Yucaipa Valley Water District

Workshop Memorandum 12-062

Date: **March 27, 2012**

Subject: **Yucaipa Valley Regional Brineline Economic Opportunity Analysis**

The Yucaipa Valley Water District is planning to complete the construction of the Yucaipa Valley Regional Brineline and the reverse osmosis equipment at the Wochholz Regional Water Recycling Facility within the next year. Upon completion of these facilities, the District will have a unique opportunity to provide businesses with the ability to increase salinity loading to the sewer system throughout our service area. At that time, it would be advantageous to have marketing information available for businesses to understand the benefits of locating in the City of Calimesa or the City of Yucaipa.

The Santa Ana Watershed Project Authority (SAWPA) has embarked on a similar effort with the preparation of information that explains the benefits of the Inland Empire Brineline. Overall, SAWPA has the best information available about brine disposal in the Inland Empire. A few of the documents prepared by SAWPA are attached.

The purpose of this workshop agenda item is to provide an overview of the salinity management opportunities available for the businesses that locate in the District's service area.

SAWPA

"A Cost Effective Way to Dispose of Salty Liquid Waste from Your Facility"

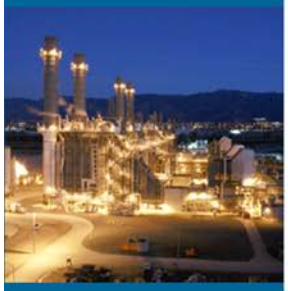
Inland Empire Brine Line

WHAT IS IT?

The **Inland Empire Brine Line** is an effective and economical means for customers to dispose of salty wastewater. Like much of the Inland Empire, Publicly Owned Treatment Works (POTW) in inland areas have TDS* restrictions which may prevent your industry from discharging its waste to the sanitary sewer. The Inland Empire Brine Line transport this salty wastewater to a treatment plant operated by the Orange County Sanitation District. After treatment, the water is discharged to the Pacific Ocean. With the Inland Empire Brine Line you can now dispose of this waste locally without trucking it outside of the region.

USEFUL DEFINITIONS:

* **Biochemical Oxygen Demand (BOD)** is a measure of biological activity (bacteria) in the water.
* **Total Suspended Solids (TSS)** is a measure of the amount of suspended solids in a water.
* **Total Dissolved Solids (TDS)** is a measure of the combined content of all inorganic and organic dissolved substances contained in a liquid.



DETAILS

Industries that typically benefit from disposal of salty waste water to the Brine Line include:

- Biotech Manufacturing
- Power Plants/Co-Generation Plants
- Medical Supply Manufacturing
- Water Purification Plants (bottled water and ion exchange facilities)
- Computer Chip Manufacturers
- Commercial Laundries
- Food/Beverage Processing

Industries that use the following also may benefit:

- Large Water Softeners (the regeneration waste is high in TDS*)
- Large Cooling Towers (the process wastewater is typically high in TDS*)
- Large Boilers (the process wastewater is typically high in TDS*)
- Ultra-pure water (the processes used to make the ultra-pure water generate high TDS* wastewater)

The cost of wastewater disposal is based on three components:

- The discharge volume
- Concentration of BOD*
- Concentration of TSS*

There are two ways to dispose of waste water to the Brine Line:

- **Direct Disposal**
- **Hauled Liquid Waste**

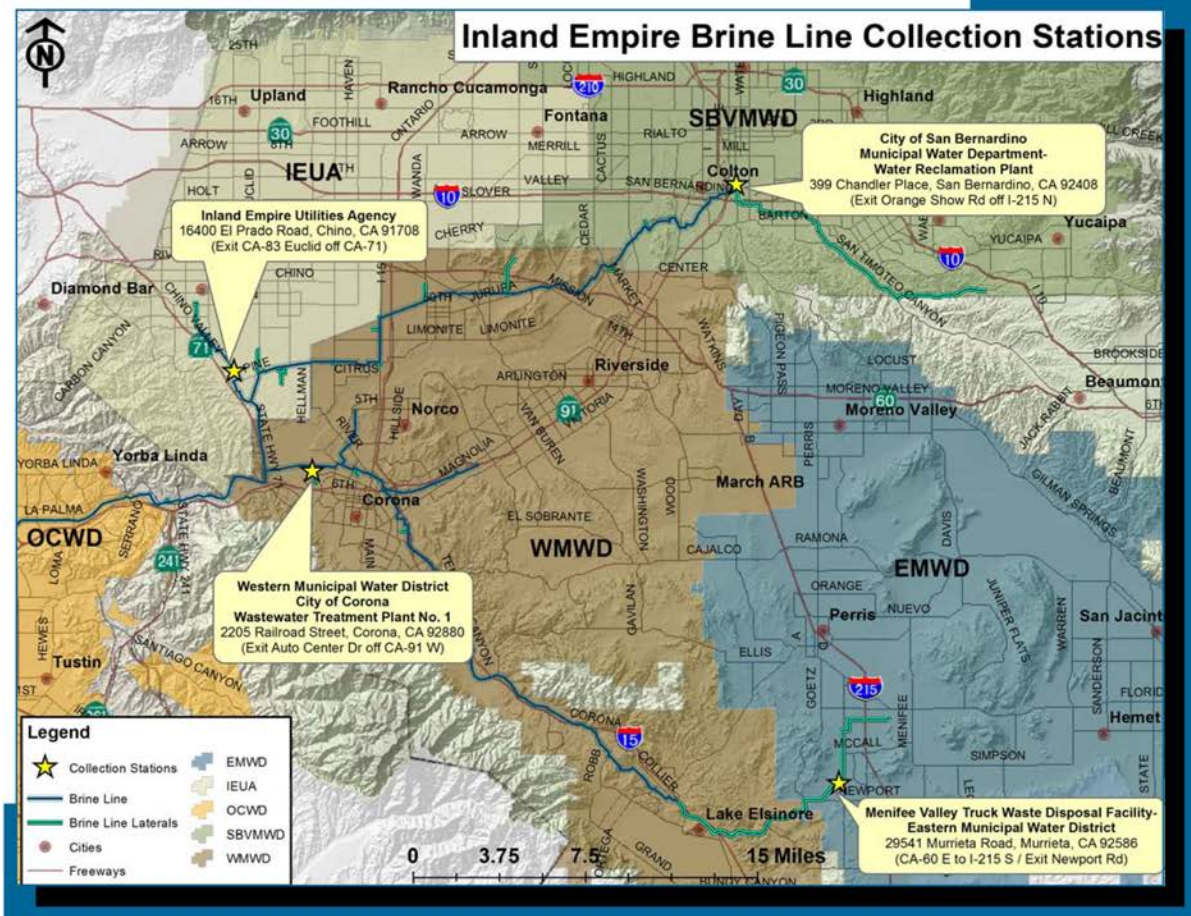
"SAWPA can provide assistance in determining whether the Brine Line is appropriate for your industry"

DIRECT DISPOSAL

- These customers are close enough to construct a direct-connection and produce enough waste to economically justify the connection cost.

HAULED LIQUID WASTE

- These customers typically generate a small amount of high TDS waste or are not located close enough to the Brine Line to make a direct connection.
- Liquid waste is disposed of at one of the four Brine Line Collection Stations using a permitted commercial Waste Hauler (refer to map below for location of the Stations).
- Everyone within the SAWPA service area is within 20 miles of a Brine Line Collection Station.



BRINE LINE DISPOSAL LIMITS

- To dispose of your waste using the Brine Line, your waste must meet established limits for constituents such as heavy metals, total petroleum hydrocarbons, pH, total toxic organics, and pesticides.

Constituent	Limit (mg/L – except pH)	Constituent	Limit (mg/L – except pH)
pH	6.0-12.0	Zinc	10.0
Arsenic	2.0	Cyanide (Total)	5.0
Cadmium	1.0	Cyanide (Amenable)	1.0
Chromium (Total)	2.0	Polychlorinated Biphenyls	0.01
Copper	3.0	Pesticides	0.01
Lead	2.0	Total Toxic Organics	0.58
Mercury	0.03	Sulfide (Total)	5.0
Nickel	10.0	Sulfide (Dissolved)	0.5
Silver	5.0	Oil and Grease (Petroleum)	100
Fat, Oils, & Grease	500		

BENEFITS TO OUR WATERSHED

SALT REMOVAL
500,000 lbs of salt removed per day

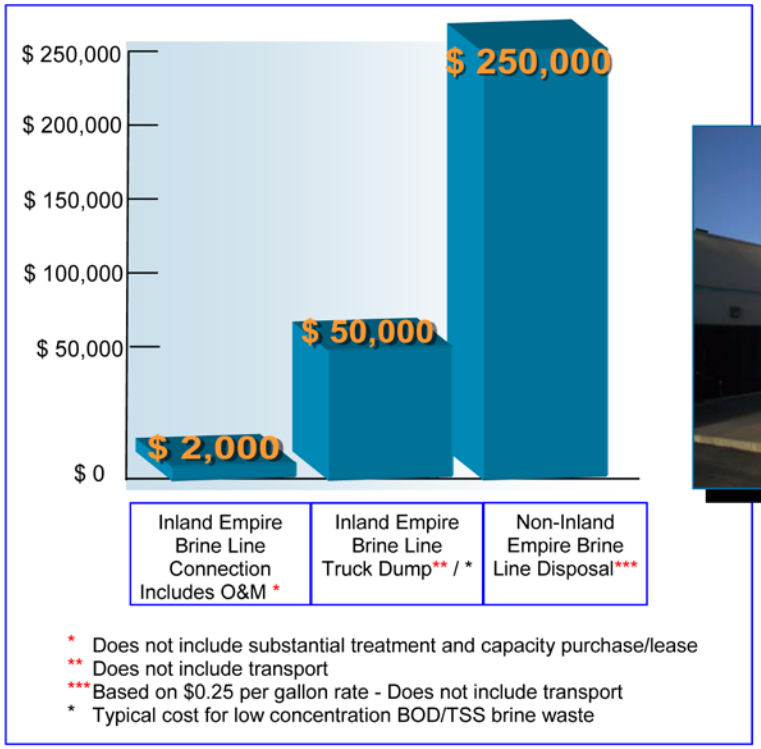
- Allows use of groundwater resources from aquifers having too much salt or other contaminant.
- Protects and improves groundwater quality through salt and contaminant removal.
- The highest and best use of the Inland Empire Brine Line is the removal of salts from the Watershed to keep them from degrading water quality within the Watershed, thereby allowing better use of groundwater resources and expanding the ability to reclaim water.

“ The Inland Empire Brine Line lets you take advantage of the lower business operating costs in the Inland Empire!”

INLAND EMPIRE BRINE LINE COSTS

- Brine Line disposal costs are approximately $0.05/gallon for low concentration BOD/TSS brine wastewater compared to $0.25/gallon for brine waste disposal elsewhere in the LA basin.

APPROXIMATE DISPOSAL COST FOR ONE MILLION GALLONS OF BRINE WATER



"Customers in the Inland Empire may have a cost advantage over those in the rest of the Los Angeles Basin"

PROCESS TO BECOME A DIRECT DISPOSAL CUSTOMER

- Negotiate for capacity to dispose and treat the waste.
- Complete and submit a permit application http://www.sawpa.org/documents/DIRECTDISCHARGERAPPLICATION.pdf
- Submit construction plans for approval to the appropriate City/ Agency.
- Once the contracts are in place, the permit is approved/issued and the lateral line constructed, the tie-in can be made and operation can begin.
- The permit will include monitoring requirements and a requirement for a contingency plan for your liquid wastes in case the Brine Line is temporarily not available.

PROCESS TO BECOME A HAULED LIQUID WASTE CUSTOMER - Fastest way to connect

- Complete and submit a Hauled Liquid Waste Generator Permit Application http://www.sawpa.org/documents/WasteHaulerApp10_12_2010Final.pdf
- Contract with a permitted waste hauler for disposal of the waste at one of the four Brine Line Collection Stations.
- Your permit application will be reviewed and a representative will visit your business to complete the permitting process.
- Once approved, a permit for waste disposal will be issued. The permit will include monitoring requirements and contingency plan in the event that the Brine Line Collection Station is not temporarily available.

"We Are the Solution to Your Salt Disposal Problem"

SAWPA

For more information about the Inland Empire Brine Line contact:

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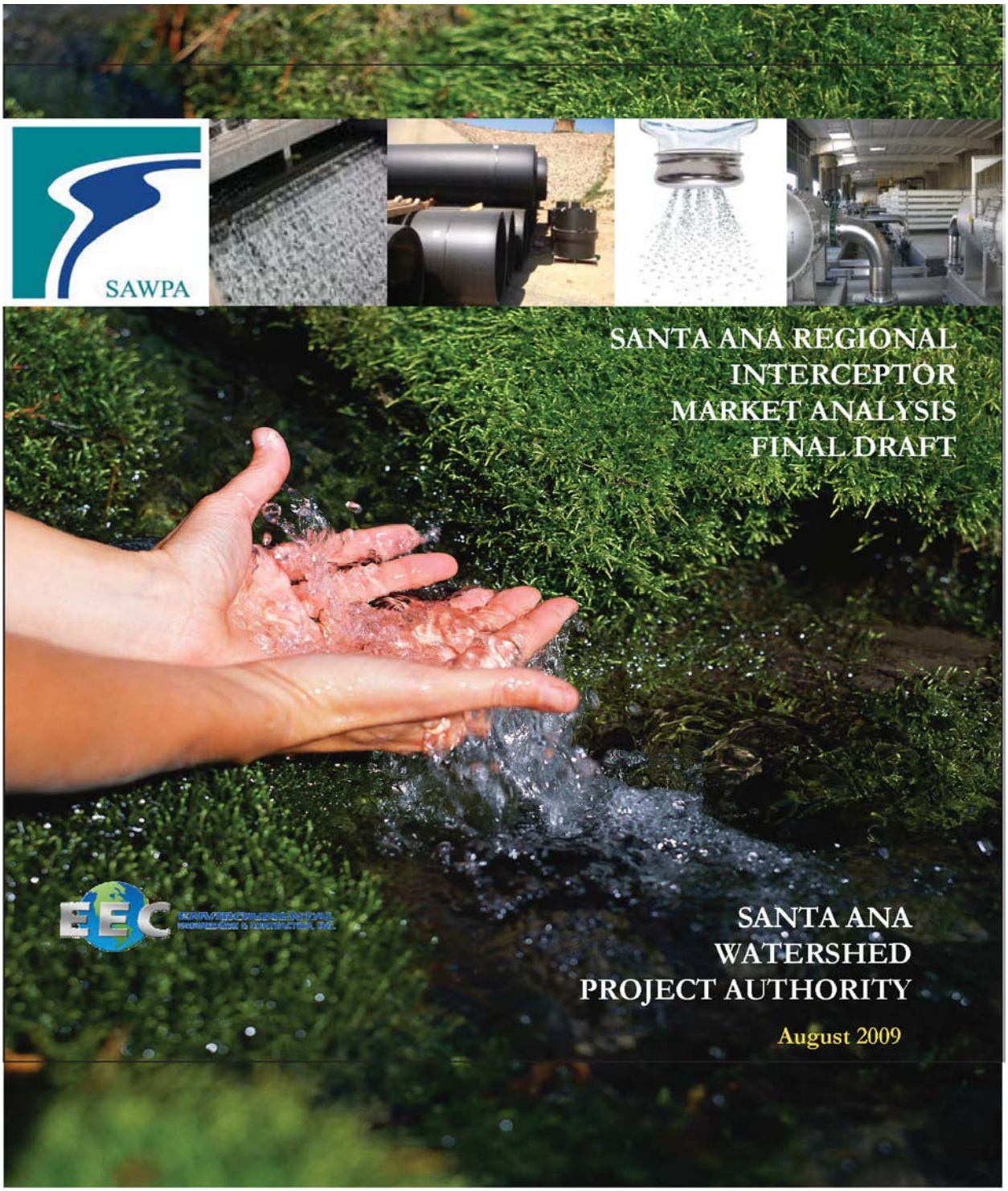
Email: **IEBrineline@sawpa.org**
Website: www.sawpa.org

Look for the Inland Empire Brine Line Icon on our website

Inland Empire Brine Line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FINAL DRAFT
EEC
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WATERSHED
PROJECT AUTHORITY
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