Element 8:
System Evaluation and Capacity Assurance Plan

This section of the SSMP discusses the District's capacity management measures, including the most recent Master Sewer Plan (and related Master Sewer Plan Addendums) and recommended capacity improvement projects. This section fulfills the System Evaluation and Capacity Assurance Plan SSMP requirement for the SWRCB.

8.1 Regulatory Requirements for Capacity Management

The requirements for the System Evaluation and Capacity Assurance Plan element of the SSMP are summarized below.

SWRCB Requirement:

The wastewater collection system agency shall prepare and implement a capital improvement plan that will provide hydraulic capacity of key sewer system elements under peak flow conditions. This plan must include:

(a) Evaluation: The agency must identify actions needed to evaluate those portions of the sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows, estimates of the capacity of key system components, hydraulic deficiencies, and the major sources that contribute to the peak flows associated with overflow events.

(b) Design Criteria: Where design criteria do not exist or are deficient, the agency should undertake the evaluation identified in (a) above to establish appropriate design criteria.

(c) Capacity Enhancement Measures: The agency must identify the steps needed to establish a short- and long-term capital improvement plan (CIP) to address identified hydraulic deficiencies including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.

(d) Schedule: The agency shall develop a schedule of completion dates for all portions of the CIP developed in (a) through (c) above. This schedule shall be reviewed and updated at least every five years.

8.2 Element 8 Attachments

Supporting information for Element 8 is included in Attachments E8. The attachment includes the following documents:

Attachment E8-A: Table of Contents of the District's Master Sewer Plan (September, 2004)
Attachment E8-B: Table of Contents of the District's Eastvale Master Sewer Plan Update (February 2004) and Eastvale Master Sewer Plan Update Addendum No. 1 (September 2004)
Attachment E8-C: Plate 16 of District's Master Sewer Plan Proposed Improvements (August 30, 2004)
Attachment E8-D Plate 3 of District's Master Sewer Plan Tributary Area Map (December 9, 2003)
Attachment E8-E Table 1 of District's Estimated Sewer Project Implementation Schedule (January 16, 2009)
Attachment E8-F JCSD Ordinance 208 Sewer Facility Charge
Attachment E8-G Table 8-4 JCSD Top 5 Localized System Repairs (May 2014)
Attachment E8-H Table 8-5 Recommended Capacity Projects Status Summary

8.3 Capacity Evaluation Discussion

The District completed a comprehensive Sanitary Master Sewer Plan in September 2004. The purpose of the Master Sewer Plan was to provide the District with a planning document that would outline a program to provide for the construction of "backbone" trunk sewer facilities for areas within the District, excluding the Eastvale Area, which was prepared under separate cover. The cover and table of contents for the original report was well as the cover and first page of the addendum is provided in Attachment E8-A.

In order to accomplish the objectives of the Master Sewer Plan report, the scope of the study included the following:

1. Research and data collection;
2. Review of existing and projected study area characteristics;
3. Development of design criteria and basis of cost estimates;
4. Evaluation of existing facilities;
5. Determination of projected wastewater flows;
6. Hydraulic analysis of existing system
7. Hydraulic analysis of design year system
8. Development of capital improvements required and estimated costs associated therewith.

The Table of Contents of the District's Master Sewer Plan is provided in Attachment E8-A.

A Master Sewer Plan Addendum was completed in October 2007. The purpose of the Addendum was to re-evaluate the wastewater generation factors based on current District flow records and re-calculate the wastewater generation factors using the recorded data. New "build-

out" average daily flows were calculated using the new wastewater generation factors. These updated flow projections were used primarily for the purposes of predicting ultimate treatment plant capacity and the resulting amount of plant expansion and/or purchase that will be required. Additionally, all project costs were updated to October 2007 from the 2004 Master Sewer Plan and were presented in the Addendum. Wastewater quality was also reviewed based on recorded data.

Since the publication of the 2004 Master Sewer Plan and subsequent October, 2007 Addendum, significant changes concerning the District's sewer system occurred. As a result, the District prepared a second Master Sewer Plan Addendum dated May 25, 2010. The purpose of the second Addendum was to address potential system changes. The analysis focused on the following elements:

1. Reviewed the concept of transporting wastewater flows across the Santa Ana River via a new force main within the new Van Buren Boulevard bridge to the City of Riverside for treatment. Currently, wastewater flows under the Santa Ana River to the City of Riverside's WQCP via an inverted siphon.
2. Evaluated the required infrastructure to transport flows currently directly tributary to the inverted siphon referenced in Item 1 across the new Van Buren Boulevard bridge crossing the Santa Ana River.
3. Reviewed the possible renovation of the Indian Hills WWTP that was previously decommissioned.
4. Reviewed an alternative method (subregional lift station and force main) of accommodating the growth of flows tributary to the regional lift station.
5. Reviewed an alternative of constructing a new regional force main to the City of Riverside and expanding the regional lift station.
6. Evaluated the expansion of wastewater storage ponds at Plant 1.

The Master Sewer Plan Addendum No. 2 provided the following findings:

1. The concept of transporting wastewater flows across the Santa Ana River via a forcemain in the Van Buren Bridge to the City of Riverside's Water Quality Control Plant was determined to be the best method of transporting flows to the City. As such the District constructed a new force main, that is presently "dry" until other infrastructure is in place, from the Clay Street/Van Buren Blvd. intersection across the bridge to the westerly side of the City of Riverside's WQCP in Van Buren Blvd.

2. As a result of Item 1, the Clay/Van Buren Lift Station and Clay Lift Station, currently being reconstructed as the Linares Lift Station, will ultimately pump to the Van Buren Bridge crossing instead of the District's existing 18" dia. regional forcemain.

3. With the implementation of Items 1 and 2 above, the idea of renovating the Indian Hills WWTP was deferred.

4. Addendum No. 2 and an additional report entitled "Feasibility and Planning Study for the Felspar Lift Station Site and Forcemain Alignment" concluded that a sub regional

lift station was not the most cost effective alternative and the construction of additional capacity at Plant 1 is the selected alternative.

5. The alternative of constructing a new regional forcemain to the City of Riverside and constructing a new regional lift station at Plant 1 is the District's current plan.

6. With the construction of a second regional forcemain a certain amount of pipeline redundancy is obtained and additional pumping capacity is achieved. As such, the expansion of the wastewater storage ponds have been deferred.

The Master Sewer Plan and Addendums are separate documents from this SSMP; this section of the SSMP summarizes key capacity-related portions of the Master Sewer Plan and Addendums.

The capacity assessment completed as part of the District's Master Sewer Plan was based on hydraulic modeling of the District's sewer system under current and ultimate design flows. The following subsections provide a brief summary of the modeled system, flow estimates, and evaluation criteria used for the District's sewer system capacity evaluation.

The District has not experienced any sanitary sewer overflows due to hydraulic deficiencies in the sewer system. Likewise, modeling of the District's sewer system conducted during the preparation of the 2004 Master Sewer Plan also showed that under current development conditions no hydraulic deficiencies exist.

Hydraulic Model

Based on tributary drainage areas developed in the September 2004 Master Sewer Plan (Attachment E8-C) and pipeline layouts, a hydraulic model was developed to determine the adequacy of the existing trunk sewer lines to convey wastewater generated under ultimate buildout conditions. The sewer system was modeled by utilizing SewerCAD computer software. This software has the capabilities to analyze the system as a whole and to provide an efficient means of calculating the complex hydraulics that is attributed to sewer systems of this magnitude.

The program also calculates the depth of flow and the hydraulic grade line by using the standard step energy balance, an iterative procedure based on the Bernoulli equation. The ratio of the depth of flow to the diameter of the pipe can also indicate if the pipe is flowing above its capacity. Pipelines that convey flows exceeding their capacity are identified by the software.

Using the SewerCAD software, a hydraulic model of the existing trunk system was prepared. Pipes with diameters 10 inches and larger were considered part of the trunk system. Eight (8) inch diameter pipes were not modeled unless they served as a main flow path within the system. It is difficult to ascertain the percentage of the system that was modeled because the model was based upon the sewer system in the year 2000 and inventory records have been updated so that the exact footage of pipeline at that time is unknown. Additionally since the year 2000 almost all of the sewer lines added occurred in the Eastvale annexation area of the District which increased the size of the District about 40% to and added a substantial increase to the District's pipeline totals because of the explosive growth from 2000 to the present.

Input for the model consisted of pipeline data, manhole (nodal) elevations and locations, pipeline slopes, wet weather infiltration rates, peaking factors and wastewater input locations and quantities. In addition to the trunk system, pipelines with minimum slopes were modeled in order to evaluate possible constrictions within the system.

Manual input of the model was required. Information utilized for modeling input was derived from the District's Sewer Atlas Maps. These maps provided vital information such as pipe diameters, slopes, pipe material, manhole depths, etc… Though the maps provided a gamut of useful and vital information, they did not provide flowline elevations at the manholes (nodes).

Flowline elevations at the nodes are a required input parameter for the SewerCAD Modeling Software. The software utilizes input parameter such as the length of pipe in conjunction with the upstream and downstream nodal flowline elevations to calculate the slope of the respective pipe. Direct input of the slope values of the respective pipes is not permitted by the software.

The software calculations are based on a slope of pipe, Manning's "n" value and D/d ratio; therefore, the flowline elevations are irrelevant. An arbitrary flowline elevation at the downstream node of a pipe may be utilized in conjunction with a known length and slope to manually calculate the upstream nodal flowline elevation. Once downstream and upstream nodal elevations have been established, these values along with the length may be inputted into the software, thus allowing the software to calculate the slope.

The flowline data of the Jurupa Trunk System was entered first because it is essentially the backbone trunk system of the Distrct. The starting node or manhole of the Jurupa Trunk System is located at the Regional Wastewater Pump Station (Plant 1). The flowline elevation at this node will be utilized to establish a base elevation for the entire model. Using the slope and length values as shown in the District's Atlas Maps, the flowline elevations of the upstream manholes were calculated for each run of pipe to be modeled. This calculation was conducted to the furthest upstream node of the system.

To input other trunk systems connecting to the Jurupa Trunk System, the starting downstream point or node of those systems were the corresponding nodes located at various points along the Jurupa Trunk Line.

Not all the manholes and pipes of the trunk sewer systems were inputted into the model. If there was a long stretch of trunk sewer and manholes with consistent slopes and pipe diameters, it was modeled as one long pipe.

The pipe and nodal identifying numbers utilized in the model (Plate 12) corresponds to the identifying numbers utilized in the current District Sewer Atlas Maps. For modeled pipes consisting of multiple pipes and nodes, the most downstream pipe number and upstream node number was utilized in the model. These numbers were utilized in the model with the addition of a prefix to identify the trunk system in which it is part of:

Prefix	Trunk System
J	Jurupa Trunk System
G	Glen Avon Trunk System
B	Bain Trunk System
P	Pedley Trunk System
I	Indian Hills Overflow Line (Indian Hills WRF Area)
H	Hamner Avenue Trunk (CFD Area)
W	Wineville road Trunk (CFD Area)
E	Etiwanda Avenue Trunk (CFD Area)
PC	Pyrite Creek Interceptor

A model of the existing JCSD Trunk Systems was inputted based on the above methodology. The model consisted of 186 pipes (115,810 feet of pipe), 186 nodes (manholes) and 4 outlets (wastewater discharge points). Physical characteristics of the model consisted of pipe diameters, lengths, slopes, flowline elevations and nodal locations. Hydraulic characteristics of the model consisted of Manning's "n" value and D/d ratio.

The flow inputs at these nodes were based on wastewater generation values tabulated in Appendix I of the Master Sewer Plan, which provided average daily flow generation for Ultimate Buildout Conditions. Utilizing the SewerCAD software, the peaking factors as well as wet weather infiltration rates were applied to the flow inputs to determine the adequacy of each pipeline to convey the Ultimate Wastewater flows. Refer to Section 6 of the Master Sewer Plan for a complete discussion of the model development.

The District's ten (10) lift stations were not included in the model, but the lift station capacities were compared to estimated flows to determine whether or not the lift stations had adequate capacity.

Infiltration/Inflow

The District's sewer system consists of three distinct areas with very different infiltration/inflow (I/I) characteristics. Two of the areas (CFD No. 1 and Eastvale) are relatively new with the majority of the sewer system being less than 15 years old. Therefore, these systems are designed with the latest material standards and manholes are typically located within improved street sections where storm water inflow is minimized.

The third District sewer area ("Plant 1" Tributary Area) is more problematic with regards to I/I because the system is nearly 50 years old, the major trunk sewer in the area (Pyrite Creek) is located in a water course, and several manholes are located in sump conditions and are routinely used by private and public entities to dewater flooded road sections. The District's methodology in reducing I/I consists of the following activities:

1. Use of plastic inserts underneath the manhole covers to reduce potential inflow.
2. Use of water tight manhole covers in locations subject to flooding.
3. An aggressive CIP Trunk Sewer Replacement program that is currently replacing the Pyrite Creek Trunk Sewer and the Jurupa Road Trunk Sewer.

4. Perform ongoing video inspection of pipelines and determine if full or partial lining is required or if full replacement is necessary.
5. Maintain a continuous program for detecting and eliminating sources of I/I consisting of the following elements:
   A. Conduct flow monitoring at key locations in the system to determine if I/I is excessive.
   B. Conduct smoke and dye testing to locate I/I sources.

The District is currently re-evaluating its I/I Program based upon current flow records and the results will be available by September of this year (2014).

Flow Estimates

All flows transported by District sewer systems are generated within the District's boundaries. Refer to Section 4 of the Master Sewer Plan for a complete discussion of the projected wastewater flows.

Future flows were estimated from tributary areas based on the Riverside County Integrated Project (RCIP) Jurupa Area Land Use Plan and the RCIP Eastvale Area Land Use Plan. Flows were based on flow factors for the land use characteristics described in the RCIP Jurupa Area and Eastvale Area Land Use Plan for the 86 tributary areas in the District. Existing flows were recorded with flow monitors at strategic locations throughout the District's sewer system. "Build-Out" flows were calculated based on the new wastewater generation factors developed in the October 2007 Master Sewer Plan Addendum.

Capacity Evaluation Criteria

The capacity evaluation criteria used in the Master Sewer Plan is summarized below. Refer to Section 3 of the Master Sewer Plan report for a complete discussion of the capacity evaluation criteria.

Flow Criteria. Consideration was given to both dry weather and wet weather flows in order to design the proposed trunk sewer system. Since most of the sewers in the study area will lie above the groundwater table, infiltration during dry weather periods is assumed to be negligible. However, wet weather infiltration plus direct storm inflow must be added to dry weather flows to obtain the total wet weather flow. Wet weather flows determine the hydraulic capacity of pipelines and other facilities such as lift stations and inlet and outlet structures.

Six elements were considered in formulating the projected flows that will be associated with the tributary sewage flow areas and land use. The six elements of wastewater flow examined were: dry weather flows, infiltration/inflow, wet weather flows, wastewater generation, peak flow factors, and large point sources and related peaking factors.

Gravity Pipe Criteria. Pipelines are sized on the principle of conducting wastewater at a minimum velocity of 2 ft/sec when flowing with a maximum depth to diameter ratio (D/d of 0.5 for 8-inch and D/d of 0.75 for 10-inch and greater) and are sized to carry peak flows without surcharge. A mean roughness coefficient (n) of 0.013 is used for new pipe sizing. A safety factor should be included in the design of all gravity flow pipelines to account for errors due to

the variability of the initial approximation of flow and partial clogging of the sewer. The method of accounting for the inherent variables is to limit the depth of flow.

Force Main Criteria. Force mains are designed to flow full with minimum velocities required to prevent deposition of suspended solids. Velocities normally fall within a range of from 3 to 5 fps. A velocity of 2 fps is considered to be sufficient to prevent settling of solids, but velocities of between 2.5 and 3 fps are required to re-suspend those which already have accumulated in the force main. If flushing velocities are attained once or twice a day, excessive deposits are not likely to occur.

Material that would be considered for force mains are polyvinyl chloride (PVC), mortar-lined or specially lined ductile iron pipe and HDPE. Final selection of pipe materials would be made during the detailed design phase. Diameters are calculated using the Hazen-Williams formula with a roughness coefficient (C) of 110.

Lift Station Criteria. Small sewage pump stations should have two pumping units, with each unit sized to pump the peak design flow. One pumping unit operates during each pumping cycle with the other acting as standby. These units alternate in operation so that equal wear can occur. Typically, the pumping units are a submersible design with the units placed in a manhole or precast vault structure.

Intermediate sized sewage pump stations should be planned to have three units of usually equal size. One or two units can operate during a pumping cycle with the third unit acting as a standby in case one of the primary units fails. Two pumping units operating at the same time should be sized to handle the peak design flow. Intermediate sized sewage lift stations can have submersible pumping units or be of a wet well / dry well design.

Large sewage pump stations should be designed so ready expansion can occur when necessary. Thus, mechanical equipment may be installed at various stages of development. Large sewage pump stations typically provide for complete separation of wet and dry wells with easy access to both.

In all cases, standby drives or power units should be provided in cases where bypassing cannot be allowed around the sewage pump station.

Capacity Evaluation Results

The capacity evaluation identified twelve (12) gravity sewer sections with insufficient hydraulic capacity under ultimate average daily flow conditions. These limitations are summarized below in Table 8-1. For a complete discussion, refer to Section 7 of the Master Sewer Plan report.

Gravity Pipe Capacity Limitations. As a result of loading ultimate wastewater flows on the existing trunk sewer system, various sewers required replacement, relief or rerouting to provide for adequate flow conveyance and minimize hydraulic deficiencies.

Table 8-1 Trunk Sewer System Improvements

Project Designation No.	Project Description
P-J-1	Jurupa Trunk Sewer – Felspar St & Limonite Ave, Sewer Pipe Rerouting (36, 39 & 42-inch) – **Status – currently under construction.**
P-J-2	Jurupa Trunk Sewer – Adjacent to UPRR between Jurupa Rd & 54th St, Sewer Pipe Replacement (30 & 36-inch) – **Construction to commence this calendar year (2014).**
P-J-3	Jurupa Trunk Sewer – Jurupa Rd between Felspar St & Tyrolite St, Sewer Pipe Replacement (18, 21 & 24-inch) - **Status – currently under construction.**
P-J-4	Jurupa Trunk Sewer – Valley Way between Soto Rd & 34th St, Sewer Pipe Replacement (12 & 15-inch) - **Status – currently under construction.**
P-J-5	Jurupa Trunk Sewer – Armstrong Rd., Sewer Pipe Replacement (10-inch) - **Status – currently under construction.**
P-PC-1	New Pyrite Creek Interceptor – Slip line of a existing portion of Jurupa Trunk Sewer and new pipe starting on 59th St at Tumbleweed to Rutile St at 60th St (15-inch, 21-inch) – **Construction to commence this calendar year.**
P-G-1	Glen Avon Relief Sewer – Campbell St & Bellegrave Av, Relief Sewer (12 & 15-inch)
P-G-2	Glen Avon Trunk Sewer – Mission Blvd to Galena St, Felspar St & Jurupa Rd, Sewer Pipe Replacement (15, 18 & 21-inch)
P-B-1	Bain Street Trunk Sewer – Realignment of Bain Street Trunk Sewer at lower end of sewer (18 & 27-inch) - **Status – currently under construction.**
P-P-1	Pedley Trunk Sewer – Replacement of sewers along the Pedley Trunk Sewer (12 & 15-inch)
P-LS-1	Proposed Expansion of the Regional Lift Station Facility (8.6 mgd peak flow, 3 Pump Configuration)
P-FM-1	Proposed 24-inch Parallel Regional Sewer Forcemain parallel to the existing Regional Forcemain (16,000 feet) - **Status – currently under construction. Major segment ready to advertise for bids.**

Lift Station Capacity Limitations. With the renovation of the Lakeside Lift Station currently in construction, the District will operate ten (10) lift stations. Also, the District has two (2) standby lift stations (Archibald/Chandler, and Hamner) to divert flows to the SARI line should circumstances dictate. A capacity status of the ten (10) operational lift stations are summarized in Table 8-2:

Table 8-2: Status of Active Lift Stations

Item No.	Lift Station Name	Station Capacity (gpm)	Standby Power Capabilities	Current Capacity Status
1	Linares (Formerly Clay)	750	Fixed at site	With the construction of a railroad grade separation project, the existing Clay Lift Station is being demolished and replaced with a new lift station named "Linares" for an adjacent street to the site. The new lift station will be operational in June, 2014 and will be able to accommodate build out flows.
2	Clay/Van Buren	400	Currently mobile – renovation will add fixed	The District is ready to advertise for bids for this lift station's renovation project. The renovated lift station will be above to accommodate build out flows.
3	Emergency Bypass at Plant 1	3000	Fixed at site	The District's 2014-15 fiscal budget has funding allocated for this lift station's renovation which will be able to accommodate built out flows.
4	Florine	500	Fixed at site	Replacement lift station construction completed to increase capacity to build out flows
5	44th Street	?	Mobile	Small lift station sized for build out flows
6	Regional at Plant 1	3500	Fixed at site	Preliminary Design Report completed to replace the existing lift station. The replacement lift station will be sized to accommodate build out flows.

7	Sky Country1	?	Mobile	Sized for build out flows. Will be abandoned with the construction of the Sky Country Trunk Sewer
8	Sky Country 2	?	Mobile	Sized for build out flows
9	Sky Country 3	?	Mobile	Sized for build out flows. Will be abandoned with the construction of the Sky Country Trunk Sewer
10	Lakeside	350	Mobile	Currently under construction and sized for build out flows.

Force Mains. With the construction of the Lakeside Forcemain, the District will operate ten (10) force mains. Also, the District has two (2) standby force mains (Archibald/Chandler, and Hamner). A capacity status of the remaining ten (10) operating force mains are summarized in Table 8-3.

Table 8-3: Status of Active Forcemains

Item No.	Forcemain Name	Diameter (in.)	Length (ft.)	Current Capacity Status
1	Linares (Formerly Clay)	10	3650	With the construction of a railroad grade separation project portions of the existing forcemain are being re-routed. Additionally a new forcemain has been constructed to allow this lift station to ultimately pump to the Van Buren Bridge crossing the Santa Ana River. Both the existing and new forcemains will accommodate build out flows.
2	Clay/Van Buren	8	100	The existing forcemain will accommodate built out flows. In the future, a new forcemain crossing the Van Buren Bridge Santa Ana River will also accommodate build out flows.
3	Emergency Bypass at Plant 1	18	460	Will accommodate design flow
4	Florine	8	2300	Replacement forcemain has been constructed to increase capacity for build out flows
5	44th Street	(1)	(1)	Forcemain sized for build out flows
6	Regional at Plant 1	18	14,700	Portions of a new forcemain has been constructed and a key segment is ready to advertise for bids. The new forcemain will accommodate build out flows.
7	Sky Country1	10	6400	Sized for build out flows. Will be abandoned with construction of the Sky Country Trunk Sewer
8	Sky Country 2	6	50	Sized for build out flows
9	Sky Country 3	6	800	Sized for build out flows. Will be abandoned with construction of the Sky Country Trunk Sewer
10	Lakeside	6	210	New forcemain will accommodate build out flows.

(1)No forcemain as pumps lift wastewater to gravity pipeline manhole outlet.

8.4 Recommended Capacity Projects

This section discusses criteria used to size replacement facilities and summarizes the recommended capacity improvement projects. Refer to Section 8 of the Master Sewer Plan for a complete discussion of the capacity evaluation recommendations.

Design Criteria

For pipeline projects, the minimum size for a main line sewer is 8-inch diameter. Under ultimate peak wet weather flow conditions new sewers 8-inches in diameter are sized to flow with D/d ≤ 0.5 (maximum) full and 10-inches and lager are sized to flow with D/d ≤ 0.75 (maximum).

For sewage forcemains, the preferred minimum velocities are 2.5 – 3.0 fps with the maximum velocity being 5 fps.

For lift stations the pumping capacity is the peak wet weather flow conditions either at a future design year or ultimate build out conditions.

Recommended Capacity Improvements

As previously indicated the District has taken on an aggressive program to implement the recommended capacity improvements to meet ultimate build out conditions. To accomplish this improvement implementation the District issued Certificates of Participation Build America Bonds that provided nearly $30 million to finance the majority of the required capacity improvement projects. Further, the District has initiated an "on call" contractor localized system repair program (Table 8-4), and an existing sewer pipeline rehabilitation/replacement project program (shown on Table 8-5) to mitigate existing deficiencies in the collection system.

The results of these aggressive measures are shown on Table 8-5 (Recommended Capacity Projects Status Summary, June 2014) and are graphically illustrated on Plate 1.

Finally, the District has developed a thorough pipeline rehabilitation and repair evaluation program. The program being used is based upon the "Pipeline Assessment Certification Program" (PACP) which evaluates numerous aspects of the existing pipeline being evaluated. Based upon the existing pipelines evaluated thus far, the District has identified and prioritized the four (4) projects shown under "Pipeline Rehabilitation/Replacement Projects" shown on table 8-5.

8.5 CIP Schedule

Refer to Table 8-4 recommended Capital Projects Status Summary (June, 2014) for the long term schedule of proposed sewer capital improvement projects.

Attachment E8-A:

Table of Contents of the District's Master Sewer Plan (September 2004)

MASTER SEWER PLAN

Prepared for:

Jurupa
COMMUNITY SERVICES DISTRICT

September, 2004

ALBERT A. WEBB ASSOCIATES
ENGINEERING CONSULTANTS

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Attachment E8-B:

Table of Contents of the District's Eastvale Master Sewer Plan Update (February 2004) and Eastvale Master Sewer Plan Update Addendum No. 1 (September 2004)

EASTVALE MASTER SEWER PLAN UPDATE

February, 2004

Prepared By
Albert A. Webb Associates

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EASTVALE MASTER SEWER PLAN UPDATE

ADDENDUM NO. 1

September, 2004

Prepared by
Albert A. Webb Associates

INTRODUCTION

Due to the strength of the local economy, recent construction bids have been higher than expected. This is especially true for sewer projects. As a result, the District has increased the unit construction and project costs for the February, 2004 Eastvale Master Sewer Plan Update. The updated cost estimates are approximately 25 percent higher than the referenced reports' costs. The updated unit construction costs that are shown on Table 1, were based on recent publicly bid projects. Recent bids have been from 14 to 42 percent higher than anticipated. The 42 percent figure was for an extremely deep sewer (Citrus Street trunk sewer), which for the most part, will not be constructed in the District after the Citrus Street Trunk Sewer is completed. It was therefore determined that a 25 percent increase to the previous used Master Plan unit costs would be appropriate.

It should be noted that unlike water pipeline projects that normally have a relatively consistent and shallow depth, and therefore a fairly predictable construction cost, sewer pipeline construction costs can vary significantly due to the unknown depths of the sewerlines at the project planning stage. Construction costs for sewerlines can increase rapidly with increased depth due to additional shoring costs, larger volume of excavation, larger volumes of pavement removals and replacements and the increased possibility of encountering groundwater and rock material. As such, in order to ensure the District will collect adequate funds to construct future master planned trunk sewers, relatively conservative costs should be used in the concept stage of planning studies such as the subject report. As additional engineering facts are obtained, refinement in the cost estimates can occur.

COST ANALYSIS

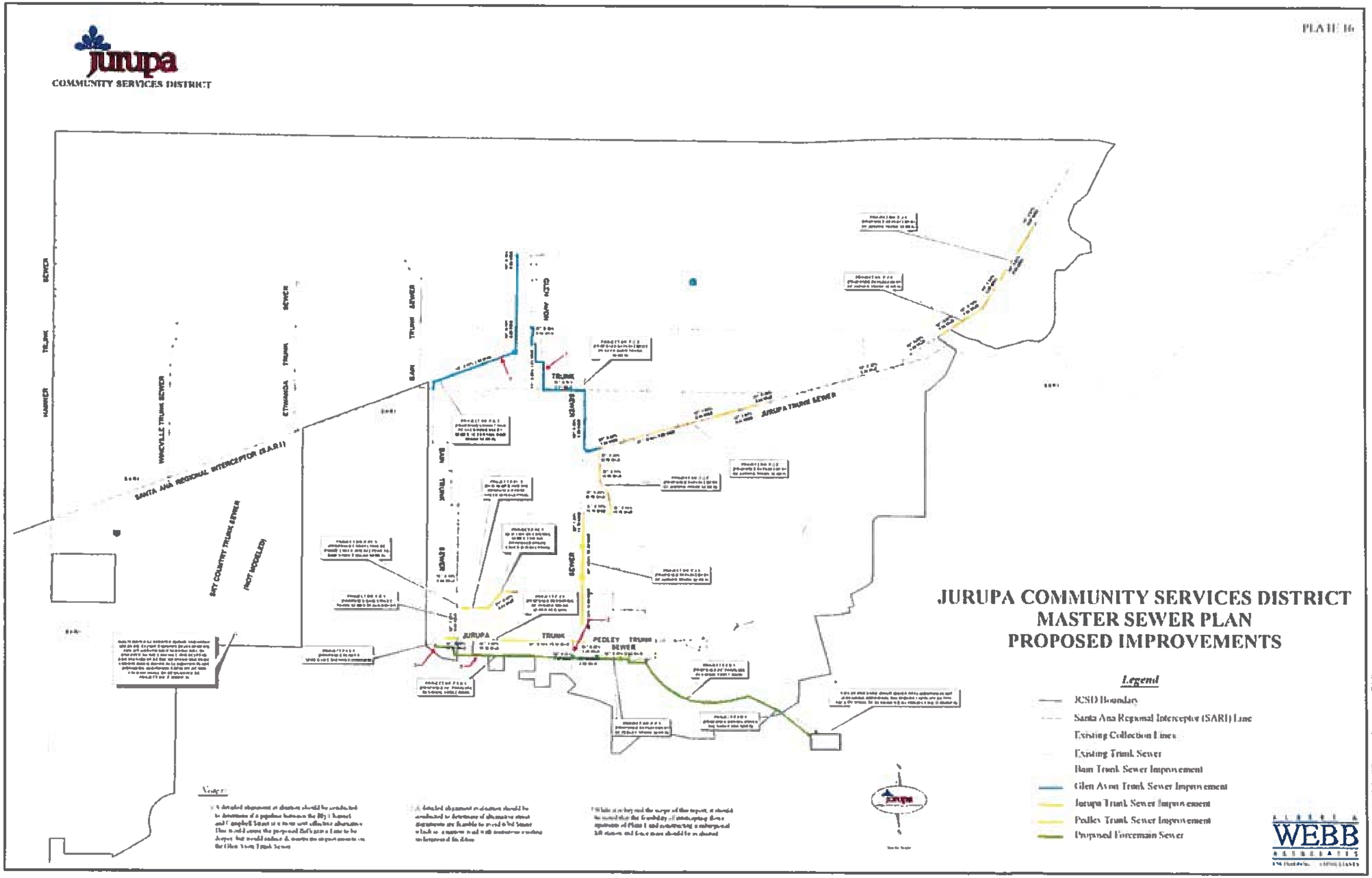
Pipelines

The unit costs for sewerlines include pipeline material and installation, manholes, asphalt concrete removal, disposal, and replacement. Construction costs were determined by reviewing historical bids of similar projects and through a cost study where a "generic bid" was sent to three prominent contractors in the area. The generic bid was based on the assumptions that an average project for the District would consist of 2,500 linear feet of pipe, and that asphalt concrete roads would be removed, disposed of, and replaced. Road reconstruction was assumed to be 25 feet wide with 4 inches of AC pavement over 8 inches of Class II base. The average depth of the pipe was assumed to be 20 ft and would require B-2 bedding. It was assumed nine, 5 ft diameter manholes would be installed for each project. These costs were then updated to correlate with recent bid results and are about 25 percent higher than the previously used data. Not included in the unit cost estimates are extraordinary construction items such as bore casings, dewatering, rock removal, etc... A summary of these estimated unit costs are as shown on Table 1.

Attachment E8-C:

Plate 16 of District's Master Sewer Plan Proposed Improvements (August 30, 2004)

PLATE 16



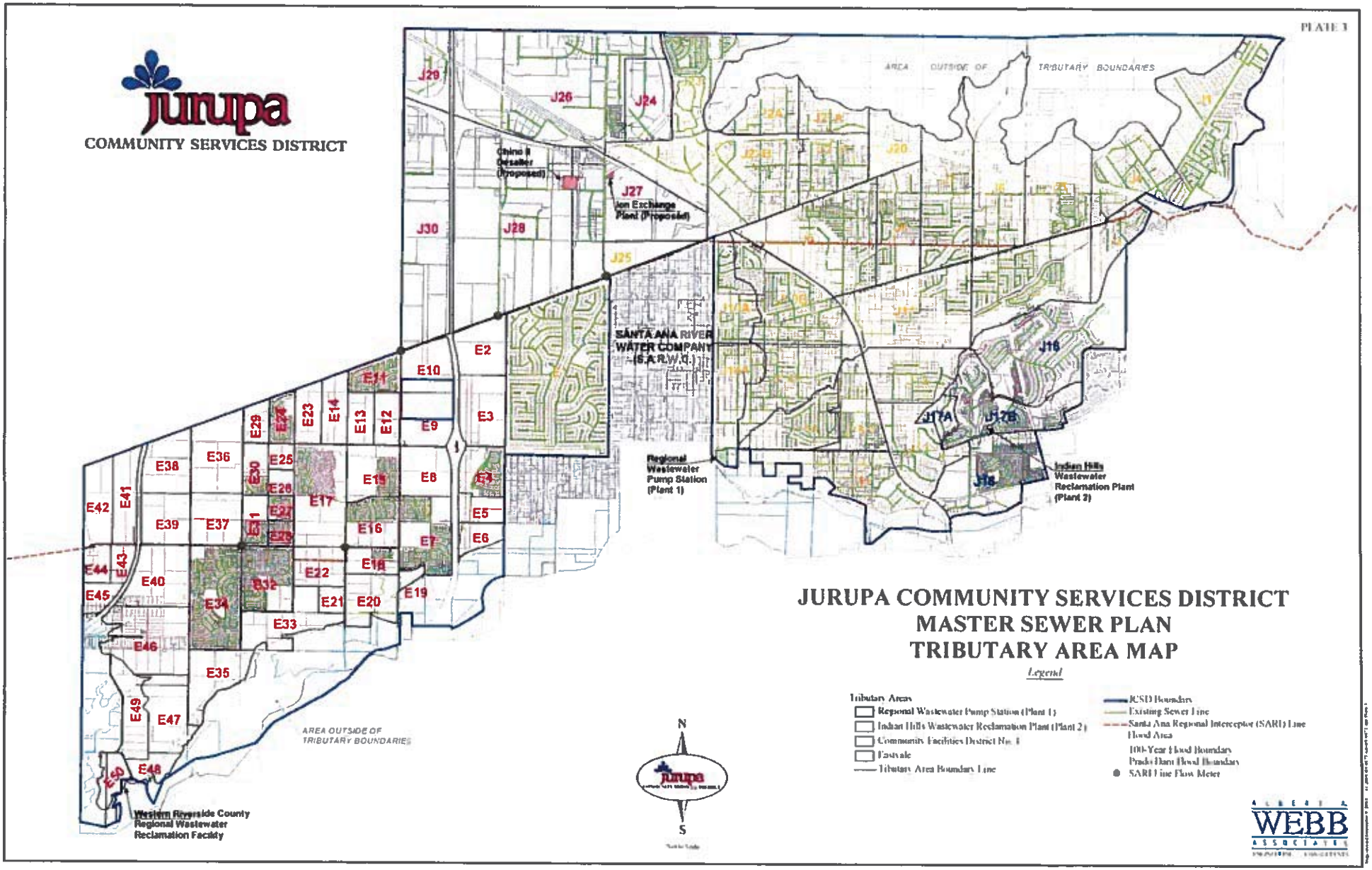
Jurupa
COMMUNITY SERVICES DISTRICT
JURUPA COMMUNITY SERVICES DISTRICT
MASTER SEWER PLAN
PROPOSED IMPROVEMENTS
Legend
JCSD Boundary
Santa Ana Regional Interceptor (SARI) Line
Existing Collection Lines
Existing Trunk Sewer
Bain Trunk Sewer Improvement
Glen Avon Trunk Sewer Improvement
Jurupa Trunk Sewer Improvement
Pedley Trunk Sewer Improvement
Proposed Forcemain Sewer
HAMNER TRUNK SEWER
WINEVILLE TRUNK SEWER
ETIWANDA TRUNK SEWER
BAIN TRUNK SEWER
SANTA ANA REGIONAL INTERCEPTOR (SARI)
SKY COUNTRY TRUNK SEWER
(NOT MODELED)
GLEN AVON TRUNK SEWER
JURUPA TRUNK SEWER
PEDLEY TRUNK SEWER
Notes:
WEBB

Attachment E8-D:

Plate 3 of District's Master Sewer Plan
Tributary Area Map (December 9, 2003)

PLATE 3

JURUPA
COMMUNITY SERVICES DISTRICT



JURUPA COMMUNITY SERVICES DISTRICT
MASTER SEWER PLAN
TRIBUTARY AREA MAP

Legend

Tributary Areas
- Regional Wastewater Pump Station (Plant 1)
- Indian Hills Wastewater Reclamation Plant (Plant 2)
- Community Facilities District No. 1
- Eastvale
- Tributary Area Boundary Line

- JCSD Boundary
- Existing Sewer Line
- Santa Ana Regional Interceptor (SARI) Line
- Flood Area
- 100-Year Flood Boundary
- Prado Dam Flood Boundary
- SARI Line Flow Meter

ALBERT A. WEBB ASSOCIATES

Attachment E8-E:

Table 1 of District's Estimated Sewer Project Implementation Schedule (January 16, 2009)

Table 3
PROJECT COST ALLOCATION SUMMARY[1]
Draft 11/16/09

Facility	Total Estimated Project Cost	Existing Customers	Future Customers	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	FY 28-29	Expenditure Estimated to Occur More Than 20 yrs. From FY 09-10
				Projected Project Implementation Year[2,3]																				
Trunk Sewers																								
Pyrite Creek Project	$ 11,960,000								$ 4,400,000	$ 4,4[illegible]	$ 4,760,000													
Van Buren Trunk Sewer	$ 5,720,000										$ 5,730,000													
Armada Trunk Sewer Upstream	$ 8,820,000								$ 1,120,000		$ 1,3[illegible]		$ 1,070,000						$ 2,1[illegible]				$ 862,000	
Pedley Trunk Sewer	$ 3,340,000								$ 3,340,000															
Subtotal Trunk Sewers	$ 29,840,000	$ 15,367,620	$ 14,472,380																					
Regional Wastewater Pump Station Expansion and New Forcemain to the City of Riverside's WWTP	$ 11,760,000	$ 7,161,840	$ 4,598,160			$ 4,000,000	$ 4,000,000	$ 3,760,000																
City of Riverside WWTP Capacity Purchase	$ 14,600,000	N/A	$ 14,600,000												$ 7,300,000			$ 7,300,000						
Subtotals (areas excluding Home Lift Station Service Area)	$ 56,200,000	$ 22,529,460	$ 33,670,540																					
Home Lift Station Replacement	$ 2,900,000	$ 1,215,400	$ 1,684,600	$ 2,900,000																				
Subtotals (areas including Home LS Service Area)	$ 59,100,000	$ 23,744,860	$ 35,355,140																					
Plant 1 Wastewater Storage Pond Expansion	$ 4,800,000	$ 2,920,000	$ 1,880,000		$ 4,800,000																			
Annual Sewer Replacement/Rehabilitation Program	$ 2,000,000	$ 2,000,000	N/A	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	
WRCRWA Treatment Plant Capacity Purchase	$ 39,740,000	N/A	$ 39,740,000						$ 19,870,000												$ 19,870,000			
Beer Road Lift Station Expansion and Additional Force Main	$ 1,320,000	N/A	$ 1,320,000													$ 1,320,000								
TOTALS	$ 106,960,000	$ 29,264,860	$ 77,695,140	$ 4,900,000	$ 6,800,000	$ 6,000,000	$ 6,000,000	$ 5,760,000	$ 30,730,000	$ 6,4[illegible]	$ 11,810,000	$ 2,000,000	$ 3,070,000	$ 2,000,000	$ 9,300,000	$ 3,320,000	$ 2,000,000	$ 9,300,000	$ 4,170,000	$ 2,000,000	$ 21,870,000	$ 2,000,000	$ 2,862,000	$ -

[1] Excludes CFD No. 1 and Eastvale Area "B" (Plate A) improvements since these areas have separate financing arrangements for their specific locations.
[2] Project cost, or portions thereof, allocated to fiscal year when construction or WWTP capacity purchase is estimated to occur. Project cost is 1.4 times construction cost. Project cost includes construction cost, construction contingencies, design engineering including plans and specifications, design and construction surveying and mapping, geotechnical evaluation and report, engineering contract administration, field inspection and basic environmental documentation. Costs are based on Engineering News Record (ENR). The Civil Construction Cost Index for the Los Angeles Area for August, 2009 (9342) was utilized. Escalation, financing, interest during construction, legal, land, R.O.W. agent, and environmental impact report costs are not included in project costs. Additionally, not included in the unit cost estimates are extraordinary construction items such as bore casings, dewatering, rock removal, etc.
[3] Refer to Table 2 for project implementation assumptions.
[4] Includes Bain Street Trunk Sewer, Armada Trunk Sewer (downstream), and Pyrite Creek Interceptor.
[5] Previous costs escalated from the PDR in the amount of $2,100,000 were factored up to match the District's current Capital Budget.
[6] Assume $1,000,000 of the amount indicated may be required to restore the original design capacity to WRCRWA Treatment Plant. Actual amount is pending future WWTP studies.
[7] Cost per year.

Attachment E8-F:

JCSD Ordinance 208 Sewer Facility Charge

ORDINANCE NO. 208

AN ORDINANCE OF JURUPA COMMUNITY SERVICES DISTRICT INCREASING SEWER FACILITIES FEE AND ESTABLISHING SEWER FACILITIES FEE FOR BELLEGRAVE AVENUE AREA

BE IT ORDAINED by the Board of Directors of Jurupa Community Services District as follows:

Section 1. Findings. The Board of Directors finds as follows:

(a) In order to finance the planning, design, construction and acquisition of public sewer facilities, including trunk sewer mains, lift stations, treatment and disposal facilities or capacity in such facilities, that are necessary for the District to provide adequate sewer service to existing and new development in the District, the District collects from applicants for sewer service a sewer facilities or connection fee (the "Sewer Facilities Fee") in the amount of $3,468 per equivalent dwelling unit (*i.e.,* 280 gallons per day). The revenues derived by the District from the collection of the Sewer Facilities Fee are applied by the District toward the cost of the planning, design, construction, installation and acquisition of the public sewer facilities which must be added to the District's sewer system from time to time to enable the District to provide adequate sewer service to all customers.

(b) Albert A. Webb Associates, the District's consulting engineer has prepared the Eastvale Area Master Sewer Update, dated September, 2004 (the "Master Plan Update"), and an analysis which is contained in a letter addressed to the District's General Manager dated March 23, 2005 (the "Analysis") regarding the sewer facilities which will be necessary for the District to provide sewer service to the Eastvale Area and other developing areas of the District, including the area hereinafter identified as the "Bellegrave Avenue Area," and the adequacy of the District's current Sewer Facilities Fee to provide the funds which will be required to finance the design, construction and acquisition of such facilities which contains findings, conclusions and recommendations regarding such facilities, the portion of the cost of such facilities which should be allocated to the Eastvale Area, the portion of the cost thereof which should be allocated to other parts of the District, including the Bellegrave Avenue Area, and the necessary increase in the Sewer Facilities Fee to provide funds for the financing of the cost of the design, construction and acquisition of such facilities.

(c) The Master Plan Update and the Analysis also identify specific sewer facilities which will be necessary for the District to provide sewer service to the area of the District which is located between Cantu-Galleano Road on the north, Etiwanda Avenue on the east, Bellegrave Avenue on the south and Hamner Avenue on the west (the "Bellegrave Avenue Area") and the adequacy of the District's current Sewer Facilities Fee to provide the funds which will be required to finance the design, construction and acquisition of such facilities and contain findings, conclusions and recommendations regarding such facilities, the portion of the cost of such facilities which should be allocated to the Bellegrave Avenue Area, the portion of the cost thereof which should be allocated to other parts of the District, and the amount of the Sewer Facilities Fee that will be necessary to provide funds for the financing of the cost of the design, construction and acquisition of such facilities.

(d) The Analysis recommends (i) that the Sewer Facilities Fee be increased to $5,910 per equivalent dwelling unit to apply to all areas of the District except the Bellegrave Avenue Area, and (ii) that a Sewer Facilities Fee be established for the Bellegrave Avenue Area in the amount of $8,275 per equivalent dwelling unit (the "Bellegrave Avenue Area Sewer Facilities Fee").

(e) The facilities, the design, construction and acquisition of which are to be financed with the proceeds of the increased Sewer Facilities Fee and the Bellegrave Avenue Area Sewer Facilities Fee are identified in the Analysis which is on file with the Secretary of the Board of Directors.

(f) There is a reasonable relationship between (i) the use of the increased Sewer Facilities Fee to finance the design, construction and acquisition of such facilities and the need for such facilities and (ii) the type of development projects which will be subject to the payment of the increased Sewer Facilities Fee in that the increased Sewer facilities Fee is necessary to finance such facilities and without such facilities the District would not be able to provide sewer service to such projects.

(g) There is a reasonable relationship between the increased amount of the Sewer Facilities Fee and the cost of the public facilities, the design, construction and acquisition of which are to be financed with the proceeds of the Sewer Facilities Fee, in that the increased Sewer Facilities Fee is based upon the estimated cost of such facilities as contained in the Analysis.

(h) The amount of the proposed increased Sewer Facilities Fee will not exceed the estimated reasonable cost of the design, construction and acquisition of such public facilities.

(i) The facilities, the design, construction and acquisition of which are to be financed with the proceeds of the Bellegrave Avenue Area Sewer Facilities Fee are identified in the Analysis which is on file with the Secretary of the Board of Directors.

(j) There is a reasonable relationship between (i) the use of the Bellegrave Avenue Area Sewer Facilities Fee to finance the design, construction and acquisition of such facilities and the need for such facilities and (ii) the type of development projects which will be subject to the payment of the Bellegrave Avenue Area Sewer Facilities Fee in that the Bellegrave Avenue Area Sewer Facilities Fee is necessary to finance such facilities and without such facilities the District would not be able to provide sewer service to such projects.

(k) There is a reasonable relationship between the amount of the Bellegrave Avenue Area Sewer Facilities Fee and the cost of the public facilities, the design, construction and acquisition of which are to be financed with the proceeds of the Bellegrave Avenue Area Sewer Facilities Fee, in that the Bellegrave Avenue Area Sewer Facilities Fee is based upon the estimated cost of such facilities as contained in the Analysis.

(l) The amount of the proposed Bellegrave Avenue Area Sewer Facilities Fee will not exceed the estimated reasonable cost of the design, construction and acquisition of such public facilities.

(m) Based on an analysis of the estimated cost of the design and construction of sewer mains, sewer lift stations and wastewater treatment and disposal facilities and capacity, the Analysis allocates the recommended increased Sewer Facilities Fee as follows: Eastvale Pipelines – $1,304.98, River Road Lift Station & Force Mains - $379.33, Western Riverside County Regional Wastewater Authority Wastewater Treatment Plant Expansion - $3,910.65, and Lift Station Conversion - $314.49.

(n) Based on an analysis of the estimated cost of the design and construction of sewer mains, sewer lift stations and wastewater treatment and disposal facilities and capacity, the Analysis allocates the Bellgrave Avenue Sewer Facilities Fee as follows: Eastvale Pipelines – $1,304.98, Bellegrave Avenue Area Pipelines - $2,364.70, River Road Lift Station & Force Mains - $379.33, Western Riverside County Regional Wastewater Authority Wastewater Treatment Plant Expansion - $3,910.65, and Lift Station Conversion - $314.49.

(o) Pursuant to Section 66016 of the Government Code, the Board of Directors afforded all persons present at its regular meeting held on May 9, 2005, an opportunity to make oral or written presentations regarding the proposed increase in the Sewer Facilities Fee and the establishing of the Bellegrave Avenue Area Sewer Facilities Fee.

Section 2. **Increase in Sewer Facilities Fee; Allocation.** The Sewer Facilities Fee shall be and is hereby increased to $5,910 per equivalent dwelling unit. The increased Sewer Facilities Fee shall apply to all areas of the District except the Bellegrave Avenue Area. The Sewer Facilities Fee shall be and is allocated among the needed facilities as follows: Eastvale Pipelines - $1,305.00, River Road Lift Station & Force Mains - $380.00, Western Riverside County Regional Wastewater Authority Wastewater Treatment Plant Expansion - $3,911.00, and Lift Station Conversion - $314.00.

Section 3. **Bellegrave Avenue Area Sewer Facilities Fee; Allocation.** The Bellegrave Avenue Area Sewer Facilities Fee is established in the amount of $8,275 per equivalent dwelling unit. The Bellegrave Avenue Area Sewer Facilities Fee shall apply only to the Bellegrave Avenue Area. The Bellegrave Avenue Area Sewer Facilities Fee shall be and is allocated among the needed facilities as follows: Eastvale Pipelines - $1,305.00, Bellegrave Avenue Area Pipelines - $2,365.00, River Road Lift Station & Force Mains - $380.00, Western Riverside County Regional Wastewater Authority Wastewater Treatment Plant Expansion - $3,911.00, and Lift Station Conversion - $314.00.

Section 4. **Effective Date.** The Sewer Facilities Fee, as increased hereby, and the Bellegrave Avenue Area Sewer Facilities Fee shall become effective on the sixtieth (60th) day from the date of the adoption of this ordinance or on July 8, 2005.

ADOPTED this 9th day of May, 2005.

President of the Board of Directors

ATTEST:

Secretary of the Board of Directors

STATE OF CALIFORNIA)
) ss.
COUNTY OF RIVERSIDE)

I, CAROLE A. MC GREEVY, Secretary of the Board of Directors of Jurupa Community Services District, do hereby certify that the foregoing Ordinance was duly and regularly introduced and adopted by the Board of Directors at its meeting held on the 9th day of May 2005 by the following vote:

AYES:	Director(s)	Kenneth J. McLaughlin, Paul E. Hamrick, James C. Huber, Jack E. Smith,Curtis Hummel
NOES:	Director(s)	None
ABSTAINED:	Director(s)	None
ABSENT:	Director(s)	

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of Jurupa Community Services District on the 9th day of May 2005.

(SEAL)

Secretary of the Board of Directors

Attachment E8-G:

Table 8-4 JCSD Top 5 Localized System Repairs (May 2014)

TABLE 8-4
JCSD - TOP 5 LOCALIZED SYSTEM REPAIRS (MAY 2014)

Sewer Main Segment	Street	Pipe Size and Type	Defect Rating	Flow Rate	Sensitivity	Total Rating	Priority Rating	Estimated Repair Cost	Asset Depth	Asset Length	Repair Length	Repair Method	Defect Description / Notes
S-GM-G12-E1896	Live Oak	8" VCP and DI	10	9	8	27	1	8	2.5	357	357	Excavation	DIP Corrossion / Large Hole, Over MWD Pipe, IH Golf Course, Shallow
S-GM-I9-3453	63rd Street	8" VCP	9	8	6	23	2	10	10.5	667	667	Excavation - Replace	Cracks / Sags / Roots - Whole Length, Needs New MH in Middle
S-GM-C16-3139	Donner & 30th	8" VCP and DI	9	3	7	19	3	2	6	227	10	Excavation - Reapir Band	Broken Coupling, Offset Joints Backyards, Next to Storm Drain
S-GM-H13-E2142	Limonite & Camino Real	8" PVC, DI	8	3	7	18	4	4	4	140	30	Excavation / CIPP	Severe SAG Over MWD Pipe, DIP Corrosion, 2 SSO's in Past, 53 EDU's
S-GM-F9-E-1691	53rd Street	6" VCP	9	2	2	13	5	6	10	300	5	Excavation / CIPP	Severe Pipe Cracks - 5 Feet Long, Roots in Joints / Laterals, 6-Inch

Rating Criteria Notes:

Defect Rating: Based Upon Cues Score Divided By 10 - Scale of 1-10, 10 Being Worst
Flow Rate: Based Upon Number of Upstream EDU's: 0-25 = 1; 26-50 =2 . . . 226-250+ = 10
Sensitivty (Environmental, Traffic, Public Exposure): Low = 1 High = 10
Cost: $0-5,000 = 1; $5001 -10,000 = 2 . . . $45,001-50,000+ = 10

Attachment E8-H:

Table 8-5 Recommended Capacity Projects Status Summary

TABLE 8-5

RECOMMENDED CAPACITY PROJECTS STATUS SUMMARY[1]

(JUNE, 2014)

Project Designation No.	Project Description	Project Status	Estimated Project Completion Date	Five (5) Year CIP					
				2014-15	2015-16	2016-17	2017-18	2018-19	Beyond 2019
P-J-1	Jurupa Trunk Sewer - Felspar St. & Limonite Ave., Sewer Pipe Rerouting	Construction nearing completion	July, 2014	$5,500,000					
P-J-2	Jurupa Trunk Sewer - Adjacent to Metrolink between Jurupa Road & 54th St. Sewer Pipe Replacement	Construction nearing completion for portion of pipeline. Remaining portion construction to commence this calendar year and be completed next calendar year (15-16)	December, 2015	(4)					
P-J-3	Jurupa Trunk Sewer - Along Jurupa rd. between Felspar St. & Tyrolite St. Sewer Pipe Replacement	Project currently under construction	December, 2014	$5,400,000					
P-J-4	Jurupa Trunk Sewer - Valley Way between Soto Rd. & 34th St. Sewer Pipe Replacement	Project currently under construction	December, 2014	(5)					
P-J-5	Jurupa Trunk Sewer - Armstrong Rd. Sewer Pipe Replacement	Project currently under construction	December, 2014	(5)					
P-PC-1	New Pyrite Creek Interceptor - Slip line of an existing portion of Jurupa Trunk Sewer and new pipe starting on 59th St. at Tumbleweed to Rutile St. at 60th St.	Construction to commence this calendar year (2014)	December, 2015	(4)					
P-G-1	Glen Avon Relief Sewer - Campbell St. & Bellegrave Ave. Relief Sewer	Construction planned for Fiscal Year 2017-18	June, 2018			$250,000	$6,150,000		
P-G-2	Glen Avon Trunk Sewer - Mission Blvd. to Galena St., Felspar St. & Jurupa Rd. Sewer Pipe Replacement	Construction planned for Fiscal Year 2017-18	June, 2018			(6)	(6)		
P-B-1	Bain Street Trunk Sewer - Realignment of Bain Street Trunk Sewer at lower end of sewer	Construction to commence this calendar year (2014)	December, 2015	(4)					
P-P-1	Pedley Trunk Sewer - Replacement of sewers along the Pedley Trunk Sewer (12 & 15-inch)	Construction planned for Fiscal Year 2018-19	December, 2019				$300,000	$1,040,000	
P-LS-1	Proposed Plant 1 Sewer Lift Station Expansion at the Regional Lift Station Facility	PDR completed	Beyond 2019[2]						$13,000,000
P-FM-1	Proposed 24-inch Parallel Regional Sewer Forcemain parallel to the existing Regional Forcemain	Construction nearing completion for portion of pipeline. Major portion of pipeline ready to advertise for bids. Final portion of pipeline to complete project pending negotiations with City of Riverside	December, 2015[3]	$11,925,000					
P-WWRP-1	Sky Country Sewer - new pipeline to abandon Sky Country Lift Station Nos. 1 & 3	Construction planned for Fiscal Year 2015-16	June, 2016	$200,000	$4,200,000				
Pipeline Rehabilitation/ Replacement Projects	Foxtail-Mapleton Area Etiwanda/Inland	Planning Stage	FY 2015-16		$700,000				
	51st St. through 55th St. Area	Planning Stage	FY 2016-17			$1,500,000			
	63rd St. Morton Area/Van Buren/Live Oak Area	Planning Stage	FY 2017-18				$2,000,000		
	Country Village Mission Area	Planning Stage	FY 2018-19					$2,000,000	
River Road LS	Pumping Expansion & Additional Forcemain	Planning Stage	FY 2016-17		$250,000	$1,450,000			

[1]Refer to Plate 1 for locations.

[2]District has budgeted $1,000,000 for Fiscal Year 2014-15 for the existing Regional Lift Station Renovation.

[3]Final project completion pending City of Riverside negotiations to complete final pipeline segment.

[4]Included in Project P-J-1.

[5]Included in Project P-J-2.

[6]Included in Project P-G-1.