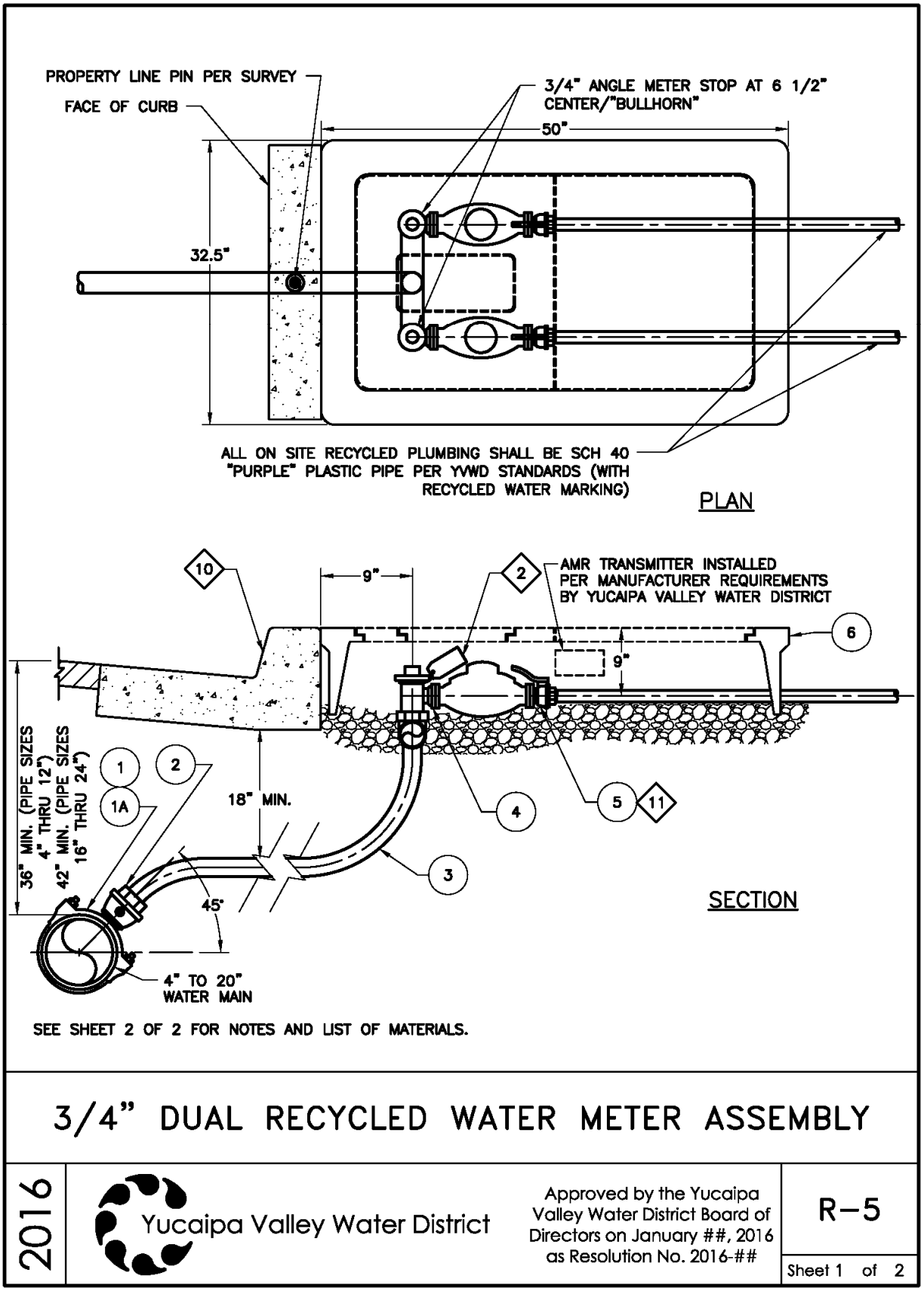
2016

Yucaipa Valley Water District

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

R-4

Sheet 2 of 2




# 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<br>MUELLER<br>ROMAC<br>ROCKWELL | J–979 I.P.<br>H–16102 TO H–16116<br>202B–SIZE 1.P.7<br>323–SIZE–14 |
| 1A | CAST SERVICE SADDLE WITH I.P. OUTLET | JONES<br>ROMAC<br>FORD | J–995<br>101S<br>S91–SIZE 04 |
| 2 | BRONZE CORPORATION STOP (MIP) THREAD X COMPRESSION (CTS) | JONES<br>MUELLER<br>FORD | J–41<br>H–10013<br>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<br>FORD<br>McDONALD | J–2201<br>UVB43–42W–65<br>09U2AW |
| 5 | BRONZE CUSTOMER SERVICE VALVE–METER NUT X F.I.P. | JONES<br>FORD | J–1908<br>B13–342<br>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

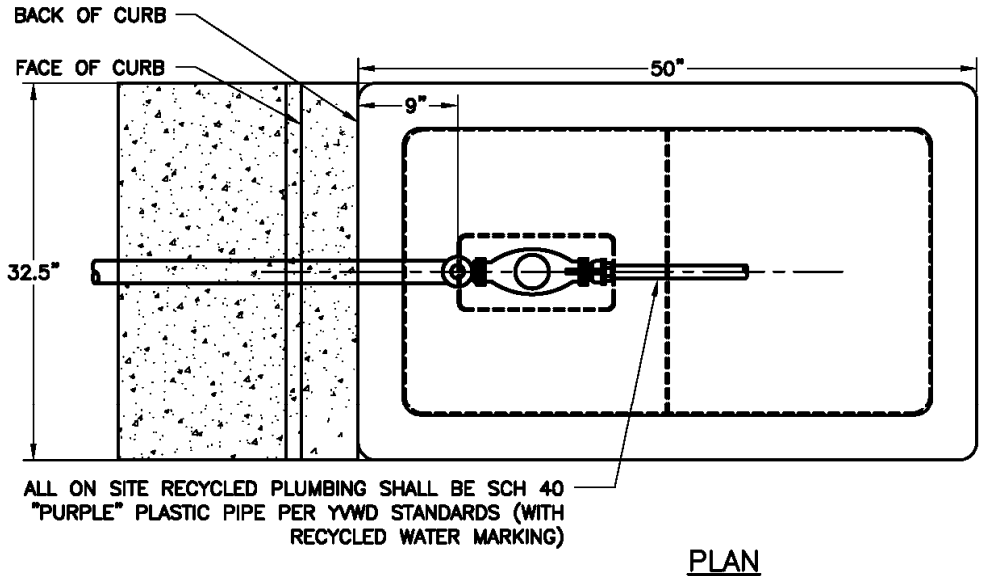
2016

Yucaipa Valley Water District

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

R–5

Sheet 2 of 2

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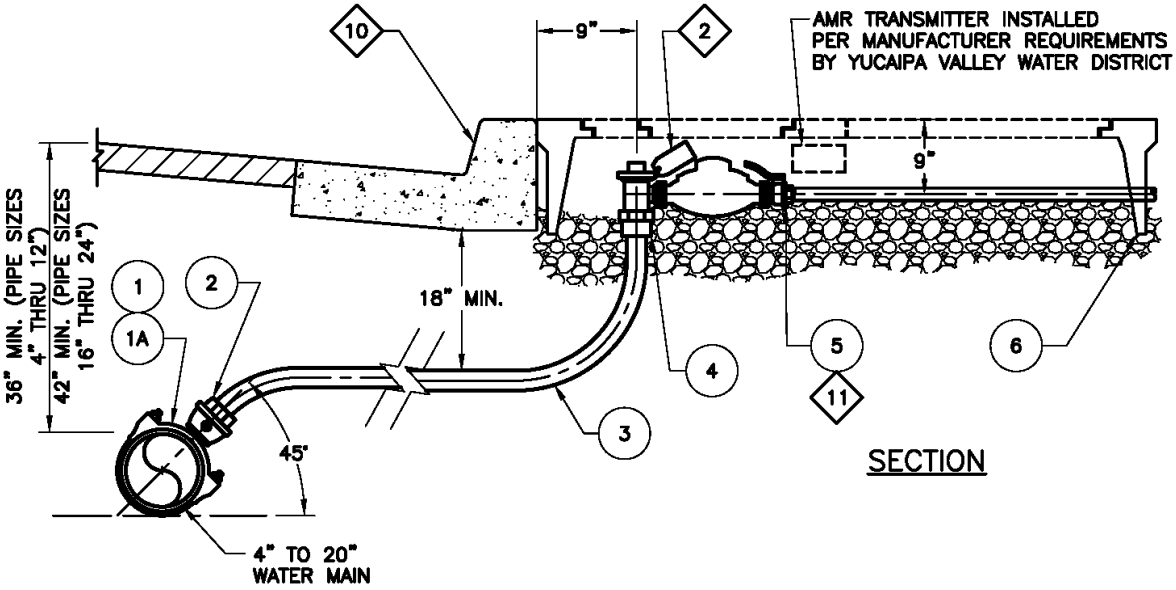



SECTION

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

# 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-##

R-6

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<br>MUELLER<br>ROMAC<br>ROCKWELL | J–979 I.P.<br>H–16102 TO H–16116<br>202B–SIZE 1.P.7<br>323–SIZE–14 |
| 1A | CAST SERVICE SADDLE WITH I.P. OUTLET | JONES<br>ROMAC<br>FORD | J–995<br>101S<br>S91–SIZE 04 |
| 2 | BRONZE CORPORATION STOP (MIP) THREAD X COMPRESSION (CTS) | JONES<br>MUELLER<br>FORD | J–41<br>H–10013<br>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<br>FORD<br>McDONALD | J–2201<br>UVB43–42W–65<br>09U2AW |
| 5 | BRONZE CUSTOMER SERVICE VALVE–METER NUT X F.I.P. | JONES<br>FORD | J–1908<br>B13–342<br>W/H–34 |
| 6 | METER BOX AND COVER WITH READING LID | ARMOR CAST | A6001430PCX12 W/<br>(1)–A6001470 – COVER<br>(1)–A6001470DZ –<br>COVER (1)–A6000482 |

# 1" RECYCLED WATER METER ASSEMBLY

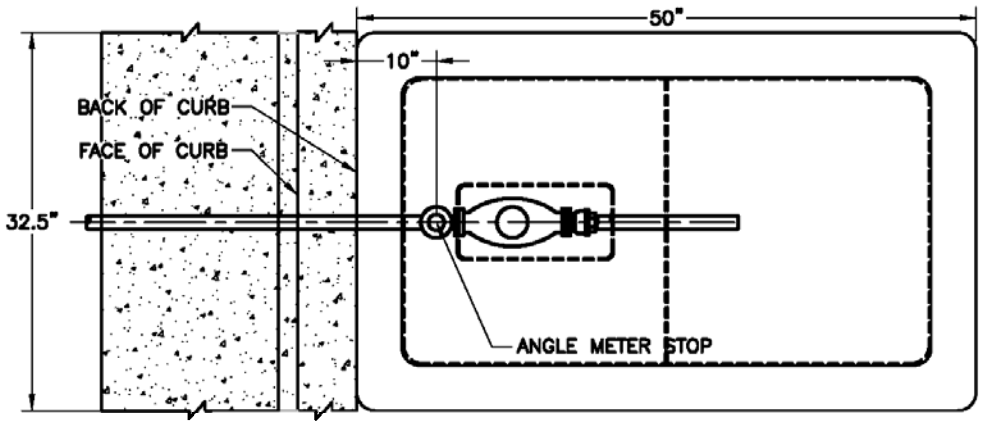
2016

Yucaipa Valley Water District

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

R–6

Sheet 2 of 2

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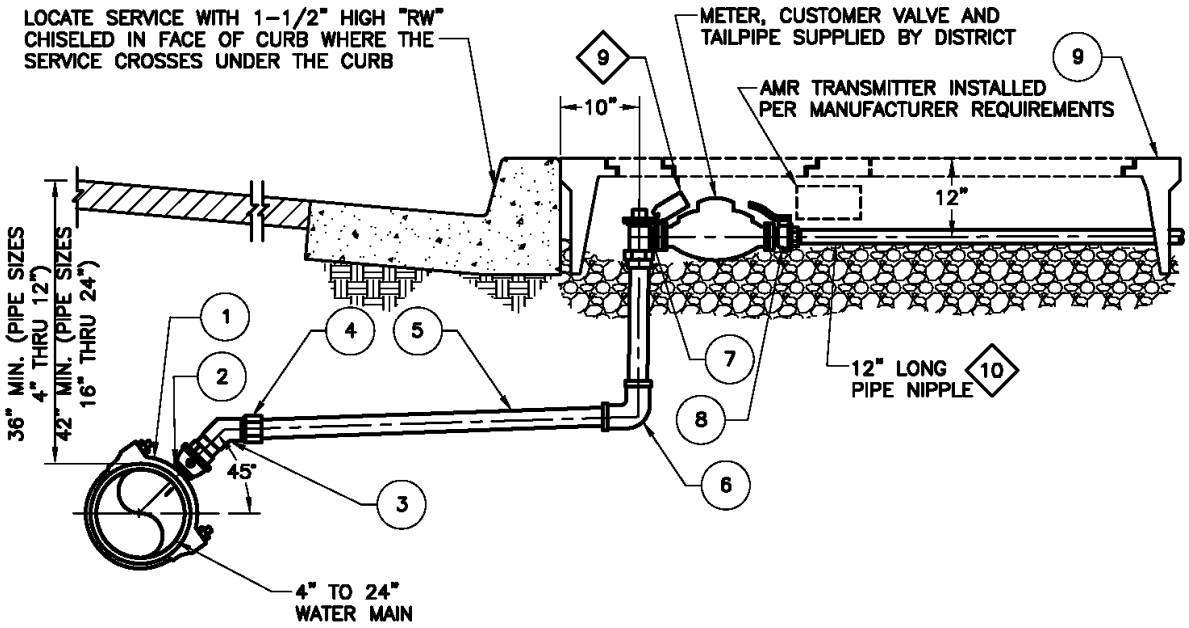



ELEVATION

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

# 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-##

R-7

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".

◇9 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.

◇10 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<br>MUELLER<br>FORD<br>ROCKWELL | J–979 I.P.<br>H–16102 TO H–16116<br>202B–SIZE 1.P.7<br>323–SIZE–14 |
| 2 | BRONZE CORPORATION STOP MIPT X MIPT | JONES<br>FORD<br>MUELLER | J–1943<br>FB500–7<br>B–2969 |
| 3 | 45° DEGREE BRASS ELBOW | – | – |
| 4 | M.I.P. X COMPRESSION ADAPTOR | MUELLER<br>FORD<br>JONES | H–15428<br>C84–77<br>J–2605 |
| 5 | 2" POLYETHYLENE TUBING – CTS – PURPLE OR WITH PURPLE POLY SLEEVE | – | – |
| 6 | BRASS 90° ELBOW, 2" X 2" COMPRESSION X COMPRESSION | JONES<br>MUELLER | J–2611<br>H–15526 |
| 7 | BRONZE ANGLE METER STOP W/LOCKWING COMPRESSION CTS X FLANGE 1 1/2" THRU 2" COMBO ANGLE VALVE. | JONES<br>MUELLER<br>FORD | J–4205<br>P–14277<br>FV43–777W |
| 8 | BRONZE CUSTOMER SERVICE VALVE–METER FLANGE X F.I.P. | JONES<br>FORD | J–1913<br>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

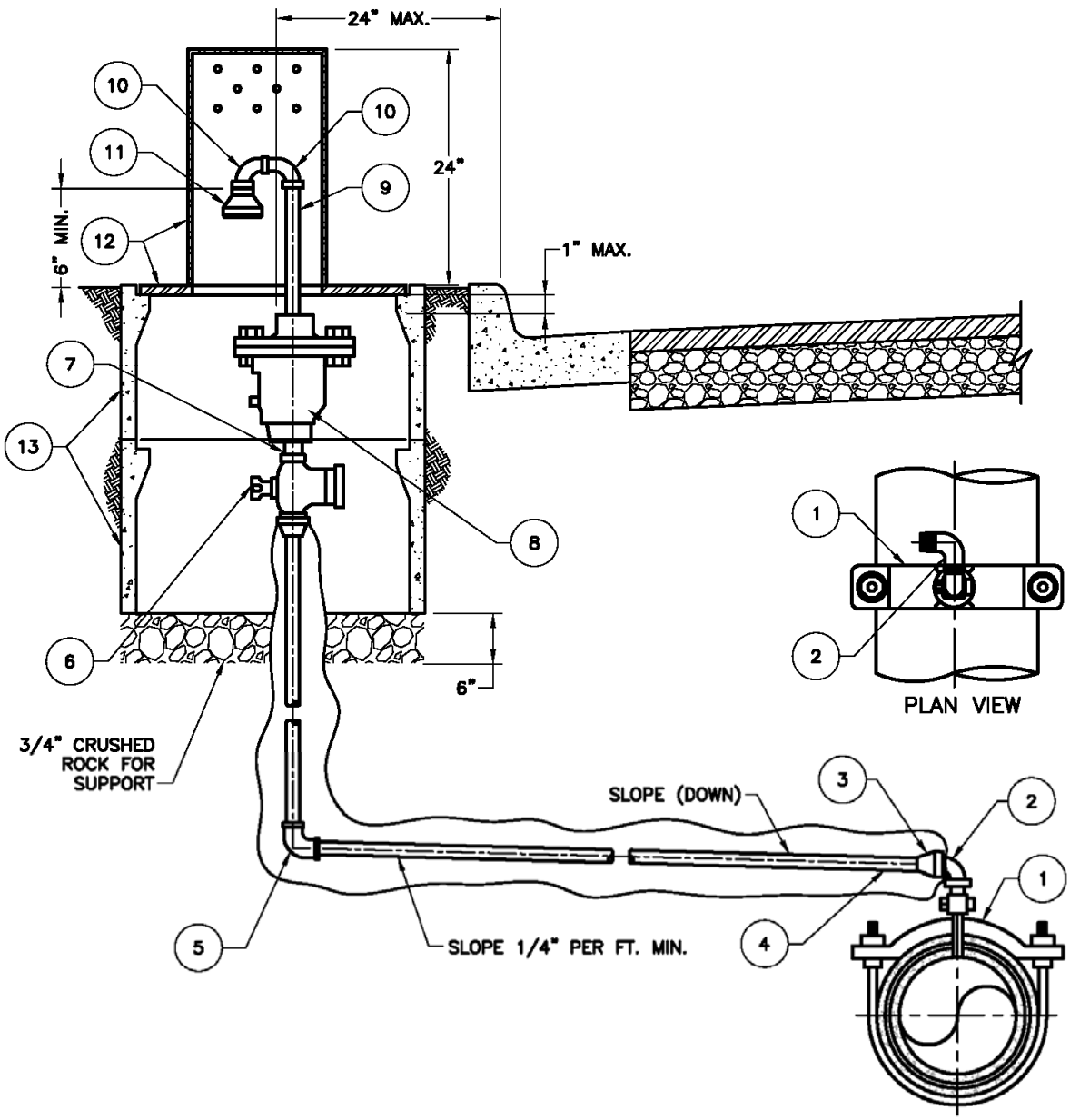
2016

Yucaipa Valley Water District

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

R–7

Sheet 2 of 2




1" SIZE MIN. FOR PIPE DIAMETERS 12" AND SMALLER.
2" SIZE MIN. FOR PIPE DIAMETERS 16" AND LARGER.

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

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

2016

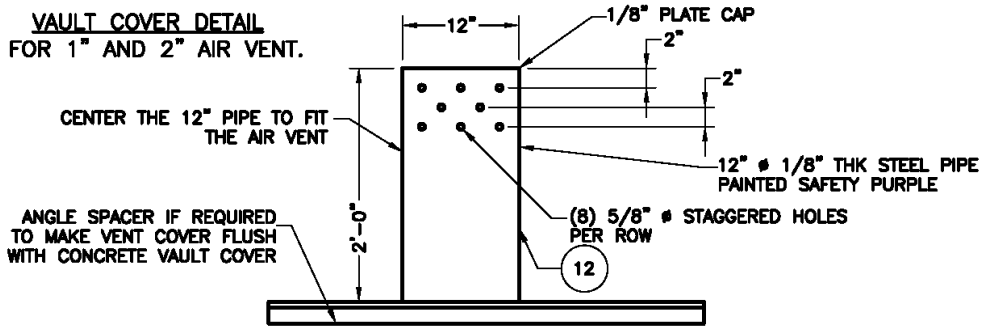
Yucaipa Valley Water District

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

R-15

Sheet 1 of 4

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




## LIST OF MATERIAL

| ITEM NO. | SIZE & DESCRIPTION | MANUFACTURER | SPEC. NO. |
|---|---|---|---|
| 1 | CONNECTION PER YVWD 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<br>JONES<br>MUELLER | C14-44<br>J-2607<br>H-15451 |
| 4 | P.E. TUBING, CTS, PURPLE OR WITH PURPLE POLY SLEEVE. | | |
| 5 | COMPRESSION X COMPRESSION 90° ELBOW | JONES<br>MUELLER | J-2611<br>H-15526 |
| 6 | CURB VALVE-SHUT OFF PARALLEL WITH CURB | FORD<br>JONES<br>MUELLER | B41-444<br>J-1921<br>B-25172 |
| 7 | 3" NIPPLE, BRASS | – | – |
| 8 | COMBINATION, AIR & VACUUM VALVE, 1" MINIMUM VAULT SIZE PER PLAN | A.R.I.<br>CRISPIN<br>– | D-040<br>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 EXISITNG 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

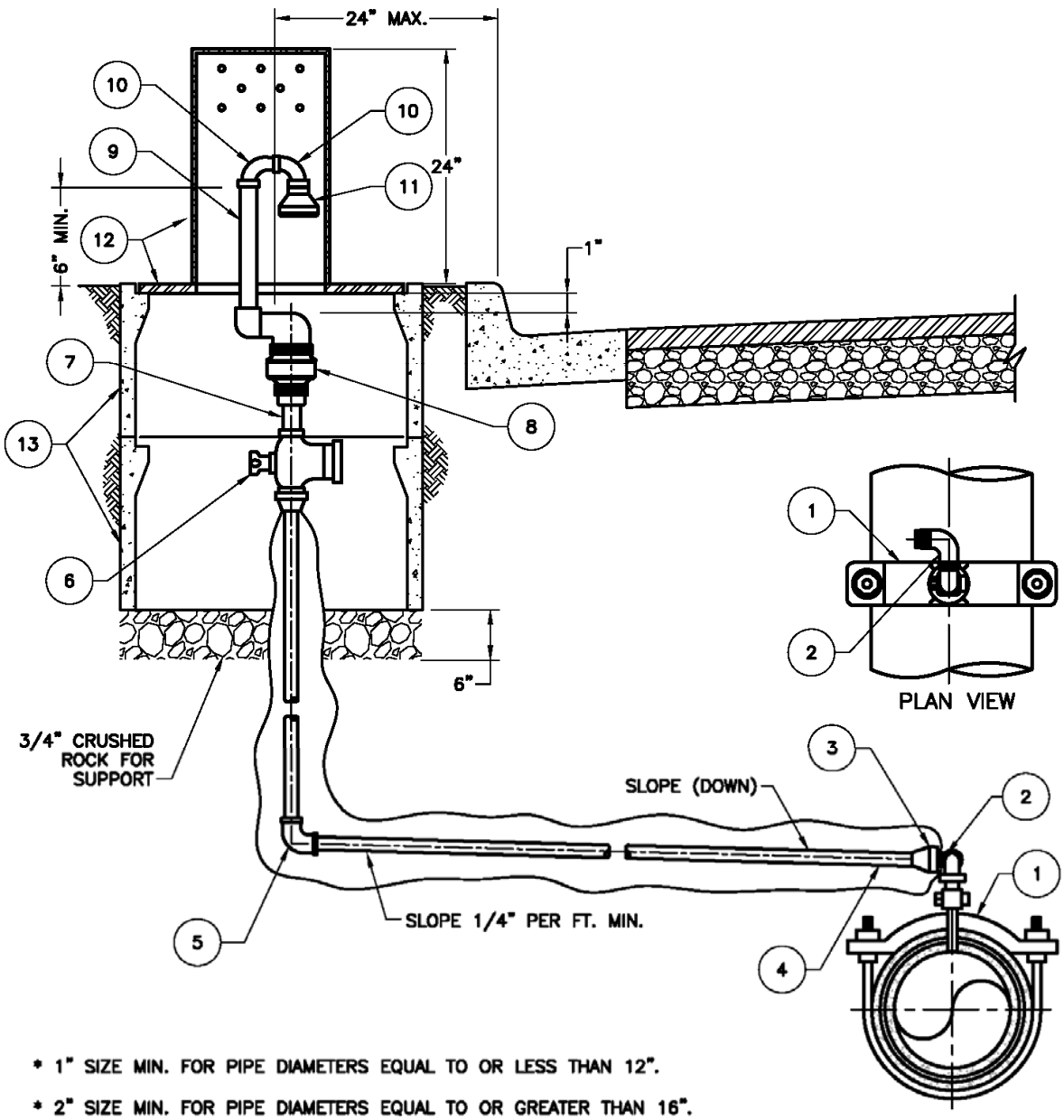
2016

Yucaipa Valley Water District

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

R-15

Sheet 2 of 4




* 1" SIZE MIN. FOR PIPE DIAMETERS EQUAL TO OR LESS THAN 12".

* 2" SIZE MIN. FOR PIPE DIAMETERS EQUAL TO OR GREATER THAN 16".

SEE SHEET 2 OF 2 FOR NOTES, LIST OF MATERIALS AND ADDITIONAL DETAILS.

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

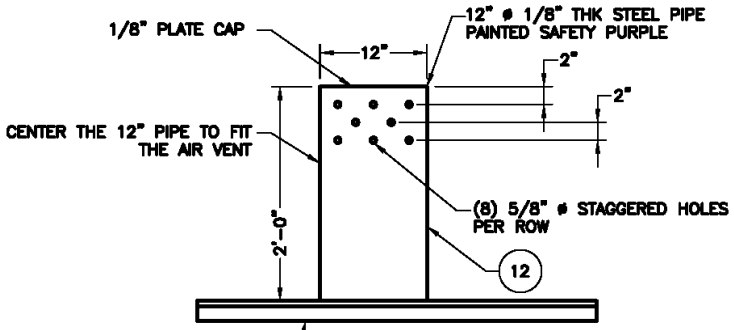
2016

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




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

## 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<br>JONES<br>MUELLER | C14-44<br>J-2607<br>H-15451 |
| 4 | P.E. TUBING, CTS, PURPLE OR WITH PURPLE POLY SLEEVE | | |
| 5 | COMPRESSION X COMPRESSION 90° ELBOW | JONES<br>MUELLER | J-2611<br>H-15526 |
| 6 | CURB VALVE-SHUT OFF PARALLEL WITH CURB | FORD<br>JONES<br>MUELLER | B41-444<br>J-1921<br>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 | 18" 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

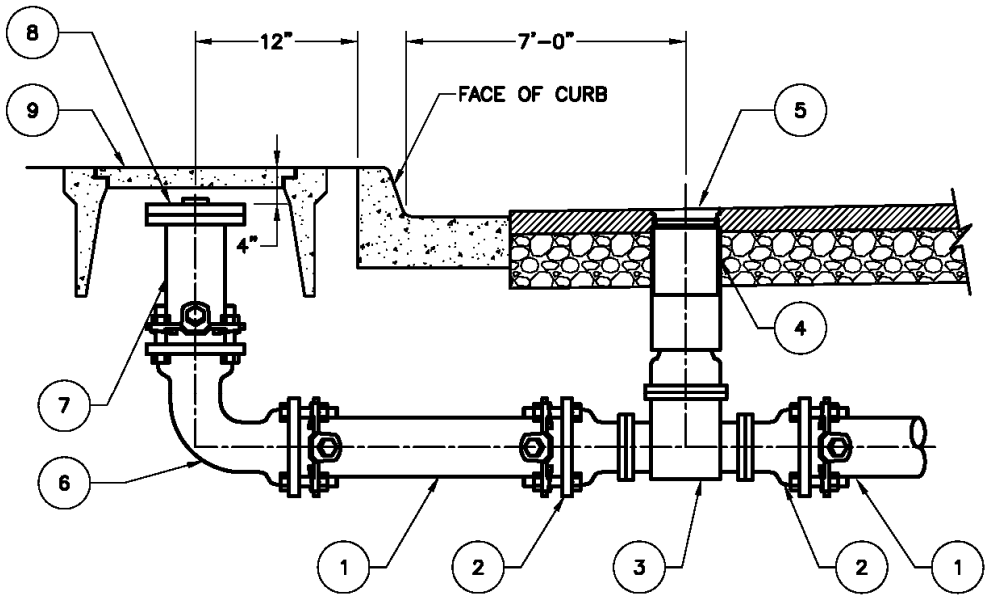
2016

Yucaipa Valley Water District

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<br>LID – A6000484 |

# 4" RECYCLED WATER BLOW-OFF ASSEMBLY

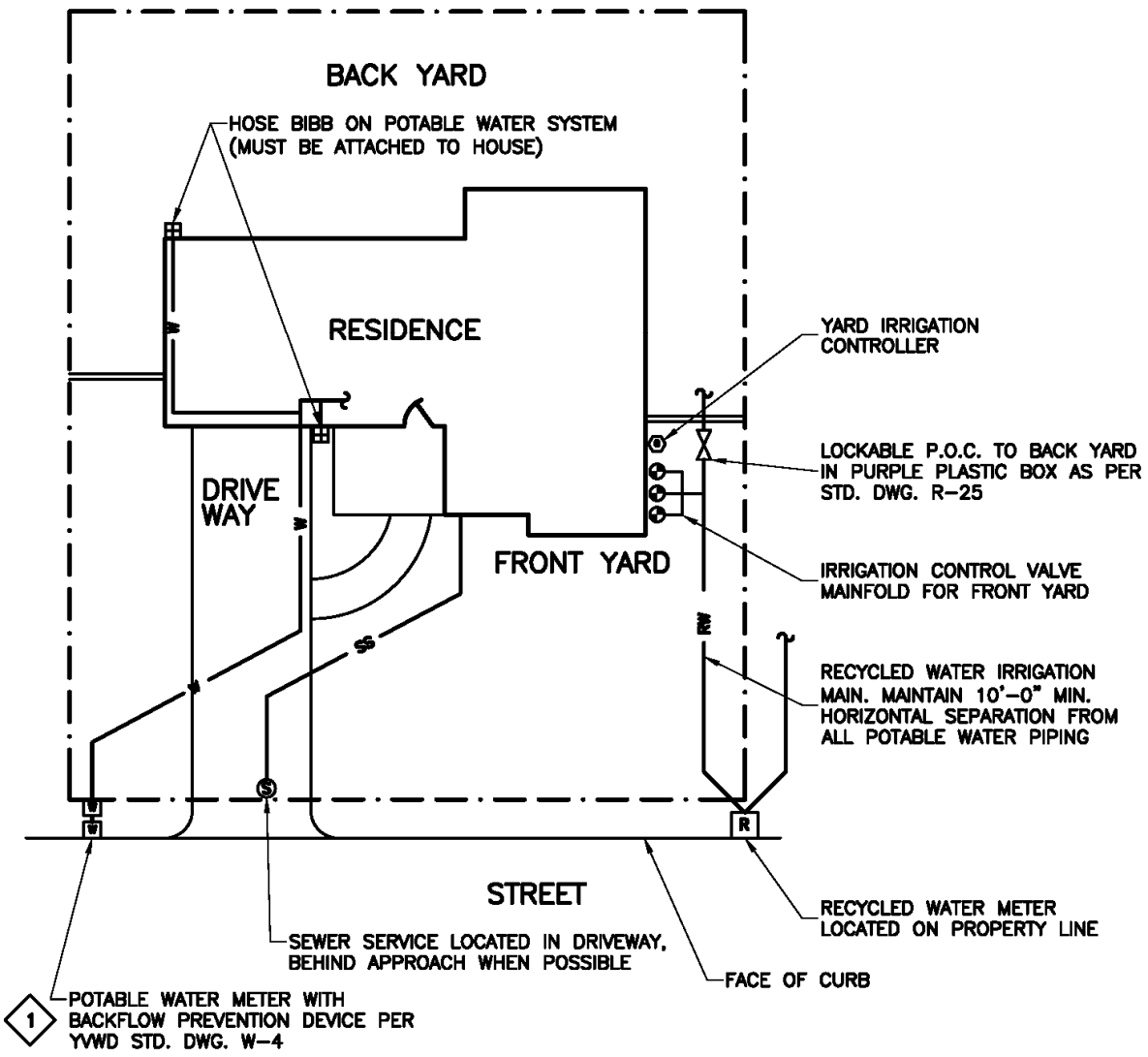
2016

Yucaipa Valley Water District

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

R-19

Sheet 1 of 1

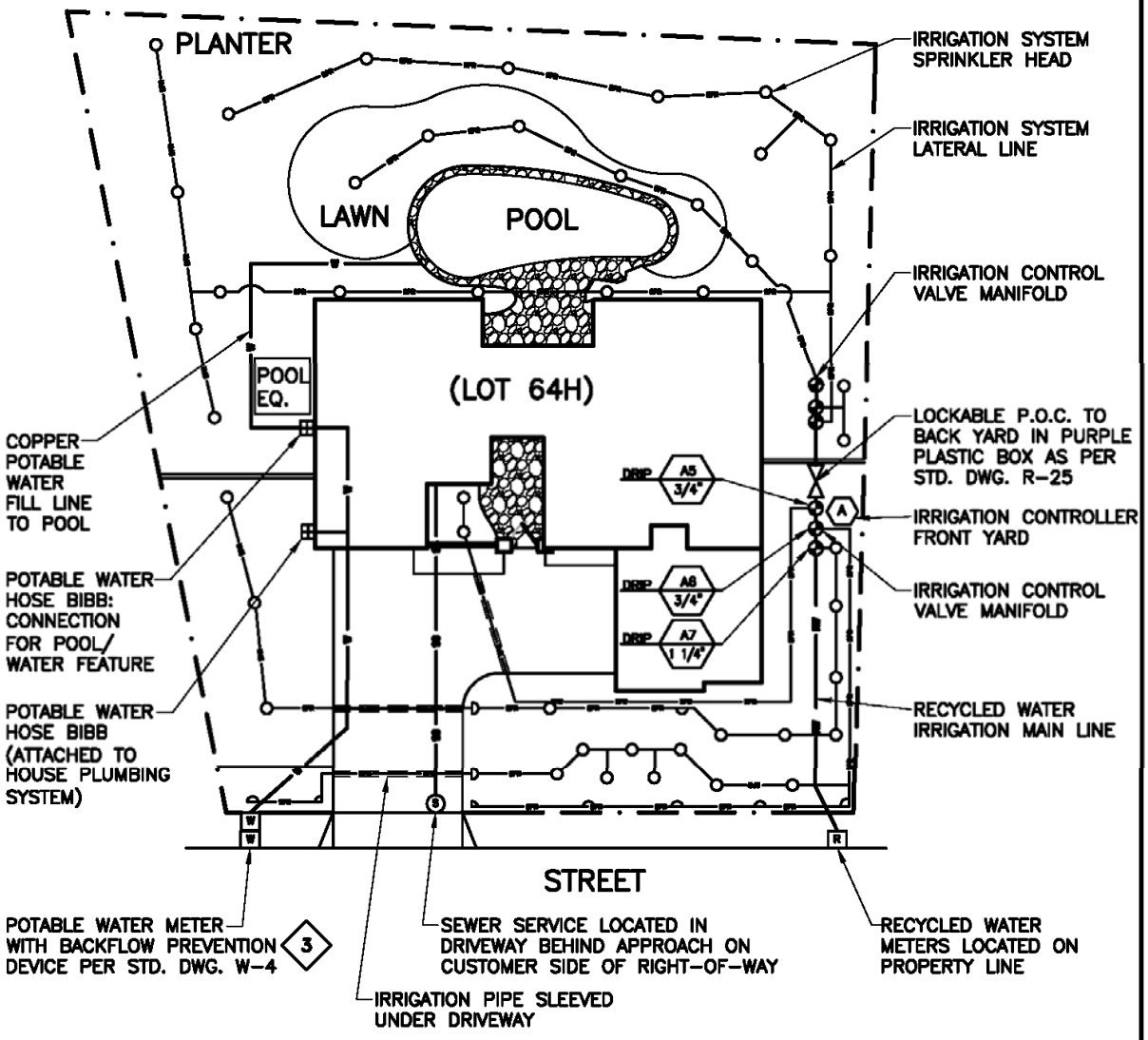



NOTE:

1. 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 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 |

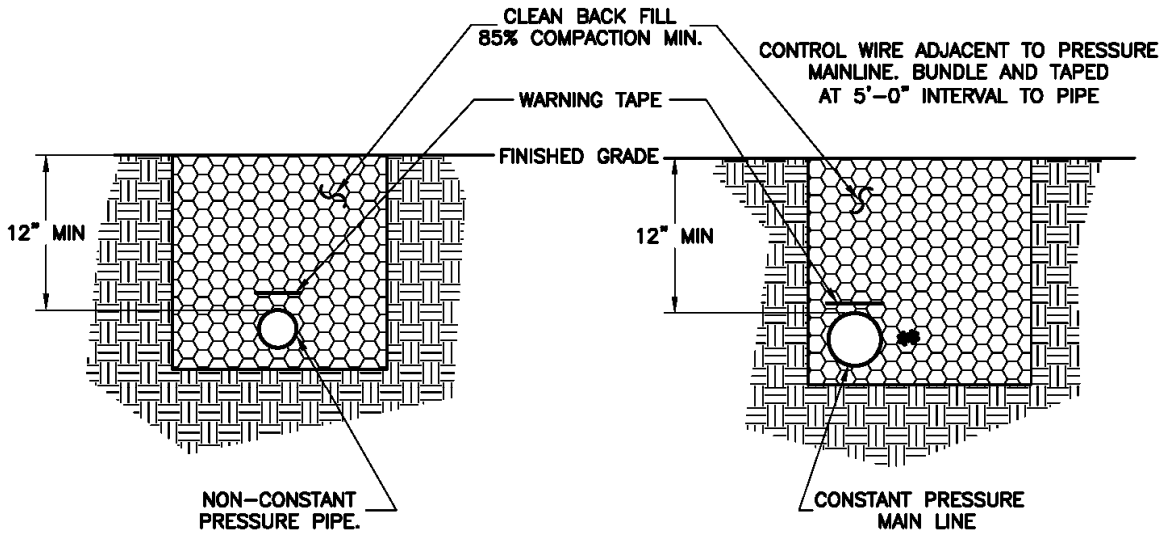



NOTES:

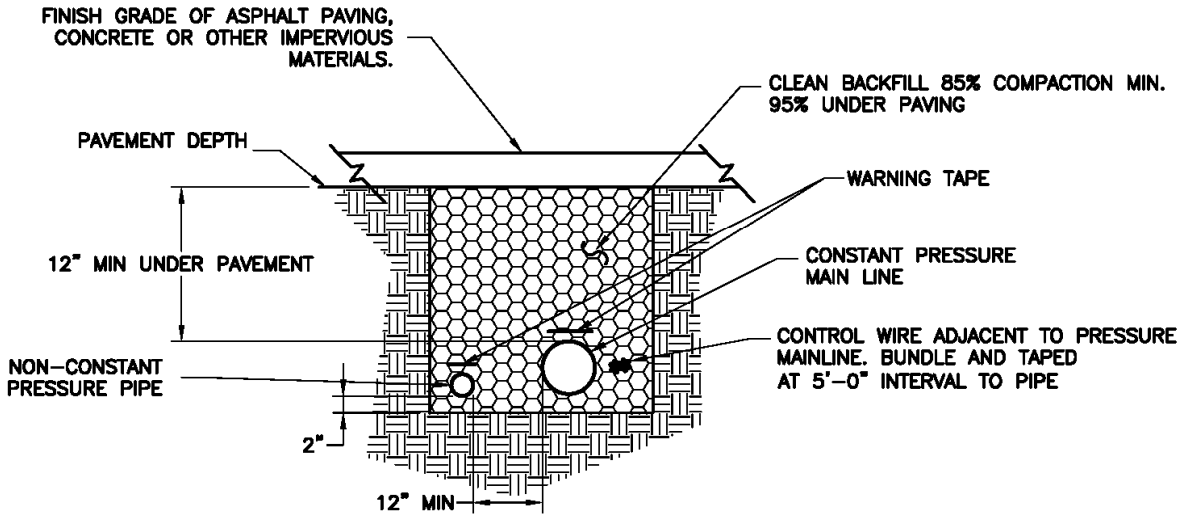
1. THIS EXAMPLE OF AN IRRIGATION PLAN SUBMITTAL REPRESENTS THE MINIMUM PLAN SUBMITTAL REQUIREMENT.
2. IRRIGATION LEGEND SHALL BE INCLUDED ON THE PLAN. SEE YVWD STD. DWG. R-1 FOR EXAMPLE OF IRRIGATION PLAN LEGEND.
3. POTABLE WATER METER SHALL BE LOCATED A MINIMUM OF 10-FEET AWAY FROM THE RECYCLED WATER 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 | Yucaipa Valley Water District | Approved by the Yucaipa Valley Water District Board of Directors on January ##, 2016 as Resolution No. 2016-## | R-21 |
|---|---|---|---|
| | | | Sheet 1 of 1 |




LANDSCAPE AREA



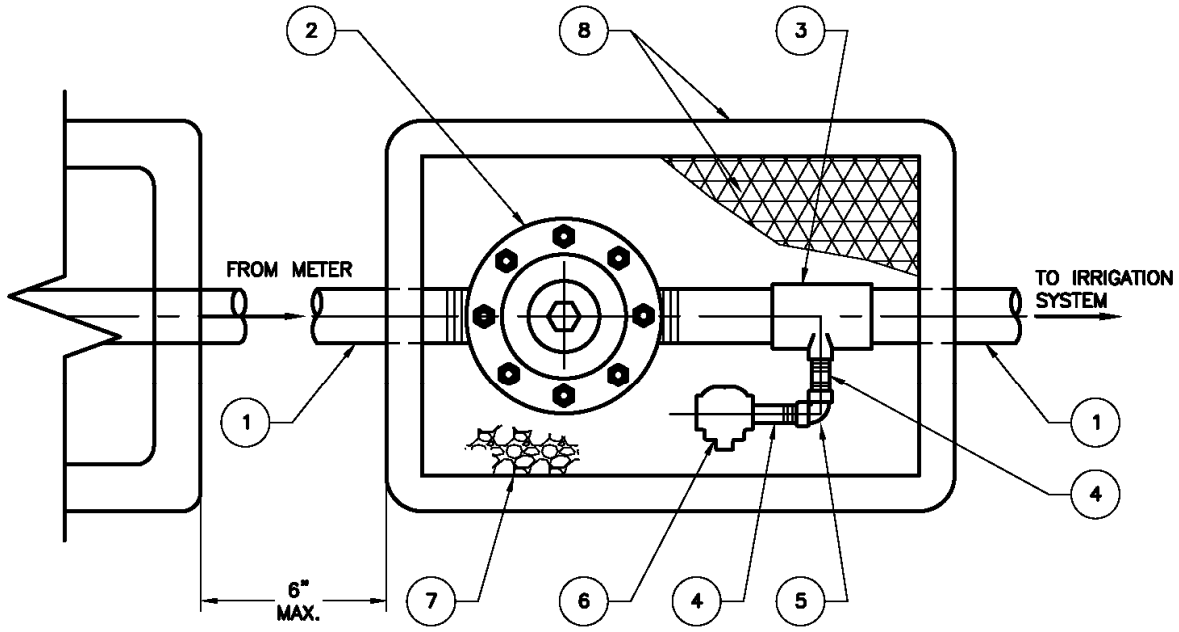

PAVING AREA

NOTE:

1. REFER TO YVWD STD. DWG. R-4 NOTES 10 AND 11 FOR SEPARATION REQUIREMENTS AND NOTE 14 FOR WARNING TAPE REQUIREMENTS.
2. SLEEVES UNDER CONCRETE ARE RECOMENDED. IF INSTALLED USE SCH 40 PUPLE PVC FOR SLEEVES AND EXTEND 12-INCHES BEYOND EDGE OF PAVING AT BOTH ENDS.

# 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-## | R-22 |
|---|---|---|---|
| | | | Sheet 1 of 1 |




| 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

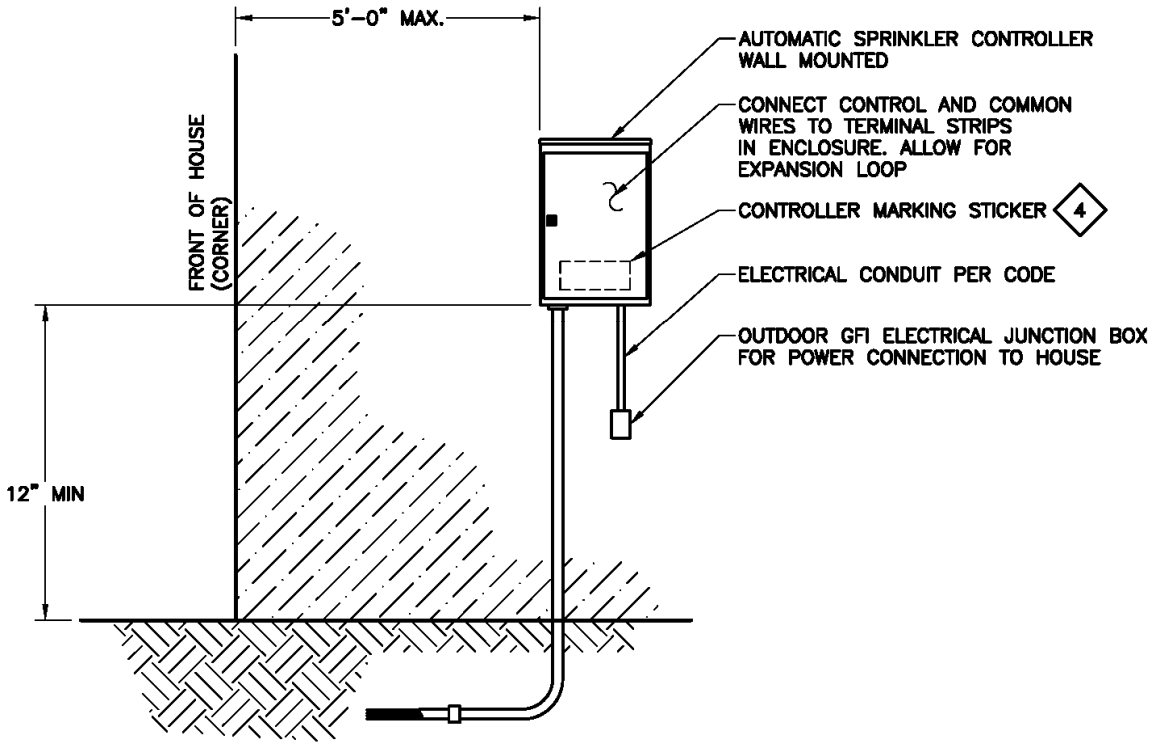
2016

Yucaipa Valley Water District

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

R-23

Sheet 1 of 1




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

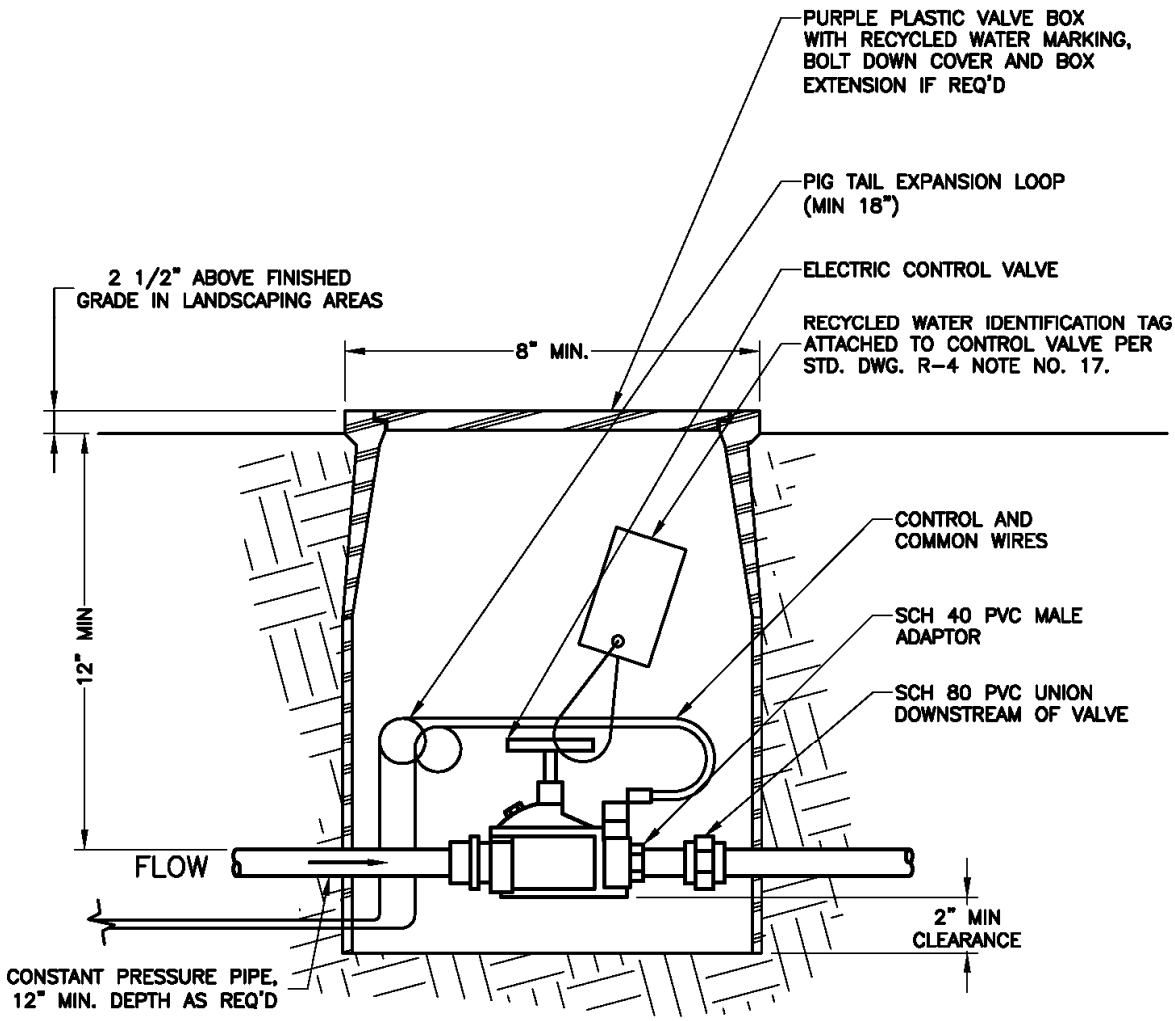
2016

Yucaipa Valley Water District

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

R-24

Sheet 1 of 1




NOTE:

1. SEE YVWD STD. DWG. R-4 SHEET 2 OF 2 NOTE 17 FOR IDENTIFICATION TAG INFORMATION.

# 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

Yucaipa Valley Water District

# Workshop Memorandum 16-012

**Date:** **January 12, 2016**

**Subject:** **Groundwater and Surface Water Monitoring Related to the Yucaipa Valley Water District's Maximum Benefit Monitoring Program**

Yucaipa Valley Water District is required to conduct extensive monitoring for the Maximum Benefit Program in the San Timoteo and Yucaipa Management Zones pursuant to the Regional Water Quality Control Board (RWQCB) Resolution Nos. R8-2005-0065 and R8-2014-0005.

The following scope of work and fee are based on monitoring requirements included in Resolution No. R8-2014-0005. The Monitoring will include groundwater monitoring services at up to fourteen (14) wells in the San Timoteo Management Zone and three (3) wells in the Beaumont Groundwater Management Zone. This will include collecting groundwater quality samples from nine of the wells. Surface water monitoring services at up to four (4) surface water monitoring points in the San Timoteo Management Zone will also be conducted bi-weekly.

All data collected in the field (e.g. groundwater level measurements, surface water flows) will be compiled in a database, along with analytical laboratory results for all water quality samples collected by Dudek. Dudek will manage the data for the San Timoteo Creek, Yucaipa, and Beaumont Management Zones. This includes collecting, reviewing, providing QA/QC, and compiling all groundwater and surface water data from the three management zones.

The District is currently under contract with Dudek for the 2015 groundwater and surface water monitoring for the San Timoteo Management Zone. This proposal covers the monitoring requirements for the 2016 calendar year.

DUDEK

MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 760.942.5147 T 800.450.1818 F 760.632.0164

January 05, 2016 9219

Kevin King
Operations Manager
Yucaipa Valley Water District
12770 Second Street
Yucaipa, CA 92399

***Subject: Proposed Scope of Work and Fee to Provide Groundwater and Surface Water Monitoring Services in 2016 Related to the Maximum Benefit Monitoring Program for the San Timoteo Management Zone***

Dear Mr. King:

Dudek is pleased to present this scope of work and fee to provide groundwater and surface water monitoring services for the San Timoteo Management Zone as per the Maximum Benefit Monitoring Programs presented in the Santa Ana Regional Water Quality Control Board (the Board) Resolutions R8-2005-0065 and R8-2014-0005. The following scope of work and fee are based on monitoring requirements included in the Draft Maximum Benefit Monitoring Report 2015 Work Plan (Wildermuth, 2014) that was updated on December 22, 2014 and approved by the Santa Ana Regional Water Quality Control Board on January 6, 2015.

The following scope of work includes:

1. Semi-annual groundwater monitoring services at up to fourteen (14) wells in the San Timoteo Management Zone and three (3) wells in the Beaumont Groundwater Management Zone. This will include collecting groundwater quality samples from nine of the wells and arranging for the samples to be delivered to Clinical Laboratory of San Bernardino, Inc. of Grand Terrace, California for analyses as outlined in the Draft 2015 Work Plan. Water levels will also be manually measured at wells designated for water level measurement using a Solinst water level sounder. Water level data will be collected from dedicated pressure transducers installed at some of the wells.

2. Bi-weekly surface water monitoring services at up to four (4) surface water monitoring points in the San Timoteo Management Zone. This will include measuring .surface water flows and collecting water quality samples from each monitoring point. The Draft 2015 Work Plan also calls for the collection of water quality samples from two of the surface water monitoring points following up to 6 storm events.

3. All data collected in the field (e.g. groundwater level measurements, surface water flows) will be compiled in a database, along with analytical laboratory results for all water quality samples collected by Dudek.

4. Dudek will act as the Data Manager for the San Timoteo Creek, Yucaipa, and Beaumont Management Zones. This includes collecting, reviewing, providing QA/QC, and compiling all groundwater and surface water data from the three management zones.

5. Dudek will prepare a draft Maximum Benefit Monitoring Program Annual Report to be distributed to Yucaipa Valley Water District and other interested parties on March 25, 2016 for review and comments. Dudek will finalize the draft report for submittal to the Regional Board by April 15, 2016.

## SCOPE OF WORK

### Task 1. Semi-Annual Groundwater Level and Water Quality Monitoring

Emmanuel Padilla and Christian Hunter of Dudek will be tasked with conducting all field work pertaining to the semi-annual groundwater monitoring events. The field work is tentatively scheduled in late April and late October 2016. The following is a list of tasks that will be completed by Dudek:

- Manually measure depths-to-water (DTW) at wells GWMW-1, GWMW-2, GWMW-3, GWMW-4, GWMW-5A, GWMW-5B, GWMW-5C (if not artesian), OW-1T, OW-1P, OW-2P, OW-3P, GL-8, and GL-6 using a Solinst electric water level sounder provided by Dudek. The DTW will be measured at 0.01-foot accuracy. The time and date of each DTW measurement, plus the conditions of each well, will be recorded in field forms.

- Water level data will be downloaded from dedicated pressure transducers at wells GWMW-1, GWMW-2, GWMW-3, GWMW-4, OW-1T, OW-1P, OW-2P, and OW-3P. The water level data will be barometrically corrected and compiled with the manual water level measurements.

- Water quality samples will be collected from wells GWMW-2, GWMW-3, GWMW-4, GWMW-5A, GWMW-5B, GWMW-5C, Deep Well (Marty Wells owner), and GL-6. All wells will be purged using a portable submersible pump and generator provided by YVWD. Wells GWMW-2, GWMW-3, and GWMW-4 will be purged dry and allowed to recover overnight before collecting a representative groundwater sample. Dudek understands that the purge water may be discharged to land at each well location.

- Field parameters pH, temperature and electrical conductivity will be measured during the purging process to characterize the water quality and identify when the water produced from the well is representative of native groundwater. Dudek will use a multi-parameter device provided by YVWD to measure the water quality parameters. Dudek staff will calibrate the device using calibration standards provided by YVWD at the YVWD wastewater treatment plant. The calibration of the multi-parameter device will be recorded by Dudek staff prior to its use in the field.

- The DTW, field parameters, and volumes purged will be recorded in field sampling forms completed in the field at each well point. The field sampling forms will also include the name of the sampler, the date/time of measurement and sample collection, the estimated volume of water to purge 3 casing volumes, and the actual volume purged. The representative water quality samples will be collected after 3 casing volumes are purged or the field parameters monitoring during purging are stable within 10% of previous measurements.

- Water quality samples will be collected in sampling containers provided by Clinical Laboratory of San Bernardino, Inc., which is a California certified analytical laboratory (ELAP Certificate No. 1088). All sample containers will be labeled with the data/time of sample collection, the well ID, identification of the preservative (if any) in the container, and the name of the sampler. A chain-of-custody form will be completed as each sample is collected and submitted with the samples to Clinical Laboratory of San Bernardino, Inc. The analytical laboratory will analyze each sample per Table 2-4 of the Draft 2015 Work Plan, which includes the following constituents:

    - Total Dissolved Solids
    - Specific conductance
    - Nitrate-Nitrogen or Nitrate as nitrogen
    - Nitrite-Nitrogen or Nitrite as nitrogen
    - Total Inorganic Nitrogen
    - pH
    - Total alkalinity (as CaCO3)
    - Carbonate and bicarbonate
    - Silica (as SiO2)
    - Total Hardness (includes Ca and Mg)
    - Chloride, fluoride, potassium, sodium, and sulfate.

- All water quality samples will stored in an ice-chest with ice during the sampling event. The samples will be delivered to Clinical Laboratory of San Bernardino on ice.

- This task includes labor hours to compile all data collected during the groundwater monitoring events and update the GIS database, water level and water quality hydrographs, and plan view maps.

The fee for conducting the groundwater monitoring events also includes direct costs that include a per diem, hotel accommodations, and daily rates for the use of a vehicle and water level sounder. The per diem and hotel accommodation rates were based on the United States General Services Administration that defined these rates for San Bernardino County for Fiscal Year 2016 (visit gsa.gov website).

***Cost for Task 1 ..... $23,290***

### Task 2. Bi-Weekly Surface Water Monitoring

Emmanuel Padilla or Christian Hunter of Dudek will conduct all field work pertaining to the bi-weekly surface water monitoring events. The field work is tentatively scheduled to begin on Tuesday, January 12 and continue every other Tuesday until December 27, 2016. The draft work plan also calls for a minimum of surface water sampling following 6 storm events. Bi-weekly surface water monitoring will include the following tasks:

- Measure surface water flow using a current meter provided by YVWD at the following surface water monitoring stations: YVWD-A, YVWD-B, YVWD-E, and YVWD-Z in the San Timoteo Management Zone. Surface water flow will be calculated using the Velocity-Area Method described in *Discharge Measurements at Gaging Stations* by the USGS (USGS, 2010).

- The multi-parameter water quality device will be used in the field to measure temperature, pH, electrical conductivity, and dissolved oxygen of the surface water. These parameters will be recorded in a field sampling form completed for each station.

- Water quality samples will be collected in sampling containers provided by Clinical Laboratory of San Bernardino, labeled with the data/time of sample collection, the surface water monitoring site ID, identification of the preservative (if any) in the container, and the name of the sampler. A chain-of-custody form will be completed as each sample is collected and submitted with the samples to the analytical laboratory. Each surface water sample will be analyzed for constituents listed in Table 3-1 of the

Draft 2015 Work Plan, which include the constituents required for groundwater plus ammonia as nitrogen. Silica will not be analyzed for in the surface water samples.

- All water quality samples will stored in an ice-chest with ice during the sampling event. The samples will be delivered to Clinical Laboratory of San Bernardino, Inc. on ice.
- This task includes labor hours to compile all data collected during the surface water monitoring events and update the GIS database, water quality hydrographs, and plan view maps.

The fee for conducting the surface water monitoring events also includes direct costs that include a per diem and a daily rate for the use of a vehicle. The per diem rate was based on the United States General Services Administration that defined these rates for San Bernardino County for Fiscal Year 2016 (visit gsa.gov website).

***Cost for Task 2 ..... $47,030***

### Task 3. Maximum Benefit Annual Report

Dudek will prepare the Maximum Benefit Annual Report, which will summarize the work performed from January 1 to December 31, 2015. The report will include a review of data collected and present the data in graphical form using water level and water quality hydrographs. Copies of all analytical laboratory reports, field forms, and calibration forms will be included in appendices to the report. As part of the preparation in drafting the report, Dudek will act as the data manager to collect, review, QA/QC, and process all groundwater and surface water data collected in the Yucaipa, San Timoteo Creek, and Beaumont Management Zones. This will include updating and maintaining one central database the will include all data.

A first draft of the report will be submitted to YVWD and other maximum benefit participants by March 25, 2016 to review and provide comments and suggested edits. Dudek will then address these comments and finalize the report for distribution to the Santa Ana Regional Water Quality Control Board by April 15, 2016. The report will include a summary of compliance with each of the maximum benefit commitments outlined in the Draft 2015 Work Plan.

***Cost for Task 3 ..... $16,340***

### Task 4. Project Management and QA/QC

This task includes labor hours for the project manager, Steven Stuart, PE, to coordinate with YVWD staff and other participants, to plan project logistics for field sampling, data compilation,

and provide QA/QC of all documented work and data collected in the three management zones. This also includes labor hours to participate in conference calls and meetings with YVWD.

***Cost for Task 4*** ..... ***$9,000***

## FEE SUMMARY

The fee presented in this proposal will be charged on a time and materials basis in accordance with Dudek's 2016 Standard Schedule of Charges (see attached). Dudek will complete the tasks described above on a time-and-materials basis, not to exceed $95,660.

The time and materials fee provided in this proposal represents an estimate of the anticipated level of effort required to complete the tasks described in the proposal. Should the actual effort required to complete the tasks be less than anticipated, the amount billed will be less than the total fee. Conversely, should the actual effort to complete the proposed tasks be greater than anticipated, additional fee authorizations will be requested. No work in excess of the proposed fee or outside of the proposed scope of work will be performed without written authorization from Yucaipa Valley Water District.

**TOTAL COST** ..... **$95,660**

Please call me at (760) 479-4128 if you have any questions or require further discussion.

Sincerely,

Steven Stuart, P.E. C79764
Project Manager

*Att.: Table 1. Fee to Conduct Groundwater and Surface Water Monitoring Services in 2016*
*2016 Dudek Standard Schedule of Charges*

*References:*
*Turnispeed, D.P., and Sauer, V.B., 2010, Discharge measurements at gaging stations: U.S. Geological Survey Techniques and Methods book 3, chap. A8, 87 p.*

*Wildermuth Environmental, Inc., 2014. Maximum Benefit Monitoring Report 2015 Work Plan Draft. Prepared for City of Beaumont, Yucaipa Valley Water District, San Gorgonio Pass Water Agency, Beaumont Cherry Valley Water District, City of Banning. September 30, 2014. Updated December 22, 2014.*

## AUTHORIZATION TO PROCEED

***for***

**Scope of Work for Services Provided for Groundwater and Surface Water Monitoring per Maximum Benefits Monitoring Programs in 2016**

The proposed scope of work and fee presented herein is acceptable and Dudek is hereby authorized to proceed with the proposed scope of services.

Authorized by: _____ _____

(Signature) Name (typed or printed)

For: Yucaipa Valley Water District _____

Date

# Yucaipa Valley Water District

Services Provided for the 2016 Maximum Benefits Monitoring Program

DUDEK FEE SCHEDULE

| | *Project Team Role:* | Sr. Engineer IV | Hydrogeologist III | Hydrogeologist III | Publications | TOTAL HOURS | DUDEK LABOR COST | OTHER DIRECT COSTS[1] | TOTAL FEE |
|---|---|---|---|---|---|---|---|---|---|
| | *Team Member:* | Steven Stuart, PE | Emmanuel Padilla | Christian Hunter | | | | | |
| | *Billable Rate :* | $225 | $130 | $130 | $105 | | | | |
| Task # | TASK | | | | | | | | |
| 1 | Semi-Annual Groundwater Level and Quality Sampling | 8 | 80 | 68 | | 156 | $ 21,040 | $ 2,250 | $ 23,290 |
| 2 | Bi-Weekly Surface Water Monitoring | 30 | 200 | 86 | | 316 | $ 43,930 | $ 3,100 | $ 47,030 |
| 3 | Maximum Benefit Annual Report | 40 | 20 | 30 | 8 | 98 | $ 16,340 | | $ 16,340 |
| 4 | Project Management and QA/QC | 40 | | | | 40 | $ 9,000 | | $ 9,000 |
| | Total Hours and Fee | 118 | 300 | 184 | 8 | 610 | $ 90,310 | $ 5,350 | $ 95,660 |
| | *Percent of Hours:* | *19%* | *49%* | *30%* | *1%* | *100%* | | | |

1) Direct costs include administation, reproduction of reports and transportation/lodging costs for site inspection and interviews.

# DUDEK
# 2016 STANDARD SCHEDULE OF CHARGES

## Engineering Services

| | |
|---|---|
| Project Director | $265.00/hr |
| Principal Engineer III | $235.00/hr |
| Principal Engineer II | $225.00/hr |
| Principal Engineer I | $215.00/hr |
| Program Manager | $205.00/hr |
| Senior Project Manager | $205.00/hr |
| Project Manager | $195.00/hr |
| Senior Engineer III | $195.00/hr |
| Senior Engineer II | $185.00/hr |
| Senior Engineer I | $175.00/hr |
| Project Engineer IV/Technician IV | $165.00/hr |
| Project Engineer III/Technician III | $150.00/hr |
| Project Engineer II/Technician II | $135.00/hr |
| Project Engineer I/Technician I | $120.00/hr |
| Project Coordinator | $95.00/hr |
| Engineering Assistant | $85.00/hr |

## Environmental Services

| | |
|---|---|
| Principal | $240.00/hr |
| Senior Project Manager/Specialist II | $225.00/hr |
| Senior Project Manager/Specialist I | $215.00/hr |
| Environmental Specialist/Planner VI | $195.00/hr |
| Environmental Specialist/Planner V | $175.00/hr |
| Environmental Specialist/Planner IV | $165.00/hr |
| Environmental Specialist/Planner III | $155.00/hr |
| Environmental Specialist/Planner II | $135.00/hr |
| Environmental Specialist/Planner I | $125.00/hr |
| Analyst III | $115.00/hr |
| Analyst II | $105.00/hr |
| Analyst I | $95.00/hr |
| Planning Assistant II | $85.00/hr |
| Planning Assistant I | $75.00/hr |

## Coastal Planning/Policy Services

| | |
|---|---|
| Senior Project Manager/Coastal Planner II | $220.00/hr |
| Senior Project Manager/Coastal Planner I | $210.00/hr |
| Environmental Specialist/Coastal Planner VI | $200.00/hr |
| Environmental Specialist/Coastal Planner V | $180.00/hr |
| Environmental Specialist/Coastal Planner IV | $170.00/hr |
| Environmental Specialist/Coastal Planner III | $160.00/hr |
| Environmental Specialist/Coastal Planner II | $150.00/hr |
| Environmental Specialist/Coastal Planner I | $140.00/hr |

## Archaeological Services

| | |
|---|---|
| Senior Project Manager/Archaeologist II | $215.00/hr |
| Senior Project Manager/Archaeologist I | $205.00/hr |
| Environmental Specialist/Archaeologist VI | $185.00/hr |
| Environmental Specialist/Archaeologist V | $165.00/hr |
| Environmental Specialist/Archaeologist IV | $155.00/hr |
| Environmental Specialist/Archaeologist III | $145.00/hr |
| Environmental Specialist/Archaeologist II | $135.00/hr |
| Environmental Specialist/Archaeologist I | $125.00/hr |
| Environmental Specialist/Paleontologist III | $165.00/hr |
| Environmental Specialist/Paleontologist II | $145.00/hr |
| Environmental Specialist/Paleontologist I | $125.00/hr |
| Paleontological Technician III | $85.00/hr |
| Paleontological Technician II | $75.00/hr |
| Paleontological Technician I | $55.00/hr |
| Archaeologist Technician II | $75.00/hr |
| Archaeologist Technician I | $55.00/hr |

## Construction Management Services

| | |
|---|---|
| Principal/Manager | $195.00/hr |
| Senior Construction Manager | $180.00/hr |
| Senior Project Manager | $160.00/hr |
| Construction Manager | $150.00/hr |
| Project Manager | $140.00/hr |
| Resident Engineer | $140.00/hr |
| Construction Engineer | $135.00/hr |
| On-site Owner's Representative | $130.00/hr |
| Construction Inspector III | $125.00/hr |
| Construction Inspector II | $115.00/hr |
| Construction Inspector I | $105.00/hr |
| Prevailing Wage Inspector | $135.00/hr |

## Compliance Services

| | |
|---|---|
| Compliance Director | $205.00/hr |
| Compliance Manager | $145.00/hr |
| Compliance Project Coordinator | $105.00/hr |
| Compliance Monitor | $95.00/hr |

## Hydrogeological Services

| | |
|---|---|
| Principal | $260.00/hr |
| Principal Hydrogeologist/Engineer | $240.00/hr |
| Sr. Hydrogeologist IV/Engineer IV | $225.00/hr |
| Sr. Hydrogeologist III/Engineer III | $210.00/hr |
| Sr. Hydrogeologist II/Engineer II | $195.00/hr |
| Sr. Hydrogeologist I/Engineer I | $180.00/hr |
| Hydrogeologist VI/Engineer VI | $160.00/hr |
| Hydrogeologist V/Engineer V | $150.00/hr |
| Hydrogeologist IV/Engineer IV | $140.00/hr |
| Hydrogeologist III/Engineer III | $130.00/hr |
| Hydrogeologist II/Engineer II | $120.00/hr |
| Hydrogeologist I/Engineer I | $110.00/hr |
| Technician | $100.00/hr |

## District Management & Operations

| | |
|---|---|
| District General Manager | $185.00/hr |
| District Engineer | $175.00/hr |
| Operations Manager | $150.00/hr |
| District Secretary/Accountant | $100.00/hr |
| Collections System Manager | $100.00/hr |
| Grade V Operator | $100.00/hr |
| Grade IV Operator | $90.00/hr |
| Grade III Operator | $85.00/hr |
| Grade II Operator | $63.00/hr |
| Grade I Operator | $55.00/hr |
| Operator in Training | $40.00/hr |
| Collection Maintenance Worker II | $60.00/hr |
| Collection Maintenance Worker I | $45.00/hr |

## Office Services

*Technical/Drafting/CADD Services*

| | |
|---|---|
| 3D Graphic Artist | $155.00/hr |
| Senior Designer | $145.00/hr |
| Designer | $135.00/hr |
| Assistant Designer | $130.00/hr |
| GIS Programmer I | $180.00/hr |
| GIS Specialist IV | $155.00/hr |
| GIS Specialist III | $145.00/hr |
| GIS Specialist II | $135.00/hr |
| GIS Specialist I | $125.00/hr |
| CADD Operator III | $125.00/hr |
| CADD Operator II | $120.00/hr |
| CADD Operator I | $105.00/hr |
| CADD Drafter | $95.00/hr |
| CADD Technician | $85.00/hr |

## Support Services

| | |
|---|---|
| Technical Editor III | $145.00/hr |
| Technical Editor II | $130.00/hr |
| Technical Editor I | $115.00/hr |
| Publications Specialist III | $105.00/hr |
| Publications Specialist II | $95.00/hr |
| Publications Specialist I | $85.00/hr |
| Clerical Administration II | $85.00/hr |
| Clerical Administration I | $80.00/hr |

**Forensic Engineering** – Court appearances, depositions, and interrogatories as expert witness will be billed at 2.00 times normal rates.
**Emergency and Holidays** – Minimum charge of two hours will be billed at 1.75 times the normal rate.
**Material and Outside Services** – Subcontractors, rental of special equipment, special reproductions and blueprinting, outside data processing and computer services, etc., are charged at 1.15 times the direct cost.
**Travel Expenses** – Mileage at current IRS allowable rates. Per diem where overnight stay is involved is charged at cost
**Invoices,Late Charges** – All fees will be billed to Client monthly and shall be due and payable upon receipt. Invoices are delinquent if not paid within 30 days from the date of the invoice. Client agrees to pay a monthly late charge equal to 1% per month of the outstanding balance until paid in full.
**Annual Increases** – Unless identified otherwise, these standard rates will increase 3% annually.

DUDEK

**Effective January 1, 2016**

# Director Comments

Yucaipa Valley Water District

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

Yucaipa Valley Water District

# 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).

Yucaipa Valley Water District

# 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.

Yucaipa Valley Water District

# COMMONLY USED ABBREVIATIONS

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