SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT
380 E. Vanderbilt Way, San Bernardino, CA 92408

REGULAR MEETING OF THE BOARD OF DIRECTORS

AGENDA

2:30 p.m. Tuesday, March 5, 2013

CALL TO ORDER/PLEDGE OF ALLEGIANCE/ROLL CALL

1. PUBLIC COMMENT
   Any person may address the Board on matters within its jurisdiction.

2. APPROVAL OF MINUTES
   A. February 19, 2013 Board Meeting (Page 4)

3. DISCUSSION AND POSSIBLE ACTION ITEMS
   A. Consider Bid Rejection for Baseline Feeder Flow Control and Metering (Page 9)
   B. Consider U. S. Department of the Army Corps of Engineers Cooperative Project on City Creek at Foothill Pipeline Crossing (Page 12)
   C. Consider Change in Groundwater Storage for the San Bernardino Basin Area and Yucaipa Basin Area for 2012 (Page 14)

4. REPORTS (Discussion and Possible Action)
   A. General Manager’s Report
   B. SBVMWD Reservoir Committee Workshop, February 22 (Page 27)
   C. Baseline Feeder Committee Workshop, February 25 (Page 29)
   D. Association of San Bernardino County Special Districts Dinner, February 25
   E. Basin Technical Advisory Committee, March 4
Meeting of the Board of Directors
March 5, 2013
Page 2

F. Directors Activities

5. ANNOUNCEMENTS

A. March 6, 2013 – Engineering Committee Workshop, 3:00 p.m. at the District Office
B. March 7, 2013 – SBVMWD Board of Directors Workshop, 3:00 p.m. at the District Office
C. March 12, 2013 – Public Information and Education Workshop, 3:00 p.m. at the District Office
D. March 13, 2013 – SBVMWD Reservoir Committee Workshop, 11:30 a.m. at the District Office
E. March 14, 2013 – Upper Santa Ana Water Resources Association, 9:30 a.m. at San Bernardino Valley Water Conservation District
F. March 18, 2013 – Association of San Bernardino County Special Districts Dinner, 6:00 p.m.
G. March 19, 2013 – SAWPA Commission Meeting, 9:30 a.m. at SAWPA
H. March 19, 2013 – SBVMWD Board of Directors Meeting, 2:30 p.m. at the District Office
I. March 25, 2013 – Baseline Feeder Committee Workshop, 3:00 p.m. at the District Office
J. April 1, 2013 – Basin Technical Advisory Committee, 1:30 p.m. at the District Office
K. April 2, 2013 – SAWPA Committee Meetings, 9:30 a.m. at SAWPA
L. April 2, 2013 – SBVMWD Board of Directors Workshop, 3:00 p.m. at the District Office
M. April 4, 2013 – Advisory Commission on Water Policy, 7:00 p.m. at the District Office

6. CLOSED SESSION
The Board may convene/meet in closed session to discuss the following items.

B. Conference with Legal Counsel – Existing Litigation - Pursuant to Government Code Section 54956.9(a) – Bear Valley Mutual Water Company et al v Kenneth L.
Salazar et al – Case No. 8:11-cv-01263 JVS (ANx) (United States District Court Central District of California)

C. Conference with Legal Counsel – Existing Litigation – Government Code Section 54956.9(a) – San Bernardino Valley Municipal Water District v. Mentone Citrus Growers – Case No. CIVDS1101647 (San Bernardino Superior Court)

D. Conference with Legal Counsel – Anticipated Litigation – Initiation of Litigation Pursuant to Government Code Section 54956.9(c) – 1 case.

7. ADJOURNMENT

PLEASE NOTE:
Materials related to an item on this Agenda submitted to the Board after distribution of the agenda packet are available for public inspection in the District's office located at 380 E. Vanderbilt Way, San Bernardino, during normal business hours. Also, such documents are available on the District's website at www.sbvmwd.com subject to staff's ability to post the documents before the meeting. The District recognizes its obligation to provide equal access to those individuals with disabilities. Please contact Lillian Jaramillo at (909) 387-9214 two working days prior to the meeting with any special requests for reasonable accommodation.
MINUTES
OF
THE
REGULAR BOARD MEETING
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT

February 19, 2013

Directors Present: Patrick Milligan, Mark Bulot, Steve Copelan, Ed Killgore, and Gil Navarro

Directors Absent: None.

Staff Present: Douglas Headrick, Sam Fuller, Bob Tincher, Wen Huang, Cindy Saks, Bruce Varner and Lillian Jaramillo

Registered Guests:

Alan Dyer, West Valley Water District
Benjamin G. Kelly, Western Heights Water Company
David E. Raley, San Bernardino Valley Water Conservation District
Melody McDonald, San Bernardino Valley Water Conservation District
Matt LeVesque, East Valley Water District
Josh Swift, Fontana Water Company
Manny Aranda, San Bernardino Valley Water Conservation District
Kip Sturgeon, East Valley Water District
Charles Roberts, Highland Community News

The regular meeting of the Board of Directors was called to order by President Milligan at 2:30 p.m. at the District office, 380 E. Vanderbilt Way, San Bernardino. A quorum was noted present.

Agenda Item 1. Public Comments.

President Milligan invited any members of the public to address the Board. Hearing none, the meeting proceeded with the published agenda items.

Agenda Item 2. Public Hearing and Consider Adoption of Resolution No. 1004 – Resolution to Adopt the One Water One Watershed Santa Ana Watershed Integrated Regional Water Management Plan and Project List. President Milligan stated this was the time and place set for the public hearing on, and consideration of,
adoption of Resolution No. 1004 to adopt the One Water One Watershed Santa Ana Watershed Integrated Regional Water Management Plan and Project List.

Bob Tincher stated that the Certificate of Secretary had been placed at the Board President's seat showing that the Notice of Hearing had been properly given and presented the Proofs of Publication.

Mr. Tincher stated that this item was being forward for approval by the Engineering Committee. In December 2012, the Santa Ana Watershed Project Authority (SAWPA) Commission finalized a list of projects for submission on behalf of the watershed for Proposition 84, Round 2 funding. San Bernardino Valley Municipal Water District (SBVMWD) received $1 million for its Enhanced Stormwater Capture Recharge along the Santa Ana River Project. To help simplify the submittal of the paperwork to the Department of Water Resources (DWR), SAWPA requested that each of the agencies that will receive funding adopt the One Water One Watershed Integrated Regional Water Management Plan. The One Water One Watershed Integrated Regional Water Management Plan is consistent with the Upper Santa Ana River Watershed Integrated Regional Water Management Plan.

President Milligan declared the Hearing open on Resolution No. 1004 Adopting the Santa Ana Watershed Project Authority One Water One Watershed Integrated Regional Water Management Plan and stated the Board would consider all objections or protests. There were no persons present to appear before the Board; therefore, President Milligan declared the Hearing closed.

Director Killgore moved to approve Resolution No. 1004 Adopting the Santa Ana Watershed Project Authority One Water One Watershed Integrated Regional Water Management Plan. Director Navarro seconded. The motion was unanimously adopted by a roll-call vote.

RESOLUTION NO. 1004

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT ADOPTING THE "ONE WATER ONE WATERSHED" SANTA ANA WATERSHED INTEGRATED REGIONAL WATER MANAGEMENT PLAN INCLUDING THE UPDATED OWOW 2.0 PROJECT PORTFOLIO AND ITS SUBMITTAL TO THE DEPARTMENT OF WATER RESOURCES FOR PROPOSITION 84, ROUND 2 PROGRAM FUNDING

(See Resolution Book)

Agenda Item 3. Approval of Minutes of the February 5, 2013, Board Meeting.

Director Bulat moved to approve the minutes of the February 5, 2013, Board meeting. Director Copelan seconded. The motion was unanimously adopted.
Agenda Item 4. Discussion and Possible Action Items.

4 a) Consider Letter of Support of Re-appointment of Fran Spivey-Weber to the State Water Resources Control Board. Douglas Headrick stated that at the February 4th Board of Directors meeting, staff was directed to prepare a letter of support for the re-appointment of Ms. Spivy-Weber to the State Water Resources Control Board. Ms. Spivy-Weber was on the State Water Resources Control Board (SWRCB) when the hearings took place for the District’s Santa Ana River Water Rights Application. She was very supportive of the process and the District’s application. Staff recommended the Board authorize the Board President to execute the letter and forward it to the Governor’s office.

Director Bulot moved approval of authorizing the Board President to execute the letter and forward the letter to the Governor’s office in support of Ms. Spivy-Weber’s re-appointment to the State Water Resources Control Board. Director Copelan seconded. The motion was unanimously adopted.

4 b) Consider Adoption of Resolution No. 1003 Concurring in Nomination of Melody McDonald to the Executive Committee of the Association of California Water Agencies Joint Powers Insurance Authority (ACWA/JPIA). Douglas Headrick stated that the San Bernardino Valley Water Conservation District requested that the SBVMWD Board consider a concurring nomination for Director McDonald for a position on the Executive Committee of the Association of California Water Agencies (ACWA) Joint Powers Insurance Authority (JPIA).

Director Killgore moved to approve Resolution No. 1003 Concurring in Nomination of Melody McDonald to the Executive Committee of the Association of California Water Agencies Joint Powers Insurance Authority. Director Navarro seconded. The motion was unanimously adopted by a roll-call vote.

RESOLUTION NO. 1003

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT CONCURRING IN THE NOMINATION OF MELODY MCDONALD TO THE EXECUTIVE COMMITTEE OF THE ASSOCIATION OF CALIFORNIA WATER AGENCIES JOINT POWERS INSURANCE AUTHORITY (ACWA/JPIA)

(See Resolution Book)

4 c) Consider Grant Administration Services for “E” Street Park Project. Wen Huang stated that this item was being forwarded by the Reservoir Committee with a recommendation for approval of an agreement with MVR Consulting. At the Board of Directors meeting on January 15th, the Board authorized the District to assume the responsibility for the design, construction, and ongoing operation, maintenance, and
repair activities of the proposed “E” Street Park in San Bernardino. Following the Board’s direction, staff immediately began working with the State Parks Department and City of San Bernardino representatives to ensure all grant requirements were met. Staff met with Martha Van Rooijen of MVR Consulting who was retained by the City of San Bernardino to assist the City in the Proposition 84 application for the project. She was involved in public outreach, park concept design, and coordination with the State Department of Recreation. After the project was awarded for the grant, Ms. Van Rooijen was designated as the representative for attending a mandatory grant administration workshop. At staff’s request, MVR Consulting submitted a proposal for the “E” Street Park grant administration services. It is staff’s opinion that Ms. Van Rooijen is uniquely qualified for this service based on her involvement during the grant application phase and her extensive experience in managing grant-funded public infrastructure projects. The proposed scope of services anticipates that the assignment, including coordination with the State Parks Department, assistance on the CEQA clearance, and design concept refinement, will be completed within a three-month timeframe. The estimated fee of $13,900 will be eligible for reimbursement by the grant. The Reservoir Committee and staff recommended the Board authorize the general manager to enter into a professional services agreement with MVR Consulting in the amount of $13,900.

Director Navarro moved approval. Director Copelan seconded. The motion was unanimously adopted.

Agenda Item 5. Reports (Discussion and Possible Action).

5 a) Reservoir Committee Workshop, February 13, 2013. No report was given as a written report was included in the Board packet.

5 b) Upper Santa Ana Water Resources Association, February 14, 2013. No report was given.

5 c) SAWPA Commission Meeting, February 19, 2013. Director Bulot reported on the following SAWPA matters:

1) Approved a reduced monthly target total suspended solids formation amount for billing purposes.
2) Approved an amendment to the loan agreement with Orange County Flood Control District which will result in a $920,000 refund.
3) Authorized a contract with RMC Water and Environment for engineering services on the Inland Empire Brine Line Reach V Pipeline Condition Study.
4) Approved a resolution recognizing Mesa Water District efforts in maximizing use of local supplies.
5) Directed staff to seek an amendment of the Proposition 84, Round 1 grant contract to reallocate funds from Round 1 to Round 2 projects.
6) Received a legislative report.
5 d) Operations Reports. No oral report was given as a written report was included in the Board packet.

5 e) Treasurer's Report. After discussion, Director Copelan moved approval of the following expenses for the month of January 2013. The State Water Contract Fund $5,355,644.18, Devil Canyon/Castaic Fund $376,165.00, and General Fund $1,536,832.14. Director Bulot seconded. The motion was unanimously adopted.

5 f) Directors Activities. Director Navarro reported that he had been attending workshops and meetings.

Director Bulot reported that he met with Chairman Phil Anthony from the SAWPA Commission. Mr. Anthony suggested that the Board re-institute the Board exchange where the Boards would meet to discuss various items.

Director Copelan reported that he attended San Gorgonio Pass Water Agency's Engineering Committee meeting. Director Copelan also reported that he attended the Bear Valley Mutual Water Company's annual meeting where he represented the District.

Agenda Item 6. Announcements. President Milligan announced that a Public Information and Education Workshop had been scheduled for March 12, 2013, at 3:00 p.m. at the District office. Director Bulot announced that the March 5, 2013, SAWPA Committee meetings had been cancelled.

Agenda Item 7. Closed Session. None.

There being no further business, President Milligan adjourned the meeting at 3:14 p.m.

APPROVAL CERTIFICATION
I hereby certify to approval of the foregoing Minutes of San Bernardino Valley Municipal Water District.

Secretary
Date

Respectfully submitted,

Lillian Jaramillo
Board Secretary
DATE: March 5, 2013

TO: Board of Directors

FROM: Board of Directors' Baseline Feeder Committee
       Wen Huang, Principal Engineer

SUBJECT: Consider Bid Rejection for Baseline Feeder Flow Control and Metering Improvements Project

On November 26, 2012, staff was directed by the Baseline Feeder Committee to advertise for bids for construction of the Baseline Feeder Flow Control and Metering Improvements Project. The main purpose of the Project is to enhance the capability of monitoring and regulating flows at various delivery points along the Baseline Feeder System based on specific requests by the stakeholders, in accordance with the approved Restated and Amended Baseline Feeder Agreement.

On January 22, 2013, a bid opening was held at the District offices for the Project. Eleven (11) contractors submitted bids for the work. The bid opening report is attached. Of the bids received, SCW Contracting Corporation (SCW), based in Fallbrook, submitted the apparent lowest bid of $896,852. All bids were carefully reviewed to determine if they were responsive to bid requirements. During staff's review of the bids, it was discovered that there was a mathematical error contained in the bid submitted by SCW in computing the total bid amount. After the mathematical error was corrected, the bid submitted by SCW increased to $997,751, or from the lowest to No. 7. SCW was contacted regarding this issue and responded with a letter, in which SCW stated it was a result of a clerical error and requested that Valley District waive this minor irregularity.

On January 30, a formal protest letter from the apparent second lowest bidder Environmental Construction, Inc. (ECI) challenging the bid of SCW was received. ECI argues that considering the bid amount of $101,000 for Bid Item No. 8, SWC's total bid must be revised to $997,751. On
January 31, Valley District forwarded the protest letter from ECI to SCW and requested a response. On February 4, SCW transmitted a letter in defense of an award to SCW.

On February 25, the Board of Directors' Baseline Feeder Committee met in a closed session to consider the bid protests.

**Staff Recommendations**
Staff recommends that the Board reject all bids and authorize staff to work with District's Special Counsel, Mary Salamone, to revise the Bid Schedule to accommodate Valley District’s need to establish discrete items work for this project, prior to rebidding this project.

**Attachment**
1. Bid Opening Report
## BID OPENING REPORT

San Bernardino Valley Municipal Water District

**BASELINE FEEDER FLOW CONTROL AND METERING IMPROVEMENTS**

Bid Opening - 2 pm, January 22, 2013

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Bid Bond</th>
<th>Bid Signed</th>
<th>Addenda (2)</th>
<th>Bid Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlas-Allied, Inc.</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>$986,780.00</td>
</tr>
<tr>
<td>Canyon Springs Enterprise RSH Construction</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>$978,262.00</td>
</tr>
<tr>
<td>EL-CO Contractors, Inc.</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>$1,002,223.00</td>
</tr>
<tr>
<td>Environmental Construction, Inc.</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>$921,000.00</td>
</tr>
<tr>
<td>Fleming Environmental</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>$975,117.00</td>
</tr>
<tr>
<td>Genesis Construction</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>$1,006,777.00</td>
</tr>
<tr>
<td>I.H. Woods &amp; Sons, Inc.</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>$1,248,888.00</td>
</tr>
<tr>
<td>Merlin Johnson Construction</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>$960,100.00</td>
</tr>
<tr>
<td>MMC, Inc.</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>$1,347,281.00</td>
</tr>
<tr>
<td>SCW Contracting Corporation</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>$896,852.00</td>
</tr>
<tr>
<td>Weka, Inc.</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>$959,559.00</td>
</tr>
</tbody>
</table>

Note: The bid amounts have not been checked and are subject to correction after the bids have been completely reviewed.
DATE: March 5, 2013
TO: Board of Directors
FROM: Doug Headrick, General Manager
       Sam Fuller, Chief Engineer
       Mike Esquer, Project Manager
SUBJECT: U.S. Department of the Army Corps of Engineers
       Cooperative Project on City Creek at Foothill Pipeline Crossing

This is a request for authorization to complete an investigation and design of a possible interim solution to the reduce erosion and scour in City Creek that threaten the integrity of the Foothill Pipeline where the Foothill Pipeline crosses under the channel of City Creek.

Background

The Foothill Pipeline was constructed under the channel of City Creek about 1,000 feet south of the Highland Avenue Bridge. The high flows of City Creek in 2003 and 2005 accelerated a process of erosion and scour in the channel of City Creek as City Creek emerges from the San Bernardino Mountains into the San Bernardino Valley under the Highland Avenue Bridge and over the Foothill Pipeline. The storms in February 2006 and March 2006 actually exposed the Foothill Pipeline encasement and eroded the backfill around the pipeline to about 6 feet below the top of the pipeline encasement on the downstream side of the pipeline.

During August 2009, the District constructed a gabion and riprap structure in the channel of City Creek that was designed to accommodate the flood that could be expected to occur once in about 25 years. Evaluation continued for alternatives that would provide more permanent protection for the Foothill Pipeline. In September, 2009 the United States Department of the Army, Corps of Engineers and the District entered into a cost sharing agreement to allow the Corps of Engineers to assist the District in the ongoing evaluation of the erosion and scour
occurring in City Creek and the development of possible solutions to protect the Foothill Pipeline.

Early in the morning on December 22, 2010, the storm water flows of City Creek as measured by the United States Geological Survey established a new instantaneous peak flow rate for the 80 year history of the gaging station City Creek near Highland of nearly 10,000 cubic feet per second. These high storm flows destroyed the gabion and riprap structure that the San Bernardino Valley Municipal Water District constructed in the channel in August 2009. The integrity of the Foothill Pipeline was in question. In accordance with Board of Directors Resolution Number 921 and Resolution Number 977 an emergency was declared. The staff of San Bernardino Valley Municipal Water District initiated a contract to place large boulders into the City Creek channel to prevent the high velocity storm flows from eroding the stream channel around the Foothill Pipeline crossing and destroying the Foothill Pipeline. The City Creek channel and surrounding Highland areas were declared to be an emergency disaster area by the Federal Emergency Management Agency and California Emergency Management Agency. Partial reimbursement for the costs material and placement of the material has been received from both the Federal and State emergency agencies.

Budgeting and staff issues at the United States Department of the Army, Corps of Engineers delayed the completion of the evaluation and the recommendations. Recently, the Corps of Engineers identified additional funds and has requested that the District provide $3,900.00 in cooperative matching funds to allow the Corps of Engineers to complete the evaluation and publication of the study and recommendations.

**Recommendation:**

Staff requests that the Board of Directors authorize a modification of the adopted budget for Fiscal Year 2012–2013 in the amount of $3,900.00 and authorize the General Manager to notify the United States Department of the Army, Corps of Engineers that the District will fund its share of the cooperative program with the expectation that the Corps of Engineers will complete its investigation and publish its findings and recommendations.
DATE: March 5, 2013

TO: Board of Directors

FROM: Bob Tincher, Manager of Engineering & Planning
       Steve Luhn, GIS Coordinator

SUBJECT: Change in Groundwater Storage for the San Bernardino Basin Area
         and Yucaipa Basin Area for 2012

Since 1970, the San Bernardino Valley Municipal Water District has been calculating the cumulative and annual change in groundwater storage for the San Bernardino Basin Area (SBBA). This year, the Yucaipa Basin (Yucaipa) was added. The Change in Storage calculation provides an indicator of current groundwater supplies and how they compare to past years. The results for 2012 are as follows:

<table>
<thead>
<tr>
<th>Change in Storage</th>
<th>(acre-feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual</td>
<td></td>
</tr>
<tr>
<td>SBBA</td>
<td>(97,974)</td>
</tr>
<tr>
<td>Yucaipa</td>
<td>1,040</td>
</tr>
<tr>
<td>Cumulative (compared to 1934/1993)</td>
<td></td>
</tr>
<tr>
<td>SBBA</td>
<td>(365,378)</td>
</tr>
<tr>
<td>Yucaipa</td>
<td>(8,450)</td>
</tr>
</tbody>
</table>

**Background**

The change in storage calculation uses fall water level measurements. Last April, staff made a prediction of the change in storage for 2012 by correlating the precipitation, to date, with past change in storage results. When artificial recharge was added to the predicted natural recharge, the result was an estimated decrease of 70,000 acre-feet which is about 29% higher than the calculated value. The below table includes a comparison of the prediction and actual change in storage for 2012 along with a predicted change in storage for 2013.

<table>
<thead>
<tr>
<th>Year</th>
<th>Prediction</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Natural Recharge</td>
<td>Artificial Recharge</td>
</tr>
<tr>
<td>2012</td>
<td>(95,000)</td>
<td>25,000</td>
</tr>
<tr>
<td>2013</td>
<td>(69,000)</td>
<td>19,000</td>
</tr>
</tbody>
</table>

The executive summary from this year's report is attached. The complete, final report will be available on the Valley District website within the next couple of weeks.

**Staff Recommendation**

Receive and file

**Attachments**

Executive Summary for 2012 Change In Storage Report
Change in Groundwater Storage for the San Bernardino Basin Area
And Yucalpa Basin Area

Calendar Years 1934 to 2012

EXECUTIVE SUMMARY AND APPENDIX

March 2013
San Bernardino Valley Municipal Water District

Robert M. Tincher
Manager of Engineering and Planning

Steve Luhn
GIS Coordinator
EXECUTIVE SUMMARY

The San Bernardino Valley Municipal Water District (SBVMWD) has been calculating the change in groundwater storage for the San Bernardino Basin Area (SBBA) since 1970. The first calculation was completed for the years 1934 – 1960 by the State of California Department of Water Resources (DWR) and the results were summarized in Bulletin 104-5, Meeting Water Demands in the Bunker Hill-San Timoteo Area. Geology, Hydrology, and Operation-Economics Studies, Text and Plates (Olson, pp. 90 – 92). The DWR change in storage values were calculated using the Specific Yield Method (Olson, pp. 85 – 98) and a mathematical model developed by TRW, Incorporated, Redondo Beach, California (TRW). In 1980, SBVMWD updated the change in storage calculation to include the years 1961 – 1980 (Van Gelder). In the early 1990’s, SBVMWD created a new change in storage model (SBVMWD Model) using software developed by Environmental Systems Research Institute (ESRI), Redlands, California (For an explanation of how the model works see Appendix: SBVMWD Change in Storage Model). Results are presented to the SBVMWD Board of Directors and released in this report.

Like the earlier DWR model, the SBVMWD Model calculates the change in groundwater storage (volume) for the SBBA using the Specific Yield Method using well water level measurements throughout the SBBA (Figure 1). In addition to the DWR and SBVMWD models, the San Bernardino Valley Water Conservation District (SBVVCD) and the U.S. Geological Survey (USGS) have created models for computing the change in storage for the SBBA. Although all four models use slightly different data sets and calculate the change in storage using different computer methods, their calculated values and results track remarkably well (Figures 2 and 3).

The cumulative change in groundwater storage (CCIS) is a measure of the volume of water lost or gained in the SBBA as compared to the base year of 1934. The year 1934 was selected as the base year to correspond with the first year of the DWR base period, 1934-35 through 1959-60 (Motokane, pp. 123 – 129). The annual change in storage (ACIS) is simply a measure of the volume of water lost or gained in the basin during a year. This report presents the results from the SBVMWD Model for calendar years 1934 to 2012.
Figure 2. Comparison of DWR FORTRAN Model, SBVWCD EI and SBVMWD GRID Model Results

Van Gelder, Change In Groundwater Storage 1980 Update, 5/20/81.
Figure 3. Comparison of DWR FORTRAN Model, USGS MODFLOW Model and SBVMWD GRID Model Results

- SBVMWD GRID Model (2012)
- DWR FORTRAN Model (1981)
- Geoscience/USGS (4/2008)
The SBVMWD Model uses the calendar year instead of the water year (October through September) to correspond with the United States Geological Survey MODFLOW groundwater model, which is dependent upon local pumping records kept by calendar year.

The annual change in storage for calendar year 2012 was calculated to be approximately -97,974 acre-feet. Table 1.1 summarizes the distribution of the 2012 annual and cumulative change in storage among the various sub-basins, as defined in Bulletin 104-5 (DWR, Plate 14, Basin Groundwater Storage Data). The cumulative change in storage for calendar year 2012 was calculated to be approximately -365,378 acre-feet which is a 37% decrease from the previous year.

Table 1.1 also provides a "basin index" for each sub-basin. The basin index is the average, annual water level change for the sub-basin for the given year. For example, a basin index of -5.0 indicates that the average water level for the sub-basin decreased 5.0 feet for the given year. For 2012, the Lytle Creek sub-basin saw the largest change in water levels as it decreased 48 feet, closely followed by Mill Creek with a decrease of 42 feet. The Redlands sub-basin saw the largest increase of 19 feet. Overall the average change in water levels for the SBBA decreased of 14 feet.

### Table 1.1. Annual and cumulative change in storage for 2012 by sub-basin.

<table>
<thead>
<tr>
<th>Sub-basin</th>
<th>Wells used in 2012</th>
<th>Area (acres)</th>
<th>2012 Annual Change in Storage</th>
<th>2012 Cumulative Change in Storage</th>
<th>Basin Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cajon</td>
<td>4</td>
<td>9,833</td>
<td>-25,541</td>
<td>-72,820</td>
<td>-33</td>
</tr>
<tr>
<td>Devil Canyon</td>
<td>12</td>
<td>7,105</td>
<td>-10143</td>
<td>-46,902</td>
<td>-13</td>
</tr>
<tr>
<td>Lytle Creek</td>
<td>11</td>
<td>5,899</td>
<td>-9,196</td>
<td>-23,015</td>
<td>-48</td>
</tr>
<tr>
<td>Pressure Zone</td>
<td>20</td>
<td>15,965</td>
<td>-5,226</td>
<td>-128,000</td>
<td>2</td>
</tr>
<tr>
<td>City Creek</td>
<td>16</td>
<td>21,284</td>
<td>-24,934</td>
<td>-137,142</td>
<td>-7</td>
</tr>
<tr>
<td>Redlands</td>
<td>6</td>
<td>5,113</td>
<td>3,089</td>
<td>1,998</td>
<td>19</td>
</tr>
<tr>
<td>Mill Creek</td>
<td>9</td>
<td>7,299</td>
<td>-26,058</td>
<td>23,585</td>
<td>-42</td>
</tr>
<tr>
<td>Reservoir</td>
<td>6</td>
<td>2,177</td>
<td>55</td>
<td>8,773</td>
<td>0</td>
</tr>
<tr>
<td>Divide</td>
<td>2</td>
<td>2,634</td>
<td>-20</td>
<td>8,145</td>
<td>-1</td>
</tr>
</tbody>
</table>

86 77,309 -97,974 -365,378
Figure 4. SAN BERNARDINO BASIN AREA (SBBA) DEPTH TO GROUNDWATER STATUS MAP SEPTEMBER, 2012

Depth to Groundwater
- Shallow
- Medium
- Deep

Groundwater Basin
Fault

Map legend:
- Shallow
- Medium
- Deep

Map inset:
- Groundwater Basin
- Fault

Scale:
0.5, 1.0, 5.0 Miles
Figure 5. COMPARISON OF 1965 WATER LEVELS TO CURRENT (SEPT., 2012) SAN BERNARDINO BASIN AREA

<table>
<thead>
<tr>
<th>Spreading Basin</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Waterman Basin</td>
</tr>
<tr>
<td>2. SAR Spreading Basins</td>
</tr>
<tr>
<td>3. Mill Creek Spreading Basins</td>
</tr>
<tr>
<td>4. City of Redlands Spreading Basins</td>
</tr>
<tr>
<td>5. Bear Valley Spreading Basin</td>
</tr>
<tr>
<td>6. City Creek Basin (not used)</td>
</tr>
<tr>
<td>7. Patton Basin</td>
</tr>
<tr>
<td>8. EVWD Turnout</td>
</tr>
<tr>
<td>9. East Twin Creek Spreading Basin</td>
</tr>
<tr>
<td>10. Badger Basins</td>
</tr>
<tr>
<td>11. Wiggins Basin</td>
</tr>
<tr>
<td>12. Devil Canyon &amp; Sweetwater Basins</td>
</tr>
<tr>
<td>13. Gravel Pits</td>
</tr>
<tr>
<td>14. Lower Lytle Creek Basins (Proposed)</td>
</tr>
</tbody>
</table>

[Aug-Sept 2012 Water Levels] - [Historic Low Water Levels]
- Current Water Levels Above 1965 Historic Low
- Current Water Levels Below 1965 Historic Low
- Production Well (>500 sf-ft)
- Area of Historic High Groundwater
- Bunker Hill Basin
The District and the retail water agencies in the SBBA provided 2012 water level data used in the model. The static depth to groundwater data is plotted on figure 4 the "Depth to Groundwater Status Map Sept. 2012". Figure 5 compares the 2012 depth to groundwater to the low water levels of 1965. Areas shaded in red are those that are lower than 1965.

Liquefaction is a phenomenon that occurs during an earthquake in saturated sandy soil. The threat of liquefaction is reduced when water levels are lower than 50 feet below ground surface (SCEC Report, March 1999, page 7). Figure 4 shows that fall 2012 water levels are generally below this threshold with the exception of a small area south of the Santa Ana River just upstream of the San Jacinto fault (inset). The shallower water levels in this vicinity are likely due to the close proximity to the San Jacinto fault which causes underground flow to pool up behind it, and the recharge from the Santa Ana River, Warm Creek and San Timoteo Creek.

The change in storage was also calculated for the Yucaipa groundwater basin. In the Yucaipa basin there was very little well water level data available before 1993. The change in storage results for the SBBA show that 1993 is essentially the same as the SBBA base year 1934 where change in storage was at near zero. To make the cumulative change in storage results consistent with the SBBA, 1993 was selected as the base year for the Yucaipa calculation. The results of the model are plotted on figures 6 and 7. Plotted at the same scale, figure 6 shows that there is a large difference in the magnitude between the SBBA and the Yucaipa basin. This large difference is reasonable considering the significant size difference of the two basins. The trend of the Yucaipa results is similar to the SBBA which provides confidence in the results. For 2012, the annual change in storage for Yucaipa was calculated to be approximately -1,040 acre-feet. The cumulative change in storage was calculated to be approximately -8,450 acre-feet.
Figure 6.

SBBA and Yucaipa Basins
Cumulative Change in Storage

SBBA
Yucaipa

February 2013
Figure 7.
Cumulative Change in Storage
Comparison of SBBA and Yucatán Basin
2. Bibliography


The Board of Directors Reservoir Committee met on Friday, February 22, 2013 at the offices of the San Bernardino Valley Municipal Water District. Vice President Bulot chaired the meeting and Directors Copelan, Killgore and Navarro participated in the meeting. Doug Headrick, Cindy Saks, and Wen Huang of staff and House Counsel Bruce Varner participated in the meeting.

The meeting agenda contained the following item for discussion:
A. Discuss State Department of Parks and Recreation's Recommendations for Prop 84 "E" Street Park Grant Administration

Bruce Varner reported that staff met with representatives of the City and the State on February 14. In light of the City's current and ongoing financial situation, the State representatives were not in support of keeping the City of San Bernardino as the grantee for the Grant. From the State's perspective, the preferable, and perhaps only viable, alternative is to utilize a Joint Powers Authority (JPA) structure. In order to meet the deadline, a draft JPA agreement, along with other documents, is required to be submitted to the State for review by March 25, 2013.

In light of this position, Bruce Varner has begun amending the existing San Bernardino Water Resources Authority Agreement to meet the requirements of the State and discussed the amendment, in concept, with the Committee. The amended form of government would be used to design, build, operate, and maintain the park. The amendment would include modifying the JPA Board structure to ensure the District held a majority of the seats among
other changes. In addition, the Inland Valley Development Agency (IVDA), a party to the existing JPA, was contacted and expressed no desire to participate in the park project. Therefore, IVDA will not be part of the amended JPA.

At the conclusion of the discussion, the Committee directed staff to continue working on the JPA amendment and bring it to the March 13 Reservoir Committee Workshop for review and discussion.
The Baseline Feeder Committee met at 3:00 pm on Monday, February 25, 2013 in the conference room at the offices of the San Bernardino Valley Municipal Water District. President Milligan chaired the meeting. Directors Bulot, Killgore, and Navarro participated in the meeting. Peter Fox of the City of Rialto, Linda Jadeski of West Valley Water District (WVWD), Don Hough of Riverside Highland Water Company (RHWC), Ben Coleman of East Valley Water District (EVWD), and Doug Headrick and Wen Huang of staff also participated.

The meeting agenda contained the following items for presentation and discussion:

2.A. **Material Testing Services for the Baseline Feeder Flow Control and Metering Improvements Project:** In support of the Baseline Feeder Flow Control and Metering Improvements Project, Staff solicited four (4) proposals from engineering firms with expertise in inspection and materials testing services. This service is necessary to ensure the facilities are constructed in accordance with the design specifications and will function correctly after completion. Staff presented all proposals and received comments from the Committee. At the conclusion of the discussion, the Committee directed staff to bring the proposal submitted by Converse Consultants based on their lowest bid and that they have successfully completed this type of work throughout the valley to the full Board for consideration with a recommendation for approval at a later time.

2.B. **Update on Operations of the New Baseline Feeder System:** Staff reported items discussed with the Baseline Feeder stakeholders at the Baseline Feeder Operations
Meeting that took place on January 30, 2013. The items included the establishment of a monthly delivery goal for 2013, review of associated operation and maintenance (O&M) costs to-date, and evaluation of proposed improvements and repairs to the Baseline Feeder System. The associated improvement and repair costs will be shared among the parties equitably and any over/undercharges on O&M will be adjusted by spreading the difference over the next fiscal year bills as a “true up” per the Amended Baseline Feeder Agreement.

WVWD, in coordination with Valley District, has been working with RHWC to conduct a test run for delivering water from the Baseline Feeder through the RHWC’s turnout to ensure the connection is functional and ready to go when needed. Improvements and repairs identified during the January 9 inspection have since been completed. A test of the turnout has been scheduled for February 27.

President Milligan adjourned the meeting to Closed Session at 3:25 p.m.

3.A. Conference with Legal Counsel – Anticipated Litigation – Pursuant to Government Code Section 54956.9 – 1 case.

President Milligan returned the meeting to Open Session and adjourned the meeting at 3:40 p.m.