Exhibit “B”

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

SECTION 00 72 15

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidder*—The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

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12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*—See Paragraph 11.01 for definition.

17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *Engineer*—The individual or entity named as such in the Agreement.

20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

21. *General Requirements*—Sections of Division 1 of the Specifications.

22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.

23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

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27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*—Polychlorinated biphenyls.

31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.

37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

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40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.

43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.

46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.

47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.

48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

49. *Unit Price Work*—Work to be paid for on the basis of unit prices.

50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an

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addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 *Terminology*

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered," "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

a. does not conform to the Contract Documents; or

b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or

c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

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1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

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2.04 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of

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the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

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1. *Contractor's Review of Contract Documents Before Starting Work*: Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work*: If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation , (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

   a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or

   b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;

2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or

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3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or

2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.

B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the

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Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and

2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

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4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review*: After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

   a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and

   b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

   a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

   b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

   c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

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4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

   a. reviewing and checking all such information and data;

   b. locating all Underground Facilities shown or indicated in the Contract Documents;

   c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and

   d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

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4.05 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to

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permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

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ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

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C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.

E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

   a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or

   b. by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners,

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employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

6. include completed operations coverage:

   a. Such insurance shall remain in effect for two years after final payment.

   b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

   1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of

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them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;

2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

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E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

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5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

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ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

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6.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and

3) it has a proven record of performance and availability of responsive service.

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times; and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

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2. *Substitute Items:*

   a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

   b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

   c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.

   d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

      1) shall certify that the proposed substitute item will:

         a) perform adequately the functions and achieve the results called for by the general design,

         b) be similar in substance to that specified, and

         c) be suited to the same use as that specified;

      2) will state:

         a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,

         b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

         c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

      3) will identify:

         a) all variations of the proposed substitute item from that specified, and

         b) available engineering, sales, maintenance, repair, and replacement services; and

      4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

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B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

E. *Engineer's Cost Reimbursement*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

F. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or

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entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor

2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its

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use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.

C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner

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and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

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6.12 *Record Documents*

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.

D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts

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any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

a. Submit number of copies specified in the General Requirements.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

a. Submit number of Samples specified in the Specifications.

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b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:

a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;

b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the

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Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

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3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;

6. any inspection, test, or approval by others; or

7. any correction of defective Work by Owner.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

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6.21 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and

2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe

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access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.

C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

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ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws

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and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

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9.03 *Project Representative*

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations

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on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.

B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of,

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and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of

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executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

A. *Engineer's Decision Required*: All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action*: Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part;

2. approve the Claim; or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

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E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

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4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

    a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

    b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

    c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

    d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.

    e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

    f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

    g. The cost of utilities, fuel, and sanitary facilities at the Site.

    h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.

    i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

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1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.

C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 *Allowances*

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances:*

1. Contractor agrees that:

a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in

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the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance:*

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

2. there is no corresponding adjustment with respect to any other item of Work; and

3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

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B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

   a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;

   b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;

   c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

   d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

   e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

   f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

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12.02 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

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ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;

2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and

3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

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E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.

F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers,

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architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or

2. correct such defective Work; or

3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

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13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

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D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments:*

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's

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review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and

c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

a. to supervise, direct, or control the Work, or

b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

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a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;

b. the Contract Price has been reduced by Change Orders;

c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or

d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due:*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment:*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;

b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;

c. there are other items entitling Owner to a set-off against the amount recommended; or

d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

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14.04 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

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1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

   a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;

   b. consent of the surety, if any, to final payment;

   c. a list of all Claims against Owner that Contractor believes are unsettled; and

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d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Payment Becomes Due:*

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

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14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;

3. Contractor's repeated disregard of the authority of Engineer; or

4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);

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2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and

3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other

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dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or

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2. agrees with the other party to submit the Claim to another dispute resolution process; or

3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

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Exhibit “C”

SECTION 00 73 15

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (EJCDC C-700, 2007 Edition). All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions which are defined in the Standard General Conditions of the Construction Contract have the meanings assigned to them in the General Conditions.

ARTICLE 1 DEFINITIONS AND TERMINOLOGY

SC-1.01.A Amend the Defined Terms for "21, *General Requirements"* to "The General Requirements pertain to all Sections of the specifications".

SC-1.01.A Add the following sentence to "27. Notice of Award": "When requested by OWNER, the Notice of Award may be issued by the ENGINEER."

SC-1.01.A Add the following sentence to "28. Notice to Proceed": "When requested by OWNER, the Notice to Proceed may be issued by ENGINEER."

SC 1.01.A Add the following new Defined Terms:

52. SURETY – The person, firm, or corporation which is bound by the contract bonds with and for Contractor (Principal); and which is held and firmly bound unto Owner for the conditions of obligations set forth in said bonds.

53. ARCHITECT/ENGINEER – The person, firm or corporation named as the ENGINEER in the Agreement.

54. PROVIDE – As used in the Project Manual, means to furnish and install, complete and ready for intended use.

55. PRODUCT – As used in the Project Manual, includes materials, fabrications, systems and equipment.

ARTICLE 2 PRELIMINARY MATTERS

SC-2.02.A Amend the first sentence of paragraph 2.02.A of the General Conditions by changing "up to ten" to "five".

Add the following new subparagraphs to paragraph 2.05A:

SC-2.05.A Amend the first sentence of paragraph 2.05.A of the General Conditions by changing "Within 10 days after the Effective Date of the Agreement" to "At the Preconstruction Conference".

SC-2.05A.4 Contractor shall perform no portion of the Work at any time without Contract Documents or, where specified, approved Shop Drawings for such portion of the Work.

SC-2.05A.5 By executing the Contract, Contractor represents that he has visited the site, familiarized himself with the local conditions under which the Work is to be performed, and correlated his observations with the requirements of the Contract Documents.

Add the following new paragraph immediately after paragraph 2.05.A.5:

SC-2.05.B Before any Work at the Site is started, Contractor shall deliver to the Owner, certificates of insurance that Contractor is required to purchase and maintain in accordance with Article 5.

Add the following new paragraph immediately after paragraph 2.06.B:

SC-2.06.C Owner may issue Notice to Proceed at the Preconstruction Conference. Contractor shall begin the Work within twenty-four (24) hours of the date given in the Notice to Proceed. If the Contractor does not start the Work within fourteen (14) calendar days after this date, Owner may, at his discretion, terminate Contractor in accordance with paragraph 15.02.

Delete paragraph 2.07.A in its entirety and insert the following in its place:

SC-2.07.A All schedules as set forth in Article 2 shall be submitted and accepted by the Owner and Engineer within 30 days of NTP. Should any schedule not be accepted within 30 days of the NTP, it will be considered a breach of contract and reason for termination of the contract for cause in accordance with the General Conditions, Section 15.02.

ARTICLE 3 CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

Add the following sentence to Paragraph 3.01B:

SC-3.01.B Contractor shall be responsible for the construction and coordination of the parts of the Project, and all systems provided shall be completely compatible and fully functional without additional cost to Owner.

Add the following new subparagraph to paragraph 3.02.A:

SC-3.02.A.3. Sections of Division 01 - General Requirements govern the execution of all sections of the Specifications.

ARTICLE 4 AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRIONMENTAL CONDITIONS; REFERENCE POINTS

Add the following to the end of paragraph 4.01.C:

SC-4.01.C Contractor shall obtain said land rights at his own expense and without liability to the Owner. Contractor shall not enter upon private property without first obtaining written permission from the rightful property owner.

Amend the last sentence in paragraph 4.03.C.3 to read:

SC-4.03.C.3 However, Owner, Engineer and Engineer's Consultants shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

ARTICLE 5 BONDS AND INSURANCE

Delete paragraph 5.01.B in its entirety and insert the following in its place:

SC-5.01.B All Bonds shall be in the form prescribed by the Contract Documents or other form approved by Owner. All else notwithstanding, the terms of all Bonds shall be substantially in the form prescribed by Chapter 255, Florida Statutes. All Bonds shall be executed by Contractor and a corporate bonding company licensed to transact such business in the State of Florida and named on the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Treasury Department Circular Number 570. Contractor will cause the Bonds to be recorded with the Clerk of the Circuit Court in the county in which the Work is to be performed. Failure to execute bonds in the form prescribed may constitute non-responsiveness on the part of the Contractor. The expense for all Bonds shall be the Contractor's responsibility.

Add the following to the end of paragraph 5.02.A:

SC-5.02.A Certificates of insurance shall be issued by a company with a Best's rating of at least B+ authorized to do business in the State of Florida. Owner must approve non-rated insurers. If used, Owner shall be shown as Certificate Holder, Engineer as Additional Insured and provide a 30-day cancellation notice.

Delete paragraph 5.03.B in its entirety and insert the following in its place:

SC-5.03.B Insurance policies written on a "Claims Made" form is not acceptable without Owner's approval.

Add the following new paragraphs immediately after paragraph 5.03.E:

SC-5.03.F Umbrella Liability insurance is preferred, but an Excess Liability equivalent is acceptable. Whichever type of coverage is provided, it shall not be more restrictive than the underlying insurance policy coverages, including, but not limited to the coverage Trigger, defense, notice of occurrence/accident/circumstances, notice of claim and extended reporting period.

SC-5.03.G No work shall commence under this contract until the required Certificate(s) have been provided. Work shall not continue after expiration (or cancellation) until new Certificate(s) have been provided. Non-continuance of work after expiration (or cancellation) of Certificate(s) will not constitute a delay beyond Contractor's control as defined in paragraph 12.03.

SC-5.03.H Contractor shall arrange for its insurers' policies to include, or be endorsed to include, a severability or interest/cross liability provision, so that Owner will be treated as if a separate policy were in existence, but without increasing the policy limits.

SC-5.03.I Contractor's deductibles/self-insured retentions shall be disclosed to Owner and may be disapproved by the latter. They shall be reduced or eliminated at the option of Owner. Contractor is responsible for the amount of any deductible or self-insured retention.

SC-5.03.J These insurance requirements shall not relieve or limit the liability of Contractor. Owner does not in any way represent that these types or amounts of insurance are sufficient or adequate to protect Contractor's interests or liabilities, but are merely minimums.

SC-5.03.K Insurance required of Contractor or any other insurance of Contractor shall be considered primary, and insurance or self-insurance of Owner shall be considered excess, as may be applicable to claims that arise out of this contract.

SC-5.03.L Receipt of Certificates or other documentation of insurance or policies or copies of policies by Owner, or by any of its representatives, which indicate less coverage than required does not constitute a waiver of the Contractor's obligation to fulfill the insurance requirements herein.

SC-5.03.M The Contractor shall either (a) require each subcontractor to produce and maintain the same coverage as required of the Contractor, or (b) insure the activities of subcontractors in his own policy.

SC-5.03.N These insurance requirements are minimums and may not be adequate to cover Contractor exposures.

Add the following new paragraphs immediately after paragraph 5.04.B:

SC-5.04.C The limits of liability for the insurance required by paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts shown in Exhibit 1 of the contract documents, or greater where required by Laws and Regulations:

Delete paragraphs 5.06 through 5.10 in their entirety except for paragraph 5.06.D and insert the following in place of 5.09.A:

SC-5.09.A If Owner has any objection to the coverage afforded by or other provisions of Bonds or insurance required to be purchased and maintained by Contractor in accordance with Article 5 on the basis of non-conformance with the Contract Documents, Owner shall so notify Contractor in writing within ten days after receipt of the certificates (or other evidence requested) required by paragraph 2.05.C. Contractor shall provide to Owner such additional information in respect of insurance provided as Owner may reasonably request.

ARTICLE 6 CONTRACTOR'S RESPONSIBILITIES

Add the following to the end of paragraph 6.01.A:

SC-6.01.A Owner reserves the right to reject any means, methods, techniques, sequences or procedures proposed by Contractor which:

1. will constitute or create a hazard to the Work or to the persons or damage to property or existing utilities; or

2. will not produce finished work in accordance with the terms of the contract Documents.

Owner's failure to exercise his right to reject such means, methods, techniques, sequences or procedures shall not relieve the Contractor of his obligation to accomplish the result intended in the Contract Documents nor shall the exercise of such right create a cause of action for damages.

Add the following new paragraph immediately after paragraph 6.02.B:

SC-6.02.C Engineer shall record time and costs required by Engineer and Engineer's Consultants to provide inspection services due to Contractor's working beyond regular working hours as defined in the General Requirements. Owner's reimbursement for the charges shall be a deduction from Contractor's Partial Payment(s).

Add the following new paragraphs immediately after paragraph 6.05.A.2.d:

SC-6.05.A.2.e Each action mentioned above required for review of proposed substitute items of material or equipment shall be followed in the order given. Failure to do so shall be cause for rejection of the proposed substitution.

SC-6.05.A.2.f Contractor shall reimburse Owner for the charges of Engineer or Engineer's Consultants for evaluation of substitutions. Owner's reimbursement for the charges shall be a deduction from the Contractor's Partial Payment(s).

Add the following to the end of paragraph 6.06.A:

SC -6.06.A Contractor shall not subcontract part(s) or the work, the aggregate cost of which is greater than 50 percent of the contract price, without prior written approval by Owner. Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the Work that bind Subcontractors to Contractor by the terms of the Contract Documents insofar as applicable to the work of Subcontractors and to give Contractor the same power as regards terminating any subcontract that Owner may exercise over Contractor under any provision of the Contract Documents. Nothing contained in the subcontract shall create any contractual relationship between Subcontractor and Owner. Each Subcontractor shall discharge all duties and responsibilities of Contractor to Owner covered by his subcontract.

Add the following to the end of paragraph 6.06.B:

SC-6.06.B Subcontractors and Suppliers shall be identified on the form provided in the Bidding Requirements.

Add the following to the end of paragraph 6.08.A:

SC-6.08.A Permits, licenses, and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by Owner, unless otherwise specified.

Add the following to the end of paragraph 6.09.A:

SC-6.09.A Contractor shall also cause all Subcontractors to comply with all federal, state, county, and municipal laws, ordinances, rules, and regulations bearing on the conduct of the Work.

Add the following to the end of paragraph 6.09.B:

SC-6.09.B If Contractor observes that the Contract Documents are at variance with said laws, ordinances, rates, or regulations, Contractor shall promptly notify Engineer of

Record and the County in writing, and any necessary changes shall be adjusted as provided in the Contract Documents. Contractor shall not proceed with the Work until so instructed by Owner.

Add the following to the end of paragraph 6.12.A:

SC-6.12.A Annotations of record documents shall be legible, precise, and complete as determined by Engineer of Record and the County.

Add the following new paragraph after paragraph 6.13.F:

SC-6.13.G Contractor shall be responsible at all times for precautions to achieve the protection of all persons, including employees and property. Contractor shall make special effort to detect hazardous conditions and shall take prompt action where necessary to avoid accident, injury, or property damage. OSHA and all other applicable safety laws and ordinances shall be followed as well as American National Standards Institute Safety Standards. All accidents, injuries, claims, or potential claims shall be reported promptly to Owner.

Add the following new paragraph immediately after paragraph 6.17.E.1:

SC-6.17.E.2 Contractor shall reimburse Owner for the charges of the County and the County's Consultants for costs generated as a result of more than two submittals of any one Shop Drawing or Sample being required for evaluation due to rejection for noncompliance of the original submittal or lack of information required by the Contract Documents. Owner's reimbursement for the charges shall be a deduction from Contractor's Partial Payment(s).

SC-6.20.A Amend the first paragraph of 6.20.A of the General Conditions by changing "(including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court: or arbitration or other dispute resolution costs)" to "(including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or other dispute resolution costs)".

Add the following new paragraph immediately after paragraph 6.20.C:

SC-6.20.D Neither Contractor nor Owner shall sell, transfer, assign, or otherwise dispose of the contract or any portion thereof, or any right, title, or interest therein, or any obligations thereunder, without written consent of the other party.

Add the following new paragraphs immediately after Paragraph 6.20 that are to read as follows:

SC-6.22 Public Records Requirements

A. Public Records Contract Requirements –

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS

RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT NASSAU COUNTY, ATTN: CUSTODIAN OF PUBLIC RECORDS, 96135 NASSAU PLACE, YULEE, FLORIDA 32097, EMAIL: RECORDS@NASSAUCOUNTYFL.COM**, PHONE: (904) 530-6010.**

B. The Contractor shall keep and maintain all public records required and deemed necessary by Nassau County to perform the services purchased under this contract.

C. When requested by the Custodian of Public Records of Nassau County, Contractor shall provide Nassau County with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed those costs provided in Chapter 119, Florida Statutes or as otherwise may be provided by law.

D. Contractor shall ensure that all public records which are exempt or confidential, and exempt from public records disclosure requirements, are not disclosed to the public except as authorized by law for the duration of the contract term and following completion of the contract if the Contractor does not transfer the records to Nassau County as provided in this contract.

E. Upon completion of the contract the Contractor shall either transfer to Nassau County, at no cost, all public records in possession of the contractor, or alternatively, the Contractor may keep and maintain the public records required by Nassau County to perform the services under this contract. If the Contractor elects to transfer all public records to Nassau County upon completion of the contract, the Contractor shall destroy any duplicate public records that are exempt or confidential and which are also exempt from public records disclosure requirements. If the Contractor elects to maintain and keep the public records upon completion of the contract, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to Nassau County upon request from Nassau County Custodian of Public Records in a format that is compatible with the information technology systems of Nassau County.

F. A request to inspect or copy public records relating to a Nassau County contract for services must be made directly to the Nassau. Contractor shall refer all requests for public records to the Nassau County Custodian of Public Records. If Nassau County does not possess the requested records due to the Contractor maintaining the public records, then Nassau County shall immediately notify the Contractor of the request for records. The Contractor must provide the records to Nassau County or allow the records to be inspected or copied within a reasonable time. If the Contractor does not comply with the Nassau County request for records, Nassau County shall be entitled to enforce the contract provisions herein for failure to comply with the terms of the contract. Any Contractor which fails to provide public records to Nassau County within a reasonable time may also be subject to penalties as provided under Section 119.10, Florida Statutes, including punishment by fine or may be guilty of committing a misdemeanor of the first degree for any willful and knowing violation.

Add the following new paragraph immediately after paragraph 6.21.

SC-6.22 E-Verification Requirements

Contractor and subcontractors must submit completed E-Verify documents attached hereto to verify the work authorization status and employment eligibility of all newly hired employees.

ARTICLE 8 OWNER'S RESPONSIBILITIES

SC-8.02 Amend paragraph 8.02 of the General Conditions by striking out the following words: "to whom Contractor makes no reasonable objection."

ARTICLE 9 ENGINEER'S STATUS DURING CONSTRUCTION

Add the following new paragraph immediately after paragraph 9.05.A:

SC-9.05.B Contractor shall reimburse the Owner for the charges of Engineer and Engineer's Consultants for any additional field observations, engineering analysis, correspondence, meetings, or other work due to non-complying or defective construction, materials, or equipment performed or furnished by the Contractor, Subcontractors, or Suppliers. Owner's reimbursement for the charges shall be a deduction from the Contractor's Partial Payment(s).

ARTICLE 10 CHANGES IN THE WORK; CLAIMS

SC-10.05.B Amend the first sentence of paragraph 10.05.B of the General Conditions by changing "(but in no event later than 30 days)" to "(but in no event later than 15 days)".

ARTICLE 11 COST OF THE WORK; CASH ALLOWANCES; UNIT PRICE WORK

Add the following new paragraphs immediately after paragraph 11.01.A.5.i:

SC-11.01.A.5.j The cost of specific consideration for the indemnifications set forth in paragraph 6.20.

SC-11.01.A.5.k The cost of compliance with current local, state and federal safety regulations.

Add the following new paragraphs immediately after paragraph 11.03.D:

SC-11.03.E If Owner objects to Contractor's quoted adjustment in Unit Price Work set forth in paragraph 11.03.D, Owner may assign such work to its own forces or another contractor.

SC-11.03.F Owner reserves the right to delete any Unit Price Work without financial penalty incurred from Contractor.

ARTICLE 12 CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

Add the following new paragraph immediately after paragraph 12.02.B:

SC-12.02.C On the 21st of each month, or the next following business day, the Contractor shall submit to the Owner and Engineer a request for weather days. Failure to submit the request forfeits the right to claim weather days for that period and any previous period. The Owner will grant time extensions, on a day for day basis, for delays caused by the effects of rains or other inclement weather conditions or related adverse soil conditions that prevent the Contractor from productively performing controlling items of work resulting in:

(1) The Contractor being unable to work at least 50% of the normal work day on pre-determined controlling work items due to adverse weather conditions.

No additional compensation will be made for delays caused by the effects of inclement weather.

ARTICLE 13 TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

Add the following to the end of paragraph 13.03.A:

SC-13.03.A Contractor shall reimburse Owner for the charges of Engineer and Engineer's Consultants for all costs due to work not being ready for tests and/or inspections when the Contractor has notified Engineer that work is ready for tests and/or inspections. Contractor shall reimburse Owner for all failed tests and subsequent retests. Reimbursement for the charges shall be a deduction from the Contractor's Partial Payment(s).

Delete paragraph 13.03.B of the General Conditions and add the following in its place:

SC-13.03.B The Contractor shall obtain and employ an independent testing laboratory to provide the services specified herein and shall include all costs for these services in the contract price. The Contractor shall submit for approval by the Owner and Engineer, the independent testing laboratory, including qualifications.

Copies of all testing agency invoices submitted to the Contractor for payment shall be forwarded with the Contractor's request for partial payment. Invoices shall be submitted routinely throughout the project and shall be pertinent to the partial payment period under consideration. Testing agency invoices in excess of sixty (60) days old shall not be considered for payment, Invoices shall clearly indicate type and amount of test performed, unit and total cost, and shall indicate if the invoiced testing cost is a result of retests required due to the Contractor's failure to achieve specified requirements. The cost of retesting due to test failure will be borne by the Contractor. Payment to the Contractor for testing shall not be made without the required itemized invoicing.

SC-13.08.A Amend the first sentence of 13.08.A by changing "(including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs)" to "(including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or other dispute resolution costs)".

SC-13.09.C Amend the first sentence of 13.09.C by changing "(including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs)" to "(including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or other dispute resolution costs)".

ARTICLE 14 PAYMENTS TO CONTRACTOR AND COMPLETION

Delete paragraph 14.02.A.2 in its entirety and insert the following in its place:

SC-14.02.A.2 Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor certifying that Contractor has disbursed to all subcontractors and suppliers having an interest in the contract their pro rata shares of the payment out of previous progress payments received by Contractor for all work completed and materials furnished in the previous work period, less a retainage withheld by Contractor pursuant to an agreement with a subcontractor. Within 30 days of receipt for the final progress payment or any other payments received thereafter except the final payment, Contractor shall pay all subcontractors and suppliers having an interest in the contract their pro rata shares of the payment for all work completed and materials furnished.

Add the following words to the end of paragraph 14.02.B.1:

"or direct Engineer to present the Application to Owner with Engineer's recommendation of partial payment."

SC-14.02.B.2 After the word "schedules", add the words "and the Contract Documents".

Add the following new paragraph immediately after paragraph 14.02.B.2.c:

SC-14.02.B.2.d Contractor's other obligations under the Contract Documents have been fulfilled.

Delete paragraph 14.05.A.4 in its entirety.

Amend paragraph 14.09.A.1 to read:

SC-14.09.A.1 A waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to paragraph 14.06, from failure to comply with the Contract Documents or the

terms of any special guarantees specified therein whenever said failure occurs or from Contractor's continuing obligations under the Contractor Documents; and

Add the following new paragraph immediately after paragraph 14.09.A.2:

SC-14.09.A.3 The acceptance of final payment by Contractor designated and identified by Engineer as final payment shall be and shall operate as a release to Owner of all claims and all liability to Contractor other than claims in stated amounts as may be specifically excepted by Contractor for all things done or finished in connection with the Work and for every act of Owner and others relating to or arising out of the Work. Any payment, however, final or otherwise, shall not release Contractor or Contractor's Surety(ies) from any obligations under the Contract Documents or Bonds.

ARTICLE 15 SUSPENSION OF WORK AND TERMINATION

SC-15.02.A. 1 After the word "Contractor's", add the words "start the work in accordance with the Notice to Proceed or Contractor's".

ARTICLE 16 DISPUTE RESOLUTION

Add the following new paragraph immediately after paragraph 16.01.C.3

SC-16.01.D Venue for any mediation shall be in Nassau County, Florida. Venue for any litigation shall be in state court in Nassau County, Florida.

END OF SECTION

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Exhibit “D”

Florida Department of Environmental Protection

State Revolving Fund Program

Supplementary Conditions

for

The American Beach Water and Sewer District Well and Septic Tank Phase-Out Program

Formally Advertised

Construction Procurement

Revised October 2017

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FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
SUPPLEMENTARY CONDITIONS

The intent of the Florida Department of Environmental Protection (FDEP) Supplementary Conditions is to complement and supplement other provisions of the Bidding Documents. However, if there is any conflict between the FDEP Supplementary Conditions and other provisions of the Bidding Documents, the FDEP Supplementary Conditions shall take precedence over the other provisions except when the other provisions are similar to, but more stringent than, the FDEP Supplementary Conditions. When other provisions of the Bidding Documents are similar to, but more stringent than, the FDEP Supplementary Conditions, the more stringent provisions shall apply.

ARTICLE 1 - DEFINITIONS

Wherever used in these Supplementary Conditions (except in the appendices to these Supplementary Conditions), the following terms have the meanings indicated, which are applicable to both the singular and plural thereof.

1.1 Addendum -A written or graphic instrument that is issued prior to the opening of bids and that clarifies, corrects, or changes the Bidding Documents.

1.2 Agreement or Contract - The written agreement between the Owner and the Contractor covering the Work to be performed and furnished; these Supplementary Conditions and other Contract Documents are attached to the Agreement/Contract and made a part thereof as provided therein.

1.3 Bid - The offer or proposal of a bidder submitted on the prescribed form and setting forth the price(s) for the Work to be performed and furnished.

1.4 Bidder - Any person, firm, or corporation that submits a bid directly to the Owner.

1.5 Bidding Documents - The Advertisement for Bids or the Invitation to Bid, the Instructions to Bidders or the Information for Bidders, the Bid Form, the proposed Contract Documents, and all addenda.

1.6 Bond - An instrument of security.

1.7 Change Order - A document that is recommended by the Engineer and signed by the Contractor and the Owner; that authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Time; and that is issued on or after the Effective Date of the Agreement/Contract.

1.8 Contract Documents - The Agreement/Contract; the Contractor's Bid when attached as an exhibit to the Agreement/Contract; the Performance and Payment Bond(s); the General Conditions; the Supplementary Conditions (including these Supplementary Conditions); the Specifications (written technical descriptions of material, equipment, construction systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto); the Drawings (drawings that show the character and scope of the Work to be performed and furnished); all addenda that pertain to the Contract Documents; and all change orders.

1.9 Contract Time - The number of days or the date stated in the Contract Documents for completion of the Work.

1.10 Contractor - The person, firm, or corporation with whom or which the Owner enters into the Agreement/Contract.

1.11 Effective Date of the Agreement/Contract - The date indicated in the Agreement/Contract on which the Agreement/Contract becomes effective, or if no such date is indicated in the Agreement/Contract, the date on which the Agreement/Contract is signed and delivered by the last of the two parties to sign and deliver the Agreement/Contract.

1.12 Engineer - The person, firm, or corporation named as such in the Contract Documents.

1.13 Minority Business Enterprise (MBE) - A historically Black college or university or a business that is (a) certified as socially and economically disadvantaged by the Small Business Administration, (b) certified as an MBE by a state or federal agency, or (c) an independent business concern which is at least 51-percent owned and controlled by minority group members. (A minority group member is an individual who is a citizen of the United States and one of the following: [i] Black American; [ii] Hispanic American [with origins from Puerto Rico, Mexico, Cuba, or South or Central America]; [iii] Native American [American Indian, Eskimo, Aleut, or native Hawaiian]; or [iv] Asian-Pacific American

[with origins from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the U.S. Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, Taiwan, or the Indian Subcontinent].)

1.14 Notice to Proceed -The written notice given by the Owner to the Contractor fixing the date on which the Contract Time will commence to run and on which the Contractor shall start to perform its obligations under the Contract Documents.

1.15 Owner - The local government (municipality, county, district, or authority; or any agency thereof; or a combination of two or more of the foregoing acting jointly) with which the Florida Department of Environmental Protection (FDEP) may execute, or has executed, a State Revolving Fund loan agreement and for which the Work is to be provided.

1.16 Project - The total construction or facilities described in a State Revolving Fund loan agreement between the FDEP and the Owner, of which the Work to be provided under the Contract Documents may be the whole or a part.

1.17 Sponsor – The recipient of the State Revolving Fund loan agreement that provides funds for the project.

1.18 Subcontract - A direct contract between a subcontractor and the Contractor, or any other subcontractor at any tier, for the furnishing of goods (material and equipment) or the performance of services (including construction) necessary to complete the Work.

1.19 Subcontractor - A person, firm, or corporation having a direct contract with the Contractor, or any other subcontractor at any tier, for the furnishing of goods (material and equipment) or the performance of services (including construction) necessary to complete the Work.

1.20 Successful Bidder - The lowest responsive, responsible bidder to whom or which the Owner intends to award the Agreement/Contract.

1.21 Women's Business Enterprise (WBE) - A business that is (a) certified as a WBE by a state or federal agency or (b) an independent business concern which is at least 51-percent owned and controlled/operated by women. (Determination of whether a business is at least 51-percent owned by women shall be made without regard to community property laws [e.g., an otherwise qualified WBE that is 51-percent owned by a married woman in a community property state will not be disqualified because the married woman's husband has a 50-percent interest in the married woman's share of the business; similarly, a business that is 51-percent owned by a married man and 49-percent owned by women will not become a qualified WBE by virtue of the married man's wife having a 50-percent interest in the married man's share of the business].)

1.22 Work - The entire completed construction or the various separately identifiable parts thereof required to be performed and furnished under the Contract Documents; Work is the result of performing services, furnishing labor, furnishing material and equipment, and incorporating material and equipment into the construction as required by the Contract Documents.

ARTICLE 2 - PRIVITY OF AGREEMENT/CONTRACT

2.1. The Owner expects to finance this Agreement/Contract with assistance from the FDEP, which administers a State Revolving Fund loan program supported in part with funds directly made available by grants from the United States Environmental Protection Agency (USEPA). Neither the State of Florida nor the United States (nor any of their departments, agencies, or employees) will be a party to this Agreement/Contract or any lower-tier subcontract.

ARTICLE 3 - PROCUREMENT REQUIREMENTS

3.1. This Agreement/Contract and the Owner's solicitation and award of this Agreement/Contract are subject to requirements contained in Chapter 62-503 (Revolving Loan Program) and/or Chapter 62-552, Florida Administrative Code as applicable.

ARTICLE 4 - RESOLUTION OF PROTESTS AND CLAIMS/DISPUTES

Resolution of Protests Concerning the Owner's Solicitation and/or Award of this Agreement/Contract:

4.1. Protests concerning the Owner's solicitation and/or award of this Agreement/Contract must be filed in writing with the Owner to be considered.

4.2. All timely written protests concerning the Owner's solicitation and/or award of this Agreement/Contract are to be resolved in accordance with the Owner's dispute resolution process. A copy of the ordinance(s), resolution(s), or written policy (policies) that set forth the Owner's dispute resolution process is included elsewhere in the Bidding Documents or is to be made available by the Owner upon request.

4.3. Neither the (FDEP) nor the USEPA will become a party to, or have any role in resolving, protests concerning the Owner's solicitation and/or award of this Agreement/Contract. Protest decisions made by the Owner cannot be appealed to the FDEP or the USEPA.

Resolution of Claims and Disputes Between the Owner and the Contractor:

4.4. Unless otherwise provided in the Contract Documents, all claims and disputes between the Owner and the Contractor arising out of, or relating to, the Contract Documents or the breach thereof are to be decided by arbitration (if the Owner and the Contractor mutually agree) or in a court of competent jurisdiction within the State of Florida.

4.5. Neither the FDEP nor the USEPA will become a party to, or have any role in resolving, claims and disputes between the Owner and the Contractor.

ARTICLE 5 - CHANGES TO THE BIDDING AND CONTRACT DOCUMENTS

5.1. All changes to the Bidding Documents made subsequent to the FDEP's acceptance of the Bidding Documents and prior to the opening of bids are to be documented via addendum (addenda) to the Bidding Documents; all changes to the Contract Documents made after the opening of bids are to be documented by change order(s) to the Contract Documents. The Owner shall submit all addenda and change orders to the FDEP.

ARTICLE 6 - BONDS AND INSURANCE

Bid Guarantees:

6.1. Each bidder's bid is to be accompanied by a bid guarantee made payable to the Owner in an amount at least equal to five percent of the bidder's maximum bid price and in the form of a certified check or bid bond.

Performance and Payment Bond(s):

6.2. The Contractor shall furnish a combined performance and payment bond in an amount at least equal to 100 percent of the Contract Price (or, if required elsewhere in the Contract Documents, the Contractor shall furnish separate performance and payment bonds, each in an amount at least equal to 100 percent of the Contract Price) as security for the faithful performance and payment of all the Contractor's obligations under the Contract Documents. This(these) bond(s) are to be delivered to the Owner by the Contractor along with the executed Agreement/Contract. The Owner shall forward a copy of this (these) bond(s) to the FDEP.

Insurance:

6.3. The Owner and/or the Contractor (as required elsewhere in the Contract Documents) shall purchase and maintain, during the period of construction, such liability insurance as is appropriate for the Work being performed and furnished and as will provide protection from claims that may arise out of, or result from, the Contractor's performance and furnishing of the Work (whether the Work is to be performed or furnished by the Contractor or any subcontractor at the Work site) and the Contractor's other obligations under the Contract Documents. This insurance is to include workers' compensation insurance, comprehensive general liability insurance, comprehensive automobile liability insurance, and contractual liability insurance applicable to the Contractor's indemnification obligations and is to be written for not less than the limits of liability and coverages determined by the Owner or required by law, whichever is greater.

6.4. The Owner and/or the Contractor (as required elsewhere in the Contract Documents) shall purchase and maintain, during the period of construction, property insurance upon the Work at the Work site in an amount equal to the full replacement cost of the Work or the full insurable value of the Work. This insurance is to include the interests of the Owner, the Contractor, and all subcontractors at the Work site (all of whom are to be listed as insured or additional insured parties); is to insure against the perils of fire and extended coverage; and is to include "all-risk" insurance for physical loss or damage due to theft, vandalism and malicious mischief, collapse, water damage, and/or all other risks against which coverage is obtainable.

6.5. Before any Work at the Work site is started, the Contractor shall deliver to the Owner certificates of insurance that the Contractor is required to purchase and maintain in accordance with Paragraphs 6.3 and 6.4 of this Article and other provisions of the Contract Documents, and the Owner shall deliver to the Contractor certificates of insurance that the Owner is required to purchase and maintain in accordance with Paragraphs 6.3 and 6.4 of this Article and other provisions of the Contract Documents.

ARTICLE 7 - AWARD OF AGREEMENT/CONTRACT

7.1. If this Agreement/Contract is awarded, it is to be awarded to the lowest responsive, responsible bidder. A fixed price (lump sum or unit price or both) agreement/contract is to be used. A clear explanation of the method of evaluating bids and the basis for awarding this Agreement/Contract are included elsewhere in the Bidding Documents. All bids may be rejected when in the best interest of the Owner. After the contract has been awarded, the Owner shall give the Contractor a notice to proceed fixing the date on which the Contract Time will commence to run. The Owner shall forward a copy of this notice to proceed to the FDEP.

ARTICLE 8 - ITEMIZED CONSTRUCTION COST BREAKDOWN; CONSTRUCTION AND PAYMENT SCHEDULES

8.1. The Contractor shall submit to the Owner, within ten calendar days after the Effective Date of this Agreement/Contract, an itemized construction cost breakdown and construction and payment schedules.

8.1.1. The itemized construction cost breakdown, or schedule of values, is to include quantities and prices of items aggregating the Contract Price and is to subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices are to include an appropriate amount of overhead and profit applicable to each item of Work.

8.1.2. The construction, or progress, schedule is to indicate the Contractor's estimated starting and completion dates for the various stages of the Work and is to show both the projected cost of Work completed and the projected percentage of Work completed versus Contract Time.

8.1.3. The payment schedule is to show the Contractor's projected payments cumulatively by month.

ARTICLE 9 – FDEP/USEPA ACCESS TO RECORDS AND PROJECT SITE

9.1. Authorized representatives of the Owner, the FDEP, and the USEPA shall have access to, for the purpose of inspection, the Work site(s), any books, documents, papers, and records of the Contractor that are pertinent to this Agreement/Contract at any reasonable time. The Contractor shall retain all books, documents, papers, and records pertinent to this Agreement/Contract for a period of five years after receiving and accepting final payment under this Agreement/Contract.

NOTE: ARTICLE 10 ONLY APPLIES TO FEDERAL CAP GRANT PROJECTS

ARTICLE 10 - DISADVANTAGED BUSINESS ENTERPRISES

10.1 A goal of five percent of the Contract Price is established for Minority Business Enterprise (MBE) participation in the Work, and a goal of five percent of the Contract Price is established for Women's Business Enterprise (WBE) participation in the Work. If bidders or prospective contractors (including the Contractor) intend to let any lower-tier goods

or services (including construction) subcontracts for any portion of the Work, they shall physically include these percentage goals for MBE and WBE participation in all solicitations for subcontracts and shall take good faith efforts to assure that MBEs and WBEs are utilized, when possible, as sources of goods and services. Good faith efforts are to include the following:

10.1.1. Require Disadvantaged Business Enterprises (DBEs) are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. For Indian Tribal, State and Local and Government recipients, this will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.

10.1.2. Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.

10.1.3. Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. For Indian Tribal, State and local Government recipients, this will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.

10.1.4. Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.

10.1.5. Use the services and assistance of the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

10.1.6. If the prime contractor awards subcontracts, require the prime contractor to take the steps in paragraphs 10.1.1 through 10.1.5 of this section.

10.2. Within ten calendar days after being notified of being the apparent Successful Bidder, the apparent Successful Bidder shall submit to the Owner documentation of the affirmative steps it has taken to utilize Minority and Women's Business Enterprises (MBEs and WBEs) in the Work and documentation of its intended use of MBEs and WBEs in the Work. The Owner shall keep this documentation on file and shall forward to the FDEP a copy of the apparent Successful Bidder's documentation concerning its intended use of MBEs and WBEs in the Work.

ARTICLE 11 - DEBARMENT AND SUSPENSION (EXECUTIVE ORDER 12549)

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions

11.1. The bidder certifies, by submission of this proposal, that neither the bidder nor its principals, nor the bidder's subcontractors nor their principals, are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency.

11.2. Where the bidder is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

11.3. The bidder also certifies that it and its principals and the bidder's subcontractors and their principals:

11.3.1. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state or local) transaction or contract under a public transaction; violation of federal or state anti-trust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

11.3.2. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state or local) with commission of any of the offenses enumerated in paragraph 11.3.1 of this certification; and

11.3.3. Have not within a three-year period preceding this proposal had one or more public transactions (federal, state or local) terminated for cause or default. Where the bidder is unable to certify to any of the above, such owner shall attach an explanation to this proposal.

11.3.4. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the federal government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

11.3.5. The bidder shall incorporate the foregoing requirements 11.1 through 11.3 in all subcontracts.

ARTICLE 12 - EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)

12.1. **Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246).** (Applicable to contracts/subcontracts exceeding $10,000)

12.1.1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.

12.1.2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in Florida, are as follows:

Goal for female participation: 6.9 percent statewide

Goal for minority participation: (See Appendix B at FDEP-20 for goals for each county)

These goals are applicable to all the Contractor's construction work (whether or not it is federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

12.1.3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

12.1.4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is the State of Florida.

12.1.5. Contractors shall incorporate the foregoing requirements in all subcontracts.

12.2. **Equal Opportunity Clause** (Applicable to contracts/subcontracts exceeding $10,000)

During the performance of this contract, the contractor agrees as follows:

12.2.1. The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor shall take affirmative action to ensure that applicants for employment are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

12.2.2. The Contractor shall post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause. The notice can be obtained online at http://www.eeoc.gov/employers/upload/eeoc_self_print_poster.pdf. The Contractor shall state that all qualified applicants be considered without regard to race, color, religion, sex or national origin.

12.2.3. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.

12.2.4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

12.2.5. The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

12.2.6. The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

12.2.7. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

12.2.8. The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs 12.2.1 through 12.2.8 in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

12.3. **The Standard Federal Equal Employment Opportunity Construction Contract Specifications** (Executive Order 11246)

12.3.1. As used in these specifications:

a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;

b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;

c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

d. "Minority" includes:

(i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
(ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
(iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

(iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

12.3.2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

12.3.3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

12.3.4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction Contractors performing construction work in geographical areas where they do not have a federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the FEDERAL REGISTER in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

12.3.5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

12.3.6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

12.3.7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 12.3.7b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

12.3.8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (12.3.7a through 12.3.7p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

12.3.9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

12.3.10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

12.3.11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12.3.12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

12.3.13. The Contractor, in fulfilling its obligation under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

12.3.14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

12.3.15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

12.4. Pursuant to 41 CFR 60-1.7, if the price of this bid exceeds $10,000, the bidder, by signing and submitting this proposal, certifies the following:

12.4.1. Affirmative action programs pursuant to 41 CFR 60-2 have been developed and are on file;

12.4.2. Documentation of a previous contract or subcontract subject to the equal opportunity clause is available;

12.4.3. All reports due under the applicable filing requirements have been filed with the Joint Reporting Committee, the Deputy Assistant Secretary or the Equal Employment Opportunity Commission; and

12.4.4. Each prospective construction subcontractor that may be awarded a lower-tier construction subcontract with a price exceeding $10,000 shall meet the above requirements 12.4.1 through 12.4.3.

12.5. Pursuant to 41 CFR 60-1.8, if the price of this bid exceeds $10,000, the bidder, by signing and submitting this proposal, certifies the following:

12.5.1. That he/she does not maintain or provide for his/her employees any segregated facility at any of his/her establishments;

12.5.2. That he/she does not permit employees to perform their services at any location, under his/her control, where segregated facilities are maintained;

12.5.3. That he/she will not maintain or provide for employees any segregated facilities at any of his/her establishments;

12.5.4. That he/she will not permit employees to perform their services at any location under his/her control where segregated facilities are maintained;

12.5.5. That a breach of this certification is violation of the Equal Opportunity Clause of this contract; and

12.5.6. That he/she will obtain identical certifications from proposed Subcontractors prior to the award of Subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity clause, and that he will retain such certifications in his/her files.

As used in this certification, the term "segregated facilities" means any waiting rooms, work eating areas, time clocks, locker rooms, and other storage or dressing areas, transportation and housing facilities provided for employees which are in fact segregated on the basis of race, color, religion, or otherwise.

12.6. If the price of this Agreement/Contract exceeds $10,000, the Owner shall give written notice to the Director of the Office of Federal Contract Compliance Programs within ten working days of award of this Agreement/Contract. The notice is to include the name, address, and telephone number of the Contractor; the employer identification number of the Contractor; the dollar amount of this Agreement/Contract; the estimated starting and completion dates of this Agreement/Contract; the number of this Agreement/Contract; and the geographical area in which the Work is to be performed.

12.7. If the price of this Agreement/Contract equals or exceeds $50,000 and if the Contractor has 50 or more employees, the Contractor shall electronically file Standard Form 100 (EEO-1) online at https://egov.eeoc.gov/eeo1/eeo1.jsp within 30 calendar days after the award of this Agreement/Contract , unless the Contractor has submitted such a report within 12 months preceding the date of award of this Agreement/Contract. In addition, the Contractor shall ensure that each construction subcontractor having 50 or more employees and a lower-tier construction subcontract with a price equaling or exceeding $50,000 also electronically files this form within 30 calendar days after the award to it of the lower-tier construction subcontract, unless the construction subcontractor has submitted such a report within 12 months preceding the date of award of the lower-tier construction subcontract.

ARTICLE 13 - IMMIGRATION REFORM AND CONTROL ACT OF 1986 (STATE OF FLORIDA EXECUTIVE ORDER 11-116)

The Immigration Reform and Control Act of 1986 prohibits employers from knowingly hiring illegal workers. The Contractor shall only employ individuals who may legally work in the United States – either U.S. citizens or foreign citizens who are authorized to work in the U.S. The Contractor shall use the U.S. Department of Homeland Security's E-Verify Employment Eligibility Verification system (http://www.uscis.gov/portal/site/uscis) to verify the employment eligibility of:

- all new employees, during the term of this Agreement, to perform employment duties within Florida; and,
- all new employees (including subcontractors and subrecipients) assigned by the Contractor to perform work pursuant to this Agreement.

The Contractor shall include this provision in all subcontracts/subgrants it enters into for the performance of work under this Agreement.

ARTICLE 14 – ENVIRONMENTAL COMPLIANCE

The Contractor, and all subcontractors at any tier, shall comply with all applicable standards, orders, or requirements issued under Section 306 of the Clean Air Act (42 U.S.C. 1857[h]), Section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738 (Administration of the Clean Air Act and the Federal Water Pollution Control Act with Respect to Federal Contracts, Grants, or Loans).

ARTICLE 15 – FEDERAL LABOR STANDARDS PROVISION

Contracts being constructed with assistance from the State Revolving Fund Program are currently required to comply with the Federal Labor Standards Provisions as provided in Appendix C. Signing Appendix A certifies compliance with these provisions.

ARTICLE 16 – AMERICAN IRON AND STEEL PROVISION

Contracts being constructed with assistance from the State Revolving Fund Program are currently required to comply with The American Iron and Steel Provision as provided in Appendix D. Signing Appendix A certifies compliance with these provisions.

ARTICLE 17 - PROHIBITED LOCAL GOVERNMENT CONSTRUCTION PREFERENCES

A. Pursuant to Section 255.0991, F.S., for a competitive solicitation for construction services in which 50 percent or more of the cost will be paid from state-appropriated funds which have been appropriated at the time of the competitive solicitation, a state, college, county, municipality, school district, or other political subdivision of the state may not use a local ordinance or regulation that provides a preference based upon:

   1. The contractor's maintaining an office or place of business within a particular local jurisdiction;
   2. The contractor's hiring employees or subcontractors from within a particular local jurisdiction; or
   3. The contractor's prior payment of local taxes, assessments, or duties within a particular local jurisdiction.

B. For any competitive solicitation that meets the criteria in Paragraph A., a state college, county, municipality, school district, or other political subdivision of the state shall disclose in the solicitation document that any applicable local ordinance or regulation does not include any preference that is prohibited by Paragraph A.

APPENDIX A TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION SUPPLEMENTARY CONDITIONS

CERTIFICATION OF COMPLIANCE WITH THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION SUPPLEMENTARY CONDITIONS

This certification relates to a construction contract proposed by _____,
(insert the name of the Owner)
which expects to finance the proposed construction contract with assistance from the Florida Department of Environmental Protection (which administers a State Revolving Fund loan program supported in part with funds directly made available by grants from the United States Environmental Protection Agency). I am the undersigned prospective construction contractor or subcontractor.

I certify that I have read the Florida Department of Environmental Supplementary Conditions and agree to incorporate the following articles into the bid and/or contract:

ARTICLE 11 DEBARMENT AND SUSPENSION (EXECUTIVE ORDER 12549)
ARTICLE 12 EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)
ARTICLE 13 IMMIGRATION REFORM AND CONTROL ACT OF (STATE OF FLORIDA EXECUTIVE ORDER 11-116)
ARTICLE 14 ENVIRONMENTAL COMPLIANCE
ARTICLE 15 FEDERAL LABOR STANDARDS PROVISION
ARTICLE 16 AMERICAN IRON AND STEEL PROVISION

I agree that I will obtain identical certifications from prospective lower-tier construction subcontractors prior to the award of any lower-tier construction subcontracts with a price exceeding $2,000. I also agree that I will retain such certifications in my files.

_____ _____
(Signature of Authorized Official) (Date)

_____
(Name and Title of Authorized Official [Print or Type])

_____
(Name of Prospective Construction Contractor or Subcontractor [Print or Type])

_____
(Address and Telephone Number of Prospective Construction Contractor or Subcontractor [Print or Type])

_____
(Employer Identification Number of Prospective Construction Contractor or Subcontractor)

APPENDIX B TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION SUPPLEMENTARY CONDITIONS

GOALS AND TIMETABLES FOR MINORITIES AND FEMALES

[Note: These goals and timetables are the goals and timetables referred to in Paragraph 2 of the "Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246)"; these goals and timetables are to be included in all FDEP assisted construction contracts and subcontracts with a price exceeding $10,000 and in all solicitations for such contracts and subcontracts.]

The following goals and timetables for female utilization shall be included in all federal and federally assisted construction contracts and subcontracts in excess of $10,000. The goals are applicable to the contractor's aggregate on-site construction workforce whether or not part of that workforce is performing work on a federal or federally assisted construction contract or subcontract.

Area covered: Goals for Women apply nationwide.

Goals and Timetables

Timetable	Goals (percent)
Indefinite	6.9

Goals for minority utilization can be found in the Department of Labor's Technical Assistance Guide for Federal Construction Contractors (May 2009), available on the internet at http://www.civilrightsusa.gov/pdf/TAG%20-%20Constuction.pdf. These goals shall be included for each craft and trade in all federal or federally assisted construction contracts and subcontracts in excess of $10,000 to be performed in the respective geographical areas. The goals are applicable to each nonexempt contractor's total onsite construction workforce, regardless of whether or not part of that workforce is performing work on a federal, federally assisted or non-federally related project, contract or subcontract.

Construction contractors which are participating in an approved Hometown Plan (see 41 CFR 60-4.5) are required to comply with the goals of the Hometown Plan with regard to construction work they perform in the area covered by the Hometown Plan. With regard to all their other covered construction work, such contractors are required to comply with the applicable SMSA or EA goal contained in this Appendix.

APPENDIX C
TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION SUPPLEMENTARY CONDITIONS

Davis-Bacon Requirements

FEDERAL LABOR STANDARDS PROVISIONS

(Davis-Bacon Act, Copeland Act, and Contract Works Hours & Safety Standards Act)

The Project to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such federal assistance.

1 Minimum Wages.

(i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act, 29 CFR Part 3, the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR Part 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii) (a) The sponsor, on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The FDEP shall approve a request for an additional classification and wage rate and fringe benefits; therefore, only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the sponsor(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the sponsor to the FDEP. The FDEP will transmit the request to the Administrator of the Wage and Hour Division, employment Standards Administration, U. S. Department of Labor. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional

classification action within 30 days of receipt and so advise the FDEP or will notify FEDP within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

(c) In the event that the Contractor, the laborers or mechanics to be employed in the Classification or their representatives, and the sponsor do not agree on the proposed classification and wage rate (including the amount designed for fringe benefits, where appropriate), the FDEP shall refer the request and the local wage determination, including the views of all interested parties and the recommendation of FDEP, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account, assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

2. Withholding.

The sponsor shall, upon written request of the EPA or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, EPA may, after written notice to the contractor, sponsor, applicant, or owners, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and Basic Records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017).

(ii) (a) The contractor shall submit weekly for each week in which any contract work is performed, a copy of all payrolls to the sponsor. Such documentation shall be available upon request by FDEP. As to each payroll copy received, the sponsor shall provide a certification that the project is in compliance with the requirements of 29 CFR 5.5(a)(1) with each disbursement request. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR Part 5.5(a)(3)(I), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead, the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site http://www.dol.gov/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current addresses of each covered worker, and shall provide them upon request to the sponsor for transmission to the FDEP or EPA if requested by EPA, the FDEP, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsor. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149).

(b) Each payroll submitted shall be accompanied by a Statement of Compliance, signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR Part 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR Part 5.5 (a)(3)(I), and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Option Form WH-347 shall satisfy the requirement for submission of the Statement of Compliance required by paragraph A. 3(ii)(b) of this section.

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph A.3(I) of this section available for inspection, copying, or transcription by authorized representatives of the FDEP or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FDEP may, after written notice to the contractor, or sponsor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request to make such records available may be grounds for debarment action pursuant to 29 CFR Part 5.12.

4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U. S. Department of Labor, the Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio

of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program, shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with the determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U. S. Department of Labor, the Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program the contract will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal Employment Opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act Requirements.

The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract.

6. Subcontracts.

The contractor or subcontractor will insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.

7. Contract Termination, Debarment.

A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3 and 5 are herein incorporated by referenced in this contract.

9. Disputes Concerning Labor Standards.

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6 and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the sponsor, FDEP, EPA, the U. S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded EPA contracts or participate in EPA programs pursuant to Executive Order 12549.

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded EPA contracts or participate in EPA programs pursuant to Executive Order 12549.

(iii) The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 U. S. C. 1001. Additionally, U. S. Criminal Code, Section 1010, Title 18, U. S. C., Federal Housing Administration transactions, provides in part "Whoever, for the purpose of . . . influencing in any way the action of such Administration . . . makes, utters or publishes any statement, knowing the same to be false . . . shall be fined not more than $5,000 or imprisoned not more than two years, or both".

11. Complaints, Proceedings, or Testimony by Employees.

A. No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this contract are applicable shall be discharged or in any other manner discriminated against by the contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this contract to his employer.

B. Contract Work Hours and Safety Standards Act. The sponsor shall insert the following clauses set forth in paragraphs B.(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by item 3 above or 29 CFR 4.6. As used in the paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in subparagraph (1) of this paragraph.

(3) Withholding for unpaid wages and liquidated damages. The sponsor, upon written request of the FDEP or an authorized representative of the Department of Labor, may withhold or cause to be withheld, from any moneys payable on

account of work performed by the contractor or subcontractor under any such contract or any other federal contract with the same prime contract, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2) of this paragraph.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

C. Health and Safety

(1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

(2) The contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 (formerly part 1518) and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (Public Law 91-54.83 State 96).

(3) The contractor shall include the provisions of this Article in every subcontract so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontract as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

12. Guidance to Contractor for Compliance with Labor Standards Provisions

a) Contracts with Two Wage Decisions

If the contract includes two wage decisions, the contractor, and each subcontractor who works on the site, must submit either two separate payrolls (one for each wage decision) or one payroll which identifies each worker twice and the hours worked under each wage decision. One single payroll, reflecting each worker once, may be submitted provided the Contractor uses the higher rate in the wage decisions for each identical job classification. However, where a job classification is not listed in a wage decision and is needed for that portion of the work, the classification **must** be added to the wage decision. A worker may not be paid at the rate for a classification using the hourly rate for that same classification in another wage decision. After the additional classification is approved, the contractor may pay the higher of the two rates and submit one payroll, if desired.

b) Complying with Minimum Hourly Amounts

1) The minimum hourly amount due to a worker in each classification is the total of the amounts in the Rates and Fringe Benefits (if any) columns of the applicable wage decision.

2) The contractor may satisfy this minimum hourly amount by any combination of cash and bona fide fringe benefits, regardless of the individual amounts reflected in the Rates and Fringe Benefits columns.

3) A contractor payment for a worker which is required by law is not a fringe benefit in meeting the minimum hourly amount due under the applicable wage decision. For example, contractor payments for FICA or unemployment insurance are not a fringe benefit; however, contractor payments for health insurance or retirement are a fringe benefit. Generally, a fringe benefit is bona fide if (a) it is available to most workers and (b) involves payments to a third party.

4) The hourly value of the fringe benefit is calculated by dividing the contractor's annual cost (excluding any amount contributed by the worker) for the fringe benefit by 2080. Therefore, for workers with overtime, an additional payment may be required to meet the minimum hourly wages since generally fringe benefits have no value for any time worked over 40 hours weekly. (If a worker is paid more than the minimum rates required by the wage decision, this should not be a problem. As long as the total wages received by a worker for straight time equals the hours worked times the minimum hourly rate in the wage decision, the requirement of the Davis-Bacon and Related Acts has been satisfied.)

c) Overtime

For any project work over 40 hours weekly, a worker generally must be paid 150% of the actual hourly cash rate received, not the minimum required by the wage decision. (The Davis-Bacon and Related Acts only establishes minimum rates and does not address overtime. The Contract Work Hours Act contains the overtime requirement and uses basic rate of pay as the base for calculation, not the minimum rates established by the Davis-Bacon and Related Acts.)

d) Deductions

Workers who have deductions, not required by law, from their pay must authorize these deductions in writing. The authorization must identify the purpose of each deduction and the amount, which may be a specific dollar amount or a percentage. A copy of the authorization must be submitted with the first payroll containing the deduction. If deducted amounts increase, another authorization must be submitted. If deducted amounts decrease, no revision to the original authorization is needed. Court-ordered deductions, such as child support, may be identified by the responsible payroll person in a separate document. This document should identify the worker, the amount deducted and the purpose. A copy of the court order should be submitted.

e) Classifications Not Included in the Wage Decision

If a classification not in the wage decision is required, please advise the owner's representative in writing and identify the job classification(s) required. In some instances, the state agency may allow the use of a similar classification in the wage decision.

Otherwise, the contractor and affected workers must agree on a minimum rate, which cannot be lower than the lowest rate for any trade in the wage decision. Laborers (including any subcategory of the laborer classification) and truck drivers are not considered a trade for this purpose. If the classification involves a power equipment operator, the minimum cannot be lower than the lowest rate for any power equipment operator in the wage decision. The owner will provide forms to document agreement on the minimum rate by the affected workers and contractor.

The U.S. Department of Labor (USDOL) must approve the proposed classification and rate. The contractor may pay the proposed rate until the USDOL makes a determination. Should the USDOL require a higher rate, the contractor must make wage restitution to the affected worker(s) for all hours worked under the proposed rate.

f) Supervisory Personnel

Foremen and other supervisory personnel who spend at least 80% of their time supervising workers are not covered by the Davis-Bacon and Related Acts. Therefore, a wage decision will not include such supervisory classifications and their wages are not subject to any minimums under the Davis-Bacon and Related Act or overtime payments under the Contract Work Hours and Safety Standards Act. However, foremen and other supervisory personnel who spend less than 80% of their time engaged in supervisory activities are considered workers/mechanics for the time spent engaged in manual labor and must be paid at least the minimum in the wage decision for the appropriate classification(s) based on the work performed.

g) Sole Proprietorships / Independent Contractors / Leased Workers

The nature of the relationship between a prime contractor and a worker does not affect the requirement to comply with the labor standards provisions of this contract. The applicability of the labor standards provisions is based on the nature of the work performed.

If the work performed is primarily manual in nature, the worker is subject to the labor standards provisions in this contract. For example, if John Smith is the owner of ABC Plumbing and performs all plumbing work himself, then Mr. Smith is subject to the labor standards provisions, including minimum wages and overtime. His status as owner is irrelevant for labor standards purposes.

If a worker meets the IRS standards for being an independent contractor, and is employed as such, this means that the worker must submit a separate payroll as a subcontractor rather than be included on some other payroll. The worker is still subject to the labor standards provisions in this contract, including minimum wages and overtime.

If a contractor or subcontractor leases its workers, they are subject to the labor standards provisions in this contract, including minimum wages and overtime. The leasing firm must submit payrolls and these payrolls must reflect information required to determine compliance with the labor standards provisions of this contract, including a classification for each worker based on the nature of the work performed, number of regular hours worked, and number of overtime hours worked.

h) Apprentices / Helpers

A worker may be classified as an apprentice **only if participating in a federal or state program**. Documentation of participation must be submitted. Generally, the apprentice program specifies that the apprentice will be compensated at a percentage of journeyman rate. For Davis-Bacon Act purposes, the hourly rate cannot be lower than the percentage of the hourly rate for the classification in the applicable wage decision.

If the worker does not participate in a federal or state apprentice program, then the worker must be classified according to duties performed. This procedure may require classification in the trade depending on tools used, or as a laborer if specialized tools of the trade are not used. The contractor may want to consult with the Wage and Hour Division of the U.S. Department of Labor located in most large cities regarding the appropriate classification.

Presently, no worker may be classified as a helper. As with apprentices not participating in a formal apprentice program, the worker must be classified according to duties performed and tools used.

APPENDIX D TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION SUPPLEMENTARY CONDITIONS

American Iron and Steel Requirement

The Contractor acknowledges to and for the benefit of the _____ ("Owner") and the State of Florida (the "State") that it understands that iron and steel products to be installed as a part of this contract must be in compliance with the requirements in H.R. 3547, "Consolidated Appropriations Act, 2014," (Appropriations Act). H.R. 3547 includes the following language in Division G, Title IV, Sec. 436, under the heading, "Use of American Iron and Steel,":

(a) (1) None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are produced in the United States.

(2) In this section, the term "iron and steel products" means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

(b) Subsection (a) shall not apply in any case or category of cases in which the Administrator of the Environmental Protection Agency (in this section referred to as the "Administrator") finds that--

(1) applying subsection (a) would be inconsistent with the public interest;

(2) iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or

(3) inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

(c) If the Administrator receives a request for a waiver under this section, the Administrator shall make available to the public on an informal basis a copy of the request and information available to the Administrator concerning the request, and shall allow for informal public input on the request for at least 15 days prior to making a finding based on the request. The Administrator shall make the request and accompanying information available by electronic means, including on the official public Internet Web site of the Environmental Protection Agency.

(d) This section shall be applied in a manner consistent with United States obligations under international agreements.

Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

For waivers to these requirements based on (2)(b) above, contact Sheryl Parsons at USEPA Region IV. She can be reached by phone at (404) 562-9337.

Exhibit “E”

ATTACHMENTS TO 00 21 15

A - Geotechnical Report Dated January 26, 2021

B – Geotechnical Report Dated July 2, 2021

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REPORT OF A PRELIMINARY GEOTECHNICAL EXPLORATION

American Beach Gravity Sewer Design
Nassau County, Florida

January 26, 2021

UES Project No. 0930.2000297.0000
Report No. 1832844

Prepared for:

Wade Trim
3790 Dixie Highway NE
Palm Bay, Florida 32905

Prepared by:

UNIVERSAL ENGINEERING SCIENCES
5561 Florida Mining Boulevard South
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- West Palm Beach

January 26, 2021

Wade Trim
3790 Dixie Highway NE
Palm Bay, Florida 32905

Attention: Mr. Oscar Duarte

Reference: **REPORT OF A GEOTECHNICAL EXPLORATION**
American Beach Gravity Sewer Design
Nassau County, Florida
UES Project No. 0930.2000297.0000 and Report No. 1832844

Dear Mr. Duarte:

As requested, Universal Engineering Sciences, Inc. has completed a geotechnical exploration for the subject project. This report briefly presents our understanding of the proposed construction, describes the field exploration performed, presents the data obtained, and provides our geotechnical engineering evaluation of the subsurface conditions at the subject site with respect to the proposed utility construction.

PROJECT INFORMATION

Project information was provided to us in recent correspondence with you. We were provided with a copy of a water distribution system MDP map prepared by GAI Consultants. These plans show the roadways located adjacent to the site and the requested boring locations.

We understand that the proposed construction will consist of the installation of a gravity sewer and lift station. We understand that the gravity sewer will likely be installed using open cut procedures.

This report presents the soil conditions encountered on the basis of traditional geotechnical procedures for site characterization. The recovered samples were not examined, either visually or analytically, for chemical composition or environmental hazards. Universal Engineering Sciences would be pleased to perform these services if you desire.

Our work did not address the potential for surface expression of deep geological conditions. This evaluation requires a more extensive range of field services than performed in this study. We will be pleased to conduct an investigation to evaluate the probable effect of the regional geology upon the proposed construction if you desire.

FIELD EXPLORATION

A field exploration was performed on January 7, 8 and 11, 2021. The approximate boring locations are shown on the attached Boring Location Plan in Appendix A. The approximate boring locations were determined in the field by our personnel using taped measurements from existing features at the site, and should be considered accurate only to the degree implied by the method of measurement used. Samples of the soils encountered will be held in our laboratory for your inspection for 60 days unless we are notified otherwise.

To explore the subsurface conditions within the area of the proposed utility extension, we located and drilled eight (8) Standard Penetration Test (SPT) borings to depths of 20 feet below the existing ground surface in general accordance with the methodology outlined in ASTM D 1586. A summary of this field procedure is included in Appendix A. Split-spoon soil samples recovered during performance of the boring were visually classified in the field and representative portions of the samples were transported to our laboratory for further evaluation.

LABORATORY EXPLORATION

Representative soil samples obtained during our field exploration were returned to our office and classified by a geotechnical engineer. The samples were visually classified in general accordance with ASTM D 2488 (Unified Soil Classification System).

Eight (8) fines content tests, and eight (8) moisture content tests were conducted in the laboratory on representative soil samples obtained from the borings. These tests were performed to aid in classifying the soils and to help quantify and correlate engineering properties. The results of these tests are presented on the Boring Logs in Appendix A. A brief description of the laboratory procedures used is also provided in Appendix A.

FINDINGS

Surface Conditions

The project is in American Beach, Florida along the existing asphalt roadways. These roads are paved and are bordered by residential development and wooded properties.

General Soil Profile

The boring locations and detailed subsurface conditions are included in the Attachments on the Boring Location Plan and Boring Logs. The classifications and descriptions shown on the logs are generally based upon visual characterizations and laboratory results of the recovered soil samples. When reviewing these records, it should be understood that the soil conditions will vary across the site. The following table summarizes the soil conditions encountered.

TABLE 1 General Soil Profile		
Typical depth (ft)		Soil Descriptions
From	To	
0	20*	Very loose to very dense fine sand (SP)
* Termination Depth of Deepest Boring ( ) Indicates Unified Soil Classification		

The dense to very dense soils were encountered in Boring B-, B-5, B-6, B-7 and B-8 at depths varying from 8 to 12 feet and extending to depths of 17 to 20 feet below the existing grade at the time of our exploration.

The groundwater levels were encountered at the boring locations and recorded at the time of drilling at depths of 4.0 to 11.4 feet below the existing ground surface. The difference is groundwater depths is likely due in part to topographical differences. The groundwater should be anticipated to fluctuate due to seasonal climatic variations, tidal fluctuations, surface water runoff patterns, construction operations and other interrelated factors. We estimate the seasonal high water levels will occur approximately 1.0 to 2.0 feet above the level we encountered at the time of our exploration. These estimates are based upon our review of U.S.G.S. data, Nassau County Soils Survey, and regional hydrogeology.

GEOTECHNICAL ENGINEERING EVALUATION AND RECOMMENDATIONS

Dewatering

The groundwater levels were encountered at a depth range of 4.0 to 11.4 feet below the ground surface. Based on the water conditions encountered, the need for dewatering operations may be necessary. The actual method(s) of dewatering should be determined by the contractor. Regardless of the method(s) used, we suggest drawing down the water level at least 18 inches below the bottom of the excavations to preclude "pumping" and /or compaction related problems with the subgrade soils.

Dewatering should be accomplished with the knowledge that the permeability of the soils decreases with increasing silt and clay content. The sand (SP) type soils can usually be dewatered by well pointing. Permeability values for these type soils generally range from low 10^{-5} cm/sec to high 10^{-2} cm/sec.

Open Cut Site Preparation Procedures

We recommend the following site preparation procedures for open cut construction:

1. Implement temporary groundwater control measures. It is recommended the groundwater be maintained at least 18 inches below compacted surfaces, and also 18

inches below the depths of excavation required. Temporary groundwater control measures should be the responsibility of the contractor.

2. Excavate to the proposed bearing level. Compact the exposed surface of sandy soils within the excavations with lightweight, hand equipment until a density of at least 95 percent of the Modified Proctor maximum dry density (ASTM D-1557) is achieved within the upper one foot. Typically, we recommend the compacted soils have a moisture content within 2 percent of the optimum value as determined by the Modified Proctor maximum dry density (ASTM-D1557).

   Should the soils experience pumping and soil strength loss during the compaction operations, compaction work should be immediately terminated and (1) the disturbed soils removed and backfilled with dry structural fill soils which are then compacted, or (2) the excess moisture content within the disturbed soils allowed to dissipate before recompacting. FDOT No. 57 stone placed below the pipeline bearing depths in a thickness of one foot can be used in lieu of compacted structural backfill. It is recommended the stone be fully wrapped with a geotextile filter fabric such as Contech C31NW, or equivalent.

3. Excavation work will be required to meet OSHA Excavation Standard Subpart P regulations, Type C Soils. Either a braced sheet pile structure or an excavation with temporary side slopes cut back at 1.5 horizontal to 1.0 vertical can be implemented, depending on the specific project requirements. The side slope of 1.5 horizontal to 1.0 vertical is contingent upon the dewatering system adequately controlling slope seepage. Sheet piling should be designed according to OSHA sheeting and bracing requirements. We recommend a Florida registered Professional Engineer design the sheeting/bracing system.

4. Test the compacted surface within the upper one foot for density at a frequency of not less than one test per 300 linear feet of pipeline.

5. Place fill material, as required. The fill should consist of "clean," fine sand with less than 5 percent soil fines. You may use fill materials with soil fines between 5 percent and 10 percent, but strict moisture control may be required. Place fill in uniform 10 to 12-inch loose lifts and compact each lift to a minimum density of 95 percent of the Modified Proctor maximum dry density. We recommend the compacted soils have a moisture content within 2 percent of the optimum value as determined by the Modified Proctor maximum dry density (ASTM-D1557).

6. Perform compliance tests within each lift of fill at a frequency of not less than one test per 300 linear feet of pipeline.

Borrow Suitability

The borings were planned, in part, to provide an indication of the suitability of excavated soils from the proposed construction for use as structural fill. Based on the boring results and classification of the soil samples, the soil described as sand (SP) as encountered throughout the 20 foot boring depths, are considered suitable for use as structural fill depending on the moisture content of the soils at the time of placement and compaction. It should be understood that all soils excavated from below the water table may be excessively wet and may require stockpiling or spreading to dry prior to placement and compaction.

Lift Station

It is assumed the lift station will bear at a depth ranging from 10 to 15 feet. Use of temporary dewatering measures, such as a fully sanded vacuum wellpoint system, will be needed to facilitate construction in the dry.

We anticipate the buried structure (lift station) will exert little or no net downward pressure on the soils, rather, the structure may be subject to hydrostatic uplift pressure when the lift stations are empty. The below grade structure should be designed to resist lateral earth pressures and hydrostatic uplift pressures appropriate for their depth below existing grade and wet season groundwater table.

The walls of the structures should be designed to resist at-rest lateral earth pressures, with equivalent fluid densities above and below the water table being as follows:

Above Water Table - Equivalent Fluid Density	55 pcf
Below Water Table - Equivalent Fluid Density	90 pcf

The water table for wall design purposes should be assumed to be at the existing grade.

Foundation Preparation - Based on our evaluation of the soil conditions encountered in this area, we offer the following recommendations for the proposed underground construction.

1. The proposed construction area should be dewatered as necessary and excavated to the required foundation depth. Excavation work will be required to meet OSHA Excavation Standard Subpart P regulations, Type C Soils. Either a braced sheet pile structure or an excavation with temporary side slopes cut back at 1.5 horizontal to 1.0 vertical can be implemented, depending on the specific project requirements. The side slope of 1.5 horizontal to 1.0 vertical is contingent upon the dewatering system adequately controlling slope seepage. Sheet piling should be designed according to OSHA sheeting and bracing requirements. We recommend a Florida registered Professional Engineer design the sheeting/bracing system.

2. A dewatering system will be required for the project. The water table should be maintained at least 2 feet below the proposed excavation bottom. The dewatering system should not be decommissioned until sufficient deadweight exists on the structure to prevent uplift or the uplift protection system as described below, if necessary, is in place.

3. Backfill can consist of suitable structural backfill as described below, or a compacted coarse aggregate such as FDOT No. 57 stone. Coarse aggregate should be wrapped with a geotextile (such as Mirafi 140N or equivalent) such that fines cannot migrate into the voids of the aggregate.

4. FDOT No. 57 stone that may be required for the foundation excavation bottom should be placed in 6 inch lifts and densified using hand-operated compaction equipment. Compaction should continue until the stone is well seated. Density testing will not be necessary if the placement and compaction of the stone is appropriately documented.

5. Backfill which will be required around buried walls should be compacted with a light hand-operated compactor to a density of 95 percent of the soils Modified Proctor maximum dry density. All backfill should be placed in level lifts not exceeding six inches loose thickness. Care should be taken not to over compact the backfill (i.e., limit compaction to a maximum of 98 percent of the maximum density) in order to limit the lateral loads on the proposed walls.

6. Structural fill/backfill should consist of an inorganic non-plastic granular soil with less than 10 percent fines and a Unified soil classification of SP, SP-SM, SW or SW-SM (relatively clean sand).

7. Universal Engineering Sciences should be retained to provide a representative for on-site inspection and testing of compaction/filling operations so that proper documentation of the required minimum compaction and compliance with the recommendations contained herein can be provided.

Uplift Protection - When the water level within below-grade structures is maintained at or above the surrounding groundwater level, no net buoyancy will occur to the structure. However, when these structures are drained for maintenance or as water levels fluctuate within the lift stations, a positive means of uplift protection may be necessary. Hydrostatic uplift forces can be resisted in several ways including:

1. Addition of dead weight to the structure.

2. Mobilizing the dead weight of the soil surrounding the structure through extension of footings outside the perimeter of the structure.

3. Use of a permanent gravity or mechanical dewatering system that is operated only when the structure is to be drained.

4. Use of pressure relief valves in the slab bottom in combination with one or more of the above methods, or

5. Use of uplift piles.

We anticipate that one or more of the noted methods will be needed for this construction. At your request, we would be pleased to assist you in evaluating uplift protection requirements.

Pavement Reconstruction

General

A rigid or flexible pavement section could be used for pavement reconstruction on this project. Flexible pavement combines the strength and durability of several layer components to produce an appropriate and cost-effective combination of available construction materials. Concrete pavement has the advantage of the ability to "bridge" over isolated soft areas, it requires less security lighting, and it typically has a longer service life than asphalt pavement. Disadvantages of rigid pavement include an initial higher cost and more difficult patching of distressed areas than occurs with flexible pavement.

For this project, we have assumed that flexible pavements would be used in any areas requiring pavement replacement or any new pavement areas.

Asphalt (Flexible) Pavements

We have recommended a flexible pavement section with a 20-year design life for use on this project. Because traffic loadings are commonly unavailable, we have generalized our pavement design into two groups. The group descriptions and the recommended component thicknesses are presented in Table 3: Summary of Pavement Component Recommendations. The thicknesses in Table 3 are based on the FDOT Flexible Pavement Design procedures using a reliability of 85% and an assumed natural subgrade LBR of 20 (Resilient modulus of 7,500 psi).

TABLE 2
Summary of Pavement Component Recommendations

Traffic Group	Maximum Traffic Loading	Component Thickness (inches)		
		Stabilized Subgrade	Base Course	Surface Course
Standard Duty	Up to 300,000 E_{18}SAL	12	6	1.5
Heavy Duty	Up to 800,000 E_{18}SAL	12	8	2.0

Stabilized Subgrade

We recommend that subgrade materials be compacted in place according to the requirements in the "Site Preparation" section of this report. Further, beneath limerock base course, stabilize the subgrade materials to a minimum Limerock Bearing Ratio (LBR) of 40, as specified by Florida Department of Transportation (FDOT) requirements for Type B Stabilized Subgrade. The subgrade material should be compacted to at least 98 percent of the Modified Proctor maximum dry density (ASTM D 1557, AASHTO T-180) value.

The stabilized subgrade can be a blend of existing soil and imported material such as limerock. If a blend is proposed, we recommend that the contractor perform a mix design to find the optimum mix proportions.

The primary function of stabilized subgrade beneath the base course is to provide a stable and firm subgrade so that the limerock can be properly and uniformly placed and compacted. Depending upon the soil type, the subgrade material may have sufficient stability to provide the needed support without additional stabilizing material. Generally, sands with silt or clay should have sufficient stability and may not require additional stabilizing material. Conversely, relatively "clean" sand will not provide sufficient stability to adequately construct the limerock base course. Universal Engineering Sciences should observe the soils exposed on the finish grades to evaluate whether or not additional stabilization will be required beneath the base course.

Base Course

We recommend the base course consist of locally available limerock complying with the requirements of the latest version of the FDOT Standard Specifications for Road and Bridge Construction (SSRBC), Section 200 and Section 911. The limerock should be mined or supplied from an FDOT approved source. Place the limerock in maximum 6 inch thick loose lifts and compact each lift to a minimum density of 98 percent of the Modified Proctor maximum dry density (ASTM D1557/AASHTO T-180).

Alternatively, we believe locally available crushed concrete base of equal thickness could be substituted for the limerock. Crushed concrete should be supplied by an FDOT approved plant with quality control procedures. Crushed concrete should meet the requirements for Recycled Concrete Aggregate (RCA) of the latest edition of FDOT SSRBC Sections 200 and 911.

The base shall have an average LBR of not less than 100 and should be compacted to at least 98 percent of the Modified Proctor maximum dry density (ASTM D 1557, AASHTO T-180) value. The LBR value of material produced at a particular source shall be determined in accordance with an approved quality control procedure.

Testing shall be performed at the following frequencies:

- Perform in-place density on the base at a frequency of 1 test per 300 linear foot of roadway or 5,000 square feet of pavement.

- Perform Limerock Bearing Ratio tests at a frequency of 1 test per visual change in material and a minimum of 1 test per 15,000 square feet of pavement.

- Engineer should perform a final visual base inspection prior to placement of prime or tack coat and paving.

Wearing Surface

For the roadways, we recommend that the surfacing consist of FDOT SuperPave (SP) asphaltic concrete. The surface course should consist of FDOT SP-9.5 fine mix for the proposed light-duty area. The heavy duty area can consist of a single 2-inch lift of SP-12.5 or 2 layers of SP-9.5 placed in 1-inch lifts. The asphalt concrete should be placed within the allowable lift thicknesses for fine Type SP mixes per the latest edition of FDOT, Standard Specifications for Road and Bridge Construction, Section 334-1.4 Thickness.

The asphaltic concrete should be compacted to an average field density of 93 percent of the laboratory maximum density determined from specific gravity (G_{mm}) methods, with an individual test tolerance of **+2 percent and -1.2% of the design G_{mm}**. Specific requirements for the SuperPave asphaltic concrete structural course are outlined in the latest edition of FDOT, Standard Specifications for Road and Bridge Construction, Section 334.

Please note, if the Designer (or Contract Documents) limits compaction to the static mode only or lifts are placed one-inch thick, then the average field density should be 92 percent, with an individual test tolerance of + 3 percent, and -1.2% of the design G_{mm}.

After placement and field compaction, the wearing surface should be cored to evaluate material thickness and density. Cores should be obtained at frequencies of at least one (1) core per 5,000 square feet of placed pavement, every 250 feet of lineal roadway, or a minimum of two (2) cores per day's production.

Effects of Groundwater

One of the most critical factors influencing pavement performance in Northeast Florida is the relationship between the pavement subgrade and the seasonal high groundwater level. Many roadways and parking areas have been damaged as a result of deterioration of the base conditions and/or the base/surface course bond. We recommend that the seasonal high groundwater and the bottom of the flexible pavement limerock base course be separated by at least 24 inches. We recommend a separation of at least 18 inches below a flexible pavement with a crushed concrete base. If this separation cannot be established and maintained by grading and surface drainage improvements, permanent groundwater control measures (underdrains) will be required.

Curbing

We recommend that curbing around the landscaped sections adjacent to the parking areas and driveways be constructed with full-depth curb sections. Using extruded curb sections which lie directly on top of the final asphalt level, or eliminating the curbing entirely, can allow migration of irrigation water from the landscape areas to the interface between the asphalt and the base. This migration often causes separation of the wearing surface from the base and subsequent rippling and pavement deterioration. Topsoil placed behind curbing in landscaped areas should be limited to 6 inches vertical thickness within five feet of flexible pavement.

Construction Traffic

Light duty roadways and incomplete pavement sections will not perform satisfactorily under construction traffic loadings. We recommend that construction traffic (construction equipment, concrete trucks, sod trucks, garbage trucks, dump trucks, etc.) be re-routed away from these roadways or that the pavement section be designed for these loadings.

Pavement Site Preparation

We recommend normal, good practice site preparation procedures. These procedures include: stripping the site of vegetation and topsoil, compacting the subgrade, and placing necessary fill or backfill to grade with engineered fill. A more detailed synopsis of this work is as follows:

1. Prior to construction, the location of any existing underground utility lines within the construction area should be established. Provisions should then be made to relocate interfering utilities to appropriate locations. It should be noted that if underground pipes are not properly removed or plugged, they may serve as conduits for subsurface erosion which may subsequently lead to excessive settlement of overlying structure(s).

2. The groundwater level was recorded between depths of 4.0 to 11.4 feet below the existing ground surface. We estimate the seasonal high water levels will occur approximately 1 to 2 feet above the levels we encountered at the time of our exploration. The groundwater level should be maintained at least 2 feet below any excavations and the surface of any vibratory compaction procedures. We anticipate that surface water management could be needed if the construction occurs during a relatively wet climatic period.

3. Compact the subgrade from the surface with a vibratory roller until you obtain a minimum density of at least 95 percent of the Modified Proctor maximum dry density (ASTM D-1557), to a depth of 1 foot below the compacted surface. Typically, the soils should exhibit moisture contents within ±2.0% of the Modified Proctor optimum moisture content during compaction.

Should the bearing level soils experience pumping and soil strength loss during the compaction operations, compaction work should be immediately terminated and (1) the disturbed soils removed and backfilled with dry structural fill soils which are then compacted, or (2) the excess pore pressures within the disturbed soils allowed to dissipate before recompaction.

4. Care should be exercised to avoid damaging any nearby structures while the compaction operation is underway. Prior to commencing compaction, occupants of adjacent structures should be notified and the existing conditions of the structures be documented with photographs and survey (if deemed necessary). Compaction should cease if deemed detrimental to adjacent structures. Universal Engineering Sciences can provide vibration monitoring services to help document and evaluate the effects of the surface compaction operation on existing structures. In the absence of vibration monitoring it is recommended the vibratory roller remain a minimum of 50 feet from existing structures. Within this zone, use of a bulldozer or a vibratory roller operating in the static mode is recommended.

5. Place fill material, as required. The fill should consist of "clean," fine sand with less than 5 percent soil fines. You may use fill materials with soil fines between 5 and 12 percent, but strict moisture control may be required. Typically, the soils should exhibit moisture contents within ± 2 percent of the Modified Proctor optimum moisture content during compaction. The top 12 inches of fill beneath flexible pavement or the top 24 inches of fill beneath rigid pavement areas should be compacted to 98 percent of the Modified Proctor maximum dry density. For flexible pavement areas, stabilize this zone as necessary as recommended above, to obtain a minimum LBR of 40.

6. Perform compliance tests at a frequency of not less than one test per 10,000 square feet per lift, or at a minimum of two test locations, whichever is greater in the pavement areas.

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LIMITATIONS

During the early stages of most construction projects, geotechnical issues not addressed in this report may arise. Because of the natural limitations inherent in working with the subsurface, it is not possible for a geotechnical engineer to predict and address all possible problems. An Geotechnical Business Council (GBC) publication, "Important Information About Your Geotechnical Engineering Report" appears in Appendix B, and will help explain the nature of geotechnical issues.

We trust this report meets your needs and addresses the geotechnical issues associated with the proposed construction. We appreciate the opportunity to have worked with you on this project and look forward to a continued association. Please do not hesitate to contact us if you should have any questions, or if we may further assist you as your plans proceed.

Respectfully submitted,

UNIVERSAL ENGINEERING SCIENCES
Certificate of Authorization No. 549

Stephen R. Weaver, P.E.
Geotechnical Services Manager
FL P.E. Number 87389
Date: 1/26/21
SRW/dc

STEPHEN R. WEAVER LICENSE 87389 STATE OF FLORIDA PROFESSIONAL ENGINEER

Jake D. Cochran, P.E.
Senior Geotechnical Engineer
FL P.E. Number 90493

GEOTECHNICAL EXPLORATION AMERICAN BEACH GRAVITY SEWER DESIGN NASSAU COUNTY, FLORIDA	UNIVERSAL ENGINEERING SCIENCES	PAGE NO. FIGURE A-1
BORING LOCATION PLAN		

CLIENT: WADE TRIM	
DRAWN BY: TW	DATE: 1/22/21
CHECKED BY: JC	DATE: 1/22/21
SCALE: 1" = 100'	
PROJECT NO: 0930.2000297.0000	REPORT NO: 1832844

LEGEND

SPT BORING LOCATIONS

UNIVERSAL
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GEOTECHNICAL EXPLORATION
AMERICAN BEACH GRAVITY SEWER DESIGN
NASSAU COUNTY, FLORIDA

BORING LOCATION PLAN

REVISED BY:	TW	DATE:	1/22/21	CHECKED BY:	J.C.	DATE:	1/22/21
SCALE:	1" = 70'	PROJECT NO:	930.2000297.0000	REPORT NO:	1832844	PAGE NO:	A-1A

GEOTECHNICAL EXPLORATION
AMERICAN BEACH GRAVITY SEWER DESIGN
NASSAU COUNTY, FLORIDA

SOIL BORING PROFILES

UNIVERSAL ENGINEERING SCIENCES

PAGE NO: FIGURE A-2

CLIENT: WADE TRIM

DRAWN BY: TW	DATE: 1/22/21
CHECKED BY: JC	DATE: 1/22/21
SCALE: AS SHOWN	
PROJECT NO: 0930.2000297.0000	REPORT NO: 1832844

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	0930.2000297.0000
REPORT NO.:	1832844
PAGE:	A-4

PROJECT: GEOTECHNICAL EXPLORATION
AMERICAN BEACH GRAVITY SEWER DESIGN
NASSAU COUNTY, FLORIDA

BORING DESIGNATION: **B-1** SHEET: **1 of 1**
SECTION: TOWNSHIP: RANGE:

CLIENT: WADE TRIM

LOCATION: SEE BORING LOCATION

REMARKS:

G.S. ELEVATION (ft):
WATER TABLE (ft): 5.8
DATE OF READING: 1/11/21
EST. W.S.W.T. (ft):

DATE STARTED: 1/11/21
DATE FINISHED: 1/11/21
DRILLED BY: D. BUCHLER
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0			*18			Loose brown fine SAND (SP)						
			*25									
			*15									
			*15									
			*20									
			*50									
			*40									
			*35									
			*30									
5						Very loose to loose light gray fine SAND (SP)						
		3-2-1	3	▼		Loose to medium dense light gray fine SAND (SP)	1.6	26.5				
		1-1-3	4									
		1-3-4	7									
10		3-4-7	11									
15		5-5-8	13									
20		3-5-6	11									

BORING_LOG 0930.2000297.0000-AMERICAN BEACH GRAVITY SEWER DESIGN.GPJ UNIENGSC.GDT 1/22/21

UNIVERSAL ENGINEERING SCIENCES
BORING LOG

PROJECT NO.:	0930.2000297.0000
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PROJECT: GEOTECHNICAL EXPLORATION
AMERICAN BEACH GRAVITY SEWER DESIGN
NASSAU COUNTY, FLORIDA

BORING DESIGNATION: **B-2** SHEET: **1 of 1**
SECTION: TOWNSHIP: RANGE:

CLIENT: WADE TRIM

LOCATION: SEE BORING LOCATION

REMARKS:

G.S. ELEVATION (ft):
WATER TABLE (ft): 4.3
DATE OF READING: 1/11/21
EST. W.S.W.T. (ft):

DATE STARTED: 1/8/21
DATE FINISHED: 1/8/21
DRILLED BY: D. BUCHLER
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						ASPHALT (3 1/4")						
						Loose brown fine SAND with trace Silt (SP)						
			*50+									
			*50+									
			*50+									
			*50+									
			*38			Very loose to loose light brown fine SAND (SP)						
			*35									
			*30	▼								
5												
		2-1-1	2									
		1-2-3	5			Medium dense light gray fine SAND (SP)						
		1-4-8	12				0.6	27.6				
10												
		5-9-12	21									
						Loose brown fine SAND (SP)						
15		4-4-5	9									
						Loose gray fine SAND with trace Silt (SP)						
20		3-3-3	6									

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PROJECT: GEOTECHNICAL EXPLORATION
AMERICAN BEACH GRAVITY SEWER DESIGN
NASSAU COUNTY, FLORIDA

CLIENT: WADE TRIM

LOCATION: SEE BORING LOCATION

REMARKS:

BORING DESIGNATION: **B-3** SHEET: **1 of 1**
SECTION: TOWNSHIP: RANGE:

G.S. ELEVATION (ft):
WATER TABLE (ft): 4.0
DATE OF READING: 1/11/21
EST. W.S.W.T. (ft):

DATE STARTED: 1/8/21
DATE FINISHED: 1/8/21
DRILLED BY: D. BUCHLER
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Very loose to loose gray-brown fine SAND (SP)						
		1-2-4	6									
		3-3-2	5				4.3	21.6				
		2-1-1	2	▼								
5		2-2-3	5									
		3-3-5	8			Medium dense to dense light gray fine SAND (SP)						
		5-8-17	25									
10		6-12-13	25									
15		7-12-22	34			Medium dense gray fine SAND (SP)						
20		4-6-13	19									

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BORING LOG

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PROJECT: GEOTECHNICAL EXPLORATION
AMERICAN BEACH GRAVITY SEWER DESIGN
NASSAU COUNTY, FLORIDA

BORING DESIGNATION: **B-4** SHEET: **1 of 1**
SECTION: TOWNSHIP: RANGE:

CLIENT: WADE TRIM

LOCATION: SEE BORING LOCATION

REMARKS:

G.S. ELEVATION (ft):
WATER TABLE (ft): 8.4
DATE OF READING: 1/11/21
EST. W.S.W.T. (ft):

DATE STARTED: 1/8/21
DATE FINISHED: 1/8/21
DRILLED BY: D. BUCHLER
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						ASPHALT (3 1/2")						
						LIMEROCK (3 3/4")						
			*50+			Medium dense brown fine SAND with some pieces of Limerock (SP)						
			*50+			Medium dense light gray fine SAND (SP)						
			*50+									
			*50+									
			*20									
			*15			Very loose to loose brown fine SAND (SP)						
5			*15									
		1-1-2	3				1.5	5.0				
		2-2-2	4									
				▼		Loose to medium dense light brown fine SAND (SP)						
		2-2-3	5									
10		3-4-6	10									
15		5-8-10	18									
20		2-4-4	8									

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BORING LOG

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PROJECT: GEOTECHNICAL EXPLORATION
AMERICAN BEACH GRAVITY SEWER DESIGN
NASSAU COUNTY, FLORIDA

BORING DESIGNATION: **B-5** SHEET: **1 of 1**
SECTION: TOWNSHIP: RANGE:

CLIENT: WADE TRIM

LOCATION: SEE BORING LOCATION

REMARKS:

G.S. ELEVATION (ft):
WATER TABLE (ft): 5.5
DATE OF READING: 1/8/2021
EST. W.S.W.T. (ft):

DATE STARTED: 1/8/21
DATE FINISHED: 1/8/21
DRILLED BY: D. BUCHLER
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						ASPHALT MILLINGS (1")						
						LIMEROCK (22")						
		Augered-10										
						Loose to medium dense light gray fine SAND (SP)						
		7-6-7	13									
		10-7-7	14									
5				▼								
		3-4-4	8									
		4-4-8	12			Dense to very dense light gray fine SAND (SP)						
		9-17-24	41									
10		12-23-33	56									
						Dense light gray fine SAND with few to some Shell Fragments (SP)						
15		12-21-26	47				4.8	21.7				
20		9-15-18	33									

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NASSAU COUNTY, FLORIDA

BORING DESIGNATION: **B-6** SHEET: **1 of 1**
SECTION: TOWNSHIP: RANGE:

CLIENT: WADE TRIM

LOCATION: SEE BORING LOCATION

REMARKS:

G.S. ELEVATION (ft):
WATER TABLE (ft): 5.4
DATE OF READING: 1/11/21
EST. W.S.W.T. (ft):

DATE STARTED: 1/11/21
DATE FINISHED: 1/11/21
DRILLED BY: D. BUCHLER
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Brown fine SAND with some Limestone (SP)						
		1-3-2	5			Loose light gray fine SAND (SP)						
		2-3-2	5									
		2-3-3	6									
5				▼								
		3-4-4-	8									
		3-4-5	9									
		7-27-38	65			Dense to very dense light gray to gray fine SAND (SP)	2.1	25.1				
10		14-28-36	64									
15		12-2-26	48									
20		11-20-22	42									

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PROJECT: GEOTECHNICAL EXPLORATION
AMERICAN BEACH GRAVITY SEWER DESIGN
NASSAU COUNTY, FLORIDA

CLIENT: WADE TRIM

LOCATION: SEE BORING LOCATION

REMARKS:

BORING DESIGNATION: **B-7** SHEET: **1 of 1**
SECTION: TOWNSHIP: RANGE:

G.S. ELEVATION (ft):
WATER TABLE (ft): 11.4
DATE OF READING: 1/8/2021
EST. W.S.W.T. (ft):

DATE STARTED: 1/7/21
DATE FINISHED: 1/7/21
DRILLED BY: D. BUCHLER
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						ASPHALT (2 1/4")						
						LIMEROCK (5")						
						Medium dense light gray fine SAND (SP)						
			*50+									
			*50+									
			*50+									
			*50+									
			*50+									
			*50+			Very loose to loose light gray fine SAND (SP)	0.2	4.4				
			*50+									
5		5-5-4	9									
		2-1-2	3									
		1-2-5	7									
10		4-4-4	8	▼								
						Dense to very dense light gray fine SAND (SP)						
15		15-20-29	49									
20		14-23-28	51									

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PROJECT: GEOTECHNICAL EXPLORATION
AMERICAN BEACH GRAVITY SEWER DESIGN
NASSAU COUNTY, FLORIDA

BORING DESIGNATION: **B-8** SHEET: **1 of 1**
SECTION: TOWNSHIP: RANGE:

CLIENT: WADE TRIM

LOCATION: SEE BORING LOCATION

REMARKS:

G.S. ELEVATION (ft):
WATER TABLE (ft): 10.8
DATE OF READING: 1/11/21
EST. W.S.W.T. (ft):

DATE STARTED: 1/11/21
DATE FINISHED: 1/11/21
DRILLED BY: D. BUCHLER
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						ASPHALT (3/4")						
						LIMEROCK (5 1/2")						
			*50+			Medium dense orange-brown fine SAND with Clay (SP-SC)						
			*50+			Loose to medium dense light gray fine SAND (SP)						
			*50+									
			*50+									
			*50+									
			*50+									
5		2-3-2	5									
		2-2-3	5				0.3	3.6				
		3-3-4	7									
10		3-3-5	10	▼								
15		6-10-12	22									
						Very dense gray fine SAND (SP)						
20		19-37-50	87									

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UNIVERSAL
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KEY TO BORING LOGS

SYMBOLS AND ABBREVIATIONS

SYMBOL	DESCRIPTION
N-Value	No. of Blows of a 140-lb. Weight Falling 30 Inches Required to Drive a Standard Spoon 1 Foot
WOR	Weight of Drill Rods
WOH	Weight of Drill Rods and Hammer
	Sample from Auger Cuttings
	Standard Penetration Test Sample
	Thin-wall Shelby Tube Sample (Undisturbed Sampler Used)
% REC	Percent Core Recovery from Rock Core Drilling
RQD	Rock Quality Designation
	Stabilized Groundwater Level
	Seasonal High Groundwater Level (also referred to as the W.S.W.T.)
NE	Not Encountered
GNE	Groundwater Not Encountered
BT	Boring Terminated
-200 (%)	Fines Content or % Passing No. 200 Sieve
MC (%)	Moisture Content
LL	Liquid Limit (Atterberg Limits Test)
PI	Plasticity Index (Atterberg Limits Test)
K	Coefficient of Permeability
Org. Cont.	Organic Content
G.S. Elevation	Ground Surface Elevation

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS More than 50% retained on the No. 200 sieve*	GRAVELS 50% or more of coarse fraction retained on No. 4 sieve	CLEAN GRAVELS	GW	Well-graded gravels and gravel-sand mixtures, little or no fines
			GP	Poorly graded gravels and gravel-sand mixtures, little or no fines
		GRAVELS WITH FINES	GM	Silty gravels and gravel-sand-silt mixtures
			GC	Clayey gravels and gravel-sand-clay mixtures
	SANDS More than 50% of coarse fraction passes No. 4 sieve	CLEAN SANDS 5% or less passing No. 200 sieve	SW**	Well-graded sands and gravelly sands, little or no fines
			SP**	Poorly graded sands and gravelly sands, little or no fines
		SANDS with 12% or more passing No. 200 sieve	SM**	Silty sands, sand-silt mixtures
			SC**	Clayey sands, sand-clay mixtures
FINE-GRAINED SIOLS 50% or more passes the No. 200 sieve*	SILTS AND CLAYS Liquid limit 50% or less		ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, lean clays
			OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS Liquid limit greater than 50%		MH	Inorganic silts, micaceous or diamicaceous fine sands or silts, elastic silts
			CH	Inorganic clays or clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity
			PT	Peat, muck and other highly organic soils

*Based on the material passing the 3-inch (75 mm) sieve
** Use dual symbol (such as SP-SM and SP-SC) for soils with more than 5% but less than 12% passing the No. 200 sieve

RELATIVE DENSITY
(Sands and Gravels)
Very loose – Less than 4 Blow/Foot
Loose – 4 to 10 Blows/Foot
Medium Dense – 11 to 30 Blows/Foot
Dense – 31 to 50 Blows/Foot
Very Dense – More than 50 Blows/Foot

CONSISTENCY
(Silts and Clays)
Very Soft – Less than 2 Blows/Foot
Soft – 2 to 4 Blows/Foot
Firm – 5 to 8 Blows/Foot
Stiff – 9 to 15 Blows/Foot
Very Stiff – 16 to 30 Blows/Foot
Hard – More than 30 Blows/Foot

RELATIVE HARDNESS
(Limestone)
Soft – 100 Blows for more than 2 Inches
Hard – 100 Blows for less than 2 Inches

MODIFIERS

These modifiers Provide Our Estimate of the Amount of Minor Constituents (Silt or Clay Size Particles) in the Soil Sample
Trace – 5% or less
With Silt or With Clay – 6% to 11%
Silty or Clayey – 12% to 30%
Very Silty or Very Clayey – 31% to 50%

These Modifiers Provide Our Estimate of the Amount of Organic Components in the Soil Sample
Trace – Less than 3%
Few – 3% to 4%
Some – 5% to 8%
Many – Greater than 8%

These Modifiers Provide Our Estimate of the Amount of Other Components (Shell, Gravel, Etc.) in the Soil Sample
Trace – 5% or less
Few – 6% to 12%
Some – 13% to 30%
Many – 31% to 50%

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are <u>not</u> final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are <u>Not</u> Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will <u>not</u> of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are <u>not</u> building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

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CONSTRAINTS & RESTRICTIONS

The intent of this document is to bring to your attention the potential concerns and the basic limitations of a typical geotechnical report.

WARRANTY

Universal Engineering Sciences has prepared this report for our client for his exclusive use, in accordance with generally accepted soil and foundation engineering practices, and makes no other warranty either expressed or implied as to the professional advice provided in the report.

UNANTICIPATED SOIL CONDITIONS

The analysis and recommendations submitted in this report are based upon the data obtained from soil borings performed at the locations indicated on the Boring Location Plan. This report does not reflect any variations which may occur between these borings.

The nature and extent of variations between borings may not become known until excavation begins. If variations appear, we may have to re-evaluate our recommendations after performing on-site observations and noting the characteristics of any variations.

CHANGED CONDITIONS

We recommend that the specifications for the project require that the contractor immediately notify Universal Engineering Sciences, as well as the owner, when subsurface conditions are encountered that are different from those present in this report.

No claim by the contractor for any conditions differing from those anticipated in the plans, specifications, and those found in this report, should be allowed unless the contractor notifies the owner and Universal Engineering Sciences of such changed conditions. Further, we recommend that all foundation work and site improvements be observed by a representative of Universal Engineering Sciences to monitor field conditions and changes, to verify design assumptions and to evaluate and recommend any appropriate modifications to this report.

MISINTERPRETATION OF SOIL ENGINEERING REPORT

Universal Engineering Sciences is responsible for the conclusions and opinions contained within this report based upon the data relating only to the specific project and location discussed herein. If the conclusions or recommendations based upon the data presented are made by others, those conclusions or recommendations are not the responsibility of Universal Engineering Sciences.

CHANGED STRUCTURE OR LOCATION

This report was prepared in order to aid in the evaluation of this project and to assist the architect or engineer in the design of this project. If any changes in the design or location of the structure as outlined in this report are planned, or if any structures are included or added that are not discussed in the report, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions modified or approved by Universal Engineering Sciences.

USE OF REPORT BY BIDDERS

Bidders who are examining the report prior to submission of a bid are cautioned that this report was prepared as an aid to the designers of the project and it may affect actual construction operations.

Bidders are urged to make their own soil borings, test pits, test caissons or other investigations to determine those conditions that may affect construction operations. Universal Engineering Sciences cannot be responsible for any interpretations made from this report or the attached boring logs with regard to their adequacy in reflecting subsurface conditions which will affect construction operations.

STRATA CHANGES

Strata changes are indicated by a definite line on the boring logs which accompany this report. However, the actual change in the ground may be more gradual. Where changes occur between soil samples, the location of the change must necessarily be estimated using all available information and may not be shown at the exact depth.

OBSERVATIONS DURING DRILLING

Attempts are made to detect and/or identify occurrences during drilling and sampling, such as: water level, boulders, zones of lost circulation, relative ease or resistance to drilling progress, unusual sample recovery, variation of driving resistance, obstructions, etc.; however, lack of mention does not preclude their presence.

WATER LEVELS

Water level readings have been made in the drill holes during drilling and they indicate normally occurring conditions. Water levels may not have been stabilized at the last reading. This data has been reviewed and interpretations made in this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, temperature, tides, and other factors not evident at the time measurements were made and reported. Since the probability of such variations is anticipated, design drawings and specifications should accommodate such possibilities and construction planning should be based upon such assumptions of variations.

LOCATION OF BURIED OBJECTS

All users of this report are cautioned that there was no requirement for Universal Engineering Sciences to attempt to locate any man-made buried objects during the course of this exploration and that no attempt was made by Universal Engineering Sciences to locate any such buried objects. Universal Engineering Sciences cannot be responsible for any buried man-made objects which are subsequently encountered during construction that are not discussed within the text of this report.

TIME

This report reflects the soil conditions at the time of exploration. If the report is not used in a reasonable amount of time, significant changes to the site may occur and additional reviews may be required.

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REPORT OF A
GEOTECHNICAL EXPLORATION

American Beach Gravity Sewer Design
Lift Stations
Nassau County, Florida

July 2, 2021

UES Project No. 0930.2100147.0000
Report No. 1875821

Prepared for:

Wade Trim
One Tampa City Center
201 N. Franklin Street – Suite 1350
Tampa, Florida 33602

Prepared by:

UNIVERSAL ENGINEERING SCIENCES
5561 Florida Mining Boulevard South
Jacksonville, Florida 32257-3648
(904) 296-0757

July 2, 2021

Wade Trim
One Tampa City Center
201 N. Franklin Street – Suite 1350
Tampa, Florida 33602

Attention: Mr. Tim Palmer, P.E.

Reference: **REPORT OF A GEOTECHNICAL EXPLORATION**
American Beach Gravity Sewer Design
Nassau County, Florida
UES Project No. 0930.2100147.0000 and Report No. 1875821

Dear Mr. Palmer:

As requested, Universal Engineering Sciences, Inc. has completed a geotechnical exploration for the subject project. This report briefly presents our understanding of the proposed construction, describes the field exploration performed, presents the data obtained, and provides our geotechnical engineering evaluation of the subsurface conditions at the subject site with respect to the proposed utility construction.

PROJECT INFORMATION

Project information was provided to us in recent correspondence with you. We were provided with a copy of a Soil Boring Locations Plan prepared by Wade Trim. This plan shows the requested boring locations with respect to the existing roadways.

We understand that the proposed construction will consist of two lift stations for the proposed gravity sanitary sewer system in the American Beach area of Nassau County, Florida. It is anticipated that the lift stations will be constructed adjacent to the existing roadways and will be approximately 10 feet in depth.

This report presents the soil conditions encountered on the basis of traditional geotechnical procedures for site characterization. The recovered samples were not examined, either visually or analytically, for chemical composition or environmental hazards. Universal Engineering Sciences would be pleased to perform these services if you desire.

Our work did not address the potential for surface expression of deep geological conditions. This evaluation requires a more extensive range of field services than performed in this study. We will be pleased to conduct an investigation to evaluate the probable effect of the regional geology upon the proposed construction if you desire.

FIELD EXPLORATION

A field exploration was performed on June 29, 2021. The approximate boring locations are shown on the attached Boring Location Plan in Appendix A. The approximate boring locations were determined in the field by our personnel using taped measurements from existing features at the site, and should be considered accurate only to the degree implied by the method of measurement used. Samples of the soils encountered will be held in our laboratory for your inspection for 60 days unless we are notified otherwise.

To explore the subsurface conditions within the area of the proposed lift stations, we located and drilled two (2) Standard Penetration Test (SPT) borings to depths of 15 feet below the existing ground surface in general accordance with the methodology outlined in ASTM D 1586. A summary of this field procedure is included in Appendix A. Split-spoon soil samples recovered during performance of the boring were visually classified in the field and representative portions of the samples were transported to our laboratory for further evaluation.

FINDINGS

Surface Conditions

The project is in American Beach, Florida along the existing asphalt roadways. These roads are paved and are bordered by residential development and wooded properties.

General Soil Profile

The boring locations and detailed subsurface conditions are included in the Attachments on the Boring Location Plan and Boring Logs. The classifications and descriptions shown on the logs are generally based upon visual characterizations and laboratory results of the recovered soil samples. When reviewing these records, it should be understood that the soil conditions will vary across the site. The following discussion summarizes the soil conditions encountered.

Boring LS-1 generally encountered very loose to medium dense fine sand (SP) from the existing grade and extending to the maximum termination depth of 20 feet.

Boring LS-2 generally encountered medium dense to dense fine sand (SP) from the existing grade and extending to the maximum termination depth of 15 feet.

The groundwater levels were encountered at the boring locations and recorded at the time of drilling at depths of 3.3 to 5.2 feet below the existing ground surface. The difference is groundwater depths is likely due in part to topographical differences. The groundwater should be anticipated to fluctuate due to seasonal climatic variations, tidal fluctuations, surface water runoff patterns, construction operations and other interrelated factors. We estimate the seasonal high water levels will occur approximately 1.5 to 2.0 feet above the level we encountered at the

time of our exploration. These estimates are based upon our review of U.S.G.S. data, Nassau County Soils Survey, and regional hydrogeology.

GEOTECHNICAL ENGINEERING EVALUATION AND RECOMMENDATIONS

Lift Station

It is assumed the lift stations will bear at a depth of approximately 10 feet. Use of temporary dewatering measures, such as a fully sanded vacuum wellpoint system, will be needed to facilitate construction in the dry.

We anticipate the buried structures (lift stations) will exert little or no net downward pressure on the soils, rather, the structure may be subject to hydrostatic uplift pressure when the lift stations are empty. The below grade structures should be designed to resist lateral earth pressures and hydrostatic uplift pressures appropriate for their depth below existing grade and wet season groundwater table.

The walls of the structures should be designed to resist at-rest lateral earth pressures, with equivalent fluid densities above and below the water table being as follows:

Above Water Table - Equivalent Fluid Density	55 pcf
Below Water Table - Equivalent Fluid Density	90 pcf

The water table for wall design purposes should be assumed to be at the existing grade.

Foundation Preparation - Based on our evaluation of the soil conditions encountered in this area, we offer the following recommendations for the proposed underground construction.

1. The proposed construction area should be dewatered as necessary and excavated to the required foundation depth. Excavation work will be required to meet OSHA Excavation Standard Subpart P regulations, Type C Soils. Either a braced sheet pile structure or an excavation with temporary side slopes cut back at 1.5 horizontal to 1.0 vertical can be implemented, depending on the specific project requirements. The side slope of 1.5 horizontal to 1.0 vertical is contingent upon the dewatering system adequately controlling slope seepage. Sheet piling should be designed according to OSHA sheeting and bracing requirements. We recommend a Florida registered Professional Engineer design the sheeting/bracing system.

2. A dewatering system will be required for the project. The water table should be maintained at least 2 feet below the proposed excavation bottom. The dewatering system should not be decommissioned until sufficient deadweight exists on the structure to prevent uplift or the uplift protection system as described below, if necessary, is in place.

3. Backfill can consist of suitable structural backfill as described below, or a compacted

coarse aggregate such as FDOT No. 57 stone. Coarse aggregate should be wrapped with a geotextile (such as Mirafi 140N or equivalent) such that fines cannot migrate into the voids of the aggregate.

4. FDOT No. 57 stone that may be required for the foundation excavation bottom should be placed in 6 inch lifts and densified using hand-operated compaction equipment. Compaction should continue until the stone is well seated. Density testing will not be necessary if the placement and compaction of the stone is appropriately documented.

5. Backfill which will be required around buried walls should be compacted with a light hand-operated compactor to a density of 95 percent of the soils Modified Proctor maximum dry density. All backfill should be placed in level lifts not exceeding six inches loose thickness. Care should be taken not to over compact the backfill (i.e., limit compaction to a maximum of 98 percent of the maximum density) in order to limit the lateral loads on the proposed walls.

6. Structural fill/backfill should consist of an inorganic non-plastic granular soil with less than 12 percent fines and a Unified soil classification of SP, SP-SM, SW or SW-SM (relatively clean sand).

7. Universal Engineering Sciences should be retained to provide a representative for on-site inspection and testing of compaction/filling operations so that proper documentation of the required minimum compaction and compliance with the recommendations contained herein can be provided.

Uplift Protection - When the water level within below-grade structures is maintained at or above the surrounding groundwater level, no net buoyancy will occur to the structure. However, when these structures are drained for maintenance or as water levels fluctuate within the lift stations, a positive means of uplift protection may be necessary. Hydrostatic uplift forces can be resisted in several ways including:

1. Addition of dead weight to the structure.

2. Mobilizing the dead weight of the soil surrounding the structure through extension of footings outside the perimeter of the structure.

3. Use of a permanent gravity or mechanical dewatering system that is operated only when the structure is to be drained.

4. Use of pressure relief valves in the slab bottom in combination with one or more of the above methods, or

5. Use of uplift piles.

We anticipate that one or more of the noted methods will be needed for this construction. At your request, we would be pleased to assist you in evaluating uplift protection requirements.

LIMITATIONS

During the early stages of most construction projects, geotechnical issues not addressed in this report may arise. Because of the natural limitations inherent in working with the subsurface, it is not possible for a geotechnical engineer to predict and address all possible problems. An Geotechnical Business Council (GBC) publication, "Important Information About Your Geotechnical Engineering Report" appears in Appendix B, and will help explain the nature of geotechnical issues.

We trust this report meets your needs and addresses the geotechnical issues associated with the proposed construction. We appreciate the opportunity to have worked with you on this project and look forward to a continued association. Please do not hesitate to contact us if you should have any questions, or if we may further assist you as your plans proceed.

Respectfully submitted,

UNIVERSAL ENGINEERING SCIENCES
Certificate of Authorization No. 549

Stephen R. Weaver, P.E.
Geotechnical Services Manager
FL P.E. Number 37389
Date: 7/2/21

SRW/jdc

STEPHEN R. WEAVER LICENSE NO. 37389 STATE OF FLORIDA PROFESSIONAL ENGINEER

Jake D. Cochran, P.E.
Senior Geotechnical Engineer
FL P.E. Number 90493

APPENDIX A

BORING LOCATION PLAN
BORING LOGS
KEY TO BORING LOGS
FIELD EXPLORATION PROCEDURES

GEOTECHNICAL EXPLORATION
AMERICAN BEACH GRAVITY SEWER DESIGN LIFT STATION
NASSAU, FLORIDA

BORING LOCATION PLAN

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FIGURE A-1

CLIENT: WADE TRIM	
DRAWN BY: TW	DATE: 6/30/21
CHECKED BY: JC	DATE: 6/30/21
SCALE: 1"= 25'	
PROJECT NO: 0930.210014.0000	REPORT NO: 1875821

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BORING LOG

PROJECT NO.:	0930.2100147.0000
REPORT NO.:	1875821
PAGE:	A-2

PROJECT: GEOTECHNICAL EXPLORATION
AMERICAN BEACH GRAVITY SERVER DESIGN LIFT STATION
NASSAU COUNTY, FLORIDA

CLIENT: WADE TRIM

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

BORING DESIGNATION: **LS-1** SHEET: **1 of 1**
SECTION: TOWNSHIP: RANGE:

G.S. ELEVATION (ft):
WATER TABLE (ft): 3.3
DATE OF READING: 6/29/21
EST. W.S.W.T. (ft):

DATE STARTED: 6/29/21
DATE FINISHED: 6/29/21
DRILLED BY: S. TORRES
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Dark gray fine SAND (SP)						
						Very loose to loose brown fine SAND (SP)						
5		1-1-2	3									
		1-2-3	5									
		2-2-4	6			Medium dense light gray fine SAND (SP)						
10		3-8-9	17									
						Very loose light brown fine SAND (SP)						
15		1-2-1	3									
						Loose gray fine SAND (SP)						
20		2-4-6	10									

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BORING LOG

PROJECT NO.:	0930.2100147.0000
REPORT NO.:	1875821
PAGE:	A-3

PROJECT: GEOTECHNICAL EXPLORATION
AMERICAN BEACH GRAVITY SERVER DESIGN LIFT STATION
NASSAU COUNTY, FLORIDA

BORING DESIGNATION: **LS-2** SHEET: **1 of 1**
SECTION: TOWNSHIP: RANGE:

CLIENT: WADE TRIM

LOCATION: SEE BORING LOCATION PLAN

REMARKS:

G.S. ELEVATION (ft):
WATER TABLE (ft): 5.2
DATE OF READING: 6/29/21
EST. W.S.W.T. (ft):

DATE STARTED: 6/29/21
DATE FINISHED: 6/29/21
DRILLED BY: S. TORRES
TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N (BLOWS/ FT.)	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS LL	ATTERBERG LIMITS PI	K (FT./ DAY)	ORG. CONT. (%)
0						Medium dense to dense light brown fine SAND (SP)						
5		4-10-12	22	▼								
		5-13-17	30									
10		10-16-22	38									
15		9-15-20	35									

BORING_LOG 0930.2100147.0000-AMERICAN BEACH GRAVITY.GPJ UNIENGSC.GDT 6/30/21

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KEY TO BORING LOGS

SYMBOLS AND ABBREVIATIONS

SYMBOL	DESCRIPTION
N-Value	No. of Blows of a 140-lb. Weight Falling 30 Inches Required to Drive a Standard Spoon 1 Foot
WOR	Weight of Drill Rods
WOH	Weight of Drill Rods and Hammer
	Sample from Auger Cuttings
	Standard Penetration Test Sample
	Thin-wall Shelby Tube Sample (Undisturbed Sampler Used)
% REC	Percent Core Recovery from Rock Core Drilling
RQD	Rock Quality Designation
	Stabilized Groundwater Level
	Seasonal High Groundwater Level (also referred to as the W.S.W.T.)
NE	Not Encountered
GNE	Groundwater Not Encountered
BT	Boring Terminated
-200 (%)	Fines Content or % Passing No. 200 Sieve
MC (%)	Moisture Content
LL	Liquid Limit (Atterberg Limits Test)
PI	Plasticity Index (Atterberg Limits Test)
K	Coefficient of Permeability
Org. Cont.	Organic Content
G.S. Elevation	Ground Surface Elevation

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS More than 50% retained on the No. 200 sieve*	GRAVELS 50% or more of coarse fraction retained on No. 4 sieve	CLEAN GRAVELS	GW	Well-graded gravels and gravel-sand mixtures, little or no fines
			GP	Poorly graded gravels and gravel-sand mixtures, little or no fines
		GRAVELS WITH FINES	GM	Silty gravels and gravel-sand-silt mixtures
			GC	Clayey gravels and gravel-sand-clay mixtures
	SANDS More than 50% of coarse fraction passes No. 4 sieve	CLEAN SANDS 5% or less passing No. 200 sieve	SW**	Well-graded sands and gravelly sands, little or no fines
			SP**	Poorly graded sands and gravelly sands, little or no fines
		SANDS with 12% or more passing No. 200 sieve	SM**	Silty sands, sand-silt mixtures
			SC**	Clayey sands, sand-clay mixtures
FINE-GRAINED SIOLS 50% or more passes the No. 200 sieve*	SILTS AND CLAYS Liquid limit 50% or less		ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, lean clays
			OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS Liquid limit greater than 50%		MH	Inorganic silts, micaceous or diamicaceous fine sands or silts, elastic silts
			CH	Inorganic clays or clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity
			PT	Peat, muck and other highly organic soils

*Based on the material passing the 3-inch (75 mm) sieve
** Use dual symbol (such as SP-SM and SP-SC) for soils with more than 5% but less than 12% passing the No. 200 sieve

RELATIVE DENSITY
(Sands and Gravels)
Very loose – Less than 4 Blow/Foot
Loose – 4 to 10 Blows/Foot
Medium Dense – 11 to 30 Blows/Foot
Dense – 31 to 50 Blows/Foot
Very Dense – More than 50 Blows/Foot

CONSISTENCY
(Silts and Clays)
Very Soft – Less than 2 Blows/Foot
Soft – 2 to 4 Blows/Foot
Firm – 5 to 8 Blows/Foot
Stiff – 9 to 15 Blows/Foot
Very Stiff – 16 to 30 Blows/Foot
Hard – More than 30 Blows/Foot

RELATIVE HARDNESS
(Limestone)
Soft – 100 Blows for more than 2 Inches
Hard – 100 Blows for less than 2 Inches

MODIFIERS

These modifiers Provide Our Estimate of the Amount of Minor Constituents (Silt or Clay Size Particles) in the Soil Sample
Trace – 5% or less
With Silt or With Clay – 6% to 11%
Silty or Clayey – 12% to 30%
Very Silty or Very Clayey – 31% to 50%

These Modifiers Provide Our Estimate of the Amount of Organic Components in the Soil Sample
Trace – Less than 3%
Few – 3% to 4%
Some – 5% to 8%
Many – Greater than 8%

These Modifiers Provide Our Estimate of the Amount of Other Components (Shell, Gravel, Etc.) in the Soil Sample
Trace – 5% or less
Few – 6% to 12%
Some – 13% to 30%
Many – 31% to 50%

Field Exploration Procedures

Standard Penetration Test Borings

The penetration borings were made in general accordance with the latest revision of ASTM D 1586, "Penetration Test and Split-Barrel Sampling of Soils". The borings were advanced by rotary drilling techniques using a circulating bentonite fluid for borehole flushing and stability. At 2 ½ to 5 foot intervals, the drilling tools were removed from the borehole and a split-barrel sampler inserted to the borehole bottom and driven 18 inches into the soil using a 140 pound hammer falling on the average 30 inches per hammer blow. The number of blows for the final 12 inches of penetration is termed the "penetration resistance, blow count, or N-value". This value is an index to several in-place geotechnical properties of the material tested, such as relative density and Young's Modulus.

After driving the sampler 18 inches (or less if in hard rock-like material), the sampler was retrieved from the borehole and representative samples of the material within the split barrel were placed in glass jars and sealed. After completing the drilling operations, the samples for each boring were transported to our laboratory where they were examined by our engineer in order to verify the driller's field classification.

APPENDIX B

IMPORTANT INFORMATION ABOUT THIS GEOTECHNICAL ENGINEERING REPORT

CONSTRAINTS AND RESTRICTIONS

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are <u>not</u> final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are <u>Not</u> Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will <u>not</u> of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are <u>not</u> building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

Telephone: 301/565-2733
e-mail: info@geoprofessional.org www.geoprofessional.org

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CONSTRAINTS & RESTRICTIONS

The intent of this document is to bring to your attention the potential concerns and the basic limitations of a typical geotechnical report.

WARRANTY

Universal Engineering Sciences has prepared this report for our client for his exclusive use, in accordance with generally accepted soil and foundation engineering practices, and makes no other warranty either expressed or implied as to the professional advice provided in the report.

UNANTICIPATED SOIL CONDITIONS

The analysis and recommendations submitted in this report are based upon the data obtained from soil borings performed at the locations indicated on the Boring Location Plan. This report does not reflect any variations which may occur between these borings.

The nature and extent of variations between borings may not become known until excavation begins. If variations appear, we may have to re-evaluate our recommendations after performing on-site observations and noting the characteristics of any variations.

CHANGED CONDITIONS

We recommend that the specifications for the project require that the contractor immediately notify Universal Engineering Sciences, as well as the owner, when subsurface conditions are encountered that are different from those present in this report.

No claim by the contractor for any conditions differing from those anticipated in the plans, specifications, and those found in this report, should be allowed unless the contractor notifies the owner and Universal Engineering Sciences of such changed conditions. Further, we recommend that all foundation work and site improvements be observed by a representative of Universal Engineering Sciences to monitor field conditions and changes, to verify design assumptions and to evaluate and recommend any appropriate modifications to this report.

MISINTERPRETATION OF SOIL ENGINEERING REPORT

Universal Engineering Sciences is responsible for the conclusions and opinions contained within this report based upon the data relating only to the specific project and location discussed herein. If the conclusions or recommendations based upon the data presented are made by others, those conclusions or recommendations are not the responsibility of Universal Engineering Sciences.

CHANGED STRUCTURE OR LOCATION

This report was prepared in order to aid in the evaluation of this project and to assist the architect or engineer in the design of this project. If any changes in the design or location of the structure as outlined in this report are planned, or if any structures are included or added that are not discussed in the report, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions modified or approved by Universal Engineering Sciences.

USE OF REPORT BY BIDDERS

Bidders who are examining the report prior to submission of a bid are cautioned that this report was prepared as an aid to the designers of the project and it may affect actual construction operations.

Bidders are urged to make their own soil borings, test pits, test caissons or other investigations to determine those conditions that may affect construction operations. Universal Engineering Sciences cannot be responsible for any interpretations made from this report or the attached boring logs with regard to their adequacy in reflecting subsurface conditions which will affect construction operations.

STRATA CHANGES

Strata changes are indicated by a definite line on the boring logs which accompany this report. However, the actual change in the ground may be more gradual. Where changes occur between soil samples, the location of the change must necessarily be estimated using all available information and may not be shown at the exact depth.

OBSERVATIONS DURING DRILLING

Attempts are made to detect and/or identify occurrences during drilling and sampling, such as: water level, boulders, zones of lost circulation, relative ease or resistance to drilling progress, unusual sample recovery, variation of driving resistance, obstructions, etc.; however, lack of mention does not preclude their presence.

WATER LEVELS

Water level readings have been made in the drill holes during drilling and they indicate normally occurring conditions. Water levels may not have been stabilized at the last reading. This data has been reviewed and interpretations made in this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, temperature, tides, and other factors not evident at the time measurements were made and reported. Since the probability of such variations is anticipated, design drawings and specifications should accommodate such possibilities and construction planning should be based upon such assumptions of variations.

LOCATION OF BURIED OBJECTS

All users of this report are cautioned that there was no requirement for Universal Engineering Sciences to attempt to locate any man-made buried objects during the course of this exploration and that no attempt was made by Universal Engineering Sciences to locate any such buried objects. Universal Engineering Sciences cannot be responsible for any buried man-made objects which are subsequently encountered during construction that are not discussed within the text of this report.

TIME

This report reflects the soil conditions at the time of exploration. If the report is not used in a reasonable amount of time, significant changes to the site may occur and additional reviews may be required.

UNIVERSAL
ENGINEERING SCIENCES

Exhibit “F”

This item has been digitally signed and sealed by Timothy Palmer on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copie

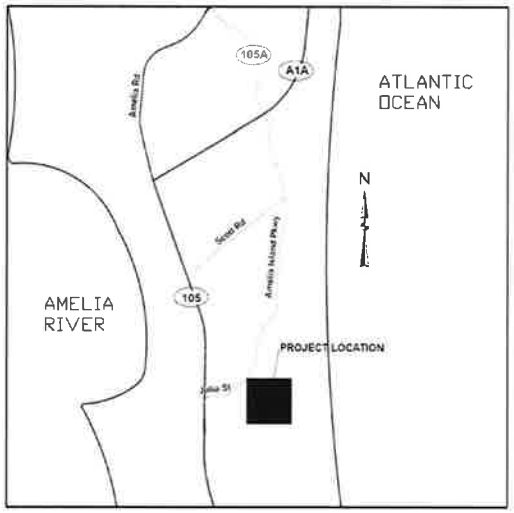
Digitally signed by Timothy R Palmer
DN: CN=Timothy R Palmer, OU=A01410D000001778385240F800009484, O=WADE TRIM GROUP INC., C=US
Reason: I agree to the terms defined by the placement of my signature on this document.
Date: 2021.12.01 11:22:44-05'00'

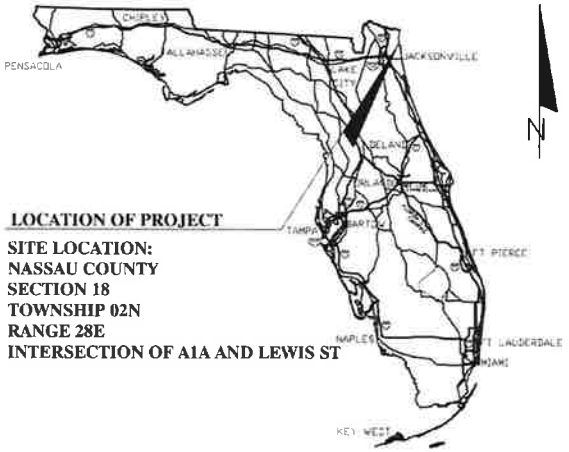
NASSAU COUNTY ENGINEERING

CONTRACT PLANS

AMERICAN BEACH WATER AND SEWER DISTRICT
WELL AND SEPTIC TANK PHASE OUT PROGRAM

TIMOTHY R. PALMER
LICENSE
No. 86681
STATE OF
FLORIDA
PROFESSIONAL ENGINEER





LOCATION OF PROJECT

SITE LOCATION:
NASSAU COUNTY
SECTION 18
TOWNSHIP 02N
RANGE 28E
INTERSECTION OF A1A AND LEWIS ST

ISSUED FOR BID

PROJECT BID NUMBER NC21-029

NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

ENGINEER OF RECORD: TIMOTHY PALMER P.E.

FL P.E. NO.: 86681

BOARD OF COUNTY COMMISSIONERS

JOHN F. MARTIN-	DISTRICT 1
AARON C. BELL-	DISTRICT 2, VICE-CHAIR
JEFF GRAY-	DISTRICT 3
THOMAS R. FORD-	DISTRICT 4, CHAIR
KLYNT A. FARMER-	DISTRICT 5

811 Know what's below. Call before you dig.

LENGTH OF PROJECT

	LINEAR FEET	MILES
GRAVITY SEWER MAIN	13,065	2.474
FORCE MAIN	2,300	0.436
2" WATER MAIN	3,033	0.574
4" WATER MAIN	2,467	0.467
6" WATER MAIN	4,587	0.869
8" WATER MAIN	2,182	0.413

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DRAWING INDEX		
SHEET NO.	SHEET TITLE	STATION
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G-2	SHEET INDEX	-
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G-4	GENERAL NOTES	-
G-5	LEGEND & ABBREVIATIONS	-
G-6	KEY SHEET	-
G-7	SURVEY CONTROL	-
P-1	LEWIS STREET	15+00 - 20+50
P-2	LEWIS STREET	20+50 - 26+00
P-3	LEWIS STREET	26+00 - 31+50
P-4	LEWIS STREET	31+50 - 37+00
P-5	LEWIS STREET	37+00 - 42+50
P-6	JULIA STREET	10+00 - 15+50
P-7	JULIA STREET	15+50 - 21+00
P-8	JULIA STREET	21+00 - 26+50
P-9	JULIA STREET	26+50 - 30+00
P-10	MARY AVENUE	9+50 - 15+00
P-11	MARY AVENUE	15+00 - 20+00
P-12	LEONARD STREET	9+50 - 15+00
P-13	LEONARD STREET	15+00 - 20+00
P-14	LEE STREET	9+50 - 14+50
P-15	LEE STREET	14+50 - 20+00
P-16	ERVIN STREET	9+50 - 14+50
P-17	ERVIN STREET	14+50 - 20+00
P-18	JAMES STREET	10+00 - 15+00
P-19	JAMES STREET	15+00 - 19+50
P-20	PRICE STREET	14+00 - 19+50
P-21	WALDRON STREET	10+00 - 15+00
P-22	WALDRON STREET	15+00 - 19+34
P-23	OCEAN BOULEVARD	10+00 - 16+00
P-24	OCEAN BOULEVARD	16+00 - 20+50
P-25	OCEAN BOULEVARD	20+50 - 9+84
P-26	OCEAN BOULEVARD	10+00 - 15+00
P-27	OCEAN BOULEVARD	15+00 - 19+00
P-28	BURNEY ROAD	10+00 - 14+91
P-29	GREGG STREET	11+23 - 15+50
P-30	GREGG STREET	15+50 - 21+00
P-31	GREGG STREET	21+00 - 26+50
P-32	GREGG STREET	10+00 - 15+50
P-33	GREGG STREET	15+50 - 19+00

DRAWING INDEX		
SHEET NO.	SHEET TITLE	STATION
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M-2	LIFT STATION 1	-
M-3	LIFT STATION 2	-
M-4	LIFT STATION 2	-
C-1	SUGGESTED MAINTENANCE OF TRAFFIC PLAN	-
D-1	STANDARD DETAILS - SANITARY	-
D-2	STANDARD DETAILS - SANITARY	-
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D-4	STANDARD DETAILS - SANITARY	-
D-5	STANDARD DETAILS - SANITARY	-
D-6	STANDARD DETAILS - SANITARY	-
D-7	STANDARD DETAILS - SANITARY	-
D-8	STANDARD DETAILS - SANITARY	-
D-9	STANDARD DETAILS - SANITARY	-
D-10	STANDARD DETAILS - SANITARY	-
D-11	STANDARD DETAILS - SANITARY	-
D-12	STANDARD DETAILS - SANITARY	-
D-13	STANDARD DETAILS - WATER	-
D-14	STANDARD DETAILS - WATER	-
D-15	STANDARD DETAILS - WATER	-
D-16	STANDARD DETAILS - WATER	-
D-17	STANDARD DETAILS - WATER	-
D-18	STANDARD DETAILS - WATER	-
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E-6	GROUNDING SITE PLAN	-
E-7	CONDUIT LAYOUT	-
E-8	TYPICAL DETAILS	-
E-9	TYPICAL DETAILS	-

PROJECT MANAGER: TIMOTHY PALMER
C:\PW_WORKING\...\G1 - GENERAL NOTES.DWG - G-2 - PLOTTED 5/20/2021 4:54 PM BY BURKE, MEGAN
FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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SHEET INDEX

NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 88681

JOB NO. GUA 2071.02M

SHEET G-2

GENERAL NOTES:

1. OBTAIN A COPY OF THE SURVEY AND LOCATE THE SURVEY BASELINE IN THE FIELD PRIOR TO CONSTRUCTION. ALL ELEVATIONS SHOWN ON THE DRAWINGS AND IN THE SURVEY NOTES ARE REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988. STATE PLANE COORDINATES ARE REFERENCED TO NORTH AMERICAN DATUM OF 1983 WITH THE 1990 ADJUSTMENT (NAD 83–90). LAND SURVEY WAS PERFORMED JANUARY 2021 THROUGH APRIL 2021.

2. LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF THE PREPARATION OF THESE DRAWINGS, BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. OBTAIN THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES AFFECTING THE WORK PRIOR TO CONSTRUCTION.

3. COUNTY OWNED UTILITIES WITHIN THE PROJECT LIMITS INCLUDE WATER, WASTEWATER AND DRAINAGE. ALL OTHER UTILITIES PRESENT WITHIN NASSAU COUNTY RIGHT–OF–WAY ARE CONSIDERED PRIVATE UTILITIES. PRIVATE UTILITIES ARE RESPONSIBLE FOR LOCATING THEIR UTILITIES PRIOR TO CONSTRUCTION AND, IF REQUIRED, RELOCATING AND/OR TEMPORARILY SUPPORTING THEIR UTILITIES TO ALLOW THE SAFE CONSTRUCTION OF THE WORK UNDER THIS CONTRACT. PRIVATE UTILITIES MUST PROVIDE THIS SERVICE WITHOUT CHARGING A FEE TO THE COUNTY'S CONTRACTOR/SUBCONTRACTOR.

4. COUNTY OWNED UTILITIES AND STRUCTURES NOT SHOWN ON THE DRAWINGS TO BE REMOVED AND REPLACED OR RELOCATED, SHALL BE PROTECTED IN PLACE AND UTILITY SERVICE SHALL BE MAINTAINED. WHERE TEMPORARY CONFLICTS OCCUR BETWEEN EXISTING COUNTY OWNED UTILITIES AND THE NEW CONSTRUCTION, PROTECT IN PLACE OR RELOCATE SAID UTILITIES AND MAINTAIN UTILITY SERVICE ALL TO THE SATISFACTION OF THE COUNTY. UTILITIES AND STRUCTURES SHOWN ON THE DRAWINGS TO BE REMOVED AND REPLACED OR RELOCATED SHALL CONFORM TO THE REQUIREMENTS OF THE APPLICABLE TECHNICAL SPECIFICATIONS.

5. WHERE SPECIFICALLY SHOWN, THE SUBCONTRACTOR SHALL SCHEDULE AND COORDINATE WITH THE FOLLOWING UTILITY OWNERS FOR RELOCATION OF THEIR FACILITIES LOCATED IN NASSAU COUNTY RIGHT–OF–WAY.

AT&T/DISTRIBUTION –	DINO FARRUGGIO	(561) 881–2729
COMCAST CABLE COMMUNICATIONS –	JOHN SCOTT STRAHN	(561) 227–3417
FLORIDA PUBLIC UTILITIES COMPANY GAS –	JOHNNY HILL	(351) 636–7057
FLORIDA PUBLIC UTILITIES COMPANY ELECTRIC –	CHRIS HEBERT	(904) 430–4710
NASSAU AMELIA UTILITY –	BILL PITTMAN	(904) 293–5467
NASSAU ENGINEERING –	ROBERT COMPANION	(904) 530–6225

6. PROVIDE AT LEAST 48 HOURS NOTICE TO THE VARIOUS UTILITY COMPANIES IN ORDER TO PERMIT THE LOCATION OF EXISTING UNDERGROUND UTILITIES IN ADVANCE OF CONSTRUCTION. NOTIFY THE VARIOUS UTILITY COMPANIES BY CALLING THE SUNSHINE ONE CALL CENTER (1–800–432–4770) OR, IF NECESSARY, BY CONTACTING THE UTILITY COMPANIES INDIVIDUALLY.

7. AT LEAST 2,000 FEET AHEAD OF CONSTRUCTION, OBTAIN THE ELEVATIONS OF ALL UTILITIES CROSSING THE PROPOSED SANITARY SEWER AND THE PROPOSED WATER MAIN. IN NO CASE SHALL THE VERTICAL SEPARATION BETWEEN THE PROPOSED WATER MAIN AND CROSSING BE LESS THAN 12 INCHES. IF VERTICAL CLEARANCE CANNOT BE OBTAINED, ADVISE THE ENGINEER AND A RESOLUTION TO THE CONFLICT WILL BE DIRECTED.

8. UNLESS SHOWN OTHERWISE PROTECT ALL TREES IN THE VICINITY OF THE PROPOSED CONSTRUCTION IN ACCORDANCE WITH NASSAU COUNTY STANDARDS. NO TREES SHALL BE PRUNED WITHOUT PRIOR APPROVAL FROM NASSAU COUNTY PARKS AND RECREATION DEPARTMENT, NATURAL RESOURCE DIVISION, AND SHALL BE PERFROMED BY A CERTIFIED ARBORIST. ROOT PRUNING MAY BE REQUIRED IN ACCORDANCE WITH CHAPTER 13 TECHNICAL MANUAL SPECIFICATIONS.

9. RECORD DRAWINGS FOR EXISTING SANITARY SEWER SERVICES ALONG THE PROJECT ROUTE ARE NOT COMPLETE. THE CONTRACTOR SHALL BE PREPARED TO IMMEDIATELY REPAIR ANY ACTIVE SEWER CONNECTION DAMAGED DURING CONSTRUCTION. IF THE LOCATION OF THE ACTIVE SEWER CONFLICTS WITH THE PROPOSED LOCATION OF THE UTILITY, IMMEDIATELY NOTIFY THE ENGINEER, WHO WILL DIRECT HOW TO RESOLVE THE CONFLICT. IT MAY BE REQUIRED TO REROUTE THE SEWER EITHER OVER OR UNDER THE PROPOSED UTILITY.

10. REPLACE ANY CURB–CUT RAMPS DISTURBED DURING CONSTRUCTION. THE REPLACEMENT RAMPS SHALL COMPLY WITH FLORIDA BUILDING CODE SECTION 11–4.7 REGARDLESS OF EXISTING CONDITIONS OF THE RAMP.

11. CONTRACTOR SHALL PROTECT PROPERTY MONUMENTS AND RIGHT OF WAY SIGNAGE. THE CONTRACTOR'S REGISTERED SURVEYOR SHALL REPLACE ANY MONUMENTS THAT ARE DISTURBED AND THE CONTRACTOR SHALL REMOVE AND REPLACE ANY SIGNAGE WITHIN THE RIGHT OF WAY THAT IS IMPACTED BY CONSTRUCTION.

12. PIPELINES TO BE CONSTRUCTED VIA OPEN CUT UNLESS OTHERWISE SPECIFIED.

13. INSTALL THE PROPOSED SANITARY SEWERS TO THE ELEVATION AND SLOPES SHOWN ON THE DRAWINGS.

14. CONTINUOUS SANITARY SEWER AND STORM SEWER SERVICE SHALL BE MAINTAINED.

15. SANITARY SEWER WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NASSAU COUNTY WASTEWATER DEPARTMENT TECHNICAL STANDARDS GUIDELINE WHICH MAY BE OBTAINED ONLINE AT WWW.NASSAUCOUNTYFL.COM.

16. ALL TREE PROTECTION FENCING SHALL BE PLACE 1' FROM THE EDGE OF PAVEMENT AND NO MORE THAN 5' INTO PRIVATE PROPERTY OFF OF THE RIGHT OF WAY.

17. ALL PIPE BEDDING SHALL BE CLASS C UNLESS OTHERWISE SHOWN, SPECIFIED OR DIRECTED.

18. DISCHARGE OF ANY NON–CONTAMINATED WATER FROM SOIL DEWATERING OPERATIONS TO SURFACE WATERS, IF ANY, SHALL CONFORM TO THE FDEP GENERAL PERMIT REQUIREMENTS.

19. PROVIDE PROPOSED FORCE MAIN COMPRISED OF ASTM C 900 DR 18 PVC PIPE; GREEN IN COLOR, PROVIDE DUCTILE IRON MJ FITTTINGS WITH PROTECTIVE INTERIOR LINING OF PROTECTO 401 CERAMIC EPOXY AS MANUFACTURED BY VULCAN INDUSTRIES, OR APPROVED EQUAL. DUCTILE IRON FITTINGS SHALL CONFORM TO AWWA C 153.

20. POLYETHYLENE ENCASE ALL MJ FITTINGS IN ACCORDANCE WITH AWWA C 105.

21. WHERE PIPE ALIGNMENT DEFLECTIONS LESS THAN 4 DEGREES ARE SHOWN ON THE PLANS, THE ALIGNMENT FOR USE OF PVC PIPE SHALL BE ACCOMPLISHED WITH CURVED ALIGNMENTS, INSTEAD OF JOINT DEFLECTIONS. PVC TO PVC JOINTS SHALL NOT BE DEFLECTED. THE MINIMUM RADIUS OF CURVATURE IS 100' FOR 4" PVC AND 300' FOR 12" PVC. GRAVITY PIPE SHALL NOT BE CURVED.

22. WHERE IT IS NECESSARY TO DEFLECT PIPE, EITHER HORIZONTALLY OR VERTICALLY AT DUCTILE IRON MJ FITTINGS, PIPE JOINT DEFLECTIONS SHALL NOT EXCEED 75% OF THE MANUFACTURERS' RECOMMENDED DEFLECTION ANGLE.

23. CONFIRM UTILITY TO UTILITY CLEARANCES, HORIZONTAL AND VERTICAL, AND PIPE JOINT LOCATIONS IN ACCORDANCE WITH FLORIDA ADMINISTRATIVE CODE 62–555.314 AND 62–604.400.

24. THE HORIZONTAL ALIGNMENT OF THE FORCE MAIN AND WATER MAIN SHALL BE AS DIMENSIONED TO THE SURVEY BASELINE ON THE DRAWINGS. THE CONTRACTOR SHALL OBTAIN A COPY OF THE SURVEY AND LOCATE THE SURVEY BASELINE IN THE FIELD PRIOR TO CONSTRUCTION.

25. PIPE LAYING, LEAKAGE TESTING AND AS–BUILT DRAWINGS SHALL CONFORM TO THE JEA WATER & WASTEWATER STANDARDS MANUAL, LATEST VERSION.

26. THERE SHALL BE NO INTERMEDIATE HIGH OR LOW POINTS BETWEEN V.P.I.'S, AT LEAST 500 FEET AHEAD OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN THE ELEVATIONS OF ALL UTILITIES CROSSING THE PROPOSED UTILITY AND, WHERE THE REQUIRED SEPARATIONS CANNOT BE ACHIEVED, SHALL NOTIFY THE ENGINEER WHO WILL DIRECT THE CONTRACTOR TO ADJUST THE VERTICAL ALIGNMENT AS NECESSARY.

27. ALL WETLAND LINES SHOWN ARE STATE AND FEDERAL JURISDICTION UNLESS OTHERWISE NOTED. CONTRACTOR SHALL CLEARLY MARK WETLAND LINES FOR VARIOUS FIELD PERSONNEL. MARKING OF WETLAND LINES SHALL BE IN PLACE PRIOR TO WORK IN THE AREA AND SHALL BE MAINTAINED UNTIL FINAL ACCEPTANCE OF RESTORATION. LOCATE DISCHARGE FROM DEWATERING OPERATIONS MORE THAN 100 FEET FROM WETLANDS. DISCHARGE TO SURFACE WATERS, IF ANY, SHALL CONFORM TO THE FDEP GENERAL PERMIT REQUIREMENTS.

28. FOR WATER MAIN CONSTRUCTION, APPURTENANCES AND TESTING, REFERENCE THE JEA WATER & WASTEWATER STANDARDS MANUAL, LATEST VERSION.

29. THERE IS A PRIVATE WATER DISTRIBUTION SYSTEM SERVING SEVERAL PROPERTIES WITHIN THE AMERICAN BEACH PROJECT LIMITS. THE CONTRACTOR SHALL CONFIRM THE SIZE OF THIS EXISTING DISTRIBUTION SYSTEM, PRIOR TO BEGINNING CONSTRUCTION, AND HAVE THE MATERIALS AND MEANS ON HAND TO MAKE FIELD REPAIRS FOR ANY DAMAGES INCURRED DURING CONSTRUCTION, AT THE CONTRACTOR'S EXPENSE. THE LOCATION OF THE PRIVATE DISTRIBUTION MAIN WAS UNKNOWN DURING THE DESIGN OF THESE PLANS.

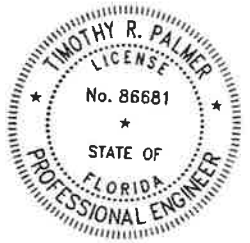
30. CONTRACTOR SHALL DETERMINE THE APPROPRIATE LOCATION FOR SANITARY LATERALS AND WATER SERVICE METERS IN THE FIELD FOR EACH PROPERTY OWNER. THE SHOWN LOCATIONS OF LATERALS AND WATER SERVICES WERE DETERMINED WITH THE BEST AVAILABLE INFORMATION DURING DESIGN. WHERE IT IS APPROPRIATE, THE CONTRACTOR MAY PROVIDE DOUBLE SERVICE LATERALS AND DOUBLE WATER SERVICES AFTER WRITTEN APPROVAL BY THE ENGINEER.

31. CONTRACTOR SHALL LOCATE THE PROPOSED TIE–IN LOCATION OF THE WATER MAIN ON GREGG ST AT STA 12+67, 19' RT AND LOCATE THE END CAP. REPORT DIAMETER, MATERIAL, AND END–CAP ASSEMBLY TO THE ENGINEER.

32. CONTRACTOR TO INVESTIGATE THE EXISTING ABOVE GRADE BLOW–OFF ASSEMBLY LOCATED AT STA. 18+10, 22' RT AND REPORT THE FINDINGS TO THE ENGINEER. DETERMINE THE DIAMETER, DEPTH, MATERIAL OF THE MAIN LINE.

33. CONTRACTOR SHALL RESTORE PAVEMENT PER NASSAU COUNTY REQUIREMENTS ON D–23. CONTRACTOR SHALL RESTORE THE SURFACE IN KIND. WHERE EXISTING STREETS ARE CURRENTLY DIRT OR ASPHALT MILLINGS, REPLACE IN KIND AFTER UTILITY CONSTRUCTION AND COMPACTION. DIRT AND ASPHALT MILLING ROADWAYS SHALL BE STABILIZED AND MIXED TO PROVIDE A SUB–GRADE FOR THE COUNTY.

34. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE, AS REQUIRED, TO REMOVE ROOTS, BRANCHES, ROCKS, ETC. AT NO TIME SHALL CONSTRUCTION, CLEARING OR WORK TAKE PLACE OUTSIDE THOSE AREAS SHOWN ON THE PLANS FOR CONSTRUCTION. ALL UNSUITABLE MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.



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GENERAL NOTES

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WATER AND SEWER DISTRICT WELL AND
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ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO
GUA 2071.02M

SHEET
G–3

DEVELOPMENT REVIEW GENERAL NOTES:

1. ENGINEERING PLANS APPROVAL DOES NOT CONSTITUTE PERMISSION TO VIOLATE ANY ADOPTED FEDERAL, STATE, OR LOCAL LAW, CODE, OR ORDINANCE.
2. ALL WORK WITHIN THE PUBLIC STREETS AND RIGHT-OF-WAYS SHALL CONFORM TO NASSAU COUNTY LAND DEVELOPMENT CODES (LDC), FDOT STANDARD INDICES, FLORIDA GREENBOOK, NASSAU COUNTY ROADWAY AND DRAINAGE STANDARDS, AND NASSAU COUNTY STANDARD DETAILS AS NECESSARY. FOR ANY DISCREPANCY BETWEEN STANDARDS, THE MOST STRINGENT SHALL PREVAIL.
3. A PRE-CONSTRUCTION MEETING WITH NASSAU COUNTY ENGINEERING SERVICES CONSTRUCTION INSPECTOR IS REQUIRED. ATTENDEES SHALL BE NASSAU COUNTY, ENGINEER OF RECORD, CONTRACTOR, TESTING FIRM, PAVING FIRM, AND UTILITY COMPANIES PER NASSAU COUNTY ORDINANCE 99-17 SECTION 7.2.3. NASSAU COUNTY MAY CANCEL PRE-CONSTRUCTION MEETING IF ATTENDEE LIST IS INADEQUATE. NASSAU COUNTY ENGINEERING SERVICES CAN BE REACHED AT 904-530-6225.
4. THE CONTRACTOR SHALL SCHEDULE AND COORDINATE ALL WORK WITH THE APPROPRIATE NASSAU COUNTY CONSTRUCTION INSPECTOR ASSIGNED TO THE PROJECT PER NASSAU COUNTY ORDINANCE 99-17 SECTION 7.2.
5. ALL WORK SHALL BE PERFORMED IN A SAFE MANNER. ALL SAFETY RULES AND GUIDELINES OF O.S.H.A. SHALL BE FOLLOWED. THE CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR ANY INJURIES TO HIS EMPLOYEES AND ANY DAMAGE TO PRIVATE PROPERTY OR PERSONS DURING THE COURSE OF THIS PROJECT.
6. PER NASSAU COUNTY ROADWAY AND DRAINAGE STANDARDS, ORDINANCE 99-17 SECTION 11.8.1, ANY DISTURBED AREAS WITHIN NASSAU COUNTY RIGHT-OF-WAY SHALL BE SODDED.
7. PER NASSAU COUNTY ROADWAY AND DRAINAGE STANDARDS, ORDINANCE 99-17 SECTION 7.4.1, AT THE TIME OF FINAL INSPECTION, GRASSING SHALL BE A MINIMUM OF SEVENTY PERCENT COVERAGE AND FULLY ESTABLISHED AND/OR SODDING TO BE ONE HUNDRED PERCENT COVERAGE AND STABILIZED.
8. ENGINEER OF RECORD APPROVED SHOP DRAWINGS SHALL BE PROVIDED TO NASSAU COUNTY CONSTRUCTION INSPECTOR A MINIMUM OF ONE WEEK BEFORE BEGINNING STRUCTURE INSTALLATION.
9. THE CONTRACTOR IS THE SINGLE RESPONSIBLE PARTY FOR THE PROPER IMPLEMENTATION OF AN EROSION PROTECTION SEDIMENT CONTROL (EPSC) WITHIN EACH LOT OR CONSTRUCTION SITE. THIS INCLUDES THE RESPONSIBILITY FOR THE ACTIONS/INACTIONS OF EMPLOYEES, SUBCONTRACTORS, AND/OR SUPPLIERS.
10. THE CONTRACTOR SHALL COMPLY WITH CURRENT FLORIDA ACCESSIBILITY STANDARDS FOR ALL WORK ON THIS PROJECT.
11. PER ORDINANCE 99-17 SECTION 8.5.1, MINIMUM COVER FOR WATER LINES AND FORCE MAINS UNDER PAVEMENT SHALL 42" AND 36" IN GREEN AREAS.
12. ALL WATER, SEWER, AND STORM WATER CONSTRUCTION WITHIN NASSAU COUNTY ROW SHALL BE ACCOMPLISHED BY AN UNDERGROUND UTILITY CONTRACTOR LICENSED UNDER THE PROVISIONS OF CHAPTER 409 OF THE FLORIDA STATUTES.
13. NO WORK SHALL BE PERMITTED BETWEEN THE HOURS OF 7:00 PM – 7:00AM WITHOUT PRIOR APPROVAL FROM NASSAU COUNTY ENGINEERING SERVICES.
14. ALL TREES REQUIRED TO BE PROTECTED SHALL BE FLAGGED FOR PROTECTION PRIOR TO CLEARING.
15. ALL GRADING AND PLACEMENT OF COMPACTED FILL SHALL BE IN ACCORDANCE WITH THE LATEST NASSAU COUNTY SPECIFICATIONS.
16. ANY DAMAGES (SIDEWALK, CURB, ASPHALT, DITCH GRADING, ET CETERA) WITHIN PUBLIC RIGHT-OF-WAY SHALL BE REPAIRED OR REPLACED IN ACCORDANCE WITH NASSAU COUNTY SPECIFICATIONS. PROPOSED REPAIR METHOD SHALL BE APPROVED BY NASSAU COUNTY ENGINEERING SERVICES.
17. ANY ASPHALT MILLINGS FROM NASSAU COUNTY ROW SHALL BE DELIVERED TO THE ROAD DEPARTMENT LAYDOWN YARD LOCATED ON GENE LASSERRE BOULEVARD OR PEA FARM ROAD. PLEASE CONTACT THE ROAD DEPARTMENT AT (904) 530-6175.
18. PER NASSAU COUNTY ORDINANCE 99-17 SECTION 7.4.2 AND 7.4.4, AS-BUILT DRAWINGS SHALL BE SUBMITTED TO NASSAU COUNTY BEFORE A FINAL INSPECTION CAN BE SCHEDULED. AS-BUILTS SUBMITTALS WILL BE IN ACCORDANCE WITH NASSAU COUNTY AS-BUILT REQUIREMENT CHECKLIST. AS-BUILT DRAWINGS SHALL BE CERTIFIED BY REQUIRED LICENSED SURVEYOR AND APPROVED BY ENGINEER OF RECORD.

STORMWATER DRAINAGE NOTES:

1. ALL STORMWATER DRAINAGE FACILITIES WITHIN PUBLIC RIGHT-OF-WAY AND PAVED AREAS, INCLUDING NASSAU COUNTY RIGHT-OF-WAY, TURN LANES, RESIDENTIAL ROADWAYS, DRIVE AISLES FOR MULTI-FAMILY DEVELOPMENTS, AND MAJOR DRIVE AISLES FOR COMMERCIAL DEVELOPMENTS SHALL BE LASER PROFILED PER FDOT SECTION 430.
2. A BUILDER CANNOT MODIFY THE COUNTY'S STORM WATER MANAGEMENT SYSTEM INCLUDING THE PIPES, INLETS, AREA DRAINS, DITCHES AND RELATED ELEMENTS TYPICALLY WITHIN THE STREET OR WITHIN A DRAINAGE EASEMENT WITHOUT THE PRIOR WRITTEN APPROVAL OF THE COUNTY ENGINEER OR DESIGNEE.
3. DRAINAGE EASEMENTS AND DITCHES SHOULD REMAIN FREE OF STOCKPILED SOIL, SEDIMENT, MUD, CONSTRUCTION MATERIALS/WASTE, ET CETERA AT ALL TIMES. POSITIVE STORMWATER FLOW MUST BE MAINTAINED THROUGHOUT CONSTRUCTION.
4. THE CONTRACTOR SHALL TEMPORARILY OR PERMANENTLY STABILIZE BARE SOIL AREAS AND SOIL STOCKPILES WHEN THE AREA IS INACTIVE FOR FOURTEEN DAYS OR MORE OR HAS REACHED FINISHED GRADE.
5. PER ORDINANCE 99-17 SECTION 11.11.5.4, ALL GRAVITY FLOW PIPE INSTALLATIONS SHALL HAVE A SOIL TIGHT JOINT PERFORMANCE UNLESS SPECIFIC SITE FACTORS WARRANT WATERTIGHT JOINT PERFORMANCE.
6. PER ORDINANCE 99-17 SECTION 10.6.5.1, IMMEDIATELY INSTALL ADDITIONAL EROSION PROTECTION SEDIMENT CONTROL MEASURES IF SEDIMENT IS LEAVING YOUR SITE. FAILURE TO CONTAIN SEDIMENT TO YOUR SITE MAY RESULT IN DELAYED INSPECTIONS, NOTICES OF VIOLATION, CITATIONS, FINES, PENALTIES, AND/OR STOP WORK ORDERS.
7. PER 99-17 SECTION 10.1.2.A-E, STORMWATER MANAGEMENT FOR A PROJECT SHALL NOT HAVE ADVERSE EFFECTS ON ADJACENT PROPERTIES, DOWNSTREAM STRUCTURES, OR RIGHTS OF OTHER LANDOWNERS.

PAVING NOTES:

1. PER NASSAU COUNTY ROADWAY AND DRAINAGE STANDARDS, ORDINANCE 99-17 SECTION 12.2 AND 12.4, A CONSTRUCTION BOND AND 26-MONTH MAINTENANCE BOND WILL BE REQUIRED FOR ALL WORK WITHIN NASSAU COUNTY RIGHT-OF-WAY.
2. A PRE-PAVE MEETING IS REQUIRED PRIOR TO ANY PAVING OPERATIONS WITHIN NASSAU COUNTY ROW, RESIDENTIAL SUBDIVISIONS, OR MULTI-FAMILY DEVELOPMENTS.
3. APPROVED MIX DESIGNS SHALL BE PROVIDED TO NASSAU COUNTY CONSTRUCTION INSPECTOR 48 HOURS PRIOR TO PRE-PAVE MEETING OR PLACEMENT OF CONCRETE.
4. CONTRACTOR IS REQUIRED TO HAVE A CERTIFIED QC ASPHALT LEVEL II TECHNICIAN DURING ANY ASPHALT OPERATIONS WITHIN NASSAU COUNTY ROW, RESIDENTIAL SUBDIVISION, OR MULTI-FAMILY DEVELOPMENTS.
5. ALL BASES SHALL BE PRIMED IN ACCORDANCE WITH ORDINANCE 99-17 SECTION 11.5.2.3, NASSAU COUNTY STANDARD DETAILS, AND FDOT STANDARD SPECIFICATIONS.
6. SIGNAGE AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH NASSAU COUNTY STANDARDS, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AND FDOT STANDARD PLANS.
7. MAINTENANCE OF TRAFFIC (MOT) SHALL BE IN COMPLIANCE WITH FDOT STANDARD INDEX 600 SERIES.
8. ALL WORK, MATERIALS, AND TESTING PERFORMED WITHIN NASSAU COUNTY RIGHT-OF-WAY AND SINGLE-FAMILY/MULTI-FAMILY DEVELOPMENTS SHALL BE IN ACCORDANCE WITH THE CURRENT REVISION OF NASSAU COUNTY'S ORDINANCE 99-17 AND ALL CURRENT NASSAU COUNTY STANDARD DETAILS.
9. PER ORDINANCE 99-17 SECTION 11.9.2, ALL PAVEMENT MARKINGS WITHIN NASSAU COUNTY ROW SHALL BE LEAD FREE THERMOPLASTIC MEETING NASSAU COUNTY AND FDOT STANDARD SPECIFICATION LATEST EDITION.
10. REMOVING PAVEMENT MARKINGS WITHIN NASSAU COUNTY ROW SHALL BE:
    a. GRINDING OR HYDRO-BLASTING ON WEATHERED ASPHALT SURFACES.
    b. HYDRO-BLASTING ONLY ON NEW ASPHALT SURFACES.
    c. PAINT BLACKOUT IS PROHIBITED.
11. PER ORDINANCE 99-17 SECTION 8.5.5, ANY DAMAGE TO PAVEMENT RESULTING FROM CONSTRUCTION OR PAVEMENT MARKING REMOVAL WITHINPUBLIC ROW NOT PLANNED AS PART OF THE PROJECT SHALL BE MILLED AND OVERLAID FOR ENTIRE WIDTH OF ROADWAY AND LENGTH OF DAMAGE PLUS 50' IN EACH DIRECTION.
12. ALL UNDERGROUND UTILITIES, OR APPROPRIATE CONDUIT SLEEVES, THAT ARE TO BE INSTALLED UNDER PAVEMENT MUST BE INSTALLED PRIOR TO PREPARATION OF THE SUBGRADE FOR PAVEMENT.
13. SINGLE VERTICAL JOINTS IN ROADWAY CONSTRUCTION SHALL BE AVOIDED IN NASSAU COUNTY RIGHT-OF-WAY USING NASSAU COUNTY STANDARD DETAIL #26.
14. ALL DRAINAGE STRUCTURES SHALL HAVE TRAFFIC BEARING GRATES THAT MEET OR EXCEED THE RATING FOR THE FACILITIES EXPECTED TRAFFIC.
15. ALL CONCRETE SHALL BE A MINIMUM OF 3000 PSI WITHIN PUBLIC RIGHT-OF-WAY.
16. ALL DRIVEWAY REPAIRS WILL HAVE TURNOUTS PER CURRENT NASSAU COUNTY CODE.

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

WADE TRIM
201 North Franklin Street, Suite 1350
Tampa, FL 33602
813.882.4373
www.wadetrim.com
Certificate of Authorization No: 3952

GENERAL NOTES

NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
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JOB NO. GUA 2071.02M

SHEET G-4

TOPOGRAPHIC FEATURES

	EXISTING	PROPOSED
MAIL BOX		
NON-TRAFFIC SIGN		
TRAFFIC SIGN		
UNDERGROUND MARKER		
U/G MARKER CABLE		
U/G MARKER ELECTRIC		
U/G MARKER FIBER OPTIC		
U/G MARKER GAS		
U/G MARKER TELEPHONE		
WOOD STAKE		

VEGETATION

PALM TREE	
DECIDUOUS TREE	

BC = BLACK CHERRY
C = CAMPHOR
CD = CEDAR
C LA = CHERRY LAUREN OAK
C MY = CREPE MYRTEL
EB = EUROPEAN BEECH
H = HOLLY
JAP P = JAPANESE PLUM
LA = LAUREL OAK
LO = LIVE OAK
M = MAPLE
MAG = MAGNOLIA
MY = MYRTLE
O = OAK
RTM = RED TIP MAPLE
SO = SCRUB OAK
SBL = SWEETBAY LAUREL
SBM = SWEETBAY MAGNOLIA
W = WOOD
WA = WATER OAK
W MY = WAX MYRTLE
WO = WHITE OAK

BRUSH LINE	
HEDGE	

CABLE TV

CABLE TV POLE		
CABLE TV PEDESTAL		CTV
UNDERGROUND CABLE TELEVISION		UCTV

ELECTRICAL

POWER POLE		
OVERHEAD ELECTRIC		E E
UNDERGROUND ELECTRIC		UE UE
ELECTRIC FIXTURE		
SERVICE POLE		

GAS

MARKER POST		GAS
GAS		G G

MONUMENTS

	EXISTING
IRON (FOUND)	
IRON ROD	
BENCH MARK	
IRON PIPE	
CONCRETE MONUMENT	

OVERHEAD UTILITIES

	EXISTING	PROPOSED
GUY WIRE ANCHOR		GA
GUY POLE		GP
LAMP POLE		
UTILITY POLE		
OVERHEAD ELECTRIC, CABLE TV AND TELEPHONE		

UNDERGROUND UTILITIES

FIBER OPTIC	
UNDERGROUND CTV & TELEPHONE	

SANITARY SEWER

	EXISTING	PROPOSED
CLEAN OUT		CO
PUMPSTATION MANHOLE		
SANITARY MANHOLE		S
SEWER VALVE		
FORCEMAIN		FM FM
SANITARY SEWER		
PROPOSED SANITARY SEWER SERVICE LATERAL		

WATER (POTABLE)

	EXISTING	PROPOSED
BLOW-OFF VALVE		BO
FIRE HYDRANT		
GATE VALVE & BOX		
METER		M
VALVE		
WELL		WE
BACKFLOW PREVENTER		
DOMESTIC WATER		WM

WATER (MISCELLANEOUS)

	EXISTING	PROPOSED
RECLAIM WATER GATE VALVE		REC
RECLAIM WATER		REC

LINE WORK

	EXISTING	PROPOSED
BOUNDARY LINE		
CHAIN LINK FENCE		
PROPERTY LINE		
RIGHT OF WAY	R/W	
SILT FENCE		
TO BE DEMOLISHED/REMOVED	XXXXXXXXXXXXXX	
TO BE ABANDONED		
WOOD FENCE		

SITE (MISCELLANEOUS)

	EXISTING	PROPOSED
LAMP POLE		
SOIL BORING		
POST/BOLLARD/REFLECTOR		

STORM SEWER/DRAINAGE

	EXISTING	PROPOSED
CATCH BASIN (ROUND GRATE)		CB
CATCH BASIN (SQUARE GRATE)		CB
BOX CULVERT		
CULVERT HEADWALL		
CULVERT END SECTION		
STORM MANHOLE		ST
DITCH CENTERLINE		
FLOOD PLAIN		FLP
STORM SEWER		

TELEPHONE

	EXISTING	PROPOSED
TELEPHONE POLE		
TELEPHONE MANHOLE		T
COMMUNICATIONS HANDHOLE		CH
UNDERGROUND TELEPHONE		UT UT

PATTERNS

	EXISTING	PROPOSED
CONCRETE		
GRAVEL		
PAVERS		
EARTH (CROSS SECTION)		
ADA DETECTABLE WARNING		
CONCRETE REMOVAL		
PAVEMENT REMOVAL		

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LEGEND & ABBREVIATIONS

NASSAU COUNTY /AMERICAN BEACH
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ENGINEER OF RECORD
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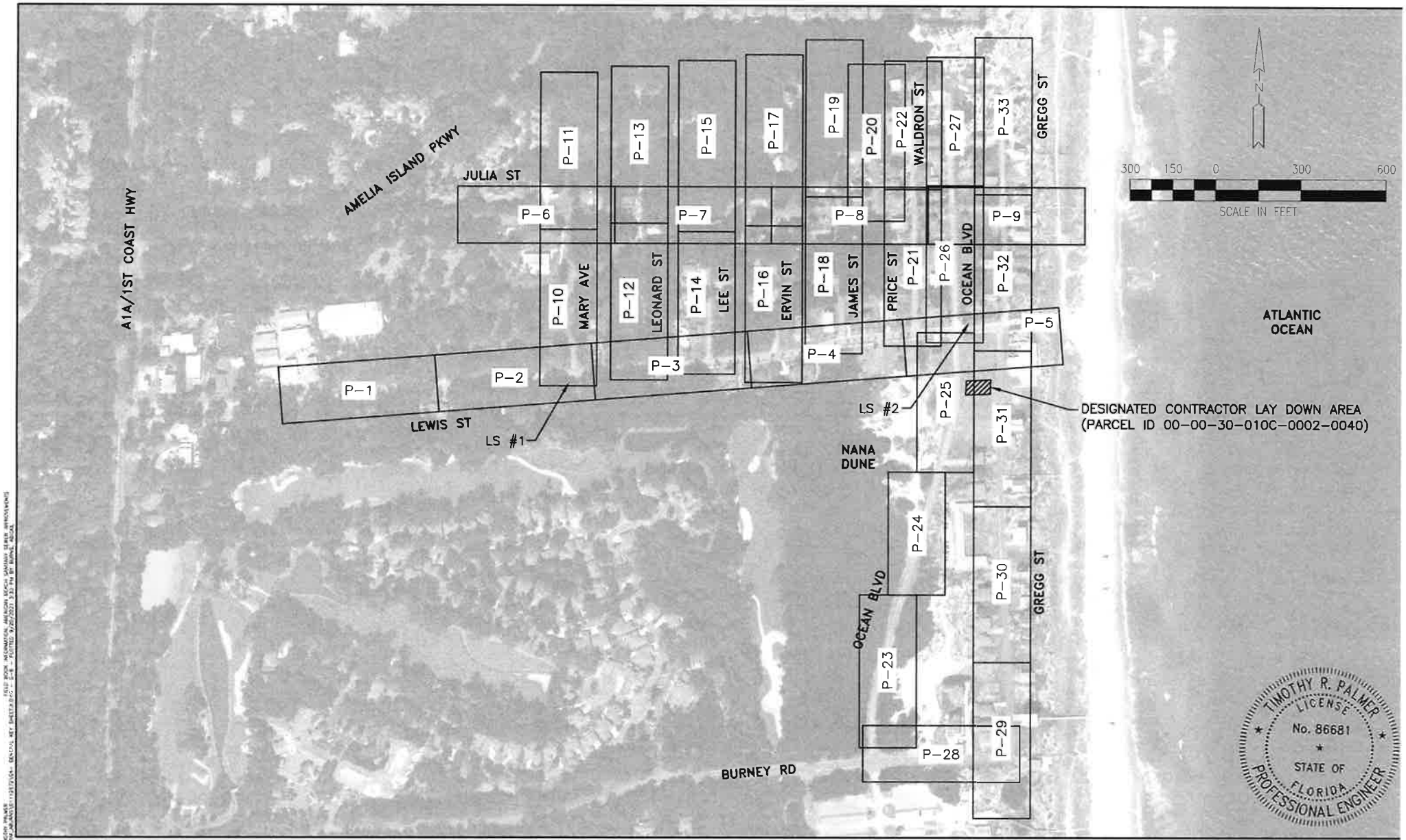
SHEET G-5



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KEY SHEET

NASSAU COUNTY / AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

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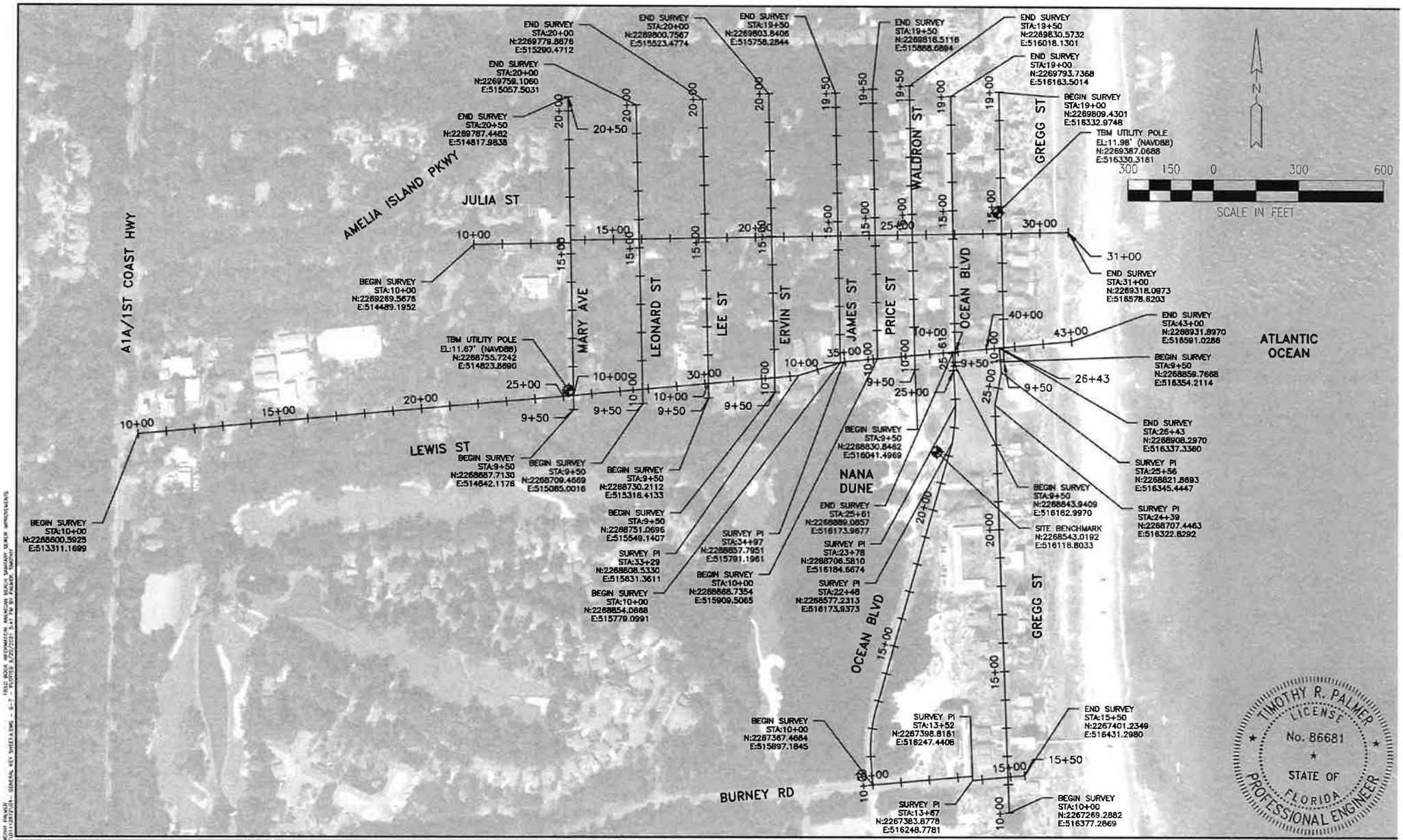
SHEET G-6



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SURVEY CONTROL

NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

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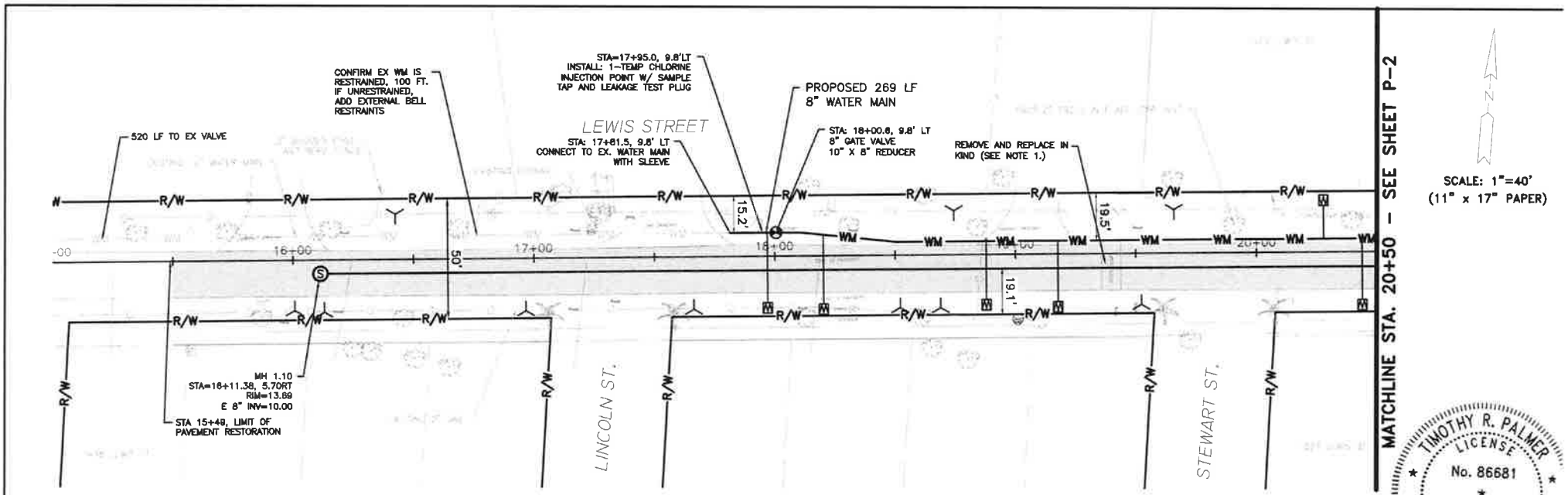
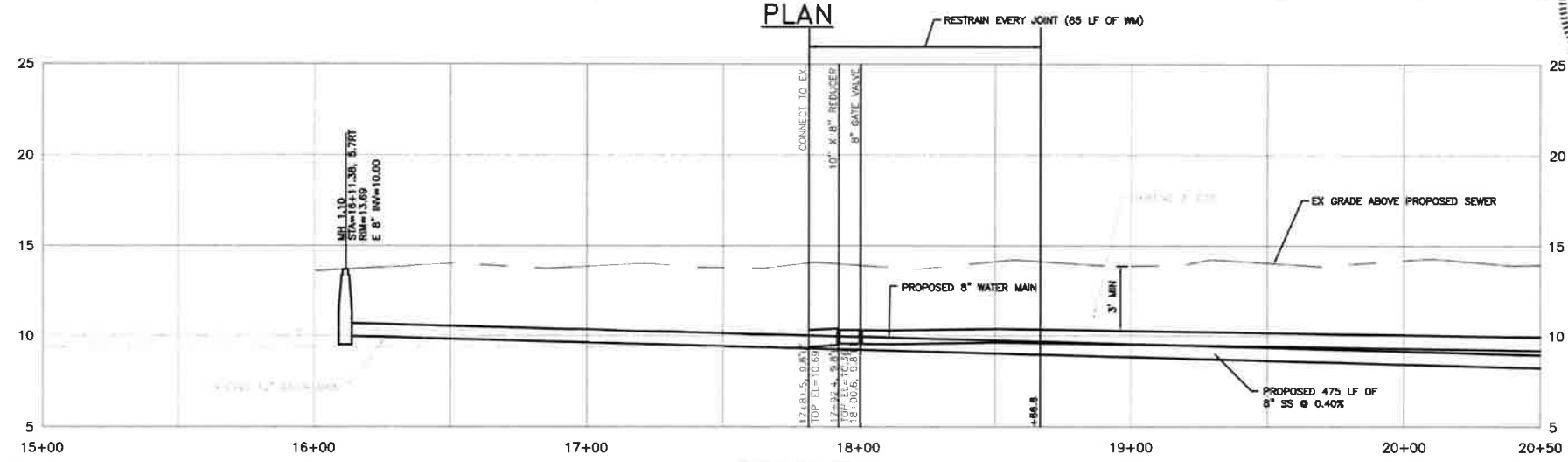
SHEET G-7



PLAN



PROFILE

VERT. SCALE: 1"=6'

NOTES:
1. CONTRACTOR TO REMOVE, STORE, AND REINSTALL SPEED BUMPS AFTER PAVEMENT RESTORATION IS COMPLETE.

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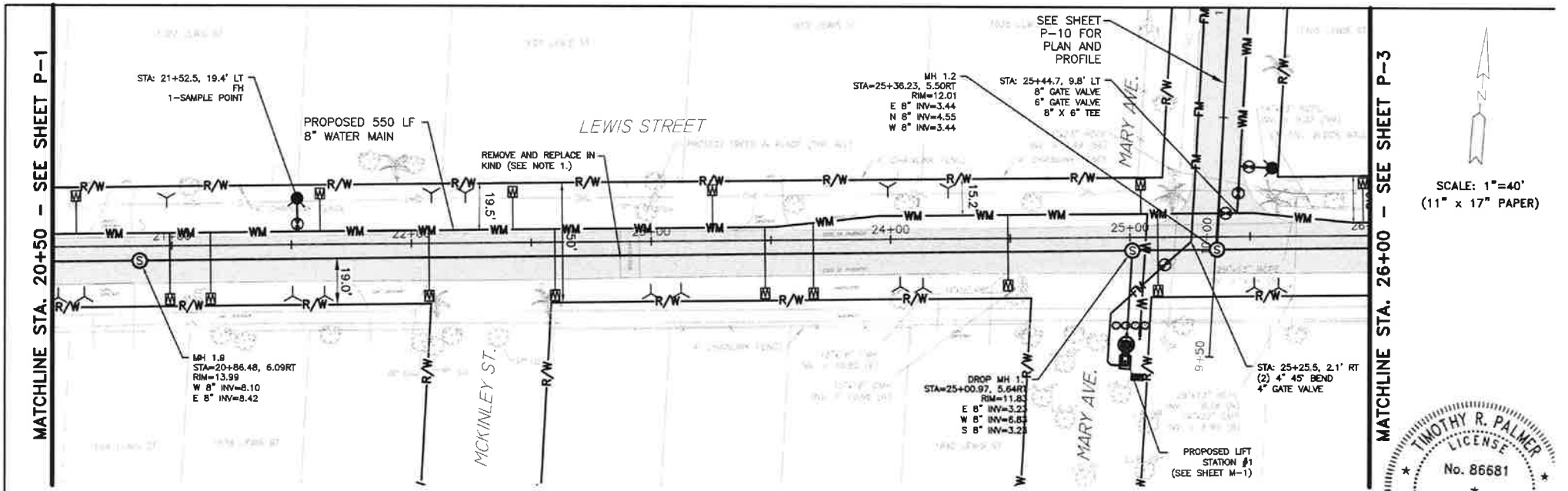
LEWIS STREET
15+00 - 20+50
PLAN AND PROFILE SHEET

NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD TIMOTHY PALMER, P.E. LICENSE NO. 86681

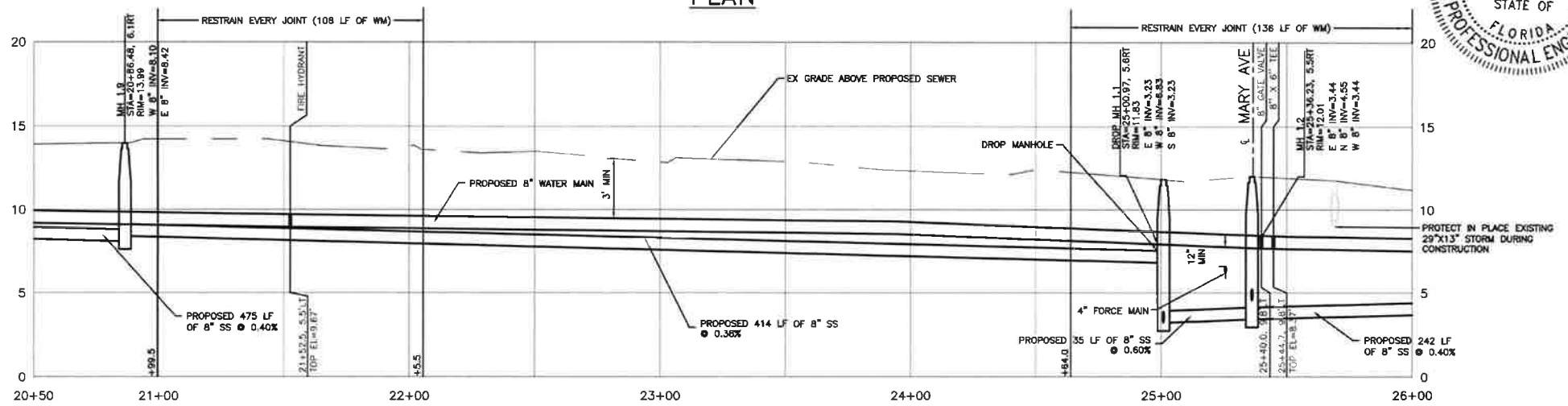
JOB NO. GUA 2071.02M

SHEET P-1



PLAN

SCALE: 1"=40'
(11" x 17" PAPER)



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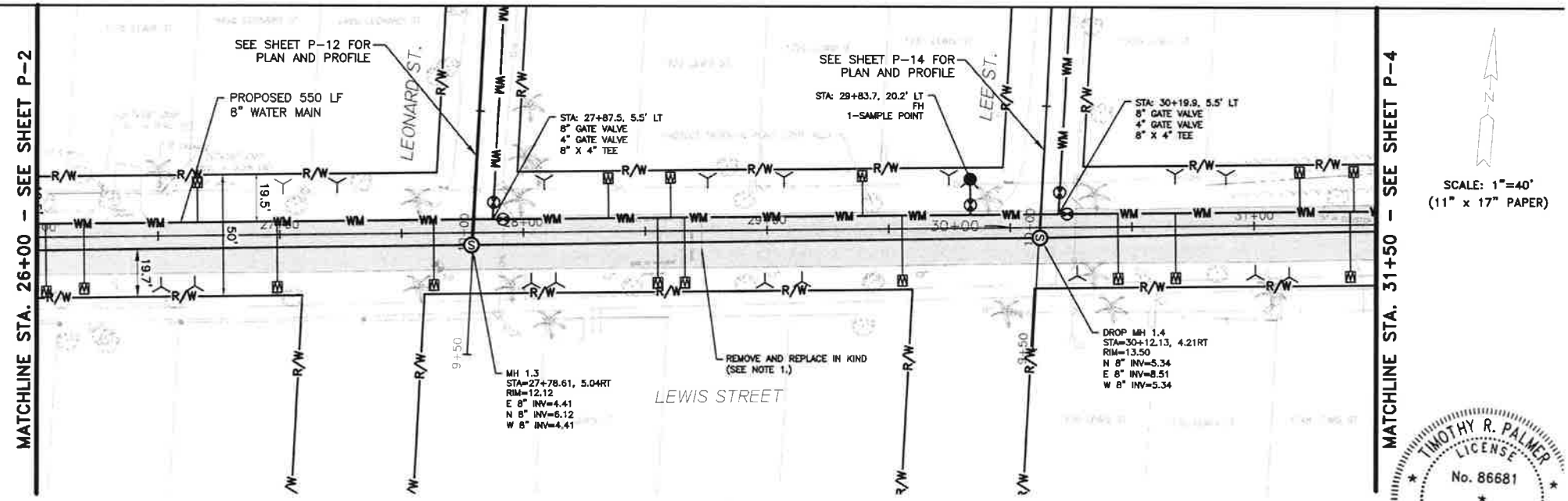
SHEET P-2



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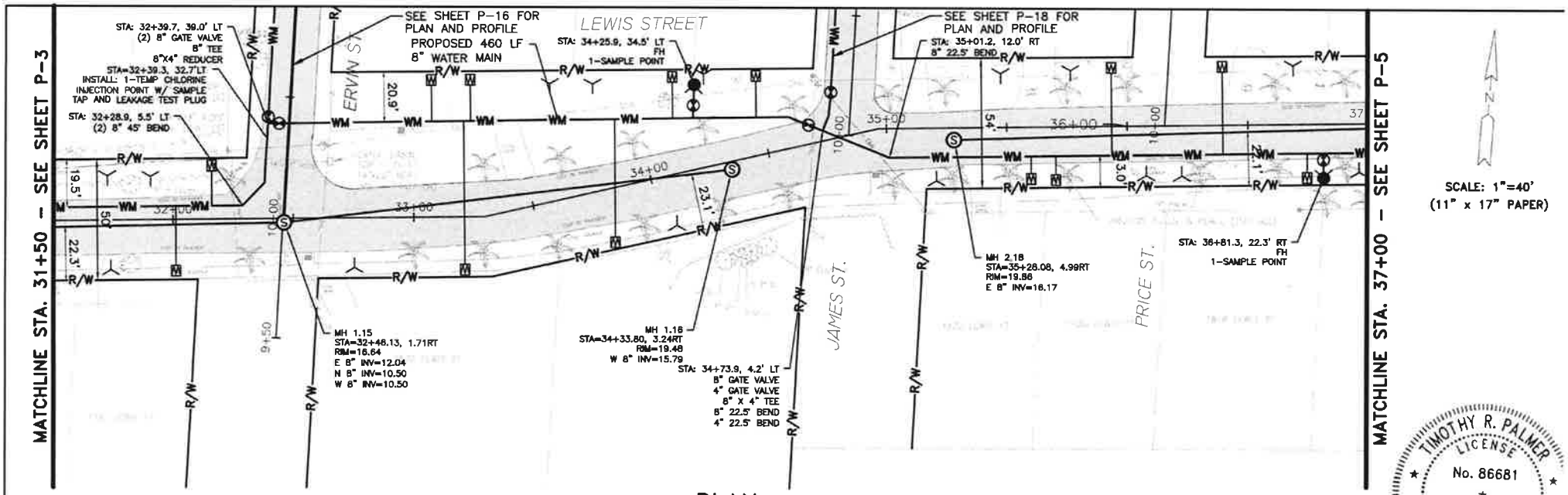
SHEET
P-3



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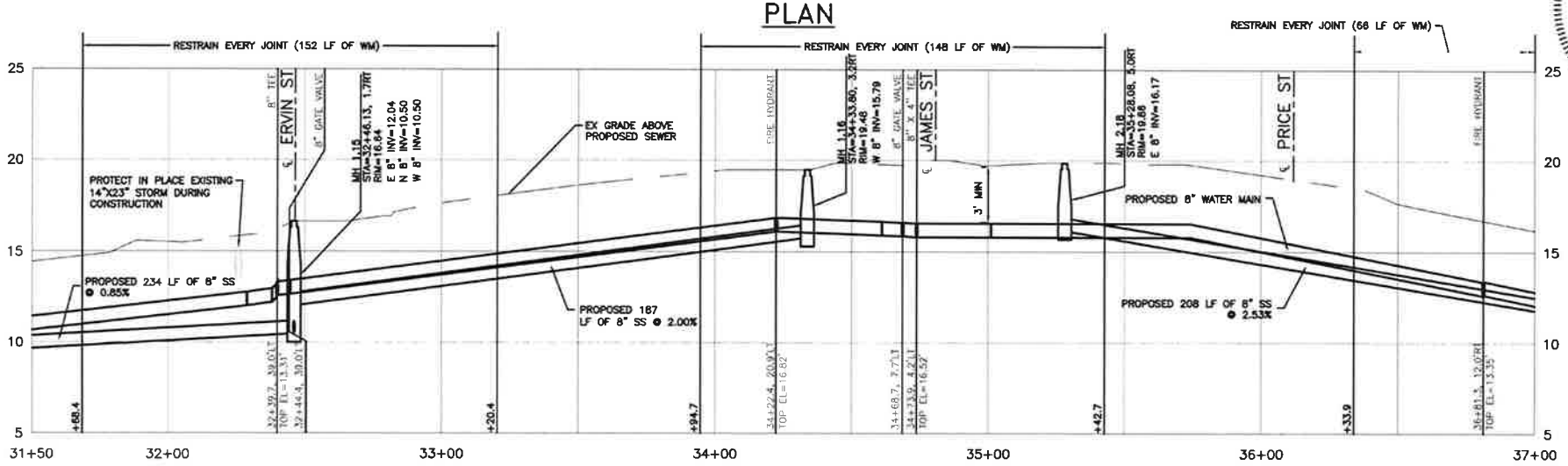
PLAN



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LEWIS STREET
31+50 – 37+00
PLAN AND PROFILE SHEET

NASSAU COUNTY /AMERICAN BEACH
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ENGINEER OF RECORD: TIMOTHY PALMER, P.E. LICENSE NO. 86681

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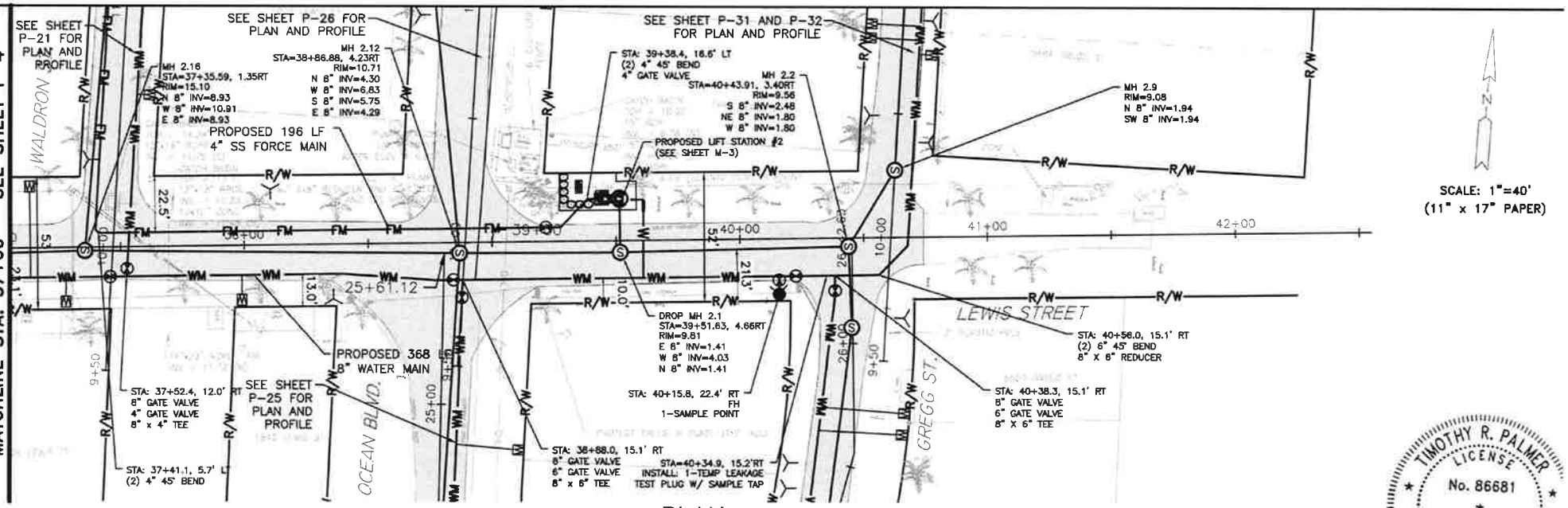
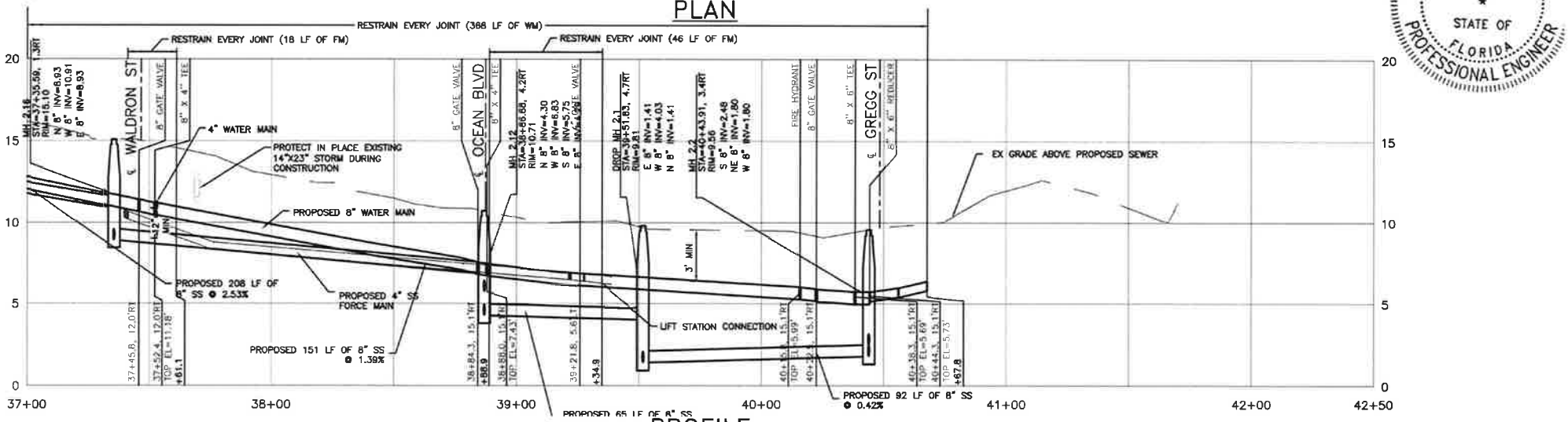
SHEET P-4

PROJECT MANAGER: TIMOTHY PALMER





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LEWIS STREET
37+00 - 42+50
PLAN AND PROFILE SHEET

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WATER AND SEWER DISTRICT WELL AND
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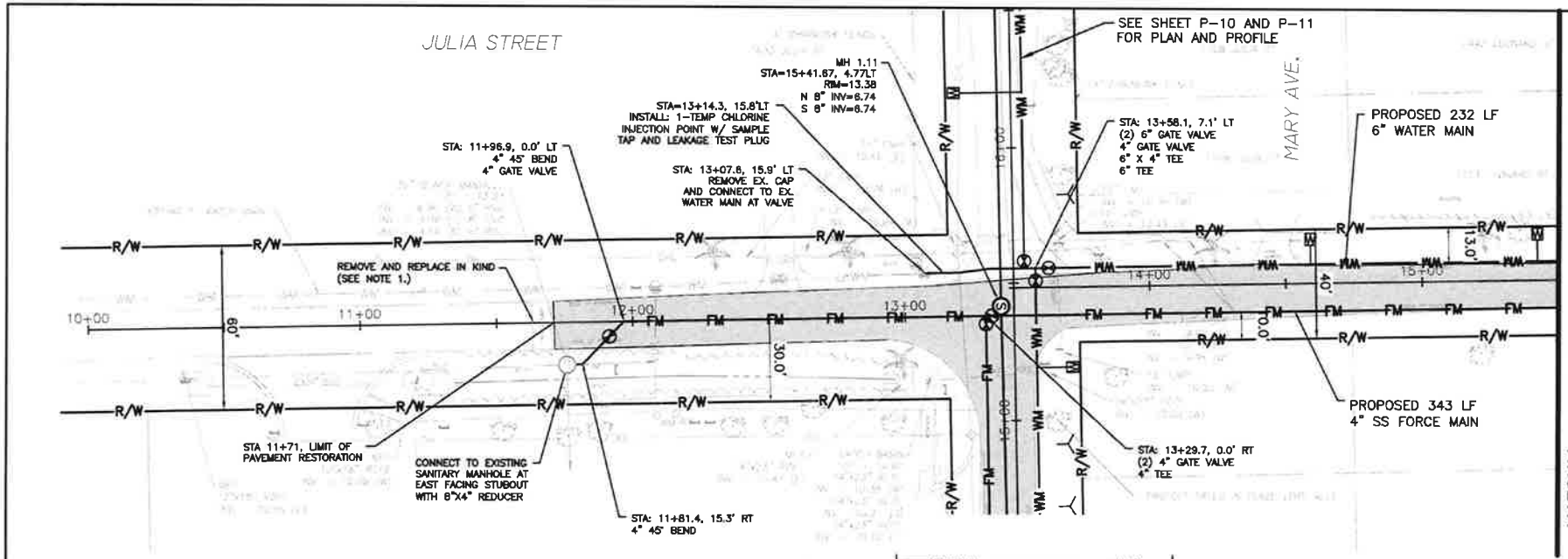
SHEET P-5

PROJECT MANAGER: TIMOTHY PALMER
CTM: SURVEYOR: JOE ARMENDO
FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS
P.S. - PLOTTED: 6/22/2021 4:13 PM BY BURKE, MEGAN

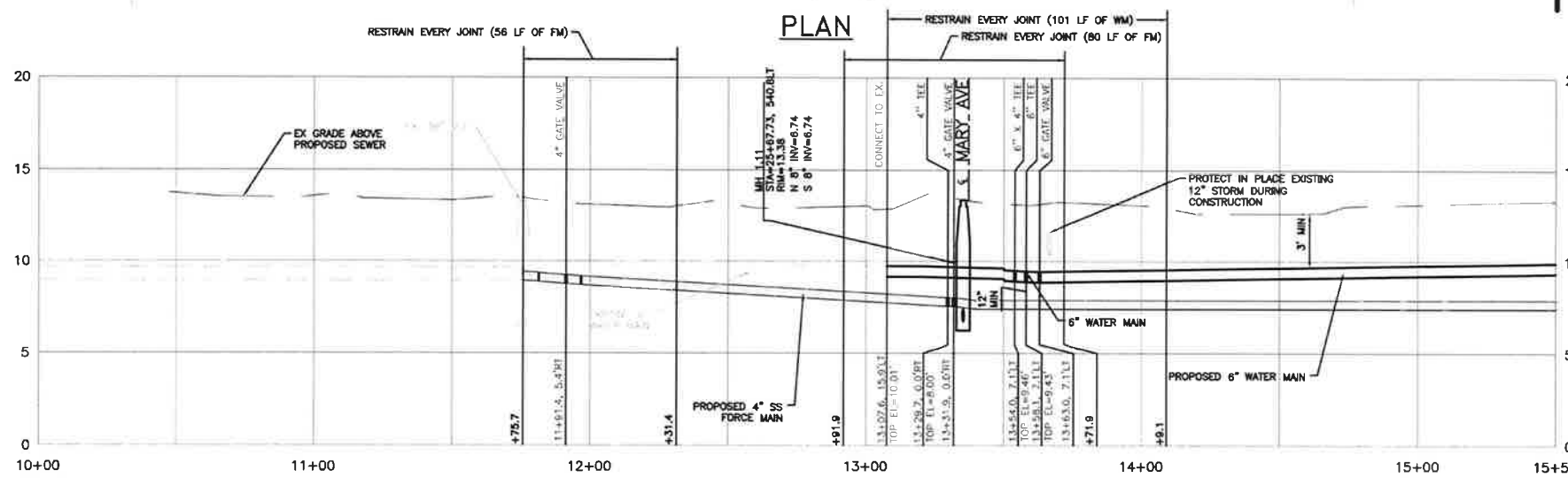


MATCHLINE STA. 15+50 - SEE SHEET P-7

SCALE: 1"=40'
(11" x 17" PAPER)

TIMOTHY R. PALMER
LICENSE
No. 86681
STATE OF FLORIDA
PROFESSIONAL ENGINEER

PLAN



NOTES:
1. CONTRACTOR TO REMOVE, STORE, AND REINSTALL SPEED BUMPS AFTER PAVEMENT RESTORATION IS COMPLETE.

PROFILE

VERT. SCALE: 1"=6'

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

PROJECT MANAGER: TIMOTHY PALMER
CCW: W:\PROJECTS\2021\GUA 2071.02M - NASSAU COUNTY\CAD\PLANS\SHEETS\P-6.DWG, 6/22/2021 3:32 PM, TIM PALMER, ARIAL

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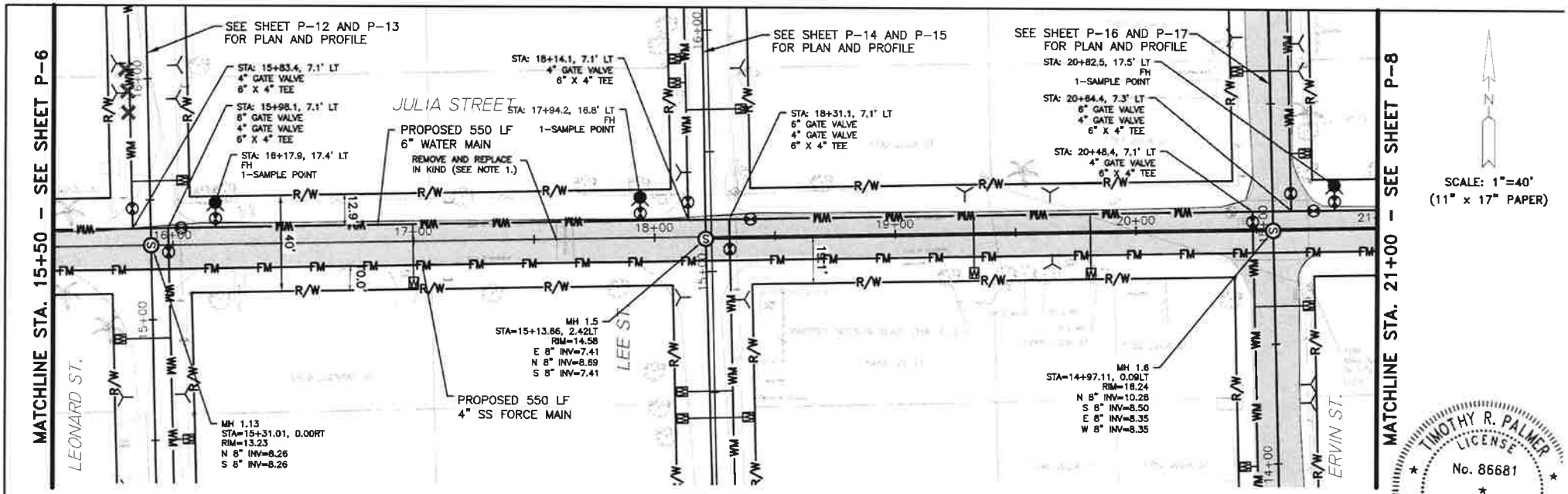
PLAN AND PROFILE SHEET

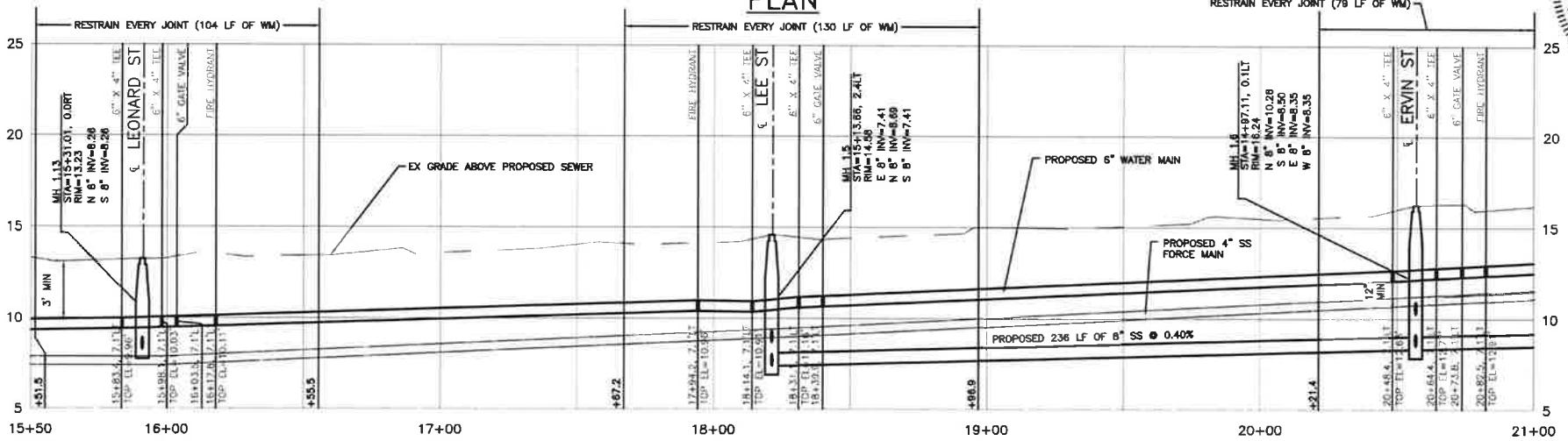
NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD: TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO. GUA 2071.02M
SHEET P-6



PLAN



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PROFILE

VERT. SCALE: 1"=6'

TIMOTHY R. PALMER LICENSE No. 86681 STATE OF FLORIDA PROFESSIONAL ENGINEER

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6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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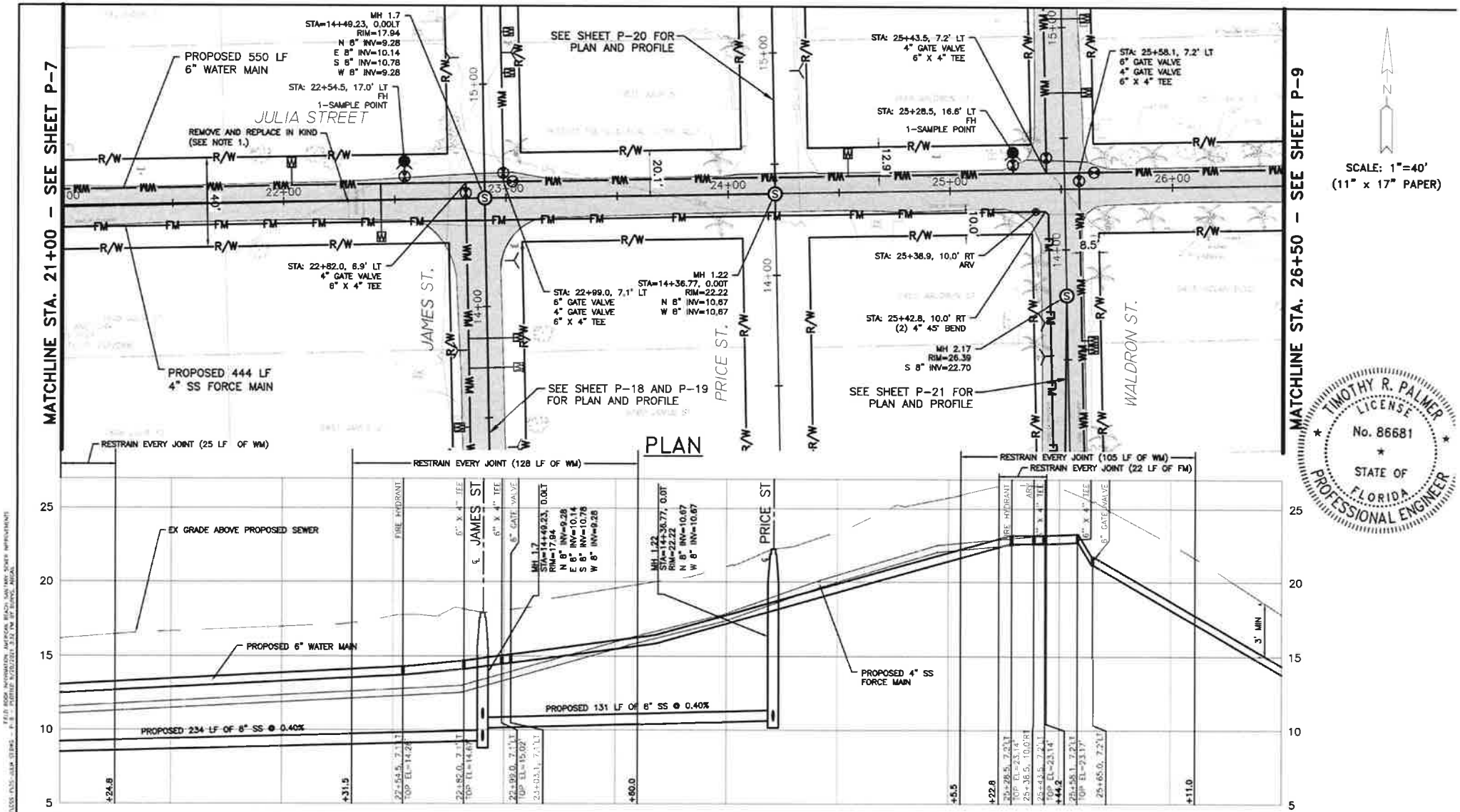
ENGINEER OF RECORD TIMOTHY PALMER, P.E. LICENSE NO. 86681

JOB NO. GUA 2071.02M

SHEET P-7



TIMOTHY R. PALMER
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FLORIDA
PROFESSIONAL ENGINEER

DATE	DESCRIPTION	BY
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6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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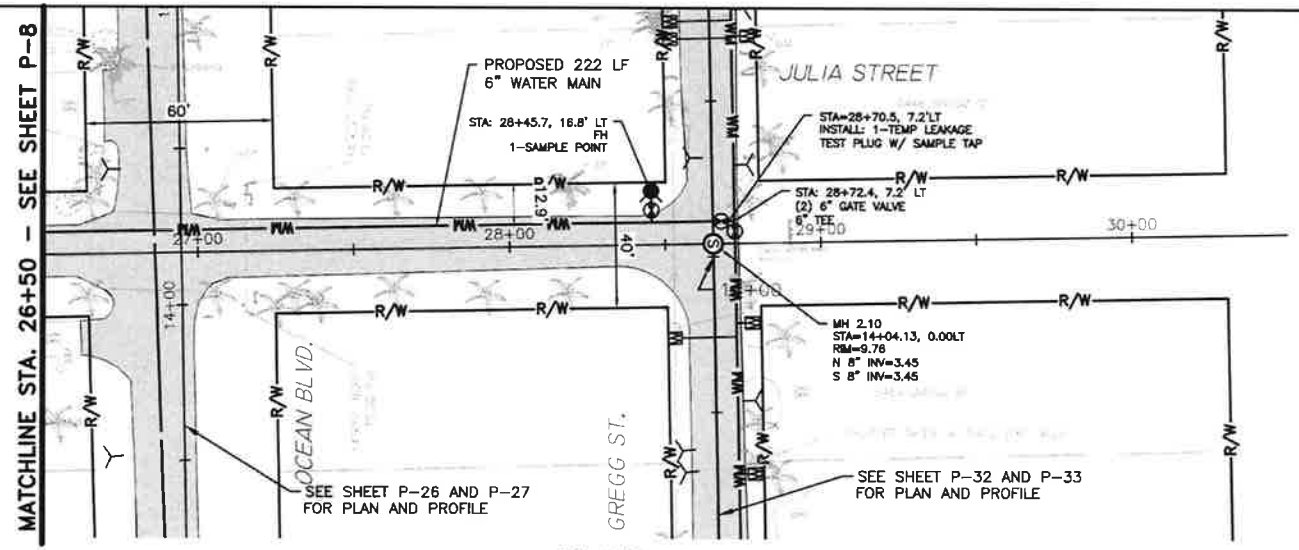
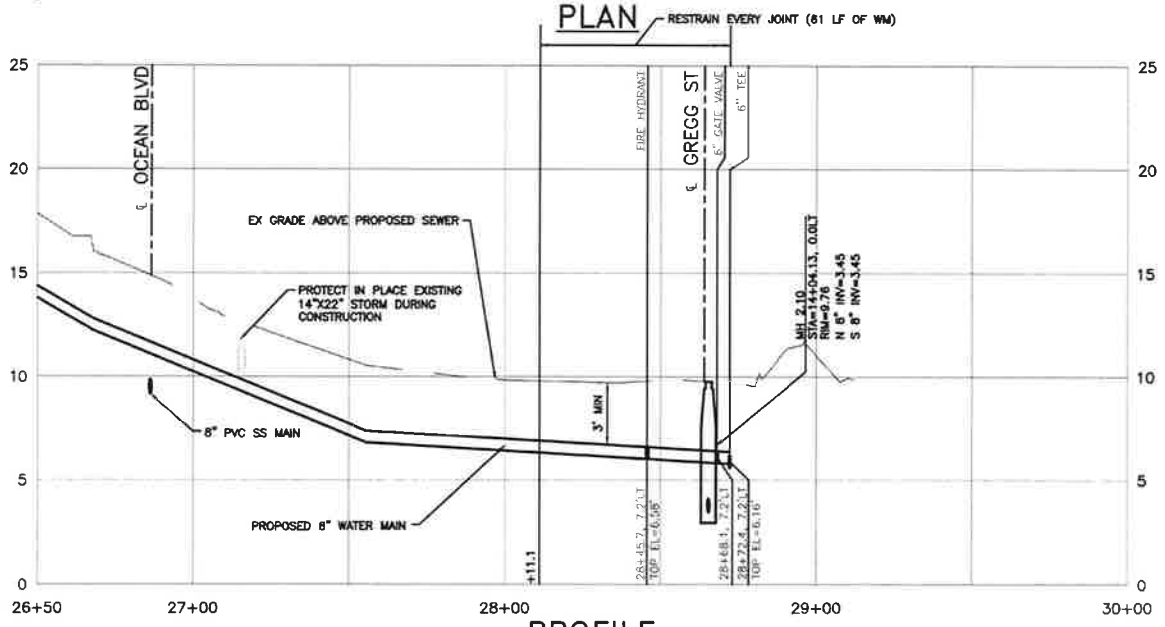
ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO.
GUA 2071.02M

SHEET
P-8



SCALE: 1"=40'
(11" x 17" PAPER)



PROFILE

VERT. SCALE: 1"=6'

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6/22/2021	100% SUBMITTAL	TRP

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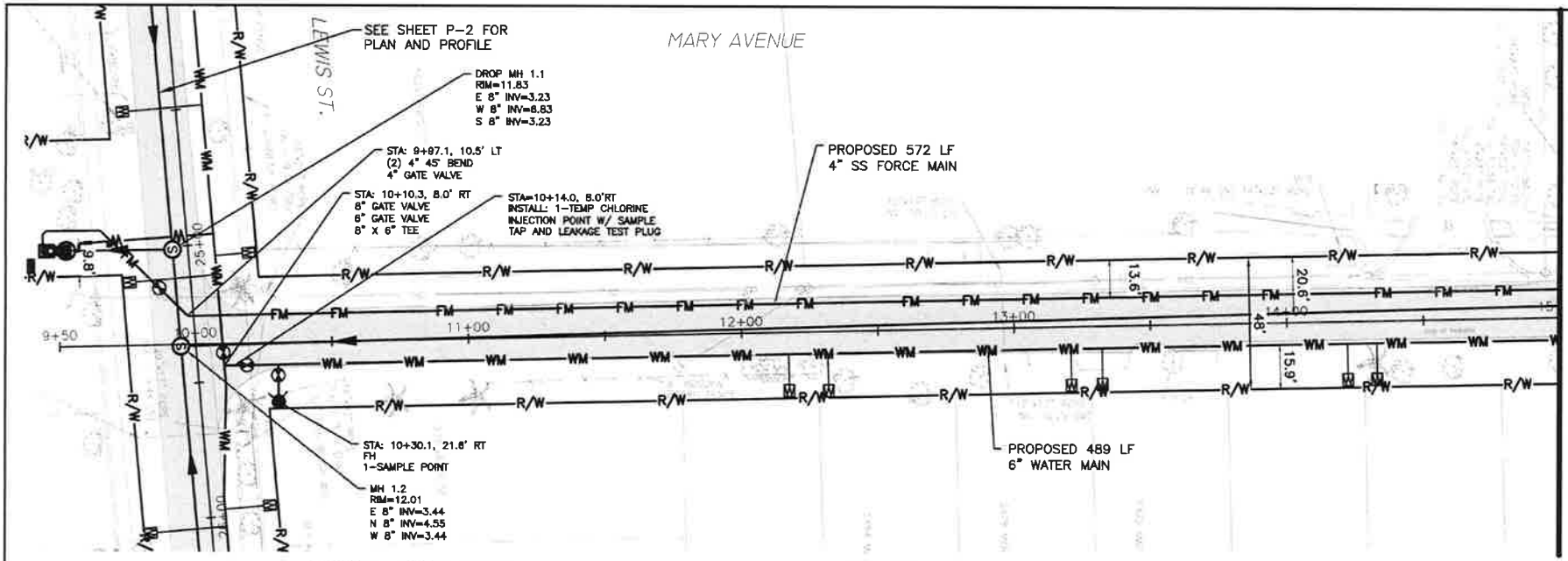
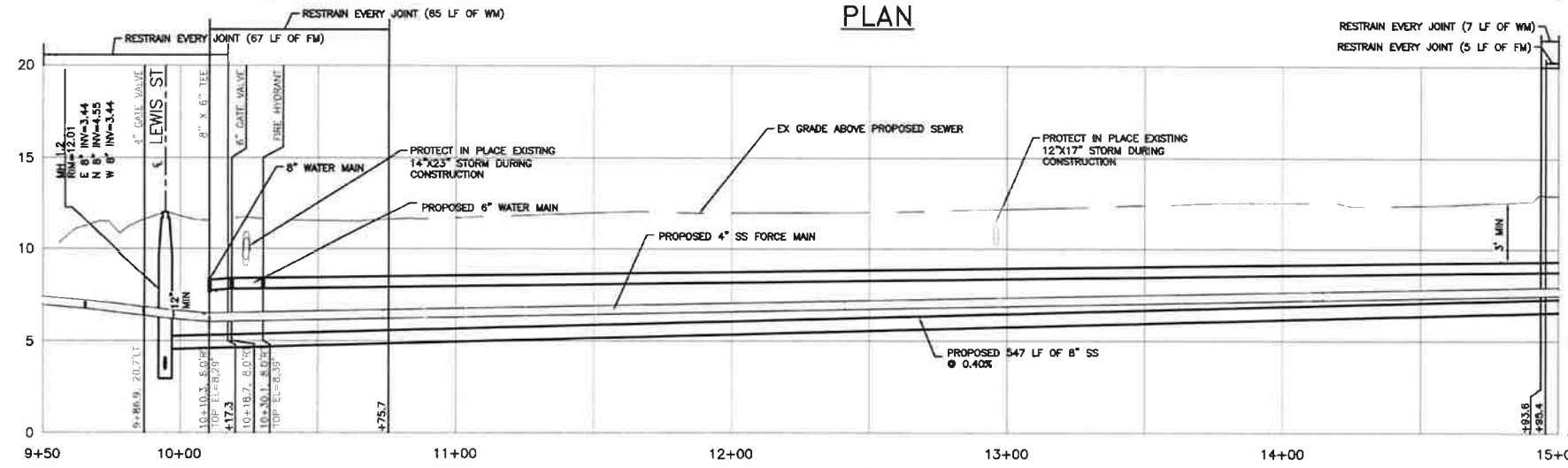
ENGINEER OF RECORD: TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO. GUA 2071.02M

SHEET P-9



PLAN



PROFILE

VERT. SCALE: 1"=6'

MATCHLINE STA. 15+00 - SEE SHEET P-11

SCALE: 1"=40'
(11" x 17" PAPER)

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6/22/2021	100% SUBMITTAL	TRP

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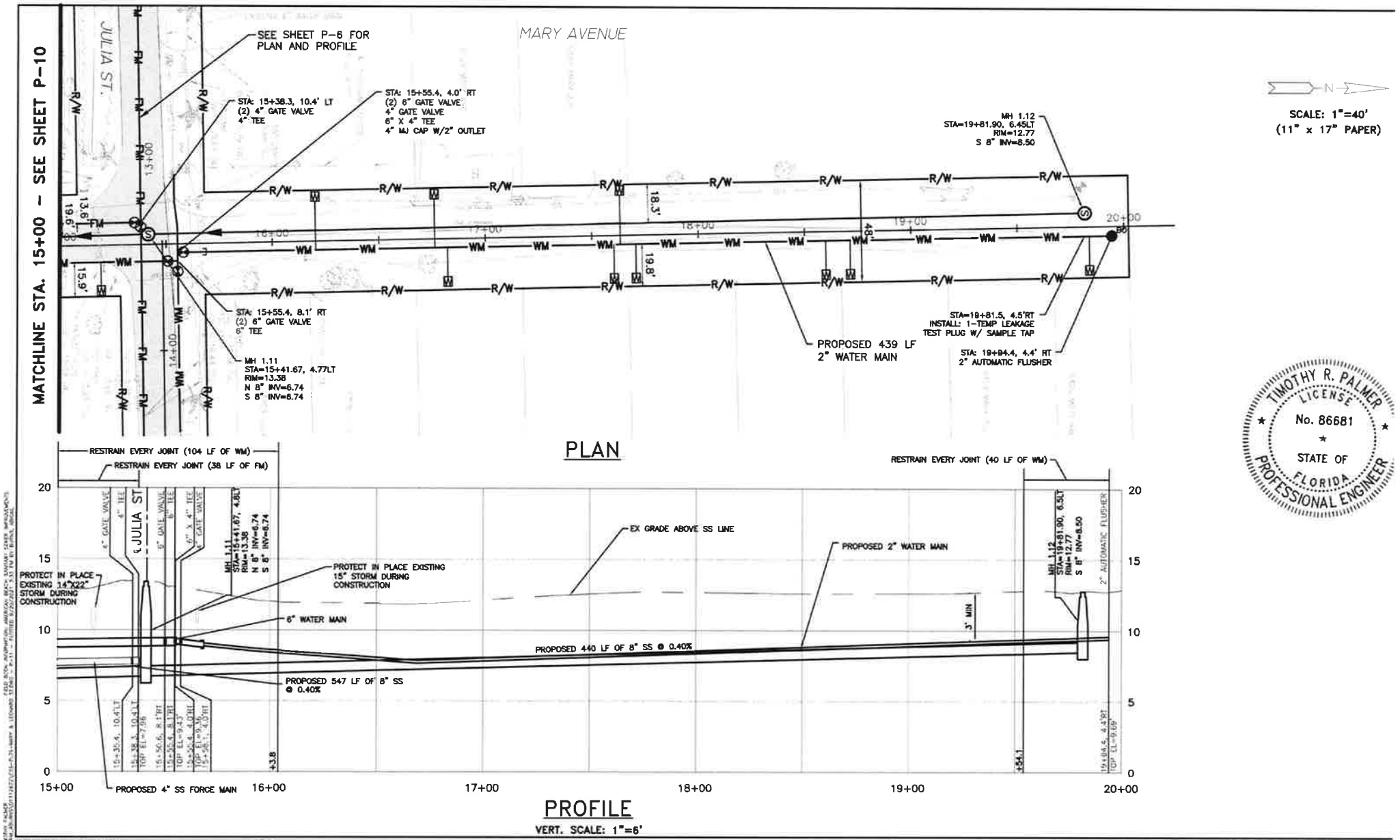
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO. GUA 2071.02M

SHEET P-10



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5/22/2021	100% SUBMITTAL	TRP

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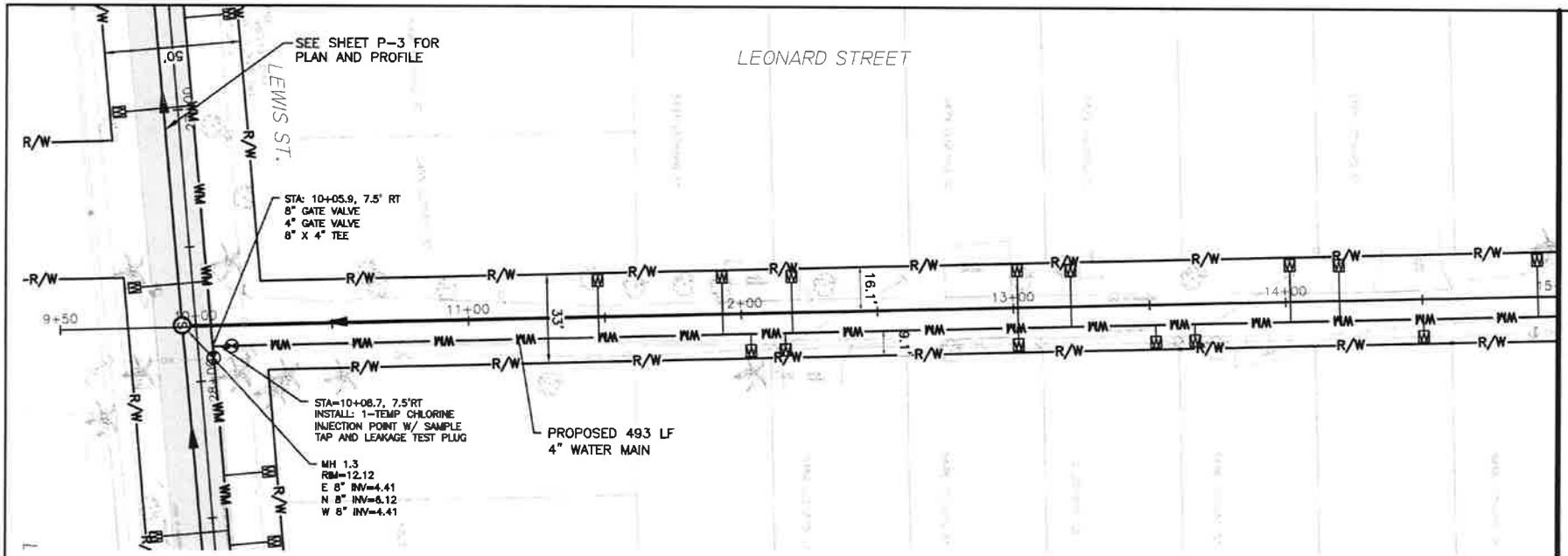
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO. GUA 2071.02M

SHEET P-11



PLAN

SCALE: 1"=40'
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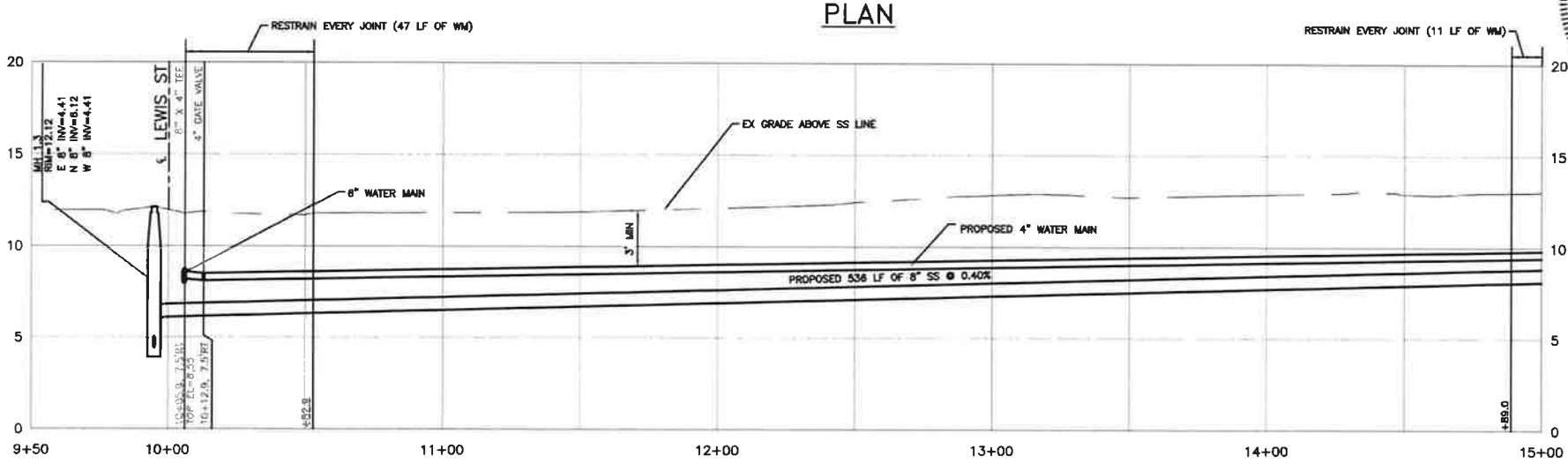
MATCHLINE STA. 15+00 - SEE SHEET P-13



PROFILE

VERT. SCALE: 1"=6'

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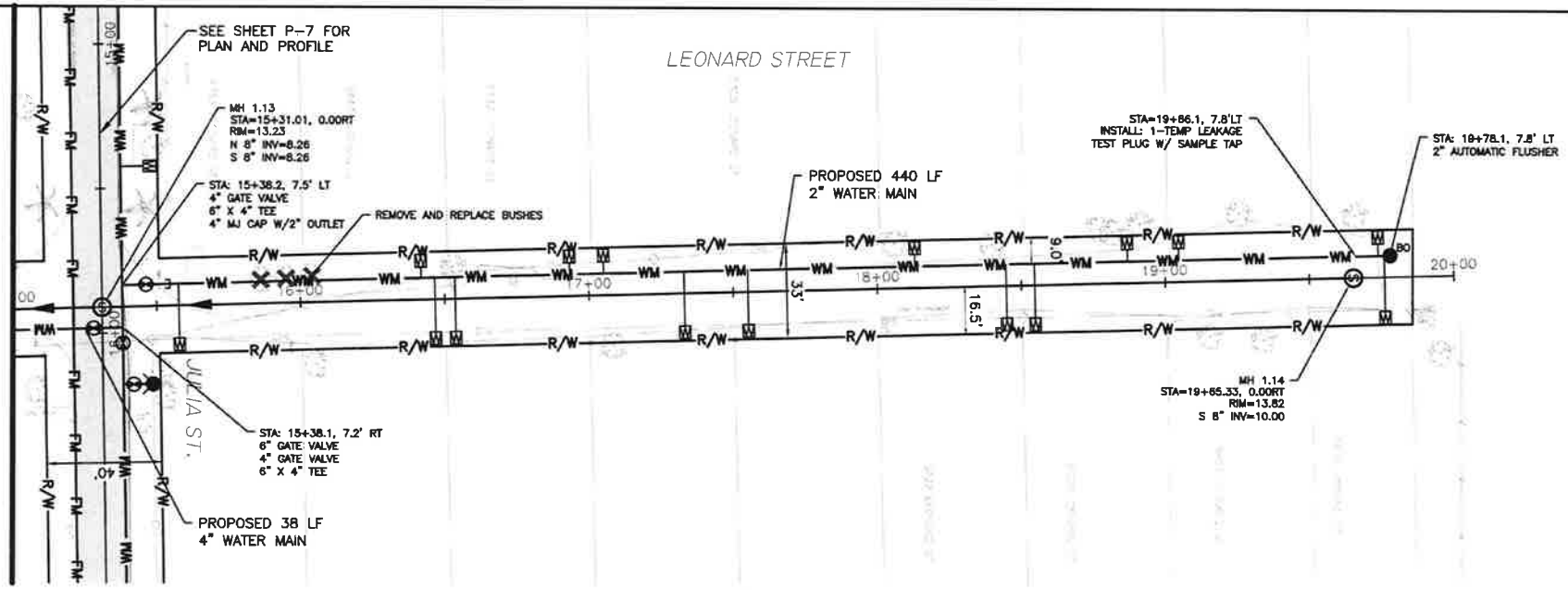
LICENSE NO. 86681

JOB NO.
GUA 2071.02M

SHEET
P-12

MATCHLINE STA. 15+00 - SEE SHEET P-12



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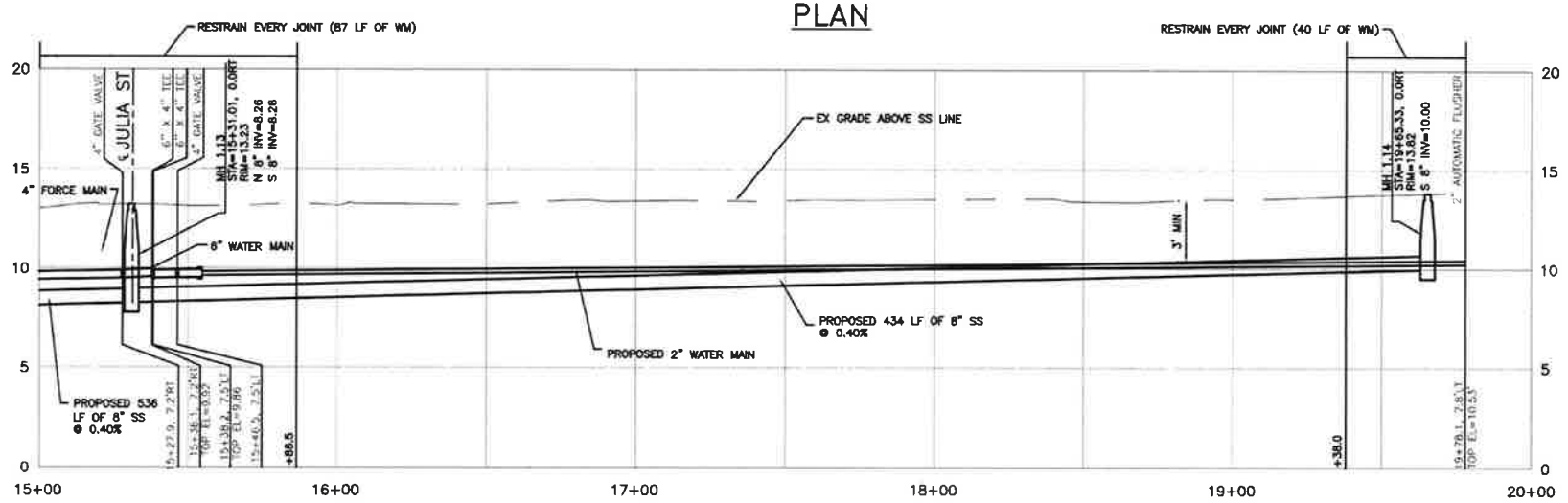

PROFILE

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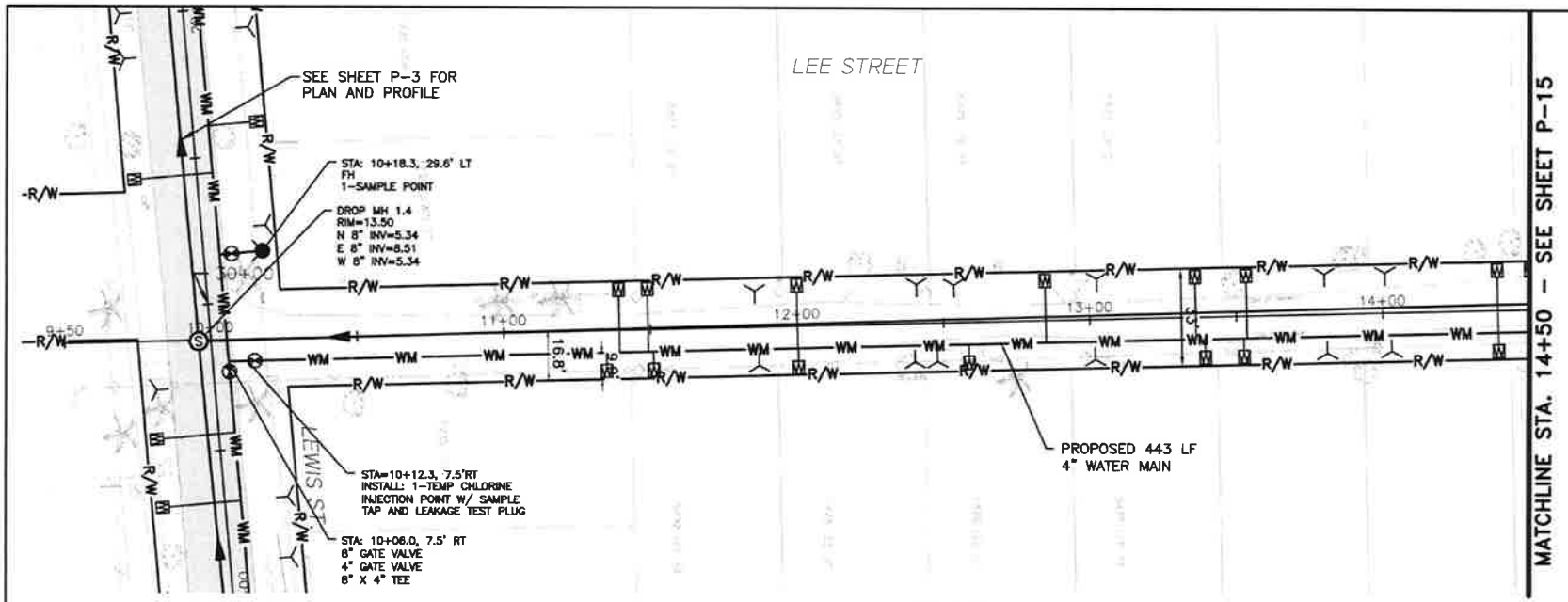
JOB NO. GUA 2071.02M

SHEET P-13



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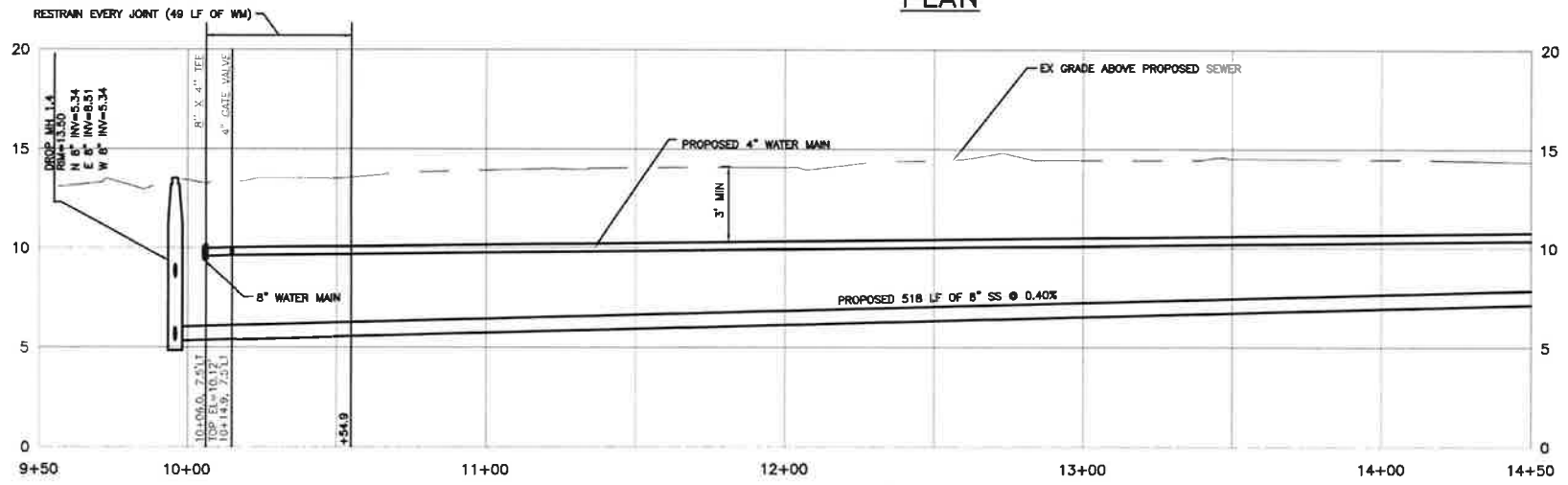

PROFILE

VERT. SCALE: 1"=6'

N

SCALE: 1"=40'
(11" x 17" PAPER)

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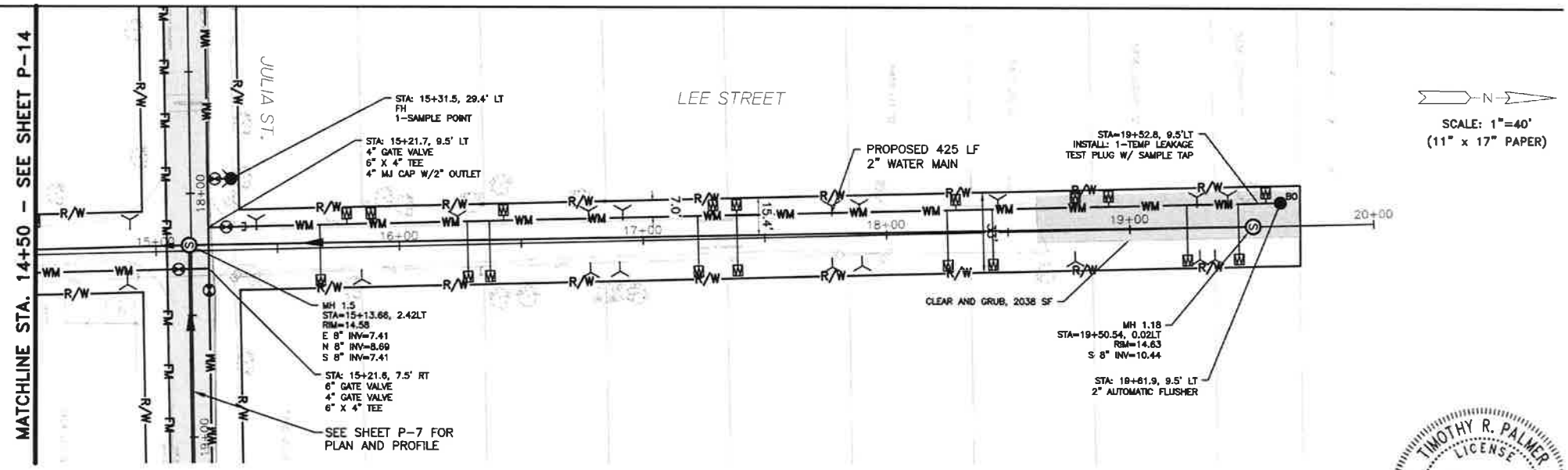
ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO. GUA 2071.02M

SHEET P-14



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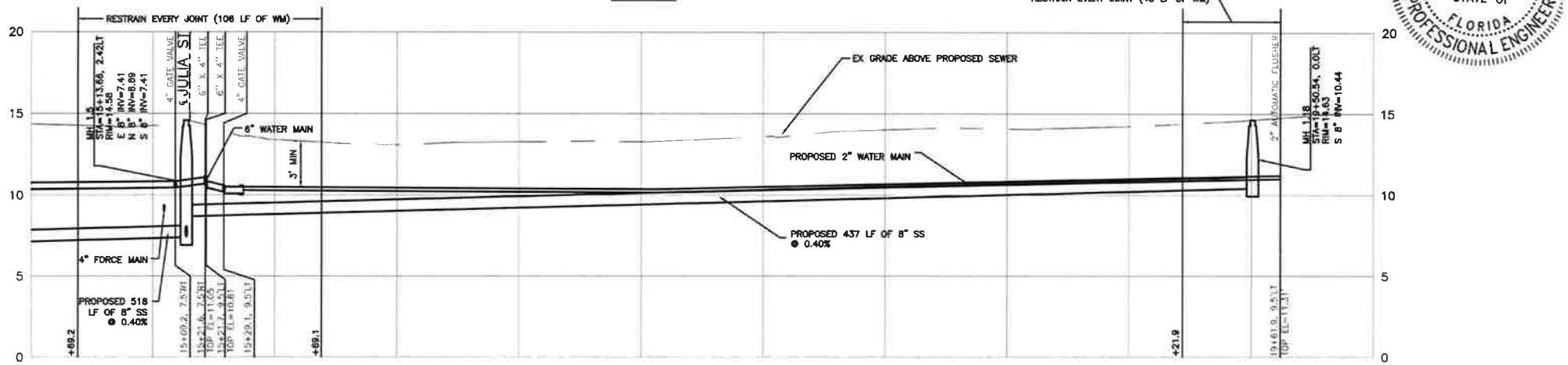

PROFILE

VERT. SCALE: 1"=6'

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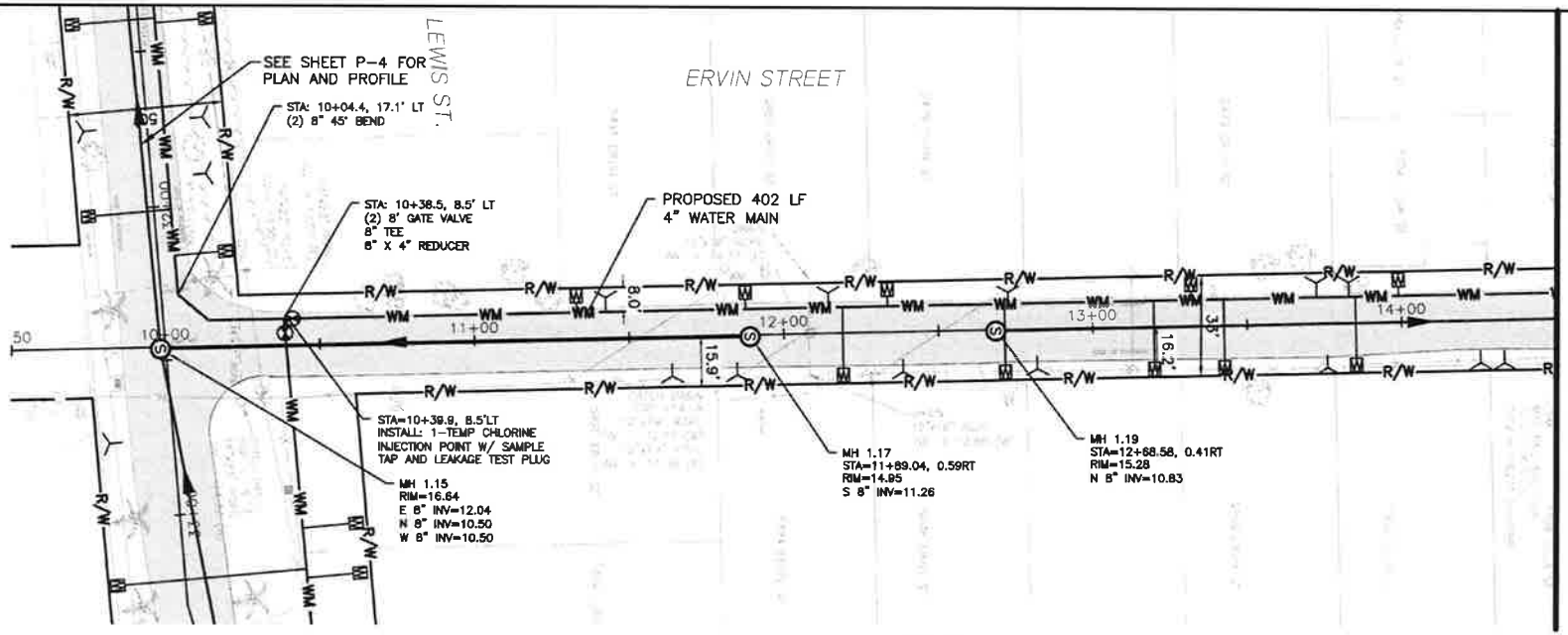
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO.
GUA 2071.02M

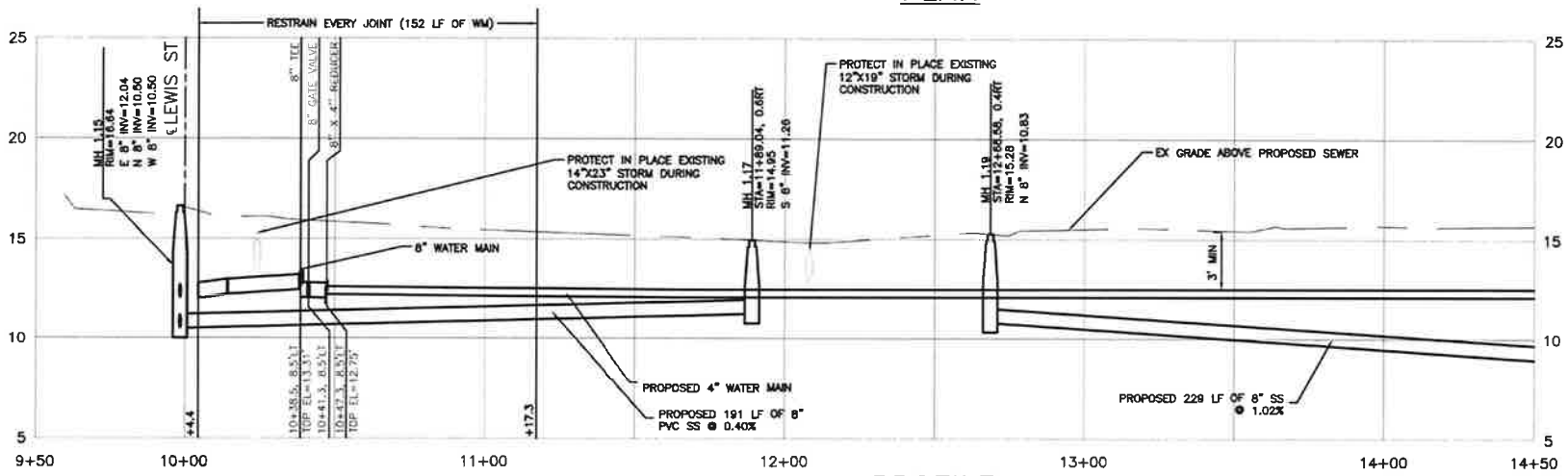
SHEET
P-15

FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS
PROJECT MANAGER: TIMOTHY PALMER
CIVIL WORK MADE IN: J:\AMERICAN BEACH\CIVIL\DWG\PLAN-PROFILE & TYPICAL SHEETS - P-14 - P-15.DWG
PLOTTED: 6/22/2021 3:51 PM BY: R.MAYO, KRAUL



PLAN

SCALE: 1"=40'
(11" x 17" PAPER)



PROFILE

VERT. SCALE: 1"=6'

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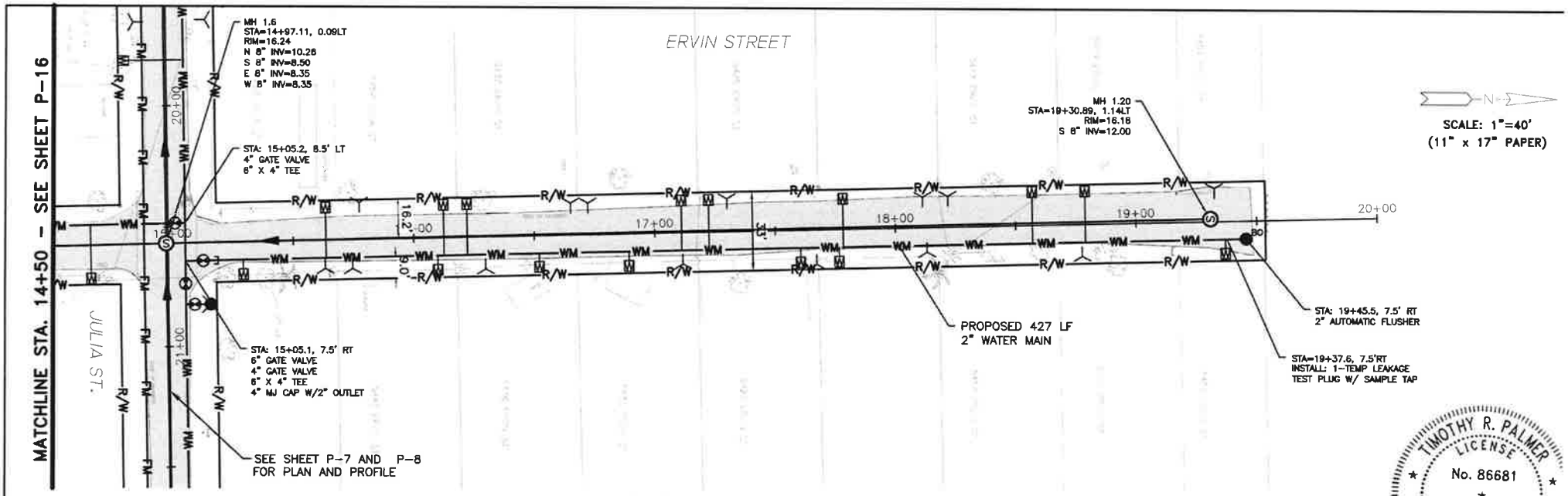
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD TIMOTHY PALMER, P.E. LICENSE NO. 86681

JOB NO. GUA 2071.02M

SHEET P-16



TIMOTHY R. PALMER
LICENSE
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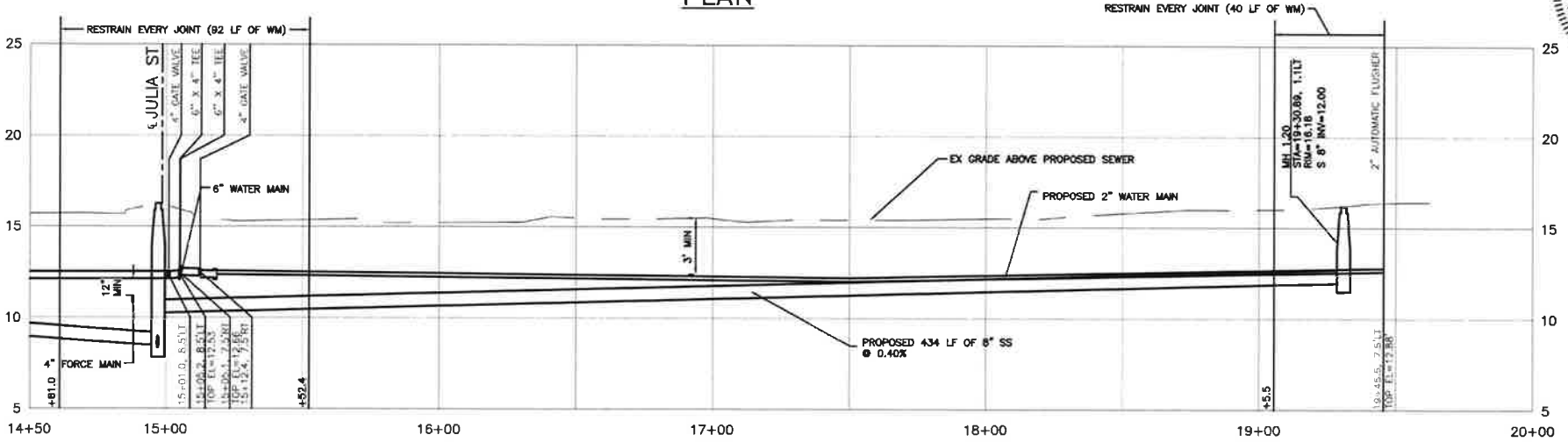
PROFESSIONAL ENGINEER

PLAN



PROFILE

VERT. SCALE: 1"=6'

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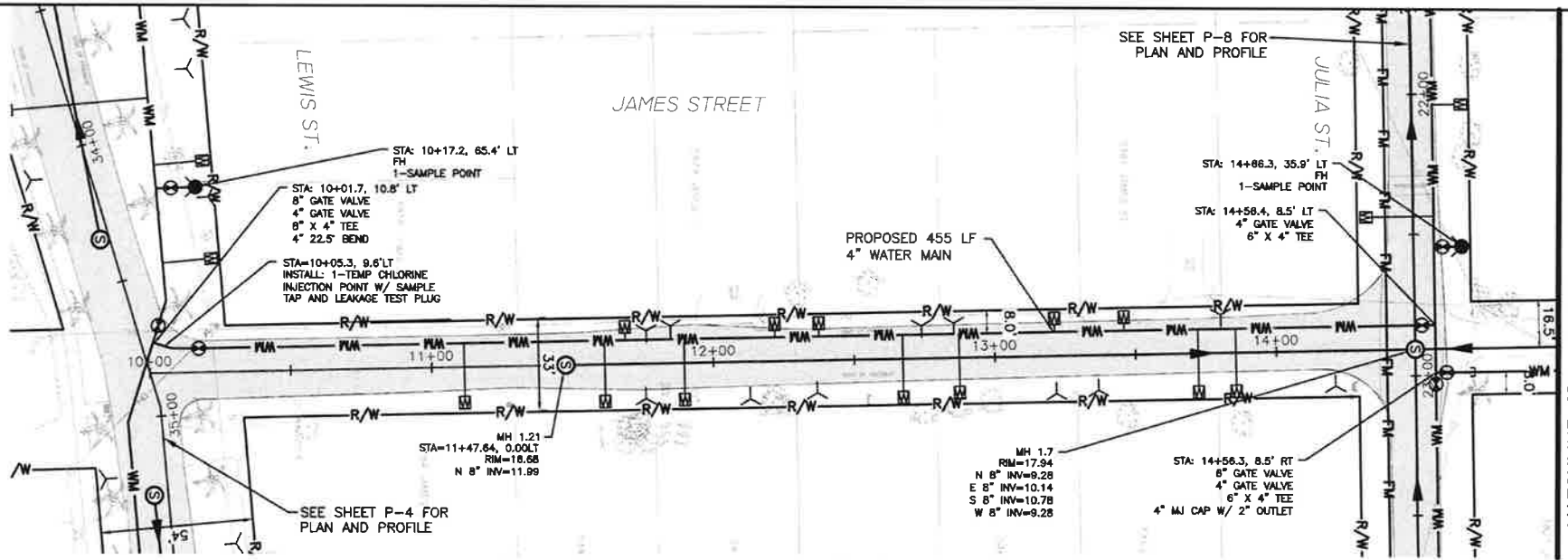
LICENSE NO. 86681

JOB NO.
GUA 2071.02M

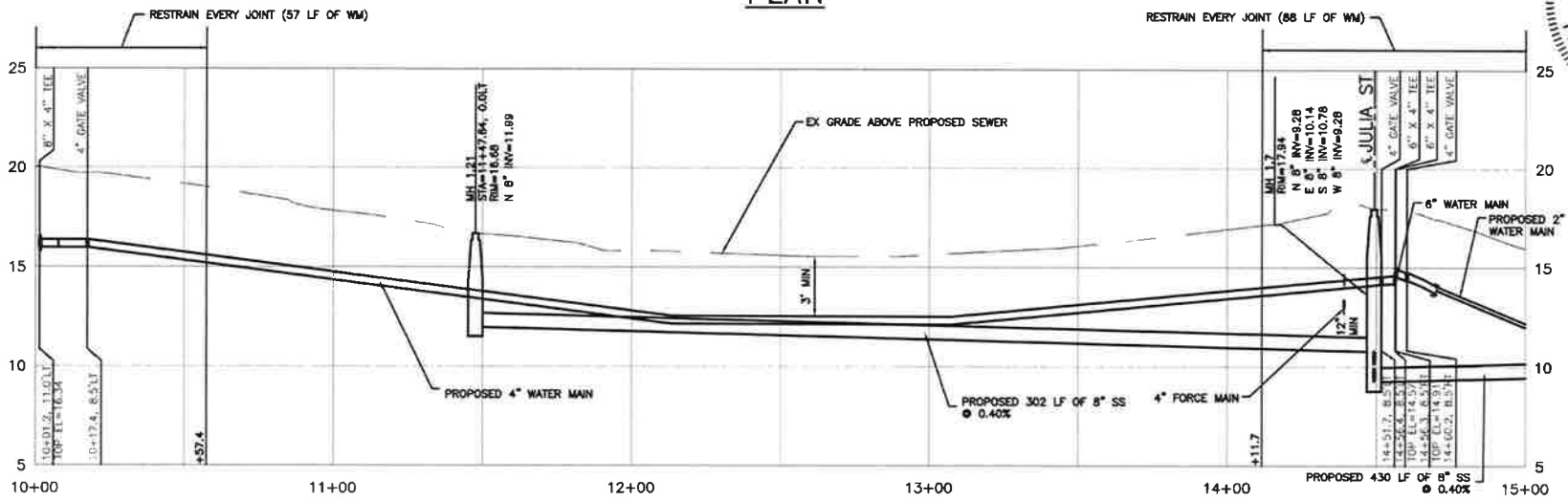
SHEET
P-17

PROJECT MANAGER: TIMOTHY PALMER
FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENT



PLAN

SCALE: 1"=40'
(11" x 17" PAPER)



PROFILE

VERT. SCALE: 1"=6

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JAMES STREET
10+00 - 15+00
PLAN AND PROFILE SHEET

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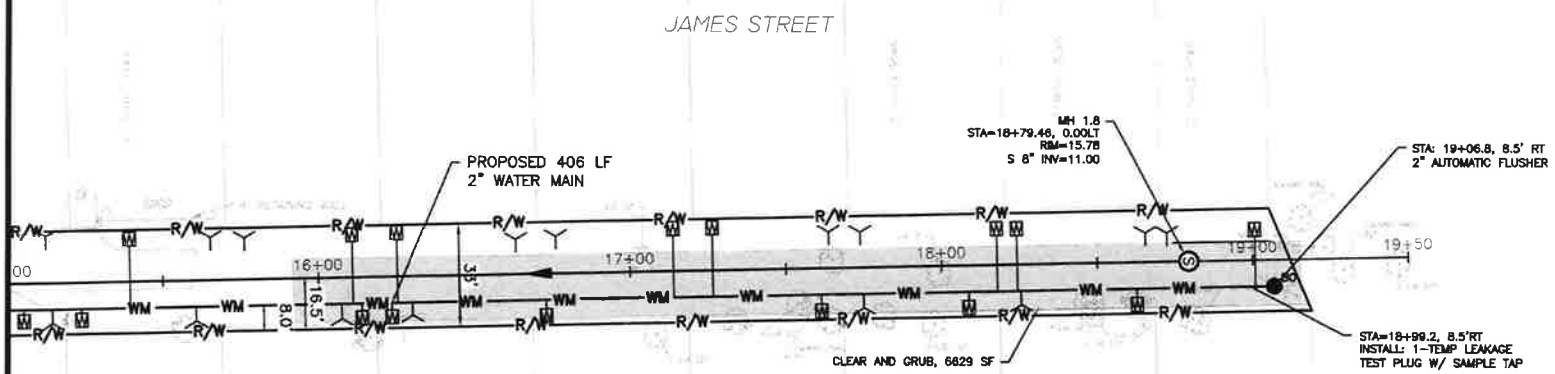
ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO. GUA 2071.02M

SHEET P-18

MATCHLINE STA. 15+00 - SEE SHEET P-18



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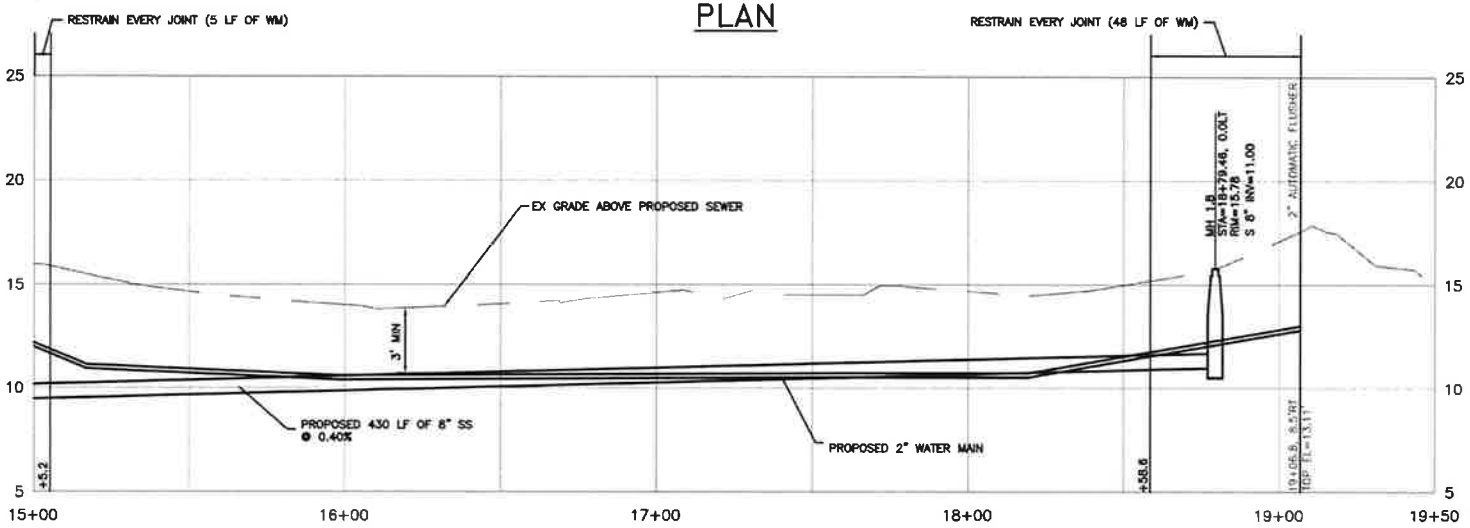
SCALE: 1"=40'
(11" x 17" PAPER)

PLAN



PROFILE

VERT. SCALE: 1"=6'

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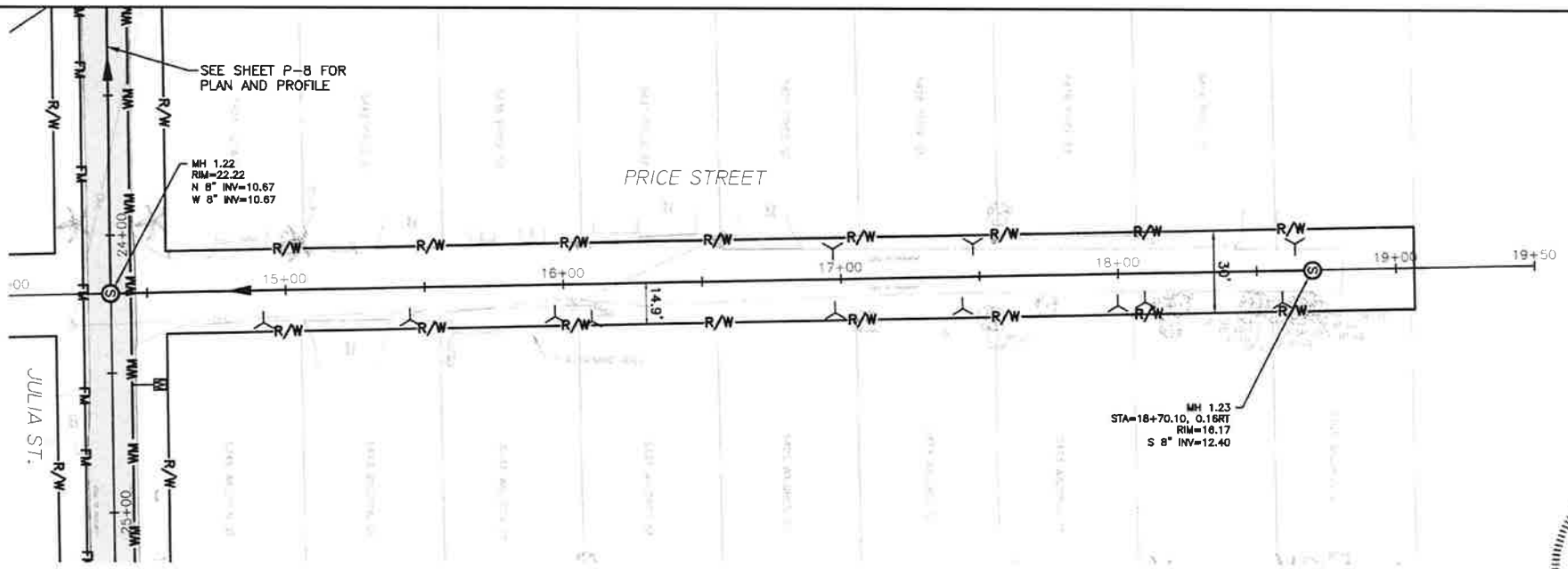
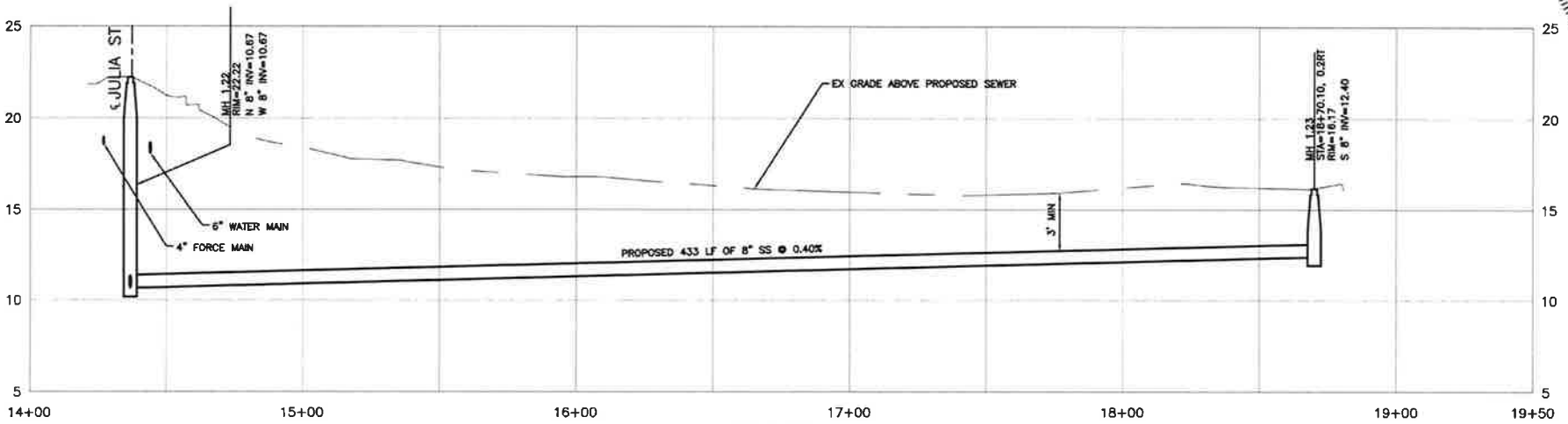
JOB NO.
GUA 2071.02M

SHEET
P-19



SCALE: 1"=40'
(11" x 17" PAPER)

PLAN



PROFILE

VERT. SCALE: 1"=6'

TIMOTHY R. PALMER
LICENSE
No. 86681
STATE OF FLORIDA
PROFESSIONAL ENGINEER

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/15/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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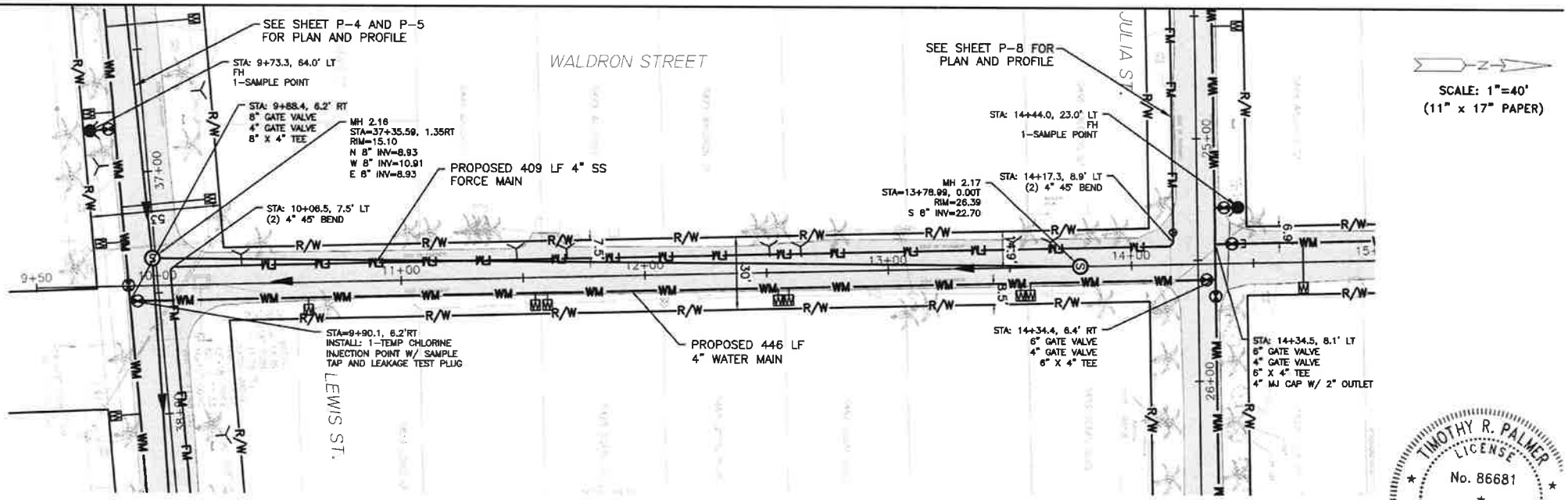
NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

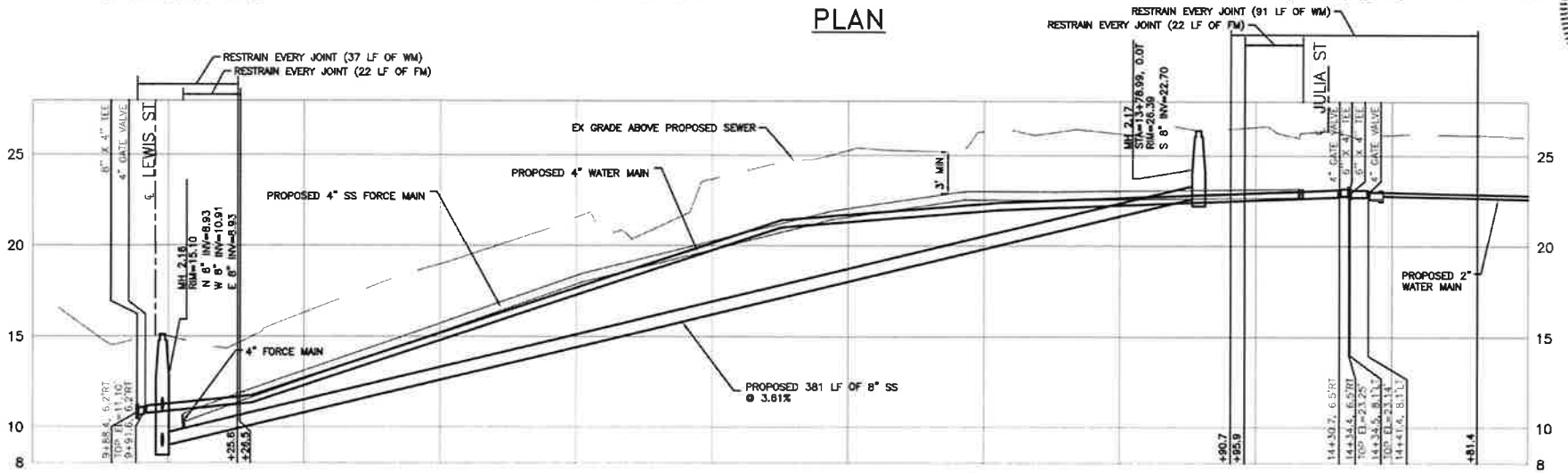
JOB NO.: GUA 2071.02M
SHEET: P-20



SCALE: 1"=40'
(11" x 17" PAPER)

TIMOTHY R. PALMER
LICENSE
No. 86681
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

PLAN



PROFILE

VERT. SCALE: 1"=6'

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
5/22/2021	100% SUBMITTAL	TRP

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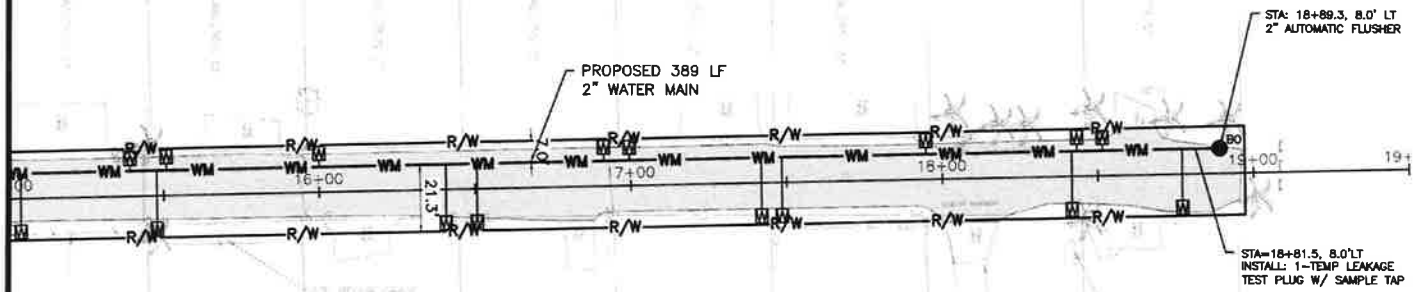
ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO. GUA 2071.02M

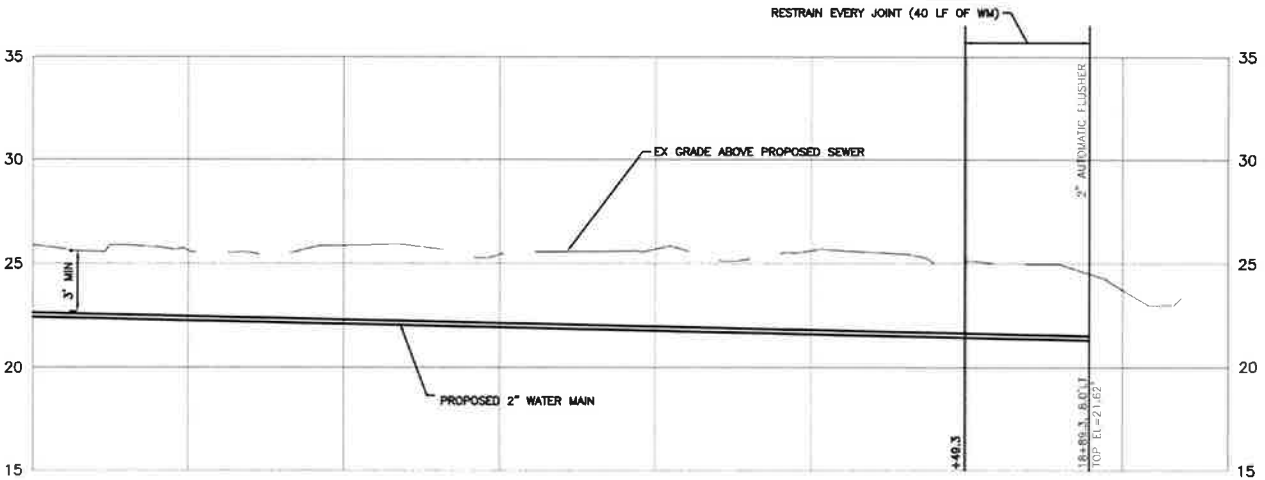
SHEET P-21

MATCHLINE STA. 15+00 - SEE SHEET P-21



SCALE: 1"=40'
(11" x 17" PAPER)

PLAN



PROFILE

VERT. SCALE: 1"=6'

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LICENSE
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PROFESSIONAL ENGINEER

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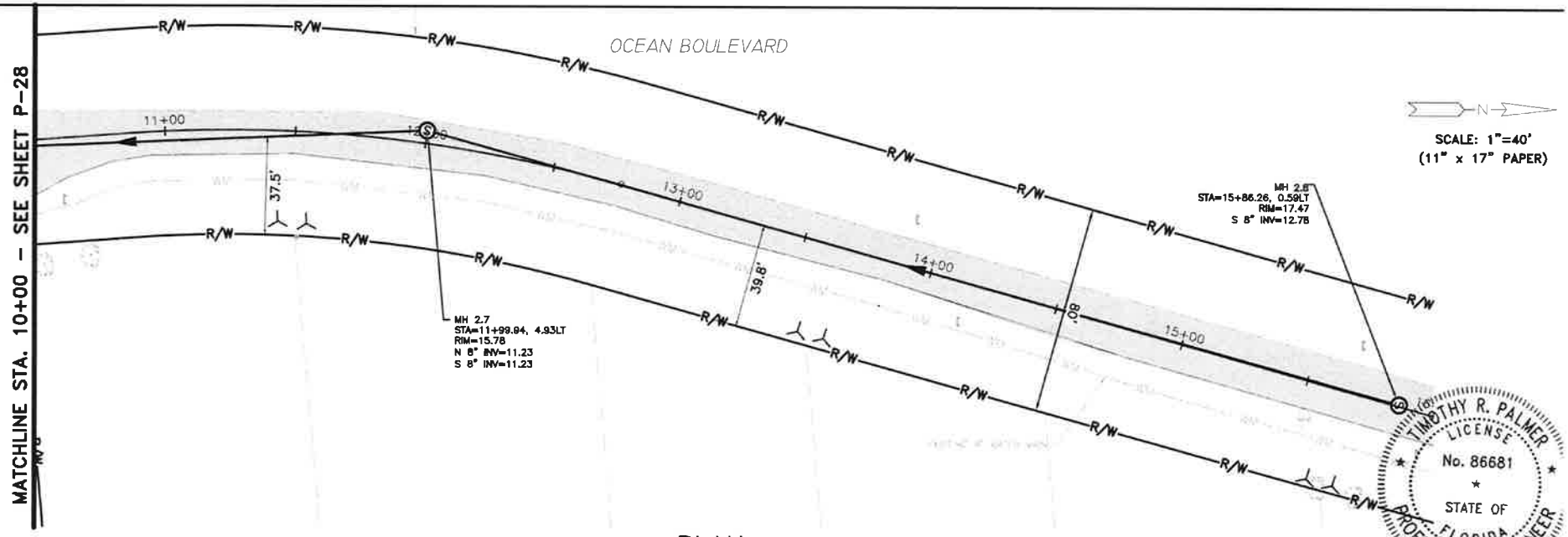
LICENSE NO. 86681

JOB NO. GUA 2071.02M

SHEET P-22



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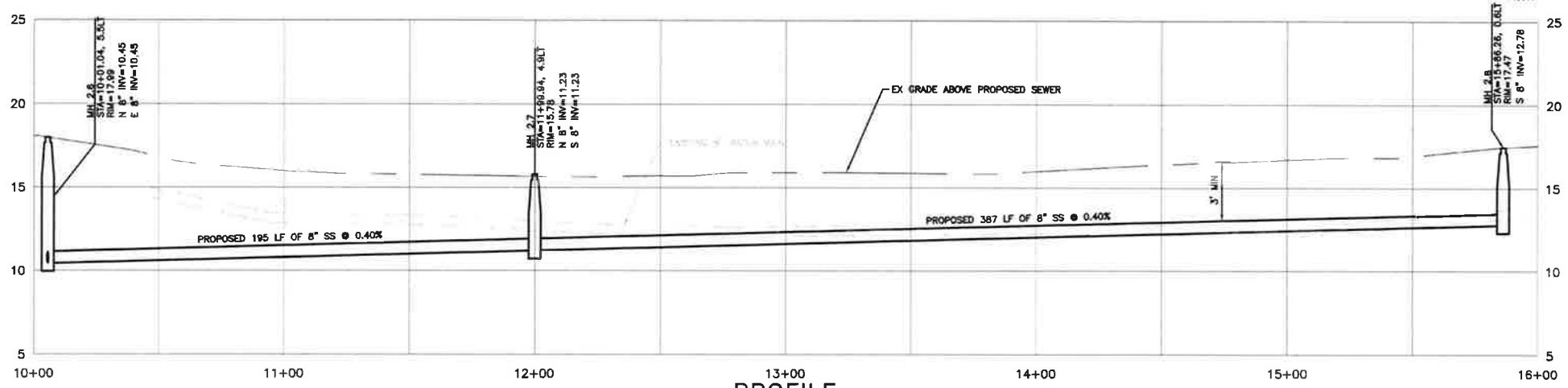

PROFILE

VERT. SCALE: 1"=6'

TIMOTHY R. PALMER LICENSE No. 86681 STATE OF FLORIDA PROFESSIONAL ENGINEER

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5/17/2021	60% SUBMITTAL	TRP
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6/22/2021	100% SUBMITTAL	TRP

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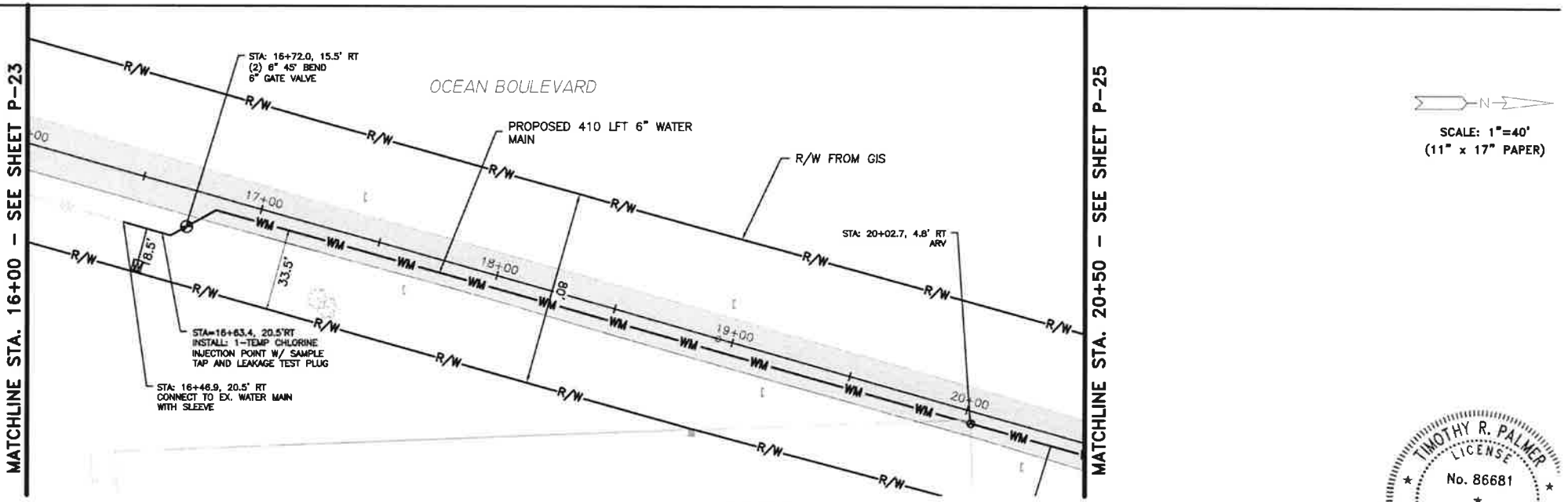
ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO. GUA 2071.02M

SHEET P-23



PLAN

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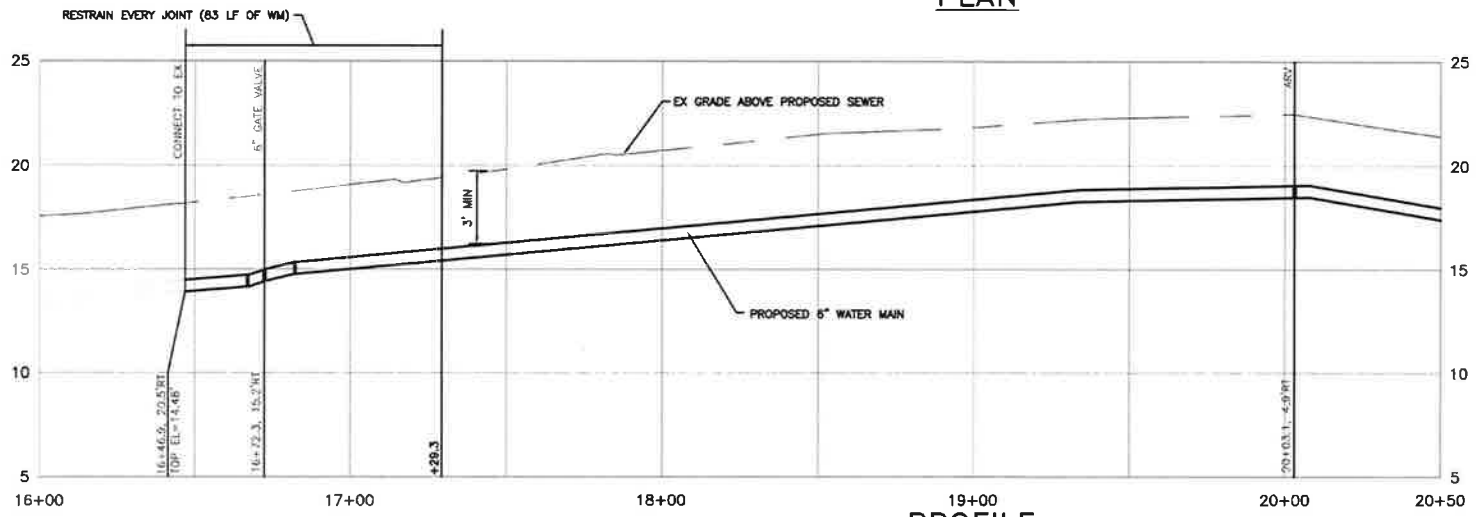
SCALE: 1"=40'
(11" x 17" PAPER)



PROFILE

VERT. SCALE: 1"=6'

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STATE OF FLORIDA
PROFESSIONAL ENGINEER

DATE	DESCRIPTION	BY
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6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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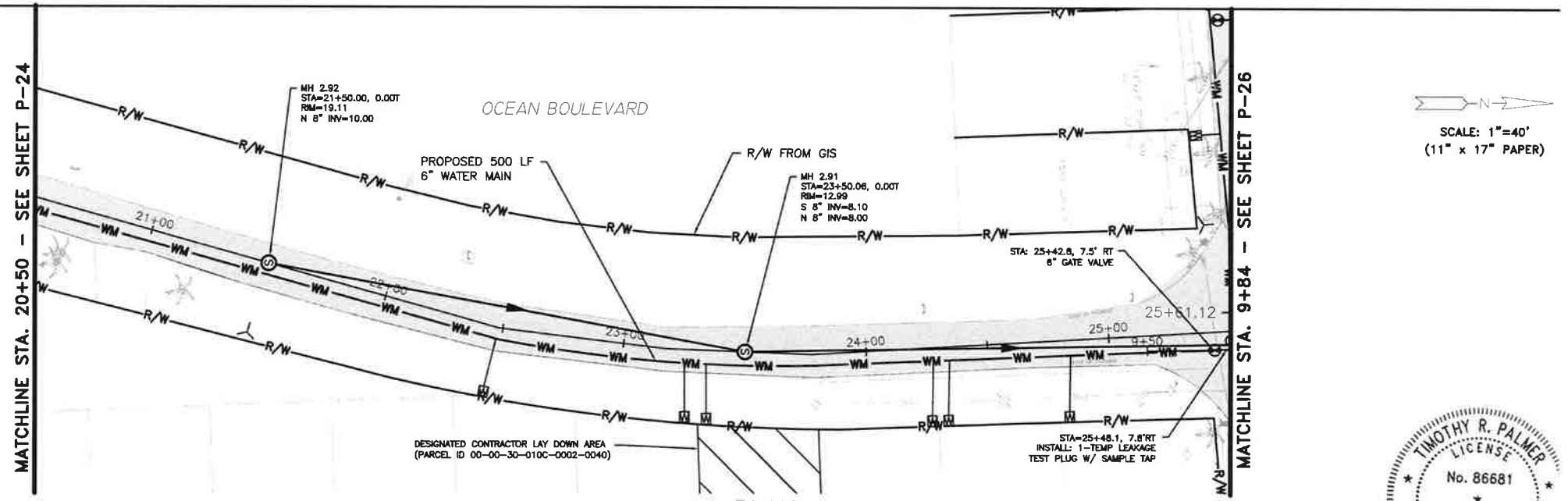
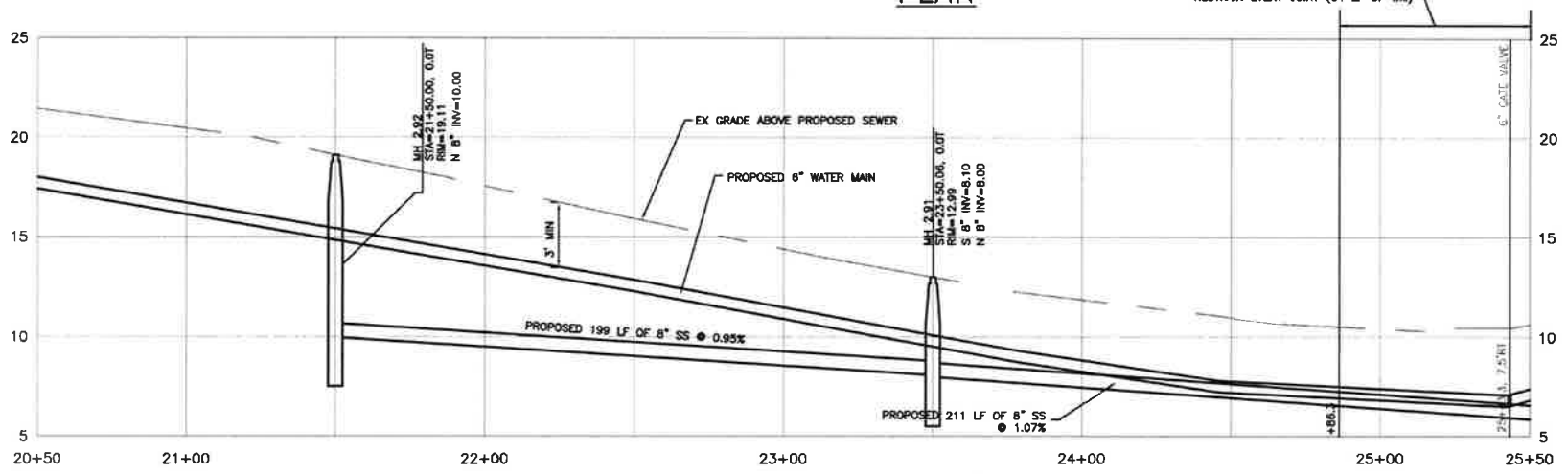
ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO. GUA 2071.02M

SHEET P-24



PLAN



PROFILE

VERT. SCALE: 1"=6'

N

SCALE: 1"=40'
(11" x 17" PAPER)

TIMOTHY R. PALMER
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PROFESSIONAL ENGINEER

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6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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ENGINEER OF RECORD
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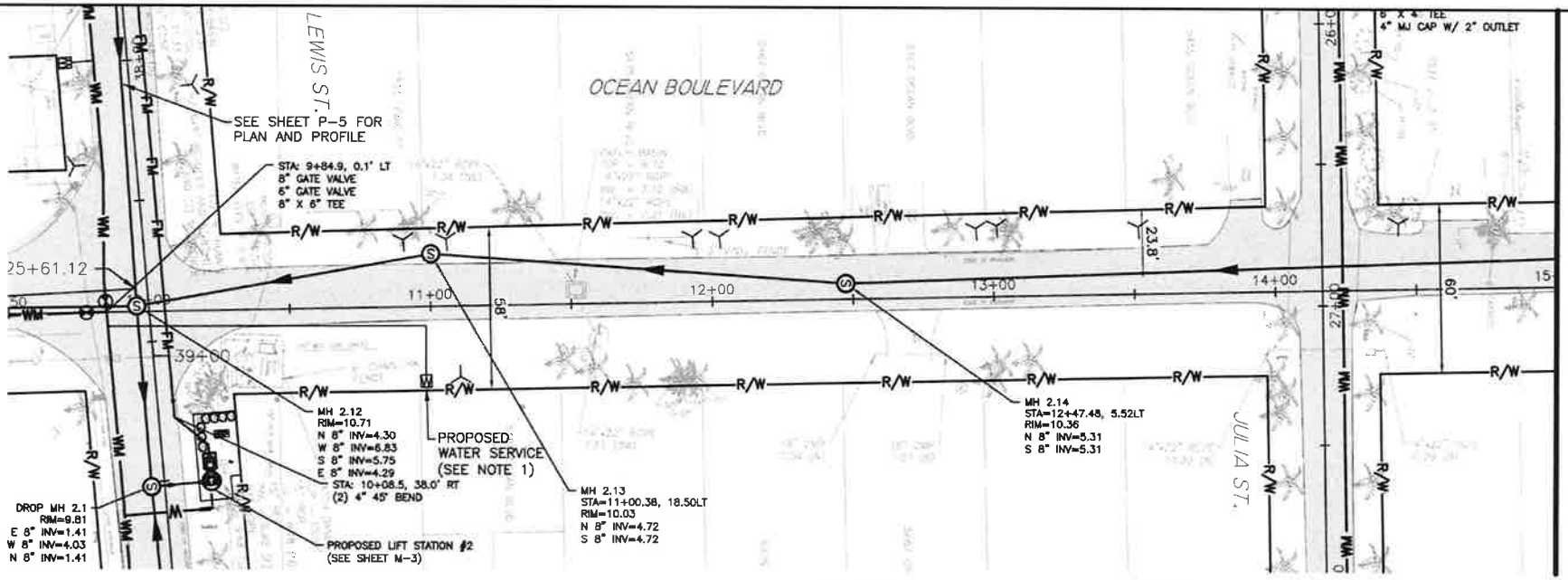
LICENSE NO. 86681

JOB NO.
GUA 2071.02M

SHEET
P-25



PLAN

MATCHLINE STA. 15+00 – SEE SHEET P-27

SCALE: 1"=40'
(11" x 17" PAPER)

NOTES:
1. CONTRACTOR SHALL ENCASE PROPOSED WATER SERVICE IN 2-INCH SCH 80 PVC BENEATH PAVEMENT.

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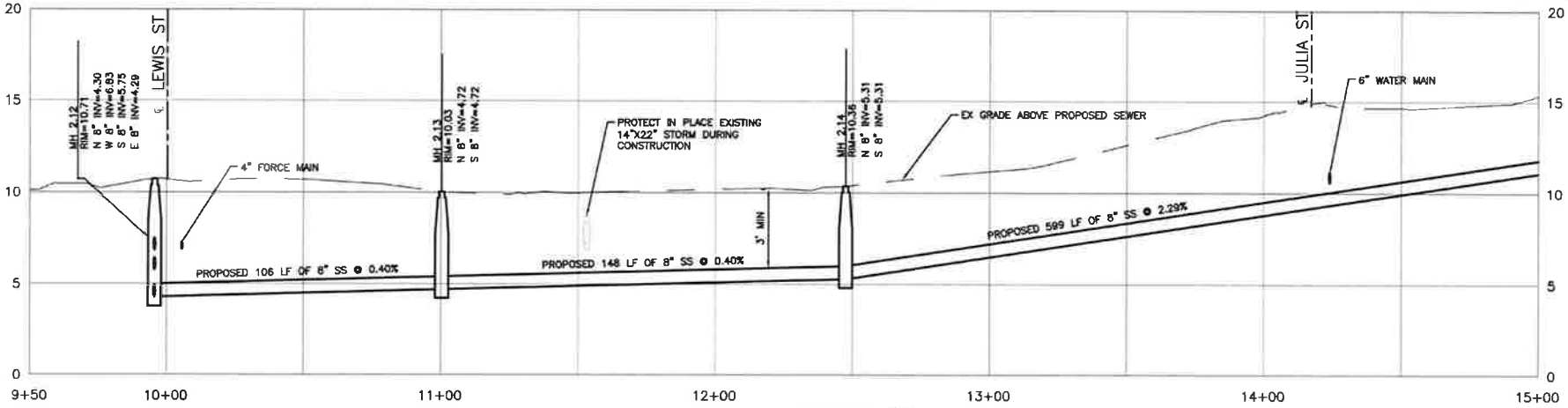

PROFILE

VERT. SCALE: 1"=6'

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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10+00 – 15+00
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WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

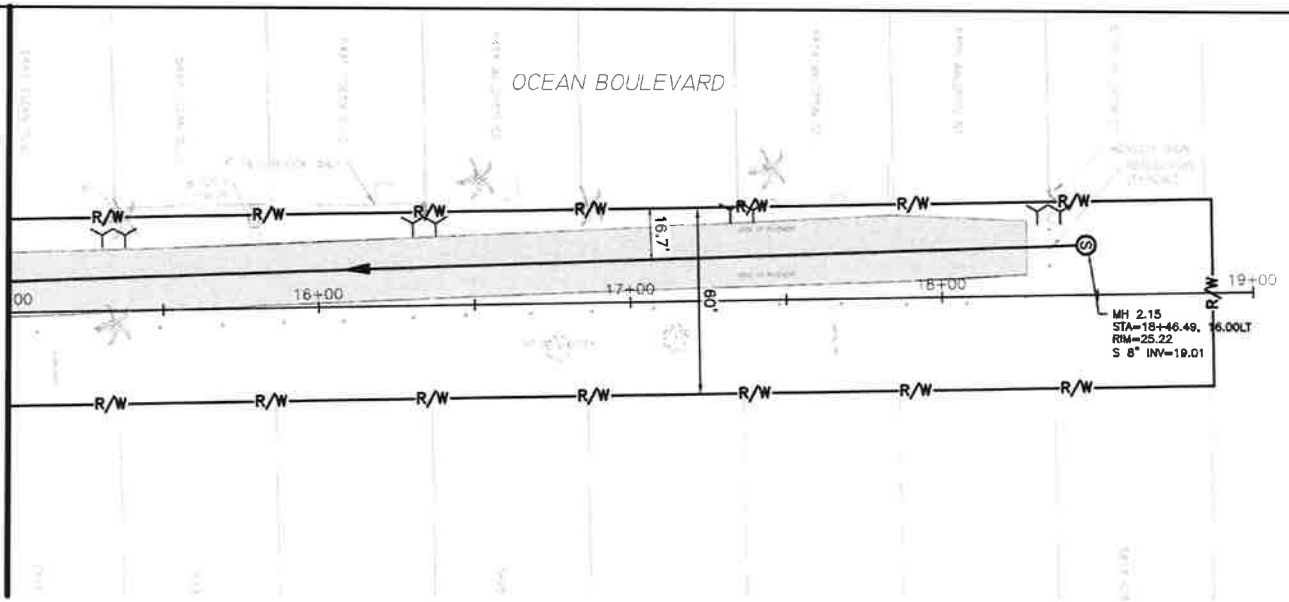
ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO.
GUA 2071.02M

SHEET
P-26

FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS
PROJECT MANAGER: TIMOTHY PALMER

MATCHLINE STA. 15+00 - SEE SHEET P-26

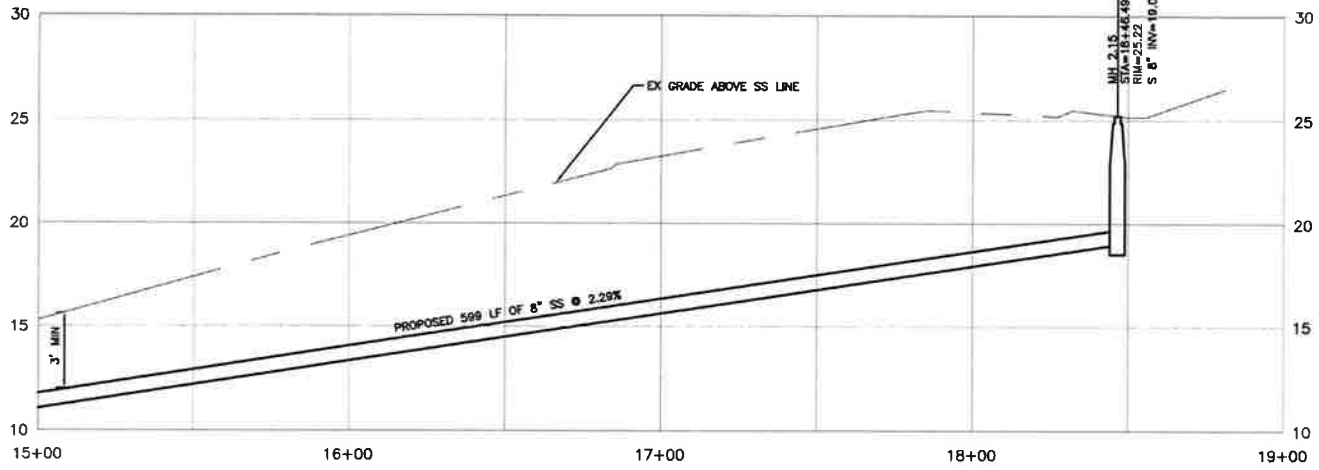


N

SCALE: 1"=40'
(11" x 17" PAPER)

TIMOTHY R. PALMER
LICENSE
No. 86681
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

PLAN



PROFILE

VERT. SCALE: 1"=6'

DATE	DESCRIPTION	BY
3/17/2021	60% SUBMITTAL	TRP
4/16/2021	90% SUBMITTAL	TRP
5/22/2021	100% SUBMITTAL	TRP

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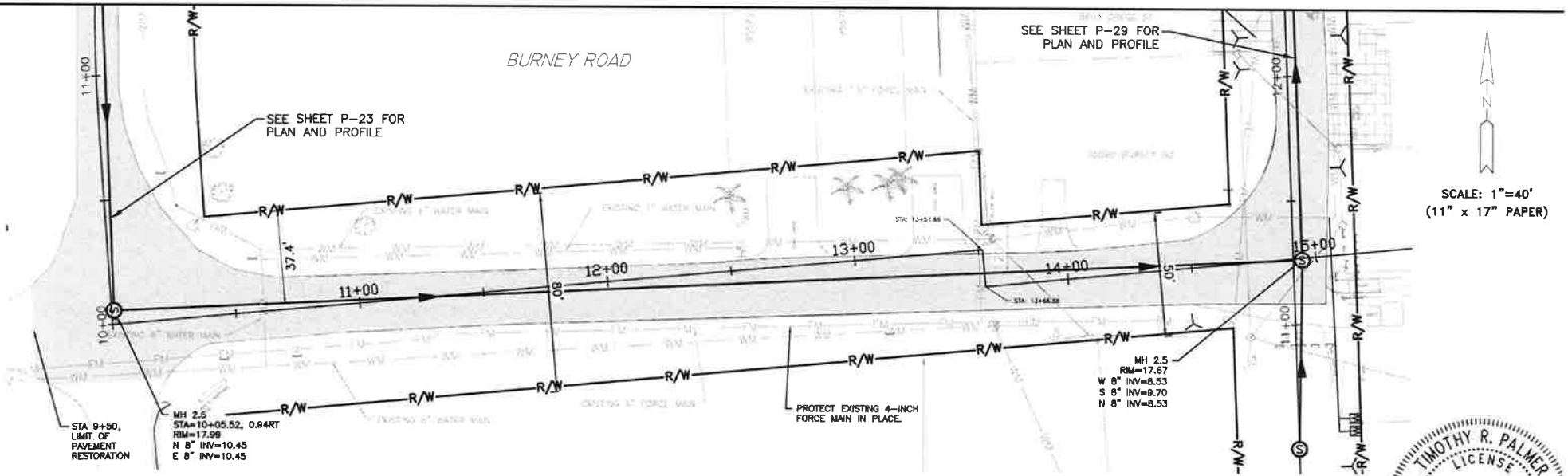
OCEAN BOULEVARD
15+00 - 19+00
PLAN AND PROFILE SHEET

NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

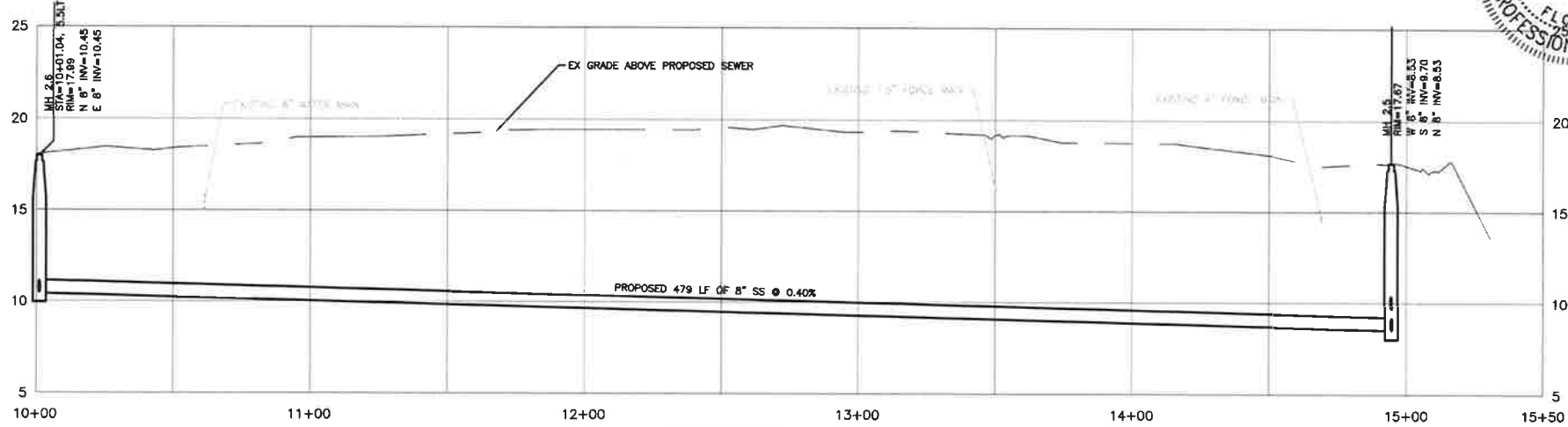
ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO.
GUA 2071.02M

SHEET
P-27



PLAN



PROFILE

VERT. SCALE: 1"=6'

TIMOTHY R. PALMER LICENSE No. 86681 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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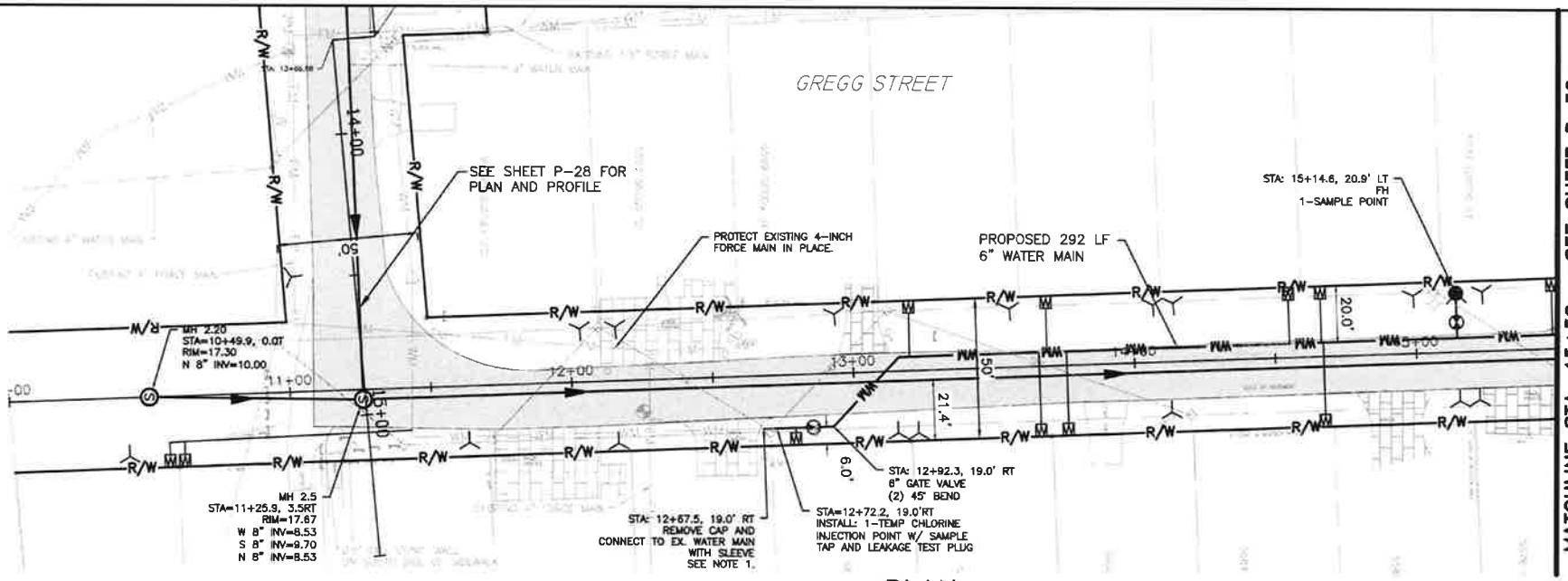
BURNEY ROAD
10+00 - 14+91
PLAN AND PROFILE SHEET

NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD TIMOTHY PALMER, P.E. LICENSE NO. 86681

JOB NO. GUA 2071.02M

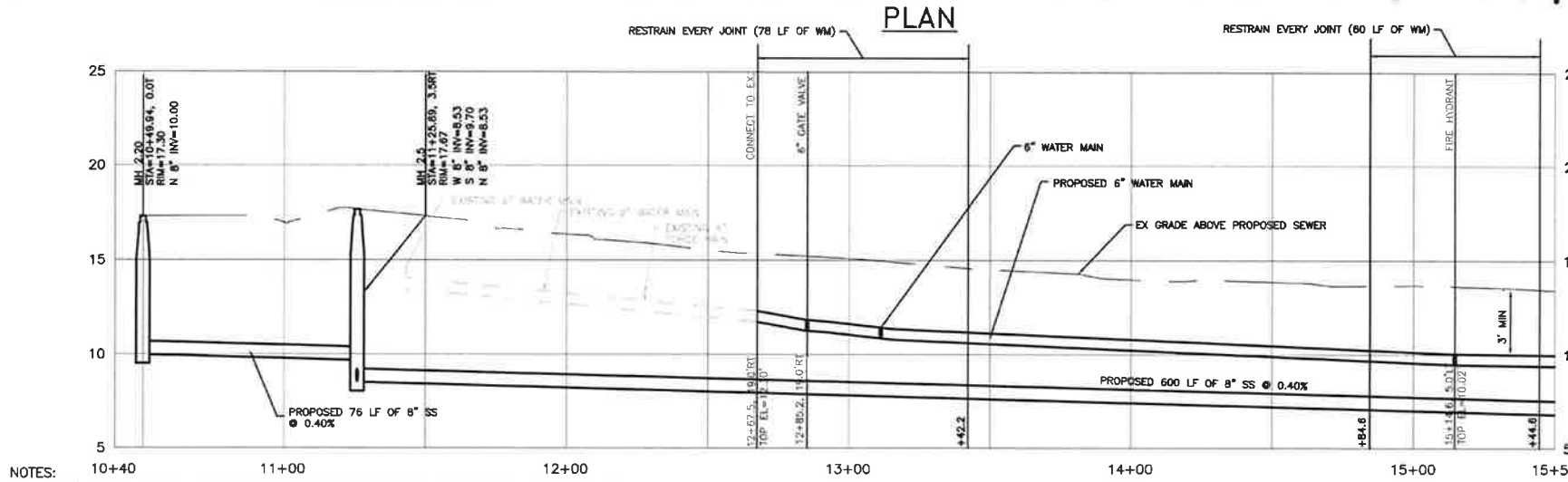
SHEET P-28



MATCHLINE STA. 15+50 – SEE SHEET P-30

N

SCALE: 1"=40'
(11" x 17" PAPER)



PROFILE

VERT. SCALE: 1"=6'

NOTES:
1. CONTRACTOR SHALL CONFIRM EXISTING WATER MAIN IS RESTRAINED UPSTREAM 20 FEET. IF UNRESTRAINED, ADD EXTERNAL BELL RESTRAINTS. RESTORE BRICK DRIVEWAY AS REQUIRED.

TIMOTHY R. PALMER LICENSE No. 86681 STATE OF FLORIDA PROFESSIONAL ENGINEER

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5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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GREGG STREET
11+23 – 15+50
PLAN AND PROFILE SHEET

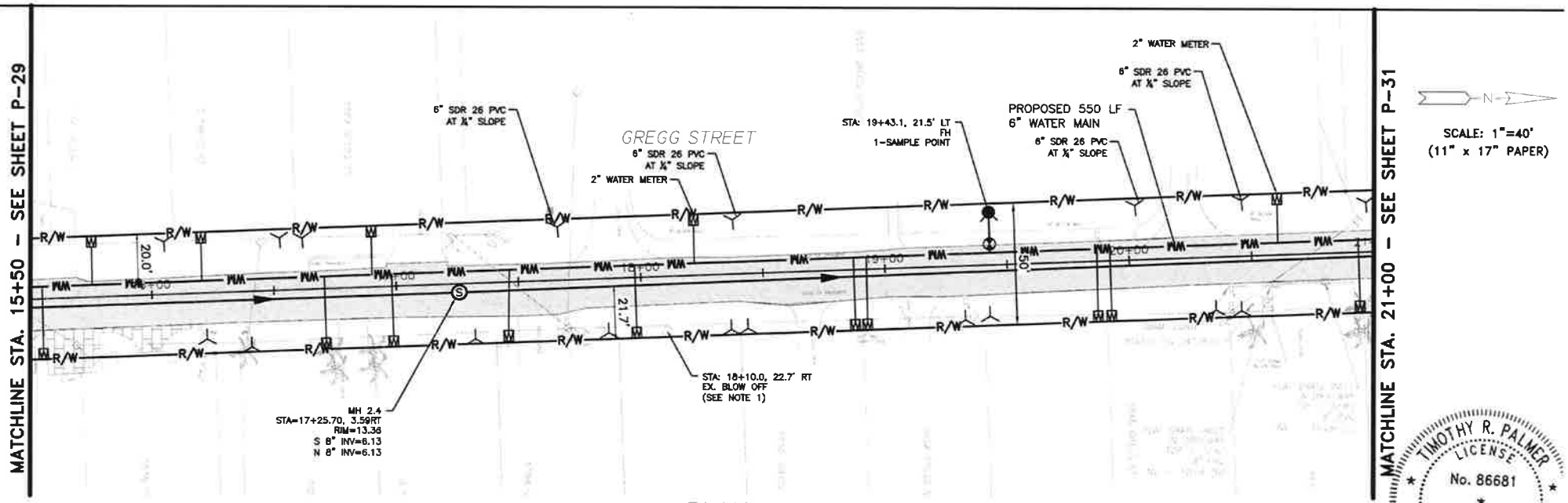
NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

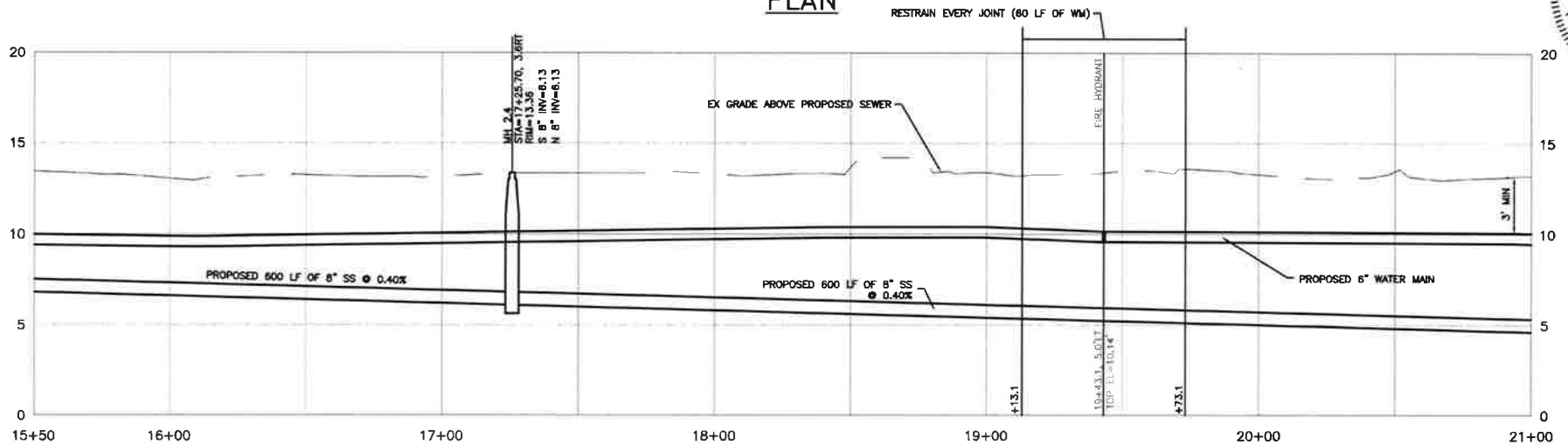
JOB NO. GUA 2071.02M

SHEET P-29

PROJECT MANAGER: TIMOTHY PALMER
C:\PW_WORKING\...\D0111972\CIVIL\P-29.DWG
FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS
GREGG ST DWG - P-29 - PLOTTED: 6/22/2021 5:47 PM BY: DUNN, KRISTA



PLAN



NOTES:
1. CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING WATER MAIN AND REPORT TO ENGINEER.

PROFILE

VERT. SCALE: 1"=6'

TIMOTHY R. PALMER LICENSE No. 86681 STATE OF FLORIDA PROFESSIONAL ENGINEER

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5/17/2021	60% SUBMITTAL	TRP
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6/22/2021	100% SUBMITTAL	TRP

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GREGG STREET
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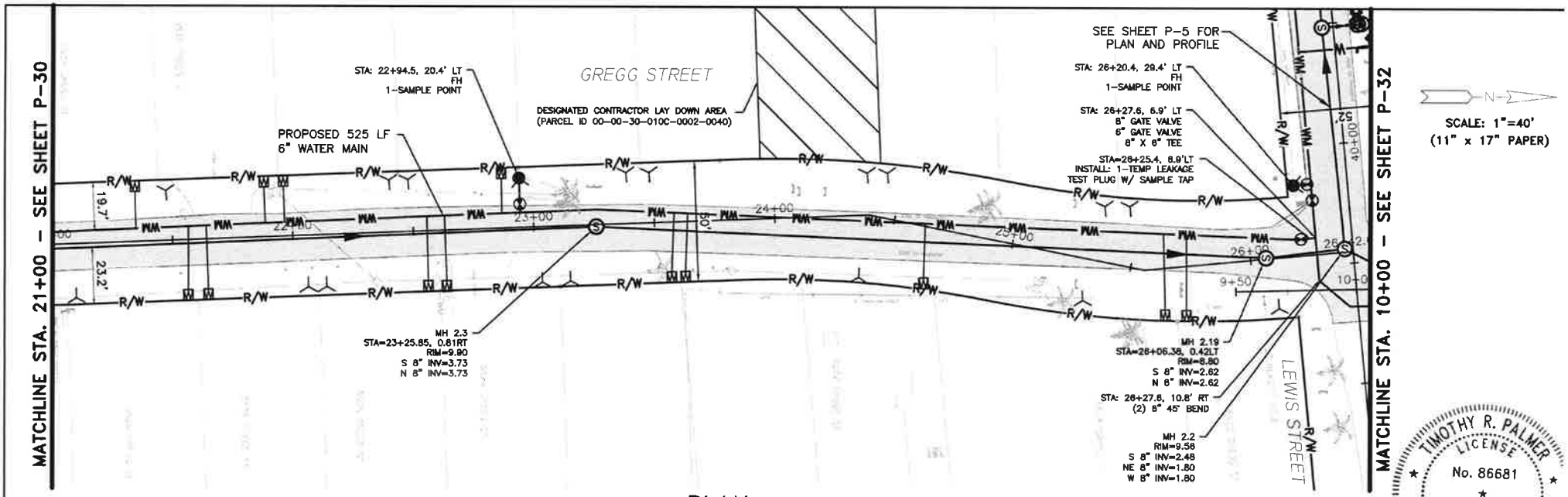
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO. GUA 2071.02M

SHEET P-30



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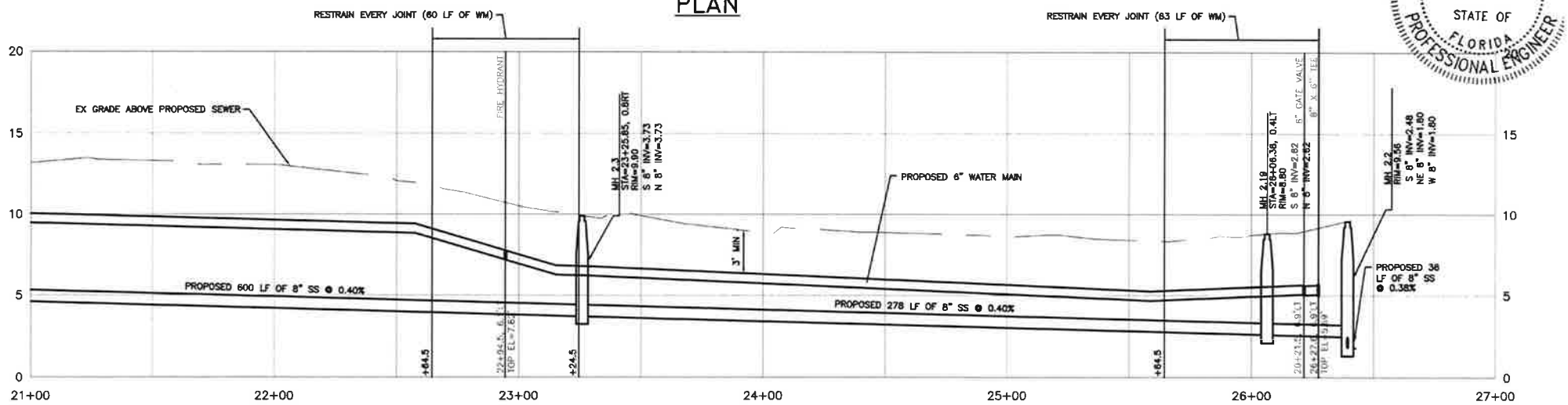

PROFILE

VERT. SCALE: 1"=6'

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PROFESSIONAL ENGINEER

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GREGG STREET
21+00 - 26+50
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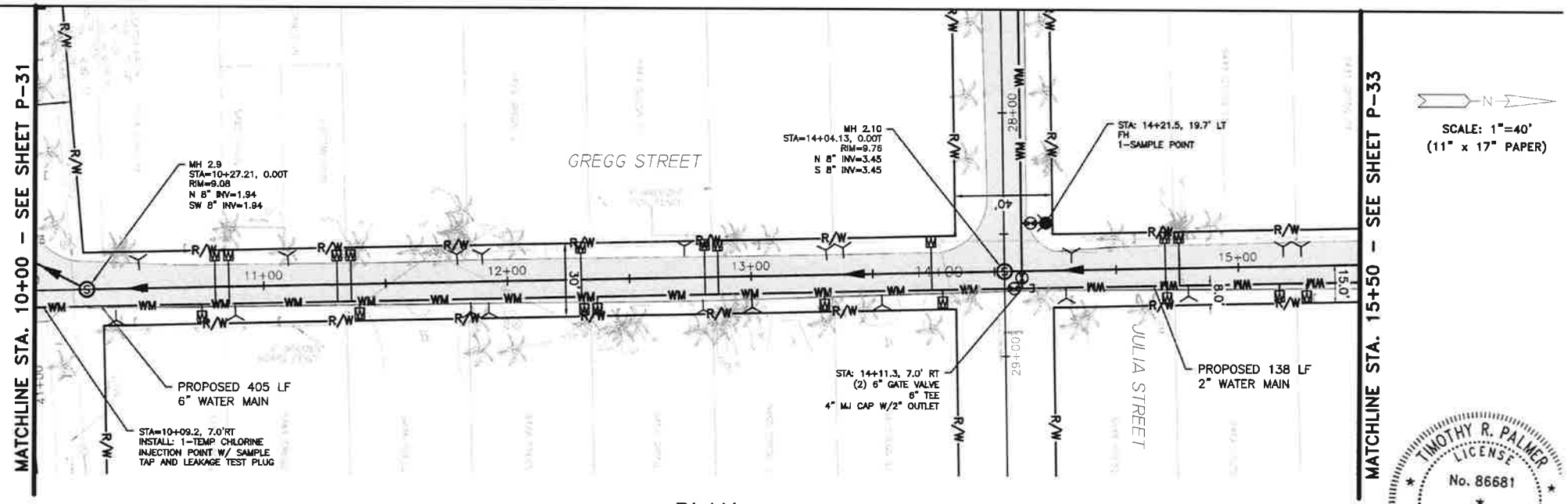
ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO. GUA 2071.02M

SHEET P-31



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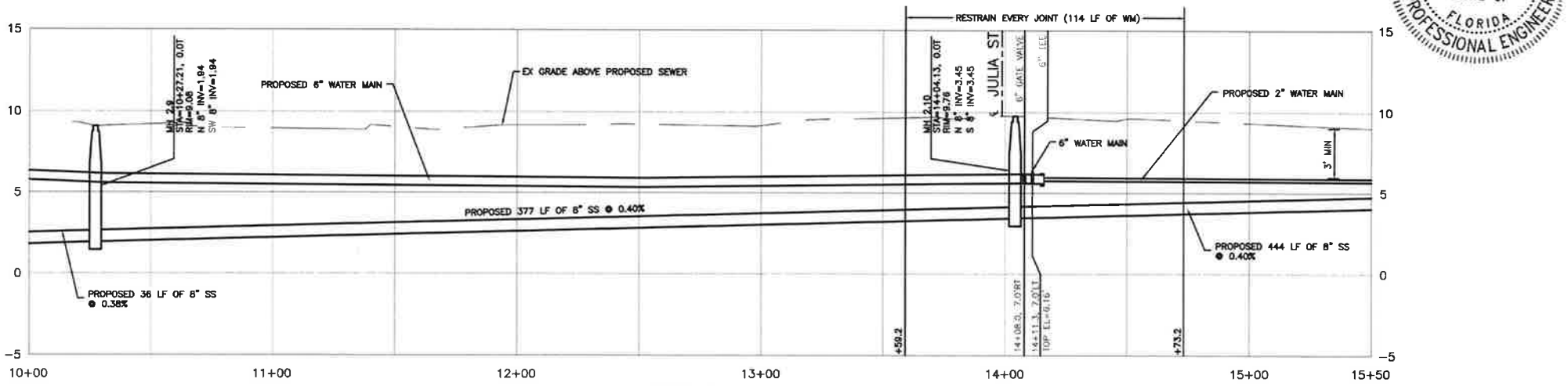
SCALE: 1"=40'
(11" x 17" PAPER)

PLAN



PROFILE

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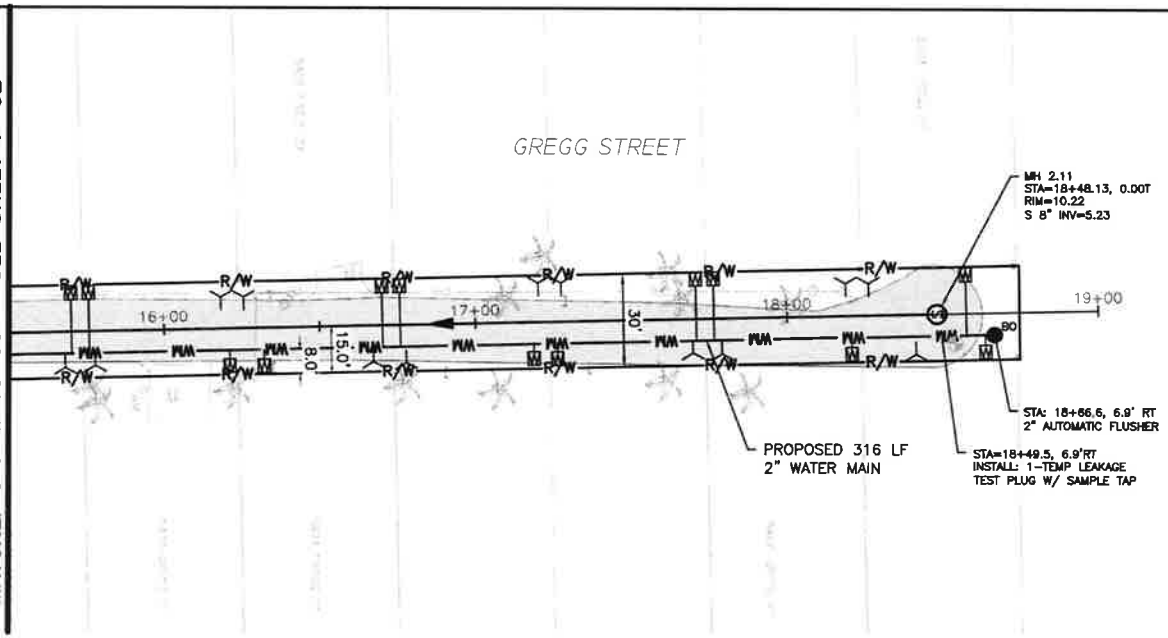
LICENSE NO. 86681

JOB NO.
GUA 2071.02M

SHEET
P-32

MATCHLINE STA. 15+50 – SEE SHEET P-32



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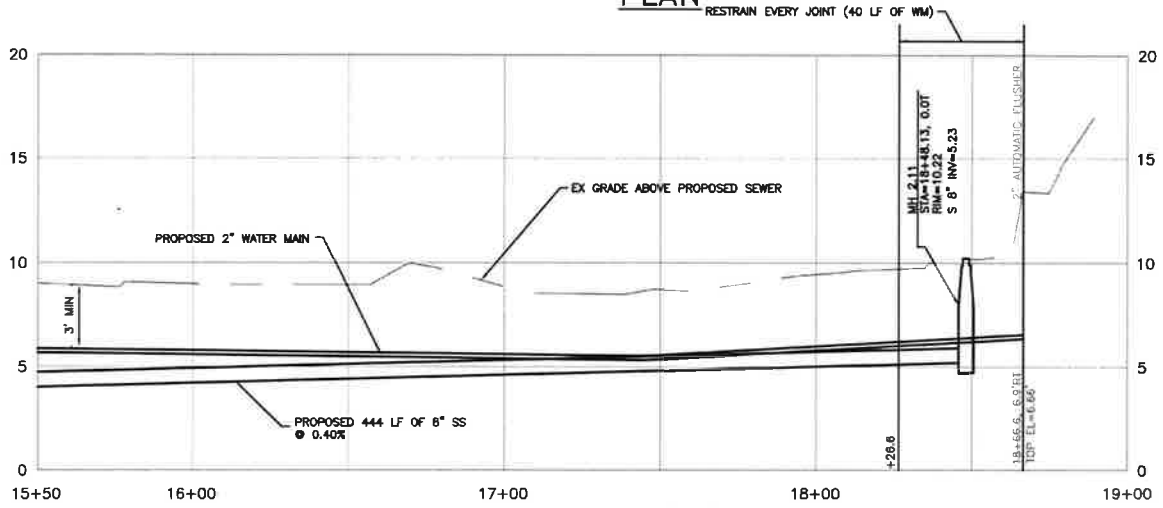
SCALE: 1"=40'
(11" x 17" PAPER)

PLAN



PROFILE

VERT. SCALE: 1"=6'

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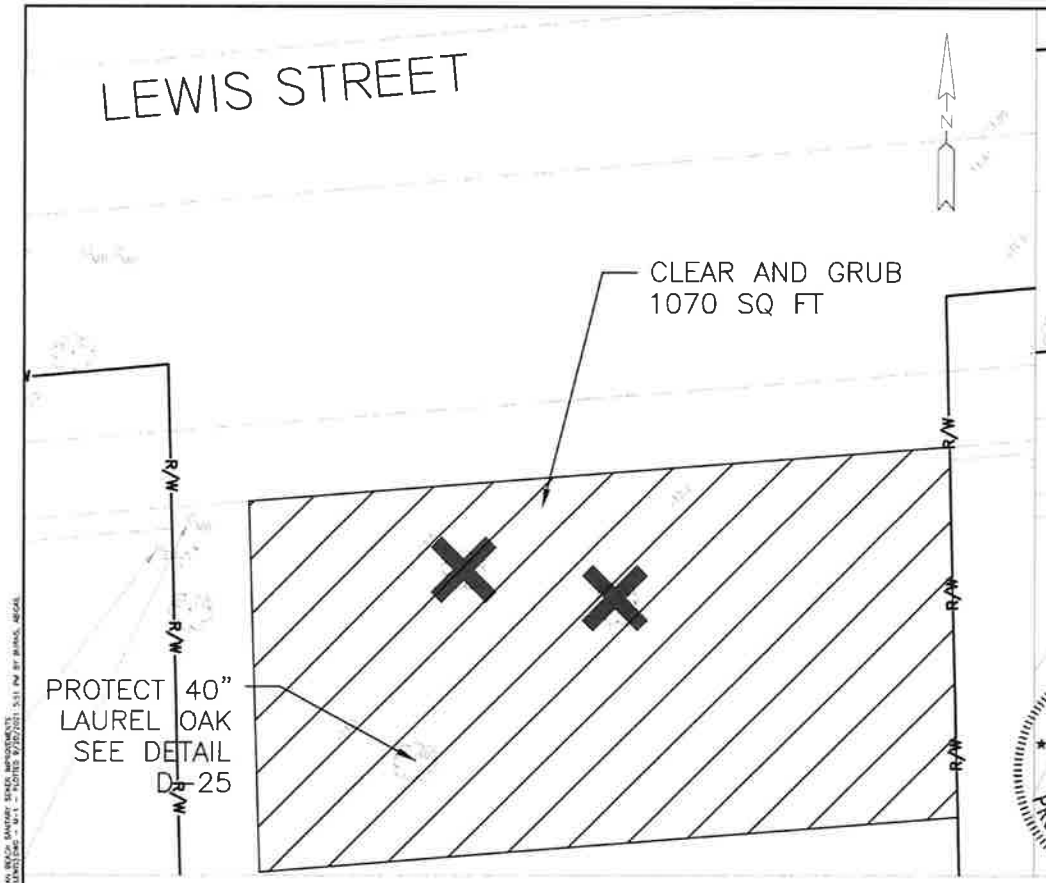
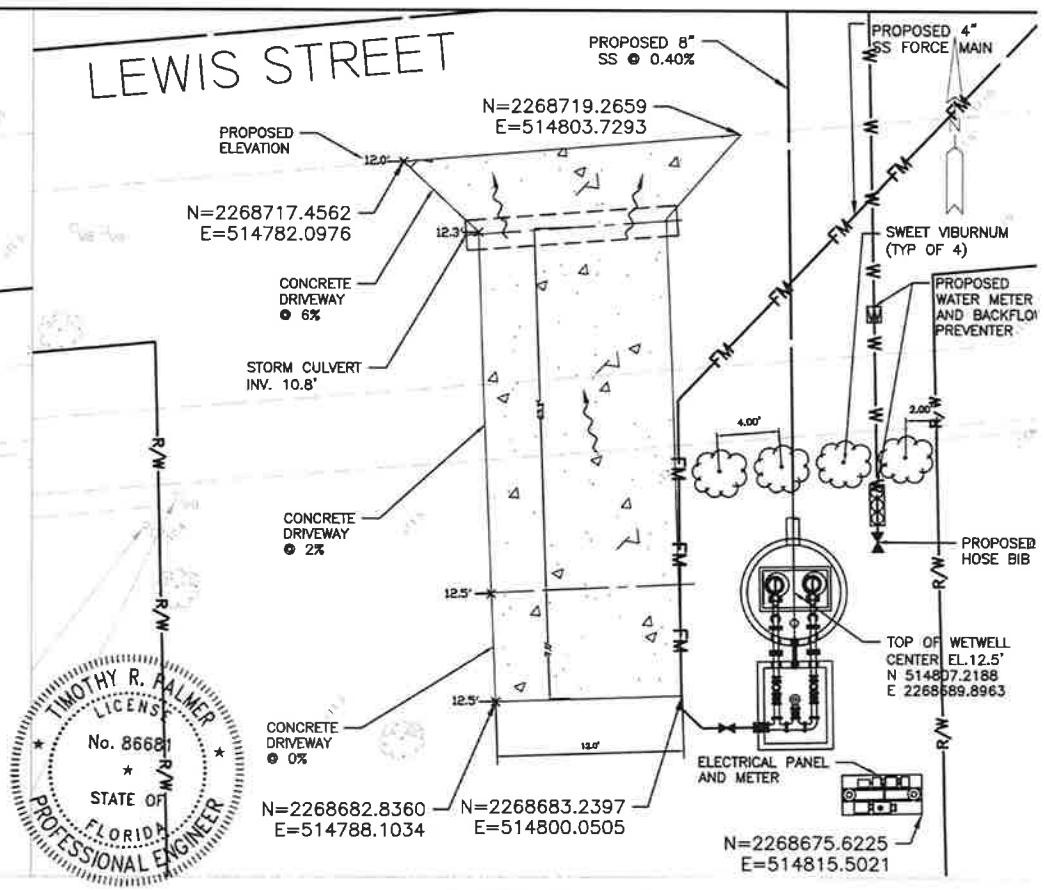
JOB NO. GUA 2071.02M

SHEET P-33



EXISTING SITE PLAN

SCALE:1"=8'



PROPOSED SITE PLAN

SCALE:1"=8'

TIMOTHY R. PALMER
LICENSE
No. 86681
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

LIFT STATION AND SITE PLAN NOTES:

1. EXCAVATE CAUTIOUSLY LOCATIONS OF EXISTING UTILITIES INDICATED HEREIN ARE BASED ON BEST AVAILABLE INFORMATION AND ARE NOT TO BE CONSIDERED ALL INCLUSIVE. CONTRACTOR SHALL VERIFY EXACT LOCATION, CHARACTER AND NATURE OF ALL EXISTING AND PROPOSED UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND PRIOR TO FABRICATION OF PIPING AND EQUIPMENT TO ENSURE PROPER ASSEMBLY OF ALL ITEMS.
2. LOCATIONS AND DIMENSION OF EXISTING RIGHTS-OF-WAY AND EASEMENTS ARE BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY THE LIMITS OF THE RIGHTS-OF-WAY AND EASEMENTS IN ORDER TO AVOID ENCROACHMENTS.
3. PIPE JOINTS SHALL NOT BE DEFLECTED.
4. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ON-SITE DURING THE LIFE OF THE PROJECT, A WEATHERPROOF ENCLOSURE CONTAINING A READILY ACCESSIBLE LIST OF EMERGENCY CONTACTS AND PHONE NUMBERS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SATISFACTION OF ALL REQUIREMENTS OF REGULATORY AGENCY PERMITS WITH REGARD TO CONSTRUCTION ACTIVITIES AND RELATED CONDITIONS.
6. THE DISPOSAL OF ANY EXCESS EARTH WORK MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
7. THE CONTRACTOR SHALL REPLACE WITH EQUAL MATERIAL, ALL PAVING, GRASSED AREAS, STABILIZED EARTH, DRIVEWAYS, ETC., DISTURBED OR DAMAGED BY THE CONSTRUCTION OR RELATED ACTIVITIES. ALL DISTURBED AREAS SHALL BE SODDED, EXCEPT DIRT DRIVES AND WHERE INDICATED IN THE DRAWINGS
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DE-WATERING REQUIRED DURING CONSTRUCTION AND TO OBTAIN AND PAY FOR ALL PERMITS REQUIRED FOR THE TEMPORARY DEWATERING OF DRAINAGE STRUCTURES.
9. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL TEMPORARY PLUGS, BLOCKING, TAPS, AND TESTING EQUIPMENT REQUIRED TO COMPLETE PRESSURE TESTING, AS SPECIFIED.
10. THE CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL BY THE COUNTY, A COMPREHENSIVE WRITTEN PROCEDURE THAT DESCRIBES THE INTENDED CONSTRUCTION SEQUENCE FOR MAINTAINING AND TRANSFERRING SERVICE FROM THE EXISTING SEPTIC SYSTEMS TO THE NEW PUMP STATION. ITEMS TO ADDRESS SHALL INCLUDE THE FOLLOWING AS A MINIMUM:
    a. STATION START-UP AND DRAW-DOWN PROCEDURES.
    b. TIE IN OF THE NEW PUMP STATION.
11. ANY WORK PROPOSED FOR THE POTABLE WATER SYSTEM SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND DETAILS OF THE APPROPRIATE UTILITY PROVIDER.
12. CONTRACTOR TO SUBMIT, FOR ENGINEER APPROVAL, 100% LOW-PRESSURE, BUBBLER IRRIGATION SYSTEM FOR BOTH LIFT STATION SITES.

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

WADE TRIM
201 North Franklin Street, Suite 1350
Tampa, FL 33602
813.882.4373
www.wadetrim.com
Certificate of Authorization No. 3952

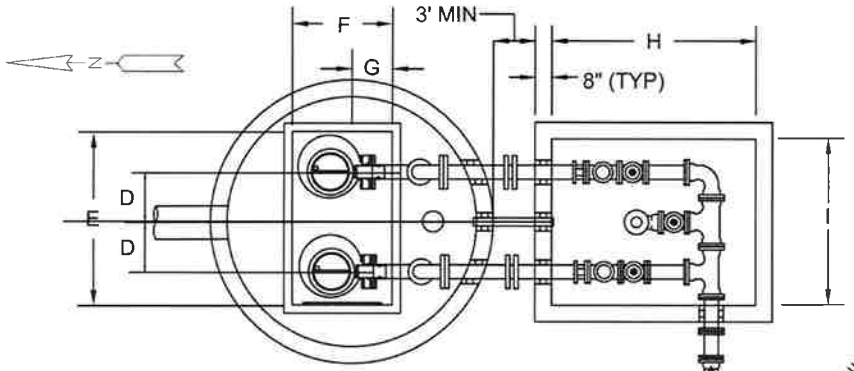
LIFT STATION 1
SITE PLAN AND NOTES

NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

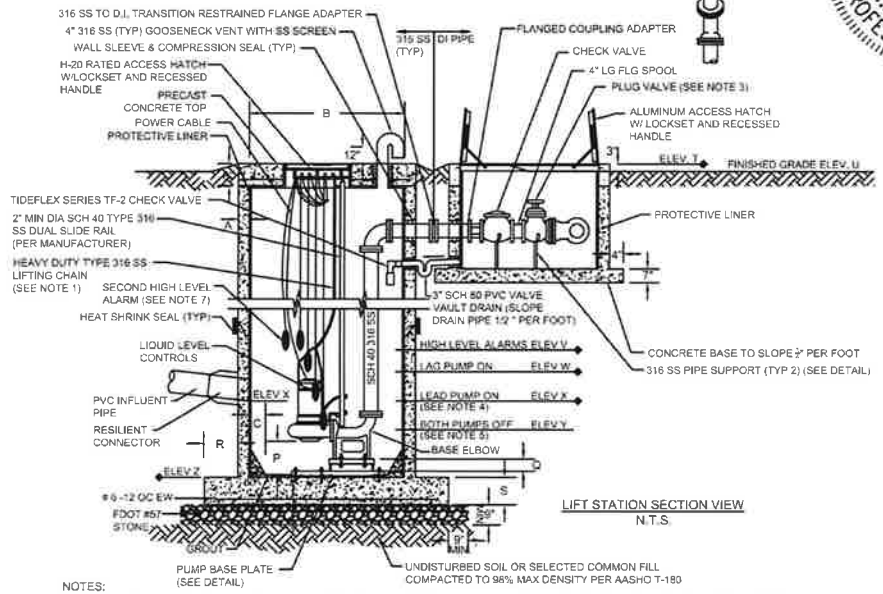
ENGINEER OF RECORD
DMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO.
GUA 2071.02M

SHEET
M-1



LIFT STATION PLAN VIEW
1" = 3'



LIFT STATION SECTION VIEW
N.T.S.

NOTES:
1. EACH PUMP SHALL BE FITTED WITH 6 FEET (6'-0") OF TYPE 316 SS, 3/4" CHAIN ATTACHED TO THE LIFTING MECHANISM AND AIRCRAFT RATED 1/4" SS CABLE PROVIDED BETWEEN THE CABLE HOLDER AND THE CHAIN.
2. WALL SLEEVE AND COMPRESSION SEALS SHALL BE COMPATIBLE WITH LINER.
3. IF PV=4 IN. LEVER OPERATED; IF PV>4 IN, WHEEL OPERATED.
4. ELEVATION X - ELEVATION Z ≥ 4 FEET.
5. PUMP OFF ELEVATION TO BE PER MANUFACTURER'S MINIMUM SUBMERGENCE.
6. SEE NOTES FOR DESCRIPTIONS OF DIMENSION SYMBOLS.
7. INSTALLED TO PROVIDE DRY CONTACT FOR SCADA.
8. ALL FLANGES: PIPE, VALVES AND APPURTENANCES SHALL HAVE 316 S.S. HARDWARE.

TIMOTHY R. PALMER LICENSE No. 86681 STATE OF FLORIDA PROFESSIONAL ENGINEER

PUMP REQUIREMENTS

SPEED: 1763 RPM
DISCHARGE SIZE: 4 IN
VOLTAGE: 240 V
PHASE: 3
H.P.: 3.75
MAX. SOLID SIZE (3 IN MIN): 3 IN

SHUT OFF HEAD: 36 FEET TDH MAX
HIGH HEAD CONDITION: 120 GPM AT 28 FEET TDH MIN
MINIMUM HEAD CONDITION: 150 GPM AT 26 FEET TDH MIN

DESCRIPTION	SYMBOL	DIMENSION	ELEVATION
THICKNESS OF WALL	A	8" (MIN)	–
DIAMETER OF WET WELL	B	6' (MIN)	–
WIDTH OF BOTTOM FILLET	C	SEE NOTE 1	–
C/L OF WET WELL TO C/L OF PIPES	D	SEE NOTE 1	–
LENGTH OF PUMP ACCESS OPENING	E	SEE NOTE 1	–
WIDTH OF PUMP ACCESS OPENING	F	SEE NOTE 1	–
CENTER OF WET WELL TO EDGE OF HATCH	G	SEE NOTE 1	–
VALVE BOX HATCH OPENING	H	5' (MIN)	–
VALVE BOX HATCH OPENING	I	4' (MIN)	–
LIP WIDTH OF WETWELL BASE	R	18" (MIN)	–
THICKNESS OF WETWELL BASE	S	12" (MIN)	–
TOP OF WET WELL	T	–	12.50
FINISHED GRADE	U	–	12.40
HIGH LEVEL ALARMS	V	–	3.00
LAG PUMP ON	W	–	2.50
LEAD PUMP ON / INFLUENT PIPE INVERT	X	–	2.00
PUMPS OFF (TOP OF PUMP VOLUTE)	Y	–	0.50
BOTTOM OF PUMP TO FLOOR OF WET WELL	P		–
STEP HEIGHT (IF REQUIRED)	Q		–
FLOOR OF WET WELL	Z	–	-1.50

NOTES:
1. PER PUMP MANUFACTURER'S REQUIREMENTS
2. DIMENSION P AND ELEVATIONS Y AND Z MUST MEET THE PUMP MANUFACTURER REQUIREMENTS.
3. ELEVATION X - ELEVATION Z ≥ 5 FEET
4. TOP ELEVATION OF WET WELL SHALL BE A MINIMUM OF 1' ABOVE THE 100 YEAR FLOOD ELEVATION AND THE ELEVATION OF THE CROWN OF THE ROAD.
5. SYMBOLS SHOWN IN TABLE ARE USED IN FIGURES A402-2 AND A402-3.

GENERAL NOTES:

1. GRAVITY PIPES ENTERING WET WELL SHALL BE MADE WATERTIGHT WITH AN APPROVED RESILIENT CONNECTOR.
2. ALL LOCATIONS WHERE PRESSURE PIPES PENETRATE THE WET WELL SHALL BE MADE WATERTIGHT WITH A WALL SLEEVE AND COMPRESSION SEAL.
3. THERE SHALL BE NO VALVES OR ELECTRICAL JUNCTION BOXES IN THE WET WELL. PLUG VALVE SHALL BE FULL PORT.
4. WET WELL COVERS SHALL BE ALUMINUM WITH 316 STAINLESS STEEL HARDWARE WITH RECESSED LOCK BRACKET. WET WELL COVER SHALL HAVE "CONFINED SPACE" ETCHED OR WELDED INTO COVER.
5. ALL HARDWARE IN WET WELL SHALL BE 316 STAINLESS STEEL.
6. PUMP MANUFACTURER SUBMERGENCE REQUIREMENTS SHALL BE MET AS MINIMUM.
7. PIPE JOINTS IN THE WET WELL AND THE VALVE VAULT SHALL BE FLANGED. PIPE JOINTS FROM THE VALVE VAULT TO THE EXISTING FORCE MAIN SHALL BE RESTRAINED MECHANICAL JOINTS.
8. CHECK VALVE ARMS SHALL BE LOCATED WITH THE SAME ORIENTATION (i.e. ALL ARMS ON THE LEFT SIDE OF VALVE).

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
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LIFT STATION 1
SECTION SHEET

NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD ALEJANDRO RAUL SCIANCA, P.E. LICENSE NO. 87500

JOB NO. GUA 2071.02M

SHEET M-2

LIFT STATION AND SITE PLAN NOTES:

GENERAL NOTES

1. EXCAVATE CAUTIOUSLY LOCATIONS OF EXISTING UTILITIES INDICATED HEREIN ARE BASED ON BEST AVAILABLE INFORMATION AND ARE NOT TO BE CONSIDERED ALL INCLUSIVE. CONTRACTOR SHALL VERIFY EXACT LOCATION, CHARACTER AND NATURE OF ALL EXISTING AND PROPOSED UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND PRIOR TO FABRICATION OF PIPING AND EQUIPMENT TO ENSURE PROPER ASSEMBLY OF ALL ITEMS.
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12. CONTRACTOR TO SUBMIT, FOR ENGINEER APPROVAL, 100% LOW-PRESSURE, BUBBLER IRRIGATION SYSTEM FOR BOTH LIFT STATION SITES.

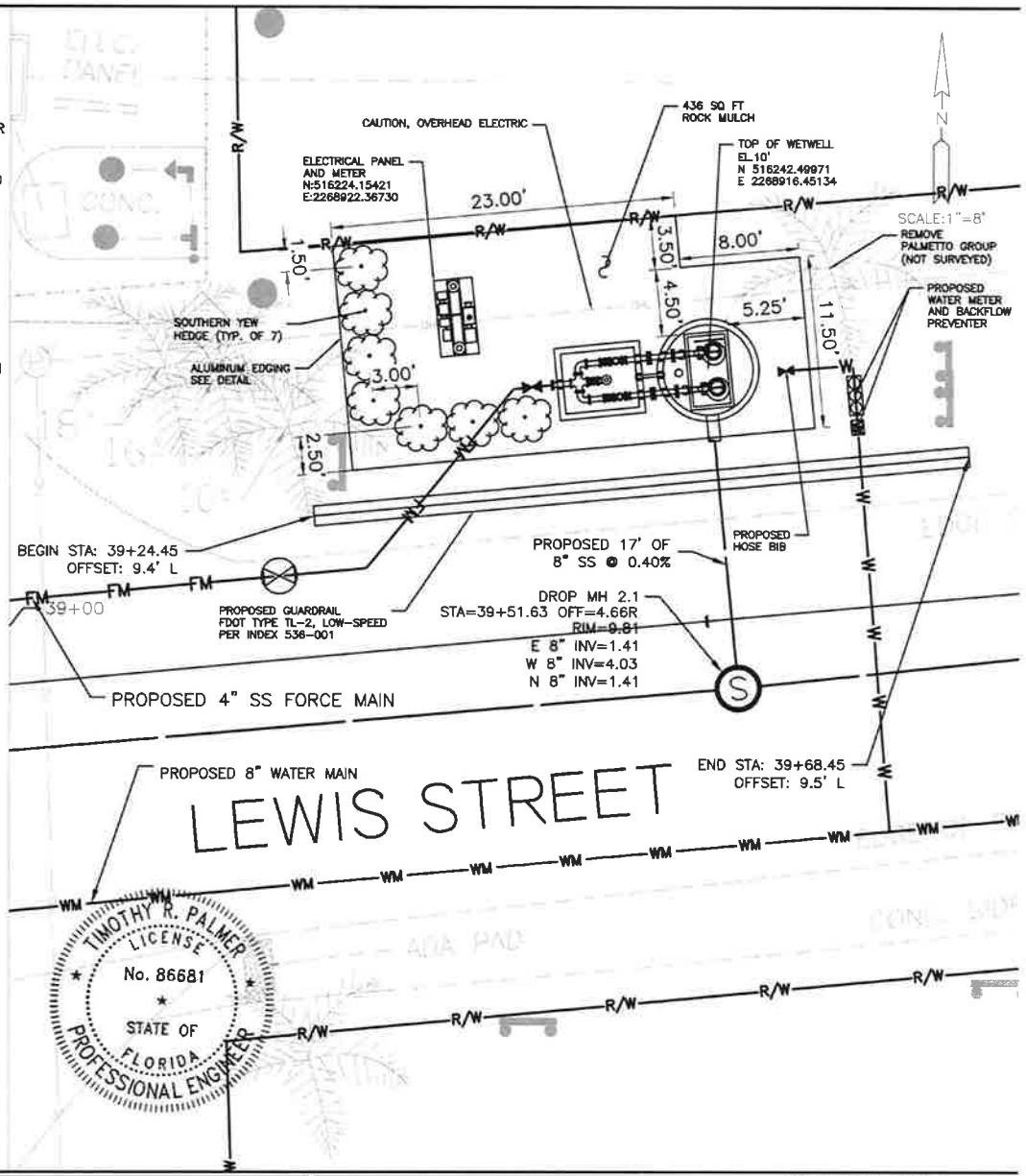
PRECAST STRUCTURAL NOTES

1. PRECAST STRUCTURES SHALL BE ENGINEERED PRODUCTS OF A PRECAST MANUFACTURER AND SHALL BE SPECIFICALLY DESIGNED FOR THE SERVICE AND APPLICATION AS SHOWN ON THESE DRAWINGS. THE PRECAST MANUFACTURER IS SOLELY RESPONSIBLE FOR DESIGN AND MANUFACTURE OF EACH STRUCTURE. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR INSTALLATION OF THESE PRODUCTS AND CONFORMANCE OF SAME WITH ALL PROJECT DOCUMENTS. THE CONTRACTOR SHALL SUBMIT COMPLETE SHOP DRAWINGS FOR ALL SUCH PRECAST STRUCTURES ON THE PROJECT FOR REVIEW AND APPROVAL, PRIOR TO THE ORDERING OF ANY STRUCTURES OR MATERIALS.
2. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE CAST-IN-PLACE REINFORCEMENT AND CONCRETE PLACEMENT USED IN THE INSTALLATION OF SADDLE MANHOLES FOR REVIEW AND APPROVAL BY THE COUNTY, PRIOR TO THE ORDERING OF ANY MATERIALS.
3. STRUCTURAL DESIGN STANDARDS - ACI STANDARD 318-89 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE AND ACI 350R-83, "CONCRETE SANITARY ENGINEERING STRUCTURES". PRECAST WALL SECTIONS ASTM C478.
4. ALL CONCRETE SHALL HAVE A SPECIFIED MINIMUM COMPRESSIVE STRENGTH OF fc' = 4000 P.S.I. AT 28 DAYS, UNLESS NOTED ON DRAWINGS.
5. ALL REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60. MINIMUM YIELD STRENGTH SHALL BE 60,000 P.S.I.
6. CONTRACTOR SHALL COORDINATE WET WELL HATCH OPENING SIZE AND LOCATION AS REQUIRED BY PUMP MANUFACTURER/SUPPLIER WITH THE PRECAST CONCRETE SUPPLIER PRIOR TO CASTING. SHOP DRAWINGS OF THE PRECAST SHALL BE PROVIDED TO THE COUNTY FOR REVIEW.
7. THE FLOOR GROUT (FILLET) SHALL BE FULL CIRCUMFERENCE OF THE STRUCTURE.

WATER NOTES

BACKFLOW PREVENTION REQUIREMENTS:

1. BACKFLOW DEVICES WILL BE OWNED AND MAINTAINED BY CUSTOMER UNLESS OTHERWISE NOTED.
2. THE DEVELOPER/CUSTOMER IS RESPONSIBLE FOR THE REQUIRED REDUCED PRESSURE BACKFLOW PREVENTER. RESIDENTIAL DOMESTIC BACKFLOW PREVENTERS ARE REQUIRED IN AREAS WHERE RECLAIMED OR OTHER WATER SUPPLY, I.E. WELL, IS PROVIDED TO THE SITE



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Certificate of Authorization No.: 3952

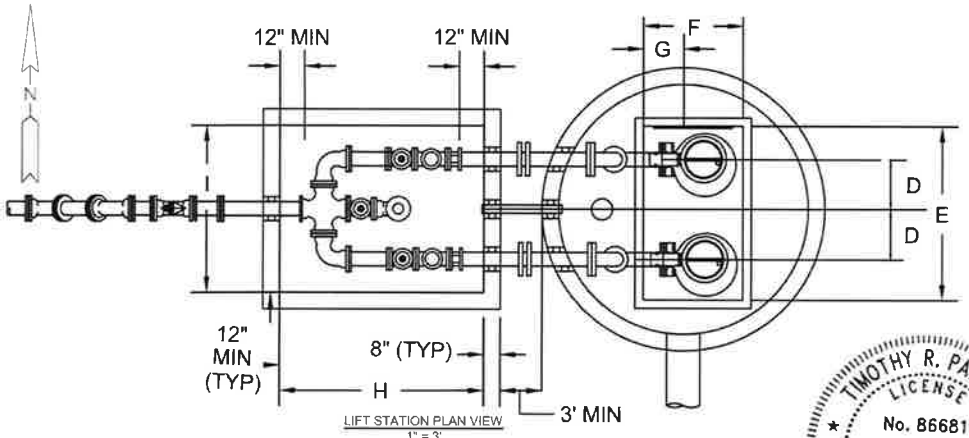
LIFT STATION 2
SITE PLAN AND NOTES

NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

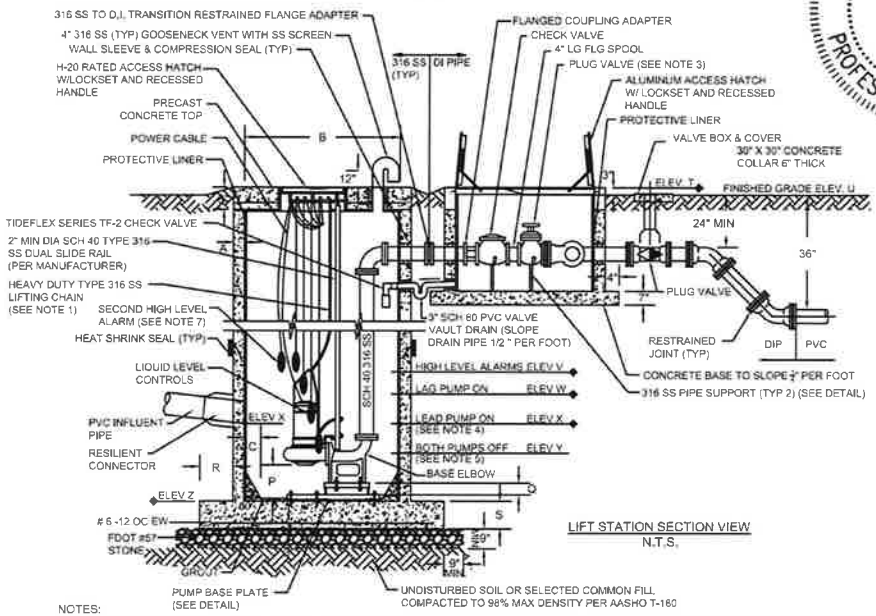
ENGINEER OF RECORD
ALEJANDRO RAUL SOLANILLA, P.E.
LICENSE NO. 87505

JOB NO. GUA 2071.02M

SHEET M-3



LIFT STATION PLAN VIEW
1" = 3'



LIFT STATION SECTION VIEW
N.T.S.

NOTES:
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2. WALL SLEEVE AND COMPRESSION SEALS SHALL BE COMPATIBLE WITH LINER.
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4. ELEVATION X - ELEVATION Z ≥ 4 FEET.
5. PUMP OFF ELEVATION TO BE PER MANUFACTURER'S MINIMUM SUBMERGENCE.
6. SEE NOTES FOR DESCRIPTIONS OF DIMENSION SYMBOLS.
7. INSTALLED TO PROVIDE DRY CONTACT FOR SCADA.
8. ALL FLANGES: PIPE, VALVES AND APPURTENANCES SHALL HAVE 316 S.S. HARDWARE.

PUMP REQUIREMENTS

SPEED: 1750 RPM MAX
DISCHARGE SIZE: 4 IN
VOLTAGE: 240 V
PHASE: 3
H.P.: 5
MAX. SOLID SIZE (3 IN MIN): 3 IN

SHUT OFF HEAD: 44 FEET TDH MAX
HIGH HEAD CONDITION: 100 GPM AT 37 FEET TDH MIN
MINIMUM HEAD CONDITION: 120 GPM AT 35 FEET TDH MIN

DESCRIPTION	SYMBOL	DIMENSION	ELEVATION
THICKNESS OF WALL	A	8" (MIN)	–
DIAMETER OF WET WELL	B	6' (MIN)	–
WIDTH OF BOTTOM FILLET	C	SEE NOTE 1	–
C/L OF WET WELL TO C/L OF PIPES	D	SEE NOTE 1	–
LENGTH OF PUMP ACCESS OPENING	E	SEE NOTE 1	–
WIDTH OF PUMP ACCESS OPENING	F	SEE NOTE 1	–
CENTER OF WET WELL TO EDGE OF HATCH	G	SEE NOTE 1	–
VALVE BOX HATCH OPENING	H	5' (MIN)	–
VALVE BOX HATCH OPENING	I	4' (MIN)	–
LIP WIDTH OF WETWELL BASE	R	18" (MIN)	–
THICKNESS OF WETWELL BASE	S	12" (MIN)	–
TOP OF WET WELL	T	–	10.00
FINISHED GRADE	U	–	10.00
HIGH LEVEL ALARMS	V	–	1.50
LAG PUMP ON	W	–	1.00
LEAD PUMP ON / INFLUENT PIPE INVERT	X	–	0.50
PUMPS OFF (TOP OF PUMP VOLUTE)	Y	–	-1.00
BOTTOM OF PUMP TO FLOOR OF WET WELL	P		–
STEP HEIGHT (IF REQUIRED)	Q		–
FLOOR OF WET WELL	Z	–	-3.00

NOTES:
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GENERAL NOTES:

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8. CHECK VALVE ARMS SHALL BE LOCATED WITH THE SAME ORIENTATION (i.e. ALL ARMS ON THE LEFT SIDE OF VALVE).

DATE	DESCRIPTION	BY
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LIFT STATION 2
PROFILE SHEET

NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD
ALEJANDRO RAUL SOLANILLA, P.E.
LICENSE NO. 87505

JOB NO. GUA 2071.02M
SHEET M-4

PROJECT MANAGER: TIMOTHY PALMER
PLOTTED BY: ALEJANDRO SOLANILLA (TAMPA) ON: 6/22/2021 3:48 PM BY: BURNS, ABIGAIL
FILE: G:\GUA\2071.02M\1 Engineering\Drawings\Lift Station Mechanicals\LS#2 - M-4 - LIFT STATION MECHANICALS (SHEET M-4).dwg

PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) "A" AND "B"

MESSAGE 1	MESSAGE 2
JULIA ST CLOSED AHEAD	USE LEWIS ST OR BURNEY RD

PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) "A" AND "B"

MESSAGE 1	MESSAGE 2
LEWIS ST CLOSED AHEAD	USE JULIA ST OR BURNEY RD

PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) "A" AND "B"

MESSAGE 1	MESSAGE 2
BURNEY RD CLOSED AHEAD	USE LEWIS ST OR JULIA ST

NOTES:

1. CONTRACTOR TO PROVIDE ACCESS TO DRIVEWAYS AND SIDE STREETS FOR RESIDENTS, MAIL DELIVERY, TRASH COLLECTION, AND EMERGENCY VEHICLES FOR THE DURATION OF CONSTRUCTION.
2. CONTRACTOR TO KEEP AT LEAST 2 OF THE 3 NEIGHBORHOOD ENTRANCES OPEN AT ALL TIMES.
3. THERE SHALL BE A MAXIMUM WORK ZONE OF 500 LF LAGGING BEHIND THE ACTIVE PIPE CONSTRUCTION TRENCH. OUTSIDE OF THE 500 LF ACTIVE WORK ZONE THE CONTRACTOR SHALL FULLY RESTORE THE RIGHT-OF-WAY.

LEGEND

- TEMPORARY WORK ZONE SIGN
- PORTABLE CHANGEABLE MESSAGE SIGN

DATE	DESCRIPTION	BY
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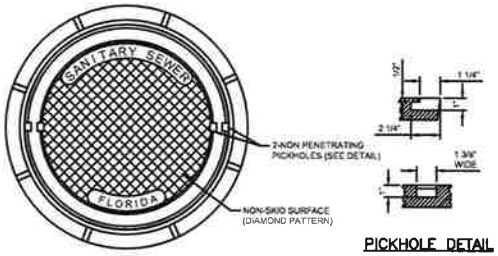
SUGGESTED MAINTENANCE OF TRAFFIC PLAN

NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

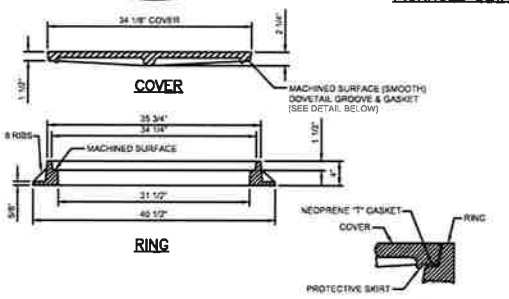
ENGINEER OF RECORD TIMOTHY PALMER, P.E. LICENSE NO. 88681

JOB NO. GUA 2071.02M

SHEET C-1



PICKHOLE DETAIL



COVER

RING

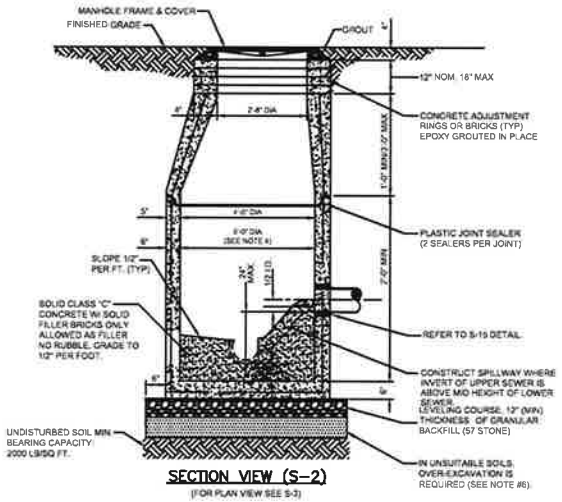
GROOVE & GASKET DETAIL

NOTES:

1. MATERIAL: ASTM A-48 CLASS 35B GRAY IRON.
2. RING WEIGHT 230 LBS APPROX.
3. COVER WEIGHT 230 LBS. APPROX.
4. ALL DIMENSIONS ARE SHOWN IN INCHES.
5. FOR MANHOLES WHICH WILL BE MAINTAINED BY NAU (INCLUDING UTILITY DEDICATION PROJECTS) THE COVER SHALL A NEOPRENE GASKET.
6. FOR MANHOLES WHICH WILL BE MAINTAINED BY PARTIES OTHER THAN NAU (SUCH AS PRIVATE SEWER COLLECTION SYSTEMS, PRIVATE (FORCE MAIN) PUMP OUT BOX AND SYSTEMS NOT MAINTAINED BY NAU), THE COVER SHALL INCLUDE "SANITARY SEWER" GENERIC LETTERING (NO "NAU" LOGO OR NEOPRENE GASKET).

SANITARY SEWER MANHOLE FRAME AND COVER

JANUARY 2021 PLATE S-1



SECTION VIEW (S-2)

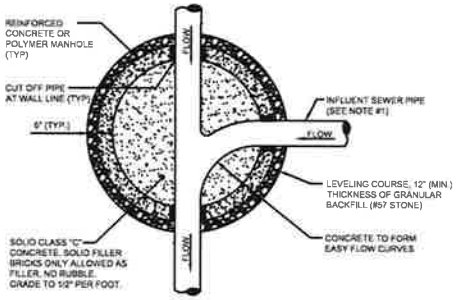
(FOR PLAN VIEW SEE S-3)

NOTES

1. PRECAST MANHOLE SECTIONS TO BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITIONS OF A.S.T.M. C-478 WITH 4000 LB. CONC., TYPE II CEMENT. ALL LIFTING HOLES AND OUTSIDE INSERTS SHALL BE FILLED WITH NON-SHRINK GROUT AND COATED WITH BITUMINOUS WATERPROOFING MATERIAL.
2. THE INTERIOR AND EXTERIOR OF MANHOLE AND ADJUSTING RINGS SHALL BE GIVEN TWO COATS OF BITUMINOUS WATERPROOFING MATERIAL.
3. IF SPECIALTY LINER IS TO BE INSTALLED ON INSIDE SURFACE OF MANHOLE THE BITUMINOUS WATERPROOFING MATERIAL SHALL BE OMITTED ON THE INSIDE.
4. JUNCTION MANHOLE (CLOSEST TO WETWELL) SHALL BE 8' DIA WITH SPECIALTY LINER.
5. ALL MANHOLE JOINTS BELOW THE TOP COVER SECTION SHALL INCLUDE A 6" WIDE (MIN) EXTERIOR JOINT TAPE (WITH PRIMER). TAPE ON THE CONE SECTION IS OPTIONAL. SEE PLATE S-17.
6. IN SILTS, CLAY OR HIGHLY ORGANIC SOILS (FINE-GRAINED SOILS INCLUDING SOIL GROUPS ML, CL, OL, MH, CH, OH AND PT) THE SOILS SHALL BE OVER-EXCAVATED AN ADDITIONAL 24" (AT A MIN.) AND BACKFILLED WITH AASHTO CLASS A-3 SOIL (COMPACTED TO 98%, ASTM D1557) OR OVER-EXCAVATE AN ADDITIONAL 12" (AT A MIN.) AND BACKFILL WITH GRANULAR BACKFILL (57 STONE).

SANITARY SEWER CONCRETE TYPE "A" MANHOLE 8"-21" SEWERS

JANUARY 2021 PLATES S-2, S-3



PLAN VIEW (S-3)

(FOR SECTION VIEW SEE S-2, S-2A)

NOTES

1. THE ANGLE BETWEEN ALL INFLUENT FLOW CHANNELS AND EFFLUENT PIPE SHALL BE BETWEEN 90° - 180° UNLESS OTHERWISE APPROVED BY NAU.

SANITARY SEWER TYPE "A" MANHOLE BENCH

JANUARY 2021 PLATE S-3

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

WADE TRIM
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Certificate of Authorization No.: 3952

STANDARD DETAILS – SANITARY

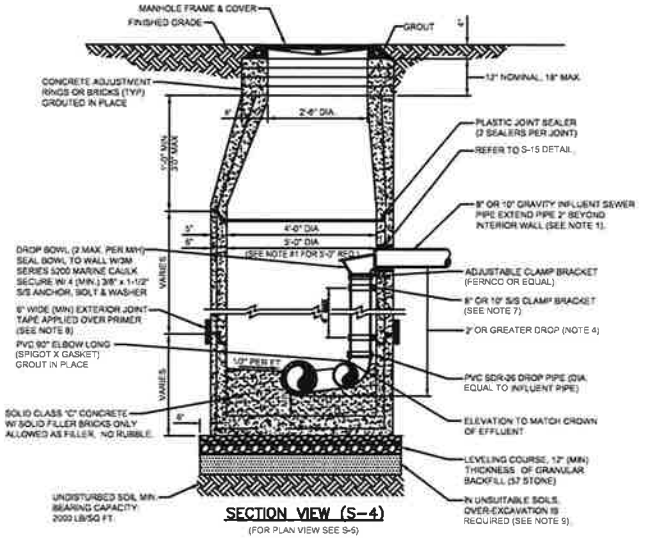
NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO. GUA 2071.02M

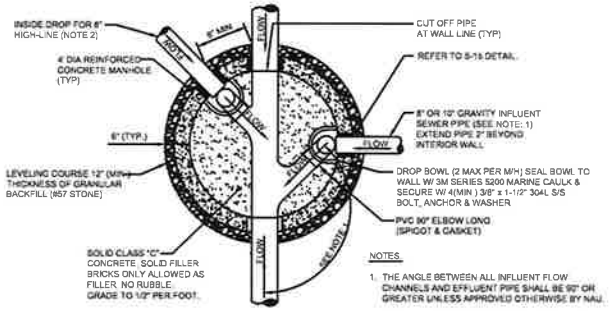
SHEET D-1

PROJECT MANAGER: TIMOTHY PALMER
C:\PW_WORK\tpalmer_ARJ\d0151181\P\XLTS - GENERAL DETAILS.DWG - S-1 - PLOTTED: 6/22/2021 3:48 PM BY: BURKE, ABIGAIL
FIELD BOOK INFORMATION, AMERICAN BEACH SANITARY SEWER IMPROVEMENTS



SECTION VIEW (S-4)

(FOR PLAN VIEW SEE S-5)

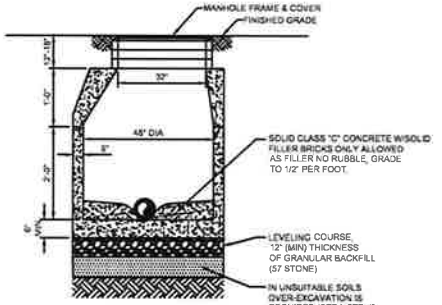


PLAN VIEW (S-5)

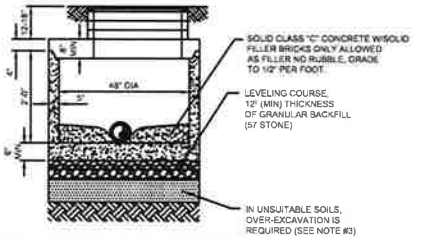
(FOR SECTION VIEW SEE S-4)

NOTES:

1. THE ANGLE BETWEEN ALL INFLUENT FLOW CHANNELS AND EFFLUENT PIPE SHALL BE 90° OR GREATER UNLESS APPROVED OTHERWISE BY NAU.
2. THE 8" HIGH-LINE, WHERE UTILIZED, SHALL ENTER THE MANHOLE OFF-CENTER AS SHOWN ABOVE.



TYPE - "C" MANHOLE



TYPE - "C" MANHOLE WITH FLAT TOP

SECTION VIEWS

NOTES:

1. PRECAST MANHOLE SECTIONS TO BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITIONS OF A.S.T.M. C-478WITH 4000 LB. CONC., TYPE II CEMENT. ALL LIFTING HOLES AND OUTSIDE INSERTS SHALL BE FILLED WITH NON-SHRINK GROUT AND COATED WITH BITUMINOUS WATERPROOFING MATERIAL.
2. THE INTERIOR AND EXTERIOR OF MANHOLE AND INTERIOR OF ADJUSTMENT RINGS SHALL BE GIVEN TWO COAT OF BITUMINOUS WATERPROOFING MATERIAL.
3. IN SILTS, CLAY OR HIGHLY ORGANIC SOILS (FINE-GRAINED SOILS INCLUDING SOIL GROUPS ML, CL, OL, MH, CH, OH AND PT) THE SOILS SHALL BE OVER-EXCAVATED AN ADDITIONAL 24" (AT A MIN.) AND BACKFILLED WITH AASHTO CLASS A-3 SOIL (COMPACTED TO 98%, ASTM D1557) OR OVER-EXCAVATE AN ADDITIONAL 12" (AT A MIN.) AND BACKFILL WITH GRANULAR BACKFILL (57 STONE)

NOTES:

1. THIS ASSEMBLY IS FOR 8" OR 10" GRAVITY INFLUENT LINES ONLY. NEW CONSTRUCTION ONLY NO FORCE MAINS LARGER THAN 6". MAXIMUM OF 2 INSIDE DROP BOWLS PER MANHOLE. A S-2 (DIA. MANHOLE (8" THICK WALLS) IS REQUIRED IF TWO INSIDE DROPS ARE CONSTRUCTED WITH ONE OR BOTH BEING 10" SIZE. DROP BOWL BY RELINER OR APPROVED EQUAL REQUIRED. THE INSIDE DROP FOR AN 8" HIGH-LINE SHALL BE CONSTRUCTED SIMILAR TO ABOVE (SEE PLATE S-5).
2. PRECAST MANHOLE SECTIONS TO BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITIONS OF A.S.T.M. C-478 WITH 4000 LB. CONC., TYPE II CEMENT. ALL LIFTING HOLES AND OUTSIDE INSERTS SHALL BE FILLED WITH NON-SHRINK GROUT AND COATED WITH BITUMINOUS WATERPROOFING MATERIAL.
3. THE INTERIOR AND EXTERIOR OF MANHOLE AND THE INTERIOR OF ADJUSTMENT RINGS SHALL BE GIVEN TWO COATS OF BITUMINOUS WATERPROOFING MATERIAL.
4. TYPE "B" MANHOLE MUST BE USED FOR 2' OR GREATER INFLUENT PIPE DROPS.
5. THE DROP BOWL ASSEMBLY SHALL BE INSTALLED PRIOR TO APPLICATION OF SPECIALTY LINING MATERIAL.
6. A TYPE "D" MANHOLE SHALL BE UTILIZED WHEN THREE OR MORE (2' OR GREATER) DROPS ARE INVOLVED OR WHEN INFLUENT PIPES AREA LARGER THAN 10" IN SIZE.
7. ADJUSTABLE CLAMPING BRACKET (MIN. 2 PER DROP BOWL ASSY). 1-1/2" WIDE, 11 GA. W/ 3/8" DIA. 18-8 PINCH BOLTS AND NUTS. SECURE TO WH WALL WITH (2) 3/8" X 1" BOLT ,ANCHOR & WASHER PER BRACKET ASSY. ALL 304 OR 316 STAINLESS STEEL MATERIALS.
8. ALL MH JOINTS BELOW THE TOP CONE SECTION SHALL INCLUDE A 6" WIDE (MIN) EXTERIOR JOINT TAPE (W/PRIMER). TAPE ON THE CONE SECTION IS OPTIONAL
9. IN SILTS, CLAY OR HIGHLY ORGANIC SOILS (FINE-GRAINED SOILS INCLUDING SOIL GROUPS ML, CL, OL, MH, CH, OH AND PT) THE SOILS SHALL BE OVER-EXCAVATED AN ADDITIONAL 24" (AT A MIN.) AND BACKFILLED WITH AASHTO CLASS A-3 SOIL (COMPACTED TO 98%, ASTM D1557) OR OVER-EXCAVATE AN ADDITIONAL 12" (AT A MIN.) AND BACKFILL WITH GRANULAR BACKFILL (57 STONE)

SANITARY SEWER CONCRETE TYPE "B" MANHOLE 8"-10" SEWERS

JANUARY 2021 — PLATES S-4, S-5

SANITARY SEWER TYPE "B" MANHOLE BENCH

JANUARY 2021 — PLATE S-5

SANITARY SEWER CONCRETE TYPE "C" MANHOLE 8"-21" SEWERS

JANUARY 2021 — PLATE S-6

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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Certificate of Authorization No.: 3952

STANDARD DETAILS – SANITARY

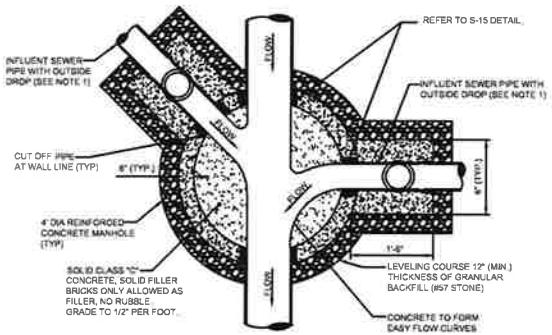
NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD: TIMOTHY PALMER, P.E. LICENSE NO. 66881

JOB NO. GUA 2071.02M

SHEET D-2

PROJECT MANAGER: TIMOTHY PALMER
C:\Wade_Trim\Projects\GUA\2071132\2\PLOTS -GENERAL- DETAILS.DWG - D-2 - PLOTTED 6/22/2021 3:43 PM BY BURKE, ABIGAIL
FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS



PLAN VIEW (S-8)

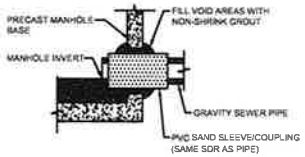
(FOR SECTION VIEW SEE S-7)

NOTES:

1. THE ANGLE BETWEEN ALL INFLUENT FLOW CHANNELS AND EFFLUENT PIPE SHALL BE 90° OR GREATER UNLESS APPROVED OTHERWISE BY NAU.
2. THE INTERIOR AND EXTERIOR OF THE MANHOLE AND THE INTERIOR OF THE ADJUSTMENT RINGS SHALL BE GIVEN 2 COATS OF BITUMINOUS WATERPROOFING MATERIAL.
3. IF SPECIALITY LINER IS TO BE INSTALLED ON INSIDE OF MANHOLE, THE BITUMINOUS WATERPROOFING MATERIAL SHALL BE OMITTED ON THE INSIDE.
4. TYPE "D" MANHOLES SHALL BE USED FOR 12" OR LARGER INFLUENT PIPES W/ 2' OR GREATER INFLUENT DROP.

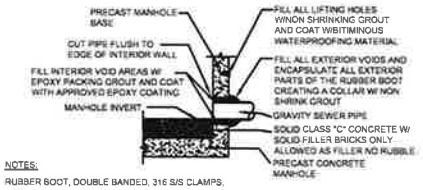
SANITARY SEWER TYPE "C" MANHOLE BENCH

JANUARY 2021 PLATE S-8



PVC SAND SLEEVE

(FOR EXISTING AND NEW M/H CONSTRUCTION)

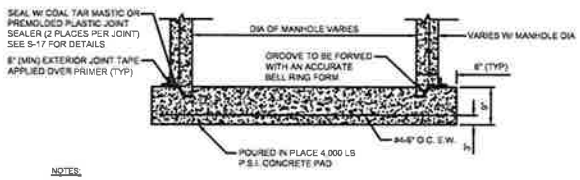


NOTES:

RUBBER BOOT, DOUBLE BANDED, 316 S/S CLAMPS, MEETING THE ASTM C923 STANDARD. Kor-N-Seal® I.S. SLEEVE CONNECTOR WITH DOUBLE STAINLESS STEEL BANDS OR EQUAL.

RUBBER BOOT

(FOR NEW M/H CONSTRUCTION ONLY, MAXIMUM DEPTH 15FT)



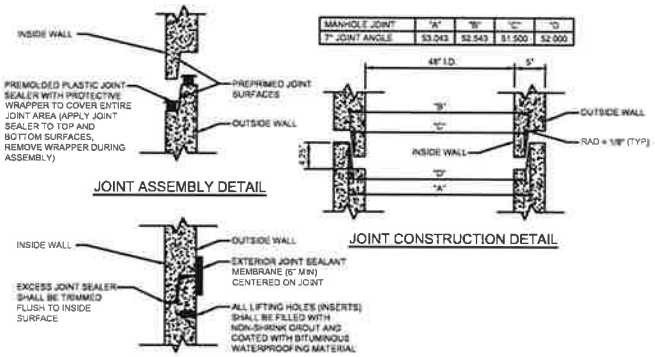
NOTES:

THE USE OF THE POURED IN PLACE MANHOLE BOTTOM SHALL BE MINIMIZED AND SHALL BE SPECIFICALLY APPROVED BY NAU PRIOR TO CONSTRUCTION.

MANHOLE BOTTOM

CONCRETE MANHOLE PIPE CONNECTION DETAIL

JANUARY 2021 PLATE S-15



PRECAST CONCRETE SEWER MANHOLE JOINT DETAIL

JANUARY 2021 PLATE S-17

FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS D-3 - PLOTTED 6/30/2021 1:42 PM BY BURKS, ABIGAIL

PROJECT MANAGER: TIMOTHY PALMER
C:\VM_WORKSPACE\TRIM JOBS\GUA\211287(VLTS-GENERAL-DETAILS).DWG

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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Certificate of Authorization No.: 3952

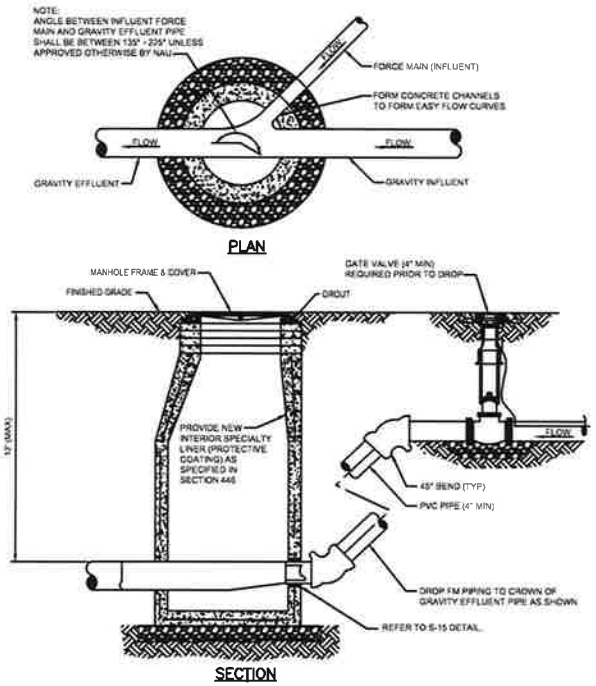
STANDARD DETAILS – SANITARY

NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD TIMOTHY PALMER, P.E. LICENSE NO. 86851

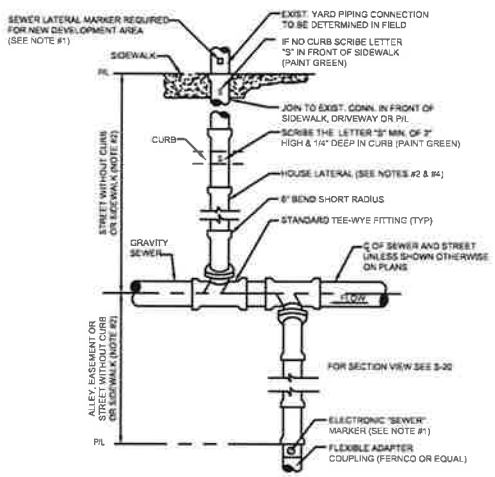
JOB NO. GUA 207102M

SHEET D-3



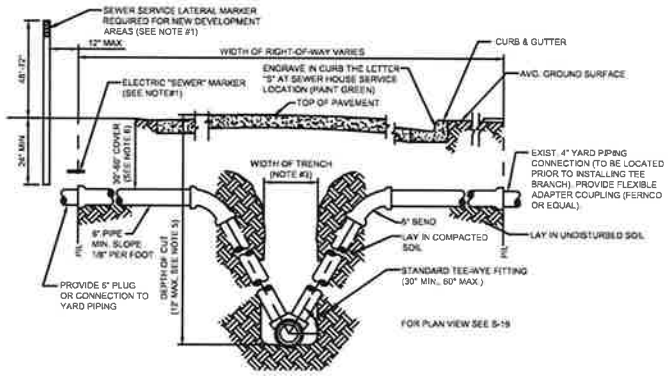
TYPICAL FORCE MAIN CONNECTION TO MANHOLE

JANUARY 2021 PLATE S-18



HOUSE LATERAL - PLAN VIEW

JANUARY 2021 PLATE S-19



HOUSE LATERAL - SECTION VIEW

JANUARY 2021 PLATE S-20

NOTES:

1. TO MARK THE LOCATION OF THE 6" PLUG FOR NEW SERVICE: FOR PROJECTS WHERE NO CONCRETE CURB EXIST, AN ELECTRONIC "SEWER" MARKER IS REQUIRED FOR ALL LATERALS WHICH ARE BEING INSTALL FOR FUTURE USE AT A MAX DEPTH OF 3' AT FINISH GRADE. FOR NEW DEVELOPMENT AREAS WHERE THE SEWER LATERAL IS "NOT IN USE", A LANDSCAPE TIMBER OR 3x3 MIN. P.T. POST (TOP PAINTED GREEN) SHALL BE INSTALLED. WHERE REQUIRED BY NAU OR NO CONCRETE CURB EXIST, AN ELECTRONIC "SEWER" MARKER SHALL BE INSTALLED TO MARKER SHALL ALSO BE INSTALLED.
2. THE MINIMUM SIZE OF ALL HOUSE LATERALS SHALL BE 6 INCHES. THE MAXIMUM LENGTH OF A HOUSE LATERAL SHALL BE 60 FEET (LENGTH BETWEEN SEWER MAIN OR MANHOLE TO CUSTOMERS PROPERTY LINE).
3. NO SEWER SERVICE CONNECTIONS PERMITTED ON GRAVITY SEWER PIPE WHICH ARE 18" AND LARGER.
4. ALL GRAVITY SEWER MAINS AND ASSOCIATED SEWER LATERAL PIPE AND FITTINGS (INCLUDING THE TEE-WYE FITTING) SHALL BE PVC SDR-26

NOTES:

1. TO MARK THE LOCATION OF THE 6" PLUG FOR NEW SERVICE: FOR PROJECTS WHERE NO CONCRETE CURB EXIST, AN ELECTRONIC "SEWER" MARKER IS REQUIRED FOR ALL LATERALS WHICH ARE BEING INSTALL FOR FUTURE USE AT A MAX DEPTH OF 3' AT FINISH GRADE. FOR NEW DEVELOPMENT AREAS WHERE THE SEWER LATERAL IS "NOT IN USE", A LANDSCAPE TIMBER OR 3x3 MIN. P.T. POST (TOP PAINTED GREEN) SHALL BE INSTALLED. WHERE REQUIRED BY NAU OR NO CONCRETE CURB EXIST, AN ELECTRONIC "SEWER" MARKER SHALL BE INSTALLED TO MARKER SHALL ALSO BE INSTALLED.
2. THE MINIMUM SIZE OF ALL HOUSE LATERALS SHALL BE 6 INCHES. THE MAXIMUM LENGTH OF A HOUSE LATERAL SHALL BE 60 FEET (LENGTH BETWEEN SEWER MAIN OR MANHOLE TO CUSTOMERS PROPERTY LINE).
3. SEE MEASUREMENT AND PAYMENT SECTION FOR MAXIMUM PAYMENT WIDTHS.
4. ALL GRAVITY SEWER MAINS AND ASSOCIATED SEWER LATERAL PIPE AND FITTINGS (INCLUDING THE TEE-WYE FITTINGS) SHALL BE PVC SDR-26
5. UNLESS APPROVED OTHERWISE BY A NAU O&M MANAGER, NO GRAVITY SEWER MAIN WITH SEWER SERVICE LATERALS SHALL BE CONSTRUCTED WITH A "DEPTH OF CUT" GREATER THAN 12 FEET.
6. SEWER SERVICE LATERALS ASSOCIATED WITH GRAVITY SEWER MAINS WHICH ARE DEEPER THAN 12 FEET, MUST BE ROUTED TO A GRAVITY SEWER HIGH-LINE, A MANHOLE OR OTHER NAU APPROVED METHOD
7. THE SEWER SERVICE LATERAL SHALL BE CONSTRUCTED AT A DEPTH TO ALLOW A GRAVITY CONNECTION BY THE CUSTOMER. WHERE POSSIBLE (CONTINGENT UPON MEETING THE CUSTOMER'S ON-SITE CONDITIONS AND LOCAL CONSTRUCTION STANDARDS). A LATERAL REQUIRING MORE THAN 60" OF COVER MUST BE APPROVED, PRIOR TO CONSTRUCTION, BY NAU.

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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Certificate of Authorization No.: 3952

STANDARD DETAILS – SANITARY

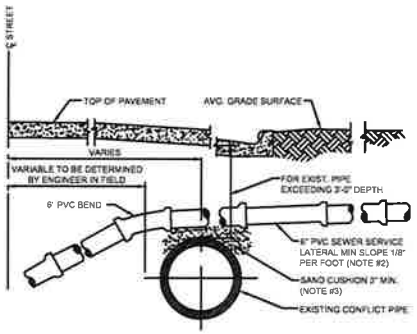
NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD TIMOTHY PALMER, P.E. LICENSE NO. 85681

JOB NO. GUA 2071.02M

SHEET D-4

PROJECT MANAGER: TIMOTHY PALMER
C:\Pw_WORK\TRIM_PALMER\d0113972\VLTS-GENERAL-STDDETAILS.DWG - D-4 - PLOTTED: 9/20/2021 3:40 PM BY: BURKE, ABIGAIL
FIELD BOOK INFORMATION, AMERICAN BEACH, SANITARY SEWER IMPROVEMENTS

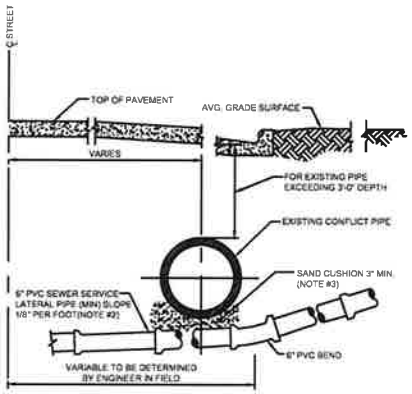


NOTES:

1. ALTERNATE GRADIENT FOR 6 INCH LATERAL SEWERS AT CONFLICTS WITH EXISTING UTILITIES.
2. FLATTER SLOPES MUST BE PRE-APPROVED BY NAU O&M MANAGER (ONLY) PRIOR TO CONSTRUCTION.
3. THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D 1557.

HOUSE LATERAL OVER CONFLICT PIPE

JANUARY 2021 PLATE S-23



NOTES:

1. ALTERNATE GRADIENT FOR 6 INCH LATERAL SEWERS AT CONFLICTS WITH EXISTING UTILITIES.
2. FLATTER SLOPE MUST BE PRE-APPROVED BY NAU O&M MANAGER (ONLY) PRIOR TO CONSTRUCTION
3. THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D 1557.

HOUSE LATERAL UNDER CONFLICT PIPE

JANUARY 2021 PLATE S-24

PROJECT MANAGER: TIMOTHY PALMER
FILE: J:\WADE TRIM JOBS\GUA\071.02M\CAD\PLOTS - CENTRAL - DETAILS.DWG - D-5 - PLOTTED: 6/29/2021 3:40 PM BY: BURNS, ABIGAIL
FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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Certificate of Authorization No.: 3952

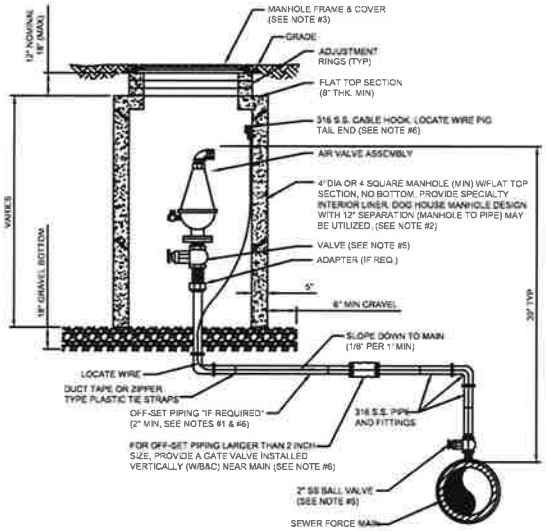
STANDARD DETAILS – SANITARY

NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO.
GUA 071.02M

SHEET
D-5

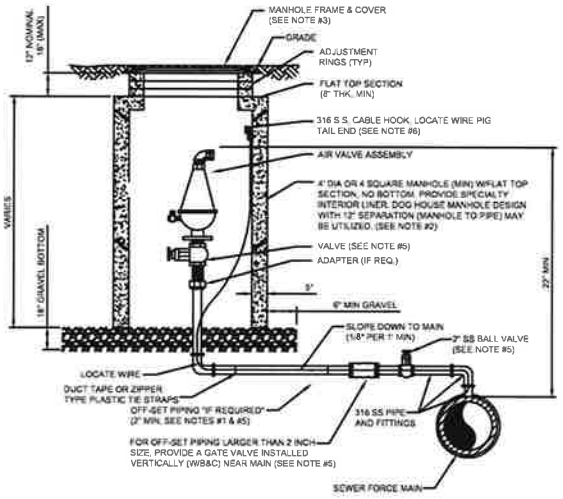


NOTES:

1. THE AIR ASSEMBLY MANHOLE SHALL BE LOCATED OUTSIDE OF THE ROADWAY PAVEMENT AREA (I.E. LOCATED IN NON-TRAFFIC AREAS). IF OFF-SET PIPING IS REQUIRED, THE PIPING SHALL BE 2 INCH MINIMUM, (SAME SIZE AS AIR VALVE INLET). FOR PIPE SIZES 3 INCH AND SMALLER, PIPING SHALL BE 316 STAINLESS STEEL SCH.40, STD GRADE, THREADED. FOR PIPE SIZES 4 INCH AND LARGER PIPING SHALL BE 316 STAINLESS STEEL SCH. 10 (MIN). WELDED OR PVC DR-18 PIPE AND FITTINGS-RESTRAINED.
2. THE CONCRETE MANHOLE SHALL INCLUDE A POLYURETHANE SPECIALTY LINER (PER SPEC SECTION 446) TO BE INSTALLED ON THE INTERIOR SURFACES INCLUDING THE RISER SECTION TOP AND THE ADJUSTMENT RINGS. A BITUMINOUS WATERPROOFING MATERIAL SHALL BE PROVIDED ON THE OUTSIDE SURFACES OF THE MANHOLE.
3. FRAME AND COVER SHALL BE NAU STANDARD. THE COVER SHALL HAVE NO GASKET TO ALLOW AIR TO EXIT VAULT (REMOVE GASKET IF NECESSARY FROM THE UNDER SIDE OF STANDARD NAU COVER). THE COVER (WHEN FLIPPED OPEN) MUST CLEAR THE AIR VALVE ASSEMBLY AT ALL TIMES OR A SQUARE TOP WITH ALUMINUM DOOR SHALL BE PROVIDED (NON-TRAFFIC LOCATIONS ONLY).
4. FOR PIPE SIZES 3 INCH AND SMALLER, PROVIDE A STAINLESS STEEL BALL VALVE (2" MIN). FOR PIPE SIZES 4 INCH AND LARGER, PROVIDE A FLANGE GATE VALVE (WHEEL OPERATOR) OR PLUG VALVE. (LEVER ARM OPERATOR) SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
5. FOR A 2" AIR VALVE, PROVIDE 2" STAINLESS STEEL BALL VALVE AT THE MAIN. FOR AIR VALVES LARGER THAN 2" SIZE, PROVIDE A TAPPING SLEEVE OR DUCTILE IRON TEE FITTING. ALSO, FOR OFF-SET PIPING LARGER THAN 2 INCH SIZE, PROVIDE A GATE VALVE (INSTALLED VERTICALLY NEAR MAIN). SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
6. LOCATE WIRE SHALL HAVE ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE.

AIR VALVE ASSEMBLY INSIDE MANHOLE

JANUARY 2021 PLATE S-29

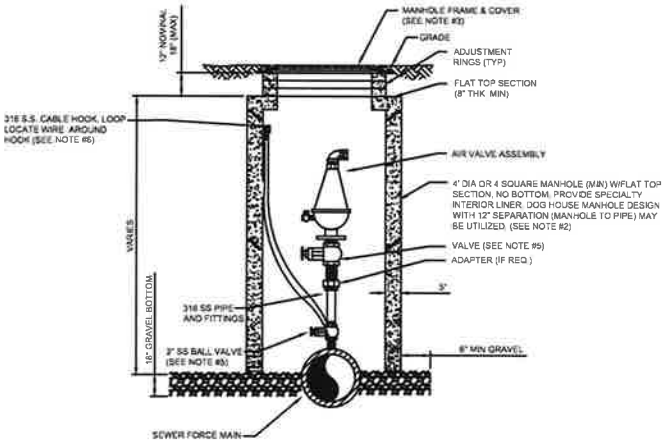


NOTES:

1. THE AIR ASSEMBLY MANHOLE SHALL BE LOCATED OUTSIDE OF THE ROADWAY PAVEMENT AREA (I.E. LOCATED IN NON-TRAFFIC AREAS). IF OFF-SET PIPING IS REQUIRED, THE PIPING SHALL BE 2 INCH MINIMUM, (SAME SIZE AS AIR VALVE INLET). FOR PIPE SIZES 3 INCH AND SMALLER PIPING SHALL BE 316 STAINLESS STEEL SCH.40, STD GRADE, THREADED. FOR PIPE SIZES 4 INCH AND LARGER PIPING SHALL BE 316 STAINLESS STEEL SCH. 10 (MIN). WELDED OR PVC DR-18 PIPE AND FITTINGS-RESTRAINED.
2. THE CONCRETE MANHOLE SHALL INCLUDE A POLYURETHANE SPECIALTY LINER (PER SPEC SECTION 446) TO BE INSTALLED ON THE INTERIOR SURFACES INCLUDING THE RISER SECTION TOP AND THE ADJUSTMENT RINGS. A BITUMINOUS WATERPROOFING MATERIAL SHALL BE PROVIDED ON THE OUTSIDE SURFACES OF THE MANHOLE.
3. FRAME AND COVER SHALL BE NAU STANDARD. THE COVER SHALL HAVE NO GASKET TO ALLOW AIR TO EXIT VAULT (REMOVE GASKET IF NECESSARY FROM THE UNDER SIDE OF STANDARD NAU COVER). THE COVER (WHEN FLIPPED OPEN) MUST CLEAR THE AIR VALVE ASSEMBLY AT ALL TIMES OR A SQUARE TOP WITH ALUMINUM DOOR SHALL BE PROVIDED (NON-TRAFFIC LOCATIONS ONLY).
4. FOR PIPE SIZES 3 INCH AND SMALLER, PROVIDE A STAINLESS STEEL BALL VALVE (2" MIN). FOR PIPE SIZES 4 INCH AND LARGER, PROVIDE A FLANGE GATE VALVE (WHEEL OPERATOR) OR PLUG VALVE. (LEVER ARM OPERATOR) SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
5. FOR A 2" AIR VALVE, PROVIDE 2" STAINLESS STEEL BALL VALVE AT THE MAIN. FOR AIR VALVES LARGER THAN 2" SIZE, PROVIDE A TAPPING SLEEVE OR DUCTILE IRON TEE FITTING. ALSO, FOR OFF-SET PIPING LARGER THAN 2 INCH SIZE, PROVIDE A GATE VALVE (INSTALLED VERTICALLY NEAR MAIN). SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
6. LOCATE WIRE SHALL HAVE ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE.

OPTIONAL LOW PROFILE AIR VALVE ASSEMBLY INSIDE MANHOLE

JANUARY 2021 PLATE S-29A



NOTES:

1. THE AIR ASSEMBLY MANHOLE SHALL BE LOCATED OUTSIDE OF THE ROADWAY PAVEMENT AREA (I.E. LOCATED IN NON-TRAFFIC AREAS).
2. THE CONCRETE MANHOLE SHALL INCLUDE A POLYURETHANE SPECIALTY LINER (PER SPEC SECTION 446) TO BE INSTALLED ON THE INTERIOR SURFACES INCLUDING THE RISER SECTION TOP AND THE ADJUSTMENT RINGS. A BITUMINOUS WATERPROOFING MATERIAL SHALL BE PROVIDED ON THE OUTSIDE SURFACES OF THE MANHOLE.
3. FRAME AND COVER SHALL BE NAU STANDARD. THE COVER SHALL HAVE NO GASKET TO ALLOW AIR TO EXIT VAULT (REMOVE GASKET IF NECESSARY FROM THE UNDER SIDE OF STANDARD NAU COVER). THE COVER (WHEN FLIPPED OPEN) MUST CLEAR THE AIR VALVE ASSEMBLY AT ALL TIMES OR A SQUARE TOP WITH ALUMINUM DOOR SHALL BE PROVIDED (NON-TRAFFIC LOCATIONS ONLY).
4. FOR PIPE SIZES 3 INCH AND SMALLER, PROVIDE A STAINLESS STEEL BALL VALVE (2" MIN). FOR PIPE SIZES 4 INCH AND LARGER, PROVIDE A FLANGE GATE VALVE (WHEEL OPERATOR) OR PLUG VALVE. (LEVER ARM OPERATOR) SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
5. FOR A 2" AIR VALVE, PROVIDE 2" STAINLESS STEEL BALL VALVE AT THE MAIN. FOR AIR VALVES LARGER THAN 2" SIZE, PROVIDE A TAPPING SLEEVE OR DUCTILE IRON TEE FITTING. ALSO, FOR OFF-SET PIPING LARGER THAN 2 INCH SIZE, PROVIDE A GATE VALVE (INSTALLED VERTICALLY NEAR MAIN). SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
6. LOCATE WIRE SHALL HAVE ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE.

AIR VALVE ASSEMBLY INSIDE MANHOLE IN ROW

JANUARY 2021 PLATE S-29B

FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS
D-6 - PLOTTED 5/20/2021 3:42 PM BY BURNS, ABIGAIL
PROJECT MANAGER: TIMOTHY PALMER
C:\Projects\Nassau County\American Beach\Design\Civil\Plots\Standard Details - Sanitary.dwg

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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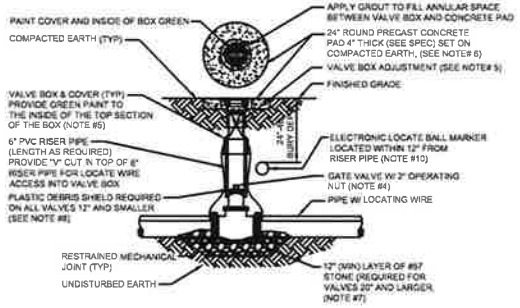
STANDARD DETAILS – SANITARY

NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO. GUA 2071.02M

SHEET D-6

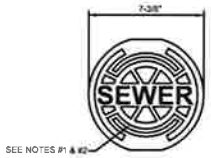


NOTES:

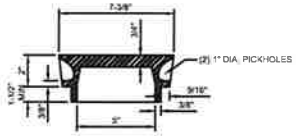
1. FOR UNPAVED LOCATIONS, A PRECAST CONCRETE VALVE PAD SHALL BE PROVIDED AND INSTALLED FLUSH WITH GRADE. CONCRETE PAD IS NOT REQUIRED FOR VALVE LOCATED IN THE ROADWAY, UNLESS SHOWN OR NOTED OTHERWISE.
2. LOCATING WIRE IS REQUIRED ON ALL PRESSURE PIPING (SEE DETAIL S-48)
3. A "V" CUT SHALL BE CARVED IN THE CURB CLOSEST/(ASPHALT IF NO CURB) ADJACENT TO ALL BELOW GRADE VALVES. THE "V" CUT IS TO BE PAINTED GREEN.
4. IN PAVED AREAS, INSTALL VALVE AT A DEPTH TO ALLOW A 12" MIN. DISTANCE BETWEEN THE VALVE COVER PLATE AND THE TOP OF THE VALVE OPERATING NUT. OUTSIDE OF PAVED AREAS (GRASS), INSTALL VALVE AT A DEPTH TO ALLOW A 6" MINIMUM DISTANCE BETWEEN THE VALVE COVER AND THE TOP OF THE VALVE OPERATING NUT. OPERATING NUT/STEM EXTENSION SHALL BE PROVIDED (WHERE APPLICABLE) SO THAT THE OPERATING NUT WILL BE NO MORE THAN 36 INCHES BELOW FINISHED GRADE.
5. FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MOR/RANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS. ROUTE LOCATE WIRES THRU A "V" CUT IN THE TOP OF THE 6" PVC RISER PIPE FOR LOCATE WIRE ACCESS INTO VALVE BOX. THE LOCATE WIRES WITH A 24" LONG PIG-TAIL AT THE TOP SHALL BE CONNECTED TOGETHER WITH A WIRE NUT.
6. BRASS IDENTIFICATION TAG INDICATING "SEWER", VALVE SIZE, DIRECTION AND TURNS TO OPEN & VALVE TYPE. PROVIDE A ⅛" HOLE IN BRASS TAG AND ATTACH TAG (TWIST WIRE AROUND TAG) TO THE END OF THE LOCATE WIRE. TAGS ARE NOT REQUIRED ON VALVES INSTALLED ON FIRE HYDRANT BRANCH LINES.
7. IN LIEU OF PRECAST CONCRETE PAD, A 6" THICK X 24" (ROUND OR SQUARE) POURED CONCRETE PAD W/2 - #4 REBAR AROUND PERIMETER, MAY BE USED.
8. GRAVEL SHALL BE PROVIDED UNDER ALL VALVES 20" AND LARGER. THE MINIMUM VERTICAL LIMIT OF GRAVEL IS 12" UNDER THE VALVE UP TO ⅛ THE OVERALL HEIGHT OF THE VALVE.
9. FOR VALVES 12 INCH AND SMALLER, PROVIDE A WHITE OR BLACK PLASTIC DEBRIS SHIELD WHICH INSTALLS BELOW THE OPERATING NUT. THIS SHIELD SHALL CENTER THE RISER PIPE BOX OVER THE OPERATING NUT AND MINIMIZE INFILTRATION. SHIELD SHALL BE BY AFC, BOXLOK OR APPROVED EQUAL.
10. ALL VALVES SHALL BE INSTALLED WITH AN ELECTRIC LOCATE MARKER. MARKER SHALL BE 4" DIA. COLOR CODED BALL MARKER (3M-1404XR FOR SEWER).

SEWER VALVE DETAIL

JANUARY 2021 PLATE S-30



HEAVY DUTY RATING



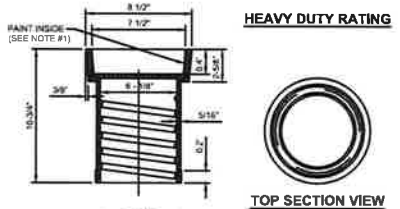
NOTES:

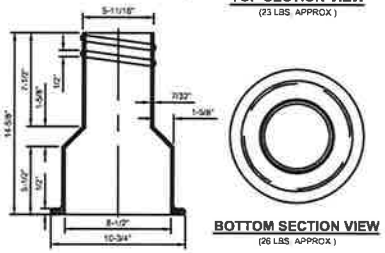
1. PAINT TOP OF THE COVER WITH ENAMEL PAINT (GREEN COLOR).
2. LID WEIGHT: APPROX. 12 LBS.

SEWER SYSTEM VALVE BOX COVER

JANUARY 2021 PLATE S-31

HEAVY DUTY RATING





NOTES:

1. PAINT THE INSIDE OF THE TOP SECTION OF THE BOX WITH GREEN COLOR.
2. HEAVY DUTY RATING (TOTAL WEIGHT APPROX. 53 LBS.).
3. REFERENCE SECTION 430, PARAGRAPH VI.2.

SEWER SYSTEM VALVE BOX

JANUARY 2021 PLATE S-32

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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STANDARD DETAILS – SANITARY

NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 80681

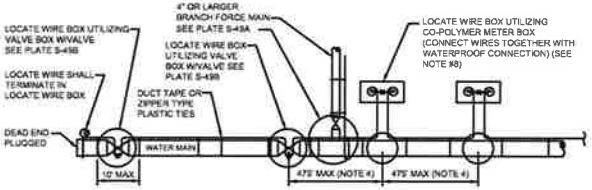
JOB NO. GUA 2071.02M

SHEET D-7

PROJECT MANAGER: TIMOTHY PALMER
LEVEL_WORK FILE: J:\PROJECTS\2071\02M\PLTS-GENERAL_DETAILS.DWG
FIELD BOOK INFORMATION: AMEWOMI BEACH SANITARY SEWER IMPROVEMENTS - D-7 - PLOTTED: 6/29/2021 3:48 PM BY BURNS, ABIGAIL

PVC PIPE RESTRAINT JOINT SCHEDULE

| LENGTHS TO BE RESTRAINED | | |



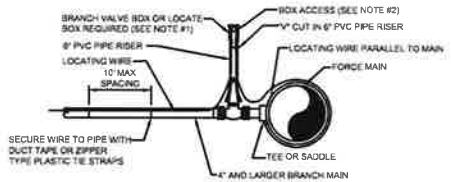
LOCATE WIRE SYSTEM

NOTES:

1. LOCATING WIRE TO BE INSTALLED IN EITHER THE ONE OR ELEVEN O'CLOCK POSITION ON ALL DUCTILE IRON OR PVC (PRESSURE MAINS). LOCATE WIRE SHALL ALSO BE INSTALLED ON ALL (HDPE) POLY MAIN PIPING (1:00 OR 11:00 POSITION, IF POSSIBLE).
2. SECURE LOCATING WIRE TO PVC FORCE MAIN BY USE OF DUCT TAPE OR ZIPPER TYPE PLASTIC TIE STRAPS SPACED AT A MAXIMUM DISTANCE OF TEN (10') AND AT EACH SIDE OF BELL JOINT OR FITTING.
3. THE ENTIRE LOCATING SYSTEM SHALL BE SUBJECTED TO TESTING TO DETERMINE ITS RELIABILITY. WHERE INSTALLED UNDER PAVEMENT AREAS, TESTING SHALL BE DONE PRIOR TO THE PLACEMENT OF PAVEMENT, UNLESS APPROVED OTHERWISE BY JEA.
4. LOCATING WIRE SHALL TERMINATE WITHIN AN ACTIVE VALVE BOX (WITH A VALVE) OR A METER BOX (IF NO VALVE) AT 475' INTERVALS. SEE DETAIL PLATE S-49B. WIRE CONNECTIONS BELOW GROUND (OUTSIDE OF A BOX) SHALL BE AVOIDED.
5. LOCATING WIRE SHALL BE 12 GAUGE COPPER WIRE WITH .03 INCHES (MINIMUM) HDPE INSULATION THICKNESS, 0.141 INCHES (MINIMUM) O.D. RATED BREAK LOAD 250LBS., UF RATED (DIRECT BURIAL), GREEN COLOR. FOR HDD INSTALLATIONS, THE LOCATE WIRE SHALL BE COPPER CODED STEEL AS SPECIFIED IN SPEC. SECTION 750.
6. "X" INDICATES THAT THE WIRES ARE CONNECTED TOGETHER WITH WATERPROOF CONNECTION. (SEE DETAIL W-49B)
7. "O" INDICATES A WIRE PIG-TAIL (24" LONG)
8. AN "LW" CUT SHALL BE CARVED IN THE CONCRETE CURB AND PAINTED AT ALL LOCATE WIRE BOXES.
9. FOUR LANES OF TRAFFIC (HAVING TWO LANES OF TRAFFIC IN EACH DIRECTION) OR GREATER THE LOCATE WIRE AND VALVE BOX SHALL BE OFF-SET TO THE RIGHT-OF-WAY.

LOCATE WIRE CONSTRUCTION FOR FORCE MAINS

JANUARY 2021 PLATE S-49



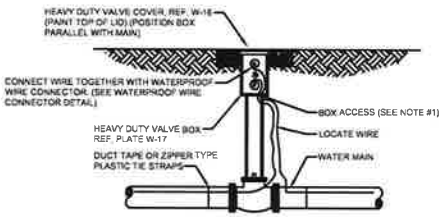
BRANCH FORCE MAIN
(4" AND LARGER SEWER MAIN)

NOTE

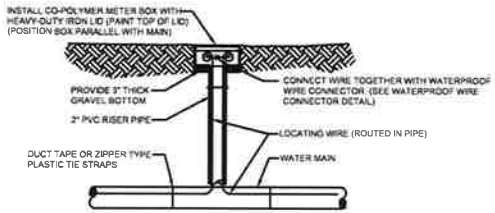
1. NOTE THAT THE BRANCH WIRE IS NOT CONNECTED TO THE MAIN WIRE.
2. LOCATE WIRE SHALL ENTER THE VALVE BOX THROUGH A "V" CUT IN THE 8" PVC RISER PIPE SECTION (SEE S-32).
3. LOCATE WIRE BOX SHALL BE INSTALLED OUTSIDE OF SIDEWALKS, DRIVEWAYS AND PAVEMENT.
4. "O" INDICATES A WIRE PIG-TAIL (4' LONG)

LOCATE WIRE FOR BRANCH MAIN

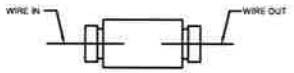
JANUARY 2021 PLATE S-49A



LOCATE WIRE BOX UTILIZING VALVE BOX



LOCATE WIRE BOX UTILIZING METER BOX



WATERPROOF WIRE CONNECTOR DETAIL

NOTES

1. LOCATE WIRE SHALL ENTER THE VALVE BOX THROUGH A "V" CUT IN THE 8" PVC RISER PIPE (SEE W-16).
2. LOCATE WIRE SHALL HAVE ENOUGH SLACK TO REACH 4" ABOVE FINAL GRADE AND LOCATE POINTS.
3. LOCATE WIRE CONNECTION SHALL ONLY BE A 2 WAY CONNECTION.

LOCATE WIRE BOX

JANUARY 2021 PLATE S-49B

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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STANDARD DETAILS – SANITARY

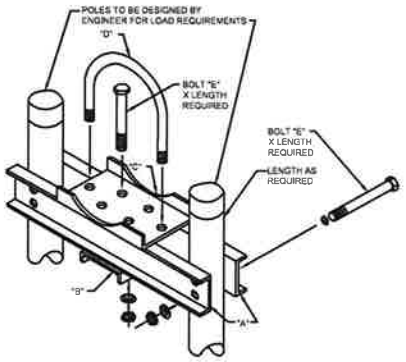
NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD: TIMOTHY PALMER, P.E. LICENSE NO. 85681

JOB NO. GUA 2071.02M

SHEET D-9

PROJECT MANAGER: TIMOTHY PALMER
C:\VM_WORK\WADE TRIM JACKSONVILLE\2021\211387\PLOTS\GENERAL DETAILS.DWG – D-9 – PLOTTED 1/29/2021 3:48 PM BY BURNS, BRIAN
FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS



MATERIAL SCHEDULE

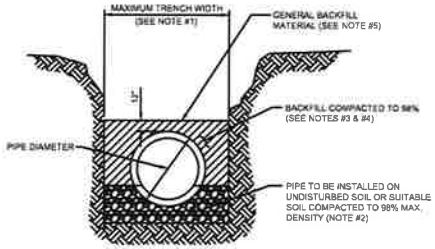
ITEM	PIPE 4"-14"		PIPE 16"-24"	
A	8"	11.5	12"	25.0
B	10"	15.3	12"	25.0
C	12"	25.0	12"	25.0
D	1/2" U-BOLT		1-1/8" U-BOLT	
E	3/4" U-BOLT		1-1/8" U-BOLT	

NOTES:

1. ALL PARTS AND FITTINGS TO BE HOT DIPPED GALVANIZED AFTER FABRICATION SEE PLATE S-37 FOR ADDITIONAL DETAILS.
2. AT A MINIMUM, ONE PIPE SUPPORT SHALL BE PROVIDED FOR EACH LENGTH OF (D.I.P.) PIPE UNLESS LONG-SPAN (D.I.P.) PIPE ASSEMBLIES ARE PROVIDED.

PIPE SUPPORT & POLE ASSEMBLY FOR FORCE MAIN

JANUARY 2021 PLATE S-36



TYPICAL TRENCH

NOTES:

1. TRENCH SIDES SHALL BE APPROXIMATELY VERTICAL BETWEEN AN ELEVATION OF 1 FOOT ABOVE THE TOP OF THE PIPE AND THE CENTER LINE OF THE PIPE, OTHERWISE, TRENCH SIDES SHALL BE AS VERTICAL AS POSSIBLE OR AS REQUIRED BY OSHA STANDARDS. REFER TO THE MEASUREMENT AND PAYMENT SECTION (SECTION #801, PARAGRAPH #4)) TO DETERMINE MAXIMUM PAYLINE WIDTHS.
2. BELL HOLE SHALL BE DUG TO PERMIT THE ENTIRE STRAIGHT BARREL OF THE PIPE TO REST ON THE UNDISTURBED TRENCH BOTTOM. BOULDERS OR LOOSE ROCKS LARGER THAN 3/4 INCH IN SIZE WILL NOT BE PERMITTED IN BACKFILL UP TO 1 FOOT ABOVE THE TOP OF THE PIPE.
3. BACK FILL MATERIAL UP TO A LEVEL OF 1 FOOT OVER THE PIPE SHALL CONSIST OF AASHTO CLASS A-3 SOIL (SUITABLE SOIL) AND SHALL EXCLUDE CLAY MATERIALS AND LOOSE ROCKS LARGER THAN 3/4 INCH SIZE.
4. BACKFILL MATERIAL UP TO A LEVEL 1 FOOT OVER THE TOP OF PIPE OR BOTTOM OF STRUCTURES SHALL BE PLACED IN 6 INCH COMPACTED THICKNESS LAYERS AND SHALL BE COMPACTED TO 98% OF IT'S MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D1557.
5. SEE " EXCAVATION AND EARTHWORK", SECTION 408 FOR ADDITIONAL REQUIREMENTS INCLUDING REMOVAL AND REPLACEMENT OF UNSUITABLE SOILS, DEWATERING, COMPACTION REQUIREMENTS AND DENSITY TESTING OF COMPACTED SOILS.

OPEN CUT TRENCH FOR PRESSURE PIPE

JANUARY 2021 IN CITY RIGHT -OF-WAY PLATE S-55

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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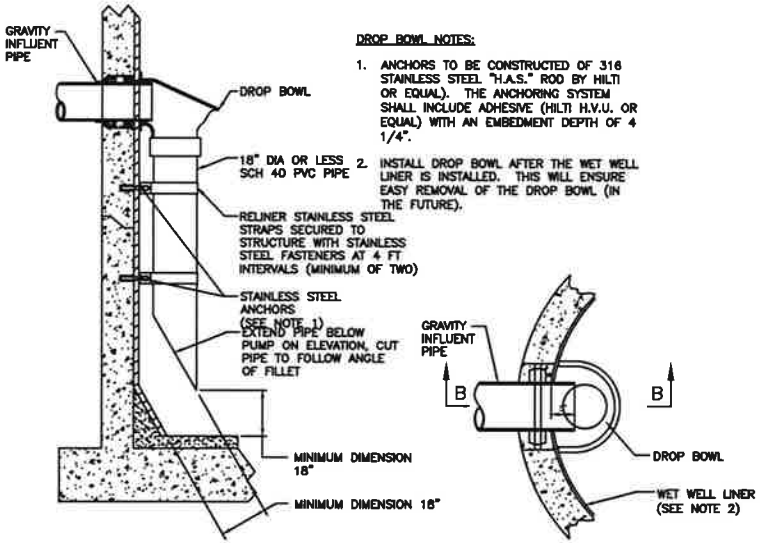
ENGINEER OF RECORD TIMOTHY PALMER, P.E. LICENSE NO. 86681

JOB NO. GUA 2071.02M

SHEET D-10



SECTION "B–B"

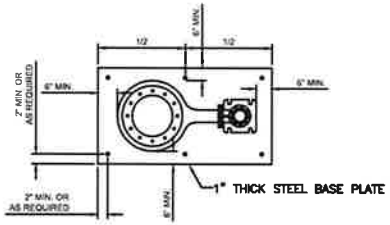
PLAN VIEW

DROP BOWL NOTES:

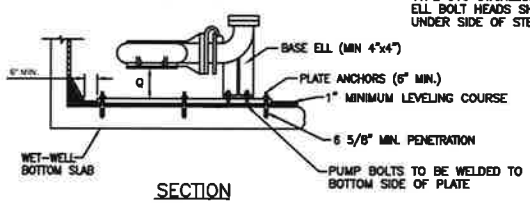
1. ANCHORS TO BE CONSTRUCTED OF 316 STAINLESS STEEL "H.A.S." ROD BY HILTI OR EQUAL). THE ANCHORING SYSTEM SHALL INCLUDE ADHESIVE (HILTI H.V.U. OR EQUAL) WITH AN EMBEDMENT DEPTH OF 4 1/4".
2. INSTALL DROP BOWL AFTER THE WET WELL LINER IS INSTALLED. THIS WILL ENSURE EASY REMOVAL OF THE DROP BOWL (IN THE FUTURE).

DROP BOWL DETAIL

NOT TO SCALE



PLAN



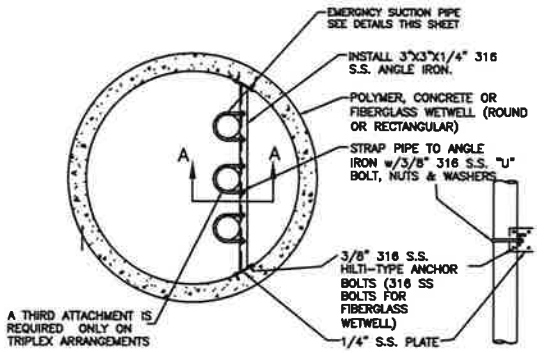
SECTION

BASE PLATE NOTES:

1. PLATE ANCHORS TO BE 3/4" DIAMETER, CONSTRUCTED OF 316 S.S. (H.A.S. ROD) w/ "HVU" ADHESIVE CAPSULE PROVIDING AN EMBEDMENT DEPTH OF 6 5/8". ACCEPTABLE: HILTI OR NAU APPROVED EQUAL.
2. NO EXPANSION ANCHORS ALLOWED.
3. PLATE SIZE: 6" LARGER THAN BASE ELL & PUMP VOLUTE TYP. ALL AROUND.
4. BASE ELL BOLTS AND STUDS TO BE TYPE 316 STAINLESS STEEL 5. BASE ELL BOLT HEADS SHALL BE WELDED TO UNDER SIDE OF STEEL PLATE.

SUBMERSIBLE PUMP BASE PLATE DETAIL

NOT TO SCALE



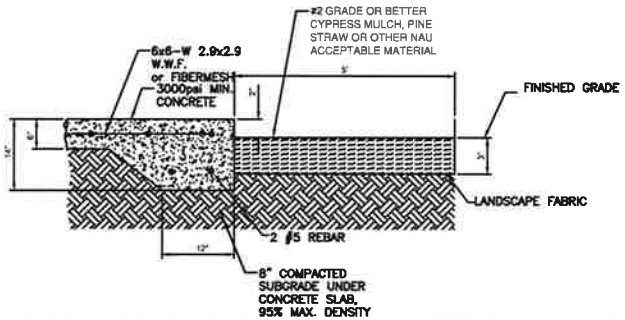
PLAN

SECTION 'A–A'

PIPE ATTACHMENT TO WALL DETAIL

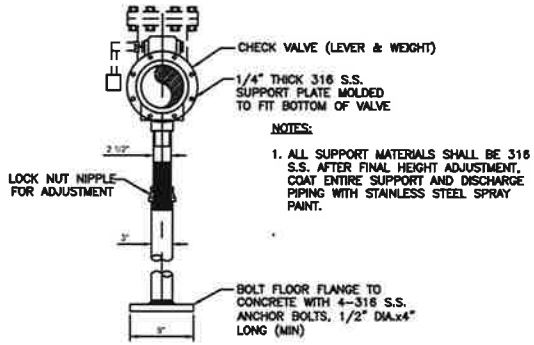
REQUIRED FOR ALL PUMPING STATIONS WITH WETWELL 20' DEEP AND GREATER (INSTALLED PRIOR TO SPECIALTY LINER)

NOT TO SCALE



CONCRETE SLAB AND GROUND COVER DETAIL

NOT TO SCALE

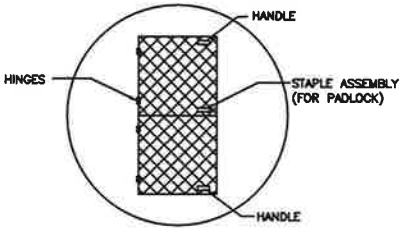


NOTES:

1. ALL SUPPORT MATERIALS SHALL BE 316 S.S. AFTER FINAL HEIGHT ADJUSTMENT, COAT ENTIRE SUPPORT AND DISCHARGE PIPING WITH STAINLESS STEEL SPRAY PAINT.

ADJUSTABLE VALVE SUPPORT DETAIL

NOT TO SCALE



WET WELL HATCH DETAIL

NOT TO SCALE

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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STANDARD DETAILS – SANITARY

NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

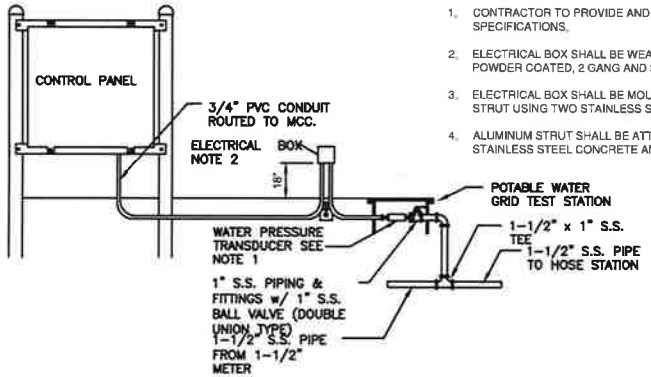
ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 85681

JOB NO. GUA 2071.02M

SHEET D–11

PROJECT MANAGER: TIMOTHY PALMER
DRAWN BY: JACKSON SUTTLE/DYLAN CLARK
FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS
D-11 - PLOTTED: 6/22/2021 3:40 PM BY SUTTLE, JACKSON

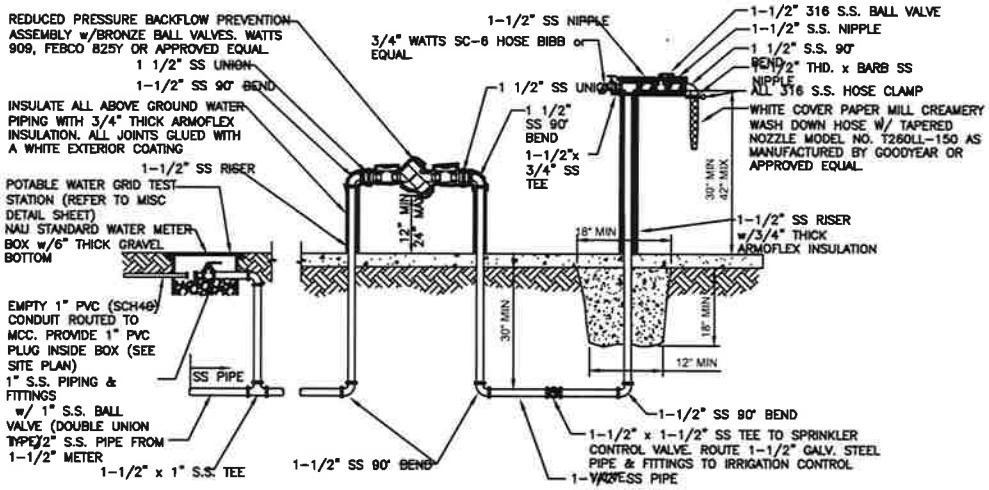
NOT TO SCALE



TEST STATION NOTES:

1. CONTRACTOR TO PROVIDE AND INSTALL TRANSDUCER PER NAU SPECIFICATIONS.
2. ELECTRICAL BOX SHALL BE WEATHERPROOF, ALUMINUM, GRAY POWDER COATED, 2 GANG AND 3/4" OUTLETS.
3. ELECTRICAL BOX SHALL BE MOUNT ON A 1/2" x 3" WIDE ALUMINUM STRUT USING TWO STAINLESS STEEL SCREWS.
4. ALUMINUM STRUT SHALL BE ATTACHED TO SLAB USING 3 RED HEAD STAINLESS STEEL CONCRETE ANCHORS.

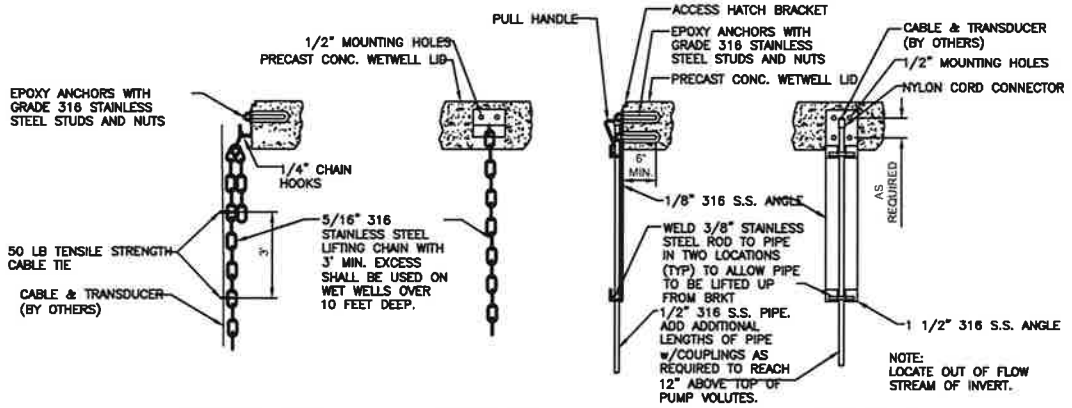
WATER TEST STATION DETAIL



1-1/2" HOSE STATION DETAIL

NOT TO SCALE

NOTE:
1. ALL PIPING ABOVE AND UNDER CONCRETE SLAB SHALL BE 316 SS SCHEDULE 40.
2. ALL EXTERNAL LONG RUNS OF PIPE SHALL BE SCHEDULE 80 PVC.



SECTION VIEW FRONT VIEW SECTION VIEW FRONT VIEW

TRANSDUCER BRACKET DETAIL

NOT TO SCALE

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
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STANDARD DETAILS – SANITARY

NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

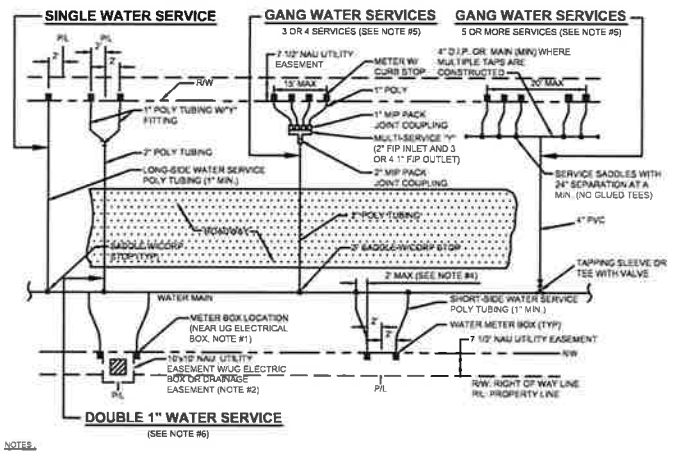
ENGINEER OF RECORD TIMOTHY PALMER, P.E. LICENSE NO. 86661

JOB NO. GUA 2071.02M

SHEET D-12

PROJECT MANAGER: TIMOTHY PALMER
FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS
D-12 - PLOTTED 5/20/2021 3:45 PM BY BISHEL, ABIGAIL

A LOCATE WIRE SHALL BE PLACED ON SERVICES 10FT OR GREATER.

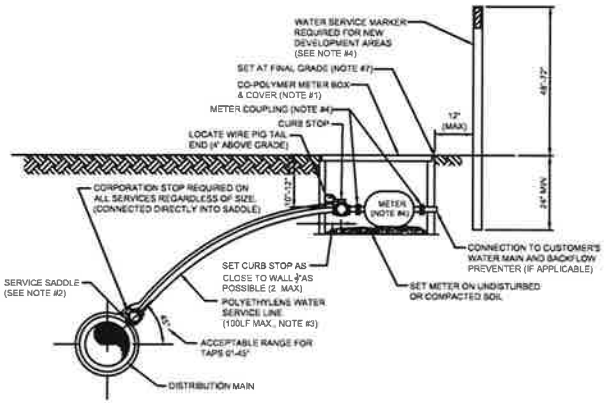


NOTES:

1. THE SKETCHES ABOVE INDICATE TYPICAL WATER SERVICE AND METER BOX LOCATIONS. ACTUAL LOCATIONS OF BOXES MAY VARY SLIGHTLY ACCORDING TO FIELD CONDITIONS ENCOUNTERED, TYPICALLY, THE METER BOX SHALL LOCATED AT THE R/W LINE BUT INSIDE THE 7 1/2 ELECTRIC EASEMENT.
2. UNLESS SPECIFIED OTHERWISE BY THE APPLICABLE COUNTY (NASSAU, CLAY OR ST. JOHNS COUNTY), THE METER BOX SHALL BE LOCATED IN THE NAU 7 1/2' UTILITY EASEMENT, AND TWO FEET INSIDE OF THE PROLONGATION OF ONE OF THE SIDE PROPERTY LINES. IF A CONFLICT EXISTS WITH OTHER UTILITIES, THE METER BOX MAY BE ADJUSTED TO FOUR FEET (MAX.) INSIDE PROPERTY LINES (IN LIEU OF TWO FEET), UNLESS APPROVED OTHERWISE BY NAU. WATER METER BOX SHALL BE LOCATED IN NON-TRAFFIC AREAS (NOT IN SIDEWALKS OR DRIVEWAYS). IF THE METER BOX IS APPROVED BY NAU TO BE LOCATED IN A DRIVEWAY OR SIDEWALK, THEN THE CONSTRUCTION SHALL MEET STANDARD DETAIL NUMBERS W-34A, AT A MINIMUM (SEE W-3 AND W-4 FOR THE REQUIREMENTS OF SPECIAL ORDER POLYMER BOX AND TOP). SET TOP OF BOX AT FINISHED GRADE. IF AN UNAPPROVED METER BOX IS IDENTIFIED BY NAU, THEN THE CONTRACTOR OR CUSTOMER SHALL BE RESPONSIBLE FOR THE COST OF RELOCATING ANY METER BOX WHICH IS LOCATED IN THE SIDEWALK OR DRIVEWAY OR THE COST TO PROVIDE THE CORRECT METER BOX. NAU SHALL APPROVE ALL DEVIATIONS TO THE ABOVE PRIOR TO CONSTRUCTION.
3. IF DRAINAGE OR OTHER EASEMENT LOCATED BETWEEN LOTS, METER BOXES SHALL BE LOCATED AT THE EASEMENT LINE BUT OUTSIDE THE EASEMENT AREA.
4. FOR SINGLE SERVICES, THE HORIZONTAL DISTANCE (PERPENDICULAR TO THE MAIN)BETWEEN THE SERVICES SADDLE AND THE METER BOX SHALL BE 2 FEET MAXIMUM. FOR DOUBLE 1" SERVICES, THE 2" POLY MAIN SHALL BE LOCATED CENTERED BETWEEN THE TWO METER BOXES. LOCATE WIRE IS REQUIRED ON ALL SERVICES 10' OR GREATER IN LENGTH. IF LOCATE WIRE IS REQUIRED, THE WIRE SHALL RUN FROM THE METER BOX (W/ PIG TAIL) TO THE MAIN (DEAD END SHALL BE TAPED WITH NO CONNECTION TO MAIN WIRE WITH THE LAST 24 INCHES STRIPED OF INSULATION/BARE WIRE AS GROUND). ALL EXCEPTIONS TO THIS REQUIREMENT MUST BE APPROVED BY NAU. THIS WILL ASSIST IN LOCATING EXISTING SERVICE LINES IN THE FUTURE.
5. GANG WATER SERVICES FOR 3 OR 4 SERVICES IN ONE AREA, A DUCTILE IRON PIPE (D.I.P.) WATER MAIN EXTENSION W/LOCATE WIRE MAY BE UTILIZED ON EITHER SHORT-SIDE OR LONG SIDE SERVICES WHERE SHOWN ON THE DRAWINGS. LOCATE WIRE SHALL EXTEND FROM ONE METER BOX TO CORP STOP AT WATER MAIN. FOR 5 OR MORE SERVICES IN ONE AREA, A WATER MAIN EXTENSION W/LOCATE WIRE MAY BE UTILIZED ON EITHER SHORT-SIDE OR LONG SIDE SERVICES WHERE SHOWN ON THE DRAWINGS (TAPS STAGGERED AND AT 2 FEET ON CENTER-MIN). FOR WATER SUPPLY HEADERS WHERE 5 OR MORE TAPS ARE CONSTRUCTED, THE HEADER PIPE SHALL BE 4" AT A MINIMUM. EXAMPLE: CONSTRUCT A 4" MAIN PVC CROSSING THE STREET FOR 5 RESIDENTIAL CUSTOMERS, UTILIZING 4" DIP, 4" PIPE, 4"X1" SADDLES AND 1" CORP STOPS (NO GLUED TEE FITTINGS). THE 4" OR LARGER D.I.P. WATER MAIN MUST BE SIZED AND DESIGNED BY THE P.E. ENGINEER.
6. DOUBLE 1" WATER SERVICES IS ALLOWED FOR SHORT SIDE OR LONG SIDE SERVICES AND WHERE SHOWN ON THE DRAWINGS.
7. A 1" IRRIGATION SERVICE MAYBE TAPPED INTO THE (1" MIN) DOMESTIC WATER SERVICE LINE (WHICH SERVES THE SAME CUSTOMER) UTILIZING A 1" BRONZE "Y" FITTING. (IN AREAS WHERE NO RECLAIMED WATER IS AVAILABLE).
8. No 2" AND SMALLER WATER SERVICE TAPS PERMITTED ON WATER MAINS WHICH ARE 20" AND LARGER SIZE.
9. RECLAIMED WATER METER BOXES OR SERVICES SHALL BE CONSTRUCTED SIMILAR TO THE ABOVE AND SHALL BE LOCATED, AT A MIN. OF 10' FROM THE POTABLE WATER SERVICE, AND/OR BOX AND NOT ALLOWED IN CONCRETE OR ASPHALT UNLESS APPROVED OTHERWISE BY NAU.
10. SERVICE SIZE SHALL BE SAME AS THE METER SIZE.

WATER OR RECLAIM SERVICE INSTALLATIONS 2" AND SMALLER METER

JANUARY 2020 PLATE W-1

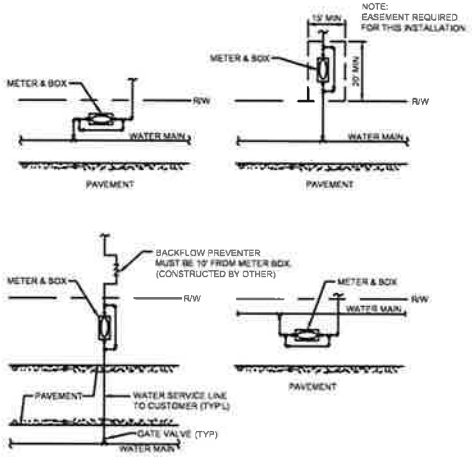


NOTES:

1. SEE PLATE W-1 FOR METER LOCATION REQUIREMENTS.
2. SINGLE BAND SADDLES SHALL BE UTILIZED ON NEW 1" WATER SERVICES WHICH ARE INSTALLED ON A DRY 10" SIZE OR SMALLER WATER MAIN (NON WATER MAIN CONSTRUCTION). FOR WET TAPS OR WATER MAINS 12" SIZE AND LARGER, A DOUBLE SAND SADDLE IS REQUIRED. BRASS SADDLES MAY BE UTILIZED ON NEW 1 INCH AND SMALLER WATER SERVICES WHICH ARE INSTALLED ON A DRY 10 INCH OR SMALLER PVC WATER MAIN.
3. NO OPEN CUT UNDER ROADWAY PAVING ALLOWED UNLESS THE ROADWAY IS BEING RECONSTRUCTED OR IF DIRECTED OTHERWISE BY J.E.A. CONSTRUCT POLY LINE WITH 24" (MIN.) COVER UNDER ROADWAYS. THE POLY WATER SERVICE LINE SHALL BE SAME SIZE AS THE METER (1" MINIMUM) AND BE INSTALLED PERPENDICULAR TO THE MAIN AND NOT EXCEED 100LF UNLESS APPROVED OTHERWISE BY NAU.
4. INSTALL PVC PLUG IN ALL CURB STOPS IF WATER SERVICE IS "NOT IN USE" (I.E., IF NO METER IS INSTALLED). WATER SERVICES SERVING VACANT LOTS (SERVICE NOT IN USE), SHALL INCLUDE A "W" CUT INTO THE CURB (CLOSEST TO THE METER BOX), AND PAINTED BLUE (PAINTED PURPLE FOR RECLAIMED WATER). IN ADDITION, FOR NEW DEVELOPMENT AREAS WHERE THE WATER SERVICE IS "NOT IN USE", A LANDSCAPE TIMBER OR 3x3 MIN. P.T. POST (TOP PAINTED BLUE OR PURPLE FOR RECLAIMED WATER). THE REMOVAL OR TRANSFER OF A WATER SERVICE SHALL INCLUDE BRASS METER COUPLINGS (HEX ON BARREL TYPE).
5. NO 2" AND SMALLER WATER SERVICE TAPS PERMITTED ON WATER MAINS WHICH ARE 20" AND LARGER SIZE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF THE METER OR ELECTRONIC DEVICES IF DAMAGED BY THE CONTRACTOR DURING THE CONSTRUCTION PERIOD.
7. METER BOX AND TOP SHALL BE CLEAR OF ALL DEBRIS TO ALLOW FULL ACCESS TO BOX (i.e. NO DIRT, TRASH OR OTHER DEBRIS PLACED ON TOP OF BOX).
8. LOCATE WIRING REQUIRED ON ALL SERVICES 10' OR GREATER IN LENGTH. SEE PLATE W-44.

WATER SERVICE DETAIL- 2" AND SMALLER METER

JANUARY 2020 PLATE W-2



NOTES:

1. THE SKETCHES ABOVE ARE SUGGESTIONS FOR SOME TYPICAL LARGE METER (3" AND LARGE SIZE METER) INSTALLATIONS. ACTUAL INSTALLATIONS WILL VARY ACCORDING TO FIELD CONDITIONS ENCOUNTERED. FOR OTHER LOCATION LIMITATIONS SEE PLATE NOS. W-10 & W-11.
2. THE WATER METER BOX SHALL BE CO-POLYMER MATERIAL. IF THE BOX IS LOCATED IN A DRIVEWAY OR ROADWAY, THE BOX SHALL BE CONCRETE WITH HEAVY-DUTY ALL GALVANIZED (WITH REINFORCED GALV.) TOP. BOXES LOCATED IN DRIVEWAYS OR ROADWAYS MUST BE APPROVED BY NAU, PRIOR TO CONSTRUCTION.
3. FOR TYPICAL BOX INSTALLATION DETAILS SEE PLATE NO. W-8 THRU W-8.
4. FOR TYPICAL MANIFOLD INSTALLATION, SEE PLATE NO. W-9.

LARGE WATER METER INSTALLATIONS

JANUARY 2020 PLATE W-5

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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STANDARD DETAILS – WATER

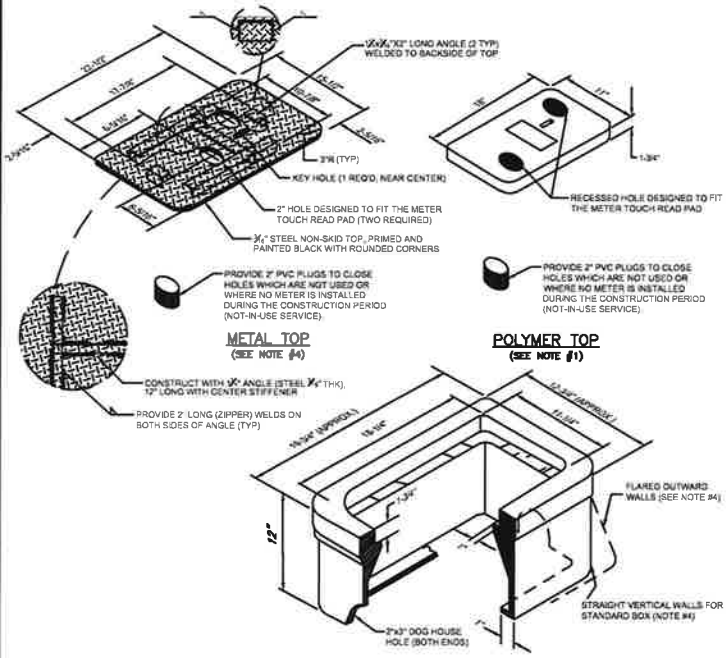
NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD TIMOTHY PALMER, P.E. LICENSE NO. 86681

JOB NO. GUA 2071.02M

SHEET D-13

PROJECT MANAGER: TIMOTHY PALMER
FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS

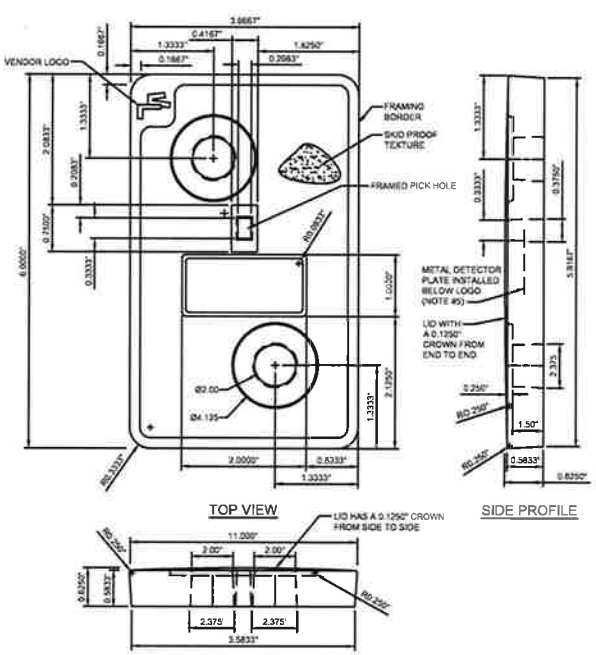


NOTES:

1. THE STANDARD BOX (A-8 (ASTM C857) LOAD RATING WITH STRAIGHT VERTICAL WALLS) & TOP (A-8 (ASTM C857) RATING WITH 2 HOLES) SHALL BE MADE OF POLYMER CONCRETE. (SIMILAR TO OLD BROOKS SERIES 37 BOX) BOX WALLS SHALL BE FIBERGLASS. THE INSIDE LIP OF THE BOX SHALL BE RATED SAME AS THE BOX. THE ONE HOLE LIDS ARE FOR SPECIAL ORDERS ONLY AND REQUIRE NAU'S APPROVAL PRIOR TO USE.
2. ALL SIZES SHOWN ARE IN INCHES AND ARE APPROXIMATE SIZES.
3. POLYMER BOX APPROXIMATE WEIGHT 25lbs. POLYMER TOP APPROXIMATE WEIGHT 20lbs. SEE CONSTRUCTION DETAILS W-3A (TWO HOLE) AND W-3B (ONE HOLE) FOR MANUFACTURING DETAILS FOR COVERS.
4. UNLESS APPROVED OTHERWISE IN WRITING BY NAU, ALL METER BOXES SHALL BE LOCATED IN NON-TRAFFIC AREAS (NOT IN THE ROADWAY, DRIVEWAYS OR SIDEWALKS). IF AN EXCEPTION TO THIS RULE IS APPROVED BY NAU, THEN THE FOLLOWING SHALL BE PROVIDED:
   A) UNDER NO CIRCUMSTANCE SHALL A METER BOX BE LOCATED IN A COMMERCIAL TRAFFIC AREA.
   B) IF AN EXCEPTION IS APPROVED IN WRITING THE METER BOX LOCATED IN A SIDEWALK OR RESIDENTIAL DRIVEWAY SHALL INCLUDE A POLYMER BOX WITH FLARED OUTWARD WALLS (NOT STRAIGHT WALLS) AND A POLYMER TOP. BOX AND TOP SHALL COMPLY WITH A-8 (ASTM C857) LOAD RATING.
   C) METAL TOPS MAY BE UTILIZED IF SPECIFICALLY APPROVED BY NAU MANAGER OR NAU METER O&M STAFF.

WATER METER BOX & COVER FOR 1" AND SMALLER METERS

JANUARY 2020 — PLATE W-3

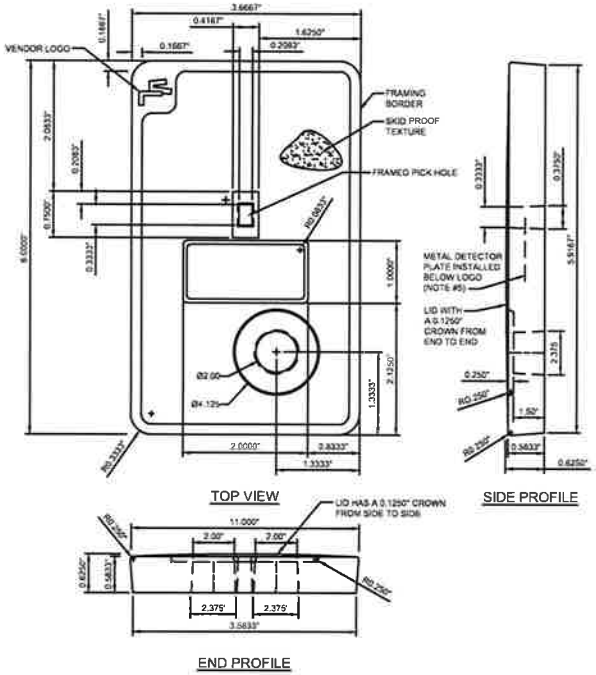


NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. COLOR SHALL BE OFF-WHITE, NON-POROUS, SAND TEXTURED SATIN FINISH.
3. ALL TOPS SHALL MEET A-8 (ASTM C857) LOAD RATING.
4. THE LID SHALL BE CERTIFIED BY CELLNET TECHNOLOGY INC AND SENSUS METERING SYSTEMS TO BE RF COMPATIBLE WITH THE SENSUS MTU.
5. METAL DETECTOR PLATE SHALL BE DETECTABLE BY NAU MAGNETIC LOCATE EQUIPMENT.

WATER METER BOX POLYMER COVER MODEL No. 37 - TWO HOLE

JANUARY 2020 — PLATE W-3A



NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. COLOR SHALL BE OFF-WHITE, NON-POROUS, SAND TEXTURED SATIN FINISH.
3. ALL TOPS SHALL MEET A-8 (ASTM C857) LOAD RATING.
4. THE LID SHALL BE CERTIFIED BY CELLNET TECHNOLOGY INC AND SENSUS METERING SYSTEMS TO BE RF COMPATIBLE WITH THE SENSUS MTU.
5. METAL DETECTOR PLATE SHALL BE DETECTABLE BY NAU MAGNETIC LOCATE EQUIPMENT.
6. THE ONE HOLE LIDS ARE FOR SPECIAL ORDERS ONLY AND REQUIRE NAU'S APPROVAL PRIOR TO USE.

WATER METER BOX POLYMER COVER MODEL No. 37 - ONE HOLE

JANUARY 2020 — PLATE W-3B

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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STANDARD DETAILS – WATER

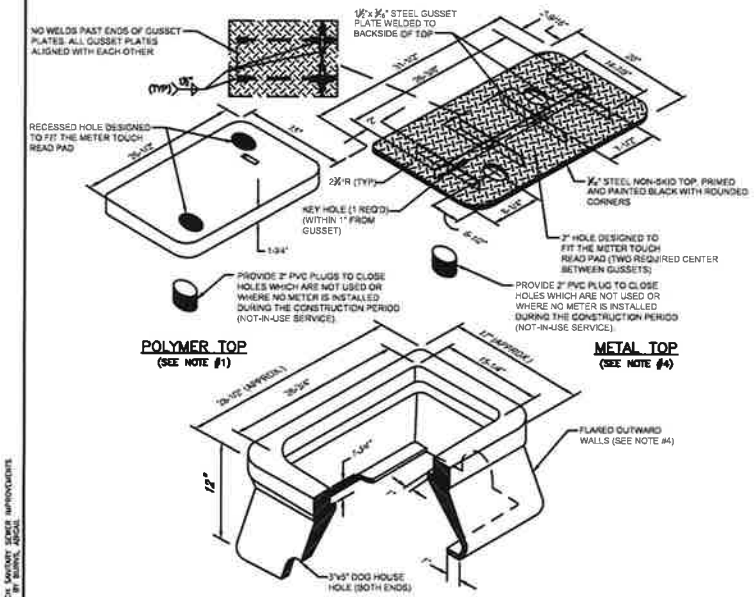
NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 88681

JOB NO. GUA 2071.02M

SHEET D-14

PROJECT MANAGER: TIMOTHY PALMER
C:\TP_WORK\WADE TRIM JOBS\GUA\2071.02\STATS-GENERAL-DETAILS.DWG - D-14 - PLOTTED: 6/22/2021 3:40 PM BY BURKE, ABIGAIL
FIELD BOOK INFORMATION, AMERICAN BEACH SANITARY SEWER IMPROVEMENTS



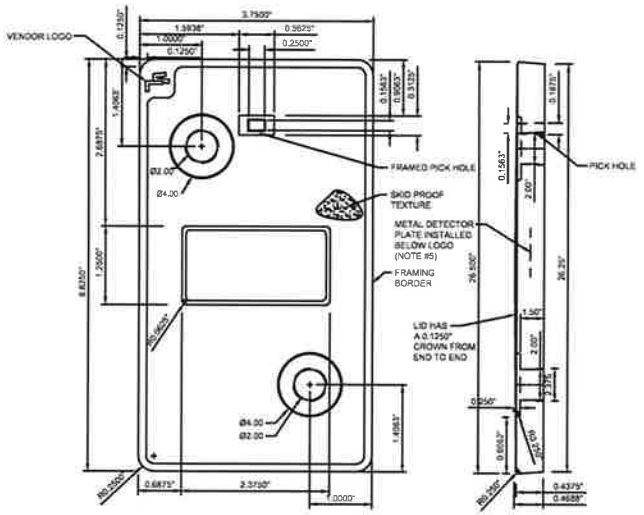
POLYMER BOX

NOTES:

1. THE STANDARD BOX (FLARED OUTWARD WALLS) & TOP (2 HOLE) SHALL BE MADE OF POLYMER CONCRETE. (SIMILAR TO OLD BROOKS SERIES 65). BOX WALLS SHALL BE FIBERGLASS. BOX, INCLUDING THE INSIDE LIP, AND TOP SHALL MEET A-8 (ATSM C857) LOAD RATING.
2. ALL SIZES SHOWN ARE IN INCHES AND ARE APPROXIMATE SIZES.
3. POLYMER BOX APPROXIMATE WEIGHT 50lbs. POLYMER TOP APPROXIMATE WEIGHT 50lbs. SEE CONSTRUCTION DETAIL W-4A FOR MANUFACTURING DETAIL FOR TWO HOLE COVER.
4. UNLESS APPROVED OTHERWISE IN WRITING BY NAU, ALL METER BOXES SHALL BE LOCATED IN NON-TRAFFIC AREAS (NOT IN THE ROADWAY, DRIVEWAYS OR SIDEWALKS).
5. METAL TOPS MAY BE UTILIZED IF SPECIFICALLY APPROVED BY A NAU MANAGER OR BY NAU METER O&M STAFF.

WATER METER BOX & COVER FOR 1-1/2" AND 2" METERS

JANUARY 2020 PLATE W-4

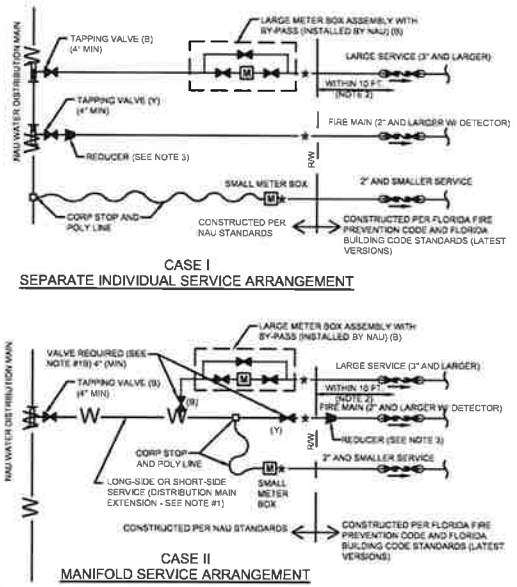


NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. COLOR SHALL BE OFF-WHITE, NON-POROUS, SAND TEXTURED SATIN FINISH.
3. ALL TOPS SHALL MEET A-8 (ASTM C857) LOAD RATING.
4. THE LID SHALL BE CERTIFIED BY CELLNET TECHNOLOGY INC AND SENSUS METERING SYSTEMS TO BE RF COMPATIBLE WITH THE SENSUS MTU.
5. METAL DETECTOR PLATE SHALL BE DETECTABLE BY NAU MAGNETIC LOCATE EQUIPMENT.

WATER METER BOX POLYMER CONCRETE COVER MODEL No. 65 - TWO HOLE

JANUARY 2020 PLATE W-4A



CASE I
SEPARATE INDIVIDUAL SERVICE ARRANGEMENT

CASE II
MANIFOLD SERVICE ARRANGEMENT

KEY

- GATE VALVE
- (B) VALVE COVER PAINT COLOR (B) = BLUE (Y) = YELLOW
- NAU POINT OF SERVICE
- BACKFLOW PREVENTER (NOTE #2)
- NAU WATER DISTRIBUTION MAIN
- M NAU METER

NOTES:

1. SHOULD AN INSTALLATION INCLUDE MULTIPLE WATER SERVICES FOR THE SAME CUSTOMER (i.e. DOMESTIC, IRRIGATION, FIRE) AND ONE OR MORE OF THOSE SERVICES ARE 3 INCH OR LARGER, A MANIFOLD ARRANGEMENT (SEE CASE II ABOVE) IS ACCEPTABLE PROVIDED:
   A. THE PROJECT DESIGN ENGINEER (FLORIDA PROFESSIONAL ENGINEER) PROVIDES ACCEPTABLE HYDRAULIC CALCULATION (ENGINEERED, SIGNED AND SEALED) WHICH MEETS THE MOST HYDRAULICALLY DEMANDING CASE.
   B. TO MEET NAU AND LOCAL FIRE CODE REQUIREMENTS, A SEPARATE ISOLATION VALVE (BELOW GROUND TYPE GATE VALVE OR CORP STOP) SHALL BE PROVIDED FOR EACH SERVICE ON A MANIFOLD ARRANGEMENT.
   C. THE SPECIFIC PROPOSED WATER SERVICE ARRANGEMENT IS IN ACCORDANCE WITH NAU STANDARDS AND IS REVIEWED AND APPROVED BY NAU.
2. BACKFLOW PREVENTER (BFP) - THE ABOVE GROUND VALVE SHALL MEET NAU'S CROSS-CONNECTION CONTROL PROGRAM. THIS NAU APPROVED VALVE SHALL BE INSTALLED WITHIN TEN (10) FEET OF RIGHT-OF-WAY LINE OR NAU EASEMENT UNLESS APPROVED OTHERWISE BY NAU. ALL BFPs INSTALLED ON A FIRE MAIN SHALL INCLUDE A DETECTOR.
3. REDUCER ONLY REQUIRED IF APPROVED BY NAU REPRESENTATIVE (IF SERVICE REDUCER MUST BE AT CONTROL VALVE AT MAIN, 2" SERVICE CAN BE REDUCED TO 1½ INSIDE THE METER BOX)

WATER SERVICE MANIFOLD ARRANGEMENT

JANUARY 2021 PLATE W-9

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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STANDARD DETAILS – WATER

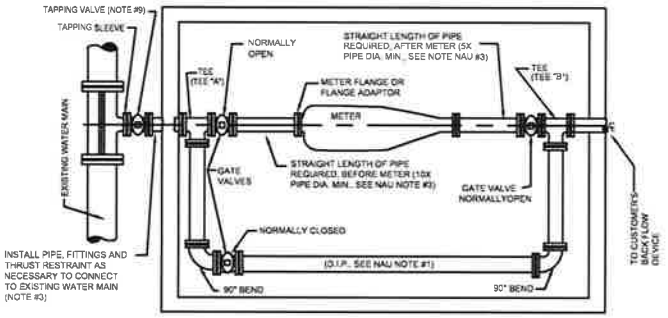
NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD TIMOTHY PALMER, P.E. LICENSE NO. 86661

JOB NO. GUA 2071.02M

SHEET D-15

PROJECT MANAGER: TIMOTHY PALMER
FILE NAME: J:\GUA\2071\11\187\CAD\PLTS-GENERAL-DETAILS.DWG - D-15 - PLOTTED: 6/22/2021 3:40 PM BY BURKS, ABIGAIL
FIELD BOOK INFORMATION, AMERICAN BEACH, SANITARY SEWER IMPROVEMENTS



TO BE INSTALLED BY NAU (SEE NOTE #1)
MIN. LAYING LENGTH REQUIRED
3" & 4" METERS.....14'
6" & 8" METERS.....20'
10" METERS.....24'
(D.I.P. REQUIRED, SEE NAU NOTES #1 & #2)

CONTRACTOR NOTES:

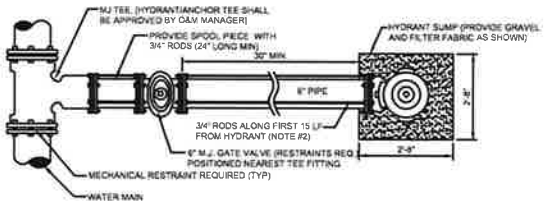
1. FOR "PRE-PAVE" INSTALLATIONS, THE CONTRACTOR SHALL CONSTRUCT TAP AND WATER MAIN PIPING (PVC OR D.I.P.) BETWEEN TAPPING VALVE AND R/W PROVIDING AN UN-INSTALLED (OPEN) PIPE SECTION WITH A "MINIMUM LAYING LENGTH" AS SHOWN ABOVE FOR THE METER BOX AND BY PASS PIPING. THE FINISHED GRADE GRADE AT THE PROPOSED METER VAULT SHALL BE FLAT. CONTRACTOR SHALL PROVIDE METER BOX. NAU WILL INSTALL METER BOX AND METER ASSEMBLY (INCLUDING METER. THREE (3) GATE VALVES AND ASSOCIATED DUCTILE IRON PIPE ALL THE SAME SIZE).
2. FOR "FULL-TAP" METER ASSEMBLY, NAU WILL PROVIDE AND INSTALL THE TAP, METER BOX AND ALL OF THE ABOVE PIPING WITHIN THE R/W.
3. FOR BOX DETAILS SEE PLATES W-7 AND W-8.
4. ALL POTABLE PIPE AND FITTINGS TO BE SAME SIZE AS METER. IF UTILIZING HDPE PIPE.
5. MECHANICAL RETAINER GLAND RESTRAINTS OR MEGA LUGS SHALL BE UTILIZED TO RESTRAIN ALL JOINTS. THE USE OF THRUST BLOCKS, TIE RODS AND/OR BELL/ROD RESTRAINTS SHALL ONLY BE USED IF SPECIFICALLY APPROVE BY NAU MANAGEMENT.
6. PIPE FROM TAP TO R/W LINE SHALL BE RESTRAINED.
7. MAXIMUM COVER OF LARGE WATER METERS SHALL BE 36" (FROM TOP OF PIPE TO GRADE).
8. LOCATING WIRING REQUIRED FROM EXISTING WATER MAIN TO METER BOX. SEE PLATE W-4d.
9. FOR METERS LARGER THAN 10" SIZE, PLEASE CONTACT NAU METER SHOP FOR ADDITIONAL REQUIREMENTS.
10. EACH SERVICE (FIRE MAIN, POTABLE WATER, ETC.) SHALL INCLUDE A SEPARATE ISOLATION VALVE (TAPPING VALVE OR GATE VALVE, BELOW GROUND TYPE) LOCATED PRIOR TO TEE "A". ALSO, UN-METERED FIRE MAIN SERVICES SHALL INCLUDE A SEPARATE ISOLATION VALVE (TAPPING VALVE OR GATE VALVE, BELOW GROUND TYPE).
11. FOR TYPICAL MANIFOLD INSTALLATION, SEE PLATE NO.-W-8.
12. SERVICE SIZE SHALL BE SAME AS THE METER SIZE.

NAU NOTES:

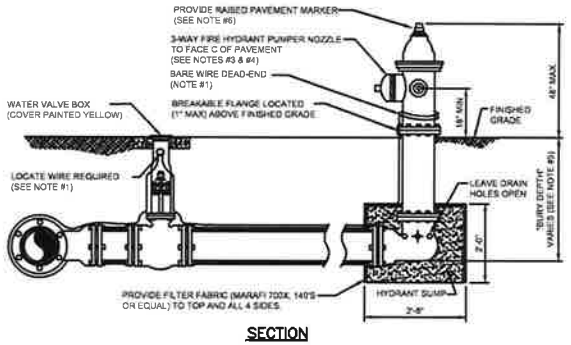
1. ALL POTABLE PIPING BETWEEN TEE FITTINGS (TEE "A" AND TEE "B") SHALL BE DR18 OR CLASS 150 D.I.P., INCLUDING BY-PASS PIPING.
2. ALL POTABLE VALVES AND FITTINGS TO BE DUCTILE IRON RESTRAINED JOINT.
3. MINIMUM LENGTH OF TEN (10) PIPE DIAMETERS OF STRAIGHT PIPE TO BE INSTALLED ON INLET SIDE OF METER AND FIVE (5) PIPE DIAMETERS OF STRAIGHT PIPE TO BE INSTALLED ON OUTLET SIDE OF METER.
4. ALL METER INSTALLATIONS REQUIRE A TEST TEE TO BE INSTALLED BETWEEN THE METER AND VALVE ON CONSUMER SIDE OF METER.

WATER METER INSTALLATION DETAILS
3" - 20" METERS

JANUARY 2020 PLATE W-6



PLAN



SECTION

NOTES:

1. LOCATE WIRE SHALL BE ROUTED FROM THE VALVE TO THE HYDRANT AS SHOWN ABOVE LEAVING ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE. THE END OF THE WIRE SHALL BE SECURED TO THE PIPE MAIN. SEE SECTION 350, LOCATE WIRE INSTALLATION PARAGRAPH.
2. FIRE HYDRANTS SHALL BE INSTALLED BETWEEN BACK OF CURB AND FACE OF SIDEWALK AND NOT WITHIN SWALE/DITCH AREAS. THE DISTANCE RANGE FROM EDGE OF ADJACENT PAVEMENT, BACK OF CURB AND FACE OF SIDEWALK SHALL BE IN COMPLIANCE WITH LOCAL COUNTY FIRE DEPARTMENT RULES AND AS APPROVED BY JEA AND APPLICABLE PERMITTING AGENCIES. DISTANCE SHALL BE MEASURED TO THE CLOSEST PART OF THE FIRE HYDRANT (I.E. THE PUMPER NOZZLE). THE MAXIMUM DISTANCE (BACK OF CURB) SHALL BE IN COMPLIANCE WITH LOCAL COUNTY FIRE DEPARTMENT RULES AND AS APPROVED BY NAU. FOR OTHER LOCATION LIMITATIONS SEE PLATES W-10 AND W-11. IF PIPING BETWEEN TEE AND HYDRANT IS LONGER THAN 80 LF, AN ADDITIONAL 6" GATE VALVE IS REQUIRED AT THE HYDRANT LOCATION (PROVIDE 30" SEPARATION). ALL PIPING, VALVES AND FITTINGS ALONG THE HYDRANT BRANCH MAIN WHICH IS WITHIN 15 LF OF THE HYDRANT SHALL BE RESTRAINED UTILIZING ONLY TWO 3/4" DIA (THREADED ENDS) STEEL RODS AND EYE BOLTS (NO JOINT RESTRAINT DEVICES REQUIRED). A SPLIT SERRATED RING WITH RESTRAINT EARS (EBAA 15 PF 08 or EQUAL) MAYBE USED IN THIS ASSEMBLY. ALL OTHER JOINTS ALONG THE HYDRANT BRANCH MAIN OUTSIDE OF THE FIRST 15 LF SHALL INCLUDE JOINT RESTRAINTS.
3. OPERATION OF THE FIRE HYDRANT SHALL BE EITHER FULL OPEN POSITION OR TOTALLY CLOSED POSITION. THE HYDRANT SHALL NOT BE UTILIZED TO THROTTLE OUTLET FLOW.
4. PRIOR TO PROJECT FINAL INSPECTION, THE HYDRANT AND ALL ABOVE GROUND PIPING SHALL BE RE-OILED, GREASED AND REPAINTED (RUS- KL ENAMEL-INTERNATIONAL YELLOW OR EQUAL). PRIVATELY OWNED AND MAINTAINED FIRE HYDRANTS SHALL BE PAINTED RED.
5. FIRE HYDRANTS SHALL BE ORDERED WITH PROPER "BURY DEPTH" TO MEET ACTUAL FIELD CONDITIONS. THIS IS ESPECIALLY IMPORTANT FOR BRANCH LINES WHICH TEE-OFF A 12" OR LARGER WATER MAIN. UNLESS APPROVED OTHERWISE BY NAU, THE INSTALLATION OF (45°) BENDS IS NOT ACCEPTABLE WHEN UTILIZED TO CORRECT AN IMPROPERLY FURNISHED HYDRANT. THE USE OF HYDRANT EXTENSIONS SHOULD BE MINIMIZED.
6. BLUE REFLECTIVE MARKERS SHALL BE INSTALLED IN SUCH A MANNER THAT THE REFLECTIVE FACE OF THE MARKER IS PERPENDICULAR TO A LINE PARALLEL TO THE ROADWAY CENTERLINE. THE BLUE REFLECTIVE MARKERS SHALL BE PLACED IN THE CENTER OF THE TRAVEL LANE, DIRECTLY ACROSS FROM AND ADJACENT TO EACH FIRE HYDRANT.

FIRE HYDRANT INSTALLATION
USING MECHANICAL JOINT TEE

JANUARY 2021 PLATE W-13

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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Certificate of Authorization No.: 3952

STANDARD DETAILS – WATER

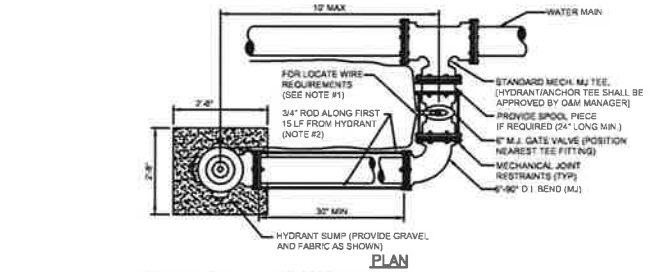
NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD TIMOTHY PALMER, P.E. LICENSE NO. 86881

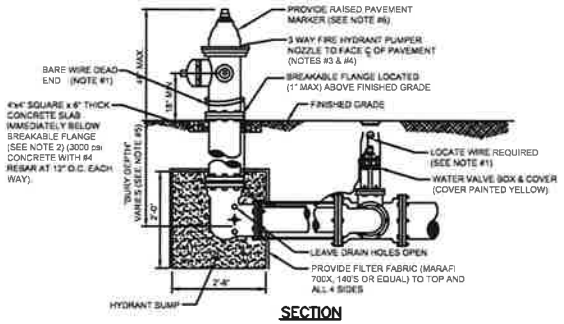
JOB NO. GUA 2071.02M

SHEET D–16

PROJECT MANAGER: TIMOTHY PALMER
FILE NAME: J:\JACKSONVILLE\2071\02M\PLANS\GENERAL DETAILS.DWG
FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS
D-1-6 - PLOTTED: 6/22/2021 3:40 PM BY: BRANDL, JESSE



PLAN



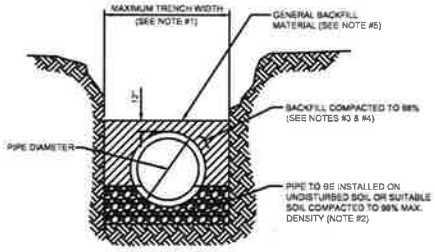
SECTION

NOTES:

1. LOCATE WIRE SHALL BE ROUTED FROM THE VALVE TO THE HYDRANT AS SHOWN ABOVE LEAVING ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE. THE END OF THE WIRE SHALL BE SECURED TO THE PIPE MAIN. SEE SECTION 550, LOCATE WIRE INSTALLATION PARAGRAPH.
2. FIRE HYDRANTS SHALL BE INSTALLED BETWEEN BACK OF CURB AND FACE OF SIDEWALK. ALL HYDRANTS SHALL BE LOCATED NO LESS THAN THREE (3) FEET FROM THE EDGE OF PAVEMENT OR BACK OF CURB OF THE ADJACENT ROADWAY AND NO LESS THAN THREE (3) FEET FROM ANY PHYSICAL FEATURE WHICH MAY OBSTRUCT ACCESS OR VIEW OF ANY HYDRANT UNLESS OTHERWISE APPROVED BY THE NAU. THE MAXIMUM DISTANCE (BACK OF CURB) SHALL BE IN COMPLIANCE WITH LOCAL COUNTY FIRE DEPARTMENT RULES AND AS APPROVED BY NAU. FOR OTHER LOCATION LIMITATIONS SEE PLATES W-10 AND W-11. IF PIPING BETWEEN TEE AND HYDRANT IS LONGER THAN 80 LF, AN ADDITIONAL 6" GATE VALVE IS REQUIRED AT THE HYDRANT LOCATION (PROVIDE 30" SEPARATION). ALL PIPING, VALVES AND FITTINGS ALONG THE HYDRANT BRANCH MAIN WHICH IS WITHIN 15 LF OF THE HYDRANT SHALL BE RESTRAINED UTILIZING ONLY TWO 3/4" DIA (THREADED ENDS) STEEL RODS AND EYE BOLTS (NO JOINT RESTRAINT DEVICES REQUIRED). A SPLIT SERRATED RING WITH RESTRAINT EARS (EBAA 15 PF06 or EQUAL) MAYBE USED IN THIS ASSEMBLY. ALL OTHER JOINTS ALONG THE HYDRANT BRANCH MAIN OUTSIDE OF THE FIRST 15 LF SHALL INCLUDE JOINT RESTRAINTS.
3. OPERATION OF THE FIRE HYDRANT SHALL BE EITHER FULL OPEN POSITION OR TOTALLY CLOSED POSITION. THE HYDRANT SHALL NOT BE UTILIZED TO THROTTLE OUTLET FLOW.
4. PRIOR TO PROJECT FINAL INSPECTION, THE HYDRANT AND ALL ABOVE GROUND PIPING SHALL BE RE-OILED, GREASED AND REPAINTED (RUS- KIL ENAMEL-INTERNATIONAL YELLOW OR EQUAL). PRIVATELY OWNED AND MAINTAINED FIRE HYDRANTS SHALL BE PAINTED RED.
5. FIRE HYDRANTS SHALL BE ORDERED WITH PROPER "BURY DEPTH" TO MEET ACTUAL FIELD CONDITIONS. THIS IS ESPECIALLY IMPORTANT FOR BRANCH LINES WHICH TEE-OFF A 12" OR LARGER WATER MAIN. UNLESS APPROVED OTHERWISE BY NAU, THE INSTALLATION OF (45°) BENDS IS NOT ACCEPTABLE WHEN UTILIZED TO CORRECT AN IMPROPERLY FURNISHED HYDRANT. THE USE OF HYDRANT EXTENSIONS SHOULD BE MINIMIZED.
6. BLUE REFLECTIVE MARKERS SHALL BE INSTALLED IN SUCH A MANNER THAT THE REFLECTIVE FACE OF THE MARKER IS PERPENDICULAR TO A LINE PARALLEL TO THE ROADWAY CENTERLINE. THE BLUE REFLECTIVE MARKERS SHALL BE PLACED IN THE CENTER OF THE TRAVEL LANE, DIRECTLY ACROSS FROM AND ADJACENT TO EACH FIRE HYDRANT.

FIRE HYDRANT INSTALLATION LIMITED SPACE

JANUARY 2021 — PLATE W-14



TYPICAL TRENCH

NOTES:

1. TRENCH SIDES SHALL BE APPROXIMATELY VERTICAL BETWEEN AN ELEVATION OF 1 FOOT ABOVE THE TOP OF THE PIPE AND THE CENTER LINE OF THE PIPE; OTHERWISE, TRENCH SIDES SHALL BE AS VERTICAL AS POSSIBLE OR AS REQUIRED BY OSHA STANDARDS. REFER TO THE MEASUREMENT AND PAYMENT SECTION (SECTION #801, PARAGRAPH #4) TO DETERMINE MAXIMUM PAYLINE WIDTHS.
2. BELL HOLE SHALL BE DUG TO PERMIT THE ENTIRE STRAIGHT BARREL OF THE PIPE TO REST ON THE UNDISTURBED TRENCH BOTTOM. BOULDERS OR LOOSE ROCKS LARGER THAN 3/4 INCH IN SIZE WILL NOT BE PERMITTED IN BACKFILL UP TO 1 FOOT ABOVE THE TOP OF THE PIPE.
3. BACK FILL MATERIAL UP TO A LEVEL OF 1 FOOT OVER THE PIPE SHALL CONSIST OF AASHTO CLASS A-3 SOIL (SUITABLE SOIL) AND SHALL EXCLUDE CLAY MATERIALS AND LOOSE ROCKS LARGER THAN 3/4 INCH SIZE.
4. BACKFILL MATERIAL UP TO A LEVEL 1 FOOT OVER THE TOP OF PIPE OR BOTTOM OF STRUCTURES SHALL BE PLACED IN 6 INCH COMPACTED THICKNESS LAYERS AND SHALL BE COMPACTED TO 98% OF IT'S MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D1557.
5. SEE " EXCAVATION AND EARTHWORK", SECTION 408 FOR ADDITIONAL REQUIREMENTS INCLUDING REMOVAL AND REPLACEMENT OF UNSUITABLE SOILS, DEWATERING, COMPACTION REQUIREMENTS AND DENSITY TESTING OF COMPACTED SOILS.

OPEN CUT TRENCH FOR PRESSURE PIPE

JANUARY 2021 — IN CITY RIGHT -OF-WAY — PLATE W-42

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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Certificate of Authorization No.: 3952

STANDARD DETAILS – WATER

NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD TIMOTHY PALMER, P.E. LICENSE NO. 58681

JOB NO. GUA 2071.02M

SHEET D-17

FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS
PROJECT MANAGER: TIMOTHY PALMER
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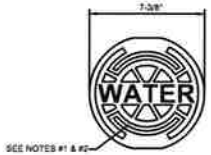
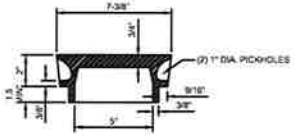


HEAVY DUTY RATING

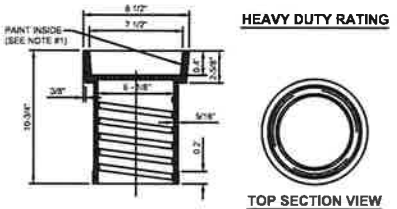


NOTES:

1. PAINT TOP OF THE COVER WITH ENAMEL PAINT (BLUE COLOR) FOR WATER.
2. FOR "REUSE" PAINT TOP PANTONE PURPLE.
3. LID WEIGHT: APPROX. 12 LBS

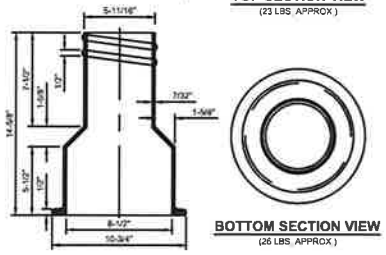
WATER SYSTEM VALVE BOX COVER

JANUARY 2021 PLATE W-16



HEAVY DUTY RATING

TOP SECTION VIEW
(23 LBS. APPROX.)



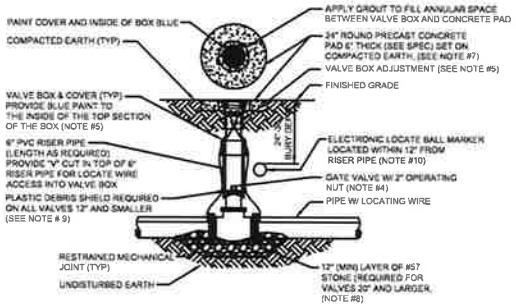
BOTTOM SECTION VIEW
(26 LBS. APPROX.)

NOTES:

1. PAINT THE INSIDE OF THE TOP SECTION OF THE BOX WITH APPLICABLE COLOR (BLUE OR PURPLE)
2. HEAVY DUTY RATING (TOTAL WEIGHT APPROX. 50 LBS.).
3. REFERENCE SECTION 351, PARAGRAPH X.2.

WATER SYSTEM VALVE BOX

JANUARY 2021 PLATE W-17



NOTES:

1. FOR UNPAVED LOCATIONS, A PRECAST CONCRETE VALVE PAD SHALL BE PROVIDED AND INSTALLED FLUSH WITH GRADE. CONCRETE PAD IS NOT REQUIRED FOR VALVE LOCATED IN THE ROADWAY, UNLESS SHOWN OR NOTED OTHERWISE.
2. LOCATING WIRE IS REQUIRED ON ALL PRESSURE PIPING (SEE DETAILW-44).
3. A "V" CUT SHALL BE CARVED IN THE CURB CLOSEST/ADJACENT(ASPHALT IF NO CURB) TO ALL BELOW GRADE VALVES. THE "V" CUT IS TO BE PAINTED BLUE WATER/PURPLE RECLAIMED.
4. IN PAVED AREAS, INSTALL VALVE AT A DEPTH TO ALLOW A 12" MIN. DISTANCE BETWEEN THE VALVE COVER PLATE AND THE TOP OF THE VALVE OPERATING NUT. OUTSIDE OF PAVED AREAS (GRASS), INSTALL VALVE AT A DEPTH TO ALLOW A 6" MINIMUM DISTANCE BETWEEN THE VALVE COVER AND THE TOP OF THE VALVE OPERATING NUT. OPERATING NUT/STEM EXTENSION SHALL BE PROVIDED (WHERE APPLICABLE) SO THAT THE OPERATING NUT WILL BE NO MORE THAN 30 INCHES BELOW FINISHED GRADE.
5. FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MIDRANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS. ROUTE LOCATE WIRES THRU A "V" CUT IN THE TOP OF THE 6" PVC RISER PIPE FOR LOCATE WIRE ACCESS INTO VALVE BOX. THE LOCATE WIRES WITH A 24" LONG PIG-TAIL AT THE TOP SHALL BE CONNECTED TOGETHER WITH A WIRE NUT.
6. BRASS IDENTIFICATION TAG INDICATING "WATER", VALVE SIZE, DIRECTION AND TURNS TO OPEN & VALVE TYPE. PROVIDE A ¼" HOLE IN BRASS TAG AND ATTACH TAG (TWIST WIRE AROUND TAG) TO THE END OF THE LOCATE WIRE. TAGS ARE NOT REQUIRED ON VALVES INSTALLED ON FIRE HYDRANT BRANCH LINES.
7. IN LIEU OF PRECAST CONCRETE PAD, A 6" THICK X 24" (ROUND OR SQUARE) POURED CONCRETE PAD W/2-# #4 REBAR AROUND PERIMETER, MAY BE USED.
8. GRAVEL SHALL BE PROVIDED UNDER ALL VALVES 20" AND LARGER. THE MINIMUM VERTICAL LIMIT OF GRAVEL IS 12" UNDER THE VALVE UP TO ½ THE OVERALL HEIGHT OF THE VALVE.
9. FOR VALVES 12 INCH AND SMALLER, PROVIDE A WHITE OR BLACK PLASTIC DEBRIS SHIELD WHICH INSTALLS BELOW THE OPERATING NUT. THIS SHIELD SHALL CENTER THE RISER PIPE BOX OVER THE OPERATING NUT AND MINIMIZE INFILTRATION. SHIELD SHALL BE BY AFC, BOXLOK OR APPROVED EQUAL.
10. ALL VALVES SHALL BE INSTALLED WITH AN ELECTRIC LOCATE MARKER. MARKER SHALL BE 4" DIA. COLOR CODED BALL MARKER (3M-1403XR FOR WATER AND 1408XR FOR RECLAIMED WATER).

WATER VALVE INSTALLATION DETAIL

JANUARY 2021 PLATE W-18

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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STANDARD DETAILS – WATER

NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 58651

JOB NO. GUA 2071.02M

SHEET D-18

PROJECT MANAGER: TIMOTHY PALMER
FILE NAME: J:\GUA\2071.02M\11 DESIGN\11-01 CAD\GENERAL\GENERAL DWG - D-18 - PLOTTED: 6/22/2021 3:40 PM BY: MANEL ARAUJO
FIELD BOOK INFORMATION: AMERICAN BEACH, WATER, SEWER IMPROVEMENTS

LENGTH (L) TO BE RESTRAINED (SEE PLATE Nos. 36C & 36D FOR ADDITIONAL DETAILS)

NOMINAL PIPE SIZE (IN.)	HORIZONTAL BENDS				VERTICAL DOWN 45° BENDS (SEE NOTE 4)		VALVES OR DEAD ENDS
	90° BENDS L (FT.)	45° BENDS L (FT.)	22.5° BENDS L (FT.)	11.25° BENDS L (FT.)	UPPER L (FT.)	LOWER L (FT.)	L (FT.)
4	21	9	5	3	17	3	42
6	30	13	6	3	23	4	66
8	38	16	8	4	32	6	86
10	45	19	9	5	36	7	103
12	53	22	11	6	43	8	121
14	61	26	13	6	50	9	140
16	66	28	14	7	55	10	154
18	73	30	15	8	60	11	172
20	79	33	16	8	66	12	186
24	79	33	16	8	77	15	185
30	93	39	19	10	97	17	222
36	106	39	21	11	107	20	257
42	117	49	24	12	120	24	288
48	144	53	26	13	133	26	321

REDUCERS	
SIZE (IN.)	L (FT.)
6x4	34
8x6	36
8x4	62
10x8	55
10x6	63
12x10	36
12x8	64
16x12	66
16x10	92
20x18	35
20x16	68
20x12	117
24x20	66
24x18	80
24x16	101
30x24	78
30x20	121
36x30	78
36x24	141
42x36	75
42x30	140
48x42	75
48x36	139

TEES SEE NOTE 5		
RUN SIZE (IN.)	BRANCH SIZE (IN.)	L (FT.)
4	4	F.O.
6	4	10
	4 < LESS	F.O.
8	8	29
	6 < LESS	F.O.
10	10	45
	8	13
	6 < LESS	F.O.
12	12	62
	10	33
	8 < LESS	F.O.
16	16	94
	12	29
	10	9
	10 < LESS	F.O.
20	20	125
	16	76
	12	14
	12 < LESS	F.O.
24	24	124
	20	84
	16	36
	12 < LESS	F.O.
30	30	159
	24	104
	20	60
	16	3
	16 < LESS	F.O.
36	36	192
	30	143
	24	82
	20	33
	16 < LESS	F.O.
42	42	223
	36	178
	30	124
	24	55
	20	9
	16 < LESS	F.O.
48	48	253
	42	209
	36	162
	30	104
	24	34
	20 < LESS	F.O.

F.O. = FITTING ONLY

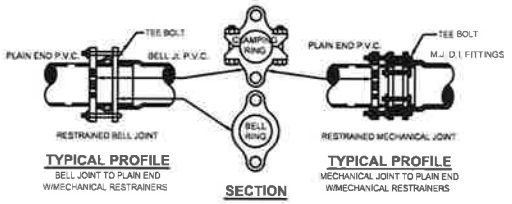
LENGTH (L) TO BE RESTRAINED (SEE PLATE Nos. 36C & 36D FOR ADDITIONAL DETAILS)

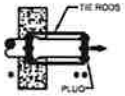
NOMINAL PIPE SIZE (IN.)	HORIZONTAL BENDS				VERTICAL DOWN 45° BENDS (SEE NOTE 4)		VALVES ON DEAD ENDS
	90° BENDS L (FT.)	45° BENDS L (FT.)	22.5° BENDS L (FT.)	11.25° BENDS L (FT.)	UPPER L (FT.)	LOWER L (FT.)	L (FT.)
4	17	7	4	2	15	3	30
6	24	10	5	3	18	4	42
8	31	13	6	3	20	5	56
10	36	15	8	4	23	6	65
12	42	18	9	5	27	7	77
14	48	20	10	5	31	7	87
16	53	22	11	6	35	8	97
18	58	24	12	6	39	9	107
20	63	27	13	6	42	10	118
24	63	27	13	7	45	12	118
30	75	31	15	8	56	14	141
36	86	36	17	9	68	17	163
42	95	40	19	10	76	19	183
48	117	43	21	11	84	21	203

REDUCERS	
SIZE (IN.)	L (FT.)
6x4	22
8x6	23
8x4	39
10x8	27
10x6	40
12x10	23
12x8	41
16x12	42
16x10	58
20x18	22
20x16	42
20x12	74
24x20	36
24x18	51
24x16	64
30x24	50
30x20	77
36x30	50
36x24	89
42x36	48
42x30	89
48x42	48
48x36	88

TEE SEE NOTE 5		
RUN SIZE (IN.)	BRANCH SIZE (IN.)	L (FT.)
4	4	F.O.
6	6	6
	4 < LESS	F.O.
8	8	19
	6 < LESS	F.O.
10	10	29
	8	9
	6 < LESS	F.O.
12	12	40
	10	21
	8 < LESS	F.O.
16	16	60
	12	29
	10	9
	8 < LESS	F.O.
20	20	79
	16	48
	12	9
	10 < LESS	F.O.
24	24	79
	20	54
	16	23
	12 < LESS	F.O.
30	30	101
	24	66
	20	38
	16	4
	12 < LESS	F.O.
36	36	122
	30	90
	24	53
	20	21
	16	1
	12 < LESS	F.O.
42	42	141
	36	113
	30	79
	24	36
	20	3
	16	1
	12 < LESS	F.O.
48	48	160
	42	133
	36	103
	30	66
	24	22
	20 < LESS	F.O.

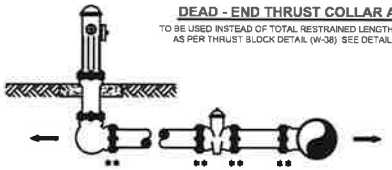
F.O. = FITTING ONLY





NO. OF TIE RODS REQUIRED

3" - 8"	DIAMETER MAIN - 2 TIE RODS REQUIRED PER JOINT (3/4" ROD)
10" - 12"	DIAMETER MAIN - 4 TIE RODS REQUIRED PER JOINT (3/4" ROD)
14" - 16"	DIAMETER MAIN - 6 TIE RODS REQUIRED PER JOINT (3/4" ROD)
18" - 20"	DIAMETER MAIN - 8 TIE RODS REQUIRED PER JOINT (3/4" ROD)
24"	DIAMETER MAIN - 12 TIE RODS REQUIRED PER JOINT (3/4" ROD)
30" - 36"	DIAMETER MAIN - 14 TIE RODS REQUIRED PER JOINT (1" ROD)
42" - 48"	DIAMETER MAIN - 16 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)
54"	DIAMETER MAIN - 18 TIE RODS REQUIRED PER JOINT (1 1/4" ROD)



DEAD - END THRUST COLLAR ANCHOR

TO BE USED INSTEAD OF TOTAL RESTRAINED LENGTH (OPTIONAL) SIZE AS PER THRUST BLOCK DETAIL (W-38). SEE DETAILS W-36 & W-37.

FIRE HYDRANT LATERAL

GENERAL NOTE:

1. PAY ITEM " * " DENOTES A RESTRAINT WHICH IS PAID FOR ON A PER EACH BASIS.
2. PAY ITEM " ** " DENOTES A RESTRAINT WHICH IS INCLUDED IN THE UNIT PRICE BID FOR FITTING OR VALVE.
3. ⟶ INDICATES DIRECTION OF THRUST FORCE.

PVC PIPE RESTRAINT NOTES:

1. THIS SCHEDULE SHALL BE UTILIZED ON ALL WATER, SEWER FORCE MAIN OR RECLAIMED WATER SYSTEMS. ALL FITTINGS SHALL BE RESTRAINED TO LENGTHS INDICATED ON THE ABOVE SCHEDULE, AT A MINIMUM.
2. ASSUMPTIONS: PVC PIPE, SAFETY FACTOR=1.5, TEST PRESSURE=150PSI, SOIL=GM OR SM, TRENCH TYPE 3, DEPTH OF COVER=30 INCHES FOR 20" AND SMALLER PIPE SIZE OR 36 INCHES FOR 24" AND LARGER PIPE SIZE.
3. BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF FITTING.
4. VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEET COVER ON BOTTOM. PER THE DETAILS, Lu IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL. Ll IS THE RESTRAINED LENGTH FOR THE LOWER (DEEPER) LEVEL. ASSUME 45 DEGREE BENDS.
5. TEES: TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN). SEE SCHEDULE ABOVE FOR RESTRAINT LENGTH ON TEE "BRANCH" LINE.
6. HDPE TO PVC TRANSITIONS: THE PVC PIPE SIDE SHALL BE RESTRAINED 35 FT (MIN).
7. THE INSTALLATION OF BELL HARNESS RESTRAINTS AT PVC JOINTS (DR 18 & 25 PIPE) SHALL BE COMPLETED PER THE MANUFACTURERS RECOMMENDATION, WHICH INCLUDES NOT OVER TIGHTENING THE PARALLEL RODS/NUTS. THESE NUTS SHOULD ONLY BE SNUG TIGHT. THE HOME MARKS ON THE PIPE SHOULD ALWAYS BE VISIBLE AFTER THE RESTRAINT IS INSTALLED. OVERHOMING THE JOINT MAY CAUSE A FAILURE AT THE BELL RESULTING IN A SERVICE OUTAGE.

DUCTILE IRON PIPE RESTRAINT NOTES:

1. THIS SCHEDULE SHALL BE UTILIZED ON ALL WATER, SEWER FORCE MAIN OR RECLAIMED WATER SYSTEMS. ALL FITTINGS SHALL BE RESTRAINED TO LENGTHS INDICATED ON THE ABOVE SCHEDULE, AT A MINIMUM.
2. ASSUMPTIONS: DUCTILE IRON PIPE (WITHOUT POLY WRAP), SAFETY FACTOR=1.5, TEST PRESSURE=150PSI, SOIL=GM OR SM, TRENCH TYPE 3, DEPTH OF COVER=30 INCHES FOR 20" AND SMALLER PIPE SIZE OR 36 INCHES FOR 24" AND LARGER PIPE SIZE. . FOR D.I.P. W/POLY WRAP, USE RESTRAINT JOINT SCHEDULE FOR PVC PIPE.
3. BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF FITTING.
4. VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEET COVER ON BOTTOM. PER THE DETAILS, Lu IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL. Ll IS THE RESTRAINED LENGTH FOR THE LOWER (DEEPER) LEVEL. ASSUME 45 DEGREE BENDS.
5. TEES: TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN). SEE SCHEDULE ABOVE FOR RESTRAINT LENGTH ON TEE "BRANCH" LINE.
6. HDPE TO D.I.P. TRANSITIONS: THE D.I.P. PIPE SIDE SHALL BE RESTRAINED 35 FT (MIN).

PVC PIPE RESTRAINT JOINT SCHEDULE

JANUARY 2021 — PLATE W-31A

DUCTILE IRON PIPE RESTRAINT JOINT SCHEDULE

JANUARY 2021 — PLATE W -31B

MECHANICAL RESTRAINT DETAILS - I

JANUARY 2021 — PLATE W-31C

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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Certificate of Authorization No.: 3952

STANDARD DETAILS – WATER

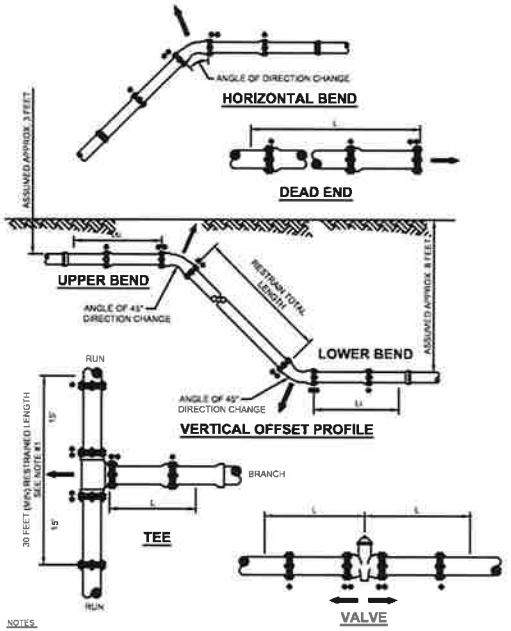
NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD TIMOTHY PALMER, P.E. LICENSE NO. 85681

JOB NO. GUA 2071.02M

SHEET D–19

PROJECT MANAGER: TIMOTHY PALMER
FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS
J:\GUA\2071.02M\CAD\11287\PLTS-GENERAL-DETAILS.DWG - D-19 - PLOTTED: 6/22/2021 3:40 PM BY BRIAN_ABDAL

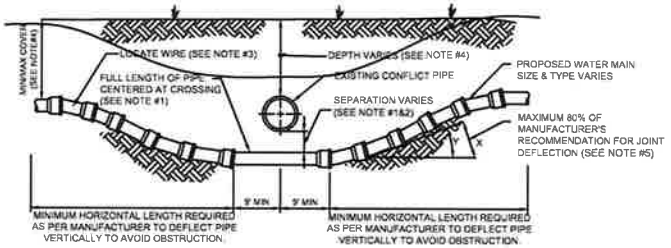


NOTES

1. TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN.)
2. PAY ITEM "*" DENOTES A RESTRAINT WHICH IS PAID FOR ON A PER EACH BASIS.
3. PAY ITEM "*" DENOTES A RESTRAINT WHICH IS INCLUDED IN THE UNIT PRICE BID FOR FITTING OR VALVE.

MECHANICAL RESTRAINT DETAILS - II

JANUARY 2021 PLATE W-31D



CASE "B" CROSSING

MAXIMUM ALLOWED OFFSET FOR PIPE BY JOINT DEFLECTION

PVC PIPE

PIPE SIZE (IN.)	(X) MAX. OFFSET (IN.)	(Y) ANGLE AT ONE BELL	RESULTING RADIUS OF CURVE WITH 20FT. LENGTHS
2	30	7°	158 FT
4	10	2.4°	480 FT
6	10	2.4°	480 FT
8	10	2.4°	480 FT
10	10	2.4°	480 FT
12	8.5	2°	564 FT
14 - 24	5	1.2°	960 FT
30 - 48	3.25	0.8°	1477 FT

DUCTILE IRON PIPE (Mechanical Joint)

PIPE SIZE (IN.)	MAX. OFFSET (IN.)	(Y) ANGLE AT ONE BELL	RESULTING RADIUS OF CURVE WITH 20FT. LENGTHS
-	-	-	-
4	22	6.5°	177 FT
6	24	5.7°	200 FT
8 - 12	17.5	4.2°	273 FT
14 - 16	12	2.9°	400 FT
18 - 20	10	2.4°	477 FT
24 - 30	8	1.9°	600 FT
36	7	1.7°	687 FT
42 - 48	6.7	1.6°	716 FT

NOTES

1. IF EXISTING CONFLICT PIPE IS A WATER MAIN, 12-INCHES OF SEPARATION IS REQUIRED. A FULL LENGTH OF PIPE SHALL BE CENTERED OVER EXISTING UTILITY MAIN TO PROVIDE MAXIMUM JOINT SPACING FOR ALL CROSSING.
2. FOR OTHER LOCATION LIMITATIONS SEE DETAIL (W-10 & W-11)
3. LOCATING WIRE REQUIRED: SEE DETAIL W-44.
4. THE COVER OVER ALL PIPING LESS THAN 24" SIZE SHALL BE A MINIMUM OF 30" IN UNPAVED AREAS AND 36" IN PAVED AREAS WITH A MAXIMUM COVER OF 60" UNLESS APPROVED OTHERWISE BY NAU. COVER FOR PIPING 24" SIZE AND LARGER SHALL BE MINIMUM OF 36" (PAVED AND UNPAVED) AND MAXIMUM OF 84" UNLESS APPROVED OTHERWISE BY NAU. THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST ASTM D 1557.
5. NAU ONLY ALLOWS 80% OF THE PIPE MANUFACTURER'S RECOMMENDATION FOR JOINT DEFLECTION. BENDING THE PIPE BARREL IS NOT ALLOWED. UNLESS OTHERWISE APPROVED BY NAU, THE MAXIMUM ARE LISTED IN TABLE BELOW. ONLY MANUAL FORCE CAN BE UTILIZED TO OBTAIN THESE JOINT DEFLECTION. ALL OFFSETS ARE BASED ON MINIMUM 20LF PIPE LENGTH.

ADJUSTMENT UNDER EXISTING UTILITIES PIPE JOINT DEFLECTION

JANUARY 2021 PLATE W-40

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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STANDARD DETAILS – WATER

NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD TIMOTHY PALMER, P.E. LICENSE NO. 86681

JOB NO. GUA 2071.02M

SHEET D-20

PROJECT MANAGER: TIMOTHY PALMER
FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS
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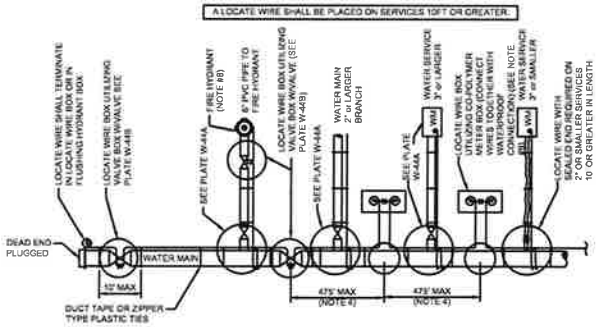


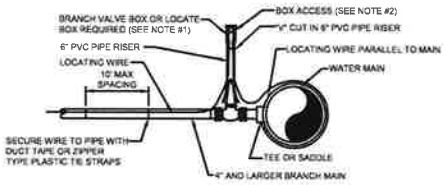
LOCATE WIRE SYSTEM

NOTES:

1. LOCATING WIRE TO BE INSTALLED IN EITHER THE ONE OR ELEVEN O CLOCK POSITION ON ALL DUCTILE IRON OR PVC (PRESSURE MAINS). LOCATE WIRE SHALL ALSO BE INSTALLED ON ALL (HDPE) POLY MAIN PIPING (1:00 OR 11:00 POSITION, 9" POSSIBLE).
2. SECURE LOCATING WIRE TO PVC & D.I.P. WATER MAIN BY USE OF DUCT TAPE OR ZIPPER TYPE PLASTIC TIE STRAPS SPACED AT A MAXIMUM DISTANCE OF TEN (10') AND AT EACH SIDE OF BELL JOINT OR FITTING.
3. THE ENTIRE LOCATING SYSTEM SHALL BE SUBJECTED TO TESTING TO DETERMINE ITS RELIABILITY. WHERE INSTALLED UNDER PAVEMENT AREAS, TESTING SHALL BE DONE PRIOR TO THE PLACEMENT OF PAVEMENT, UNLESS APPROVED OTHERWISE BY NAU.
4. LOCATING WIRE SHALL TERMINATE WITHIN AN ACTIVE VALVE BOX (WITH A VALVE) OR A METER BOX (IF NO VALVE) AT 475' INTERVALS. SEE DETAIL PLATE W-44B. WIRE CONNECTIONS BELOW GROUND (OUTSIDE OF A BOX) SHALL BE AVOIDED.
5. REFER TO SECTION 330 FOR LOCATE WIRE SPECIFICATIONS.
6. " " INDICATES THAT THE WIRES ARE CONNECTED TOGETHER WITH A WATERPROOF CONNECTION. (SEE DETAIL W-44B)
7. " " INDICATES A WIRE PIG-TAIL (6" LONG).
8. FOR FIRE HYDRANT LOCATE WIRE REQUIREMENTS AND EXCLUSIONS, SEE PLATES W-12.13 AND 14.
9. AN "LW" CUT SHALL BE CARVED IN THE CONCRETE CURB AND PAINTED AT ALL LOCATE WIRE BOXES.
10. FOUR LANES OF TRAFFIC (HAVING TWO LANES OF TRAFFIC IN EACH DIRECTION) OR GREATER THE LOCATE WIRE AND VALVE BOX SHALL BE OFF-SET TO THE RIGHT-OF-WAY.

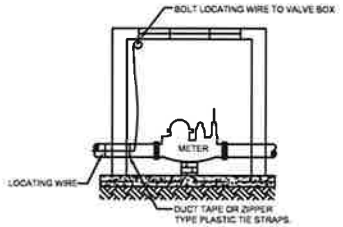
LOCATE WIRE CONSTRUCTION FOR WATER MAINS

JANUARY 2021 PLATE W-44



BRANCH FORCE MAIN

(2" AND LARGER WATER MAIN OR 3" AND LARGER WATER SERVICE PIPE)



CONNECTION AT LARGE METER BOX

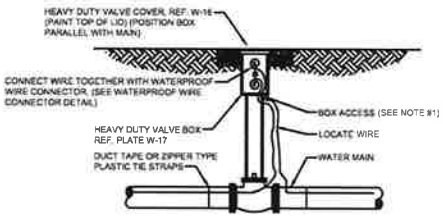
(3" OR LARGER SERVICE)

NOTES:

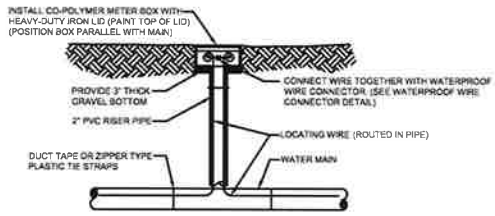
1. NOTE THAT THE BRANCH WIRE IS NOT CONNECTED TO THE MAIN WIRE.
2. LOCATE WIRE SHALL ENTER THE VALVE BOX THROUGH A "V" CUT IN THE 6" PVC RISER PIPE SECTION (SEE W-18).
3. LOCATE WIRE SHALL HAVE ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE AND LOCATE POINTS.

LOCATE WIRE FOR BRANCH MAIN

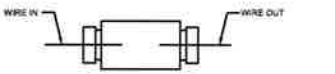
JANUARY 2021 PLATE W-44A



LOCATE WIRE BOX UTILIZING VALVE BOX



LOCATE WIRE BOX UTILIZING METER BOX



WATERPROOF WIRE CONNECTOR DETAIL

NOTES:

1. LOCATE WIRE SHALL ENTER THE VALVE BOX THROUGH A "V" CUT IN THE 6" PVC RISER PIPE (SEE W-18).
2. LOCATE WIRE SHALL HAVE ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE AND LOCATE POINTS.
3. LOCATE WIRE CONNECTION SHALL ONLY BE A 2 WAY CONNECTION.

LOCATE WIRE BOX

JANUARY 2021 PLATE W-44B

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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STANDARD DETAILS – WATER

NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 80481

JOB NO. GUA 2071.02M

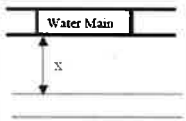
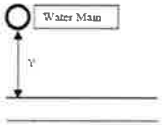
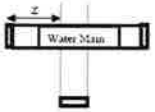
SHEET D-21

FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS
PROJECT MANAGER: TIMOTHY PALMER
FILE NAME: J:\GUA\2071.02M\FILES\CAD\PLOTS-GENERAL-DETAILS.DWG - D-21 - PLOTTED 6/29/2021 3:40 PM BY BRIAN L. ABDUL

LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH RULE 62-555.314, F.A.C.

The following table summarizes the required separation distances from public water mains to other pipes as provided in Rule 62-62-555.314, F.A.C. Exceptions to these required distances are addressed on the second page.

Separation Requirements for Public Water System Mains:

Other Pipe	Horizontal Separation (X) 	Crossings Vertical Separation (Y) 	Joint Spacing (Z) @ Crossings (Full Joint Centered) 
• **Storm Sewers** • **Stormwater Force Mains** • **Reclaimed Water Pipelines regulated under Part III of Chapter 62-610, F.A.C.**	3 ft. minimum	For water main installed above other pipe (preferred), 12 inches is the minimum except for storm sewer, then 6 inches is the minimum and 12 inches is preferred 12 inches minimum if water main is below other pipe	Alternate 3 ft. minimum
• **Vacuum Sanitary Sewer**	10 ft. preferred 3 ft. minimum	For water main installed above other pipe, 12 inches preferred and 6 inches minimum 12 inches minimum if water main is below other pipe	Alternate 3 ft. minimum
• **Gravity or Pressure Sanitary Sewer** • **Sanitary Sewer Force Main** • **Reclaimed Water Pipelines not regulated under Part III of Chapter 62-610, F.A.C.**	10 ft. preferred 6 ft. minimum (note - 3 ft. minimum for gravity sanitary sewer where the bottom of the water main is laid at least 6 inches above the top of the gravity sanitary sewer)	For water main installed above other pipe (preferred), 12 inches is the minimum except for gravity sewer, then 6 inches is the minimum and 12 inches is preferred 12 inches minimum if water main is below other pipe	Alternate 6 ft. minimum
• **On-Site Sewage Treatment & Disposal System**	10 ft. minimum	NA	NA

Refer to the next page for exceptions to the minimum separation requirements provided above.

Disclaimer – This document is provided for your convenience only. Please refer to Rule 62-555.314, F.A.C., for additional construction requirements.

EXCEPTIONS TO MINIMUM SEPARATION REQUIREMENTS

Where it is not technically feasible or economically sensible to comply with the requirements of 62-555.314(1) or (2), F.A.C., **the Department shall allow exceptions to these requirements if suppliers of water or construction permit applicants provide technical or economic justification for each exception and provide alternative construction features that afford a similar level of reliability and public health protection.**

Acceptable alternative construction features include the following:

LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH 62-555.314(5)(a), F.A.C.

Figure 1. Horizontal separation distance X less than required but not less than 3 feet

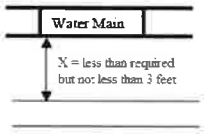
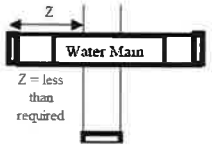


Figure 2. Joint spacing distance Z less than required



Where an underground water main is being laid **less than the required minimum horizontal distance** from another pipeline and where an underground water main is **crossing another pipeline and joints in the water main are being located less than the required minimum distance from joints in the other pipeline**:

1. Use of pressure-rated pipe conforming to the American Water Works Association standards incorporated into Rule 62-555.330, F.A.C., for the other pipeline if it is a gravity- or vacuum-type pipeline;
2. Use of welded, fused, or otherwise restrained joints for either the water main or the other pipeline; **or**
3. Use of watertight casing pipe or concrete encasement at least four inches thick for either the water main or the other pipeline.

LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH 62-555.314(5)(b), F.A.C.

Figure 3. Horizontal separation distance X less than 3 feet

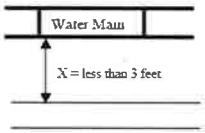
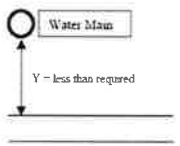


Figure 4. Crossing vertical separation distance Y less than required



Where an underground water main is being laid **less than three feet horizontally** from another pipeline and where an underground water main is **crossing another pipeline and is being laid less than the required minimum vertical distance from the other pipeline**:

Use of pipe, or casing pipe, having high impact strength (i.e., having an impact strength at least equal to that of 0.25-inch-thick ductile iron pipe) or concrete encasement at least four inches thick for both the water main **and** for the other pipeline if it is new and is conveying wastewater or reclaimed water.

Disclaimer – This document is provided for your convenience only. Please refer to Rule 62-555.314, F.A.C., for additional construction requirements.

PROJECT MANAGER: TIMOTHY PALMER
C:\FW_WORK\WADE TRIM\JOBS\GUA 2071.02M\TS-GENERAL-DETAILS.DWG - D-22 - PLOTTED: 6/30/2021 3:40 PM BY BURKE, ABIGAIL
FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

WADE TRIM
201 North Franklin Street, Suite 1350
Tampa, FL 33602
813.882.4373
www.wadetrim.com
Certificate of Authorization No.: 3952

STANDARD DETAILS – WATER

NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

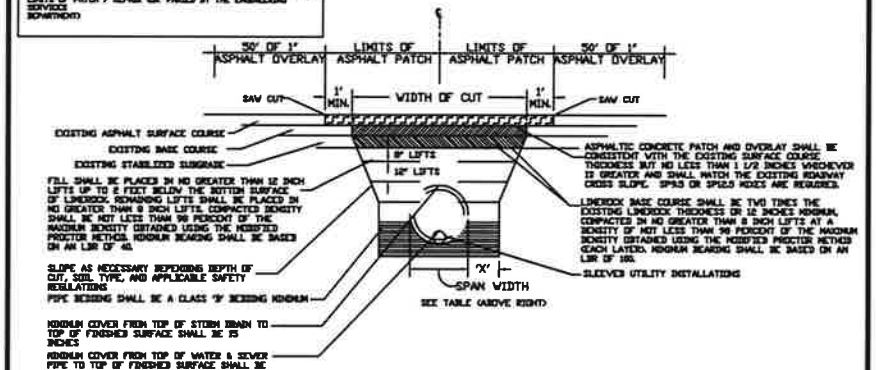
ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 88681

JOB NO. GUA 2071.02M
SHEET D-22

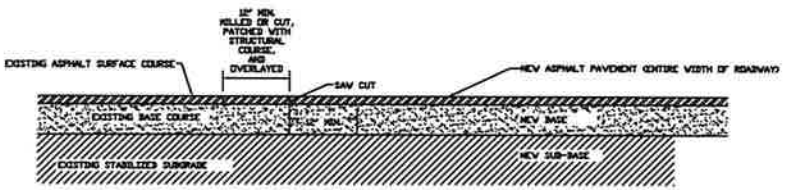
NOTES:

1. TEST REPORTS FOR DENSITY AND BEARING SHALL BE REQUIRED FOR ALL COMPACTED LIFTS.
2. SOIL BEARING MAY BE DETERMINED BY A STATIC CONE PENETROMETER.
3. FLOWABLE FILL IS THE PREFERRED ALTERNATIVE FOR ALL BACKFILL REQUIREMENTS. (SEE OPEN ROADWAY CUT DETAIL NO. 15 FOR USE OF FLOWABLE FILL)
4. PUBLIC SAFETY SHALL BE MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH THE PROVISIONS OF PART 6, TEMPORARY TRAFFIC CONTROL, OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE NASSAU COUNTY ROAD CLOSURE POLICY.
5. ALL OPEN ROADWAY CUTS SHALL REQUIRE A 24 HOUR ADVANCE NOTICE TO THE ENGINEERING SERVICES DEPARTMENT INSPECTION STAFF PRIOR TO COMMENCEMENT OF CONSTRUCTION. A REPRESENTATIVE FROM THE ROADWAY INSPECTION STAFF MUST BE PRESENT AT THE TIME OF INSTALLATION OF THE UTILITY.
6. 1" ASPHALT OVERLAY LONGITUDINALLY, TO BE 30' EACH WAY FROM LIMITS OF PATCH / REPAIR (OR VARIED BY THE ENGINEERING SERVICES DEPARTMENT)

PIPE DIAMETER OR SPAN WIDTH	'X'
≤ 18"	18 INCHES
≤ 30"	24 INCHES
≤ 42"	30 INCHES
≤ 48"	36 INCHES
≤ 60"	42 INCHES
> 60"	48 INCHES



ROADWAY AND DRAINAGE STANDARDS NASSAU COUNTY PUBLIC WORKS ENGINEERING SERVICES DEPARTMENT	REVISION DATES	OPEN ROAD CUTS / COMPACTED FILL	DETAIL NO. 16 DVG ADOPTED



NOTES:

1. ENTIRE WIDTH OF THE ROADWAY SHALL BE OVERLAYED.
2. MILLING AND OVERLAY OF THE ENTIRE ROADWAY WIDTH MAY BE REQUIRED AS DETERMINED BY THE ENGINEERING SERVICES DEPARTMENT

ROADWAY AND DRAINAGE STANDARDS NASSAU COUNTY ENGINEERING SERVICES DEPARTMENT	REVISION DATES	SAWCUT DETAIL	DETAIL NO. 26 DVG ADOPTED

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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STANDARD DETAILS – ROADWAY

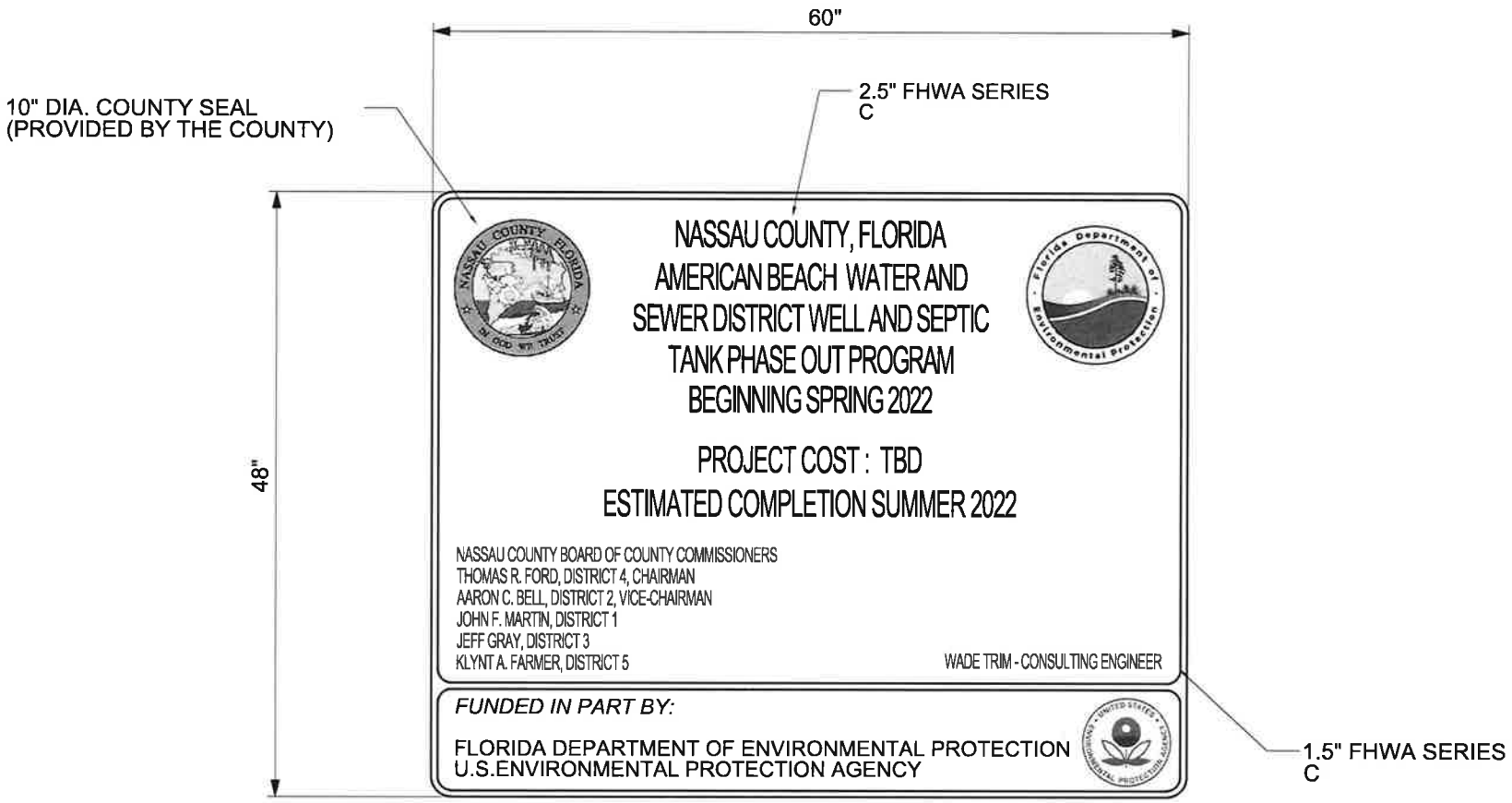
NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD TIMOTHY PALMER, P.E. LICENSE NO. 86681

JOB NO. GUA 2071.02M

SHEET D-23

PROJECT MANAGER: TIMOTHY PALMER
CIVIL WORKSPACE: I:\GUA\2071\11\837\CIVIL\STANDARDS\STANDARDS.DWG
FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS
- 6-23 - PLOTTED: 6/22/2021 3:40 PM BY BURNS, ABIGAIL



IMPACT FEE SIGN

N.T.S.

NOTES:

1. WHITE LETTERING ON BLUE INFORMATION SIGN TO BE PROVIDED BY CONTRACTOR AT PROPOSED LOCATIONS PER NASSAU COUNTY.
2. ALL SIGN FONT SHALL BE FHWA SERIES C.

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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STANDARD DETAILS – CONSTRUCTION

NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

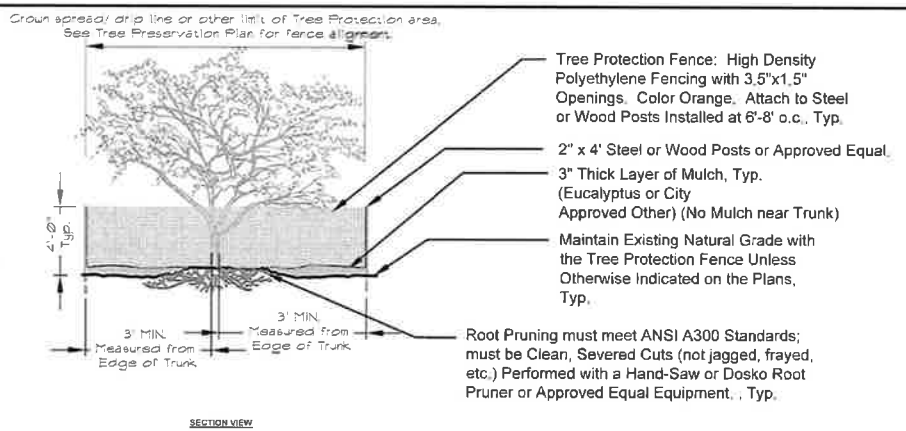
ENGINEER OF RECORD TIMOTHY PALMER, P.E. LICENSE NO. 88681

JOB NO. GUA 2071.02M

SHEET D-24

Notes:

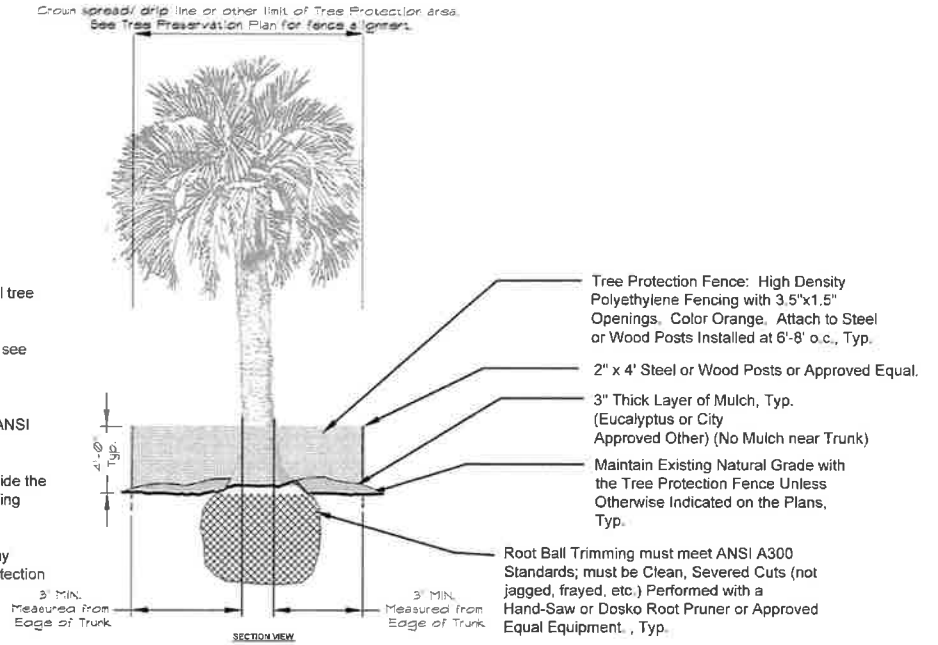
1. See specifications for additional tree protection requirements.
2. If there is no existing irrigation, see specifications for watering requirements.
3. Pruning shall be performed to ANSI A300 Standards.
4. No equipment shall operate inside the protective fencing including during fence installation and removal.
5. See site preparation plan for any modifications with the Tree Protection area.



(3) TREE PROTECTION FOR SMALL ORNAMENTAL TREE

Notes:

1. See specifications for additional tree protection requirements.
2. If there is no existing irrigation, see specifications for watering requirements.
3. Pruning shall be performed to ANSI A300 Standards.
4. No equipment shall operate inside the protective fencing including during fence installation and removal.
5. See site preparation plan for any modifications with the Tree Protection area.



(4) TREE PROTECTION FOR PALM TREE

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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STANDARD DETAILS – TREE PROTECTION

NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD TIMOTHY PALMER, P.E. LICENSE NO. 86681

JOB NO. GUA 207I.02M

SHEET D–25

PROJECT MANAGER: TIMOTHY PALMER
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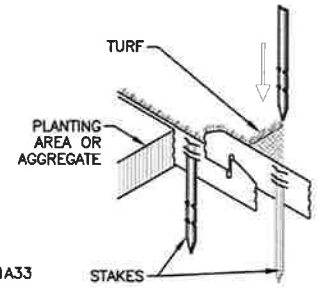
FIELD BOOK INFORMATION, AMERICAN BEACH SANITARY SEWER IMPROVEMENTS

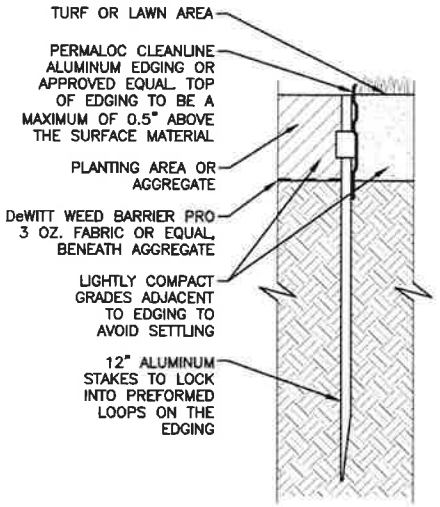
SIZE:
3/16" X 5.5", 0.116" THICK WITH
0.187" EXPOSED TOP LIP – BLANO

FINISH LEGEND:
(MF) MILL FINISH–NATURAL ALUMINUM
(BL) BLACK DURAFLEX–MEETS AAMA 2603
(GR) GREEN DURAFLEX–MEETS AAMA 2603
(BR) BRONZE DURAFLEX–MEETS AAMA 2603
(BLANO) BLACK ANODIZED – CLASS II, AA–M10C21A33



ISOMETRIC VIEW

NOTES:
1. INSTALL PER MANUFACTURER'S "INSTALLATION GUIDELINES"
2. 8'–0" (2.44 M) SECTIONS TO INCLUDE (3) 12" (305 MM) ALUMINUM STAKES.
3. 16'–0" (4.88 M) SECTIONS TO INCLUDE (5) 12" (305 MM) ALUMINUM STAKES.
4. CORNERS – CUT BASE EDGING UP HALFWAY AND FORM A CONTINUOUS CORNER.
5. PERMALOC CLEANLINE AS MANUFACTURED BY PERMALOC CORPORATION, HOLLAND MI. (800) 356–9660 (616) 399–9600
6. CONTRACTOR'S NOTE: FOR PRODUCT AND PURCHASING INFORMATION VISIT:WWW.PERMALOC.COM



SECTION VIEW

TIMOTHY R. PALMER
LICENSE
No. 86681
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

ALUMINUM EDGING DETAIL

NOT TO SCALE

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STANDARD DETAILS – LANDSCAPING

NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 86681

JOB NO. GUA 2071.02M

SHEET D–26

LANDSCAPE NOTES

1. ALL PLANTS TO BE INSTALLED IN ACCORDANCE WITH AMERICAN ASSOCIATION OF NURSERYMEN LANDSCAPE STANDARDS.
2. CONTRACTOR SHALL PROVIDE A PLANTING MIXTURE MEETING THE FOLLOWING REQUIREMENTS. IF THE ENGINEER HAS ANY CONCERNS WITH THE QUALITY OF THE PLANTING MIXTURE, THE ENGINEER SHALL BE ALLOWED TWO WEEKS TO OBTAIN SOIL TEST TO DETERMINE SPECIFICATION COMPLIANCE. NO PLANT MATERIAL SHALL BE PLANTED PRIOR TO ENGINEER APPROVAL OF PLANTING MIXTURE. ALL PLANT MATERIAL SHALL BE MAINTAINED BY THE CONTRACTOR IN A VIGOROUS GROWING CONDITION DURING THIS TIME AT NO ADDITIONAL COST.
3. SPACING OF PLANT MATERIALS SHALL BE AS SHOWN ON DRAWING OR ON PLANT LIST. THE ENGINEER SHALL REVIEW THE PLACEMENT OF PLANT MATERIAL PRIOR TO AND AFTER INSTALLATION, AND RESERVES THE RIGHT TO ADJUST LAYOUT TO ACCOMMODATE SITE CONDITIONS AND DESIGN INTENT.
4. ALL PLANT MATERIALS SHALL CONFORM TO PLANT SCHEDULES. SIZES SHALL BE THE MINIMUM STATED ON THE PLANT LIST OR LARGER. ALL MEASUREMENTS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "A.A.N. STANDARDS FOR NURSERY STOCK."
5. NO PLANT SHALL BE PUT INTO THE GROUND BEFORE ROUGH GRADING HAS BEEN FINISHED AND REVIEWED BY THE ENGINEER.
6. FINAL PLANT LOCATIONS SHALL BE MARKED BY CONTRACTOR THREE WORKING DAYS PRIOR TO PLANTING FOR ENGINEER REVIEW.
7. ALL PLANTED PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANTS ORIGINAL GRADE BEFORE DIGGING.
8. PLANT MATERIAL, ESPECIALLY EVERGREENS, TO BE PLANTED HIGHER THAN NORMAL WHEN HEAVY SOIL CONDITIONS (CLAY, ETC.) PREVAIL.
9. IF FOR ANY REASON ANY BALLED AND BURLAPED PLANT MATERIALS NEED TO BE STORED ON SITE LONGER THAN A 24-HOUR PERIOD, THEIR ROOT BALLS SHALL BE PROTECTED. ALL PLANTS SHALL BE THOROUGHLY WATERED EACH DAY THEY ARE STORED ON SITE. PLANTS MAY BE STORED ON SITE FOR A MAXIMUM OF TWO (2) WEEKS, OR 14 DAYS. ANY PLANTS ALLOWED TO DRY OUT AS DETERMINED BY THE ENGINEER WILL BE REJECTED.
10. NO CONTAINER GROWN STOCK WILL BE ACCEPTED IF IT IS ROOT BOUND. ALL WRAPPING MATERIALS MADE OF SYNTHETIC OR PLASTICS SHALL BE COMPLETELY REMOVED AT TIME OF PLANTING.
11. THE CONTRACTOR SHALL FILL PLANT PIT WITH PREPARED PLANT MIX TO ½ DEPTH OF ROOT BALL OR ROOT MASS, PACK FIRMLY, PUDDLE WITH WATER; THEN FOR BALLED AND BURLAPED MATERIAL, THE BURLAP AND ALL LACING (INCLUDING WIRE BASKET IF NECESSARY) SHALL BE REMOVED FROM THE UPPER 1/3 OF ROOTBALL, THEN FINISH BACKFILLING ADDING SOLID FERTILIZER TO THE PLANT MIX, PACK FIRMLY AND WATER. A SAUCER SHALL BE PLACED AROUND EVERY PLANT AND SHALL BE APPROVED PRIOR TO PLACEMENT OF ANY MULCH.
12. ALL DISTURBED LAWN AREAS SHALL BE RESTORED WITH 4-INCHES OF TOPSOIL, SPREAD, FINE GRADED, AND SEEDED/SODDED AS SPECIFIED. PRIOR TO INSTALLATION OF TOPSOIL, LOOSEN SUBGRADE TO A DEPTH OF 2 INCHES. THIS WORK SHALL BE INCIDENTAL TO THE PROJECT.
13. TOPSOIL SHALL CONSIST OF FRIABLE, SHREDDED, AND SCREENED SOIL REASONABLY FREE OF GRASS, ROOTS, WEEDS, STICKS, STONES OR OTHER FOREIGN MATERIALS. THE TOPSOIL MATERIAL SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT. SOIL COMPOSITION SHOULD CONTAIN AN ORGANIC CONTENT OF 2 TO 6 PERCENT AND BE CLASSIFIED AS A LOAM OR SANDY LOAM AS SPECIFIED IN THE "GUIDE FOR U.S.D.A. SOIL TEXTURAL CLASSIFICATION'.
14. ALL TREES AND SHRUBS ARE TO BE FERTILIZED ONCE ROOTS SYSTEM IS ESTABLISHED WITH AGRIFORM 21-GRAM FERTILIZER TABLETS AT RATES RECOMMENDED BY MANUFACTURER.
15. ALL PLANTS AND STAKES SHALL BE SET PLUMB UNLESS OTHERWISE SPECIFIED.
16. AT PLANTING TIME, ALL DEAD AND BROKEN BRANCHES SHALL BE PRUNED ON ALL DECIDUOUS TREES.
17. CONTRACTOR SHALL APPLY ENGINEER APPROVED PRE-EMERGENT HERBICIDE, "PREEN" OR EQUAL, TO SHRUB AND GROUND COVER PLANTING AREAS AT THE TIME OF PLANTING (IF SPRING PLANTED) OR THE FOLLOWING SPRING. CONTRACTOR SHALL ENSURE THE PLANT MATERIALS ARE RESISTANT TO THE HERBICIDES PROPERTIES. HERBICIDE SHALL BE APPLIED ACCORDING TO MANUFACTURERS SPECIFICATIONS AND IN ACCORDANCE WITH SOUND HORTICULTURAL PRACTICES.
18. ALL TREES, SHRUBS AND PERENNIAL GROUND COVER SHALL RECEIVE A MINIMUM DEPTH OF THREE INCHES DOUBLE SHREDDED HARDWOOD BARK MULCH. WHERE PLANT BEDS MEET PAVEMENTS, LAWN, OR STEEL EDGING CUT THE GRADE TO ALLOW FOR MULCH AND THREE-INCH DROP FROM ADJOINING FINISH GRADE.
19. ALL PLANT BEDS SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 8-INCHES AND BACKFILLED WITH SPECIFIED PLANT MIX AS PER PLANTING BED DETAILS. BEDS SHALL BE EDGED WITH METAL EDGING AROUND PERIMETER. ALL EDGING SHALL BE 4" WIDE – 12 GAUGE STEEL, COLOR BLACK. CONTRACTOR SHALL LAYOUT EDGING FOR APPROVAL AND INSTALL PER MANUFACTURERS RECOMMENDATIONS.
20. PLANTS SHALL BE WATERED BEFORE AND AFTER PLANTING IS COMPLETE. ALL TREES MUST BE STAKED, FERTILIZED AND MULCHED AND SHALL BE GUARANTEED TO EXHIBIT A NORMAL GROWTH CYCLE FOR AT LEAST ONE (1) FULL YEAR FOLLOWING PLANTING. ALL DISEASED, DAMAGED, OR DEAD MATERIAL SHOWN ON THE SITE PLAN SHALL BE REPLACED BY THE END OF THE FOLLOWING GROWING SEASON.
21. APPLICATIONS OF FERTILIZER BEYOND THE INITIAL TOPSOIL AND SEEDING SHALL BE A FERTILIZER WITH NO PHOSPHOROUS.

TIMOTHY R. PALMER
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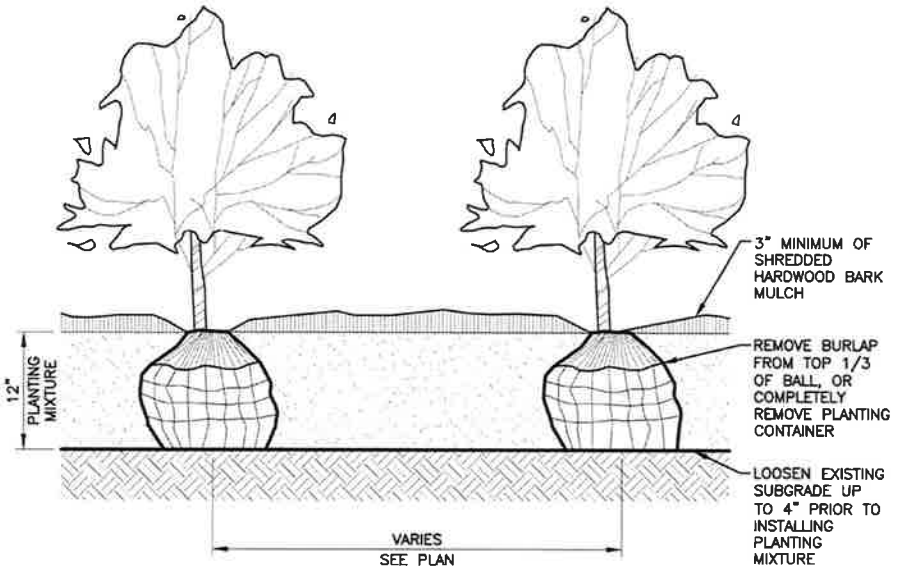

SHRUB PLANTING DETAIL

NOT TO SCALE

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
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STANDARD DETAILS – LANDSCAPING

NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD: TIMOTHY PALMER, P.E. LICENSE NO. 86681

JOB NO. GUA 2071.02M

SHEET D-27

LOW – VOLTAGE CIRCUIT BREAKER (CB). RATINGS AND NO. OF POLES AS SHOWN. WHEN SPECIFIC TYPE IS REQUIRED, X INDICATES TYPE.

TYPES:
MCCB – MOLDED CASE
ICCB – INSULATED CASE
LVP – LOW – VOLTAGE POWER
MCP – MOTOR CIRCUIT PROTECTOR
(RATING PER CONNECTED LOAD)

SEPARATELY MOUNTED CIRCUIT BREAKER; SEE ELECTRICAL ONE – LINE DIAGRAM OR SCHEDULE FOR DESCRIPTION

GROUND FAULT PROTECTION

MEDIUM – VOLTAGE CIRCUIT BREAKER

FUSE, SIZE, AND NUMBER OF FUSES AS NOTED

FUSED CUTOUT, CURRENT RATING, FUSE SIZE, AND NUMBER OF POLES AS NOTED

FUSIBLE SWITCH, CURRENT RATING, FUSE SIZE, AND QUANTITY AS NOTED

NON–FUSED SWITCH, CURRENT RATING, AND NUMBER OF POLES AS NOTED

DISCONNECT OR DRAWOUT CONNECTION

MAGNETIC MOTOR STARTER AND SEPARATELY MOUNTED COMBINATION MAGNETIC MOTOR STARTER

MOTOR CONTROLLER AND SEPARATELY MOUNTED MOTOR CONTROLLER WITH SHORT CIRCUIT PROTECTION AND DISCONNECT

MOTOR STARTER AND CONTROLLER SUBSCRIPTS:

A – MAGNETIC STARTER NEMA SIZE

B – STARTER TYPE
NONE – FULL VOLTAGE NON–REVERSING (FVNR)
FVR – FULL VOLTAGE REVERSING
2S – TWO SPEED
RVAT – REDUCED VOLTAGE AUTO TRANSFORMER

C – CONTROL DIAGRAM OR CONTROLS SCHEDULE NUMBER (IF REQUIRED)

D – CONTROLLER TYPE
VFD – VARIABLE FREQUENCY DRIVE
SS – SOLID STATE

SEPARATELY MOUNTED COMBINATION MOTOR STARTER OR CONTROLLER; SEE ELECTRICAL ONE – LINE DIAGRAM OR SCHEDULE FOR DESCRIPTION

THERMAL OVERLOAD ELEMENT

THERMAL OVERLOAD RELAY CONTACT

DISCONNECT OR SAFETY SWITCH, 30A, 3P, NON–FUSED UNLESS OTHERWISE NOTED

MOTOR WITH DESIGN HORSEPOWER (WHEN INDICATED)

GENERATOR

TRANSFER SWITCH, CURRENT RATING, AND NUMBER OF POLES AS NOTED

ATS – AUTOMATIC
MTS – MANUAL

TRANSFORMER

3–PHASE, 3–WIRE DELTA CONNECTION

3–PHASE, 4–WIRE GROUNDED WYE CONNECTION

SWITCHBOARD OR PANELBOARD; NAME, VOLTAGE, PHASE, NUMBER OF WIRES WHEN INDICATED

NON–MOTOR LOAD WITH DESIGN KVA, KW, OR AMP

CONTROL POWER TRANSFORMER (CPT)

VOLTAGE TRANSFORMER (VT OR PT)

CURRENT TRANSFORMER (CT)

UTILITY WATT–HOUR METER PER UTILITY REQUIREMENTS

DIGITAL METERING PACKAGE

RUN TIME METER

GROUND

LIGHTNING ARRESTER

LOW VOLTAGE SURGE PROTECTIVE DEVICE

ELECTRICAL CONNECTION

NO ELECTRICAL CONNECTION

SOLENOID VALVE

CONTROL/RELAY COIL; X INDICATES TYPE, Y INDICATES LOOP NO. WHEN USED

TYPES:
CR – CONTROL RELAY
DP – DEFINITE PURPOSE RELAY
LC – LIGHTING CONTACTOR
M – MOTOR STARTER
PC – PHOTO CELL
TC – TIME CLOCK
TR – TIMING RELAY

NORMALLY OPEN CONTACT (N.O.)

NORMALLY CLOSED CONTACT (N.C.)

NORMALLY OPEN TIME DELAY RELAY CONTACT WITH TIME DELAY ON CLOSING AFTER COIL IS ENERGIZED

NORMALLY CLOSED TIME DELAY RELAY CONTACT WITH TIME DELAY ON OPENING AFTER COIL IS ENERGIZED

NORMALLY OPEN TIME DELAY RELAY CONTACT WITH TIME DELAY ON OPENING AFTER COIL IS DE–ENERGIZED

NORMALLY CLOSED TIME DELAY RELAY CONTACT WITH TIME DELAY ON CLOSING AFTER COIL IS DE–ENERGIZED

NORMALLY OPEN TEMPERATURE SWITCH; CLOSE ON RISING TEMPERATURE

NORMALLY CLOSED TEMPERATURE SWITCH; OPEN ON RISING TEMPERATURE

NORMALLY OPEN FLOW SWITCH; CLOSE ON INCREASING FLOW

NORMALLY CLOSED FLOW SWITCH; OPEN ON INCREASING FLOW

NORMALLY OPEN LEVEL SWITCH, CLOSE ON RISING LEVEL

NORMALLY CLOSED LEVEL SWITCH, OPEN ON RISING LEVEL

NORMALLY OPEN PRESSURE SWITCH, CLOSE ON INCREASING PRESSURE

NORMALLY CLOSED PRESSURE SWITCH, OPEN ON INCREASING PRESSURE

NORMALLY OPEN LIMIT SWITCH, CLOSE ON REACHING LIMIT

NORMALLY CLOSED LIMIT SWITCH, OPEN ON REACHING LIMIT

FIELD WIRING EXTERNAL TO CONTROL PANEL

INTERLOCK; X INDICATES TYPE

TYPES:
E – ELECTRICAL
M – MECHANICAL
K – KEY

3 POSITION SELECTOR SWITCH, MAINTAINED CONTACTS; UNLESS OTHERWISE NOTED, 2–POSITION SIMILAR

NORMALLY OPEN PUSHBUTTON, MOMENTARY CONTACT UNLESS OTHERWISE NOTED

NORMALLY CLOSED PUSHBUTTON, MOMENTARY CONTACT UNLESS OTHERWISE NOTED

INDICATING LIGHT, X INDICATES LENS COLOR

PUSH TO TEST INDICATING LIGHT, X INDICATES LENS COLOR

LENS COLORS:
R – RED
G – GREEN
B – BLUE
Y – YELLOW
W – WHITE
A – AMBER

TRANSFORMER

SELECTOR SWITCH

PUSHBUTTON

INSTRUMENTATION/CONTROL DEVICE

CONTROL PANEL INTEGRAL OR PROVIDED WITH ASSOCIATED EQUIPMENT

CONTROL PANEL WITH DISCONNECT SWITCH INTEGRAL OR PROVIDED WITH ASSOCIATED EQUIPMENT

JUNCTION OR PULL BOX

PANELBOARD (250V TO 600V)

PANELBOARD (LESS THAN 250V)

ELECTRICAL EQUIPMENT ENCLOSURE: SWITCHBOARD, MOTOR CONTROL CENTER, CONTROL PANEL, OR OTHER EQUIPMENT AS INDICATED

PHOTOCELL

CEILING/PENDANT–MOUNTED LUMINAIRE – HID, COMPACT FLUORESCENT, OR INCANDESCENT

WALL–MOUNTED LUMINAIRE – HID, COMPACT FLUORESCENT, OR INCANDESCENT

CEILING/PENDANT–MOUNTED FLUORESCENT FIXTURE

WALL–MOUNTED FLUORESCENT FIXTURE

CEILING/PENDANT–MOUNTED FLUORESCENT FIXTURE NORMAL/EMERGENCY

WALL–MOUNTED FLUORESCENT FIXTURE NORMAL/EMERGENCY

EMERGENCY LIGHT FIXTURE, 2 ATTACHED HEADS AS SHOWN

EMERGENCY LIGHT, REMOTE MOUNTED HEAD

DOUBLE–FACED CEILING OR WALL–MOUNTED EXIT LIGHT; DIRECTIONAL ARROWS (IF REQUIRED) AS INDICATED ON PLANS

SINGLE–FACED CEILING OR WALL–MOUNTED EXIT LIGHT; DIRECTIONAL ARROWS (IF REQUIRED) AS INDICATED ON PLANS

AREA OR ROADWAY LIGHT – POLE–MOUNTED

LIGHTING FIXTURE SUBSCRIPTS:
X – INDICATES FIXTURE TYPE PER LIGHTING FIXTURE SCHEDULE
Y – INDICATES CIRCUIT NUMBER FROM PANELBOARD
z – INDICATES CONTROLLING SWITCH (IF REQUIRED)

TOGGLE SWITCH

SUBSCRIPTS:
X – INDICATES TYPE
NONE – SINGLE POLE
3 – THREE–WAY
4 – FOUR–WAY
HP – TOGGLE SWITCH, HORSEPOWER RATED
K – KEY SWITCH
TE – MANUAL MOTOR STARTER WITH THERMAL ELEMENT
P – PILOT LIGHT
L – LIGHTED HANDLE
Y – INDICATES CONTROLLING SWITCH (IF REQUIRED)

SPECIAL–PURPOSE RECEPTACLE AS DEFINED ON PLANS

PLUG–IN RECEPTACLE STRIP, QUANTITY AND SPACING OF RECEPTACLES AS NOTED OR SPECIFIED

TELECOMMUNICATIONS OUTLET JUNCTION BOX

QUAD–DUPLEX RECEPTACLE, TWO NEMA 5–20R UNDER COMMON COVER PLATE

DUPLEX RECEPTACLE, NEMA 5–20R

SIMPLEX RECEPTACLE, NEMA 5–20R

SUBSCRIPTS:
X – INDICATES TYPE
GFCI – GROUND FAULT CIRCUIT INTERRUPTER
Y – INDICATES CIRCUIT NUMBER FROM PANELBOARD

CONDUIT TURNING UP

CONDUIT TURNING DOWN

HOME RUN TO PANEL, 2 #12, 1 #12G IN 3/4"C UNLESS OTHERWISE NOTED

CIRCUIT RUN BETWEEN DEVICES EXPOSED IN NON–ARCHITECTURALLY FINISHED AREAS; CONCEALED IN ARCHITECTURALLY FINISHED AREAS. CONDUIT AND CONDUCTOR SIZES SHALL BE THE SAME AS THE HOMERUN FOR THE CIRCUIT.

CONDUIT RUN BETWEEN DEVICES CONCEALED IN NON–ARCHITECTURALLY FINISHED AREAS OR UNDER FLOOR SLAB. CONDUIT AND CONDUCTOR SIZES SHALL BE THE SAME AS THE HOMERUN FOR THE CIRCUIT.

CIRCUIT HASH MARKS (WHEN INDICATED); LONG, SHORT, SINGLE DOT, AND DOUBLE DOT REPRESENT PHASE, NEUTRAL, EQUIPMENT GROUND, AND ISOLATED EQUIPMENT GROUND, RESPECTIVELY. #12 IN 3/4" CONDUIT UNLESS OTHERWISE INDICATED.

CIRCUIT CONTINUATION

CONDUIT STUBBED OUT AND CAPPED

CONDUIT TAG OR CIRCUIT NUMBER – WIRE AND CONDUIT SIZE AS SPECIFIED IN CIRCUIT SCHEDULE ON THE SHEETS

GROUND CABLE

GROUND ROD

FIRE ALARM ANNUNCIATOR

FIRE ALARM CONTROL PANEL

FIRE ALARM MANUAL PULL STATION

FIRE ALARM CONTROL RELAY

FIRE ALARM CONTACT, FLOW SWITCH

FIRE ALARM CONTACT, TAMPER SWITCH

FIRE ALARM CONTACT, PRESSURE SWITCH

SMOKE AND DUCT DETECTOR

SUBSCRIPT:
I – IONIZATION TYPE
P – PHOTOELECTRIC TYPE

HEAT DETECTOR

SUBSCRIPT:
R/C – RATE COMPENSATION
R/F – COMBINATION RATE OF RISE AND FIXED TEMP
R – RATE OF RISE
F – FIXED

ALARM BELL

ALARM HORN

ALARM FLASHING LIGHT

ALARM BELL AND FLASHING LIGHT COMBINATION UNIT

ALARM HORN AND FLASHING LIGHT COMBINATION UNIT

SUBSCRIPT:
NONE – GENERAL ALARM DEVICE
F – FIRE ALARM DEVICE

Alan M Schwab

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Date: 2021.10.04 10:34:47 -04'00'

ALAN M. SCHWAB
LICENSE
No. 61313
STATE OF FLORIDA
PROFESSIONAL ENGINEER

GENERAL NOTES:

1. THIS IS A STANDARD ELECTRICAL SYMBOLOGY SHEET. NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT.
2. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE–EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.
3. SEE P&ID LEGEND SHEET FOR PROJECT–SPECIFIC EQUIPMENT SYMBOLS, EQUIPMENT ABBREVIATIONS, AND PIPING SYSTEM ABBREVIATIONS.

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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Certificate of Authorization No.: 3952

ELECTRICAL SYMBOLS

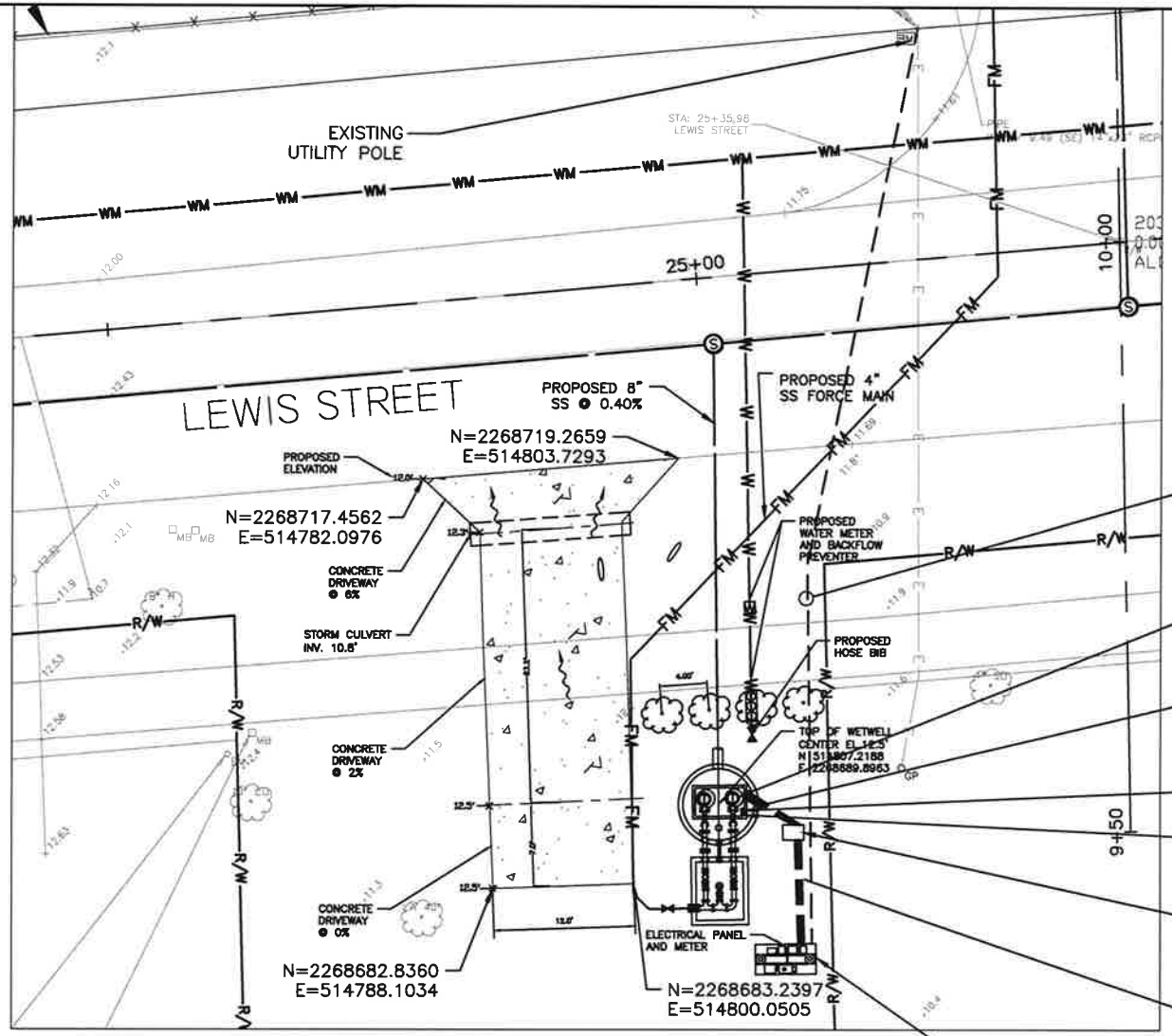
NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD
ALAN M. SCHWAB, P.E.
LICENSE NO. 61313

JOB NO. GUA 2071.02M

SHEET E–1

FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS
PROJECT MANAGER: TIMOTHY PALMER
PROJECT NUMBER: 2016-0011.B2 (CAD) – E-1 ELECTRICAL – SYMBOLS.DWG – LAST MODIFIED: 6/17/2021 11:44:46 AM BY: ADAM ARGAL



ELECTRICAL SITE PLAN
SCALE:1"=10'

NOTES:
1. FOR CONDUIT SIZES SEE ELECTRICAL CONDUIT LAYOUT E-7.
2. FOR EQUIPMENT GROUNDING SEE ELECTRICAL SITE GROUNDING E-6, AND ELECTRICAL TYPICAL DETAILS E-9.

CONDUIT FROM THE UTILITY POLE TO THE ELECTRICAL SERVICE POINT

PUMP MOTOR

CONDUITS FROM THE DEMARCATION BOX TO THE WETWELL

LEVEL TRANSDUCER

FLOAT SWITCHES

PROPOSED DEMARCATION BOX, SEE DETAILS ON SHEET E-6

CONDUITS FROM THE ELECTRICAL PANEL TO THE DEMARCATION BOX

ELECTRICAL PANEL AND METER

Alan M Schwab

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Date: 2021.10.28 10:38:00 -04'00'

ALAN M. SCHWAB
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STATE OF FLORIDA
PROFESSIONAL ENGINEER

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5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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ELECTRICAL SITE PLAN

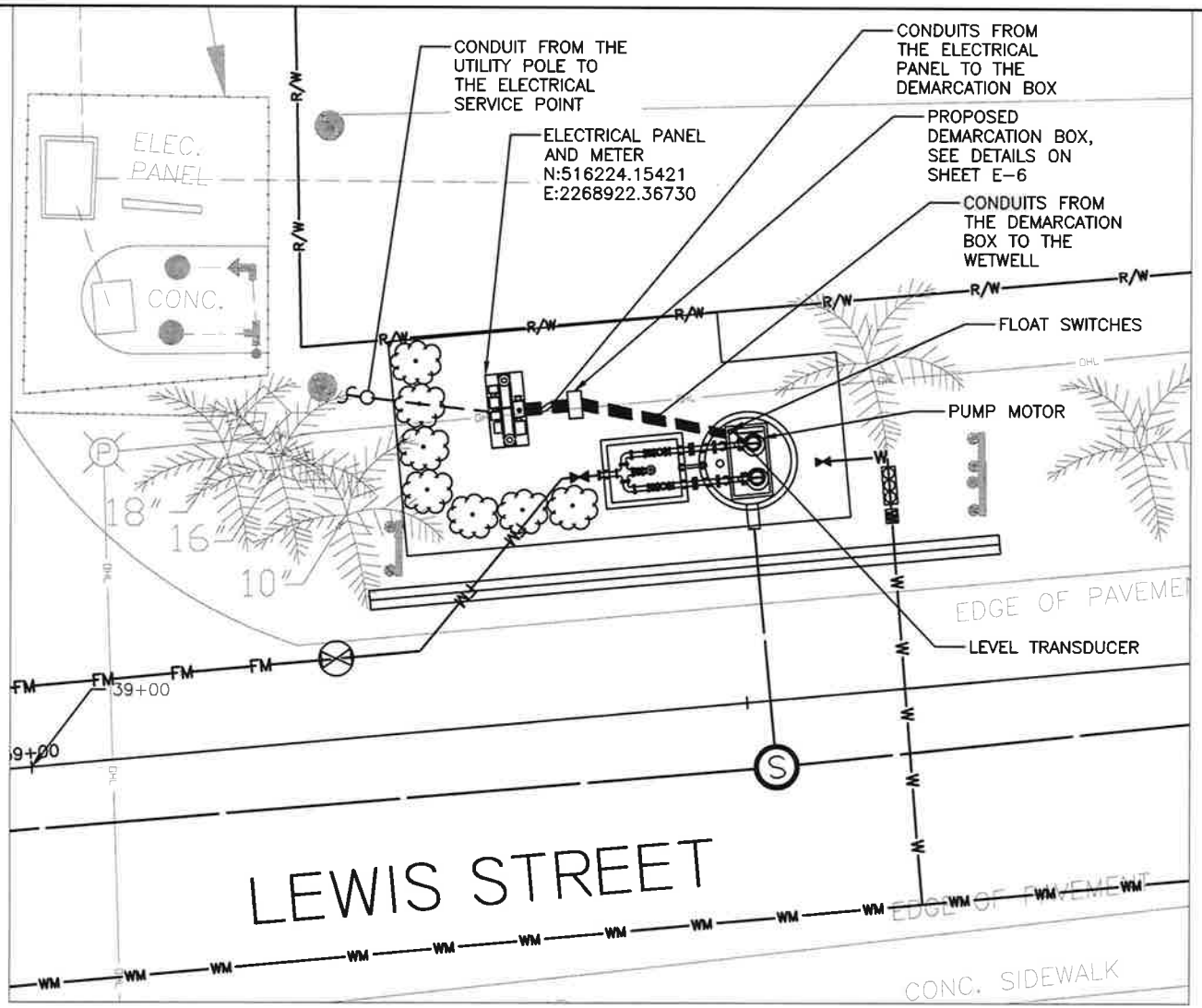
NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD
TIMOTHY PALMER, P.E.
LICENSE NO. 56681

JOB NO. GUA 207I.02M

SHEET E-2

PROJECT MANAGER: TIMOTHY PALMER
FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS
PLOTTED BY: ... ON 10/27/2021 4:45 PM BY BRIAN L. MCCALL
FIELD BOOK ... PAGE ... - SITE PLAN.DWG - E-2 - ELECTRICAL - SITE PLAN.DWG



ELECTRICAL SITE PLAN

SCALE:1"=8'

NOTES:

1. FOR CONDUIT SIZES SEE ELECTRICAL CONDUIT LAYOUT E-7.
2. FOR EQUIPMENT GROUNDING SEE ELECTRICAL SITE GROUNDING E-6, AND ELECTRICAL TYPICAL DETAILS E-9.

Alan M Schwab

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Date: 2021.07.19 11:41:40 -04'00'

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DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

PROJECT MANAGER: TIMOTHY PALMER
PROJECT ENGINEER: ALEJANDRO SOLANILLA
FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS
C:\Projects\2021\GUA 2071.02M\Civil\C-3 ELECTRICAL - SITE PLAN.DWG - E-3 - PLOTTED: 6/17/2021 4:42 PM BY BRAD MOSAL

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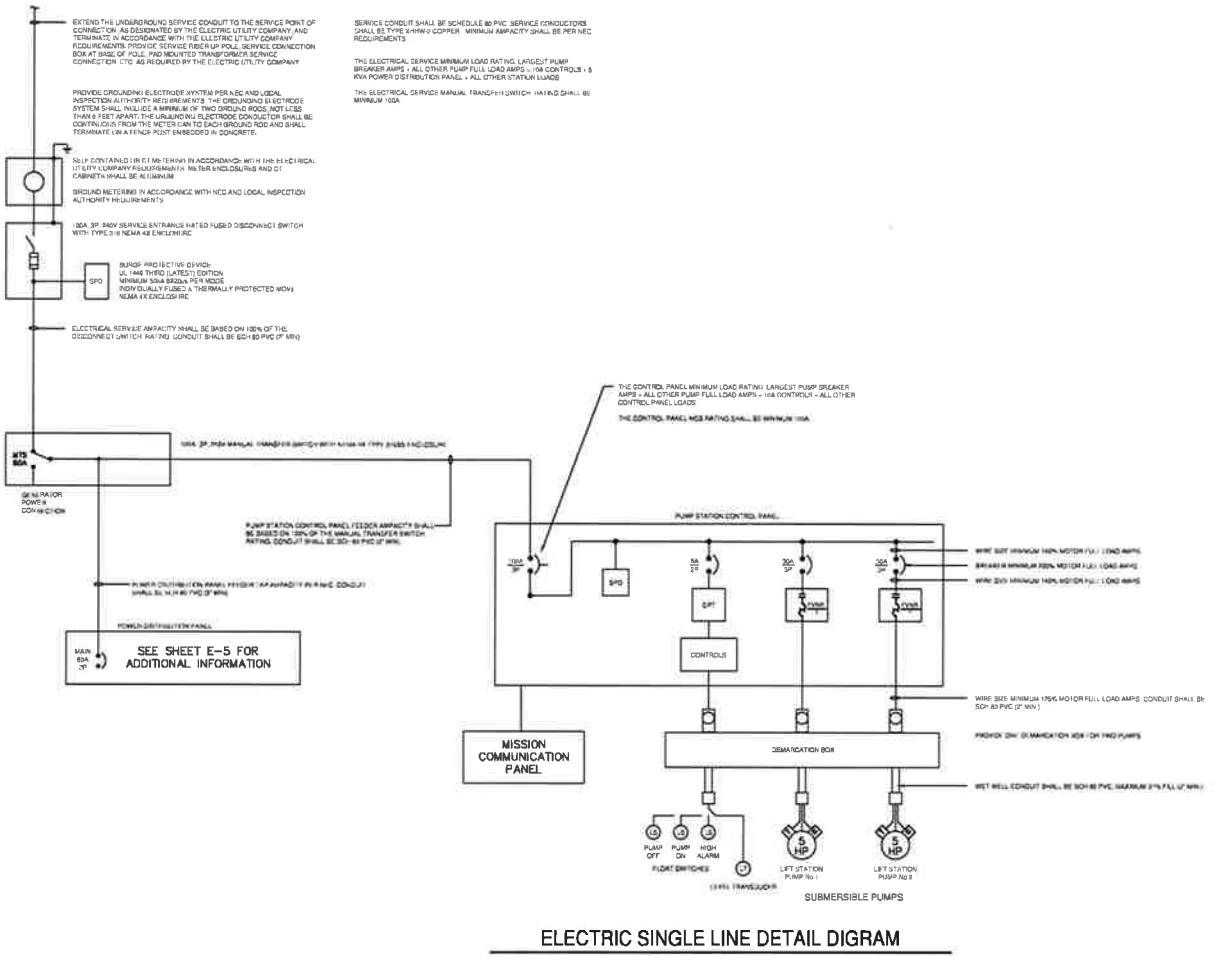
ELECTRICAL SITE PLAN

NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD: ALEJANDRO RAUL SOLANILLA, P.E. LICENSE NO. 87505

JOB NO. GUA 2071.02M

SHEET E-3



ELECTRIC SINGLE LINE DETAIL DIGRAM

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6/22/2021	100% SUBMITTAL	TRP

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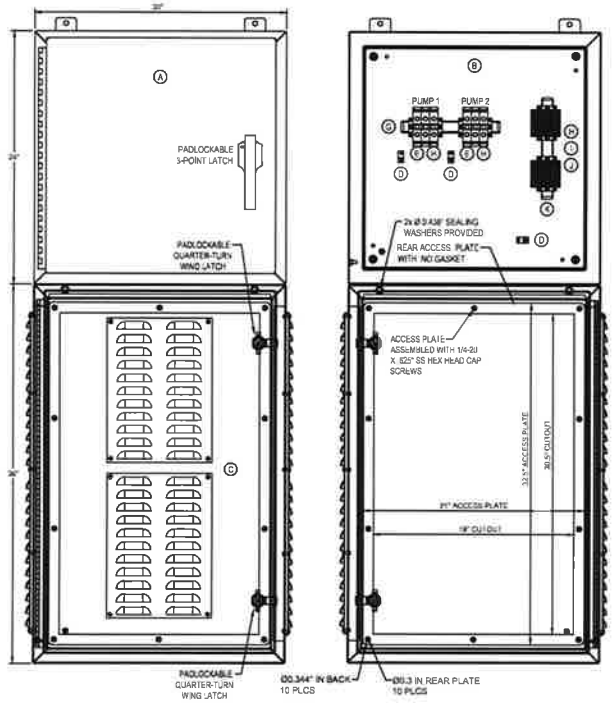
ELECTRICAL
SINGLE LINE DIAGRAM

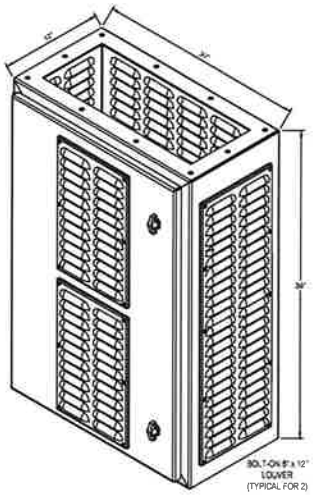
NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

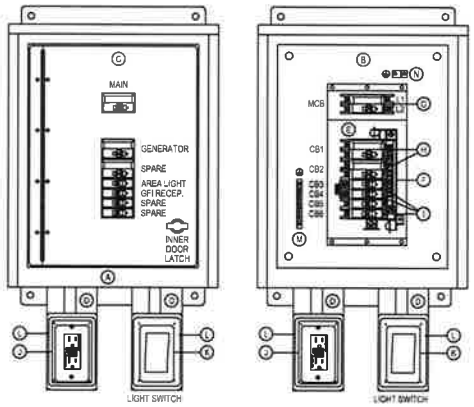
ENGINEER OF RECORD
ALAN M. SCHWAB, P.E.
LICENSE NO. 61313

JOB NO. GUA 2071.02M

SHEET E-4







POWER DISTRIBUTION PANEL (TYPICAL 240VAC - 1 PHASE SHOWN)

ENCLOSURE
SPLRHCSS-2016B (20"H x 16"W x 8"D) NEMA 12/3R RATED, FABRICATED FROM TYPE 316 STAINLESS STEEL. OUTER DOOR IS FITTED WITH A PADLOCKABLE 3-POINT LATCH.

BACK PANEL
SPP-2016 (17"H x 13"W) FABRICATED FROM 14ga CARBON STEEL WITH WHITE POLYESTER POWDER COAT FINISH.

HINGED INNER DOOR:
FABRICATED FROM .125 ALUMINUM WITH CONTINUOUS HINGE AND TWIST LATCH.

240 VAC DISTRIBUTION PANEL NOTES:

1. POWER DISTRIBUTION PANEL 120/240V 1 PHASE WITH 60A 2-POLE MAIN BREAKER
2. PANEL OUTER DOOR SHALL BE HINGED AND PADLOCKABLE
3. ALL LIVE PARTS SHALL BE ENCLOSED FOR PERSONNEL SAFETY AND EQUIPMENT PROTECTION
4. GROUNDING TERMINAL SHALL BE PROVIDED IN THE ENCLOSURE
5. THE ENCLOSURE SHALL BE NEMA 3R RATED.
6. IF ENCLOSURE IS FABRICATED WITHIN AN AUTHORIZED PANEL SHOP, .125 MARINE GRADE ALUMINUM SHALL BE USED.
7. IF ENCLOSURE IS PURCHASED FROM AN AUTHORIZED DISTRIBUTOR, TYPE 316 STAINLESS STEEL MAY ALSO BE USED
8. THE LOAD CENTER MOUNTING BASE PLATE SHALL BE UL LISTED, RATED AT 240 VOLTS / 200 AMPS MINIMUM
9. THE LOAD CENTER BUS MATERIAL SHALL BE ALUMINUM OR TIN-PLATED ALUMINUM
10. THE LOAD CENTER SHALL HAVE EIGHT SPACES
11. BREAKERS MAY BE SNAP-IN; JEA DETERMINED LOCATIONS WITH HIGH-VIBRATION REQUIRE BOLT-IN TYPE BREAKERS.
12. PANEL SHALL CONTAIN TWO 2-POLE 30 AMP BREAKERS: (1) GENERATOR USE, (1) SPARE.
13. PANEL SHALL CONTAIN FIVE 1-POLE 15-AMP BREAKERS: (1) LIGHT, (1) GFI, (1) COMM, (2) SPARES.
14. PANEL SHALL HAVE A 20-AMP OUTDOOR RATED GFCI RECEPTACLE AND SPRING-WOUND COMMERCIAL RATED LIGHT TIMER.
15. GFCI AND TIMER SHALL BE MOUNTED ACCORDING TO N.E.C. STANDARDS.
16. GFCI AND TIMER SHALL BE RIGIDLY MOUNTED ON THE EXTERIOR OF THE PANEL USING TYPE 316 SS OR ALUMINUM BRACKETS

DEMARCATION BOX and PEDESTAL

ENCLOSURE
SPN44AL-243012 (24"H x 30"W x 12"D) NEMA 4X RATED, FABRICATED FROM .125 MARINE GRADE ALUMINUM. OUTER DOOR IS FITTED WITH A PADLOCKABLE 3-POINT LATCH

BACK PANEL
SPP-3030 (27"H x 27"W) FABRICATED FROM 12ga. CARBON STEEL WITH WHITE POLYESTER POWDER COAT FINISH.

PEDESTAL:
SPN12AL-363012-215 (36"H x 30"W x 12"D) NEMA 12 RATED, FABRICATED FROM .125 MARINE GRADE ALUMINUM. OUTER DOOR IS FITTED WITH TWO PADLOCKABLE QUARTER-TURN LATCHES.

NOTE 1 SELECT APPROPRIATELY SIZED TERMINAL BLOCK BASED ON MOTOR LOAD
NOTE 2 INSERTING MULTIPLE CABLES INTO A SINGLE TERMINAL IS PROHIBITED. USE A SECOND BLOCK AND THE ASSOCIATED ADJACENT JUMPER
NOTE 3 USE PRINTED GUIDE ON TERMINAL BLOCKS TO MEASURE CORRECT CABLE STRIP LENGTH
NOTE 4 ENGINEER APPROVED EQUAL COMPONENT MAY BE SUBSTITUTED

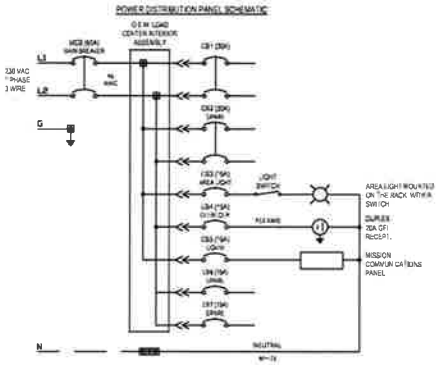
BILLS of MATERIAL

DEMARCATION BOX and PEDESTAL

QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
A 1	SCHNEITER	SPN44AL-243012	ENCLOSURE, NEMA 4X ALUMINUM, 24"H
B 1	SCHNEITER	SPP-3030	MOUNTING PANEL, 12ga. PAINTED STEEL
C 1	SCHNEITER	SPN12AL-363012-215	PEDESTAL, NEMA 12 ALUMINUM, 12"D, NEMA
D 2	PADLOCK	LUMA144/2P	PADLOCK LOCK, DUAL-RATED, KD144 KABE
E 5	WAGO	280-681	TERMINAL BLOCK, 1-POLE, 10A
	WAGO	280-781	TERMINAL BLOCK, 1-POLE, 20A
	WAGO	280-781	TERMINAL BLOCK, 1-POLE, 20A
	WAGO	280-781	TERMINAL BLOCK, 1-POLE, 20A
F	WAGO	280-435	JUMPER, 10A
	WAGO	280-435	JUMPER, 10A
	WAGO	280-495	JUMPER, 20A
	WAGO	280-1101	JUMPER, 20A
G 1	WAGO	210-113	DIN RAIL, 35mm, SLOTTED
H 2	WAGO	340-197	TERMINAL END STOP, GRAY
I 24	WAGO	2002-1401	CONTROL TERMINAL BLOCK, SPRING
J 2	WAGO	2002-1492	TERMINAL END PARTITION PLATE, ORANGE
K 1	WAGO	210-113	DIN RAIL, GALVANIZED, SLOTTED

POWER DISTRIBUTION PANEL (AS SHOWN)

QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
A 1	SCHNEITER	SPN44AL-243012	ENCLOSURE, NEMA 4X, 24"H, 30"W, 12"D
B 1	SCHNEITER	SPP-3030	MOUNTING PANEL, 12ga. PAINTED STEEL
C 1	OEM		HINGED PANEL DOOR, 12" ALUMINUM
D 1	OEM		TO HOLD 4 "FOUR" EXTERNAL DEVICES
E 1	OEM		TO RAISE DIN TILLEY WITH WIRES DOOR
F 1	SQUARE D	QOM2100	100 AMP, DAQ, TO KEEP WITH NOR ASSY
G 1	SQUARE D	QOU260	MCB MAIN CIRCUIT BREAKER, 2 POLE, 60A
H 2	SQUARE D	QO230	CBI CIRCUIT BREAKER, 2 POLE, 30A
I 4	SQUARE D	QO115	CBI MAIN CONTROL BREAKER, 1 POLE, 15A
J 1	HUBBELL	GFCI5WA	DUPLEX GFCI RECEPTACLE, 20A
K 1	INTERMATIC	EE15MC	TIMING WOUND TWICE, 20 min. NO HOLD
L 1	INTERMATIC	WP1100C	SINGLE GANG WEATHERPROOF COVER, CLEAR
M 1	SQUARE D	P260_4	4 GANG FRONT GROUND BAR, 3-POINT
N 1	PANDUIT	LMA2-14/2P	PANDUIT LUG, DUAL-RATED, #2-14 AWG



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Date: 2021.09.20 10:48:37 -04'00'

ALAN M. SCHWAB LICENSE No. 61313 STATE OF FLORIDA PROFESSIONAL ENGINEER

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5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

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ELECTRICAL
POWER DISTRIBUTION PANEL

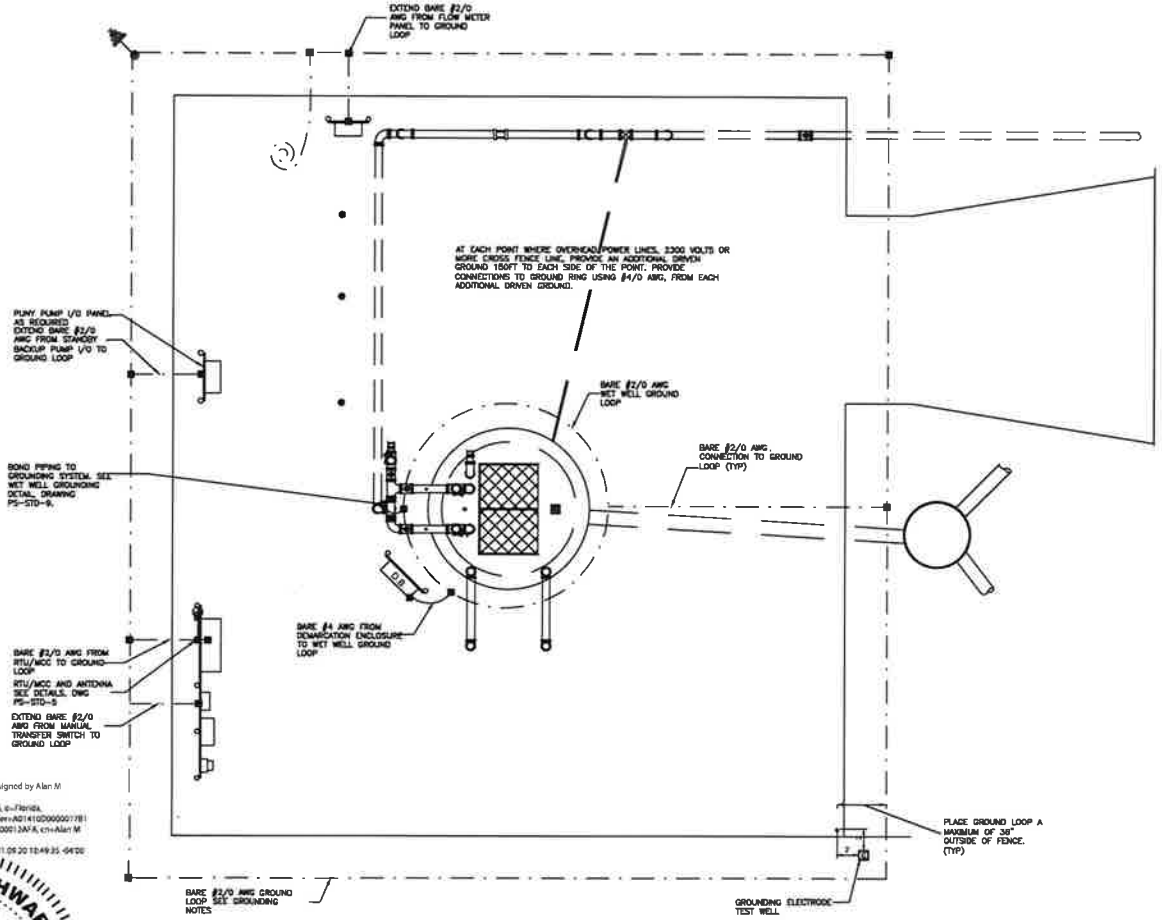
NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD
ALAN M. SCHWAB, P.E.
LICENSE NO. 61313

JOB NO. GUA 207L.02M

SHEET E-5

PROJECT MANAGER: THOMAS PAINTER
CAD OPERATOR: ARNOLD LEVY
C:\Projects\GUA207L.02M\13 ELECTRICAL\E-5 ELECTRICAL - POWER DISTRIBUTION PANEL.dwg 6/21/2021 1:51 PM BY ARNOLD.LEVY
FIELD BOX INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS



PUMP STATION GROUNDING SITE PLAN

NOT TO SCALE

GROUNDING SYMBOL LEGEND

- GROUND CONDUCTOR (SIZE AS REQUIRED BY NOTES)
- EXOTHERMIC OR COMPRESSION CONNECTION
- GROUND ROD AND CONNECTION
- GROUND TEST WELL WITH GROUND ROD
- GROUND CONDUCTOR COILED ABOVE GRADE OR SLAB FOR FUTURE CONNECTION

GROUNDING NOTES:

PROVIDE A COMPLETE ELECTRICAL GROUNDING SYSTEM WITH A MEASURED GROUND RESISTANCE OF 5 OHMS OR LESS.

GROUNDING COMPONENTS AND MATERIALS SHALL BE NEW AND UNDAMAGED.

INSULATED GROUND CONDUCTOR SHALL BE SOFT DRAWN, TIN PLATED, STRANDED COPPER CONFORMING TO THE REQUIREMENTS OF UL 83. INSULATED GROUND CONDUCTOR SHALL BE TYPE TW OR THW, AND GREEN COLORED INSULATION. MINIMUM SIZE FOR INSULATED GROUND CONDUCTORS, REGARDLESS OF APPLICATION SHALL BE #12 AWG.

BURIED GROUND LOOP CONDUCTORS

A. GROUND LOOP CONDUCTOR SHALL BE BARE #2/0 AWG, SOFT DRAWN, TIN PLATED STRANDED COPPER CONDUCTOR UNLESS OTHERWISE NOTED.

B. BARE GROUND CONDUCTORS BELOW GRADE, SHALL HAVE A MINIMUM OF 18 INCHES AND A MAXIMUM OF 30 INCHES COVER FROM FINISHED GRADE. BARE GROUND CONDUCTORS UNDER FOUNDATIONS OR SLABS, SHALL HAVE A MINIMUM OF 6 INCHES OF EARTH COVER BETWEEN THE TOP OF CONDUCTOR CONDUCTOR AND THE FOUNDATION OR SLAB.

C. BARE GROUND CONDUCTORS THAT PENETRATE THROUGH EXPOSED SLABS OR WET WELL WALL, SHALL DO SO THROUGH A 3/4" x 12" (MIN), SCHED 40 PVC SLEEVE, WITH GROUND WIRE CENTERED IN SLEEVE, FILL TOP OF SLEEVE WITH APPROVED SEALANT TO A DEPTH AT LEAST 3 TIMES THE OUTSIDE DIAMETER OF THE SLEEVE. ALL WIRES PROTRUDING TO THE SURFACE SHALL BE TIN PLATED.

D. BARE GROUND CONDUCTOR SHALL BE DIRECTLY BURIED IN EARTH; TO WITHIN 24 TO 36 INCHES FROM BASE OF STRUCTURES OR EQUIPMENT IDENTIFIED FOR GROUNDING.

GROUND RODS

A. SHALL BE COPPER CLAD MIN 13MIL, COLD DRAWN CARBON STEEL, MANUFACTURED IN ACCORDANCE WITH UL 467, WITH THE COPPER CLADDING BONDED TO THE STEEL ROD BY ELECTROLYTIC, OR MOLTEN WELDING PROCESS. GROUND RODS SHALL HAVE A CONICAL TAPER ON PENETRATING END. EACH GROUND ROD SHALL BE 10-FOOT BY 3/4 INCH DIAMETER SECTIONS.

B. THERE SHALL BE A MINIMUM OF 2 GROUND RODS THAT SHALL BE DRIVEN TO A MINIMUM OF 80FT EACH. IF GROUND RODS ARE UNABLE TO BE DRIVEN 80FT OR 5 OHMS IS NOT ACHIEVED THEN ADDITIONAL GROUND RODS MUST BE DRIVEN TILL THE 5 OHMS IS REACHED. IF AN ADDITIONAL GROUND ROD IS REQUIRED IT MUST BE DRIVEN IN A CORNER THAT DOESN'T HAVE A ROD.

C. GROUND RODS SHALL BE CONNECTED BY COMPRESSION COUPLINGS, SCREW COUPLINGS WILL NOT BE ACCEPTED.

5. GROUNDING SYSTEM HARDWARE

A. GROUNDING SYSTEM HARDWARE, INCLUDING CLAMPS, CONNECTORS, BOLTS, WASHERS, AND NUTS, SHALL BE TIN PLATED COPPER.

B. SPLICES, JOINTS, AND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC OR IRREVERSIBLE COMPRESSION TYPE. THREADED OR BOLTED COUPLINGS ARE NOT ACCEPTABLE EXCEPT WHERE NOTED IN GROUNDING DETAILS.

C. PREPARE CONDUCTORS AND CONNECTORS PER MANUFACTURERS REQUIREMENTS. REMAKE CONNECTIONS THAT FAIL MANUFACTURER'S RECOMMENDED TESTS.

D. GROUNDING CONNECTIONS SHALL ENCOMPASS 100 PERCENT OF THE GROUND CONDUCTOR AND CONDUCTOR ENDS.

E. GROUND LUGS SHALL BE SINGLE OR TWO-HOLE, HEAVY-DUTY, TIN PLATED COPPER BARS CONFORMING TO THE REQUIREMENTS OF IEEE 837 AND UL 467. TWO-HOLE GROUND LUGS SHALL HAVE NEMA CENTERLINE HOLE SPACING. GROUND LUGS USING AN EXOTHERMIC PROCESS SHALL BE SIMILAR TO TYPE LA AS MANUFACTURED BY ERICO.

F. MAKE CABLE CONNECTIONS TO BUS BARS USING HIGH-COMPRESSION LUGS. GROUND LUGS USED WITH THE COMPRESSION PROCESS SHALL BE TYPE YGHA AS MANUFACTURED BY BURNDY ELECTRICAL.

6. BOND PIPING TO GROUNDING SYSTEM VIA CONNECTION AT THE LAST FLANGE BEFORE PIPES RETURN UNDERGROUND. SEE WET WELL GROUNDING DETAIL.

7. GROUNDING BY USE OF ANCHOR BOLTS, AGAINST GASKETS, ON PAINTED OR VARNISHED SURFACES, OR ON BOLTS HOLDING REMOVABLE ACCESS COVERS WILL NOT BE ACCEPTABLE.

8. GROUND RESISTANCE SHALL BE CERTIFIED BY AN INDEPENDENT GROUNDING SYSTEM TESTING ORGANIZATION. TESTING SHALL BE DONE AT EACH TEST WELL USING THE 3-POINT FALL OF POTENTIAL METHOD. THIS DOCUMENT MUST BE SUBMITTED AT THE TIME OF STARTUP FOR FINAL ACCEPTANCE.

9. NO CHEMICALS SHALL BE USED TO REDUCE THE RESISTANCE UNLESS APPROVED BY JEA.

10 A MINIMUM OF 5 OHMS OF SHALL BE GUARANTEED BY THE CONTRACTOR FOR 3 YEARS FROM THE SITES ACCEPTANCE. IF THE RESISTANCE FAILS IN THIS TIME THE CONTRACTOR WILL BE RESPONSIBLE FOR ADDING ADDITIONAL GROUND RODS AT THE CONTRACTORS EXPENSE.

Alan M Schwab

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ALAN M. SCHWAB LICENSE No. 61313 STATE OF FLORIDA PROFESSIONAL ENGINEER

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6/22/2021	100% SUBMITTAL	TRP

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ELECTRICAL
GROUNDING SITE PLAN

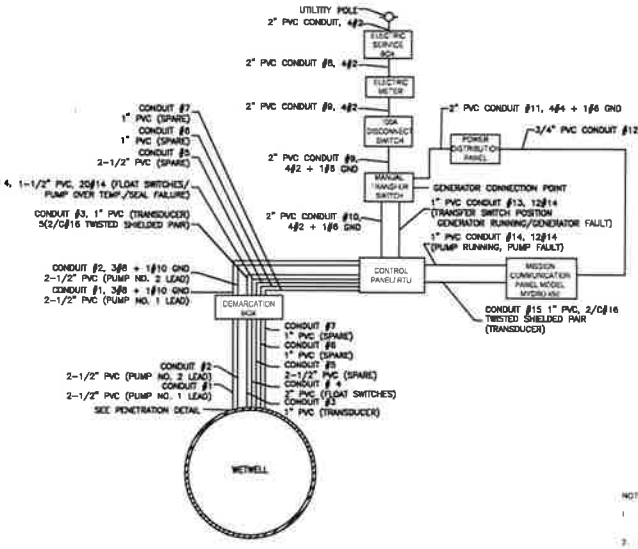
NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD
ALAN M. SCHWAB, P.E.
LICENSE NO. 61313

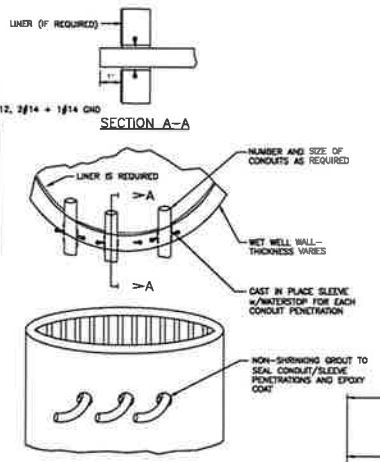
JOB NO. GUA 2021.02M

SHEET E-6

FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS
C:\Users\thomas.palmer\Wade Trim\Jacksonville - Documents\GUA\2021\GUA 2021.02M\Drawings\Electrical\GUA 2021.02M E-6 ELECTRICAL - GROUNDING SITE PLAN.dwg - E-6 - PLOTTED 9/17/2021 4:53 PM BY THOMAS.PALMER
PROJECT MANAGER: THOMAS PALMER



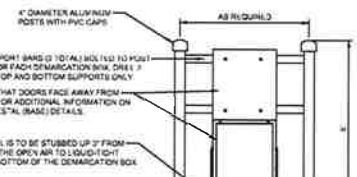
CONDUIT LAYOUT DETAIL
NOT TO SCALE



NOTES:

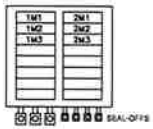
1. CORE BORING FOR CONDUITS SHALL BE ALLOWED FOR EXISTING WET WELLS ONLY.
2. EXTEND CONDUITS AND ARV DRAIN 1" INSIDE WET WELL.
3. FOR POLYMER WET WELLS USE POLYMER GROUT TO SEAL AROUND CONDUIT PENETRATIONS.
4. FOR CONCRETE WET WET WELLS USE NON SHRINKING GROUT TO SEAL AROUND CONDUIT PENETRATIONS. MANUFACTURER: QUIKRETE MODEL: 1585
5. IF INTERIOR OF THE CONCRETE WET WELL IS DAMAGED, REPAIR USING A SPECIAL LINING PRODUCT; SEE SPEC. SECTION #446.
6. SEAL CONDUIT AT THE WET WELL USING DUCT SEAL MANUFACTURER, BLACKBURN MODEL, DXS, S-14 DUCT SEAL
7. LOCATE CONDUIT SLEEVE SO AS NOT TO INTERFERE WITH WET WELL MAINTENANCE AND OPERATION.
8. MINIMUM FOUR 1-INCH AND THREE 2-1/2-INCH CONDUITS.
9. DOGGER CONTROL VACUUM PIPING WILL REQUIRE A RUBBER BOOT (SEE DETAIL S-15)

WET WELL PENETRATION DETAIL
NOT TO SCALE



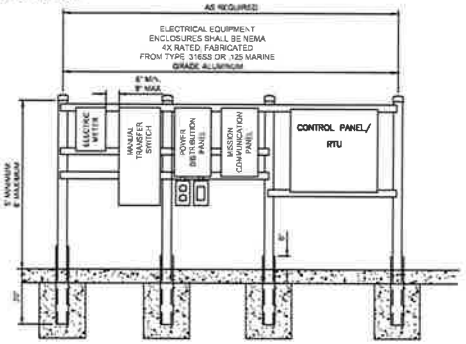
DEMARCATION BOX DETAILS
NOT TO SCALE

MOTOR TERMINAL BLOCKS SHALL BE WAGO "POWER CAGE CLAMP" SERIES. CONDUCTOR AMPACITY, VOLTAGE, AND WIRE SIZE SHALL DETERMINE FINAL SELECTION.

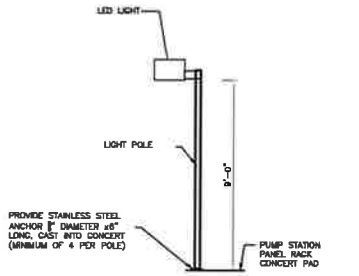


SEAL-OFF DETAIL

SEE DEMARCATION BOX DRAWINGS FOR ADDITIONAL INFORMATION



ELECTRICAL EQUIPMENT RACK DETAIL
NOT TO SCALE

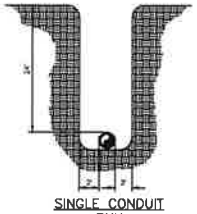


1. LED POLE LIGHT SHALL BE MOUNTED ON THE PUMP STATION CONCRETE RACK SHINNING DOWN ON THE ELECTRICAL PANELS.
2. LUMINAIRE SPECIFICATIONS: GSXILED-60C-700-40K-T2M-120-SPA-SF-DWHXD VAPOLE SQUARE STRAIGHT ALUMINUM MODEL SSA-12-4C

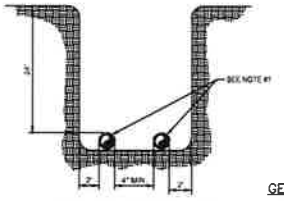
AREA POLE LIGHT DETAIL
NOT TO SCALE

NOTES

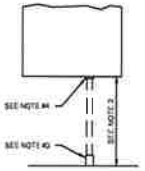
1. MINIMUM SCHEDULE 80 PVC CONDUIT SIZE AS SHOWN. CONDUIT SIZE MUST MEET NEC REQUIREMENTS FOR CONDUIT FILL.
2. ALL CONDUITS THAT RUN STRAIGHT FROM THE MCC TO THE DEMARCATION BOX SHALL BE ALLOWED TWO 90° BENDS. EACH CONDUIT SHALL ENTER THE BOTTOM OF THE CONTROL PANEL SEPARATELY.
3. INSTALL SPARE WIRE FROM DEMARCATION BOX TO MCC AND LABEL, AS PER SPECS.
   A) 5-#14 THHN
   B) 4-SHIELDED PAIR
4. SPARE CONDUIT BETWEEN WETWELL AND DEMARCATION BOX TO BE THREADED, CAPPED AND TERMINATED INSIDE BOX.
5. SPARE CONDUIT BETWEEN DEMARCATION BOX AND MCC CAP OFF BELOW DEMARCATION BOX AND TERMINATE INSIDE THE MCC CABINET
6. CONDUIT BETWEEN DEMARCATION BOX AND WETWELL SHALL HAVE ONLY ONE 90° BEND.
7. INSTALL MALLEABLE SEAL OFF'S AT DEMARCATION BOX END FOR CONDUITS BETWEEN DEMARCATION BOX AND MCC
8. INSTALL END BELLS AND LARGE CABLE HOOKS ON PUMP LEAD CONDUITS



SINGLE CONDUIT RUN



MULTIPLE CONDUIT RUN



GENERAL ABOVE GROUND CONDUIT RUN SHOWING COUPLING AND CONNECTOR

NOTES

1. UNDERGROUND CONDUIT SCHEDULE 80 PVC MANUFACTURER CARLON
2. CONDUIT ABOVE GROUND TO CABINETS SCHEDULE 80 PVC NEMA TC-2 SUNLIGHT RESISTANT, MANUFACTURER CARLON
3. UNDERGROUND PVC COUPLED TO ABOVE GROUND PVC WITH A PVC COUPLING. MANUFACTURER CARLON
4. ABOVE GROUND PVC CONNECTED TO RTU AND MCC USING A PVC CONNECTOR MANUFACTURER CARLON

ABOVE AND UNDERGROUND ELECTRICAL RACEWAY DETAILS

Alan M Schwab
Digitally signed by Alan M Schwab
DN: c=US, o=Florida, dnQualifier=A01410D000001781C C7882500012AFA, cn=Alan M Schwab
Date: 2021.09.20 10:30:15 -04'00'

ALAN M. SCHWAB LICENSE No. 61313 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
6/22/2021	100% SUBMITTAL	TRP

WADE TRIM
201 North Franklin Street, Suite 1350
Tampa, FL 33602
813.882.4373
www.wadetrim.com
Certificate of Authorization No.: 3952

ELECTRICAL CONDUIT LAYOUT

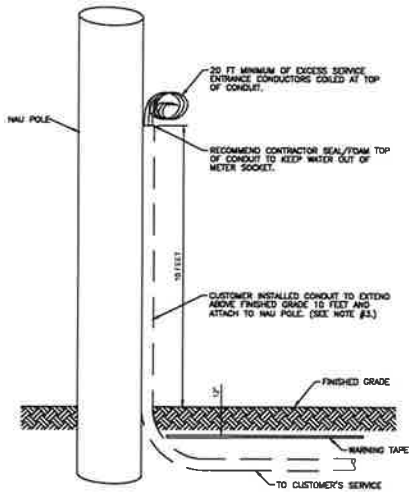
NASSAU COUNTY /AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD: ALAN M. SCHWAB, P.E. LICENSE NO. 61313

JOB NO. GUA 2071.02M

SHEET E-7

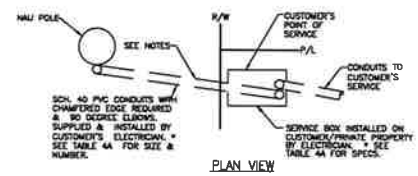
PROJECT MANAGER: THORN PALMER
FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS



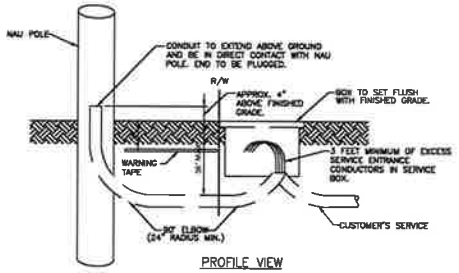
NOTES:

1. 100 AMP MAXIMUM SERVICE SIZE.
2. THE CUSTOMER WILL MAINTAIN THE WARNING TAPE, CONDUIT AND CONDUCTORS SHOWN.
3. THE CUSTOMER MUST PICK A CLEAR SIDE OF THE NAU POLE TO EXTEND UP CONDUIT. CLEAR FROM PHONE OR COMMUNICATION CABLES, OR ANY OTHER EQUIPMENT, FROM FINISHED GRADE TO NAU POINT OF SERVICE. CALL NAU DISTRIBUTION ENGINEER IF LOCATION IS REQUIRED.
4. THE NAU WILL MAKE ALL CONNECTIONS TO CUSTOMER'S SERVICE WIRE ON THE NAU POLE.
5. THE NAU WILL INSTALL CABLE GUARD ON NAU POLE AND COVER CUSTOMER'S SERVICE WIRE AND CONDUIT TO FINISHED GRADE.

COMMERCIAL SERVICE
100AMP MAXIMUM UNDERGROUND
SERVICE FROM AN OVERHEAD POLE
NOT TO SCALE



PLAN VIEW



PROFILE VIEW

NOTES:

1. THE MINIMUM DISTANCE BETWEEN THE SERVICE BOX AND SERVICE POLE IS 4 FEET.
2. THE CUSTOMER MUST PICK A CLEAR SIDE OF THE NAU POLE FOR THE NAU TO EXTEND UP THE POLE RISER, CLEAR FROM PHONE OR COMMUNICATION CABLES, OR ANY OTHER EQUIPMENT, FROM FINISHED GRADE TO CONNECTIONS TO OVERHEAD FACILITIES. CALL NAU DISTRIBUTION ENGINEER IF LOCATION IS REQUIRED.
3. THE NAU WILL MAINTAIN THE POLE RISER AND CONDUCTOR FROM THE OVERHEAD FACILITIES TO A CUSTOMER-PROVIDED SERVICE BOX.
4. THE NAU WILL MAKE ALL CONNECTIONS TO THE CUSTOMER'S SERVICE WIRE IN THE SERVICE BOX. SAID CONNECTIONS WILL BE THE CUSTOMER'S POINT OF SERVICE.

COMMERCIAL SERVICE
ABOVE 100 AMPS AND MULTI-METERED UNDERGROUND
SERVICE FROM AN OVERHEAD POLE
NOT TO SCALE

TABLE 4A

CONDUIT AND SERVICE BOX REQUIREMENTS
FOR UNDERGROUND COMMERCIAL SERVICES FROM AN OVERHEAD POLE

SERVICE SIZE	CONDUIT SIZE (From Service Box to NAU Overhead Pole)	SERVICE BOX SIZE
20A – 150A	1–2 in	13" x 24" x 18" d
151A –200A	1–3 in	17" x 30" x 18" d
201A – 399A	1–3 in	24" x 36" x 18" d
400A–800A	400A=1–4 in 401–800A=2–4 in	30" x 48" x 24" d manhole
801A–1400A	801–1000A=2–4 in 1001–1400A=3–4 in	36" x 60" x 36" d manhole

NOTE:
1. ALL CONDUITS TO BE SCHEDULE 40 PVC WITH CHAMFERED EDGES REQUIRED. CONDUIT SIZE AND NUMBER DOES NOT HAVE TO MATCH CUSTOMERS' SERVICE CONDUIT SIZE, TYPE, AND NUMBER.
2. ALL CONDUIT RADIUS TO BE 24 INCH MINIMUM.
3. NAU WILL ALLOW THE OPTION OF PURCHASING THESE BOXES FROM AN ELECTRICAL SUPPLY HOUSE. THESE BOXES MUST MEET THE FOLLOWING SPECIFICATIONS.
4. SERVICE BOX SIZE MAY VARY FOR 3 PHASE APPLICATIONS.
5. CONTACT NAU SERVICE ENGINEER FOR CONDUIT AND BOX LOCATION.

TECHNICAL SPECIFICATIONS

MATERIAL SPECIFICATIONS:

SERVICE BOX
1. TOP: COMPRESSION MOLDED POLYMER CONCRETE WITH MINIMUM THICKNESS OF TWO INCHES.
2. BODY: REINFORCED PLASTIC MORTAR (RPM) CONSISTING OF FIBERGLASS AND ISOPHOLIC RESIN. THE BASE WILL HAVE A FLANGE OF TWO INCHES FROM THE INSIDE WALL.
3. RING: THE RING WILL BE OF POLYMER CONCRETE AND WILL BE PERMANENTLY FUSED TO THE BODY DURING THE CURING PROCESS.

MANHOLE
1. MANHOLE BODY SHALL BE OF ONE PIECE CONSTRUCTION WITH A SOLID COVER.
2. MANHOLE DIMENSIONS SHALL BE 60" L X 36" W X 36"D.

LOAD RATING:
1. LOAD RATING: H-10 (INCIDENTAL TRAFFIC).
2. LOAD RATINGS SHALL BE IN ACCORDANCE WITH ASTM, C-857-87 (STD. PRACTICE FOR MINIMUM STRUCTURAL DESIGN LOADING FOR UG PRECAST CONCRETE UTILITY STRUCTURES) AASHTO AND WESTERN UNDERGROUND COMMITTEE RECOMMENDED GUIDELINES RULE 3.8 DATED 8-15-87.

MISCELLANEOUS REQUIREMENTS:
1. HARDWARE: TWO CAPTIVE STAINLESS PENTA HEAD BOLTS FOR SECURING TOP. BOLT HEADS WILL BE FLUSH WITH TOP OF COVER.
2. IDENTIFICATION: EACH TOP WILL HAVE THE WORD "ELECTRIC" PERMANENTLY MARKED INTO THE TOP.

ELECTRICAL NOTES

1. GROUND WIRE SHALL RUN FROM THE CHASSIS CONTINUOUS THROUGH THE METER CAN TO 2 GROUND RODS SPACED 6 FEET APART AND TERMINATE ON A FENCE POST IN CONCRETE.
2. ELECTRICAL ENCLOSURES SHALL BE ORIENTED SUCH THAT THE FRONT OF THE ENCLOSURE FACES THE INTERIOR OF THE PUMP STATION SITE.
3. QUANTITY AND SIZE OF NEMA 4x 316-STAINLESS STEEL ENCLOSURES AS REQUIRED FOR STATION OPERATION.
4. SERVICE DISCONNECT SHALL BE MANUAL FUSE 3 PHASE-4 WIRE

Alan M Schwab

Digitally signed by Alan M Schwab
DN: c=US, st=Florida, dnQualifier=A01410D0000017B1C C38826000124FA, cn=Alan M Schwab
Date: 2021.09.20 10:51:09 -04'00'

ALAN M. SCHWAB LICENSE No. 61313 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRP
6/10/2021	90% SUBMITTAL	TRP
5/22/2021	100% SUBMITTAL	TRP

WADE TRIM
201 North Franklin Street, Suite 1350
Tampa, FL 33602
813.882.4373
www.wadetrim.com
Certificate of Authorization No.: 3952

ELECTRICAL
TYPICAL DETAILS

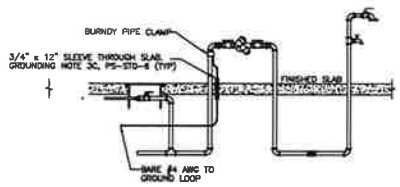
NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD
ALAN M. SCHWAB, P.E.
LICENSE NO. 61313

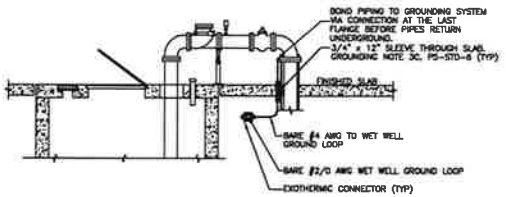
JOB NO.
GUA 2071.02M

SHEET
E-8

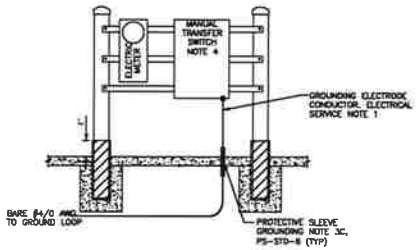
PROJECT MANAGER: TIMOTHY PALMER
C:\PW_WORKING\TPALMER\d0211587\V1-8 ELECTRICAL-TYPICAL DETAILS.DWG - C-8 - PLOTTED: 9/17/2021 4:53 PM BY BURNS, ASTRAL
FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS



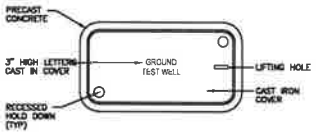
HOSE STATION GROUNDING DETAIL
NOT TO SCALE

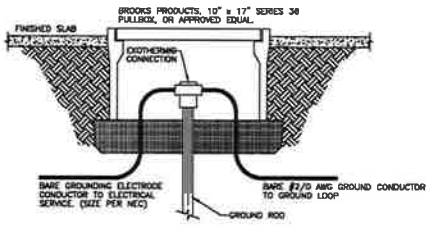


WETWELL GROUNDING DETAIL
NOT TO SCALE

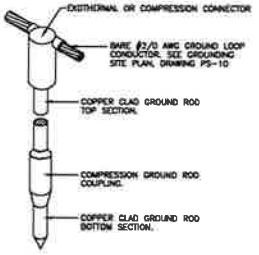


MANUAL TRANSFER SWITCH GROUNDING DETAIL
NOT TO SCALE





GROUND SYSTEM TEST WELL DETAIL
NOT TO SCALE



TYPICAL GROUND ROD & CONNECTION DETAIL
NOT TO SCALE

Alan M Schwab

ALAN M. SCHWAB LICENSE No. 61313 STATE OF FLORIDA PROFESSIONAL ENGINEER

DATE	DESCRIPTION	BY
5/17/2021	60% SUBMITTAL	TRIP
6/10/2021	90% SUBMITTAL	TRIP
6/22/2021	100% SUBMITTAL	TRIP

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ELECTRICAL
TYPICAL DETAILS

NASSAU COUNTY /AMERICAN BEACH
WATER AND SEWER DISTRICT WELL AND
SEPTIC TANK PHASE OUT PROGRAM

ENGINEER OF RECORD
ALAN M. SCHWAB, P.E.
LICENSE NO. 61313

JOB NO. GUA 2071.02M

SHEET E-9

FIELD BOOK INFORMATION: AMERICAN BEACH SANITARY SEWER IMPROVEMENTS
PROJECT MANAGER: TIMOTHY PALMER
PLOT BY: JACKSONS111187(PLT)-9 ELECTRICAL-TYPICAL DETAILS.DWG - E-9 - PLOTTED: 6/17/2021 4:24 PM BY ISAIAS ARAUJO

Exhibit “G”

SECTION 00 41 15

BID FORM

PROJECT IDENTIFICATION: AMERICAN BEACH WATER AND SEWER DISTRICT
WELL AND SEPTIC TANK PHASE OUT PROGRAM
Bid Number NC21-029-ITB
Nassau County, Florida

BID DEADLINE: February 24, 2022
THIS BID IS SUBMITTED TO: Board of County Commissioners, Nassau County
Judicial Annex
Office of the Ex-Officio Clerk
76347 Veterans Way, Suite 456
Yulee, Florida 32097

1.01 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with the County in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

Company Name (typed or printed): U.S. Water Services Corporation
Business address: 4939 Cross Bayou Blvd., New Port Richey FL 34652
Phone No.: 727 848 8292 Fax No.: 727 849 8860
Contact Name: Christina Crego
Contact Title: Bid Administrator
Contact email address: ccrego@uswatercorp.net

2.01 Bidder accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of the County.

3.01 In submitting this Bid, Bidder represents, as set forth in the Agreement, that:

A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of all which is hereby acknowledged:

Addendum No.	Addendum Date
1	12/30/2021
2	01/05/2022
3	01/12/2022
4	01/21/2022
5	02/04/2022
6	02/16/2022

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions, and (2) reports and drawings of a Hazardous Environmental Condition, if any, which has been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions.

E. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies. and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect costs, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.

F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of the work to be performed by the County and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.

I. Bidder has given Engineer of Record written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer of Record is acceptable to Bidder.

J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

4.01 Bidder further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over the County.

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

BASE BID					
Item No.	Pay Item Description	Units	Quantity	Cost Per Unit	Total Cost
SANITARY SEWER SYSTEM					
Item 1.0 General					
1.1	Mobilization/General Requirements (Each Not to Exceed 5% of Sewer System Bid Price)	LS	1	93,763.00	$ 93,763.00
1.2	Maintenance of Traffic (MOT)	LS	1	80,500.00	$ 80,500.00
1.3	Final Measures (As-Builts)	LS	1	34,500.00	$ 34,500.00
Subtotal					$ 208,763.00
Item 2.0 Site Work					
2.1	50% Removal of Asphaltic Concrete Street Pavement	SY	14450	5.75	$ 83,087.50
2.2	50% 12" Limerock Base Coarse	SY	14450	12.65	$ 182,792.50
2.3	50% 1.5" Asphaltic Concrete	SY	14450	59.80	$ 864,110.00
2.4	50% Pavement Markings	LF	145	5.80	$ 841.00
2.5	50% Mill & Resurface	SY	50	23.00	$ 1,150.00
2.6	50% Surface Restoration of Unpaved Roadways (Millings)	SY	2425	10.70	$ 25,947.50
2.7	Sod	SY	400	25.10	$ 10,040.00
2.8	Gopher Tortoise Relocation Allowance				$ 30,000
2.9	Miscellaneous Concrete Replacement	CY	5	575.00	$ 2,875.00
Subtotal					$ 1,200,843.50
Item 3.0 Wastewater Collection System					
3.1	8-inch Sanitary Sewer	LF	12705	104.70	$ 1,330,213.50
3.2	4-ft Diameter Manhole	EA	46	9,775.00	$ 449,650.00
3.3	5-ft Diameter Manhole	EA	2	11,730.00	$ 23,460.00
3.4	Drop Manholes	EA	5	13,800.00	$ 69,000.00
3.5	4-in Sanitary Service Lateral	EA	310	2,875.00	$ 891,250.00
3.6	6-in. Sanitary Service Lateral	EA	3	3,450.00	$ 10,350.00
3.7	4-inch Sanitary Forcemain, Unrestrained	LF	1930	34.00	$ 65,620.00
3.8	4-inch Sanitary Forcemain, Restrained	LF	380	57.50	$ 21,850.00
3.9	Gate Valves	EA	5	3,450.00	$ 17,250.00
3.10	Air Release Valve & Vault	EA	4	5,750.00	$ 23,000.00
Subtotal					$ 2,901,643.50
Item 4.0 Lift Stations					
4.1	Sewer Lift Station 1	LS	1	303,300.00	$ 303,300.00
4.2	Sewer Lift Station 2	LS	1	300,870.00	$ 300,870.00
Subtotal					$ 604,170.00
WATER DISTRIBUTION SYSTEM					
Item 5.0 General					
5.1	Mobilization/General Requirements (Each Not to Exceed 5% of Water Distribution System Bid Price)	LS	1	62,034.00	$ 62,034.00
5.2	Maintenance of Traffic (MOT)	LS	1	34,500.00	$ 34,500.00
5.3	Final Measures (As-Builts)	LS	1	25,875.00	$ 25,875.00
Subtotal					$ 122,409.00
Item 6.0 Sitework					
6.1	50% Removal of Asphaltic Concrete Street Pavement	SY	14450	5.75	$ 83,087.50
6.2	50% 12" Limerock Base Coarse	SY	14450	12.65	$ 182,792.50
6.3	50% 1.5" Asphaltic Concrete	SY	14450	59.80	$ 864,110.00
6.4	50% Pavement Markings	LF	145	5.80	$ 841.00
6.5	50% Mill & Resurface	SY	50	23.00	$ 1,150.00
6.6	50% Surface Restoration of Unpaved Roadways (Millings)	SY	2425	10.68	$ 25,899.00
6.7	Sod	SY	325	24.80	$ 8,060.00
6.8	Gopher Tortoise Relocation Allowance				$ 30,000
6.9	Miscellaneous Concrete Replacement	CY	200	575.00	$ 115,000.00
Subtotal					$ 1,310,940.00
Item 7.0 Water Distribution System					
7.1	2-inch Water Main, Unrestrained	LF	2440	26.40	$ 64,416.00

7.2	4-inch Water Main, Unrestrained	LF	1930	36.80	$ 71,024.00
7.3	6-inch Water Main, Unrestrained	LF	3210	57.50	$ 184,575.00
7.4	8-inch Water Main, Unrestrained	LF	840	74.75	$ 62,790.00
7.5	10-inch Water Main, Unrestrained	LF	0		$
7.6	2-inch Water Main, Restrained	LF	610	40.30	$ 24,583.00
7.7	4-inch Water Main, Restrained	LF	550	48.30	$ 26,565.00
7.8	6-inch Water Main, Restrained	LF	1380	74.75	$ 103,155.00
7.9	8-inch Water Main, Restrained	LF	1340	97.75	$ 130,985.00
7.10	10-inch Water Main, Restrained	LF	20	115.00	$ 2,300.00
7.11	Gate Valves	EA	54	3,450.00	$ 186,300.00
7.12	Fire Hydrant Assembly	EA	7	11,500.00	$ 80,500.00
7.13	Automatic Blow-Off/Flushing Assembly	EA	8	5,750.00	$ 46,000.00
7.14	3/4" Short Side Single Service Connection and Meter Box	EA	149	1,129.00	$ 168,221.00
7.15	3/4" Long Side Single Service Connection and Meter Box	EA	147	2,215.00	$ 325,605.00
7.16	2" Single Service Connection	EA	2	2,875.00	$ 5,750.00
Subtotal					$ 1,482,769.00
TOTAL BASE BID (ITEMS 1.0 to 7.0)					$ 7,831,538.00

Lump sum price has been computed in accordance with Paragraph 11.01 of the General Conditions.

All specific cash allowances are included in the price(s) set forth above and have been computed in accordance with paragraph 11.02 of the General Conditions.

Unit prices have been computed in accordance with Paragraph 11.03B of the General Conditions.

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids. Final payment of all Unit Price Bid Items will be based on actual quantities as determined in the Contract Documents.

6.01 Bidder agrees that the Work will be substantially complete within 550 calendar days after the date when the Contract Times commence to run as provided in paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with paragraph 14.07.B of the General Conditions within 30 calendar days from the date of substantial completion. Total contract time shall be 80 calendar days; for everyday the work goes beyond substantial completion, a day will be removed from final completion so the total days equal 580 calendar days.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified above, which shall be stated in the Agreement.

7.01 The following documents are attached to and made a condition of this Bid:

A. Bid Security in the form of a certified check of Bid Bond (Section 00 43 15)
B. Tabulation of Subcontractors & Suppliers (Section 00 43 35)
C. Florida Trench Safety Act Certification (Section 00 44 55)
D. Bidder's Qualification Statement (Section 00 45 13)
E. Non-collusion Affidavit (Section 00 45 19)
F. Drug-Free Workplace Certificate (Section 00 45 20)
G. Public Entity Crimes Statement
H. Statement of Disputes, Litigation & Surety Completion

8.01 The terms used in this Bid with initial capital letters have the meanings indicated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

SUBMITTED on February 24, 20 22.

State Contractor License No. CUC1223914 / CGC003307.

If Bidder is:

An Individual

Name (typed or printed): Not Applicable
By: _____
(*Individual's Signature*)

Doing business as: _____
Business address: _____
_____
Phone No.: _____ Fax No.: _____

A Partnership

Partnership Name: Not Applicable
By: _____
(*Signature of general partner - attach evidence of authority to sign*)

Name (typed or printed): _____
Business address: _____
_____
Phone No.: _____ Fax No.: _____

A Corporation

Corporation Name: U.S. Water Services Corporation
State of Incorporation: Florida
Type (General Business, Professional, Service, Limited Liability): General Business
By: _____
(*Signature - attach evidence of authority to sign*)
Name (typed or printed): Gary Deremer
Title: President
(CORPORATE SEAL)
Attest _____
(*Signature of Corporate Secretary*) Edward Mitchell

Business address: 4939 Cross Bayou Blvd., New Port Richey FL 34652

Phone No.: 727 848 8292 Fax No.: 727 849 8860

Date of Qualification to do business is April 28, 2003

A Joint Venture

Joint Venturer Name: Not Applicable

By: _____

(*Signature of joint venture partner - attach evidence of authority to sign*)

Name (typed or printed): _____

Title: _____

Business address: _____

_____

Phone No.: _____ Fax No.: _____

Joint Venturer Name: _____

By: _____

(*Signature - attach evidence of authority to sign*)

Name (typed or printed): _____

Title: _____

Business address: _____

_____

Phone No.: _____ Fax No.: _____

Phone and FAX Number, and Address for receipt of official communications:

_____

_____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in a manner indicated above.)

END OF SECTION

U.S. Water Services Corporation

CORPORATE RESOLUTION TO CONTRACT

RE: American Beach Well & Sewer District Well & Septic Tank Phase Out Program - NC22-029
Nassau County, Florida

I, Edward Mitchell the undersigned Corporate Secretary of ***U.S. Water Services Corporation*** (the "Corporation"), HEREBY CERTIFY that the Corporation is organized and existing under and by virtue of the laws of the State of Florida as a corporation for profit, with its principal office at ***4939 Cross Bayou Blvd., New Port Richey, FL 34652***, and is duly authorized to transact business in the State of Florida.

I FURTHER CERTIFY that a meeting of the Directors of the Corporation, duly called and held on this 24th day of February, 2022 at which a quorum was present and voting, or by other duly authorized corporate action in lieu of a meeting, the following resolutions were adopted:

BE IT RESOLVED, that any one (1) of the following named officers, employees, or agenda of this Corporation:

Name	**Position**
Gary Deremer	President
Edward Mitchell	VP/ Secretary

Acting for and on behalf of the Corporation and as its act and deed be, and he or she hereby is, authorized and empowered:

EXECUTE CONTRACTS AND NEGOTIATION DOCUMENTS To execute and deliver to Owner the forms of Contract Agreement, extensions or Modifications, and which shall evidence the conditions under and pursuant to which scopes of work are given; and also to execute and deliver to Owner any other written instruments, of any kind of nature, which he or she may in his or her discretion deem reasonably necessary or proper in connection with or pertaining to entering into Contract Agreements.

I FURTHER CERTIFY that the officer, employee, or agent named above is duly elected, appointed, or employed by or for the Corporation, as the case may be, and occupies the position set opposite the name; that the foregoing Resolutions now stand of record on the books of the Corporation; and that the Resolutions are in full force and effect and have not been modified or revoked in any manner whatsoever.

U.S. Water Services Corporation

RE: American Beach Well & Sewer District Well & Septic Tank Phase Out Program - NC22-029
Nassau County, Florida

Certified To and Attested by:

Attest: Edward Mitchell

U.S. Water Services Corporation CORPORATE SEAL 2003 FLORIDA

IN TESTIMONY WHEREOF,
I have hereunto set my hand on this 24th day of February, 2022 and attest that the signatures set opposite the names listed above are their genuine signatures.

The forgoing instrument was acknowledged before me by means of [✓] physical presence or [ ] online notarization on this 24th day of February, 2022 by Edward Mitchell

Christina R. Crego
Signature of Notary

Christina R. Crego
(Typed, Printed, or stamped Name of Notary)

State of: FLORIDA

County of: PASCO

CHRISTINA R CREGO
Notary Public-State of Florida
Commission # HH 85112
My Commission Expires
January 26, 2025

Personally Known X
OR Produced Identification _____
Type of Identification Produced _____

SECTION 00 43 15

BID BOND

Any singular reference to Bidder, Surety, Owner, or other party shall be considered plural where applicable.

BIDDER (Name and Address):
U. S. Water Services Corporation
4939 Cross Bayou Blvd., New Port Richey, FL 34652

SURETY (Name and Address of Principal Place of Business):
North American Specialty Insurance Company
1200 Main Street, Ste 800, Kansas City, MO 64105

OWNER (Name and Address):
Board of County Commissioners, Nassau County
76347 Veterans Way, Suite 456, Yulee, FL 32097

BID

Bid Due Date: February 24, 2022

Project (Brief Description Including Location):
NC21-029/ GUA2071.02M, American Beach Water and Sewer District Well and Septic Tank Phase Out Program, Nassau County, FL

BOND

Bond Number: N/A

Date (Not later than Bid due date): February 24, 2022

Penal Sum: ** FIVE PERCENT OF AMOUNT BID ** (Words) — 5% of Bid (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

BIDDER

U. S. Water Services Corporation (Seal)
Bidder's Name and Corporate Seal

By:
Signature and Title President
Gary Deremar

Attest:
Signature and Title Secretary
Edward Mitchell

SURETY

North American Specialty Insurance Company (Seal)
Surety's Name and Corporate Seal

By:
Signature and Title, April L. Lively
Attorney-in-Fact & FL Licensed Resident Agent
(Attach Power of Attorney)

Attest:
Signature and Title - Jacki Mainous, Witness
Inquiries: (407) 834-0022

Note: Above addresses are to be used for giving required notice.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to the County upon default of Bidder any difference between the total amount of Bidder's Bid and the total amount of the Bid of the next lowest, responsible Bidder who submitted a responsive Bid as determined by the County for the work required by the Contract Documents, provided that:

1.1. If there is no such next Bidder, and the County does not abandon the Project, then Bidder and Surety shall pay to the County the penal sum set forth on the face of this Bond, and

1.2. In no event shall Bidder's and Surety's obligation hereunder exceed the penal sum set forth on the race of this Bond.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by the County) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

3. This obligation shall be null and void if:

3.1. The County accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by the County) the executed Agreement required by the Bidding Documents arid any performance and payment bonds required b) the Bidding Documents, or

3.2. All Bids are rejected by the County, or

3.3. The County fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default by Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from the County, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount clue.

5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by the County and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the slate in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney

evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

END OF SECTION

SWISS RE CORPORATE SOLUTIONS

NORTH AMERICAN SPECIALTY INSURANCE COMPANY
WASHINGTON INTERNATIONAL INSURANCE COMPANY
WESTPORT INSURANCE CORPORATION

GENERAL POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, THAT North American Specialty Insurance Company, a corporation duly organized and existing under laws of the State of New Hampshire, and having its principal office in the City of Kansas City, Missouri and Washington International Insurance Company a corporation organized and existing under the laws of the State of New Hampshire and having its principal office in the City of Kansas City, Missouri, and Westport Insurance Corporation, organized under the laws of the State of Missouri, and having its principal office in the City of Kansas City, Missouri, each does hereby make constitute and appoint:

J.W. GUIGNARD, BRYCE R. GUIGNARD, PAUL J. CIAMBRIELLO, APRIL L. LIVELY, JENNIFER L. HINDLEY, MARGIE L. MORRIS,

DEBORAH ANN MURRAY, M. GARY FRANCIS, CHRISTINE MORTON, KELLY PHELAN, and ALLYSON FOSS WING JOINTLY OR SEVERALLY

Its true and lawful Attorney(s)-in-Fact, to make, execute, seal and deliver, for and on its behalf and as its act and deed, bonds or other writings obligatory in the nature of a bond on behalf of each of said Companies, as surety, on contracts of suretyship as are or may be required or permitted by law, regulation, contract or otherwise, provided that no bond or undertaking or contract or suretyship executed under this authority shall exceed the amount of:

TWO HUNDRED MILLION ($200,000,000.00) DOLLARS

This Power of Attorney is granted and is signed by facsimile under and by the authority of the following Resolutions adopted by the Boards of Directors of North American Specialty Insurance Company and Washington International Insurance Company at meetings duly called and held on March 24, 2000 and Westport Insurance Corporation by written consent of its Executive Committee dated July 18, 2011.

"RESOLVED, that any two of the President, any Senior Vice President, any Vice President, any Assistant Vice President, the Secretary or any Assistant Secretary be, and each or any of them hereby is authorized to execute a Power of Attorney qualifying the attorney named in the given Power of Attorney to execute on behalf of the Company bonds, undertakings and all contracts of surety, and that each or any of them hereby is authorized to attest to the execution of any such Power of Attorney and to attach therein the seal of the Company; and it is

FURTHER RESOLVED, that the signature of such officers and the seal of the Company may be affixed to any such Power of Attorney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures or facsimile seal shall be binding upon the Company when so affixed and in the future with regard to any bond, undertaking or contract of surety to which it is attached."

By _____
Steven P. Anderson, Senior Vice President of Washington International Insurance Company
& Senior Vice President of North American Specialty Insurance Company
& Senior Vice President of Westport Insurance Corporation

By _____
Erik Janssens, Senior Vice President of Washington International Insurance Company
& Senior Vice President of North American Specialty Insurance Company
& Senior Vice President of Westport Insurance Corporation

IN WITNESS WHEREOF, North American Specialty Insurance Company, Washington International Insurance Company and Westport Insurance Corporation have caused their official seals to be hereunto affixed, and these presents to be signed by their authorized officers this 1ST day of DECEMBER, 20 21.

North American Specialty Insurance Company
Washington International Insurance Company
Westport Insurance Corporation

State of Illinois
County of Cook ss:

On this 1ST day of DECEMBER, 20 21, before me, a Notary Public personally appeared Steven P. Anderson, Senior Vice President of Washington International Insurance Company and Senior Vice President of North American Specialty Insurance Company and Senior Vice President of Westport Insurance Corporation and Erik Janssens Senior Vice President of Washington International Insurance Company and Senior Vice President of North American Specialty Insurance Company and Senior Vice President of Westport Insurance Corporation, personally known to me, who being by me duly sworn, acknowledged that they signed the above Power of Attorney as officers of and acknowledged said instrument to be the voluntary act and deed of their respective companies.

YASMIN A. PATEL
OFFICIAL SEAL
Notary Public, State of Illinois
My Commission Expires
May 28, 2023

Yasmin A. Patel, Notary

I, Jeffrey Goldberg, the duly elected Senior Vice President and Assistant Secretary of North American Specialty Insurance Company, Washington International Insurance Company and Westport Insurance Corporation do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney given by said North American Specialty Insurance Company, Washington International Insurance Company and Westport Insurance Corporation which is still in full force and effect.

IN WITNESS WHEREOF, I have set my hand and affixed the seals of the Companies this 24th day of February, 20 22.

Jeffrey Goldberg, Senior Vice President & Assistant Secretary of Washington International Insurance Company & North American Specialty Insurance Company & Vice President & Assistant Secretary of Westport Insurance Corporation

SECTION 00 43 35

TABULATION OF SUBCONTRACTORS & SUPPLIERS

The undersigned states that the following is a full and complete list of the proposed subcontractors and suppliers on this Project and the class of work to be performed by each, and that such list will not be added to nor altered without written consent to the Owner through the Engineer.

	SUBCONTRACTOR OR SUPPLIER AND ADDRESS	CLASS OF WORK OR MATERIAL
1.	Core & Main 6854 Distributions Ave S Jacksonville, FL 32256	Pipe/ Fittings/ Valves
2.	Cemex 6586 W 12th Street Jacksonville FL 32254	Concrete
3.	Undetermined at this time	Asphalt
4.		
5.		
6.		
7.		

BIDDER: U.S. Water Services Corporation

By: _____

Name: Gary Deremer

Title: President

Date: February 24, 2022

END OF SECTION

SECTION 00 44 55

FLORIDA TRENCH SAFETY ACT CERTIFICATION

Bidder acknowledges that included in the various items of the proposal and in the Total Bid Price are costs for complying with the Florida Trench Safety Act (90-96, Laws of Florida) as modified October 1, 2008. The Bidder further identifies the costs to be summarized below:

	Cost
1. Trench Safety Act Compliance	$ $5,000.00
2. Special Shoring	$ $5,000.00

Identify method of compliance for Item #1: Standard Trench Box

$50.00/LF x 100 LF = $5,000.00

Identify or attach a copy of Special Shoring requirements for Item #2: Standard Shoring

$100.00/SY x 50 SY - $5,000.00

The undersigned certifies that he/she is the Contractor who will perform the trench excavation for this project, and hereby gives written assurance that Contractor will comply with the applicable trench safety standards specifically set forth in Florida's Trench Safety Act, Laws of Florida, 90-96.

BIDDER: U.S. Water Services Corporation

By: _____

Name: Gary Deremer

Title: President

Sworn to and subscribed before me this 24th day of February, 20 22 by means of X physical presence or __ online notarization.

_____
Notary Public

My Commission Expires: January 26, 2025

CHRISTINA R CREGO
Notary Public-State of Florida
Commission # HH 85112
My Commission Expires
January 26, 2025

END OF SECTION

SECTION 00 45 13

STATEMENT OF BIDDER'S QUALIFICATIONS

To: Nassau County BOCC Project: AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM

Date: February 24, 2022

The following experience record, as of date shown, shall be submitted to the County with the Bid Form. All questions shall be answered fully. Bidders who have qualified to bid on other projects for this County within the last 12 months need not resubmit this form unless specifically requested by the County. The contents of this form will be considered confidential to the extent allowed by applicable laws and regulations.

Name of Bidder: U.S. Water Services Corporation

Business Address: 4939 Cross Bayou Blvd., (Street)

New Port Richey (City) FL (State) 34652 (Zip Code)

1. Number of years in business as a Contractor under the present: 18+ years

   Business Name U.S. Water Services Corporation

   As Principal Contractor 18+ years As a Sub-Contractor 18+ years

2. Class of work you are equipped to perform: General & Underground Utility Construction

3. Class of work you usually sublet: Electrical, Asphalt, Surveying

4. Have any members of your concern ever operated under any other business name? None. If so, give details: _____

5. Have you ever failed to qualify as a responsible bidder? No. If so, give details.

6. Have you ever refused to enter into a contract after the award is made to you? No.

   If so, give details. _____

7. Have you ever failed to complete any work? No. If so, give details:

8. Has any surety or financial institution ever experienced loss on your concern? No.
If so, give details:

9. Give name and address of the County, type of work, and the contract amount of at least three projects completed in the last three years:

	(1)	(2)	(3)
Project Owner:	FGUA	DeSoto County	City of Wildwood
Owner Project Manager:	Robert Dickson, P.E.	Jeanine Tatum	Mark O'Dell
Email:	rdickson@govmserv.com	j.tatum@desotobocc.com	modell@wildwood-fl.gov
Phone No:	407 629 6900	863 491 7500	352 330 1346
Address:	280 Wekiva Springs Rd Suite 2070	201 E Oak Street	100 N Main Street
City, State, Zip:	Longwood, FL 32779	Arcadia FL 34266	Wildwood FL 34785
Type of Work:	PS061; WWTF Imp.	18-04-00 ; LS Upgrades	WWTF Capacity Imp
Contract Amt:	$2,105,835.28	$556,353.38	$913,917.36

10. Give name and address of the County, type of work, and contract amount of projects now in process of construction:

	Name	Address	Type of Work	Contract Amount
A.	City of Casselberry	95 triplet Lake Dr	FM Replacement	$1,456,568.00
B.	Charlotte County	18500 Murdock Circle	LS Pump & Panel	$350,933.18
C.	City of Ocala	110 SE Watula Avenue	Sewer Connection	$419,088.20
D.	Hernando County	1653 Blaise Drive	LS Rehab	$718,298.86
E.	Hernando County	1653 Blaise Drive	WM Replacement	$777,940.00

11. Indicate your experience in the construction of work similar to this project (if not demonstrated by Questions 9 and 10, above):

12. Give construction experience of principal individuals of your organization:

	Name	Position	Years of Experience	Size and Type of Work
A.	Gary Deremer	President	38 years in operations, maintenance and rehab	
B.	Edward Mitchell	VP/ Secretary	36 years in operations, maintenance and rehab	
C.	Ralph Amiott	Vice President	39 year in operations, maintenance and rehab	
D.	Cecil Delcher	Vice President	30 + years in general construction & operations maintenance and rehab	
E.				

13. Are there any judgments, suits, or claims pending against you? No. If so, give details:

14. Does your organization operate as a corporation, partnership, or individual? Corporation

A. If a corporation, when incorporated: April 28, 2003

In which state incorporated: Florida

List name, title, and address of all officers:

	Name	Title	Address
(1)	Gary Deremer	President	4939 Cross Bayou Blvd., NPR FL 34652
(2)	Edward Mitchell	VP/Secretary	4939 Cross Bayou Blvd., NPR FL 34652
(3)	Ralph Amiott	VP	4939 Cross Bayou Blvd., NPR FL 34652
	~~Cecil Delcher~~	~~VP~~	~~4939 Cross Bayou Blvd., NPR FL 34652~~
(4)	~~Kaycee Rupe~~	~~CFO~~	~~4939 Cross Bayou Blvd., NPR FL 34652~~
(5)	Gary Deremer	President	4939 Cross Bayou Blvd., NPR FL 34652

B. If a partnership, date of organization: _____

General, Limited, or Associated? _____

List name, address, and proportional interest of parties:

	Name	Address	Proportional Interest
(1)			
(2)			
(3)			
(4)			
(5)			

15. If requested prior to award of contract, provide to the County an accurate, up-to-date, condensed financial statement on a separate sheet attached to these qualifications of the individual, co-partnership, or corporation.

The undersigned hereby declares and certifies that the foregoing is a true statement of the experience and condition of the organization, therein first given and that any agency or individual herein named authorized to supply any information as may be deemed necessary to verify this statement.

Signed _____

Title Gary Deremer, President

State of Florida

County of Pasco

Subscribed and sworn to before me this 24th day of February, 2022.

via X physical presence or __ online notarization.

CHRISTINA R CREGO
Notary Public-State of Florida
Commission # HH 85112
My Commission Expires
January 26, 2025

Notary Public

My Commission expires: January 26, 2025

END OF SECTION

SECTION 00 45 19

NON-COLLUSION AFFIDAVIT

TO: The Nassau County Board of County Commissioners, herein called the "County."

Pursuant to bidding requirements for the work titled "AMERICAN BEACH WATER AND SEWER DISTRICT WELL AND SEPTIC TANK PHASE OUT PROGRAM,"

the enclosed contract documents shall be provided to the County.

State of Florida

County of Pasco

Gary Deremer, being first duly sworn, deposes, and says that:

A. He is President (officer's title) of U.S. Water Services Corporation (company name), the Bidder that has submitted the attached bid;

B. He is fully informed respecting the preparation and contents of the attached bid and of all pertinent circumstances respecting such bid;

C. Such bid is genuine and is not a collusive or sham bid;

D. Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees, or parties in interest, including this affiant, has in any way colluded, conspired, connived, or agreed, directly or indirectly with any other Bidder, firm, or person to submit a collusive or sham bid in connection with the contract for which the attached bid has been submitted or to refrain from bidding in connection with such contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm, or person to fix the price or prices in the attached bid or of any other Bidder, or to fix any overhead, profit, or cost element of the bid price or the bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against the "County" or any person interested in the proposed contract; and

E. The price or prices quoted in the attached bid are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the

part of the Bidder or any of its agents, representatives, owners: employees, or parties in interest, including this affiant.

(Signed) _____

Gary Deremer, President

Subscribed and sworn to before me via X physical presence or
__ online notarization on this 24th day of February, 2022.

_____
Notary Public

January 26, 2025
My commission expires

CHRISTINA R CREGO
Notary Public-State of Florida
Commission # HH 85112
My Commission Expires
January 26, 2025

END OF SECTION

SECTION 00 45 20

DRUG FREE WORKPLACE CERTIFICATE

I, the undersigned, in accordance with Florida Statute 287.087, hereby certify that _____

U.S. Water Services Corporation (print or type name of firm)

- Publishes a written statement notifying that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance in the workplace named above and specifying actions that will be taken against violations of such prohibition.

- Informs employees about the dangers of drug abuse in the workplace, the firm's policy of maintaining a drug free working environment, and available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug use violations.

- Gives each employee engaged in providing commodities or contractual services that are under bid or proposal, a copy of the statement specified above.

- Notifies the employees that as a condition of working on the commodities or contractual services that are under bid or proposal, the employee will abide by the terms of the statement and will notify the employer of any conviction of, plea of guilty or nolo contendere to, any violation of Chapter 1893, or any controlled substance law of the State of Florida or the United States, for a violation occurring in the work place, no later than five (5) days after such conviction, and requires employees to sign copies of such written statement to acknowledge their receipt.

- Imposes a sanction on, or requires the satisfactory participation in, a drug abuse assistance or rehabilitation program, if such is available in the employee's community, by any employee who is so convicted.

- Makes a good faith effort to continue to maintain a drug free workplace through the implementation of a drug free work place program.

"As a person authorized to sign a statement, I certify that the above-named business, firm, or corporation complies fully with the requirements set forth herein."

Gary Deremer
President

Authorized Signature

February 24, 2022
Date Signed

State of: Florida

County of: Pasco

Sworn to and subscribed before me this 24th day of February, 2022 via X physical presence or __ online notarization and who is X personally known or __ produced _____ as identification.

Notary Public

January 26, 2025
My commission expires

CHRISTINA R CREGO
Notary Public-State of Florida
Commission # HH 85112
My Commission Expires
January 26, 2025

END OF SECTION

SECTION 00 45 30

SWORN STATEMENT UNDER SECTION 287.133(3)(a), FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

(To be signed in the presence of a notary public or other officer authorized to administer oaths.)

STATE OF Florida
COUNTY OF Pasco

Before me, the undersigned authority, personally appeared Gary Deremer, who being by me first duly sworn, made the following statement:

1. The business address of U.S. Water Services Corporation (firm name of Bidder/Contractor) is 4939 Cross Bayou Blvd., New Port Richey FL 34652

2. My relationship to U.S. Water Services Corporation (firm name of Bidder/Contractor) is President (relationship such as sole proprietor, partner, president, vice president)

3. I understand that a public entity crime as defined in Section 287.133 of the Florida Statutes includes a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity in Florida or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or such an agency or political subdivision and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

4. I understand that "convicted" or "conviction" is defined by the statute to mean a finding of guilt or a conviction of a public entity crime, with or without adjudication or guilt, in any federal or state trial of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

5. I understand that "affiliate" is defined by the statute to mean (1) a predecessor or successor of a person or a corporation convicted of a public entity crime; or (2) an entity under control of any natural person with is active in management of the entity and who has been

convicted of a public entity crime; (3) those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate; or (4) a person or corporation who knowingly entered into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months.

6. Neither the Bidder/Contractor nor any officer, director, executive, partner, shareholder, employee, member or agent who is active in the management of the Bidder/Contractor, nor any affiliate of the Bidder/Contractor, has been convicted of a public entity crime subsequent to July 1, 1989.

(Draw a line through Paragraph 6 if Paragraph 7 below applies.)

7. There has been a conviction of a public entity crime by Bidder/Contractor, or an officer, director, executive, partner, shareholder, employee, member or agent of the Bidder/Contractor who is active in the management of the Bidder/Contractor or an affiliate of the Bidder/Contractor. A determination has been made pursuant to 287.133(3) by order of the Division of Administrative Hearings that it is not in the public interest of the name of the convicted person or affiliate to appear on the convicted vendor list.

The name of the convicted person or affiliate is _____

A copy of the order of the Division of Administrative Hearings is attached to this statement.

(Draw a line through Paragraph 7 if Paragraph 6 above applies.)

_____
(Signature)

Sworn to and subscribed before me in the State and County first mentioned above on the 24th day of February, 2022 via X physical presence or __ online notarization.

_____
Notary Public

January 26, 2025
My commission expires

CHRISTINA R CREGO
Notary Public-State of Florida
Commission # HH 85112
My Commission Expires
January 26, 2025

(affix seal)

END OF SECTION

SECTION 00 45 35

BIDDER'S STATEMENT OF DISPUTES, LITIGATION, ARBITRATION, AND SURETY COMPLETION, LAST THREE (3) YEARS

Project	Name and Address of Owner or Engineer	Name and Phone of Owner or Engineer Representative	Date of Contract	Amount	Status
Not Applicable					

(Signed) _____

Print Name Gary Doremer, President

Subscribed and sworn to before me via X physical presence or __ online notarization on this 24th day of February, 20 22.

Notary Public Christina R. Crego

January 26, 2025
My commission expires:

CHRISTINA R CREGO
Notary Public-State of Florida
Commission # HH 85112
My Commission Expires
January 26, 2025

END OF SECTION

Exhibit “H”

ATTACHMENT "H"

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ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 04/21/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: LOU MORRISON
LOUIS MORRISON LOUIS J. MORRISON C & C CONSULTANTS P O BOX 701340 ST CLOUD, FL 34770-1340	PHONE (A/C, No, Ext): 888-494-9844 FAX (A/C, No): 407-809-5283 E-MAIL ADDRESS: HALMORRISON@HOTMAIL.COM

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : PHILADELPHIA INDEMNITY INS. CO.	18058
INSURER B : CRUM & FORSTER SPECIALTY INS. CO.	44520
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED

U.S WATER SERVICES CORPORATION
4939 CROSS BAYOU BOULEVARD
NEW PORT RICHEY, FL 34652

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR	X		PHPK2351253	11/30/21	11/30/22	EACH OCCURRENCE	$ 1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 1,000,000
							MED EXP (Any one person)	$ 10,000
							PERSONAL & ADV INJURY	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [ ] PRO-JECT [ ] LOC						GENERAL AGGREGATE	$ 3,000,000
	OTHER:						PRODUCTS - COMP/OP AGG	$ 3,000,000
								$
	AUTOMOBILE LIABILITY ANY AUTO OWNED AUTOS ONLY [ ] SCHEDULED AUTOS HIRED AUTOS ONLY [ ] NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident)	$
							BODILY INJURY (Per person)	$
							BODILY INJURY (Per accident)	$
							PROPERTY DAMAGE (Per accident)	$
								$
A	UMBRELLA LIAB [X] OCCUR X EXCESS LIAB [ ] CLAIMS-MADE			PHUB793789 EXCESS OF CGL, AUTO LIABILITY & EMPLOYERS LIABILITY	11/30/21	11/30/22	EACH OCCURRENCE	$ 10,000,000
							AGGREGATE	$ 10,000,000
	DED [ ] RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N [ ] (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A					PER STATUTE [ ] OTH-ER	
							E.L. EACH ACCIDENT	$
							E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$
B	CONTRACTORS POLLUTION LIABILITY	X		PKC-112385	11/30/21	11/30/22	$5,000,000 LIMIT	$5,000,000 AGG
	PROFESSIONAL LIABILITY						$2,000,000 LIMIT	$2,000,000 AGG

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

BOARD OF COUNTY COMMISSIONERS, NASSAU COUNTY, FLORIDA ARE LISTED AS ADDITIONAL INSURED ON THE GENERAL LIABILITY & CONTRACTORS POLLUTION LIABILITY POLICIES AS REQUIRED BY WRITTEN CONTRACT.

RE: AMERICAN BEACH WATER & SEWER DISTRICT WELL & SEPTIC TANK PHASE OUT PROGRAM, NC21-029-ITB, NASSAU COUNTY, FLORIDA

CERTIFICATE HOLDER

BOARD OF COUNTY COMMISSIONERS
NASSAU COUNTY, FLORIDA
96135 NASSAU PLACE, SUITE 1
YULEE, FLORIDA 32097

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Louis Morrison

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Client#: 1922206 569USWAT

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 4/22/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Patricia Byrne	
McGriff Insurance Services 12485 28th Street N 3rd Floor St Petersburg, FL 33716	PHONE (A/C, No, Ext): 813-682-1510	FAX (A/C, No):
	E-MAIL ADDRESS: Patricia.Byrne@mcgriff.com	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A : Great American Alliance Insurance Co.	26832
INSURED U S Water Services Corporation 4939 Cross Bayou Boulevard New Port Richey, FL 34652	INSURER B :	
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$
	☐ CLAIMS-MADE ☐ OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$
	☐ POLICY ☐ PRO-JECT ☐ LOC						PRODUCTS - COMP/OP AGG	$
	☐ OTHER:							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	☐ ANY AUTO						BODILY INJURY (Per person)	$
	☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
	☐ UMBRELLA LIAB ☐ OCCUR						EACH OCCURRENCE	$
	☐ EXCESS LIAB ☐ CLAIMS-MADE						AGGREGATE	$
	☐ DED ☐ RETENTION $							$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N [N] (Mandatory In NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A	X	WCE54616202	10/31/2021	10/31/2022	X PER STATUTE ☐ OTH-ER	
							E.L. EACH ACCIDENT	$1,000,000
							E.L. DISEASE - EA EMPLOYEE	$1,000,000
							E.L. DISEASE - POLICY LIMIT	$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Project No./ Name/ Description: American Beach Water & Sewer District Well & Septic Tank Phase Out Program, NC21-029-ITB, Nassau County, Florida

A Waiver of subrogation in included in regards to the Workers Compensation policy when required by written contract.

CERTIFICATE HOLDER	CANCELLATION
Board of Commissioners, Nassau County, Florida 96135 Nassau Place, Suite 1 Yulee, FL 32097	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE Kevin McNulty

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