SPECIAL PROVISIONS

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SPECIAL PROVISIONS

GENERAL

This Section amends, enhances or otherwise revises the Technical Specifications.

STANDARD SPECIFICATIONS

The standard Specifications to be used for this work shall be Division II and III of the Florida Department of Transportation (FDOT) *Standard Specifications for Road and Bridge Construction*, 2010 Edition and all Supplemental Specifications thereto, hereinafter referred to as the *Standard Specifications*, for roadway construction, except as amended under this Contract, or as noted on the construction plans meeting the Manatee County Highway, Traffic & Stormwater Standards (dated 2007).

The Contractor's work shall follow the Manatee County Public Works Utility Standards and Specifications (dated 2011) for the water main work, reclaimed water main, sanitary sewer and force main work.

These specifications cover the usual construction requirements for work specified by the County Public Works Department; however, in the event it is determined that the specific work to be done is of such a nature that the method of construction, type and/or kind of material is not defined by the *Standard Specifications*, such work shall be performed in accordance with the Special Provisions.

The apparent silence of the Specifications as to any detail or the apparent omission from them of a detailed description concerning any work to be done and materials to be furnished shall be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of the best quality is to be used. Interpretation of these specifications shall be made upon that basis.

NO SEPARATE PAYMENT FOR SPECIAL PROVISIONS

No separate payment will be made for the Contractor to execute Special Provisions. All expenses borne by the Contractor shall be included in the individual unit prices for the particular pay item.

MATERIALS

a. **Delivery Tickets**: It will be necessary to submit a copy of all delivery tickets for materials used on the project, regardless of the basis of payment.

b. **Job Mix Formula for Asphaltic Concrete**: Attention is directed to the requirement that job mix formulas for asphaltic concrete, of the type specified, be submitted at least 14 days before plant operations begin. The submitted formula should be derived, or approved, by

the laboratory approved by the Owner to make test on the Project. Costs for such job mix formulation will be paid by the Contractor directly to the assigned laboratory.

c. **Job Mix Formula for Portland Cement Concrete**: Attention is directed to the requirement that job mix design formulas for all Portland Cement Concrete, of the type specified, be submitted at least 14 days prior to use on the project. The submitted formulas shall be derived or approved by the Owner and/or its agents. All concrete mix designs shall meet FDOT Concrete Class mix guidelines, except as follows: when approved, in writing by the Engineer, an Alternate Class I Concrete mix design formula, for concrete curb and gutter to be placed by automated curb machines, may show, as a substitution for #57 aggregate, an amount of #89 aggregate not to exceed 33 percent, by weight, of the #57 aggregate.

LABORATORY TESTING

Testing for the Work shall be performed at no expense to the Contractor. However, any test that fails or is not performed, as a result of the Contractor's action will, in turn, be back-charged to the Contractor, including the cost of all re-testing due to defective materials or construction. The testing laboratory shall be approved by the Owner.

The samples and tests used for determining the quality and acceptability of the materials and workmanship, which have been or are to be incorporated in the Work, shall conform to the requirements of the State of Florida Department of Transportation Materials Sampling, Testing and Reporting Guide, latest edition.

Testing shall also be in accordance with the applicable portions of Section 6 of the *Standard Specifications* and these specifications.

MEASUREMENT AND PAYMENT

a. All work completed under the terms of this contract shall be measured according to United States Standard Measures.

b. All measurements shall be taken horizontally or vertically unless specifically provided otherwise.

c. No payment will be made for construction over a greater area than authorized, nor for material moved from outside of stakes and data shown on the plans, except when such work is performed upon instructions of the Engineer.

d. The Contractor shall accept compensation provided under the terms of this contract as full payment for furnishing all materials and for performing all work contemplated and embraced under this contract. Such compensation shall also be for any and all loss or damage arising out of the nature of the work or from the action of the elements, or from any unforeseen difficulties or obstructions encountered during the contract period until final acceptance by the Owner.

e. Whenever any change, or combination of changes, on the plans results in an increase or decrease in the original contract quantities, and the work added or decreased/eliminated is of the same general character as that called for on the plans, the Contractor shall accept payment in full at the original contract unit prices for the actual quantity of work performed, with no allowance for any loss of anticipated profits.

f. It is the Contractor's responsibility to perform a detailed quantity take-off from the plans to determine actual quantities for ordering and delivery purposes. The Owner will not be responsible for quantities ordered in excess of those installed and constructed. The Contractor should be aware that some of the pay items may have contingency quantities. Payment shall be made only for final in-place quantities.

   No payment shall be made for contingency quantities or additional work unless otherwise directed and approved in writing by the Engineer.

g. Bid Schedule Completion - the blank spaces in the bid schedule shall be filled in correctly where indicated for each and every item for which a description is given, as the bidder must state the unit prices for which he proposes to do each part of the work contemplated, and the total price for all the parts included in any or all of the combinations of the work. In case of a discrepancy, the written words for "unit price", where stated, shall be considered as being the unit price. If the bid schedule does not use the written words for the unit price, then the numerically correct "total price", shall be considered as being the total price.

RESTORATION

Payment for restoration shall be covered under the applicable restoration Pay Items as specified in the proposal. If a specific restoration Pay Item is not listed in the proposal, the cost of such work shall be included in the applicable Pay Item unless otherwise provided under separate restoration section or pay quantity of these Specifications.

COOPERATION WITH OTHERS

The Contractor shall cooperate with the owners of any underground or overhead utility lines in their removal and rearrangement operations, in order that these operations may progress in a reasonable manner and that service rendered by these parties will not be interrupted. The Owner shall not be responsible for costs associated with delays, disruptions and remobilizations attributed to utility agency scheduling.

PRIORITY

In any instance where there is an apparent conflict between these technical specifications special provisions and the corresponding terms of the "Standard Specifications", these special provisions followed by these technical specifications shall be controlling.

SITE INVESTIGATION

The Contractor acknowledges that he has satisfied himself as to the nature and location of the work; the general and local conditions, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials; availability of labor, water, electric

power, roads; and uncertainties of weather, water stages, tides or similar physical conditions at the site; the conformation and conditions of the ground; the character of equipment and facilities needed preliminary to and during prosecution of the work.

The Contractor further acknowledges that he has satisfied himself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered, insofar as this information presented by the drawings and Specifications made a part of this contract.

The Contractor shall carefully review and adhere to conditions and recommendations made in the project geotechnical report.

Any failure by the Contractor to acquaint himself with the available information will not relieve him from responsibility for estimating properly the difficulty or cost of successfully performing the work.

The Owner assumes no responsibility for any conclusions or interpretations made by the Contractor on the basis of the information made available by the Owner. The Owner also assumes no responsibility for any understanding or representations made by its officers or agents during or prior to the execution of this Contract, unless (1) such understanding or interpretations are made in writing by the Engineer or are expressly stated in the Contract and (2) the Contract expressly provides that the responsibility therefore is assumed by the Owner.

PROJECT IDENTIFICATION SIGNS

The Contractor shall be responsible for furnishing, installing and maintaining four (4) County project identification signs and removal of same upon completion of the construction. Project identification sign shall be constructed and maintained at the project site as directed by the Owner. The Contractor shall erect, maintain and relocate the sign as directed for the duration of the Project.

The Contractor shall mount the sign using 4-inch pressure treated lumber or as approved by the Engineer, and other supports as required, at a location mutually agreed by the Engineer and the Contractor.

The identification signs shall not be less than 32 square feet in area. The Contractor shall coordinate with the Owner for the sign verbiage before fabrication. The signs shall be painted with graphic content to include:

- Title of Project
- Name of Owner
- Names and Titles of authorities, as directed by Owner
- Prime Contractor
- Construction Cost

The signs shall be erected prior to commencement of work at a lighted location of high public visibility, adjacent to the main entrance at each end of the project, as approved by the Engineer and Owner.

The signs shall be a minimum of 8 feet wide and 4 feet high. The signs shall be constructed of high density ¾-inch exterior plywood without waves or buckles, mounted and braced with pressure treated lumber as necessary and maintained in a presentable condition for the duration of the project. Hardware shall be galvanized. The surface of the sign shall be of exterior softwood plywood with medium density overlay.

Painting shall be constructed with materials to resist weathering and fading during the construction period. Experienced professionals shall perform painting. Graphic design and style shall be in accordance with the following:

- The signs will be placed in accordance with Manatee County Development Code, Ordinance 90-01, Section 724, Signs and Section 713, Visibility Triangles.

Payment for installing and maintaining the project identification signs shall be included as part of the lump sum quantity under Pay Item Number 1 (101-1) for Mobilization. The sign will remain the property of the Owner upon completion of the Project unless otherwise directed.

SPECIAL TERMS AND CONDITIONS

SOIL EROSION AND SILTATION

The Contractor shall plan and control the Work to minimize all soil erosion and the siltation of drains and canals resulting from such erosion.

At the pre-construction meeting, the Contractor shall present his proposed plan and schedule, which shall specifically indicate the proposed used of temporary erosion control features. The plan shall include:

- **Baled hay and straw barriers** designed, furnished and installed by the Contractor in accordance with the plans, FDOT Section 104-6-4, and FDOT Design Standard Index No. 102.

- **Floating turbidity barriers and staked turbidity barriers** furnished and installed by the Contractor as shown on the plans and/or required by conditions of the permits and as outlined in FDOT Section 104-6.4.11.

SHOP DRAWINGS

The Contractor shall submit to the Engineer for approval, all working drawings and shop drawings with descriptive specifications and engineering calculations necessary for the successful completion of the Work. The shop drawing shall be submitted in pdf format, along with a submittal log and the number of the submittals should follow the number on the submittal log. Each shop drawing shall have a cover sheet and reference the submittal log number, following the sample format provided in the contact documents.

The working and shop drawings shall be certified by a Florida licensed Professional Engineer and state that the design is sufficient for the successful completion of the Work. The working drawings and shop drawings shall include, but not be limited to:

- Traffic Control Plan
- Erosion Control Plan
- All drainage structures
- Shop Drawings listed in the Plans

SUBSOIL EXCAVATION

The contractor shall detect and remove all unsuitable material within project limit, following FDOT Design Standard Index 500, latest version. Payment for subsoil excavation shall be included in the applicable pay items unless separate pay items are specified.

TEMPERARY PAVEMENT

Temporary pavement shall consist of a minimum of Optional Base Group 04 and one (1) inch of Type S structural course (Traffic C) over a firm, unyielding, well-compacted subgrade, or use ABC with equivalent equal structure number. The Contractor shall immediately repair all potholes that develop within the project limits and shall maintain a supply of cold mix on the project site to expedite these repairs.

The Temporary by-pass road shall provide adequate cover and protection of existing utilities. It is the Contractor's responsibility to coordinate with utility companies to repair any damages to the exiting utilities during the construction at no additional cost to the owner.

Payment for the temporary pavement and maintenance of this pavement shall be included under Maintenance of Traffic.

DEWATERING, SHEETING AND BRACING

Payment for dewatering, sheeting and bracing shall be included in the applicable pay items unless separate pay items are specified.

Approval of Dewatering Plan:
At least 10 days prior to the commencement of any dewatering activity, the Contractor shall submit to the Project Manager for record purposes only, a detailed description of the proposed dewatering system. This plan shall include design computations, layout, type, and spacing of dewatering devices, number and size of pumps and other equipment, with a description of the installation and operating procedures.

MAINTENANCE OF TRAFFIC

The Contractor shall provide access to businesses and local residents at all times. No lane closures will be allowed between the hours of 6AM to 7PM. Temporary by-pass lanes may be constructed at all tie-in locations during the MOT phasing. The payment for temporary by-pass lanes shall be included in Maintenance of Traffic. Business Entrance signs per FDOT

Index 17355 (FTP-59) shall be placed at all business entrance points and maintained during all phases of construction. Payment for these items shall be included under the pay item for Maintenance of Traffic. Temporary pavement marking shall be paid under Maintenance of Traffic.

MAINTENANCE OF TRAFFIC PLAN

The Contractor shall prepare a Maintenance of Traffic plan and submit it to the Traffic Engineering Division and the Project Manager for review prior to implementation. It must comply with all FDOT safety criteria, FDOT Design Standards 600 Series Indexes, FHWA and MUTCD standards, and allow for traffic to operate in daytime or nighttime. The Maintenance of Traffic plan will require the seal of a licensed professional engineer with a current FDOT Advanced Work Zone certification. Temporary pavement marking shall be paid under Maintenance of Traffic. No road closures will be allowed without approval from the Project Manager.

MAINTENANCE OF STORM DRAINAGE SYSTEM

The Contractor shall be responsible at all times to maintain the operation of existing stormwater facilities, or, when existing stormwater facilities are removed, to provide equivalent capacity alternate forms of stormwater removal adequate to prevent upstream flooding in excess of existing conditions. This responsibility shall include the installation of temporary connections, bypass pumping, or other temporary means necessary until the new drainage system is fully operational. Payment for these items shall be included under the applicable pay item.

THERMOPLASTIC TRAFFIC STRIPES AND MARKINGS

Do not place thermoplastic traffic stripes and markings on newly constructed final surface courses prior to 30 calendar days after placement of the final surface course. The Engineer may require longer cure periods. Provide temporary pavement markings during the interim period if the road is open to traffic. The price of temporary pavement marking shall be included in the Maintenance of Traffic.

RAILROAD CROSSING

The Contractor shall notify FDOT District Rail Administrator, Arlene G. Barnes, via (863)519-2349 or Arlene.Barnes@dot.state.fl.us, 48 hours prior to any work concerning the removal of the old crossing and installation of new crossing. The Contractor shall coordinate with FP&L Rail Road contactor representative, R.W. Summers, (863)-533-8107, before any construction activity occurs within FP&L Rail Road right of way. The Contractor is responsible for all work necessary to tie the proposed road to the MBM Tub Crossing installed by R.W Summers.

The Contractor shall be responsible for installation of temporary and permanent barricades necessary for the demolition of the existing crossing. During the removal of the existing crossing, the Contractor shall install Type III Barricades, Road Closed Signs (R11 2), and Advanced Warning Signs (W20 3), as identified in the FDOT standard Index 600. The Contractor shall

remove all railroad signage and roadway markings associated with the removal of the existing crossing. The payment of signage and marking removal shall be under Maintenance of Traffic. The existing utilities to remain shall be protected from the demolition of the existing crossing. Operations within railroad right-of way shall follow FDOT Standard Specifications for Road and Bridge Construction Dated 2010, or latest revision, section 7-11.5.The Jack &Bore and steel casing shall follow FDOT Standard Specifications for Road and Bridge Construction Dated 2010, or latest revision, section 556.

DUST CONTROL

The Contractor shall control dust resulting from construction operations at all times. The locations and frequencies of applications shall be as directed by the Engineer. Dust control is required to be in accordance with the FDOT *Standard Specifications* Section 102-5. Payment for Dust Control shall be made under Mobilization unless separate pay item for Dust Control is specified.

UNDERGROUND UTILITY LOCATIONS

The Contractor shall field verify by means of subsurface locating or other approved method all existing utilities to remain and conditions as may be required for the work area. This shall include all areas of potential conflicts with proposed storm, sanitary, force main and water main. The Contractor shall locate all existing utilities to remain at potential conflict locations prior to construction activities and before ordering any proposed structures. The Contractor shall contact and coordinate with "Sunshine" as well the individual utilities prior to and during construction for utility locations, relocation and assistance while installing in potential conflict areas. All utility coordination and relocations shall be factored into the Contractor's construction schedule at no additional cost to the Owner.

The cost of all labor, materials and incidentals required for the performance of any survey and utility location work shall be included under the pay item for Mobilization. A Florida registered land surveyor shall perform all survey work.

UTILITY COORDINATION

The Contractor shall be responsible for coordination of the work with all affected utility owners. The Contractor must take into consideration the required utility adjustments and relocations in development of his schedule for completing the work including construction of temporary work to allow phased construction of the permanent facilities.

The Contractor shall coordinate and schedule utility relocations and/or adjustments with the utility owners along the project in order to avoid delays. The work includes remobilization if required after utility relocation is complete. The intent is to coordinate utility construction activities so the project construction continues and is not stopped or delayed at any time due to utility work being done. Once Notice to Proceed is issued, the Contractor shall contact the affected utilities to discuss the Contractor's anticipated means and methods so temporary and permanent relocation plans can be implemented as needed to meet OSHA safety requirements.

The contractor's equipment shall maintain a minimum clearance distance (10 feet for voltage up to 50kv, 15 feet for voltage over 50kv to 200kv, 20 feet for voltage over 200kv to 350kv, 25 feet for voltage over 350kv to 500kv, 35 feet for voltage over 500kv to 750kv, 45 feet for voltage over 750kv to 1,000kv.), following new OSHA Rule (29 CFR Part 1926) and FDOT Roadway Design Bulletin 11-03 DCE Memorandum 02-11.

UTILITY CONFLICTS

It shall be the Contractor's responsibility to avoid conflicts with other utilities. The Owner will not be responsible for additional costs incurred by the Contractor for incorrect installations, relocations and breaks due to service conflicts.

DAILY CLEAN-UP REQUIREMENTS

The Contractor shall clean up the job site at the end of each workday. Clean up will include the elimination of rubble and waste material on public and private property. Driveways shall remain accessible by residents. Each Friday, the Contractor shall prepare the road surface and barricades in an acceptable manner for weekend traffic use.

MAINTENANCE AND RESTORATION OF JOB SITE

The Contractor shall conduct his operations in such a manner as will result in a minimum of inconvenience to occupants of adjacent homes and business establishments and shall provide temporary access as directed or as may be required by the Project Manager. All final restoration must be performed to an equal or better condition than that which existed prior to construction.

Good housekeeping on this project is extremely important and the Contractor will be responsible for keeping the construction site neat and clean, with debris being removed daily as the work progresses or as otherwise directed by the Project Manager. Good housekeeping at the job site shall include: Removing all tools and temporary structures, dirt, rubbish, etc.; hauling all excess dirt, rock, etc., from excavations to a dump provided by the Contractor; and all clean up shall be accomplished to the satisfaction of the Project Manager. Dust will be controlled daily as may be required. Immediately after construction completion in an area or part thereof (including restoration), barricades, construction equipment and surplus and discarded materials shall be removed by the Contractor.

In the event that the timely clean up and restoration of the job site is not accomplished to the satisfaction of the Project Manager, the Project Manager shall make arrangements to affect the necessary clean up by others. The Contractor shall be charged for these costs through deductions in payment due the contractor. If such action becomes necessary on the part of and in the opinion of the Project Manager, the Owner shall not be responsible for the inadvertent removal from the work site of materials which the Contractor would not normally have disposed of had he affected the required clean up.

NOTICE AND SERVICE THEREOF

All notices, which shall include demands, instructions, requests, approvals, and claims shall be in writing. Any notice to or demand upon the Contractor shall be sufficiently given if delivered to the office of the Contractor specified in the bid (or to such other office as the Contractor may, from

time to time, designate to the Owner in writing), or if deposited in the United States mail in a sealed, postage prepaid envelope, or delivered, with charges prepaid, sent via fax transmission, or to any telegraph company for transmission, in each case addressed to such office.

All notices required to be hand delivered to the Owner, unless otherwise specified in writing to the Contractor, shall be delivered to the Project Manager, and any notice to or demand upon the Owner shall be sufficiently given as delivered to the office of the Project Manager, or if deposited in the United States mail in a sealed, postage prepaid envelope, sent via fax transmission, or delivered with charges prepaid to any telegraph company for transmission, in each case addressed to said Project Manager or to such other representative of the Owner or to such other address as the Owner may subsequently specify in writing to the Contractor for such purposes.

Any such notice or demand shall be deemed to have been given or made as of the time of actual delivery or (in the case of mailing) when the same should have been received in due course of post or in the case of a fax transmission or telegram at the time of actual receipt, as the case may be.

REQUIREMENTS FOR CONTROL OF THE WORK

Prior to the start of the Work described in this contract, a pre-construction conference may be held by the Project Manager to be attended by the Contractor and representatives of the various utilities and others as required, for the purpose of establishing a schedule of operations which will coordinate the work to be done under this contract with all related work to be done by others within the limits of the project.

All items of work in this contract shall be coordinated so that progress of each related item will be continuous from week to week. The progress of the work will be reviewed by the Project Manager at the end of each week, and if the progress of any item of work during that week is found to be unsatisfactory, the Contractor shall be required to adjust the rate of progress on that item or other items as directed by the Project Manager without additional compensation. The Contractor will continuously control the work until completed.

PROJECT SCHEDULE

The Contractor shall submit a detailed construction bar chart schedule within 15 days of the notification of award or its intent for the County to review. The submittal shall meet the following requirements:

- Schedule will be submitted on 11-inch by 17-inch paper.
- The time scale (horizontal) shall be in weeks. The activities shall be listed on the left hand side (vertical).
- Activities shall show most Work activities. The listing from top to bottom shall be in a logical sequence of how the Work will be accomplished. Space shall be provided between activities or within bars to allow for marking of actual progress.
- The submittal shall show the order and interdependence of activities and the sequence for accomplishing the work. All activities shall be described in sufficient detail so that the Engineer can readily identify the work and measure the progress on of each activity. The submittal shall show each activity with a beginning work date, a duration, and a monetary value. Include activities for procurement fabrication, and deliver of materials, plant, and

equipment, and review time for shop drawings and submittals. Include milestone activities when milestones are required by the Contract Documents. In a project with more than one phase, adequately identify each phase and its completion date, and do not allow activities to span more than one phase.

- The Contractor shall conduct sufficient liaison and provide sufficient information to indicate coordination activities with utility owners that have facilities within the limits of construction have been resolved. Incorporate in the schedule any utility adjustment schedules included in the Contract Documents unless the utility company and Manatee County mutually agree to changes to the utility schedules shown in the Contract. Submit a working plan with the schedule, consisting of a concise written description of the construction plan.
- The Project Manager will return inadequate schedules to the Contractor for corrections. Resubmit a corrected schedule within 15 calendar days from the date of the Project Manager's return transmittal.
- The Contractor shall submit an updated Work Progress Schedule, for Project Manager's acceptance, if there is a significant change in the planned order or duration of an activity. The Project Manager will review the corrected schedule and respond within 7 calendar days of receipt.

A copy of the schedule, clearly showing progress made, shall be submitted on a monthly basis during the progress of the work. Review or acceptance will neither impose on the County responsibility for the progress or scheduling of the Work, nor relieve the Contractor from full responsibility therefore.

By acceptance of the schedule, the Project Manager does not endorse or otherwise certify the validity or accuracy of the activity durations or sequencing of activities. The Project Manager will use the accepted schedule as the baseline against which to measure the progress.

The Contractor shall provide a revised Work schedule if, at any time, the County considers the completion date to be in jeopardy because of "activities behind schedule". An activity that cannot be completed by its original or latest completion date shall be deemed to be behind schedule. The revised Work schedule is designed to show how the Contractor intends to accomplish the Work to meet the contractual completion date. The form and method employed by the Contractor shall be the same as for the original Work schedule.

If the Contractor fails to finalize either the initial or a revised schedule in the time specified, the Project Manager will withhold all Contract payments until the Project Manager accepts the schedule.

The cost to prepare and revise the schedule is considered incidental to the Work.

USE OF PRIVATE PROPERTY

All construction activities required to complete this project in accordance with the Contract Documents shall be confined to public right-of-way, easements of record or temporary construction easements, unless the Contractor makes specific arrangements with private property owners for his use of their property. Written authorization from the granting property owner shall

be placed on file with the Project Manager prior to utilization of said private properties. The Owner assumes no responsibility for damage to private property in such instances. The Contractor is responsible for protection of private property abutting all work areas on this project. Adequate equipment storage and material storage shall also be accomplished outside the Owner's right-of-way. Pipe and other materials shall not be strung out along the right-of-way, but will be delivered in quantities adequate for one day's installation. The Owner will coordinate with the Contractor to identify possible storage sites.

CONSTRUCTION PHOTOGRAPHY

General

The Contractor shall employ a competent photographer to take construction record photographs and perform videotaping, including providing all labor, materials, equipment and incidentals necessary to obtain photographs and/or videotapes of all areas specified in the Contract specifications.

The word "Photograph" includes standard photographic methods involving negatives, prints and slides and it also includes digital photographic methods involving computer technology items such as diskettes and CD-ROMs.

Qualifications

A competent camera operator who is fully experienced and qualified with the specified equipment shall do all photography.

For the videotape recording, the audio portion should be done by a person qualified and knowledgeable in the specifics of the Contract, who shall speak with clarity and diction so as to be easily understood.

Project Photographs

Provide photographs of the entire work area prior to any construction for the purpose of records of conditions prior to construction. Photographs should be spaced at approximately 100-foot intervals. In addition, all special features shall be photographed prior to construction.

Provide three prints of each standard photograph to the Owner. In addition to the CD-ROM media, provide one print of each digital/digitized photograph to the Owner.

The Contractor shall pay all costs associated with the required photography and prints. Any parties requiring additional photography or prints will pay the photographer directly.

All project photographs shall be a single weight, color image. All finishes shall be smooth surface and glossy, and all prints shall be 8 inches by 10 inches.

Each print shall have clearly marked on the back the name of the project, the orientation of view, the date and time of exposure, name and address of photographer and the photographers numbered identification of exposure.

All project photographs shall be taken from locations to adequately illustrate conditions prior to construction, or conditions of construction and state of progress. The Contractor shall consult with the Owner at each period of photography for instructions concerning views required.

The Contractor shall deliver prints in conformance with the above requirements to the Owner. No construction shall begin until pre-construction photographs are completed and submitted to the Owner.

Negatives
The Contractor shall require that photographer maintain negatives for a period of two years from date of Substantial Completion of the Project. Negatives shall be conveyed to Owner at the end of the two-year period.

Photographer shall agree to furnish additional prints to Owner at commercial rates applicable at the time of purchase. Photographer shall also agree to participate as required in any litigation requiring the photographer as expert witness.

Videotape Recording

Videotaping may be used in lieu of construction photographs.

Videotaping shall be accomplished along all routes that are scheduled for construction.

The taping shall, when viewed, depict an image with ¼ of the image being the roadway fronting of property and ¾ of the image being of the property. The taping shall be done so as to show the roadway and property in an oblique view (30 degrees).

A complete view, in sufficient detail, of all driveways, with audio description of the exact location shall be provided.

The Engineering plans shall be used as a reference for stationing in the audio portion of the tapes for easy location identifications. If visible, house numbers shall be mentioned on the audio.

Two complete sets of videotapes shall be delivered to the Owner for the permanent and exclusive use of the Owner prior to the start of any construction on the project.

All videotapes shall contain the name of the project, the date and time of the videotaping, the name and address of the photographer and any other identifying information required.

Payment for this item shall be included under the pay item for Mobilization.

POST-CONSTRUCTION STORM PIPE TESTING

The Contractor shall inspect and televise all newly constructed storm pipes on the project. The purpose is to assure the pipes are properly constructed and do not leak at the joints. Payment for this item shall be included under the pay item for Mobilization.

CONTRACTOR TO EXECUTE NPDES "NOTICE OF INTENT"

Prior to proceeding with construction, the Contractor shall prepare and submit a "Notice of Intent to Use Generic Permit for Stormwater Discharge from Construction Activities that Disturb One or More Acres of Land" to the Florida Department of Environmental Protection (FDEP). The Contractor shall monitor the site at all times and take appropriate action to prevent erosion including the use of BMPs. No pumping of ground or surface water shall be performed without approval from the Water Management District. Following completion of construction, Contractor shall prepare and submit a "Notice of Termination of Generic Permit Coverage" to FDEP. Payment for this item shall be included under the pay item for Mobilization.

WORKSITE TRAFFIC SUPERVISOR

a. The Contractor shall have a Worksite Traffic Supervisor who will be responsible for initiating, installing and maintaining all traffic control devices as described in Section 102 of the FDOT *Standard Specifications for Road and Bridge Construction* and in the Plans. The Worksite Traffic Supervisor shall have at least one year of experience directly related to work site traffic control in a supervisory or responsible capacity and shall be certified by the American Traffic Safety Services Association Worksite Traffic Supervisor Certification Program or an equal approved by FDOT. Approved alternate Worksite Traffic Supervisors may be used when necessary.

b. The Worksite Traffic Supervisor shall be available on a 24-hour per day basis and shall review the project on a day-to-day basis as well as being involved in all changes to traffic control. The Worksite Traffic Supervisor shall have access to all equipment and materials needed to maintain traffic control and handle traffic related situations. The Worksite Traffic Supervisor shall ensure that routine deficiencies are corrected within a 24-hour period.

c. The Worksite Traffic Supervisor shall be available on the site within 45 minutes after notification of an emergency situation, prepared to positively respond to repair the work zone traffic control or to provide alternate traffic arrangements.

d. Failure of the Worksite Traffic Supervisor to comply with the provisions of the Sub-article may be grounds for decertification or removal from the project or both. Failure to maintain a designated Worksite Traffic Supervisor or failure to comply with these provisions will result in temporary suspension of all activities except traffic and erosion control and such other activities deemed to be necessary for project maintenance.

e. Payment for Worksite Traffic Supervisor shall be included under the pay item for Maintenance of Traffic.

CONTRACTOR'S SUPERVISION

a. Prosecution of Work: The Contractor shall give the work the constant attention necessary to assure the scheduled progress. He shall cooperate fully with the Project Manager and with other Contractors at work in the vicinity.

b. Contractor's Superintendent: The Contractor shall at all times have on the work site as his agent, a competent superintendent capable of thoroughly interpreting the plans and specifications and thoroughly experienced in the type of work being performed, who shall receive the instructions from the Engineer or his authorized representatives. The superintendent shall have full authority to execute the orders or directions of the Engineer and to supply promptly any materials, tools,

equipment, labor and incidentals that may be required. Such superintendence shall be furnished regardless of the amount of work sublet.

c. The Contractor's superintendent shall speak and understand English, and at least one responsible person who speaks and understands English shall be on the project during all working hours.

d. Supervision for Emergencies: The Contractor shall have a responsible person available at or reasonably near the work site on a 24-hour basis, 7 days a week, in order that he may be contacted for emergencies and in cases where immediate action must be taken to maintain traffic or to handle any other problem that may arise. The Contractor's responsible person for supervision for emergencies shall speak and understand English. The Contractor shall submit, by certified mail, phone numbers and names of personnel designated to be contacted in cases of emergencies along with a description of the project location to the Florida Highway Patrol and all other local law enforcement agencies.

LIST OF EMERGENCY CONTACT NUMBERS & UTILITY SERVICE MAINTENANCE

The Contractor shall obtain and maintain a list of emergency contact phone numbers for all utilities during the course of the project. The Contractor shall maintain utility service during the project except for interruptions authorized by the utility owner. If interruptions are required, the Contractor shall notify the Owner 48 hours in advance.

EXISTING SIDEWALK

If the Contractor, in the process of performing his contract operations, breaks any of the existing sidewalk that is to remain in place, replacement of this sidewalk will be at the Contractor's expense.

RECORD DRAWINGS AND PROJECT CERTIFICATION

This section and number of copies applies only to roadway and drainage record drawings.

The Owner and/or Engineer will furnish the Contractor copies of the bid plans to be used for the record drawings. A Florida Registered Surveyor shall perform a field survey and any differences between the plan elevations or dimensions shall be marked through and the as-built elevation or dimension legibly entered. All elevations and dimensions that are correct shall have a check mark placed beside it.

The Contractor shall keep a complete set of surveyed "As-built" records. These records shall show all items of Work and existing features of utilities revealed by excavation work. The records shall be kept in a professional manner, in a form that shall be approved by the County prior to the Work. These results shall be available at all times during construction for reference by the Engineer and shall be delivered to the Engineer upon completion of the Work. All completed "As-builts" must be certified by a Florida Licensed Surveyor or Engineer per Chapter 61 G 17-6, Florida Administrative Code, pursuant to Sec. 47207, Florida Statutes. At a minimum all Utility Record Drawings shall be in accordance with Manatee County Standards.

The following information is required on the "Record Drawings":

A. Roadway centerline profile [100-foot maximum interval].
B. Roadway cross sections [100-foot maximum interval].
C. All underground piping with elevations and dimensions, changes to piping locations, horizontal and vertical locations of underground utilities and appurtenances referenced to permanent surface improvements. Actual installed pipe material, class, etc. Dimensions at these locations shall indicate distance from the centerline of construction.
D. Elevations on all drainage control structures, verifying all plan dimensions.
E. Stormwater ponds with cross sections [25-foot maximum interval] (sufficient to calculate volumes).
F. Flow line elevations on all ditch breaks (vertical and horizontal).
G. Field changes of dimensions and details.
H. Details not on original contract drawings.
I. Equipment and piping relocations.
J. The locations of all headwalls, pipes and any other structures shall be located by station and offset.
K. Benchmarks and elevation datum shall be indicated.
L. Additional elevations or dimensions as required by the Engineer

Following completion of construction and prior to final payment, the Contractor shall submit a Certification by the Contractor and Manufacturer including test data that the materials (filter fabric, filter media, etc.) installed meet plan specifications and regulatory requirements.

Upon completion of the work, four (4) sets of draft "Record Drawings" shall be submitted to the Owner for review. Such drawings shall accurately show all approved field changes to the original Construction Drawings, including actual locations, dimensions and elevations and shall be subject to a field review in the presence of the Engineer or his designated representative.

The Contractor shall incorporate any comments from the Owner and/or Engineer and shall submit two write-only CD-ROMs, one set of 24-inch by 36-inch mylar record drawings and four sets of 24-inch by 36-inch certified prints with the Surveyor's certification.

All Digital Drawings shall be identical to those submitted as hard copy. The Digital Drawing files shall be AutoCAD format (Release 2004 or later, but not later than 2010) and shall include all external reference drawings, text fonts, shape files and all other files necessary to make use of the drawings to the engineer's approval.

In addition, $25,000 or five percent (whichever is smaller) of the Contract price shall be retained until the Owner has approved the "Record Drawings". The Owner and/or Engineer will review and approve the "Record Drawings within 30 days unless additional information is required. No final payment shall be made until such time as the "Record Drawings" have been approved and accepted.

COMPLIANCE WITH THE SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT (SWFWMD) STORMWATER MANAGEMENT AND DISCHARGE PERMIT

REQUIREMENTS AND/OR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) DREDGE AND FILL PERMIT REQUIREMENTS

Southwest Florida Water Management District Stormwater Management and Discharge permits or exemptions, if any, and/or a Department of Environmental Protection Dredge and Fill permit, if any, required for this project have been obtained by the Owner. The Contractor shall comply with the stipulations of the Permits or Exemptions as stated herein.

The Contractor shall allow periodic inspection of the work by authorized representatives of the Department of Environmental Protection, the Southwest Florida Water Management District, as well as other duly authorized law enforcement officers of the State.

CLARIFICATION OF SPECIFIC LINE ITEMS

Clarification of the County's expectations of work to be performed as it relates to specific line items and/or item No. listed on the Bid Form is included in the FDOT Basis of Estimate Manual version 2010. Where such item number is not available, the description shown herein will prevail.

Line item #3, Permanent Type III Barricade shall have Road Closed Sign mounted, and installed where the old 69th St E terminates, outside of the railroad right-of-way. All barricade stripes shall be retro-reflective. The Contractor shall submit shop drawing to the engineer of record for the approval before installation.

Line item #11, Special Excavation& Backfill shall include the removal of both the existing base and asphalt. After the excavation, scarify the sub-base, backfill with permeable material, match existing ground and hydroseed all disturbed area.

Line item #16, Optional Base Group 9 shall not include Type B-12.5 base. Additional tests (including LBR test, Quality test and Sieve Analysis) will be required for crushed concrete base material, meeting *FDOT Standard Specifications Road and Bridge Construction 2007(revised 08).*

Line item #17, 2" Type S-1 Asphalt Concrete, shall follow *FDOT Standard Specifications Road and Bridge Construction* 2000, section 331.

Line item #18, 1" Type S-III Asphalt Concrete, shall follow *FDOT Standard Specifications Road and Bridge Construction* 2000, section 337.

Line item #26, 27 and #28, Pipe Culvert A2000, the Polyvinyl Chloride (PVC) storm sewer/drain pipe and fittings shall be manufactured and tested in accordance with ASTM F949. The structural design of thermoplastic pipes shall be in accordance with AASHTO Section 12 titled: "Buried structures and Tunnel Liners." To ensure long-term design strength properties, PVC pipe shall be manufactured from 12454 cell class material per ASTM D1784. Pipe and fittings shall have a minimum pipe stiffness of 46 lbs./in./in., when tested in accordance with ASTM D2412. Joints shall be an integral bell-gasketed joint. When the joint is assembled, it shall prevent misalignment of adjacent pipes and form either a soil tight joint (2 psi hydrostatic test per AASHTO Standard Specification for Highway Bridges, Section 26.4.2.4) or a watertight joint (10.8 psi test per ASTM

D3212 titled: "Standard Specification for Joints for Drain and Sewer Plastic Pipes using Flexible Elastomeric Seals) as required. The PVC Pipe covered in this section shall provide a Manning's " n" value of .009. Thermoplastic pipe and fittings shall be installed in strict accordance with ASTM D2321 or AASHTO Section 30.

Line item #36, 1-2" River Stone w/Mirafi 140 N filter fabric, the material shall meet FDOT specification 2010, section 901, coarse aggregate. The payment shall include materials and all work necessary for installation.

Line item #37, Fence Removal and Relocation, the Contractor shall remove and reinstall the Chain Link Fence before the construction. The Contractor shall coordinate with Manatee County Utility Department for the new location of the fence.

Line item #47, Utility Department Sign Relocation, the Contractor shall coordinate with Manatee County Utility Department for the new location of the sign and the key box.

MATERIAL TESTING TABLE

ITEM	TEST	TEST IDENTIFICATION	TEST REQUIREMENTS VERTICAL	TEST FREQUENCY HORIZONTAL
UTILITY TRENCH BACKFILL	MAXIMUM DENSITY OPTIMUM MOISTURE	AASHTO T-180	N/A	PER SOIL CLASSIFICATION/ PER LABORATORY
	FIELD DENSITY	AASHTO T-180	PER PLANS	ONE PER 200 LF
SUBGRADE UNCLEAR NEW CURB	MAXIMUM DENSITY OPTIMUM MOISTURE	AASHTO T-180	N/A	PER SOIL CLASSIFICATION/ PER LABORATORY
	FIELD DENSITY	AASHTO T-180	PER PLANS	ONE PER 200 LF
LIMEROCK/ SHELL BASE	MAXIMUM DENSITY OPTIMUM MOISTURE	AASHTO T-180	N/A	PER SOIL CLASSIFICATION/ PER LABORATORY
	FIELD DENSITY	AASHTO T-180	PER PLANS	ONE PER 200 LF
SOIL CEMENT BASE	SOIL CEMENT PLACEMENT/ MONITORING DENSITIES THICKNESS DETERMINATIONS	AASHTO T-134 AND AASHTO T-135	PER PLANS	ONE PER 200 LF
CONCRETE	COMPRESSIVE STRENGTH (THREE CYLINDERS/TEST)	AASHTO T-23 AND AASHTO T-119	PER SPECS	PER SPECS/MIN. OF ONE SET/DAY FOR POURS BETWEEN 10 & 50 CY
	SLUMP, AIR CONTENT	AASHTO T-22 AND AASHTO T-180	PER SPECS	ADDITIONAL SET FOR EACH 50 CY DAILY OR 1 PER 50 CY MAX
ASPHALT	MATERIAL QUALITY GRADATION, STABILITY	FLORIDA D.O.T.	PER SPECS	PER SPECS DAILY OR 1 PER

	BITUMEN CONTENT			50 CY MAX
RECYCLED CONCRETE BASE	GRADATION DENSITIES THICKNESS DETERMINATIONS	AASHTO T-180	PER SPECS	PER SOIL CLASSIFICATION/ PER LABORATORY ONE PER 200 LF

DISCRETIONARY WORK (Contingency)

The discretionary work (Contingency) pay item shall cover the cost for various contingencies and contract amendments authorized by the Owner. Any amount of extra work and/or alterations to the proposed work charged to the allowance shall be fully documented and authorized by the Engineer before the start of the work. No payment shall be made for work completed without written authorization from the Owner or Engineer.

Method of Measurement and Basis of Payment

Payment for authorized work shall be on a lump sum basis.

Date:___/___/_____ Submittal No. _____

SHOP DRAWING SUBMITTAL COVER SHEET

(IFB) # *[Insert IFB Number]*

Project Name: *[Insert Full Project Name]*

Project File No.: *[Insert Project Number]*

Specification Title Number: [Insert Section No.] Specification No.: Part *[Insert Part No.], [Insert Item No.]* Page(s): *[Insert Page No.]*

Submittal Description: *[Insert Title, Description of Submittal and Use]*

[Manatee County Shop Drawing Review Stamp goes here. Please leave blank.]

Your Company Logo and/or information
[Contractor's Name]
[Contractor's Title]
[Company Name]
[Company Address]
[Office Number]
[Fax Number]
[email address]
[Approval Signature:_____
[Approval Date:___/___/_____

EXAMPLE

Date: 10/26/2011 Submittal No. 7

Shop Drawing Submittal Cover Sheet

(IFB) # XX-XXXX-XX

Project Name: Project Name Goes Here – Group or Phase 3

Specification Title Number: 2620 Specification No.: Part 2, 2.01.A
Page(s): 141

Submittal Description: *National Pipe & Plastics Polyethylene PE 3608 DIPS Potable Water Pipe HDPE*

SHOP DRAWING REVIEW

RESPONSE NOT REQUIRED	RESPONSE REQUIRED
☐ NO EXCEPTIONS TAKEN ☐ NOTE MARKINGS	☐ NOTE MARKINGS, CONFIRM ☐ NOTE MARKINGS, RESUBMIT ☐ REJECTED, RESUBMIT

Engineer's review is for general conformance with the design concept and contract documents. Markings or comments shall not be construed as relieving the Contractor from compliance with the project drawings and specifications, nor departure therefrom. The Contractor remains responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, and for performing his work in a safe manner.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT

By:_____ Date:_____

John Doe
Project Manager
Manatee County
1022 26th Ave E.]
(941) 708-7450]
(941) 708-7431
email@email.com
Approval Signature:_____
Approved: 10/26/2011

CONTRACT DOCUMENTS

FOR

ERIE ROAD & 69TH STREET REALIGNMENT
UTILITY PORTION

PROJECT # 380.6048460

April 2012

PROJECT OWNER:

County of Manatee, Florida
c/o Manatee County Purchasing Division
1112 Manatee Avenue West
Bradenton, Florida 34205
(941) 748-4501

PREPARED BY:

Engineering Division
Manatee County Public Works Department
1022 26th Avenue East
Bradenton, Florida 34208
(941) 708-7450

INFRASTRUCTURE ENGINEERING STANDARD SPECIFICATIONS

This specification includes by reference the Manatee County Utility Standards approved May 2011.

SECTION 01150 MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 SCOPE

A. The scope of this section of the Contract Documents is to further define the items included in each Bid Item in the Bid Form section of the Contract Documents. Payment will be made based on the specified items included in the description in this section for each bid item.

B. All contract prices included in the Bid Form section will be full compensation for all shop drawings, working drawings, labor, materials, tools, equipment and incidentals necessary to complete the construction as shown on the Drawings and/or as specified in the Contract Documents to be performed under this Contract. Actual quantities of each item bid on a unit price basis will be determined upon completion of the construction in the manner set up for each item in this section of the Specifications. Payment for all items listed in the Bid Form will constitute full compensation for all work shown and/or specified to be performed under this Contract.

1.02 ESTIMATED QUANTITIES

The quantities shown are approximate and are given only as a basis of calculation upon which the award of the Contract is to be made. The County does not assume any responsibility for the final quantities, nor shall the Contractor claim misunderstanding because of such estimate of quantities. Final payment will be made only for satisfactorily completed quantity of each item.

1.03 WORK OUTSIDE AUTHORIZED LIMITS

No payment will be made for work constructed outside the authorized limits of work.

1.04 MEASUREMENT STANDARDS

Unless otherwise specified for the particular items involved, all measurements of distance shall be taken horizontally or vertically.

1.05 UNIT PRICE ITEM

Separate payment will be made for the items of work described herein and listed on the Bid Form. Any related work not specifically listed, but required for satisfactory completion of the work shall be considered to be included in the scope of the appropriate listed work items.

No separate payment will be made for the following items and the cost of such work shall be included in the applicable pay items of work. Final payments shall not be requested by the Contractor or made by the County until as-built (record) drawings have been submitted and approved by the County.

1. Shop Drawings, Working Drawings.
2. Clearing, grubbing and grading except as hereinafter specified.
3. Trench excavation, including necessary pavement removal and rock removal, except as otherwise specified.
4. Dewatering and disposal of surplus water.
5. Structural fill, backfill, and grading.

6. Replacement of unpaved roadways, and shrubbery plots.
7. Cleanup and miscellaneous work.
8. Foundation and borrow materials, except as hereinafter specified.
9. Testing and placing system in operation.
10. Any material and equipment required to be installed and utilized for the tests.
11. Pipe, structures, pavement replacement, asphalt and shell driveways and/or appurtenances included within the limits of lump sum work, unless otherwise shown.
12. Maintaining the existing quality of service during construction.
13. Maintaining or detouring of traffic.
14. Appurtenant work as required for a complete and operable system.
15. Seeding and hydromulching.
16. As-built Record Drawings.

BID ITEM #40 MC-U-1 - WATER SERVICE

Payment for all work included in this Bid Item shall be made at the applicable Contract unit price bid per the schedule of prices for furnishing and installing the listed diameter DI water main pipe and fittings as shown on the Contract Drawings and listed in the Bid Form. Installation includes a 16x6 tapping sleeve, 6" gate valve, pipe, restraints and cap. Measurement and Payment shall be made for the actual length of the listed diameter pipe installed and will represent full compensation for all labor, materials, excavation, including rock, dewatering, bedding, backfill, compaction, testing, cleaning and disinfection and equipment required to complete these Bid Items. No additional compensation will be made for excavation below the bottom of the pipe, for rock removal or bedding and backfill materials, or for repair of any trench settlement.

BID ITEM #41 MC-U-2 - REUSE SERVICE

Payment for all work included in this Bid Item shall be made at the applicable Contract unit price bid per the schedule of prices for furnishing and installing the listed diameter DI reclaim main pipe and fittings as shown on the Contract Drawings and listed in the Bid Form. Installation includes a 16x6 tapping sleeve, 6" gate valve, pipe, restraints and cap. Measurement and Payment shall be made for the actual length of the listed diameter pipe installed and will represent full compensation for all labor, materials, excavation, including rock, dewatering, bedding, backfill, compaction, testing, cleaning and equipment required to complete these Bid Items. No additional compensation will be made for excavation below the bottom of the pipe, for rock removal or bedding and backfill materials, or for repair of any trench settlement.

BID ITEM #42 MC-U-3 - FORCEMAIN SERVICE

Payment for all work included in this Bid Item shall be made at the applicable Contract unit price bid per the schedule of prices for furnishing and installing the listed diameter DI sewer main pipe and fittings as shown on the Contract Drawings and listed in the Bid Form. Installation includes a 16x4 tapping sleeve, 4" gate valve, pipe, restraints and cap. Measurement and Payment shall be made for the actual length of the listed diameter pipe installed and will represent full compensation for all labor, materials, excavation, including rock, dewatering, bedding, backfill, compaction, testing, cleaning and equipment required to complete these Bid Items. No additional compensation will be made for excavation below the bottom of the pipe, for rock removal or bedding and backfill materials, or for repair of any trench settlement.

BID ITEM #43 MC-U-4 - HYDRANT ASSEMBLY

Payment for all work included in this Bid Item shall be made at the applicable Contract unit price bid per each hydrant assembly, including 24x6 tapping sleeve, hydrant lead, gate valve, box cover, concrete pads, restraining rods and/or thrust blocks, and hydrant assembly as shown on the Contract Drawings and listed on the Bid Form. Payment shall represent full compensation for all labor, material, equipment, excavation, including rock, bedding, backfill, compaction, testing and disinfection required to complete this Bid Item.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 02221 TRENCHING, BEDDING AND BACKFILL FOR PIPE

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall furnish all labor, materials, equipment and incidentals necessary to perform all excavation, backfill, fill, grading, trench protection or other related work required to complete the piping work shown on the Drawings and specified herein. The work shall include, but not be limited to: pipe; roadways and paving; backfilling; required fill or borrow operations; grading; disposal of surplus and unsuitable materials; and all related work such as sheeting, bracing and dewatering.

B. Prior to commencing work, the Contractor shall examine the site and review test borings if available, or undertake his own subsurface investigations and take into consideration all conditions that may affect his work.

1.02 PROTECTION

A. Sheeting and Bracing in Excavations:

1. In connection with construction of underground structures, the Contractor shall properly construct and maintain cofferdams. These shall consist of: sheeting and bracing as required to support the sides of excavations, to prevent any movement which could in any way diminish the width of the excavation below that necessary for proper construction and to protect adjacent structures, existing yard pipe and/or foundation material from disturbance, undermining, or other damage. Care shall be taken to prevent voids outside of the sheeting, but if voids are formed, they shall be immediately filled and rammed.
2. Trench sheeting for pipes: no sheeting is to be withdrawn if driven below, mid-diameter of any pipe and no wood sheeting shall be cut off at a level lower than one foot above the top of any pipe unless otherwise directed by the County. During the progress of the work, the County may direct the Contractor in writing to leave additional wood sheeting in place. If steel sheeting is used for trench sheeting, removal shall be as specified above, unless written approval is given for an alternate method of removal.
3. All sheeting and bracing not left in place shall be carefully removed in such a manner as not to endanger the construction or other structures, utilities, existing piping, or property. Unless otherwise approved or indicated on the Drawings or in the Specification, all sheeting and bracing shall be removed after completion of the piping or structure, care being taken not to disturb or otherwise injure the pipeline or finished masonry. All voids left or caused by withdrawal of sheeting shall be immediately refilled with sand by ramming with tools specifically made for that purpose, by watering, or as may otherwise be directed.
4. The Contractor shall construct, to the extent he deems it desirable for his method of operation, the cofferdams and sheeting outside the neat lines of the pipeline trench or foundation unless otherwise indicated on the Drawings or directed by the County. Sheeting shall be plumb and securely braced and tied in position. Sheeting, bracing and cofferdams shall be adequate to withstand all pressures to which the pipeline or structure will be subjected. Pumping, bracing and other work within the cofferdam shall be done in a manner to avoid disturbing any construction of the pipeline or the enclosed masonry. Any movement or bulging which may

occur shall be corrected by the Contractor at his own expense so as to provide the necessary clearances and dimensions.

5. Drawings of the cofferdams and design computations shall be submitted to the County and approved prior to any construction. However, approval of these drawings shall not relieve the Contractor of the responsibility for the cofferdams. The drawings and computations shall be prepared and stamped by a Registered Professional Engineer in the State of Florida and shall be in sufficient detail to disclose the method of operation for each of the various stages of construction, if required, for the completion of the pipeline and substructures.

B. Dewatering, Drainage and Flotation

1. The Contractor shall construct and place all pipelines, concrete work, structural fill, bedding rock and lime rock base course, in-the-dry. In addition, the Contractor shall make the final 24" of excavation for this work in-the-dry and not until the water level is a minimum of 6" below proposed bottom of excavation.
2. The Contractor shall, at all times during construction, provide and maintain proper equipment and facilities to remove promptly and dispose of properly all water entering excavation and keep such excavations dry so as to obtain a satisfactory undisturbed subgrade foundation condition until the fill, structure, or pipes to be built thereon have been completed to such extent that they will not be floated or otherwise damaged by allowing water levels to return to natural elevations.
3. Dewatering shall at all times be conducted in such a manner as to preserve the natural undisturbed bearing capacity of the subgrade soils at proposed bottom of excavation.
4. Wellpoints may be required for dewatering the soil prior to final excavation for deeper in-ground structures or piping and for maintaining the lowered groundwater level until construction has been completed to avoid the structure, pipeline, or fill from becoming floated or otherwise damaged. Wellpoints shall be surrounded by suitable filter sand and no fines shall be removed by pumping. Pumping from wellpoints shall be continuous and standby pumps shall be provided.
5. The Contractor shall furnish all materials and equipment to perform all work required to install and maintain the proposed drainage systems for handling groundwater and surface water encountered during construction of structures, pipelines and compacted fills.
6. Where required, the Contractor shall provide a minimum of two operating groundwater observation wells at each structure to determine the water level during construction of the pipeline or structure. Locations of the observation wells shall be at structures and along pipelines as approved by the County prior to their installation. The observation wells shall be extended to 6 inches above finished grade, capped with screw-on caps protected by 24" x 24" wide concrete base and left in place at the completion of this Project.
7. Prior to excavation, the Contractor shall submit his proposed method of dewatering and maintaining dry conditions to the County for approval. Such approval shall not relieve the Contractor of the responsibility for the satisfactory performance of the system. The Contractor shall be responsible for correcting any disturbance of natural bearing soils for damage to pipeline or structures caused by an inadequate dewatering system or by interruption of the continuous operation of the system as specified.
8. Continuous pumping will be required as long as water levels are required to be below natural levels.

PART 2 PRODUCTS

2.01 MATERIALS

A. General

1. Materials for use as fill and backfill shall be described below. For each material, the Contractor shall notify the County of the source of the material and shall furnish the County, for approval, a representative sample weighing approximately 50 pounds, at least ten calendar days prior to the date of anticipated use of such material.
2. Additional materials shall be furnished as required from off-site sources and hauled to the site.

B. Structural Fill

1. Structural fill in trenches shall be used below spread footing foundations, slab-on-grade floors and other structures as backfill within three feet of the below grade portions of structures.
2. Structural fill material shall be a minimum of 60 percent clean sand, free of organic, deleterious and/or compressible material. Minimum acceptable density shall be 98 percent of the maximum density as determined by AASHTO T-180. Rock in excess of 2-1/2" in diameter shall not be used in the fill material. If the moisture content is improper for attaining the specified density, either water shall be added or material shall be permitted to dry until the proper moisture content for compaction is reached.

C. Common Fill

1. Common fill material shall be free from organic matter, muck or marl and rock exceeding 2-1/2" in diameter. Common fill shall not contain broken concrete, masonry, rubble or other similar materials. Existing soil may be used to adjust grades over the site with the exception of the construction area.
2. Material falling within the above specification, encountered during the excavation, may be stored in segregated stockpiles for reuse. All material which, in the opinion of the County, is not suitable for reuse shall be spoiled as specified herein for disposal of unsuitable materials by the Contractor.

D. Crushed Stone

1. Crushed stone may be used for pipe bedding, manhole bases, as a drainage layer below structures with underdrains and at other locations indicated on the Drawings.
2. Crushed stone shall be size No. 57 with gradation as noted in Table 1 of Section 901 of Florida Department of Transportation, Construction of Roads and Bridges.

PART 3 EXECUTION

3.01 TRENCH EXCAVATION AND BACKFILLING

A. Excavation for all trenches required for the installation of pipes shall be made to the depths indicated on the Drawings and in such manner and to such widths as will give suitable room for laying the pipe within the trenches.

B. Rock shall be removed to a minimum 6" clearance around the bottom and sides of all the pipe being laid.

C. Where pipes are to be laid in lime rock bedding or encased in concrete, the trench may be excavated by machinery to or just below the designated subgrade provided that the material remaining in the bottom of the trench is no more than slightly disturbed.

D. Where the pipes are to be laid directly on the trench bottom, the lower part of the trenches shall not be excavated to grade by machinery. The last of the material being excavated manually, shall be done in such a manner that will give a flat bottom true to grade so that pipe can be evenly supported on undisturbed material. Bell holes shall be made as required.

E. Backfilling over pipes shall begin as soon as practicable after the pipe has been laid, jointed and inspected and the trench filled with suitable compacted material to the mid-diameter of the pipe.

F. Any space remaining between the pipe and sides of the trench shall be packed full by hand shovel with selected earth, free from stones having a diameter greater than 2" and thoroughly compacted with a tamper as fast as placed, up to a level of one foot above the top of the pipe.

I. The filling shall be carried up evenly on both sides with at least one man tamping for each man shoveling material into the trench.

J. The remainder of the trench above the compacted backfill, as just described above, shall be filled and thoroughly compacted, sufficiently to prevent subsequent settling.

END OF SECTION

SECTION 02615 DUCTILE IRON PIPE AND FITTINGS

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall furnish all labor, materials, equipment and incidentals required to install ductile iron pipe and restrained joint ductile iron pipe and cast iron or ductile iron restrained joint fittings, complete, as shown on the Drawings and specified in these Standards.

B. Fittings are noted on the drawings for the Contractor's convenience and do not relieve him from laying and jointing different or additional items where required.

C. The Contractor shall furnish all labor, materials, equipment and incidentals required to install push-on joint or restrained joint ductile iron pipe, complete as shown on the Drawings and Specifications.

D. Newly installed pipe shall be kept clean and free of all foreign matter. All DI pipe installed underground shall be poly wrapped unless noted otherwise on the plans.

1.02 SUBMITTALS

A. The Contractor shall submit to the County, within ten days after receipt of Notice to Proceed, a list of materials to be furnished, the names of the suppliers and the appropriate shop drawings for all ductile iron pipe and fittings.

B. The Contractor shall submit the pipe manufacturer's certification of compliance with the applicable sections of the Specifications.

PART 2 PRODUCTS

2.01 MATERIALS

A. Ductile iron pipe shall conform to ANSI/AWWA C150/A21.50 and ANSI/AWWA C151/A21.51. Thickness of pipe shall be Class 50 or pressure Class 350. All pipe not buried shall be Class 53. All ductile iron pipe shall be clearly marked on the outside of the barrel to readily identify it from cast iron.

B. Unrestrained joint pipe shall be supplied in lengths not to exceed 21 feet. Unless otherwise called for in the Contract Documents, unrestrained joint pipe shall be either the rubber-ring type push-on joint or standard mechanical joint pipe as manufactured by the American Cast Iron Pipe Company, U.S. Pipe and Foundry Company, or approved equal.

C. All fittings shall be pressure rated for 350 psi and meet the requirement of AWWA C110 or AWWA C153 except flanged fittings shall be rated for 250 psi. Rubber gaskets shall conform to ANSI A21.11 for mechanical and push-on type joints for diameters up to 14" diameter. Gaskets for 16" diameter and larger pipe shall be EPDM (Ethylene-Propylene Dine Monomer) such as the "Fastite Gasket" of American Ductile Iron Pipe Co., or approved equal.

D. Water Mains: All ductile iron pipe and fittings shall have a standard thickness cement lining on the inside in accordance with AWWA/ANSI C104/A21.4 and a coal tar enamel

coating on the outside. The coal tar enamel shall be in accordance with ANSI A21.4. All interior linings shall be EPA/NSF approved.

E. Force Main: All ductile iron pipe and fittings shall have a factory applied fusion bonded epoxy or epoxy and polyethylene lining on the inside in accordance with manufacturer's specifications and a coal tar enamel coating on the outside. The coal tar enamel shall be in accordance with ANSI A21.4. The interior lining is to be based on manufacturer's recommendation for long-term exposure to raw sewage. It shall have a minimum ten year warranty covering failure of the lining and bond failure between liner and pipe.

F. Restrained joints shall be provided at all horizontal and vertical bends and fittings, at casings under roads and railroads and at other locations shown on the Contract Drawings. Restrained joint pipe fittings shall be designed and rated for the following pressures: 350 psi for pipe sizes up to and including 24" diameter; 250 psi for pipe sizes 30" diameter and above.

2.02 IDENTIFICATION

A. Each length of pipe and each fitting shall be marked with the name of the manufacturer, size and class and shall be clearly identified as ductile iron pipe. All gaskets shall be marked with the name of the manufacturer, size and proper insertion direction.

B. Pipe shall be poly wrapped blue for potable water mains, purple for reclaimed water mains and green for sewage force mains. All potable water pipe shall be NSF certified and copies of lab certification shall be submitted to the County.

C. All above ground potable water mains and appurtenances shall be painted safety blue.

END OF SECTION

SECTION 02616 DISINFECTING POTABLE WATER PIPE LINES

PART 1 GENERAL

1.01 SCOPE OF WORK

The Contractor shall furnish all labor, materials, equipment and incidentals required to clean and disinfect potable water pipe lines. This work is required to place all types of pipe into service as potable water lines.

1.02 CLEANING WATER MAINS

At the conclusion of the work, the Contractor shall thoroughly clean all of the new pipes to remove all dirt, stones, pieces of wood or other material which may have entered during the construction period.

1.03 DISINFECTING POTABLE WATER PIPE LINES

A. All record drawing requirements must be submitted to the County prior to starting the bacteriological testing of the water lines.

B. Prior to being placed in service, all potable water pipe lines shall be chlorinated in accordance with AWWA 651, "Standard Procedure for Disinfecting Water Main". The procedure shall meet Health Department requirements. The location of the chlorination and sampling points shall be determined by the County. Taps for chlorination and sampling shall be uncovered and backfilled by the Contractor as required.

A. The general procedure for chlorination shall be to flush all dirty or discolored water from the lines, then introduce chlorine in approved dosages through a tap at one end while water is being withdrawn at the other end of the line. The chlorine solution shall remain in the pipe line for 24 hours.

Water for flushing, filling and disinfecting the new lines must be obtained without contaminating existing pipe lines. Water obtained from existing pipe lines for this purpose shall pass through an approved air gap or backflow prevention device.

B. Following the chlorination period, all treated water shall be flushed from the lines at their extremities and replaced with water from the distribution system. Bacteriological sampling and analysis of the replacement water shall then be made by an approved laboratory or the Health Department in full accordance with the AWWA Manual C651. The line shall not be placed in service until the requirements of the State and County Public Health Department are met. Results of the bacteriological tests together with certified record drawings must be submitted to the Health Department (FDEP) within 30 days of the tests.

C. Special disinfecting procedures when approved by the County, may be used where the method outlined above is not practical.

END OF SECTION

SECTION 02617 INSTALLATION AND TESTING OF PRESSURE PIPE

PART 1 GENERAL

1.01 INSTALLING PIPE AND FITTINGS

A. The Contractor shall install all pipe in accordance with the recommendations of the pipe manufacturer and as specified herein.

B. The Contractor shall take care in handling, storage and installation of pipe and fittings to prevent injury to the pipe or coatings. All pipe and fittings shall be examined before installation and pipe which is deemed to be defective by the County shall not be installed.

C. The Contractor shall thoroughly clean and keep thoroughly clean, all pipe and fittings prior to during and after installation.

D. The Contractor shall lay the pipe to the lines and grades shown on the Contract Drawings with bedding and backfill as shown on the Drawings or called out in the Contract Documents. Blocking under the pipe shall not be permitted except through casing sleeves.

E. The Contractor shall keep the open ends of all pipe closed with a tightly fitting plug when installation is not in progress or the potential exists for dirt or debris to enter the pipe.

F. The pipe or accessories shall not be dropped into the trench under any circumstances.

G. The Contractor shall construct all water mains pursuant to the provisions of "Recommended Standards for Water Works", Part 8, incorporated by reference in Rule 17-555.330(3), F.A.C.

H. As a marker for the Surveyor, a PVC pipe marker or 2" x 4" marker shall be inserted by the Contractor on the top of pipe for potable water mains, reclaimed water mains and sanitary force mains at intervals no greater than 200 feet apart and at locations where there is a substantial grade change. The pipe markers shall indicate the pipe diameter and shall be labeled PWM in "safety" blue, RWM in purple, and FM in green, for potable water mains, reclaimed water mains and sanitary force mains, respectively. As a marker for the Surveyor, a PVC pipe marker or 2" x 4" marker shall be inserted by the Contractor on the top of all pipe fittings (other than sanitary sewer service wyes, potable water saddles and reclaimed water saddles). The markers for fittings shall indicate the type of fitting and shall be labeled PWF in "safety" blue, RWF in purple, and FMF in green, for potable water fittings, reclaimed water fittings, and sanitary force main fittings, respectively. The Contractor is responsible for making the aforementioned markers available to the Surveyor. The Contractor shall field locate the mains and fittings when markers are not made available to the Surveyor.

I. A 2" PVC pipe marker with a painted end cap shall be inserted by the Contractor at the ROW line indicating each individual new service location or stub out. The marker shall be a 6 foot length of PVC pipe inserted 2 feet into the ground and shall be painted "safety" blue for potable water, purple for reclaimed water, and green for sewer.

1.02 PROCEDURE FOR TESTING WATER LINES, FORCE MAINS AND RECLAIMED WATER LINES

A. A 48-hour notice is needed prior to testing. A letter stating the reasons testing should be scheduled ahead of other jobs must accompany all emergency testing requests.

B. County and Contractor must be present for all testing, except for testing tapping valves and sleeves.

C. All pressure pipe lines shall remain undisturbed for 24 hours to develop complete strength at all joints. All pipe lines shall be subjected to a hydrostatic pressure test for two (2) hours at full working pressure, but not less than 180 psi for water/reclaimed (150 psi for force main). Maximum length of pipe to be tested at one time is 2,600 feet. If line is longer than 2,600 feet and cannot be sectioned in 2,600 feet (max.) lengths, the allowable leakage will be figured at 2,600 feet.

D. Allowable leakage shall be determined by AWWA C600 table for hydrostatic tests. Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe, or any valved section thereof; to maintain the test pressure after the air in the pipe line has been expelled and the pipe has been filled with water.

E. All digging on the job site in the right-of-way must be completed before any testing of water or sewer. Any digging or boring across water or sewer lines after they have been tested may result in a retest of the lines at the County's request.

F. If any revisions or changes are made after initial testing, lines will be re-tested at the County's request.

G. Disconnect water supply during test.

H. All fire hydrant gate valves to be open during test.

I. All visible leaks are to be repaired, regardless of the amount of leakage.

J. Check gauge pressure periodically during test. If test pressure drops to 175 psi for water/reclaimed lines or to 145 psi for force mains during test, the line must be repumped back to 180 psi for water/reclaimed (150 psi force mains) and the amount of leakage measured. The test will continue on with the remaining time left. At the end of the test, the line must be repumped again back to 180 psi (150 psi for force main) and the amount of leakage measured and added to any previous leakage determined earlier in the test.

K. After the line passes the test, the pressure will be blown off from the opposite end of line from the gauge location. Fire hydrants, services and end-of-line blow offs will be opened to demonstrate they were on line during the test.

L. At end of test, the test gauge must return to zero. The pressure gauge must read 0 psi to a maximum of 300 psi in 5 psi increments.

M. The section of line being tested must be identified on the charge sheet. The length and size of pipe, the exact area being tested and the valves being tested against, must be identified. Use Station numbers if available.

N. A punch list must be made at the end of all tests.

O. A copy of the charge sheet will be given to the County and the Contractor at the end of the test.

1.03 DETECTION

A. Direct buried pipe shall have 3" detectable metallic tape of the proper color placed directly above the pipe and 12" below finished grade or 6" detectable tape between 12" and 24" below finished grade.

END OF SECTION

SECTION 02618 PIPELINE CLEANING

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall furnish all labor, materials, equipment and incidentals required to clean all new lines 4" and larger, and existing pipelines as specified in this specification and as indicated on the Drawings.

B. This work shall include the furnishing and installation of all pig launching and retrieval devices and the appropriate pigs for the cleaning procedure, and all necessary excavations, shutdowns, fittings and valves required.

1.02 RELATED WORK

A. The contractor is responsible for all necessary supply water.

B. The contractor is responsible for the proper disposal of any materials removed from the pipe lines as a result of the cleaning procedure.

1.03 SUBMITTALS

A. The Contractor shall submit prior to construction, a cleaning plan, Shop Drawings, and layout diagram for approval to the County.

B. The Contractor shall submit to the County a list of materials to be furnished, and the names of suppliers.

1.04 QUALIFICATIONS

A. The Contractor performing this work shall be fully qualified, experienced and equipped to complete this work expeditiously and in a satisfactory manner.

B. The Contractor shall also be capable of providing crews as needed to complete this work without undue delay.

C. The County reserves the right to approve or disapprove the Contractor, based on the submitted qualifications.

PART 2 PRODUCTS

2.01 GENERAL

A. The contractor shall be responsible for furnishing pigs in sufficient numbers and sizes, of appropriate densities, coatings and configurations to properly clean the piping systems.

B. All pigs used for the cleaning of sewer or reclaimed water lines shall not be used in the cleaning of potable water lines.

2.02 MATERIALS

A. The pig launching and retrieval equipment shall be of the latest design and construction

and shall include the means to maintain constant monitoring of the in-line flows and pressures of the system being cleaned and the constant location of the cleaning pigs in the system. Launching and retrieval systems shall be fabricated, designed and manufactured according to ANSI standards and capable of withstanding working pressures of 150 psi. Launching and receiving devices shall be sized one diameter larger than the system to which it will be attached with a minimum length of 2.5 times the diameter.

B. The contractor shall have available for immediate use an electronic pig detector for use in the system being cleaned to provide a means of tracking the passage of the pig in the system to locate areas of potential or suspected blockage and other disparities in the system.

C. The pig shall be constructed of elastomer polyurethane with an open cell construction and a density equal to or suitable for use in the piping system being cleaned. Pig configuration shall consist of a parabolic nose with a concave base and coated with a resilient surface material that will maintain a peripheral seal and will effectively clean the piping system without over abrading the interior pipe wall. Pig characteristics shall include the ability to navigate through 90 degree bends, 180 degree turns, bi-directional fittings, full port valves, reduce its cross sectional area and return to its original design configuration and be propelled by hydraulic pressure.

PART 3 EXECUTION

3.01 PIPELINE CLEANING

A. The cleaning of the pipe line shall be done by the controlled and pressurized passage of a polyurethane pig of varying dimensions, coatings and densities as determined by the County through the piping system.

B. A series of pigs shall be entered into the system at a point as near to the beginning as is logistically and mechanically feasible.

C. A launching assembly shall be used as the entrance point for the pig. This assembly shall allow for the following:

1. The entering of pigs into the system by providing the means to induce flow from an external source, independent of the flows and pressures immediately available from the system, on the back of the pig to develop sufficient pressure to force the pig through the system.
2. A means to control and regulate the flow.
3. A means to monitor the flows and pressures.
4. A means to connect and disconnect from the system without any disruption to the operation of the system.

D. The pig shall be removed or discharged from the system at a point as near to the end as is logistically and mechanically feasible.

E. The contractor shall be responsible for the retrieval of the pig at the discharge point. This may include setting a trap that will not disrupt normal flow and operations but will capture the pig and any debris. A retrieval assembly may also be used but said assembly shall be able to connect and disconnect from the system without any disruption to the operation of the system.

F. Alternative launching and retrieval methods shall be done with the prior approval of the County.

G. Any pig that cannot progress through the piping system shall be located by the contractor and removed by excavation of the pipe in order to remove the blockage. All pipe repairs shall be the responsibility of the contractor and shall be performed with as little disruption to the system as possible.

H. Any increase in pressure that cannot be accounted for, i.e. fittings or valves or additional cleaning runs, shall be investigated, per the Engineers' approval, by locating the pig at the beginning of the increased pressure and excavating to determine the cause of the pressure increase. All pipe repairs shall be the responsibility of the contractor and shall be performed with as little disruption to the system as possible.

I. Final flushing of the cleansed lines shall be performed after the last successful run of the pig as determined by the County. The contractor shall be responsible for all applicable flushing and disinfection requirements for potable water lines.

3.02 ACCEPTANCE

A. The contractor shall maintain and provide a report at the end of the cleaning procedure containing the following:

1. The pressures in the pipe during the pigging procedure.
2. Any inline problems encountered during the procedure including all excavations with detailed locations, reason for the excavation and any corrective measures taken to the pipeline.
3. A record of the pigs used, their sizes, styles and other pertinent information regarding what materials were used during the cleaning.
4. An analysis of the condition of the pipeline before and after the cleaning procedure.

END OF SECTION

SECTION 02640 VALVES AND APPURTENANCES

PART 1 GENERAL

1.01 SCOPE OF WORK

A. The Contractor shall furnish all labor, materials, equipment and incidentals required and install complete and ready for operation all valves and appurtenances as shown on the Drawings and as specified herein.

B. All valves and appurtenances shall be of the size shown on the Drawings and, to the extent possible, all equipment of the same type on the Project shall be from one manufacturer.

C. All valves and appurtenances shall have the name of the manufacturer and the working pressure for which they are designed cast in raised letters upon some appropriate part of the body.

D. All valves shall have a factory applied, fusion bonded epoxy coating on interior and exterior unless noted otherwise in the plans or this specification.

E. The equipment shall include, but not be limited to, the following:

1. Gate valves (Sec. 2.01)
2. Valve Actuators (Sec. 2.02)
3. Valves Boxes (Sec. 2.03)
4. Flange Adapter Couplings (Sec. 2.04)
5. Hydrants (Sec. 2.05)
6. Restraining Clamps (Sec. 2.06)
7. Tapping Sleeves and Tapping Valves (Sec. 2.07)

1.02 DESCRIPTION OF SYSTEMS

All of the equipment and materials specified herein are intended to be standard for use in controlling the flow of potable water, reclaim water, wastewater, etc., depending on the applications.

1.03 QUALIFICATIONS

All of the types of valves and appurtenances shall be products of well established reputable firms who are fully experienced and qualified in the manufacture of the particular equipment to be furnished. The equipment shall be designed, constructed and installed in accordance with the best practices and methods and shall comply with these Specifications as applicable. Valves shall be as covered under mechanical devices in Section 8 of ANSI/NSF Standard 61.

1.04 SUBMITTALS

A. Submit to the County within 30 days after execution of the contract a list of materials to be furnished, the names of the suppliers and the date of delivery of materials to the site.

B. Complete shop drawings of all valves and appurtenances shall be submitted to the County for approval in accordance with the Specifications.

1.05 TOOLS

Special tools, if required for normal operation and maintenance shall be supplied with the equipment.

PART 2 PRODUCTS

2.01 GATE VALVES

A. All buried valves shall have cast or ductile iron three (3) piece valve bodies.

B. Where required, gate valves shall be provided with a box cast in a concrete slab and a box cover. Length of box shall include slab thickness. Box cover opening shall be for valve stem and nut. Valve wrenches and extension stems shall be provided by the manufacturer to actuate the valves. The floor box and cover shall be equal to those manufactured by Rodney Hunt Machine Company, Orange, Massachusetts, Clow, DeZurik or approved equal.

C. Gate valves with 3"-20" diameters shall be resilient seated, manufactured to meet or exceed the requirements of AWWA C509 or C515 and UL/FM of latest revision and in accordance with the following specifications. Valves shall have an unobstructed waterway equal to or greater than the full nominal diameter of the valve.

D. Wrench nut shall be provided for operating the valve.

E. Valves shall be suitable for an operating pressure of 200 psi and shall be tested in accordance with AWWA C509 or C515. Mueller, Kennedy, M&H, and Clow are acceptable valves.

F. All bonnet bolts, nuts and studs shall be stainless steel.

2.02 VALVE ACTUATORS

A. General

1. All valve actuators shall conform to Section 3.8 of the AWWA Standard Specification and shall be either manual or motor operated.
2. Actuators shall be capable of seating and unseating the disc against the full design pressure and velocity, as specified for each class, into a dry system downstream, and shall transmit a minimum torque to the valve. Actuators shall be rigidly attached to the valve body.

B. Manual Actuators

1. Manual actuators shall have permanently lubricated, totally enclosed gearing with handwheel and gear ratio sized on the basis of actual line pressure and velocities. Actuators shall be equipped with handwheel, position indicator, and mechanical stop-limiting locking devices to prevent over travel of the disc in the open and closed positions. They shall turn counter-clockwise to open valves. Manual actuators shall be of the traveling nut, self-locking type and shall be designed to hold the valve in any intermediate position between fully open and fully closed without creeping or fluttering. Actuators shall be fully enclosed and designed to

produce the specified torque with a maximum pull of 80 pounds on the handwheel or chainwheel. Actuator components shall withstand an input of 450 foot pounds for 30" and smaller and 300 foot pounds for larger than 30" size valves at extreme actuator positions without damage. Valves located above grade shall have handwheel and position indicator, and valves located below grade shall be equipped with a two inch (2") square AWWA operating nut located at ground level and cast iron extension type valve box. Valve actuators shall conform to AWWA C504, latest revision.

2.03 VALVE BOXES

A. Buried valves shall have cast-iron three piece valve boxes or HDPE adjustable valve boxes. Cast iron valve boxes shall be provided with suitable heavy bonnets and shall extend to such elevation at or slightly above the finished grade surface as directed by the County. The barrel shall be two-piece, screw type, having a 5-1/4 inch shaft. The upper section shall have a flange at the bottom with sufficient bearing area to prevent settling and shall be complete with cast iron covers. Covers shall have WATER, SEWER, or RECLAIM, as applicable, cast into the top. Lids will be painted "safety" blue for potable, purple for reclaimed, and green for sanitary sewer.

B. All valves shall have actuating nuts extended to within four (4) feet of the top of the valve box. All valve extensions will have a centering guide plate two (2) inches maximum below the actuating nut. The valve extension shall be fastened to the existing nut with a set screw. Valve boxes shall be provided with a concrete base and a valve nameplate engraved with lettering 1/8-inch deep as shown on the Drawings.

C. HDPE adjustable valve boxes shall be one complete assembled unit composed of the valve box and extension stem. All moving parts of the extension stem shall be enclosed in a housing to prevent contact with the soil. Valve box assembly shall be adjustable to accommodate variable trench depths.

D. The entire assembly shall be made of heavy wall high density polyethylene. All exterior components shall be joined with stainless steel screws. The valve box top section shall be adaptable to fit inside a valve box upper section.

E. The stem assembly shall be of a telescoping design that allows for variable adjustment length. The stem material shall be of plated steel square tubing. The stem assembly shall have a built-in device that keeps the stem assembly from disengaging at its fully extended length. The extension stem must be torque tested to 1000 foot pounds. Covers shall have WATER, SEWER or RECLAIMED clearly and permanently impressed into the top surface.

2.04 FLANGE ADAPTER COUPLINGS

Flange adapter couplings shall be of the size and pressure rating required for each installation and shall be suitable for use on either cast iron or ductile iron pipe. They shall be similar or approved equal to Dresser Company, Style 128. All couplings shall have a sufficient number of factory installed anchor studs to meet or exceed a minimum test pressure rating of 230 psi minimum.

2.05 HYDRANTS

Hydrants shall be AVK Series 2780 Barrel (nostalgic style with stainless steel bolts) American Darling B-84-B or Mueller Super Centurion 250, or approved equal and shall

conform to the "Standard Specification for Fire Hydrants for Ordinary Water Works Service", AWWA C502, and UL/FM certified, and shall in addition meet the specific requirements and exceptions which follow:

1. Hydrants shall be according to manufacturer's standard pattern and of standard size, and shall have one 4-1/2" steamer nozzle and two 2-1/2" hose nozzles.
2. Hydrant inlet connections shall have mechanical joints for 6" ductile-iron pipe.
3. Hydrant valve opening shall have an area at least equal to that area of a 5-1/4" minimum diameter circle and be obstructed only by the valve rod. Each hydrant shall be able to deliver 500 gallons minimum through its two 2-1/2" hose nozzles when opened together with a loss of not more than 2 psi in the hydrants.
4. Each hydrant shall be designed for installation in a trench that will provide 5-ft. cover.
5. Hydrants shall be hydrostatically tested as specified in AWWA C502.
6. Hydrants shall be rated at 200 psi.
7. All nozzle threads shall be American National Standard.
8. Each nozzle cap shall be provided with a Buna N rubber washer.
9. Hydrants shall be so arranged that the direction of outlets may be turned 90 degrees without interference with the drip mechanism and without the mechanism obstructing the discharge from any outlet.
10. Hydrants must be capable of being extended without removing any operating parts.
11. Hydrants shall have bronze-to-bronze seatings as per AWWA C502-85.
12. Hydrant main valve closure shall be of the compression type opening against the pressure and closing with the pressure. The resilient seat material shall meet the requirements of AWWA C-509 and shall preferably be EPDM Elastomer.
13. Internal and below ground iron parts (bonnet, nozzle section and base) shall have a fusion bonded epoxy coating per AWWA C550. Aboveground external hydrant parts (cap, bonnet and nozzle section) shall be either epoxy coated together with a UV resistant polyester coating or have two shop coats of paint per AWWA C502. The lower stand pipe or barrel shall be protected with asphaltic coatings per AWWA C502.
14. Exterior nuts, bolts and washer shall be stainless steel. Bronze nuts may be used below grade.
15. All internal operating parts shall be removable without requiring excavation.

2.06 RESTRAINING CLAMPS

Restraining clamp assemblies as detailed in the drawings for use at hydrant connections to water mains, or at fittings where shown on the Drawings, shall be as manufactured by American Cast Iron Pipe, Star Pipe Products, U.S. Pipe; or approved equal.

2.07 TAPPING SLEEVES AND GATE VALVES

A. Tapping valves shall meet the requirement of AWWA C500. The valves shall be flanged, shall be mechanical joint outlet with nonrising stem, designed for vertical burial and shall open left or counterclockwise. Stuffing boxes shall be the "O-ring" type. Operating nut shall be AWWA Standard 2" square for valves 2" and up. The valves shall be provided with an overload seat to permit the use of full size cutters. Gaskets shall cover the entire area of flange surfaces and shall be supplied with EPDM wedges up to 30" diameter.

B. Tapping sleeves and saddles shall seal to the pipe by the use of a confined "O" ring gasket, and shall be able to withstand a pressure test of 180 psi for one hour with no

leakage in accordance with AWWA C110, latest edition. A stainless steel 3/4" NPT test plug shall be provided for pressure testing. All bolts joining the two halves shall be stainless steel and shall be included with the sleeve or saddle. Sleeves and saddles shall be protected from corrosion by being fusion applied epoxy coated, or be made of 18-8 Type 304 stainless steel. Saddle straps shall be 18-8 Type 304 stainless steel.

PART 3 EXECUTION

3.01 INSTALLATION

A. All valves and appurtenances shall be installed in the location shown, true to alignment and rigidly supported. Any damage occurring to the above items before they are installed shall be repaired to the satisfaction of the County.

B. After installation, all valves and appurtenances shall be tested at least two hours at the working pressure corresponding to the class of pipe, unless a different test pressure is specified. If any joint proves to be defective, it shall be repaired to the satisfaction of the County.

C. Flanged joints shall be made with high strength, low alloy Corten bolts, nuts and washers. Mechanical joints shall be made with mild corrosion resistant alloy steel bolts and nuts. All exposed bolts shall be painted the same color as the pipe. All buried bolts and nuts shall be heavily coated with two (2) coats of bituminous paint comparable to Inertol No. 66 Special Heavy.

D. Prior to the installation of sleeve-type couplings, the pipe ends shall be cleaned thoroughly for a distance of 8". Soapy water may be used as a gasket lubricant. A follower and gasket, in that order, shall be slipped over each pipe to a distance of about 6" from the end.

E. Valve boxes with concrete bases shall be installed as shown on the Drawings. Mechanical joints shall be made in the standard manner. Valve stems shall be vertical in all cases. Place cast iron box over each stem with base bearing on compacted fill and the top flush with final grade. Boxes shall have sufficient bracing to maintain alignment during backfilling. Knobs on cover shall be parallel to pipe. Remove any sand or undesirable fill from valve box.

3.02 HYDRANTS

A. Hydrants shall be set at the locations designated by the County and/or as shown on the Drawings and shall be bedded on a firm foundation. A drainage pit on crushed stone as shown on the Drawings shall be filled with gravel or crushed stone and satisfactorily compacted. During backfilling, additional gravel or crushed stone shall be brought up around and 6" over the drain port. Each hydrant shall be set in true vertical alignment and shall be properly braced. Concrete thrust blocks shall be placed between the back of the hydrant inlet and undisturbed soil at the end of the trench. Minimum bearing area shall be as shown on the plans. Felt paper shall be placed around the hydrant elbow prior to placing concrete. CARE MUST BE TAKEN TO INSURE THAT CONCRETE DOES NOT PLUG THE DRAIN PORTS. Concrete used for backing shall be as specified herein.

B. When installations are made under pressure, the flow of water through the existing main shall be maintained at all times. The diameter of the tap shall be a minimum of 2" less than the inside diameter of the branch line.

C. The entire operation shall be conducted by workmen thoroughly experienced in the installation of tapping sleeves and valves, and under the supervision of qualified personnel furnished by the manufacturer. The tapping machine shall be furnished by the Contractor if tap is larger than 12" in diameter.

D. The Contractor shall determine the locations of the existing main to be tapped to confirm the fact that the proposed position for the tapping sleeve will be satisfactory and no interference will be encountered such as the occurrence of existing utilities or of a joint or fitting at the location proposed for the connection. No tap will be made closer than 30" from a pipe joint.

E. Tapping valves shall be set in vertical position and be supplied with a 2" square operating nut for valves 2" and larger. The valve shall be provided with an oversized seat to permit the use of full sized cutters.

F. Tapping sleeves and valves with boxes shall be set vertically or horizontally as indicated on the Drawings and shall be squarely centered on the main to be tapped. Adequate support shall be provided under the sleeve and valve during the tapping operation. Sleeves shall be no closer than 30" from water main joints. Thrust blocks shall be provided behind all tapping sleeves. Proper tamping of supporting earth around and under the valve and sleeve is mandatory. After completing the tap, the valve shall be flushed to ensure that the valve seat is clean.

3.03 SHOP PAINTING

Ferrous surfaces of valves and appurtenances shall receive a coating of rust-inhibitive primer. All pipe connection openings shall be capped to prevent the entry of foreign matter prior to installation.

3.04 FIELD PAINTING

All metal valves and appurtenances specified herein and exposed to view shall be painted.

All above ground potable water main valves shall be painted safety blue.

3.05 INSPECTION AND TESTING

Completed pipe shall be subjected to hydrostatic pressure test for two hours at 180 psi. All leaks shall be repaired and lines retested as approved by the County. Prior to testing, the pipelines shall be supported in an approved manner to prevent movement during tests.

END OF SECTION

SECTION 02999 MISCELLANEOUS WORK AND CLEANUP

PART 1 GENERAL

1.01 SCOPE OF WORK

A. This Section includes items and operations which are not specified in detail as separate items, but may be sufficiently described as to the kind and extent of work involved. The Contractor shall furnish all labor, materials, equipment and incidentals necessary to complete all work under this Section.

B. The work of this Section may include, but is not limited to the following:

1. Restoration of roads, sidewalks, driveways, curbing and gutters, fences, guardrails, lawns, shrubbery and any other existing items damaged or destroyed.
2. Crossing utilities.
3. Relocation of existing water, reclaim water, or sewer lines less than four inches diameter, water and sanitary sewer services, low pressure gas lines, telephone lines, electric lines, cable TV lines as shown on the Contract Drawings.
4. Restoring easements (servitudes) and rights-of-way.
5. Clean up.
6. Incidental work (project photographs, testing, shop drawings, traffic control, record drawings, etc.).
7. Excavation and Embankment - As defined in the Florida Department of Transportation Standard Specifications for Road and Bridge Construction (1991 Edition or latest revision).
8. Storm water and erosion control devices.

PART 2 PRODUCTS

2.01 MATERIALS

Materials required for this Section shall equal or exceed materials that are to be restored. The Contractor may remove and replace or reuse existing materials with the exception of paving.

PART 3 EXECUTION

3.01 CROSSING UTILITIES

This item shall include any extra work required in crossing culverts, water courses, drains, water mains and other utilities, including all sheeting and bracing, extra excavation and backfill, or any other work required or implied for the proposed crossing, whether or not shown on the Drawings.

3.02 RELOCATIONS OF EXISTING GAS LINES, TELEPHONE LINES, ELECTRIC LINES AND CABLE TV LINES

The Contractor shall notify the proper utility involved when relocation of these utility lines is required. The Contractor shall coordinate all relocation work by the utility so that construction shall not be hindered.

3.03 RESTORING THE EASEMENTS AND RIGHTS-OF-WAY

The Contractor shall be responsible for all damage to private property due to his operations. He shall protect from injury all walls, fences, cultivated shrubbery, pavement, underground facilities, including water, sewer and reclaimed water lines and services, or other utilities which may be encountered along the easement. If removal and replacement is required, it shall be done in a workmanlike manner, at his expense, so that the replacement is equivalent to that which existed prior to construction.

3.04 STORMWATER AND EROSION CONTROL DEVICES

The Contractor shall be responsible for, provide, and install all stormwater and erosion control devices necessary to insure satisfactory compliance with the Florida Department of Environmental Protection Stormwater, Erosion, and Sedimentation Control Inspector's Manual.

END OF SECTION

GENERAL PERMIT – 4 TOTAL PAGES – ATTACHMENT "C"

Florida Department of
Environmental Protection
Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

May 22, 2012

Sia Mollanazar, P.E. Deputy Director, Engineering
Manatee County Utilities
4410 66th Street West
Bradenton, FL 34210
Sia.mollanazar@mymanatee.org

Re: General Permit for Construction of Water Main Extensions for Public Water Systems
Project: Erie Road @ 69th Street Intersection
FDEP Permit No.: 0133068-990-DSGP/02
PWS ID No.: 641-1132
County: Manatee

Dear Mr. Mollanazar:

The Department has received your Notice of Intent to Use the General Permit to construct a public water supply distribution system extension to serve future development. This project consists of a new six-inch diameter water main stub. No additional demand will be provided by the Manatee County Public Water System. The Department received this Notice on May 3, 2012.

The Department has no objection to your use of a General Permit for the construction of a public water supply distribution system designed in accordance with the standards and criteria set forth in Rule 62-555.405, Florida Administrative Code (FAC). In accordance with Rules 62-4.530(1) and 62-555.405(1)(a), FAC, construction on this project shall not begin until at least 30 days after the receipt date (referenced above) of Application Form 62-555.900(7). All General Permits are subject to the general conditions of Rule 62-4.540, FAC, (enclosed) and Rules 62-555.405 and 62-555.345, FAC. The construction activity must conform to the description contained in your Notice of Intent to Use the General Permit. Any deviation will subject the permittee to enforcement action and possible penalties.

If you have any questions or comments, please contact Bryant Facey at (813) 632-7600, extension 316, or via email at Bryant.Facey@dep.state.fl.us.

Sincerely,

Gwen Shofner

Gwen Shofner, P.E.
Manager
Potable Water Program

GS/bjf

Enclosures: General Conditions
Instructions for Clearance

cc: Wayne R. Troxler, P.E. Manatee County Utilities, wayne.troxler@mymanatee.org
Daniel T. Gray, Manatee County Utilities, dan.gray@mymanatee.org

General Permit Conditions.

(1) The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

(2) This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

(3) As provided in Subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in this permit.

(4) This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

(5) This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

(6) The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

(7) The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:

(a) Have access to and copy any records that must be kept under conditions of the permit;

(b) Inspect the facility, equipment, practices, or operations regulated or required under this permit; and

(c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

(8) If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

(a) A description of and cause of noncompliance; and

(b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

(9) In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the

Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

(10) The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.

(11) This permit is transferable only upon Department approval in accordance with Rule 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

(12) This permit or a copy thereof shall be kept at the work site of the permitted activity.

(13) This permit also constitutes:
(a) Determination of Best Available Control Technology (BACT)
(b) Determination of Prevention of Significant Deterioration (PSD)
(c) Certification of compliance with State Water Quality Standards (Section 401, PL 92-500)
(d) Compliance with New Source Performance Standards

(14) The permittee shall comply with the following:
(a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
(b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.
(c) Records of monitoring information shall include:
1. the date, exact place, and time of sampling or measurements;
2. the person responsible for performing the sampling or measurements;
3. the dates analyses were performed;
4. the person responsible for performing the analyses;
5. the analytical techniques or methods used;
6. the results of such analyses.

(15) When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

GENERAL PERMIT

INSTRUCTIONS FOR CLEARANCE

Requirements for clearance upon completion of projects are as follows:

1. Submission of a fully completed Department of Environmental Protection (DEP) Form 62-555.900(9) "Certification of Construction Completion and Request for Clearance to Place Permitted PWS Components into Operation".

2. The portion of record drawings showing deviations from the DEP construction permit, including preliminary design report or drawings and specifications, if there are any deviations from said permit. (Note that it is necessary to submit a copy of only the portion of record drawings showing deviations and not a complete set of record drawings.)

3. Copies of satisfactory bacteriological analysis, taken within sixty (60) days of completion of construction, from locations within the distribution system or water main extension to be cleared, and in accordance with American Water Works Association (AWWA) Standard C 651-92 and with any additional requirements stipulated by the permitting engineer, as may be needed under special circumstances. The following sampling locations will be required for all General Permit clearances:

   - Connection point to an existing system and at the end point of the proposed addition; and

   - Every 1,200 feet on straight run of pipes.

   Each location shall be sampled on two consecutive days, with sample points and chlorine residual readings clearly indicated on the report. A sketch or description of all bacteriological sampling locations must also be provided.

4. Copy of satisfactory pressure test results demonstrating compliance with AWWA Standard requirements.

For further clarification contact:

Gwen Shofner, P.E., Manager
DEP – Southwest District
Drinking Water Program
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926

Phone: (813) 632-7600, extension 306
FAX: (813) 632-7671

Southwest Florida
Water Management District

2379 Broad Street, Brooksville, Florida 34604-6899
(352) 796-7211 or 1-800-423-1476 (FL only)
TDD only: 1-800-231-6103 (FL only)
On the Internet at *WaterMatters.org*

An Equal Opportunity Employer

Bartow Service Office
170 Century Boulevard
Bartow, Florida 33830-7700
(863) 534-1448 or
1-800-492-7862 (FL only)

Sarasota Service Office
6750 Fruitville Road
Sarasota, Florida 34240-9711
(941) 377-3722 or
1-800-320-3503 (FL only)

Tampa Service Office
7601 Highway 301 North
Tampa, Florida 33637-6759
(813) 985-7481 or
1-800-836-0797 (FL only)

SWFWMD Permit No.: 44035670.000 (10 Total Pages)
Attachment D

November 10, 2010

Ron Schulhofer
Manatee County Public Works
1022 26th Avenue East
Bradenton, FL 34208

Subject: **Final Agency Action Transmittal Letter**
ERP General Construction
Permit No.: 44035670.000
Project Name: Erie Road at 69th Street East Intersection
County: Manatee
Sec/Twp/Rge: 26, 35/33S/18E

Dear Mr. Schulhofer:

This letter constitutes notice of Final Agency Action for **approval** of the permit referenced above. Final approval is contingent upon no objection to the District's action being received by the District within the time frames described below.

You or any person whose substantial interests are affected by the District's action regarding a permit may request an administrative hearing in accordance with Sections 120.569 and 120.57, Florida Statutes, (F.S.), and Chapter 28-106, Florida Administrative Code, (F.A.C.), of the Uniform Rules of Procedure. *A request for hearing must: (1) explain how the substantial interests of each person requesting the hearing will be affected by the District's action, or proposed action, (2) state all material facts disputed by the person requesting the hearing or state that there are no disputed facts, and (3) otherwise comply with Chapter 28-106, F.A.C.* Copies of Sections 28-106.201 and 28-106.301, F.A.C. are enclosed for your reference. A request for hearing must be filed with (received by) the Agency Clerk of the District at the District's Brooksville address within 21 days of receipt of this notice. Receipt is deemed to be the fifth day after the date on which this notice is deposited in the United States mail. Failure to file a request for hearing within this time period shall constitute a waiver of any right you or such person may have to request a hearing under Sections 120.569 and 120.57, F.S. Mediation pursuant to Section 120.573, F.S., to settle an administrative dispute regarding the District's action in this matter is not available prior to the filing of a request for hearing.

Enclosed is a "Noticing Packet" that provides information regarding the District Rule 40D-1.1010, F.A.C., which addresses the notification of persons whose substantial interests may be affected by the District's action in this matter. The packet contains guidelines on how to provide notice of the District's action, and a notice that you may use.

The enclosed approved construction plans are part of the permit, and construction must be in accordance with these plans.

If you have questions concerning the permit, please contact Andrew DiLorenzo, P.E., at the Sarasota Service Office, extension 6592. For assistance with environmental concerns, please contact David W. Jenkins, extension 6545.

Sincerely,

Ross T. Morton, P.W.S., Director
Sarasota Regulation Department

RTM:AXD:DWJ:AJR
Enclosures: Approved Permit w/Conditions Attached
Approved Construction Drawings
Statement of Completion
Notice of Authorization to Commence Construction
Noticing Packet (42.00-039)
Sections 28-106.201 and 28-106.301, F.A.C.
cc/enc: File of Record 44035670.000
Sia Mollanazar, P.E., Manatee County Public Works
Terri L. Behling, Southwest Florida Water Management District

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE
GENERAL CONSTRUCTION
PERMIT NO. 44035670.000

Expiration Date: November 10, 2015 PERMIT ISSUE DATE: November 10 2010

This permit is issued under the provisions of Chapter 373, Florida Statutes, (F.S.), and the Rules contained in Chapters 40D-4 and 40, Florida Administrative Code, (F.A.C.). The permit authorizes the Permittee to proceed with the construction of a surface water management system in accordance with the information outlined herein and shown by the application, approved drawings, plans, specifications, and other documents, attached hereto and kept on file at the Southwest Florida Water Management District (District). Unless otherwise stated by permit specific condition, permit issuance constitutes certification of compliance with state water quality standards under Section 401 of the Clean Water Act, 33 U.S.C. 1341. All construction, operation and maintenance of the surface water management system authorized by this permit shall occur in compliance with Florida Statutes and Administrative Code and the conditions of this permit.

PROJECT NAME:	Erie Road at 69th Street East Intersection
GRANTED TO:	Manatee County Public Works 1022 26th Avenue East Bradenton, FL 34208

ABSTRACT: This permit authorizes the construction of a surface water management system designed to serve a 11.07 acre road project located in Manatee County. The surface water management system has been designed to provide water quality treatment and peak attenuation storage for the project. The method of water quality treatment is on-line retention. Information regarding the surface water management system, 100-year floodplain, wetlands and/or surface waters is stated below and on the permitted construction drawings for the project.

OP. & MAINT. ENTITY:	Manatee County Public Works
COUNTY:	Manatee
SEC/TWP/RGE:	26, 35/33S/18E
TOTAL ACRES OWNED OR UNDER CONTROL:	11.07
PROJECT SIZE:	11.07 Acres
LAND USE:	Government
DATE APPLICATION FILED:	August 25, 2010
AMENDED DATE:	N/A

I. Water Quantity/Quality

POND NO.	AREA ACRES @ TOP OF BANK	TREATMENT TYPE
Pond 1, 3, and Swale 3	2.14	On-line Retention
Pond 2/Swale 2	1.05	On-line Retention
Swale 1	0.46	On-line Retention
TOTAL	3.65	

Comments: Construction activities include removing and replacing part of 69th Street East and removing and replacing part of Erie Road at the intersection of the two roads. During construction, Best Management Practices (effective turbidity and sediment control measures) will be in place. The surface water management system has been designed to cause net improvement to the receiving water body (WBID 1823, Buffalo Creek) for dissolved oxygen and fecal coliforms pursuant to Chapter 3.3.1.4 of the District's Basis of Review.

A mixing zone is not required.
A variance is not required.

II. 100-Year Floodplain

Encroachment (Acre-Feet of fill)	Compensation (Acre-Feet of excavation)	Compensation Type	Encroachment Result (feet)
0.00	0.00	N/A	N/A

Comments: The project lies in Zone X, outside the 100 year floodplain.

III. Environmental Considerations

Wetland/Surface Water Information **Count of Wetlands: 7**

Wetland Name	Total Acres	Not Impacted Acres	Permanent Impacts		Temporary Impacts	
			Acres	Functional Loss*	Acres	Functional Loss*
OSW-1	0.39	0.00	0.39	0.00	0.00	0.00
OSW-2	0.15	0.00	0.15	0.00	0.00	0.00
OSW-3	0.08	0.00	0.08	0.00	0.00	0.00
OSW-4	0.06	0.00	0.06	0.00	0.00	0.00
OSW-5	0.05	0.00	0.05	0.00	0.00	0.00
OSW-6	0.20	0.00	0.20	0.00	0.00	0.00
OSW-7	0.03	0.00	0.03	0.00	0.00	0.00
Total:	0.96	0.00	0.96	0.00	0.00	0.00

*** For impacts that do not require mitigation, their functional loss is not included.**

Wetland Comments: The project area for this ERP modification contains 0.96 acre of upland-cut ditches, OSW-1 – OSW-7. Permanent filling impacts to 0.96 acre of upland-cut ditches will occur due to roadway realignment.

Mitigation Comments: Wetland mitigation is not required for impacts to ditches constructed in uplands pursuant to Subsections 3.2.2.2 of the Basis of Review (B.O.R.) Under this subsection, wetland mitigation is not required for impacts to ditches constructed in uplands that do not provide significant habitat for threatened or endangered species and where ditches constructed in uplands were not constructed to divert natural stream flow.

SPECIFIC CONDITIONS

1. If the ownership of the project area covered by the subject permit is divided, with someone other than the Permittee becoming the owner of part of the project area, this permit shall terminate, pursuant to Section 40D-1.6105, F.A.C. In such situations, each land owner shall obtain a permit (which may be a modification of this permit) for the land owned by that person. This condition shall not apply to the division and sale of lots or units in residential subdivisions or condominiums.

2. Unless specified otherwise herein, two copies of all information and reports required by this permit shall be submitted to:

   Sarasota Regulation Department
   Southwest Florida Water Management District
   6750 Fruitville Road
   Sarasota, FL 34240-9711

   The permit number, title of report or information and event (for recurring report or information submittal) shall be identified on all information and reports submitted.

3. The Permittee shall retain the design engineer, or other professional engineer registered in Florida, to conduct on-site observations of construction and assist with the as-built certification requirements of this project. The Permittee shall inform the District in writing of the name, address and phone number of the professional engineer so employed. This information shall be submitted prior to construction.

4. Within 30 days after completion of construction of the permitted activity, the Permittee shall submit to the Sarasota Service Office a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing the required Statement of Completion and Request for Transfer to Operation Entity form identified in Chapter 40D-1.659, F.A.C., and signed, dated and sealed as-built drawings. The as-built drawings shall identify any deviations from the approved construction drawings.

5. The District reserves the right, upon prior notice to the Permittee, to conduct on-site research to assess the pollutant removal efficiency of the surface water management system. The Permittee may be required to cooperate in this regard by allowing on-site access by District representatives, by allowing the installation and operation of testing and monitoring equipment, and by allowing other assistance measures as needed on site.

6. For dry bottom retention systems, the retention areas shall become dry within 72 hours after a rainfall event. If a retention area is regularly wet, this situation shall be deemed to be a violation of this permit.

7. The operation and maintenance entity shall submit inspection reports in the form required by the District, in accordance with the following schedule.

   For systems utilizing retention or wet detention, the inspections shall be performed two (2) years after operation is authorized and every two (2) years thereafter.

8. Certification of compliance with state water quality standards under Section 401 of the Clean Water Act, 33 U.S.C. 1341 is waived.

9. This permit is issued based upon the design prepared by the Permittee's consultant. If at any time it is determined by the District that the Conditions for Issuance of Permits in Rules 40D-4.301 and 40D-4.302, F.A.C., have not been met, upon written notice by the District, the Permittee shall obtain a permit modification and perform any construction necessary thereunder to correct any deficiencies in the system design or construction to meet District rule criteria. The Permittee is advised that the correction of deficiencies may require re-construction of the surface water management system and/or mitigation areas.

10. All construction is prohibited within the permitted project area until the Permittee acquires legal ownership or legal control of the project area as delineated in the permitted construction drawings.

11. The Permittee is an entity with the powers of eminent domain. Portions of the project area are not currently owned by the Permittee. Pursuant to Rule 40D-1.603(2), F.A.C. the Permittee shall provide the property owners identified in the application:

    a. With a written notice of receipt of the application in accordance with subsection 40D-1.603(2), F.A.C.; and
    b. With a written notice of the agency action on the application.

GENERAL CONDITIONS

1. The general conditions attached hereto as Exhibit "A" are hereby incorporated into this permit by reference and the Permittee shall comply with them.

Authorized Signature

EXHIBIT "A"

1. All activities shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit.

2. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications, shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by District staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.

3. For general permits authorizing incidental site activities, the following limiting general conditions shall also apply:

   a. If the decision to issue the associated individual permit is not final within 90 days of issuance of the incidental site activities permit, the site must be restored by the permittee within 90 days after notification by the District. Restoration must be completed by re-contouring the disturbed site to previous grades and slopes re-establishing and maintaining suitable vegetation and erosion control to provide stabilized hydraulic conditions. The period for completing restoration may be extended if requested by the permittee and determined by the District to be warranted due to adverse weather conditions or other good cause. In addition, the permittee shall institute stabilization measures for erosion and sediment control as soon as practicable, but in no case more than 7 days after notification by the District.

   b. The incidental site activities are commenced at the permittee's own risk. The Governing Board will not consider the monetary costs associated with the incidental site activities or any potential restoration costs in making its decision to approve or deny the individual environmental resource permit application. Issuance of this permit shall not in any way be construed as commitment to issue the associated individual environmental resource permit.

4. Activities approved by this permit shall be conducted in a manner which does not cause violations of state water quality standards. The permittee shall implement best management practices for erosion and a pollution control to prevent violation of state water quality standards. Temporary erosion control shall be implemented prior to and during construction, and permanent control measures shall be completed within 7 days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring suspended solids into the receiving waterbody exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.

5. Water quality data for the water discharged from the permittee's property or into the surface waters of the state shall be submitted to the District as required by the permit. Analyses shall be performed according to procedures outlined in the current edition of Standard Methods for the Examination of Water and Wastewater by the American Public Health Association or Methods for Chemical Analyses of Water and Wastes by the U.S. Environmental Protection Agency. If water quality data are required, the permittee shall provide data as required on volumes of water discharged, including total volume discharged during the days of sampling and total monthly volume discharged from the property or into surface waters of the state.

6. District staff must be notified in advance of any proposed construction dewatering. If the dewatering activity is likely to result in offsite discharge or sediment transport into wetlands or surface waters, a written dewatering plan must either have been submitted and approved with the permit application or submitted to the District as a permit prior to the dewatering event as a permit modification. A water use permit may be required prior to any use exceeding the thresholds in Chapter 40D-2, F.A.C.

7. Stabilization measures shall be initiated for erosion and sediment control on disturbed areas as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site has temporarily or permanently ceased.

8. Off-site discharges during construction and development shall be made only through the facilities authorized by this permit. Water discharged from the project shall be through structures having a mechanism suitable for regulating upstream stages. Stages may be subject to operating schedules satisfactory to the District.

9. The permittee shall complete construction of all aspects of the surface water management system, including wetland compensation (grading, mulching, planting), water quality treatment features, and discharge control facilities prior to beneficial occupancy or use of the development being served by this system.

10. The following shall be properly abandoned and/or removed in accordance with the applicable regulations:

    a. Any existing wells in the path of construction shall be properly plugged and abandoned by a licensed well contractor.
    b. Any existing septic tanks on site shall be abandoned at the beginning of construction.
    c. Any existing fuel storage tanks and fuel pumps shall be removed at the beginning of construction.

11. All surface water management systems shall be operated to conserve water in order to maintain environmental quality and resource protection; to increase the efficiency of transport, application and use; to decrease waste; to minimize unnatural runoff from the property and to minimize dewatering of offsite property.

12. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the District a written notification of commencement indicating the actual start date and the expected completion date.

13. Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the occupation of the site or operation of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of that phase or portion of the system to a local government or other responsible entity.

14. Within 30 days after completion of construction of the permitted activity, the permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing the required Statement of Completion and Request for Transfer to Operation Entity form identified in Chapter 40D-1, F.A.C. Additionally, if deviation from the approved drawings are discovered during the certification process the certification must be accompanied by a copy of the approved permit drawings with deviations noted.

15. This permit is valid only for the specific processes, operations and designs indicated on the approved drawings or exhibits submitted in support of the permit application. Any substantial deviation from the approved drawings, exhibits, specifications or permit conditions, including construction within the total land area but outside the approved project area(s), may constitute grounds for revocation or enforcement action by the District, unless a modification has been applied for and approved. Examples of substantial deviations include excavation of ponds, ditches or sump areas deeper than shown on the approved plans.

16. The operation phase of this permit shall not become effective until the permittee has complied with the requirements of the conditions herein, the District determines the system to be in compliance with the permitted plans, and the entity approved by the District accepts responsibility for operation and maintenance of the system. The permit may not be transferred to the operation and maintenance entity approved by the District until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the District, the permittee shall request transfer of the permit to the responsible operation and maintenance entity approved by the District, if different from the permittee. Until a transfer is approved by the District, the permittee shall be liable for compliance with the terms of the permit.

17. Should any other regulatory agency require changes to the permitted system, the District shall be notified of the changes prior to implementation so that a determination can be made whether a permit modification is required.

18. This permit does not eliminate the necessity to obtain any required federal, state, local and special District authorizations including a determination of the proposed activities' compliance with the applicable comprehensive plan prior to the start of any activity approved by this permit.

19. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40D-4 or Chapter 40D-40, F.A.C.

20. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities which may arise by reason of the activities authorized by the permit or any use of the permitted system.

21. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under section 373.421(2), F.S., provides otherwise.

22. The permittee shall notify the District in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of the permitted system or the real property at which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of Rule 40D-4.351, F.A.C. The permittee transferring the permit shall remain liable for any corrective actions that may be required as a result of any permit violations prior to such sale, conveyance or other transfer.

23. Upon reasonable notice to the permittee, District authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with District rules, regulations and conditions of the permits.

24. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the District and the Florida Department of State, Division of Historical Resources.

25. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

PART II HEARINGS INVOLVING DISPUTED ISSUES OF MATERIAL FACT

28-106.201 Initiation of Proceedings.

(1) Unless otherwise provided by statute, and except for agency enforcement and disciplinary actions that shall be initiated under Rule 28-106.2015, F.A.C., initiation of proceedings shall be made by written petition to the agency responsible for rendering final agency action. The term "petition" includes any document that requests an evidentiary proceeding and asserts the existence of a disputed issue of material fact. Each petition shall be legible and on 8 1/2 by 11 inch white paper. Unless printed, the impression shall be on one side of the paper only and lines shall be double-spaced.

(2) All petitions filed under these rules shall contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;

(c) A statement of when and how the petitioner received notice of the agency decision;

(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;

(e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action;

(f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and

(g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

(3) Upon receipt of a petition involving disputed issues of material fact, the agency shall grant or deny the petition, and if granted shall, unless otherwise provided by law, refer the matter to the Division of Administrative Hearings with a request that an administrative law judge be assigned to conduct the hearing. The request shall be accompanied by a copy of the petition and a copy of the notice of agency action.

Specific Authority 120.54(3), (5) FS. Law Implemented 120.54(5), 120.569, 120.57 FS. History–New 4-1-97, Amended 9-17-98, 1-15-07.

PART III PROCEEDINGS AND HEARINGS NOT INVOLVING DISPUTED ISSUES OF MATERIAL FACT

28-106.301 Initiation of Proceedings.

(1) Unless otherwise provided by statute and except for agency enforcement and disciplinary actions initiated under subsection 28-106.2015(1), F.A.C., initiation of a proceeding shall be made by written petition to the agency responsible for rendering final agency action. The term "petition" includes any document which requests a proceeding. Each petition shall be legible and on 8 1/2 by 11 inch white paper or on a form provided by the agency. Unless printed, the impression shall be on one side of the paper only and lines shall be doubled-spaced.

(2) All petitions filed under these rules shall contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;

(c) An explanation of how the petitioner's substantial interests will be affected by the agency determination;

(d) A statement of when and how the petitioner received notice of the agency decision;

(e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action;

(f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action;

(g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action; and

(h) A statement that no material facts are in dispute.

Specific Authority 120.54(5) FS. Law Implemented 120.54(5), 120.569, 120.57 FS. History–New 4-1-97, Amended 9-17-98, 1-15-07, 12-24-07.

Report of the Roadway and Drainage Area Investigation, Including Geotechnical Evaluation & Recommendations provided by Driggers Engineering Services,(47 total pages)
Attachment E

REPORT OF THE ROADWAY AND DRAINAGE AREA INVESTIGATION

ERIE ROAD AT 69TH STREET EAST MANATEE COUNTY, FLORIDA

DRIGGERS ENGINEERING SERVICES INCORPORATED
Geotechnical Engineering & Construction Materials Testing

May 12, 2010

Manatee County - Project Management Division
1026 - 26th Avenue East
Bradenton, Florida 34208

Attention: Mr. Michael O'Reilly
Project Manager

RE: Report of the Roadway and Drainage Area Investigation
Erie Road at 69th Street East - Intersection
Manatee County, Florida
Our File: DES 106525
Manatee County Project 6048460
Work Assignment No. 15
IFAS #W0100165

Dear Mr. O'Reilly:

Pursuant to your request and authorization, **DRIGGERS ENGINEERING SERVICES, INC.** has completed the requested geotechnical investigation for the subject project. Presented herein are the results of our field and laboratory testing together with geotechnical recommendations for your consideration.

PLANNED CONSTRUCTION

Based upon the information provided to us by you and Chris Mowbray with Manatee County, including the 60% Design Drawings provided by Mr. Mowbray, we understand that the project will involve realignment of portions of Erie Road and 69th Street East to eliminate the sharp curve in Erie Road west of the intersection with 69th Street as well as the sharp turn in 69th Street where it turns to the west. The realignment will result in a new intersection with 69th Street about 370 feet east of the current intersection and a new crossing of 69th Street and the railroad tracks which run parallel to the north side of Erie Road. Preliminary plans indicate that the new pavement grades would be no more than about 1 to 2 feet above present grades. The planned pavement section will include 3 inches of asphaltic concrete, 10 inches of either limerock or shell base course (LBR ≥100) and 12 inches of LBR-40 stabilized sub-base.

Two (2) small stormwater ponds are also planned, with one just southeast of the present sharp turn in Erie Road and one between the new and present 69th Street alignments. Roadside swales will also be constructed to meet the existing roadside swales.

FIELD INVESTIGATION PROGRAM

The requested field investigation program included both Standard Penetration Test (SPT) borings and Double Ring Infiltration (DRI) tests in the planned drainage areas and hand auger classification borings along the proposed road alignments. The borings were positioned in the field by our geotechnician with a hand held GPR unit utilizing the site plan and GPS coordinates provided to us. The approximate boring locations are illustrated on Plate I in the report attachments. Note that ground surface elevations at the boring locations were not provided to us. Elevation data could be obtained by your project surveyor at a later date.

ROADWAY ALIGNMENT - Seven (7) classification borings (HA-1 through HA-7) were conducted along the new proposed road alignments. This includes borings HA-1 through HA-6 initially requested and boring HA-7 which was subsequently requested by Mr. Mowbray. The classification borings were generally advanced to a nominal depth of 6 feet below present grade utilizing hand auger equipment wherein the soils were classified virtually continuously from below existing grade to the completion depth of the borings. The appended logs of the classification borings reflect estimated Unified and AASHTO Soil Classifications versus depth based upon our visual examination and the results of our laboratory testing program.

STORMWATER MANAGEMENT AREAS - Two (2) Standard Penetration Test (SPT) borings (B-1 and B-2) were requested and conducted within planned stormwater management areas. The borings were advanced to nominal depths of 20 feet below present grade.

Double Ring Infiltration (DRI) tests were also requested and conducted near borings B-1 and B-2 as well as a third location for the roadside swale along the south side of the new Erie Road alignment (test location DRI-3). The DRI tests were performed at depths of 0.5 to 1.1 feet below grade. Separate hand auger borings (DRI-1, DRI-2 and DRI-3) were also advanced to nominal depths of 5.5 to 8.0 feet adjacent to the DRI test locations to more closely examine the near surface soil and groundwater conditions.

The soils recovered from the borings were visually classified by our technician in the field. Representative samples were returned to the laboratory for examination by the project engineer and assignment of laboratory classification tests. Logs of the borings are presented in the attachments indicating visual and estimated Unified and AASHTO Soil Classifications with depth, SPT penetration resistances and the measured groundwater levels.

LABORATORY TESTING PROGRAM

A limited laboratory testing program was also undertaken to aid in characterizing the engineering properties of the subsurface soils. Our laboratory tests included eight (8) grainsize analyses and two (2) organic content tests and two (2) Atterberg liquid limit and plastic limit determinations. Additionally, two (2) samples of the shallow depth sandy soils were collected from the planned stormwater pond areas and returned to the laboratory for Limerock Bearing Ratio (LBR) testing. The results of our laboratory tests are included in the report attachments.

GENERALIZED SUBSURFACE CONDITIONS

SOIL CONDITIONS - The roadway alignment classification borings typically identified a near surface unit of fine sands with surficial roots and some silt, clay and organic fines content. These soils are generally represented by the SP and SP-SM Unified Soil Classification System (USCS) classifications and the AASHTO A-3 designation. The sands were typically evidenced to a depth range of about 3 to 5 feet in the roadway borings, but were penetrated to the 6 foot boring completion depths at boring locations HA-4 and HA-6. Where organic fines were encountered, visual examination of the recovered samples and results of laboratory testing suggest that the organic content is typically low and less than 5 percent, by weight. Similar principally sandy soils were also encountered within the upper 4 to 6 feet in pond borings B-1 and B-2, respectively.

Beneath the upper, relatively cleaner sands, silty to clayey fine sands and sandy clays were evidenced to the completion depths of the roadway and pond area borings. The silty sands have an SM or A-2-4 classification. The clayey soils are classified as SC and CL, or A-2-6 and A-7-6 soils. Generalized soil profiles are presented on Plate II in the report Appendix.

GROUNDWATER CONDITIONS - Groundwater was measured at depths generally ranging from 1.0 to 2.4 feet below present grades when the borings were conducted during April of 2010. An exception was the 5.0 foot groundwater depth at boring location HA-6 which was performed at a significantly higher elevation near where the new 69th Street alignment will join the existing roadway.

Review of the Manatee County Soil Survey indicates the presence of EauGallie soils in the site vicinity. These soils have an indicted normal seasonal high groundwater level within about 1.5 feet of the original ground surface. A summary of the measured groundwater levels and our estimates of normal seasonal high groundwater levels at the boring locations is presented as Table I in the report Appendix.

GEOTECHNICAL EVALUATION AND RECOMMENDATIONS

PAVEMENT SUBGRADE CONDITIONS AND PREPARATION - Our geotechnical investigation program has identified the presence of near surface fine sands which are generally considered suitable for support of an anticipated flexible pavement structure provided proper subgrade preparation is incorporated. The near surface subgrade soils consisted principally of fine sands comprising the SP to SP-SM Unified and AASHTO A-3 Soil Classifications. Material use should conform with FDOT Index 505, or as directed by the Engineer.

While the recovered sandy soils did not generally appear to have elevated organic contents, some of the near surface sands tested had organic contents between about 2.5 and 5.0 percent, which, according to Index 505, could limit their use in the subgrade portion of the roadway. With the road grades generally only a foot or more above present grades and the need for providing a stabilized sub-base, it may be possible to reduce the organic content of the slightly organic sands through mixing and blending these soils with cleaner sands or through the mixing of the stabilizing admixture.

Note that while the slightly organic sands were encountered at varying depths and in varying thicknesses at the boring locations, we recommend thoroughly probing and inspecting both the stripped subgrade prior to fill application and any utility excavations to help delineate any isolated areas of highly organic soils, plastic clays or other unsuitable near surface materials which may require selective undercutting. Backfill and fill soils used to develop proposed grades should consist of clean to slightly silty fine sands with a Unified Soil Classification of SP to SP-SM or an A-3 AASHTO classification. Non-plastic to low plasticity silty sands (SM or A-2-4 soils) may also be suitable. However, these soils with increased fines content will require more careful moisture control to facilitate compaction. The use of A-2-4 soils should generally be limited to placement above the groundwater table.

In general, subgrade preparation must include careful stripping of surface vegetation as well as any organic topsoil and root concentrations followed by proof-rolling of the subgrade with heavy vibratory compaction equipment. All backfill soils and roadway embankment fill soils should be compacted to not less than 100% of the Standard Proctor maximum dry density per AASHTO T-99. Moisture contents should be controlled to within ±2% of optimum moisture.

Limerock Bearing Ratio testing of near surface sandy soils recovered from the two planned pond area suggest that the near surface, relatively clean fine sands have LBR values on the order of 22 to 23. In order to improve the bearing characteristics of the fine sands which may be excavated for roadway embankment fill to an LBR of near 40, a stabilizing admixture such as limerock, crushed concrete, shell or even clayey fine sand would be required. Evaluation of the bearing characteristics of the subgrade soils should be performed during construction, particularly where pavement grades may be elevated above existing grade. The stabilized subgrade should be uniformly compacted so as to achieve a uniform density of no less than 98% of the Modified Proctor (AASHTO T-180) maximum dry density.

DESIGN GRADES AND UNDERDRAINAGE - As mentioned, since the new roadways will have to match existing grades at the beginning and ends of the project as well as at the railroad crossing, the proposed pavement grades will be generally no more than 1 to 2 feet above present grades. As has been the case with the existing roadways, groundwater levels along the new roadway sections will be controlled to a foot or more below the base elevation with roadside ditches which will connect to the existing ditch system.

BORROW SOIL CHARACTERISTICS - Fill soils placed in pavement and structure areas should generally conform to FDOT Index 505 and be limited to soils having an organic content of less than about 5 percent, a liquid limit not exceeding 40, a plasticity index of 10, or less, and no more than about 35 percent fines. The sands will become increasingly moisture sensitive as the fines content and plasticity increase. If utilized, the non-plastic to low plasticity silty to clayey soils would require careful moisture control, placement in thin lifts and typically respond well to compactive efforts utilizing sheepsfoot rollers.

The upper predominantly sandy soils encountered to depths of about 4 to 6 in the pond borings B-1 and B-2, respectively, which comprise the SP to SP-SM Unified Soil Classification System (USCS) designations (AASHTO A-3 and A-2-4 soils) will generally be suitable for use as roadway embankment fill. The clayey soils (AASHTO A-7-6) and the clayey sands (A-2-6 soils) evidenced below about 4 to

6 feet in borings B-1 and B-2 would not be suitable due to the fines content and plasticity characteristics. However, it may be possible to utilize the most of the soils evidenced to a depth of 12 feet at boring location B-1. Doing this would require either wasting the clayey sands evidenced between about 5 and 8 feet or thoroughly blending these soils with the upper and lower non-plastic, relatively cleaner sands to produce a suitable A-2-4 or superior embankment fill material. Soil types encountered during our studies and their suitability for use are summarized on Plate II in the report Appendix.

RESULTS OF DRAINAGE AREA TESTING - Results of infiltration testing indicate vertical unsaturated infiltration test rates of 1.8 to 2.8 inches per hour at the test locations and depths. For the purpose of design, the clayey fine sands and sandy clays identified in the borings may be considered to be the first restrictive soil layers.

Care should certainly be exercised in the application of Double-Ring Infiltration test results to the design of drainage facilities. The analysis of seepage infiltration must include a careful assessment of the permeability characteristics of the subsurface soils, hydraulic seepage boundary conditions and other factors which will influence pond operating characteristics.

DRIGGERS ENGINEERING SERVICES, INC. appreciates the opportunity to assist you on this project. If you have any questions concerning our findings, please contact the undersigned at your convenience.

Respectfully submitted,
DRIGGERS ENGINEERING SERVICES, INC.

Nicholas T. Korecki

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Senior Geotechnical Engineer
FL Registration No. 45529

NICHOLAS T. KORECKI LICENSE No. 45529 9.20.10 STATE OF FLORIDA PROFESSIONAL ENGINEER

F. Jaime Driggers, P.E.
President
FL Registration No. 16989

NTK-REP\106525
Copies submitted: (3)

APPENDIX

TABLE I
SUMMARY OF GROUNDWATER INFORMATION

PLATE I - BORING LOCATION PLAN

PLATE II - SOIL BORING PROFILES

STANDARD PENETRATION TEST BORING LOGS

HAND AUGER BORING LOGS

SUMMARY OF LABORATORY TEST RESULTS

GRAINSIZE ANALYSES

RESULTS OF LIMEROCK BEARING RATIO (LBR) TESTING

RESULTS OF DOUBLE RING INFILTRATION (DRI) TESTING

METHOD OF TESTING

TABLE I
SUMMARY OF GROUNDWATER INFORMATION

SUMMARY OF GROUNDWATER DATA
ERIE ROAD AT 69TH STREET INTERSECTION
MANATEE COUNTY, FLORIDA
OUR FILE: DES 106525

BORING	MEASURED GROUNDWATER DEPTH (FT.) BELOW GRADE	ESTIMATED NORMAL SEASONAL HIGH GROUNDWATER DEPTH (FT.) BELOW GRADE
B-1	1.7	1.5
B-2	2.1	0.5
DRI-1	1.1	1.5*
DRI-2	1.7	1.0*
DRI-3	1.0	1.0*
HA-1	1.3	1.0
HA-2	1.4	1.0*
HA-3	1.8	1.0*
HA-4	2.4	0.7
HA-5	2.4	1.5*
HA-6	5.0	4.0
HA-7	3.8	1.0*

Groundwater levels measured on April 5 through 9, 2010.

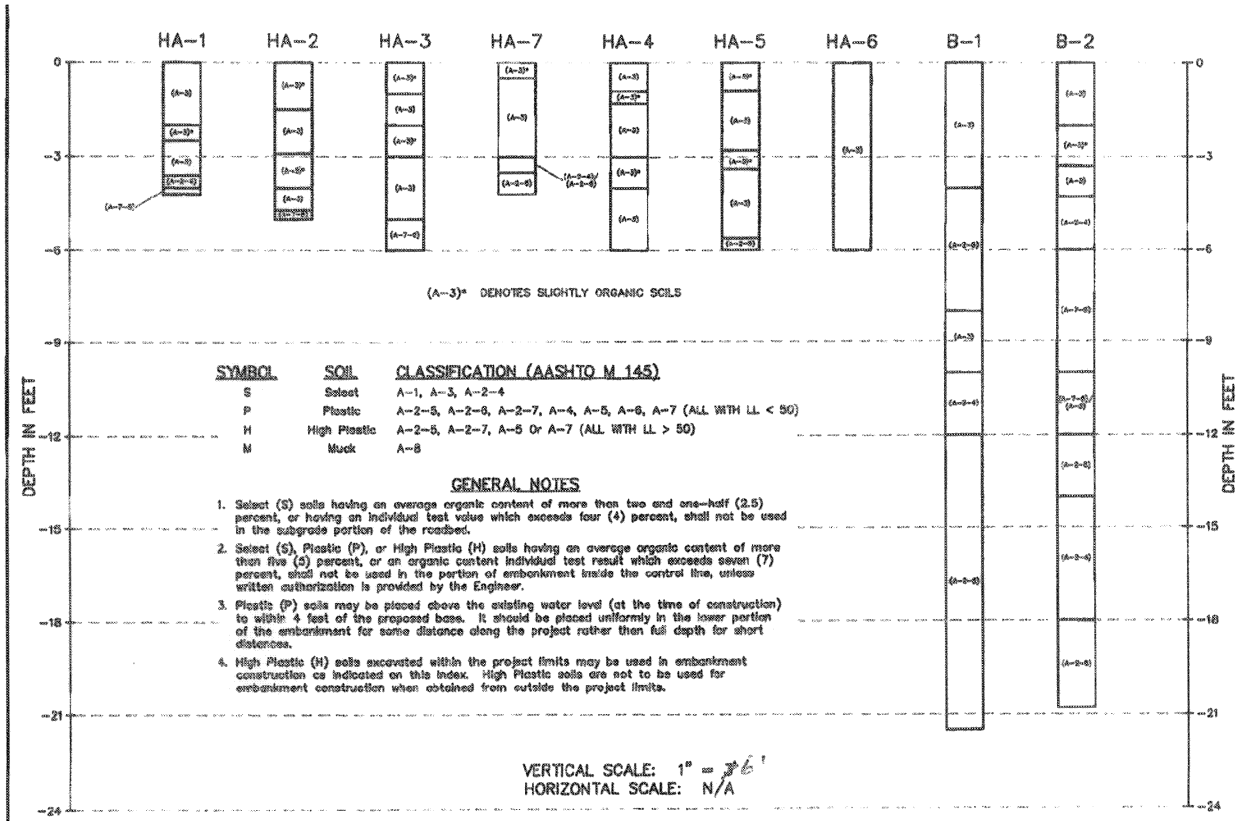
* Groundwater may temporarily perch at or near the ground surface above slightly organic surficial fine sands.

PLATE I - BORING LOCATION PLAN

DATE: 4/19/19

CAD / ENGINEER	SHEET TITLE	PROJECT NO.
R.D.B. / N.T.K.	BORING LOCATION PLAN	DES 106525
PREPARED BY	PROJECT NAME	SHEET NO.
DRIGGERS ENGINEERING SERVICES, INCORPORATED	PAVEMENT & DRAINAGE AREA INVESTIGATION ERIE ROAD & 69th STREET EAST MANATEE COUNTY, FLORIDA	PLATE

PLATE II - SOIL BORING PROFILES


HA-1
HA-2
HA-3
HA-7
HA-4
HA-5
HA-6
B-1
B-2
DEPTH IN FEET
0
-3
-6
-9
-12
-15
-18
-21
-24
(A-3)* DENOTES SLIGHTLY ORGANIC SOILS
SYMBOL SOIL CLASSIFICATION (AASHTO M 145)
S Select A-1, A-3, A-2-4
P Plastic A-2-5, A-2-6, A-2-7, A-4, A-5, A-6, A-7 (ALL WITH LL < 50)
H High Plastic A-2-5, A-2-7, A-5 Or A-7 (ALL WITH LL > 50)
M Muck A-8
GENERAL NOTES
1. Select (S) soils having an average organic content of more than two and one-half (2.5) percent, or having an individual test value which exceeds four (4) percent, shall not be used in the subgrade portion of the roadbed.
2. Select (S), Plastic (P), or High Plastic (H) soils having an average organic content of more than five (5) percent, or an organic content individual test result which exceeds seven (7) percent, shall not be used in the portion of embankment inside the control line, unless written authorization is provided by the Engineer.
3. Plastic (P) soils may be placed above the existing water level (at the time of construction) to within 4 feet of the proposed base. It should be placed uniformly in the lower portion of the embankment for some distance along the project rather than full depth for short distances.
4. High Plastic (H) soils excavated within the project limits may be used in embankment construction as indicated on this index. High Plastic soils are not to be used for embankment construction when obtained from outside the project limits.
VERTICAL SCALE: 1" = 6'
HORIZONTAL SCALE: N/A
CAD FILE NAME: N:\ACLTMN\PROFILE\106525P2.DWG DRAWN BY: R.D.B. DATE: 5/12/10
CAD / ENGINEER
R.D.B. / N.T.K.
SHEET TITLE
SOIL BORING PROFILE
PROJECT NO.
DES 106525
SHEET NO.
PLATE II
PROJECT NAME
PAVEMENT & DRAINAGE AREA INVESTIGATION
ERIE ROAD & 69th STREET EAST
MANATEE COUNTY, FLORIDA
PREPARED BY
DRIGGERS ENGINEERING SERVICES, INCORPORATED

STANDARD PENETRATION TEST BORING LOGS

DRIGGERS ENGINEERING SERVICES INCORPORATED

Project No. DES 106525 **BORING NO. B-1**

Project Pavement & Drainage Inv., Erie Road/69th Street E., Manatee County, FL

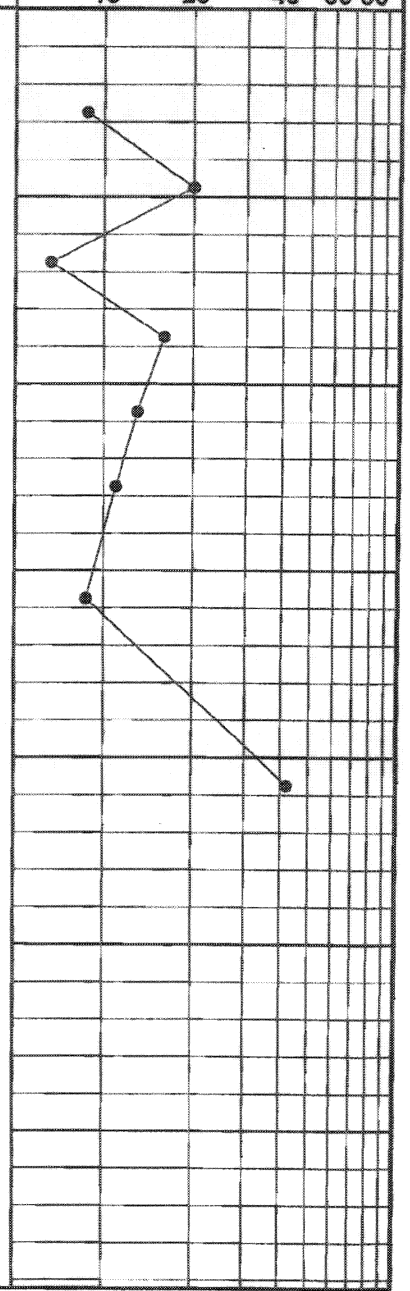
Location See Plate I Foreman M.J.

Completion Depth 21.5' Date 4/7/10 Depth To Water 1.7' Time Date 4/7/10

DEPTH, FT	SYMBOL	SAMPLES	SOIL DESCRIPTION	BLOWS ON SAMPLER PER 6" OR PEN. STR.
			SURF. EL:	
0			Gray and dark gray Fine SAND with some roots (SP) (A-3)	
			Brownish-gray Fine SAND (SP) (A-3)	
			Loose dark brown Fine SAND with trace of cemented sand (SP) (A-3)	2/3/5
5			Medium dense to very loose gray and light brown to light grayish-brown clayey Fine SAND (SC) (A-2-6)	4/9/11
				2/2/2
			Medium dense light grayish-brown slightly silty Fine SAND (SP-SM) (A-3)	4/8/8
10			Medium dense brownish-gray phosphatic, silty Fine SAND (SM) (A-2-4)	3/7/6
			Medium dense to loose greenish-gray and light brown clayey Fine SAND (SC) (A-2-6)	3/5/6
15				2/3/5
			Very dense cream colored and gray calcareous, phosphatic, clayey Fine SAND with cemented clay fragments (SC) (A-2-6)	
20				2/22/20
25				
30				

STANDARD PENETRATION TEST BLOWS/FT. ON 2" O.D. SAMPLER-140 LB. HAMMER, 30" DROP

10 20 40 60 80



Remarks Borehole Grouted

Casing Length

DRIGGERS ENGINEERING SERVICES INCORPORATED

Project No. DES 106525 **BORING NO.** B-2

Project Pavement & Drainage Inv., Erie Road/69th Street E., Manatee County, FL

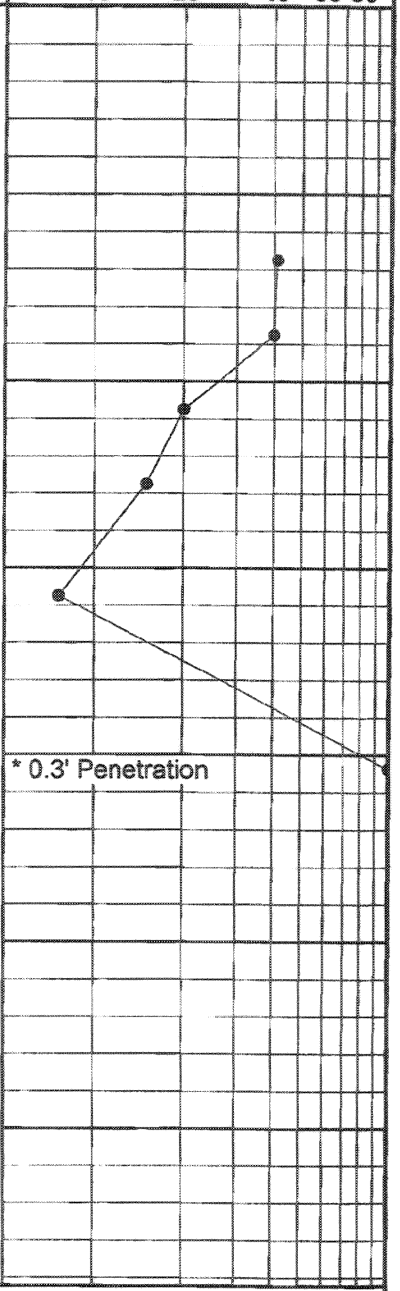
Location See Plate I **Foreman** M.J.

Completion Depth 20.8' **Date** 4/7/10 **Depth To Water** 2.1' **Time** _____ **Date** 4/7/10

DEPTH, FT	SYMBOL	SAMPLES	SOIL DESCRIPTION	BLOWS ON SAMPLER PER 6" OR PEN. STR.
			SURF. EL:	
0			Dark gray Fine SAND with roots (SP) (A-3)	
			Brownish-gray Fine SAND (SP) (A-3)	
			Dark brown Fine SAND with finely divided organic material and roots (SP) (A-3)	
			Dark reddish-brown Fine SAND with trace of cemented sand (SP) (A-3)	
5			Light brown slightly silty Fine SAND with cemented sand (SP-SM) (A-3)	4/19/22
			Light brown silty Fine SAND with cemented sand (SM) (A-2-4)	
			Hard gray and light brown sandy CLAY (CL) (A-7-6)	6/20/20
10			Very stiff greenish-gray sandy CLAY with seams of light tan Fine SAND (CH/SP) (A-7-6/A-3)	7/8/12
			Medium dense gray and light brown phosphatic, clayey Fine SAND (SC) (A-2-6)	6/6/9
15			Loose gray and light brown phosphatic, silty, slightly clayey Fine SAND (SM) (A-2-4)	2/2/4
			Very dense greenish-gray and light brown phosphatic, clayey Fine SAND with trace of cemented clay fragments (SC) (A-2-6)	34/50*
20				
25				
30				

STANDARD PENETRATION TEST BLOWS/FT. ON 2" O.D. SAMPLER-140 LB. HAMMER, 30" DROP

10 20 40 60 80



Remarks Borehole Grouted

Casing Length _____

HAND AUGER BORING LOGS

DRIGGERS ENGINEERING SERVICES INCORPORATED

HAND AUGER BORING LOG

PROJECT:	Pavement & Drainage Area Investigation Erie Road & 69th Street East Manatee County, Florida Project No.: DES 106525	**CLIENT:** Manatee County	
		WATER TABLE: 1.3'	**DATE:** 4/7/10
TECHNICIAN: M.J.		**DATE:** 4/7/10	**COMPLETION DEPTH:** 4.2' *
LOCATION: See Plate I		**TEST NUMBER:** HA-1	

ELEV. (FT)	DESCRIPTION	DEPTH (FT)	SYMBOL	REMARKS
	Dark gray and brownish-gray Fine SAND with roots (SP) (A-3)	0		
	Gray Fine SAND (SP) (A-3)	1		
		2		
	Dark brown slightly organic, slightly silty Fine SAND with roots (SP-SM) (A-3)			
	Orangish-brown Fine SAND (SP) (A-3)	3		
	Light brown silty Fine SAND with trace of cemented sand (SM) (A-2-4)	4		
	Gray cemented, sandy CLAY (CL) (A-7-6)			* Could not penetrate below depth 4.2' due to cementation.
		5		
		6		
		7		

DRIGGERS ENGINEERING SERVICES INCORPORATED

HAND AUGER BORING LOG

PROJECT: Pavement & Drainage Area Investigation Erie Road & 69th Street East Manatee County, Florida Project No.: DES 106525		**CLIENT:** Manatee County	
		WATER TABLE: 1.4'	**DATE:** 4/7/10
TECHNICIAN: M.J.		**DATE:** 4/7/10	**COMPLETION DEPTH:** 5.0' *
LOCATION: See Plate I		**TEST NUMBER:** HA-2	

ELEV. (FT)	DESCRIPTION	DEPTH (FT)	SYMBOL	REMARKS
	Dark gray slightly organic Fine SAND with roots (SP) (A-3)	0		
		1		
	Gray Fine SAND (SP) (A-3)	2		
	Dark brown Fine SAND with finely divided organic material (SP) (A-3)	3		
	Brown and light brown Fine SAND with trace of roots (SP) (A-3)	4		
	Light brown sandy CLAY (CL) (A-7-6)	5		* Could not penetrate below depth 5.0' due to cementation.
		6		
		7		

DRIGGERS ENGINEERING SERVICES INCORPORATED

HAND AUGER BORING LOG

PROJECT: Pavement & Drainage Area Investigation Erie Road & 69th Street East Manatee County, Florida Project No.: DES 106525		**CLIENT:** Manatee County	
		WATER TABLE: 1.8'	**DATE:** 4/7/10
TECHNICIAN: M.J.		**DATE:** 4/7/10	**COMPLETION DEPTH:** 6.0'
LOCATION: See Plate I		**TEST NUMBER:** HA-3	

ELEV. (FT)	DESCRIPTION	DEPTH (FT)	SYMBOL	REMARKS
	Dark gray slightly organic Fine SAND with roots (SP) (A-3)	0		
	Gray Fine SAND (SP) (A-3)	1		
	Dark brown slightly organic Fine SAND (SP) (A-3)	2		
	Dark reddish-brown Fine SAND (SP) (A-3)	3		
	Light brown Fine SAND with trace of cemented sand (SP) (A-3)	4		
	Greenish-gray and light brown sandy CLAY (CL) (A-7-6)	5		
		6		
		7		

DRIGGERS ENGINEERING SERVICES INCORPORATED

HAND AUGER BORING LOG

PROJECT: Pavement & Drainage Area Investigation Erie Road & 69th Street East Manatee County, Florida Project No.: DES 106525	**CLIENT:** Manatee County
	WATER TABLE: 2.4' — **DATE:** 4/5/10
TECHNICIAN: C.O.	**DATE:** 4/5/10 — **COMPLETION DEPTH:** 6.0'
LOCATION: See Plate I	**TEST NUMBER:** HA-4

ELEV. (FT)	DESCRIPTION	DEPTH (FT)	SYMBOL	REMARKS
	Dark brown Fine SAND with roots (SP) (A-3)	0		
	Brownish-gray and light brown Fine SAND with trace of roots (SP) (A-3)	1		
	Dark gray slightly organic, slightly silty Fine SAND with trace of roots (SP-SM) (A-3)			
	Dark gray Fine SAND (SP) (A-3)	2		
		3		
	Dark brown Fine SAND with finely divided organic material (SP) (A-3)	4		
	Dark brown Fine SAND (SP) (A-3)			
	Orangish-brown Fine SAND (SP) (A-3)	5		
		6		
		7		

DRIGGERS ENGINEERING SERVICES INCORPORATED

HAND AUGER BORING LOG

PROJECT:	Pavement & Drainage Area Investigation Erie Road & 69th Street East Manatee County, Florida Project No.: DES 106525	**CLIENT:** Manatee County	
		WATER TABLE: 2.4'	**DATE:** 4/5/10
TECHNICIAN: C.O.		**DATE:** 4/5/10	**COMPLETION DEPTH:** 6.0'
LOCATION: See Plate I		**TEST NUMBER:** HA-5	

ELEV. (FT)	DESCRIPTION	DEPTH (FT)	SYMBOL	REMARKS
	Dark gray slightly organic Fine SAND with roots (SP) (A-3)	0		
	Brownish-gray Fine SAND (SP) (A-3)	1		
		2		
	Dark brown Fine SAND with finely divided organic material and trace of roots (SP) (A-3)	3		
	Dark reddish-brown Fine SAND with trace of roots (SP) (A-3)	4		
	Light brown and brown Fine SAND with cemented sand (SP) (A-3)	5		
	Brownish-gray and light brown clayey Fine SAND (SC) (A-2-6)	6		
		7		

DRIGGERS ENGINEERING SERVICES INCORPORATED

HAND AUGER BORING LOG

PROJECT:	Pavement & Drainage Area Investigation Erie Road & 69th Street East Manatee County, Florida Project No.: DES 106525	**CLIENT:**	Manatee County
		WATER TABLE:	5.0'
		DATE:	4/7/10
TECHNICIAN:	S.F.	**DATE:**	4/7/10
		COMPLETION DEPTH:	6.0'
LOCATION:	See Plate I	**TEST NUMBER:**	HA-6

ELEV. (FT)	DESCRIPTION	DEPTH (FT)	SYMBOL	REMARKS
	Dark brownish-gray Fine SAND with roots (SP) (A-3)	0		
		1		
	Brownish-gray slightly silty Fine SAND (SP-SM) (A-3)	2		
		3		
	Dark gray slightly silty Fine SAND with shell fragments (SP-SM) (A-3)	4		
	Brown and light brown Fine SAND (SP) (A-3)	5		
	Dark brown and gray slightly silty Fine SAND (SP-SM) (A-3)	6		
		7		

DRIGGERS ENGINEERING SERVICES INCORPORATED

HAND AUGER BORING LOG

PROJECT: Pavement & Drainage Area Investigation Erie Road & 69th Street East Manatee County, Florida Project No.: DES 106525		**CLIENT:** Manatee County	
		WATER TABLE: 3.8'	**DATE:** 4/9/10
TECHNICIAN: R.J.		**DATE:** 4/9/10	**COMPLETION DEPTH:** 4.2'
LOCATION: See Plate I		**TEST NUMBER:** HA-7	

ELEV. (FT)	DESCRIPTION	DEPTH (FT)	SYMBOL	REMARKS
	Dark gray slightly organic Fine SAND with roots (SP) (A-3)	0		
	Light gray Fine SAND (SP) (A-3)	1		
	Dark gray to brown slightly silty Fine SAND (SP-SM) (A-3)	2		
	Brown to light brown Fine SAND (SP) (A-3)	3		
	Brown silty to clayey Fine SAND with trace of rock fragments (SM-SC) (A-2-4/A-2-6)			
	Light brown clayey Fine SAND (SC) (A-2-6)	4		
		5		
		6		
		7		

SUMMARY OF LABORATORY TEST RESULTS

SUMMARY OF LABORATORY TEST RESULTS

BORING NO.	DEPTH (ft)	DESCRIPTION	W %	Y_d (pcf)	G_s	ATTERBERG LIMITS			P.P. (tsf)	U.C.	CON.	G.S.	ORG. (%)	pH	Cl. (ppm)	SO_4 (ppm)	RES. (Ohm-cm)
						LL	PL	SL									
B-1	4.0-5.5	Gray and light brown clayey Fine SAND	17.7			35	17					** 29.5					
B-2	8.0-9.5	Gray and light brown sandy CLAY	14.1			46	34										
HA-1	2.0-2.5	Dark brown slightly organic, slightly silty Fine SAND with roots										*	4.7				
HA-3	1.0-2.0	Gray Fine SAND										*					
HA-4	0.9-1.3	Dark gray slightly organic, slightly silty Fine SAND with trace of roots										*	3.0				
HA-6	1.3-3.4	Brownish-gray slightly silty Fine SAND										*					
DRI-1	0.5	Dark gray and light gray slightly organic Fine SAND with roots										*					
DRI-2	1.1	Brownish-gray Fine SAND										*					
DRI-3	0.7	Gray Fine SAND										*					

W % = Water Content
Y_d (pcf) = Dry Density
G_S = Specific Gravity
LL = Liquid Limit
PL = Plastic Limit
SL = Shrinkage Limit
P.P. (tsf) = Pocket Penetrometer
U.C. = Unconfined Compression

Con. = Consolidation Test
G.S. (+1) = Grainsize Analysis (Hydrometer)
ORG. (%) = Organic Content
Cl. (ppm) = Total Chloride
SO_4 (ppm) = Total Sulfate
RES. (ohm-cm) = Lab Resistivity
* = See Test Curves
** = Percent Passing No. 200 Sieve

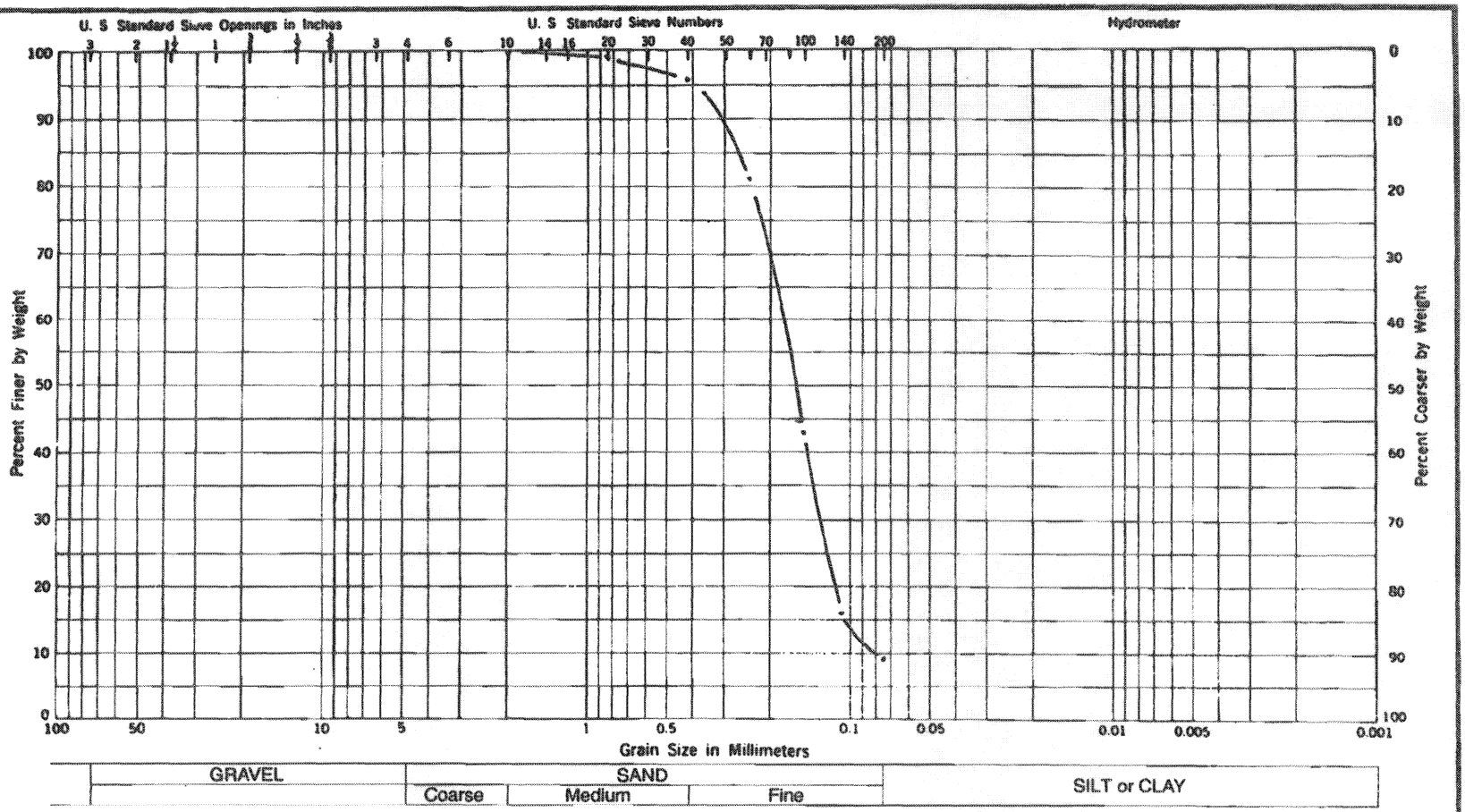
CLIENT: Manatee County

PROJECT: Pavement & Drainage Area Investigation, Erie Road & 69th Street East, Manatee County, FL

FILE: DES 106525

GRAINSIZE ANALYSES

DRIGGERS ENGINEERING SERVICES, INC.



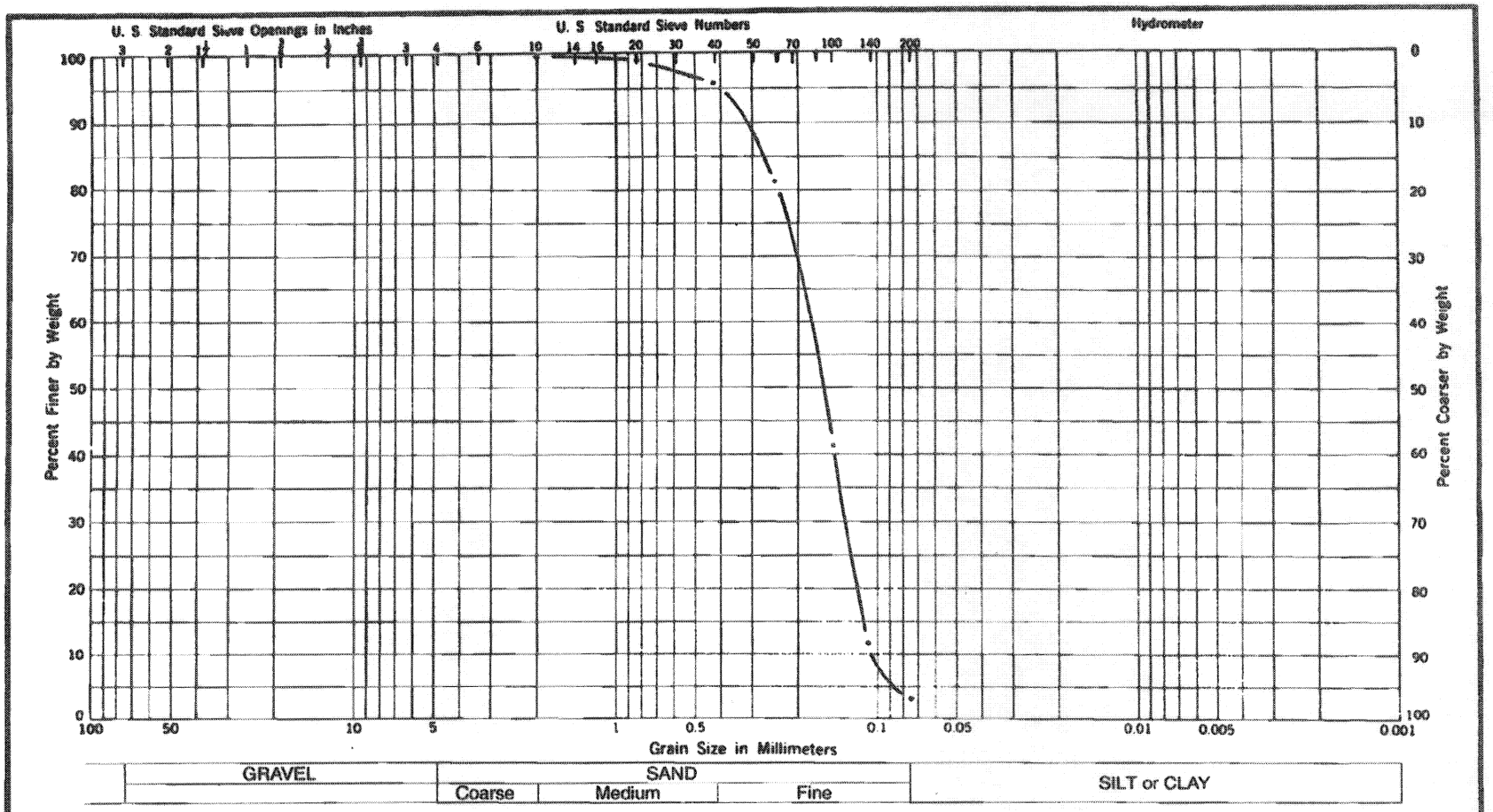
Number	Depth	Natural Moisture	L. L.	P. L.	P. I.	Classification
HA-1	2.0' - 2.5'					Dark brown slightly organic, slightly silty Fine SAND with roots

CLIENT: Manatee County

PROJECT: Pavement & Drainage Area Investigation, Erie Road & 69th Street East, Manatee County, FL

FILE: DES 106525

DRIGGERS ENGINEERING SERVICES, INC.



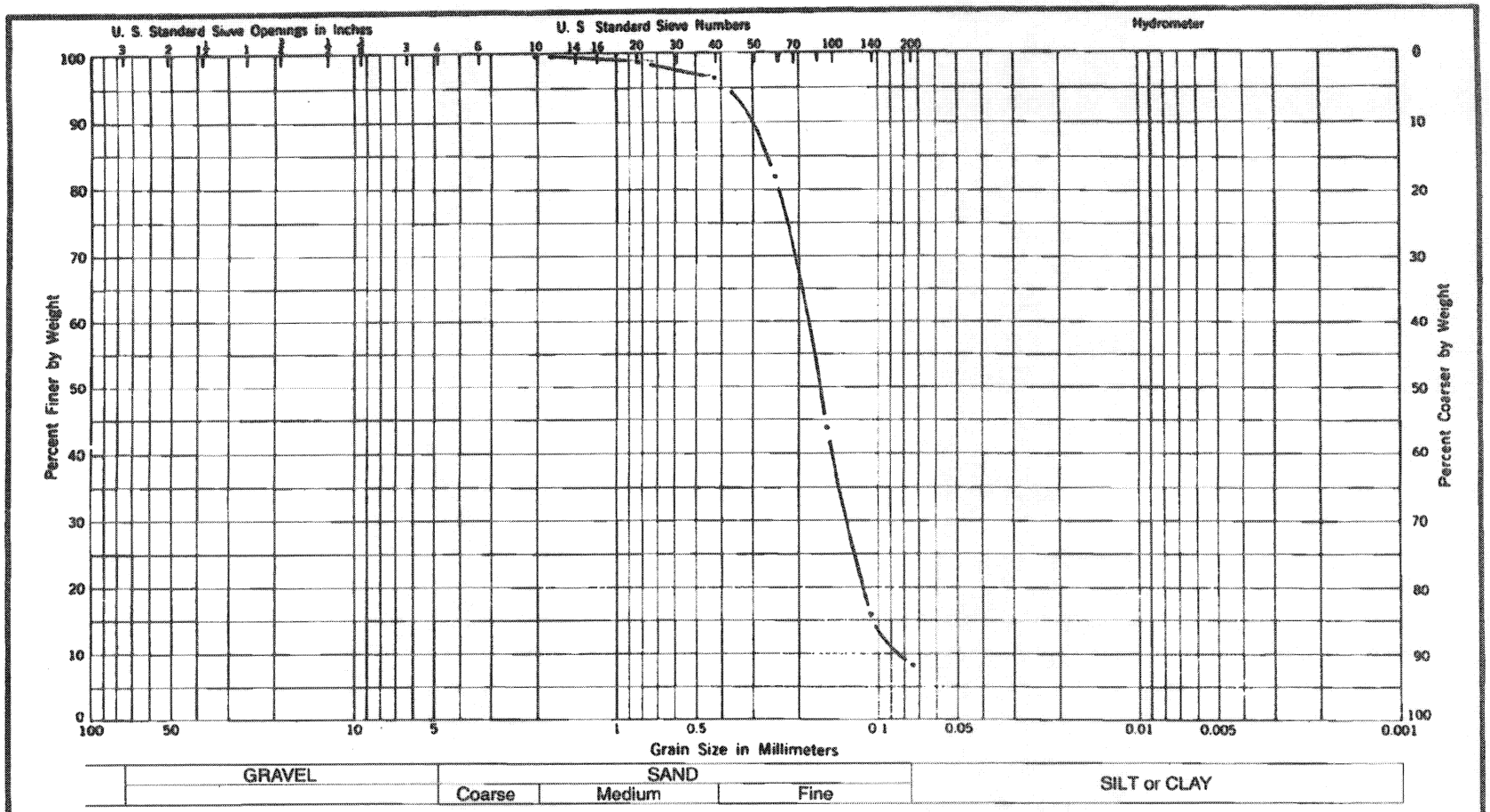
Number	Depth	Natural Moisture	L. L.	P. L.	P. I.	Classification
HA-3	1.0' - 2.0'					Gray Fine SAND

CLIENT: Manatee County

PROJECT: Pavement & Drainage Area Investigation, Erie Road & 69th Street East, Manatee County, FL

FILE: DES 106525

DRIGGERS ENGINEERING SERVICES, INC.



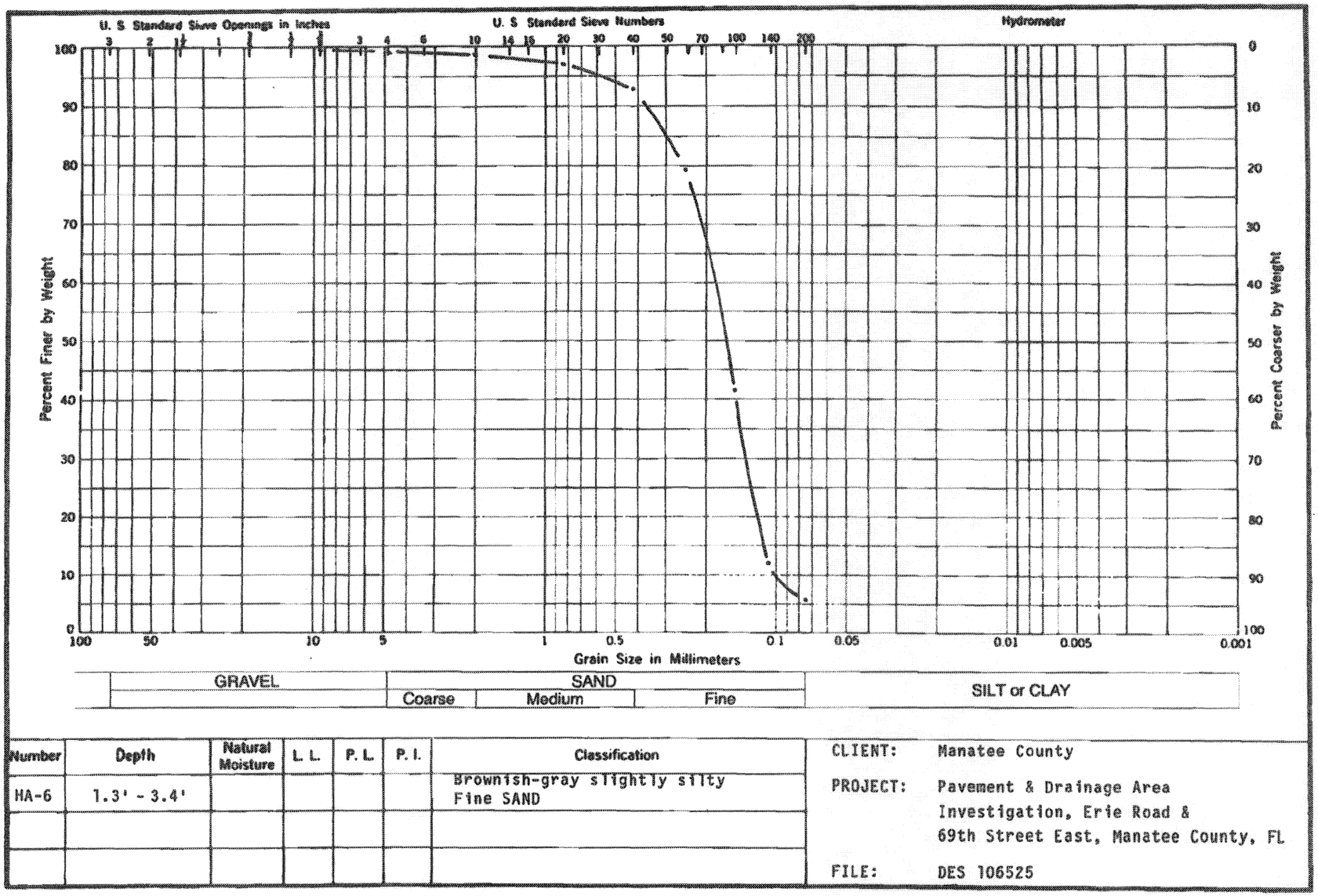
Number	Depth	Natural Moisture	L. L.	P. L.	P. I.	Classification
HA-4	0.9' - 1.3'					Dark gray slightly organic, slightly silty Fine SAND with trace of roots

CLIENT: Manatee County

PROJECT: Pavement & Drainage Area Investigation, Erie Road & 69th Street East, Manatee County, FL

FILE: DES 106525

DRIGGERS ENGINEERING SERVICES, INC.



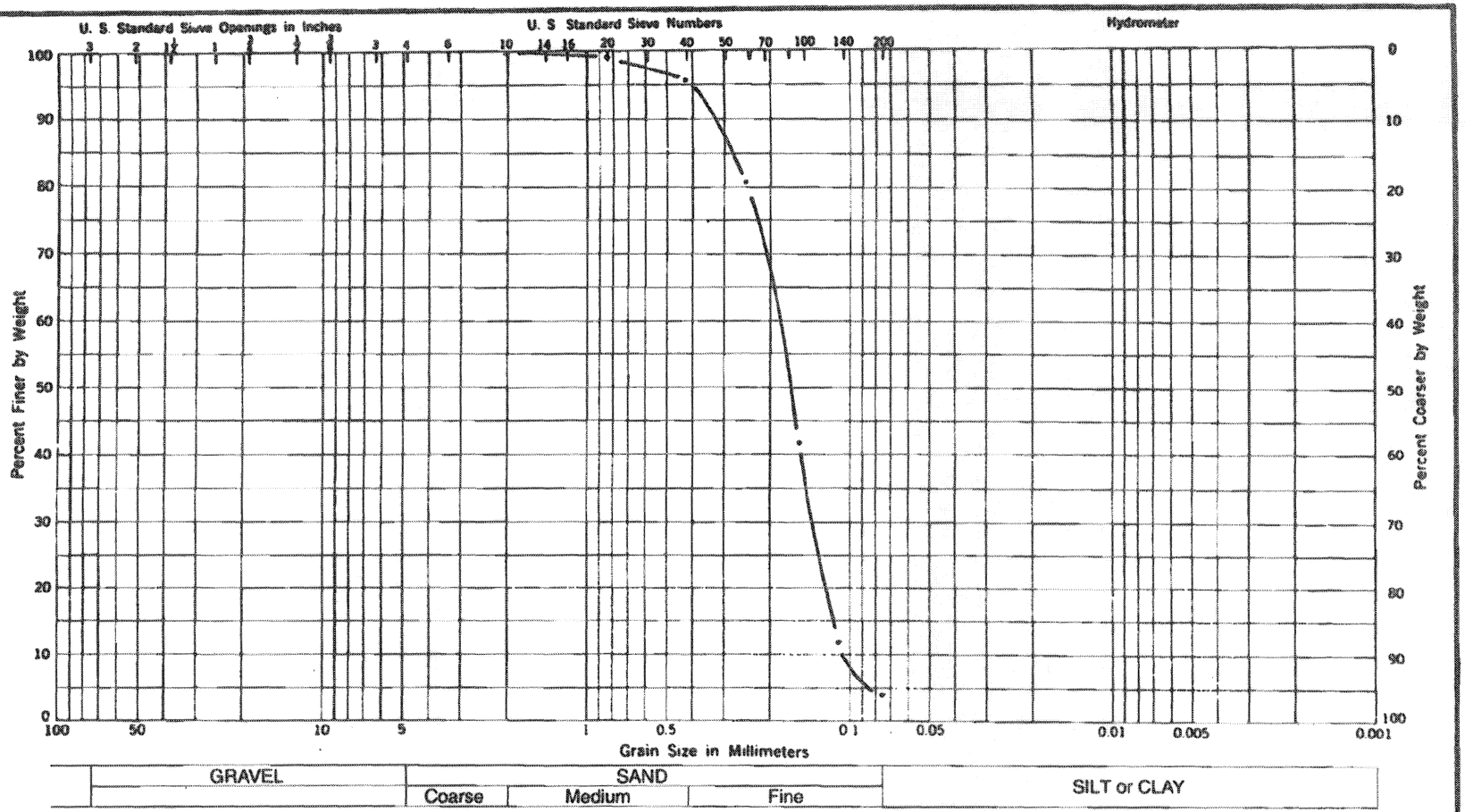
Number	Depth	Natural Moisture	L. L.	P. L.	P. I.	Classification
HA-6	1.3' - 3.4'					Brownish-gray slightly silty Fine SAND

CLIENT: Manatee County

PROJECT: Pavement & Drainage Area Investigation, Erie Road & 69th Street East, Manatee County, FL

FILE: DES 106525

DRIGGERS ENGINEERING SERVICES, INC.



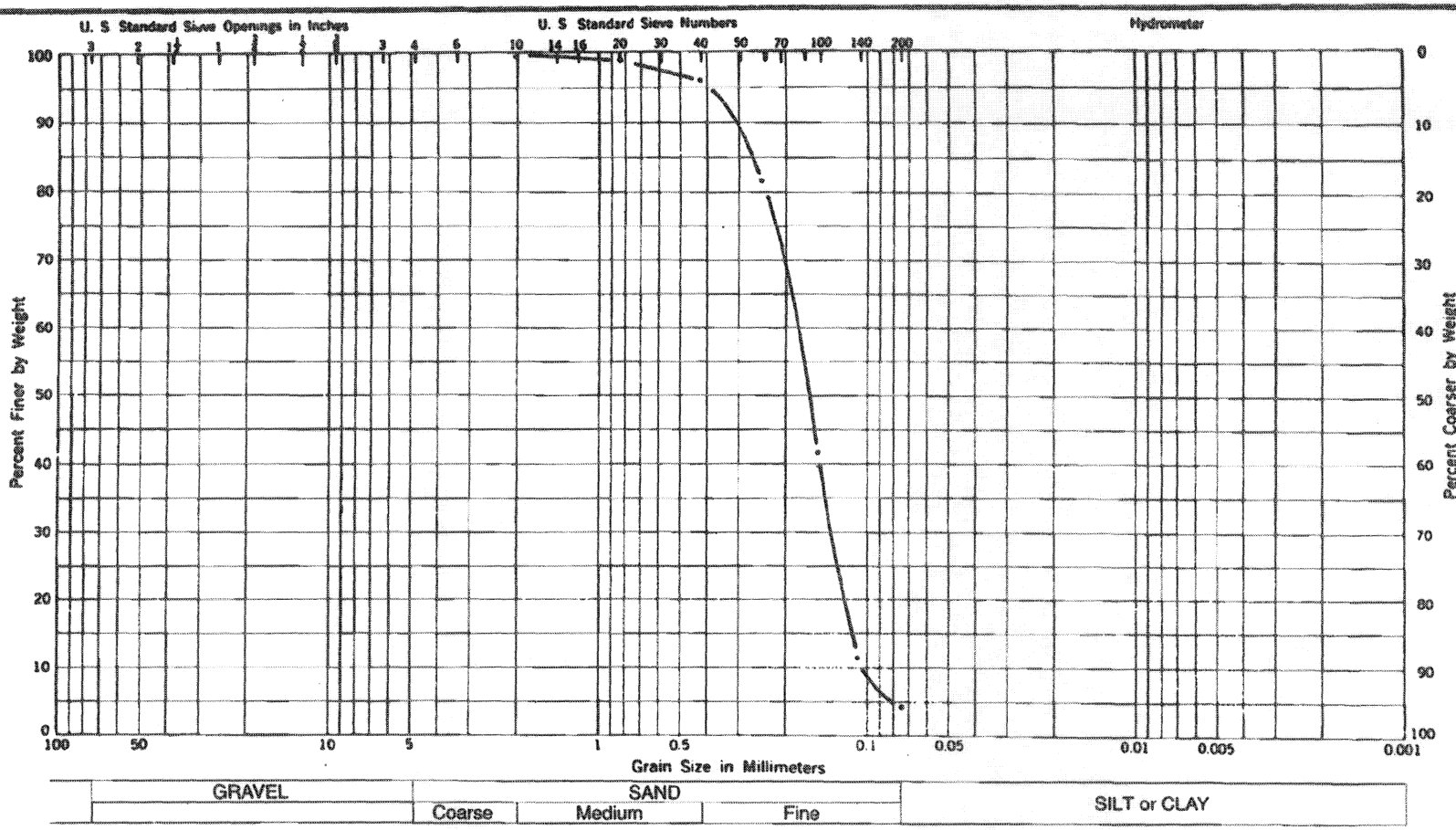
Number	Depth	Natural Moisture	L. L.	P. L.	P. I.	Classification
DRI-1	0.5'					Light gray and dark gray Fine SAND

CLIENT: Manatee County

PROJECT: Pavement & Drainage Area Investigation, Erie Road & 69th Street East, Manatee County, FL

FILE: DES 106525

DRIGGERS ENGINEERING SERVICES, INC.



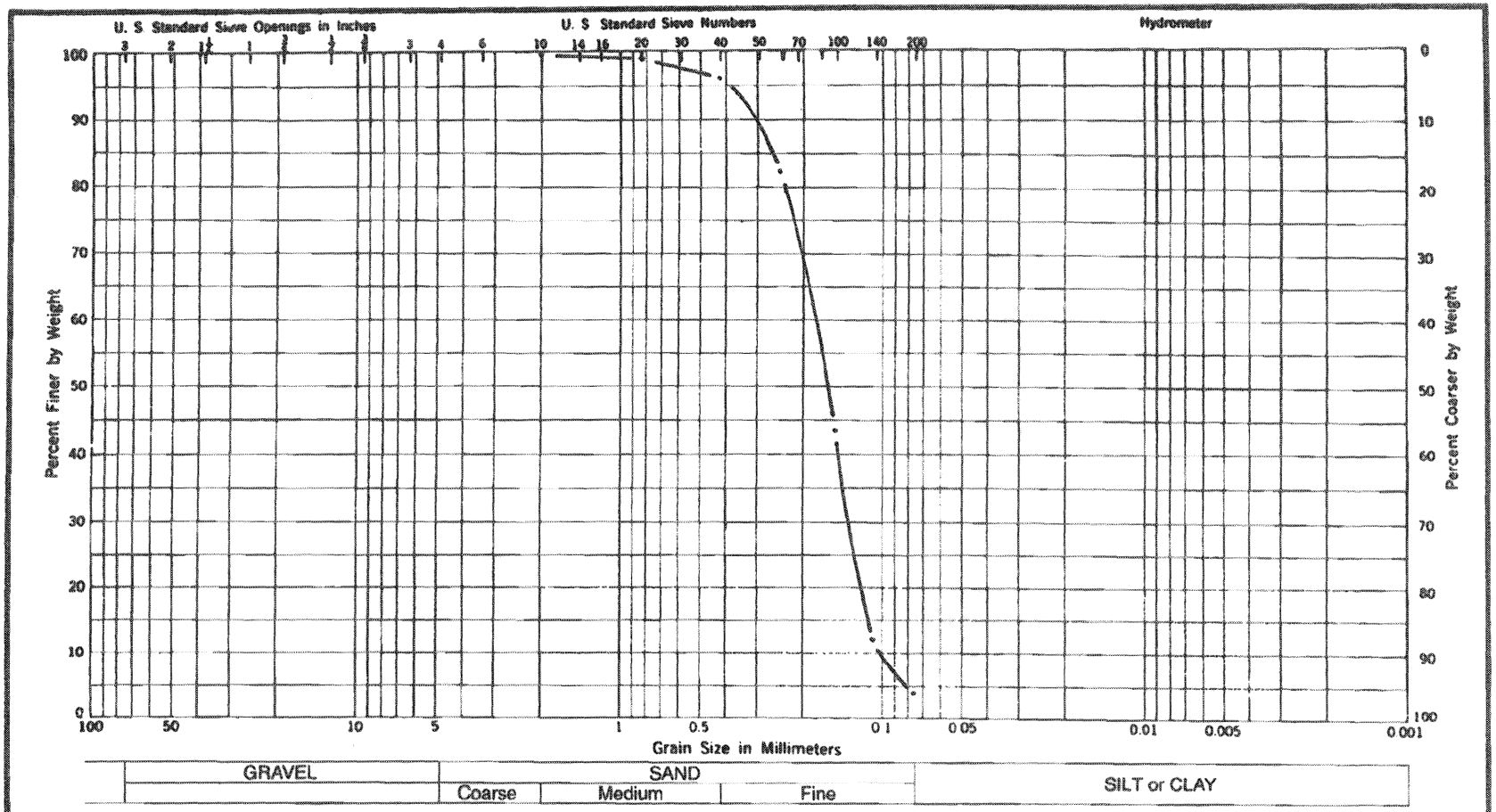
Number	Depth	Natural Moisture	L. L.	P. L.	P. I.	Classification
DRI-2	1.1'					Gray Fine SAND

CLIENT: Manatee County

PROJECT: Pavement & Drainage Area Investigation, Erie Road & 69th Street East, Manatee County, FL

FILE: DES 106525

DRIGGERS ENGINEERING SERVICES, INC.



Number	Depth	Natural Moisture	L. L.	P. L.	P. I.	Classification
DRI-3	0.7'					Gray Fine SAND with trace of roots

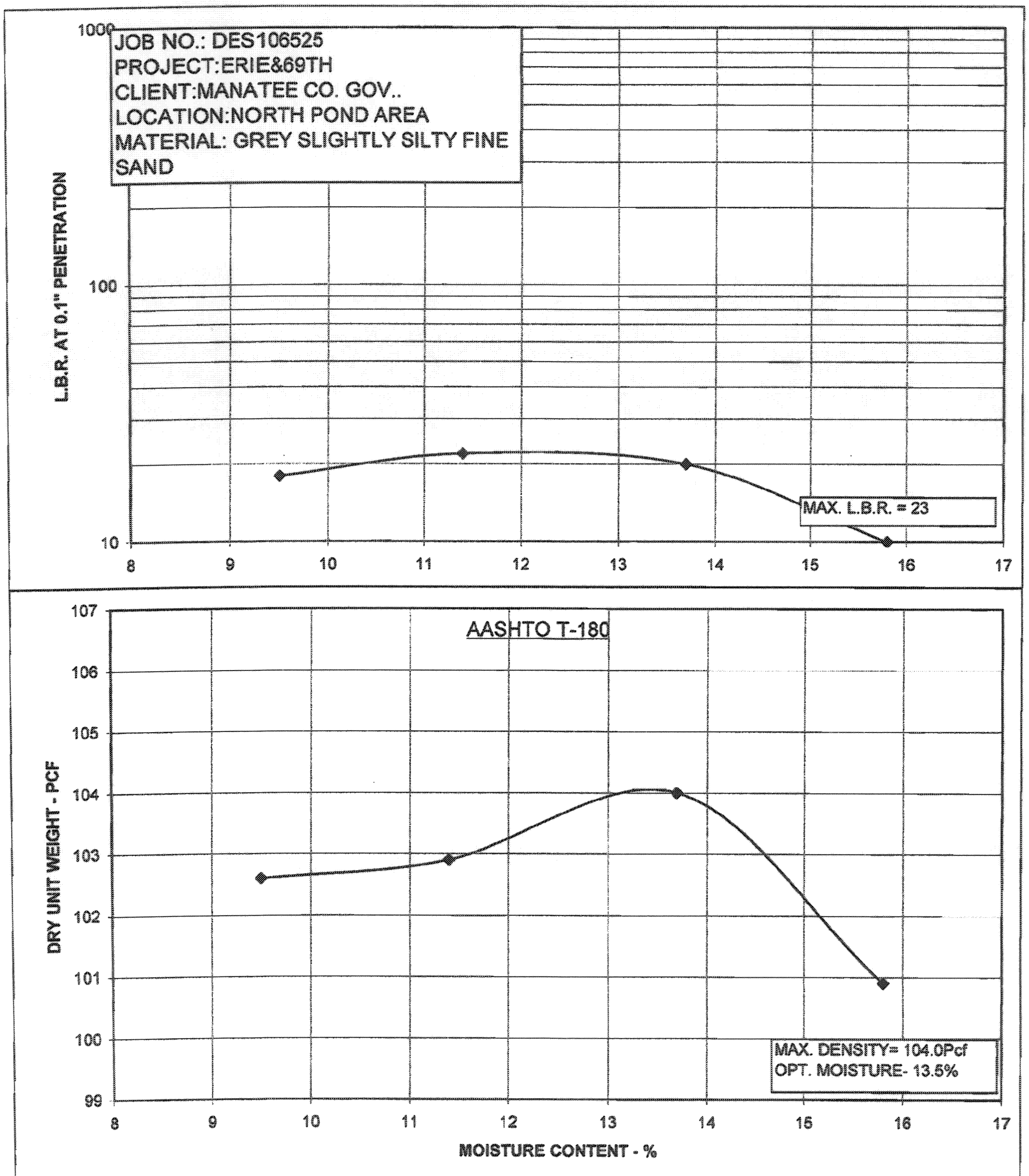
CLIENT: Manatee County

PROJECT: Pavement & Drainage Area Investigation, Erie Road & 69th Street East, Manatee County, FL

FILE: DES 106525

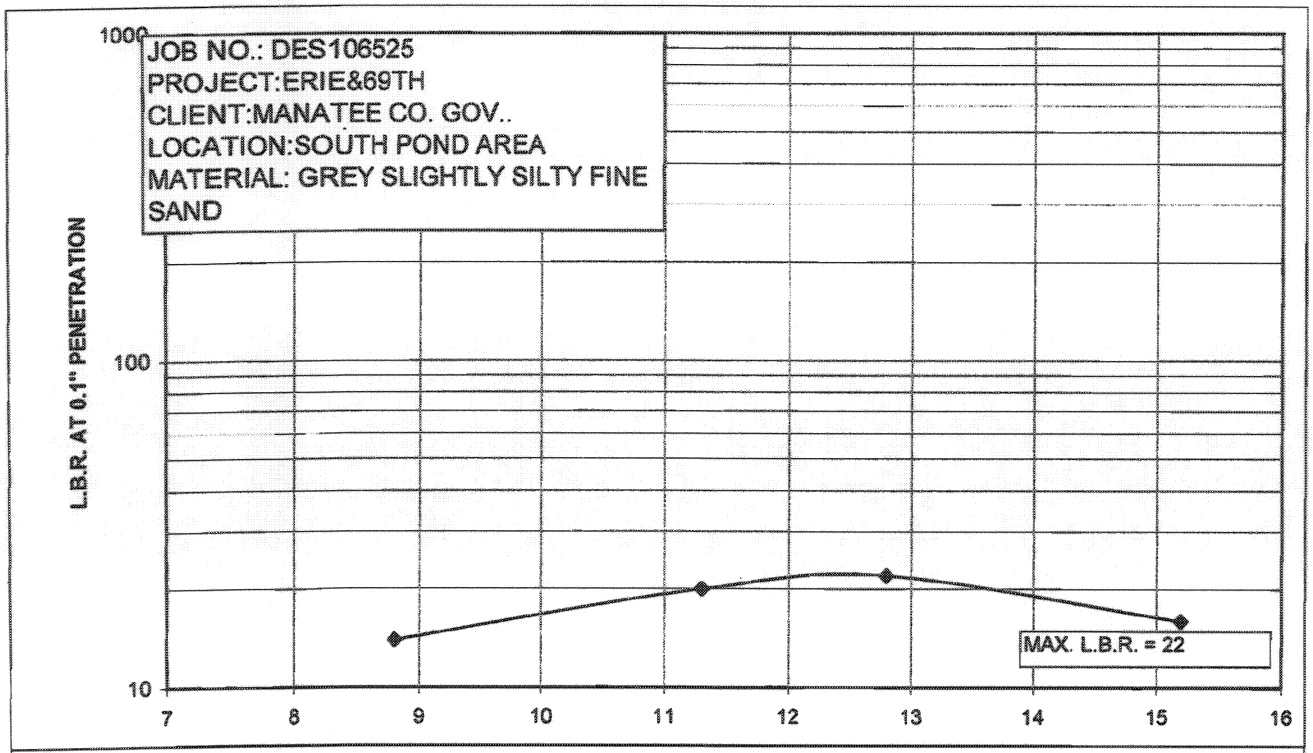
RESULTS OF LIMEROCK BEARING RATIO (LBR) TESTING

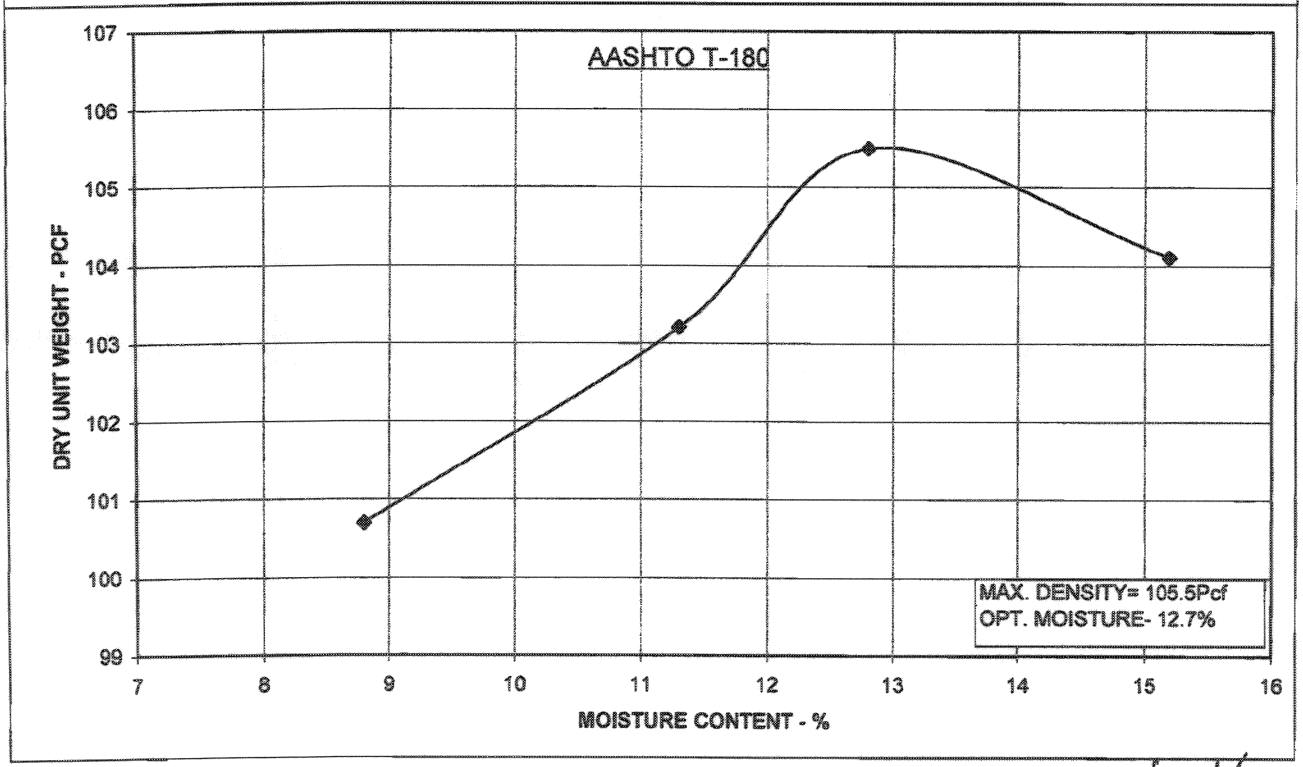
LIMEROCK BEARING RATIO



By: Construction Services Manager

LIMEROCK BEARING RATIO





By: _____
Construction Services Manager

RESULTS OF DOUBLE RING INFILTRATION (DRI) TESTING

DOUBLE RING INFILTRATION TEST

Job No: DES 106525 **Test No.** DRI - 1 **Date:** 4/5/2010

Client : Manatee County

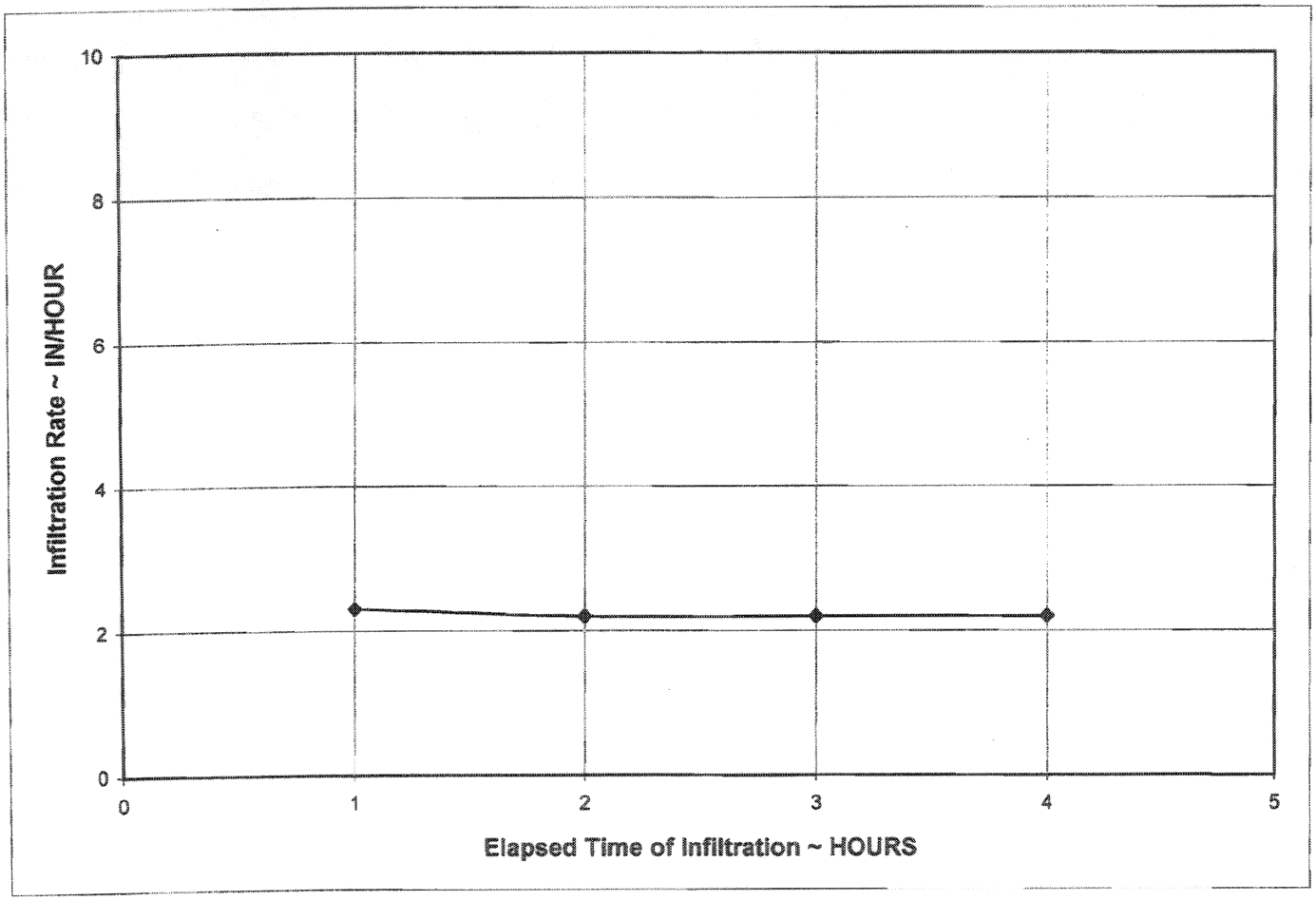
Project: Erie Road & 69th Street Intersection, Manatee County, Florida

Location: See Sketch

Test Depth: 0.5 ft. **Outer Cyl. Diam:** 24" **Inner Cyl. Diam:** 12"

Description of Soil at Test Depth: Dark & light gray slightly organic Fine SAND with roots

Depth of Groundwater Below Test Depth: 0.6 ft. **Infiltration Rate:** 2.2 In/Hr



TEST PROCEDURE: The test was conducted in general accordance with ASTM D 3385-75. A seven (7") inch hydraulic head was utilized. The infiltration rate was determined at selected time intervals by recording the time for a 1 inch drop in water level. The seven (7") inch head was then re-established until the next test interval. The test was continued (minimum 4 hours) until stability was achieved and the infiltration rate did not vary in excess of 5% between successive one (1) hour measurements. Readings were recorded at intervals not exceeding 30 minutes. The plotted infiltration rate above represents the average of all observations during each hour interval.

Technician: M. J. **Reviewed by:** Nicholas T. Kroeski

DRIGGERS ENGINEERING SERVICES INCORPORATED

HAND AUGER BORING LOG

PROJECT:	Pavement & Drainage Area Investigation Erie Road & 69th Street East Manatee County, Florida Project No.: DES 106525	**CLIENT:**	Manatee County
		WATER TABLE:	1.1'
		DATE:	4/5/10
TECHNICIAN:	M.B.	**DATE:**	4/5/10
		COMPLETION DEPTH:	5.5' *
LOCATION:	See Plate I	**TEST NUMBER:**	DRI-1

ELEV. (FT)	DESCRIPTION	DEPTH (FT)	SYMBOL	REMARKS
	Dark gray and light gray slightly organic Fine SAND with roots (SP) (A-3)	0		
	Gray Fine SAND (SP) (A-3)	2		
	Dark gray slightly organic Fine SAND with roots (SP) (A-3)	4		
	Light brown Fine SAND (SP) (A-3)			
	Gray and brown clayey Fine SAND (SC) (A-2-6)	6		* Could not penetrate below depth 5.5' due to clayey Fine SAND.
		8		
		10		
		12		
		14		

DOUBLE RING INFILTRATION TEST

Job No: DES 106525 **Test No.** DRI - 2 **Date:** 4/5/2010

Client : Manatee County

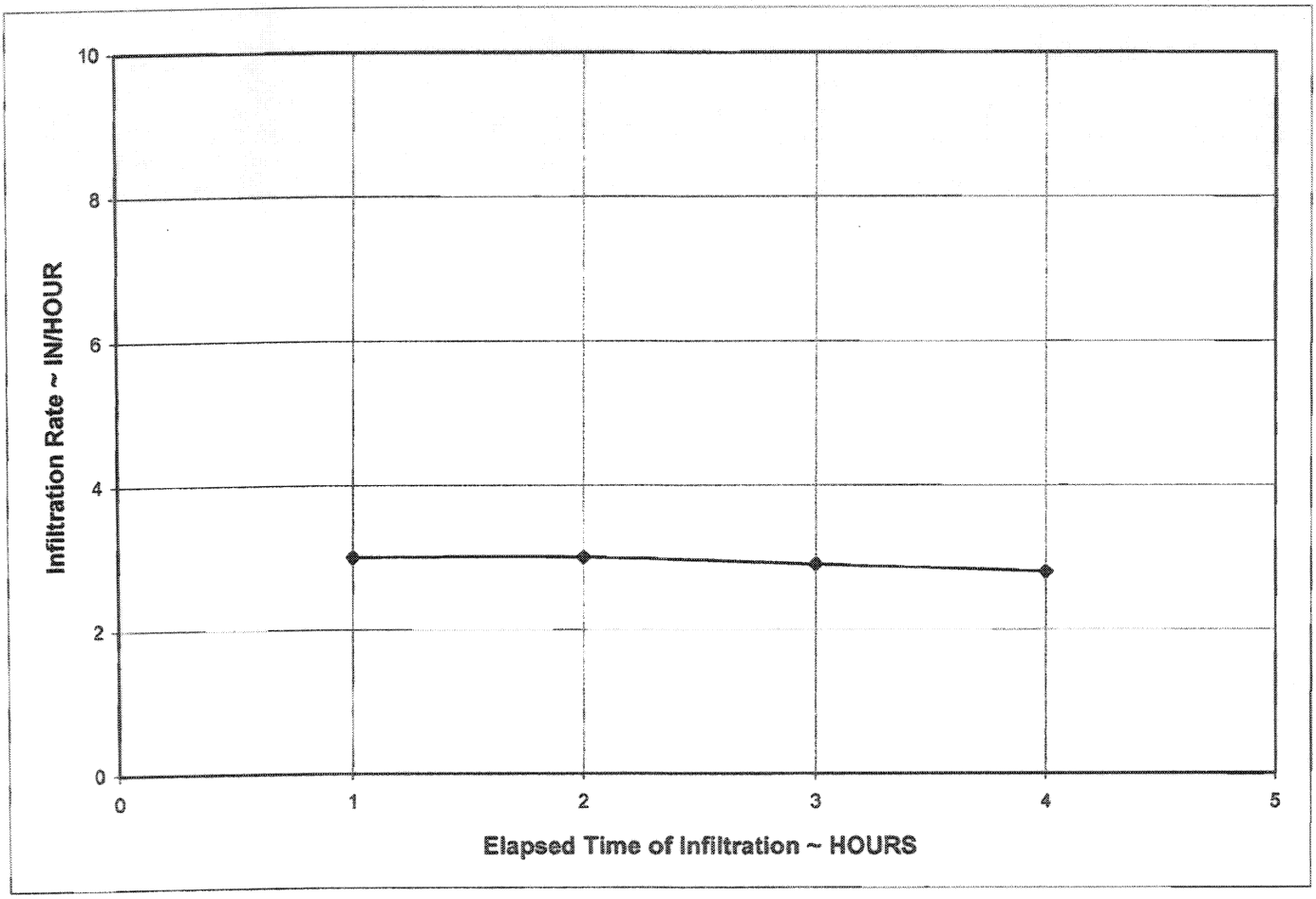
Project: Erie Road & 69th Street Intersection, Manatee County, Florida

Location: See Sketch

Test Depth: 1.1 ft. **Outer Cyl. Diam:** 24" **Inner Cyl. Diam:** 12"

Description of Soil at Test Depth: Brownish-gray Fine SAND

Depth of Groundwater Below Test Depth: 0.6 ft. **Infiltration Rate:** 2.8 In/Hr



TEST PROCEDURE: The test was conducted in general accordance with ASTM D 3385-75. A seven (7") inch hydraulic head was utilized. The infiltration rate was determined at selected time intervals by recording the time for a 1 inch drop in water level. The seven (7") inch head was then re-established until the next test interval. The test was continued (minimum 4 hours) until stability was achieved and the infiltration rate did not vary in excess of 5% between successive one (1) hour measurements. Readings were recorded at intervals not exceeding 30 minutes. The plotted infiltration rate above represents the average of all observations during each hour interval.

Technician: T. O. **Reviewed by:** Nicholas T. Korecki

DRIGGERS ENGINEERING SERVICES INCORPORATED

HAND AUGER BORING LOG

PROJECT: Pavement & Drainage Area Investigation Erie Road & 69th Street East Manatee County, Florida Project No.: DES 106525	**CLIENT:** Manatee County
	WATER TABLE: 1.7' — **DATE:** 4/5/10
TECHNICIAN: C.O.	**DATE:** 4/5/10 — **COMPLETION DEPTH:** 8.0'
LOCATION: See Plate I	**TEST NUMBER:** DRI-2

ELEV. (FT)	DESCRIPTION	DEPTH (FT)	SYMBOL	REMARKS
	Dark gray slightly organic Fine SAND with roots (SP) (A-3)	0		
	Dark gray Fine SAND (SP) (A-3)			
	Brownish-gray Fine SAND (SP) (A-3)	2		
	Dark brown Fine SAND with finely divided organic material and trace of roots (SP) (A-3)			
	Orangish-brown and brown Fine SAND with trace of roots (SP) (A-3)	4		
	Light brown clayey Fine SAND (SC) (A-2-6)			
	Brownish-gray sandy CLAY with rust colored veins (CH) (A-7-6)	6		
		8		
		10		
		12		
		14		

DOUBLE RING INFILTRATION TEST

Job No: DES 106525 **Test No.** DRI - 3 **Date:** 4/7/2010

Client : Manatee County

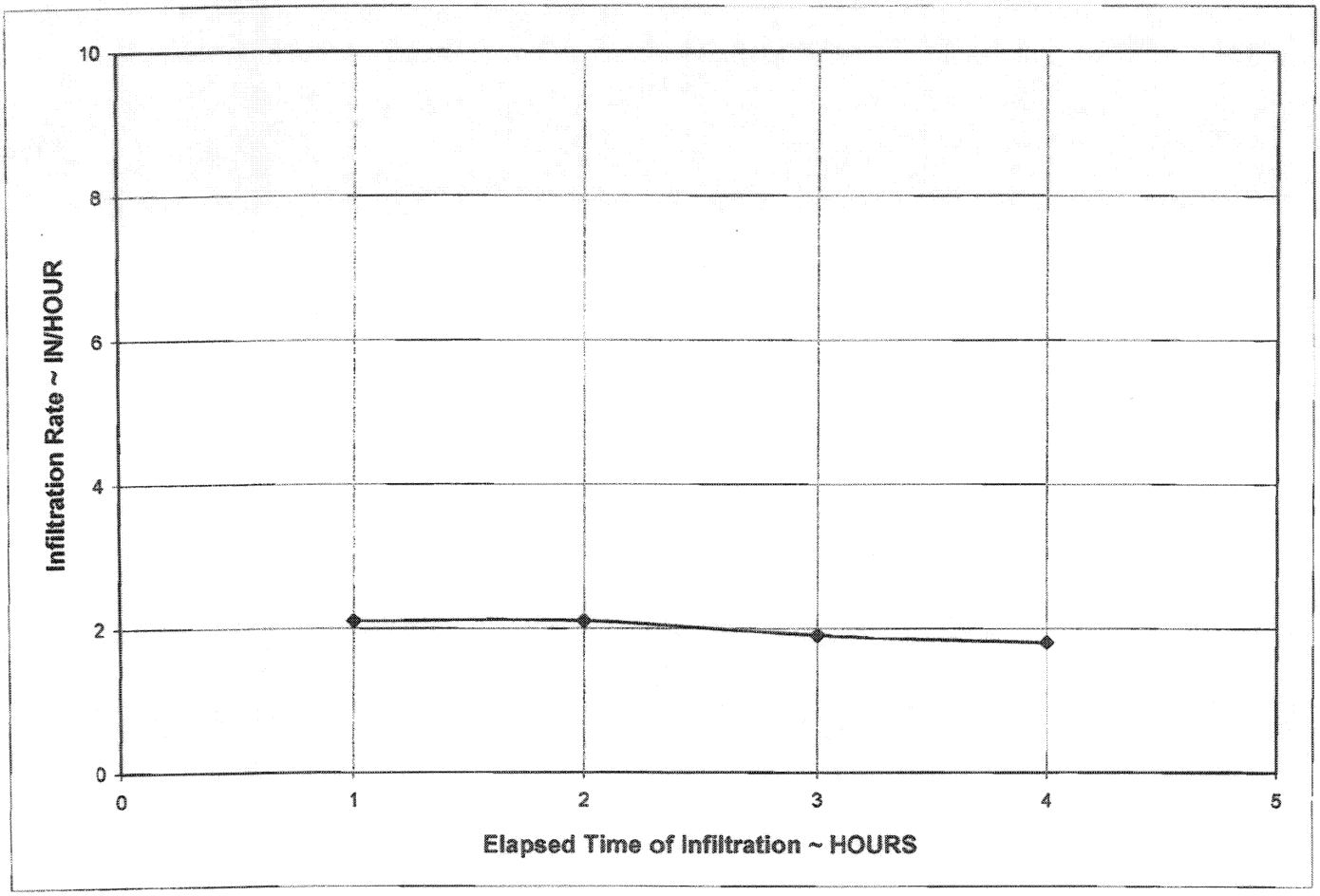
Project: Erie Road & 69th Street Intersection, Manatee County, Florida

Location: See Sketch

Test Depth: 0.7 ft. **Outer Cyl. Diam:** 24" **Inner Cyl. Diam:** 12"

Description of Soil at Test Depth: Gray Fine SAND

Depth of Groundwater Below Test Depth: 1.0 ft. **Infiltration Rate:** 1.8 In/Hr



TEST PROCEDURE: The test was conducted in general accordance with ASTM D 3385-75. A seven (7") inch hydraulic head was utilized. The infiltration rate was determined at selected time intervals by recording the time for a 1 inch drop in water level. The seven (7") inch head was then re-established until the next test interval. The test was continued (minimum 4 hours) until stability was achieved and the infiltration rate did not vary in excess of 5% between successive one (1) hour measurements. Readings were recorded at intervals not exceeding 30 minutes. The plotted infiltration rate above represents the average of all observations during each hour interval.

Technician: S. F. **Reviewed by:** Nicholas T. Koreski

DRIGGERS ENGINEERING SERVICES INCORPORATED

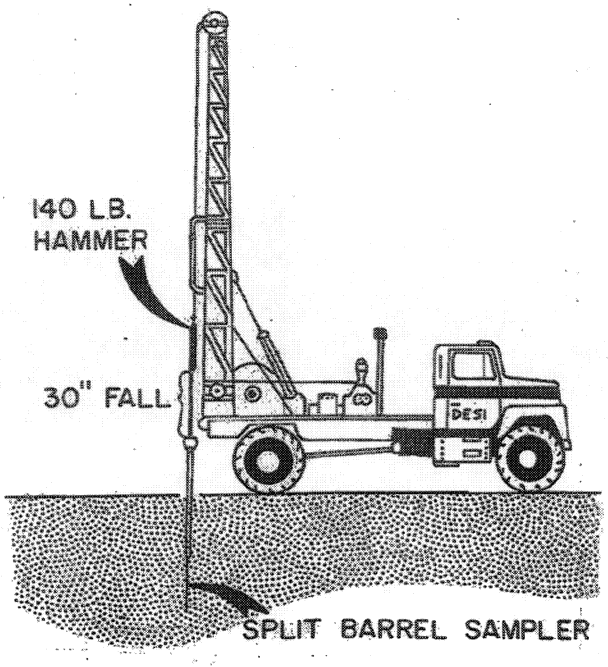
HAND AUGER BORING LOG

PROJECT: Pavement & Drainage Area Investigation Erie Road & 69th Street East Manatee County, Florida Project No.: DES 106525		**CLIENT:** Manatee County	
		WATER TABLE: 1.0'	**DATE:** 4/7/10
TECHNICIAN: C.O.		**DATE:** 4/7/10	**COMPLETION DEPTH:** 8.0'
LOCATION: See Plate I		**TEST NUMBER:** DRI-3	

ELEV. (FT)	DESCRIPTION	DEPTH (FT)	SYMBOL	REMARKS
	Dark brown slightly organic Fine SAND with roots (SP) (A-3)	0		
	Gray Fine SAND (SP) (A-3)			
	Light grayish-brown Fine SAND with trace of roots (SP) (A-3)	2		
	Dark brown slightly silty Fine SAND with finely divided organic material and trace of roots (SP-SM) (A-3)	4		
	Orangish-brown Fine SAND (SP) (A-3)			
	Light brown sandy CLAY with rust colored veins (CH) (A-7-6)	6		
	Greenish-gray and light brown sandy CLAY (CH) (A-7-6)	8		
		10		
		12		
		14		

METHOD OF TESTING

STANDARD PENETRATION TEST
AND
SOIL CLASSIFICATION

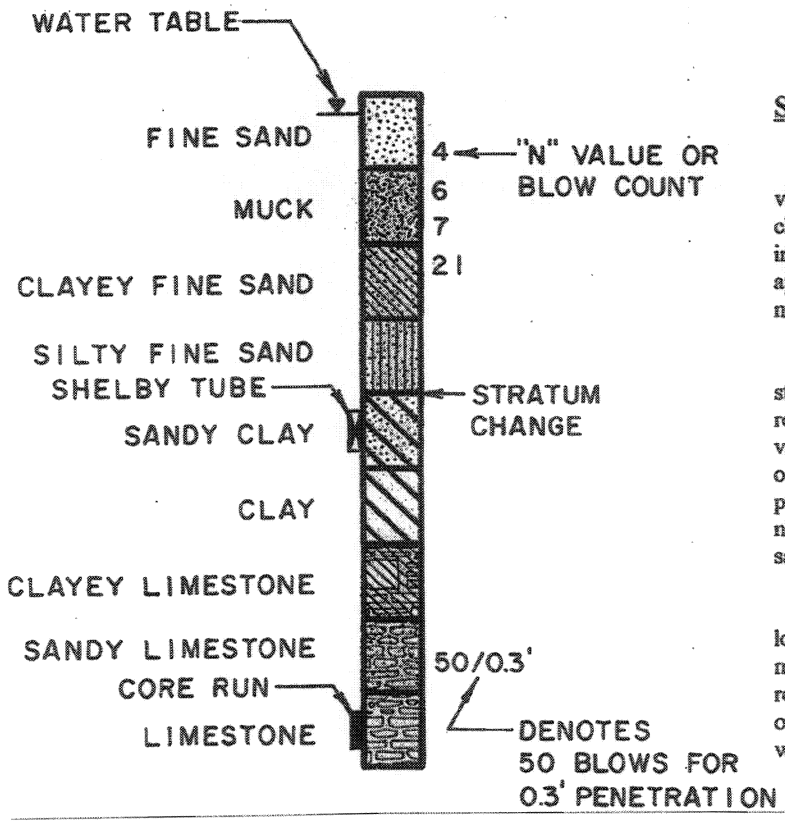


STANDARD PENETRATION TEST (ASTM D-1586)

In the Standard Penetration Test borings, a rotary drilling rig is used to advance the borehole to the desired test depth. A viscous drilling fluid is circulated through the drill rods and bit to stabilize the borehole and to assist in removal of soil and rock cuttings up and out of the borehole.

Upon reaching the desired test depth, the 2 inch O.D. split-barrel sampler or "split-spoon", as it is sometimes called, is attached to an N-size drill rod and lowered to the bottom of the borehole. A 140 pound hammer, attached to the drill string at the ground surface, is then used to drive the sampler into the formation. The hammer is successively raised and dropped for a distance of 30 inches using a rope and "cathead" assembly. The number of blows is recorded for each 6 inch interval of penetration or until virtual refusal is achieved. In the above manner, the samples are ideally advanced a total of 18 inches. The sum of the blows required to effect the final 12 inches of penetration is called the blowcount, penetration resistance of "N" value of the particular material at the sample depth.

After penetration, the rods and sampler are retracted to the ground surface where the core sample is removed, sealed in a glass jar and transported to the laboratory for verification of field classification and storage.



SOIL SYMBOLS AND CLASSIFICATION

Soil and rock samples secured in the field sampling operation were visually classified as to texture, color and consistency. Soil classifications are presented descriptively and symbolically for ease of interpretation. The stratum identification lines represent the approximate boundary between soil types. In many cases, this transition may be gradual.

Consistency of the soil as to relative density or undrained shear strength, unless otherwise noted, is based upon Standard Penetration resistance values of "N" values and industry-accepted standards. "N" values, or blowcounts, are presented in both tabular and graphical form on each respective boring log at each sample interval. The graphical plot of blowcount versus depth is for illustration purposes only and does not warrant continuity in soil consistency or linear variation between sample intervals.

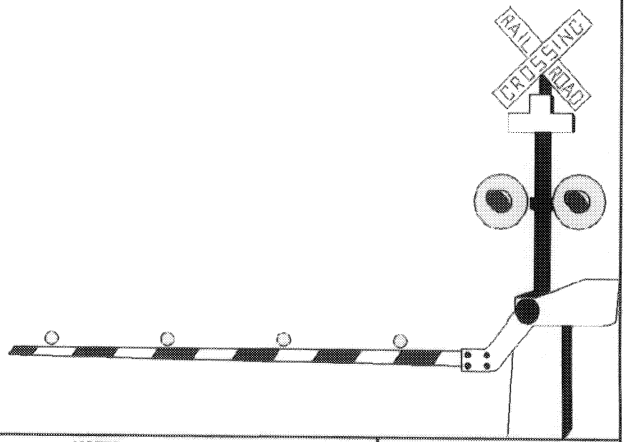
The borings represent subsurface conditions at respective boring locations and sample intervals only. Variations in subsurface conditions may occur between boring locations. Groundwater depths shown represent water depths at the dates and time shown only. The absence of water table information does not necessarily imply that groundwater was not encountered.

R.W. Summers Railroad Contractor, Inc, MBM Systems at Grade Railroad Crossing Specifications (5 Total Pages)
Attachment F

MBM SYSTEMS AT GRADE RAILROAD CROSSING SPECIFICATIONS

R.W. SUMMERS RAILROAD CONTRACTOR, INC.

TABLE OF CONTENTS



R. W. SUMMERS RAILROAD CONTRACTOR, INC.
5093 S. GANDY ROAD
BARTOW, FLORIDA 33830-8702
(863) 533-8107
FAX (863) 533-6100
Quality Railroad Construction and Maintenance Specialists

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

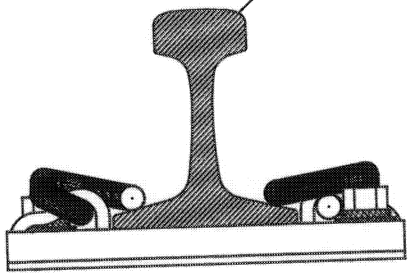
R. W. Summers Railroad Contractor, Inc.

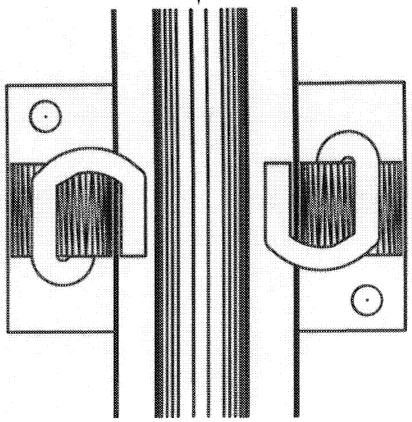
Drawing Title: MBM SYSTEMS CROSSING

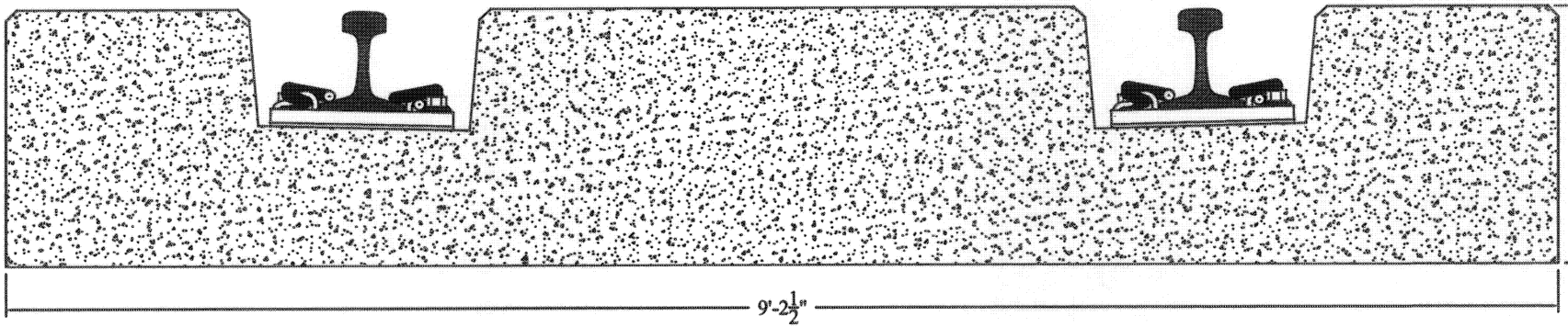
Scale: N/A | Drawing No.: MBM_HANDOUT11 | Rev.: A

Drawn By: WDM | Date: 04/06/11 | SHEET 1 OF 4

115
RE - 132 RAIL
136
141







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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

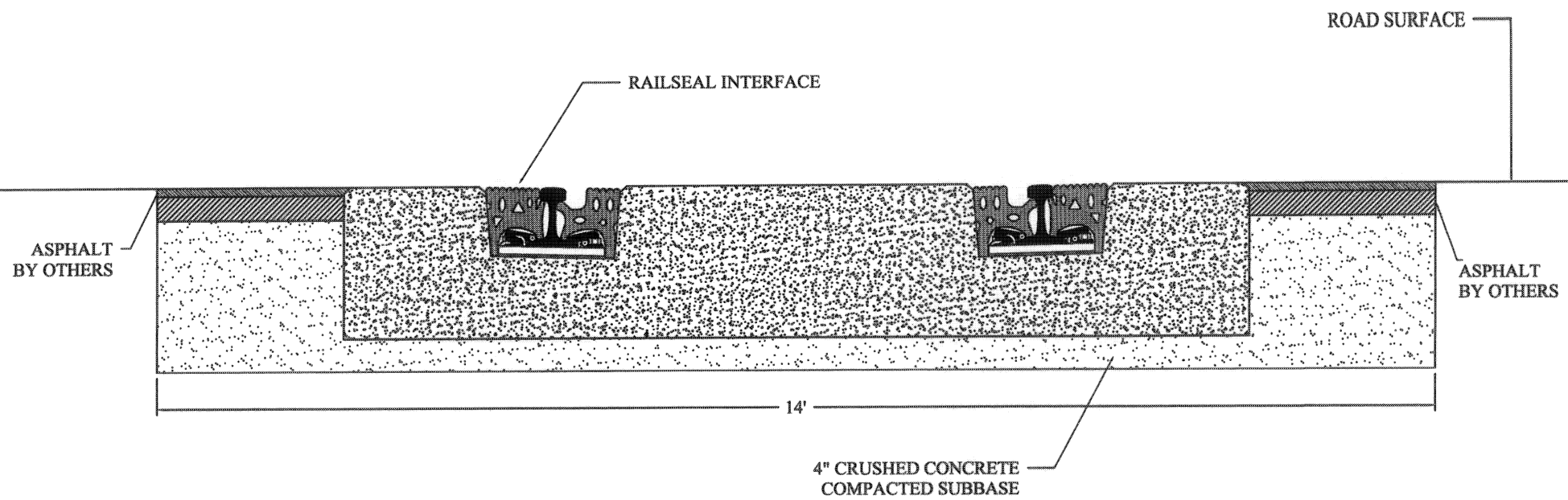
NOTES

R. W. Summers Railroad Contractor, Inc.

MBM SYSTEMS CROSSING

Scale	Drawing No.	Rev.
N/A	MBM_HANDOUT11	A

Drawn by	Date	
WDM	04/06/11	SHEET 2 OF 4



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BARTOW, FLORIDA 33830-6702
(863) 533-6107
FAX (863) 533-6109
Quality Railroad Construction and Maintenance Specialists

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

NOTES

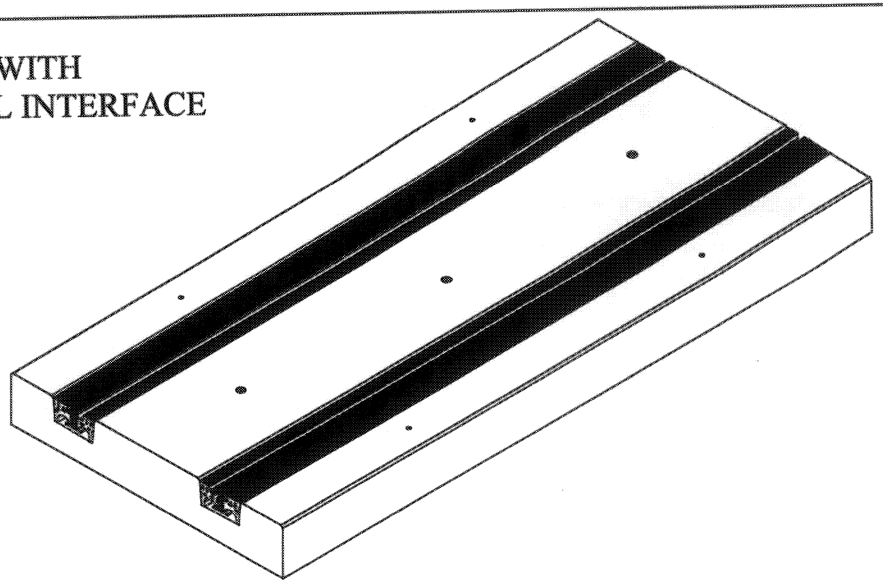
R. W. Summers Railroad Contractor, Inc.

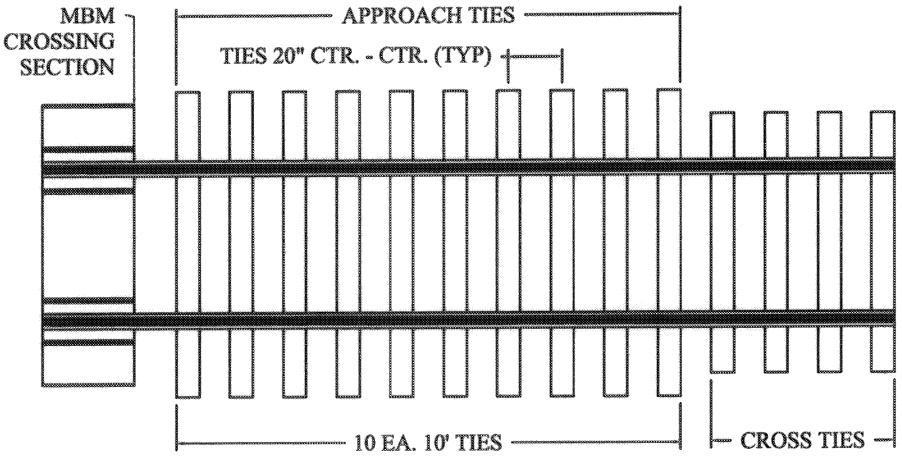
MBM SYSTEMS CROSSING

Scale	Drawing No.	Rev.
N/A	MBM_HANDOUT11	A

Drawn By	Date
WDM	04/06/11

3D VIEW WITH RAILSEAL INTERFACE





APPROACH TIE LAYOUT

R. W. SUMMERS RAILROAD CONTRACTOR, INC.
3693 S. GANDY ROAD
BARTOW, FLORIDA 33830-8752
(863) 533-8157
FAX (863) 533-8160
Quality Railroad Construction and Maintenance Specialists

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

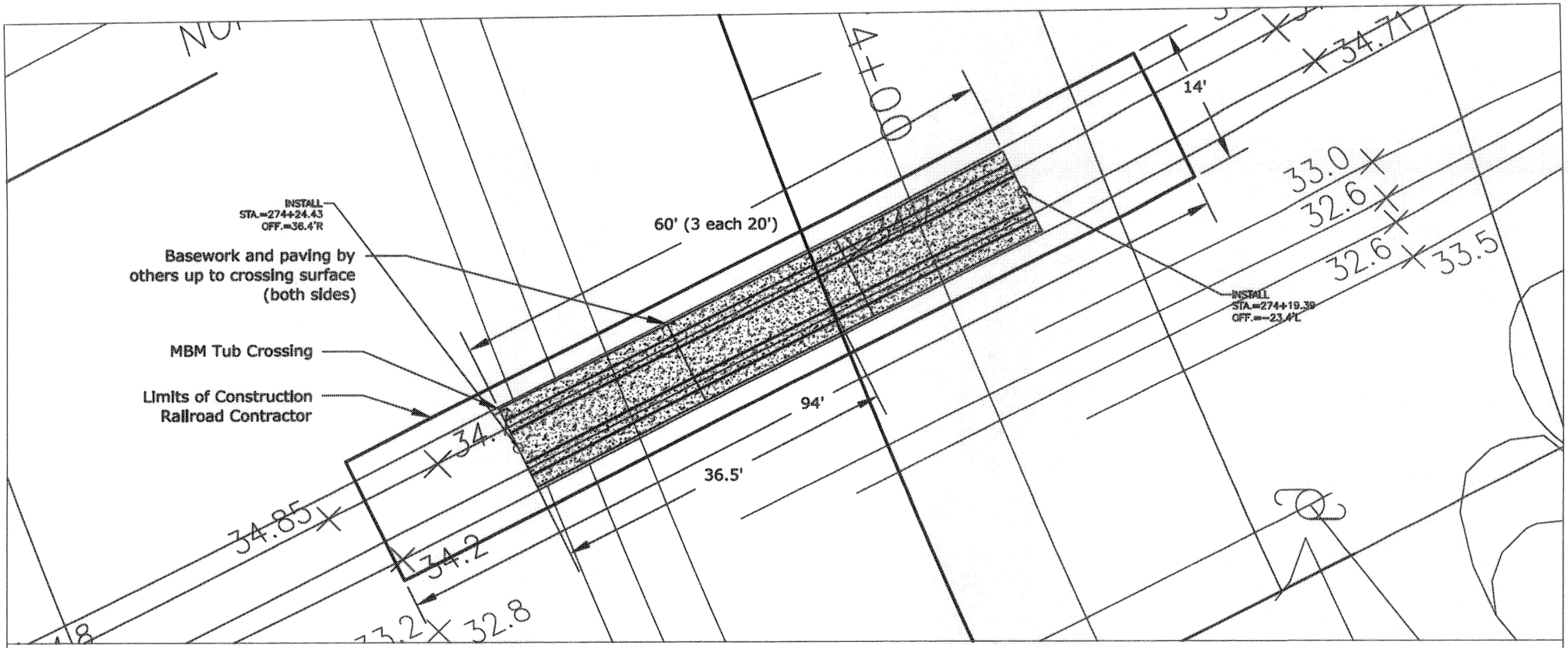
NOTES

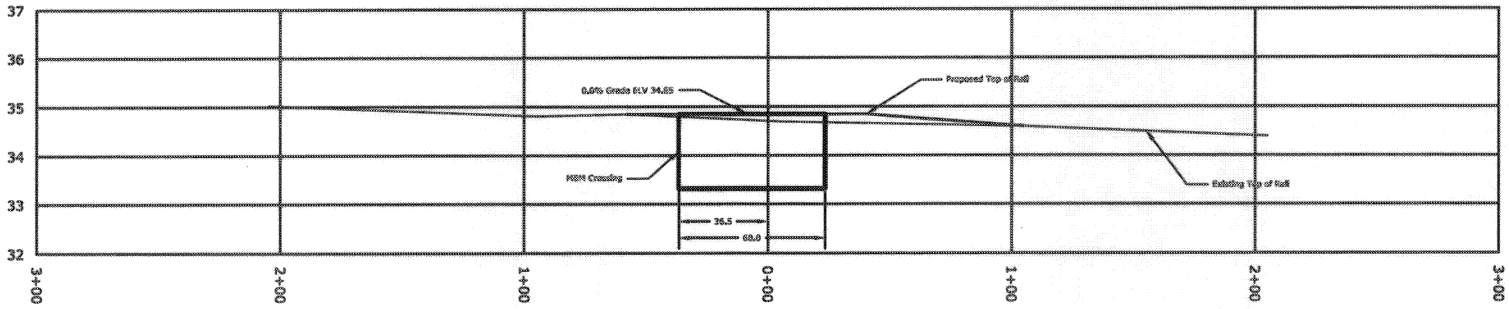
R. W. Summers Railroad Contractor, Inc.

Drawing Title: MBM SYSTEMS CROSSING

Scale:	File Name:	Rev:
N/A	MBM_HANDOUT11	A

Drawn By: WDM | Date: 04/06/11





R. W. SUMNERS RAILROAD CONTRACTOR, INC.
3693 E. GANDY ROAD
SARTOW, FLORIDA 33830-6702
(863) 533-8107
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Quality Railroad Construction and Maintenance Specialists

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

NOTES

R. W. Summers Railroad Contractor, Inc.

Drawing Title: MBM Crossing Plan/Profile

Scale	File Name	Rev.
N/A	ErieMBM030912.dwg	A

Drawn By	Date	Sheet
WDM	03/09/12	SHEET 1 OF 1

STIPULATION OF PARTIES FOR THE CLOSURE OF 69TH STREET EAST HIGHWAY-RAIL GRADE CROSSING, CROSSING NUMBER 624600-C, AND THE OPENING OF A NEW CROSSING ON 69TH STREET EAST, MANATEE COUNTY, FLORIDA

Manatee County (COUNTY), Florida Power & Light Company (RAILROAD), and Florida Department of Transportation (DEPARTMENT) agree to the following conditions:

1. The COUNTY has filed an application with the DEPARTMENT for a permit to close a public, highway-rail grade crossing (crossing number 624600-C) located at 69th Street East, Manatee County, FL. The COUNTY will realign 69th Street East, remove the original rail crossing (crossing number 624600-C), and install a new public highway-rail grade crossing approximately 370 feet northeast from the original on 69th Street East. Pursuant to Section 335.141(1), Florida Statutes, a copy of the application for relocation is attached as EXHIBIT "A."
2. The relocation of the 69th Street East rail crossing is based on the COUNTY's position that the geometry of the highway-rail intersection will be improved, thus reducing traffic congestion and improving safety.
3. The location of the crossings, both the proposed and closed crossing, on 69th Street East is shown on the attached maps, plans, and easement agreement as EXHIBIT "B."
4. The relocated 69th Street East crossing, will be a three-lane (two lanes east-bound, one lane west-bound), urban local road, with a sidewalk on the south side, as set forth on the plans and maps in EXHIBIT "B."
5. The COUNTY, at the COUNTY's expense, will provide all necessary materials and install a railroad grade crossing surface, in compliance with the DEPARTMENT's Standard Index Number 560, attached as EXHIBIT "C." To accommodate Americans with disabilities, pursuant to the Americans with Disabilities Act (ADA), crossing surface material will be extended on the south side of the crossing to align with the sidewalk.

6. The COUNTY, at the COUNTY's expense, will install reflectorized railroad crossbucks, stop signs, reflectorized railroad advance warning signs, and pavement markings, in accordance with Sections 8B.02 and 8B.07 of the Manual of Uniform Traffic Control Devices (MUTCD) and the Department's Standard Index No.17882, attached as EXHIBIT "D."

7. At the relocated 69th Street East rail crossing, the RAILROAD is required to use flagmen for train / vehicular traffic signalization. If train movements occur after dark, the rail crossing must be illuminated when flagging occurs. The continued use of passive safety signalization and flagging at the relocated crossing will be based upon a safe traffic operations record at the crossing and administrative requirements pursuant to Rule Chapter 14-57.012(3)(g), Florida Administrative Code.

8. The COUNTY, at the COUNTY's expense, will maintain the crossing, signs, and pavement markings at the relocated 69th Street East rail crossing.

9. The COUNTY, at the COUNTY's expense, will restore the RAILROAD right-of-way at the original 69th Street East rail crossing (crossing number 624600-C) and remove all evidence of said crossing. The COUNTY is responsible for removing the crossing surface, crossing warning devices, and roadway pavement inside the RAILROAD's right-of-way.

10. During the removal of the original 69th Street rail crossing (crossing number 624600-C) and roadway realignment project, the COUNTY, at the COUNTY's expense, will erect on each side of the crossing, outside of the RAILROAD's right-of-way, Type III Barricades, Road Closed Signs (R11 2), and Advanced Warning Signs (W20 3), as identified in the DEPARTMENT's Standard Index 600 provided in EXHIBIT "E."

11. The COUNTY will notify the RAILROAD a minimum of 48 hours prior to any work in the removal of the original 69th Street East crossing or the installation of the relocated 69th Street East crossing is conducted. The COUNTY will notify the RAILROAD upon completion of the removal of the original 69th Street East crossing and the installation of the relocated 69th Street East crossing.

12. Any work by the COUNTY, within the closed crossing or relocated 69th Street East crossing areas, will be coordinated with the RAILROAD to ensure that all applicable railroad requirements, including flagging and insurance, are met.

13. All work by the COUNTY or RAILROAD will be consistent with current Manual of Uniform Traffic Control Devices (MUTCD), Federal Railroad Administration Rules and Regulations, American Association of State Highway and Transportation Officials (AASHTO) Policy, the DEPARTMENT'S Manual of Uniform Minimum Standards for Design, Construction, and Maintenance for Streets and Highways (Florida's Green Book).

14. The RAILROAD will assign a DOT crossing number to the relocated rail crossing on 69th Street East and complete the U.S. DOT Crossing Inventory Forms (OMB No. 2130-0017) for the opening of the new crossing and the closure of the original crossing. The completed forms, as provided in Exhibit "F," will be submitted to the DEPARTMENT for inventory data entry and submittal to the Federal Railroad Administration.

15. This Stipulation of Parties has been executed by all parties having an interest in this matter. The RAILROAD and COUNTY waive hearing rights provided by Chapter 120, Florida Statutes, for the relocation of the 69th Street East highway-rail grade crossing with this Stipulation of Parties.

16. The terms of this Stipulation of Parties may not be changed, waived, discharged or terminated orally, but only by an instrument or instruments in writing, signed by RAILROAD, COUNTY, and DEPARTMENT.

17. This Stipulation of Parties is governed by, and shall be interpreted, and construed in accordance with the laws of the State of Florida.

18. Any failure of any party to insist upon the strict performance of any terms or provisions of this Stipulation of Parties is not deemed to be a waiver of the terms of this agreement.

19. The DEPARTMENT authorizes the relocation of the 69th Street East crossing as evidenced by the execution of this Stipulation of Parties provided all conditions of the Stipulation are met, and the project is inspected and approved by the DEPARTMENT and COUNTY within twenty-four (24) months of execution of the Stipulation.

FLORIDA POWER & LIGHT – RAILROAD

By: _____
(Authorized Signature)

Title: V.P., Corp. Real Estate

Printed Name: Terry L. Hicks

Attest: _____
Jeff Long

Date: 22 DEC 2011

MANATEE COUNTY, FLORIDA,
By and through its BOARD OF COUNTY COMMISSIONERS

By: _____
Chairperson

Date: March 29, 2011

ATTEST: R. B. SHORE
CLERK OF THE CIRCUIT COURT

By: _____
Deputy Clerk

BOARD OF COUNTY COMMISSIONERS SEAL MANATEE CO., FLA.

STATE OF FLORIDA
DEPARTMENT OF TRANSPORATION

By: _____
State Public Transportation Administrator

Date: 1/4/12

DEPARTMENT OF TRANSPORTATION
LEGAL REVIEW

By: _____
Attorney, FDOT

Date: 12.28.11

EXHIBIT "A"

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
RAILROAD GRADE CROSSING APPLICATION

725-090-66
RAIL
10/00

ROAD NAME OR NUMBER	COUNTY/CITY NAME
69th Street East	Manatee County

A. IDENTIFICATION:

Submitted By:

Applicant Manatee County Government

Office Public Works Department

Telephone (941)708-7462

Address 1022 26th Ave E, Bradenton, Fl, 34208

Application For:

☐ **Closing** a public highway-rail grade crossing by:
- ☐ roadway removal
- ☐ rail line removal

☐ **Opening** a public highway-rail grade crossing by:
- ☐ new rail line
- ☐ new roadway

☐ **Conversion** of an existing crossing from private crossing to public highway-rail grade crossing

■ **Relocation of an existing crossing**

B. CROSSING LOCATION:

Jurisdiction for Street or Roadway by Authority of: ○ City ● County ○ State

FDOT/AAR Crossing Number: 624600-c

Local Popular Name of Street or Roadway: 69th Street East

Railroad Company: Florida Power & Light

Railroad Mile Post: 863.7

Submitted for the Applicant by: Sia Mollanazar Deputy Director of Public Works DATE: 10/20/10
Name and Title

Application FDOT Review by: Jan Bordelon, Rail Specialist DATE: 10/25/10
Central Rail Office

REFERENCES:
(Specific Legal Authority) 334.044 F.S., 120.57 F.S.
(Law Implemented) 335.141 F.S.
(Administrative Rule) 14-46.003 F.A.C.
Rail Manual Topic No: 725-080-002, Chapter 3

ATTACHMENTS SUBMITTED FOR ACCEPTANCE:
- ☐ Crossing Closure Application Data
- ☐ Location Maps, Sketches, Plans (if available)
- ☐ Copies of Agreements Between Railroad and Jurisdiction on Subject Crossing
- ☐ Letters of Support (Opening or Closing)

INFORMATION REQUEST: PUBLIC HIGHWAY-RAIL GRADE CROSSING
(Provide current design plans, maps, aerials, and any support documentation)

1. Why is the crossing necessary?

The proposed crossing is due to the relocation of an existing crossing at 69th St. E. for safety improvement. The old alignment of 69th St. E. and Erie Road has safety concerns with very sharp curve radii, and crossing skew. The new construction will smooth the curve and improve the geometry of the intersection. The distance between the road intersection and the new crossing will also be increased from about 90 feet to 250 feet, which can reduce the potential of vehicular accidents and improve the safety. A dedicated left turn lane is also added at the new intersection, which will improve the free flow of traffic in this area, thus reduce the traffic congestion.

2. Are there other access roads available to property owners if the crossing is not there?

69th and Erie Road are the only roads to access this area. No other access road available to the adjacent property owners.

3. Has grade separation been considered in planning the crossing? If not, why?

Grade separation is not considered since it is costly and the train movements are very few in this area.

4. Vehicular transportation data:
   a) Provide predicted Annual Average Daily Traffic (AADT) at the crossing.

   The AADT is 5166 at the crossing.

   b) Provide level of service at the crossing.

   The Level of Service is C for 69th St. E. at the crossing

   c) Provide anticipated AADT and level of service in 5 years.

   The anticipated AADT will be 6393 and the Level of service is C in 5 years.

   d) Provide predicted percentage of truck traffic and anticipated truck traffic 5 years out.

   The percentage of truck traffic is 9% or 204 vehicles NB per day and 220 vehicles SB per day.

   e) Will trucks carry hazardous materials? If so, approximately how many trips per day or week?

In the history, no truck carrying hazardous materials appeared in this area. Please refer to the attached National HM Route Registry table for Florida.

f) How many school buses will use the crossing?

14 school buses per day will use the crossing.

g) How many emergency rescue vehicles will use the crossing?

Per Manatee County North River Fire Department, the average number is 2-3 times each day in that area.

h) What is the vehicular design speed at the proposed crossing?

The design speed is 30 mph at the proposed crossing on 69th St. E.

i) How many thru or turn lanes?

No through lane, one right turn lane, and one left turn lane are proposed.

j) Will the road be divided with a median?

No, the proposed road is undivided.

k) Will there be sidewalks and/or bike lanes?

There is a 5' sidewalk proposed on the west side of 69th street east. No bike lane is proposed.

5. Rail transportation data:
   a) Current number and type of rail tracks.
   b) Current number of daily train movements (number of switching or thru trains).
   c) Approximate times during the day and evening that the crossing will be blocked.
   d) Approximate length of time (i.e., minutes) that the crossings are blocked.
   e) Speed of trains at crossing.
   f) Anticipated expansion of tracks and train movements.

N/A

6. Provide excerpts from the Comprehensive Plan and any other transportation plans relative to the proposed crossing.

Please refer to the attachment.

7. What is the distance from the proposed crossing to adjacent public crossings? (Identify adjacent crossings by road name and crossing number.)

The existing crossing is at 69th St E and the crossing number is 624600-c. It will be relocated 370 feet to the north-east due to the realignment of 69th St. E. and Eire Road. The next adjacent rail road crossings are at Sawgrass Road on the north-east, about 6600 feet away, and Oak Mill Ter. on the south-west, about 5500 feet away.

8. What is the distance from the proposed crossing to the nearest intersection?

The distance is about 250 feet from the proposed crossing to the nearest intersection.

9. Provide the following data on the crossing:

- Design Hourly Capacity (Design Year and Construction Year)

  Per FSUTMS model, the AADT is 5166 in 2010, and 17,812 for year 2030.
- Signal Timing/Turn Movements

  N/A for relocation.
- Trip Generation and Distribution

  N/A for relocation.
- Intersection capacity analysis for railroad crossing intersecting roadway.

  N/A for relocation.

- Traffic operations and traffic safety issues evaluated for railroad crossing, train traffic movements, and railroad preemption.

The new crossing will improve the safety by reducing the skew and increasing the distance to the nearby intersection. The new crossing will be at 85 degree, compared to the existing crossing at 65 degree. The distance between the road intersection and the new crossing will be increased from about 90 feet to 250 feet. A dedicated left turn lane is also added at the new intersection, which will improve the free flow of traffic in this area, thus reduce the traffic congestion.

- Analysis should consider the traffic impacts of all build out proposed developments.

  N/A for relocation.

10. Provide description of land use on each side of the rail crossing.

The north side of the proposed crossing is zoned to planned development industrial. The south side of crossing is zoned to agricultural.

11. What is the predicted number of pedestrians and bike riders that will use the proposed crossing? What is the predicted number of users 5 years out?

The Pedestrian/Bicycle riders are minimal and will stay minimal due to the agricultural transition zone.

12. What is the degree of the angle of the road crossing the rail line?

The new crossing is at 85 degree, while the old crossing is at 65 degree.

13. Are there any plans for any structures to be built near the crossing intersection?

No other structure is proposed near the crossing except for 36' pavement and 5' sidewalk.

14. Identify major traffic generators (i.e., businesses, shopping malls, recreational areas, special events, etc.) in this area. Specify type, location, and distance to proposed crossing.

The Fellowship Alliance Church is about 1.3 miles, Virgil Mills Elementary School is about 1 miles, and Bethel Fellowship of Parrish about 0.8 miles. The impact is minimal since the relocated crossing is only 370 feet to the old one.

15. Identify all highway traffic control devices, including pavement markings, signs, and highway traffic signals, that will be installed at the crossing. What future changes are proposed?

Please refer to attached signing and marking plans. No future change is proposed.

16. How does the crossing impact the Annual Average Daily Traffic at nearby public crossings? Provide estimated traffic count changes, if any.

There will be minimal impact to the nearby public crossing since the new crossing is only 370 feet to the old crossing. Traffic count will not change since the new crossing will receive the same oncoming traffic as the old crossing.

17. Please provide any corridor studies, or other preliminary traffic engineering studies that pertain to this crossing.

No Corridor study is available. Please refer to attached 2030 Future Traffic Circulation.

18. Please send maps, plans, safety studies and/or any other information that is relevant to the analysis of this crossing.

Please refer to the attachment.

19. Provide the names and crossing numbers of crossing closure candidates that would offset the opening of this crossing?

The old crossing to be closed has a crossing number 624600-c at 69th St E.

INFORMATION REQUEST: ANALYSIS FOR RAIL CROSSING CLOSURE

1. Why is the crossing a candidate for closure?

The closure is due to the relocation of an existing crossing at 69th St. E. for safety improvement. The old alignment of 69th St. E. and Erie Road has safety concerns with very sharp curve radii, and crossing skew. The new construction will smooth the curve and improve the geometry of the intersection. The distance between the road intersection and the new crossing will also be increased from about 90 feet to 250 feet, which can reduce the potential of vehicular accidents and improve the safety. A dedicated left turn lane is also added at the new intersection, which will improve the free flow of traffic in this area, thus reduce the traffic congestion.

2. Are there other accessible means to the property if the crossing is closed?

69th and Erie Road are the only roads to access the adjacent property. No alternate access road available at this time.

3. Identify the alternate routes available if the crossing is closed?

A new crossing is proposed about 370 feet north-east of the old crossing.

4. What is the distance from the proposed crossing to adjacent public crossings? (Identify adjacent crossings by road name and crossing number.)

The existing crossing is at 69th St E and the crossing number is 624600-c. It will be relocated 370 feet to the north-east due to the realignment of 69th St. E. and Eire Road. The next adjacent rail road crossings are at Sawgrass Road on the north-east, about 6600 feet away, and Oak Mill Ter. on the south-west, about 5500 feet away.

5. What is the distance from the subject crossing to the nearest intersection? Identify the street.

The distance is about 250 feet from the proposed crossing to the nearest intersection.

6. How will the proposed crossing closure impact the Annual Average Daily Traffic at nearby public crossings? Provide estimated traffic count changes, if any.

The AADT is 5166 at the existing crossing. The anticipated AADT will be 6393 and the Level of service is C in 5 years. The impact to the nearby public crossing is minimal since the relocated crossing will receive the same traffic.

7. During peak time, calculate by driving the additional travel time and distance between two points (nearest intersection or major access) on either side of the subject crossing via alternate routes. Provide calculated times, routes, and distances.

Not applicable since there is no alternate route available.

8. What is the estimated annual daily number of vehicles, buses, trucks, pedestrians, and bike riders that currently use the subject crossing?

The percentage of truck traffic is 9% or 204 vehicles NB per day and 220 vehicles SB per day. The school buses number is 14 per day. The pedestrian and bike rider is minimal due to the location being in an agricultural transition area.

9. What is the estimated number of school buses and emergency vehicles that use the crossing? How will the closure impact these vehicles?

The school buses number is 14 per day. The emergency vehicle number is 2-3 times per day per Manatee County North River Fire Department.

10. How will transportation (vehicle, pedestrian, and cycle) be impacted if the crossing is closed? Consider capacity, level of service, congestion, and/or need for modification and additional traffic signals to the alternate roads where traffic will be routed when the crossing is closed.

The impact to the transportation is minimal since a new crossing will be provided about 370 feet away, which will receive the same traffic from 69th St E and Erie Road.

11. Is the proposed closure in conjunction with the County Comprehensive Plan or any other transportation plans?

No, the proposed closure is due to safety improvement.

12. How many train movements occur daily at the subject crossing?

This rail road is owned by Florida Power & Lighting (FP&L). The tack is rarely used at this time.

13. Identify the number and type of trains traveling across the proposed crossing.

The rail road is rarely used at this time by FP&L.

14. What is the minimum and maximum train speed at the crossing?

N/A

15. Identify the number and type of tracks at the crossing.

There is one track at the crossing. The type of track is unknown.

16. What is the speed of the highway which crosses the rail line?

The design speed limit is 30 mph at the crossing on 69th St. E.

17. Provide description of land use on both sides of the subject rail crossing.

The north side of the proposed crossing is zoned to residential and planned development industrial. The south side of crossing is zoned to agricultural.

18. Are there any churches, schools, or hospitals that will be impacted if the crossing is closed? Please list by name and location.

The Fellowship Alliance Church	**about 1.3 miles NW of crossing**
Virgil Mills Elementary School	**about 1 miles NW of crossing**
Buffalo Creek School	**about 0.8 mile NW of crossing**
Bethel Fellowship of Parrish	**about 0.8 miles S of crossing**

The impact is minimal since the relocated crossing is only 370 feet to the existing one.

19. Identify any major traffic generators (i.e., recreational areas, special events, etc.) in this area that will be impacted by the proposed crossing closure.

Buffalo Creek Golf Course	**about 0.9 miles NE of crossing**
The Fellowship Alliance Church	**about 1.3 miles NW of crossing**
Virgil Mills Elementary School	**about 1.1 miles NW of crossing**
Buffalo Creek School	**about 0.8 miles NW of crossing**
Bethel Fellowship of Parrish	**about 0.8 miles S of crossing**
Woodlands Golf Course	**about 0.5 miles SW of Crossing**

The impact is minimal since the relocated crossing is only 370 feet to the existing one.

20. Identify all highway traffic control devices and highway traffic signals at nearby crossings that may require improvement or upgrading if the proposed crossing is closed.

The intersection of 69th St. E. @ Erie Road will be improved by adding a turn lane and eliminating the skew. Four way stop sign is proposed at that intersection. Please refer to the attached plans.

21. How will the proposed crossing closure impact the Annual Average Daily Traffic at nearby public crossings? Provide estimated traffic count changes, if any, at each identified crossing.

The next adjacent rail road crossings are at Sawgrass Road on the north-east, about 6600 feet away, and Oak Mill Ter. on the south-west, about 5500 feet away. The impact of closure to those crossings is minimal since a new crossing is proposed only 370 feet to the closure, which will take same on-coming traffic.

Please send maps, plans, sketches and any other information that you feel is relevant to this project.

Please refer to the attachments.

National HM Route Registry Table

1995	03/08/95	PRES	-	-	-	-	-	-	-	-	-	-		A	-	-	-	-	DC	Anacostia Fwy from Interstate 295 [11th St. Bridge] to E. Capitol St.	District of Columbia		
1995	03/08/95	PRES	-	-	-	-	-	-	-	-	-	-		A	-	-	-	-	DC	Interstate 295 from Maryland to Interstate 695 [vicinity of 11th and L St, S.E.]	District of Columbia		
1995	03/08/95	PRES	-	-	-	-	-	-	-	-	-	-		A	-	-	-	-	DC	Interstate 395 from Virginia to Interstate 695 [vicinity of 2nd and E St., S.W.]	District of Columbia		
1995	03/08/95	REST	0	-	-	-	-	-	-	-	-	-		-	-	-	-	-	DC	Interstate 395 Tunnel from South Portal [south of Independence Ave.] to the most northerly portal [at K St.]	District of Columbia		
1995	03/08/95	PRES	-	-	-	-	-	-	-	-	-	-		A	-	-	-	-	DC	Interstate 695 from Interstate 295 [vicinity of 11th and L St., S.E.] to Interstate 395 [vicinity of 2nd and E St., S.W.]	District of Columbia		
1995	03/08/95	PRES	-	-	-	-	-	-	-	-	-	-		A	-	-	-	-	DC	Kenilworth Ave., N.E. from E. Capital St. to Maryland	District of Columbia		

NA - not available

FLORIDA

YEAR	DATE	ID	A	B	C	D	E	F	G	H	I	J	K	BLANK	L	N	O	P	M	STATE_ ABBR	TEXT	STATE	CITY	COUNTY
1995	02/14/95	REST	0	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	FL	Florida Ave. [Tampa] from Crosstown Expressway to Scott Street [Use Crosstown Expressway to 22nd St. North, thence north along 22nd Street to Interstate 4 to either Interstate 275 or points east.]	Florida	Tampa	
1995	02/14/95	REST	0	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	FL	Kennedy Blvd. [Tampa] from Crosstown Expressway to Hillsborough River [Use Crosstown Expressway to Hyde Park Ave. and Davis Island Exit No. 5 to all points west.]	Florida	Tampa	
1995	02/14/95	REST	0	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	FL	Tampa central business area [Bounded on the east by Ybor Channel, on the west by the Hillsborough River, and on the north by a line running along Scott Street east to Orange Ave, south to Cass St., east to the Seaboard Cost Line Railroad, northeast to Adamo Drive, and on the south by Garrison Channel. * State-maintained highways other than Florida Ave. and Kennedy Blvd. are exceptions to this restriction *]	Florida		

GEORGIA

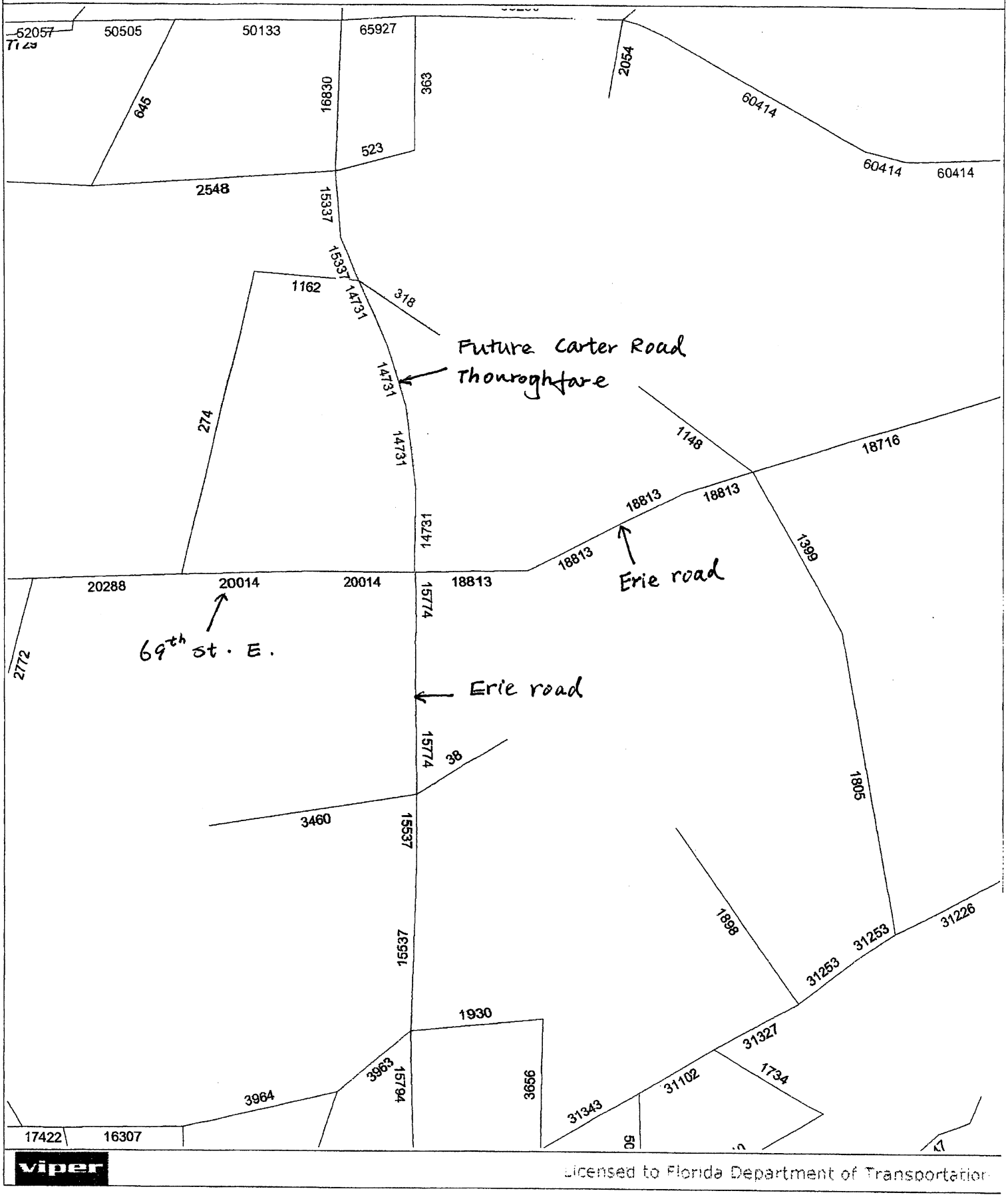
YEAR	DATE	ID	A	B	C	D	E	F	G	H	I	J	K	BLANK	L	N	O	P	M	STATE_ ABBR	TEXT	STATE	CITY	COUNTY
1995	03/14/95	REST	0	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	GA	State 400 [Atlanta area] [Noted by Georgia Public Service Commission: "A ban on a portion of 400 due to a tunnel", but does include specific sections and routes of ban.]	Georgia		
1999/2000	1999/2000		0	-	-																Hartsfield-Jackson Atlanta Int'l was considered because they built a fifth runway that passes over part of I-285. The underground passage way was determined not to be a tunnel, and research was done to prepare for worse case feasible spill of gas	Georgia		

HAWAII

There are currently no designated hazardous materials routes in the state of Hawaii

IDAHO

SMC 2030 Financially Feasible Network
RR Crossing = 20,014 (MOCF Factored=.89 X 20014=17,812 AADT)
69th Street East



5116

Manatee County Planning Department
Concurrency Transportation Link Sheet

Report run on: April 29, 2010 2:56 PM

Link No	Road Name	From Street	To Street	Jrs Dtn	Fnc Cls	U T R	(#1) Crs Sec	Sig/ Mile	Num Sig	Class Grp	Left Turns	5% Peak Hour LOS Vol	Los Std	Exist Los	Projected LOS	Art Plan LOS	Trf Cnt Yr	Exist AADT	K100	OCS	Peak Hour Base	Peak Hour Res	Peak Hour Total	(#2) Peak Hr LOS Vol	Avail Peak Hour Cap	3 Yr Growth Rate	Cn Yr	Con Typ	Deficiency Rs	St
2436	ELLENTON-GILLETTE	MEMPHIS RD	US 301	MC	UC	U	2U	0.00				55.6	D	D	E		08	8446	0.095		802	372	1,174	1,112	-62	0.000				09
2450	69 ST E	US 41	ELLENTON-GILLETTE	MC	UC	U	2U	0.00	0	US		55.6	D	D	F		08	9590	0.095	C	911	419	1,330	1,112	-218	0.000			0	10
2460	69 ST E	ELLENTON-GILLETTE	I-75	MC	UC	U	2U	0.00	0	US		55.6	D	D	F		08	8343	0.095	O	793	467	1,260	1,112	-148	0.000			0	10
[redacted]																														
2480	ERIE RD/CR 10	ERIE RD(CR 75)	US 301(PARRISH)	MC	MIC	U	2U	0.00	0	US	N	55.6	D	C	F		08	2142	0.095	O	203	1,031	1,234	1,112	-122	0.000			0	10
2490	ERIE RD/CR 75	ERIE RD(CR 10)	US 301(ELLENTON)	MC	UC	U	2U	0.00	0	US	N	55.6	D	D	F		08	8217	0.095	O	781	1,354	2,135	1,112	-1,023	0.000		OUT	0	10
2500	FLORIDA BLVD	US 41	26 ST W	MC	UC	U	2U	2.63	2			55.6	D	C	C		08	6462	0.095	O	614	0	614	1,112	498	0.000			0	03
2510	FLORIDA BLVD	26 ST W	34 ST W	MC	UC	U	2U	0.00	0	US		55.6	D	C	C		08	3315	0.095	O	315	0	315	1,112	797	0.000			0	03
2520	FT HAMER RD	US 301	GOLF COURSE RD	MC	MA	U	2U	0.00	0		N	69.5	D	B	C		08	1532	0.095	O	146	1,091	1,237	1,390	153	0.000			0	11
2521	FT HAMER RD	GOLF COURSE RD	OLD TAMPA ROAD	MC	MA	U	2U	0.00	0		N	69.5	D	B	C		08	1532	0.095		146	489	635	1,390	755	0.000				11
2522	FT HAMER RD	OLD TAMPA RD	END	MC	MA	U	2U	0.00	0		N	69.5	D	B	B		08	1532	0.095		146	106	252	1,390	1,138	0.000				11
2530	I-75	UNIVERSITY PK	SR 70	ST	F/PA	U	6D	0.00	0	G1	Y	416	C	D	E		08	101000	0.097	O	9,797	712	10,509	8,320	-2,189	0.000			0	00
2540	I-75	SR 70	SR 64	ST	F/PA	U	6D	0.00	0	G1	Y	416	C	D	E		08	94000	0.097	O	9,118	1,091	10,209	8,320	-1,889	0.000			0	00
2550	I-75	SR 64	US 301	ST	F/PA	U	6D	0.00	0	G1	Y	416	C	D	D		08	88500	0.097	O	8,585	1,219	9,804	8,320	-1,484	0.000			0	00
2560	I-75	US 301	I-275	ST	F/PA	U	6D	0.00	0	G1	Y	416	C	C	C		08	75000	0.097	O	7,275	972	8,247	8,320	73	0.000			0	00
2570	I-75	I-275	MOCCASIN WALLOW RD	ST	F/PA	U	6D	0.00	0	G1	Y	416	C	B	C		08	53500	0.097	O	5,190	3,011	8,201	8,320	119	0.000			0	00
2580	I-75	MOCCASIN WALLOW R	HILLSBOROUGH CO	ST	F/PA	R	6D	0.00	0	US		384.5	C	B	C		08	46500	0.100	O	4,650	1,388	6,038	7,690	1,652	0.000			0	00
2590	I-275	I-75	US 41	ST	F/PA	U	4D	0.00	0	G1		267.5	C	C	C		08	40000	0.097	O	3,880	114	3,994	5,350	1,356	0.000			0	00
2600	I-275	US 41	US 19	ST	F/PA	R	4D	0.00	0			267.5	C	B	B		08	34000	0.097	O	3,298	0	3,298	5,350	2,052	0.000			0	00
2610	I-275	US 19	HILLSBOROUGH CO	ST	F/PA	R	4D	0.00	0			267.5	C	C	C		08	51500	0.097	O	4,996	0	4,996	5,350	354	0.000			0	10

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NB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
8/25/10	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
00:15	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
00:30	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
04:15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:30	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:45	0	1	3	0	0	0	0	0	0	0	0	0	0	0	4
	0	6	3	0	1	0	0	0	0	0	0	0	0	0	10
05:00	0	5	1	0	1	0	0	0	0	0	0	0	0	0	7
05:15	0	4	2	0	0	0	0	0	0	0	0	0	0	0	6
05:30	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
05:45	0	8	4	0	0	0	0	0	0	0	0	0	0	0	12
	0	20	8	0	1	0	0	0	0	0	0	0	0	0	29
06:00	0	8	4	0	2	0	0	0	0	0	0	0	0	0	14
06:15	0	12	5	0	0	0	0	0	0	0	0	0	0	0	17
06:30	0	19	4	0	0	0	0	0	0	0	0	0	0	0	23
06:45	0	19	3	1	3	0	0	0	0	0	0	0	0	0	26
	0	58	16	1	5	0	0	0	0	0	0	0	0	0	80
07:00	0	40	13	1	1	0	0	0	0	0	0	0	0	0	55
07:15	0	47	9	0	4	0	0	3	0	0	1	0	0	0	64
07:30	0	45	12	1	5	1	0	1	0	0	0	0	0	1	66
07:45	1	59	21	5	0	0	0	0	0	0	0	0	0	1	87
	1	191	55	7	10	1	0	4	0	0	1	0	0	2	272
08:00	1	71	37	2	1	0	0	3	0	0	0	0	0	5	120
08:15	0	30	20	2	2	0	0	2	0	0	0	0	0	1	57
08:30	0	25	10	0	1	2	0	0	0	0	1	0	0	1	40
08:45	0	40	18	4	2	1	0	2	0	0	0	0	0	2	69
	1	166	85	8	6	3	0	7	0	0	1	0	0	9	286
09:00	0	18	10	0	0	0	0	1	0	0	0	0	1	1	31
09:15	0	16	1	0	2	1	0	0	0	0	0	0	0	0	20
09:30	0	13	8	2	1	2	0	0	0	0	0	0	0	0	26
09:45	0	17	7	0	0	2	0	0	0	0	0	0	0	0	26
	0	64	26	2	3	5	0	1	0	0	0	0	1	1	103
10:00	0	19	8	0	2	0	0	1	0	0	0	0	0	0	30
10:15	0	11	4	0	1	1	0	1	0	0	0	0	0	0	18
10:30	0	10	8	0	1	3	0	0	0	0	0	0	1	1	24
10:45	0	14	12	1	1	1	0	2	0	0	0	0	0	1	32
	0	54	32	1	5	5	0	4	0	0	0	0	1	2	104
11:00	0	7	12	0	0	1	0	1	0	0	0	0	0	0	21
11:15	0	17	13	1	1	4	1	1	0	0	0	0	0	0	38
11:30	1	13	9	1	1	2	0	0	0	0	0	0	0	2	29
11:45	0	11	10	1	0	2	0	0	0	0	0	0	0	0	24
	1	48	44	3	2	9	1	2	0	0	0	0	0	2	112
Total	3	618	272	22	33	23	1	18	0	0	2	0	2	16	1010
Percent	0.3%	61.2%	26.9%	2.2%	3.3%	2.3%	0.1%	1.8%	0.0%	0.0%	0.2%	0.0%	0.2%	1.6%	

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NB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
12 PM	0	24	4	0	1	0	0	0	0	0	0	0	0	0	29
12:15	0	14	12	0	0	0	0	0	2	0	0	0	0	0	28
12:30	0	20	21	0	1	2	0	0	0	0	0	0	0	0	44
12:45	0	38	14	0	2	3	0	2	1	0	0	0	0	1	61
	0	96	51	0	4	5	0	2	3	0	0	0	0	1	162
13:00	0	22	9	0	4	0	0	0	0	0	0	0	0	0	35
13:15	0	18	12	0	2	1	0	3	0	1	0	0	1	1	39
13:30	0	23	13	3	1	0	1	1	0	0	0	0	0	0	42
13:45	0	24	15	1	0	0	0	1	0	1	0	0	0	2	44
	0	87	49	4	7	1	1	5	0	2	0	0	1	3	160
14:00	0	18	13	3	2	0	0	1	1	0	0	0	0	1	39
14:15	0	14	15	4	2	0	0	1	0	0	0	0	1	1	38
14:30	0	13	15	1	1	0	0	2	0	0	0	0	0	5	37
14:45	0	16	8	0	0	0	0	1	0	0	0	0	0	0	25
	0	61	51	8	5	0	0	5	1	0	0	0	1	7	139
15:00	1	11	5	1	0	0	0	1	0	0	0	0	0	1	20
15:15	0	17	8	1	1	0	0	1	0	0	0	0	0	0	28
15:30	0	10	11	0	0	0	0	1	0	0	0	0	0	0	22
15:45	0	11	10	1	1	0	0	1	0	0	0	0	0	2	26
	1	49	34	3	2	0	0	4	0	0	0	0	0	3	96
16:00	0	15	13	0	2	0	0	0	0	0	0	0	0	0	30
16:15	0	22	7	0	1	0	0	1	0	0	0	0	0	0	31
16:30	0	20	7	0	0	0	0	0	0	0	0	0	0	2	29
16:45	0	22	9	1	1	0	0	1	0	0	0	0	0	1	35
	0	79	36	1	4	0	0	2	0	0	0	0	0	3	125
17:00	0	21	6	1	2	0	0	0	0	0	0	0	0	0	30
17:15	0	22	15	2	2	0	0	0	0	0	0	0	0	1	42
17:30	0	25	9	0	0	0	0	0	0	0	0	0	0	1	35
17:45	0	25	11	1	0	0	0	1	0	1	0	0	1	1	41
	0	93	41	4	4	0	0	1	0	1	0	0	1	3	148
18:00	0	26	11	0	0	0	0	1	0	0	0	0	0	0	38
18:15	0	18	10	0	0	0	0	2	0	0	0	0	0	0	30
18:30	0	22	6	0	1	0	0	1	0	0	0	0	0	1	31
18:45	0	21	7	0	3	0	0	0	0	0	0	0	0	0	31
	0	87	34	0	4	0	0	4	0	0	0	0	0	1	130
19:00	0	16	9	0	0	0	0	2	0	0	0	0	0	0	27
19:15	0	24	7	0	0	0	0	0	0	0	0	0	0	0	31
19:30	0	21	9	0	1	0	0	0	0	0	0	0	0	0	31
19:45	1	13	7	0	2	0	0	0	0	0	0	0	0	1	24
	1	74	32	0	3	0	0	2	0	0	0	0	0	1	113
20:00	0	12	4	0	2	0	0	0	0	0	0	0	0	0	18
20:15	0	12	4	0	1	0	0	2	0	0	0	0	0	5	24
20:30	0	10	4	0	0	0	0	0	0	0	0	0	0	0	14
20:45	0	19	4	0	0	0	0	0	0	0	0	0	0	0	23
	0	53	16	0	3	0	0	2	0	0	0	0	0	5	79
21:00	0	7	4	0	0	0	0	0	0	0	0	0	0	0	11
21:15	0	13	2	0	0	0	0	0	0	0	0	0	0	0	15
21:30	0	3	3	0	0	0	0	0	0	0	0	0	0	0	6
21:45	0	7	2	0	0	1	0	0	0	0	0	0	0	0	10
	0	30	11	0	0	1	0	0	0	0	0	0	0	0	42
22:00	0	6	1	0	0	0	0	1	0	0	0	0	0	0	8
22:15	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
22:30	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
22:45	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
	0	14	2	0	0	0	0	1	0	0	0	0	0	0	17
23:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
23:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
23:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
23:45	0	3	2	0	1	0	0	0	0	0	0	0	0	0	6
	0	7	3	0	1	0	0	0	0	0	0	0	0	0	11
Total	2	730	360	20	37	7	1	28	4	3	0	0	3	27	1222
Percent	0.2%	59.7%	29.5%	1.6%	3.0%	0.6%	0.1%	2.3%	0.3%	0.2%	0.0%	0.0%	0.2%	2.2%	
Grand Total	5	1348	632	42	70	30	2	46	4	3	2	0	5	43	2232
Percent	0.2%	60.4%	28.3%	1.9%	3.1%	1.3%	0.1%	2.1%	0.2%	0.1%	0.1%	0.0%	0.2%	1.9%	

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SB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
8/25/10	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
00:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
00:30	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
00:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	0	4	3	0	0	0	0	0	0	0	0	0	0	0	7
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
02:45	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
03:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
04:30	0	3	2	0	1	0	0	0	0	0	0	0	0	0	6
04:45	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
	0	8	4	0	1	0	0	0	0	0	0	0	0	0	13
05:00	0	0	2	0	1	0	0	0	0	0	0	0	0	0	3
05:15	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
05:30	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
05:45	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
	0	1	7	2	1	0	0	0	0	0	0	0	0	0	11
06:00	0	3	1	0	0	0	0	1	0	0	0	0	0	0	5
06:15	0	5	1	1	0	0	0	0	0	0	0	0	0	0	7
06:30	0	6	8	1	1	0	0	0	0	0	0	0	0	0	16
06:45	0	9	4	1	0	0	0	0	1	0	0	0	0	1	16
	0	23	14	3	1	0	0	1	1	0	0	0	0	1	44
07:00	0	11	5	4	0	0	0	1	0	0	0	0	0	0	21
07:15	0	19	7	0	0	0	0	2	0	0	0	0	0	1	29
07:30	0	19	6	2	0	1	0	1	0	0	0	0	0	0	29
07:45	0	13	2	0	1	0	0	1	0	0	0	0	0	2	19
	0	62	20	6	1	1	0	5	0	0	0	0	0	3	98
08:00	2	26	8	2	1	0	0	2	0	0	0	0	1	9	51
08:15	0	37	20	2	1	0	0	2	0	0	0	0	0	2	64
08:30	0	38	21	1	3	0	0	2	1	0	0	0	0	0	66
08:45	0	33	15	2	1	0	0	1	0	1	0	0	0	2	55
	2	134	64	7	6	0	0	7	1	1	0	0	1	13	236
09:00	0	26	21	2	0	0	0	4	0	0	0	0	0	1	54
09:15	0	12	7	1	0	2	0	2	0	0	0	0	0	1	25
09:30	0	11	4	0	1	1	0	1	0	0	0	0	0	0	18
09:45	0	12	7	2	2	1	0	1	0	0	0	0	0	0	25
	0	61	39	5	3	4	0	8	0	0	0	0	0	2	122
10:00	0	13	6	0	2	2	0	0	0	0	0	0	0	0	23
10:15	0	8	3	1	3	3	0	2	0	0	0	0	0	0	20
10:30	0	9	7	1	1	0	1	0	0	0	0	0	0	0	19
10:45	0	20	5	0	0	0	0	0	0	0	0	0	0	0	25
	0	50	21	2	6	5	1	2	0	0	0	0	0	0	87
11:00	0	13	8	0	0	4	0	1	0	0	0	0	0	1	27
11:15	0	7	5	0	1	2	1	0	0	0	0	0	0	2	18
11:30	0	19	8	0	1	2	0	0	0	0	0	0	0	0	30
11:45	0	7	7	0	1	1	0	1	2	0	0	0	0	0	19
	0	46	28	0	3	9	1	2	2	0	0	0	0	3	94
Total	2	401	203	25	22	19	2	25	4	1	0	0	1	22	727
Percent	0.3%	55.2%	27.9%	3.4%	3.0%	2.6%	0.3%	3.4%	0.6%	0.1%	0.0%	0.0%	0.1%	3.0%	

To: Rossina Leider/MCG,
Cc:
Bcc:
Subject: Re: 4' wide Internal concrete walkpath - Palomino Medical Center

Rossina,

Heres what I got for you.

LDC Section 710.1.5.3. states that for pedestrian safety, requires a 5' clear area beyond the swing of doorway's to separate pedestrian areas from vehicular encroachment in the interest of public safety. So a 5' sidewalk would be required in front of the door.

Private Development. All private development may provide pedestrian walks with a minimum of five (5) feet which interconnect principal structures, parking areas, recreational facilities and adjoining sidewalks in lieu of the required sidewalk along non-dedicated streets. Such walks shall be paved. All walkways shall be constructed in accordance with the Manatee County Public Works Standards for sidewalks and Section 727 of this Code. In addition, where the private development is contiguous to any street, a five (5) foot sidewalk shall be installed along the streets contiguous to the development.

Mark G. Mayer

Rossina Leider | Hi Mark: Please let me know if an internal concr... | 10/18/2010 02:53:28 PM

From: Rossina Leider/MCG
To: Mark Mayer/MCG@MCG
Date: 10/18/2010 02:53 PM
Subject: 4' wide Internal concrete walkpath - Palomino Medical Center

Hi Mark:
Please let me know if an internal concrete sidewalk can be 4' wide or it need to be 5'.
Thanks

Rossina Leider
Sr. Development Review Specialist
Planning Department
(941) 748-4501 (x) 6859

Manatee County Goverment

Traffic Engineering Division
2101 47th Ter E, Bradenton, Fl 34203

24 Hour Class Study
69th St. E. at 800' North of Erie Rd.
Parrish, FL

S:\PWD Traffic Data\Fawcett\Trax\2010 Erie Rd. Class Studies\69th St. E.

SB

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Total
12 PM	0	15	4	0	1	1	1	3	0	0	0	0	0	1	26
12:15	0	9	6	1	3	1	0	0	1	0	0	0	0	2	23
12:30	0	11	9	2	0	1	0	1	0	0	0	0	0	1	25
12:45	0	11	7	0	1	1	0	2	0	0	0	0	0	0	22
	0	46	26	3	5	4	1	6	1	0	0	0	0	4	96
13:00	0	2	4	0	1	0	0	0	0	0	0	0	0	0	7
13:15	0	10	6	0	0	0	0	1	0	0	0	0	0	0	17
13:30	0	14	11	4	1	0	0	0	0	0	0	0	0	1	31
13:45	0	23	11	2	2	3	0	0	1	0	0	0	0	0	42
	0	49	32	6	4	3	0	1	1	0	0	0	0	1	97
14:00	0	17	10	2	1	0	0	5	0	0	0	0	1	1	37
14:15	0	44	33	4	4	0	1	1	0	1	0	1	1	3	93
14:30	0	16	8	2	0	0	0	2	0	0	0	0	0	0	28
14:45	1	15	13	1	0	1	0	0	0	0	0	0	0	2	33
	1	92	64	9	5	1	1	8	0	1	0	1	2	6	191
15:00	0	20	10	0	1	0	0	0	0	0	0	0	0	1	32
15:15	0	19	11	1	2	0	0	0	0	0	0	0	0	0	33
15:30	0	21	8	1	2	0	0	1	0	1	0	0	0	1	35
15:45	0	31	11	0	2	0	0	0	0	0	0	0	0	0	44
	0	91	40	2	7	0	0	1	0	1	0	0	0	2	144
16:00	0	29	14	2	2	0	0	1	0	0	0	0	0	0	48
16:15	0	27	9	0	2	0	0	3	0	0	0	0	0	0	41
16:30	0	29	15	0	3	0	0	0	0	0	0	0	0	1	48
16:45	0	26	10	1	3	0	0	0	0	0	0	0	0	1	41
	0	111	48	3	10	0	0	4	0	0	0	0	0	2	178
17:00	0	28	12	0	2	0	0	0	0	0	0	0	0	0	42
17:15	0	28	7	0	0	0	0	1	0	0	0	0	0	2	38
17:30	1	39	9	0	0	0	0	4	0	0	0	0	0	1	54
17:45	0	27	18	0	2	0	0	3	0	0	0	0	0	1	51
	1	122	46	0	4	0	0	8	0	0	0	0	0	4	185
18:00	0	29	10	0	1	0	0	0	0	0	0	0	0	2	42
18:15	0	28	8	1	0	0	0	2	0	0	0	0	0	0	39
18:30	0	23	9	0	0	0	0	0	0	0	0	0	0	3	35
18:45	0	20	11	0	1	0	0	0	0	0	0	0	0	0	32
	0	100	38	1	2	0	0	2	0	0	0	0	0	5	148
19:00	0	24	7	0	0	0	0	2	0	0	0	0	0	0	33
19:15	0	18	5	0	0	0	0	0	0	0	0	0	0	0	23
19:30	0	13	2	0	0	0	0	1	0	0	0	0	0	0	16
19:45	0	8	4	0	2	0	0	0	0	0	0	0	0	2	16
	0	63	18	0	2	0	0	3	0	0	0	0	0	2	88
20:00	0	22	6	0	0	0	0	0	0	0	0	0	0	0	28
20:15	0	29	17	0	4	0	0	0	0	0	0	0	0	2	52
20:30	0	17	3	0	1	0	0	1	0	0	0	0	0	0	22
20:45	0	10	2	0	0	0	0	0	0	0	0	0	0	0	12
	0	78	28	0	5	0	0	1	0	0	0	0	0	2	114
21:00	0	5	3	0	0	0	0	0	0	0	0	0	0	0	8
21:15	0	5	2	0	0	0	0	0	0	0	0	0	0	0	7
21:30	0	5	2	0	0	0	0	0	0	0	0	0	0	0	7
21:45	0	3	2	0	0	0	0	0	0	0	0	0	0	0	5
	0	18	9	0	0	0	0	0	0	0	0	0	0	0	27
22:00	0	8	0	0	1	0	0	0	0	0	0	0	0	0	9
22:15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
22:30	0	2	3	0	1	0	0	0	0	0	0	0	0	0	6
22:45	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
	0	13	4	0	2	0	0	0	0	0	0	0	0	0	19
23:00	0	3	2	0	0	0	0	0	0	0	0	0	0	0	5
23:15	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
23:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	6	3	0	0	0	0	0	0	0	0	0	0	0	9
Total	2	789	356	24	46	8	2	34	2	2	0	1	2	28	1296
Percent	0.2%	60.9%	27.5%	1.9%	3.5%	0.6%	0.2%	2.6%	0.2%	0.2%	0.0%	0.1%	0.2%	2.2%	
Grand Total	4	1190	559	49	68	27	4	59	6	3	0	1	3	50	2023
Percent	0.2%	58.8%	27.6%	2.4%	3.4%	1.3%	0.2%	2.9%	0.3%	0.1%	0.0%	0.0%	0.1%	2.5%	

Table 1-14: Miles of Freight Railroad Operated by Class of Railroad: 2006[1]

State	Class I	Regional	Local	Switching and terminal	Canadian[3]	Total[4]
Alabama	2,684	344	572	159	0	3,759
Alaska	0	506	0	0	0	506
Arizona	1,281	0	382	145	0	1,808
Arkansas	2,541	208	725	114	0	3,588
California	5,488	403	654	352	0	6,897
Colorado	2,924	191	412	98	0	3,625
Connecticut	69	411	222	0	0	702
Delaware	247	0	24	11	0	282
District of Columbia	33	0	0	5	0	38
Florida	1,801	431	726	4	0	2,962
Georgia	3,421	0	1,468	1	0	4,890
Hawaii	0	0	0	0	0	0
Idaho	972	81	453	147	0	1,653
Illinois	7,941	845	744	402	0	9,932
Indiana	3,448	430	1,130	219	0	5,227
Iowa	2,768	1,006	376	45	0	4,195
Kansas	3,977	1,838	43	243	0	6,101
Kentucky	2,204	290	220	0	0	2,714
Louisiana	2,613	0	579	60	0	3,252
Maine	0	876	287	2	0	1,165
Maryland	828	125	176	27	0	1,156
Massachusetts	434	502	310	10	0	1,256
Michigan	2,571	440	1,220	260	1	4,492
Minnesota	4,035	714	889	156	44	5,838
Mississippi	1,957	46	424	170	0	2,597
Missouri	4,157	488	74	153	0	4,872
Montana	2,067	865	338	0	0	3,270
Nebraska	2,603	366	450	15	0	3,434
Nevada	2,004	0	0	0	0	2,004
New Hampshire	0	172	296	0	0	468
New Jersey	1,581	108	195	873	68	2,825
New Mexico	2,037	0	94	310	0	2,441
New York	2,154	455	1,283	129	803	4,824
North Carolina	2,552	0	550	226	0	3,328
North Dakota	2,273	1,308	158	0	0	3,739
Ohio	4,188	1,117	850	396	0	6,551
Oklahoma	2,625	78	978	318	0	3,999
Oregon	1,450	982	344	134	0	2,910
Pennsylvania	3,598	759	1,549	745	452	7,103
Rhode Island	0	87	0	0	0	87
South Carolina	2,044	0	250	93	0	2,387
South Dakota	932	793	172	24	0	1,921
Tennessee	2,044	0	742	67	0	2,853
Texas	12,219	1,058	697	991	0	14,965
Utah	1,762	396	12	125	0	2,295
Vermont	0	79	538	0	0	617
Virginia	3,147	0	382	63	0	3,592
Washington	2,154	17	1,055	211	0	3,437
West Virginia	2,145	10	343	6	0	2,504
Wisconsin	3,326	620	180	7	0	4,133
Wyoming	1,847	6	0	30	0	1,883
United States, total[2]	119,146	19,451	23,566	7,546	1,368	171,077

[1]Miles of railroad operated is synonymous with route-miles (so that a mile of single track is counted the same as a mile of double track). Sidings, turnouts, yard switching mileage, and mileage not operated are excluded. Miles operated under trackage rights provided by another (owning) railroad are included. Year-to-year changes in miles operated are due to both changes in track mileage and changes in the number of railroads with rights for the same track.

[2]Includes trackage rights.

[3]Refers to non-Class I, Canadian-owned lines.

[4]Excludes miles owned by Amtrak.

NOTE: For definition of railroad types see previous table.

SOURCE: Association of American Railroads, *Profile of the U.S. Freight Railroad Industry - 2006,* Washington, DC: 2007, personal communication, Feb. 15, 2008.

Table 1-14: Miles of Freight Railroad Operated by Class of Railroad: 2008[1]

State	Class I	Regional	Local		Canadian[2]	Total[3]
			Linehaul	Switching and terminal		
Alabama	2,671	344	556	142	0	3,713
Alaska	0	506	0	0	0	506
Arizona	1,237	0	354	145	0	1,736
Arkansas	2,540	248	745	114	0	3,647
California	5,432	411	538	355	0	6,736
Colorado	2,921	157	433	98	0	3,609
Connecticut	68	412	222	0	0	702
Delaware	247	0	24	11	0	282
District of Columbia	33	0	0	5	0	38
Florida	1,800	431	749	2	0	2,982
Georgia	3,399	0	1,387	18	0	4,804
Hawaii	0	0	0	0	0	0
Idaho	972	81	468	147	0	1,668
Illinois	7,997	868	806	417	0	10,088
Indiana	3,532	430	1,187	221	0	5,370
Iowa	2,757	1,102	365	46	0	4,270
Kansas	3,934	1,825	48	243	0	6,050
Kentucky	2,293	290	220	0	0	2,803
Louisiana	2,610	0	726	62	0	3,398
Maine	0	876	283	2	0	1,161
Maryland	829	125	177	18	0	1,149
Massachusetts	430	502	197	10	0	1,139
Michigan	2,569	440	1,336	238	1	4,584
Minnesota	4,020	647	848	157	44	5,716
Mississippi	1,941	46	635	155	0	2,777
Missouri	4,104	541	119	153	0	4,917
Montana	2,052	865	294	0	0	3,211
Nebraska	2,597	368	450	15	0	3,430
Nevada	1,997	0	0	0	0	1,997
New Hampshire	0	172	290	0	0	462
New Jersey	1,581	108	197	512	68	2,466
New Mexico	1,975	0	94	310	0	2,379
New York	2,081	439	1,190	129	803	4,642
North Carolina	2,424	0	689	234	0	3,347
North Dakota	2,214	1,380	84	0	0	3,678
Ohio	4,184	1,186	794	403	0	6,567
Oklahoma	2,738	78	978	309	0	4,103
Oregon	1,440	746	274	134	0	2,594
Pennsylvania	3,556	736	1,537	613	452	6,894
Rhode Island	0	138	0	0	0	138
South Carolina	2,069	0	250	93	0	2,412
South Dakota	931	790	272	24	0	2,017
Tennessee	2,168	0	751	63	0	2,982
Texas	12,180	1,058	741	1,003	0	14,982
Utah	1,695	293	24	46	0	2,058
Vermont	0	79	560	0	0	639
Virginia	3,127	0	384	63	0	3,574
Washington	2,210	15	1,258	210	0	3,693
West Virginia	2,129	10	341	6	0	2,486
Wisconsin	3,326	761	181	7	0	4,275
Wyoming	1,849	7	0	30	0	1,886
United States, total	118,859	19,511	24,056	6,963	1,368	170,757

[1] Miles of railroad operated is synonymous with route-miles (so that a mile of single track is counted the same as a mile of double track). Sidings, turnouts, yard switching mileage, and mileage not operated are excluded. Miles operated under trackage rights provided by another (owning) railroad are included. Year-to-year changes in miles operated are due to both changes in track mileage and changes in the number of railroads with rights for the same track.

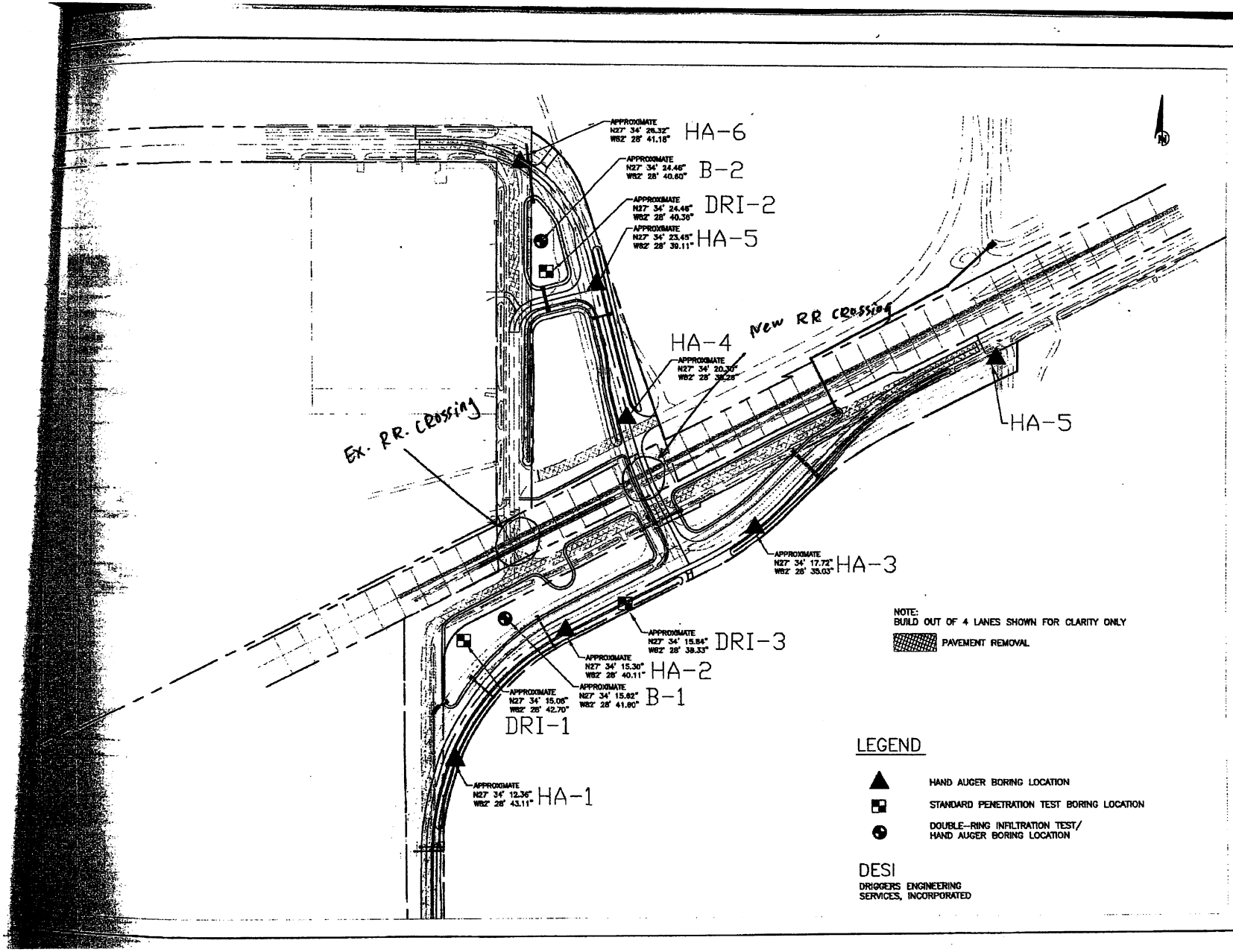
[2] Refers to non-Class I, Canadian-owned lines.

[3] Excludes miles owned by Amtrak.

NOTES: According to the Association of American Railroads, a *Class I* railroad in 2008 is a railroad with operating revenues of at least $401.4 million. A *Regional* railroad is a non-Class I, line-haul, freight railroad operating 350 or more miles of road or with revenues of at least $40 million or both. A *Local* railroad is a railroad which is neither a *Class I* nor a *Regional* railroad, and is engaged primarily in line-haul service. A *Switching and terminal* railroad is a non-Class I railroad engaged primarily in switching and/or terminal services for other railroads.

Data in this table include trackage rights.

SOURCE: Association of American Railroads, *Railroad Ten-Year Trends* (Washington, DC: Annual Issues).



MANATEE COUNTY GOVERNMENT
PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES

ERIE ROAD @ 69TH ST. EAST- INTERSECTION

ROADWAY SOIL SURVEY

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT #	380-6048460
SURVEY #	1029, 1235
SEC./TWN./RGE	26&35/33S/18E
SCALE	NTS
SURVEYED	
DESIGNED	
DRAWN	
CHECKED	

SIA MOLLANAZAR, P.E.
FLORIDA P.E. # 42903
Signature & Date

SHEET 12 OF XX

[3467-3699] Erie Rd
Parrish, FL 34219