

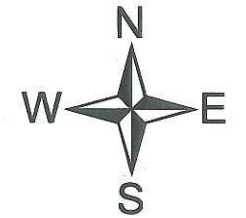
**PRESENTATION CONCERNING SPECIAL IMPROVEMENT DISTRICT NO.1
OF THE RIO GRANDE WATER CONSERVATION DISTRICT FOR
CONSIDERATION BY THE WATER RESOURCES REVIEW COMMITTEE OF
THE COLORADO LEGISLATURE**

AUGUST 14, 2012

**Prepared By
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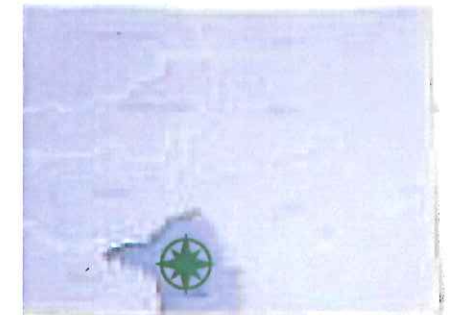
**SPECIAL
SUBDISTRICT NO. 1
Closed Basin Subdistrict**



Legend

- Div3_Wells_Structure
- Subdistrict_1
- Roads
- Div3_SLV Canals
- Sprinklers_2010_linear
- Sprinklers_2010

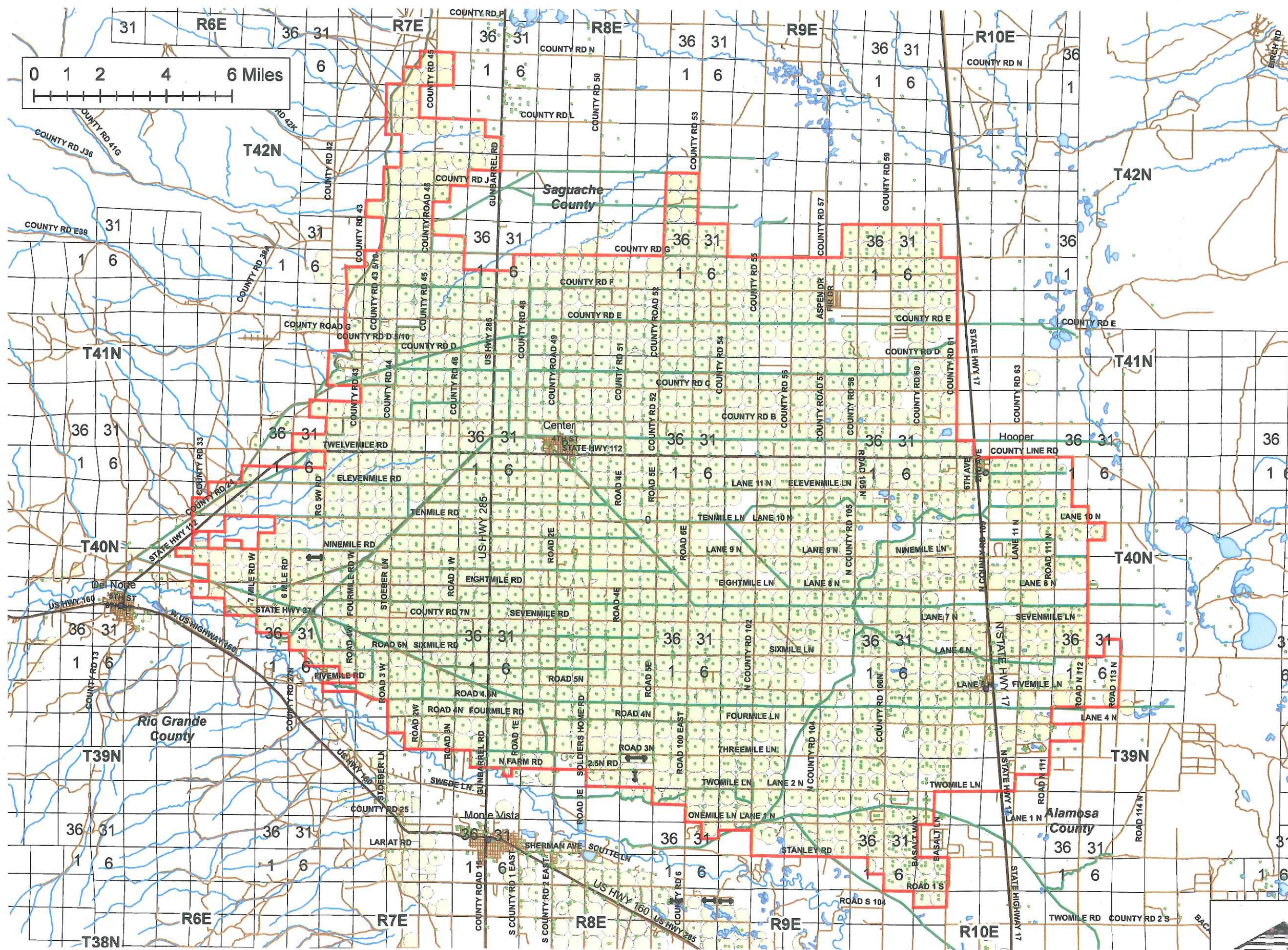
Location Map



Prepared 08/09/2012



DES
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1948
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**PERTINENT FACTS CONCERNING SPECIAL IMPROVEMENT DISTRICT NO. 1 OF THE RIO GRANDE
WATER CONSERVATION DISTRICT FOR CONSIDERATION BY THE WATER RESOURCES REVIEW
COMMITTEE OF THE COLORADO LEGISLATURE**

- Wells permitted in SLV until 1972 in the confined aquifer which underlies most of the SLV and in the alluvial aquifers around the valley.
- Wells were permitted in the unconfined closed Basin area until 1981.
- A Moratorium on wells for new appropriations has been in place in both aquifers since that time.
- Agreements involving allocation of the production of the Closed Basin Project in 1985 kept surface users from pushing the idea of groundwater administration.
- The drought of 2002-4 unmasked the depletions of wells on streams in the valley and many surface water users demanded that the State Engineer administer wells.
- SEO was working on a groundwater model to be able to determine the depletions of wells on the SLV streams.
- The State Engineer is drafting Groundwater use rules currently to administer groundwater in the SLV.
- The Subdistrict concept was created to be an alternative to the State regulating wells and the local interests managing the aquifers in a much more flexible way while accomplishing all the goals of individual augmentation plans.
- In 2004 the RGWCD prepared to form Special Groundwater Improvement Districts (Subdistricts) to locally address the decline in aquifer storage and replace injurious well depletions to the streams.
- Subdistrict #1 was formed July 19, 2006, by the District Court with considerable opposition from those who thought all well owners should only be allowed to have individual augmentation plans.
- The concept of the subdistricts was to form "community of interest" areas with similar hydrology and geology. Members of the Subdistrict could then pool resources in the form of fees on pumping and irrigated acres to create a revenue stream that would be used to purchase water to replace depletions to the river and to fallow ground to reduce pumping from the aquifers.
- Two District court trials and a successful trip to the Supreme Court finally confirmed Subdistrict #1 and the Plan of Water Management in December of 2011.
- The Subdistrict is applying for a CREP program thru USDA to help in the retirement of up to 40,000 acres to restore and maintain the aquifer system. At the present time the aquifer is down some 1,100,000 af from the level of storage in 1976. The application is nearly ready for submittal for final approval.

- The Subdistrict #1 prepared an Annual Replacement Plan in April of 2012 which was immediately challenged by the objectors who have petitioned the court to shut down the operation of the ARP which was initiated on May 1, 2012.
- Water was acquired by the Subdistrict in 2012 with funds from fees on pumping in 2011 and is currently being released at the rates of flow and amounts required by the modeling results to replace the depletions to the Rio Grande calculated by the model.
- The Subdistrict was also able to fallow 9,100 acres of ground with the same revenue for the 2012 to help reduce pumping in the Subdistrict.
- Many areas of the Subdistrict have reduced groundwater levels to the point the wells are pumping considerable air and not being able to meet irrigation requirements.
- The Subdistrict #1 area depends heavily on diversions from the Rio Grande to recharge the aquifer and the past three years have been very short on runoff and therefore contributed to the large decline in the aquifer.
- Currently we are hoping that the following program, preventive planting insurance programs and voluntary cut backs will reduce pumping considerably.
- Very high commodity prices have been an obstacle to convincing wells owners that they need to cutback.

MAP OF THE SAN LUIS VALLEY
showing
UNCONFINED AQUIFER STORAGE STUDY AREA

by
Davis Engineering Service, Inc.
P.O. Box 1840, 1314 11th Street
Alamosa, Colorado 81101

PRELIMINARY DATA
SUBJECT TO REVIEW

LEGEND

STUDY AREA FOR CHANGE
IN UNCONFINED AQUIFER
STORAGE COMPARISON



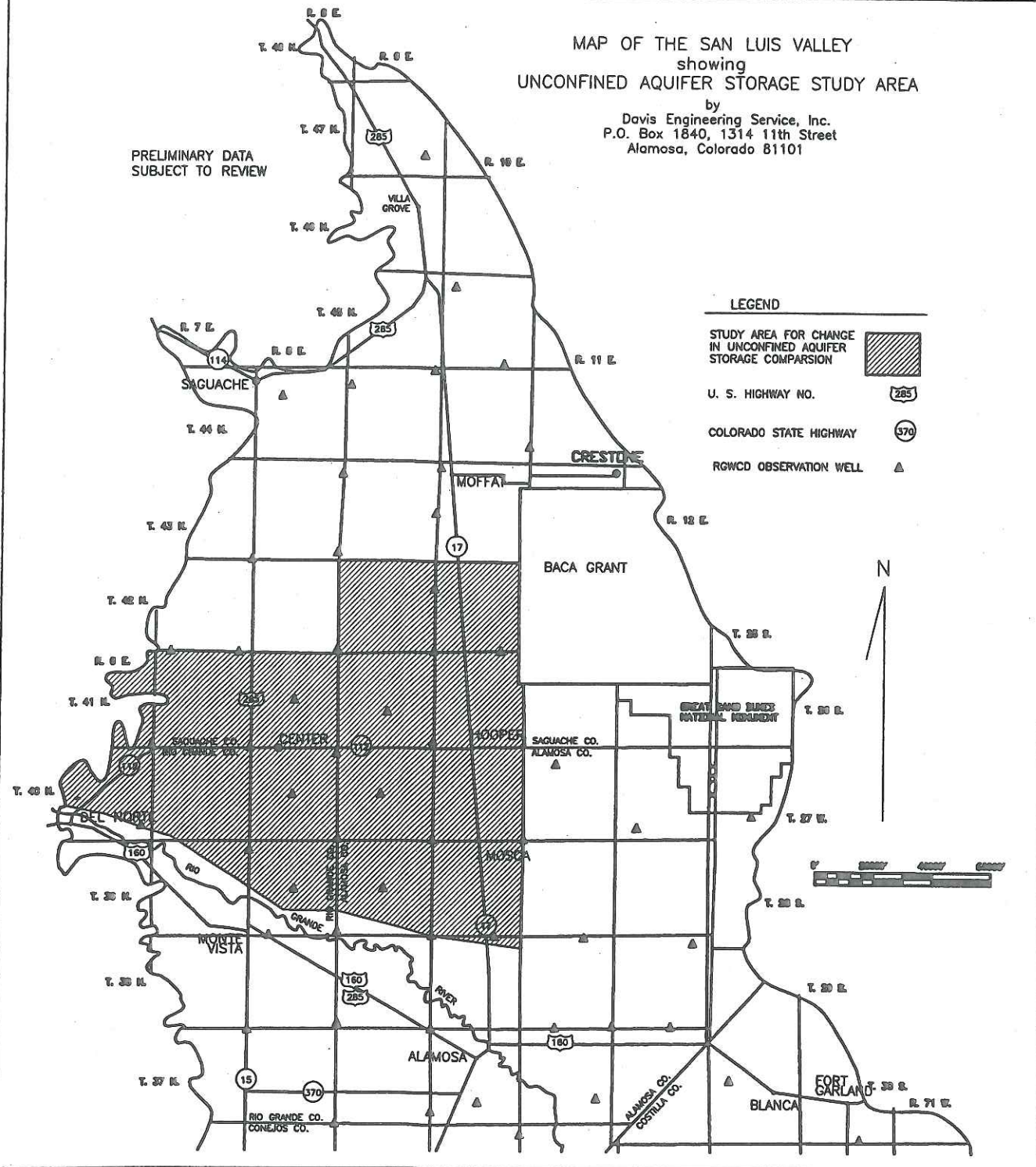
U. S. HIGHWAY NO.



COLORADO STATE HIGHWAY



RGWCD OBSERVATION WELL



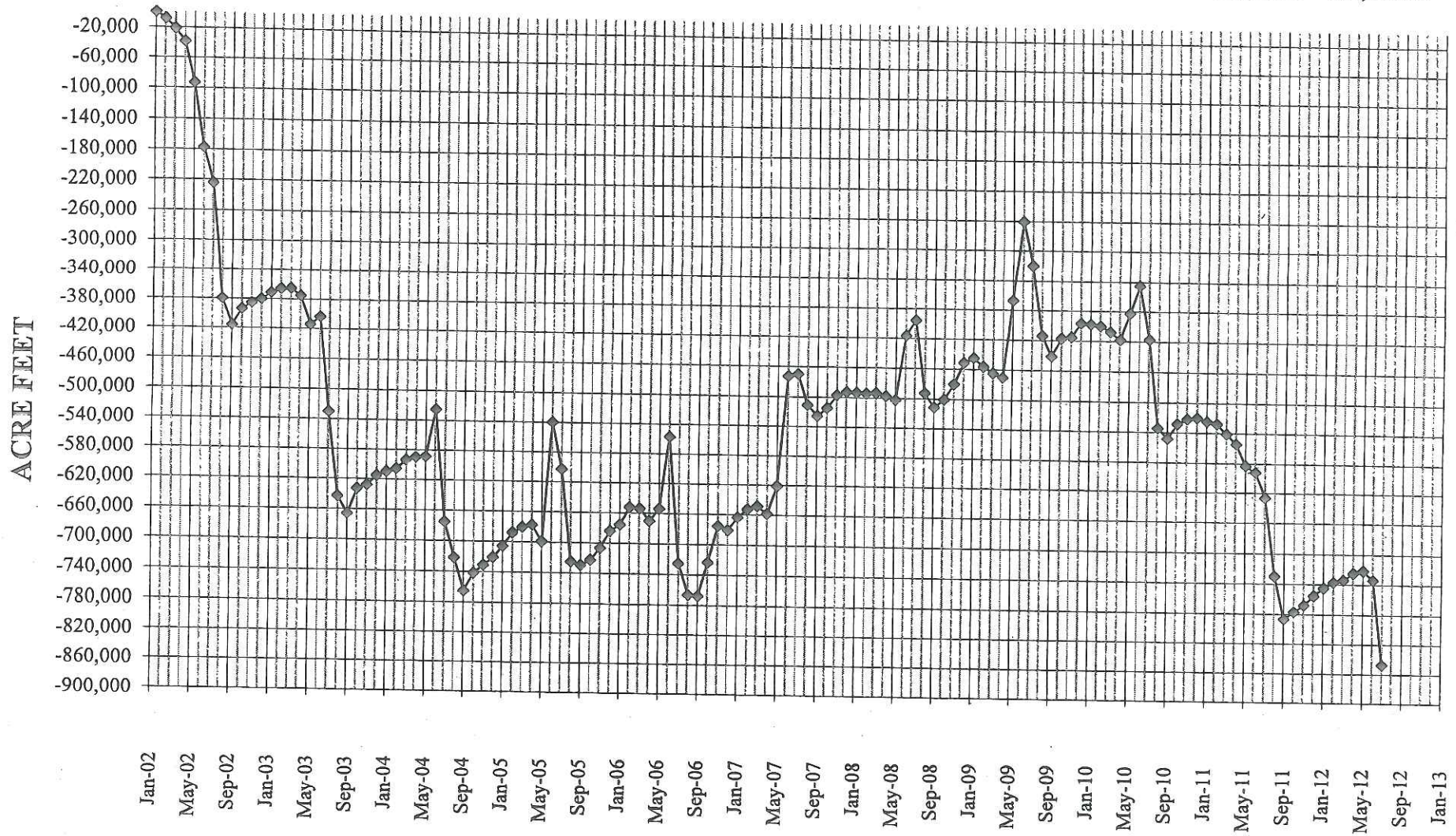
EXPLANATION

Change in unconfined aquifer storage has been calculated for a defined area which is shown on the above map. The changes in aquifer storage were based on approximately 27 RGWCD monitoring wells located within the area. The method of computing the change in aquifer storage was in accordance with the Thiessen mean method whereby a polygon is constructed around each observation well and the assumption is made that the change in water level throughout the area of the polygon is the same as the change in the well within the polygon. A graph showing changes since 1976 is attached. Zero on the vertical axis of the graph was assumed as corresponding to 1976 for graphing purposes; however, it should not be assumed that the unconfined aquifer was at equilibrium as of that date.

Changes: Comparing
 September of each year
 Year 2002 = -439,816 a.f.
 Year 2003 = -250,214 a.f.
 Year 2004 = -99,285 a.f.
 Year 2005 = +35,612 a.f.
 Year 2006 = -38,228 a.f.

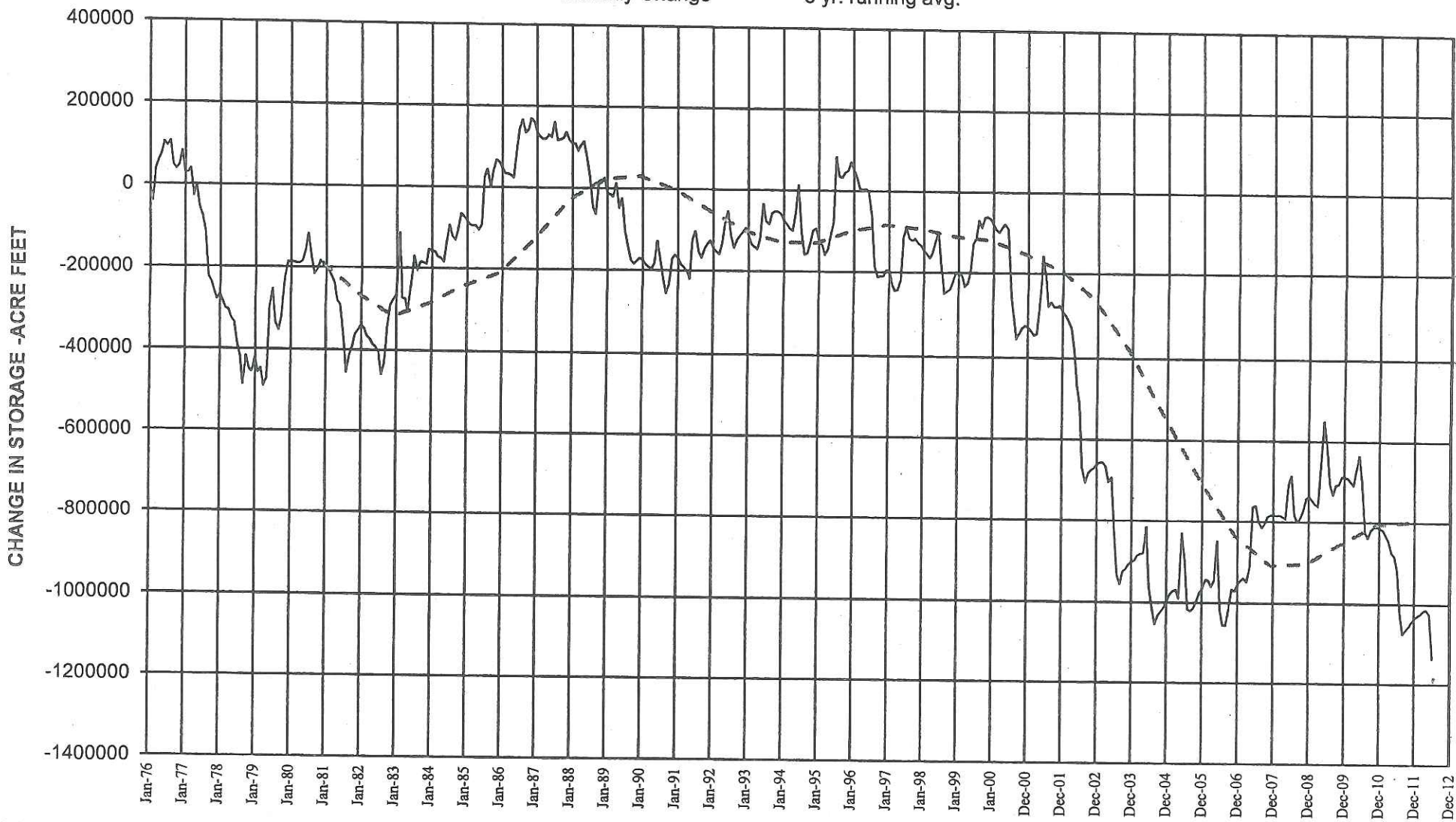
CHANGE IN UNCONFINED AQUIFER STORAGE YEAR 2002 - 2012

Changes: Comparing
 September of each year
 Year 2008 = +14,057 a.f.
 Year 2009 = +69,863.52 a.f.
 Year 2010 = -106,745.21 a.f.
 Year 2011 = -238,480 a.f.



CHANGE IN UNCONFINED AQUIFER STORAGE WEST CENTRAL SAN LUIS VALLEY

— Monthly Change - - - 5 yr. running avg.




DRAFT - July 16, 2012
Data through July 11, 2012

YEARS

Prepared by Davis Engineering Service, Inc.
For Rio Grande Water Conservation Dist.

Legend

Preliminary Subdistrict #1 2012 Crops for Subdistrict


 <all other values>


CROP_TYPE


 Alfalfa


 Grain


 Potatoes


 Sudan Grass Hay

 Fallow-No Irrigation

 Green Manure

 Stubble-No Irrigation

 Cities

 Highways

