# Salinas Valley Water Project
# Cost Allocation Committee

# RECOMMENDED STRATEGY

## November 2002

The following is a summary of the strategy that the Cost Allocation Committee (CAC) is recommending for a new assessment to fund the operation and maintenance of Nacimiento and San Antonio Reservoirs and the implementation of the Salinas Valley Water Project (SVWP). It is the intent of the CAC that recommendations outlined below serve as the basis for an Engineer's Report to be distributed for public review as part of the Proposition 218 Special Assessment election.

The Monterey County Water Resources Agency (MCWRA) has used the opportunity presented by the CAC process to perform a comprehensive review of its activities. In particular, the MCWRA is proposing to consolidate the present zones of benefit into a single zone that would fund operations of the reservoirs and the SVWP based on the proportional special benefits received, as is required by Proposition 218. The CAC supports this effort by the MCWRA.

To achieve its goal of a comprehensive overhaul of its assessment funding, the MCWRA relied upon the CAC to represent the many diverse interests within the County. The CAC members include representatives from all five sub-basin areas and consist of the agriculture community, development interests, and urban communities. All members of the CAC have actively participated in the discussions and have shaped the recommendations described in this report.

The recommended strategy reflects a consensus on the CAC about the most appropriate general method for the MCWRA to fund necessary activities. Some details remain to be worked out and will be described in the Engineer's Report. Not all members of the CAC agree with all elements of the proposed assessment methodology, but the members of the CAC all do agree with this general approach to funding the operation of the reservoirs and the SVWP.

It is MCWRA's intent that the existing water standby and availability charges for Zones 2 and 2A will cease upon approval of the proposed Zone 2C assessment. In the event that the proposed Zone 2C assessment is not approved, the existing Zone 2 and 2A water standby and availability changes will remain in effect.

We, the Cost Allocation Committee, recommend the assessment methodology summarized herein below and further recommend the MCWRA's use in the Engineer's Report.

| | |
|---|---|
| Dan Anderson – Forebay | Steve Jensen East Side Alliance |
| Bob Antle – Pressure Area | Jim Manassero – East Side Alliance |
| Mike Armstrong – Urban Community | Bob Martin - Forebay |
| Chris Bunn – Pressure Area | Roger Moitoso – Upper Valley |
| Don Chapin, Jr. - North Monterey County | Arvid Myhre – Upper Valley |
| Carl Chase – North Monterey County | Greg O'Neal – Pressure Area |
| Jan Collins – Urban Community | Jim Perrine – Urban Community |
| Matt Gourley – Urban Community | Rich Smith – Arroyo Seco |
| Chris Indelicato – Upper Valley | Jim Smith – Urban Community |
| Nancy Isakson – Arroyo Seco | |

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## ***Introduction***

The purpose of this document is to summarize the process that the Monterey County Water Resources Agency (MCWRA) has used to develop a new assessment to fund implementation of the Salinas Valley Water Project (SVWP) and the continued operations and maintenance of Nacimiento and San Antonio Reservoirs. The SVWP consists of two capital elements – modification of the spillway at Nacimiento Reservoir and construction of the Salinas River Diversion Facility. The primary goals of the continued operation of the two existing reservoirs and the proposed SVWP are:

1. Conserve water within the basin to increase groundwater recharge;
2. Improve the long-term hydrologic balance between recharge and withdrawal;
3. Stop seawater intrusion;
4. Provide a sufficient water supply to meet water needs through the year 2030; and
5. Provide flood protection.

A new assessment zone, Zone 2C, will be established to pay for the benefits associated with the continued operation and maintenance of the two reservoirs and the proposed SVWP. As required by Proposition 218, Zone 2C is defined to include the lands that receive special benefit from the operation and maintenance of the two reservoirs and the proposed SVWP. These benefits are deemed special benefits and therefore only those parcels that receive the special benefit are expected to fund the project. The function of Zone 2C is to fund:

1. Operation and maintenance of Nacimiento and San Antonio Reservoirs;
2. Modification of the Nacimiento Dam Spillway; and
3. Installation of the Salinas River Diversion Facility.

The following discussion summarizes the basis and the results of the development of the proposed assessment for Zone 2C. A detailed analysis is included in the Zone 2C Proposition 218 Engineer's Report (Engineer's Report) that is under preparation by the MCWRA.

It is MCWRA's intent that the existing water standby and availability charges for Zones 2 and 2A will cease upon approval of the proposed Zone 2C assessment. In the event that the proposed Zone 2C assessment is not approved, the existing Zone 2 and 2A water standby and availability changes will remain in effect.

### Assessment Committee

The Assessment Committee (Committee) was a committee of the Salinas Valley interests that was originally formed by order of Judge Silver as part of the Orradre et al. vs. MCWRA litigation. The Committee originally established by Judge Silver was charged with the responsibility to develop a new and proportional form of assessment(s) to replace the existing Zone 2 and 2A uniform water standby charges. In considering new forms of assessments, the original Assessment Committee was to take into account the

extent to which MCWRA makes water available to the assessed land, the reduction of overdraft, the prevention of seawater intrusion, and any other water availability, flood control, quality and other benefits conferred on the assessed lands.

The original Committee was comprised of representatives from the following groups[1]:

1. Orradre et al litigants;
2. Castroville Agricultural Water Coalition;
3. Eastside Water Alliance;
4. Salinas Valley Water Coalition;
5. Cal-Water Company; and
6. MCWRA.

As this group continued to meet, it decided to broaden membership and include groups from other Salinas Valley interests, such as urban areas. The additional participants included:

1. City of Salinas
2. City of Marina[2]
3. Marina Coast Water District
4. City of Greenfield

One of the main focuses of the group was to develop assessment strategies that would be used by the MCWRA. The group was charged with developing strategies that would be technically based, equitable, and reflect an understandable allocation of the benefits of MCWRA's projects.

A Technical Sub-Committee (Technical Committee) was formed based on Judge Silver's order. One purpose the Technical Committee was to recommend a new boundary for the proposed zone of benefit. The Technical Committee members were Dennis Williams, Joe Scalminini, and Lyndel Melton (Peter Pyle was invited to participate, but declined).

The Assessment Committee, and its Technical Committee, concluded its efforts in early 2001, and presented a summary of its conclusions to the Monterey County Water Resources Agency Board of Directors in a July 16, 2001 letter.[3]

## Cost Allocation Committee

The Cost Allocation Committee (CAC) was formed by the Monterey County Water Resources Agency Board of Directors on July 23, 2001. The purpose of the CAC is to develop and present to the MCWRA Board of Directors a recommended basis for assessment for the benefits received from operation of the two existing reservoirs and the proposed SVWP that fully complies with the provisions of Proposition 218. The CAC

[1] Ultimately the Orradre et al representative chose to not participate in the process
[2] The City of Marina joined the group late in the process
[3] A copy of the July 16, 2001 letter is included in Appendix A.

has met regularly over the last year to develop and finalize a set of recommendations for an assessment to finance the operation and maintenance of Nacimiento and San Antonio Reservoirs and implement the SVWP.

The membership of the CAC is shown in Table 1 below.

**Table 1**
**Cost Allocation Committee Membership**

| | |
|---|---|
| Dan Anderson - Forebay | Steve Jensen – East Side Alliance |
| Bob Antle – Pressure Area | Jim Manassero – East Side Alliance |
| Mike Armstrong – Urban Community | Bob Martin - Forebay |
| Chris Bunn – Pressure Area | Roger Moitoso – Upper Valley |
| Don Chapin, Jr. - North Monterey County | Arvid Myhre – Upper Valley |
| Carl Chase – North Monterey County | Greg O'Neal – Pressure Area |
| Jan Collins – Urban Community | Jim Perrine – Urban Community |
| Matt Gourley – Urban Community | Rich Smith – Arroyo Seco |
| Chris Indelicato – Upper Valley | Jim Smith – Urban Community |
| Nancy Isakson – Arroyo Seco | |

The CAC reviewed the recommendations from the Committee as part of its initial work. The CAC refined the recommendations by the Committee for both the zone boundaries and the benefit matrix. Those refinements and recommendations are presented below.

## ***Zone of Benefits***

The proposed zone of benefit (Zone 2C) has been defined based on geological conditions and hydrological factors, which define and limit the benefits derived from the reservoirs. The proposed zone is separated into six major hydrologic sub-areas, as shown in Table 2.

The Zone 2C boundary presented in this summary report was reviewed and approved by the members of the original Technical Committee (Dennis Williams, Joe Scalminini, and Lyndel Melton).

In addition to refining the Zone 2C boundary, the CAC also refined the definition of the sub-areas. The sub-area definitions are based on the work originally presented in Bulletin 52. Two additional sub-areas were identified that are upstream of the Upper Valley sub-area. The first of these two new sub-areas extends from the Upper Valley sub-area to a point downstream of San Antonio Dam. The second extends upstream of San Antonio Dam to include lands adjacent to San Antonio Reservoir. Both of these areas were added because they receive benefit from the existing reservoir operations. The CAC recommendations for the sub-areas are shown in Table 2 on the following page. The proposed Zone 2C is shown in Figure 1.

**Table 2**
**Areas of Benefit Within Zone 2C**

| |
|---|
| Upper Valley |
| Extended Upper Valley – Above Dam |
| Extended Upper Valley –Below Dam |
| Forebay |
| Pressure |
| East Side |
| Arroyo Seco |

## ***Definition of Benefits***

The proposed assessment is based upon the concept that the benefit received from operation of the reservoirs and the proposed SVWP are determined by two factors. The first factor is dependent upon the whether the land owner is actively or passively utilizing the land. The second factor measures the water supply and flood protection benefits derived from operation of the two reservoirs and the proposed SVWP.

### Active/Passive Use of Land

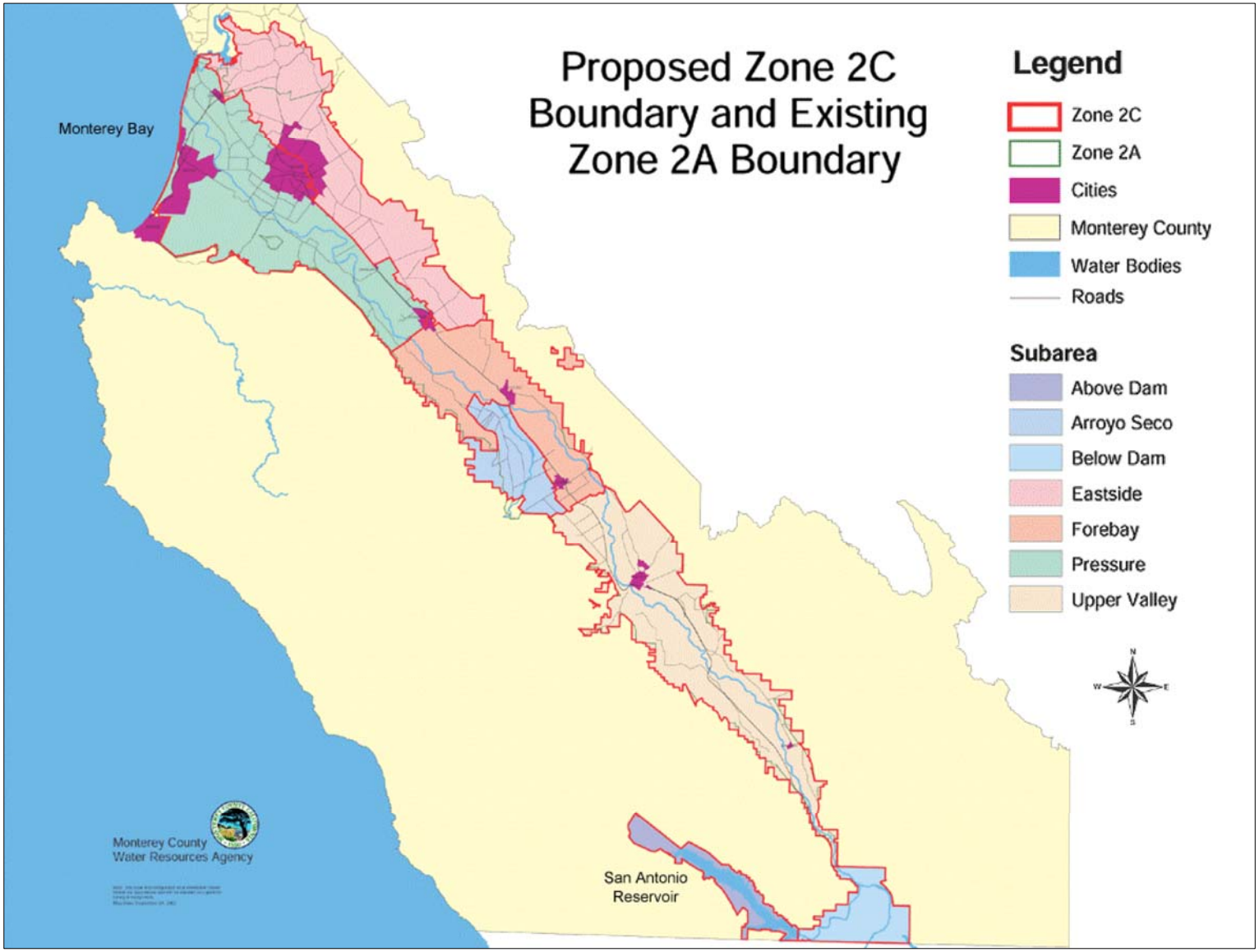
Active use of the land means the land owner has put the land to its potential use, with the highest potential uses being residential, apartments, commercial, industrial, institutional, and irrigated agricultural uses. Dry farming, grazing, vacant lot, lands subject to frequent flooding, and native lands are lower level of use of land, or a more passive use.

The various active/passive use categories and associated factors are presented in the following table:

**Table 3**
**Proposed Active/Passive Use of Land**

| **Land Use** | **Active/Passive Use of Land Factor** |
|---|---|
| Irrigated Agriculture | 1 |
| Residential (1-4 Units) | 1 |
| Apartments (over 4 units), Commercial | 1 |
| Institutional Land | 1 |
| Industrial Land | 1 |
| Dry Farm, Grazing, and Vacant Lot | 0.1 |
| River Channels and Lands with Frequent Flooding | 0.01 |
| Land Receiving No Charge | 0 |

**Figure 1**
**Proposed Zone 2C**



The land use factor is used to determine the equivalent acreage of a parcel based on its designated land use. Equivalent acreage is defined as the amount of acreage of a given land use that receives benefits similar to irrigated agriculture. Irrigated agriculture, residential, apartment, commercial, institutional, and industrial uses have been identified as receiving the most benefit from the operation of two existing reservoirs and the proposed SVWP. The equivalent acreage is utilized in the development of the assessment rates that will be used to calculate each parcels share of the cost. The equivalent acreage by land use for each sub-area is presented in Appendix B.

## Water Supply and Flood Protection Benefits

The CAC reviewed the list of benefits recommended by the Technical Committee and generally concurred with its recommendation. Included with the list of benefits is a weighting factor based on the expected level of benefit as a result of the implementation of the SVWP. The one area of difference is the CAC has not included "environmental" as a special benefit. The list of water supply and flood protection benefits and related weighting factors afforded through operation of the two reservoirs and the proposed SVWP are shown in Table 4.

**Table 4**
**Special Benefits Associated with Operation and Maintenance of Nacimiento and San Antonio Reservoirs and the Proposed SVWP**

| Special Benefit | Weighting Factor |
|---|---|
| Control of Seawater Intrusion | 3 |
| Flood Control | 3 |
| Increased Recharge | 1 |
| Groundwater Quality | 1 |
| Drought Protection | 1 |
| Timing and Location of Recharge | 1 |
| Preservation of Aquifer Storage | 1 |
| Recreation | 1 |

Each of these benefit measures is described in the following paragraphs.

### Control of Seawater Intrusion

Seawater intrusion has been identified as a significant problem in the Salinas Valley Water Basin. Overdraft of the groundwater basin is the main cause of the seawater intrusion in the area. By providing a source of water to replace the use of groundwater, seawater intrusion can be reduced. This benefit includes the reduction in the rate of seawater migrating inland from Monterey Bay into the underlying aquifers.

**Flood Control**

Nacimiento and San Antonio Dams have two primary functions in the Salinas Valley. One of those functions is providing flood protection to areas downstream of the reservoirs. This flood control benefit minimizes property damage that results from flooding, minimizes the destruction of roads and bridges, and enhances the ability of landowners to plant permanent crops and construct permanent improvements in areas previously prone to flooding.

**Increased Recharge**

Increased groundwater recharge refers to the ability of the reservoirs to conserve (store) water that would otherwise be lost to Monterey Bay during the wet season, and regulating the release of that stored water into the Salinas River for recharge from the streambed to the groundwater system during the dry (irrigation) season.

**Groundwater Quality**

The recharge of stored water results in a greater amount of water in storage within the Salinas Valley basin, and thus, higher groundwater elevations. These higher elevations serve to deter poorer quality groundwater from flowing into the Salinas Valley basin or toward central portion of the basin. The improvement in groundwater quality is a result of the increased recharge and groundwater elevations.

**Drought Protection**

If the reservoirs did not release water from storage during dry periods, the Salinas River would experience longer periods of time (every year) with no stream flow nor recharge to the Salinas Valley basin. With the reservoirs, water can be released from storage for a longer period of time during the drought year cycle. Additionally, the annual increased levels of recharge to the groundwater basin that result from reservoir operations provides a net increase in stored groundwater. This increase in stored groundwater provides added drought protection.

**Timing and Location of Recharge**

The additional stream recharge due to the operation of the reservoirs generally results in higher groundwater levels. The Nacimiento and San Antonio reservoirs are operated in such as way as to store winter runoff and then release it in the irrigation and post-irrigation season when the recharge potential is highest. The irrigation and post irrigation seasons tend to happen in the warmer, drier months of the year, such as April to October. When water is released during this time, it recharges the aquifer at a time when the aquifer would not normally be recharged (no rainfall and significantly reduced natural runoff). Groundwater levels would be lower during the irrigation season if water was not released from the reservoirs for groundwater recharge. Therefore, one of the benefits of the reservoir operations is the increase in stream recharge along the Salinas River.

**Preservation of Aquifer Storage**

The release of water from the reservoirs recharges the groundwater aquifer, and thus preserves aquifer storage by preventing seawater from entering into the aquifer storage space. Once seawater moves into a freshwater aquifer, the aquifer water quality is degraded and cannot be used as a water supply source for domestic and agricultural water supplies.

**Recreation**

The reservoirs have provided a recreation benefit of particular significance to the properties immediately adjacent to the reservoir sites. This recreation includes boating, fishing, and camping.

## ***Benefit Evaluations***

The benefits were evaluated separately for each of the three major components:

- Operation and maintenance of Nacimiento and San Antonio Reservoirs;
- Construction of the modification to the spillway at Nacimiento Reservoir; and
- Construction of the Salinas River Diversion Facility.

Building on the process established by the Committee, the CAC utilized the Technical Committee to identify rankings for each of the benefits. The Technical Committee continued to use the same methodology recommended by the Committee.

The CAC has analyzed the benefits of each project component by sub-area within Zone 2C. The results of the benefit analysis are summarized in Tables 5a through 5c. The detailed benefit rankings by criteria by sub-area are presented in the Appendix C.

**Table 5a**
**Benefit Matrix for Operation and Maintenance of Nacimiento and San Antonio Reservoirs**

| Area | Ratio |
|---|---|
| Upper Valley | 2.6 |
| Extended Upper Valley - Above Dam | 2.7 |
| Extended Upper Valley - Below Dam | 2.9 |
| Forebay | 2.7 |
| Pressure | 5.7 |
| Eastside | 3.1 |
| Arroyo Seco | 1.0 |

**Table 5b**
**Benefit Matrix for Modification of Nacimiento Spillway**

| Area | Ratio |
|---|---|
| Upper Valley | 2.3 |
| Extended Upper Valley - Above Dam | 4.0 |
| Extended Upper Valley - Below Dam | 2.8 |
| Forebay | 2.5 |
| Pressure | 6.3 |
| Eastside | 4.8 |
| Arroyo Seco | 1.0 |

**Table 5c**
**Proposed Benefit Matrix for Salinas River Diversion Facility**

| Area | Ratio |
|---|---|
| Upper Valley | 0.0 |
| Extended Upper Valley - Above Dam | 0.0 |
| Extended Upper Valley - Below Dam | 0.0 |
| Forebay | 0.0 |
| Pressure | 1.2 |
| Eastside | 1.0 |
| Arroyo Seco | 0.0 |

## ***Proposed Assessments***

The proposed assessments have been established by utilizing the ratios presented in Tables 5a through 5c, and multiplying those relative ratios times the total assessment amount required for each of the three areas – operations and maintenance of Nacimiento and San Antonio Reservoirs, construction of the modification to the Nacimiento Spillway, and construction of the Salinas River Diversion Facility. The estimated annual costs are presented in Table 6.

**Table 6**
**Estimated Costs for Zone 2C**

| Description | Capital Cost | Annual Cost |
|---|---|---|
| Operation and Maintenance of Nacimiento and San Antonio Reservoirs | - | $2,370,000 |
| Construction of Modification to Nacimiento Spillway | $7,300,000 | $470,000 |
| Construction of Salinas River Diversion Facility | $11,500,000 | $750,000 |

In addition to the costs shown in Table 6, there is an annual cost associated with maintaining the assessment rolls. That cost is estimated to be $273,000. The assessment roll maintenance cost has been distributed based on the active/passive use of land matrix to all lands within Zone 2C.

The costs associated with operation and maintenance of the two reservoirs, construction of the Nacimiento Spillway modification, and construction of the Salinas River Diversion Facility were allocated based on the ratios listed in Tables 5a through 5c in conjunction with the active/passive use of land methodology described earlier. These assessments are based on a cost per acre for each land use within a specific sub-area.

The annual operations and maintenance cost associated with the Salinas River Diversion Facility will be recovered through water delivery charges to the recipients of the delivered water. Those charges will be levied to water users in existing Zone 2B.

The annual operations and maintenance costs associated with the modified spillway at Nacimiento Dam are included in the Nacimiento and San Antonio Reservoirs operations and maintenance costs.

The total assessments are shown in Appendix G.

## ***Conclusion***

As stated previously, this document serves as a summary of the development of the proposed assessment for funding the SVWP and continuing operation of the MCWRA's reservoirs. The Committee and CAC were formed in one case by a judicial order and the other by the MCWRA Board of Directors. Members of both committees represented the majority of water users in the Basin. The CAC believes these assessments are based on good science, are equitable, and reflect an understandable allocation of the benefits from the MCWRA's projects. The CAC recommends the assessment methodology described in general in this document be the basis for submitting an assessment for Zone 2C to the voters as required by Proposition 218.

***Appendix A- Letter from Assessment Committee to MCWRA Board of Directors***

July 16, 2001

Board of Directors
Monterey County Water Resources Agency
893 Blanco Circle
Salinas, Ca 93901-4455

Subject: Recommendations for Modifications to Zones 2/2A

For the past 18 months, a group of individuals have met to discuss issues surrounding Zones 2/2A. Initially, there were six individuals, and six alternates representing six water use groups as identified by Judge Richard Silver in a Committee to which he gave a specific purpose in conjunction with litigation before his court.

The group's origin came from language Judge Silver included in his Order in the Orradre, et al. vs Monterey County Water Resources Agency litigation:

*"(t)he Assessment Committee shall have principal responsibility for the development of a new and proportional form of assessment(s) to replace the Agency's existing Zone 2 and 2A water standby charges. The Assessment Committee shall identify an area or areas within the Salinas Valley which can be properly and legally assessed because such area is specifically benefited by the Agency's activities of releasing water from the upstream reservoirs and other reservoir related benefits and shall develop a new and proportional form of assessment(s) to be based upon the degree of water benefit conferred. Any proposed assessment may be proposed in the form of a charge or fee that the Agency may collect under the exercise of its authority to impose fees and charges under the Agency Act. In considering a new form of assessment(s), the Assessment Committee shall take into account the extent to which the Agency makes water available to the assessed land, the reduction of overdraft, the prevention of seawater intrusion, and any other water availability, flood control, quality and other benefits conferred on the assessed lands."* [1]

As the "Ad-Hoc Assessment Committee," prepared to meet, one of the six initial members representing the plaintiffs in the case decided not to participate with the group. The remaining representatives were individuals who have actively participated in various County processes over the past several years and have examined and evaluated the MCWRA and its administrative and operational systems. These representatives began to meet and continued to encourage the plaintiffs to participate. They also decided to broaden the groups membership. In particular, greater balance was sought by inviting additional urban representatives to join the discussions. As the group met in June to summarize what it had accomplished, the participants represented the water use groups shown at the end of this letter.

[1]Case No. 11577, page 2 lines 13 - 25, Stipulated Order Staying Litigation and Approving Court Supervised Settlement Process

The focus of the group's efforts was to continue the development of a new and proportional form of assessment(s) to replace the Agency's existing Zone 2 and 2A water standby charges. In this work, the group spent considerable time and resources engaging consultants and working with the MCWRA staff to develop useful information.

The group recognized that the Historical Benefit Analysis (HBA) had achieved some useful objectives; that it has served to show that there is a need to better define the benefits received by Valley parcels from the Nacimiento and San Antonio Reservoirs. It is also true that the majority of groups and individuals within the Salinas Valley continue to have some issue with the information and/or data presented in the HBA. Even as the Agency has begun to think about the need to develop new assessments for the Salinas Valley Water Project, and perhaps other new projects within the Zones, we believe the Agency must first determine how to develop and implement a new proportional form of assessment(s) to replace the existing water standby charges.

Again, the group made the commitment to continue meeting and pursue the mission in the manner discussed under item (11) in Judge Silver's Order, which states:

*"Separate and apart from the settlement process described in this stipulated order, the Agency, plaintiffs, plaintiffs in T&A v MCWRA... ... and the other parties to this stipulated order shall meet and confer regarding the development of a process for the optimal utilization of water resources in the Salinas Valley. To the maximum extent feasible, any such process shall be coordinated with the Agency's ongoing planning and environmental review efforts in connection with the Salinas Valley Water Project. "*

We have been encouraged to seek solutions in the Salinas Basin not merely as a response to a current court case, but, more importantly because the State Water Resources Control Board (SWRCB) initiated a formal investigation of the Salinas Valley Groundwater Basin several years ago. The SWRCB informed the Agency that it would investigate groundwater production and use, and water management practices as they relate to the water quality problems of the Salinas Valley Groundwater Basin. The continuing investigation consists o£ collecting and verifying information on groundwater production and use, fertilizer use, cropping patterns, agricultural practices, water conservation practices, reservoir operations and physical characteristics of the basin to enable the SWRCB to determine whether State action is needed to prevent destruction of or irreparable injury to the quality of Basin groundwater.

The SWRCB Notice informed individual property owners and the Agency that the SWRCB preferred a local solution to the groundwater problems in the Salinas Valley over State action. The SWRCB communication stated, in part, *"However, if the MCWRA*

*fails in its efforts [to resolve the Salinas Valley Groundwater Basin water quality problems] then the State will implement a Basin groundwater solution. "*

Like most people in the Salinas Valley, members of this group certainly prefer a local solution over State intervention. This shared position cemented our commitment to continue to work together with the Agency to help develop a new, proportional property assessment that could replace the existing water standby charges in Zones 2/2A.

Recognizing that any new assessment proposed by the Agency will be put before the affected property owners pursuant to the California Constitution as amended by Proposition 218, we focused on developing proposals for new assessment(s) in accordance with existing laws. In order to maintain credibility, and withstand potential legal challenges, we strongly believe there must be a broadly accepted scientific basis for any new zone established, and for establishing new assessments based on the proportionality of benefit conferred upon each parcel.

Our first action was to try to determine the appropriate boundaries for Zones 2/2A. The original Committee formed a Technical Sub-Committee[2] to review available information and to prepare a detailed map (see Attachment 2) that shows the geologic units present in the Salinas Valley, along with delineation of the five major hydrologic sub-areas of the groundwater basin (Pressure, East Side, Arroyo Seco[3], Forebay, and Upper Valley). The orange line on the map denotes the general location of the zone of benefit derived from the operation of the reservoirs. As discussed in the March 29, 2001 memorandum (see Attachment 3), this zone of benefit is based on hydrogeologic characteristics (water level contours, water quality data, specific capacity data) and geologic conditions (structure, i.e. faults and folds, laterally and vertically extensive clay zones, presence of bedrock and marine formations). The March 24, 2000 memorandum (see Attachment 4) from the Technical Sub-Committee to the Committee is a summary of the work completed by the Technical Committee regarding the definition of a proposed new zone of benefit, based on the best available `good science'.

We believe that following property owner approval of any new assessment for the two dams and reservoirs, the revenue would be available to fund expenses for the operation and maintenance (as defined in Proposition 218) for Nacimiento and San Antonio.

[2] The Technical Sub-Committee was established pursuant to Judge Silver's Order and was comprised of one representative from the MCWRA, Castroville Growers Association, Orradre et al group and one representing the Eastside Water Alliance, Salinas Valley Water Coalition, T&A/Chris Bunn and Urban.

[3] Please note that the Committee agreed that the designation of the Arroyo Seco as a separate geologic unit within the Basin was consistent with prior documents, including Bulletin 52 prepared by Department of Water Resources in 1946.

We have reviewed and discussed many issues and concepts that we believe may be useful to the Agency in the near future. Although as a group we represent the prominent geographic and water use diversity within the Valley, we were nevertheless able to agree on many important questions. There are, however, some questions we have not been able to agree on, reflecting the need for the Agency to consider how to carry forward the existing momentum to seek further compromise and solutions.

We were able to agree on the following concepts and issues:

- Definition and Criteria for Purpose of [New] Zone: funds for maintenance and operation of Nacimiento and San Antonio Reservoirs

- Definition of [New] Zone Boundary and Zone of Benefit: as presented by Technical Sub-Committee based on its written Description of Zone of Benefit, dated March 24, 2000

- List of benefits that will be considered "'special" benefits conferred to lands within the Zone of Benefit, as discussed in the Technical Sub-Committee's March 24, 2000 memorandum:
    - control of seawater intrusion
    - flood control
    - increased recharge
    - ground water quality
    - time and location of recharge from the Salinas River
    - drought protection
    - preservation of aquifer storage
    - recreation
    - environment

We also concluded that every parcel in a "new" Zone would receive benefits in most, but perhaps not all, of the categories listed above. The following are the Sub-Zones[4] within the Zone of Benefit:

- Upper Valley -- near river
- Upper Valley - away from river
- Forebay - near river
- Forebay- away from river
- Pressure
- East Side
- Arroyo Seco

[4] The Sub-Zones are shown on the enclosed map as prepared by the Technical Sub-Committee. The boundaries are approximate and the Committee recognizes, and recommends, that further refinement to the boundaries will need to be completed as part of the Engineers Report for the Proposition 218 vote.

These hydrologic sub-zones were identified because of the recognized differences in benefits conferred to the lands, within the different areas. For example, we recognized that lands nearer the Salinas River receive a greater flood control benefit than, lands away from the River - hence the distinction. The same level of distinction was made with regard to all of the special benefits considered.

Before the original Committee was expanded, some initial work was completed, including the development of a `Benefit Matrix'. Therefore, not all of our present group participated in this effort, but we submit it to the Agency for consideration. This proposed Benefit Matrix (see below) utilizes the list of special benefits conferred and the seven sub-zones, and assigns proportional values to each sub-zone for each, of the nine areas of special benefit. A matrix such as this could be used to determine the total assessment dollars to be paid by property owners within each sub-zone, based on consideration of the proportionality of benefit conferred.

| Area | Proportional Weight |
|---|---|
| Pressure | 4.7 |
| Eastside | 2.7 |
| Forebay - near river | 2.8 |
| Forebay - away from river | 1.3 |
| Upper Valley- near river | 2.7 |

Likewise, the original group worked to develop the following revised Land-Use Classifications which could be considered with the proportionally weighted sub-zones, to determine the assessment for a given parcel within each sub-zone.

| Land Use Factor | Assessment |
|---|---|
| Factor A - Irrigated Ag | Per irrigated acre |
| Factor A - Residential, Commercial, Institutional | Per Residential Dwelling Unit [RDU][5] |
| Factor B - Industrial | Per acre; minimum charge of one acre; each acre equal to the one irrigated Ag acre |

[5] A Residential Dwelling Unit is defined as one house, or one condominium or one apartment. Current Zone 2/2A residential/commercial/institutional assessments are applied on a per parcel basis with a minimum charge equivalent to 1/4 of the irrigated Ag acre charge.

| | |
|---|---|
| Factor C-Dry Farm, grazing vacant land | Per acre; 10% of irrigated Ag acre; minimum charge of one acre |
| Factor D - River channel and land subject to frequent flooding | Per acre; 10% of Factor C acre |

It's fair to say that there remains significant disagreement in our group between the agricultural and urban representatives on the above factors. Specifically, urban representatives do not support assessing each residential dwelling unit (houses, condominiums, or apartments) an amount equal to Factor A, or one irrigated Ag acre. As you know, today, dwelling units are assessed at one-fourth the amount of an irrigated Ag acre; unless the urban parcel is larger than one-quarter acre. If a new Factor A for Residential, Commercial and Institutional parcels were to be adopted, quarter-acre parcels could experience at least a 400%[6] increase over current assessments. The urban representatives in our group do not believe this concept is supported by good science.

In summary, we began as a formal Committee made up of six members, but we have evolved into a larger, informal group that includes more urban representatives. All of us continued to meet and work on these concepts and issues because we believe it is critical to the well being of the Salinas Valley that compromise and consensus is reached leading to a basin-wide solution.

We also recognize that the Agency has other programs and projects that either require comprehensive review or new policies with regard to assessments and charges throughout Zones 2/2A We would encourage the Agency to view this work in a comprehensive manner, ensuring that all property owners understand the full complement of activities that will be required in the near future; and, that the issue of a possible new Zone and modified assessments, as discussed in this letter, be identified as the first order of business. It is important that the restructuring of Zones 2/2A be accomplished and that the results be (1) based on good science, (2) be equitable, and (3) reflect understandable and proportional cost-benefit analysis. With such a restructured Zone and new assessments, the Agency would have the funds necessary for the operation and maintenance of Nacimiento and San Antonio Reservoirs.

Attachments

1. List of organizations participating in this process
2. Map of Zones 2/2A and proposed modifications
3. Memo from Technical Sub-Committee, dated March 29, 2001
4. Memo from Technical Sub-Committee, dated March 24, 2000

[6] By way of example an existing single family dwelling in the City of Salinas on less than one-quarter of an acre, currently pays approximately $2.20 annually for Zones 2/2A. Under the above scenario the same single family dwelling would pay approximately $8.80 annually.

**MEMORANDUM**

Date: March 24, 2000

To: Salinas Valley Assessment Committee

From: Technical Committee

**SUBJECT: STATUS, INTERIM CONCLUSIONS, AND OUTSTANDING ISSUES**

The following summary has been prepared to report on work by the Technical Committee in response to your Committee's request that it investigate certain questions, most notably whether a technically based zone of benefit could be defined for consideration by your Committee to reinforce or replace, as appropriate, the existing Zones 2 and 2A. This summary is organized into two main parts: Status and Interim Conclusions, and Outstanding Issues.

## Status and Interim Conclusions

Based on a request and direction from your Committee in early January, the Technical Committee prepared a scope of work for a first meeting which was held on January 26, 2000. The intended work tasks were to address potential basin and zone boundaries, prepare a list of historical benefits associated with the reservoirs, and to estimate the scope and cost of an Engineer's Report if one were to be requested. Unfortunately, due to a decision by counsel to the plaintiffs, the technical representative of the plaintiffs did not participate in that meeting. The other three members proceeded to initially consider bases for generally defining an area which receives benefits from the reservoirs; they also proceeded to prepare a listing of benefits, and to estimate the cost of an engineering report if one were to be required. The results of that initial work were presented at your Committee meeting on February 1, 2000.

At the February 1 meeting, your Committee asked if the Technical Committee could continue its work by completing some of the various tasks which it had started to refine the definition of a basin/zone boundary (investigation of ground-water levels, flow direction, quality, etc.) and return

with a conclusion regarding an area which receives hydrologic benefit, including water supply benefit, from reservoir operations. It should be emphasized that your Committee did not direct the Technical Committee to define a hydrologic boundary; rather, it directed that a boundary be defined, if possible, within which hydrologic or water supply benefits attributable to the reservoirs occurred. In the specific words of one Assessment Committee member, "if an area is receiving benefits from the reservoirs, it should be in the zone".

The Technical Committee, still absent the plaintiffs' representative, continued its individual research and collective work; and its conclusions were reported to your Committee on March 8, 2000. Based on a collective interpretation of geologic and hydrogeologic factors, the Technical Committee concluded that benefits which result from the reservoirs are physically confined to the lands which `overly the aquifer system composed of Pleistocene and younger aged deposits in the Valley, i.e., primarily the alluvium and related (e.g. Aromas Red Sands) aquifer materials. This Salinas River Valley aquifer system also includes underlying Paso Robles Formation deposits in the northern portion of the Valley. Thus, the zone of benefits as defined by the Technical Committee is that boundary within which the underlying ground-water system receives some or all if its recharge (either directly or indirectly) from the releases from the reservoir system. For all practical purposes, this zone coincides approximately with the boundaries of the Salinas River Valley aquifer system. As the reservoir/river/aquifer system physically functions, there are no hydrologic or water supply benefits which extend beyond the Salinas River Valley aquifer. Thus, the conclusion of the Technical Committee members who participated in the work to date (all but the plaintiffs' representative) is that a zone of benefits be defined as the extent of the Salinas River Valley aquifer system within the valley. The preceding conclusions were presented at your meeting on March 8, 2000. The extent of the zone of benefits is described and illustrated in the attached map and supporting text.

The preceding conclusions should not be interpreted to mean that benefits are uniform within the Salinas River Valley aquifer, or that benefits could not be "delivered" or "exported" from the aquifer system in the Valley. The latter is discussed under Outstanding Issues below. The former item, distribution of benefits, was briefly addressed by the Technical Committee; a matrix approach to assigning relative benefits was introduced; and we understand that your Committee is pursuing that approach to try to reach agreement on relative benefits within the overall zone of benefit.

**Outstanding Issues**

At the March 8, 2000 Assessment Committee meeting, a plaintiff's representative on the Technical Committee, Mr. Page of Stetson Engineers, was in attendance and provided some comments on the Technical Committee work to date (in which, as noted above, neither he nor anyone else representing the plaintiffs had participated). While he indicated to the other Technical Committee members that he could not have much disagreement with the technical description of the aquifer system, he introduced to the entire group the concept of utilizing property boundaries as a parameter to be considered in defining a zone of benefit associated with the reservoirs. To the other members of the Technical Committee, he briefly described his technical analysis to "connect" lands outside the basin (not overlying the river/aquifer system) to the river/aquifer system; part of that "connection" was based on an assumption that ground water beneath the Salinas River would someday be classified as the underflow of the River. Ultimately, after some discussion by the Assessment Committee, it was agreed to have the whole Technical Committee meet and determine whether it could reach agreement on a zone of benefit with this new input from the plaintiffs' technical representative. A meeting was then scheduled for March 14, 2000.

On the day after your last Committee meeting, the plaintiff’s Assessment Committee representative wrote a memo to the various parties and presented a new idea for formation of a new zone of benefit. An attached memo from Stetson Engineers, dated the next day, reportedly outlined the new idea and described the new zone. Unfortunately, while the memo generally introduces a concept for defining a zone of benefit, it does not quantitatively describe a new zone. The lack of such a description constrains any attempt to technically analyze and report on the viability of such a zone to your Committee, as further discussed below.

The Technical Committee informally met by telephone conference on Monday afternoon, March 13, 2000. As he had indicated in the Stetson memo described above, Mr. Page was unavailable for a Technical Committee meeting on that day, and Mr. Pyle of Stetson Engineers replaced him in the telephone conference meeting. The results of that meeting, which leave a major issue unresolved (meaning all four members of the Technical Committee do not agree), can be summarized as follows.

- Stetson's concept of a "new idea" for a zone of benefit can be extracted from its memo: "It appears that anyone with access to and capable of pumping water from the defined groundwater basin or directly diverting surface water may receive a benefit by the releasing of water from upstream reservoirs, regardless of whether the land where the water is being used overlies the ground-water basin". The concept is based upon a statement in the court's settlement order to "...identify an area or areas within the Salinas Valley which can be properly and legally assessed because such area is specifically benefitted by the Agency's activities of releasing water from the upstream reservoirs....".

- The Stetson concept is just that, a concept. Other than a mapped line which reportedly surrounds lands with slopes less than 15 percent, there is no definition or description of a new proposed zone based on the access and capability to pump from the ground-water basin as described in the Stetson memo. Mr. Pyle confirmed several times that the proposal is just a concept, and indicated that Stetson had done no work to define a zone other than to map the 15 percent slope boundary. He also indicated that he didn't think that all the mapped lands would be brought into production but, other than referring to future economically-based decisions on a parcel-by-parcel basis, he had no knowledge of what the concept might ultimately produce in terms of an overall zone.

- Although Mr. Page had earlier indicated that he had no disagreement with the definition of the stream-aquifer system, it is unclear whether Stetson Engineers would agree that ongoing benefits of reservoir operations are physically confined to the Salinas River Valley aquifer. It appears that this point is not critical to the Stetson concept one way or the other. While Stetson concludes that access to the river/aquifer system and pumping capability are sufficient bases for inclusion of non-overlying lands in a zone of benefit, the balance of the Technical Committee concludes that reservoir benefits are physically confined to the river/aquifer system, and that any enlarged zone can only be artificially created by physically removing water from that river/aquifer system and delivering it to non-overlying lands.

The unanimous technical conclusion of three members of the Technical Committee (Melton, Scalmanini, and Williams) is that the Stetson concept for an expanded zone of benefit is ill-defined and hydrogeologically detrimental to the Valley as a whole. Without question, any delivery of water from the river/aquifer system to overlying or non-overlying lands would derive some benefit from

reservoir operations. However, while lands overlying the river/aquifer system would directly derive their benefit from physical location (over the aquifer which is directly recharged by the river), lands not overlying the river/aquifer system can only indirectly and artificially derive a "benefit" by physically removing water from the river/aquifer system and transporting it to such lands. The lack of any definition of proposed new zone area and potential water use notwithstanding, the pumping of water from the river/aquifer system for delivery to non-overlying land, regardless of access to the river/aquifer, would represent an interception of some of the yield of the reservoirs. In that sense, it would directly reduce that amount of water for recharge of the aquifer farther downstream; it would also reduce the amount of water available for diversion to replace pumpage at the far northern end of the Valley and thus diminish the system's ability to deliver adequate water to stop seawater intrusion.

Augmented ground-water recharge and control of seawater intrusion are two of the principal reasons for which the reservoirs were built. Interception of yield from them, to the detriment of their intended objectives, would be contrary to any intended benefits associated with them. In an extreme, given the size of the Stetson-mapped area (despite the vague descriptions that the area could be much smaller), the Stetson zone concept could potentially have a catastrophic impact on the hydrologic balance of the Valley. Acceptance of the Stetson concept, even if only for a small area at first, would establish a precedent for interception of reservoir yield that would undermine all the historic and current water resources planning and management activities in the Valley.

Lyndel Melton
representing MCWRA

Dennis Williams
representing Castroville Group

Peter Pyle
representing Orradre, et. al.

Joseph Scalmanini
representing Tanimura & Antle/Bunn, Eastside Water Alliance, Salinas Valley Water Coalition, and Municipal Water Suppliers

Attachment

Adopted By Assessment Committee 6-1
3/24/00

## Salinas River Valley Benefit Zone

The Salinas River Valley Benefit Zone is a zone of benefit derived from the operation of the Nacimiento and San Antonio reservoir system. The extent of this zone of benefit is based upon geologic conditions (structure, i.e., faults and folds, laterally and vertically extensive clay zones, presence of bedrock and marine formations) and hydrogeologic (ground-water level and quality data, well yield and aquifer characteristic data) factors which define and limit the areal extent of benefits derived from the operation of the reservoir system in the Salinas Valley. The evaluation of geologic and hydrogeologic conditions led to definition of a basin boundary (within which benefits occur) which encompasses geologic deposits of Pleistocene and younger (predominately alluvium) age. This boundary also includes the Paso Robles Formation of Pliocene-Pleistocene age in the northern portion of the Valley and certain locations in the central portion of the Valley where the Paso Robles Formation is locally confined within the Valley, typically exposed near the perimeter of the Valley, and generally in close proximity to the Salinas River (see Plate 1).

The benefits that are derived from the operation of the Salinas Valley reservoir system encompass many hydrogeologic, hydrologic, and cultural benefits, including control of seawater intrusion, flood control, augmentation of ground-water levels and storage via increased in-stream recharge, control of locally poor ground-water quality, timing and location of recharge from the Salinas River, drought protection, preservation of aquifer storage, and recreational and environmental (riparian habitat) benefits. The location of the Salinas River Valley Benefit Zone boundary is shown on Plate 1 and described below.

The delineation of the Salinas River Valley Benefit Zone boundary, beginning in the southernmost portion of the Valley, actually starts immediately downstream of the reservoirs but, for political purposes, is shown to start at the boundary of Monterey and San Luis Obispo Counties. The zone boundary extends on either side of the Salinas River, Nacimiento River, and San Antonio Creek to encompass the lateral extent of the alluvial deposits of Pleistocene age and younger and do not include the Paso Robles Formation of Pliocene/Pleistocene age. From the County line northward, through the Upper Valley area, the Salinas River Valley Benefit Zone boundary is the lateral extent of the predominately alluvial deposits of Pleistocene age and younger that extend away from the Salinas River to the western and eastern edges of the Valley. Near the King City area and northward toward the Arroyo Seco Cone area, the boundary on the west side of the valley includes both the alluvium and Paso Robles Formation where the Paso

Robles Formation is locally confined within the Valley, typically exposed near the perimeter of the Valley, and generally in close proximity to the Salinas River. The boundary on the east side of the Valley remains the lateral extent of the alluvial deposits.

In the Forebay area of the Valley, the boundary on both sides of the Salinas Valley follows the contact between the alluvium and older marine and/or non-water bearing formations. In the Arroyo Seco area, the boundary continues to follow the lateral extent of the alluvial deposits.

North of the Arroyo Seco and into the Pressure Zone and East Side subareas, the boundary follows the surficial outcrop of the bedrock formations of the Sierra de Salinas and the Gabilan Range on the western and eastern sides of the Valley, respectively. In the East Side subarea and into the North County area, the boundary follows the outcrop of the Gabilan Range (Granite Ridge area) near the trace of the Elkhorn Slough. The boundary then follows the trace of the Elkhorn Slough to Monterey Bay. In the Pressure zone, the boundary trends to the west toward the Fort Ord area past Highway 68. The boundary follows the contact between the Aromas Sands and the Paso Robles Formation until a north-trending anticline is encountered. The boundary then follows the trend of the anticline north to the Monterey Bay.

## *Appendix B*
**Equivalent Acreage**

| Land Use | Land Use Factor (BU) | Area (Acres) | Equivalent Acreage (EA) |
|---|---|---|---|
| **Upper Valley** | | | |
| Irrigated Agriculture | 1 | 66731 | 66731 |
| Residential (1-4 Units) | 1 | 2084 | 2084 |
| Apartments (over 4 Units), Commercial | 1 | 223 | 223 |
| Institutional Land | 1 | 186 | 186 |
| Industrial Land | 1 | 607 | 607 |
| Dry Farming, Grazing, and Vacant Lot | 0.1 | 28891 | 2889 |
| River Channels and Lands with Frequent Flooding | 0.01 | 1 | 0 |
| Land Receiving No Charge | 0 | 527 | 0 |
| **Subtotal** | | **99250** | **72720** |
| **Extended Upper Valley Above Dam** | | | |
| Irrigated Agriculture | 1 | 0 | 0 |
| Residential (1-4 Units) | 1 | 0 | 0 |
| Apartments (over 4 Units), Commercial | 1 | 0 | 0 |
| Institutional Land | 1 | 0 | 0 |
| Industrial Land | 1 | 0 | 0 |
| Dry Farming, Grazing, and Vacant Lot | 0.1 | 17993 | 1799 |
| River Channels and Lands with Frequent Flooding | 0.01 | 0 | 0 |
| Land Receiving No Charge | 0 | 0 | 0 |
| **Subtotal** | | **17993** | **1799** |
| **Extended Upper Valley Below Dam** | | | |
| Irrigated Agriculture | 1 | 1763 | 1763 |
| Residential (1-4 Units) | 1 | 61 | 61 |
| Apartments (over 4 Units), Commercial | 1 | 3 | 3 |
| Institutional Land | 1 | 0 | 0 |
| Industrial Land | 1 | 0 | 0 |
| Dry Farming, Grazing, and Vacant Lot | 0.1 | 18947 | 1895 |
| River Channels and Lands with Frequent Flooding | 0.01 | 0 | 0 |
| Land Receiving No Charge | 0 | 21 | 0 |
| **Subtotal** | | **20795** | **3722** |
| **Forebay** | | | |
| Irrigated Agriculture | 1 | 44530 | 44530 |
| Residential (1-4 Units) | 1 | 1404 | 1404 |
| Apartments (over 4 Units), Commercial | 1 | 354 | 354 |
| Institutional Land | 1 | 86 | 86 |
| Industrial Land | 1 | 697 | 697 |
| Dry Farming, Grazing, and Vacant Lot | 0.1 | 13047 | 1305 |
| River Channels and Lands with Frequent Flooding | 0.01 | 2 | 0 |
| Land Receiving No Charge | 0 | 159 | 0 |
| **Subtotal** | | **60279** | **48376** |

## *Appendix B*
**Equivalent Acreage**

| Land Use | Land Use Factor (BU) | Area (Acres) | Equivalent Acreage (EA) |
|---|---|---|---|
| **Pressure** | | | |
| Irrigated Agriculture | 1 | 56328 | 56328 |
| Residential (1-4 Units) | 1 | 5475 | 5475 |
| Apartments (over 4 Units), Commercial | 1 | 1709 | 1709 |
| Institutional Land | 1 | 589 | 589 |
| Industrial Land | 1 | 2597 | 2597 |
| Dry Farming, Grazing, and Vacant Lot | 0.1 | 46772 | 4677 |
| River Channels and Lands with Frequent Flooding | 0.01 | 44 | 0 |
| Land Receiving No Charge | 0 | 454 | 0 |
| **Subtotal** | | **113968** | **71375** |
| **East Side** | | | |
| Irrigated Agriculture | 1 | 40357 | 40357 |
| Residential (1-4 Units) | 1 | 17195 | 17195 |
| Apartments (over 4 Units), Commercial | 1 | 1365 | 1365 |
| Institutional Land | 1 | 203 | 203 |
| Industrial Land | 1 | 1377 | 1377 |
| Dry Farming, Grazing, and Vacant Lot | 0.1 | 25305 | 2531 |
| River Channels and Lands with Frequent Flooding | 0.01 | 111 | 1 |
| Land Receiving No Charge | 0 | 368 | 0 |
| **Subtotal** | | **86281** | **63029** |
| **Arroyo Seco** | | | |
| Irrigated Agriculture | 1 | 21758 | 21758 |
| Residential (1-4 Units) | 1 | 362 | 362 |
| Apartments (over 4 Units), Commercial | 1 | 256 | 256 |
| Institutional Land | 1 | 33 | 33 |
| Industrial Land | 1 | 30 | 30 |
| Dry Farming, Grazing, and Vacant Lot | 0.1 | 3772 | 377 |
| River Channels and Lands with Frequent Flooding | 0.01 | 0 | 0 |
| Land Receiving No Charge | 0 | 9 | 0 |
| **Subtotal** | | **26220** | **22816** |
| **Total Acreage for Assessment:** | | **424786** | **283837** |
| **Total Acreage minus Land Receiving No Charge** | | **423248** | **283837** |

**Notes**

1. All acreages provided by MCWRA.
2. The equivalent acreage is calculated by multiplying the land use factor by the acreage.
3. A detailed discussion regarding the development of the land use factor will be included in the Engineer's Report.

## *Appendix C*
**Benefit Matrix**

**Spillway Benefit**

| Weighting Factor | Benefit | Upper Valley | | Forebay | | Pressure | | Eastside | | Arroyo Seco | | Extended Upper Valley Below | | Extended Upper Valley Above | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | BF | WBF | BF | WBF | BF | WBF | BF | WBF | BF | WBF | BF | WBF | BF | WBF |
| 3 | Control of Seawater Intrusion | 0 | 0 | 0 | 0 | 5 | 15 | 4 | 12 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | Flood Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | Increased Recharge | 1 | 1 | 3 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | Groundwater Quality | 3 | 3 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 2 | 2 |
| 1 | Timing and Location of Recharge | 2 | 2 | 2 | 2 | 1 | 1 | 0 | 0 | 1 | 1 | 4 | 4 | 5 | 5 |
| 1 | Drought Protection | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 5 | 5 |
| 1 | Preservation of Aquifer Storage | 0 | 0 | 0 | 0 | 4 | 4 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | Recreation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 |
| 1 | Environmental | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | **Totals** | | 9 | | 10 | | 25 | | 19 | | 4 | | 11 | | 16 |
| | **Ratios** | | **2.3** | | **2.5** | | **6.3** | | **4.8** | | **1.0** | | **2.8** | | **4.0** |

**Operations Benefit**

| Weighting Factor | Benefit | Upper Valley | | Forebay | | Pressure | | Eastside | | Arroyo Seco | | Extended Upper Valley Below | | Extended Upper Valley Above | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | BF | WBF | BF | WBF | BF | WBF | BF | WBF | BF | WBF | BF | WBF | BF | WBF |
| 3 | Control of Seawater Intrusion | 0 | 0 | 0 | 0 | 5 | 15 | 4 | 12 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | Flood Control | 3 | 9 | 3 | 9 | 5 | 15 | 1 | 3 | 1 | 3 | 3 | 9 | 1 | 3 |
| 1 | Increased Recharge | 1 | 1 | 3 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | Groundwater Quality | 3 | 3 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 2 | 2 |
| 1 | Timing and Location of Recharge | 2 | 2 | 2 | 2 | 1 | 1 | 0 | 0 | 1 | 1 | 4 | 4 | 5 | 5 |
| 1 | Drought Protection | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 5 | 5 |
| 1 | Preservation of Aquifer Storage | 0 | 0 | 0 | 0 | 4 | 4 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | Recreation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 |
| 1 | Environmental | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | **Totals** | | 18 | | 19 | | 40 | | 22 | | 7 | | 20 | | 19 |
| | **Ratios** | | **2.6** | | **2.7** | | **5.7** | | **3.1** | | **1.0** | | **2.9** | | **2.7** |

## *Appendix C*
**Benefit Matrix**

**Diversion Benefit**

| Weighting Factor | Benefit | Upper Valley | | Forebay | | Pressure | | Eastside | | Arroyo Seco | | Extended Upper Valley Below | | Extended Upper Valley Above | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | BF | WBF | BF | WBF | BF | WBF | BF | WBF | BF | WBF | BF | WBF | BF | WBF |
| 3 | Control of Seawater Intrusion | 0 | 0 | 0 | 0 | 5 | 15 | 4 | 12 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | Flood Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | Increased Recharge | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | Groundwater Quality | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | Timing and Location of Recharge | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | Drought Protection | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | Preservation of Aquifer Storage | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | Recreation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | Environmental | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | **Totals** | | 0 | | 0 | | 17 | | 14 | | 0 | | 0 | | 0 |
| | **Ratios** | | **0.0** | | **0.0** | | **1.2** | | **1.0** | | **0.0** | | **0.0** | | **0.0** |

**Notes**

1. Benefit Factor (BF) is based on a 0 (no benefit) to 5 (maximum benefit) scale.
2. Weighted Benefit Factor (WBF) is calculated by multiplying the weighting factor by the benefit factor.
3. Detailed description of the development of the benefits, weighting factors, benefit factors, and zones will be included in the Engineer's Report.

**Estimated Salinas River Diversion Facility Capital Cost[1] (2002 Dollars)**

| | | | |
|---|---|---|---|
| 1 | Land & Easement Purchase | $ 110,000 | |
| 2 | Direct Construction (Borcalli 3/20/02) | $ 6,850,000 | |
| 3 | CSIP Valve Enlargement (RMC 5/21/01 - inflated 2.5%) & Booster Upgrade | $ 670,000 | |
| 4 | Filtration - Sediment/Algae[2] | $ 420,000 | |
| 5 | Engineering (10% of Items 2, 3 and 4) | $ 800,000 | |
| 6 | Construction Management (8% of Items 2, 3 and 4) | $ 640,000 | |
| 7 | Project Administration (5% of Items 2, 3 and 4) | $ 400,000 | |
| 8 | Environmental Mitigation / Monitoring | $ 310,000 | |
| 9 | Salinas River Diversion Subtotal: | | $ 10,200,000 |
| 10 | Planning Support Repayment (5% of Capital Cost Subtotal) | | $ 510,000 |
| 11 | Estimated Capital Cost Subtotal: | | $ 10,710,000 |
| 12 | Capitalized Interest During Construction (12 mos on Bond Principal @ 5%) | | $ 580,000 |
| 13 | Finance Costs (Advisor, Underwriter, Counsel - 2% of Bond Amt) | | $ 230,000 |
| 14 | Estimated Capital + Finance Cost: | | $ 11,520,000 |
| 15 | Estimated Bond Principal Requirement | | $ 11,500,000 |
| 16 | Estimated Annual Debt Service on Bond Principal (30 yrs @ 5%) | | $ 750,000 |

**Estimated Nacimiento Dam Spillway Modification Capital Cost[3] (2002 Dollars)**

| | | | |
|---|---|---|---|
| 17 | Land & Easement Purchase | NA | |
| 18 | Direct Construction (GEI 2/11/02) | $ 5,500,000 | |
| 19 | Engineering (Primarily Funded by EDA Grant)[4] | $ 250,000 | |
| 20 | Construction Management (8% of Item 18) | $ 440,000 | |
| 21 | Project Administration (5% of Item 18) | $ 280,000 | |
| 22 | Environmental Mitigation / Monitoring[5] | $ - | |
| 23 | Nacimiento Dam Spillway Subtotal: | | $ 6,470,000 |
| 24 | Planning Support Repayment (5% of Capital Cost Subtotal) | | $ 320,000 |
| 25 | Estimated Capital Cost Subtotal: | | $ 6,790,000 |
| 26 | Capitalized Interest During Construction (12 mos on Bond Principal @ 5%) | | $ 370,000 |
| 27 | Finance Costs (Advisor, Underwriter, Counsel - 2% of Bond Amt) | | $ 150,000 |
| 28 | Estimated Capital + Finance Cost: | | $ 7,310,000 |
| 29 | Estimated Bond Principal Requirement | | $ 7,300,000 |
| 30 | Estimated Annual Debt Service on Bond Principal (30 yrs @ 5%) | | $ 470,000 |

**NOTES:**

1. 20% contingency is included in each Line Item 1 thru 8.
2. Line Item 4 includes screen filtration of sediment / algae / debris only. Disinfection or other treatment is not included.
3. 20% contingency is included in each Line Item 18 thru 21.
4. Line 19: Preliminary approval has been received from US Dept. of Commerce, Economic Delevopment Administration (EDA) for a cost-share grant for Nacimiento Dam spillway modification engineering. EDA pays 75% and MCWRA pays 25% of engineering costs to a total of $1,000,000. If the full $1,000,000 is required, EDA pays $750,000 and MCWRA pays $250,000.
5. Line Item 22 is estimated at less than $10,000 and is considered covered by contingency included in Lines 18 thru 21.
6. CSIP electric power costs will decrease due to reduced use of supplemental wells. See Line 32 detail sheet 3 of 3.
7. All estimates rounded to nearest $10,000.

## *Appendix F*

**Nacimiento Reservoir Operations and Maintenance Budget**

| EXPENDITURES | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ln # | PROGRAM NAME | Zone | Fund | Prog | Staff | Admin Staff | Services & Supplies | Consultants | Reserves | Other | Total Expenditures |
| | **ZONE 2C OPERATIONS** | | | | | | | | | | |
| 15 | Nacimiento Dam Operation & Maintenance | 2 | 205 | 9200 | 226,079 | 53,629 | 99,000 | 150,350 | 0 | 17,500 | 546,558 |
| 16 | Nacimiento Reservoir Operation Study | 2 | 205 | 9201 | 0 | 0 | 0 | 30,000 | 0 | 0 | 30,000 |
| 17a | Zone 2 Administration (Excl transf to SVWP 145k | 2 | 205 | 9210 | 50,251 | 5,795 | 0 | 25,000 | 0 | 0 | 81,046 |
| 21 | Lake Nacimiento Debris Clearing | 2 | 205 | 9230 | 13,301 | 3,296 | 7,000 | 0 | 0 | 0 | 23,597 |
| 24 | San Antonio Dam Operation & Maintenance | 2A | 206 | 9410 | 222,324 | 52,469 | 62,000 | 52,500 | 0 | 8,500 | 397,793 |
| 25 | Zone 2A Administration | 2A | 206 | 9412 | 101,624 | 25,184 | 0 | 35,000 | 0 | 0 | 161,808 |
| 54a | Cloud Seeding | 2A | 206 | 9418 | 0 | 0 | 0 | 70,000 | 0 | 0 | 70,000 |
| 29 | Salinas River Channel | 2A | 206 | 9421 | 27,190 | 6,738 | 10,000 | 50,000 | 0 | 0 | 93,928 |
| 30 | Salinas River Mouth | 2A | 206 | 9425 | 60,056 | 14,883 | 0 | 80,000 | 0 | 0 | 154,939 |
| 31 | Reservoir Oper Hydrology & Water Quality Prog. | 2A | 206 | 9430 | 376,810 | 93,378 | 48,000 | 101,150 | 0 | 0 | 619,338 |
| 33 | ALERT Transfer Out | 2A | 206 | 9433 | 0 | 0 | 0 | 0 | 0 | 118,250 | 118,250 |
| 56 | Ground Water Extraction/Data Collection | 2A | 206 | 9458 | 14,106 | 26,359 | 5,000 | 0 | 0 | 0 | 45,465 |
| | Sub-Total Operations | | | | 1,091,741 | 281,731 | 231,000 | 594,000 | 0 | 144,250 | 2,342,722 |
| 16a/26a | Zone 2C Operating Reserve | 2 | 205 | 9205 | 0 | 0 | 0 | 0 | 50,000 | 0 | 50,000 |
| | **TOTAL OPERATIONS** | | | | 1,091,741 | 281,731 | 231,000 | 594,000 | 50,000 | 144,250 | 2,392,722 |
| | **CAMP** | | | | | | | | | | |
| 16b | Nacimiento Dam Capital Maintenance | 2 | 205 | 9208 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22b | Nacimiento Dam CAMP | 2 | 205 | 9271 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27 | San Antonio Dam Capital Maintenance | 2A | 206 | 9415 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57 | San Antonio Dam CAMP | 2A | 206 | 9461 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Sub-Total CAMP Expenses | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22b/57 | Zone 2C CAMP Reserve | 2 | 205 | 9205 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | **TOTAL CAMP** | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | **LEGAL** | | | | | | | | | | |
| 17c | Legal Services-Nacimiento | 2 | 205 | 9212 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25a | Legal Services-San Antonio | 2A | 206 | 9413 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | **TOTAL LEGAL** | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | **Total ZONE 2C** | | | | **1,091,741** | **281,731** | **231,000** | **594,000** | **50,000** | **144,250** | **2,392,722** |

Notes

1.CAMP funding are not included and will be funded from a separate source.

2. The following costs are not included:

Line 17a - Admin Staff total has been reduced by $6,651

Line 55 - Staff total has been reduced by $92,261

Line 17c - Consultant total has been reduced by $75,000

Line 25a - Consultant total has been reduced by $75,000

These costs will be funded through the Assessment Roll Maintenance.

## *Appendix G*
**Benefit Assessment Summary**

| Zone | Acres | Operations $ 2,390,000 | Spillway $ 470,000 | Diversion $ 750,000 | Total Special Assessment | Assessment Roll Maintenance $ 273,000 | Total Assessment per Acre |
|---|---|---|---|---|---|---|---|
| **Upper Valley** | 99,250 | | | | | | |
| Irrigated Agriculture | 66,731 | $ 6.47 | $ 1.00 | $ - | $ 7.47 | $ 0.96 | $ 8.43 |
| Residential (1-4 Units) | 2,084 | $ 6.47 | $ 1.00 | $ - | $ 7.47 | $ 0.96 | $ 8.43 |
| Apartments (over 4 Units), Commercial | 223 | $ 6.47 | $ 1.00 | $ - | $ 7.47 | $ 0.96 | $ 8.43 |
| Institutional Land | 186 | $ 6.47 | $ 1.00 | $ - | $ 7.47 | $ 0.96 | $ 8.43 |
| Industrial Land | 607 | $ 6.47 | $ 1.00 | $ - | $ 7.47 | $ 0.96 | $ 8.43 |
| Dry Farming, Grazing, and Vacant Lot | 28,891 | $ 0.65 | $ 0.10 | $ - | $ 0.75 | $ 0.10 | $ 0.85 |
| River Channels and Lands with Frequent Flooding | 1 | $ 0.06 | $ 0.01 | $ - | $ 0.07 | $ 0.01 | $ 0.08 |
| Land Receiving No Charge | 527 | $ - | $ - | $ - | $ - | $ - | $ - |
| **Extended Upper Valley Above Dam** | 17,993 | | | | | | |
| Irrigated Agriculture | 0 | $ 6.72 | $ 1.74 | $ - | $ 8.46 | $ 0.96 | $ 9.42 |
| Residential (1-4 Units) | 0 | $ 6.72 | $ 1.74 | $ - | $ 8.46 | $ 0.96 | $ 9.42 |
| Apartments (over 4 Units), Commercial | 0 | $ 6.72 | $ 1.74 | $ - | $ 8.46 | $ 0.96 | $ 9.42 |
| Institutional Land | 0 | $ 6.72 | $ 1.74 | $ - | $ 8.46 | $ 0.96 | $ 9.42 |
| Industrial Land | 0 | $ 6.72 | $ 1.74 | $ - | $ 8.46 | $ 0.96 | $ 9.42 |
| Dry Farming, Grazing, and Vacant Lot | 17,993 | $ 0.67 | $ 0.17 | $ - | $ 0.84 | $ 0.10 | $ 0.94 |
| River Channels and Lands with Frequent Flooding | 0 | $ 0.07 | $ 0.02 | $ - | $ 0.09 | $ 0.01 | $ 0.10 |
| Land Receiving No Charge | 0 | $ - | $ - | $ - | $ - | $ - | $ - |
| **Extended Upper Valley Below Dam** | 20,795 | | | | | | |
| Irrigated Agriculture | 1,763 | $ 7.21 | $ 1.22 | $ - | $ 8.43 | $ 0.96 | $ 9.39 |
| Residential (1-4 Units) | 61 | $ 7.21 | $ 1.22 | $ - | $ 8.43 | $ 0.96 | $ 9.39 |
| Apartments (over 4 Units), Commercial | 3 | $ 7.21 | $ 1.22 | $ - | $ 8.43 | $ 0.96 | $ 9.39 |
| Institutional Land | 0 | $ 7.21 | $ 1.22 | $ - | $ 8.43 | $ 0.96 | $ 9.39 |
| Industrial Land | 0 | $ 7.21 | $ 1.22 | $ - | $ 8.43 | $ 0.96 | $ 9.39 |
| Dry Farming, Grazing, and Vacant Lot | 18,947 | $ 0.72 | $ 0.12 | $ - | $ 0.84 | $ 0.10 | $ 0.94 |
| River Channels and Lands with Frequent Flooding | 0 | $ 0.07 | $ 0.01 | $ - | $ 0.08 | $ 0.01 | $ 0.09 |
| Land Receiving No Charge | 21 | $ - | $ - | $ - | $ - | $ - | $ - |
| **Forebay** | 60,279 | | | | | | |
| Irrigated Agriculture | 44,530 | $ 6.72 | $ 1.09 | $ - | $ 7.81 | $ 0.96 | $ 8.77 |
| Residential (1-4 Units) | 1,404 | $ 6.72 | $ 1.09 | $ - | $ 7.81 | $ 0.96 | $ 8.77 |
| Apartments (over 4 Units), Commercial | 354 | $ 6.72 | $ 1.09 | $ - | $ 7.81 | $ 0.96 | $ 8.77 |
| Institutional Land | 86 | $ 6.72 | $ 1.09 | $ - | $ 7.81 | $ 0.96 | $ 8.77 |
| Industrial Land | 697 | $ 6.72 | $ 1.09 | $ - | $ 7.81 | $ 0.96 | $ 8.77 |
| Dry Farming, Grazing, and Vacant Lot | 13,047 | $ 0.67 | $ 0.11 | $ - | $ 0.78 | $ 0.10 | $ 0.88 |
| River Channels and Lands with Frequent Flooding | 2 | $ 0.07 | $ 0.01 | $ - | $ 0.08 | $ 0.01 | $ 0.09 |
| Land Receiving No Charge | 159 | $ - | $ - | $ - | $ - | $ - | $ - |

## *Appendix G*
**Benefit Assessment Summary**

| Zone | Acres | Operations $ 2,390,000 | Spillway $ 470,000 | Diversion $ 750,000 | Total Special Assessment | Assessment Roll Maintenance $ 273,000 | Total Assessment per Acre |
|---|---|---|---|---|---|---|---|
| **Pressure** | 113,968 | | | | | | |
| Irrigated Agriculture | 56,328 | $ 14.18 | $ 2.74 | $ 6.05 | $ 22.97 | $ 0.96 | $ 23.93 |
| Residential (1-4 Units) | 5,475 | $ 14.18 | $ 2.74 | $ 6.05 | $ 22.97 | $ 0.96 | $ 23.93 |
| Apartments (over 4 Units), Commercial | 1,709 | $ 14.18 | $ 2.74 | $ 6.05 | $ 22.97 | $ 0.96 | $ 23.93 |
| Institutional Land | 589 | $ 14.18 | $ 2.74 | $ 6.05 | $ 22.97 | $ 0.96 | $ 23.93 |
| Industrial Land | 2,597 | $ 14.18 | $ 2.74 | $ 6.05 | $ 22.97 | $ 0.96 | $ 23.93 |
| Dry Farming, Grazing, and Vacant Lot | 46,772 | $ 1.42 | $ 0.27 | $ 0.61 | $ 2.30 | $ 0.10 | $ 2.40 |
| River Channels and Lands with Frequent Flooding | 44 | $ 0.14 | $ 0.03 | $ 0.06 | $ 0.23 | $ 0.01 | $ 0.24 |
| Land Receiving No Charge | 454 | $ - | $ - | $ - | $ - | $ - | $ - |
| **East Side** | 86,281 | | | | | | |
| Irrigated Agriculture | 40,357 | $ 7.71 | $ 2.09 | $ 5.04 | $ 14.84 | $ 0.96 | $ 15.80 |
| Residential (1-4 Units) | 17,195 | $ 7.71 | $ 2.09 | $ 5.04 | $ 14.84 | $ 0.96 | $ 15.80 |
| Apartments (over 4 Units), Commercial | 1,365 | $ 7.71 | $ 2.09 | $ 5.04 | $ 14.84 | $ 0.96 | $ 15.80 |
| Institutional Land | 203 | $ 7.71 | $ 2.09 | $ 5.04 | $ 14.84 | $ 0.96 | $ 15.80 |
| Industrial Land | 1,377 | $ 7.71 | $ 2.09 | $ 5.04 | $ 14.84 | $ 0.96 | $ 15.80 |
| Dry Farming, Grazing, and Vacant Lot | 25,305 | $ 0.77 | $ 0.21 | $ 0.50 | $ 1.48 | $ 0.10 | $ 1.58 |
| River Channels and Lands with Frequent Flooding | 111 | $ 0.08 | $ 0.02 | $ 0.05 | $ 0.15 | $ 0.01 | $ 0.16 |
| Land Receiving No Charge | 368 | $ - | $ - | $ - | $ - | $ - | $ - |
| **Arroyo Seco** | 26,220 | | | | | | |
| Irrigated Agriculture | 21,758 | $ 2.49 | $ 0.43 | $ - | $ 2.92 | $ 0.96 | $ 3.88 |
| Residential (1-4 Units) | 362 | $ 2.49 | $ 0.43 | $ - | $ 2.92 | $ 0.96 | $ 3.88 |
| Apartments (over 4 Units), Commercial | 256 | $ 2.49 | $ 0.43 | $ - | $ 2.92 | $ 0.96 | $ 3.88 |
| Institutional Land | 33 | $ 2.49 | $ 0.43 | $ - | $ 2.92 | $ 0.96 | $ 3.88 |
| Industrial Land | 30 | $ 2.49 | $ 0.43 | $ - | $ 2.92 | $ 0.96 | $ 3.88 |
| Dry Farming, Grazing, and Vacant Lot | 3,772 | $ 0.25 | $ 0.04 | $ - | $ 0.29 | $ 0.10 | $ 0.39 |
| River Channels and Lands with Frequent Flooding | 0 | $ 0.02 | $ - | $ - | $ 0.02 | $ 0.01 | $ 0.03 |
| Land Receiving No Charge | 9 | $ - | $ - | $ - | $ - | $ - | $ - |

**Notes**

1. This table is a summary of cost allocation for the Salinas Valley Water Project. A detailed description regarding the development of the costs will be included in the Engineer's Report.