

**NASSAU COUNTY - SAISSA
Task Order Memorandum
Contract CM1852**

To: Olsen Associates, Inc. 2618 Herschel St. Jacksonville, FL 32204	Date: 04 August 2017 Contract: Coastal Engineering Request Made By: SAISSA Request Received By: Albert E. Browder, Ph.D., P.E. Task Order No: CM 1852-TO 26
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Task Order: Coastal Engineering Services for FDEP/USACE Permit-Level Design and Application
South Amelia Island Shore Stabilization Project
Amelia Island, Nassau County, FL

Consultant shall perform those subtasks described in Exhibit A to prepare and submit a permit application to seek a FDEP Joint Coastal Permit and USACE Department of the Army Permit for beach renourishment of the South Amelia Island Shore Stabilization Project. Costs associated with this work are eligible for State cost-sharing. Subtasks include:

Subtask I:	Alts. Development & Storm Recession Modeling	\$ 68,200.00 (Lump Sum)
Subtask II:	Borrow Area Wave Impact Analyses	\$ 42,800.00 (Lump Sum)
Subtask III:	Permit-Level Design & Permit Application	\$ 80,900.00 (Lump Sum)
Subtask IV-1:	Agency Liaison/ RAI Responses (FY 2018)	\$ 5,000.00 (hourly, NTE)
Subtask IV-2:	Agency Liaison/ RAI Responses (FY 2019)	\$ 25,000.00 (hourly, NTE)
Subtask IV-3:	Agency Liaison/ RAI Responses (FY 2020)	\$ 5,000.00 (hourly, NTE)

Total Fee: \$ 226,900.00

Requested Completion Date: Subtasks I, II, III: 01 August 2018; Subtask IV-1: 30 Sept. 2018;
Subtask IV-2: 30 Sept. 2019 Subtask IV-3: 30 Sept. 2020

Olsen Associates, Inc.

SAISSA



Albert E. Browder, Ph.D., P.E.



Mr. Andrew L. Wallace, SAISSA President

Date: 04 August 2017

Date: August 9, 2017

Attest to Chair
Signature

Daniel B. Leeper
Its: Chairman

Date: _____

John A. Crawford
Its: Ex-Officio Clerk

Approved As To Form and Legal Sufficiency:

Date: _____

Michael S. Mullin

Date: _____

SCOPE-OF-WORK: COASTAL ENGINEERING SERVICES

FOR

South Amelia Island Shore Stabilization Project
Amelia Island, Nassau County, FL

Permit-Level Design and Permit Application

04 August 2017

The South Amelia Island Shore Stabilization Association, Nassau County, FL, and the Florida Park Service presently maintain 3.6 miles of the Atlantic Ocean shoreline at the southern end of Amelia Island in Nassau County, FL (**Figure 1**). As part of the ongoing comprehensive beach management of the engineered beach project, the project Owners seek to acquire a set of 15-yr, multiple-nourishment permits to maintain the project via periodic dredging and beach nourishment. The proposed first renourishment of the engineered beach under the new permits would occur in the summer of 2020 (at the earliest) and would replace not only the expected average annual erosion losses from the project fill but also sand losses directly associated with Hurricane Matthew, which impacted the project in October 2016. The combined storm impacts and corresponding erosion have necessitated the renourishment of the shoreline to re-establish the full template of the engineered beach.

General Work Plan

The Scope of Work for this Task Order assumes that the renourishment of the engineered beach at the southern end of Amelia Island will be accomplished via the excavation and placement of sand by ocean-going cutterhead-suction/pipeline dredge from a borrow area developed on the northeast (offshore) edge of the Nassau Sound ebb shoal. This approach has been utilized in the three previous nourishment projects at this location (1994, 2002, 2011, see **Figure 2**). The development of the borrow area is being performed under separate Task Order. The permit application process will see to acquire permits that will allow for two full-scale maintenance renourishment efforts over a 15-yr period. This assumes the typical 8- to 10-year *renourishment interval continues to hold for the engineering beach project*. Permits sought for the project will describe beach fill placement to restore the fill template to a level consistent with the performance of previous nourishments, designed upon both past performance and updated storm-recession modeling analyses. Exhibit B summarizes the cost proposal. Exhibit C contains a blank copy of the Joint Coastal Permit application, for reference.

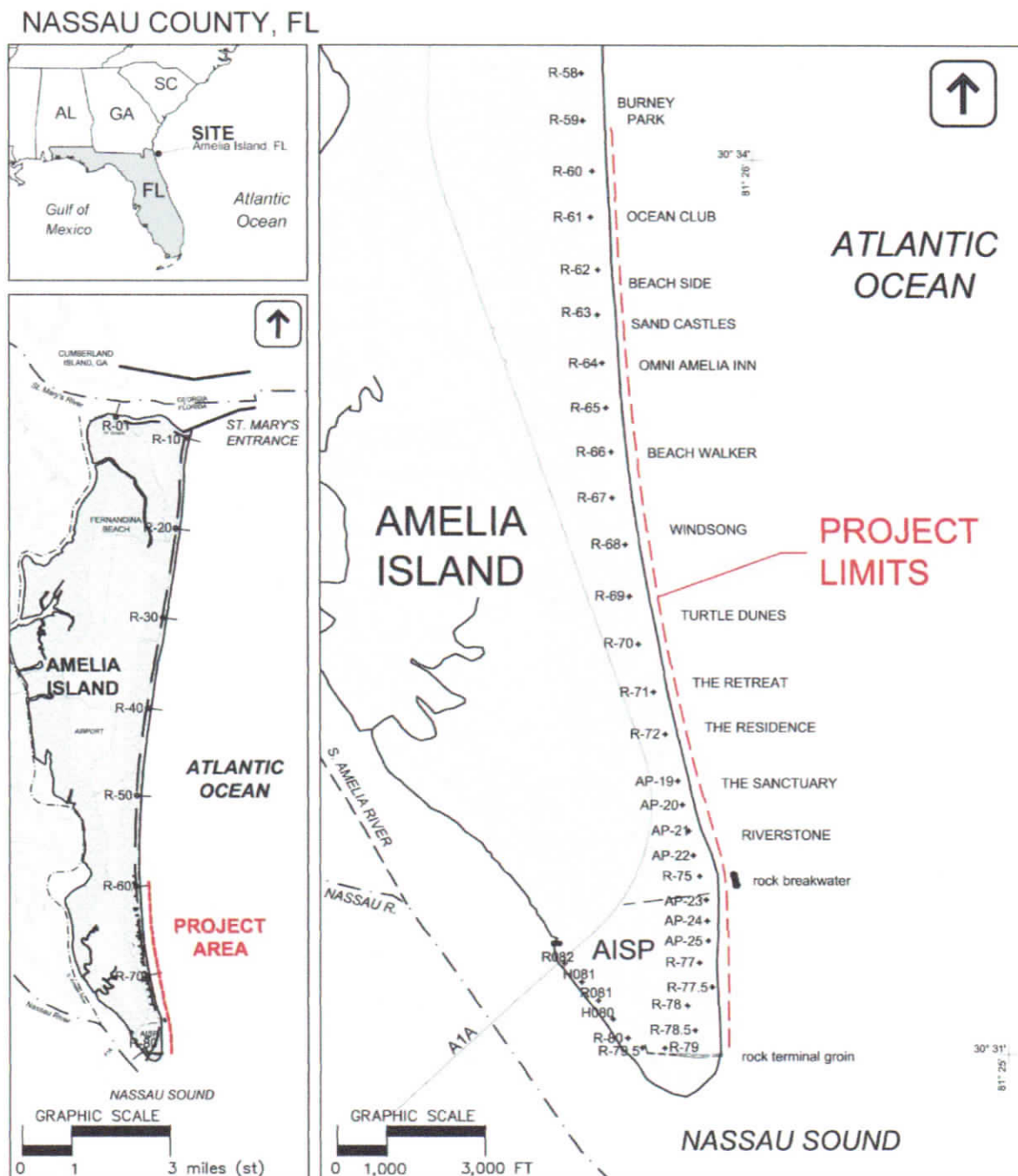


Figure 1 Location Map – South Amelia Shore Stabilization Project, Nassau County, FL.

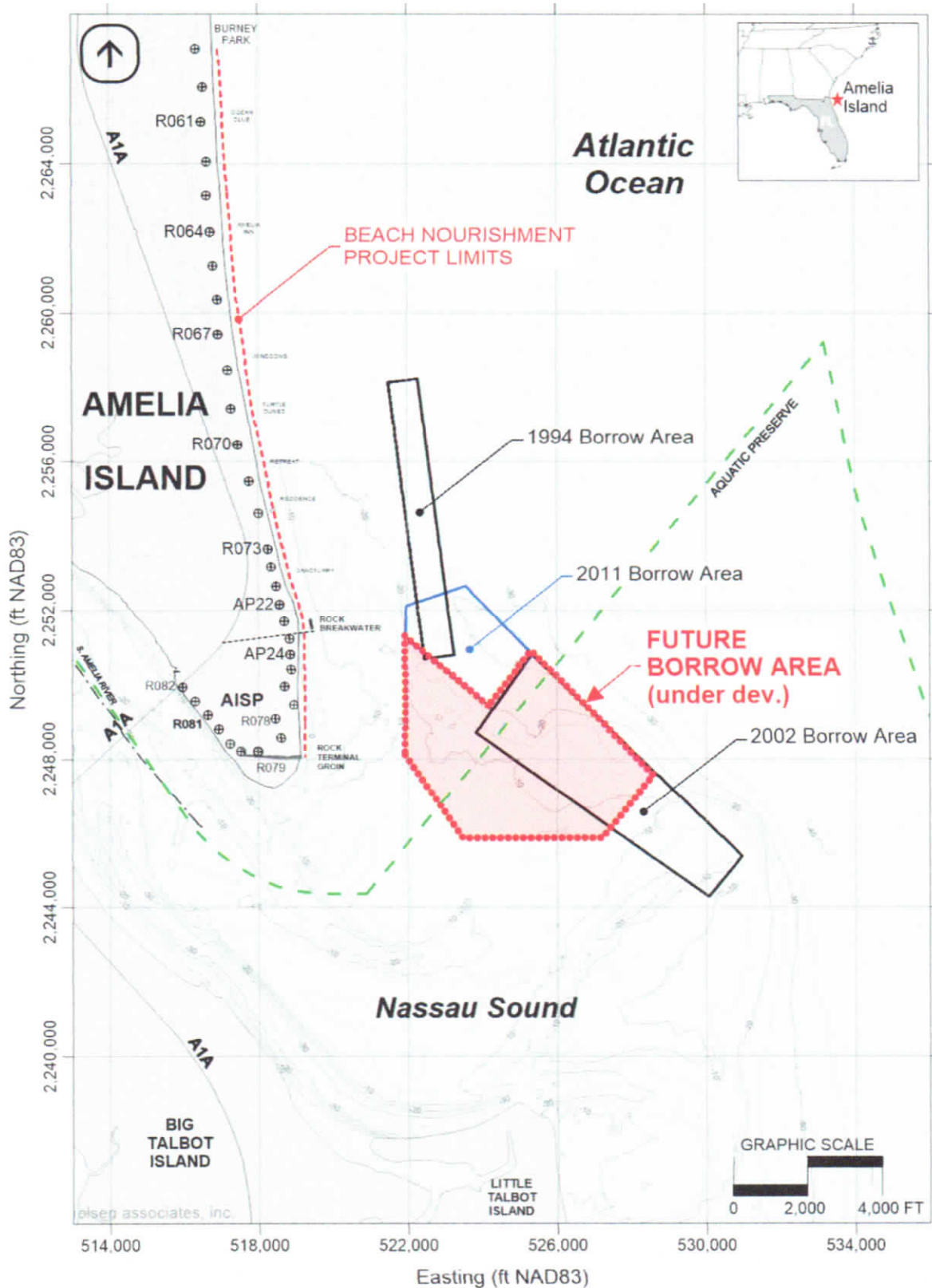


Figure 2 Borrow Area development at Nassau Sound.

At present, work is underway via separate Task Orders to complete numerous permit-related items, principally those requiring field work (Summer 2017) and subcontractor efforts. These efforts include:

- Nassau Sound Borrow Area Development (**Figure 2**);
 - Task Order 17
- Sonar sub-bottom survey of the proposed future borrow area;
 - Task Order 21
- Hydrographic survey of the proposed future borrow area;
 - Task Order 21
- Cultural resources survey of the proposed future borrow area;
 - Task Order 22
- Environmental Investigations
 - Biological Assessment (BA) of the project and borrow area
 - Benthic habitat survey of borrow area
 - Essential Fish Habitat Assessment
 - Task Order 23(a, b)

The results of these investigations will be incorporated into the permit application package described herein, and the individual reports included as additional information in the submittal.

Proposal Conditions

The following proposal conditions apply:

- The analyses and permit application shall rely on both previously collected survey data and the data to be collected in Summer 2018 for the proposed Year-7 physical monitoring (to be performed under separate Task Order). No specific physical survey, environmental, or cultural resources data collection is proposed herein.
- The proposed Task Order includes storm recession modeling (using the numerical model SBEACH) and wave impact modeling of the proposed borrow area (using one of the numerical models SWAN or STWAVE). No other numerical modeling efforts are proposed herein.
- An allowance is provided herein for responses to regulatory Requests for Additional Information (RAIs) (e.g., questions received from regulatory agencies after submittal of the permit application package to FDEP/USACE). These responses are limited to providing brief additional analyses, data and clarifying descriptions based upon the information contained in the permit application package and data already collected and in-hand. Potential regulatory requests for any additional surveys, data collection, studies, or numerical modeling efforts are not included in the RAI allowance and shall be negotiated and conducted under separate Task Order(s).

- Permit fees are not included in this proposal, and are the responsibility of the Applicant. The FDEP permit application fee is calculated by FDEP and is a function of the final permit-level design dimensions of the beach fill. State cost-sharing is applied to a portion of the fee, but the final stated fee itself is not a grant-eligible item for State cost-sharing.

Subtask I – Alternatives Development and Storm Recession Modeling

Using the numerical model SBEACH, the Consultant shall prepare an assessment of the level of storm protection afforded by the engineered beach project under a range of modeled storm scenarios and beach fill alternatives. Storm characteristics relevant to the Nassau County, FL, shoreline shall be compiled from the NOAA National Hurricane Center historical database (including those of Hurricane Matthew – Oct. 2016). Storm surge estimates shall be based upon the most recent FEMA flood insurance information. Physical survey data collected in association with Hurricane Matthew shall be utilized to calibrate the model. The Consultant shall generate beach fill alternatives to assess a range of beach conditions along the length of the project -- beach profile shape, elevation, width, etc. This range is expected to encompass the current conditions (March 2017), an assessment of design beach conditions (narrower and more eroded than current, typical of 2011 pre-construction conditions, generally), and multiple post-renourishment options. The assessment shall be based upon the level of erosion predicted to occur along the upper beach relative to the project design baseline and the seaward edge of development (foundations, pool decks, walkways, cart paths, other structures). The results of the assessment shall be incorporated into the design of the beach fill template for the upcoming renourishment(s) -- Subtask III. The results can likewise be used to evaluate the level of storm protection provided by the engineered beach fill to the upland dunes and infrastructure. The results of this assessment support the permit application by partially addressing the effects of the proposed project upon the coastal system (Joint Coastal Permit application item #21).

Deliverables - The Consultant shall prepare a report of findings from the SBEACH storm recession analyses, including descriptions of the suite of storms modeled, the range of beach profile conditions assessed, and the predicted level of storm recession from each scenario. The report shall be provided in hardcopy (2 copies) and electronic *.pdf format. Copies shall be provided to the FDEP and USACE as part of the supporting information attached to the overall permit application package. If desired a presentation shall be made to the SAISSA Board.

Subtask II – Borrow Area Wave Impact Analyses

Using the numerical models SWAN or STWAVE, the Consultant shall prepare an analysis of the potential impacts to the wave field resulting from the excavation of the proposed borrow area. In particular the assessment shall evaluate the potential for the excavation (dredging) to

alter breaking wave conditions -- and hence potentially affect alongshore transport -- along the Amelia Island shoreline. Bathymetric survey data required for model input shall utilize previously collected 2017/2017 data for Nassau Sound and the Amelia Island shoreline, supplemented by older bathymetric data collected by NOAA (dates vary). Wave data required for model input shall be developed from the USACE WIS numerical wave hindcast database, supplemented by site-specific wave data collected from the NOAA National Data Buoy Center (NOAA NDBC) wave gage located off the St. Marys River entrance at Fernandina Beach. The results of this assessment support the permit application in describing the effects of the proposed project upon the coastal system (Joint Coastal Permit application item #21).

Deliverables - The Consultant shall prepare a report of findings from the borrow area wave impacts analyses, including descriptions of the synthesis of the wave climate and the predicted changes in wave energy across the proposed borrow area and landward thereof at Nassau Sound. The report shall be provided in hardcopy (2 copies) and electronic *.pdf format. Copies shall be provided to the FDEP and USACE as part of the supporting information attached to the overall permit application package. If desired a presentation shall be made to the SAISSA Board.

Subtask III – Permit-Level Design & Preparation of Coastal Permit Application Document

The Consultant shall develop a Joint Coastal Application package for the multiple renourishment of the South Amelia Island Shore Stabilization Project (SAISSP), following the application format provided in Exhibit C. Consultant shall integrate the results of the numerical modeling, geotechnical, cultural resources, and environmental studies referenced above into the corresponding items of the JCP application. Responses to all items in the permit application document are required (some responses shall be ‘not applicable’). Notable associated sub-tasks to be completed shall include, but are not limited to:

- Permit-level design – The Consultant shall evaluate the results of the historical monitoring data, the numerical modeling analyses, and the borrow area development data to develop a permit-level design for the beach renourishment project. The Consultant shall prepare permit-level design drawings sufficient to describe the footprint of the beach fill and borrow area operations for the project. These permit drawings shall include plan- and section-view illustrations of the beach fill and the borrow area, and shall describe the maximum anticipated footprint of the SAISSP in order to seek to assure that a sufficiently full range of potential project impacts is captured in the permitting process. These drawings shall be signed and sealed by the project Professional Engineer and included in the application submittal (JCP Item #14).
- Development of project narrative and alternatives discussion – Consultant shall prepare the project description and narrative reviewing the alternatives discussion, consistent with the continuing maintenance renourishment of the SAISSP. Discussion shall also

include preliminary narrative of construction details, and opinion of probable cost to construct.

- Integration of borrow area geotechnical information and creation of project Sediment QA/QC plan – Consultant shall summarize the borrow area development report to address the JCP application requirements and shall draft the project sediment QA/QC for FDEP review and approval (JCP Items #16 and #17).
- Water quality certification/turbidity control plan –The project beach fill area lies adjacent to the Nassau River - St. Johns River Marshes Aquatic Preserve, and the proposed borrow area lies largely within the preserve along the northeast edge of Nassau Sound. To protect water quality and other natural resources in the preserve it will be necessary to address and minimize temporarily elevated turbidity levels associated with the dredging process. These levels will require daily monitoring, multiple times per day. The Consultant shall prepare a response to the regulatory agencies for this issue (JCP Item #22), based upon the final geometry of the borrow area and beach fill, and on the historical database of turbidity measurements from previous projects in the area. These data shall be evaluated to determine if a Variance from Rule will be required.
- Integration of environmental assessment information (developed under separate Task Order #23). Consultant shall summarize the Biological Assessment and Essential Fish Habitat Assessments to address the JCP application requirements (JCP Items #18 to #21).
- Physical Monitoring Plan – Consultant shall prepare and submit a revised physical monitoring plan for the upcoming renourishment project JCP Item #.

Deliverables - The Consultant shall prepare the permit application package, with attachments, and shall submit the package to the appropriate regulatory agencies. The entire package shall be submitted electronically to FDEP via DVD-ROM disc and/or FTP upload, per FDEP requirements, in the appropriate file formats (primarily Adobe *.PDF, but also EXCEL, ArcGIS *.shp, and gINT geotechnical database formats where applicable). One hardcopy shall be prepared and submitted to the Jacksonville regulatory office of the USACE, along with the electronic files. One hardcopy will be provided to the Client, along with the electronic files. If desired a presentation shall be made to the SAISSA Board.

Subtask IV – Agency Liaison /Responses to Permitting RAI's (incl. meeting prep/attendance)

Herein, the Consultant has identified tasks believed to be necessary for the successful acquisition of the required permits. As necessary, Consultant shall attend meetings related to the permit application package to clarify submittal items and permitting issues (during preparation and after submittal). After submittal of the Joint Coastal Permit application package, and as required, Consultant shall respond to Requests for Additional Information (RAIs) from the regulatory agencies in a prompt and professional manner to accomplish receipt of the permits as quickly as possible. Consultant shall review and provide responses and suggested edits to the

draft permit documents and terms and conditions prior to final permit issuance. This Subtask shall be billed on an hourly basis, with an established initial Not-to-Exceed amount.

The RAI responses described herein are limited to providing brief additional analyses, data and clarifying descriptions based upon the information contained in the permit application package and data already collected and in-hand. Regulatory requests for any additional surveys, data collection, studies, or numerical modeling efforts are not included and shall be negotiated and conducted under separate Task Order(s).

Subtask IV shall be divided across SAISSA Fiscal Years:

Subtask IV-1: FY 2018

Subtask IV-2: FY 2019

Subtask IV-3: FY 2020

Deliverables - Deliverables shall include digital and hardcopies of RAI Response materials consistent with Subtask III deliverables, relevant correspondence to and from the agencies, attendance at meetings (as required), and preparation and delivery of presentations (as required). Where applicable, electronic *.PDF versions of documents shall be provided.