



City Council Staff Report

Date: September 8, 2010

CONSENT CALENDAR

Subject: APPROVAL OF AMENDMENT NO. 1 TO A CONTRACT SERVICES AGREEMENT WITH NOLTE ASSOCIATES, INC., FOR THE TAHQUITZ CREEK LEVEE CERTIFICATION

From: David H. Ready, City Manager

Initiated by: Public Works and Engineering Department

SUMMARY

Approve Amendment No. 1 to the contract with Nolte Associates, Inc., for additional civil, geotechnical and environmental services necessary to prepare plans and specifications for future construction of required improvements to the levee necessary to satisfy federal regulations to ensure the levee provides flood control protection to properties behind it.

RECOMMENDATION:

- 1) Approve Amendment No. 1 to Agreement No. 5755 with Associates, Inc. in an amount of \$208,300 for a revised total contract amount of \$357,100 for additional civil, geotechnical and environmental services related to the Tahquitz Creek Levee Certification; and
- 2) Authorize the City Manager to execute all necessary documents.

STAFF ANALYSIS:

In 2005, the Federal Emergency Management Agency (FEMA) began work to modernize the Flood Insurance Rate Maps (FIRMs) in Riverside County. On August 22, 2005, FEMA's national office issued "Procedure Memorandum 34", *Interim Guidance for Studies Including Levees*, which requires that all levees on National Flood Insurance Program (NFIP) maps accredited as providing protection from the base (1% annual chance) 100 year flood be certified or re-certified to meet the regulatory requirements found in the Code of Federal Regulations at 44 CFR 65.10. In accordance with Procedure Memorandum 34, any levees not meeting the requirements of 44 CFR 65.10 are to be decertified and the vulnerable areas behind the levees are to be shown as

floodprone on the new digital FIRMs created out of FEMA's Map Modernization Program.

The federal regulation found at 44 CFR 65.10 requires that levees certified by FEMA as providing flood control protection meet or exceed several criteria, such as:

- The top of levee must provide 3 feet of freeboard above the base flood elevation, and must provide 4 feet of freeboard above the base flood elevation 100 feet upstream and downstream of any structure (i.e. bridges)
- All openings through levee must be provided with closure devices that are structural parts of the system during operation
- Engineering analysis must be submitted to demonstrate that no appreciable erosion of the levee embankment can be expected during the 100-year storm
- Engineering analysis must be submitted to demonstrate that seepage of water into or through the levee foundation and embankment will not jeopardize the embankment or levee stability
- Engineering analysis must be submitted to demonstrate that settlement of the levee will not occur, and that freeboard requirements will be maintained
- Engineering analysis must be submitted to demonstrate that during the 100-year flood, interior drainage (or flooding behind the levee) is accommodated
- The levee must be operated (i.e. closure devices and mechanical systems) in accordance with an Operations Plan meeting FEMA requirements and adopted by an agency participating in the NFIP
- The levee must be maintained in accordance with a Maintenance Plan meeting FEMA requirements and adopted by an agency participating in the NFIP

FEMA's Map Modernization Program has provided a public benefit, by compiling all of the previously separate FIRMs into a comprehensive set of digital FIRMs for all of Riverside County, and include color topographic aerial survey information with the flood insurance data, making it much easier to locate specific properties on a digital FIRM to determine flood zone information. However, as a result of FEMA's Map Modernization Program, and its issuance of Procedure Memorandum 34, all communities in Riverside County were required to certify all levees providing flood control protection, otherwise those areas behind the levees previously afforded flood control protection by the levee would be shown in a flood zone – requiring purchase of flood insurance as required by law.

On May 23, 2006, formal letters were distributed by FEMA to the chief executive officers of all communities in Riverside County, including Palm Springs. In this letter, FEMA listed 5 levee systems providing protection from the 100-year storm depicted on the prior FIRMs, requiring certification per 44 CFR 65.10, which include:

- Chino Creek levee
- Whitewater River levee
- Tahquitz Creek levee
- Arenas Canyon levee

- Palm Canyon Wash levee

In Palm Springs, the City's flood protection systems are maintained by Riverside County Flood Control and Water Conservation District (RCFC). In response to the initial FEMA letter, RCFC and many other public agencies and cities (including Palm Springs), communicated the need for much more time to compile the information requested.

As a result, FEMA has allowed all existing levees to be shown on the new digital FIRMs as "Provisionally Accredited Levees", and required communities with those levees to enter into an agreement with FEMA to certify the levees per 44 CFR 65.10 by August 8, 2009. RCFC entered into agreements with FEMA to certify all of the levees it operates and maintains in Riverside County, including the Chino Creek, Whitewater River, Arenas Canyon and Palm Canyon Wash levees, and the City coordinated with FEMA and entered into an agreement to certify the Tahquitz Creek levee adjacent to the treatment plant and City golf course. Therefore, it is the City's responsibility to certify the Tahquitz Creek levee in order for the area behind the levee to remain in an area designated as protected from the 100-year storm. Attachment 1 includes an exhibit of the area in question. If the City is unable to certify this levee per 44 CFR 65.10, the area shown as Zone X will be re-designated as Zone A subject to flooding.

On November 19, 2008, the City Council approved a contract services agreement with Nolte Associates, Inc., to provide the city with professional services necessary to evaluate whether the Tahquitz Creek levee could be certified pursuant to the FEMA regulations. As a result of its work, Nolte Associates confirmed that the existing levee does not meet freeboard and other requirements, and the City has been unable to submit required evidence to FEMA necessary to demonstrate that the levee meets its requirements. Therefore, unless the City moves forward with design and construction of required improvements to the levee, FEMA will revise the FIRMs and show the properties behind the levee as being subject to the 100-year flood.

Staff has prepared an amendment to the contract services agreement with Nolte Associates, Inc., which includes additional civil, geotechnical and environmental services to prepare plans and specifications to construct improvements to the Tahquitz Creek levee necessary to comply with FEMA's regulations. The negotiated fee for the additional services is \$208,300.

FISCAL IMPACT:

Sufficient funds are available in the Drainage Fund account 135-4372-55005.

SUBMITTED:

Prepared by:



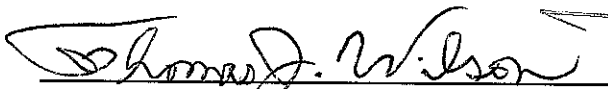
Marcus L. Fuller
Assistant Director of Public Works

Recommended by:



David J. Barakian
Director of Public Works/City Engineer

Approved by:



Thomas J. Wilson, Asst. City Manager



David H. Ready, City Manager

Attachments:

1. Flood Insurance Rate Map exhibit
2. Amendment No. 1 to Agreement No. 5755

ATTACHMENT 1
FLOOD INSURANCE RATE MAP EXHIBIT

ATTACHMENT 2

AMENDMENT NO. 1 TO AGREEMENT NO. 5755

AMENDMENT NO. 1 TO CONTRACT SERVICES AGREEMENT NO. 5755
WITH NOLTE ASSOCIATES, INC
TAHQUITZ CREEK LEVEE CERTIFICATION, CITY PROJECT 08-26

The following articles of Agreement No. 5755 are hereby amended to read as follows:

SECTION 2.1 Maximum contract amount is amended to Three Hundred Fifty-Seven Thousand One Hundred Dollars (\$ 357,100.00).

SCOPE OF SERVICES (Exhibit "A") – Additional civil, geotechnical and environmental services to prepare plans and specifications to address Tahquitz Creek levee freeboard and other deficiencies will be provided. See attached Exhibit "A".

SCHEDULE OF COMPENSATION (Exhibit "C") –

See attached Exhibit "C".

SCHEDULE OF PERFORMANCE (Exhibit "D") –

See attached Exhibit "D".

Purchase Order Number(s):	09-0703
Agreement Number:	5755
Original City Council Approval:	November 19, 2008
Original Resolution Number:	N/A
Original Contract Amount:	\$ 148,800
Amount of Previous Increase(s)	\$ 0
Amount of This Increase	\$ 208,300
Amended Total:	\$ 357,100
Account Number(s):	135-4372-55005

SIGNATURES ON LAST PAGE

Except as specifically amended by this Amendment No. 1, all terms and provisions of Agreement No. 5755 remain in full force and effect.

ATTEST:

CITY OF PALM SPRINGS,
a California charter city

By: _____
City Clerk

By: _____
City Manager

APPROVED AS TO FORM:

By: _____
City Attorney

CONTRACTOR: Check one: Individual Partnership Corporation

Corporations require two notarized signatures: One signature **must** be from the Chairman of Board, President, or any Vice President. The second signature **must** be from the Secretary, Assistant Secretary, Treasurer, Assistant Treasurer, or Chief Financial Officer).

By: _____
Notarized Signature of Chairman of Board,
President or any Vice President

By: _____
Notarized Signature Secretary, Asst Secretary,
Treasurer, Asst treasurer or Chief Financial Officer

Name: _____

Name: _____

Title: _____

Title: _____

State of _____ }

State of _____ }

County of _____ }ss

County of _____ }ss

On _____ before me,

On _____ before me,

personally _____ appeared

personally _____ appeared
_____ who proved to me
on the basis of satisfactory evidence) to be the person(s)
whose name(s) is/are subscribed to the within instrument and
acknowledged to me that he/she/they executed the same in
his/her/their authorized capacity(ies), and that by his/her/their
signature(s) on the instrument the person(s), or the entity upon
behalf of which the person(s) acted, executed the instrument.

who proved to me on the basis of satisfactory evidence) to be
the person(s) whose name(s) is/are subscribed to the within
instrument and acknowledged to me that he/she/they
executed the same in his/her/their authorized capacity(ies),
and that by his/her/their signature(s) on the instrument the
person(s), or the entity upon behalf of which the person(s)
acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the
State of California that the foregoing paragraph is true and
correct.

I certify under PENALTY OF PERJURY under the laws of the
State of California that the foregoing paragraph is true and
correct.

WITNESS my hand and official seal.

WITNESS my hand and official seal.

Notary Signature: _____

Notary Signature: _____

Notary Seal:

Notary Seal:

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Exhibit "A"
Additional Scope of Services
Tahquitz Creek Levee Certification, City Project 08-26

Final Plans, Specifications and Estimate

General: Contractor shall provide civil and geotechnical design plans and environmental documents within Tahquitz Creek in the City of Palm Springs. Contractor shall provide civil and geotechnical engineering and environmental services for the levee improvements along the north side of Tahquitz Creek in the City of Palm Springs in accordance with the scope of services outlined below. The site is within Tahquitz Creek along the north side of the creek from Gene Autry Bridge upstream approximately one mile to where the existing levee ties into Demuth Park. The services to be provided are based on the geotechnical evaluation performed during the levee certification analyses in August 2009. The results of the geotechnical investigation indicated the levee system requires additional revetment protection and remedial measures to mitigate the landside and riverside slopes.

SCOPE OF WORK

1.0 CIVIL AND GEOTECHNICAL DESIGN

Task 1.1 Aerial and Field Survey

Contractor shall conduct a topographic survey, based upon aerial photogrammetry showing one-foot contours and prominent photographable surface features, to U.S. mapping standards and FEMA Guidelines & Specifications standards. Contractor shall also perform a supplemental field survey to locate existing site features not found during the aerial photogrammetry. Contractor shall process the field and aerial data and generate one-foot contour data for use in the civil and geotechnical design.

Task 1.2 30% Design Plans

Contractor shall prepare 30% design plans and supplemental specifications for the project based on design criteria outlined in the kick-off meeting. The list of technical construction specification supplements shall be based on CALTRANS Specifications (or other published specifications as directed by the City of Palm Springs).

Contractor shall prepare an Erosion Control Plan based on the grading plans. The Erosion Control Plan shall illustrate the measures, or Best Management Practices (BMPs), taken to reduce soil from eroding and discharging offsite.

Contractor shall prepare one set of hydraulic calculations, to verify the water surface elevation of the channel does not cause any freeboard deficiencies with the levee. Contractor shall also perform scour calculations to determine the possible scour depths caused by the 100-year storm event in Tahquitz Creek. Equations from the Hydraulic Engineering Circular No. 18 (May 2001) published by the Federal Highway Administration will be the basis of the scour analysis. A Technical Memorandum shall be done to summarize the results.

Contractor shall process the plans with the City.

Deliverables

Deliverables include two (2) hard copies of the 30% design plans, Erosion Control Plan, and Technical Memorandum to the City.

Task 1.3 60% Design Plans

Contractor shall prepare 60% design plans and supplemental specifications for the project based on review comments from the City for the 30% design plans. Contractor shall also prepare an Engineer's estimate of probable construction cost that will be submitted in tabular form and on a unit cost basis. Pay items of work shall conform to CALTRANS standards as applicable.

Contractor shall revise to the Erosion Control Plan based on comments from the City's review of the 30% design plans. Contractor shall also revise the hydraulic calculations to account for changes made during the 60% design.

Deliverables

Deliverables include two (2) hard copies of the 60% design plans and Erosion Control Plan to the City.

Task 1.4 90% Design Plans

Contractor shall prepare 90% design plans and supplemental specifications for the project based on review comments from the City for the 60% design plans. Contractor shall also revise the Engineer's estimate of probable construction cost. Pay items of work shall conform to CALTRANS standards as applicable.

Contractor shall revise the Erosion Control Plan based on comments from the City's review of the 60% design plans. Contractor shall also revise the hydraulic calculations to account for changes made during the 90% design.

Deliverables

Deliverables include two (2) hard copies of the 90% design plans and Erosion Control Plan to the City.

Task 1.5 Final Design Plans

Contractor shall meet with the City to finalize responses to review comments and resolve all outstanding issues.

Contractor shall prepare final design plans and supplemental specifications for the project based on review comments from the City for the 90% design plans. Contractor shall also revise the Engineer's estimate of probable construction cost. Pay items of work shall conform to CALTRANS standards as applicable.

Contractor shall revise the Erosion Control Plan based on comments from the City's review of the 90% design plans. Contractor shall also revise the hydraulic calculations to account for changes made during the final design.

Contractor shall revise the geotechnical analyses performed as part of the levee certification project to incorporate the final design of the levee improvements. The goal of these revised analyses is to show that the levee meets FEMA's requirements outlined in 44 CFR 65.10.

Contractor shall prepare the levee certification package for submittal to the City. Since the PAL period has expired, FEMA will require a formal Letter of Map Revision (LOMR) be submitted and approved to accredit the levee system. The levee certification package that Contractor shall prepare will be in the form of a Conditional Letter of Map Revision (CLOMR). The CLOMR will

be submitted to the City for review and signatures prior to submittal to FEMA. The intent will be for FEMA to approve the levee improvements prior to construction to ensure that the improvements will lead to re-certification of the levee system.

Deliverables

Deliverables include two (2) hard copies of the Final design plans, Erosion Control Plan, and Levee Certification Package.

2.0 TECHNICAL STUDIES

Task 2.1 Biological Resources Technical Study

To understand the existing environmental setting on site, Contractor shall conduct a general biological reconnaissance survey of the project area to inventory existing biological resources and create a baseline biological resources map with vegetation communities and conspicuous sensitive species locations. Vegetation communities will be mapped according to Sawyer Keeler-Wolfe nomenclature, where feasible. During the field survey, a general inventory of plant and animal species detected by sight, calls, tracks, scat, or other signs will be compiled, as well as a determination of potential sensitive species that could occur in the project area based on habitats present. Observable sensitive resources including perennial plants and conspicuous wildlife (i.e., birds and some reptiles) commonly accepted as regionally sensitive by the California Native Plant Society (CNPS), the California Department of Fish and Game (CDFG), the U.S. Fish and Wildlife Service (USFWS), and the Coachella Valley Multiple Species Habitat Conservation Program (MSHCP) will be recorded and later digitized into a Geographic Information System (GIS) format and added to the Biological Resources Map.

Concurrent with the vegetation mapping effort, Contractor shall identify any lands within the project area that may be under the jurisdiction of the ACOE, CDFG, and Regional Water Quality Control Board (RWQCB) as waters of the U.S., including wetlands. In the event that waters of the U.S., including wetlands, are not present within the project area, then Task 2.3 of this proposal will be eliminated from the scope of work. Evidence of hydrophytic vegetation, hydric soils, and channel hydrology will be reviewed, if present. Non-wetland waters of the U.S. will be delineated based on the limits of an ordinary high water mark (OHWM), saturation, permanence of surface water, wetland vegetation, and nexus to a traditional navigable water of the U.S. (TNW). The recent ACOE/EPA Rapanos Guidance states that the ACOE will regulate traditional, navigable waters of the U.S., adjacent wetlands, and relatively permanent waters (RPW) tributary to TNWs and adjacent wetlands. Non-navigable tributaries that are not relatively permanent waters (non-RPW) and wetlands adjacent to such tributaries are assessed on a case-by-case basis to determine whether they have a significant nexus to a traditional navigable water of the U.S. CDFG-jurisdictional riparian areas will be delineated to the limits of hydrophytic vegetation associated with stream channels; unvegetated stream channels under the jurisdiction of CDFG will be delineated to the limits of the stream bank, if present. Areas regulated by the RWQCB are generally coincident with the ACOE, but can include features isolated from navigable waters of the U.S. that have evidence of surface water inundation.

All mapping will be done in the field directly on a 200-scale (1 inch = 200 feet) or finer base map with the project boundary, topographic or color aerial photograph base. Where feasible and necessary, boundaries and data station points will be delineated using a Global Positioning System (GPS) unit and later downloaded into ArcView.

Following completion of the fieldwork, all jurisdictional polygons and line features will be digitized using ArcGIS software and a GIS coverage will be created. Once in ArcGIS, the acreage of each jurisdictional area will be determined. The results of this analysis will be presented to the City in an abbreviated technical memorandum for their records. If jurisdictional

waters of the U.S., including wetlands, are present in the project area, all data collected during the survey will be analyzed to determine the extent of jurisdictional resources in the project area and to determine if these resources will be potentially directly impacted by the proposed improvements.

Please note that coordinating with the USFWS on the presence/absence of Casey's June beetle (*Dinacoma caseyi*), a species that was proposed for listing by the USFWS as endangered in July 2009, is not included in this scope of work as it is assumed that the proposed improvements will not adversely impact critical habitat for this species. In the event that no wetlands permits are required but critical habitat appears to be present in the project area based on the presence of known primary constituent elements (PCEs) (i.e., soils, vegetation, etc.) then a contract augment will be necessary to coordinate with the USFWS on this issue.

Task 2.2 Preliminary Design Review and Analysis

Once the biological resource data has been digitized to create a biological resources map, Contractor shall coordinate with the City to analyze one (1) project design concept. This design concept will be analyzed to determine if direct impacts to waters of the U.S. and other sensitive biological resources will occur and to what extent. A GIS exhibit showing the existing biological conditions will be presented to the City as a pdf and as a CAD file for use in the design development process.

Task 2.3 Wetlands Permitting (Optional Task)

Based on our understanding of the current project, the proposed levee improvements may result in direct impacts to waters of the U.S., including wetlands. Wetlands permitting is dependent on the presence of resources in proximity to the existing levee and if jurisdictional resources are not identified near the existing levee during Task 2.2, then this task will not be required. The cost estimates provided below all include the assumption that permit applications will be prepared within three months of initiation of the contract and permits will be issued within nine months of submittal to the agencies (i.e., a total work period of 12 months). During the permit processing period, Contractor shall coordinate with the wetlands regulatory agencies including attending up to six project meetings with any combination of regulatory agencies and/or project team members. If the permit process requires additional time, an amended scope of work and cost estimate can be provided.

Section 404 Nationwide Permit (Pre-Construction Notification)

This scope of work and cost estimate assumes that the proposed project will qualify for the Nationwide Permit Program, which requires impacts to waters of the U.S. to be less than 0.5 acre. The Nationwide Permit (NWP) is assumed to be most appropriate for the project is (NWP) 14, with a required pre-construction notification (PCN). Among other thresholds, authorization under this permit allows for impacts for modifications or improvements to existing linear transportation facilities including trails, paths, and walkways of up to 0.50 acre of jurisdictional waters or wetlands.

Under this task, the Contractor shall submit a Pre-Construction Notification to the USACE regulatory branch, which will include the following information: a detailed, technically accurate project description; a statement of purpose and need; discussion of avoidance and minimization of impacts; vegetation mapping data; results of the wetlands delineation; a conceptual wetlands mitigation plan; associated figures (vicinity maps, project site map, construction/grading cross-sections, mitigation area, etc.); and copies of the permit applications submitted to the RWQCB and CDFG. Contractor shall coordinate with USACE staff following the submission of the PCN, including attending meetings and providing as-needed correspondence during the permit processing period.

Section 401 Water Quality Certification Application

Contractor shall complete and submit an application for a Section 401 Water Quality Certification to RWQCB. The application will include the project location and existing conditions, a project description and impact analysis, existing functions and values of the affected drainages, a conceptual wetlands mitigation and monitoring plan, a discussion of beneficial uses, proposed measures to prevent impacts to water quality, measures to maintain and improve water quality, all associated figures (vicinity maps, project site map, construction/grading cross sections, mitigation area, etc.), and copies of the wetlands permit application submitted to the USACE and CDFG. Contractor shall coordinate with RWQCB staff following the submission of the application, including attending meetings and providing as needed correspondence during the permit processing period. This task does not include processing of a Waste Discharge Requirement (WDR), which would be required to permit impacts to isolated waters of the State that are not under federal wetlands jurisdiction or for projects of large dredge volume. It is not anticipated that a WDR will be required; however, if it is, an additional scope of work would be required.

Section 1602 Streambed Alteration Agreement

Contractor shall submit to the CDFG an application for a Section 1602 Streambed Alteration Agreement. The application will include a project description, a statement of purpose and need, an impacts analysis, a discussion of avoidance and minimization of impacts, the wetland delineation report, a draft mitigation plan, all associated figures (vicinity maps, project site map, construction/grading cross-sections, mitigation area, etc.) and copies of the wetland permit applications submitted to the RWQCB and USACE. Contractor shall coordinate with RWQCB staff following the submission of the application, including attending meetings and providing as needed correspondence during the permit processing period.

USFWS Conference on Proposed Species and Critical Habitat

On July 9, 2009, the USFWS issued a proposal in the Federal Register to list the Casey's June beetle (*Dinacoma caseyi*) as endangered under the federal Endangered Species Act and to designate critical habitat on approximately 777 acres of land, including a substantial segment of Palm Canyon Wash, in the south Palm Springs area of Riverside County, California. Of the estimated 777 acres of proposed critical habitat, approximately 343 acres are on Agua Caliente Tribal lands and 434 acres are on private and locally owned lands. Proposed critical habitat includes areas west of South Palm Canyon Drive, Palm Canyon Wash, Smoketree Ranch, and two areas east of Palm Canyon Wash and south of East Palm Canyon Drive. Approximately 45% of proposed critical habitat is on Agua Caliente Tribal land. All areas located in proposed critical habitat designation areas will likely be considered occupied by Casey's June beetle. The USFWS reports that the largest single collection of Casey's June beetle, totaling over 70 males during the first 15 minutes of trapping, was recorded from Palm Canyon Wash just upstream of the confluence of Tahquitz Creek with Palm Canyon Wash, in April 2003.

While the proposed project is not located in an area proposed for designation as critical habitat, there could be potential habitat for Casey's June beetle at the confluence of Tahquitz Creek with Palm Canyon Wash, especially if appropriate soils and intact Sonoran desert scrub or native desert wash vegetation is present. If suitable habitat for this species is present within the project area, namely at the confluence of Tahquitz Creek with Palm Canyon Wash, then coordination with the USFWS is recommended.

Because Casey's June beetle is not currently listed endangered nor has critical habitat been approved for this species, a Section 7 Consultation with the USFWS is currently not warranted. However, if a species is proposed for listing at the start of the permit application process, that species along with any critical habitat designations proposed in the *Federal Register* for listing

are subject to the conferencing process established in 50 CFR Section 402.10. Conference is a process of early interagency coordination, similar to the consultation process, involving informal or formal discussions between the USACE and USFWS pursuant to Section 7(a)(4) of the Endangered Species Act regarding the potential impact of a project or action on proposed species and/or proposed critical habitat. A conference may also involve informal discussions between the USFWS, the USACE, and the City. The conference procedure is designed to help Federal agencies identify and resolve potential conflicts between Federal actions and species conservation by developing recommendations to minimize or avoid adverse effects on proposed species or proposed critical habitat.

Under this task, Contractor shall provide up to 10 hours of initial coordination with the USFWS and USACE to confirm that the proposed project will avoid impacts to Casey's June beetle and that this species will not be jeopardized by implementation of the proposed improvements. This may include the preparation and provision of project maps, a review of existing literature and research relative to this species, phone calls, fax and email transmissions between City, USFWS, Contractor, and up to one (1) office meeting with USFWS staff to review the project grading plan and proposed project impacts.

This task is currently optional and is dependent on (a) the identification of waters of the U.S., including wetlands, in the project area and (b) impacts to jurisdictional resources resulting from the project.

EXHIBIT "C"
SCHEDULE OF COMPENSATION

Tasks listed below are identical to tasks identified in Exhibit A of this Agreement. Payments to Contractor shall be made no more frequently than monthly, and shall be based on lump sum costs per task item of work as indicated herein. Lump sum payments shall be made to Contractor based upon completion of tasks, or pro-rata portions thereof noted below, to a maximum of 75% of the lump sum task item fee until completion of such task item as determined by the Contract Officer. Each request for payment shall contain Contractor's statement of the work or tasks completed or portion performed, with supporting documentation. The determination of payment due shall be made based upon the reasonable judgment of the Contract Officer.

	<u>Task Total Lump Sum</u>
Phase 1 – Tahquitz Creek Levee Certification	
Task 1, Data Collection and Review	\$15,200.00
Task 2, Field Inspection	\$31,500.00
Task 3, Freeboard Evaluation	\$6,500.00
Task 4, Closures Evaluation	\$1,600.00
Task 5, Interior Drainage Evaluation	\$2,800.00
Task 6, Embankment Protection Evaluation	\$11,000.00
Task 7, Embankment and Foundation Stability Evaluation	\$47,200.00
Task 8, Settlement Potential Evaluation	\$14,800.00
Task 9, Operation and Maintenance Plan	\$7,800.00
Task 10, Levee Certification Submittal Preparation	\$10,400.00
Phase 1 Total	\$148,800.00
Phase 2 – Final Plans, Specifications and Estimate	
Task 1.1, Aerial and Field Survey	\$16,900.00
Task 1.2, 30% Design Plans	\$60,100.00
Task 1.3, 60% Design Plans	\$23,400.00
Task 1.4, 90% Design Plans	\$18,300.00
Task 1.5, Final Design Plans	\$58,400.00
Task 2.1, Biological Resources Technical Study	\$3,800.00
Task 2.2, Preliminary Design Review and Analysis	\$1,400.00
Task 2.3, Wetlands Permitting (Optional)	\$26,000.00
Phase 2 Total	\$208,300.00
Project Total	\$357,100.00

END OF EXHIBIT "C"

EXHIBIT "D"
SCHEDULE OF PERFORMANCE

Phase 1 – Tahquitz Creek Levee Certification

Task Duration (estimated from Notice to Proceed for Phase 1)

- 1 - Data Collection & Review 10 weeks
- 2 - Field Investigation 4 weeks after Task 1 - includes time to perform Top of Levee survey
- 3 - Freeboard Evaluation 2 weeks after Task 2
- 4 - Closures Evaluation 2 weeks after Task 2
- 5 - Interior Drainage Evaluation 2 weeks after Task 2
- 6 - Embankment Protection Evaluation 6 weeks after Task 2
- 7 - Embankment and Foundation Stability Evaluation 6 weeks after Task 2
- 8 - Settlement Potential Evaluation 6 weeks after Task 2
- 9 - Operation & Maintenance Plan 4 weeks after Task 8
- 10 - Levee Certification Submittal Package 4 weeks after Task 9

TOTAL 28 weeks

Phase 2 – Final Plans, Specifications and Estimate

Task Duration (estimated from Notice to Proceed for Phase 2)

Item	Task	Starting Week	Ending Week	Duration
1	1.1 - Aerial and Field Survey	1	4	4 weeks
2	2.1 - Biological Resources Study	1	8	4 weeks
3	1.2 - 30% Design Plans	5	13	8 weeks
4	2.2 - Preliminary Design Review and Analysis	10	12	2 weeks
5	City review of 30% Design Plans	14	16	3 weeks
6	1.3 - 60% Design Plans	17	24	8 weeks
7	City review of 60% Design Plans	25	26	2 weeks
8	1.4 - 90% Design Plans	27	31	5 weeks
9	City review of 90% Design Plans	32	33	2 weeks
10	1.5 - Final Design Plans	34	39	5 weeks
11	1.5 - Additional Geotechnical Analyses for Levee Certification	39	42	4 weeks
12	1.5 - Prepare Conditional Letter of Map Revision	39	44	6 weeks
TOTAL				44 weeks

Notes: 1. Permitting time is dependent on the resource agencies.

2. If Wetlands Permitting (Task 2.3) is required and started at week 17, then project duration will increase by 52 weeks to a total of 69 weeks.