

DEPARTMENT OF WATER RESOURCES

1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791



May 02, 2013

Hicham Eltal
Deputy General Manager, Water Resources
Merced Irrigation District
744 West 20th Street
Merced, California 95370

Proposition 50 – Water Supply Reliability Program Implementation Grant

Dear Hicham Eltal:

Enclosed for your signature are three copies of Agreement Number 4600010057 for an implementation grant funded under Proposition 50, Chapter 2. The total proposal cost is estimated to be \$1,000,000 with a grant amount of \$500,000.

Reimbursement for costs that your Agency incurs under this grant is contingent upon the execution of the agreement and your Agency's ability to meet all requirements for disbursement of funds pursuant to it. Please **sign, date all three (3) copies of the enclosed grant agreement, and return all three (3) copies** with original signatures to:

Department of Water Resources
Division of Integrated Regional Water Management
1416 Ninth Street, P. O. Box 942836
Sacramento, CA 94236-001
Attn: Loi Nguyen

The Agreement is executed when the State's representative signs it. The Grantee is responsible for meeting all Standard Conditions and Requirements in the Agreement, which will be reviewed by DWR, including compliance with CEQA/NEPA. Upon execution, a signed copy of the Agreement will be provided to you.

If you have any questions, please contact Jason Preece at (916) 651-9636 or me at (916) 651-9561.

Sincerely,



Loi Nguyen
Grant Analyst
Integrated Regional Water Management
Regional Planning Branch

Enclosures

**AGREEMENT BETWEEN THE STATE OF CALIFORNIA DEPARTMENT OF WATER RESOURCES AND
MERCED IRRIGATION DISTRICT, AGREEMENT NO. 4600010057
WATER SUPPLY RELIABILITY, CALIFORNIA WATER CODE §79550 ET SEQ.**

THIS GRANT AGREEMENT is entered into by and between the Department of Water Resources of the State of California, hereinafter called "State," and Merced Irrigation District a local district, hereinafter called "Grantee," which parties do hereby agree as follows:

1. PURPOSE. State shall provide a grant from the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002 to Grantee for the purpose of conducting groundwater studies or for carrying out surface water and groundwater monitoring and management activities in accordance with Grantee's water management authority.
2. TERM OF AGREEMENT. The term of this Grant Agreement begins on the date this Grant Agreement is executed by State, and terminates on May 31, 2015, or when all of the Parties' obligations under this Grant Agreement have been fully satisfied, whichever occurs earlier. Execution date is the date the State signs this Grant Agreement.
3. GRANT AMOUNT. The maximum amount payable under this Grant Agreement shall not exceed \$500,000.
4. GRANTEE COST SHARE. The reasonable costs of the project are estimated to be \$1,000,000. Grantee agrees to be responsible for the difference between the estimate of project cost and the Grant Amount specified in Paragraph 3. Grantee shall provide a funding match in the amount of at least 25% of the total project cost from its own funds and shall derive the remaining cost share amount from other non-state funding sources. Grantee cost share is estimated to be \$500,000.
5. GRANTEE'S RESPONSIBILITIES. Grantee shall faithfully and expeditiously perform or cause to be performed all project work as described in Exhibit A, Project Work Plan and in accordance with Exhibit B, Project Schedule, and Exhibit C, Project Budget. Grantee shall comply with all of the terms and conditions of this Grant Agreement and with Chapter 7 (commencing with Section 79550) of Division 26.5 of the California Water Code (CWC).
6. BASIC CONDITIONS. State shall have no obligation to disburse money for a project under this Grant Agreement unless and until Grantee has satisfied for such project the State's requirements for disbursement which include:
 - a. Grantee demonstrates the availability of sufficient funds to complete the project.
 - b. Grantee shall furnish a copy of permits, licenses, and approvals required in performing its obligations under this Grant Agreement.
 - c. Work that is subject to the California Environmental Quality Act (CEQA) shall not proceed under this Grant Agreement until documents that satisfy the CEQA process are received by the State and State has completed its CEQA compliance responsibilities. Work that is subject to a CEQA document shall not proceed until and unless approved by the State's Project Manager. Such approval is fully discretionary and shall constitute a condition precedent to any work for which it is required. Once CEQA documentation has been completed, State will consider the environmental documents and decide whether to continue to fund the project or to require changes, alterations or other mitigation.
 - d. Grantee performs tribal notifications per PRC§75102.
 - e. Grantee performs Surface Water Diversion Reporting as required by CWC sections 5101 and 5103.
 - f. An urban water supplier that receives grant funds governed by this agreement shall maintain compliance with the Urban Water Management Planning Act (CWC §10610 et. seq.)
 - g. Grantee submits all deliverables as specified in Paragraph 10 and 11 of this agreement and

Exhibit A, Project Work Plan.

7. SUBMITTAL OF INVOICES. Invoices submitted by Grantee shall include the following information:
- a. Costs incurred for work performed in implementing the project during the period identified in the particular invoice.
 - b. Costs incurred for any interests in real property (land or easements) that have been necessarily acquired for a project during the period identified in the particular invoice for the implementation of a project.
 - c. Appropriate receipts and reports for all costs incurred.
 - d. Invoices shall be submitted on forms provided by State and shall meet the following format requirements:
 - 1) Invoices must contain the date of the invoice, the time period covered by the invoice, and the total amount due.
 - 2) Invoices must be itemized based on the categories (i.e., line items) specified in the Exhibit C. The amount claimed for salaries/wages/consultant fees must include a calculation formula (e.g., hours or days worked multiplied by the hourly or daily rate = the total amount claimed).
 - 3) Sufficient evidence (i.e., receipts, copies of checks, time sheets) must be provided for all costs included in the invoice.
 - 4) Each invoice shall clearly delineate those costs claimed for reimbursement from the State's grant amount, as depicted in Paragraph 3, Grant Amount, and those costs that represent Grantee's costs, as applicable, in Paragraph 4, Grantee Cost Share.
 - 5) Original signature and date (in ink) of Grantee's appropriately authorized Project Manager.

Submit the original invoice form to the following address:

Department of Water Resources, DIRWM
Jason Preece
901 P Street
P.O. Box 942836
Sacramento, CA 94236-0001

8. DISBURSEMENTS. After the disbursement requirements in Paragraph 6, Basic Conditions, are met, State will disburse the whole or portions of the Grant Amount to Grantee following receipt from Grantee of an invoice for costs incurred and timely Progress Reports as required by Paragraph 10, Progress Reports. Following the review of each invoice, State will disburse to Grantee the amount approved, subject to the availability of funds through normal State processes. Notwithstanding any other provision of this Grant Agreement, no disbursement shall be required at any time or in any manner which is in violation of, or in conflict with, federal or state laws, rules, or regulations, or which may require any rebates to the federal government, or any loss of tax-free status on state bonds, pursuant to any federal statute or regulation. Payment will be made no more frequent than monthly, in arrears, upon receipt of an invoice bearing the Grant Agreement number. All money disbursed pursuant to this Grant Agreement shall be deposited, administered, and accounted for pursuant to the provisions of applicable law. Any and all money disbursed to Grantee under this Grant agreement and any and all interest earned by Grantee on such money shall be used solely to pay Eligible Project Costs.
9. ELIGIBLE PROJECT COSTS. Grantee shall apply State funds received only to Eligible Project Costs in accordance with applicable provisions of the law and Exhibit C, Project Budget. Eligible Project Costs include the reasonable costs of conducting meetings, stakeholder outreach and engagement, collecting water data and information, developing and summarizing water management strategies, including administrative costs and incidental costs. Reasonable

administrative expenses may be included as Project Costs and will depend on the complexity of the project preparation, planning, coordination and collaboration. Reimbursable administrative expenses are the necessary costs incidentally but directly related to the project including an appropriate pro-rata allocation of overhead and administrative expenses that are regularly assigned to all such projects in accordance with the standard accounting practices of the Grantee.

Advanced funds cannot be provided. Costs that are not eligible for reimbursement include but are not limited to:

- a. Costs incurred prior to the execution date of the Grant Agreement.
 - b. Costs for preparing and filing a grant application belonging to another solicitation.
 - c. Operation and Maintenance costs, including post construction project performance and monitoring costs.
 - d. Purchase of equipment not an integral part of the project.
 - e. Establishing a reserve fund.
 - f. Purchase of water supplies.
 - g. Replacement of existing funding sources for ongoing programs.
 - h. Support of existing punitive regulatory agency requirements and/or mandates in response to negligent behavior.
 - i. Purchase of land in excess of the minimum required acreage necessary to operate as an integral part of the project, as set forth and detailed by engineering and feasibility studies.
 - j. Payment of principal or interest of existing indebtedness or any interest payments unless the debt is incurred after effective date of the grant award, the State agrees in writing to the eligibility of the costs for reimbursement before the debt is incurred, and the purposes for which the debt is incurred are otherwise reimbursable project costs.
 - k. Overhead not directly related to project costs.
 - l. Meals, food items, or refreshments other than those allowed per Standard Condition D.47, TRAVEL.
10. PROGRESS REPORTS. Grantee shall submit progress reports on a regular and consistent basis to meet the State's requirement for disbursement of funds. The reporting period shall not exceed one quarter in length. The progress reports shall be sent via e-mail, to the State's Project Manager at the frequency specified in Exhibit B, Project Schedule. The progress reports shall provide a brief description of the work performed, Grantee's activities, milestones achieved, any accomplishments during the reporting period, and any problems encountered in the performance of the work under this Agreement. A recommended Progress Report format is attached as Exhibit E.
 11. PROJECT COMPLETION REPORT. Upon completion of the Project, Grantee shall prepare and submit to State, for review and approval, a Project Completion Report. The Project Completion Report shall be provided in hard copy and digital format prior to final payment of grant funds withheld by State. Project Completion Report format is attached as Exhibit E.
 12. GRANTEE REPRESENTATIONS. The Grantee accepts and agrees to comply with all terms, provisions, conditions, and commitments of this Grant Agreement, including all incorporated documents, and to fulfill all assurances, declarations, representations, and commitments made by the Grantee in its application, accompanying documents, and communications filed in support of its request for grant funding. Grantee shall comply with and require its contractors and subcontractors to comply with all applicable federal and state laws, policies and regulations.

13. PERFORMANCE EVALUATION. Upon completion of this Grant Agreement, Grantee's performance will be evaluated by the State and a copy of the evaluation will be placed in the State file and a copy sent to the Grantee.

14. LABOR COMPLIANCE. Grantee agrees to comply with all applicable California Labor Code requirements, including prevailing wage provisions. Grantee must, independently or through a third party, adopt and enforce a Department of Industrial Relations-certified Labor Compliance Program (LCP) meeting the requirements of Labor Code section 1771.5 for public works projects funded in any part by:

- a. Proposition 50 (Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002; California Water Code sections 79510 et seq.) or
- b. Any other funding source requiring an LCP.

Grantee's failure to comply with LCP requirements is a breach of this Grant Agreement. At the State's request, Grantee must promptly submit written evidence of Grantee's compliance with the LCP requirements.

15. WITHHOLDING OF GRANT DISBURSEMENT BY STATE. If State determines that a project is not being implemented in accordance with the provisions of this Grant Agreement, or that Grantee has failed in any other respect to comply with the provisions of this Grant Agreement, and if Grantee does not remedy any such failure to State's satisfaction, State may withhold from Grantee all or any portion of the Grant Amount and take any other action that it deems necessary to protect its interests, including demanding repayment of any portion of the Grant Amount. State may consider Grantee's refusal to repay the requested disbursed grant amount a contract breach subject to the default provisions in Paragraph 16, Default Provisions.

16. DEFAULT PROVISIONS. Grantee will be in default under this Funding Agreement if any of the following occur:

- a. Substantial breaches of this Funding Agreement, or any supplement or amendment to it, or any other agreement between Grantee and State evidencing or securing Grantee's obligations;
- b. Making any false warranty, representation, or statement with respect to this Funding Agreement or the application filed to obtain this Funding Agreement;
- c. Failure to operate or maintain project in accordance with this Funding Agreement.
- d. Failure to make any remittance required by this Funding Agreement.
- e. Failure to comply with Labor Compliance Plan requirements.

Should an event of default occur, State shall provide a notice of default to the Grantee and shall give Grantee ten (10) or more calendar days to cure the default from the date the notice is sent via first-class mail to the Grantee. If the Grantee fails to cure the default within the time prescribed by the State, State may do any of the following:

- a. Declare the funding be immediately repaid, with interest, which shall be equal to State of California general obligation bond interest rate in effect at the time of the default.
- b. Terminate any obligation to make future payments to Grantee.
- c. Terminate the Funding Agreement.
- d. Take any other action that it deems necessary to protect its interests.

17. NOTICES. Any notice, demand, request, consent, or approval that either party desires or is required to give to the other party under this Grant Agreement shall be in writing. Notices may be sent by any of the following means: (i) by delivery in person; (ii) by certified U.S. mail, return receipt requested, postage prepaid; (iii) by "overnight" delivery service provided that next-business-day delivery is requested by the sender; or (iv) by electronic transmission (i.e. e-mail). Notices delivered

in person will be deemed effective immediately on receipt (or refusal of delivery or receipt). Notices sent by certified mail will be deemed effective given ten (10) calendar days after the date deposited with the U. S. Postal Service. Notices sent by overnight delivery service will be deemed effective one business day after the date deposited with the delivery service. Notices sent by electronic transmission will be effective on the date successfully received. Notices shall be sent to the addresses below. Either party may, by written notice to the other, designate a different address that shall be substituted for the one below.

18. NOTIFICATIONS OF STATE. Grantee shall promptly notify State, in writing, of the following items:

- a. Substantial changes in the scope, budget, or schedule
- b. Any public or media event publicizing the accomplishments and/or results of this Grant Agreement.

Grantee agrees that no substantial change will be undertaken until written notice of the proposed change has been provided to State and State has given written approval for such change. Substantial changes generally include changes to the wording/scope of work, schedule or agreement term, and budget. Grantee shall make notification at least fourteen (14) calendar days prior to a public or media event to provide opportunity for attendance and participation by State's representatives.

19. PROJECT REPRESENTATIVES. The Project Representatives during the term of this Grant Agreement will be:

Department of Water Resources
Paula Landis
Chief, Division of IRWM
P.O. Box 942836
Sacramento, CA 94236-0001
Phone: (916) 651-9220
Fax: (916) 651-9292
e-mail: plandis@water.ca.gov

Merced Irrigation District
Hicham Eltal
Deputy General Manager, Water Resources
744 West 20th Street
Merced, CA 95370
Phone: (209) 722-5761
Fax: (209) 722-6421
e-mail: heltal@mercedid.org

Direct all inquiries to the Project Manager:

Department of Water Resources
Jason Preece
Engineering Geologist, DIRWM
P.O. Box 942836
Sacramento, CA 94236-0001
Phone: (916) 651-9636
Fax: (916) 651-9292
e-mail: jason.preece@water.ca.gov

Merced Irrigation District
Hicham Eltal
Deputy General Manager, Water Resources
744 West 20th Street
Merced, CA 95370
Phone: (209) 722-5761
Fax: (209) 722-6421
e-mail: heltal@mercedid.org

Either party may change its Project Representative or Project Manager upon written notice to the other party.

20. STANDARD PROVISIONS. The following exhibits are attached and made a part of this Grant Agreement by this reference:

Exhibit A	Project Work Plan
Exhibit B	Project Schedule
Exhibit C	Project Budget
Exhibit D	Standard Conditions
Exhibit E	Report Format and Requirements
Exhibit F	Grantee Resolution

Exhibit G
Exhibit H

Guidelines for Grantee and Borrowers
Statewide Monitoring

IN WITNESS WHEREOF, the parties have executed this Grant Agreement as of the date executed by State.

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

MERCED IRRIGATION DISTRICT

Paula J. Landis, P.E., Chief
Division of Integrated Regional Water
Management

Hicham Eltal, P.E., Deputy General Manager,
Water Resources

Date_____

Date_____

Approved as to legal form and sufficiency

Spencer Kenner, Assistant Chief Counsel
Office of the Chief Counsel

Date_____

EXHIBIT A PROJECT WORK PLAN

This Work Plan is prepared for development of an Integrated Water Resources Model (IWRM) for the Merced groundwater basin (Basin). The Merced Integrated Water Resources Model (MIWRM) will be based on a fully integrated hydrologic modeling platform. A previous study conducted by WRIME, described in a February 2007 draft technical memorandum titled, "Merced Basin Hydrologic Modeling Objectives and Strategy," has laid out the goals and objectives for Merced Basin modeling, and has provided a comparison of various modeling platforms for the development of MIWRM. In addition to the model platforms evaluated, the Integrated Water Flow Model (IWFm) will need to be evaluated. However, the only two models that provide a fully integrated approach to the surface water and groundwater interaction are:

- Integrated Groundwater and Surface Water Model (IGSM); and
- Integrated Water Flow Model (IWFm).

Both of these modeling platforms stem from the same family of model codes. As such, the format and requirements of data files for both models are very similar. This Work Plan is prepared and written with the flexibility to use either modeling platform. However, a final modeling platform should be decided at the onset of the project. Comparisons between the features, as well as pros and cons of using either modeling platform, along with recommendations, will be prepared. This information will be presented at the first coordination meeting with the Merced Area Groundwater Pool Interests (MAGPI) Board or a designated Technical Work Group (TWG) for review and evaluation of the features for each of the above mentioned modeling platforms and selection of the platform of choice for the MIWRM.

TASK 1- TECHNICAL STUDIES

Four technical studies will be prepared that will assist in understanding the hydrologic, hydrogeologic, and water demand and supply conditions within the Basin, and provide the basis for development of the model and analysis of alternative water management scenarios. These studies are:

- Evaluation of hydrogeologic information
- Agricultural and urban water demands
- Agricultural and urban water supplies
- Evaluation of regional water quality conditions

The studies will be accomplished as described in the following subsections.

Task 1.1- Hydrogeologic Study

The objective of this task is to conduct an evaluation of the hydrogeology of the Basin. Information collected and analysis performed in this task will be used in the development of the basin conceptual conditions and in model development (Tasks 2 and 3, respectively). The steps involved in this task are as follows:

- Collect and review hydrogeologic data: Reports and data from previous hydrogeologic studies, well logs, pump test data and aquifer parameter data will be collected and reviewed.
- Collect and review the Central Valley Hydrologic Model (CVHM) data: Backup hydrogeologic and geologic data and information from CVHM, developed by the USGS; will be collected for preparation of the basis for the local hydrogeologic framework.
- Collect and review the Central Valley Groundwater-Surface Water Simulation Model (C2VSim) data: Backup hydrogeologic and geologic data and information from the fine grid version of

C2VSim, developed by DWR, will be collected for preparation of the basis for the local hydrogeologic framework.

- Develop geologic cross sections: Based on the data collected, up to 10 geologic cross sections will be developed to characterize the horizontal and vertical extent of the aquifer system in the Basin.
- Develop aquifer parameter zones: Model physical zones and corresponding aquifer properties (e.g., hydraulic conductivities, transmissivities, storage coefficients, head conditions, etc.) will be developed to define hydrogeologic model subareas.
- Define hydrologic and water management subareas that will be used to develop water use and water budget data.

Deliverables – Draft geologic cross-sections and map of defined subareas.

Task 1.2- Analysis of Agricultural and Urban Water Demands

Detailed analysis of water demands in the Basin will be conducted during this task. Monthly time series data of water demand for agricultural, urban and native land use categories will be developed for the modeling area through analysis of historical land use, historical crop acreage and irrigation efficiency. Distribution of land use categories for each land use survey in GIS shapefile format will be developed as part of this Task. In addition, annual tables of crop mix acreage for each model subarea and for the period of model simulation will be developed as part of this Task.

Deliverables – GIS shape files of the distribution of land use categories and tables of annual crop mix acreage for each subarea.

Task 1.3- Analysis of Urban and Agricultural Water Supplies

The objective of this task is to develop a detailed accounting of water sources for the Basin and attribute these sources to the proper users. To this end, a detailed accounting of the various sources of water supplies (groundwater and surface water) for each user type and category will be developed for analysis and use in the model. This task includes the following items:

- Collect and analyze pumping data for municipal and industrial wells
- Analyze data and estimate basin-wide annual agricultural pumping demand
- Estimate the spatial (horizontal and vertical) distribution of pumping demands
- Collect and analyze data on surface water deliveries and end-point distribution
- Collect and analyze data on recycled water use

Deliverables – Summary of task findings with tables of monthly groundwater pumping and surface water deliveries for each user type and each water management subarea.

Task 1.4- Evaluation of Basin Water Quality Conditions

Water quality protection and improvement is a key aspect of groundwater management in the Basin. Because development of a water quality model is likely in the future, it is important to document the current state of groundwater quality in the Basin. In order to perform this task, the following will be collected and reviewed:

- Available regional reports on water quality and contamination, including documents and underlying data from the Integrated Regional Water Management Plan (IRWMP)
- Available specific water quality data (constituents and concentration) from key sites
- Information on ubiquitous non-point source pollution and other key point source discharge data (e.g., wastewater treatment and other industrial or municipal facilities)

Deliverables - A list of the significant water quality impact areas in the basin will be prepared, their locations mapped, and the information submitted in a memorandum. Key sites with more significant impacts will be indicated on the map individually.

TASK 2- DATA ANALYSIS, AND BASIN CONCEPTUAL CONDITIONS

Task 2 activities will make additional data corrections and remove deficiencies on data acquired from local, state, and federal sources during Task 1 and 2 activities. The data will be further analyzed and synthesized for the purposes of development of reasonable level of understanding of the conceptual basin conditions for land and water use, hydrology, and hydrogeology. Additional data that may be necessary for modeling will be compiled, as needed. Subtasks 2.1 through 2.3 listed below detail the work to be performed under Task 2.

Task 2.1- Develop Maps and Synthesize Data

During Task 2.1, soil coverage classification data collected in Task 1 will be evaluated for the purpose of estimating rainfall runoff and infiltration rates and potential deep percolation amounts (groundwater recharge). Crop categories and coverage data compiled under Task 1 will be utilized for the purposes of estimating irrigation patterns and return flows (most importantly losses to groundwater). In addition, Task 2.1 will evaluate the Task 1-collected well yield and capacity data and other aquifer property data for estimating the model parameters.

Deliverables - Maps of the planned modeling areas and layers with assigned values will be prepared for presentation of the three-dimensional spatial data analysis.

Task 2.2- Additional Data Collection and Estimation of Missing Records

Task 2.2 will identify missing surface water diversion, groundwater extraction, rainfall, stream flow, and other pertinent data as needed for model input and will use parameter estimation techniques to develop input values for the missing data.

Deliverables - Tables of data sets completed under Task 2.2.

Task 2.3- Conceptual Basin Conditions

Task 2.3 includes the development of a conceptual understanding of the basin for inter-relationship of the various hydrologic and land and water use components. The conceptual understanding will include the description of areas and subareas to be modeled, conceptual stratigraphy, hydrologic system, proposed model grid size and layers, and other features to be included in the MIWRM. In addition, this task includes model incorporation of the results of the general water demand and supply analysis, and overall description of the basin operations.

Deliverables - Written descriptions and graphical presentations of the basin's water cycle and identification of modeling components and assumptions.

TASK 3- MODEL INPUT DATA DEVELOPMENT- NON-TIME SERIES DATA

Task 3 will evaluate the Task 1 through 3 findings and will construct the model input files.

Task 3.1- Develop Model Finite Element Grid

Under Task 3.1, an appropriately sized finite element model grid will be developed to ensure the best estimates of groundwater elevations and groundwater flow. The grid will be constructed based on specific regional and local criteria to be developed in a manner that ensures:

- Geologic characteristics are properly matched – accounting for geologic boundaries, faults, and subsurface barriers
- Grid orientation corresponds to known groundwater flow paths
- Grid orientation corresponds to major streams and creeks
- Element meshes are relatively fine in the vicinity of steep groundwater gradients to account for sharper rates of decline in groundwater elevation
- Element meshes can be used to designate model sub-areas (e.g. water district jurisdictions or preferred water management zones)
- Areas of potential recharge sites are included in the model with a finer grid spacing for better evaluation of conjunctive water management alternatives
- Areas of known contamination sources and water quality degradation are also included in the model with finer grid spacing to provide more accurate simulation capabilities under potential future water management scenarios

Deliverables – Map of the IWRM Grid.

Task 3.2- Prepare IWRM Non-Time Series Input Data

Under Task 3.2, the required non-time series input files will be prepared in their respective input formats for MIWRM simulation runs. These input data files will include:

- Model grid configuration, including the element and node data for subarea assignments;
- Spatial characteristics for each model element;
- Preliminary set of hydrogeologic parameters for aquifer properties based on other reported data sets such as well and boring log reports and other regional models, such as the CVHM and C2VSim;
 - Stream channel characteristics (geometry and head conditions)
 - Soil and aquifer parameter data
 - Pumping well characteristics

As part of the non-time series input data file development, the MIWRM will be run and the input data will be debugged to ensure that the model grid is encoded correctly, the model subareas are defined correctly, the aquifer layer definitions are correct, the well locations and production depths are consistent with aquifer stratigraphy, and the stream bed elevations are correct and consistent with actual physical conditions.

Deliverables – All input data files developed under Task 3.2.

Task 3.3- Prepare Land Use Input Data

As part of this subtask, land use and crop acreage time series input data files will be developed for MIWRM simulation runs.

Deliverables – Land use input data files.

TASK 4 MODEL INPUT DATA DEVELOPMENT – TIME SERIES DATA

As part of Task 4, time series input data files for MIWRM will be prepared. The MIWRM time series input files include the following:

- Hydrologic data representing rainfall and streamflow conditions;
- Surface water diversion and water delivery data;
- Groundwater pumping data;
- Agricultural water use estimates;

- Urban water use data and estimates (including surface water deliveries, as well as groundwater pumping for municipal and/or agricultural residential use);
- Potential evapotranspiration data for different crops in different regions;
- Initial groundwater level data;
- Boundary conditions data at specified boundaries;
- Irrigation efficiencies and minimum soil moisture contents by crop and model sub-region; and
- Calibration well locations and perforation layers, stream flow calibration locations, time periods for groundwater contour calibration.

MIWRM simulations will be performed and data files will be debugged as needed to ensure that the model is representative of the historical hydrologic conditions.

Deliverables – All model time series input data files, as developed under Task 4.

TASK 5- MODEL CALIBRATION AND SENSITIVITY ANALYSIS

The purpose of Task 5 is to calibrate the MIWRM to closely match reported historical conditions in the basin. The historical period selected to calibrate the model should include wet and dry periods that have adequate water level and stream flow data. The work performed under Task 5 will include the following subtasks:

Task 5.1- Establish Water Budgets for All Model Sub-regions

As part of this subtask, the MIWRM water budgets will be established for all model sub-regions. Hydrologic cycle components requiring water budgets for model calibration are groundwater, surface water, land and water use, and the soil zone.

Deliverables – Model Interim water budgets as developed under Task 5.1.

Task 5.2- Establish Calibration Criteria

As part of this subtask, and in consultation with the TWG, calibration criteria for the model will be established. Calibration criteria for the MIWRM may include:

- Selecting data for comparisons and screen the data for any anomalies;
- Establishing the error range of the historic data;
- Selecting model parameters for calibration; and
- Establishing a plausible range for the selected parameters.

Deliverables – None.

Task 5.3- Calibrate to Stream flow Records

Task 5.3 is intended to calibrate the model to the recorded stream flow data for selected rivers and streams at specific gages. The IWRM model stream geometry, seepage parameters, surface water diversion locations and schedule, and runoff and return flow parameters will be adjusted to obtain a reasonable match between the simulated and observed stream flows at selected gauging stations.

Deliverables – Charts and tables summarizing the stream flow calibration results.

Task 5.4- Calibrate to Recorded Groundwater Levels

This task is intended to calibrate the model to the recorded groundwater level data at specific target calibration wells, as well as regional groundwater level contours for specific years. Model hydrogeologic

parameters and spatial and temporal stresses on the groundwater system will be adjusted to obtain a reasonable match between the simulated and observed groundwater levels at selected wells, as well as a reasonable spatial distribution of groundwater levels.

Deliverables – Charts, tables, and maps summarizing groundwater level calibration results.

Task 5.5- Sensitivity Analysis

The stability of the model calibration will be evaluated by performing a sensitivity analysis to selected model parameters. This includes establishing tolerance ranges for the model within which the physical system parameters can vary without significantly changing the model results or conclusions. For cost estimation purposes it is assumed that five model runs will be conducted to develop sensitivity curves for up to 5 model parameters.

Deliverables – Charts and tables summarizing sensitivity analysis results.

TASK 6- WATER QUALITY MODEL DEVELOPMENT

Task 6.1- Model Input Data Preparation

Task 6.1 Includes preparation of required input files in their respective input formats for water quality simulation modeling. The water quality modeling is intended to evaluate and simulate trends in the conservative constituents of nitrate and TDS. The work under this task includes mapping of regional nitrate and TDS levels.

Task 6.2- Water Quality Model Evaluation

The purpose of Task 6.2 is to calibrate the Merced IWRM water quality simulation model developed in Task 6.1 based on historical distribution and trends in nitrate and TDS. The work performed under this task shall include the following subtasks:

- Establish Chemical Budgets Evaluation

As part of this task, the model will be used to establish mass balance for the TDS and Nitrate for the historical conditions in the model period, and compare these estimates with data available from the county and state databases.

- Evaluate Chemical Trends Evaluation

During the chemical trends evaluation phase, model parameters will be adjusted based on the recorded chemical trend data to obtain as reasonable as possible of a trend between model simulated and observed data trends.

- Evaluate Chemical Distribution Evaluation

During the chemical distribution evaluation task, model parameters will be adjusted based on the recorded chemical distribution data to obtain as reasonable as possible of distribution of chemicals between model simulated and observed data.

Deliverables – Tables, charts, graphs, and maps showing time trends and spatial distribution of modeled water quality constituents.

TASK 7 - PREPARE MODEL REPORT

The purpose of this task is to document the development and calibration of the MIWRM. The report will include the development and analysis of input data, model development approach, model calibration, and results of sensitivity analysis. The report will be produced in draft form, and will be finalized upon receipt and addressing comments.

Task 7.1 - Prepare Draft Report

A draft model report will be prepared in electronic format for review and comment. The report will document the source data, data analysis and conceptual basin conditions, model input data and assumptions, model calibration results, and recommendations for future steps for modeling. In addition, the documentation will propose protocols based on opportunities for better and more proactive management and operation of the groundwater basin resources. These opportunities will be supported by the conceptual understanding of the basin, model simulation results and sensitivity analysis, as well as sound interpretation of the observed data.

Deliverables – Draft model report in PDF format.

Task 7.2 - Prepare Final Report

Comments received on the draft model report will be addressed and a final model report will be prepared.

Deliverables – Final model report in PDF format.

TASK 8 - TRAINING WORKSHOPS

This task includes the activities required to prepare and conduct two training workshops on the MIWRM. The purpose of the workshops is to provide interested agency and organization staff sufficient information so that they can prepare and perform model scenarios, and evaluate and interpret the results.

Task 8.1 - Prepare Workshop Material

Information and material for presentation to the workshop participants will be prepared. This material will include: A summary of theoretical background and features of the MIWRM platform; details of the model input data, model development, and calibration, and; potential model applications.

Deliverables – Handouts and PowerPoint files for training workshops.

Task 8.2 - Conduct Workshops

Two training workshops on the development and application of the model will be conducted at MID facilities. Each workshop will be four (4) hours in duration.

- Training Workshop No. 1 will focus on the theoretical aspects and features of the model, and model development.
- Training Workshop No. 2 will focus on additional aspects of model development, model calibration, and potential model applications.

TASK 9 - PROJECT MANAGEMENT AND PUBLIC COORDINATION

This task includes the activities required to coordinate and manage the overall project and coordinate with local interest groups.

Task 9.1 - Project Meetings with Technical Work Group

Task 9.1 allows for up to eight (8) meetings with the MAGPI Board and/or a designated TWG for coordination on technical work, major decisions on the modelling assumptions and review of interim data analysis or model data development work. The TWG will be formed in close coordination with and input from the Merced Area Groundwater Pool Interests (MAGPI) regional water management group.

Deliverables – Meeting handouts.

Task 9.2 - Project Meetings with MAGPI Board

Task 9.2 allows for up to four (4) project coordination meetings and presentations to the MAGPI Board of Directors and/or MAGPI stakeholder meeting to provide updates and receive feedback and comments from the Board members.

Deliverables – Meeting handouts.

Task 9.3 - Project Management and Coordination

Task 9.3 is intended to allow for time to manage and coordinate the contract, including preparation of quarterly progress reports and updated project schedule for submission to the DWR.

Deliverables – Quarterly progress reports and invoices.

EXHIBIT B
PROJECT SCHEDULE

Merced Basin Integrated Water Resources Model																											
Task Description	Months																										
	2013								2014								2015										
	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL			
Task 1 - Technical Studies																											
Task 2 - Data Analysis and Basin																											
Task 3 - Model Input Data																											
Task 4 - Model Input Data																											
Task 5 - Model Calibration and																											
Task 6 - Development of Water																											
Task 7 - Prepare Model Report																											
Task 8 - Training Workshops																											
Task 9 - Project Management and																											

Note: Grantee shall submit progress reports on a quarterly basis.

EXHIBIT C
PROJECT BUDGET

Fiscal Year Project Budget		Project Total	
Project Tasks		State Share	Local Share
Task #1: Technical Studies		\$ 136,518	\$ 34,221
Task #2: Data Analysis and Basin Conceptual Conditions		\$ 62,952	\$ -
Task #3: Model Input Data Development - Spatial Data		\$ 93,879	\$ -
Task #4: Model Input Data Development - Time Series Data		\$ 117,303	\$ -
Task #5: Model Calibration and Sensitivity Analysis		\$ 89,194	\$ 140,288
Task #6: Development of Water Quality Model		\$ -	\$ 147,864
Task #7: Prepare Model Report		\$ -	\$ 44,286
Task #8: Training Workshops		\$ -	\$ 32,208
Task #9: Project Management and Public Coordination		\$ -	\$ 98,271
Other Direct Costs*		\$ 154	\$ 2,862
Totals		\$ 500,000	\$ 500,000

* Other Direct Charges (ODC) include travel related charges, such as mileage and lodging

DWR will reimburse the grantee for costs incurred after the date of the Grant Agreement execution (see Paragraph 9) using the funding match drawdown method plus retention. That is, if there is grantee funding match and DWR grant share associated with a line item, then the grantee must demonstrate the funding match dollars have been expended before grant funds for that line item are disbursed.

Ten (10) percent retention will be withheld per Standard Condition D.50, WITHHOLDING OF GRANT DISBURSEMENTS (RETENTION) and will be released to the grantee upon: Completion of the scope of work, acceptance of the project completion report, confirmation by DWR that all deliverables shown in Exhibit A have been received, and DWR's receipt of a retention invoice.

EXHIBIT D
STANDARD CONDITIONS

D.1 ACCOUNTING AND DEPOSIT OF GRANT DISBURSEMENT:

- a. SEPARATE ACCOUNTING OF GRANT DISBURSEMENT AND INTEREST RECORDS. Grantee shall account for the money disbursed pursuant to this Grant Agreement separately from all other Grantee funds. Grantee shall maintain audit and accounting procedures that are in accordance with generally accepted accounting principles and practices, consistently applied. Grantee shall keep complete and accurate records of all receipts, disbursements, and interest earned on expenditures of such funds. Grantee shall require its contractors or subcontractors to maintain books, records, and other documents pertinent to their work in accordance with generally accepted accounting principles and practices. Records are subject to inspection by State at any and all reasonable times.
- b. DISPOSITION OF MONEY DISBURSED. All money disbursed pursuant to this Grant Agreement shall be deposited, administered, and accounted for pursuant to the provisions of applicable law.
- c. REMITTANCE OF UNEXPENDED FUNDS. Grantee, within a period of sixty (60) calendar days from the final disbursement from State to Grantee of grant funds or within thirty (30) days of the expiration of the Grant Agreement, whichever comes first, shall remit to State any unexpended funds that were disbursed to Grantee under this Grant Agreement and were not needed to pay Eligible Project Costs.

D.2 ACKNOWLEDGEMENT OF CREDIT: Grantee shall include appropriate acknowledgement of credit to the State and to all cost-sharing partners for their support when promoting the Project or using any data and/or information developed under this Grant Agreement.

D.3 AIR OR WATER POLLUTION VIOLATION: Under State laws, the Grantee shall not be: (1) in violation of any order or resolution not subject to review promulgated by the State Air Resources Board or an air pollution control district; (2) subject to cease and desist order not subject to review issued pursuant to Section 13301 of the Water Code for violation of waste discharge requirements or discharge prohibitions; or (3) finally determined to be in violation of provisions of federal law relating to air or water pollution.

D.4 AMENDMENT: This Grant Agreement may be amended at any time by mutual agreement of the Parties, except insofar as any proposed amendments are in any way contrary to applicable law. Requests by the Grantee for amendments must be in writing stating the amendment request and the reason for the request. State shall have no obligation to agree to an amendment.

D.5 AMERICANS WITH DISABILITIES ACT: By signing this Grant Agreement, Grantee assures State that it complies with the Americans with Disabilities Act (ADA) of 1990, (42 U.S.C., 12101 et seq.), which prohibits discrimination on the basis of disability, as well as all applicable regulations and guidelines issued pursuant to the ADA.

D.6 APPROVAL: This Agreement is of no force or effect until signed by all parties to the agreement. Grantee may not submit invoices or receive payment until all required signatures have been obtained.

D.7 AUDITS: State reserves the right to conduct an audit at any time between the execution of this Grant Agreement and the completion of the Project, with the costs of such audit borne by State. After completion of the Project, State may require Grantee to conduct a final audit to State's specifications, at Grantee's expense, such audit to be conducted by and a report

prepared by an Independent Certified Public Accountant. Failure or refusal by Grantee to comply with this provision shall be considered a breach of this Grant Agreement, and State may take any action it deems necessary to protect its interests.

Pursuant to Government Code Section 8546.7, the Grantee shall be subject to the examination and audit of State for a period of three years after final payment under this Grant Agreement with respect of all matters connected with this Grant Agreement, including but not limited to, the cost of administering this Grant Agreement. All records of Grantee or subcontractors shall be preserved for this purpose for at least three (3) years after Project completion.

- D.8 BUDGET CONTINGENCY:** If the Budget Act of the current year covered under this Grant Agreement does not appropriate sufficient funds for the Integrated Regional Water Management Grant Program, this Grant Agreement shall be of no force and effect. This provision shall be construed as a condition precedent to the obligation of State to make any payments under this Grant Agreement. In this event, State shall have no liability to pay any funds whatsoever to Grantee or to furnish any other considerations under this Grant Agreement and Grantee shall not be obligated to perform any provisions of this Grant Agreement. Nothing in this Grant Agreement shall be construed to provide Grantee with a right of priority for payment over any other Grantee. If funding for any fiscal year after the current year covered by this Grant Agreement is reduced or deleted by the Budget Act for purposes of this program, State shall have the option to either cancel this Grant Agreement with no liability occurring to State, or offer a Grant Agreement amendment to Grantee to reflect the reduced amount.
- D.9 CALIFORNIA CONSERVATION CORPS:** As required in Water Code section 79038(b), Grantee shall examine the feasibility of using the California Conservation Corps or community conservation corps to accomplish the habitat restoration, enhancement and protection activities listed in the Scope of Work (Exhibit A), and shall use the services of one of these organizations whenever feasible.
- D.10 CEQA:** Activities funded under this grant program regardless of funding source must be in compliance with the California Environmental Quality Act (CEQA) (PRC §21000 et seq.). Information on CEQA can be found at the following links:
- Environmental Information: ceres.ca.gov/index.html
California State Clearinghouse Handbook: celc.resources.ca.gov/
- Applicants seeking Proposition 84 funding should note that PRC §75102 requires lead agencies to notify tribal entities prior to adoption of Negative Declarations or Environmental Impact Reports (EIRs) if traditional tribal lands are within the area of the proposed project.
- D.11 CHILD SUPPORT COMPLIANCE ACT:** For any Grant Agreement in excess of \$100,000, the Grantee acknowledges in accordance with Public Contract Code 7110, that:
- a. The Grantee recognizes the importance of child and family support obligations and shall fully comply with all applicable state and federal laws relating to child and family support enforcement, including, but not limited to, disclosure of information and compliance with earnings assignment orders, as provided in Chapter 8 (commencing with section 5200) of Part 5 of Division 9 of the Family Code; and
 - b. The Grantee, to the best of its knowledge is fully complying with the earnings assignment orders of all employees and is providing the names of all new employees to the New Hire Registry maintained by the California Employment Development Department.
- D.12 CLAIMS DISPUTE:** Any claim that the Grantee may have regarding performance of this agreement including, but not limited to, claims for additional compensation or extension of

time, shall be submitted to the Project Manager, Department of Water Resources, within thirty (30) days of the Grantee's knowledge of the claim. Project Manager and Grantee shall then attempt to negotiate a resolution of such claim and process an amendment to this Agreement to implement the terms of any such resolution.

- D.13 COMPETITIVE BIDDING AND PROCUREMENTS:** Grantee shall comply with all applicable laws and regulations regarding securing competitive bids and undertaking competitive negotiations in Grantee's contracts with other entities for acquisition of goods and services and construction of public works with funds provided by State under this Grant Agreement.
- D.14 COMPUTER SOFTWARE:** The Grantee certifies that it has appropriate systems and controls in place to ensure that state funds will not be used in the performance of this Grant Agreement for the acquisition, operation, or maintenance of computer software in violation of copyright laws.
- D.15 CONFIDENTIALITY:** Applicants should note that by submitting an application, they will waive their rights to the confidentiality of that application, though Department staff will endeavor to keep all applications confidential until Project selection. After the Projects are selected, all applications (those selected and those not) will be public documents.
- D.16 CONFLICT OF INTEREST:** All participants are subject to State and Federal conflict of interest laws. Failure to comply with these laws, including business and financial disclosure provisions, will result in the application being rejected and any subsequent contract being declared void. Other legal action may also be taken. Accordingly, before submitting an application, Applicants are urged to seek legal counsel regarding potential conflict of interest concerns and requirements for disclosure. Applicable statutes include, but are not limited to, Government Code, Section 1090 and Public Contract Code, Sections 10410 and 10411, for State conflict of interest requirements.
- a. CURRENT STATE EMPLOYEES. No State officer or employee shall engage in any employment, activity, or enterprise from which the officer or employee receives compensation or has a financial interest and which is sponsored or funded by any State agency, unless the employment, activity, or enterprise is required as a condition of regular State employment. No State officer or employee shall contract on his or her own behalf as an independent contractor with any State agency to provide goods or services.
 - b. FORMER STATE EMPLOYEE. For the two-year period from the date he or she left State employment, no former State officer or employee may enter into a contract in which he or she engaged in any of the negotiations, transactions, planning, arrangements, or any part of the decision-making process relevant to the contract while employed in any capacity by any State agency. For the twelve-month period from the date he or she left State employment, no former State officer or employee may enter into a contract with any State agency if he or she was employed by that State agency in a policy-making position in the same general subject area as the proposed contract within the twelve-month period prior to his or her leaving State service.
 - c. EMPLOYEES OF THE GRANTEE. Employees of the Grantee shall comply with all applicable provisions of law pertaining to conflicts of interest, including but not limited to any applicable conflict of interest provisions of the California Political Reform Act, Cal. Gov't Code § 87100 et seq.
 - d. EMPLOYEES AND CONSULTANTS TO THE GRANTEE. Individuals working on behalf of a Grantee may be required by the Department to file a Statement of Economic Interests (Fair Political Practices Commission Form 700) if it is determined that an individual is a consultant for Political Reform Act purposes.

- D.17 DELIVERY OF INFORMATION, REPORTS, AND DATA:** The Grantee agrees to expeditiously provide, during work on the Project and throughout the term of this Grant Agreement, such reports, data, information, and certifications as may be reasonably required by the State.
- D.18 DISPOSITION OF EQUIPMENT:** Grantee shall provide to State, not less than 30 days prior to submission of the final project invoice, a final inventory list of equipment purchased with grant funds provided by State. The inventory shall include all items with a current estimated fair market value of more than \$5,000 per item. Within 60 days of receipt of such inventory, State shall provide Grantee with a list of the items on the inventory that State will take title to. All other items shall become the property of Grantee. State shall arrange for delivery from Grantee of items that it takes title to. Cost of transportation, if any, shall be borne by State.
- D.19 NO DISCRIMINATION AGAINST DOMESTIC PARTNERS:** For contracts over \$100,000 executed or amended after January 1, 2007, the Grantee certifies by signing this Grant Agreement, under penalty of perjury under the laws of State of California that Grantee is in compliance with Public Contract Code section 10295.3.

D.20 DRUG-FREE WORKPLACE CERTIFICATION:

CERTIFICATION OF COMPLIANCE. By signing this Grant Agreement, Grantee, its contractors or subcontractors hereby certify, under penalty of perjury under the laws of State of California, compliance with the requirements of the Drug-Free Workplace Act of 1990 (Government Code 8350 et seq.) and have or will provide a drug-free workplace by taking the following actions:

- a. Publish a statement notifying employees, contractors, and subcontractors that unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited and specifying actions to be taken against employees, contractors, or subcontractors for violations, as required by Government Code Section 8355(a).
- b. Establish a Drug-Free Awareness Program, as required by Government Code Section 8355(b) to inform employees, contractors, or subcontractors about all of the following:
 1. The dangers of drug abuse in the workplace,
 2. Grantee's policy of maintaining a drug-free workplace,
 3. Any available counseling, rehabilitation, and employee assistance programs, and
 4. Penalties that may be imposed upon employees, contractors, and subcontractors for drug abuse violations.
- c. Provide as required by Government Code Sections 8355(c), that every employee, contractor, and/or subcontractor who works under this Grant Agreement:
 1. Will receive a copy of Grantee's drug-free policy statement, and
 2. Will agree to abide by terms of Grantee's condition of employment, contract or subcontract.

SUSPENSION OF PAYMENTS. This Grant Agreement may be subject to suspension of payments or termination, or both, and Grantee may be subject to debarment if the State determines that:

- a. Grantee, its contractors, or subcontractors have made a false certification, or
- b. Grantee, its contractors, or subcontractors violates the certification by failing to carry out the requirements noted above.

- D.21 EASEMENTS:** Where the Grantee acquires property in fee title or funds improvements to real property already owned in fee by the Grantee using grant funds provided through this Grant Agreement, an appropriate easement or other title restriction providing for floodplain preservation and agricultural and/or wildlife habitat conservation for the subject property in

perpetuity, approved by the State, shall be conveyed to a regulatory or trustee agency or conservation group acceptable to the State. The easement or other title restriction must be in first position ahead of any recorded mortgage or lien on the property unless this requirement is waived by the State.

a. Where the Grantee acquires an easement under this Grant Agreement, the Grantee agrees to monitor and enforce the terms of the easement, unless the easement is subsequently transferred to another land management or conservation organization or entity with State permission, at which time monitoring and enforcement responsibilities will transfer to the new easement owner.

b. Failure to provide an easement acceptable to the State can result in termination of this Grant Agreement.

D.22 GRANTEE COMMITMENTS: Grantee accepts and agrees to comply with all terms, provisions, conditions, and commitments of this Grant Agreement, including all incorporated documents, and to fulfill all assurances, declarations, representations, and statements made by Grantee in the application, documents, amendments, and communications filed in support of its request for California Disaster Preparedness and Flood Prevention Bond Act of 2006 and the California Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Act of 2006 funding.

D.23 GRANTEE NAME CHANGE: Approval of the State's Program Manager is required to change the Grantee's name as listed on this Grant Agreement. Upon receipt of legal documentation of the name change the State will process the amendment. Payment of invoices presented with a new name cannot be paid prior to approval of said amendment.

D.24 GOVERNING LAW: This Grant Agreement is governed by and shall be interpreted in accordance with the laws of the State of California.

D.25 INDEMNIFICATION: Grantee shall indemnify and hold and save the State, its officers, agents, and employees, free and harmless from any and all liabilities for any claims and damages (including inverse condemnation) that may arise out of the Project and this Agreement, including, but not limited to any claims or damages arising from planning, design, construction, maintenance and/or operation of levee rehabilitation measures for this Project and any breach of this Agreement. Grantee shall require its contractors to name the State, its officers, agents and employees as additional insureds on their liability insurance for activities undertaken pursuant to this Agreement.

D.26 INDEPENDENT CAPACITY: Grantee, and the agents and employees of Grantee, if any, in the performance of the Grant Agreement, shall act in an independent capacity and not as officers, employees, or agents of the State.

D.27 INSPECTIONS OF BOOKS, RECORDS, AND REPORTS: During regular office hours, each of the parties hereto and their duly authorized representatives shall have the right to inspect and to make copies of any books, records, or reports of either party pertaining to this Grant Agreement or matters related hereto. Each of the parties hereto shall maintain and shall make available at all times for such inspection accurate records of all its costs, disbursements, and receipts with respect to its activities under this Grant Agreement. Failure or refusal by Grantee to comply with this provision shall be considered a breach of this Grant Agreement, and State may withhold disbursements to Grantee or take any other action it deems necessary to protect its interests.

D.28 INSPECTIONS OF PROJECT BY STATE: State shall have the right to inspect the work being performed at any and all reasonable times during the term of the Grant Agreement. This right shall extend to any subcontracts, and Grantee shall include provisions ensuring such access in all its contracts or subcontracts entered into pursuant to its Grant Agreement with State.

- D.29 LABOR CODE COMPLIANCE:** The Grantee will be required to keep informed of and take all measures necessary to ensure compliance with applicable California Labor Code requirements, including, but not limited to, Section 1720 et seq. of the California Labor Code regarding public works, limitations on use of volunteer labor (California Labor Code Section 1720.4), labor compliance programs (California Labor Code Section 1771.5) and payment of prevailing wages for work done and funded pursuant to these guidelines, including any payments to the Department of Industrial Relations under Labor Code Section 1771.3.

For projects that receive funding pursuant to the provisions of Proposition 50, the agreement will require the sponsor to submit verification of a labor compliance program acceptable to the department that meets the requirements of California Labor Code section 1771.5. Written evidence of the labor compliance program will need to be submitted to the department before the project is funded.

- D.30 MODIFICATION OF OVERALL WORK PLAN:** At the request of the Grantee, the State may at its sole discretion approve non-material changes to the portions of Exhibit A which concern the budget and schedule without formally amending this Grant Agreement. Non-material changes with respect to the budget are changes that only result in reallocation of the budget and will not result in an increase in the amount of the State Grant Agreement which is set forth in paragraph (3) of the Grant Agreement. Non-material changes with respect to the Project schedule are changes that will not extend the term of this Grant Agreement which is set forth in paragraph (2) of the Grant Agreement. Requests for non-material changes to the budget and schedule must be submitted by the Grantee to the State in writing and are not effective unless and until specifically approved by the State's Program Manager in writing.

- D.31 NONDISCRIMINATION CLAUSE:** During the performance of this Grant Agreement, Grantee and its sub-contractors shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), mental disability, medical condition (cancer), age (over 40), marital status, and denial of family care leave. Grantee and sub-contractors shall ensure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment. Grantee and sub-contractors shall comply with the provisions of the Fair Employment and Housing Act (Government Code Section 12990 (a-f) et seq.) and the applicable regulations promulgated there under (California Code of Regulations, Title 2, Section 7285 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code Section 12990 (a-f), set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations, are incorporated into this Grant Agreement by reference and made a part hereof as if set forth in full. Grantee and its sub-contractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement. Grantee shall include the nondiscrimination and compliance provisions of this clause in all sub-contracts to perform work under the Grant Agreement.

Grantee shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the Funding Agreement.

- D.32 OPINIONS AND DETERMINATIONS:** Where the terms of this Grant Agreement provide for action to be based upon, judgment, approval, review, or determination of either party hereto, such terms are not intended to be and shall never be construed as permitting such opinion, judgment, approval, review, or determination to be arbitrary, capricious, or unreasonable.
- D.33 PERFORMANCE AND ASSURANCES:** Grantee agrees to faithfully and expeditiously perform or cause to be performed all Project work as described in the Scope of Work and to apply State

funds received only to Eligible Project Costs in accordance with applicable provisions of the law.

- D.34 PRIORITY HIRING CONSIDERATIONS:** If this Grant Agreement includes services in excess of \$200,000, the Grantee shall give priority consideration in filling vacancies in positions funded by the Grant Agreement to qualified recipients of aid under Welfare and Institutions Code Section 11200 in accordance with Pub. Contract Code § 10353.
- D.35 PROHIBITION AGAINST DISPOSAL OF PROJECT WITHOUT STATE PERMISSION:** Grantee shall not sell, abandon, lease, transfer, exchange, mortgage, hypothecate, or encumber in any manner whatsoever all or any portion of any real or other property necessarily connected or used in conjunction with the Project, or with Grantee's service of water, without prior permission of State. Grantee shall not take any action, including but not limited to actions relating to user fees, charges, and assessments that could adversely affect the ability of Grantee to meet its obligations under this Grant Agreement, without prior written permission of State. State may require that the proceeds from the disposition of any real or personal property be remitted to State.
- D.36 REIMBURSEMENT CLAUSE:** If applicable, travel and per diem expenses to be reimbursed under this Agreement shall be at the same rates the State provides for unrepresented employees in accordance with the provisions of Title 2, Chapter 3, of the California Code of Regulations.
- D.37 REMEDIES NOT EXCLUSIVE:** The use by either party of any remedy specified herein for the enforcement of this Grant Agreement is not exclusive and shall not deprive the party using such remedy of, or limit the application of, any other remedy provided by law.
- D.38 RIGHTS IN DATA:** The Grantee agrees that all data, plans, drawings, specifications, reports, computer programs, operating manuals, notes, and other written or graphic work produced in the performance of this Grant Agreement shall be made available to the State and shall be in the public domain to the extent to which release of such materials is required under the California Public Records Act., Cal. Gov't Code §§ 6250 et seq. The Grantee may disclose, disseminate and use in whole or in part, any final form data and information received, collected, and developed under this Grant Agreement, subject to appropriate acknowledgement of credit to the State for financial support. The Grantee shall not utilize the materials for any profit-making venture or sell or grant rights to a third party who intends to do so. The State shall have the right to use any data described in this paragraph for any public purpose.
- D.39 SEVERABILITY:** Should any portion of this Grant Agreement be determined to be void or unenforceable, such shall be severed from the whole and the Grant Agreement shall continue as modified.
- D.40 SUIT ON GRANT AGREEMENT:** Each of the parties hereto may sue and be sued with respect to this Grant Agreement.
- D.41 SUCCESSORS AND ASSIGNS:** This Grant Agreement and all of its provisions shall apply to and bind the successors and assigns of the parties. No assignment or transfer of this Grant Agreement or any part thereof, rights hereunder, or interest herein by the Grantee shall be valid unless and until it is approved by State and made subject to such reasonable terms and conditions as State may impose.
- D.42 TERMINATION BY GRANTEE:** Subject to State approval which may be reasonably withheld, Grantee may terminate this Agreement and be relieved of contractual obligations. In doing so, Grantee must provide a reason(s) for termination. Grantee must submit all progress reports summarizing accomplishments up until termination date.
- D.43 TERMINATION FOR CAUSE:** Subject to the right to cure under paragraph 16, the State may terminate this Grant Agreement and be relieved of any payments should Grantee fail to

perform the requirements of this Grant Agreement at the time and in the manner herein provided included but not limited to reason of default under paragraph 16.

- D.44 TERMINATION WITHOUT CAUSE:** The State may terminate this Agreement without cause on 30 days advance written notice. The Grantee shall be reimbursed for all reasonable expenses incurred up to the date of termination.
- D.45 TIMELINESS:** Time is of the essence in this Grant Agreement.
- D.46 THIRD PARTY BENEFICIARIES:** The parties to this Agreement do not intend to create rights in, or grant remedies to, any third party as a beneficiary of this Agreement, or any duty, covenant, obligation or understanding established herein.
- D.47 TRAVEL:** Travel includes the reasonable and necessary costs of transportation, subsistence, and other associated costs incurred by personnel during the term of this Grant Agreement. Travel and per diem shall be reimbursed consistent with the rates current at the time of travel. These rates are published at: <http://www.dpa.ca.gov/jobinfo/statetravels.htm> or its successor website. For the purpose of computing such expenses, travel must be part of the scope of work and originate and terminate within the Merced IRWM region. No travel outside the State of California shall be reimbursed unless prior written authorization is obtained from the State.
- D.48 UNION ORGANIZING:** Grantee, by signing this Grant Agreement, hereby acknowledges the applicability of Government Code 16645 through 16649 to this Grant Agreement. Furthermore, Grantee, by signing this Grant Agreement, hereby certifies that:
- a) No State funds disbursed by this Grant Agreement will be used to assist, promote, or deter union organizing.
 - b) Grantee shall account for State funds disbursed for a specific expenditure by this Grant Agreement to show those funds were allocated to that expenditure.
 - c) Grantee shall, where State funds are not designated as described in (b) above, allocate, on a pro rata basis, all disbursements that support the program.
 - d) If Grantee makes expenditures to assist, promote, or deter union organizing, Grantee will maintain records sufficient to show that no State funds were used for those expenditures and that Grantee shall provide those records to the Attorney General upon request.
- D.49 WAIVER OF RIGHTS:** None of the provisions of this Grant Agreement shall be deemed waived unless expressly waived in writing. It is the intention of the parties here to that from time to time either party may waive any of its rights under this Grant Agreement unless contrary to law. Any waiver by either party of rights arising in connection with the Grant Agreement shall not be deemed to be a waiver with respect to any other rights or matters, and such provisions shall continue in full force and effect.
- D.50 WITHHOLDING OF GRANT DISBURSEMENTS (RETENTION):**
- a) Withholding Clause: The State, at its discretion, may withhold ten percent (10%) of the funds requested by the Grantee for reimbursement of Eligible Project Costs until the Project is completed and Project Completion Report is received. Withheld funds may be released upon completion of milestones identified in the Scope of Work.
 - b) Additional Conditions for Withholding: If the State determines that the Project is not being completed substantially in accordance with the provisions of this Agreement or that the Grantee has failed in any other respect to comply substantially with the provisions of this Agreement, and if the Grantee does not remedy such failure to the State's satisfaction, the State may withhold from the Grantee all or any portion of the State Grant commitment and take any other action that it deems necessary to protect its interests.

D.51 WORKER'S COMPENSATION: Grantee affirms that It is aware of the provisions of Section 3700 of the California Labor Code, which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and Grantee affirms that It will comply with such provisions before commencing the performance of the work under this Grant Agreement and will make its contractors and subcontractors aware of this provision.

EXHIBIT E
REPORT FORMAT AND REQUIREMENTS

The following reporting formats should be utilized. Please obtain State approval prior to submitting a report in an alternative format.

1. PROGRESS REPORTS

Progress Reports shall generally use the following format.

PROJECT STATUS

Describe the work performed during the time period covered by the report including:

PROJECT INFORMATION

- Legal matters;
- Engineering evaluations;
- Environmental matters;
- Status of permits, easements, rights-of-way, rights of entry and approvals as may be required by other State, federal, and/or local agencies;
- Major accomplishments during the reporting period (i.e. tasks completed, milestones met, meetings held or attended, press releases, etc.);
- Issues/concerns that have, will, or could affect the scope, schedule, or budget, with a recommendation on how to correct the matter, including identifying possible future agreement amendment needs;
- Describe differences between the work performed and the work outlined in the Overall Work Plan, including any change orders. Also include an estimate of the percentage of project work completed to date.
- Identify issues not captured in above items that need to be resolved for successful completion of the grant.

COST INFORMATION

- A discussion on how actual costs are progressing in comparison to the project budget, including percent budget spent to date;
- A list of any previous changes DWR has approved to the budget in accordance with the Agreement and the resulting revised budget(s); and
- A discussion of whether there have been any changes to the Grantee's finance plan for payment of the Grantee's share of Eligible Project Costs.

SCHEDULE INFORMATION

- A schedule showing actual progress versus planned progress;
- A discussion on how the actual schedule is progressing in comparison to the planned schedule; and
- A list of any previous changes DWR has approved to the Schedule in accordance with the Agreement and the resulting revised schedule(s).

2. PROJECT COMPLETION REPORT

Project Completion Reports shall generally use the following format.

EXECUTIVE SUMMARY

The Executive Summary generally should not exceed one-half page in length and should summarize the major accomplishments of the project. The Executive Summary should also include the a brief description of any work activity deviations to the original work plan identified in the Agreement.

COST AND DISPOSITION OF FUNDS

Provide a summary table of all Invoices showing:

- The date and amount of each Invoice submitted to State
- Accounting of the cost share and grant share expenditures
- Acknowledgement that all Invoice payments were received
- Final cost by grant versus agency cost share

ADDITIONAL PROJECT INFORMATION

Details of the work completed during the course of the grant that may include, but is not limited to:

- A final project schedule showing actual progress verses planned progress.
- Discussion of problems that occurred during the work and how those problems were resolved.
- Discussion of factors that positively or negative affected the project cost and any deviation from the original project cost estimate.
- Anticipated benefit from the project as Implemented vs. the anticipated benefits claimed in the grant application.

REPORTS AND/OR PRODUCTS

Provide a summary of major deliverables (including data deliverables) or products provided under the grant including:

- Name of deliverable/product.
- When the deliverable was delivered to DWR or appropriate State Agency
- A sentence or two about what the deliverable/product contains or does

Note: Data submittals may be subject to provisions of Exhibit H of this agreement.

**EXHIBIT F
GRANTEE RESOLUTION**

**MERCED IRRIGATION DISTRICT
RESOLUTION NO. 2013-13**

**RESOLUTION AUTHORIZING APPLICATION FOR PROPOSITION 50 WATER SUPPLY RELIABILITY
PROGRAM GRANT FOR THE DEVELOPMENT OF AN INTEGRATED WATER RESOURCES MODEL
FOR THE MERCED GROUNDWATER BASIN**

WHEREAS, the Groundwater Management Act ("AB3030") was passed by the State Legislature during the 1992 session, and became law on January 1, 1993; and

WHEREAS, AB3030 encourages local agencies to work cooperatively to manage groundwater resources within their jurisdiction; and

WHEREAS, the Merced Groundwater Basin ("Basin"), as defined by the California Department of Water Resources in Bulletin 118-80, is a major water resource for the following local agencies located within the Merced Groundwater Basin: Black Rascal Water Company, City of Atwater, City of Livingston, City of Merced, County of Merced, Le Grand Community Services District, Le Grand-Athlone Water District, Lone Tree Mutual Water Company, Meadowbrook Water Company, Merced Irrigation District (MID), Merquin County Water District, Planada Community Services District, Stevinson Water District, Turner Island Water District, Winton Water and Sanitary District, and East Merced Resource Conservation District, herein "local agencies"; and

WHEREAS, in 1997 local public agencies, including MID, adopted a Memorandum of Understanding creating an association identified as the Merced Area Groundwater Pool Interests ("MAGPI") for the purpose of developing a basin-wide groundwater management plan, monitor groundwater conditions, develop solutions, and coordinate actions within the Basin; and

WHEREAS, in June 2001, MAGPI entered into a Memorandum of Understanding with the Department of Water Resources to work cooperatively to promote conjunctive use projects and programs in Eastern Merced County; and

WHEREAS, on July 30, 2008, MAGPI adopted a Merced Groundwater Basin Groundwater Management Plan 2008 Update in compliance with the legislative requirements of SB 1938 and SB 1672; and

WHEREAS, in June of 2009, MAGPI expanded its area of interest to the entire hydrologic Merced Groundwater Basin including the MID consolidated former El Nido Irrigation District, portions of Chowchilla Water District, and all lands north of Chowchilla River; and

WHEREAS, groundwater levels in the Basin have dropped over the last forty years despite extensive conjunctive use and recharge efforts exercised by MID; and

WHEREAS, in the interest of providing solutions based on scientific facts, MAGPI has decided to pursue a Model to identify areas of concern and opportunities to improve the reliability of groundwater in the Basin; and

WHEREAS, in February of 2007, MAGPI received a letter of commitment from DWR for receiving a \$500,000 grant under Proposition 50 Water Supply Reliability Program the development of the Model conditioned on an equal local cost share; and

WHEREAS, MID and the City of Merced each committed \$250,000 towards the local cost share, conditioned on reimbursement from the remainder MAGPI members upon the creation of a joint power authority for the governance of the basin; and

WHEREAS, on December 19, 2012, MAGPI approved Resolution 2012-4 authorizing MID to execute a contract and all necessary documents required for the acceptance and execution of the grant;

THEREFORE, BE IT RESOLVED by the Board of Directors of Merced Irrigation District that pursuant and subject to all of the terms and provisions of the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002 (Proposition 50) and amendments thereto, MID will accept funds on behalf of MAGPI for the development of a Model for the Basin.

BE IT FURTHER RESOLVED THAT, the Merced Irrigation District, will contribute, upon execution of the grant agreement, 25% of the total value of the planning grant in a combination of in-kind services and monetary contribution, said combination shall not exceed \$250,000 as previously authorized by the Board.

BE IT FURTHER RESOLVED THAT, the General Manager of the Merced Irrigation District, or his designee, is hereby authorized to take any and all actions as may be necessary or convenient to carry out and implement the intent of this Resolution such as executing necessary agreements with the California Department of Water Resources to execute, fund, manage and report the tasks identified by both parties for the purpose of accomplishing the purpose of the grant.

PASSED AND ADOPTED by the Board of Directors of the Merced Irrigation District this 16th day of April, 2013 by the following vote:

Ayes:	Directors:	Pellissier, Long, Pimentel, Gonzalves
Noes:	Directors:	None
Abstain:	Directors:	None
Absent:	Directors:	Koehn



Tim Pellissier
President
Merced Irrigation District



Dave Long
Vice President/Secretary
Merced Irrigation District

EXHIBIT G

**STATE AUDIT DOCUMENT REQUIREMENTS AND
FUNDING MATCH GUIDELINES FOR GRANTEES**

The following provides a list of documents typically required by State Auditors and general guidelines for Grantees. List of documents pertains to both State funding and Funding Recipient's Funding Match and details the documents/records that State Auditors would need to review in the event of this Funding Agreement is audited. Grantees should ensure that such records are maintained for each funded project.

List of Documents for Audit

Internal Controls

1. Organization chart (e.g., Agency's overall organization chart and organization chart for the State funded Program/Project).
2. Written internal procedures and flowcharts for the following:
 - a. Receipts and deposits
 - b. Disbursements
 - c. State reimbursement requests
 - d. Expenditure tracking of State funds
 - e. Guidelines, policy, and procedures on State funded Program/Project
3. Audit reports of the Agency internal control structure and/or financial statements within the last two years.
4. Prior audit reports on the State funded Program/Project.

State Funding:

1. Original Funding Agreement, any amendment(s) and budget modification documents.
2. A listing of all bond-funded grants, loans, or subventions received from the State.
3. A listing of all other funding sources for each Program/Project.

Contracts:

1. All subcontractor and consultant contracts and related or partners documents, if applicable.
2. Contracts between the Agency and member agencies as related to the State funded Program/Project.

Invoices:

1. Invoices from vendors and subcontractors for expenditures submitted to the State for payments under the Funding Agreement.
2. Documentation linking subcontractor invoices to State reimbursement, requests and related Funding Agreement budget line items.
3. Reimbursement requests submitted to the State for the Funding Agreement.

Cash Documents:

1. Receipts (copies of warrants) showing payments received from the State.
2. Deposit slips (or bank statements) showing deposit of the payments received from the State.

3. Cancelled checks or disbursement documents showing payments made to vendors, subcontractors, consultants, and/or agents under the grants or loans.
4. Bank statements showing the deposit of the receipts.

Accounting Records:

1. Ledgers showing entries for funding receipts and cash disbursements.
2. Ledgers showing receipts and cash disbursement entries of other funding sources.
3. Bridging documents that tie the general ledger to requests for Funding Agreement reimbursement.

Administration Costs:

1. Supporting documents showing the calculation of administration costs.

Personnel:

1. List of all contractors and Agency staff that worked on the State funded Program/Project.
2. Payroll records including timesheets for contractor staff and the Agency personnel who provided services charged to the program

Project Files:

- a) All supporting documentation maintained in the project files.
- b) All Funding Agreement related correspondence.

Funding Match Documentation

Funding Match (often referred to as cost share) consists of non-State funds, including in-kind services. In-kind services are defined as work performed (i.e., dollar value of non-cash contributions) by the Funding Recipient (and potentially other parties) directly related to the execution of the funded project. Examples include volunteer services, equipment use, and use of facilities. The cost of in-kind service can be counted as funding match in-lieu of actual funds (or revenue) provided by the Funding Recipient. Other funding match and in-kind service eligibility conditions may apply. Provide below is guidance for documenting funding match with and without in-kind services.

1. Although tracked separately, in-kind services shall be documented and, to the extent feasible, supported by the same methods used by the Funding Recipient for its own employees. Such documentation should include the following:
 - a. Detailed description of the contributed item(s) or service(s)
 - b. Purpose for which the contribution was made (tied to project work plan)
 - c. Name of contributing organization and date of contribution
 - d. Real or approximate value of contribution. Who valued the contribution and how was the value determined? (e.g., actual, appraisal, fair market value, etc.). Justification of rate. (See Item #4, below)
 - e. Person's name and the function of the contributing person
 - f. Number of hours contributed
 - g. If multiple sources exist, these should be summarized on a table with summed charges
 - h. Source of contribution if it was provided by, obtained with, or supported by government funds
2. Rates for volunteer or in-kind services shall be consistent with those paid for similar work in the Funding Recipient organization. For example, volunteer service of clearing vegetation performed by an attorney shall be valued at a fair market value for this service, not the rate for professional legal services. In those instances in which the required skills are not found in the recipient organization, rates shall be consistent with those paid for similar work in the labor market. Paid fringe benefits that are reasonable, allowable and allocable may be included in the valuation.

3. Funding match contribution (including in kind services) shall be for costs and services directly attributed to activities included in the Funding Agreement. These services, furnished by professional and technical personnel, consultants, and other skilled and unskilled labor may be counted as in-kind if the activities are an integral and necessary part of the project funded by the Funding Agreement.
4. Cash contributions made to a project shall be documented as revenue and in-kind services as expenditure. These costs should be tracked separately in the Funding Recipient's accounting system.

Exhibit H
Statewide Monitoring

REQUIREMENTS FOR STATEWIDE MONITORING AND DATA SUBMITTAL

Surface and Groundwater Quality Data:

Groundwater quality and ambient surface water quality monitoring data that include chemical, physical, or biological data shall be submitted to the State as described below, with a narrative description of data submittal activities included in project reports, as described in Exhibit E.

Surface water quality monitoring data shall be prepared for submission to the California Environmental Data Exchange Network (CEDEN). The CEDEN data templates are available on the CEDEN website. Inclusion of additional data elements described on the data templates is desirable. Data ready for submission should be uploaded to your CEDEN Regional Data Center via the CEDEN website. CEDEN website: <http://www.ceden.org>.

If a project's Work Plan contains a groundwater ambient monitoring element, groundwater quality monitoring data shall be submitted to the State for inclusion in the State Water Resources Control Board's Groundwater Ambient Monitoring and Assessment (GAMA) Program. Information on the GAMA Program can be obtained at: http://www.waterboards.ca.gov/water_issues/programs/gama/. If further information is required, the Grantee can contact the State Water Resources Control Board (SWRCB) GAMA Program. A listing of SWRCB staff involved in the GAMA program can be found at: http://www.swrcb.ca.gov/water_issues/programs/gama/contact.shtml

Groundwater Level Data

For each project that collects groundwater level data, the Grantee will need to submit this data to DWR's California Statewide Groundwater Elevation Monitoring (CASGEM) Program-developed, web-interface system. In the near future, historic groundwater elevation data traditionally managed in DWR's Water Data Library (WDL) will be available using the CASGEM system. Information regarding the CASGEM Program can be found at: <http://www.water.ca.gov/groundwater/casgem/>