

## **ADDITIONAL AGENDA ITEM**

### **FLORIDA INLAND NAVIGATION DISTRICT Board of Commissioners Meeting**

**9:00 a.m., Saturday, October 18, 2014**

**Hilton Garden Inn Ft. Lauderdale Airport-Cruise Port  
180 SW 18th Avenue,  
Dania Beach, FL, 33004-3105  
Broward County, Florida.**

**Item 7A.      Presentation on the Draft Waterway Master Plan for Martin and St. Lucie Counties.**

The Metropolitan Planning Organizations for Martin and St. Lucie County have teamed up with the Treasure Coast Regional Planning Council to complete a Waterway Master Plan for the two counties. This \$200,000 effort plan was cost-shared at 50% by the District through an Interlocal Agreement.

This project includes the development of a plan and strategies to leverage economic benefits related to the waterways in Martin and St. Lucie Counties, including the Intracoastal Waterway, the St. Lucie River (both the north and south forks), and the St. Lucie Canal. The purpose of the plan is to identify and prioritize waterway access facility needs. Also included within this plan are the evaluation of land development opportunities, water-based transportation, and recreational opportunities.

A series of public workshops were conducted, wherein participants had the opportunity to work with facilitators to identify opportunities and challenges related to the waterways of Martin & St. Lucie counties as well as introduce new ideas to the process. Following the workshops, the Treasure Coast Regional Planning Council hosted a week-long public charrette with a multidisciplinary team assembled to synthesize the public's input with the research and evaluations received from these workshops.

The DRAFT Martin St. Lucie Waterways Plan is available at:

[http://www.tcrpc.org/special\\_projects/Waterways/Waterways\\_Plan\\_Draft\\_8\\_21\\_14.pdf](http://www.tcrpc.org/special_projects/Waterways/Waterways_Plan_Draft_8_21_14.pdf)

Ms. Kim Delaney, Strategic Development Coordinator with the Treasure Coast Regional Planning Council has been invited to provide a presentation and update on the Waterway Master Plan to answer any questions relating to this effort.

(Please see back up pages 156 - 168)

RECOMMEND:      *(Item presented for review only)*

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*(Continued next page)*



## **Additional Meeting Agenda Items**

**October 18, 2014**

**Page 2**

### **Item 15-A. Dredge Material Management Area (DMMA) DU-8 Pipeline Sleeve Construction Installation Monitoring, Duval County, FL**

There are ongoing foundation issues with the development known as "Mira Vista" adjacent to our DMMA DU-8 site in Jacksonville, Florida. The foundation issues are well documented and are unrelated to any District activities to date. However, it is recommended that the District perform due diligence and monitoring of the construction activities during the installation of the DU-8 pipeline sleeve. This will limit our liability and any future "claims" for impacts to the adjacent development during and following our activities.

Taylor Engineering has provided two options to conduct this work: Option 1 would cover minimal monitoring for 40 days at a cost of \$9,920.00 utilizing only the sub-contractor. Option 2 would include oversight and project management by Taylor Engineering, site monitoring for 60 days at a cost of \$31,158.50, as well as assessment of the building's current conditions.

(Please see back up pages 169 - 205)

RECOMMEND: Approval of Option #2 scope of work and fee quote in the amount of \$31,158.50 from Taylor Engineering for professional monitoring during the DMMA DU-8 pipeline sleeve installation, Duval County, FL.

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### **Item 15-B. Personnel Committee Meeting**

Staff has been notified that there will NOT be a quorum for our scheduled Personnel Committee meeting on Saturday, October 18, 2014 at 8:00 AM. We would like to move the committee agenda to Item 15-B to be considered by the full Board.

(Please see the Personnel Committee Agenda for back up)

RECOMMEND: Consideration of the Personnel Committee Agenda by the full Board as Item 15-B.







## Public Participation & Outreach

### Project Steering Committee



Forum on Marine Transportation	December 19, 2013
Forum on Land Use & Upland Transportation	January 8, 2014
Forum on Regulation & Management	January 29, 2014
Forum on Natural Resources	February 27, 2014
Forum on Recreational, Cultural & Educational Resources	March 12, 2014
Forum on the Economics of the Waterways	May 2, 2014
Public Workshop #1	May 7, 2014
Public Workshop #2	May 8, 2014
Public Workshop #3	May 9, 2014
Public Design Studio	May 19-23, 2014

## Key Findings: *Natural Resources*

- Paramount Concerns over Water Quality  
*(Discharges from Lake Okeechobee, Uplands, Other)*
- Local & Regional Restoration & Stormwater Efforts
- Need More Pump-Outs, Restrooms & Boater Education
- Expanded Environmental Education  
*(K-12, Public At-Large)*
- Inter-Agency Permit Protocol
- Deficiencies for Enforcement Personnel & Vessels
- Multiple Agencies with Overlapping Regulations





## Key Findings: Marine Transportation

- Need for Maintenance Dredging (inlets & channels)
- Need for Improved Boater Facilities (ramps, docks, parking, dredging)
- St. Lucie River RR Bridge Concerns
- Potential for Water Taxis
- Improved Navigational Aids
- "Alternative" Marine Modes (seaplanes, high-speed ferries)
- Designated Anchorages



## Water Taxi Potential

Potential Water Taxi Stations	
1. AIA Residential	20. Leighton Park
2. Avon State Park	21. Loggerhead Marina
3. Beach	22. Mandarin Marina & Yacht Club of Palm City
4. Causkey Island	23. Necca Island
5. Club West Sandpiper Bay	24. Prater's Cove Marina
6. Conchy Joe's Seafood	25. Port of Fort Pierce
7. F&M - Harbor Branch	26. Rio Town Center
8. Fish Market	27. River Park Marina
9. Florida Oceanographic Society	28. Riverside Marina
10. Floridian Golf Club	29. Riverside Park - Jensen Beach
11. Fort Pierce City Marina	30. Riverside Veterans Park
12. Future Restaurant/Hotel	31. Riverview Marina
13. Harborage Marina	32. Sandpiper Park
14. Harborview Marina - Ft Pierce	33. Sandpiper Hub
15. Herman's Bay Beach	34. St Lucie Inlet Preserve State Park
16. History Museum/Smithsonian	35. St. Andrews School
17. Hutchinson Island Motel	36. Stuart Floating Dock
18. Jaycee Park	37. Sunset Bay Marina and Anchorage
19. Jensen Beach Boat Rentals	38. US Navy Seal Museum



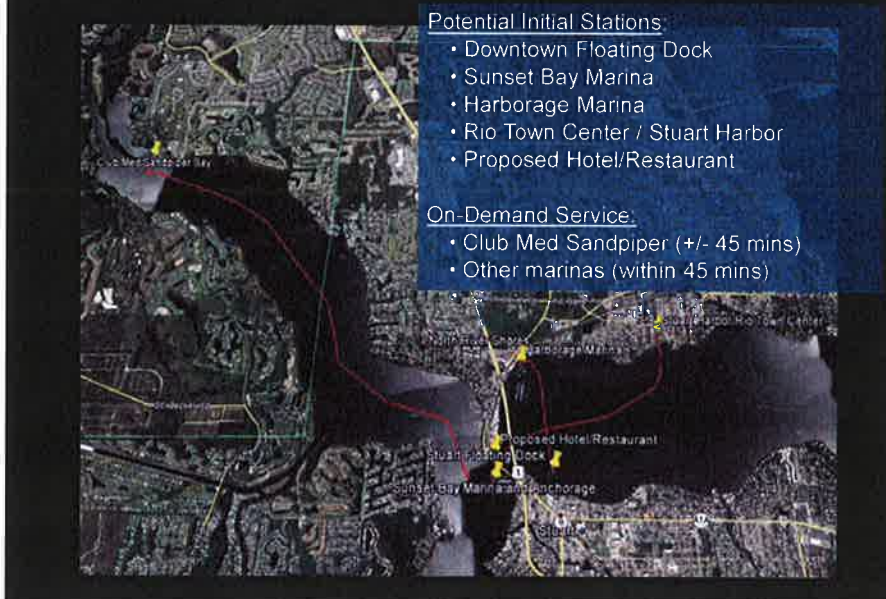


10.18.2014 FIND Board meeting

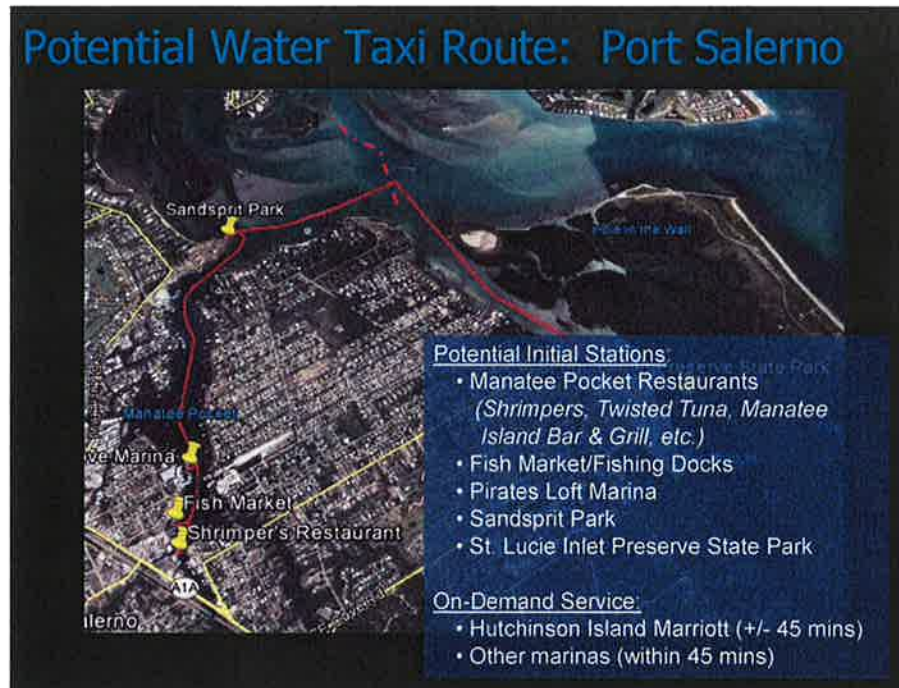
## Potential Fort Pierce Water Taxi Route



## Potential Water Taxi Route: Stuart







### Key Findings: Land Use & Upland Transportation

- Waterfront Villages & Centers
  - Port Salerno
  - Stuart
  - Rio
  - Jensen Beach
  - Palm City
  - Indiantown
  - Fort Pierce
  - Port St. Lucie
- Need for Multi-Modal Connections
- Last-Mile Transportation for Boaters
- Desire for More Waterfront Destinations
- Need for Waterways Circulator (Transit) & Greenways
- Water Taxi Stations as Central Nodes



## Port St. Lucie: *Riverfront Opportunity*



## Port St. Lucie: *Riverfront Opportunity*



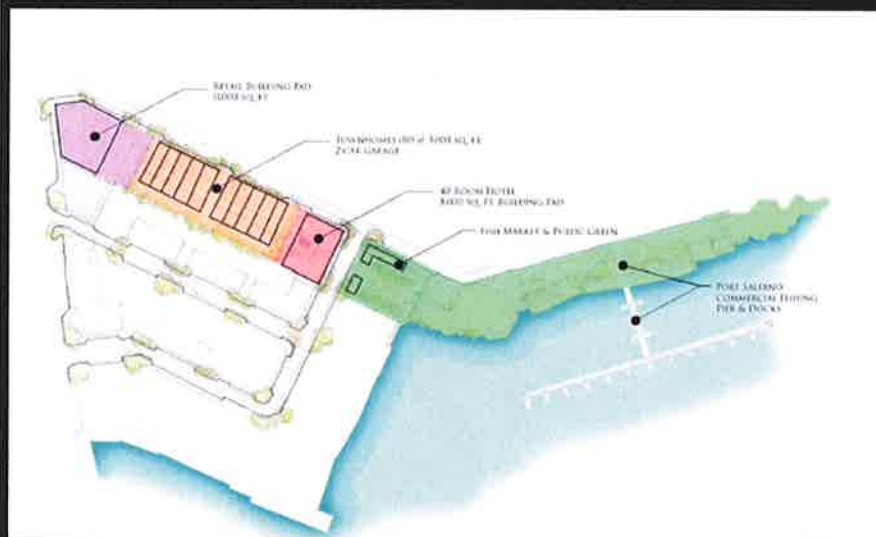


10.18.2014 FIND Board meeting

## Port Salerno: *Authentic Fishing Village*



## Port Salerno: *Authentic Fishing Village*





### Old Palm City: *Rowing Niche Opportunity*



### Old Palm City: *Rowing Niche Opportunity*





### Key Findings: *Recreation & Public Access*

- Need for Improved Paddling Launches & Facilities  
(*signage, kiosks, camping sites, events*)
- Expand Water Sports Concessions & Uses in Parks
- Opportunity for Blueways/Greenways Network
- Growing Inventory of Water Sports Activities  
(*Human-Powered, Wind-Powered, Other*)
- Opportunities for Expanded Events (tourism benefits)

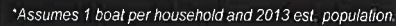


### Key Findings: *Economic Development*

- Constraints upon Marine Industries  
(*dredging, workforce, roadway network*)
- Fishing industry Impacts (Commercial & Recreational)
- Implementation of Unique Waterfront Villages
- Potential of the Hospitality Industry
- Potential of Treasure Coast Water Sports Industry
- Uncertainty of Port of Fort Pierce  
(*niche cargo, maritime academy, mixed-use*)

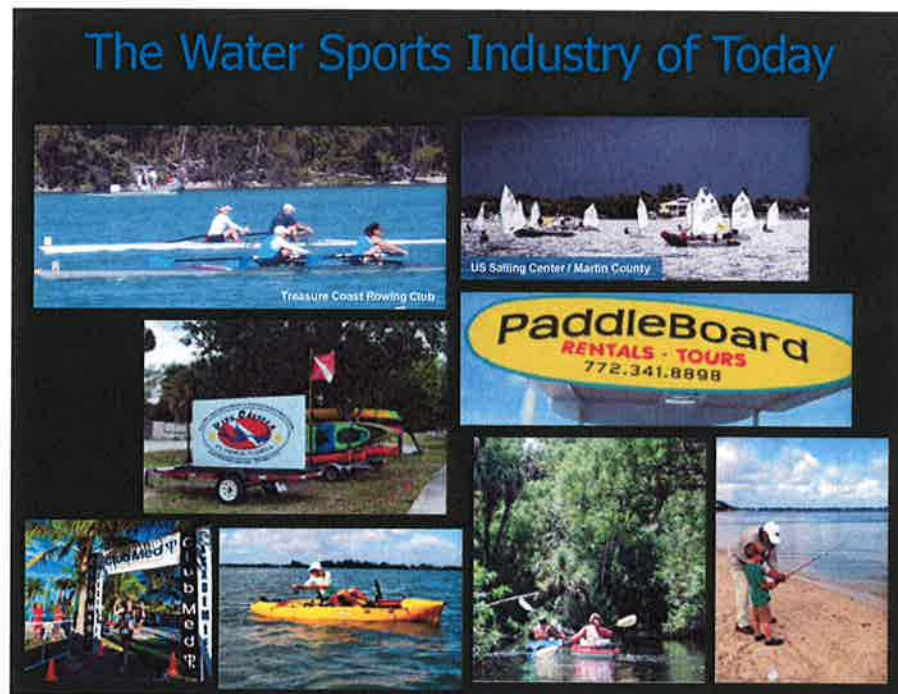








10.18.2014 FIND Board meeting





## The Hospitality Industry

- Need Better, Consistent Data (Direct & Indirect)
- Benefits from Maintaining Authenticity & Individuality of Waterfront Villages
- Secondary Benefits from Water Taxi System, Expanded Water Sports Base, Special Events
- Marketing & Branding



## Summary of Key Recommendations

- Support On-Going Waterways Restoration Efforts
- Initiate Water Taxi Working Groups
- Design & Fund Public Multi-Use Docks
- Utilize Federal Process & FDOT re: St Lucie River RR Bridge
- Protect "Marine Transportation Routes" for Boat Builders
- Prioritize "Last Mile" Connections & Greenways to/from Marinas & Waterfront Centers
- Work with SFWMD to Create Canal-bank Greenways





## Summary of Key Recommendations

- Develop "Treasure Coast Water Sports" Brand
- Support Redevelopment Programs & Key Infill Opportunities (e.g., Fort Pierce, Port St. Lucie, Old Palm City, Port Salerno)
- Establish "Lagoon Partnership Network" (parks/preserves) & Regional Env. Education
- Prioritize Recreational Improvements (*Boat Ramps, Paddling Launches, Amenities*)
- Develop Comprehensive Datasets for Marine Industries & Hospitality Industry
- Advance "Marine Industries" Career Training



## Waterways Plan for Martin & St. Lucie Counties

### FOR MORE INFORMATION:

KIM DELANEY, Ph.D.  
STRATEGIC DEVELOPMENT COORDINATOR  
TREASURE COAST REGIONAL PLANNING COUNCIL  
[KDELANEY@TCRPC.ORG](mailto:kdelaney@TCRPC.ORG)

BETH BELTRAN  
MPO ADMINISTRATOR  
MARTIN METROPOLITAN  
PLANNING ORGANIZATION  
[bbeltran@martin.fl.us](mailto:bbeltran@martin.fl.us)

PETER BUCHWALD, AICP  
EXECUTIVE DIRECTOR  
ST. LUCIE TRANSPORTATION  
PLANNING ORGANIZATION  
[pbuchwaldp@stlucieco.org](mailto:pbuchwaldp@stlucieco.org)



## OPTION 1



**PROPOSAL AGREEMENT  
VIA E-MAIL**

October 1, 2014

**Revised October 3, 2014**

Mr. Robert J. DiRienzo, E.I  
Taylor Engineering, Inc.  
10151 Deerwood Park Blvd.  
Bldg. 300, Suite 300  
Jacksonville, Florida 32256

Subject: Proposal to Provide Groundwater and Vibration Monitoring Services  
DU-8 Pipeline Sleeve  
Jacksonville, Florida  
E&A Proposal No. 08861 (**Revised**)

Thank you for allowing us the opportunity to provide you with a proposal for your project and continue our relationship that we have developed over the years. We look forward to providing any geotechnical engineering and construction materials testing and environmental consulting you may need for any of your projects.

**SCOPE OF WORK AND COMPENSATION**

Based on our conversations with you we understand the DU-8 pipeline sleeve will be constructed to the south of a property containing an existing condominium (Mira Vista). The project is anticipated to being in mid- to late October and has a construction schedule of 60 days. Groundwater observation wells are requested to monitoring the groundwater level at two locations adjacent to the condominium buildings during construction. In addition, vibration monitoring services are requested at two locations between the condominium buildings and area of construction. The groundwater and vibration monitoring services are anticipated to be adjacent to Mira Vista Building numbers 9 and 10. For the purposes of this proposal we anticipate/assume that groundwater and vibration data will be collected for 40 days. For the cost estimate, we have assumed a staff engineer will visit the site to download daily vibration monitoring data and record the groundwater observation well levels for 30 days. We have also budgeted a technician to be on-site for nearly two days (12 hours) at the start of the vibration/groundwater monitoring services. We propose to provide the referenced services as follows:

▪Shallow groundwater observation well installation (LUMP SUM--2 wells):	\$500
▪Groundwater measurement and reporting (Per Day/2 wells measured)	\$40
▪Vibration Monitoring, Per Hour (Technician):	\$60
▪Vibration Monitoring Data Collection, Per Hour (Staff Engineer):	\$95
▪Vibration Equipment Rental, Per Day/Per Monitor:	\$75
▪Engineering Services/Data Review (Senior Engineer, P.E.):	\$150

Daily records of the groundwater and vibration monitoring will be submitted by email after each day of monitoring. A weekly monitoring report will also be issued to summarize the results of the collected data during the week and to discuss observed anomalies in the collected data. Based on the proposed number of groundwater observation wells and vibration monitoring locations and the monitoring duration discussed above, we estimate a total fee of \$9,920. Our services are proposed on a time and materials



basis and will vary depending on the needs of this project. Compensation for our services will be based upon the actual time spent and tests performed in accordance with the referenced unit rates. Our work will be performed in accordance with our General Conditions, a copy of which is attached and made a part of this proposal. A returned copy of the attached authorization sheet, date and signed by a responsible signatory, will formally authorize the testing services identified in this proposal.

**AUTHORIZATION FOR PAYMENT**

A returned copy of the attached authorization form dated and signed by a responsible signatory will formally authorize the services identified in this proposal. Our work will be performed in accordance with our Terms and Conditions, a copy of which is attached to and made part of this proposal.

Respectfully submitted,

**ELLIS & ASSOCIATES, INC.**



David W. Spangler, P.E.  
Senior Geotechnical Engineer





**Authorization for Groundwater and Vibration Monitoring Services**

DU-8 Pipeline Sleeve

Jacksonville, Florida

E&A Proposal No. 08861 **(Revised)**

Signature of Authorized Representative: \_\_\_\_\_

Name (Printed): \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

Date Authorized: \_\_\_\_\_

**Billing and Invoicing Information** (if different from addressee)

Company Name: \_\_\_\_\_

Company Address: \_\_\_\_\_

Attn. (Contact's Name): \_\_\_\_\_ Email: \_\_\_\_\_

Phone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

**FEDERAL TAX ID NO.** \_\_\_\_\_

**Send Additional Reports To:**

Company Name: \_\_\_\_\_

Company Address: \_\_\_\_\_

Attn. (Contact's Name): \_\_\_\_\_ Email: \_\_\_\_\_

Phone No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

Copies to Others (Include names and physical or e-mail addresses below):

For new clients that have not established a credit history with us, E&A may require a completed Credit Application and may require a retainer be paid prior to beginning our work.





# TERMS AND CONDITIONS FOR PROFESSIONAL SERVICES

1. **Services:** Ellis & Associates, Inc. (E&A) agrees to perform for Client the services described in the attached proposal. Client agrees that E&A shall have ready access to Client, Client's staff and resources as necessary to perform the services provided for by this contract.
  - a. **Right-of-Entry:** Unless otherwise agreed, Client will furnish right-of-entry on the property for E&A to make the planned borings, surveys, well installations, and/or exploration. E&A will take reasonable precautions to minimize damage to the property caused by its equipment and sampling procedures, but the fee of restoration or damage which may result from the planned operations is not included in the contracted amount.
  - b. **Sampling or Testing Location:** Unless specifically stated to the contrary, the unit fees included in this proposal do not include fees associated with professional land surveying of the site or the accurate horizontal and vertical locations of tests. Field tests or boring locations described in our report or shown on our sketches are based on specific information furnished to us by others or estimates made in the field by our technicians. Such dimensions, depths or elevations should be considered as approximations unless otherwise stated in the report.
  - c. **Sample Handling and Retention:** Generally test samples or specimens are consumed and/or substantially altered during the conduct of tests and E&A, at its sole discretion, will dispose (subject to the following) of any remaining residue immediately upon completion of test unless required in writing by the Client to store or otherwise handle the samples. (a) **NON HAZARDOUS SAMPLES:** At Client's written request, E&A will maintain preservable test samples and specimens or the residue therefrom for ninety (90) days after submission of E&A's report to Client free of storage charges. After the initial 90 days and upon written request, E&A will retain test specimens or samples for a mutually acceptable storage charge and period of time. (b) **HAZARDOUS OR POTENTIALLY HAZARDOUS SAMPLES:** In the event that samples contain substances or constituents hazardous or detrimental to human health, safety or the environment as defined by federal, state or local statutes, regulations, or ordinances, E&A will, after completion of testing and at Client's expense: (i) return such samples to Client; (ii) using a manifest signed by Client as generator, will have such samples transported to a location selected by Client for final disposal. Client agrees to pay all fees associated with the storage, transport, and disposal of such samples. Client recognizes and agrees that E&A is acting as a bailee and at no time does E&A assume title of said waste.
  - d. **Discovery of Unanticipated Hazardous Materials:** Hazardous materials or certain types of hazardous materials may exist at a site where there is no reason to believe they could or should be present. E&A and Client agree that the discovery of unanticipated hazardous materials constitutes a changed condition mandating a renegotiation of the scope of work or termination of services. E&A and Client also agree that the discovery of unanticipated hazardous materials may make it necessary for E&A to take immediate measures to protect health and safety. E&A agrees to notify Client as soon as practicable should unanticipated hazardous materials or suspected hazardous materials be encountered. Client encourages E&A to take any and all measures that, in E&A's professional opinion, are justified to preserve and protect the health and safety of E&A's personnel and the public. Client agrees to compensate E&A for the additional fee of working to protect employees' and the public's health and safety. In addition, Client waives any claim against E&A, and agrees to defend, indemnify and save E&A harmless from any claim or liability for injury or loss arising from E&A's discovery of unanticipated hazardous materials or suspected hazardous materials. Client also agrees to compensate E&A for any time spent and expenses incurred by E&A in defense of any such claim, with such compensation to be based upon E&A's prevailing fee schedule and expense reimbursement policy relative to recovery of direct project fees.
  - e. **Damage to Existing Man-made Objects:** It shall be the responsibility of the Client or his duly authorized representative to disclose the presence and accurate location of all hidden or obscure man-made objects relative to field tests, sampling, or boring locations. When cautioned, advised or given data in writing that reveal the presence or potential presence of underground or overground obstructions, such as utilities, E&A will give special instructions to its field personnel. As evidenced by acceptance of this proposal, Client agrees to indemnify and save harmless E&A from all claims, suits, losses, personal injuries, death and property liability resulting from unusual subsurface conditions or damages to subsurface structures, owned by Client or third parties, occurring in the performance of the proposed work, whose presence and exact locations were not revealed to E&A in writing, and to reimburse E&A for expenses in connection with any such claims or suits, including reasonable attorney's fees.
2. **Standard of Care:** E&A shall perform all of its work to the degree of skill and care ordinarily exercised under similar conditions by reputable members of E&A's profession in the same community, at the same site and under the same or similar conditions.
3. **Staff:** E&A is an independent contractor and neither E&A nor E&A's staff shall be deemed to be employed by Client. Client is hereby contracting with E&A for the services described and E&A reserves the right to determine the method, manner and means by which the services will be performed.



4. **Payment for Services:** Client agrees to pay E&A amounts agreed to within 30 days after date of invoice. Interest will be added to all amounts not paid within 30 days after date of invoice at the maximum rate permitted by law from 30 days after date of invoice to date payment is received. Any and all attorney fees and expenses associated with collection of past due invoices will be paid by Client.
5. **Insurance:** E&A maintains Worker's Compensation with Employer's Liability, Commercial General Liability, and Automobile Liability insurance. A certificate of insurance can be provided at your request evidencing such coverage.
6. **Indemnification:** Client and E&A each agree to indemnify and hold the other harmless, and their respective officers, employees, agents and representatives, from and against liability for all claims, losses, damages, and expenses, including reasonable attorney's fees, to the extent such claims, losses, damages or expenses are caused by the indemnifying party's negligent acts, errors or omissions. In the event claims, losses, damages or expenses are caused by the joint or concurrent negligence of Client and E&A, they shall be borne by each party in proportion to its negligence.
7. **Warranty:** Except as it relates to the accuracy and completeness of E&A's reports, findings, conclusions, and recommendations, E&A makes no warranties or guarantees, express or implied, relating to E&A's services and E&A disclaims any implied warranties or warranties imposed by law, including warranties of merchantability and fitness for a particular purpose.
8. **Dispute Resolution:** In the event of any dispute between the parties relating to or concerning this agreement, the parties shall use the following procedure to resolve the dispute:
  - a. In the event of a disagreement between the parties to this agreement, within ten (10) days of the occurrence of the disagreement, each party shall deliver to the other a detailed letter explaining that party's position and the basis for that party's position.
  - b. E&A and Client shall meet together, face to face, at E&A's office in Jacksonville, Florida to discuss the dispute and determine whether it can be settled. If it cannot be settled, the parties shall select a mediator from the list of certified civil mediators in Jacksonville, Florida.
  - c. If the parties do not resolve the dispute in mediation, the dispute shall be settled by binding arbitration that shall be conducted in accordance with the rules of the American Arbitration Association and judgment on the award rendered may be entered in state court in Jacksonville, Florida. The arbitration hearings shall be held in Jacksonville, Florida.
9. **Ownership of Documents:** All reports, surveys, drawings, designs, plans, or other products produced and other data gathered by E&A in performance of its services are the property of E&A and E&A shall have the right, but not the obligation, to transfer ownership of such documents or data to Client. E&A shall not provide such documents, reports or other data to any other person or entity without prior written consent of Client. The provisions of this paragraph shall remain in effect for a period of ten (10) years following completion of the work.
10. **Construction Fee:** Any opinions or estimates of probable construction fee by E&A are prepared on the basis of E&A's experience and qualifications and represent E&A's judgment as a professional generally familiar with the industry. E&A does not guarantee that proposals, bids, or actual construction fee will not vary from E&A's opinions or estimates of probable construction fee.
11. **Termination:** This agreement may be terminated by either party by giving written notice to the other. If Client does not make timely payment of E&A invoices, it will be cause for suspension and/or termination of Agreement. Client shall be obligated for all fees incurred by E&A up to the date of termination resulting from Client's untimely payment(s).
12. **Force Majeure:** E&A shall not be held responsible for any delay or failure in performance of any part of this Agreement to the extent such delay or failure is caused by fire, flood, explosion, war, strike, embargo, government requirement, civil or military authority, acts of God, act or omission of subcontractors, carriers, Client or other similar causes beyond its control.
13. **Applicable Law:** E&A shall comply with all applicable laws in performing its services. This agreement shall be construed in accordance with the laws of the State of Florida. **PURSUANT TO F.S. 558.0035, AN INDIVIDUAL EMPLOYEE OR AGENT OF E&A MAY NOT BE HELD INDIVIDUALLY LIABLE FOR NEGLIGENCE.**
14. **Complete Agreement:** This agreement contains the entire agreement between the parties hereto with respect to the matters covered herein. No other agreements, representations, warranties or other matters, oral or written, purportedly agreed to or represented by or on behalf of E&A by any of its employees or agents, or contained in any sales materials or brochures, shall be deemed to bind the parties hereto with respect to the subject matter hereof.





TAYLOR ENGINEERING, INC.

*Delivering Leading-Edge Solutions*

October 8, 2014

Mr. Mark Crosley  
Executive Director  
Florida Inland Navigation District  
1314 Marcinski Road  
Jupiter, FL 33477

RE: DU-8 DMMA Pipeline Sleeve Construction; Duval County, Florida  
Professional Construction Engineering & Monitoring Services

Mr. Crosley:

Taylor Engineering is pleased to submit the enclosed scope of work (Attachment A) and cost proposal (Attachment B) to provide professional construction engineering and monitoring services for the DU-8 DMMA Pipeline Sleeve Construction project. Primary tasks revolve around the two buildings adjacent to the pipeline sleeve project — MiraVista at Harbortown Condominium Buildings 9 and 10. These tasks include pre-construction photo and video documentation of building conditions (interior and exterior), vibration and groundwater monitoring adjacent to these buildings, and post-construction photo and video documentation of building conditions (interior and exterior).

Taylor Engineering will perform these services for a cost-plus not-to-exceed fee of \$31,158.50 (Attachment B). The total fee also includes the work of our vibration and groundwater monitoring subconsultant, Ellis & Associates, Inc. [\$16,505.00 (Attachment C)].

Please contact me at (904) 731-7040 ext. 288 or [jadams@taylorengeering.com](mailto:jadams@taylorengeering.com) with any questions.

Sincerely,

John Adams, P.E.  
Senior Advisor

Attachments (4)



**DU-8 DMMA PIPELINE SLEEVE CONSTRUCTION  
DUVAL COUNTY, FLORIDA  
PROFESSIONAL CONSTRUCTION ENGINEERING & MONITORING SERVICES**

**ATTACHMENT A  
SCOPE OF WORK**



## ATTACHMENT A

**DU-8 DMMA PIPELINE SLEEVE CONSTRUCTION  
PROFESSIONAL CONSTRUCTION ENGINEERING & MONITORING SERVICES**

This scope of services describes Taylor Engineering's proposed professional construction engineering and monitoring services in support of the DU-8 DMMA Pipeline Sleeve Construction project. The FIND Site DU-8 is located at 13801 Evergreen Drive, Jacksonville, Florida. The proposed pipeline sleeve lies in a FIND easement immediately adjacent to MiraVista at Harbortown Condominium (MiraVista) Buildings 9 and 10.

Taylor Engineering recently received a copy of the September 10, 2014 report by Atlantic Engineering Services (AES) that documents floor slab settlement issues in several of the ten condominium buildings at Mira Vista. According to the report, the condominium building is constructed of reinforced masonry walls founded on concrete grade beams and concrete piles. The floor slabs, however, consist of slab-on-grade construction. While the edges of these slabs are supported by the concrete grade beam, the interior of these slabs relies solely on the underlying soil for support. The AES report states that the project geotechnical engineering report indicates as much as 18 feet of unsuitable bearing soil exists below the condominium buildings. The report also states that the geotechnical report recommended removal of the unsuitable material or supporting the slab on piles. The report does not clearly indicate whether or not the builder followed these recommendations.

In light of this report, the condominium association representative, Mr. Peter Thornburn, has asked FIND to provide assurance that the pipeline sleeve construction project would not aggravate slab settlement at MiraVista. To satisfy Mr. Thornburn's request for assurance, Taylor Engineering proposes to provide additional construction engineering and monitoring beyond its scope of work for professional construction administration services for this project.

Taylor Engineering has developed its scope of work based on the following assumptions:

1. The project construction phase will extend from approximately November 2014 through January 2015
2. The pipeline project occurs adjacent to Buildings 9 and 10; therefore, construction engineering and monitoring will focus on these two buildings and exclude the remaining buildings
3. The condo owners in Buildings 9 and 10 will allow interior access for pre-construction and post-construction photo and video documentation of building conditions
4. As stated by the AES report, Building 9 contains 12 units, and Building 10 contains 18 units with 4 and 6 ground-floor units respectively
5. Interior building documentation will require approximately 1 hour for each unit for both pre-construction and post-construction documentation
6. Interior building documentation will require no more than 10 separate visits to MiraVista to coordinate documentation of all 30 units
7. Mr. Thornburn will communicate with the condo owners in Buildings 9 and 10 and provide FIND and Taylor Engineering with a schedule of each owner's availability for interior pre-construction and post-construction documentation
8. Vibration and groundwater monitoring will occur adjacent to Buildings 9 and 10 – outside the FIND easement. Mr. Thornburn will communicate this to the condo owners and they will not object to the placement of these monitoring devices

If any of these assumptions prove incorrect, Taylor Engineering will work with FIND to develop appropriate modifications to this scope of work and cost.



## ATTACHMENT A

**TASK 1 PRE-CONSTRUCTION PHOTO & VIDEO DOCUMENTATION**

Taylor Engineering representatives will visit each of the 30 units in Buildings 9 and 10 to collect photo and video documentation of the pre-construction conditions on the interior of each unit. While the AES report indicates that floor slab settlement (ground floor only) appears to represent the main settlement issue, Taylor Engineering suggests extending the photo and video documentation to the upper floor units for thoroughness.

In addition, we will collect photo and video documentation of the exterior. In summary, we will look for signs of settlement issues including interior drywall and floor tile cracking, binding of window and door openings, separation of floor and ceiling molding, and exterior stucco and exposed concrete cracking.

**TASK 2 CONSTRUCTION VIBRATION & GROUNDWATER MONITORING**

Taylor Engineering will coordinate with Ellis & Associates, Inc. (Ellis) to collect vibration and groundwater monitoring data during construction. Ellis will place two vibration monitoring devices, one immediately adjacent to each building. The devices will collect continuous vibration data which Ellis will download at the project site with a laptop computer.

This scope of services includes up to 3.5 days for a technician from Ellis to monitor the vibration data in real-time when the Contractor first begins work that could induce ground vibrations. This real-time monitoring will allow the Contractor to make adjustments to their means and methods if the monitoring equipment detects any unusual vibrations that could aggravate slab settlement. It will also allow Ellis to pinpoint the ideal location of the vibration monitoring devices based on the observed data. After achieving comfort in the vibration levels, Ellis will download the vibration data on a daily basis and report the levels to Taylor Engineering weekly. However, in the event that the vibration monitoring equipment detects unusual vibrations, Ellis will report this immediately to us.

In addition to monitoring construction vibrations, Ellis will install two shallow groundwater wells to monitor the rise and fall of the groundwater elevation adjacent to the buildings. Sudden drops in groundwater elevation below the normal range could accelerate slab settlement. Monitoring the groundwater elevation will provide documentation of the effects of construction dewatering at the building. In the event that construction dewatering begins to lower the groundwater at the building, we would instruct the Contractor to cease dewatering immediately. We will coordinate the exact location of each of these wells immediately before construction begins. Ellis will use hand installation methods to minimize disturbance to the condo buildings.

Ellis will provide Taylor with a signed and sealed summary report that documents the data collected and states its opinion on whether any of the data collected could presumably aggravate the settlement issues at the adjacent condominium buildings.

**TASK 3 POST-CONSTRUCTION PHOTO & VIDEO DOCUMENTATION & REPORTING**

Upon completion of the pipeline sleeve project, Taylor Engineering representatives will conduct a follow-up visit to each of the 30 units. This follow-up visit will serve to document the condition of any settlement issues found during the pre-construction documentation. We will also document any newly developed settlement issues that occurred during the pipeline sleeve construction. As in the first task, Taylor Engineering will collect both interior and exterior photo and video documentation. We will provide FIND with a brief summary report and complete DVD records of our documentation.



## ATTACHMENT A

**DELIVERABLES**

- Taylor Engineering will provide a DVD containing complete pre and post-construction photo and video documentation of the interior and exterior conditions for Buildings 9 and 10
- Taylor Engineering will provide FIND with a brief letter report summarizing the pre and post-construction conditions at each of the 30 units
- Taylor Engineering will provide FIND with a copy of the Ellis report



**DU-8 DMMA PIPELINE SLEEVE CONSTRUCTION  
DUVAL COUNTY, FLORIDA  
PROFESSIONAL CONSTRUCTION ENGINEERING & MONITORING SERVICES**

**ATTACHMENT B  
COST PROPOSAL**



## TAYLOR ENGINEERING, INC.

## COST SUMMARY BY TASK

**P2014-168: FIND - DU-8 DMMA Pipeline Sleeve Construction; Professional  
Construction Engineering & Monitoring Services**

**TASK 1: Pre-Construction Photo & Video Documentation**

<i>Labor</i>	Hours	Cost	Task Totals
Vice President	1	185	
Senior Advisor	2	370	
Senior Professional	20	2,700.00	
Project Professional	22	2,310.00	
Total Man-Hours	45		
Labor Cost			5,565.00
<i>Total Task 1</i>			5,565.00

**TASK 2: Construction Vibration & Groundwater Monitoring**

<i>Labor</i>	Hours	Cost	Task Totals
Vice President	1	185	
Project Professional	2	210	
Total Man-Hours	3		
Labor Cost			395
<i>Non-Labor</i>	Units	Cost	
Vibration & Groundwater Monitoring	1	16,505.00	
Non-Labor Cost		16,505.00	
Fee @ 10%		1650.5	
<i>Total Task 2</i>			18,550.50



**TASK 3: Post-Construction Photo & Video Documentation**

<i>Labor</i>	Hours	Cost	Task Totals
Vice President	2	370	
Senior Advisor	3	555	
Senior Professional	22	2,970.00	
Project Professional	28	2,940.00	
Administrative	4	208	
Total Man-Hours	59		
Labor Cost			7,043.00
<i>Total Task 3</i>			7,043.00

**Project Total    \$31,158.50**



**DU-8 DMMA PIPELINE SLEEVE CONSTRUCTION  
DUVAL COUNTY, FLORIDA  
PROFESSIONAL CONSTRUCTION ENGINEERING & MONITORING SERVICES**

**ATTACHMENT C  
ELLIS & ASSOCIATES, INC. SCOPE OF SERVICES**




**Ellis & Associates Inc.**

Geotechnical ■ Materials Testing ■ Environmental ■ CEI Services  
*Integrated Engineering Services*



**PROPOSAL AGREEMENT  
 VIA E-MAIL**

October 1, 2014

**Revised: October 8, 2014**

Mr. Robert J. DiRienzo, E.I.  
 Taylor Engineering, Inc.  
 10151 Deerwood Park Boulevard  
 Building 300, Suite 300  
 Jacksonville, Florida 32256

Subject: Proposal to Provide Groundwater and Vibration Monitoring Services  
 DU-8 Pipeline Sleeve  
 Jacksonville, Florida  
 E&A Proposal No. 08861 **(Revised)**

Thank you for allowing us the opportunity to provide you with a proposal for your project and continue our relationship that we have developed over the years. We look forward to providing any geotechnical engineering and construction materials testing and environmental consulting you may need for any of your projects.

**SCOPE OF WORK AND COMPENSATION**

Based on our conversations with you we understand the DU-8 pipeline sleeve will be constructed to the south of a property containing an existing condominium (Mira Vista). The project is anticipated to being in mid- to late October and has a construction schedule of 60 days. Groundwater observation wells are requested to monitoring the groundwater level at two locations adjacent to the condominium buildings during construction. In addition, vibration monitoring services are requested at two locations between the condominium buildings and area of construction. The groundwater and vibration monitoring services are anticipated to be adjacent to Mira Vista Building numbers 9 and 10. For the purposes of this proposal we anticipate/assume that groundwater and vibration data will be collected for 60 days. For the cost estimate, we have assumed a staff engineer will visit the site to download daily vibration monitoring data and record the groundwater observation well levels for 50 days. We have also budgeted a technician to be on-site for 3 and one half days (28 hours) at the start of the vibration/groundwater monitoring services. We propose to provide the referenced services as follows:

▪Shallow groundwater observation well installation (LUMP SUM--2 wells):	\$500
▪Groundwater measurement and reporting (Per Day/2 wells measured)	\$40
▪Vibration Monitoring, Per Hour (Technician):	\$60
▪Vibration Monitoring Data Collection, Per Hour (Staff Engineer):	\$95
▪Vibration Equipment Rental, Per Day/Per Monitor:	\$75
▪Engineering Services/Data Review (Senior Engineer, P.E.):	\$150

Daily records of the groundwater and vibration monitoring will be submitted by email after each day of monitoring. A weekly monitoring report will also be issued to summarize the results of the collected data during the week and to discuss observed anomalies in the collected data. A final summary report will be issued at the completion of the monitoring period containing the results of the vibration monitoring relative



to industry accepted vibration threshold values and an opinion on whether or not the vibrations and dewatering recorded during construction impacted the adjacent buildings or caused further damage to the buildings. Based on the proposed number of groundwater observation wells and vibration monitoring locations and the monitoring duration discussed above, we estimate a total fee of **\$16,505**. Our services are proposed on a time and materials basis and will vary depending on the needs of this project. Compensation for our services will be based upon the actual time spent and tests performed in accordance with the referenced unit rates. Our work will be performed in accordance with our General Conditions, a copy of which is attached and made a part of this proposal. A returned copy of the attached authorization sheet, date and signed by a responsible signatory, will formally authorize the testing services identified in this proposal.

**AUTHORIZATION FOR PAYMENT**

A returned copy of the attached authorization form dated and signed by a responsible signatory will formally authorize the services identified in this proposal. Our work will be performed in accordance with our Terms and Conditions, a copy of which is attached to and made part of this proposal.

Respectfully submitted,

**ELLIS & ASSOCIATES, INC.**



David W. Spangler, P.E.  
Senior Geotechnical Engineer



**DU-8 DMMA PIPELINE SLEEVE CONSTRUCTION  
DUVAL COUNTY, FLORIDA  
PROFESSIONAL CONSTRUCTION ENGINEERING & MONITORING SERVICES**

**ATTACHMENT D**

**ATLANTIC ENGINEERING SERVICE SLAB SETTLEMENT INVESTIGATION REPORT**





**ATLANTIC  
ENGINEERING  
SERVICES**

6501 Arlington Expy.  
Building B, Suite 201  
Jacksonville, FL 32211  
PH: 904.743.4833  
FX: 904.725.9295  
jax@aesj.com  
www.aesj.com

# Slab Settlement Investigation Mira Vista Condominium Complex Jacksonville, Florida

*Prepared For*

May Management Services, Inc.  
5455 AIA South  
St. Augustine, FL 32080-7111

*Prepared By*

Atlantic Engineering Services of Jacksonville  
6501 Arlington Expressway, Building B, Suite 201  
Jacksonville, FL 32211

AES Project No. 314-170  
September 10, 2014





**ATLANTIC  
ENGINEERING  
SERVICES**

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**ATLANTIC  
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September 10, 2014

Ms. Kimberly Hamm  
May Management Services, Inc.  
5455 AIA South  
St. Augustine, FL 32080-7111

Re: Slab Settlement Investigation  
Mira Vista Condominium Complex  
Jacksonville, Florida

Project: #314-170

Dear Kimberly:

This report presents the findings and recommendations of Atlantic Engineering Services of Jacksonville (AES) regarding the structural condition assessment of the Miravista Condominiums in Jacksonville, Florida. AES performed a visual survey of the first floor units to determine if any units are experiencing settlement of the slab on grade. AES measured the slabs with a Zip Level to determine the relative differences in the slab elevations in each unit surveyed.

#### **BACKGROUND**

The Mira Vista Condominium Complex consists of ten, three-story condominium buildings with five, eighteen (18) unit buildings and five, twelve (12) unit buildings. The structure of the buildings consists of reinforced masonry walls on concrete grade beams and concrete piles. The first floor slab is a slab on grade and is not supported on piles. Four, first floor units have been underpinned with pin piles to stabilize the slabs in these units.

The following existing documents were available for our review:

- The structural drawings for the twelve (12) unit buildings by Silcox, Kidwell & Associates, Inc., dated December 4, 2003.
- The architectural drawings for the twelve (12) unit buildings by Bloodgood Sharp Buster, dated June 30, 2003.
- The civil drawings by J. Lucas & Associates, Inc. dated June 2003.
- The partial geotechnical report by Ellis and Associates dated May 2, 2003, and a complete consolidated report dated November 12, 2007. A June 4, 2002 report and an October 19, 2005 report were also referenced in the consolidated report, but were not available for our review.
- The eighteen (18) unit building drawings were not available for our review. AES extrapolated the required information for our review from the drawings of the twelve (12) unit buildings.

The geotechnical report stated the slabs were to be supported on piles or the unsuitable soils were to be removed. Based on the boring logs, the depth of unsuitable soil exceeded eighteen (18) feet in some areas and the water table was between 2 and 4.2 feet below the ground surface.

The walls separating the units, along with the front and rear walls of the building are bearing walls and therefore on piles, per the original structural drawings. Per the original structural drawings, the slab on grade was cast over the top of the grade beam and the bearing wall set on top of the slab. Therefore, in general we found these walls to be stable and can be used as reference to determine if the interior portions of the slab have settled. The American Concrete Institute (ACI) recommends slab elevations do not exceed 1/4 inch per ten feet or a maximum of 1/4 inch total across the entire slab.





## OBSERVATIONS

AES visually observed the first floor units and measured the slab elevations with a Zip Level. Units 205 and 503 were not available for this review. Units 606, 801, 802 and 903 have been repaired. The slab at the inside of the front door was used as our reference "0" elevation for the Zip Level for each unit (see Appendix A - Survey Drawings). The following was observed:

1. **Building 1** (Twelve (12) unit building – four (4) ground floor units):
  - a. Unit 101: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.4 inches. This is within standard construction tolerances.
  - b. Unit 102: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.3 inches. This is within standard construction tolerances.
  - c. Unit 103: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.3 inches. This is within standard construction tolerances.
  - d. Unit 104: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.4 inches. This is within standard construction tolerances.
2. **Building 2** (Eighteen (18) unit building – six (6) ground floor units):
  - a. Unit 201: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.4 inches. This is within standard construction tolerances.
  - b. Unit 202: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.5 inches. This is within standard construction tolerances.
  - c. Unit 203: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.3 inches. This is within standard construction tolerances.
  - d. Unit 204: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.2 inches. This is within standard construction tolerances.
  - e. Unit 205: No Access.
  - f. Unit 206: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.3 inches. This is within standard construction tolerances.
3. **Building 3** (Twelve (12) unit building – four (4) ground floor units):
  - a. Unit 301: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.2 inches. This is within standard construction tolerances.
  - b. Unit 302: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.3 inches. This is within standard construction tolerances.
  - c. Unit 303: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.2 inches. This is within standard construction tolerances.





May Management Services, Inc.

September 10, 2014

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Project: #314-170

- d. Unit 304: There were no visible signs of settlement. However, the maximum differential elevation from the bearing walls to the center of the slab is 0.9 inches. This is slightly beyond the standard construction tolerances. This occurred in the kitchen area and master bathroom. It is a possible indication that the slab may be beginning to settle.
4. **Building 4** (Eighteen (18) unit building – six (6) ground floor units):
  - a. Unit 401: There were some visible signs of settlement; cracks in the drywall and separation of the floor and ceiling molding. The maximum differential elevation from the bearing walls to the center of the slab is 1.5 inches. This is significantly beyond the standard construction tolerances indicating that the slab is settling.
  - b. Unit 402: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.4 inches. This is within standard construction tolerances.
  - c. Unit 403: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.2 inches. This is within standard construction tolerances.
  - d. Unit 404: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.2 inches. This is within standard construction tolerances.
  - e. Unit 405: There were no significant visible signs of settlement, but there was measurable settlement of the slab. The maximum differential elevation from the bearing walls to the center of the slab is 1.3 inches. This is significantly beyond the standard construction tolerances indicating that the slab is settling.
  - f. Unit 406: There were some visible signs of settlement; doors that do not close properly, and separation of the floor and ceiling molding. The maximum differential elevation from the bearing walls to the center of the slab is 1.5 inches. This is significantly beyond the standard construction tolerances indicating that the slab is settling.
5. **Building 5** (Twelve (12) unit building – four (4) ground floor units):
  - a. Unit 501: There were some visible signs of settlement; cracks in the drywall and separation of the floor and ceiling molding. The maximum differential elevation from the bearing walls to the center of the slab is 1.5 inches. This is significantly beyond the standard construction tolerances indicating that the slab is settling.
  - b. Unit 502: There were some visible signs of settlement; cracks in the drywall and separation of the floor and ceiling molding. The maximum differential elevation from the bearing walls to the center of the slab is 1.3 inches. This is beyond the standard construction tolerances indicating that the slab is settling.
  - c. Unit 503: No Access.
  - d. Unit 504: There were some visible signs of settlement; cracks in the drywall and separation of the floor and ceiling molding. The maximum differential elevation from the bearing walls to the center of the slab is 1.1 inches. This is beyond the standard construction tolerances indicating that the slab is settling.
6. **Building 6** (Eighteen (18) unit building – six (6) ground floor units):
  - a. Unit 601: There were no visible signs of settlement. The maximum differential elevation from the front of the unit to the rear of the unit is 1.2 inches. This is outside of standard construction tolerances. However, it does not appear that the differential in slab elevations is due to settlement. The slab slopes from the front of the unit to the rear, including along the bearing walls, indicating the slab was constructed with the elevation change.





- b. Unit 602: There were no visible signs of settlement. The maximum differential elevation from the front of the unit to the rear is 0.8 inches. This is slightly outside of standard construction tolerances. However, it does not appear that the differential in slab elevations is due to settlement. The slab slopes from the front of the unit to the rear, including along the bearing walls, indicating the slab was constructed with the elevation change.
  - c. Unit 603: There were no visible signs of settlement. However, the maximum differential elevation from the bearing walls to the center of the slab is 0.9 inches. This is slightly beyond the standard construction tolerances. This occurred in the kitchen area and master bathroom. It is a possible indication that the slab may be beginning to settle.
  - d. Unit 604: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.4 inches. This is within standard construction tolerances.
  - e. Unit 605: There were no significant visible signs of settlement, only a crack in the drywall, but there was measurable settlement of the slab. The maximum differential elevation from the bearing walls to the center of the slab is 1.2 inches. This is significantly beyond the standard construction tolerances indicating that the slab is settling.
  - f. Unit 606: This unit has already been repaired.
- 7. **Building 7** (Twelve (12) unit building – four (4) ground floor units):
  - a. Unit 701: There were visible signs of settlement; cracks in the drywall, doors that do not close properly and separation of the floor and ceiling molding. The maximum differential elevation from the bearing walls to the center of the slab is 1.0 inch. This is beyond the standard construction tolerances indicating that the slab is settling.
  - b. Unit 702: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.3 inches. This is within standard construction tolerances.
  - c. Unit 703: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.3 inches. This is within standard construction tolerances.
  - d. Unit 704: There were visible signs of settlement; cracks in the drywall, doors that do not close properly and separation of the floor and ceiling molding. The maximum differential elevation from the bearing walls to the center of the slab is 1.1 inches. This is beyond the standard construction tolerances indicating that the slab is settling.
- 8. **Building 8** (Eighteen (18) unit building – six (6) ground floor units):
  - a. Unit 801: This unit has already been repaired.
  - b. Unit 802: This unit has already been repaired.
  - c. Unit 803: There were visible signs of settlement; cracks in the drywall, doors that do not close properly and cracks in the bathroom tile. The maximum differential elevation from the bearing walls to the center of the slab is 2.2 inches. This is significantly beyond the standard construction tolerances indicating that the slab is settling.
  - d. Unit 804: There were visible signs of settlement; cracks in the drywall and floor molding separating from the floor. The maximum differential elevation from the bearing walls to the center of the slab is 1.9 inches. This is significantly beyond the standard construction tolerances indicating that the slab is settling.





- e. Unit 805: There were visible signs of settlement; cracks in the drywall and floor molding separating from the floor. The maximum differential elevation from the bearing walls to the center of the slab is 2.4 inches. This is significantly beyond the standard construction tolerances indicating that the slab is settling.
  - f. Unit 806: There were no visible signs of settlement. However, according to the owner the unit had recently had a significant remodeling where the doors had been repaired and the bottom of the walls had been replaced. This unit had the most significant measured slab settlement in the complex. The maximum differential elevation from the bearing walls to the center of the slab is 3.1 inches. This is significantly beyond the standard construction tolerances indicating that the slab is settling.
9. **Building 9** (Twelve (12) unit building – four (4) ground floor units):
- a. Unit 901: There were visible signs of settlement; cracks in the drywall, doors that do not close properly and separation of the floor and ceiling molding. The maximum differential elevation from the bearing walls to the center of the slab is 1.9 inches. This is significantly beyond the standard construction tolerances indicating that the slab is settling.
  - b. Unit 902: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.7 inches. This is within standard construction tolerances.
  - c. Unit 903: This unit has already been repaired.
  - d. Unit 904: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.5 inches. This is within standard construction tolerances.
10. **Building 10** (Eighteen (18) unit building – six (6) ground floor units):
- a. Unit 1001: There were no significant visible signs of settlement, however based on measurements, the slab is settling. The maximum differential elevation from the bearing walls to the center of the slab is 1.2 inches. This is beyond the standard construction tolerances indicating that the slab is settling.
  - b. Unit 1002: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.4 inches. This is within standard construction tolerances.
  - c. Unit 1003: There were visible signs of settlement; cracks in the drywall. The maximum differential elevation from the bearing walls to the center of the slab is 1.3 inches. This is beyond the standard construction tolerances indicating that the slab is settling.
  - g. Unit 1004: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.6 inches. This is within standard construction tolerances.
  - h. Unit 1005: There were visible signs of settlement; floor molding separating from the floor. The maximum differential elevation from the bearing walls to the center of the slab is 1.3 inches. This is significantly beyond the standard construction tolerances indicating that the slab is settling.
  - i. Unit 1006: There were no visible signs of settlement. The maximum differential elevation from the bearing walls to the center of the slab is 0.4 inches. This is within standard construction tolerances.





## EVALUATION AND RECOMMENDATIONS

The existing structural drawings clearly indicate that the slabs at the first floor units are designed to be supported by the grades and are not supported on piles. Based on observations and measurements, there are numerous first floor slabs experiencing settlement. The following units are currently settling and require underpinning to stabilize the slabs: 401, 405, 406, 501, 502, 504, 603, 605, 701, 704, 803, 804, 805, 806, 901, 1001, 1003 and 1005.

The geotechnical report indicates there are significant organic materials below all the buildings at the Miravista Condominium Complex. The report provides a map with a line indicating where deep foundations are required on the site (see Appendix B). All the buildings in the Miravista Condominium Complex are in the area requiring deep foundations or removal of the unsuitable soils. Due to the depth of the organics, it is unlikely the unsuitable soils were removed because these soils were below the water table and the site is adjacent to the Intracoastal Waterway. Therefore, it would have been extremely difficult if not impossible to dewater the site and remove the soils. As the organic materials continue to breakdown and compress, the slabs will continue to settle. In our opinion, all of the first floor units will require underpinning to permanently stabilize the slabs on grade.

Underpinning existing slabs is extremely disruptive to the unit occupants. Per the repairs already completed at the interior units, there are seventy nine (79) piers required at the interior units and one hundred and nine (109) at the corner units. Each pier requires a hole drilled through the slab, a new helical slab pier installed through the hole and the hole then grouted. The operation is noisy and dirty. The unit occupants will need to move out of the units during the pier installation. The floor finishes will need to be removed and replaced and the units will likely need to be re-painted.

The next step in our investigation would be to request the borings from the contractor of the units that have already been repaired to confirm that the unsuitable soils have not been removed. In lieu of receiving this information, we recommend retaining a geotechnical firm to provide borings at each building in order to determine the soil profile at each building.

## OPINION OF PROBABLE CONSTRUCTION COST

Our opinion of the probable construction cost to complete the repairs described in general above is attached (see Appendix C). This estimate does not include the costs of moving the unit's occupants in and out of the units, the cost of a rental unit or the fees associated with engaging a qualified professional engineer to prepare bid documents and provide construction administration services.

## CONCLUSIONS

In conclusion, it is our opinion that all the slabs in the first floor units will eventually need slab piers. Based on observations and measurements, several slabs are experiencing settlement. The geotechnical report indicates there are significant organic materials below these buildings. Due to the depth of the organics, it is unlikely the unsuitable soils were removed because these soils were below the water table and the site is adjacent to the Intracoastal Waterway, therefore, it would have been extremely difficult if not impossible to dewater the site and remove the soils. As the organic materials continue to breakdown and compress, the slabs will continue to settle. In our opinion, all of the first floor units will require underpinning to permanently stabilize the slabs on grade.





**May Management Services, Inc.**  
September 10, 2014  
Page 7 of 7

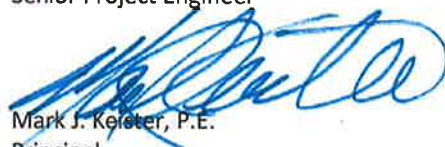
Project: #314-170

Please contact our office if there are any questions regarding this correspondence, or if you need any additional information.

Very truly yours,  
ATLANTIC ENGINEERING SERVICES OF JACKSONVILLE  
FLORIDA CERTIFICATE OF AUTHORIZATION #791



Jude T. Kostage, P.E.  
Senior Project Engineer



Mark J. Keister, P.E.  
Principal

JTK/MJK/drg



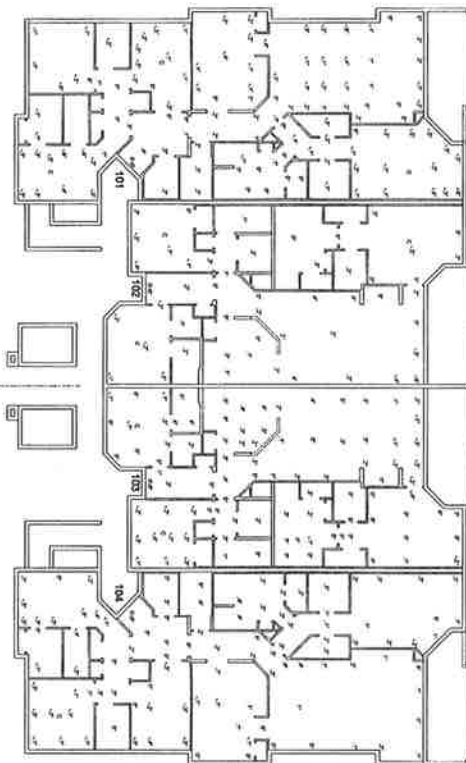


**ATLANTIC  
ENGINEERING  
SERVICES**

## **APPENDIX A**

## **SURVEY DRAWINGS**

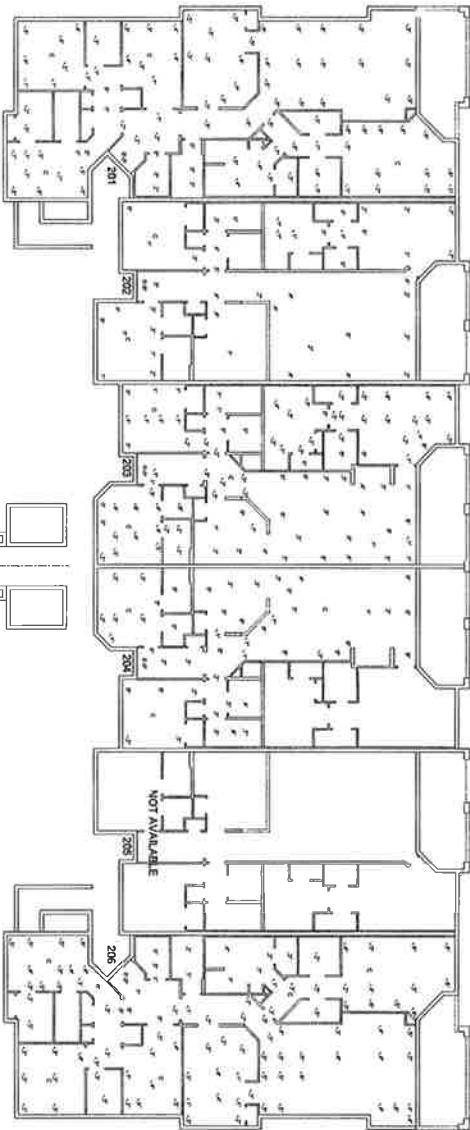




**FIRST FLOOR PLAN BLDG 1**  
NOV 19 1977

- NOTES:**  
 ① DUCTILE IN DRYSALL.  
 ② GOOD W/IN T. OILS.  
 ③ GOOD FRUIT CUT FOR PLANT.  
 ④ CRACKS IN TILE.  
 ⑤ LITHON HOLDING BEH. A. 47 AND FRUIT PLANT.  
 ⑥ CRACKS W/IN DRYS. BEHAVIOR FROM CRACKS.

ALL ELEVATIONS SHOWN ARE MEASURED FROM 6" AT THE FRONT DOOR OF EACH UNIT



**FIRST FLOOR PLAN BLDG 2**

MIRA VISTA CONDOS  
JACKSONVILLE, FLORIDA

BLDG 1 AND 2 ELEVATION SURVEY PLANS

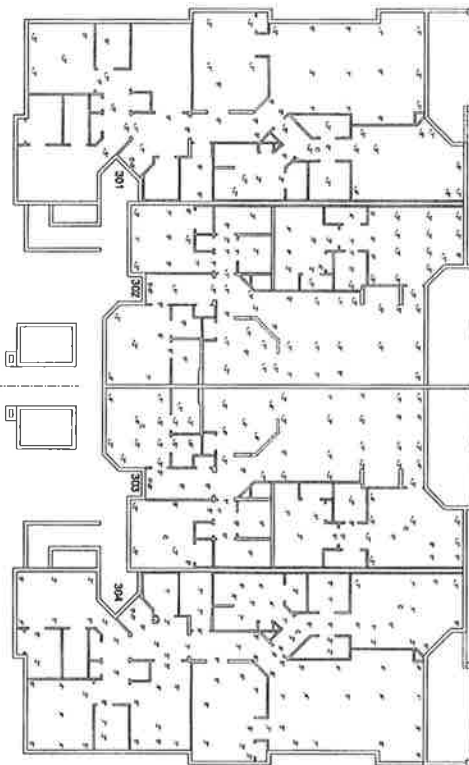


### S1.1

DESIGNED BY \_\_\_\_\_  
CHECKED BY \_\_\_\_\_  
SURVEY DRAWINGS

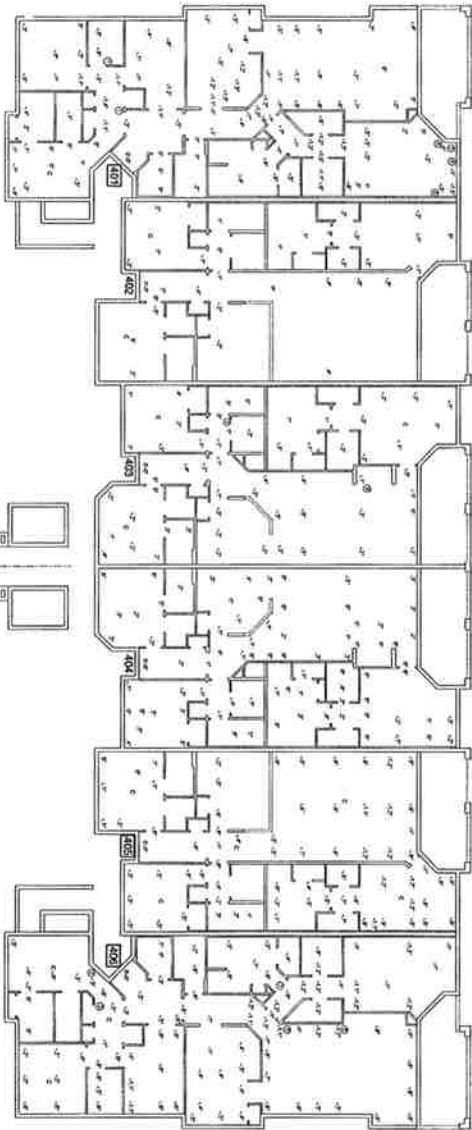
9/2/06





**FIRST FLOOR PLAN BLDG 3.**  
SCALE 1/8" = 1'-0"

1. WATER  
 2. CRACKER OR CRUMBL  
 3. DOOR WENT CLOSE  
 4. DOOR FLAME OUT OF FLAME  
 5. CRACKER IN FLAME  
 6. CRACK WOULD BE FLAME OUT FLAME  
 7. CRACK WOULD BE FLAME OUT FLAME  
 8. CRACK WOULD BE FLAME OUT FLAME



FIRST FLOOR PLAN BUILD 4  
SCALE: 1/8" = 1'-0"

**MIRA VISTA CONDOS**  
JACKSONVILLE, FLORIDA

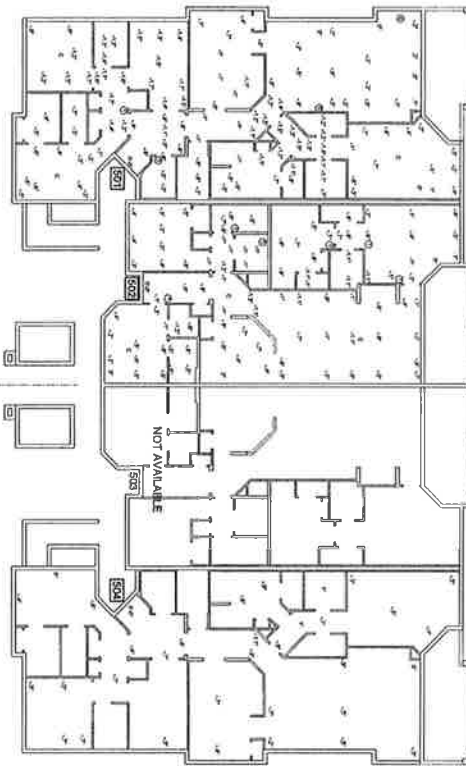
**BLDG 3 AND 4 ELEVATION SURVEY PLANS**



Building 8, Suite 201  
Lockscombe Rd 32211  
D 904 743 4433  
www.lockscombe.com

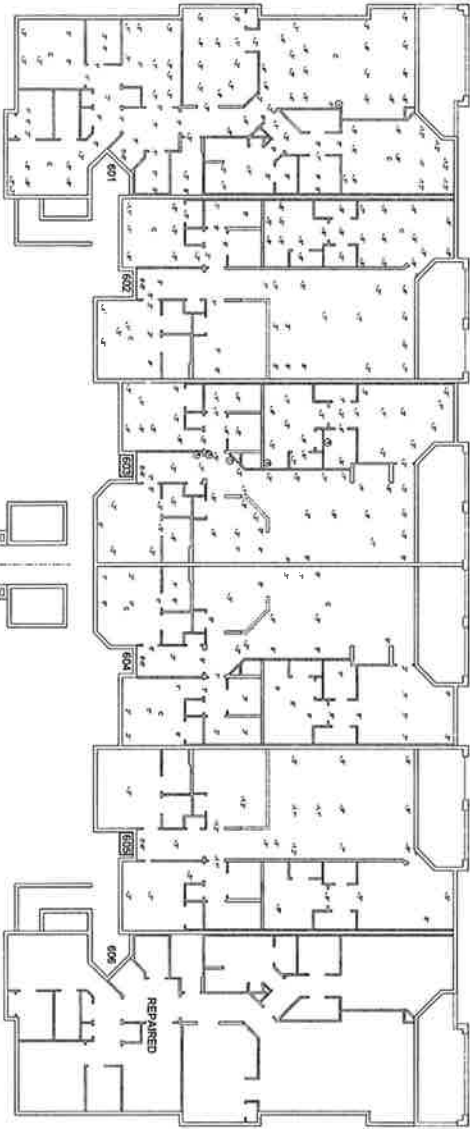
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FIRST FLOOR PLAN BLDG. 5

- NOTES:
- ① UNITS IN PARENTAL
  - ② UNITS IN PARENTAL
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FIRST FLOOR PLAN BLDG. 6

MIRA VISTA CONDOS  
JACKSONVILLE, FLORIDA

BLDG 5 AND 6 ELEVATION SURVEY PLANS



PROJECT NO.	3143
DATE	9-11-20
BY	BRUNO
CHECKED BY	BRUNO
SCALE	AS SHOWN
SHEET NO.	1
TOTAL SHEETS	1
PROJECT NAME	MIRA VISTA CONDOS
PROJECT ADDRESS	1000 N. W. 10th Ave., Suite 1000, Jacksonville, FL 32209
PROJECT PHONE	904.255.1234
PROJECT FAX	904.255.1234
PROJECT EMAIL	info@aes.com
PROJECT WEBSITE	www.aes.com

S1.3











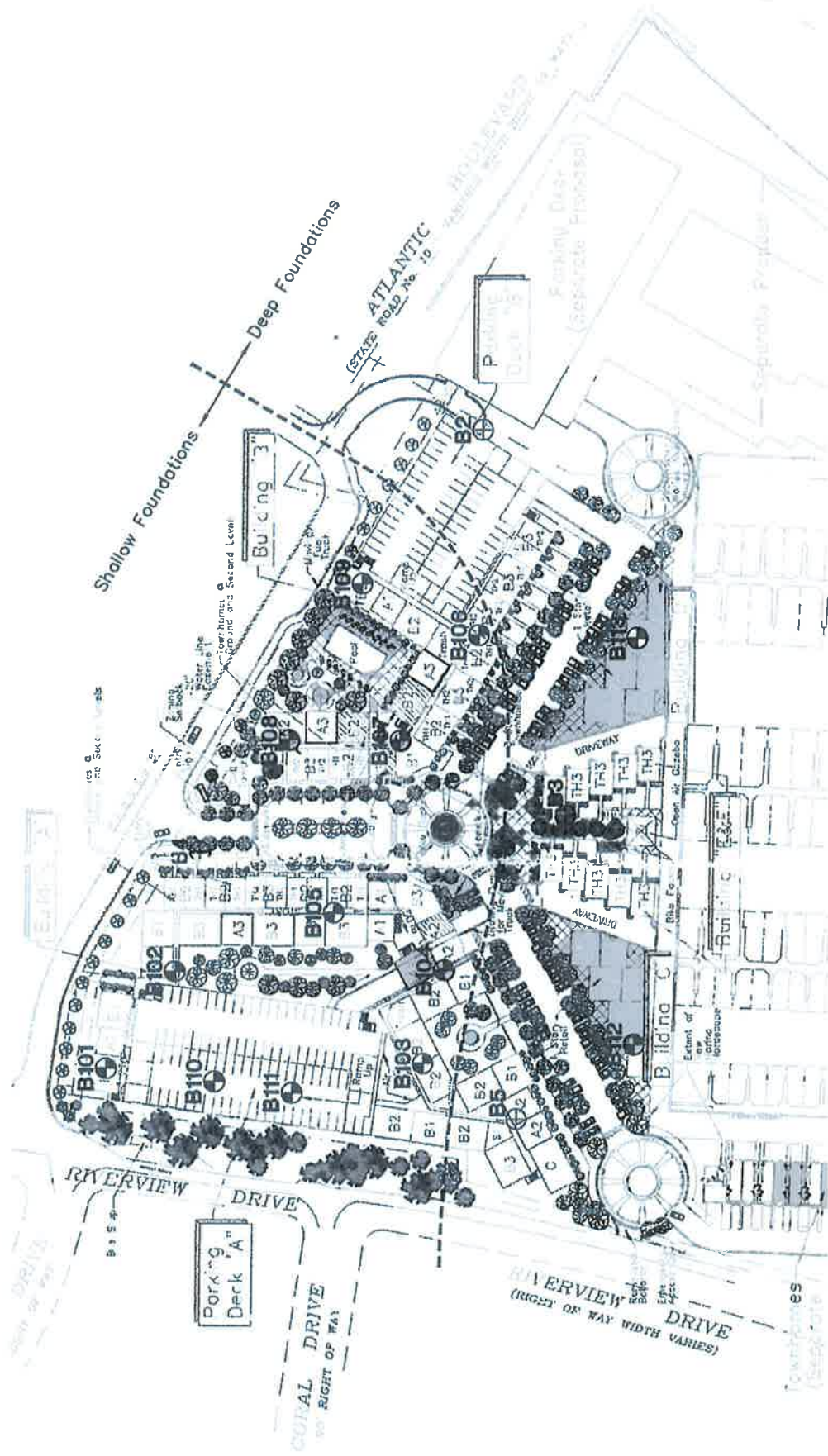


**ATLANTIC  
ENGINEERING  
SERVICES**

## **APPENDIX B**

# **GEOTECHNICAL INFORMATION**







ATLANTIC BOULEVARD  
(STATE ROAD No. 10 - VARIABLE WIDTH RIGHT OF WAY)

NO IMPROVEMENTS ON THIS SHEET  
SEE SHEET 5 FOR IMPROVEMENTS  
FOR WORK "BY OTHERS" SEE DEVELOPMENT  
NAMED "HARBORTOWN"



SHALLOW FOUNDATIONS

DEEP FOUNDATIONS

MATCH LINE - SEE NEXT SHEET

PAVING & DRAINAGE PLAN OF  
MIRA VISTA AT HARBORTOWN  
FOR  
CENTEX HOMES, INC.

NO.	REVISION	BY	DATE

VERSION ACAD16  
DRAWN BY: DAD  
DESIGNED BY: JR  
APPROVED BY: JR  
DATE: OCT. 2002

**J. LUCAS & ASSOCIATES, INC.**  
CONSULTING AND DESIGN ENGINEERS  
CERTIFICATE OF AUTHORIZATION NO. 3881  
1305 CEDAR STREET - JACKSONVILLE, FL 32207  
PH (904) 386-3080 FAX (904) 386-3456





**ATLANTIC  
ENGINEERING  
SERVICES**

## **APPENDIX C**

# **OPINION OF PROBABLE CONSTRUCTION COST**



**Structural Cost (Order-of-Magnitude) Estimate**

Miravista Slab Repairs  
September 2014

**Average Interior Unit**

REF	SECTION	UNIT	UNIT COST TOTAL INCL O&P \$/unit	TOTAL UNIT	TOTAL COST TOTAL INCL O&P \$/unit
1					
	Install New Slab Piers	Ea.	\$1,000.00	79.00	\$ 79,000.00
2	09 30 13 3100 New Flooring (Tile)	S.F.	\$10.05	2,000.00	\$ 20,100.00
2	09 91 23 0800 Re-Paint Interior Walls - Standard Finish	S.F.	\$0.67	7,000.00	\$ 4,690.00
-		Total	\$5,000.00	1.00	\$ 5,000.00
<b>Sub Total</b>					<b>\$ 108,790.00</b>
					<b>Per Unit</b>

**Average Corner Unit**

REF	SECTION	UNIT	UNIT COST TOTAL INCL O&P \$/unit	TOTAL UNIT	TOTAL COST TOTAL INCL O&P \$/unit
1					
	Install New Slab Piers	Ea.	\$1,000.00	109.00	\$ 109,000.00
2	09 30 13 3100 New Flooring	S.F.	\$10.00	2,600.00	\$ 26,000.00
2	09 91 23 0800 Re-Paint Interior Walls - Standard Finish	S.F.	\$0.67	9,000.00	\$ 6,030.00
-		Total	\$6,200.00	1.00	\$ 6,200.00
<b>Sub Total</b>					<b>\$ 147,230.00</b>
					<b>Per Unit</b>

<b>Total Cost (46 Remaining Units)</b>			
Total Interior Units	28		\$ 3,046,120.00
Total Corneror Units	18		\$ 2,650,140.00
<b>Total</b>			<b>\$ 5,696,260.00</b>

- 1) AES Historical Construction Cost Data  
2) 2014 RS Means Residential Cost Data  
3) 2014 RS Means Commercial Renovation Cost Data