

EXHIBIT “A”

Edwards Aquifer Recovery Implementation Program (“EARIP”)

PROPOSAL RESPONSE

Initial Study on the Impacts of Recreation on Protected Species and Habitats in the Comal and San Marcos Springs Ecosystems

Our proposed team for the Edwards Aquifer Recovery Implementation Program's initial study on the impacts of recreation on protected species and habitats in the Comal and San Marcos Springs Ecosystems is comprised of Halff Associates, Inc. and the River Systems Institute. The Halff Associates team (the Team) will provide recreational research, prepare Geographic Information System (GIS) mapping, conduct interviews and stakeholder meetings, collect relevant scientific studies and available water quality data, and evaluate and summarize data collected. The Team will also make recommendations for further analysis, monitoring efforts, and solutions to reduce quantified negative impacts on protected species and their habitat from recreation activities.

PROJECT ASSUMPTIONS

This proposal has been prepared using the following assumptions as a basis for its preparation:

1. The project study area will encompass the ecosystems for the San Marcos and Comal Springs, as described in the original RFP, within the city limits of New Braunfels and San Marcos only.
2. All information collected will be based on existing literature, studies, or reports.

INFORMATION TO BE SUPPLIED BY THE EARIP

The following items will be supplied by the EARIP to the Team:

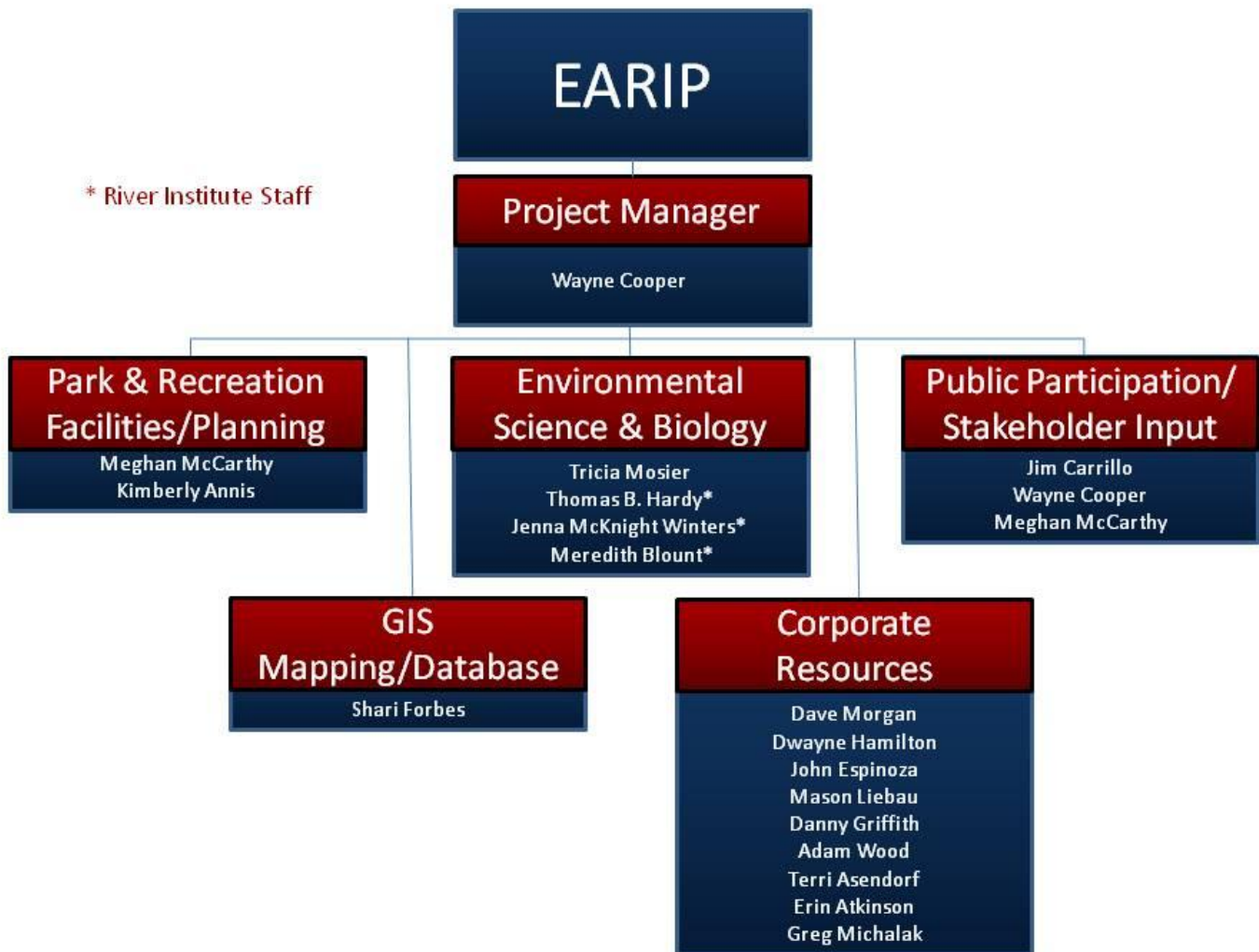
Contact Persons from Local Agencies – The EARIP will provide the Team with names and contact information for all agencies who have participated in the study or management practices within the study area to date.

Environmental, Cultural, and Historical Investigations – The EARIP will provide the Team with copies of applicable studies and data it has commissioned or accumulated to date, as available.

MANAGEMENT AND STAFFING

Half Associates has assembled a team comprised of professionals with expertise in every aspect of the project. Our project manager, Mr. Wayne Cooper, is a Vice President and the Regional Director of Landscape Architecture and planning for Half Associates. Mr. Cooper is supported by a team of dedicated professionals who are specialists in their chosen fields. The members of the Half Team are prepared to dedicate their time and efforts to ensure that the study is a success in the eyes of the EARIP and participating cities, agencies, and citizens within the limits of the project.

Detailed resumes of team members were presented in the original RFP Response submittal, but can be provided to the EARIP again upon request.



The primary team members presented in the organization chart are all local resources, which provide a cost savings to reimbursable expenses (travel, lodging, etc.). Additional expertise from our corporate resources, such as David Morgan, will be utilized during assessment and recommendation phase of this project as appropriate.

PROJECT APPROACH / SCOPE OF SERVICES

TASK 1 – Data Collection

From an initial list of activities and facilities provided by the EARIP, the cities of New Braunfels or San Marcos, the chambers of commerce for both cities, or other sources, and utilizing our past project experiences within the study area as a point of departure, the Halff Associates team (Team) will compile a list of recreational activities and facilities that utilize or have a direct impact in the either spring corridor, within the study area.

Actions:

- Prepare initial list of recreational programs and facilities providers.
- Poll cities, chambers of commerce, convention and visitors bureaus, and Economic Development Corporations regarding the existence of recreational programs and facilities providers in the study area.
- Augment the initial data request with information gathered from the actual providers regarding the level of services and types of programs/facilities they provide; geographic area of service; points of access to springs in the study areas; periods of operations; numbers of participants by season; costs of services; control mechanisms; advertising/marketing approaches; and revenue amounts generated by services if available. (Reference Task 4 – Stakeholder Input/Public Participation)
- Document findings in tabular and report formats.

Deliverables:

- Recreational facilities and programs providers list, with supplemental, supporting data, including
 - types of facilities / programs supported
 - locations of facilities & program providers
 - type of service/facility
 - areas of service
 - access points to springs
 - periods of operation
 - number of participants by season
- Provide GIS mapping of recreational facilities and programs providers

TASK 2 – Collect and Summarize Existing Ordinances that Address Recreation

The Halff Team will identify and collect copies of all ordinances and regulations that affect recreational activities or facilities from cities and agencies within the project study area, and summarize the intent and requirements of these regulations. The Halff Team understands that this information will be used as a baseline by EARIP for their assessment and identification of gaps in regulation pertaining to recreational uses in areas of protected species habitat.

Actions:

- Contact agencies with authority over study area for list of policies and ordinances that regulate and/or affect recreational activities and/or river access.
- Review / summarize the language of the policies and ordinances.
- Document findings in tabular and report formats.

Deliverables:

- Provide a summary of ordinances and policies that regulate/affect recreational activities or facilities.
- Provide GIS Mapping of the location of currently regulated areas.

TASK 3 – Prepare GIS Database of Recreational Uses and Protected Species Habitat

The Halff Team will coordinate with RECON to obtain existing GIS layers for all nine federally-listed species habitat and sampling locations of recorded protected species, as well as approximate population density, as available.

In addition to the protected species information, The Halff Team will also incorporate the GIS files created Tasks 1, 2, 4, 6, 7, and 8 into a master database. The Halff Team will ensure organization, security, accessibility, standardization, and reliability of all collected data. Halff uses the most current and comprehensive GIS package with the Environmental Systems Research Institute (ESRI) ArcGIS products. This package includes the most robust desktop version, ArcInfo, which includes diverse functionality, advanced spatial analysis, extensive data manipulation, and high-end cartography tools. In addition, Halff has access to ArcGIS extensions that add even more capability and functionality such as Spatial Analyst (for comprehensive, raster-based spatial modeling and analysis) and 3D Analyst (to visualize and analyze surface data).

Based upon the recreational use data collected, the Halff Team will develop symbology to depict types of potential recreational impacts that could disrupt (directly or indirectly) the ecosystems and their species, as well as create a set of criteria to rank the magnitude of impacts. These criteria would be developed by our environmental scientists and aquatic biologists based upon impact-causing activities already identified in the Draft EAHCP. Some examples would be water activities (swimming, tubing, canoeing, fishing, scuba diving, and glass-bottomed boat tours, as well as dogs accessing the water and walking along the bank) and direct/indirect habitat alteration (bottom disturbance, vegetation control, introduction of non-native bait fish, streamside influence, and runoff from the recreational facilities and parking lots).

Halff recognizes the relationship between spring discharge (cfs) and habitat quality for all of the endangered species; it is important the spatially identified recreational areas be temporally studied based upon seasonality as this may be correlated with pertinent life cycles criteria of the endangered species.

Information such as water quality data, recreational location by type, recreational location by magnitude, critical habitat location, species density, and spring discharge data can be displayed spatially. These layers can also be shown with a temporal component (seasonally) which can display recreational use over time. Each of these layers can be queried in numerous combinations with the species habitat and density information that will include detailed life history information from previous research. This type of analysis will clearly identify important recreational resources and potential impact zones and can assist with recommendations for balancing recreational demands, beneficial use, and conservation of critical habitat including any adjustments that may need to be made based on season.

Actions:

- Inventory available digital data and determine digital data gaps.
- Create new data to fill data gaps based upon literature research and interview results.
- GIS data attribution and GIS metadata creation for all newly created files so future users will have a clear understanding of how data was created and attributed.

- Implement spatial and temporal analysis.
- Provide recommendations for further analysis.

Deliverables:

- Create map exhibits for the final report depicting recreational facilities and protected species locations/habitat.
- Summarize data collection in tabular format.
- Submit digital shape files/geodatabase and metadata by FTP/DVD.

TASK 4 – Interview Public Agencies and Recreational Vendors/Outfitters

The EARIP will provide the Halff Team a list of key individuals within the resource agencies and local governments to contact. The City of New Braunfels and the City of San Marcos will also identify recreational vendors and outfitters to interview. The cities will assist the Halff Team in schedule meetings with these groups at their respective city office.

The Halff Team will schedule interviews (a maximum of 16) with these groups to collect information regarding recreational uses in both spring ecosystems. Interviews will be conducted over a two-day period at 30 minute to one-hour intervals (one day in each City). During these interviews, the Halff Team will gather information about the services they provide, including seasons they operate within, numbers of patrons they serve, fee schedules to participate in their programs, and other pertinent data. The interview team will consist of the Halff Team project manager, a planner, a biologist, and one representative from the River Systems Institute. (Reference Task 1 – Data Collection)

All of the meetings and discussions will be summarized in both a written and data matrix format, to allow the comments and data generated to be easily identified and used as evaluation tools later in the process.

Actions:

- Coordinate with EARIP contracting manager, the City of New Braunfels, and the City of San Marcos to obtain contact information for key agencies and recreational vendors/outfitters.
- Prepare meeting materials and questionnaires.
- Over two days, interview a maximum of 16 resource agencies, local governments, and recreational vendors/outfitters. Meetings will be held at the City of New Braunfels and the City of San Marcos offices.
- Prioritize and sort comments and discussion items with participants' assistance.
- Incorporate collected data in GIS format as appropriate.

Deliverables:

- Meeting notes and summaries of events and discussion items.
- Provide prioritized lists of needs, desires, likes and dislikes from meeting notes and discussions.
- Provide an evaluation matrix of meeting discussion items, identifying needs, desires, likes and dislikes from meeting participants.
- Provide an overall summary of the interview process and information collected.
- Provide GIS Mapping of spatial information collected during interviews as appropriate.

TASK 5 - Prepare an Approach to Assess Recreational Impacts Suggest Monitoring Efforts

TASK 9 - List Recommendations for Further Studies/List Actions to Reduce Negative Impacts

After data has been collected through Tasks 1, 2, 3, 4, 6, and 7, the Halff Team will (1) assess recreational impacts, (2) suggest monitoring efforts, (3) list recommendations for further studies, and (4) list actions to reduce negative impacts to protected species. The results will be compiled and included in the final report.

Actions:

- Review and synthesize all collected information from Tasks 1, 2, 3, 4, 6, and 7.
- The Halff Team Project Manager and Environmental Scientists/Aquatic Biologists will collectively:
 - Assess recreational impacts to protected species,
 - Suggested monitoring efforts,
 - Create a list of recommendations for further studies, and
 - Suggest actions to reduce negative impacts of recreation activities on protected species.

Deliverables:

- Documentation of findings in tabular and report formats.

TASK 6 – Review Available Water Quality Data for the Water Body Segments in the Project Area

The Halff Team understands that an inventory of water quality data is an essential component to developing the EARIP, as decreased quality threatens the viability of protected species habitat in the two spring ecosystems. The Halff Team will use this information to analysis potential correlations between water quality degradation, recreational uses, and decline of protect species habitat.

Actions:

- Research and compile available water quality data for the water body segments in the two spring ecosystems.
- Produce a tabular catalog (in Microsoft Excel) of water quality data sources.
- Where the data is available digitally, the location of monitoring stations and the characteristics of each station would be incorporated into the GIS database. (Included in Task 3 fee estimate)

Deliverables:

- Documentation of findings in tabular and report format.
- Submit digital shape files/geo database and metadata by FTP/DVD. (Included in Task 3 fee estimate)

TASK 7 – Collect and Summarize Pertinent Scientific Studies

Members of the Halff Team have been instrumental in many of the scientific studies related to the Comal and San Marcos Springs and River Ecosystems. With the Team's in-depth knowledge of local studies, proficient researchers, and experienced technical writers on-hand, we can compile and synthesize pertinent information related to recreational impacts on endangered species in the two spring systems and other similar spring systems in a very timely and efficient manner.

Actions:

- Research and compile pertinent scientific studies.
- Summarize findings of scientific studies.
- Where the data is available digitally, incorporate the location of the scientific studies into the GIS database. (Included in Task 3 fee estimate)

Deliverables:

- Documentation of findings in tabular and report formats.
- Submit digital shape files/geo database and metadata by FTP/DVD. (Included in Task 3 fee estimate)

TASK 8 – Economic Information for Recreation

The Halff Team will gather and analyze economic data from existing studies prepared by the New Braunfels and San Marcos Convention and Visitors Bureaus; the New Braunfels Industrial Development Corporation; Economic Development San Marcos; the New Braunfels and San Marcos Chambers of Commerce, and from previous studies and projects Halff Team members have prepared for projects within the study area.

In addition, there may be information and studies from other organizations that would be beneficial to the Halff Team and the EARIP during this project. Some of this data may be pertinent to the study area, and will be used and included for analysis as available.

Actions:

- Review, identify and gather economic data relative to recreational activities, services and facilities from existing studies prepared for agencies within the study area.

Deliverables:

- Provide summaries of economic study components.
- Provide an evaluation matrix of economic study components.

TASK 10 – Work Group / Steering Committee Meetings

The Halff Team will meet with the work group assigned by the EARIP Steering Committee and RECON twice during the project. One meeting will be held during the data collection where the Halff Team will present the findings and next steps. Another meeting will be held after the draft report is submitted. Again, the Halff Team will present the results of the study and address questions.

Actions:

- One update meeting at both the preliminary and draft report stages of the project, to present findings to the Steering Committee for discussion and evaluation.

Deliverables:

- Meeting Minutes and revised documents, as discussed.

TASK 11 – Final Report Preparation

The Halff Team will prepare a report of the investigation in two major phases. We will prepare a draft report for work group review and comment, and after addressing comments and direction from the work group, prepare a final report.

The format of the report and accompanying illustrative maps and graphics will be determined very early in the project, allowing each phase of the study to be presented in a format that will closely resemble the final report that will be delivered to the work group and the EARIP. This approach will reduce confusion within the work group by allowing them to associate early portions of the report and study with the final report deliverable.

The final report will be prepared in both hard copy and digital formats. The hard copy reports will include complete references to illustrative maps and supporting graphics, tables and exhibits, while the digital report will include electronic links to illustrative maps, and supporting graphics, tables and exhibits.

Actions:

- Prepare a DRAFT report in hard copy and digital formats for distribution and review by the EARIP Steering committee. The DRAFT report will summarize the tasks included in the study; provide detailed background information and supporting documentation for each task; provide detailed evaluation and recommendations for mitigation and monitoring activities; provide direction for additional studies or for policy and ordinance initiatives; and will include an executive summary suitable for distribution to third party reviewers and the general public that provides an overview of the study process and resulting recommendations.
- Attend a review meeting to discuss comments to the DRAFT Report.
- Prepare a FINAL report, addressing interim review comments.

Deliverables:

- Provide DRAFT report in hard copy and digital formats.
- Provide FINAL report in hard copy and digital formats

Additional Services

Additional services shall consist of, but not be limited to the following:

1. Any additional work not specifically included in the above scope of services will be accomplished as Additional Services.

Proposed Project Budgets

Proposed budgets and fees for this project are based on levels of effort provided in the Project Approach/Scope of Services. Final project scopes and levels of effort will determine exact budgets required to perform the study.

TASK	FEE RANGE
TASK 1 – Data Collection.....	\$4,600
TASK 2 – Collect and Summarize Existing Ordinances that Address Recreation.....	\$1,800
TASK 3 – GIS Database Preparation.....	\$14,400
TASK 4 – Interview Public Agencies and Recreational Vendors/Outfitters.....	\$8,320
TASK 5 – Recreational Impacts / Monitoring Methodology and	
TASK 9 - Recommendations for Future Studies/Actions.....	\$8,640
TASK 6 – Compile Available Water Quality Data.....	\$3,600
TASK 7 – Collect/Summarize Scientific Studies.....	\$1,800
TASK 8 – Economic Information for Recreation.....	\$1,200
TASK 10 – Work Group / Steering Committee Meetings.....	\$3,200
TASK 11 – Final Report Preparation.....	\$8,070
<u>Reimbursable Expenses (estimated, will not exceed without prior authorization)</u>	<u>\$5,000</u>

TOTAL PROPOSED BUDGET **\$60,630**

Note: Reimbursable Expenses are out of pocket expenses related to travel, mileage, meals, lodging, courier expenses, printing, postage and graphic reproduction shall be reimbursed at cost, plus 10 percent, to the Client.

Proposed Project Schedule

Proposed schedule to complete project tasks is presented on the following page. The Halff Team will accelerate this schedule as possible and feasible, once the study is underway and the amount of data to be reviewed and evaluated has been determined.

Proposed Project Schedule

**EDWARDS AQUIFER RECOVERY IMPLEMENTATION PROGRAM
HALFF ASSOCIATES, INC.
PROPOSED SCHEDULE**

TASK	Action/Deliverable	Mar	Apr	May	June	July	Aug	Sept
TASK 1 – Data Collection								
	Prepare list of recreational programs and facilities providers	■						
	Met list of providers with Steering Committee & local authorities		■					
	Poll recreational programs and facilities providers		■	■				
	Document findings in tabular and report formats			■	■			
	Provide GIS mapping of recreational facilities and programs providers			■	■			
TASK 2 – Collect and Summarize Existing Ordinances that Address Recreation								
	Poll Regulatory Agencies	■	■	■				
	Review/summarize the language of the policies and ordinances		■	■				
	Document findings in tabular and report formats			■	■			
	Provide GIS mapping of the location of currently regulated areas			■	■			
TASK 3 - GIS Database of Recreational Uses and Protected Species Habitat								
	Collect available digital data	■	■	■				
	Digitize recreational data		■	■				
	GIS data attribution and GIS metadata creation			■	■			
	Implement spatial and temporal analysis				■	■		
	Produce GIS maps and summarize information collected					■	■	
TASK 4 - Interview Public Agencies and Recreational Vendors/Outfitters								
	Collect contact information and schedule interviews		■					
	Conduct interviews		■					
	Document information collected and provide and evaluation matrix			■	■			
	Produce GIS mapping of the information collected			■	■			
TASK 5 - Methodology to Assess Recreational Impacts/Monitoring Efforts								
	Review recreational activities/protected species location & habitat data			■	■			
	Create a methodology for assessing recreational impacts/monitoring				■	■		
	Document findings in tabular and report formats					■	■	
TASK 6 - Compile Available Water Quality Data								
	Compile available water quality data	■	■	■				
	Integrate available monitoring stations in GIS database			■	■			
	Document findings in tabular and report formats				■	■		
TASK 7 - Collect Summarize Pertinent Scientific Studies								
	Research and identify relevant scientific studies	■	■	■				
	Synthesize and summarize collected scientific studies			■	■			
	Document findings in tabular and report formats				■	■		
TASK 8 - Economic Information for Recreation								
	Contact Chambers of commerce and local Economic Devel. Corps.	■	■	■				
	Review past economic studies.		■	■				
	Contact local agencies and industry groups for additional data.		■	■				
TASK 9 - List of Recommendations for Further Studies / Actions to Reduce Negative Impacts								
	Review and synthesize all collected information				■	■		
	Document recommendations in tabular and report formats					■	■	
TASK 10 - Work Group / Steering Committee Meetings								
	Steering committee update meetings				★		★	
TASK 11 - Final Report Preparation								
	Prepare Draft Report				■	■	■	
	Review Draft Report						■	
	Prepare Final Report						■	■
	Present Findings							■