

**EXPLANATION OF CONSENT AGENDA ITEM E.1.c.(16) – April 15, 2015**

**ITEM:**

Consideration of approving an engineering purchase order to TranSystems for concept feasibility, design work, surveys, and environmental permitting to support lease negotiations with KSC on the Jay-Jay Bridge West Bank Rail Yard and potential alternate Barge Rail Float Bridge connection to FEC in the amount not to exceed \$267,385.

**EXPLANATION:**

This task is to perform early concept work, permits, design and engineering to complete a feasibility, then support the lease/use agreement with NASA and then to construct a temporary facility for rail float barge connection and rail drayage yard connections. See TranSystems proposal and sketches.

**Funding Review by Finance (Pat Poston):** The total NTE amount of \$267,385 is included in the FY15 Capital Budget and no increase is required. [Budget item 2235 – Rail Connectivity]

**STAFF RECOMMENDS APPROVAL**

Prepared by John Walsh





This rail-barge arrangement is in Virginia.







**TranSystems**

**Frederick (Rick) R. Ferrin, P.E.**  
**Vice President**

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April 8, 2015

Mr. John Walsh, CEO  
Canaveral Port Authority  
445 Challenger Road  
Cape Canaveral, FL 32920

Dear Mr. Walsh:

TranSystems is pleased to submit the attached scope and estimated fee for the 100% design and permitting of all infrastructure components of a barge to rail development on the western approach mole for the Jay-Jay Bridge. These components include the proposed barge berth, the vessel mooring system, the rail connection from the berth to the KSC mainline, the dredging of an access channel from the ICW to the berth and a maneuvering basin, a gravel surfaced transloading area in the immediate vicinity of the Jay-Jay Interchange Yard, appropriate modifications and improvements to the access road, and the site drainage and stormwater systems.

We have prepared a general description of the scope of effort, identifying the project elements. TranSystems will be joined in this effort by several sub consultants who are currently on our Waterside General Engineering Services Continuing Contract with the Canaveral Port Authority, Allen Engineering and ESI. Additionally, we have presented a proposed fee, subdivided into seven categories of work. As attachments to the Scope-Fee document we have included more detailed descriptions of the efforts in each of the seven categories of work as well as descriptions of the personnel who will perform the work, their approved hourly rate and the number of estimated hours of labor.

I will be the Project Manager and my team and I have made several site visits. Upon execution of a purchase order on TranSystems Continuing Contract, every member of my team is ready to begin work. Many thanks for this opportunity.

Best regards,

A handwritten signature in blue ink, appearing to read 'Rick Ferrin', is written over the typed name.

Frederick R. Ferrin, PE  
Vice President  
TranSystems



**TranSystems**

**Frederick (Rick) R. Ferrin, P.E.**  
**Vice President**

## SCOPE & FEE: CPA BARGE BERTH AND RAIL CONNECTION

### SCOPE:

A TranSystems team will plan, 100% design and secure required permits for the development of a barge berth on the southern side of the Jay-Jay Bridge western approach mole, immediately east and south of the Kennedy Space Center's Jay-Jay Yard (interchange yard). TranSystems will plan and design a new rail connection from the barge berth. This rail segment will be used to move loaded and unloaded rail cars to or from the barge and the Jay-Jay Yard. Rail cars will arrive or depart the Jay-Jay Yard from the FEC mainline immediately to the west of the yard and connected by two spurs allowing both north and southbound transitions to or from the FEC. TranSystems will design an access channel from the Intracoastal Waterway (ICW) to the barge berth and a maneuvering basin at the intersection of the channel and the ICW for reorienting the bow and stern of the barge-tug combination for the return trip to the CPA. Additionally, TranSystems will design a gravel surfaced transloading area to the west of the barge berth and between the access road that runs the length of the mole and the southernmost track in the Jay-Jay yard. This will allow for the transloading of cargoes from railcars to containers and/or trucks that will be stationed on the gravel surfaced transloading area. The access road will be inspected and improved as necessary to accommodate vehicular and truck traffic.

### The project elements:

- Barge Berth and Mooring System Planning and Design
- Rail Connector Planning and Design
- Transloading Area and Access Road Planning and Design
- Site Drainage Design
- Access Channel (ICW to Barge Berth) Dredging and Maneuvering Basin Planning and Design
- Mitigation Identification, Coordination with State and Federal Regulatory and Resource Agencies and Permitting for all facets of the Project Construction
- Land Surveying, Hydro Surveying
- Geotechnical Data
- Project Management and Coordination – Interface with KSC for Approvals and Agreements
- Identification and Rental/Procurement of Floating Equipment

The TranSystems PM will coordinate from the start with the service providers on both the water and land sides to ensure the facility design properly accommodates both barges and tugs. TranSystems will assist the CPA in developing the land side operating plan and ensure that all landside components are appropriate and allow for efficient rail transfer operations.



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Vice President

**PROPOSED FEE:**

1. Berth and Mooring System Planning and Design	\$76,294
2. Rail, Access Road, Transloading Area and Site Drainage Planning and Design	\$54,099
3. Channel and Turning Basin Dredging Planning and Design	\$25,410
4. Land and Hydro Surveying	\$15,490
5. Geotechnical Data Collection	\$6,400
6. Environmental: Mitigation Identification, Coordination and Consultation with all Involved State and Federal Resource And Regulatory Agencies, Coordination with KSC for EA (NEPA) Development and Permitting all Construction	\$60,000
7. Project Management, Floating Equipment Identification and Interface with the KSC for Facility Development Authorization and Operating Agreement	\$29,692
<b>TOTAL</b>	<b>\$267,385</b>



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Vice President

**Planning and Design: Barge Berth and Vessel Mooring System**

A. TranSystems will perform the following tasks to accomplish the planning and complete design of the proposed barge berth:

1. Prepare General Notes
2. Prepare Standard Details
3. Planning and Layout Basin Sheetpile Wall and Mooring Dolphins
4. Prepare Sheetpile Wall Sections and Details
5. Prepare Dolphin Elevations and Details
6. Attend appropriate design coordination meetings
7. Develop Opinion of Probable Cost
8. Develop Project Specifications
9. Perform Berthing and Mooring Capacity Analyses
10. Perform structural calculations to support design
11. QA/QC

B. Breakdown of Effort:

<u>Title/Description</u>	<u>Hourly Rate</u>	<u>Hours</u>	<u>Total</u>
Sr. Supervising Structural Eng.	\$236.95	156	\$36,964.20
Sr. Structural Engineer	\$129.81	176	\$22,846.56
Sr. CAD Specialist/Designer	\$103.02	160	\$16,483.20
<b>TOTAL</b>			<b>\$76,293.96</b>





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Vice President

**Planning and Design: Rail Connector, Access Road, Transloading Area and Site Drainage**

1. TranSystems will develop a conceptual plan for a proposed rail / barge facility. The facility will include a track connecting an existing rail yard to a new bulkhead barge berth as well as a transflo type unloading area for unloading ethanol byproduct from railcar to truck. The facility will include access roads for internal yard movements.
2. TranSystems will advance the conceptual plan to final design suitable for permitting. The plan will include horizontal and vertical track design, site drainage and storm water design, and associated details.
3. Below are the proposed features:
  - a. The proposed track will provide a functional connection between the barge berth and the KSC main line immediately east of the beginning of the Jay-Jay Interchange Yard.
  - b. The turnout onto the existing yard tracks will be located to best use the existing yard for support of the loading and unloading operation.
  - c. The design will meet all operability criteria to include maximum allowable grade and radius of curvature.
  - d. The rail bed and supporting substructure will be designed to adequately support the projected heavy loading of moving high density bulk materials.
  - e. Ethanol byproduct unloading area will include a paved area for trucks to stage while material is being transferred rail car to truck via above ground pumping equipment..
  - f. TranSystems assess internal access routes and develop plan for accommodating truck movements.
4. Breakdown of Effort:

<u>Title/Description</u>	<u>Hourly Rate</u>	<u>Hours</u>	<u>Total</u>
Sr. Rail & Intermodal Facility Planner/Designer	\$231.80	112	\$25,961.60
Sr. Civil Engineer	\$126.80	144	\$18,247.68
Sr. CAD Specialist/	\$103.02	96	<u>\$9,889.92</u>
<b>TOTAL</b>			<b>\$54,099.20</b>

Mr. Rick Ferrin, PE  
Vice President  
TranSystems Corporation  
4500 Salisbury Road, Suite 440  
Jacksonville, Florida 32216

April 7, 2015

Re: CPA Barge / Rail Terminal at the Jay Jay Bridge – West Peninsula

Dear Mr. Ferrin:

Thank you for the opportunity to offer this proposal to provide the Survey services required on the above referenced facility.

**Project:**

The project site is located within the property operated by the Kennedy Space Center, with the survey areas shown in Attachments A and B.

**SURVEYING SERVICES..... \$15,490.00**

1. We will prepare a topographic survey of the parcel as shown in Attachment A in compliance with Chapter 61G-17-6 F.A.C., pursuant to Chapter 472-026 F.S. sufficient for the design and permitting of the subject parcel. The survey will include the following:
  - a. Elevations will be obtained over the site on a grid with a maximum distance of 50 feet for the peninsula. We will also obtain elevations at any grade break, as required, to create accurate ground contours at 1.0 foot intervals.
  - b. Locate all existing improvements within the survey limits provided including but not limited to buildings, paving, drainage facilities, fences, all above ground utilities and any indication of underground utilities that are visible.
  - c. Provide a legal description for any submerged land easements required.
  
2. Through coordination with Land & Sea Surveying Concepts, Inc., a hydrographic survey of the area at the Jay Jay Bridge in Titusville as shown in red in Attachment B. The survey will be performed using a 200 kHz single beam transducer system with Hypack software for navigation, data collection and post-processing. Horizontal and vertical positioning will be acquired with an RTK GPS system fed into the Hypack software program. Data will be collected on a 50-foot grid. Horizontal position will be referenced to Florida State Plane Coordinate System, Zone 901 East, and all units will be in US Survey Feet. Elevations will be shown in US Survey Feet and based on NAVD '88. A minimum of two published NGS monuments will be checked.

**GEOTECHNICAL SERVICES..... \$6,400.00**

1. Through coordination with Universal Engineering Sciences, Inc., a subsurface exploration and report will be prepared for the area shown in Attachment A. The services will include the following:

Mr. Rick Ferrin, PE  
TranSystems Corporation

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- a. Drill six (6) Standard Penetration Test (SPT) borings along the proposed seawall surrounding the new loading dock to a depth of 40 feet below existing land surface (bls), total 240 feet.
- b. Obtain groundwater level readings at each of the boring locations.
- c. Perform five (5) #200 sieve tests to help determine the silt/clay content of the site subsoils.
- d. Perform one (1) organic content test.

**DREDGING SERVICES..... \$25,410.00**

1. Through coordination with Coastal Waterways, Inc., the following services will be provided:
  - a. Preparation of a conceptual design to meet the project objectives as defined by the client. The improvements to be designed and permitted shall generally entail dredging of an approximate 700,000 square foot barge turning basin and an approximate 80,000 square foot barge mooring area with an approximate 200 linear foot bulkhead, and a dredge material management area (DMMA). The conceptual design will include an opinion of probable estimated construction costs for the proposed improvements.
  - b. Expand the conceptual design drawings to create permit sketches for DEP/USACE Permit Application. The sketches will incorporate the results of a pre-application meeting and any proposed changes as well as be based upon the topographic and bathymetric survey. We shall endeavor to seek a permit for the turning basin and mooring area dredge operation to include allowance for clamshell or hydraulic dredging and disposal of dredged material in a Dredged Material Management Area (DMMA). A conceptual Turbidity and Water Quality Management Control Plan will be developed for permit approval. We will determine the volume of material to be dredged from within the turning basin and mooring area based upon a recent bathymetric survey data, and will prepare permit sketches (in plan and cross-section) depicting the proposed maintenance dredging including the approximate cubic yards to be dredged. A formal Joint Application for Works in Waters of Florida for the proposed turning basin and bulkhead will be prepared and submitted to DEP and USACE.
  - c. Contact DEP and USACE to address staff questions and concerns and to expedite their review and processing of the permit application. We will confer with TranSystems as to (a) interpretation of DEP/USACE rules and regulations, and (b) responses to DEP/USACE requests for additional information. We will provide written responses to DEP/USACE to address staff requests for additional information, and represent the project before DEP/USACE staff toward securing approval of permits for the project. Additional studies or analysis (such as a hydrographic analysis or water quality measurements) may be required by the agencies. These additional studies/analysis may be beyond the scope of this agreement. Upon request by FDEP/USACE staff or commenting agency staff for additional studies/analysis, we will submit a separate proposal requesting the authorization to provide these additional services.

Mr. Rick Ferrin, PE  
TranSystems Corporation  
Re: CPA Barge / Rail Terminal at the Jay Jay Bridge – West Peninsula

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**Drawing Format:**

The survey data obtained will be illustrated on 24" X 36" survey drawings prepared in AutoCAD (.dwg) format.

**Deliverables:**

The following deliverables will be provided:

1. Four signed and sealed sets of the boundary and topographic survey drawing prints and a PDF and AutoCAD drawing file on compact disk shall be provided.
2. One copy of the hydrographic survey showing the contours on an aerial background.
3. Provide two copies of an Engineering Analysis and Geotechnical Engineering Report including descriptions of the soil strata encountered and recommendations concerning foundation (sheet piling) design parameters for the proposed new dock sections.

**Schedule:**

Work will begin once a notice to proceed is provided by TranSystems.

We have prepared this proposal based on the following assumptions and conditions:

- A. Any express mail charges are a direct expense to the client and are not a part of this proposal.
- B. Any submerged land lease work is not included in this proposal.
- C. Submittal to reviewing agencies does not guarantee permit issuance.
- D. Unforeseen conditions will be brought to the attention of the client and a change order will be prepared prior to the continuation of work by AEI.
- E. Any items not listed above will be done on an hourly basis.
- F. Letter C under Dredging Services will be done on an hourly not to exceed basis. The fee shall not exceed \$9,500 unless authorized by TranSystems.

Any additional work that is required over and above the items previously listed, it will be done on an hourly basis at the following listed rates. These rates will be good for one (1) year from the proposal date.

Registered Surveyor	120.00 per hour
Project Manager	125.00 per hour
Survey Crew	140.00 per hour
CAD Specialist	70.00 per hour
Administrative Technician	55.00 per hour

**Terms and Conditions:**

**Access to Site:** Unless otherwise stated, Allen Engineering, Inc. (AEI) will have access to

Mr. Rick Ferrin, PE  
TranSystems Corporation

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the site for activities for the performance of the services. AEI will take precautions to minimize damage due to these activities, but has not included in the fee the cost of restoration of any resulting damage.

**Defects in Service:** The Client shall promptly report to AEI any defects or suspected defects in AEI's services of which the Client becomes aware, so that AEI may take measures to minimize the consequences of such a defect. The Client further agrees to impose a similar notification requirement on all contractors in its Client/Contractor contract and shall require all subcontractors at any level to contain a like requirement. Should legal liability for the defects exist, failure by the Client and the Client's contractors or subcontractors to notify AEI shall relieve AEI of any liability for costs of remedying the defects above the sum such remedy would have cost had prompt notification been given when such defects were first discovered.

**Dispute Resolution:** Any claims made during surveying, design, permitting, construction or post-construction between the Client and AEI shall be submitted to non-binding mediation. The client and AEI agree to include a similar mediation agreement with all contractors, subcontractors, sub-consultants, suppliers, and fabricators, thereby providing for mediation as the primary method for dispute resolution between all parties.

**Billing / Payments:** Invoices for AEI's services shall be submitted, at AEI's option, either upon completion of such services or on a monthly basis based on the number of hours spent on the project at the listed rates. Invoices shall be payable within 30 days after the invoice date. If the invoice is not paid within 30 days, AEI may, without waiving any claim or right against the Client, and without liability whatsoever to the Client, terminate the performance of the service. Retainers shall be credited on the final invoice.

**Late payments:** Accounts unpaid 30 days after the invoice may be subject to a monthly service charge of 1.5% (or the legal rate) on the then unpaid balance. In the event any portion or all of an account remains unpaid 90 days after billing, the client shall pay all costs of collection, including reasonable attorney's fees.

**Indemnification:** The Client shall, to the fullest extent permitted by law, indemnify and hold harmless AEI, his or her officers, directors, employees, agency and sub-consultants, from and against all damage, liability and cost, including reasonable attorney's fees and defense costs, arising out of or in any way connected with the performance by any of the parties above named of the services under this agreement, excepting only those damages, liabilities or costs attributable to the negligent acts, errors or omissions, or willful misconduct of AEI.

**Certifications, Guarantees and Warranties:** AEI shall not be required to execute any document that would result in its certifying, guaranteeing or warranting the existence of conditions whose existence AEI cannot ascertain. The Client also agrees not to make resolution of any dispute with AEI or payment of any amount due to AEI in any way contingent upon AEI's signing any such certification.

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**Limitation of Liability:** In recognition of the relative tasks, rewards and benefits of the project to both the Client and AEI, the risks have been allocated such that the Client agrees that, to the fullest extent permitted by law, AEI's total liability to the Client for any and all injuries, claims, losses, expenses, damages or claim expenses arising out of this agreement from any cause or causes, shall not exceed \$50,000.00 or contract amount, whichever is less. Such causes include, but are not limited to, AEI's negligence, errors, omissions, strict liability, and breach of contract or breach of warranty.

**Termination of Services:** This agreement may be terminated at any time by AEI or the Client should the other party fail to perform its obligations hereunder. In the event of termination, the Client shall pay AEI for all services rendered to the date of termination, all reimbursable expenses, and reimbursable termination expenses.

We look forward to working with you on this project. If the terms of this proposal are acceptable, please sign and return a copy of this letter to signify your acceptance of this offer. Please feel free to contact me if you have any questions.

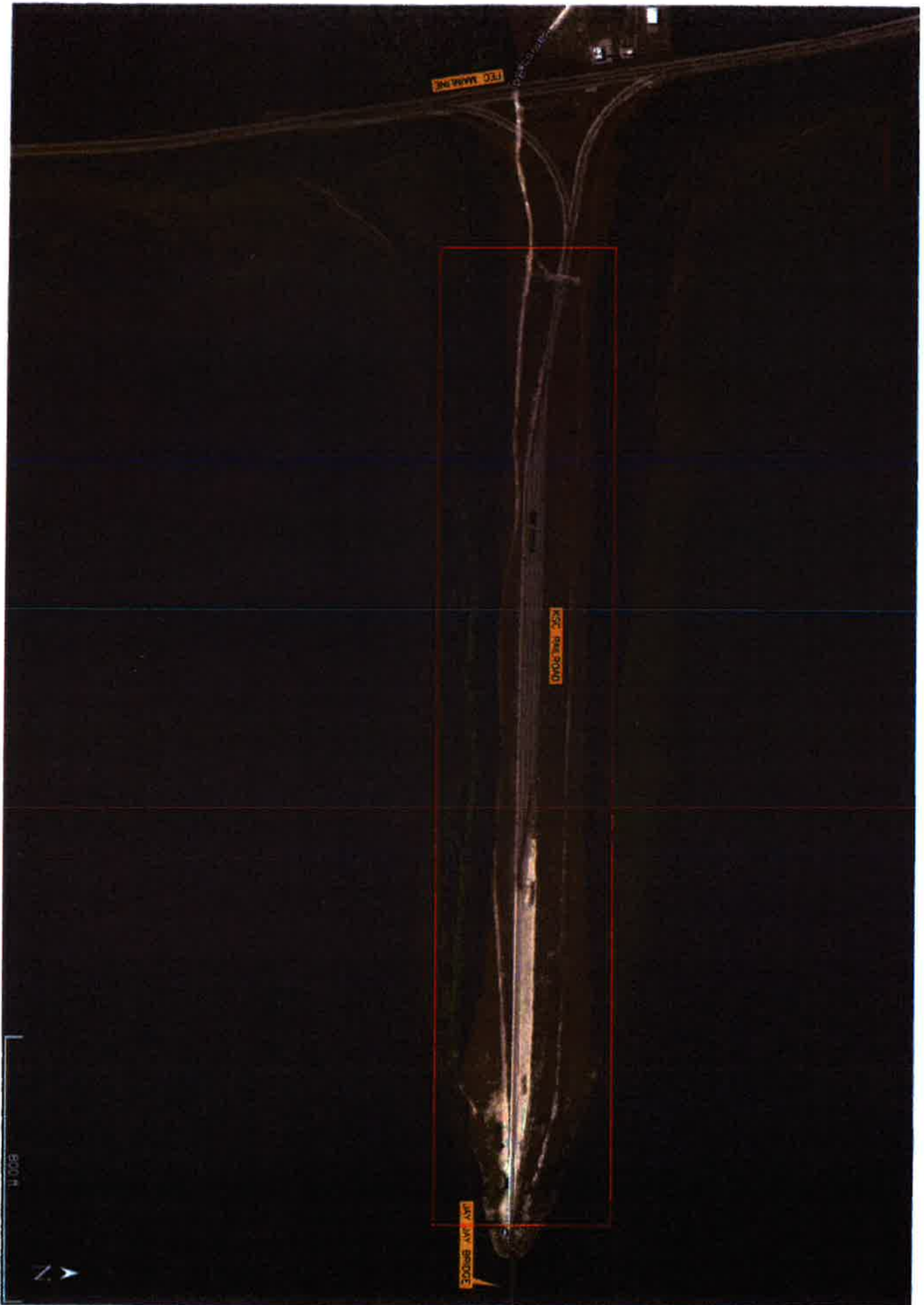
Sincerely,



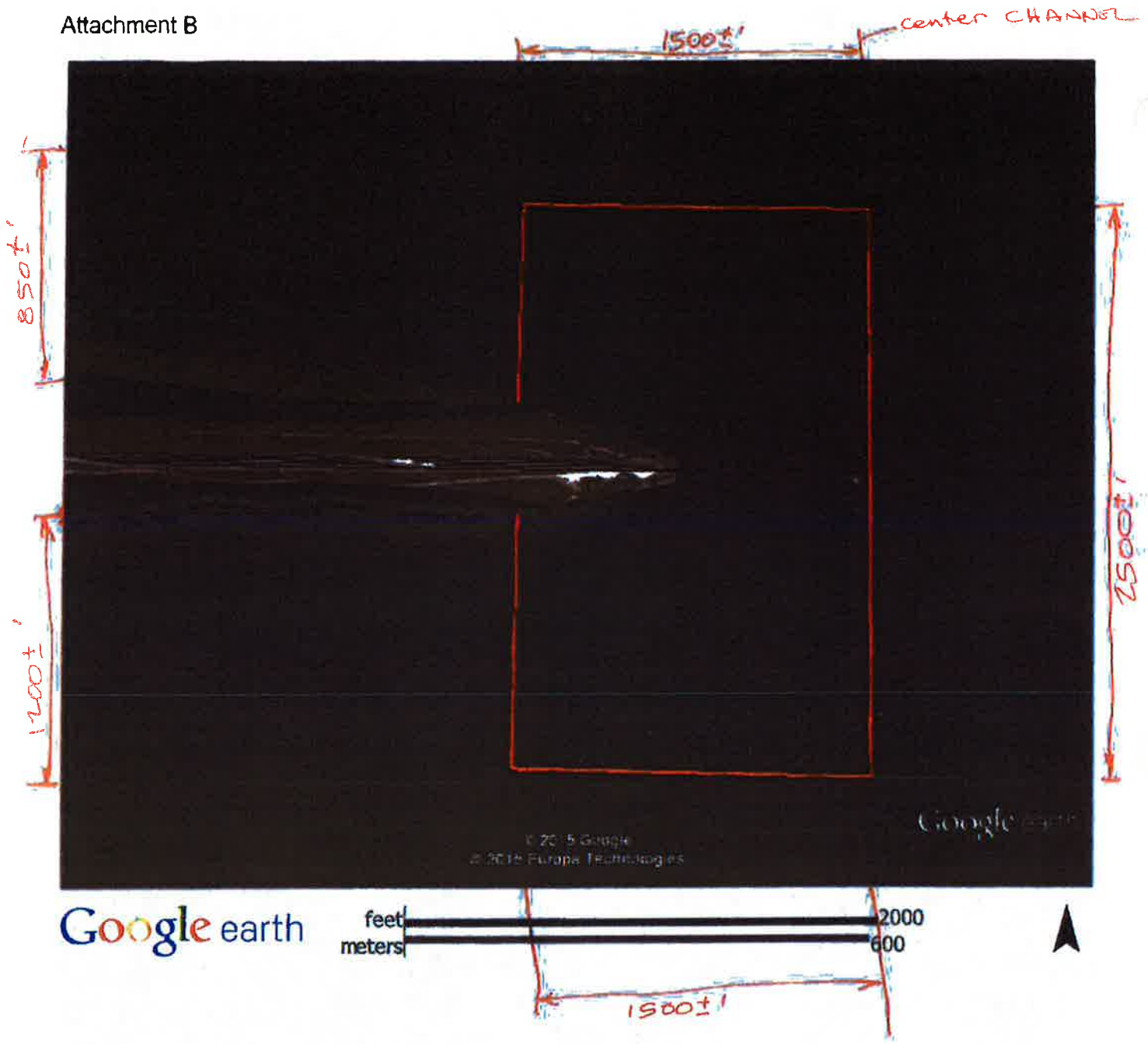
Michael S. Allen,  
Allen Engineering, Inc.

OFFER ACCEPTED: \_\_\_\_\_

DATE: \_\_\_\_\_



Attachment B





## ENVIRONMENTAL SERVICES, INC.

### Jay Jay Yard Barge Berth

#### Scope of Work

##### **Site Assessment**

Environmental Services, Inc. (ESI) will conduct a site visit to identify any environmental constraints to the development of the project. Our assessment will include a field delineation of the limits of jurisdictional wetlands pursuant to the current methodologies of the U.S. Army Corps of Engineers [(ACOE) 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)], Florida Department of Environmental Protection (FDEP) and St. Johns River Water Management District [(SJRWMD) Florida Unified Wetland Delineation Methodology, Chapter 62-340, F.A.C.]. We will provide you and your chosen land surveyor with a flagging key map showing the approximate location of the jurisdictional line. ESI will survey the property for the presence of any state or federally protected wildlife species and their habitat. If protected species or habitats are encountered, ESI will perform preliminary mapping of the potential habitat area. ESI will also map the seagrass beds in the vicinity of the proposed barge berth site.

Estimated cost \$5,500

##### **Joint FDEP/ACOE Environmental Resource Permit**

ESI will assist the project team with the preparation of a joint Environmental Resource Permit (ERP) application package for submittal to the Florida Department of Environmental Protection (FDEP) and U.S. Army Corps of Engineers (ACOE). We will meet on-site with representatives from both FDEP and ACOE to review the limits of jurisdictional wetlands and discuss the proposed project. We will coordinate with the agencies and prepare responses to requests for additional information to obtain the environmental permits including the submerged lands authorization of the access channel and turning basin for the project.

Estimated cost \$34,500

##### **Project Coordination and Meetings**

ESI will coordinate with the project team, attend project team meetings and agency meetings as needed to bring the project to completion. ESI will also coordinate with the Kennedy Space Center and assist with the NEPA documentation in the event that they determine the project will require the production of an Environmental Assessment.

Estimated cost \$20,000



TranSystems

Frederick (Rick) R. Ferrin, P.E.  
Vice President

**Project Management:**

A. The following is a listing of the functions that will be performed by the Project Manager:

1. Maintenance of the project schedule and budget
2. Communication and collaboration with CPA staff
3. Progress reporting to the CPA
4. Coordination of efforts among all team elements
5. Communicating any needed project modifications or changes to the CPA and all team elements
6. Ensuring all plans and designs meet operational requirements
7. Ensuring that all mitigation and permitting requirements are met in a timely fashion
8. Identifying and locating all floating equipment
9. Providing the interface with the KSC staff elements that will be involved in authorizing construction and developing the operating agreement

B. Proposed for services listed above:

<u>Hourly Rate</u>	<u>Hours</u>	<u>Total</u>
\$288.46	96	\$27,692.16