

INVITATION FOR BIDS
FOR
PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS

Mail or Hand Deliver

ORIGINAL BID FORM (MARKED "ORIGINAL") & THREE (3) COMPLETE COPIES

BY 2:00 PM – January 23, 2018

To:

BOARD OF COUNTY COMMISSIONERS
ORANGE COUNTY, FLORIDA
INTERNAL OPERATIONS CENTRE II
PROCUREMENT DIVISION
400 E. SOUTH STREET- 2nd FLOOR
ORLANDO, FLORIDA 32801

Bid Opening:

January 23, 2018 - 2:00 PM

Internal Operations Centre II
Procurement Division Conference Room, Second Floor
Orlando, Florida 32801

Non - Mandatory Pre-Bid Conference – January 8, 2018 1:00 P.M.
Roads & Drainage Division, Conference Room 317
4200 S. John Young Parkway, Orlando, FL 32839
Interested bidders are encouraged to attend.

NOTICE TO BIDDERS/OFFERORS

To ensure that your bid/proposal is responsive, you are urged to request clarification or guidance on any issues involving this solicitation before submission of your response. Your point-of-contact for this solicitation is Rolando Melo at (407) 836-5644, or email to Rolando.Melo@ocfl.net

PART A
VOLUME I

TABLE OF CONTENTS

PART	DESCRIPTION	PAGE
VOLUME I		
A	INVITATION FOR BIDS	A
B	NOTICE	B
C	INSTRUCTIONS TO BIDDER	
1.	GENERAL	C-1
2.	PREPARATION AND SUBMISSION OF BIDS	C-1
3.	MINORITY/WOMEN OWNED BUSINESS ENTERPRISE	C-4
4.	BID PREFERENCE FOR REGISTERED SERVICE-DISABLED VETERANS (SDV)	C-11
5.	BID ERRORS	C-11
6.	DEVIATIONS	C-11
7.	SUBSTITUTE MATERIAL AND EQUIPMENT	C-12
8.	REQUESTED INFORMATION/DESCRIPTIVE LITERATURE	C-12
9.	AWARD OF CONTRACT/REJECTION OF BIDS	C-12
10.	POSTING OF RECOMMENDED AWARD	C-13
11.	CONTRACT DOCUMENTS	C-14
12.	MODIFICATION/ALTERATION OF SOLICITATION	C-14
13.	LAWS AND REGULATIONS	C-14
14.	REQUIRED DISCLOSURE	C-14
15.	EXECUTION OF WRITTEN AGREEMENT	C-15
16.	LICENSING REQUIREMENTS	C-15
17.	SECURITY FORFEITURE	C-16
18.	PERFORMANCE BOND AND PAYMENT BOND	C-16
19.	QUALIFICATIONS OF SURETY COMPANIES	C-16
20.	TRENCH SAFETY ACT	C-17
21.	DRUG FREE WORKPLACE	C-17
22.	BID TABULATION AND RECOMMENDED AWARD	C-17
23.	INDEMNIFICATION FOR TORT ACTIONS	C-17
24.	OCCUPATIONAL SAFETY AND HEALTH ACT (O.S.H.A.)	C-18
25.	PUBLIC ENTITY CRIME STATEMENT	C-18
26.	SUBCONTRACTOR/SUPPLIER INFORMATION	C-18
27.	SUBCONTRACTOR'S PAST PERFORMANCE	C-18
28.	REFERENCES	C-19
29.	BID & RELATED COSTS	C-19
30.	SOLICITATION CANCELLATIONS	C-19
31.	LICENSES/PERMITS/FEEES	C-19
32.	BID ACCEPTANCE PERIOD	C-20
33.	EQUAL OPPORTUNITY	C-20
34.	ETHICS COMPLIANCE	C-21
35.	TOBACCO FREE CAMPUS	C-21
36.	VERIFICATION OF EMPLOYMENT STATUS	C-22
37.	PROPRIETARY INFORMATION	C-22
38.	MOBILIZATION	C-22
39.	UNBALANCED PRICING	C-23
40.	UNIT PRICES	C-23

PART	DESCRIPTION	PAGE
D	BID FORM	
	OFFICIAL BID FORM	D-1
	NON-COLLUSION AFFIDAVIT	ATTACHMENT A
	REQUIRED DISCLOSURE	ATTACHMENT B
	M/WBE REQUIREMENTS	ATTACHMENT C
	COMPLIANCE WITH TRENCH SAFETY ACT	ATTACHMENT D
	REFERENCES	ATTACHMENT E
	PROJECT EXPENDITURE REPORT	ATTACHMENT F
	RELATIONSHIP DISCLOSURE FORM	ATTACHMENT G
	E-VERIFICATION CERTIFICATION	ATTACHMENT H
	BID BOND	EXHIBIT 1
E	CONSTRUCTION CONTRACT	
	CONTRACT FORM	E-1
	PERFORMANCE BOND	E-6
	PAYMENT BOND	E-9
	RELEASE OF LIEN	E-12
	CHANGE ORDER FORM	E-13
	CONSENT OF SURETY/INCREASE OF PENALTY FORM	E-15
	DRUG-FREE WORKPLACE FORM	E-17
F	GENERAL CONDITIONS	
	ARTICLE 1 - CONTRACT	F-1
	ARTICLE 2 - DEFINITIONS	F-1
	ARTICLE 3 - ASSIGNMENT OF CONTRACT	F-3
	ARTICLE 4 - QUALIFICATIONS OF SUBCONTRACTORS AND SUPPLIERS	F-4
	ARTICLE 5 - STARTING THE WORK	F-4
	ARTICLE 6 - INTERPRETATION AND INTENT OF THE CONSTRUCTION DOCUMENTS	F-4
	ARTICLE 7 - REFERENCE POINTS	F-5
	ARTICLE 8 - BONDS AND INSURANCE AND INDEMNIFICATION	F-6
	ARTICLE 9 - CONTRACTOR'S RESPONSIBILITIES	F-11
	ARTICLE 10 - WORK BY OTHERS	F-17
	ARTICLE 11 - PROJECT OWNER'S STATUS DURING CONSTRUCTION	F-19
	ARTICLE 12 - CHANGES IN THE WORK	F-19
	ARTICLE 13 - CHANGE OF CONTRACT AMOUNT/CONTRACT TIME	F-20
	ARTICLE 14 - CONDITION OF MATERIALS & PACKAGING	F-27
	ARTICLE 15 - ASBESTOS FREE MATERIALS	F-27
	ARTICLE 16 - WARRANTY/ACCEPTANCE OF DEFECTIVE WORK	F-27
	ARTICLE 17 – DELAYS AND EXTENSION OF TIME	F-30

ARTICLE 18 - PAYMENT AND COMPLETION	F-31
ARTICLE 19 - SUSPENSION OF WORK AND TERMINATION	F-38
ARTICLE 20 - MAINTENANCE AND EXAMINATION OF RECORDS	F-39
ARTICLE 21 – MINORITY/WOMEN OWNED BUSINESS ENTERPRISE REQUIREMENTS AND SMALL BUSINESS PROVISIONS	F-41
ARTICLE 22 - FEDERAL REQUIREMENTS	F-43
ARTICLE 23 – VERBAL ORDERS	F-43
ARTICLE 24 – MISCELLANEOUS	F-44
ARTICLE 25 – CONTRACT CLAIMS	F-45
ARTICLE 26 – VALUE ENGINEERING	F-47
ARTICLE 27 – PATENTS AND ROYALTIES	F-50
ARTICLE 28 – OWNER DIRECT PURCHASES	F-51
ARTICLE 29 – PUBLIC RECORDS COMPLIANCE (APPLICABLE FOR SERVICE CONTRACTS)	F-51

G	SUPPLEMENTAL CONDITIONS / SPECIAL PROVISIONS	
	SPECIAL CONDITIONS / SPECIAL PROVISIONS	G-1 - G-8

	VOLUME II
H	TECHNICAL PROVISIONS (SPECIFICATIONS)
	Scope of Work

TP 101	Mobilization
TP 102	Maintenance of Traffic
TP 104	Prevention, Control and Abatement of Erosion and Water Pollution
TP 110	Clearing and Grubbing
TP 270	Soil Cement Base (Primed)
TP 334	Superpave Asphaltic Concrete Pavement
TP 440	Underdrains
TP 520	Concrete Gutter, Curb Elements and Traffic Separator
TP 522	Concrete Sidewalks, 4 Inch and 6 Inch Thickness
TP 570	Performance Turf
TP 900-1	As-Built Plans
TP 900-2	Indemnification

INDEX OF DRAWINGS

1	Overview Map
2	Underdrain Improvements
3A	Broken Curb Inventory
3B	Broken Curb Inventory
3C	Broken Curb Inventory
3D	Broken Curb Inventory
3E	Broken Curb Inventory
3F	Broken Curb Inventory
4	Summary of Quantities
5	Underdrain Typical Section
6	General Notes
7	Miscellaneous Details

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ISSUED: December 21, 2017

**NOTICE
INVITATION FOR BID NO. Y18-727-RM**

PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS

Sealed bid offers (Original Bid Form and three (3) complete copies) for furnishing the above will be accepted up to **2:00 PM, January 23, 2018** in the Procurement Division; Internal Operations Centre II, 400 E. South Street; 2nd Floor, Orlando, FL 32801. Bids will be opened shortly thereafter in the Procurement Division Conference Room, 2nd Floor; Internal Operations Centre II.

Bid Documents are available in the following formats:

1. Complete bid documents may be obtained from the Procurement Division, Internal Operations Centre II, 400 E. South Street, 2nd floor, Orlando, FL 32801. Phone (407) 836-5635 and Fax (407) 836-5899. The documents are available for a cost of **\$50.00** non-refundable.
2. A printed copy of the basic solicitation documents and a CD containing the construction plans and specifications are available for a cost of **\$10** per CD non-refundable.
3. Complete bid documents **including construction plans and specifications** are now available for downloading from the internet at **orangecountyfl.net**.

A Non-Mandatory Pre-Bid Conference will be held on January 8, 2018, 1:00 P.M., Roads & Drainage Division, Conference Room 317, 4200 S. John Young Parkway, Orlando, FL 32839. Interested bidders are encouraged to attend.

SCOPE OF WORK: Construction of underdrains throughout the Park Manor Estates Sections 9-10, inclusive of the associated replacement of curbs, sidewalk and driveways aprons and the restoration of roadway base and asphalt associated with road open cuts.

PROJECT LOCATION: Park Manor Estates Subdivision, 1206 Park Manor Drive, Orlando, FL. 32825

Carrie Woodell, MPA, CFCM, CPPO, C.P.M., CPPB, APP
Manager, Procurement Division

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PART C - INSTRUCTIONS TO BIDDERS

1. GENERAL:

The term County used herein refers to the Board of County Commissioners, Orange County, Florida, or its duly authorized representative. The term Bidder used herein refers to the manufacturer, dealer or business organization submitting a bid to the County in response to this Invitation for Bid.

2. PREPARATION AND SUBMISSION OF BIDS:

- a. Form of Proposal: Each Bidder shall submit the bid in four parts (original Bid Form, marked original, with attachments and three (3) copies of the Bid Form and all attachments) and indicate the base bid price and any alternative(s) that may be included in the proper space(s).

The estimated total base bid is the sum of all pay item totals and the County reserves the right to correct errors in pay item totals arising from incorrect extensions. See "Bid Errors", Item 5.

- b. All bids, proposals or quotations, unless otherwise specified, must be delivered in a sealed envelope, either mailed or hand carried, to the Procurement Division, Orange County Internal Operations Centre II, 400 E. South Street, 2nd Floor, Orlando, Florida 32801, prior to the bid opening time as specified in Part B. Bids received after the date and time specified will be returned unopened. The time/date stamp clock located in the Procurement Division shall serve as the official authority to determine lateness of any bids.

Respondents are cautioned that they are responsible for delivery to the specific location cited above. Therefore, if your bid, proposal or quotation is delivered by an express mail carrier or by any other means, it is your responsibility to ensure delivery to the above address. This office will not be responsible for deliveries made to any place other than the specified address.

The delivery of said bid to the Procurement Division prior to the time and date stated in Part A is solely and strictly the responsibility of the Bidder. The County shall not be responsible for delays in delivery to the Procurement Division caused by the United States Postal Service or courier service, delivery to any other County Office or delays caused by any other occurrence. The bid delivery time will be scrupulously observed. Under no circumstances will bid proposals delivered after the delivery time specified be considered.

The decision to refuse to consider a bid or proposal that was received beyond the date/time established in the solicitation shall not be the basis for a protest pursuant to the Orange County Code (Procurement Ordinance).

Bidders should indicate on the sealed envelope the following:

1. Invitation for Bid Number
 2. Hour and Date of Opening
 3. Name of Bidder
 4. Return Address of the Bidder
- c. Bids will be publicly opened in the Procurement Division Conference Room, 2nd Floor of the Orange County Internal Operations Centre II, 400 E. South Street; Orlando, Florida.
- d. All bid proposals must be manually and duly signed by an authorized corporate officer, principal, or partner (as applicable) with his signature in full. When a firm is a Bidder, the bid proposals shall be signed in the name of the firm by one or more of the partners. When a corporation is a Bidder, the officer signing shall set out the corporate name in full beneath which he shall sign his name, give title of his office and affix the corporate seal. Anyone signing the bid proposal as agent must file with it legal evidence of his authority to do so. Bidders who are nonresident corporations shall furnish to the County a duly certified copy of their permit to transact business in the State of Florida along with the Bid Proposal. Failure to promptly submit this evidence or qualification to do business in the State of Florida may be basis for rejection of the Bid Proposal.
- e. The Bidder is solely responsible for reading and completely understanding the requirements and the specifications of the solicitation.
- f. Bid proposals may be withdrawn by written or telecopied requests dispatched by the Bidder and received by the Manager of the County Procurement Division before the time for receiving bids has expired. Negligence on the part of the Bidder in preparing a bid proposal is not grounds for withdrawal or modification of a bid proposal after such bid proposal has been opened by the County. A Bidder may not withdraw or modify a bid proposal after the appointed bid proposal opening and such bid proposal must be in force for **ninety (90)** days after the bid opening. Bidders may not assign or otherwise transfer their bid proposals.
- g. At the time and place fixed for the opening of bid proposals (see above), every bid proposal properly delivered within the time fixed for receiving bid proposals will be opened and publicly read aloud, irrespective of any irregularities found therein. Bidders and other persons interested may be present, in person or by representative.
- h. A Bid, Payment and Performance Bond are a requirement of the IFB when the bid/contract amount exceeds \$100,000.

Submission of an original Bid Bond (copy not acceptable) completed and signed by all required parties and submitted on the form provided in Exhibit 1 to the Bid Proposal (Part D), or in the alternative, a Certified Check, or a Cashier's Check shall be required to accompany each bid proposal in a stated dollar amount of not less than ten (10%) percent of the sum of the computed total amount of the Bidder's Base Bid proposal. Submittal of a Bid Bond less than 10% of the bid sum shall result in rejection of the bid. **Failure to submit the Bid Bond on the form provided in Exhibit 1 to the Bid Proposal (Part D) shall result in rejection of the bid.**

In order to be acceptable to the County, the Surety company issuing the Bid Bond as called for in this Invitation for Bids, shall meet and comply with the minimum standards described in Part C, Section 19, "Qualifications of Surety Companies". **Failure to submit a Bid Bond from a Surety Company meeting these minimum standards shall result in rejection of the bid.**

Certified checks or cashier's checks shall be drawn on a solvent bank or trust company to the order of the Board of County Commissioners, Orange County, Florida and shall have all necessary documentary revenue stamps attached, if required by law. Personal checks are not acceptable to the County. See Section 19, "Qualifications of Surety Companies" for additional requirement.

- i. A pre-Bid conference will be held at the time and location shown in the Notice, Part B of this Bid package.
- j. No oral interpretation of the meaning of the plans, specifications, or other Contract documents shall be considered binding. Every request for interpretation shall be in writing addressed to **Rolando Melo, or Email Rolando.Melo@ocfl.net**. To be given consideration, such requests must be received Ten (10) days prior to bid opening.

Any and all such interpretations and any supplemental instructions will be in the form of a written addendum which, if issued, will be available for downloading from the Internet at orangecountyfl.net. All addenda so issued shall become part of the Contract Documents and receipt shall be acknowledged on the Bid Form, Part D or by completion of the applicable information on the addendum and returning it not later than the date and time for receipt of the bid.

- k. Before submitting bid proposals, Bidders must carefully examine the site of the proposed work and make all necessary investigations to inform themselves thoroughly as to all difficulties involved in the completion of all work required pursuant to the mandates and requirements of this bid package.

No plea of ignorance of conditions or difficulties that may hereafter exist, or of conditions or difficulties that may be encountered in the execution of the work pursuant to this bid package as a result of failure to make the necessary examinations and investigations will be accepted as an excuse for any failure or omission on the part of the successful Bidder (Contractor) to fulfill, in every detail, all of the requirements of the Contract Documents, nor will they be accepted as a basis for any claims whatsoever for extra compensation or for an extension of time.

- I. **Firms and/or individuals that assisted in the development or drafting of the specifications, requirements, statements of work, or solicitation documents contained herein are excluded from competing for this solicitation.**

This shall not be applicable to firms and/or individuals providing responses to a publicly posted Request for Information (RFI) associated with a solicitation.

3. MINORITY/WOMEN OWNED BUSINESS ENTERPRISES:

- a. To provide for the participation of certified minority and women owned businesses (M/WBE's) in the County's procurement of construction services, Bidders submitting bids to the County are urged to comply with M/WBE subcontracting goals established by the County Minority/Women Business Enterprise Ordinance, No. 94-02 and amended by Ordinance No.2009-21. The overall goal for all bids (inclusive of all additive and deductive alternates) is 25% participation for M/WBE subcontractors and suppliers. Upon Contract award the Contractor must meet the M/WBE expenditure required by the Contract. Each M/WBE utilized to meet the project goal must be listed as a subcontractor on Attachment C-2. If there are any pre-qualifications required by the firm, then this must be provided to the M/WBE when they are solicited for interest in the bid. This required information must be completed prior to bid submittal.

The Ordinance also addresses minority/women group employment levels setting goals to encourage each Bidder to maintain 18% minority and 6% women employees.

Note: Only 50% of material/supply dollars purchased from M/WBE distributors is applied toward the goals for minority and women business enterprise participation on construction projects. Contractor shall list **the total amount of material/supply dollars** to be purchased from each M/WBE distributor on the Subcontractor/Supplier Page (Attachment C-2). **The County will calculate the actual dollars applied toward the goals.**

- b. **NOTICE: Goals for bids under \$100,000**

There are M/WBE goals for all bids including bids for IFB estimated to be less than \$100,000 (inclusive of all additive and deductive alternates).

c. **M/WBE Bidders competing as primes**

If an M/WBE firm bidding as a prime certifies with his/her bid that it will self-perform 51% percent or more of the project, as evidenced by Attachment C-2, then that firm will not be required to comply with the M/WBE subcontracting goals.

Failure to include the percentage of work and the scope of work to be self-performed, and the dollar amount for the work an M/WBE Bidder competing as a prime intends to self-perform will result in the M/WBE Bidder receiving zero M/WBE participation for the bid.

However, if the M/WBE Bidder will not be self-performing at least 51% percent of the project, then he/she must comply with the M/WBE participation goal, and good faith effort documentation required from non-M/WBE Bidders to receive M/WBE compliance consideration.

d. **Subcontracts/Purchase Orders**

The successful Bidder shall provide a copy of all fully executed subcontracts and/or purchase orders issued to M/WBE's listed on Attachment C-2 to the Business Development Division Liaison. Submittal of these subcontracts/purchase orders is a condition precedent to execution of the prime Contract by the County.

The Contractor **must** include in the subcontract agreement:

- 1.) Prompt Payment Clause **in all subcontracts and purchase orders** to the M/WBE subcontractor
- 2.) Payment schedule in all subcontracts and purchase orders (including those with non-M/WBE's) stating that payment will be made to the Subcontractor/suppliers within 72 hours of receipt of payment from the County
- 3.) The following statement: "It is the M/WBE responsibility to submit the required Monthly M/WBE utilization reports to the prime and Final M/WBE payment verification form to Business Development Division."

The M/WBE's failure to submit the required documents could negatively impact their M/WBE certification.

The County may, at its discretion, require copies of subcontracts/purchase orders for the non-M/WBE's listed on Attachment C-2. However, if this option is not exercised, the awarded Contractor **must** provide a list of all non-M/WBE Subcontractors and suppliers certifying that a prompt payment clause has been included in that Contract or purchase order.

e. **Good Faith Effort Documentation Requirements -**

If the established goals (reference paragraph 3.a above) are not achieved, to maximize consideration for MWBE participation, Bidders **must** provide with the bid sufficient documentation to substantiate that **ALL FIVE** of the mandatory efforts listed below were undertaken. Bidders meeting or exceeding the goals need not provide good faith effort documentation. Refer to paragraph f for the sliding scale for enforcement of the good faith effort document.

i. If a bidder desires to meet the good faith effort documentation requirements he/she must provide written notice to certified M/WBEs, **as it relates to the scopes of services in the bid documents**, that the Bidder intends to subcontract. The notice shall be by e-mail or fax, no fewer than seven (7) calendar days prior to bid or proposal opening. All e-mails and faxes shall include the legal name of the M/WBE firm. The notice **shall** advise the M/WBE's:

- a. that their interest in the contract is being solicited;
- b. of the specific work the Bidder intends to subcontract
- c. how to obtain information about and review the contract plans and specifications;
- d. about information on bonding, insurance and other pertinent requirements;

All requirements as it relates to the bonding, insurance and pre-qualifications must be given to the M/WBE's at the time the notice is provided. This information must be received and decisions to utilize the M/WBE must be known and denoted on Attachment C-2 prior to the bid submittal.

- e. the deadline for bid or proposal submissions to the Bidder and the bid due date to the County;
- f. 24 hours notice of any addenda.

ii. If M/WBE goals were not achieved the bidder shall provide an explanation as to why the scope of services listed in the bid documents were not subcontracted on Attachment C-2.

iii. Bidders shall follow up initial submittals of interest by contacting M/WBEs and documenting using a contact log, which shall include the firm's name address, contact information (e-mail, telephone and/or fax numbers), scope of work requested, the date, name of person making the effort, denote if M/WBEs will bid, time quote received and notes denoting if plans and specifications were sent. Each bidder shall use the standardized contact log, Attachment C-4.

- iv. In instances where a non-minority/non-woman contractor is listed for work for which M/WBE availability exists, the Bidder shall submit **ALL** quotations received from M/WBEs **AND** the listed non-M/WBE **within twenty-four (24) hours, if it is determined that the bidder is one of the three (3) apparent low Bidders.** The Bidder shall provide an explanation as to why the M/WBE's quotations were not accepted.

Receipt of a lower quotation from a non-M/WBE prior to bid opening will not in itself excuse a Bidder's failure to meet M/WBE participation goals. However, a Bidder's good faith effort obligation does not require a Bidder to accept a quotation from a M/WBE which is an unreasonable price. For the purpose of this subsection, "unreasonable price" means a price above (or below) competitive levels which cannot be attributed to the M/WBE's attempt to cover costs inflated by the present effect of discrimination.

- v. Bidder shall contact the Business Development Division Liaison for guidance and assistance as a resource to obtain M/WBE's available to be utilized for participation.

If the Bidder fails to meet one of the first four good faith effort requirements listed above (i – iv), the substitution will only count towards one good faith effort requirement and all other good faith requirements must be met. The substitution is from the following:

- (1) The National Entrepreneur Center (NEC) was used to host a workshop that informed M/WBE firms how to better prepare for sub-contracting opportunities;
- (2) The Bidder has participated in Orange County Business Development Division's sponsored "How to do Business" workshop;
- (3) The Bidder has sponsored a match-maker event with certified M/WBE firms. Enclose a copy of the certificate provided to your firm when the service was successfully completed.

If, after Contract award, Prime Contractors who have not achieved the M/WBE participation goals choose to subcontract work indicated as being self-performed without prior written approval of the Business Development Division (reference Part F, Article 21, paragraph D), the matter will be reported to the Procurement Division with an appropriate responsibility recommendation for consideration in the event the contractor competes for future County contracts.

f. **Sliding scale for enforcement of good faith effort requirements**

If the established goals are not achieved by the low Bidder and it has been determined that the good faith efforts required for compliance have not been documented by the low Bidder,

then the bid shall be rejected as non-responsive, but only if the next lowest responsive bid does not exceed the low bid by more than:

- i. Eight (8) percent on contract awards up to one hundred thousand dollars (\$100,000.00);or
- ii. Seven (7) percent on contract awards from \$100,000.00 to \$500,000.00; or
- iii. Six (6) percent on contract awards from five hundred thousand dollars and one cent (\$500,000.01) to seven hundred fifty thousand dollars (\$750,000.01); or
- iv. Five (5) percent on contract awards from seven hundred fifty thousand dollars and one cent (\$750,000.01) to two million dollars (\$2,000,000.00);or
- v. Four (4) percent on contract awards from two million dollars and one cent (\$2,000,000.01) to five million dollars (\$5,000,000.00); or
- vi. Three (3) percent on contract awards over five million dollars and one cent (\$5,000,000.01)

However, if the next low bid is responsive only because of the Bidder having made good faith effort (not because of having met the goals), the Board may approve award of the Contract to the next low Bidder only if the value of its M/WBE participation is equal to or greater than that of the low Bidder.

- g. Letters of Intent **must** match **exactly the information provided on** Attachment C-2 of the Bid Forms and **must** be executed by the apparent low Bidder for all M/WBE Subcontractors and/or suppliers listed. The letter(s) of intent **must** be submitted to the Business Development Division office before 5:00 P.M. on the second business day after bid opening. In the event the lowest bidder is not the recommended bidder, then letters of intent must be obtained from the recommended bidder two business days after being contacted.
- h. Bidders shall not reject an M/WBE as unqualified without sound reasons based on a thorough and documented investigation of that M/WBE's capabilities.
- i. Bidder's efforts will be evaluated considering the ability of other Bidders to meet the requirements relating to the use of M/WBE subcontractors.
- j. Bidders should make whatever additional efforts are necessary to achieve the goals and it is recommended that these efforts be documented. However, this documentation shall not replace the required documentation if the goals are not met.

Bidders are encouraged to contact the Business Development Division for guidance and assistance. Additional efforts by Bidders may include but are not limited to the following:

- i. Bidders should provide interested M/WBE's with assistance in reviewing the Contract plans and specifications.
 - ii. Bidders should assist interested M/WBE's in obtaining required lines of credit, insurance or bonding.
 - iii. Bidders should solicit only types of work that match the capabilities of the M/WBE's and for which they are certified.
- k. All participating M/WBE's must be certified by Orange County. The Business Development M/WBE Directory is available by e-mail or through the Orange County web site at Orangecountyfl.net.

Only firms having established offices in the Orlando MSA (Orange, Lake, Seminole and Osceola Counties) are eligible for Orange County certification. All firms must be certified prior to bid opening and must be certified in the area(s) for which they will be used. If a firm claims to be certified, but is not listed in the Directory, Contractor should obtain a copy of their Certificate and/or contact the Business Development Division Liaison for verification of certification.

1. The County has established a credit program whereby Contractors are awarded credits to be applied toward meeting the M/WBE goals on certain County bids. Emphasis will be placed on credits for Non-County Utilization and First-Time M/WBE Utilization:

1. Non-County Utilization Credit (Credit issued for the actual contract dollars)

This credit may be earned for the use of Orange County certified M/WBE's on private sector projects not involving governmental funding, and government projects that do not have mandated M/WBE goals.

2. First-Time M/WBE Utilization Credit (Credit issued for the actual contract dollar)

This credit may be earned by contractors/consultants who joint venture with an Orange County certified M/WBE for the first time or include and utilize a M/WBE for the first time in a bid/proposal.

You will need to obtain approval for these credits from the Business Development Manager. This process will take at least 30 days to complete. Begin by submitting a letter indicating the specific M/WBE credit (Non-County Utilization Credit or First Time M/WBE Utilization Credit) for consideration.

Also, include for the Non-County Utilization Credit program details to support documentation such as contracts from project after January 2002 through current year, proof of payment.

Upon receipt of this written request, our office will begin contacting the M/WBE firms to verify the M/WBE utilization information on provided. If the information is verified, then a certificate of credit will be provided. The credits are good for two years, then expire without renewal.

The firm must specify on form C-2 when a credit is to be used. Credits may be used to offset a maximum of 20% of the overall M/WBE goals (For example, if the bid is for \$500,000, the stipulated M/WBE goal for this project will be 25%, or \$125,000. 20% of the stipulated goal is \$25,000 in credits that may be used. The remaining \$100,000 (to meet the stipulated goal) must be obtained through regular M/WBE participation.

Credits are tracked for each firm by the Business Development Division.

- m. The County has a graduate program. Under this program, utilization of M/WBE firms designated as graduates shall count toward meeting M/WBE participation goals only on specified projects. All construction solicitations for which the County has determined the overall contract amount to be awarded to the prime in excess of \$10,000,000 for vertical construction, \$7,000,000 for horizontal construction and \$7,000,000 for all other construction are eligible for graduate M/WBE participation.

Vertical construction is any construction of a structure or building which requires a general or building contractor's license. Horizontal construction includes but is not limited to roadwork, site work, drainage or utilities work. Other construction is any construction other than what is defined as vertical or horizontal construction.

The Bidder's total base bid, which is used by the Procurement Division as the basis for determining Contract award value, will be used to determine if graduated M/WBE firms are eligible to participate. If the contract has option provisions, the total base Bid is the total of the Basic Contract Year plus all Option Years. Prime contractors will receive full M/WBE credit for the use of graduated M/WBE's that meet all other requirements.

It is the Bidder's responsibility to ensure that graduate M/WBE's are not listed in proposals to meet M/WBE participation requirements on projects in which they are not eligible to participate.

Intentional failure to attempt compliance and/or intentional failure to comply with the M/WBE subcontract goals pursuant to the Minority/Women Business Enterprise Ordinance, may result in the County invoking penalties under that ordinance and/or a finding by the County that a Bidder is "non-responsible", thus resulting in that bid being rejected and the Bidder facing possible suspension or debarment from future County IFB's.

4. BID PREFERENCE FOR REGISTERED SERVICE-DISABLED VETERANS (SDV)

The Orange County Registered Service-Disabled Veteran Business Program Ordinance sets vendor preferences for registered service-disabled veteran business enterprises registered with Orange County Business Development Division.

As part of this program, Contractors are required to complete the Attachment C-2 listing **ALL** subcontractors (majority, women and minority, and registered service-disabled veteran) their firm will utilize in fulfillment of the requirements of this solicitation.

Also, in accordance with the County SDV Ordinance, preferences for registered service-disabled veteran business enterprises shall be applied on bid awards (sealed bids). The following bid preference scale shall apply to bids submitted by Prime registered service-disabled veteran business enterprises as long as the bid does not exceed the low bid by more than 8% on bid awards up to \$100,000 ; 7% on bid awards from \$100,000.01 to \$500,000; 6% on bid awards from \$500,00.01 to \$750,000; 5% on bid awards from \$750,000.01 to \$2,000,000; 4% on contract awards from \$2,000,000.01 to \$5,000,000.00 and 3% on bid awards over \$5,000,000.01.

Prime registered service-disabled veteran business enterprises may be awarded or recommended for award of contracts when their bids are within the above allowed percentage in comparison to the low responsive and responsible bid(s).

If a prime registered service-disabled veteran business enterprise, entitled to the vendor preference under this section, and one (1) or more other businesses also entitled to this preference, or another vendor preference provided by the Orange County Code, submit bids, proposals, or replies for procurement of commodities or contractual services which are otherwise equal with respect to all relevant considerations, including price, quality, and service, then the Procurement Division Manager shall award the procurement or contract to the business having the smallest net worth.

5. BID ERRORS:

Where bid forms have erasures or corrections, each erasure or correction must be initialed in ink by the Bidder. In case of unit price bid items, if an error is committed in the extension of an item, the unit price as shown in the Official Bid Form will govern. Errors between any sum, computed by the Bidder, and the correct sum thereof will be resolved in favor of the correct sum. Any discrepancy between words and numbers will be resolved in favor of the written words.

6. DEVIATIONS:

Bidders are hereby advised that Orange County will only consider bid Proposals that meet the specifications and other requirements imposed upon them by this bid package. In instances where a deviation is stated in the bid form, said bid will be subject to rejection by the County in recognition of the fact that said bid Proposal does not meet the exact requirements imposed upon the Bidder by the Contract Documents.

7. SUBSTITUTE MATERIAL AND EQUIPMENT:

The Contract, if awarded, will be on the basis of material and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or-equal" items. Whenever materials or equipment or patented processes are specified or described in the Contract Documents by naming a trade name, manufacturer, supplier or proprietary item or catalog number, the naming of the item is intended to establish the type, function and quality required and to establish a basis for bidding.

Substitute materials or equipment may be considered after a Contract for the Work is executed if sufficient information is supplied by Contractor to allow Project Manager to evaluate the proposed substitution, unless the naming of the item is followed by words indicating that no substitution is permitted. The procedure for submittal of any such application by Contractor and consideration by Project Manager is set forth in the General Conditions.

In the event that substitute materials or equipment are used and are less costly than the originally specified material or equipment, then the difference in cost of the item shall benefit the County and Contractor in equal proportions.

Applications for substitute materials and equipment shall only be evaluated after the Contract is executed. The Base Bid and Alternates shall reflect the costs for the materials and equipment named or specified only.

8. REQUESTED INFORMATION AND DESCRIPTIVE LITERATURE:

Bidders must furnish all requested information in the spaces provided on the bid form or attachments thereto. Additionally, where required pursuant to the provisions of this bid package, Bidders must submit with their bid proposal cuts, sketches, descriptive literature and/or complete specifications relative to the items proposed and offered.

9. AWARD OF CONTRACT/REJECTION OF BIDS:

The Board of County Commissioners will award a Contract to the low, responsive and responsible Bidder, price and other factors considered. The County will award one Contract for this requirement. The Board of County Commissioners, in its sole discretion, reserves the right to reject any and all bids and to waive any informality concerning bid proposals whenever such rejection or waiver is in the best interest of the County. The ability of a Bidder to obtain a performance bond and a payment bond shall not be regarded as the sole test of such Bidder's competency or responsibility. Nothing contained herein shall place a duty upon the County to reject bids or award a Contract based upon anything other than its sole discretion as described herein.

When more than one method of work is prescribed in the solicitation with separate pricing allowed for each method, the County will select the method determined to be in its best interests, price and other factors considered.

Determination of the low Bidder when additive or deductive bid items are involved shall be as follows:

A. ADDITIVE/DEDUCTIVE BID ITEMS:

1. If it is deemed to be in the best interest of the County to accept the additive or deductive items, award will be made to the Bidder that offers the lowest aggregate amount for the base bid, plus or minus (in the order listed on the bid form), those additive or deductive bid items that provide the most features of the work.
2. All bids will be evaluated on the basis of the same additive or deductive bid items.
3. Failure of the Bidder to provide pricing for all unit priced items and/or the Base Bid and ALL requested additive/deductive bid items, or alternate bids shall be cause for rejection of the bid as non-responsive.

B. RECIPROCAL LOCAL PREFERENCE:

In the event the lowest responsive and responsible bid submitted in response to any Invitation for Bids is by a bidder whose principal place of business is in a county other than Orange County, and such county grants a bid preference for purchases to a bidder whose principal place of business is in such county, then Orange County may award a preference to the (next) lowest responsive and responsible bidder having a principal place of business within Orange County, Florida. Such preference will be equal to the preference granted by the county in which the lowest responsive and responsible bidder has its principal place of business **except as provided below.**

1. **Effective July 1, 2015 the reciprocal local preference will not apply to construction services in which 50 percent or more of the cost will be paid from state-appropriated funds which have been appropriated at the time of the competitive solicitation.**
2. **If the solicitation involves a federally funded project where the funding source requirements prohibit the use of state and/or local preferences, the reciprocal local preference will not be applied.**

10. POSTING OF RECOMMENDED AWARD AND PROTESTS:

The recommended award will be posted for review by interested parties at the Procurement Division and at <http://apps.ocfl.net/OrangeBids/AwardsRec/default.asp> prior to submission through the appropriate approval process and will remain posted for a period of five full business days.

Failure to file a protest to the Procurement Division Manager by 5:00 PM on the fifth full business day after the posting date shall constitute a waiver of bid/proposal protest proceedings.

Additional information relative to protests can be found at:

<http://www.orangecountyfl.net/VendorServices/VendorProtestProcedures.aspx>

A lobbying blackout period shall commence upon issuance of the solicitation until the Board selects the successful Bidder. For procurements that do not require Board approval, the blackout period commences upon solicitation issuance and concludes upon Contract award. Additional information relative to lobbying can be found at:

<http://www.orangecountyfl.net/OpenGovernment/LobbingAtOrangeCounty.aspx>

The Board of County Commissioners may void any Contract where the County Mayor, one or more County Commissioners, or a County staff person has been lobbied in violation of the blackout period restrictions of Ordinance No. 2002-15.

11. CONTRACT DOCUMENTS:

The Contract Documents shall include the documents stated in the Contract (Titles, Subtitles, Headings, Running Headlines, Table of Contents and Indexes are used merely for convenience purposes).

12. MODIFICATION/ALTERATION OF SOLICITATION AND OR CONTRACT DOCUMENTS

Modification or alteration of the documents contained in this solicitation or the contract resulting from this solicitation shall only be made upon receipt of prior written consent of the County.

13. LAWS AND REGULATIONS:

The Bidder's attention is directed to the fact that all applicable Federal and State laws, municipal and County ordinances, and the rules and regulations of all authorities having jurisdiction over any part of the project shall apply to the solicitation and Contract throughout, and they will be deemed to be included in the solicitation/Contract the same as though herein written.

14. REQUIRED DISCLOSURE:

Bidder shall disclose all material facts with its bid submission pertaining to any felony conviction or any pending felony charges in the last three (3) years anywhere in the United States against (i) Bidder, (ii) any business entity related to or affiliated with Bidder, or (iii) any present or former executive employee, officer, director, stockholder, partner or owner of Bidder or of any such related or affiliated entity. This disclosure shall not apply to any person or entity who is a stockholder, owning less than 20% of the outstanding shares of a Bidder whose stock is publicly owned and traded.

The Bidder shall also disclose any civil conviction or pending civil litigation involving Contract performance during the last three (3) years anywhere in the United States against the Bidder, or against any business controlled by or affiliated with Bidder.

The Board of County Commissioners may reject, at its sole discretion, any Bidder the Commission finds to lack, or whose present or former executive employees, officers, directors, stockholders, partners or owners are found by the Commission to lack honesty, integrity, or moral responsibility. The Commission's finding may be based on the disclosure required herein, the County's own investigation, public records, or any other reliable source of information. The Commission may also reject any Bidder failing to make the disclosure required herein. By submitting a bid, Bidder recognizes and accepts that the Board of County Commissioners may reject any bid at its sole discretion and the Bidder waives any claim it might have for damages or other relief arising from the rejection of its bid or resulting directly or indirectly from the rejection of its bid based on these grounds or from the disclosure of any pertinent information relating to the reasons for rejection of its bid.

15. EXECUTION OF WRITTEN CONTRACT:

The successful Bidder will be required to sign a written Contract which has been made a part of this bid package and identified as the Contract. Said written Contract will evidence in written form the agreement between the parties pursuant to the award having been theretofore made by the County to this Bidder; said signing to be accomplished within ten (10) days after receipt of Notice of Award.

The County will issue an "Official Notice to Proceed" on the project within ninety (90) days after contract award. In the event the Official Notice to Proceed has not been issued by the County within the 90-day period above, the Contractor shall have the option to rescind the Contract or continue with the Contract as originally bid.

16. LICENSING REQUIREMENTS:

The following licensing requirements shall apply when the applicable Florida statute mandates specific licensing for Contractors engaged in the type of work covered by this solicitation.

- a. State of Florida, Department of Professional Regulation, Construction Industries Licensing Board and licensed by other federal, state, regional, county or municipal agencies having jurisdiction over the specified construction work.
- b. Said licenses **shall** be in the Bidder's name as it appears on the Official Bid Form. Bidder shall supply appropriate license numbers, with expiration dates, as part of their bid. Failure to hold and provide proof of proper licensing, certification and registration **shall** be grounds for rejection of the bid.
- c. Bidder shall provide copies of all applicable licenses with their Bid Proposal.
- d. Subcontractors contracted by the Prime Contractor shall be licensed in their respective fields to obtain construction permits from the County. Said license must be in the name of the subcontractor listed on Attachment C, Subcontractor/Supplier Page, herein.

17. SECURITY FORFEITURE:

When bid security has been required (Part C, Section 2, Paragraph h.): If, within ten (10) days after issuance of Notice of Award of a Contract, the successful Bidder refuses or otherwise neglects to execute the required written Contract and fails to furnish the required Performance Bond and Payment Bond, the amount of the Bidder's bid security (Cashier's Check or Bid Bond) shall be forfeited and the same shall be retained by the County. No plea of mistake in the bid or misunderstanding of the conditions of forfeiture shall be available to the Bidder for the recovery of his bid security or as a defense to any action.

18. PERFORMANCE BONDS AND PAYMENT BONDS:

When the contract amount exceeds \$100,000 a Payment Bond and a Performance Bond issued in a sum equal to one hundred (100%) percent of the total awarded Contract amount by a Surety company considered satisfactory by the County according to the criteria in Section 19 will be required from the successful Bidder for purposes of protecting the County from lawsuits for non-payment of debts as might be incurred during the successful Bidder's performance under such Contract, and insuring the faithful performance of the obligations imposed by the resulting Contract.

The Payment Bond and the Performance Bond forms are included in the Contract Documents and said forms must be properly executed by the Surety Company and successful Bidder within ten (10) days after receipt of notification from the County of its award of the Contract.

The Contractor shall record the payment and performance bonds in Orange County public records as required by Florida Statutes, Chapter 255.05. Before commencing the work the Contractor shall provide to the Manager of the Procurement Division a certified copy of the recorded bonds. No payment will be made to the contractor until the contractor has provided a copy of the recorded bonds.

19. QUALIFICATIONS OF SURETY COMPANIES:

In order to be **ACCEPTABLE** to the County, the Surety company issuing **the Bid Bond, the Performance Bond and the Payment Bond**, as called for in this Invitation for Bids, shall meet and comply with the following minimum standards:

- a. Surety must be admitted to do business in the State of Florida and shall comply with the provisions of Florida Statute 255.05.
- b. Surety must be listed on the U.S. Department of Treasury Fiscal Service, Bureau of Government Financial Operations, Federal Register, Part V, latest revision, entitled: "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies".
- c. All bonds shall be originals and issued or countersigned by a producing agent with satisfactory evidence of the authority of the person or persons executing such bond shall be submitted with the bond.

Attorneys-in-fact who sign bonds or other Surety instruments must attach with each bond or Surety instrument a signed, certified and effectively dated copy of their power of attorney. Agents of Surety companies must list their name, address and telephone number on all bonds.

- d. The life of the bonds shall extend twelve (12) months beyond the date of Final Completion and shall contain a waiver of alteration to the terms of the Contract, extensions of time and/or forbearance on the part of the County.
- e. **Surety must have financial standing having a rating from A.M. Best Company (or other equivalent rating company) equal to or better than A- Class VI.**
- f. Should the Bid, Payment and Performance Bonds be issued by co-sureties, each surety listed on the bond shall meet the requirements in paragraphs a. – e. above. In addition, each surety shall submit a power of attorney and all signatures of the co-sureties representatives shall be notarized. The “lead” surety shall be identified for the purposes of underwriting and claims management.

FAILURE TO MEET ANY OF THE REQUIREMENTS CONTAINED ABOVE SHALL RESULT IN REJECTION OF THE BID.

20. TRENCH SAFETY ACT:

Pursuant to Chapter 90-96 (CS/SB 2626), Laws of Florida, "Trench Safety Act", any person submitting a bid/proposal is required to complete the form entitled: COMPLIANCE WITH FLORIDA TRENCH SAFETY ACT (90-96, LAWS OF FLORIDA), if applicable, and return the form with the Official Bid Form, (Part D, Attachment D). This is not a pay item. The purpose of this form is to gather information on the costs associated with trench safety measures and to insure that the bidder has considered these costs and included them in the Base Bid. Failure to complete this form may result in the Bid being declared non-responsive.

21. DRUG-FREE WORKPLACE FORM:

The Drug-Free Workplace Form is attached in Part E and shall be completed and submitted with your bid.

22. BID TABULATION AND RECOMMENDED AWARD:

Bid files may be examined during normal working hours, thirty (30) days after bid opening, or upon recommendation for award, whichever occurs first. Bidders desiring to view these documents are urged to schedule an appointment. For information concerning this bid, please contact the Procurement Division at the address listed above or by calling (407) 836-5635. Please specify the bid number for which you are inquiring. Bid opening results will be available at <http://apps.ocfl.net/orangebids/bidresults/results.asp>. Unsuccessful bidders will not be notified, unless a request is submitted in accordance with this paragraph.

23. INDEMNIFICATION FOR TORT ACTIONS/LIMITATION OF LIABILITY:

The provisions of Florida Statute 768.28 applicable to Orange County, Florida apply in full to this Contract.

Any legal actions to recover monetary damages in tort for injury or loss of property, personal injury, or death caused by the negligent or wrongful act or omission of any employee of the County acting within the scope of his/her office or employment are subject to the limitations specified in this statute.

No officer, employee or agent of the County acting within the scope of his/her employment or function shall be held personally liable in tort or named as a defendant in any action for any or damage suffered as a result of any act, event, or failure to act.

The County shall not be liable in tort for the acts or omissions of an officer, employee, or agent committed while acting outside the course and scope of his/her employment. This exclusion includes actions committed in bad faith or with malicious purpose, or in a manner exhibiting wanton and willful disregard of human rights, safety, or property.

24. OCCUPATIONAL SAFETY AND HEALTH ACT (O.S.H.A.):

In instances where such is applicable due to the nature of the bid matter with which this bid package is concerned, all material, equipment, etc., as proposed and offered by Bidders must meet and conform to all O.S.H.A. requirements; the Bidder's signature upon the bid proposal form (Part D) being by this reference considered a certification of such fact.

25. PUBLIC ENTITY CRIME STATEMENT (FS 287.133):

A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a Contract to provide any goods or services to a public entity, may not submit a bid on a Contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a Contractor, supplier, subcontractor, or any entity in excess of the threshold amount provided in Florida State Statutes Section 287.017 for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.

26. SUBCONTRACTOR/SUPPLIER INFORMATION:

If maximum M/WBE participation is desired bidders must list all proposed subcontractors and suppliers to be used, regardless of racial or gender grouping, to include names, addresses, phone numbers, type of work subcontracted (trade or commodity), dollar amount of work, and the M/WBE designation or Majority (Non-M/WBE) owned company. Attachment C-2 is provided for this information. Contractor shall not change any subcontractors without just cause and approval by the County.

27. SUBCONTRACTOR'S PAST PERFORMANCE:

Bidder is responsible for verifying subcontractor's satisfactory performance on previous Orange County projects. Failure to do so may impact Bidder's responsibility determination.

28. REFERENCES:

Bidder should supply (with the bid form) a list of five (5) similar projects successfully completed **by the Bidder, as a Prime or Sub Contractor** within the last twelve (12) years. Failure to provide this information may be cause for rejection of the bid. For the purposes of the Invitation for Bids, a similar project is described as follows:

Construction of a new and/or replacement of nonfunctional underdrains systems, including the associated incidentals such as removal and replacement of existing damaged curbs, sidewalk & driveways aprons, repairs to damaged sprinkler system and restoration of roadway base & asphalt in an urban area. For purposes of this Invitation for Bid, "urban" is defined as projects which traverse an urbanized area which may have multiple intersecting streets and connecting driveways.

Additionally, all of the projects submitted must meet the following requirement: These elements can be demonstrated among all projects and are not required to all be in a single project:

1. At least one (1) project submitted must have been successfully completed within a sub-division where a minimum of 2,000 linear feet of underdrains were installed.
2. Removal and replacement of underdrains, installation of new underdrains, removal and replacement of existing damaged curbs, sidewalk and driveway aprons, repairs of damaged sprinkler systems and restoration of roadway base.

EACH SIMILAR PROJECT LISTED SHALL BE LISTED WITH COMPLETE INFORMATION AS SPECIFICALLY PROVIDED ON THE REFERENCE FORM (ATTACHMENT E). THE SPECIFIC INFORMATION ON REFERENCES MUST BE PROVIDED ON THE REFERENCE FORM. DO NOT ATTACH LISTINGS OF REFERENCE INFORMATION.

FAILURE TO PROVIDE REFERENCE INFORMATION AS REQUESTED MAY RESULT IN THE REJECTION OF YOUR BID.

The determination of whether a bidder is responsible or not shall be at the sole discretion of the County. Although the County may request submission of a minimum number of similar projects for evaluation, the County's determination of a bidder's responsibility shall not be solely based on the number of similar projects submitted.

The contact person listed as a reference shall be someone who has personal knowledge of the Bidder's performance during the referenced project. Contact persons must have been informed that they are being used as a reference and that the County will be calling or emailing them.

29. BID AND RELATED COSTS:

By submission of a bid, the Bidder agrees that all costs associated with the preparation of his/her bid will be the sole responsibility of the Bidder. The Bidder also agrees that the County bears no responsibility for any costs associated with the preparation of the bid and/or any administrative or judicial proceedings resulting from the solicitation process.

30. SOLICITATION CANCELLATIONS

Orange County reserves the right, and the Manager of the Procurement Division, has the absolute and sole discretion to cancel a solicitation at any time prior to approval of the award by the Board of County Commissioners when such approval is required. The decision to cancel a solicitation cannot be the basis for a protest pursuant to the Orange County Code.

31. LICENSES/PERMITS/FEES:

A. In compliance with the Public Bid Disclosure Act, Section 218.80, Florida Statutes, each permit, license, and/or fee applicable to this work/project (before and during construction) that will either be paid by the Contractor or by the Orange County Board of County Commissioners as specified below:

Orange County will be responsible for paying for any and all permits, licenses, and fees imposed on the work/project by agencies of the Orange County Board of County Commissioners. This does not alleviate the Contractor from obtaining the permits.

B. Licenses, permits and fees which may be required by the State of Florida, State Agencies or by other local governmental entities or agencies other than Orange County Board of County Commissioners:

The Contractor shall procure and pay for all permits and licenses, charges and fees and give all notices necessary and incidental to the due and lawful prosecution of the work.

The cost of all permits, fees, etc. shall be included in the bid price except where noted otherwise in the specifications or other bid documents.

C. The Orange County Government Fee Directory, incorporated herein by reference, contains a list of licenses, permits and fees that may apply to this project.

The fee directory link "Fees" is available at:

<http://www.orangecountyfl.net/portals/0/resource%20library/open%20government/FeeDirectory.pdf>

Bidders shall review all applicable licenses, permits and fees and contact the applicable agency if there are any questions.

32. BID ACCEPTANCE PERIOD

Any bid submitted in response to this Invitation for Bids shall remain in effect for a period of 90 days after bid opening. Upon request of the County, the bidder at its sole option may extend this period.

33. EQUAL OPPORTUNITY

It is hereby declared that equal opportunity and nondiscrimination shall be the County's policy intended to assure equal opportunities to every person, regardless of race, religion, sex, sexual orientation and gender expression/identity, color, age, disability or national origin, in securing or holding employment in a field of work or labor for which the person is qualified, as provided by Section 17-314 of the Orange County Code and the County Administrative Regulations.

Further, the awarded Contractor shall abide by the following provisions:

- (a) The awarded Contractor shall represent that awarded Contractor has adopted and maintains a policy of nondiscrimination as defined by applicable County ordinance throughout the term of this contract.
- (b) The awarded Contractor shall allow reasonable access to all business and employment records for the purpose of ascertaining compliance with the nondiscrimination provision of the contract.
- (c) The provisions of the prime contract shall be incorporated by the awarded Contractor into the contracts of any applicable subcontractors.

34. ETHICS COMPLIANCE

The following forms are included in this solicitation as attachments F and G and shall be completed and submitted as indicated below:

- a. **Orange County Specific Project Expenditure Report** -The purpose of this form is to document any expenses incurred by a lobbyist for the purposes described in Section 2-351, Orange County Code.

This form shall be completed and submitted with any bid, proposal or other response to an Orange County solicitation.

The bidder, proposer or responder to the solicitation shall not be awarded a contract unless this form has been completed and submitted.

Any questions concerning this form shall be addressed to the senior contract administrator for this solicitation.

- b. **Relationship Disclosure Form** – The purpose of this form is to document any relationships between a bidder, proposer or responder to an Orange County solicitation and the Mayor or any other member of the Orange County Board of County Commissioners. This form shall be completed and submitted with the applicable bid, proposal or response to an Orange County solicitation.

No contract award will be made unless this form has been completed and submitted. Any questions concerning this form shall be addressed to the senior contract administrator identified in this solicitation. Also, a listing of the most frequently asked questions concerning this form is attached for your information.

35. TOBACCO FREE CAMPUS

All Orange County operations under the Board of County Commissioners shall be tobacco free. This policy shall apply to parking lots, parks, break areas and worksites. It is also applicable to contractors and their personnel during contract performance on county-owned property. Tobacco is defined as tobacco products including, but not limited to, cigars, cigarettes, e-cigarettes, pipes, chewing tobacco and snuff. Failure to abide by this policy may result in civil penalties levied under Chapter 386, Florida Statutes and/or contract enforcement remedies.

36. VERIFICATION OF EMPLOYMENT STATUS

Prior to the employment of any person under this contract, the Contractor shall utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the Contractor during the contract term, and an express requirement that Contractors include in such subcontracts the requirement that subcontractors performing work or providing services pursuant to the state contract utilize the E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the contract term. For more information on this process, please refer to United States Citizenship and Immigration Service site at:

<http://www.uscis.gov/portal/site/uscis>.

Only those employees determined eligible to work within the United States shall be employed under this contract.

By submission of a bid in response to this solicitation, the Contractor affirms that all employees in the above categories shall undergo e-verification before placement on this contract. The Contractor shall commit to comply with this requirement by completing the E-Verification certification, attached to this solicitation.

37. PROPRIETARY INFORMATION

In accordance with Chapter 119 of the Florida Statutes (Public Records Law), and except as may be provided by other applicable State or Federal Law, all proposers should be aware that Request for Proposals or Invitation for Bids and the responses thereto are in the public domain. **Proposers must identify specifically** any information contained in their response which they consider confidential and/or proprietary and which they believe to be exempt from disclosure, **citing specifically the applicable exempting law.**

38. MOBILIZATION:

Mobilization is defined as construction start-up costs required for performance of preparatory work and operations in mobilizing for beginning work on the project. Such costs are necessary for the movement of personnel, equipment, supplies and incidentals to the project site and for the establishment of temporary offices, buildings, safety equipment, first aid supplies, sanitary and other facilities. Include the cost of bonds, insurance and any other preconstruction expense necessary for the start of work. Mobilization costs are not part of the physical construction.

The Contractor shall retain adequate documentation to support all mobilization costs. The County may at its discretion verify reasonableness of actual mobilization costs and make an equitable adjustment to contract price if deemed necessary.

The total cost of mobilization shall not exceed 5% of the Estimated Total Base Bid. For purposes of calculation of maximum allowable mobilization, the "Estimated Total Base Bid" is defined as the total of all line items specified to be included in the mobilization calculation, exclusive of any alternates or options, and exclusive of the Mobilization line item.

Failure of the Bidder to comply with this limitation shall result in a reduction of the line item price for Mobilization; or, in the alternative, the bid may be found non-responsive, at the County's option.

39. UNBALANCED PRICING

A. Unbalanced pricing may increase performance risk and could result in payment of unreasonably high prices. Unbalanced pricing exists when, despite an acceptable total evaluated price, the price of one or more contract line items is significantly over or understated as indicated by the application of cost or price analysis techniques.

The greatest risk associated with unbalanced pricing occur when—

1. Startup work and mobilization are separate line items;
2. Base year quantities and option year quantities are separate line items ; or
The evaluated price is the aggregate of estimated quantities to be ordered under separate line items of an indefinite-delivery contract.

B. All offers with separately priced line items or subline items shall be analyzed to determine if the prices are unbalanced. If cost or price analysis techniques indicate that an offer is unbalanced, the Manager of the Procurement Division shall

1. Consider the risks to the County associated with the unbalanced pricing in determining the competitive range and in making the award decision; and
2. Consider whether award of the contract will result in paying unreasonably high prices for contract performance.
3. An offer may be rejected if the manager determines that the lack of balance poses an unacceptable risk to the County.

40. UNIT PRICES

Unless the Bid Item Schedule contained in Part D specifies otherwise, unit prices shall include all incidental Project costs, including but not limited to overhead and profit.

The Contract resulting from this solicitation is based on estimated quantities. The contractor shall only be paid for materials installed in the work in accordance with the applicable unit prices for the specific work element (line item).

No payment shall be made for excess materials delivered to the jobsite and not incorporated into the work. Therefore, it shall be the contractor's responsibility to determine the quantities of materials necessary to perform the project to its completion.

IFB NO. Y18-727-RM

ISSUED: December 21, 2017

OFFICIAL BID FORM

FOR

PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS

Mail or Hand Deliver

ORIGINAL BID FORM AND THREE (3) COMPLETE COPIES

BY 2:00 PM - January 23, 2018

To:

BOARD OF COUNTY COMMISSIONERS
ORANGE COUNTY, FLORIDA
INTERNAL OPERATIONS CENTRE II
PROCUREMENT DIVISION
400 E. SOUTH STREET – 2nd FLOOR
ORLANDO, FLORIDA 32801

Bid Opening:

January 23, 2018, - 2:00 PM

INTERNAL OPERATIONS CENTRE II
PROCUREMENT DIVISION CONFERENCE ROOM, 2nd FLOOR
ORLANDO, FLORIDA

COMPANY NAME

COMPLETE MAILING ADDRESS

CITY, COUNTY, STATE, ZIP CODE

TELEPHONE NUMBER

FAX NUMBER

CONTACT PERSON

E-MAIL ADDRESS

TIN#: _____

NOTE: COMPANY NAME MUST MATCH LEGAL NAME ASSIGNED TO TIN
NUMBER. CURRENT W9 MUST BE SUBMITTED WITH BID/PROPOSAL

PART D

**To the Board of County Commissioners
Orange County, Florida**

The Undersigned, hereinafter called "Bidder", having visited the site of the proposed project and familiarized himself with the local conditions, nature and extent of the work, and having examined carefully the Contract Form, General Conditions, Supplementary Conditions, Plans and Specifications and other Contract Documents, with the Bond requirements herein, proposes to furnish all labor, materials, equipment and other items, facilities and services for the proper execution and completion of: **PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS** in full accordance with the drawings and specifications prepared in accordance with the Contract Documents and, if awarded the Contract, to complete the said work within the time limits specified for the following ESTIMATED TOTAL BASE BID.

It is understood that this is a unit price Contract and the resultant Contract will contain estimated quantities, unit prices, extended totals and that the Estimated Total Base Bid is the sum of all pay item totals from the schedule of prices, Page D-3.

The Contract resulting from this solicitation is based on estimated quantities. The contractor shall only be paid for materials installed in the work in accordance with the applicable unit prices for the specific work element (line item). No payment shall be made for excess materials delivered to the jobsite and not incorporated into the work. Therefore, it shall be the contractor's responsibility to determine the quantities of materials necessary to perform the project to its completion.

ESTIMATED TOTAL BASE BID:

_____ DOLLARS
(In Words)

\$ _____

In the event the Contract is awarded to this Bidder, he/she will enter into a formal written agreement with the County in accordance with the accepted bid within ten (10) calendar days after said Contract is submitted to him/her and will furnish to the County a Contract Payment and Performance Bond with good and sufficient sureties, satisfactory to the County, in the amount of 100% of the accepted bid. The Bidder further agrees that in the event of the Bidder's default or breach of any of the agreements of this proposal, the said bid deposit shall be forfeited as liquidated damages.

Failure of the Bidder to provide pricing for all unit priced items and/or the Base Bid and ALL requested additive/deductive bid items, or alternate bids shall be cause for rejection of the bid as non-responsive.

Y18-727-RM SCHEDULE OF PRICES

Ref No.	TP / Spec. Item No.	Description	Unit	Estimated Quantity	Unit Price	Total Price
1	101-1	MOBILIZATION (5% OF ALL OTHER ITEMS)	LS	1		
2	102-1	MAINTENANCE OF TRAFFIC	LS	1		
3	104-1	PREVENTION/CONTROL/ABATEMENT OF EROSION AND WATER POLLUTION	LS	1		
4	110-1-1	CLEARING AND GRUBBING	LS	1		
5	270-9	SOIL CEMENT BASE (PRIMED) (9") (350 PSI)	SY	150		
6	334-1-12A	SUPERPAVE ASPHALTIC CONCRETE (TRAFFIC B) (SP-9.5) (1 ½")	SY	360		
7	334-1-12B	SUPERPAVE ASPHALTIC CONCRETE (TRAFFIC B) (SP-12.5) (1 ½")	SY	120		
8	440-1-60	UNDERDRAIN, SPECIAL, PERFORATED (8" DIA.)	LF	21,203		
9	520-1-10	CONCRETE CURB AND GUTTER, DROP CURB (MATCH EXISTING)	LF	930		
10	520-3	CONCRETE VALLEY GUTTER	SY	240		
11	522-1	CONCRETE SIDEWALK 4" THICK	SY	1,100		
12	522-2	CONCRETE SIDEWALK AND DRIVEWAY, 6" THICK (FOR DRIVEWAYS)	SY	5,070		
13	570-1	PERFORMANCE TURF, SOD	SY	20,800		
14	900-1	AS-BUILT PLANS	LS	1		
15	900-2	INDEMNIFICATION	LS	1	\$100.00	\$100.00
TOTAL ESTIMATED BID PRICE (Items 1-15)						\$ _____

The Bidder hereby agrees that there is attached:

- | | | | |
|-----|---|-----|-------------|
| 1. | Non-Collusion Affidavit, Attachment A | Yes | ___ |
| 2. | Required Disclosure, Attachment B | Yes | ___ |
| 3. | M/WBE Forms | | |
| | Employment Data, Attachment C-1 | Yes | ___ |
| | Subcontractor/Supplier Page, Attachment C-2 | Yes | ___ |
| | Good Faith Effort, Attachment C-4 | Yes | ___ No ___ |
| 4. | Trench Safety Act Form, Attachment D | Yes | ___ N/A ___ |
| 5. | Drug-Free workplace Form | Yes | ___ |
| 6. | Bid Bond on Form in Exhibit 1 or Cashier's Check
(10% of Base Bid) | Yes | ___ N/A ___ |
| 7. | Original Bid Form (marked "Original") & 3
complete copies with all attachments | Yes | ___ |
| 8. | References, Attachment E | Yes | ___ |
| 9. | Licenses | Yes | ___ N/A ___ |
| 10. | Current W9 | Yes | ___ |
| 11. | Project Expenditure Report, Attachment F | Yes | ___ |
| 12. | Relationship Disclosure Form, Attachment G | Yes | ___ |
| 13. | Verification of Employment Status, Attachment H | Yes | ___ |

ACKNOWLEDGEMENT OF ADDENDA

The Bidder shall acknowledge receipt of any addenda issued to the solicitation by completing the blocks below or by completion of the applicable information on the addendum and returning it not later than the date and time for receipt of the bid. Failure to acknowledge an addendum that has a material impact on the solicitation may negatively impact the responsiveness of your bid. Material impacts include but are not limited to changes to specifications, delivery time, performance period, quantities, bonds, letters of credit, insurance, qualifications, etc.

Addendum No. _____ Dated _____ Addendum No. _____ Dated _____

Addendum No. _____ Dated _____ Addendum No. _____ Dated _____

If awarded this construction Contract, the Bidder agrees to complete the work covered by this Contract as follows:

1. Work shall start at the project site within fourteen (14) days of the effective date of the Notice to Proceed.
2. Substantially complete in **150** consecutive calendar days from date of Official Notice to Proceed.
3. Final completion in **180** consecutive calendar days from date of Official Notice to Proceed.
4. Should the Successful Bidder fail to complete work as specified, the liquidated damage clause will apply (Part E, Contract).

The Bidder hereby agrees that the County reserves the right to waive informalities in any bid and to reject any or all bids, or to accept any bid that in its judgment will be for the best interest of the County.

FLORIDA CONSTRUCTION INDUSTRIES LICENSING BOARD CERTIFICATION:

_____ (NAME OF HOLDER)	_____ (CERTIFICATE NO.)
_____ (SIGNATURE OF BIDDER)	_____ (CERTIFICATE EXPIRATION DATE)
_____ (NAME TYPED)	

IDENTIFICATION OF BUSINESS ORGANIZATION

Complete and submit the following information:

Type of Organization

☐ Sole Proprietorship ☐ Partnership

☐ Joint Venture ☐ Corporation

State of Incorporation: _____

Principal Place of Business (Florida Statute Chapter 607):
_____ City/County/State

THE PRINCIPAL PLACE OF BUSINESS SHALL BE THE ADDRESS OF THE BIDDER'S PRINCIPAL OFFICE AS IDENTIFIED BY THE FLORIDA DIVISION OF CORPORATIONS

AUTHORIZED SIGNATORIES/NEGOTIATORS

The bidder or proposer represents that the following principals are authorized to sign and/or negotiate Contracts and related documents to which the bidder or proposer will be duly bound. Principal is defined as an employee, officer or other technical or professional in a position capable of substantially influencing the development or outcome of an activity required to perform the covered transaction.

Name	Title	Telephone Number	E-Mail Address
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

IN WITNESS WHEREOF, THE BIDDER HAS HEREUNTO SET HIS SIGNATURE AND AFFIXED HIS SEAL THIS DAY OF _____, A.D. 20__.

BY _____ (SEAL)

TITLE: _____

PRINT NAME AND TITLE

FEDERAL I.D.# _____

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NON-COLLUSION AFFIDAVIT

The undersigned being first duly sworn as provided by law, deposes and says:

1. This Affidavit is made with the knowledge and intent that it is to be filed with the Board of County Commissioners, Orange County, Florida and that it will be relied upon by said County, in any consideration which may give to and any action which it may take with respect to this Proposal.
2. The undersigned is authorized to make this Affidavit on behalf of,

(Name of Corporation, Partnership, Individual, etc.)

A _____, formed under the laws of _____ of which he is

(Sole Owner, Partner, President, etc.)

3. Neither the undersigned nor any other person, firm or corporation named in above Paragraph 2, nor anyone else to the knowledge of the undersigned, have themselves solicited or employed anyone else to solicit favorable action for this Proposal by the County, also that no head of any department or employee therein, or any officer of Orange County, Florida is directly interested therein.
4. This Proposal is genuine and not collusive or a sham; the person, firm or corporation named above in Paragraph 2 has not colluded, conspired, connived or agreed directly or indirectly with any bidder or person, firm or corporation, to put in a sham Proposal, or that such other person, firm or corporation, shall refrain from bidding, and has not in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference with any person, firm or corporation, to fix the prices of said proposal or proposals of any other bidder; and all statements contained in the proposal or proposals described above are true; and further, neither the undersigned, nor the person, firm or corporation named above in Paragraph 3, has directly or indirectly submitted said proposal or the contents thereof, or divulged information or data relative thereto, to any association or to any member or agent thereof.

(AFFIANT)

TAKEN, SWORN AND SUBSCRIBED TO BEFORE ME this ____ day of _____, 20__.

Notary Public

(SEAL)

(Print, Type or Stamp Commissioned Name of Notary Public)

Personally Known _____ or Produced Identification _____ Type of

Identification: _____

ATTACHMENT A

REQUIRED DISCLOSURE

The following Disclosure is of all material facts pertaining to any felony or civil conviction or any pending felony or civil charges in the last three (3) years in this State or any other State of the United States against 1) Bidder, 2) any business entity related to or affiliated with bidder, or 3) any present or former executive employee, officer, director, stockholder, partner or owner of bidder or of any such related or affiliated entity. This Disclosure shall not apply to any person or entity which is only a stockholder, which person or entity owns twenty percent (20) or less of the outstanding shares of a bidder whose stock is publicly owned and traded.

BIDDER

EQUAL OPPORTUNITY WORKFORCE SCHEDULE

See: Sec. 17-322 (Establishment of goals; employment), Orange County Code of Ordinances

Directions: Review the definition of “minority” in Sec. 17-319 (Definitions), Orange County Code of Ordinances, and record the demographics of your workforce by inserting the number of applicable employees in each box below. The County will only consider your total workforce (“TWF”) that falls within the “employee types” designated by an asterisk (*) when evaluating this Bid/Proposal Response. For data collecting purposes, record any applicable employees located in the Orlando Metropolitan Statistical Area (“OMSA”) of Lake, Orange, Osceola, and Seminole counties. If a Joint Venture is bidding, each entity must fill out a separate schedule.

WORKFORCE		African American		Asian American		Hispanic American		Native American		Caucasian/Other		TOTAL	
		TWF	OMSA	TWF	OMSA	TWF	OMSA	TWF	OMSA	TWF	OMSA	TWF	OMSA
Employee Types (MALE)	Officials, Managers, and Supervisors*												
	Professionals*												
	Technicians*												
	Sales Workers												
	Office and Clerical												
	Craftsman (Skilled)												
	Operatives (Semi-Skilled)												
	Laborers (Unskilled)												
	Service Workers												
	Apprentice*												
	Interns/Co-Ops*												
	Displaced Workers												
	MALE SUBTOTAL												
Employee Types (FEMALE)	Officials, Managers, and Supervisors*												
	Professionals*												
	Technicians*												
	Sales Workers												
	Office and Clerical												
	Craftsman (Skilled)												
	Operatives (Semi-Skilled)												
	Laborers (Unskilled)												
	Service Workers												
	Apprentice*												
	Interns/Co-Ops*												
	Displaced Workers												
	FEMALE SUBTOTAL												
TOTAL													

Form Completed by (Print): _____

Signature: _____

Form Approved by (Print): _____

Signature: _____

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If maximum M/WBE participation is desired, bidders must list **all** proposed Subcontractors **and suppliers** to be used. Provide company names; contacts, addresses, phone numbers; work to be performed with the Contractor's own workforce, including estimated dollar amount allocated **for the entire contract, including all Option Years** for that work (work that is consistently and historically performed in-house); total amount to be paid to this sub/supplier (do not discount supply dollars); and M/WBE designation or if non-M/WBE (Majority). See Instructions to Bidders, Part C, for complete M/WBE requirements. Provide **all** information requested. Use additional sheets if necessary. ***Failure to provide all of the information requested may negatively impact the M/WBE evaluation.***

1. What is the estimated percent of work that the Prime Contractor will self-perform? _____ %
List these areas below with approximate dollar amounts to be allocated for the work.

2. Is all work (whether to be subbed or self-performed) listed below? Yes ____ No ____
Are all material suppliers listed? Yes ____ No ____
If no, please explain. _____

3. Is your firm certified through Orange County as an M/WBE? Yes ____ No ____
(See Part C for specific requirements for certified M/WBE firms)

4. Is your firm registered through Orange County as a Registered Service Disabled-Veteran (SDV)? Yes ____ No ____

5. Did you include any M/WBE credits- First Time Utilization (FTU) or Non-County Utilization (NC) with this bid? Yes ____ No ____
(If so, insert copy of credit and specify credit type below)

PRIME CONTRACTOR/SUBCONTRACTOR/SUPPLIER INFORMATION

	COMPANY NAME, CONTACT ADDRESS PHONE NUMBER	WORK TO BE PERFORMED (TRADE) OR COMMODITY TO BE SUPPLIED	DOLLAR AMOUNT	O.C. CERTIFIED M/WBE OR NON-M/WBE; OR REGISTERED SDV; OR TYPE OF M/WBE CREDIT – FTU OR NC
1.		Sub/ Supplier/ In-house (circle one)		
2.		Sub/ Supplier/ In-house (circle one)		
3.		Sub/ Supplier/ In-house (circle one)		

Signature of Bidder

Title

	COMPANY NAME, CONTACT ADDRESS PHONE NUMBER	WORK TO BE PERFORMED (TRADE) OR COMMODITY TO BE SUPPLIED	DOLLAR AMOUNT	O.C. CERTIFIED M/WBE OR NON-M/WBE; OR REGISTERED SDV; OR TYPE OF M/WBE CREDIT – FTU OR NC
4.		Sub/ Supplier/ In-house (circle one)		
5.		Sub/ Supplier/ In-house (circle one)		
6.		Sub/ Supplier/ In-house (circle one)		
7.		Sub/ Supplier/ In-house (circle one)		
8.		Sub/ Supplier/ In-house (circle one)		
9.		Sub/ Supplier/ In-house (circle one)		
10.		Sub/ Supplier/ In-house (circle one)		
11.		Sub/ Supplier/ In-house (circle one)		

Signature of Bidder

Title

INSTRUCTIONS Contractor shall place the following on their letterhead, executed by their authorized agent. Letter is to be submitted **before 5:00 PM on the second business day (i.e., if bid opens on Thursday, due on Monday before 5:00 PM)** after bid opening to: Orange County Business Development Division; 400 E. South Street; 2nd Floor, Orlando, FL 32801; Fax Number (407) 836-5477. A Letter of Intent is to be executed with all M/WBE Subcontractors and suppliers listed by the Contractor on the Subcontractor/Supplier page submitted with this bid. Any M/WBE's not listed on Subcontractor/Supplier page for this bid will not be accepted. Failure to submit this form within the required time frame may result in the bid being found non-responsive.

**LETTER OF INTENT
(VERIFICATION M/WBE UTILIZATION)**

IFB # _____ PROJECT TITLE _____

I, _____, (Prime Contractor) have entered into an agreement with the following Minority/Women-owned Business Enterprise to do the work, dollar and/or percentage amount shown on Attachment C-2 of the Bid Form and shown below. I understand that prior to execution of the prime Contract by Orange County, a subcontract and/or purchase order will be executed with this firm and a copy of the agreement will be sent to the Orange County Business Development Division.

SUBCONTRACTOR/SUPPLIER

CERTIFIED SCOPES OF WORK/COMMODITY

SUBCONTRACT/PURCHASE ORDER PRICE

I understand that I shall not be allowed to substitute or change Subcontractors, without the express prior approval of Orange County's Project Manager and the Business Development Division Manager. Such approval shall in no way relieve my obligations pursuant to Orange County's M/WBE requirements and goals contained in the Orange County Minority/Women Business Enterprise Ordinance, Orange County Code, Chapter 17, Article III, Division 4.

Under penalty of perjury, I declare that I have read the foregoing and the facts stated in it are true. False statements may result in criminal prosecution for a felony of the third degree as provided for in Section 92.525(3), Florida Statutes.

I, _____, (M/WBE Sub-Contractor) understand that "It is my responsibility to submit the required Monthly M/WBE utilization reports to the Prime and Final M/WBE payment verification form to Business Development Division."

Failure to submit the required documents could negatively impact my M/WBE certification.

Authorized Agent of Prime Contractor

Authorized Agent, Subcontractor/Supplier

Printed Name & Title

Printed Name & Title

Date: _____

Date: _____

Phone Number

Fax Number

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GOOD FAITH EFFORT M/WBE CONTACT LOG (See Part C, SECTION 3, Paragraph E-iii)
(Required only if Good Faith Effort Documentation is being provided as part of this Bid)

IFB No/ Project Name

Firm's Name/Address	Contact Info: E-mail, Phone and /or fax	Scope of Work (Work to be performed/Trade/or Commodity Supplied)	Date	Name of Person Contacting Firms	Firm to Bid (Y or N)	Date & Time Quote Received	Notes

Under penalty of perjury, I declare that I have read the foregoing and the facts stated in it are true. **False statements may result in criminal prosecution for a felony of the third degree as provided for in Section 92.525 (3), Florida Statutes.** I,

_____, (Signature off Authorized Agent),

_____/_____/_____, (Printed Name, Title, and Date)

COMPLIANCE WITH FLORIDA TRENCH SAFETY ACT (90-96, LAWS OF FLORIDA)

Bidder hereby acknowledges that all costs for complying with the Florida Trench Safety Act are included in the various items of the Total Estimated Base Bid or Lump Sum Bid. For informational purposes only, the Bidder is required to further identify these costs in the summary below.

TRENCH SAFETY MEASURE (DESCRIPTION)	UNIT OF MEASURE (LF, SY)	UNIT (QUANTITY)	UNIT COST	EXTENDED COST
A) _____	_____	_____	\$ _____	\$ _____
B) _____	_____	_____	\$ _____	\$ _____
C) _____	_____	_____	\$ _____	\$ _____
D) _____	_____	_____	\$ _____	\$ _____
			TOTAL	\$ _____

SIGNED: _____

TITLE: _____

THIS IS NOT A PAY ITEM: The purpose of this form is to gather information on the costs associated with trench safety measures and to insure that the Bidder has considered these costs and included them in the Total Estimated Base Bid or Lump Sum Bid. Contractor will not receive additional payment if actual quantities differ from those estimated or if the Contractor uses a safety measure different than those listed.

(Failure to complete this form may result in the Bid being declared non-responsive.)

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REFERENCES: List at least five (5) similar projects successfully completed by the BIDDER AS A PRIME or SUBCONTRACTOR within the last twelve (12) years.

Failure to provide this information may be cause for rejection of the bid. For the purposes of the Invitation for Bids, a similar project is described as follows:

Construction of a new and/or replacement of nonfunctional underdrains systems, including the associated incidentals such as removal and replacement of existing damaged curbs, sidewalk & driveways aprons, repairs to damaged sprinkler system and restoration of roadway base & asphalt in an urban area. For purposes of this Invitation for Bid, "urban" is defined as projects which traverse an urbanized area which may have multiple intersecting streets and connecting driveways.

Additionally, all of the projects submitted must meet the following requirement: These elements can be demonstrated among all projects and are not required to all be in a single project:

1. At least one (1) project submitted must have been successfully completed within a sub-division where a minimum of 2,000 linear feet of underdrains were installed.
2. Removal and replacement of underdrains, installation of new underdrains, removal and replacement of existing damaged curbs, sidewalk and driveway aprons, repairs of damaged sprinkler systems and restoration of roadway base.

EACH SIMILAR PROJECT LISTED SHALL BE LISTED WITH COMPLETE INFORMATION AS SPECIFICALLY PROVIDED ON THE REFERENCE FORM (ATTACHMENT E). THE SPECIFIC INFORMATION ON REFERENCES MUST BE PROVIDED ON THE REFERENCE FORM. DO NOT ATTACH LISTINGS OF REFERENCE INFORMATION.

FAILURE TO PROVIDE REFERENCE INFORMATION AS REQUESTED MAY RESULT IN THE REJECTION OF YOUR BID.

The determination of whether a bidder is responsible or not shall be at the sole discretion of the County. Although the County may request submission of a minimum number of similar projects for evaluation, the County's determination of a bidder's responsibility shall not be solely based on the number of similar projects submitted.

The contact person listed as a reference shall be someone who has personal knowledge of the Bidder's performance during the referenced project. Contact persons must have been informed that they are being used as a reference and that the County will be calling or emailing them.

1. Project Name _____
Owner _____
Contact _____
Address _____

Telephone Number/Email Address _____
Contract Number and Amount # _____ \$ _____
Change Orders \$ _____
Final Contract \$ _____
Completed on Schedule? Yes _____ No _____ Date: _____
Project Description _____

2. Project Name _____
Owner _____
Contact _____
Address _____

Telephone Number/Email Address _____
Contract Number and Amount # _____ \$ _____
Change Orders \$ _____
Final Contract \$ _____
Completed on Schedule? Yes _____ No _____ Date: _____
Project Description _____

3. Project Name _____
Owner _____
Contact _____
Address _____

Telephone Number/Email Address _____
Contract Number and Amount # _____ \$ _____
Change Orders \$ _____
Final Contract \$ _____
Completed on Schedule? Yes _____ No _____ Date: _____
Project Description _____

4. Project Name _____
Owner _____
Contact _____
Address _____

Telephone Number/Email Address _____
Contract Number and Amount # _____ \$ _____
Change Orders \$ _____
Final Contract \$ _____
Completed on Schedule? Yes _____ No _____ Date: _____
Project Description _____

5. Project Name _____
Owner _____
Contact _____
Address _____

Telephone Number/Email Address _____
Contract Number and Amount # _____ \$ _____
Change Orders \$ _____
Final Contract \$ _____
Completed on Schedule? Yes _____ No _____ Date: _____
Project Description _____

6. Project Name _____
Owner _____
Contact _____
Address _____

Telephone Number/Email Address _____
Contract Number and Amount # _____ \$ _____
Change Orders \$ _____
Final Contract \$ _____
Completed on Schedule? Yes _____ No _____ Date: _____
Project Description _____

For Staff Use Only:

Initially submitted on _____

Updated On _____

PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS

Case or Bid No. **Y18-727 -RM**

ORANGE COUNTY SPECIFIC PROJECT EXPENDITURE REPORT

**This lobbying expenditure form shall be completed in full and filed with all application submittals.
This form shall remain cumulative and shall be filed with the department processing your application.
Forms signed by a principal's authorized agent shall include an executed Agent Authorization Form.**

This is the initial Form: _____

This is a Subsequent Form: _____

Part I

Please complete all of the following:

Name and Address of Principal (legal name of entity or owner per Orange County tax rolls): _____

Name and Address of Principal's Authorized Agent, if applicable: _____

List the name and address of all lobbyists, consultants, contractors, subcontractors, individuals or business entities who will assist with obtaining approval for this project. (Additional forms may be used as necessary.)

1. Name and address of individual or business entity: _____
Are they registered Lobbyist? Yes ___ or No ___
2. Name and address of individual or business entity: _____
Are they registered Lobbyist? Yes ___ or No ___
3. Name and address of individual or business entity: _____
Are they registered Lobbyist? Yes ___ or No ___
4. Name and address of individual or business entity: _____
Are they registered Lobbyist? Yes ___ or No ___
5. Name and address of individual or business entity: _____
Are they registered Lobbyist? Yes ___ or No ___
6. Name and address of individual or business entity: _____
Are they registered Lobbyist? Yes ___ or No ___
7. Name and address of individual or business entity: _____
Are they registered Lobbyist? Yes ___ or No ___
8. Name and address of individual or business entity: _____
Are they registered Lobbyist? Yes ___ or No ___

For Staff Use Only:

Initially submitted on _____

Updated On _____

PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS

Case or Bid No. **Y18-727 -RM**

Company Name: _____

Part II

Expenditures:

For this report, an "expenditure" means money or anything of value given by the principal and/or his/her lobbyist for the purpose of lobbying, as defined in section 2-351, Orange County Code. This may include public relations expenditures including, but not limited to, petitions, fliers, purchase of media time, cost of print and distribution of publications. However, the term "expenditure" **does not** include:

- Contributions or expenditures reported pursuant to chapter 106, Florida Statutes;
- Federal election law, campaign-related personal services provided without compensation by individuals volunteering their time;
- Any other contribution or expenditure made by or to a political party;
- Any other contribution or expenditure made by an organization that is exempt from taxation under 26 U.S.C. s. 527 or s. 501(c)(4), in accordance with s.112.3215, Florida Statutes; and/or
- Professional fees paid to registered lobbyists associated with the project or item.

The following is a complete list of all lobbying expenditures and activities (including those of lobbyists, contractors, consultants, etc.) incurred by the principal or his/her authorized agent and expended in connection with the above-referenced project or issue. **You need not include de minimus costs (under \$50) for producing or reproducing graphics, aerial photographs, photocopies, surveys, studies or other documents related to this project.**

Date of Expenditure	Name of Party Incurring Expenditure	Description of Activity	Amount Paid
		TOTAL EXPENDED THIS REPORT	\$

For Staff Use Only:

Initially submitted on _____

Updated On _____

PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS

Case or Bid No. **Y18-727 -RM**

Company Name: _____

Part III

ORIGINAL SIGNATURE AND NOTARIZATION REQUIRED

I hereby certify that information provided in this specific project expenditure report is true and correct based on my knowledge and belief. I acknowledge and agree to comply with the requirement of section 2-354, of the Orange County code, to amend this specific project expenditure report for any additional expenditure(s) incurred relating to this project prior to the scheduled Board of County Commissioner meeting. I further acknowledge and agree that failure to comply with these requirements to file the specific expenditure report and all associated amendments may result in the delay of approval by the Board of County Commissioners for my project or item, any associated costs for which I shall be held responsible. In accordance with s. 837.06, Florida Statutes, I understand and acknowledge that whoever knowingly makes a false statement in writing with the intent to mislead a public servant in the performance of his or her official duty shall be guilty of a misdemeanor in the second degree, punishable as provided in s. 775.082 or s. 775.083, Florida Statutes.

Date: _____

Signature of \triangle Principal or \triangle Principal's Authorized Agent

(check appropriate box)

PRINT NAME AND TITLE: _____

STATE OF _____ :

COUNTY OF _____ :

I certify that the foregoing instrument was acknowledged before me this _____ day of _____, 20____ by _____ He/she is personally known to me or has produced _____ as identification and did/did not take an oath.

Witness my hand and official seal in the county and state stated above on the _____ day of _____, in the year _____.

(Notary Seal)

Signature of Notary Public

Notary Public for the State of _____

My Commission Expires: _____

Staff signature and date of receipt of form _____

Staff reviews as to form and does not attest to the accuracy or veracity of the information provided herein.

FREQUENTLY ASKED QUESTIONS (FAQ) ABOUT THE SPECIFIC PROJECT EXPENDITURE REPORT

Updated 3-1-11

WHAT IS A SPECIFIC PROJECT EXPENDITURE REPORT (SPR)?

A Specific Project Expenditure Report (SPR) is a report required under Section 2-354(b) of the Orange County Lobbying Ordinance, codified at Article X of Chapter 2 of the Orange County Code, reflecting all lobbying expenditures incurred by a principal and his/her authorized agent(s) and the principal's lobbyist(s), contractor(s), subcontractor(s), and consultant(s), if applicable, for certain projects or issues that will ultimately be decided by the Board of County Commissioners (BCC).

Matters specifically exempt from the SPR requirement are ministerial items, resolutions, agreements in settlement of litigation matters in which the County is a party, ordinances initiated by County staff, and some procurement items, as more fully described in 2.20 of the Administrative Regulations.

Professional fees paid by the principal to his/her lobbyist for the purpose of lobbying need not be disclosed on this form. (See Section 2-354(b), Orange County Code.)

WHO NEEDS TO FILE THE SPR?

The principal or his/her authorized agent needs to complete and sign the SPR and warrant that the information provided on the SPR is true and correct.

A principal that is a governmental entity does not need to file an SPR.

HOW ARE THE KEY RELEVANT TERMS DEFINED?

Expenditure means "a payment, distribution, loan, advance, reimbursement, deposit, or anything of value made by a lobbyist or principal for the purpose of lobbying. This may include public relations expenditures (including but not limited to petitions, flyers, purchase of media time, cost of print and distribution of publications) but does not include contributions or expenditures reported pursuant to Chapter 106, Florida Statutes, or federal election law, campaign-related personal services provided without compensation by individuals volunteering their time, any other contribution or expenditure made by or to a political party, or any other contribution or expenditure made by an organization that is exempt from taxation under 26 U.S.C. s. 527 or s. 501(c)(4)." (See Section 112.3215, Florida Statutes.) Professional fees paid by the principal to his/her lobbyist for the purpose of lobbying are not deemed to be "expenditures." (See Section 2-354, Orange County Code.)

Lobbying means seeking "to encourage the approval, disapproval, adoption, repeal, rescission, passage, defeat or modification of any ordinance, resolution, agreement, development permit, other type of permit, franchise, vendor, consultant, contractor, recommendation, decision or other foreseeable action of the [BCC]," and "include[s] all communications, regardless of whether initiated by the lobbyist or by the person being lobbied, and regardless of whether oral, written or electronic." (See Section 2-351, Orange County Code.) Furthermore, *lobbying* means communicating "directly with the County Mayor, with any other member of the [BCC], or with any member of a procurement committee." (See Section 2-351, Orange County Code.) *Lobbying* also means communicating "indirectly with the County Mayor or any other member of the [BCC]" by communicating with any staff member of the Mayor or any member of the BCC, the county administrator, any deputy or assistant county administrator, the county attorney, any county department director, or any county division manager. (See Section 2-351, Orange County Code.) *Lobbying* does not include the act of appearing before a Sunshine Committee, such as the Development Review Committee or the Roadway Agreement Committee other than the BCC.

Principal means “the person, partnership, joint venture, trust, association, corporation, governmental entity or other entity which has contracted for, employed, retained, or otherwise engaged the services of a lobbyist.” *Principal* may also include a person, partnership, joint venture, trust, association, corporation, limited liability corporation, or other entity where it or its employees do not qualify as a lobbyist under the definition set forth in Section 2-351 of the Orange County Code but do perform lobbying activities on behalf of a business in which it has a personal interest.

DOES THE SPR NEED TO BE UPDATED IF INFORMATION CHANGES?

Yes. It remains a continuing obligation of the principal or his/her authorized agent to update the SPR whenever any of the information provided on the initial form changes.

WHERE DO THE SPR AND ANY UPDATES NEED TO BE FILED?

The SPR needs to be filed with the County Department or County Division processing the application or matter. If and when an additional expenditure is incurred subsequent to the initial filing of the SPR, an amended SPR needs to be filed with the County Department or County Division where the original application, including the initial SPR, was filed.

WHEN DO THE SPR AND ANY UPDATES NEED TO BE FILED?

In most cases, the initial SPR needs to be filed with the other application forms. The SPR and any update must be filed with the appropriate County Department or County Division not less than seven (7) days prior to the BCC hearing date so that they may be incorporated into the BCC agenda packet. (See Section 2-354(b), Orange County Code.) When the matter is a discussion agenda item or is the subject of a public hearing, and any additional expenditure occurs less than 7 days prior to BCC meeting date or updated information is not included in the BCC agenda packet, the principal or his/her authorized agent is obligated to verbally present the updated information to the BCC when the agenda item is heard or the public hearing is held. When the matter is a consent agenda item and an update has not been made at least 7 days prior to the BCC meeting or the update is not included in the BCC agenda packet, the item will be pulled from the consent agenda to be considered at a future meeting.

WHO WILL BE MADE AWARE OF THE INFORMATION DISCLOSED ON THE SPR AND ANY UPDATES?

The information disclosed on the SPR and any updates will be a public record as defined by Chapter 119, Florida Statutes, and therefore may be inspected by any interested person. Also, the information will be made available to the Mayor and the BCC members. This information will accompany the other information for the principal's project or item.

CONCLUSION:

We hope you find this FAQ useful to your understanding of the SPR. Please be informed that in the event of a conflict or inconsistency between this FAQ and the requirements of the applicable ordinance governing specific project expenditure reports, the ordinance controls.

Also, please be informed that the County Attorney's Office is not permitted to render legal advice to a principal, his/her authorized agent, or any other outside party. Accordingly, if after reading this FAQ the principal, his/her authorized agent or an outside party has any questions, he/she is encouraged to contact his/her own legal counsel.

For Staff Use Only:

OC CE FORM 2P

Date Submitted _____

FOR PROCUREMENT-RELATED ITEMS (November 5, 2010) Date Updated _____

For use after March 1, 2011

Bid Number **Y18-727 -RM**

RELATIONSHIP DISCLOSURE FORM
FOR USE WITH PROCUREMENT ITEMS, EXCEPT THOSE WHERE THE COUNTY
IS THE PRINCIPAL OR PRIMARY APPLICANT

For procurement items that will come before the Board of County Commissioners for final approval, this form shall be completed by the bidder, offerer, quoter or respondent and shall be submitted to the Procurement Division by the bidder, offerer, quoter or respondent.

In the event any information provided on this form should change, the applicant must file an amended form on or before the date the item is considered by the appropriate board or body.

Part I

INFORMATION ON APPLICANT (BIDDER, OFFEROR, QUOTER, PROPOSER, OR RESPONDENT):

Legal Name of Applicant: _____

Business Address (Street/P.O. Box, City and Zip Code):

Business Phone () _____

Facsimile () _____

INFORMATION ON APPLICANT'S AUTHORIZED AGENT, IF APPLICABLE:

(Agent Authorization Form also required to be attached)

Name of Applicant's Authorized Agent:

Business Address (Street/P.O. Box, City and Zip Code):

Business Phone () _____

Facsimile () _____

For Staff Use Only:

OC CE FORM 2P

Date Submitted _____

FOR PROCUREMENT-RELATED ITEMS (November 5, 2010) Date Updated _____

For use after March 1, 2011

Bid Number **Y18-727 -RM**

Company Name: _____

Part II

IS THE APPLICANT A RELATIVE OF THE MAYOR OR ANY MEMBER OF THE BCC?

____ YES ____ NO

IS THE MAYOR OR ANY MEMBER OF THE BCC THE APPLICANT'S EMPLOYEE?

____ YES ____ NO

IS THE APPLICANT OR ANY PERSON WITH A DIRECT BENEFICIAL INTEREST IN THE OUTCOME OF THIS MATTER A BUSINESS ASSOCIATE OF THE MAYOR OR ANY MEMBER OF THE BCC?

____ YES ____ NO

If you responded "YES" to any of the above questions, please state with whom and explain the relationship:

(Use additional sheets of paper if necessary)

For Staff Use Only:

Date Submitted _____

FOR PROCUREMENT-RELATED ITEMS (November 5, 2010) Date Updated _____

For use after March 1, 2011

Bid Number **Y18-727 -RM**

Company Name: _____

Part III**ORIGINAL SIGNATURE AND NOTARIZATION REQUIRED**

I hereby certify that information provided in this relationship disclosure form is true and correct based on my knowledge and belief. If any of this information changes, I further acknowledge and agree to amend this relationship disclosure form prior to any meeting at which the above-referenced project is scheduled to be heard. In accordance with s. 837.06, Florida Statutes, I understand and acknowledge that whoever knowingly makes a false statement in writing with the intent to mislead a public servant in the performance of his or her official duty shall be guilty of a misdemeanor in the second degree, punishable as provided in s. 775.082 or s. 775.083, Florida Statutes.

Signature of Applicant

Date: _____

Print Name and Title of Person completing this form: _____

STATE OF _____ :

COUNTY OF _____ :

I certify that the foregoing instrument was acknowledged before me this ____ day of _____, 20__ by _____. He/she is personally known to me or has produced _____ as identification and did/did not take an oath.

Witness my hand and official seal in the county and state stated above on the ____ day of _____, in the year _____.

(Notary Seal)

Signature of Notary Public

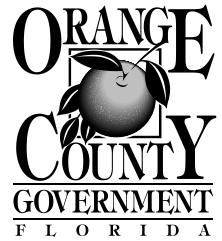
Notary Public for the State of _____

My Commission Expires: _____

Staff signature and date of receipt of form

Staff reviews as to form and does not attest to the accuracy or veracity of the information provided herein.

AGENT AUTHORIZATION FORM
FOR PROCUREMENTS IN ORANGE COUNTY, FLORIDA



I/WE, (PRINT BIDDER, OFFEROR, QUOTER OR RESPONDENT NAME)

_____, DO HEREBY AUTHORIZE TO ACT AS MY/OUR AGENT
(PRINT AGENT'S NAME), _____, TO EXECUTE ANY PETITIONS OR
OTHER DOCUMENTS NECESSARY TO AFFECT THE **CONTRACT APPROVAL PROCESS** MORE SPECIFICALLY
DESCRIBED AS FOLLOWS, IFB NO. Y18- 727-RM, PARK MANOR ESTATES SECTIONS 9-10
UNDERDRAIN IMPROVEMENTS, AND TO APPEAR ON MY/OUR BEHALF BEFORE ANY ADMINISTRATIVE OR
LEGISLATIVE BODY IN THE COUNTY CONSIDERING THIS **CONTRACT** AND TO ACT IN ALL RESPECTS AS OUR
AGENT IN MATTERS PERTAINING TO THIS CONTRACT.

Date: _____
Signature of Bidder, Offeror, Quoter or Respondent

STATE OF _____ :
COUNTY OF _____ :

I certify that the foregoing instrument was acknowledged before me this ____ day of _____, 20__ by _____. He/she is personally known to me or has produced _____ as identification and did/did not take an oath.

Witness my hand and official seal in the county and state stated above on the ____ day of _____, in the year _____.

(Notary Seal)

Signature of Notary Public
Notary Public for the State of _____

My Commission Expires: _____

FREQUENTLY ASKED QUESTIONS (FAQ)
ABOUT THE
RELATIONSHIP DISCLOSURE FORM
Updated 6-28-11

WHAT IS THE RELATIONSHIP DISCLOSURE FORM?

The Relationship Disclosure Form (form OC CE 2D and form OC CE 2P) is a form created pursuant to the County's Local Code of Ethics, codified at Article XIII of Chapter 2 of the Orange County Code, to ensure that all development-related items and procurement items presented to or filed with the County include information as to the relationship, if any, between the applicant and the County Mayor or any member of the Board of County Commissioners (BCC). The form will be a part of the backup information for the applicant's item.

WHY ARE THERE TWO RELATIONSHIP DISCLOSURE FORMS?

Form OC CE 2D is used only for development-related items, and form OC CE 2P is used only for procurement-related items. The applicant needs to complete and file the form that is applicable to his/her case.

WHO NEEDS TO FILE THE RELATIONSHIP DISCLOSURE FORM?

Form OC CE 2D should be completed and filed by the owner of record, contract purchaser, or authorized agent. Form OC CE 2P should be completed and filed by the bidder, offeror, quoter, or respondent, and, if applicable, their authorized agent. In all cases, the person completing the form must sign the form and warrant that the information provided on the form is true and correct.

WHAT INFORMATION NEEDS TO BE DISCLOSED ON THE RELATIONSHIP DISCLOSURE FORM?

The relationship disclosure form needs to disclose pertinent background information about the applicant and the relationship, if any, between, on the one hand, the applicant and, if applicable, any person involved with the item, and on the other hand, the Mayor or any member of the BCC.

In particular, the applicant needs to disclose whether any of the following relationships exist: (1) the applicant is a business associate of the Mayor or any member of the BCC; (2) any person involved with the approval of the item has a beneficial interest in the outcome of the matter *and* is a business associate of the Mayor or any member of the BCC; (3) the applicant is a relative of the Mayor or any member of the BCC; or (4) the Mayor or any member of the BCC is an employee of the applicant. (See Section 2-454, Orange County Code.)

HOW ARE THE KEY RELEVANT TERMS DEFINED?

Applicant means, for purposes of a development-related project, the owner, and, if applicable, the contract purchaser or owner's authorized agent. *Applicant* means, for purposes of a procurement item, the bidder, offeror, quoter, respondent, and, if applicable, the authorized agent of the bidder, offeror, quoter, or respondent.

Business associate means any person or entity engaged in or carrying on a business enterprise with a public officer, public employee, or candidate as a partner, joint venture, corporate shareholder where the shares of such corporation are not listed on any national or regional stock exchange, or co-owner of property. In addition, the term includes any person or entity engaged in or carrying on a business enterprise, or otherwise engaging in common investment, with a public officer, public employee, or candidate as a partner, member, shareholder, owner, co-owner, joint venture partner, or other investor, whether directly or indirectly, whether through a Business Entity or through interlocking Parent Entities, Subsidiary Entities, or other business or investment scheme, structure, or venture of any nature. (See Section 112.312(4), Florida Statutes, and Section 2-452(b), Orange County Code.)

Employee means any person who receives remuneration from an employer for the performance of any work or service while engaged in any employment under any appointment or contract for hire or apprenticeship, express or implied, oral or written, whether lawfully or unlawfully employed, and includes, but is not limited to, aliens and minors. (See Section 440.02(15), Florida Statutes.)

Relative means an individual who is related to a public officer or employee as father, mother, son, daughter, brother, sister, uncle, aunt, first cousin, nephew, niece, husband, wife, father-in-law, mother-in-law, son-in-law, daughter-in-law, brother-in-law, sister-in-law, stepfather, stepmother, stepson, stepdaughter, stepbrother, stepsister, half brother, half sister, grandparent, great grandparent, grandchild, great grandchild, step grandparent, step great grandparent, step grandchild, step great grandchild, person who is engaged to be married to the public officer or employee or who otherwise holds himself or herself out as or is generally known as the person whom the public officer or employee intends to marry or with whom the public officer or employee intends to form a household, or any other natural person having the same legal residence as the public officer or employee. (See Section 112.312(21), Florida Statutes.)

DOES THE RELATIONSHIP DISCLOSURE FORM NEED TO BE UPDATED IF INFORMATION CHANGES?

Yes. It remains a continuing obligation of the applicant to update this form whenever any of the information provided on the initial form changes.

WHERE DO THE RELATIONSHIP DISCLOSURE FORM AND ANY SUBSEQUENT UPDATES NEED TO BE FILED?

For a development-related item, the Relationship Disclosure Form and any update need to be filed with the County Department or County Division where the applicant filed the application. For a procurement item, the Relationship Disclosure Form and any update need to be filed with the Procurement Division.

WHEN DO THE RELATIONSHIP DISCLOSURE FORM AND ANY UPDATES NEED TO BE FILED?

In most cases, the initial form needs to be filed when the applicant files the initial development-related project application or initial procurement-related forms. However, with respect to a procurement item, a response to a bid will not be deemed unresponsive if this form is not included in the initial packet submitted to the Procurement Division.

If changes are made after the initial filing, the final, cumulative Relationship Disclosure Form needs to be filed with the appropriate County Department or County Division processing the application not less than seven (7) days prior to the scheduled BCC agenda date so that it may be incorporated into the BCC agenda packet. When the matter is a discussion agenda item or is the subject of a public hearing, and an update has not been made at least 7 days prior to BCC meeting date or is not included in the BCC agenda packet, the applicant is obligated to verbally present such update to the BCC when the agenda item is heard or the public hearing is held. When the matter is a consent agenda item and an update has not been made at least 7 days prior to the BCC meeting or the update is not included in the BCC agenda packet, the item will be pulled from the consent agenda to be considered at a future meeting.

WHO WILL REVIEW THE INFORMATION DISCLOSED ON THE RELATIONSHIP DISCLOSURE FORM AND ANY UPDATES?

The information disclosed on this form and any updates will be a public record as defined by Chapter 119, Florida Statutes, and may therefore be inspected by any interested person. Also, the information will be made available to the Mayor and the BCC members. This form and any updates will accompany the information for the applicant's project or item.

However, for development-related items, if an applicant discloses the existence of one or more of the relationships described above and the matter would normally receive final consideration by the Concurrency Review Committee or the Development Review Committee, the matter will be directed to the BCC for final consideration and action following committee review.

CONCLUSION:

We hope you find this FAQ useful to your understanding of the Relationship Disclosure Form. Please be informed that if the event of a conflict or inconsistency between this FAQ and the requirements of the applicable ordinance or law governing relationship disclosures, the ordinance or law controls.

Also, please be informed that the County Attorney's Office is not permitted to render legal advice to an applicant or any other outside party. Accordingly, if the applicant or an outside party has any questions after reading this FAQ, he/she is encouraged to contact his/her own legal counsel.

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E VERIFICATION CERTIFICATION

IFB NO. Y18-727-RM

NAME OF CONTRACTOR: _____ (referred to herein as
“Contractor”)

ADDRESS OF CONTRACTOR:

The undersigned does hereby certify that the above named contractor:

1. Is registered and is using the E-Verify system; or
2. Does not have any employees and does not intend to hire any new employees during the period of time that the contractor will be providing services under the contract and consequently is unable to register to use the E-Verify system; or
3. Employs individuals that were hired prior to the commencement of providing labor on the contract and does not intend to hire any new employees during the period of time that the contractor will be providing labor under the contract, and consequently is unable to use the E-Verify system.

The undersigned acknowledges the use of the E-Verify system for newly hired employees is an ongoing obligation for so long as the contractor provides labor under the contract and that the workforce eligibility of all newly hired employees will be properly verified using the E-Verify system.

In accordance with Section 837.06, Florida Statutes, Contractor acknowledges that whoever knowingly makes a false statement in writing with the intent to mislead a public servant in the performance of his or her official duties shall be guilty of a misdemeanor in the second degree, punishable as provided in Section 775.082 or Section 775.083, Florida Statutes.

AUTHORIZED SIGNATURE: _____

NAME: _____

TITLE: _____

DATE: _____

BID BOND

BOND NUMBER _____

STATE OF FLORIDA)
SS
COUNTY OF ORANGE)

KNOW ALL MEN BY THESE PRESENTS, that we, _____, as Principal, and _____, as Surety, are held firmly bound unto Orange County, Florida, in the penal sum of: \$ _____ Dollars **(Ten percent {10%} of base bid if no amount entered)**
(Total Sum Written in Words)

lawful money of the United States, for the payment of which sum well and truly to be made, we bound ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the attached Bid, dated the _____ day of _____, **20**__, for a Contract entitled: **PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS, IFB Y18-727-RM.**

NOW THEREFORE, if the Principal shall withdraw said Bid prior to the date of opening the same, or shall within ten (10) days after the prescribed forms are presented to him for signature, enter in a written Contract with Orange County, Florida, in accordance with the Bid as accepted, and give a Performance Bond and a Payment Bond with good and sufficient Surety or sureties as may be required, for the faithful performance and proper fulfillment of such Contract and for prompt payment of all persons furnishing labor or materials in connection therewith, or in the event of the failure to enter into such Contract and give such Bonds within the time specified, if the Principal shall pay the County the difference between the amount specified in said Bid and the amount for which the County may procure the required work and/or supplies, provided the latter amount to be in excess of the former, then the above obligations shall be void and of no effect; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above written parties have executed this instrument under their several seals this the _____ day of _____, **20**__, the name and corporate seal of each corporate party being affixed and these presents duly signed by its undersigned, pursuant to authority of its governing body.

CONTRACTOR-PRINCIPAL:

SURETY:

NAME OF BUSINESS ENTITY

NAME OF SURETY

SIGNATURE
(SEAL)

SIGNATURE: SURETY AGENT
(SEAL)

TYPE NAME AND TITLE

TYPE NAME AND TITLE

BUSINESS ADDRESS

BUSINESS ADDRESS

TELEPHONE

TELEPHONE

NAIC NUMBER: _____

Licensed Florida Insurance Agent? Yes _____ No _____

**License
Number:** _____

STATE OF _____)

COUNTY OF _____) SS

CITY OF _____)

Before me, a Notary Public duly commissioned, qualified and acting personally, appeared:

to me well known, who being by me first duly sworn upon oath says that he is Attorney-in-Fact for

as Surety, and that he has been authorized by said Surety to execute the foregoing Bid Bond on behalf of the Principal (Contractor) named therein in favor of the owner.

Subscribed and sworn to before me this the _____ day of _____, 20__.

Notary Public

(Print, Type or Stamp Commissioned Name of Notary Public)

Personally Known _____ or Produced Identification _____

Type of Identification: _____

In accordance with Part C, Section 19 and Part F Article 8 of the Invitation for Bids, if applicable, list the Lead Surety.

LEAD SURETY

AGENT FOR SURETY

Signature

BY: _____

AGENCY ADDRESS: _____

SURETY ADDRESS: _____

PHONE _____

**BOARD OF COUNTY COMMISSIONERS
ORANGE COUNTY, FLORIDA
UNIT PRICE CONSTRUCTION CONTRACT**

CONTRACT:

Made between the Board of County Commissioners, Orange County, Florida (hereinafter called County), represented by the Manager of the Procurement Division executing this Contract, and:

>

Federal Identification Number: >

A Corporation formed under the laws of the State of Florida, hereinafter called Contractor.

The Contractor shall perform all the Work required by the Contract Documents for the proper execution and completion of **PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS** in full accordance with the drawings and as elaborated in the specifications of **Invitation for Bids No. Y18-727-RM** which is made a part of this Contract as completely as if set forth herein.

I

AMOUNT OF CONTRACT:

The County shall pay the Contractor in current funds, and in accordance with the progress payment schedule as stated herein, for the performance of the Work, subject to additions and deductions by Change Order as provided in the Contract Documents, the Estimated Contract Amount of >(\$>) at the unit prices set forth in the Invitation for Bid Official Bid Form, Part D.

MAXIMUM CONTRACT AMOUNT:

The Contractor shall provide written notification to the County's Project Manager when 90% of the total contract amount has been reached. The Contractor shall not proceed beyond 100% of the total contract amount unless duly authorized by a written change order.

ESTIMATED QUANTITIES:

This Contract is based on estimated quantities. The contractor shall only be paid for materials installed in the work in accordance with the applicable unit prices for the specific work element (line item). No payment shall be made for excess materials delivered to the jobsite and not incorporated into the work. Therefore, it shall be the contractor's responsibility to determine the quantities of materials necessary to perform the project to its completion.

II
ASBESTOS FREE MATERIALS:

Project is to be constructed with asbestos free materials. A written, notarized statement on company letterhead is to be submitted with the final payment request. Final payment shall be withheld until such statement is submitted. Contractor shall agree that if materials containing asbestos are subsequently discovered at any future time to have been included in the construction done by the Contractor or any of its Subcontractors or agents and were not specified in the design or required by the Contract document, Contractor shall be liable for all costs related to the abatement of such asbestos and damages or claims against the County.

III
ADMINISTRATIVE DATA:

Progress Payments: Based upon Applications for Payment submitted to the Project Manager by the Contractor and Certificates for Payment issued by the Project Manager the County shall make progress payments on account of the Contract Amount to the Contractor as provided in the Contract Documents as follows:

Not later than 30 days following approval of an application for Payment, ninety percent (90%) of the portion of the Contract Amount properly allocable to labor, materials and equipment incorporated in the Work and ninety percent (90%) of the portion of the Contract Amount properly allocable to materials and equipment suitably stored at the site or at some other location agreed upon in writing, for the period covered by the application for payment, less the aggregate of previous payments made by the Owner.

When the completion of the Work ascertained as payable exceeds fifty percent (50%) of the total contract amount the retainage percentage withheld shall be reduced to 5%. Upon Final completion of the entire Work, a sum sufficient to increase the total payments to one hundred percent (100%) of the Contract Amount, less such amounts as the Owner shall determine for all incomplete work and unsettled claims as provided in the Contract Documents.

Should the Contractor fail to substantially complete all Work under this Contract and make the project available for beneficial use on or before the date stipulated for Substantial Completion (or such later date as may result from extension of time granted by County), he shall pay and/or the County may retain from the compensation otherwise to be paid to the Contractor, as liquidated damages, the sum of **\$200** for each consecutive calendar day that terms of the Contract remain unfulfilled beyond date allowed by the Contract, which sum is agreed upon as a reasonable and proper measure of damages which County will sustain per diem by failure of Contractor to complete work within time as stipulated; it being recognized by County and Contractor that the injury to County which could result from a failure of Contractor to complete on schedule is uncertain and cannot be computed exactly. In no way shall costs for liquidated damages be construed as a penalty on the Contractor. For each consecutive calendar day that the work remains incomplete after the date established for Final Completion, the County will retain from the compensation otherwise to be paid to the Contractor the sum of **\$200**. This amount is the mutually agreed upon minimum measure of damages the County will sustain by failure of the Contractor to complete all

remedial work, correct deficient work, clean up the project and other miscellaneous tasks as required to complete all Work specified and this amount of liquidated damages is in addition to the liquidated damages prescribed above for failure to timely achieve Substantial Completion.

IV **CONTRACT DOCUMENTS:**

This Contract entered into this date by the Board of County Commissioners hereinafter called the County, represented by the Manager of the Procurement Division executing this Contract and the individual, partnership or corporation named above, hereinafter called the Contractor. Witnesseth that the parties hereto do mutually agree as follows:

The Contractor shall furnish all labor, equipment and materials and perform the Work described for the amount stated above in strict accordance with the General Conditions, Supplementary Conditions/Special Provisions, Plans and Specifications and other Contract Documents, all of which are made a part hereof and designated as follows:

- a. Orange County Invitation for Bids/Project Manual, **IFB No. Y18-727-RM dated December 21, 2017**, (which contains the Invitation for Bids, Notice, Instruction to Bidders, Bid Form and Attachments, this Contract, General Conditions, Supplementary Conditions / Special Provisions, and Specifications);
- b. Drawings bearing the title "**Construction Plans, PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS**".
- c. Addendum No.> dated >;
- d. >'s Bid Proposal dated **January 23, 2018**;
- e. Payment/Performance Bond;
- f. Certificates of Insurance;

V **PRIORITY OF DOCUMENTS:**

The order of precedence of items and documents is as follows:

Construction Contract
Permits
Supplemental Conditions/Special Provisions
General Conditions
Specifications/Technical Provisions
Drawings/Plans
Road Design, Structures, and Traffic Operations Standards (If applicable)
Florida Department of Transportation Standard Specifications for Road and Bridge Construction (If applicable)
Bid Proposal
Instructions to Bidders

VI
TIME OF COMMENCEMENT AND FINAL COMPLETION:

- a. Work to commence within fourteen (14) days of Official Notice to Proceed date and shall be completed, unless amended by written Change Order or Amendment executed by both parties to this Contract.
- b. Substantial Completion of the Work shall be achieved not later than **150** consecutive calendar days from date of Official Notice to Proceed.
- c. Final Completion of the Work shall be achieved not later than **180** consecutive calendar days from date of Official Notice to Proceed.

VII
COMPLIANCE WITH M/WBE CONTRACT REQUIREMENTS:

By entering into this Contract, the Contractor affirmatively commits to comply with the MWBE subcontracting requirements submitted with his/her bid. The failure of the Contractor to comply with this commitment during the Contract's performance period may be considered a breach of Contract.

The County may take action up to and including termination for default if this condition is not remedied within the time period specified by the Manager, Procurement Division.

VIII
MISCELLANEOUS PROVISIONS:

- a. Terms used in this Contract that are defined in the General Conditions shall have the meanings designated in those conditions.
- b. No price adjustments shall be made on this contract to the bid price of any products or materials including but not limited to gasoline, diesel or other fuels, and bituminous materials, including asphalt due to fluctuations in market prices, changes in suppliers or any other reason.
- c. County and Contractor each binds himself, his partners, successors, assigns and legal representatives to the other party hereto, his partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.
- d. The laws of the State of Florida shall govern this Contract. Any and all legal action necessary to enforce the provisions of this Contract will be held in Orange County, Florida. Venue for any litigation involving this Contract shall be the Ninth Circuit Court in and for Orange County, Florida.

**BOARD OF COUNTY COMMISSIONERS
ORANGE COUNTY, FLORIDA**

BY _____
Carrie Woodell, MPA, CFCM, CPPO, C.P.M.
CPPB, APP, Manager, Procurement Division

BY _____
Signature

DATE _____
(For County use only)

Type or Print Name

**Corporate
Seal**

PERFORMANCE BOND

BOND NUMBER _____

KNOW ALL MEN BY THESE PRESENTS that

Name of Contractor _____

Address _____

Phone Number _____

Corporation, Partnership or Individual _____

hereinafter referred to as the Contractor, as Principal, and

Name of Surety _____

Address _____

Phone Number _____

hereinafter called SURETY, as SURETY, are held and firmly bound unto Orange County, 400 East South Street, Orlando, FL 32801, (407)836-5635 a Political Subdivision of the State of Florida as Obligee, hereinafter referred to as Owner, in the full and just sum of \$ _____, lawful money of the United States of America, to the payment of which sum, well and truly to be made, the Contractor and SURETY bind themselves, their representatives, and each of their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Contractor has entered into **Contract No. Y18-727** with the "County", also referred to herein as the OWNER, for the project entitled: **PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS, 1206 Park Manor Drive, Orlando, FL. 32825** with conditions and provisions as are further described in the aforementioned Contract, which Contract is by reference made a part hereof for the purpose of explaining this bond.

General description of the Work: Construction of underdrains throughout the Park Manor Estates Sections 9-10, inclusive of the associated replacement of curbs, sidewalk and driveways aprons and the restoration of roadway base and asphalt associated with road open cuts.

NOW, THEREFORE, the condition of this obligation is such that if Contractor shall fully, promptly and faithfully perform said Contract and all obligations thereunder, including all obligations imposed by the Contract documents (which includes the Notice to Bidders, Instruction to Bidders, Proposal and Bid Form, General and Supplementary Conditions, Detail Specifications, Form(s) of Contract Bond(s), Plans and Specifications and such amendments thereof as may be made as provided for therein), then this obligation shall be void; otherwise it shall remain in full force and effect.

1. The undersigned shall indemnify and save harmless said Owner against and from all costs, expenses and damages, including litigation costs and attorney's fees arising out of, or in connection with the neglect, default or want of care or skill, including patent infringement on the part of said Contractor, his agents, servants or employees in the execution or performance of said Contract.

The applicable provisions of Section 255.05 and 713.01 Florida Statutes apply to this bond.

2. Whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the SURETY may promptly remedy the default or shall promptly:
 - A. Complete the Contract in accordance with its terms and conditions; or
 - B. Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by SURETY of the lowest responsible bidder, or, if the Owner elects, upon determination by the Owner and the SURETY jointly of the lowest responsible bidder, arrange for a Contract between such bidder and the Owner. SURETY shall make available as the work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this Paragraph) sufficient funds to pay the costs of completion, including other costs and damages for which the SURETY may be liable hereunder, the amount set forth in the first paragraph hereof.
3. Any changes in or under the Contract Documents and compliance or noncompliance with any formalities connected with the Contract or the changes shall not affect SURETY'S obligation under this bond. Any increase in the total Contract amount as authorized by the Owner shall accordingly increase the SURETY'S obligation by the same dollar amount of said increase. The Principal shall be responsible for notification to SURETY of all such changes.
4. The undersigned expressly acknowledges its obligations and liabilities for liquidated damages suffered by the Owner under the provisions of the Contract Documents.
5. The undersigned, covenant and agree that no change, extension of time, exercise of options for Contract renewals, changes to Contract amounts, alterations or additions to the terms of the Contract or the work to be performed thereunder, or the specifications accompanying the same shall in any way affect their obligation on this bond, and the SURETY does hereby expressly waive notice of any such change, extension of time, change to Contract amount, alteration, or addition. Moreover, no alterations or additions to this bond form shall be binding unless specifically agreed to in writing by the parties.
6. The Contractor shall save the Owner harmless from any and all damages, expenses and costs which may arise by virtue of any defects in said work or materials within a period of one (1) year from the date of Final Completion of the Project.

Signed and sealed this the _____ day of _____, 20__.

CONTRACTOR, AS PRINCIPAL

WITNESS:

 BY: _____
 Firm Name
 Signature

 Type Name and Title

 SURETY

 AGENT FOR SURETY

NAIC Number: _____

 Signature

BY: _____ AGENCY ADDRESS: _____

SURETY ADDRESS: _____

 PHONE _____

Licensed Florida Insurance Agent? Yes _____ No _____

License Number: _____

STATE OF _____)

COUNTY OF _____) SS

CITY OF _____)

Before me, a Notary Public duly commissioned, qualified and acting personally, appeared:

to me well known, who being by me first duly sworn upon oath says that he is Attorney-in-Fact for

as Surety, and that he has been authorized by said Surety to execute the foregoing Performance Bond on behalf of the Principal (Contractor) named therein in favor of the owner.

Subscribed and sworn to before me this the _____ day of _____, 20__.

Notary Public

(Print, Type or Stamp Commissioned Name of Notary Public)

Personally Known _____ or Produced Identification _____

Identification: _____ Type of _____

In accordance with Part C, Section 19 and Part F Article 8 of the Contract, if applicable, list the Lead Surety.

LEAD SURETY

AGENT FOR SURETY

Signature

BY: _____ AGENCY ADDRESS: _____

SURETY ADDRESS: _____

PHONE _____

PAYMENT BOND

BOND NUMBER _____

KNOW ALL MEN BY THESE PRESENTS that

Name of Contractor _____

Address _____

Phone Number _____

Corporation, Partnership or Individual _____

Thereinafter called Contractor, as Principal, and

Name and Address of Surety _____

hereinafter called SURETY, as SURETY, are held and firmly bound unto Orange County, 400 East South Street, Orlando, FL 32801, (407) 836-5635 a Political Subdivision of the State of Florida as Obligee, in the full and just sum of \$_____, lawful money of the United States of America, to the payment of which sum, well and truly to be made, the Contractor and SURETY bind themselves, their representatives, and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Contractor has entered into **Contract No. Y18-727** with the "County", also referred to herein as the OWNER, for the project entitled: **PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS, 1206 Park Manor Drive, Orlando, FL. 32825** with conditions and provisions as are further described in the aforementioned Contract, which Contract is by reference made a part hereof for the purpose of explaining this bond.

General description of the Work: Construction of underdrains throughout the Park Manor Estates Sections 9-10, inclusive of the associated replacement of curbs, sidewalk and driveways aprons and the restoration of roadway base and asphalt associated with road open cuts.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS such that if Contractor shall promptly make payments to all claimants for any and all labor and material used or reasonably required for use or furnished in connection with the performance of said Contract, and shall perform all other covenants and obligations of this bond, then this obligation shall be void; otherwise it shall remain in full force and effect.

1. The undersigned shall promptly make payment to all persons supplying services, labor, material or supplies used directly or indirectly by said Contractor, or any subcontractor(s) or sub-subcontractor(s), in the prosecution of the work provided for in said Contract.
2. Subject to the Owner's priority, claimants covered by Section 713.01 of the Florida Statutes shall have a direct right of action against the Principal and SURETY under this obligation, after written notice of the performance of labor or delivery of materials or supplies, and non-payment therefore. Any claimant who seeks to recover against the Principal or SURETY under this obligation must also satisfy the notice requirement and time limitations of Section 255.05 of the Florida Statutes, as amended.
3. The undersigned, covenant and agree that no change, extension of time, exercise of options for Contract renewals, change to Contract amounts, alterations or additions to terms of the Contract or the work to be performed thereunder, or the specifications accompanying the same shall in any way affect their obligation on this bond and the SURETY does hereby expressly waive notice of any such change, extension of time, exercise of options for Contract renewal, changes to Contract amount, alternations or additions. Moreover, no alterations or additions to this bond form shall be binding unless specifically agreed to in writing by the parties.

The applicable provisions of Sections 255.05 and Florida Statutes apply to this bond.

4. Any changes in or under the Contract Documents and compliance or noncompliance with any formalities connected with the Contract or the changes shall not affect SURETY'S obligation under this bond. Any increase in the total Contract amount as authorized by the Owner shall accordingly increase the SURETY'S obligation by the same dollar amount of said increase. The Principal shall be responsible for notification to SURETY of all such changes.

Signed and sealed this the _____ day of _____, 20____

CONTRACTOR, AS PRINCIPAL:

WITNESS:

Firm Name

Signature

BY: _____
Signature

Type Name and Title

SURETY: _____

AGENT FOR SURETY: _____

NAIC Number: _____

BY: _____
Signature

BY: _____

AGENCY ADDRESS: _____

SURETY ADDRESS _____

PHONE NO. _____

Licensed Florida Insurance Agent? Yes _____ No _____

License Number: _____

STATE OF _____)

COUNTY OF _____) SS

CITY OF _____)

Before me, a Notary Public duly commissioned, qualified and acting personally, appeared:

to me well known, who being by me first duly sworn upon oath says that he is Attorney-in-Fact for

as Surety, and that he has been authorized by said Surety to execute the foregoing Payment Bond on behalf of the Principal (Contractor) named therein favor of the owner.

Subscribed and sworn to before me this the _____ day of _____, 20_____.

Notary Public

(Print, Type or Stamp Commissioned Name of Notary Public)

Personally Known _____ or Produced Identification (Type) _____

In accordance with Part C, Section 19 and Part F Article 8 of the Contract, if applicable, list the Lead Surety.

LEAD SURETY

AGENT FOR SURETY

Signature

BY:_____

AGENCY ADDRESS:_____

SURETY ADDRESS:_____

PHONE_____

(THIS FORM MUST BE UTILIZED IN ALL FINAL PAY APPLICATIONS)

FINAL RELEASE OF LIEN

KNOW ALL MEN BY THESE PRESENTS, that for and in consideration of the sum of monies, set out in the accompanying Estimate Statement No. _____, final, which quantity, the receipt of which is hereby acknowledged, is accepted as full and complete compensation for all work done, materials furnished and damages or claims arising under Orange County Contract No. Y18-727, entitled:

PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS

By:

Contractor

(SEAL)

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before this _____ day of

_____ 20_____, by _____.

Personally Known _____ OR Produced Identification _____

Type of identification Produced _____

**CHANGE ORDER REQUEST
PURCHASE ORDER / DELIVERY ORDER / CONTRACT**

*Vendor Code: _____ *Vendor Name: _____ *Date: _____

*Change Order Request No.: _____ *Document No.: _____ Contract No. _____

*Department: _____ *Contact/Phone No.: _____

ACCOUNTING LINE CHANGE ONLY:

Accounting Line From: _____ Amount: _____

Accounting Line To: _____ Amount: _____

COMMODITY LINE NUMBER ADD:

Comm. Line No.: _____ Commodity Code: _____ Quantity: _____ Unit of Measure: _____

Unit Cost: _____ Description: _____ MA Line No. _____

Accounting Line: _____ Amount: _____

COMMODITY LINE NUMBER INCREASE / DECREASE / DELETE:

Comm. Line No. _____ Increase Qty By: _____ Decrease Qty By: _____ Increase Unit Cost By: _____

Decrease Unit Cost By: _____ Accounting Line: _____

Delete: _____ (check only if you want to delete this line number).

CANCELLATION:

_____ Please cancel Purchase Order / Delivery Order

Original sent to vendor: _____ Yes _____ No

***JUSTIFICATION (Required for all transactions):**

Enter Retainage for line number(s) _____ in the amount of _____ %

*Original PO/DO/Contract Award/Encumbrance <u>circle one</u>	Contract Amount	Encumbered/De-Encumbered Amount
	\$ _____	\$ _____
*Net Dollars for Previous Change Orders (Addition/Subtraction) <u>circle one</u>	\$ _____	\$ _____
*Net Dollars for This Change Order (Addition/Subtraction) <u>circle one</u>	\$ _____	\$ _____
*Total Dollars	\$ _____	\$ _____

By signing this agreement, the Contractor hereby releases the County, its agents, and employees from any and all liabilities under this contract for further equitable adjustments and/or claims associated with this change order.

*Vendor/Contractor Authorization: _____ Date: _____

*Departmental Approval: _____ Date: _____

*Purchasing & Contracts Approval: _____ Date: _____

For Purchasing Use Only Track Change Order: Yes No Change Award Amount to: \$ _____

Add the following text to the PO/DO: _____

CHANGE ORDER REQUEST CONTINUATION SHEET Document No.: _____

PURCHASE ORDER / DELIVERY ORDER / CONTRACT

ACCOUNTING LINE CHANGE ONLY:

Accounting Line From: _____ Amount: _____

Accounting Line To: _____ Amount: _____

Accounting Line Add: _____ Amount: _____

Accounting Line From: _____ Amount: _____

Accounting Line To: _____ Amount: _____

Accounting Line Add: _____ Amount: _____

COMMODITY LINE NUMBER ADD:

Comm. Line No.: _____ Commodity Code: _____ Quantity: _____ Unit of Measure: _____

Unit Cost: _____ Description: _____ MA Line No. _____

Accounting Line: _____ Amount: _____

Comm. Line No.: _____ Commodity Code: _____ Quantity: _____ Unit of Measure: _____

Unit Cost: _____ Description: _____ MA Line No. _____

Accounting Line: _____ Amount: _____

Comm. Line No.: _____ Commodity Code: _____ Quantity: _____ Unit of Measure: _____

Unit Cost: _____ Description: _____ MA Line No. _____

Accounting Line: _____ Amount: _____

COMMODITY LINE NUMBER INCREASE / DECREASE / DELETE:

Comm. Line No. _____ Increase Qty By: _____ Decrease Qty By: _____ Increase Unit Cost By: _____

Decrease Unit Cost By: _____ Accounting Line: _____

Delete: _____ (check only if you want to delete this line number).

Comm. Line No. _____ Increase Qty By: _____ Decrease Qty By: _____ Increase Unit Cost By: _____

Decrease Unit Cost By: _____ Accounting Line: _____

Delete: _____ (check only if you want to delete this line number).

Comm. Line No. _____ Increase Qty By: _____ Decrease Qty By: _____ Increase Unit Cost By: _____

Decrease Unit Cost By: _____ Accounting Line: _____

Delete: _____ (check only if you want to delete this line number).

*Departmental Approval: _____

Date: _____

Purchasing & Contracts Approval: _____

Date: _____

CONSENT OF SURETY AND INCREASE OF PENALTY

BOND NUMBER _____

1.CONTRACT#	2.MODIFICATION#	3.DATED
4.The Surety consents to the foregoing Contract notification and agrees that its bond or bonds shall apply and extend to the Contract as modified or amended. The principal and Surety further agree that on or after the execution of this consent, the penalty of the performance bond or bonds is increased by _____ dollars (\$ _____) and the penalty of the payment bond or bonds is increased by _____ dollars (\$ _____). However, the increase of the liability of each co-Surety resulting from this consent shall not exceed the sums shown below.		
5.NAME OF SURETY	6.INCREASE IN LIABILITYLIMIT UNDER PERFORMANCE BOND	7.INCREASE IN LIABILITYLIMIT UNDER PAYMENT BOND
a. SURETY ADDRESS	b. SIGNATURE	
	c. TYPED NAME AND TITLE	
	d. DATE THIS CONSENT EXECUTED	

SURETY

FLORIDA RESIDENT AGENT FOR SURETY

Signature

BY: _____ AGENCY

ADDRESS: _____

SURETY ADDRESS: _____

PHONE _____

Signature

Type Name and Title

Business Address

License Number

Telephone Number (Include Area Code)

STATE OF _____)

COUNTY OF _____) SS

CITY OF _____)

Before me, a Notary Public duly commissioned, qualified and acting personally, appeared:

to me well known, who being by me first duly sworn upon oath says that he is Attorney-in-Fact for

as Surety, and that he has been authorized by said Surety to execute the foregoing Performance Bond on behalf of the Principal (Contractor) named therein in favor of the owner.

Subscribed and sworn to before me this the _____ day of _____, 20__.

Notary Public

(Print, Type or Stamp Commissioned Name of Notary Public)

Personally Known _____ or Produced Identification _____

DRUG-FREE WORKPLACE FORM

The undersigned vendor, in accordance with Florida Statute 287.087 hereby certifies that _____ does:

Name of Business

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Informs employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, employee assistance programs and the penalties that may be imposed upon employees for drug abuse violations.
3. Gives each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in Paragraph 1.
4. In the statement specified in Paragraph 1, notifies the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any State, for a violation occurring in the workplace no later than five (5) days such conviction.
5. Imposes a sanction on, or requires the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
6. Makes a good faith effort to continue to maintain a drug-free workplace through implementation of Paragraphs 1 thru 5.

As the person authorized to sign this statement, I certify that this firm complies fully with the above requirements.

Bidder's Signature

Date

PART F

GENERAL CONDITIONS

ARTICLE 1 - THE CONTRACT

The Contract Documents are identified in the Contract, Part E. Titles, Subtitles, Headings, Running Headlines, Table of Contents, and Indexes are printed in the Contract Documents merely for convenience.

ARTICLE 2 - DEFINITIONS

The words and expressions (or pronouns used in their stead) defined in this Article shall, wherever they appear in the Contract Documents, be construed as follows unless a different meaning is clear from the context.

"Addenda" shall mean any additional Contract provisions issued in writing by the County prior to receipt of Bid.

"Bid Proposal" shall mean the offer or proposal of the Bidder submitted on the Official Bid Form and Attachments setting forth the prices for the Work to be performed.

"Bidder" shall mean any person, firm or corporation submitting a Bid for the Work.

"Board of County Commissioners" shall mean the Board of County Commissioners, Orange County, Florida, or their duly authorized representative(s).

"Change Order" shall mean a written order to the Contractor, signed by the County, authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Amount or the Contract Time issued after execution of the Contract.

"Contract" shall mean the written agreement between the County and the Contractor covering the Work to be performed; the Contract will be attached to and made a part of the Contract Documents.

"Contractor" shall mean successful bidder (and vice versa), whether a corporation, firm, individual or any combination thereof, and its (or their) successors, personal representatives, executors, administrators and assigns.

"Contract Amount" shall mean the total monies payable to the Contractor under the Contract Documents. The term "Contract Price" where used in the Contract Documents refers to the Contract Amount.

"Contract Float" shall mean the number of days that an activity or a sequence of activities does not necessarily have to start or end on the scheduled dates to maintain the schedule, or as a minimum, the number of days that an activity may be delayed from its early start date without delaying completion of the Work beyond the Contract Time for Substantial Completion or Final Acceptance.

"Contract Time" will mean the number of calendar days stated in the Agreement for the completion of the Work.

"County" shall mean the Board of County Commissioners, Orange County, Florida, or their duly authorized representative(s), for whom the Work is being performed.

"Day " shall mean one calendar day when used in the Contract Documents.

"Defective Work" shall mean (a) Work that is unsatisfactory, deficient or damaged, does not conform to the Contract Documents, or does not meet the requirements of any inspection, test or approval, or (b) Work associated with punch list items that the Contractor fails to complete within a reasonable time after issuance of the punch list by the Project Manager.

"Drawings" shall mean only those drawings specifically referred to as such in these documents or in any Addenda. Drawings issued after the execution of the Contract to explain further, to illustrate, or to show changes in the Work will be known as "Supplementary Drawings" and shall be binding upon the Contractor with the same force as the Drawings.

"Final Acceptance" shall mean acceptance of the Work by the County upon the expiration of the correction period required by the Contract Documents.

"Final Completion" shall mean acceptance of the Work by the County as evidenced by its signature upon Final Certificate of Completion and approval thereof by the Board of County Commissioners. The Final Certificate of Completion shall be signed only after the County has assured itself by tests, inspection or otherwise that all of the provisions of the Contract have been carried out to its satisfaction.

"Notice" shall mean written Notice. Notice shall be served upon the Contractor either personally or by leaving the said Notice at his residence or with his Agency in charge of the Work, or addressed to the Contractor at the residence or place of business given in the Bid and deposited in a postpaid wrapper in any post box regularly maintained by the United States Post Office.

"Notice of Award" shall mean the written notice of award of the Contract given by the County to the apparent successful Bidder.

"Notice to Proceed" shall mean the written notice given by the County to Contractor fixing the date the Contract Times will commence to run.

"Professional" shall mean the professional independent Architectural/Engineering firm designated to assist the County in the work by a prior agreement entered into by the County and the said firm. The terms "Engineer" and "Architect", where used in the Contract Documents, refer to the Professional.

"Project" shall mean the entire improvement of which this Contract forms a part.

"Project Manager" shall be the duly authorized representative of the County during the construction period.

"Record Schedule" shall mean the time table of predicted tasks, milestones, task durations, deadlines and the start and end dates of the Work indicated in a Progress Schedule accepted by the County and provided to the County prior to the first progress payment. County acceptance of a revised and/or updated Progress Schedule will result in a revised Record Schedule, if so noted in the County's written acceptance, that will be used to evaluate progress and delays occurring after the acceptance of the revised Record Schedule.

"Shop Drawings" shall mean all drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the Contractor, a Subcontractor, a manufacturer, supplier or distributor and which illustrate the equipment, material and/or some portion of the Work.

"Site" shall mean the area upon or in which the Contractor's operations are carried on and such other areas adjacent thereto as may be designated as such by the Project Manager.

"Specifications" shall mean parts of the Contract Documents identified as "Specifications" and organized into Divisions. The specifications include general requirements and technical descriptions of materials, equipment, construction systems, standards and workmanship. The term "Technical Provisions" where used in the Contract Documents refers to the Specifications.

"Subcontractor" shall mean any person, firm or corporation other than employees of the Contractor who or which contracts with the Contractor to furnish, or actually furnishes labor, materials and/or equipment for the Work.

"Substantial Completion" shall mean the completion of the Work by the Contractor to the point where the County may make beneficial use of the Work.

"Surety" shall mean any corporation that executes, as Surety, the Contractor's Bid Bond, Payment Bond and Performance Bonds securing the performance of this Contract.

"Work" shall mean any and all obligations, duties and responsibilities necessary to the successful completion of the construction assigned to or undertaken by the Contractor under the Contract Documents, including the furnishing of all labor, materials, equipment, and other incidentals.

ARTICLE 3 -ASSIGNMENT OF CONTRACT

The Contractor may not make any assignment of the contractual agreement between the parties, in whole or in part, without prior written authorization as may be given by the County, at its sole discretion.

No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without written consent of the party sought to be bound; and specifically but without limitation, monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the

contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

ARTICLE 4 - QUALIFICATIONS OF SUBCONTRACTORS AND SUPPLIERS

The Project Manager will notify the Contractor in writing if the Project Manager, after due investigation, has reasonable objection to any Subcontractor or Supplier on the Subcontractor or Supplier Page, Bid Form Attachment C-2. If the Project Manager has reasonable objection to any Subcontractor or Supplier, the Contractor shall submit another acceptable one to the County. No increase in Contract Amount or Contract Time will be allowed under this article, unless Contractor can prove substantial increase due to the change, in which case Contractor may request an equitable adjustment to the Contract Amount or Contract Time. If Contractor requests an equitable adjustment as a result of a requested change, Contractor shall make available to the County all documents necessary, as requested by the County, to substantiate such adjustment.

The failure of the Project Manager to make objections to any Subcontractor or Supplier on the list shall not constitute a waiver of any right of the County to reject defective Work, material or equipment; or work, material or equipment not in conformance with the requirements of the Contract Documents. Should the Contractor desire to add, change or delete a Subcontractor or Supplier previously listed, the Contractor shall submit written justification for said change to the Project Manager for approval prior to the new Subcontractor or Supplier performing any Work on the Project.

ARTICLE 5 - STARTING THE WORK

The Contractor will start the Work within **fourteen (14)** calendar days of the official "Notice to Proceed" date. The Contract Time shall commence on the effective date of the "Notice to Proceed."

Preconstruction Conference: Within 20 days after the effective date of the Contract, but before Contractor starts the Work at the site, a conference attended by Contractor, Project Manager, Professional and others as appropriate will be held to discuss such topics as may include, but not limited to; schedules, procedures for handling Shop Drawings and other submittals and for processing Applications for Payment, maintenance of traffic, initiation of coordination with affected utilities, agreement upon the Notice to Proceed date, and to establish a working understanding among the parties as to the Work.

ARTICLE 6 - INTERPRETATION AND INTENT OF THE CONTRACT DOCUMENTS

It is the intent of the Specifications and Drawings to describe the complete Work to be constructed in accordance with the Contract Documents. However, the County makes no representation or warranty of any nature whatsoever to the Contractor concerning such documents. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. If the Contractor finds a conflict, error or discrepancy in the Contract Documents, he will call it to the Project Manager's attention in writing before proceeding with the Work affected thereby. Any work that may reasonably be inferred from the Specifications or Drawings as being required to produce the intended result shall be supplied whether or not it is specifically called for. Work, materials or equipment described in words which so applied have a well known technical or trade meaning shall be deemed to refer to such recognized standards. In case of conflict, the more stringent requirements shall take precedence and govern.

Written clarifications or interpretations (which shall be consistent with or reasonably inferable from the Contract Documents) will be issued in response to a Contractor Request for Interpretation (RFI) or as the Project Manager or Professional may otherwise determine necessary. If the Contractor believes a written clarification or interpretation justifies an increase in Contract Amount or Contract Time, the Contractor shall make a claim for such increase in accordance with Article 13 of the General Conditions. If the Contractor is authorized by the County to proceed with the Work involved before full agreement is reached on (a) whether any increases are due at all, or (b) the extent of any such increases (if any are determined to be due), the Contractor shall furnish daily to the Project Manager, or Professional, actual cost records.

ARTICLE 7 - REFERENCE POINTS

Availability of Lands: The County will furnish, as indicated in the Contract Documents and not later than the date when needed by the Contractor, the lands upon which the Work is to be done, rights-of-way for access thereto and such other lands which are designated for the use of the Contractor. Easements for permanent structures or permanent changes in existing facilities will be obtained by the County unless otherwise specified in the Contract Documents. If the Contractor believes that any delay in the County's furnishing these lands or easements entitles him to an extension of the Contract Time, he may make a claim therefore as provided in Article 13. The Contractor will provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment. The Project Manager will, upon request, furnish to the Contractor copies of all available boundary surveys and subsurface test.

Unforeseen Subsurface Conditions: The Contractor will promptly notify the Project Manager in writing of any subsurface or latent physical conditions at the site which may differ materially from those indicated in the Contract Documents. The Project Manager will promptly investigate those conditions and advise the Contractor in writing if further surveys or subsurface tests are necessary. Promptly thereafter, if needed, the Project Manager will obtain the necessary additional surveys and tests and furnish copies to the Contractor. If the Project Manager finds that the results of such surveys or tests indicate subsurface or latent physical conditions differing significantly from those indicated in the Contract Documents, a Change Order shall be issued incorporating the necessary revisions, in accordance with Article 12.

Reference Points: The Contractor shall be responsible for all field survey work coincidental with completion of this Work as specified herein. All survey work shall be done under the supervision of a Registered Professional Surveyor and Mapper. The County shall furnish, one time, a set of permanent reference markers along the line of work to form the basis for the above Contractor's survey.

All **Section Corners** and **Quarter Section** corners falling within the limits of this Work shall be perpetuated by a Florida Registered Surveyor and Mapper.

- A. All such corners falling within or on the boundaries of this project shall have reference ties made, certified to and submitted to the County Surveyor, Orange County, Florida, prior to the commencing of construction.

- B. Upon completion of construction and prior to Final Completion, certified corner records shall be submitted to the Department of Natural Resources in compliance with Florida Statutes, Chapter 177.507 and a copy of said certified corner record shall also be submitted to the Orange County Surveyor. Said corner records shall reflect the corner as perpetuated and which shall meet these minimum standards.
1. If the corner falls in asphalt or concrete construction, the corner shall be a 2 1/4" metal disc marked according to standard government practices and set in concrete no less than 18" in depth and shall be encased in an adjustable 5 1/4" diameter or larger valve box raised to the finished surface of construction.
 2. If the corner falls at any other location, it shall be a 4" x 4" concrete monument no less than 23" long with a 2 1/4" metal disc marked according to standard government practices. The top of said monument shall be set flush with the ground ($\pm 0.5'$ depending on conditions).
- C. Any U.S.C. and G.S. monument within limits of construction are to be protected. If monuments are in danger of damage, the Contractor shall contact the Project Manager and the Orange County Surveyor prior to the commencing of construction.
- D. Payment for all necessary survey work shall be included in the bid as part of other items of work.

ARTICLE 8 – BONDS, INSURANCE AND INDEMNIFICATION

Payment and Performance Bonds: The CONTRACTOR shall execute and deliver to the County the Payment and Performance Bonds (see Part C, 2-h) included herein as security for the faithful performance and completion of the Work and payment for all materials and labor furnished or supplied in connection with all Work included in the Contract Documents. These Bonds shall be in amounts at least equal to the Contract Amount, shall name the County as obligee and shall be in such form and by sureties of financial standing having a rating from A.M. Best Company (or other equivalent rating company) equal to or better than A- VI and must be included on the approved list of sureties issued by the United States Department of Treasury. Prior to execution of the Contract Documents the County may require the Contractor to furnish such other Bonds, in such form and with such sureties as it may require. If such Bonds are required by written instructions given prior to opening of Bids, the premium shall be paid by the Contractor. If the Contract Amount is increased by Change Order, it shall be the Contractor's responsibility to insure that the Payment and Performance Bonds be amended accordingly and a copy of the amendment is forwarded to the County.

The Contractor shall record the payment and performance bonds in Orange County public records as required by Florida Statutes, Chapter 255.05. Before commencing the work the Contractor shall provide to the Manager of the Procurement Division a certified copy of the recorded bonds. No payment will be made to the contractor until the contractor has provided a copy of the recorded bonds.

If the Surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any State where any part of the Work is located or it ceases to meet the requirements imposed by the Contract Documents, the Contractor shall within five (5) days thereafter substitute another Bond with another Surety both of which shall be acceptable to the County.

Insurance Requirements:

Contractor agrees to maintain on a primary basis and at its sole expense, at all times throughout the duration of this Contract the following types of insurance coverage with limits and on forms (including endorsements) as described herein. These requirements, as well as the County's review or acceptance of insurance maintained by Contractor is not intended to and shall not in any manner limit or qualify the liabilities assumed by Contractor under this Contract. Contractor is required to maintain any coverage required by federal and state workers' compensation or financial responsibility laws including but not limited to Chapter 324 and 440, Florida Statutes, as may be amended from time to time. Insurance carriers providing coverage shall be authorized and/or eligible to do business in the State of Florida and shall possess a current A.M. Best's Financial Strength Rating of A- Class VIII.

The Contractor shall require and ensure that each of its subcontractors maintain insurance until the completion of their work under any contract associated with this Contract. Failure of the Contractor to maintain insurance coverage for itself or for any other persons or entities for whom it is responsible or to ensure that its subcontractors maintain coverage shall not relieve the Contractor of any contractual responsibility, obligation or liability.

If the CONTRACTOR intends to bid on this Contract as a Joint Venture then all insurance coverage required herein shall include the Joint Venture as "named insured". If the Joint Venture has no employees then this requirement is waived for workers' compensation. The Joint Venture shall also purchase discontinued completed operations coverage for any claims made after the dissolution of the Joint Venture. This coverage shall be for a period of two years following final completion of the project or continuing service contract.

The minimum types and amounts of insurance inclusive of any amount provided by an umbrella or excess policy, shall be as follows:

- ☒ Workers' Compensation – The Contractor shall maintain coverage for its employees with statutory workers' compensation limits, and no less than the limits indicated in the Schedule of Limits (see below) for Employers' Liability. Said coverage shall include a waiver of subrogation in favor of the County. The County will not accept elective exemptions. Any contractor using an employee leasing company shall complete the Leased Employee Affidavit (Exhibit A).

Required Endorsements:

- ☒ Waiver of Subrogation- WC 00 03 13 or its equivalent (Exhibit G)

- ☒ Commercial General Liability – The Contractor shall maintain coverage issued on an ISO form CG 00 01 or its equivalent, with a limit of liability of not less than the limits indicated in the Schedule of Limits (see below). Contractor further agrees coverage shall not contain any endorsement(s) excluding or limiting Product/Completed Operations, Independent Contractors, Contractual Liability, or Separation of Insureds. The General Aggregate limit shall either apply separately to this Contract or shall be at least twice the required occurrence limit.

All projects with a Contract Amount greater than \$20,000,000 shall be written on a Designated Premises or Projects basis (Exhibit B). Commercial umbrella and excess coverage shall include liability coverage for damage to the Contractor's completed work equivalent to that provided under ISO Form CG 00 01 04 13.

Required Endorsements:

☒ Additional Insured- CG 20 10 04 13 and CG 20 37 04 13 or its equivalent (Exhibits E and F)

☒ Waiver of Subrogation- CG 24 04 05 09 or its equivalent

Note: If blanket endorsements are being submitted please include the entire endorsement. The policy number to which the endorsement applies shall be indicated directly on the endorsement.

- ☒ Business Automobile Liability - The Contractor shall maintain coverage for all owned; non-owned and hired vehicles issued on ISO form CA 00 01 or its equivalent, with limits of not less than the limits indicated in the Schedule of Limits (see below). In the event the Contractor does not own automobiles the Contractor shall maintain coverage for hired and non-owned auto liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

Required Endorsements:

☐ MCS-90- for operations governed under Sections 29 & 30 of the Motor Carrier Act of 1980

Schedule of Limits:

Contract Amount	Workers' Comp/ Employers' Liability	General Liability	Automobile Liability
Up to \$10 million	Statutory/\$500,000	\$1,000,000	\$1,000,000
\$10 - \$20 million	Statutory/\$1,000,000	\$5,000,000	\$5,000,000

Over \$20 million To Be Determined by the County

- ☒ Pollution Legal Liability - The Contractor agrees to maintain Contractor's Pollution Legal Liability with a limit of not less than one million (\$1,000,000) per occurrence on a per-project basis.

- ☐ **Builders' Risk** - If this Contract includes: (1) construction of a new above-ground structure or structures, (2) any addition, improvement, alteration, or repair to an existing structure or structures, or (3) the installation of machinery or equipment into an existing structure or structures, the Contractor shall maintain builders' risk insurance providing coverage to equally protect the interests of the County, the Professional, the Contractor and subcontractors of any tier. Coverage shall be written on a completed value form (Exhibit C) in an amount at least equal to 100% of the estimated completed value of the project plus any subsequent modifications of that sum.

The coverage shall be written on an "all-risk" basis and shall, at a minimum cover the perils insured under the ISO CP 10 30 Special Causes of Loss Form (Exhibit D) and shall include property in transit and property stored on or off premises, which shall become part of the project. The Contractor agrees not to maintain a wind or flood sub-limit less than 25% of the estimated completed value of the project. The Contractor agrees any flat deductible(s) shall not exceed \$25,000, and any wind percentage deductible (when applicable) shall not exceed five-percent (5%). The coverage shall not be subject to automatic termination of coverage in the event the project/building is occupied in whole or in part, or put to its intended use, or partially accepted by the County. If such restriction exists the Contractor shall request that the carrier endorse the policy to amend the automatic termination clause to only terminate coverage if the policy expires, is cancelled, the County's interest in the project ceases, or the project is accepted and insured by the County.

- ☐ **Professional Liability**- If the construction method is "design-build" the Contractor agrees to maintain Professional Liability on a per-project basis. The Contractor agrees to provide coverage with limits and deductibles as prescribed below.

<u>Project Cost</u>	<u>Minimum Limit</u>	<u>Maximum Deductible</u>
\$0-1,000,000	50% of project cost subject to a minimum of \$100,000/occurrence	10% of project cost or \$25,000, whichever is smaller
\$1,000,000-5,000,000	\$1,000,000	\$100,000
over \$5,000,000	Determined by the County	

When a self-insured retention or deductible exceeds \$100,000 the County reserves the right to request a copy of the Contractor's most recent annual report or audited financial statement. For policies written on a "Claims-Made" basis the Contractor agrees to maintain a retroactive date prior to or equal to the effective date of this contract. In the event the policy is canceled, non-renewed, switched to occurrence form, or any other event which triggers the right to purchase a Supplemental Extended Reporting Period (SERP) during the life of this contract the Contractor agrees to purchase the SERP with a minimum reporting period of not less than two years. Purchase of the SERP shall not relieve the Contractor of the obligation to provide replacement coverage.

The Contractor shall be responsible for all risk of loss whether insured or not until final acceptance of the project by the County. The Contractor agrees to be fully and solely responsible for any costs or expenses resulting from a coverage deductible, co-insurance penalty, or self-insured retention; including any loss not covered because of the application of said deductible, co-insurance penalty, self-insured retention, or coverage exclusion or limitation. The County has the right to request that the Contractor procure and maintain a surety bond for any deductible amounts that exceed any amount stated herein in such amount and on such form that are acceptable to the County.

The County reserves the right, but not the responsibility to periodically review any and all policies of insurance and to reasonably adjust the limits and/or types of coverage required herein, from time to time throughout the term of this Contract. In such event, the County shall provide the Contractor written notice of such adjustments and the Contractor shall comply within thirty (30) days of receipt thereof. Any request for an exception to these insurance requirements must be submitted in writing to the County for approval.

The Contractor agrees to specifically include the County as an Additional Insured on the Commercial General Liability policy with a CG 20 37 – Additional Insured - Owners, Lessees or Contractors-Completed Operations (Exhibit E) or CG 20 10 – Additional Insured-Owners, Lessees or Contractors-Scheduled Person or Organization Endorsement, or their equivalent (Exhibit F). The Contractor shall also specifically include the County as an Additional Insured on any Commercial Umbrella or Excess policies unless the County is automatically defined under the policy as an Additional Protected Person. Additionally, the Contractor agrees to specifically include the County as an Additional Insured under the Contractor's Pollution Liability coverage (when applicable). The name of the organization identified in each Additional Insured endorsement's schedule shall read Orange County Board of County Commissioners.

The Contractor agrees by entering into this written Contract to provide a Waiver of Subrogation in favor of the County, Contractor, Professional, and sub-contractors of any tier for each required policy providing coverage during the life of this Contract. When required by the insurer, or should a policy condition not permit an endorsement, the Contractor agrees to notify the insurer and request that the policy(ies) be endorsed with a Waiver of Transfer of Rights of Recovery Against Others, or an equivalent endorsement. This Waiver of Subrogation requirement shall not apply to any policy, which includes a condition that specifically prohibits such an endorsement or voids coverage should the Contractor enter into such an agreement on a pre-loss basis.

Before execution of this Contract by the County and the start of any Work and for the duration of this Contract, the Contractor shall provide the COUNTY with current certificates of insurance evidencing all required coverage. The certificates shall clearly indicate that the Contractor has obtained insurance of the type, amount and classification as required for strict compliance with this insurance section. No material change or cancellation of the insurance shall be effective without thirty (30) days prior written notice to the COUNTY. Certificates shall specifically reference the project title and contract number. The certificate holder shall read:

Orange County Board of County Commissioners
c/o Procurement Division
400 E. South Street
Orlando, Florida 32801

Prior to commencement of any Work performed by subcontractors (if any), the Contractor shall obtain certificates of insurance evidencing coverage from each of its subcontractors and shall furnish within five days, copies of said certificates upon request by the County. In addition to the certificate(s) of insurance the Contractor shall also provide a blanket or specific additional insured endorsement and all waivers of subrogation or transfer of rights of recovery endorsements for each policy.

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

Indemnification:

Subject to the limitations in the third paragraph under this heading, the Contractor will defend, indemnify and hold harmless the County, its agents and employees from and against all liabilities, claims, damages, losses, costs and expenses (including attorney's fees) arising out of or resulting from the performance of the Work, provided that any such liability, claim, damage, loss, cost or expense:

- is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting there from and,
- is caused in whole or in part by any act or omission of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in whole or in part by a party indemnified hereunder.

The Contractor hereby acknowledges receipt of One Hundred Dollars (\$100) and other good and valuable consideration from the County as consideration for the indemnification provisions in this Contract.

In any and all claims against the County, its agents or employees; employees of the Contractor and subcontractor; all persons directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under the previous paragraph shall not be limited in any way as to the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

The indemnification obligations of the Contractor under this section shall not extend to the liability of the Professional and its agents or employees arising out of the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications, or the giving or the failure to give requested interpretations by the Professional and their agents or employees, provided such giving or failure to give is the primary cause of injury or damage.

The Contractor will defend, indemnify and hold harmless the County and anyone directly or indirectly employed by it from and against all claims, damages, losses and expenses (including attorney's fees) arising out of any infringement of patent rights or copyrights held by others during or after completion of the Work, and shall defend all such claims in connection with any alleged infringement of such rights.

Provided however, if this Contract is deemed by a court of competent jurisdiction to be a construction contract under Section 725.06, Florida Statutes, any obligation of the Contractor to defend, indemnify or hold harmless the County, its officers and employees shall be limited to an obligation to indemnify and hold harmless to the extent caused by the negligence, recklessness or intentionally wrongful conduct of the Contractor and persons employed or utilized by the Contractor in the performance of the Contract.

The indemnification provisions contained herein shall survive the termination of this Contract.

ARTICLE 9 - CONTRACTOR'S RESPONSIBILITIES

Supervision and Superintendence - The Contractor will supervise and direct the work efficiently and with his best skill and attention. He will be solely responsible for the means, methods, techniques, sequences and procedure of construction, unless otherwise specified. The Contractor will be responsible to see that the finished Work complies accurately with the Contract Documents. The Contractor will keep on the site at all times during its progress a competent, resident superintendent who shall not be replaced without written notice to the Project Manager. The superintendent will be the Contractor's representative at the site and shall have authority to act on behalf of the Contractor. All communications given to the superintendent shall be as binding as if given to the Contractor.

The Project Manager may require in writing that the Contractor remove from the Work any of Contractor's personnel that the Project Manager determines to be incompetent, careless or otherwise objectionable.

No claims for an increase in Contract Amount or Contract Time based on the Project Manager's use of this provision will be valid. Contractor shall indemnify and hold the County harmless from and against any claim by Contractor's personnel on account of the use of this provision.

Labor, Materials and Equipment - The Contractor will provide competent, suitable, qualified personnel to lay out the Work and perform construction as required by the Contract Documents. He will at all times maintain good discipline and order at the site. The Contractor will furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water and sanitary facilities and incidentals necessary for the execution, testing, initial operation and completion of the Work.

All materials and equipment will be new except as otherwise provided in the Contract Documents. If required by the Project Manager, the Contractor will furnish satisfactory evidence as to the kind and quality of materials and equipment furnished.

All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator or processors except as otherwise provided in the Contract Documents.

Substitute Material or Equipment - If it is indicated in the Specifications that the Contractor may furnish or use a substitute that is equal to any material or equipment specified, and if the Contractor wishes to furnish or use a proposed substitute, he will within thirty (30) days after the award of the Contract make written application to the Project Manager for acceptance of such a substitute, certifying in writing that the proposed substitute will perform adequately the duties imposed by the general design, be similar and of equal substance to that specified and be suited to the same use and capable of performing in an efficient and economic manner as that specified. The application will include sufficient information to allow the Project Manager to evaluate the substitutions.

The application will state the extent, if any, to which the review, acceptance, furnishing and installation of the proposed substitute will prejudice Contractor's completion of the Work within the Contract Time(s). If the cost of the review of the substitution is greater than that of the originally specified item, the Contractor will reimburse the County for all costs. County may require Contractor to furnish at Contractor's expense a special performance guarantee or other Surety with respect to any substitute. The benefit of lower cost items shall be shared between the County and Contractor as specified in the Instructions to Bidders. No substitute shall be ordered or installed without the written acceptance of the Project Manager who shall be the sole judge of acceptability.

Concerning Subcontractors - The Contractor will not employ any Subcontractor, other person or organization of the types referred to in Article 4 (whether initially or as a substitute) against whom the County or the Project Manager may have reasonable objections, nor will the Contractor be required to employ any Subcontractor against whom he has reasonable objection.

The Contractor will not make any substitution for any Subcontractor who has been accepted by the Project Manager, unless the County and the Project Manager determine that there is good cause for doing so.

The Contractor will be fully responsible for all acts and omissions of his Subcontractors and of persons directly or indirectly employed by them and of persons for whose acts any of them may be liable to the same extent that they are employed by him. Nothing contained in the Contract Documents shall create, nor be interpreted to create, privity or any other contractual relationship whatsoever between the County and any Subcontractor or any person except the Contractor, or any obligation on the part of the County to payor to see to the payment of any monies due any Subcontractor, except as may otherwise be required by law. The County may furnish to any Subcontractor, to the extent practicable, evidence of amounts paid to the Contractor on account of specific Work done. The divisions and sections of the Specifications and the identifications of any Drawings shall not control the Contractor in dividing the Work among Subcontractors or delineating the Work to be performed by any specific trade.

The Contractor agrees to bind specifically every Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of the County.

All Work performed for the Contractor by Subcontractors shall be pursuant to an appropriate agreement between the Contractor and the Subcontractor which shall contain provisions that waive all rights the contracting parties may have against one another for damages caused by fire or other perils covered by insurance held by the County as trustee. The Contractor will pay each Subcontractor a share of any insurance monies received by the Contractor under this insurance.

Patent Fees And Royalties - The Contractor will pay all license fees and royalties and assume all costs incident to the use of any invention, design, process or device which is the subject of patent rights or copyrights held by others.

Utilities - The Contractor will pay all public utility charges except as provided for in the Contract Documents.

Laws and Regulations - The Contractor will give all notices and comply with all laws, ordinances, rules and regulations applicable to the work. If the Contractor observes that the Specifications or Drawings are at variance therewith, he will give the Project Manager prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate Change Order. If the Contractor performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations and without such notice to the Project Manager, he will bear all costs arising therefrom; however, it shall not be his primary responsibility to make certain that the Drawings and Specifications are in accordance with such laws, ordinances, rules and regulations.

Use Of Premises - The Contractor will confine his equipment, the storage of materials and equipment, and the operations of his workers to the areas permitted by law, ordinances, permits or the requirements of the Contract Documents and shall not unreasonably encumber the premises with materials or equipment.

The Contractor shall confine the operation of workmen and equipment, and the storage of materials and equipment to the County's property or to other non-County property or in public right-of-way areas indicated on the Contract Drawings as including work to be done pursuant to the Contract documents. In the event the Contractor desires to have access to the project site, or perform work or operations pertaining to the Contract on, over or from non-County property adjacent to the project site, the Contractor shall obtain written authorization to do so from the respective adjacent property owner(s) prior to using such property. Such written authorization shall include a provision whereby the property owner agrees to hold the County harmless, and to defend the County, in the event of any liability,

loss, injury, or claim incurred as a result of the Contractors work or operations involving the use of the adjacent non-County property.

The County shall be provided with a notarized, certified copy of such written authorization(s) before the Contractor commences work or operations or use of such property in connection with work or operations pursuant to this Contract.

Record Drawings - The Contractor will keep one record copy of all Specifications, Drawings, Addenda, Change Orders and Shop Drawings at the site in good order, and annotated and/or marked on a current basis to indicate the progress of the work done and to show all changes made during the construction process or conditions varying from the Bid Documents. These shall be available to the Project Manager for inspection throughout construction and shall be delivered to the Project Manager upon completion of the Work, but prior to final payment.

Safety And Protection - The Contractor will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. He will take all necessary precautions for the safety of and will provide the necessary protection to prevent damage, injury or loss to:

- A. All employees on the Project and other persons who may be affected thereby:
- B. All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site; and
- C. Other property at the site or adjacent thereto including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

The Contractor will comply with all applicable laws, ordinances, rules, regulations and orders of any public body or public or private utility service organization having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. He will erect and maintain, as required by the conditions and the progress of the Work, all necessary safeguards for safety and protection and, in addition, he will comply with all applicable recommendations of the Manual of Accident Prevention in Construction of the Associated General Contractors of America, Inc., and the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) and subsequent revisions and addenda as published by the U.S. Department of Transportation, Federal Highway Administration and adopted by the Florida Department of Transportation. He will notify owners of adjacent utilities when prosecution of the Work may affect them.

All damage, injury or loss to any property or all damage, disruption, discontinuance or other loss to any utility system or roadways referred to in Paragraph B. and C. caused directly or indirectly, in whole or in part by the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, will be remedied by the Contractor, except damage or loss attributable to the fault of the Drawings or the Specifications or to the acts or omissions of the County, and not attributable, directly or indirectly, in whole or in part, to the fault of negligence of the Contractor. The Contractor must also comply with the guidelines set forth in the Orange County Safety & Health Manual. The manual can be accessed online at the address below:

<http://www.orangecountyfl.net/VendorServices/OrangeCountySafetyandHealthManual.aspx>
x

The Contractor will designate a responsible member of his organization whose duty shall be the prevention of accidents at the site. **This person shall be the Contractor's superintendent unless otherwise designated in writing by the Contractor to the Project Manager.**

Emergencies - In emergencies affecting the safety of persons, the Work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the Project Manager, is obligated to act at his discretion to prevent threatened damage, injury or loss. He will give the Project Manager prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby, and a Change Order shall thereupon be issued covering the changes and deviations involved. If the Contractor believes that additional Work done by him in an emergency which arose from causes beyond his control entitles him to an increase in the Contract Amount or an extension of the Contract Time, he may make a claim therefore as provided in Article 13.

Shop Drawing and Samples - After checking and verifying all field measurements, the Contractor will submit to the Project Manager for review, in accordance with the accepted schedule of Shop Drawing submission, five copies (or at the Project Manager's option, one reproducible copy) of all Shop Drawings, which shall have been checked by and stamped with the approval of the Contractor and identified as the Project Manager may require. The data shown on the Shop Drawings will be complete with respect to dimensions, design criteria, materials of construction and the like to enable the project manager to review the information as required.

The Contractor will also submit to the Project Manager for review with such promptness as to cause no delay in the Work, all samples required by the Contract Documents. All samples shall be checked by and stamped with the approval of the Contractor, identified clearly as to material, manufacturer, any pertinent numbers and the use for which intended.

At the time of each submission, the Contractor will in writing call to the Project Manager's attention to any deviations that the Shop Drawing or sample may have from the requirements of the Contract documents.

The Project Manager will review with reasonable promptness and take appropriate action with regard to Shop Drawings and samples, but its review shall be only for general conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The acceptance of a separate item as such will not indicate approval of the assembly in which the item functions.

The Contractor will make any corrections required by the Project Manager and will return the required number of corrected copies of Shop Drawings and re-submit new samples until accepted.

The Contractor's stamp of approval on any Shop Drawing or sample shall constitute a representation to the Project Manager that the Contractor has either determined and verified all quantities, dimensions, field construction criteria, materials, catalog numbers and similar data or he assumes full responsibility for doing so, and that he has reviewed or coordinated each Shop Drawing or sample with the requirements of the Work and Contract Documents.

No Work requiring a Shop Drawing or sample submission shall be commenced until the submission has been accepted by the Project Manager. A copy of each accepted Shop Drawing and each accepted sample shall be kept in good order by the Contractor at the site and shall be available to the Project Manager.

The Project Manager's acceptance of Shop Drawings or samples shall not relieve the Contractor from his responsibility for any deviations from the requirements of the Contract Documents, unless the Contractor has in writing called the Project Manager's attention to such deviation at the time of submission and the County and the Project Manager have given written acceptance to the specific deviation; nor shall any acceptance by the Project Manager relieve the Contractor from responsibility for errors or omissions in the Shop Drawing.

Each Shop Drawing or sample submittal or substitution request by the Contractor shall contain a reference identifying the applicable, specific Section of the Specifications to which it pertains. Submittals failing to comply with this provision shall be rejected and returned to the Contractor without review.

Each Shop Drawing or sample submittal or substitution request shall include the following stamped certification by the Contractor:

"The General Contractor has reviewed the Shop Drawing, sample or substitution submitted herewith and has determined and hereby certifies that in all respects this submittal is in full compliance and conformance with the Contract specifications, drawings and all other Contract requirements pertaining thereto".

Failure of the Contractor to include the above stated specification reference number or certification of compliance shall result in the rejection of the submittal. The Contractor will also submit within five (5) days of Contract Award to the Project Manager for acceptance all samples required by the Contract Documents. All samples will have been checked by and stamped with the approval of the Contractor, identified clearly as to material, manufacturer, any pertinent numbers and the use for which intended.

In the event that the Contractor, or anyone working for or on behalf of the Contractor on this project, should commence or do any work requiring submission of a Shop Drawing or sample, or involving a substitution or an "or-equal" request without having such submittal accepted by the County in writing, then the Contractor is advised that any and all such work will be done at its risk and is subject to rejection and/or removal at the Contractor's expense and at no additional cost to the County if applicable Shop Drawing, sample, substitution, "or-equal" or other submittal is not accepted.

Further, the Contractor will not receive "progress" or "final" payment for any and all work commenced or done which requires, but has not received acceptance of Shop Drawings, samples, substitution requests, or "or-equal" requests or any other required submittal, nor will the Contractor receive "progress" or "final" payment for any and all work that has been determined by the Professional or the County's Project Manager not to be in compliance or conformance with the established Contract requirements, Contract change orders, written directives, written clarifications provided to the Contractor, or accepted Shop Drawings, accepted samples, accepted substitutions, or accepted "or-equals".

Cleaning Up - The Contractor will keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work; at the completion of the Work he will remove all waste materials, rubbish and debris from and about the premises as well as all tools, construction equipment and machinery, and surplus materials, and will leave the site clean and ready for occupancy by the County.

The Contractor will restore to their original condition those portions of the Site not designated for alteration by the Contract Documents. If at any time during construction of this project, the Contractor fails to clean up on a daily basis, the County may do so. All costs associated with the County's cleanup activities on behalf of the Contractor shall be deducted from amounts due to the Contractor.

ARTICLE 10 – WORK BY OTHERS AND UTILITY COORDINATION

Work by Others – The County may perform additional work related to the project by itself, or it may let other direct contracts which shall contain general conditions similar to these. The Contractor will afford the other contractors who are parties to such direct contracts (or the County, if it is performing the additional work itself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly connect and coordinate his Work with theirs.

Should the contract entail relocation of facilities not a part of this Contract, the Contractor will coordinate and cooperate with the applicable entity responsible for this portion of the work.

If any part of the Contractor's Work depends (for proper execution of results) upon work of any such other Contractor (or the County), the Contractor will inspect and promptly report to the Project Manager in writing any defects, deficiencies or delays in such work that render it unsuitable for such proper execution and results.

The Contractor's failure to report shall constitute an acceptance of the other work, except as to defects, deficiencies and delays which may appear in the other work after the execution of the work.

The Contractor will do all cutting, fitting and patching of his Work that may be required to make its several parts come together properly, and fit it to receive or be received by such other work. The Contractor will not endanger any work of others by cutting, excavating or otherwise altering such other work and will only cut or alter such other work with the written consent of the Project Manager.

If the performance of additional work by other Contractors or the County is not noted in the contract documents prior to the execution of the Contract, written notice thereof shall be given to the Contractor prior to starting any such additional work. If the Contractor believes that the performance of such additional work by the County or others involves him in additional expense or entitles him to an extension of the Contract Time, he may make a claim therefore as provided in Article 13.

Utility Coordination – Section 337.401 (1), Florida Statutes and other applicable law allows utility owners to install and maintain along, above, under, across or on any road or right-of-way any electric transmission or distribution facilities, telephone, telegraph, pole lines, poles, railway structures, ditches, sewers, water, heat, gas mains, pipelines, fences, gasoline tanks and pumps, waterlines, gas lines, wire lines, utility service connections, water and gas meter boxes, valve boxes, light standards, cable lines, cable ways, signals, signal boxes, and all other utility installations, improvements and utility appurtenances to be installed and maintained in the right-of-way.

The Contractor understands and agrees that the lands upon which the Work is to be performed consists of prior existing right-of-way, as well as, recently acquired right-of-way. The Contractor acknowledges and agrees that utility installations and appurtenances are located within the limits of the planned construction Work. The utility installations and appurtenances may be in conflict with the Contractor's Work or require relocation or adjustments. All utility conflict resolutions, relocations, or adjustments are to be moved by the utility owners at their expense, unless otherwise provided in the Contract documents.

The Contractor, by submission of a bid, agrees that prior to bid he has studied, performed field inspections, and evaluated all potential utility conflicts, the locations of permanent and temporary utility appurtenances in their present and relocated positions as may be shown on the plans. The Contractor acknowledges and agrees that the Contractor's bid has considered all potential utility conflicts, the locations of permanent and temporary utility appurtenances in their present and relocated positions including those shown on the plans, not shown on the plans, and those identified during the Contractor's pre-bid study or that should have been identified during the Contractor's field inspections, and evaluation of the limits of the planned construction Work.

The design Professional may show surface or subsurface utility conflicts, relocations, or adjustments in the drawings and plans. The surface and subsurface utility information shown in the drawings and plans was obtained and used by the design Professional to establish design criteria for the design plans. The accuracy as to location and the identification of all surface or subsurface utility information is not warranted or guaranteed and is not to be construed as part of the construction plans governing the construction Work. The Contractor shall solely make his own determinations as to surface and subsurface conditions.

The Contractor shall be solely responsible for utility coordination including all utility conflict resolutions, relocations, and adjustments. The concept of "utility coordination" means that the Contractor shall, at a minimum:

- A. Investigate both subsurface and aboveground conditions to identify potential conflicts far enough in advance of his planned construction operations to allow the Contractor to coordinate with utility owners and responsible parties any necessary conflict resolutions, relocations, or adjustments such that they can occur without delay to the Contractor's operations and Progress Schedule.
- B. Conduct regularly scheduled Utility Coordination Meetings with all affected utilities, and shall maintain detailed minutes of the discussions.
- C. Contact all utility owners in advance of any needed conflict resolutions, relocations, or adjustments.
- D. Contact the Project Manager as to all Contractor scheduled utility conflict resolutions, relocations, or adjustments.
- E. Schedule all work to be performed by the utility owners related to utility conflict resolutions, relocations, or adjustments.

- F. Schedule all work to be performed by the utility owners so as not to delay or disrupt in any way the Contractor's own performance of the Contractor's Performance Schedule.
- G. Assure the proper connection of the Contractor's Work with the work of the utility owners.
- H. Assure that the schedule, contacts, and proper connections between the Contractor's Work and the utility owner's work harmonize the work of both in a common action to achieve resolution of utility conflicts, relocations, and adjustments.
- I. Contractor shall, at no cost to the County, adjust the project schedule to allow the work to proceed in such a manner that delays to the progress of the work are minimized.

As discussed more fully in Article 17, delays to the Contractor's Progress Schedule resulting from the resolution of utility conflicts, relocations, and adjustments to utilities will not be considered as the basis for granting a change in Contract Amount or Contract Time.

ARTICLE 11 - PROJECT OWNER STATUS DURING CONSTRUCTION

The Contractor shall provide the following information to all subcontractors and suppliers:

County's Representatives - The Project Owner shall be the Board of County Commissioners. The Board shall be represented by the Project Manager listed below during the construction period:

Manager, Elizabeth White, Roads & Drainage Division, or designee
Address: 4200 S. John Young Pkwy, Orlando, FL 32839
Phone: 407-836-7751
Email: Elizabeth.White@ocfl.net

ARTICLE 12 - CHANGES IN THE WORK

Without invalidating the Contract, the County may, at any time or from time to time, order additions, deletions or revisions in the Work authorized by written Change Orders or directive. Upon receipt of a Change Order, the Contractor will proceed with the work involved. All such work shall be executed under the applicable conditions of the Contract documents. If any Change Order causes an increase or decrease in the Contract Amount or any extension or shortening of the Contract Time, an equitable adjustment will be made as provided in Article 13.

Additional Work performed by the Contractor without authorization of a Change Order will not entitle him to an increase in the Contract Amount or any extension of the Contract Time, except in the case of an emergency as provided in Article 9.

It is the Contractor's responsibility to notify his Surety of any changes affecting the general scope of the Work or change of the Contract Amount and the amount of the applicable bonds shall be adjusted accordingly, and an amended bond document furnished to the County.

In the event the County directs the Contractor to make a change in the Work, and if the County and the Contractor do not arrive at a mutually acceptable increase or decrease in the Contract Amount, the Contractor shall not use any such lack of mutual acceptance as a basis or cause to stop or otherwise delay the progress or the execution and completion of any of the work ordered, directed or required pursuant to the Contract Documents.

If the Contractor believes an event or situation has occurred which justifies a change in the Contract Amount or Contract Time, he shall deliver a written notice to the Project Manager. Each such written notice shall be delivered promptly, and in any event no later than 15 days after the Contractor first discovered the occurrence. The Contractor shall be deemed to have waived the right to collect any and all costs incurred more than 15 days prior to the date of delivery of the written notice, and shall be deemed to have waived the right to seek an extension of the Contract Time with respect to any delay in the Progress Schedule which accrued more than 15 days prior to the date of delivery of the written notice.

Any such notice shall include sufficient detail to explain the basis of entitlement to a claim for an adjustment to the Contract Amount or Contract Time. When requested by the Project Manager, the Contractor shall furnish any additional information and details as may be required to determine the facts or allegations involved, which shall be provided within fifteen (15) days of the request unless a longer time period is allowed by the Project Manager.

The Contractor shall prepare proposals detailing proposed adjustments to Contract Amount and/or Contract Time in accordance with Article 13 and submit them to the Project Manager within 15 days of the County's issuance of a proposed Change Order or the Contractor's submitting a written notice of a change or claim for an adjustment to the Contract Amount or Contract Time. Contractor's proposals shall be irrevocable for a period of at least sixty (60) days after receipt by the County. Any delay in the submittal of a complete, adequate and acceptable proposal will not justify an increase in Contract Amount or Contract Time. Contractor agrees that it shall give the County access to any and all of Contractor's and Subcontractors' books, records and other materials relating to proposed Change Orders and other claims for adjustment to Contract Amount or Contract Time.

ARTICLE 13 - CHANGE OF CONTRACT AMOUNT AND CONTRACT TIME

Contract Amount - The Contract Amount constitutes the total compensation payable to the Contractor for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by the Contractor shall be at his expense without change in the Contract Amount. The Contract Amount may only be changed by written Change Order issued by the County. Any claim for an increase in the Contract Amount shall be in writing and delivered to the Project Manager within fifteen (15) days of the occurrence of the event giving rise to the claim.

All claims for adjustment in the Contract Amount shall be determined by the Project Manager. However, no claim for an adjustment to the Contract Amount will be considered for unforeseeable causes that were beyond the fault or negligence of the Contractor or his Subcontractors or supplier such as acts of God, floods, riots, etc. This restriction does not restrict submission of claims for additional Contract Time due to events of this nature. Any change in the Contract Amount shall be incorporated in a Change Order.

Proposals or Claims Substantiating Adjustments; Limitations:

- A. Contractor proposals or claims shall cover all aspects of the Work involved and shall be fully documented and itemized as to all costs, quantities and charges for overhead and profit. Amounts for Subcontractors or Suppliers at any tier shall be similarly supported. When determining Subcontractors' costs, the methods to be Used shall be those used for the Contractor's costs, except that the term "Subcontractor" shall replace the term "Contractor," context permitting.
- B. Where the change in Contract Amount arises from changes in the time required to perform any Work, or where a change in Contract Time is sought, the Contractor's itemized estimates shall detail all productivity and production data, and include an analysis of the Record Schedule demonstrating the schedule status just before and after the occurrence of events on which the request is based (thereby showing the extent of delay resulting from the event involved) and any measures taken or planned to mitigate the impacts.
- C. Neither the Contract Time nor Contract Amount shall be changed due to a delay in Contractor's early completion date until all the corresponding Contract Float available in the Record Schedule at the start of the delay is used and performance of the specified Work extends necessarily beyond that Contract Time. The Contractor shall not recover from the County (a) acceleration costs incurred to overcome delays which warrant extensions in Contract Time but exclude changes in Contract Amount, (b) escalation costs for any part of the Work having Contract Float or not delayed beyond the late dates in the Record Schedule, or (c) delay costs not expressly allowed in General Conditions Article 13 as supplemented.
- D. Changes in Contract Amount for extensions in Contract Time shall exclude costs that are unaffected or do not relate to the extension in Contract Time, such as: (a) operating costs of construction equipment assigned to the Work on a continuing basis, (b) operating costs and owned/rental costs of construction equipment (crane used for specific lifts, concrete pump used for specific pours, etc.), and (c) fully paid site facilities, tools, etc.

The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Amount shall be determined in one of the following ways:

- A. Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved.

If the quantities originally contemplated are so changed in a proposed Change Order, that application of the Unit Prices to the quantities proposed will cause substantial inequity to the County or the Contractor, the applicable unit price(s) shall be equitably adjusted by mutual agreement.

- B. By mutual acceptance of a lump sum.
- C. By cost and mutually acceptable fixed amount for overhead and profit.
- D. If the value of work covered by a Change Order cannot be established or mutually agreed to utilizing any of the above three methods, the value shall be determined by the County on the basis of an estimate of the out-of-pocket cost and percentages that are acceptable to the County for overhead and profit. The out-of-pocket cost shall only include those direct costs which are needed to perform the work such as labor (including payroll taxes, fringe benefits, labor burden and workers' insurance), materials, equipment, and other incidental out-of-pocket construction costs directly involved in the work, including but not limited to small tools, expendables and material costs but shall not include project management or project supervisory costs unless the Change Order includes an increase in the Contract time.

Methods for Determining Adjustments in Contract Amount:

- A. If the County directs the Contractor to proceed with the Work involved pursuant to actual out-of-pocket costs plus contractual allowances for overhead and profit and states a Not-to-exceed price, Contractor claims for costs, overhead or profit beyond the Not-to-exceed price shall be invalid, unless, prior to incurring those costs, overhead or profit Contractor provides written notice and County increases the Not-to-exceed price in writing..
- B. If payment for the Work involved is to be determined by a court of law, it is agreed by the Contractor that the actual out-of-pocket cost and overhead and profit method contained in the General and Supplemental Conditions shall represent an appropriate method for determining the cost and overhead and profit for the Work involved.
- C. In computing Cost of the Work involved in a Change Order or claim, costs shall be allowable only to the extent costs (a) are consistent with those prevailing in the Orlando Metropolitan Statistical Area (which includes Orange, Seminole, Lake and Osceola Counties) and with applicable criteria set forth in 48 CFR Part 31 (federal contract cost principles and procedures), (b) include only the appropriate items for labor, material or equipment, construction equipment and special cost items specified in General Conditions Articles 13.

In such case, the Contractor will submit in the form prescribed by the County an itemized cost breakdown together with supporting data.

The amount of credit to be allowed by the Contractor to the County for any such change which results in a net decrease in cost, will be the amount of the actual net decrease as determined by the County. When both additions and credits are involved in any one change, the combined overhead and profit shall be figured on the basis of the net increase, if any.

To be eligible for consideration, the Contractor's written claim for a change in the Contract price, including claim(s) from sub-contractors, shall include an itemized cost breakdown with supporting data as described below:

- A. For labor: Provide written documentation from the Contractor and Subcontractors or others as appropriate in the form of a detailed breakdown by each labor classification involved indicating the number of hours of Work involved and the hourly payroll rate applicable to each to substantiate the basis and amount of the direct labor cost. The direct labor cost may be increased to provide an allowance for indirect payroll costs (labor burden), such as payroll taxes, fringe benefits, and workers insurance after all premium discounts, rebates and other appropriate reductions have been taken.

Allowable labor costs shall be limited to craft labor (including foremen) in the direct employ of the Contractor (or Subcontractor) assigned to the site and engaged in furnishing and incorporating materials or equipment in the Work involved in the Change Order or Claim.

When determining actual payroll costs, daily time sheets certified by the Contractor and verified by the Project Manager along with certified payroll records shall be the valid records.

- B. For material, supplies, equipment, furnishings, etc., to be installed or included in the Work: Provide written documentation from the Contractor and Subcontractors, suppliers, etc., to substantiate the basis and amount of the various cost items involved. Material costs shall reflect the Contractor's reasonably anticipated net actual cost after consideration of trade discounts and volume rebates.
- C. For construction equipment: Provide written documentation in the form of a detailed breakdown by each construction equipment category indicating, the applicable unit rates (i.e., \$'s per hour, \$'s per day etc.,) and the number of hours, days, etc. to substantiate the basis and amount of the construction equipment out-of-pocket costs.
- D. Special cost items (any out-of-pocket cost items not considered to be material, labor or construction equipment as set forth above including but not limited to small tools and expendables): Provide written documentation in the form of a detailed breakdown or itemization of the costs, fees, charges, hours, hourly rates, etc., to clarify, document and substantiate the basis and amount of the out-of-pocket cost. Special cost items due to the Work or a delay involved in a Change Order or Claim may include a proportion of the following indirect costs, to the extent those indirect costs increase or decrease on account of (a) the Cost of the Work involved for labor, Subcontractor or Supplier furnished materials or equipment, or (b) an extension in Contract Time as follows (provided that no cost shall be paid for holidays or weather days during the delay):
 - 1. Payroll costs for the Contractor's full-time superintendent and payroll costs for other personnel in the employ of the Contractor resident (engaged in activities) at the site if those costs arise solely from an extension in Contract Time;

2. Costs of small tools and expendables (less market value if not consumed) of items individually valued at less than \$1,000.00 that are not owned by the workers, if the Contractor provides an itemized list of items required for the performance of the Work involved; however, no such costs shall be allowed over 4% of the direct labor costs, unless the Contractor furnishes detailed data sufficient to allow verification that a higher percentage is appropriate for the Work involved;
3. Costs of office and temporary facilities at the site, including utilities, fuel and sanitary facilities, telephone and internet service at the site, materials, supplies, equipment, other minor expenses (e.g. expressage and petty cash), if those costs arise solely from an extension in Contract Time;
4. Costs of consultants not in the direct employ of the Contractor, if those costs are or were authorized by the County before proceeding with the Work involved;
5. Taxes on the Work involved, and for which the Contractor is liable; and royalty payments and charges and fees for permits, if any of them relate solely to the Work involved;
6. Physical losses, damages and expenses to the Work, not compensated by property insurance, or otherwise to be sustained by the Contractor in the prosecution of the Work (except losses and damages within the deductible amounts of property insurance, if any), but only if the losses, damages and expenses result from the fault or negligence of the County, or
7. Bond premiums and insurance premiums not included as part of the indirect labor cost, if they relate solely to the Work involved.

E. Construction Equipment Costs:

1. For equipment owned by Contractor (or Subcontractor) or rented or leased from lessors associated with or owned by them, allowable costs shall be limited to equipment required for the Work involved in a Change Order or claim with individual replacement values exceeding \$1,000.00. Transportation, loading/unloading, installation, dismantling and removal costs shall be allowed only if prior written consent is obtained from the Project Manager, and if the equipment is, or was, transported to the site solely for the Work involved. Shipping costs will be allowed only if the equipment is not available in the Orlando Metropolitan Statistical Area.

Contractor shall be entitled to ownership and operation costs of the equipment based on the Contractor's normal accounting practices, but in no event shall equipment ownership or operation costs exceed the applicable hourly rates listed in a mutually acceptable current cost reference guide. For multiple shifts, the equipment rate shall not exceed the shift Work adjustments recommended in the agreed upon cost reference guide.

Equipment costs shall be computed using the same accounting and estimating rules and prices, whether related to added or deleted Work, and shall cease when the equipment is no longer needed for the Work involved.

2. For equipment rented or leased from lessors not associated with or owned by the Contractor (or Subcontractor), the Contractor shall be entitled to rental or lease rates, but in no event shall the rates or hourly operating costs exceed applicable rates in a mutually acceptable current cost reference guide for rental equipment. The equipment rate for second or third shifts shall not exceed fifty percent (50%) of the base rate. Hourly rates for equipment previously in use at the site for at least a month shall be based on the monthly rate divided by 176 hours. Equipment previously in use for only one week or not previously in use at the site shall not be invoiced to the County at rates higher than the following schedule correlating equipment usage to payment category:

Less than 8 hours	Hourly Rate
1 day but less than 7 days	Daily Rate
1 week but less than 30 days	Weekly Rate
30 days or more (when in use)	Monthly Rate

3. Rented (or owned) equipment idled by actions of the County *for* reasons under the sole control of the County shall be paid as rented equipment (or as one-half of owned equipment), provided the idle period exceeds what is normal for such equipment and occurs during normal working hours.

When determining actual construction equipment costs, daily logs of the equipment, operators and actual usage, verified by the Project Manager, shall be the valid records.

With respect to the allowances for overhead and profit the following schedule shall be used in determining the total cost of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract price:

- A. For the Contractor, for Work (i.e., the cost of labor, materials and construction equipment as described above) performed by the Contractor's own forces; 15% of the cost.
- B. For the Contractor, for the Work performed by the Contractor's Subcontractor; 7 ½% of the amount due the Subcontractor.
- C. For each Subcontractor involved, for Work performed by that Subcontractor's own forces 7 ½% of the cost.
- D. For each Subcontractor, for Work performed by the Subcontractor's Sub-Subcontractor's 5% of the amount due the Sub-Subcontractor.
- E. Cost to which overhead and profit is to be applied shall be determined in accordance with provisions of this Article 13.

- F. The Cost of the Work involved in a Change Order or claim shall not include any of the following costs (considered administrative costs or contingencies covered by the overhead and profit):
1. Payroll costs and other compensation of (a) executives, general and administrative managers, estimators, claim consultants, attorneys, accountants, labor relation coordinators, contract and subcontract administrators, purchasers, expeditors and other administrative staff, whether employed at the site or in the Contractor's (or Subcontractor's) principal or branch offices; and (b) project managers, construction managers, engineers, architects, schedulers, detailers, safety personnel, clerks and other administrative staff employed in his principal or branch offices;
 2. Costs in the preparation of Change Orders or claims (whether or not ultimately authorized by the County);
 3. Costs of engineers, architects, accountants, consultants, attorneys and others, in the direct employ of the Contractor or otherwise, utilized for services related to a controversy or claim about the acceptability of the Work;
 4. Any part of the Contractor's capital expenses, including interest on capital for the Work involved, lost interest on unpaid retainage, and charges for delinquent payments;
 5. Any other expenses of the Contractor's principal and branch offices, including storage and yard facilities; and any costs not specifically and expressly allowed in General Conditions Article 13 as supplemented.

If deemed necessary, the overhead and profit allowance schedule shown above may be adjusted by the Project Manager.

Cash Allowances - It is understood that the Contractor has included in the Contract Amount any allowances so named in the Contract Documents and shall cause the Work so covered to be done by such Suppliers or Subcontractors and for such sums within the limit of the allowances as the County may accept. Prior to final payment, the Contract Amount shall be adjusted as required and an appropriate Change Order issued. The Contractor agrees that the original Contract amount includes such sums as he deems proper for cost and profit on account of cash allowances. No demand for additional cost or profit in connection therewith will be allowed.

Change of Contract Time - The Contract Time may only be changed by written Change Order. Any claim for an extension in the Contract Time shall be in writing and include an analysis of the Progress Schedule as further described in the Specifications, and shall be delivered to the Project Manager within fifteen (15) days of the occurrence of the event giving rise to the claim.

All claims for adjustment in the Contract Time shall be determined by the Project Manager. Any change in the Contract Time resulting from any such claim shall be incorporated in a Change Order.

The Contract Time may be extended for an amount equal to time lost due to unforeseeable causes beyond the control of the Contractor (and his Subcontractors and Suppliers) if he makes a claim therefore. Such delays shall include, but not be restricted to, acts or neglect by any separate Contractor employed by the County; fires; floods; labor disputes; epidemics or acts of God.

All time limits stated in the Contract Documents are of the essence to the Contract. The stated time limits are agreed to be adequate to complete the work, including the procurement, manufacture and delivery of all material and equipment required, and account for any and all potential impact, delays, disruptions and costs that may be expected.

ARTICLE 14 - CONDITION OF MATERIALS AND PACKAGING:

In instances where the Specifications, (Part H) make this subject applicable (and unless otherwise indicated), all goods and items offered for sale and/or shipped by the Contractor pursuant to the requirements imposed upon said Contractor by this bid package, will be new and in first class condition; all related containers being new and suitable for storage and shipment; all prices including the cost of standard commercial packaging. Contractors will be solely responsible for making any and all claims against carriers as concerns missing or damaged items.

ARTICLE 15 - ASBESTOS FREE MATERIALS:

Project is to be constructed with asbestos free materials. A written, notarized statement on company letterhead is to be submitted with the final payment request. Final payment shall be withheld until such statement is submitted.

Contractor shall agree that if materials containing asbestos are subsequently discovered at any future time to have been included in the construction done by the Contractor or any of its Subcontractors or agents and were not specified in the design or required by the Contract document, Contractor shall be liable for all costs related to the abatement of such asbestos and damages or claims against the County.

ARTICLE 16 – WARRANTY AND GUARANTEE, ACCEPTANCE OF DEFECTIVE WORK

Warranty and Guarantee - The Contractor warrants and guarantees to the County that all materials and equipment will be new unless otherwise specified and that all Work will be of good quality, free from faults or defects and in accordance with the requirements of the Contract Documents including any required inspections, tests or approvals. All unsatisfactory Work, all faulty Work, and all Work not conforming to the requirements of the Contract Documents or such inspections, tests or approvals shall be considered defective. Prompt notice of all defects shall be given to the Contractor. All defective Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article. All warranty and guarantee coverage periods shall commence from the Final Completion date of the project as determined by the Project Manager. The coverage commencement date of warranties and guarantees shall, in accordance with the provisions stated above, be entered on each warranty or guarantee document.

However, in the event the coverage commencement date entered on the warranty or guarantee document is not in accordance with the provisions stated above, the coverage commencement date shall nonetheless be the date determined by applying the provisions stated above.

Tests and Inspections - If the Contract Documents, laws, ordinances, rules, regulations or order of any public authority having jurisdiction require any Work to specifically be inspected, tested or approved by someone other than the Contractor, the Contractor will give the Project Manager timely notice of readiness therefore. The Contractor will furnish the Project Manager with the required certificates of inspection, testing or approval. All such tests will be in accordance with the methods prescribed by the American Society for Testing Materials or such other applicable organizations as may be required by law or the Contract Documents.

If any such Work required to be inspected, tested or approved is covered without written approval of the Project Manager, it must, if requested by the Project Manager, be uncovered for observation at the Contractor's expense. The cost of all such inspections, tests and approvals shall be borne by the Contractor unless otherwise provided. Neither observations by the Contractor nor inspections, tests or approvals by persons other than the Contractor shall relieve the Contractor from his obligations to perform the Work in accordance with the requirements of the Contract Documents.

Access To The Work - The Project Manager and his representative and other representatives of the County and the Professional will at all times have access to the Work. The Contractor will provide proper facilities for such access and observation of the Work and also for any inspection or testing thereof by others.

Uncovering Work - If any Work is covered contrary to the request of the Project Manager it must, if requested by the Project Manager be uncovered for observation and replaced at the Contractor's expense. If any Work has been covered which the Project Manager has not specifically requested to observe prior to its being covered, or if the Project Manager considers it necessary or advisable that covered Work be inspected or tested by others, the Contractor, at the Project Manager's request, will uncover, expose or otherwise make available for observation, inspection or testing as the Project Manager may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, the Contractor will bear all the expense of such uncovering, exposure, observation, inspection and testing, and of satisfactory reconstruction. If, however, such Work is not found to be defective, the Contractor will be allowed an increase in the Contract amount or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and re-construction, if he makes a claim therefore as provided in Article 13.

Notice to Cure - If the County determines the Work is defective or deficient; if the Contractor fails to supply sufficient skilled workers or suitable materials or equipment; if the Contractor fails to make prompt payments to Subcontractors for labor, materials or equipment; if the work is not progressing in a safe, orderly or well coordinated manner; or if the general progress and/or quality of the work is not adequate to ensure continuation or completion of the work in accordance with the Contract completion time requirements, then the Procurement Division Manager shall issue a notice to cure, giving the Contractor a specific period of time

(1) in which to submit to the Project Manager a written Plan of Action including a schedule setting forth a plan by which the deficiencies will be corrected, and (2) a specific period of time in which to correct the deficiencies.

If the Contractor does not submit a Plan of Action to indicate how and when the deficiencies indicated in the notice to cure will be cured within the specified time frame that is acceptable to the Project Manager, and if those deficiencies are not corrected within that time frame, then the County shall take further action, up to and including Contract termination. The Contractor shall not be entitled to any delay claims as a result of the County's issuance of the notice to cure.

Correction or Removal of Defective Work - If required by the Project Manager prior to approval of final payment, the Contractor will, promptly, without cost to the County and as specified by the Project Manager, either correct any defective Work whether or not fabricated, installed or completed or, if the Work has been rejected by the Project Manager, remove it from the Site and replace it with non-defective Work.

If the Contractor does not correct such defective Work or remove and replace such rejected work within a reasonable time, or as specified in a written notice from the Project Manager, the County may have the deficiency corrected or the rejected work removed and replaced. All direct and indirect costs of such correction or removal and replacement shall be paid by the

Contractor. The Contractor will also bear the expense of making good all work of others destroyed or damaged by this correction, removal or replacement of his defective Work.

One (1) Year Correction Period - The Contractor shall be responsible for the timely correction of any deficiencies in the work for a period of one (1) year after final acceptance or such longer period of time as may be prescribed by law or by any other terms required by the Contract. The Contractor will promptly without cost to the County and in accordance with the Project Manager's written instructions either correct such defective Work or, if it has been rejected by the Project Manager, remove it from the site and replace it with non-defective Work. If the Contractor does not promptly comply with the terms of such instructions, the Project Manager may have the defective Work corrected or the rejected Work removed and replaced. All direct and indirect costs of such removal and replacement will be paid by the Contractor.

Acceptance Of Defective Work - If, instead of requiring correction or removal and replacement of defective Work, the Project Manager prefers to accept it, then he may do so. In such case, if acceptance occurs prior to approval of final payment, a Change Order shall be issued incorporating the necessary revisions in the Contract Documents including an appropriate reduction in the Contract amount. If the acceptance occurs after approval of final payment, the appropriate amount shall be paid by the Contractor to the County.

Neglected Work By Contractor - If the Contractor should neglect to prosecute the Work in accordance with the Contract Documents, including any requirements of the progress schedule, the County may, after reasonable written notice to the Contractor and without prejudice to any other remedy it may have, make good such deficiency and the cost thereof shall be charged against the Contractor. A Change Order shall be issued incorporating the necessary revision in the Contract Documents including an appropriate reduction in the Contract Amount.

If the payments then or therefore due the Contractor are not sufficient to cover such amount, the Contractor will pay the difference to the County.

Notice is hereby given that the County will retain and pay for an independent materials testing laboratory to perform certain tests as follows:

- a. Initial concrete test cylinder making and testing (concrete mix design will be by Contractor).
- b. Initial earthwork compaction.
- c. Initial in-place testing of sub-grade, sub-base and base for roadways including thickness and compaction (soil cement design will be by Contractor). The County reserves the right to perform any other tests it deems necessary to ensure that any all construction is adequate for the purposes intended and meets all applicable criteria.
- d. Subsequent tests required after the initial tests to verify compliance with the Contract Documents in areas failing the initial tests shall be paid for by the Contractor by back charge to subsequent applications for payment.

The Contractor will perform and pay for all material testing and other testing specified in the Contract Documents and as stated in paragraphs a. through e. above. The purpose of performing these tests is to verify compliance with the specifications as set forth in the Contract Documents.

ARTICLE 17 – DELAYS AND EXTENSION OF TIME

County Obligation – The County owes no duty, obligation, damages, change in Contract Amount, or liability to Contractor as a result of any delay, interference, suspension or other event which may impact Contractor's progress schedule of its contract.

Extension of Time Sole Remedy – Should Contractor's performance, in whole or in part, be interfered with, delayed, re-sequenced, disrupted, or be suspended in the commencement, prosecution or completion, for reasons beyond Contractor's control, and without any fault or negligence on its part contributing thereto, Contractor's sole remedy shall be an extension of Contract Time in which to complete the Contract.

Contract Time Extension – The County may grant an extension of Contract Time when a controlling item of work on the critical path of Contractor's progress schedule is delayed by factors not reasonably anticipated or foreseeable at the time of bid. Such time extension may be allowed only for delays occurring during the time for performance set forth in the progress schedule. Extensions of Contract Time will not be granted for delays due, in whole or in part, to the fault or negligence of Contractor or any entity or person for whom Contractor is responsible.

Utility Conflicts, Relocation, and Adjustment Delays – The Contractor is solely responsible for the coordination and resolution of all utility conflicts, relocations, and adjustments. Delays resulting from the resolution of utility conflicts, relocations, and adjustments to utilities will not be considered as the basis for granting a change in Contract Amount or Contract Time.

Limitation on Damages – In the event the provision regarding an extension of time as being the sole remedy, see above, is not legally enforceable and Contractor is not limited to the sole remedy of an extension of time,

Contractor shall not under any circumstances be allowed to recover any of the following items of damage against the County: (1) profit; (2) loss of profit; (3) work inefficiencies; (4) loss of productivity; (5) overtime premiums; (6) escalation; (7) home office overhead, including but not limited to costs of any kind for home office personnel; (8) indirect damages; and (9) consequential damages, including but not limited to loss of bonding capacity, loss of bidding opportunities, and insolvency.

ARTICLE 18 - PAYMENT AND COMPLETION

Schedule of Values – The Contractor shall submit a schedule of values for the work including quantities and unit prices totaling the total Contract Amount no later than twenty (20) days after receipt of the Notice to Proceed and prior to commencing Work on the project. The schedule of values shall be in a form satisfactory to the County.

The schedule of values shall subdivide the Work into sufficient detail to serve as the basis for progress payments during construction. Upon acceptance of the schedule of values by the Project Manager, it may be incorporated into the form of application for payment prescribed by the County.

The Contractor shall not imbalance its schedule of values nor artificially inflate any element thereof. The violation of this provision by the Contractor shall constitute a material breach of this contract.

Progress Schedule – The Contractor's Progress Schedule shall utilize the Critical Path Method ("CPM"). The Contractor's Progress Schedule shall be prepared using software approved by the County; the software shall be specifically intended for the preparation of construction schedules incorporating a critical path. The software used by the Contractor must be approved in advance by the County. The Contractor shall submit a Progress Schedule CPM (both in hard printed copy with network diagrams and electronic disc files) no later than twenty (20) days after receipt of the Notice to Proceed, and prior to commencing Work on the project. The Progress Schedule CPM shall clearly identify all controlling items of Work and activities defined as the critical path, which if delayed or prolonged, will delay the time of completion of the Contract. The critical path shall include a minimum 10% float time as part of the Contract Time for unforeseen conditions. Contractor shall provide additional float time above the required minimum 10% based on his experience, understanding of the scope, and inspection of the site.

Progress Payment Update Schedules CPM – If requested by the Project Manager, the Contractor shall submit an Update Schedule CPM to the Project Manager concurrent with each Application for Progress Payment. The Update Schedule CPM shall focus on the period from the last Update Schedule CPM to the current Update Schedule CPM submitted with the Application for Progress Payment. Activities that have either started or finished shall be reported as they actually occurred and designated as complete, if actually completed. For activities in progress that are forecasted to complete longer than planned, the remaining durations shall be revised, not the original durations. All out of sequence activities are to be reviewed and their relationships either verified or changed.

The Contractor's failure to submit a Progress Payment Schedule CPM and Progress Payment Narrative Report when requested by the Project Manager, with an Application for Progress Payment shall be sufficient reason for rejection of the Progress Payment request.

If the Project Manager rejects the Progress Payment Update Schedule CPM or the Progress Payment Narrative Report, the entire Progress Payment request shall be rejected and must be resubmitted with the corrected Progress Payment Update Schedule CPM and Progress Payment Narrative Report.

Progress Payment Narrative Report – When requested by the Project Manager each Update Schedule CPM shall be accompanied by a written Narrative Report. The Narrative Report shall describe the physical progress during the report period, plans for continuing the Work during the forthcoming report period, actions planned to correct any delays, and a detailed explanation of potential delays or problems and their estimated impact on performance, milestone completion dates, the forecasted completion date, and the forecasted substantial completion date. In addition, alternatives for possible schedule recovery to mitigate any potential delays shall be discussed.

If required by the Project Manager the Contractor's Progress Payment Narrative Report shall include a detailed list of all outstanding Contract Claims with a detailed description of each Contract Claim. The Narrative Report shall follow the outline set forth below:

Contractor's Narrative Report Outline:

- (1) Contractor's dated transmittal letter.
- (2) Work completed during the report period.
- (3) Description of the current critical path.
- (4) Description of problem areas.
- (5) Current and anticipated delays:
 - a. Cause of the delay
 - b. Corrective action and schedule adjustments to correct the delay.
- (6) Impact of the delay on other activities, milestones, and completion dates. Changes in construction sequences.
- (7) Pending items and status thereof:
 - a. Permits.
 - b. Change orders.
 - c. Time extensions.
- (8) A list of all outstanding Contract Claims and a detailed description of each Contract Claim.
- (9) Contract completion date status:
 - a. Ahead of schedule and number of days.
 - b. Behind schedule and number of days.

Schedule and Report Format – The Contractor shall submit the Progress Schedule CPM, Progress Payment Update Schedules CPM, and the Progress Payment Narrative Report to the Project Manager on both: (1) electronic disc files; and, (2) printed copies of the network diagrams and narrative reports.

Project Manager Review – The Project Manager shall review the Contractor's Progress Schedule CPM, Progress Payment Update Schedules CPM, and Progress Payment Narrative Reports.

The Project Manager may accept or reject Update Schedule CPMs or Narrative Reports. Rejected Update Schedule CPMs and Narrative Reports shall be corrected and re-submitted to the Project Manager.

Final Schedule Update – The Contractor within fifteen (15) days after substantial completion shall submit a final update of the schedule with actual start and actual finish dates for all activities and controlling items of Work identified as the critical path. The Final Schedule Update shall be accompanied by a certification signed by the Contractor stating, "To the best of my knowledge, the enclosed final update of the project schedule reflects the actual start and completion dates of the activities and controlling items of Work on the critical path."

Application For Progress Payment – Applications for payments shall be processed in accordance with Florida Statute 218.735, Part VII, "Local Government Prompt Payment Act".

The Project Manager shall provide written notice to the Contractor identifying the name, address, phone number and email address of the agent or employee the Contractor is required to submit payment requests or invoices to. This notice will be provided no later than ten (10) days after issuance of the Notice to Proceed.

Not more often than once a month, on a date established at the Project Pre-Construction Conference, the Contractor may submit to the Project Manager for review the County's standard application for payment form filled out and signed by the Contractor covering the Work completed as of the date of the Application and supported by such data as the Project Manager may reasonably require. Also, if payment is requested on the basis of materials and equipment not incorporated in the work but delivered and suitably stored at the site or at another location agreed to in writing, the application for payment shall also be accompanied by such supporting data, satisfactory to the Project Manager, as will establish the County's title to the material and equipment and protect its interest therein, including applicable insurance, partial Consent of Surety, and detailed inventory listing of stored material. Each such request shall include the submittal by the Contractor of (1) a detailed, itemized inventory listing the material stored at the site for which payment is requested, (2) documentation to indicate and substantiate the cost or value attributed to the items included in the stored material inventory list, and (3) the County's "Responsibility And Liability For Materials And Equipment Not Included In The Work" form executed by the Contractor. Failure to provide proper supporting documentation may subject the Progress Payment application to rejection. All progress payments will be subject to the retainage percentage specified in the Contract Documents that will be issued in the final payment after acceptance by the County of the Work.

Based upon Applications for Payment submitted to the Project Manager by the Contractor and Certificates for Payment issued by the Project Manager the County shall make progress payments on account of the Contract Amount to the Contractor as provided in the Contract Documents as follows:

In the timeframes outlined in FS 218.735, Section 2, ninety percent (90%) of the portion of the Contract Amount properly allocable to labor, materials and equipment incorporated in the Work and ninety percent (90%) of the portion of the Contract Amount properly allocable to materials and equipment suitably stored at the site or at some other location agreed upon in writing, for the period covered by the application for payment, less the aggregate of previous payments made by the Owner. When the completion of the Work ascertained as payable exceeds fifty percent (50%) of the total contract amount the retainage percentage withheld shall be reduced to 5%.

Upon Final completion of the entire Work, a sum sufficient to increase the total payments to one hundred percent (100%) of the Contract Amount, less such amounts as the Owner shall determine for all incomplete work and unsettled claims as provided in the Contract Documents.

The Contractor may, at the discretion of the County's Project Manager, be required to have applications for Progress Payments accompanied by Consent of Surety to Partial Payment. However, if payment or performance bonds are not required by the contract, the County's Project Manager may require applications for Progress Payments to be accompanied by legally effective partial releases or waivers of liens executed by all Subcontractors that performed services and suppliers of material or equipment for the Contractor for services or supplies which were included in the previous Application for Progress Payment. The Contractor shall include the following certification on each Application for Progress Payments and the Application for Final Payment:

"The undersigned Contractor certifies that the work covered by this application for payment has been done, or completed in accordance with the Contract documents, that all amounts have been paid by Contractor for work, supplies, material or equipment for which previous Certificates for Payment were issued and that the current payment shown herein is now due".

Contractor's Warranty Of Title - The Contractor warrants and guarantees that title to all work, materials and equipment covered by an application for payment, whether incorporated in the Project or not, will have passed to the County prior to the making of the application for payment, free and clear of all liens, claims, security interests and encumbrances; and that no work, materials or equipment covered by an application for payment will have been acquired by the Contractor or by any other person performing the work at the site or furnishing materials and equipment for the Project subject to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.

Approval of Payments - The Project Manager will, within twenty (20) business days after receipt of each application for payment, either indicate his approval of payment or return the Application to the Contractor indicating in writing the reason for refusing to approve payment. In the latter case, the Contractor may make the necessary corrections and

re-submit the Application. The County will pay the Contractor the amount approved within the time frame set forth in the Local Government Prompt Payment Act.

In the event the Contractor and the Project Manager do not achieve mutual agreement on the basis or amount of the payment, and should the Contractor be unwilling to make the necessary corrections or modifications, and re-submit the Application, then the County, to avoid delay in paying the Contractor the amount the County has determined the Contractor is entitled to receive, shall approve and process the Application by making such adjustments thereto as the County deems appropriate so that the Contractor receives, without delay, payment of the amount the County has determined to have been earned and owing to the Contractor.

In the event a dispute arises involving payments or invoices that have been rejected by the Project Manager and resubmitted by the Contractor and that cannot be resolved in accordance with F.S. 218.735 (3) the Orange County Payment/Invoice Disputes Resolution Process Procedures shall be used to resolve the dispute. The procedures can be obtained by contacting the Procurement Division at (407)-836-5635.

The Project Manager's approval of any payment requested in an application for payment shall constitute a representation by him to the County, based on the Project Manager's on-site observations of the Work in progress and on his review of the application for payment and the supporting data, that the Work has progressed to the point indicated; that, to the best of his knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning Project upon Substantial Completion, to the results of any subsequent tests called for in his approval); and that the Contractor is entitled to payment of the amount approved.

However, by approving any such payment, the Project Manager shall not thereby be deemed to have represented that he made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, that he has reviewed the means, methods, techniques, sequences and procedures of construction nor that he has made any examination to ascertain how or for what purpose the Contractor has used the moneys paid or to be paid to him on account of the Contract Amount.

The Project Manager's approval of final payment shall constitute an additional representation by him to the County that the conditions precedent to the Contractor's belief being entitled to final payment as set forth in this Article have been fulfilled.

The Project Manager may refuse to approve the whole or any part of any payment if in his opinion he is unable to make such representations to the County. He may then refuse to approve any such payment because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously approved, to such extent as may be necessary in his opinion to protect the County from loss because:

- A. The Work is defective;
- B. Claims have been filed or there is reasonable evidence indicating the probable filing thereof;
- C. The Contract Amount has been reduced because of Change Order(s);

- D. The County has been required to correct defective Work or complete the Work in accordance with Article 16; or
- E. Of unsatisfactory prosecution of the Work, including failure to clean up as required by Article 9.

Substantial Completion - Prior to final payment, the Contractor shall certify in writing to the Project Manager that the entire Work is Substantially Complete and request that the Project Manager issue a certificate of Substantial Completion.

Within a reasonable time thereafter, the Project Manager and Contractor will make an inspection of the Work to determine the status of completion. If the Project Manager does not consider the Work Substantially Complete, the Contractor will be notified in writing giving the reasons therefore. If the Project Manager considers the Work Substantially complete, a tentative certificate of Substantial Completion will be issued. This Certificate shall fix the date of Substantial Completion and the responsibilities between the County and the Contractor for maintenance, heat and utilities.

There shall be attached to the Certificate a single punch list of items to be completed or corrected by the Contractor. The punch list must specify a date, not to exceed five (5) days after the punch list has been developed and reviewed, in which the delivery of the punch list to the Contractor must be made. Items not included on the punch list cannot be used as a basis to withhold final payment for retainage. In addition, the final contract completion date shall be at least thirty (30) days after the delivery of the punch list to the Contractor. Punch lists not provided to the Contractor by the date agreed upon for delivery will cause the contract time for completion to be extended by the number of days the local government exceeded the delivery date.

Damages may only be assessed against the Contractor in the event the Contractor fails to complete the project within the contract period as was extended by the guidelines set forth in this provision.

The final undisputed retainage payment must be made within twenty (20) business days after receipt of a proper payment request. This would be less any amount withheld in accordance with the contract provisions for incomplete or uncorrected work unless otherwise provided for by written notice to the Contractor specifying the failure of the Contractor to meet contract requirements in the development of the punch list.

The County shall have the right to exclude the Contractor from the Work after achievement of Substantial Completion, but the County will allow the Contractor reasonable access to complete items on the punch list.

Partial Utilization - Prior to Substantial Completion, the Project Manager may request the Contractor to permit the use of a specified part of the Work which it believes it may use without significant interference with construction of other parts of the Work. If the Contractor agrees, he will certify to the Project Manager that said part of the Work is Substantially Complete and request the Project Manager issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time thereafter, the Project Manager and Contractor will make an inspection of that part of the Work to determine its status of completion.

If the County and the Project Manager consider that part of the Work to be Substantially Complete, the Project Manager will deliver to the Contractor a certificate to that effect, fixing the date of Substantial Completion as to that part of the Work, attaching thereto a punch list of items to be completed or corrected before final payment and fixing the responsibility between the County and Contractor for maintenance, heat and utilities as to that part of the Work.

The County shall have the right to exclude the Contractor from any part of the Work which is so certified to be Substantially Complete but the County will allow the Contractor reasonable access to complete or correct items on the punch list.

Final Inspection - Upon written notice from the Contractor that the Work is complete, including the "punch" listed deficiencies, the Project Manager will make a final inspection with the Contractor and will notify the Contractor in writing of any particulars in which this inspection reveals that the Work is defective. The Contractor shall immediately make such corrections as are necessary to remedy such defects and to complete all the required work.

Final Inspection For Payment - After the Contractor has completed any such corrections to the satisfaction of the Project Manager and delivered all maintenance and operating instructions, schedules, guarantees, bonds, Certificates of Inspection and other documents as required by the Contract Documents, he may make application for final payment following the procedure for progress payments.

For projects that the Contractor was required to furnish a payment and performance bond, the final application for payment shall be accompanied by legally effective final release or waiver of lien from the Contractor and the consent of Surety to final payment. The Final Release of Lien, Form E-12, must be utilized in all Final Pay Applications.

For projects **not** requiring bonds the final application for payment shall be accompanied by legally effective final releases or waivers of liens from the Contractor and all Subcontractors which performed services for the Contractor and all suppliers of material and/or equipment to the Contractor. The Final Release of Lien, Form E-12, must be utilized in all Final Pay Applications.

Approval Of Final Payment - If, on the basis of its observations and review of the Work during construction, its final inspection and its review of the final application for payment (all as required by the Contract Documents), the Project Manager is satisfied that the Work has been completed and the Contractor has fulfilled all of his obligations under the Contract Documents, it will, within twenty (20) business days after receipt of the final application for payment, indicate in writing its approval of payment. Otherwise, it will return the Application to the Contractor, indicating in writing its reason for refusing to approve final payment, in which case the Contractor will make the necessary corrections and re-submit the Application.

The County will, in accordance with the Local Government Prompt Payment Act, pay the Contractor the amount approved by the County and issue a Certificate of Final Completion.

If after Substantial Completion of the Work, Final Completion is materially delayed through no fault of the Contractor, and the Project Manager so confirms, the County shall, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than the retainage stipulated in the Contract, the written consent of the Surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Project Manager prior to certification of such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

Contractor's Continuing Obligation - The Contractor's obligation to perform the Work and complete the Work in accordance with the Contract Documents shall be absolute. Neither approval of any progress or final payment by the County, the issuance of Certificate of Completion, any payment by the County to the Contractor under the Contract Documents, any use or occupancy of the Work or any part thereof by the County, any act of acceptance by the County, any failure to do so, nor any correction of defective Work by the County shall constitute an acceptance of Work not in accordance with the Contract Documents.

Waiver Of Claims - The making and acceptance of final payment shall constitute:

- A. A waiver of all claims by the County against the Contractor other than those arising from unsettled liens, from defective Work appearing after final payment or from failure to comply with the requirements of the Contract Documents, or from the terms of any special guarantees specified therein, and,
- B. A waiver of all claims by the Contractor against the County other than those previously made in writing and still unsettled.

ARTICLE 19 - SUSPENSION OF WORK AND TERMINATION

County May Suspend Work - The County may at any time and without cause suspend the Work or any portion thereof by notice in writing to the Contractor. The Project Manager shall fix the date on which Work shall be resumed and the Contractor will resume the Work on the date so fixed.

For unreasonable delays, the Contractor will be allowed an increase in the Contract Amount, an extension of the Contract Time or both, if directly attributable to any suspension and if he makes a claim therefore provided in Article 13. However, no profits will be allowed on claims for suspended work. Also, during any period of suspension, the Contractor shall take all available measures to mitigate costs such as taking on new work, reassigning resources to other Contracts, etc.

County May Terminate for Cause - If the Contractor is adjudged bankrupt or insolvent; if he makes a general assignment for the benefit of his creditors without County approval; if a trustee or receiver is appointed for the Contractor or for any of his property; if he files a petition to take advantage of any debtor's act or to reorganize under the bankruptcy or similar laws; if he fails to prosecute and complete the Work in accordance with the established Project schedule or within the Contract Time allowed; if he repeatedly fails to supply sufficient skilled workers or suitable materials or equipment; if he repeatedly fails to make prompt payment to Subcontractors for labor, materials or equipment;

if he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction; if he disregards the authority of the Project Manager; or if he otherwise substantially violates any provisions of the Contract Documents, then the County may, without prejudice to any other right or remedy and after giving the Contractor and his Surety if applicable seven (7) days written notice, terminate the services of the Contractor and take possession of the Work and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor and assign the completion of the Work to the Surety, or finish the Work by whatever method it may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the Work is finished.

If the unpaid balance of the Contract Amount exceeds the direct and indirect cost of completing the Work, including compensation for additional professional services, such excess shall be paid to the Contractor. If such cost exceeds the unpaid balance, the Contractor shall pay the difference to the County within fifteen (15) days after notification.

If the contractor fails to provide such payment to the County, the County at its sole discretion may deduct the balance owed from payments due the Contractor on any other contracts between the Contractor and the County. Such cost incurred by the County will be determined by the County and incorporated in a Change Order.

If the County elects to assign the completion of the Work to the Surety, and the Surety tenders a replacement contractor, then Surety shall provide performance, payment and other surety bonds as may be required in accordance with the Contract Documents.

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

Upon Termination for Cause, the Contractor shall not be entitled to payment for any anticipated supplemental costs, administrative expenses and/or profit for uncompleted Work.

If the Contractor's failure to perform the contract arises from causes beyond the control and without the fault or negligence of the Contractor the contract shall not be terminated for default. Examples of such causes include (1) acts of God or the public enemy, (2) acts of a government in its sovereign capacity, (3) fires, (4) floods, (5) epidemics, (6) strikes and (7) unusually severe weather.

If after notice of termination of the services of the Contractor for cause, it is determined that the Contractor was not in default, the termination shall be deemed to have been for the convenience of the County. In such event the Contractor may recover from the County payment for Work completed and reasonable termination costs as provided in the following paragraph.

Termination for Convenience: Upon seven (7) days written notice to the Contractor and the Surety, or sooner if reasonable under the circumstances, the County may, without cause and without prejudice to any other right or remedy, elect to terminate any part of the Work, or the Contract in whole or in part, as the County may deem appropriate.

In any termination for convenience, the Contractor shall be paid for Work completed by the Contractor, Subcontractors and Suppliers at the time of termination provided the Work has been inspected and accepted by the County. However, the payment to the Contractor will exclude any and all anticipated supplemental costs, administrative expenses and profit for uncompleted Work. Upon termination for convenience, the County shall have full power and authority to take possession of the Work, assume any sub-agreements with Subcontractors and suppliers that the County selects, and prosecute the Work to completion by Contract or as the County may deem expedient. A termination for convenience may apply to individual delivery orders, purchase orders or to the contract in its entirety.

Authority to Terminate: The authority to terminate this Contract including all notices thereto is the sole responsibility of the Manager, Procurement Division.

ARTICLE 20 - MAINTENANCE AND EXAMINATION OF RECORDS

The Contractor shall keep adequate records and supporting documents applicable to this Contract. Said records and documentation shall be retained by the Contractor for a minimum of five (5) years after the date of final payment on this contract. If any litigation, claim or audit is commenced prior to the expiration of the five (5) year period, the records shall be maintained until all litigation, claims or audit findings involving the records have been resolved.

If applicable, time records and cost data shall be maintained in accordance with generally accepted accounting principles. This includes full disclosure of all transactions associated with the contract.

Contractor's "records and supporting documents" as referred to in this Contract shall include any and all information, materials and data of every kind and character, including without limitation, records, books, papers, documents, subscriptions, recordings, agreements, purchase orders, invoices, leases, contracts, commitments, arrangements, notes, daily diaries, superintendent reports, drawings, receipts, vouchers and memoranda, and any and all other agreements, sources of information and matters that may in the County's judgment have any bearing on or pertain to any matters, rights, duties or obligations under or covered by any Contract document. Such records and documents shall included (hard copy, as well as computer readable data, written policies and procedures; time sheets; payroll registers; cancelled checks; subcontract files (including proposals of successful and unsuccessful bidders, bid recaps, etc.); original estimates; estimating worksheets; correspondence; change order files (including pricing data used to price change proposals and documentation covering negotiated settlements); back-charge logs and supporting documentation; general ledger entries detailing cash and trade discounts earned, insurance rebates and dividends; and any other contractor records which may have a bearing on matters of interest to the County in connection with the Contractor's dealings with the County (all foregoing hereinafter referred to as "records and supporting documents") to the extent necessary to adequately permit evaluation and verification of:

- a) Contractor compliance with contract requirements; or
- b) Compliance with provisions for pricing change orders; or
- c) Compliance with provisions for pricing invoices; or

- d) Compliance with provisions regarding pricing of claims submitted by the Contractor or his payees; or
- e) Compliance with the County's business ethics; or
- f) Compliance with applicable state statutes and County Ordinances and regulations.

Records and documents subject to audit shall also include those records and documents necessary to evaluate and verify direct and indirect costs, (including overhead allocations) as they may apply to costs associated with this Contract. In those situations where Contractor's records have been generated from computerized data (whether mainframe, mini-computer, or PC based computer systems), Contractor agrees to provide the County's representatives with extracts of data files in computer readable format on data disks or suitable alternative computer exchange formats.

The County and its authorized agents shall have the right to audit, inspect and copy records and documentation as often as the County deems necessary throughout the term of this contract and for a period of five (5) years after final payment. Such activity shall be conducted during normal business hours. The County, or any of its duly authorized representatives, shall have access within forty-eight (48) hours to such books, records, documents, and other evidence for inspection, audit and copying.

The County, during the period of time defined by the preceding paragraph, shall have the right to obtain a copy of and otherwise inspect any audit made at the direction of the Contractor as concerns the aforesaid records and documentation. Records and documents shall be made accessible at the Contractor's local place of business.

If the records are unavailable locally, it shall be the Contractor's responsibility to insure that all required records are provided at the Contractor's expense including payment of travel and maintenance costs incurred by the County's authorized representatives or designees in accessing records maintained out of the county. The direct costs of copying records, excluding any overhead cost, shall be at the County's expense.

Contractor shall require all payees (examples of payees include subcontractors, insurance agents, material suppliers, etc.) to comply with the provisions of this article by including the requirements hereof in a written contract agreement between contractor and payee. Such requirements include a flow-down right of audit provisions in contracts with payees, which shall also apply to Subcontractors and Sub-subcontractors, material suppliers, etc. Contractor shall cooperate fully and shall cause all aforementioned parties and all of Contractor's subcontractors (including those entering into lump sum subcontracts and lump sum major material purchase orders) to cooperate fully in furnishing or in making available to the County from time to time whenever requested in an expeditious manner any and all such records, documents, information, materials and data.

The County's authorized representatives or designees shall have reasonable access to the Contractor's facilities, shall be allowed to interview all current or former employees to discuss matters pertinent to the performance of this Contract and shall have adequate and appropriate work space, in order to conduct audits in compliance with this article.

Even after a change order proposal has been approved, Contractor agrees that if the County later determines the cost and pricing data submitted was inaccurate, incomplete, not current or not in compliance with the terms of the contract regarding pricing of change orders, then an appropriate contract price reduction will be made. Such post-approval contract price adjustment will apply to all levels of contractors and/or subcontractors and to all types of change order proposals specifically including lump sum change orders, unit price change orders, and cost-plus change orders.

If an audit inspection or examination by the County, or its designee, in accordance with this article discloses overpricing or overcharges (of any nature) by the Contractor to the County in excess of one-half of one percent (.5%) of the total contract billings, the reasonable actual cost of the County's audit shall be reimbursed to the County by the Contractor.

Any adjustments and /or payments that must be made as a result of any such audit or inspection of the contractor's invoices and /or records and supporting documents shall be made within a reasonable amount of time (not to exceed 90 days) from presentation of the County's findings to the Contractor.

ARTICLE 21 - MINORITY/WOMEN OWNED BUSINESS ENTERPRISE REQUIREMENTS AND SMALL BUSINESS PROVISIONS

The Contractor will comply with all requirements of Orange County's Minority/Women Owned Business Enterprise Ordinance No. 94-01, as amended by Ordinance No. 2009-21. In summary, the ordinances establish a goal of 25% of the County's annual monetary value of contracts be awarded to minority/women owned business enterprises meeting Contract specifications.

The goals for work force employment levels are 18% minority and 6% women. Other provisions of the Ordinance as it pertains to construction projects may be found in Part C of this document.

To facilitate monitoring for compliance with the Ordinance, the Contractor **must**:

- A. Provide to the County's Business Development Division Liaison all subcontracts and/or purchase orders, fully executed by both parties, with each Subcontractor and supplier listed on Attachment C-2 in the Prime Contractor's bid (M/WBE's and non-M/WBE's). **The prime Contract will not be executed by the County until these documents are on file in the Business Development Division.** Prime Contractor should include in the subcontract / purchase order a statement that makes the legality of the document contingent upon execution of the prime Contract by the County.
- B. The Contractor **must** include in the subcontract agreement:
 - 1. A Prompt Payment Clause to the M/WBE subcontractor
 - 2. Payment schedule in all subcontracts and purchase orders (including those with non-M/WBE's) stating that payment will be made to the Subcontractor/suppliers within 72 hours of receipt of payment from the County.

3. The following statement: **“It is the M/WBE responsibility to submit the required Monthly M/WBE utilization reports to the prime and Final M/WBE payment verification form to Business Development Division.”**

The M/WBE’s failure to submit the required documents could negatively impact their M/WBE certification.

This provision in no way creates any contractual relationship between any Subcontractor and Orange County or any liability on Orange County for the Contractor's failure to make timely payments. The timeliness of such payments may be evaluated by the Business Development Division Liaison in considering compliance with the Ordinance.

C. The Contractor **must** submit:

- 1) A Monthly Workforce Report (Current Field Employment Data). Contractor shall also ensure that all Subcontractors/suppliers with contracts over \$50,000 supply a Monthly Workforce Report; and
- 2) A Monthly Prime Contractor's Report including M/WBE Utilization Reports.

The Contractor shall furnish written documentation evidencing actual dollars paid to each Subcontractor/supplier listed and/or utilized by the Contractor. This will include, but not be limited to: copies of canceled checks, approved invoices, and signed, sworn affidavits certifying the accuracy of payments so that the County may determine actual participation achieved by the Contractor prior to issuance of final payment.

The required reports are to be submitted to the Business Development Division Liaison no later than the fifth day of each month beginning one month after the Work begins and to continue until Final Completion of the project/contract. The Business Development Liaison has the authority to delay Contractor's Progress Payments if reports are not submitted in a timely manner.

The final Prime Contractor's Report-M/WBE Utilization Report must be signed by the Contractor's authorized agent certifying that all information contained therein is a true and accurate account of M/WBE utilization per the bid and contract documents. Approval of the final Application for Payment is contingent upon receipt of this certification.

D. Contractor **must** not substitute, replace or terminate any M/WBE firm without **prior written authorization from the Orange County Business Development Manager**, nor **must** the Contractor reduce the scope of work or monetary value of a subcontract without prior written authorization of the Business Development Manager. All modifications, additions and deletions to any and all Contracts issued to said M/WBE's **must** also have prior written authorization of the Business Development Manager.

- E. The Contractor shall expeditiously advise all M/WBE's and the Business Development Division Liaison of all Change Orders, contract modifications, additions and deletions to any and all contracts issued to said M/WBE's.
- F. Failure of the Contractor to adhere to the provisions of the Ordinance may subject the Contractor to penalties as outlined in Sec. 17-326 of the Ordinance. The penalties include:
 - 1) Liquidated damages up to 10% of the Contract;
 - 2) Suspension or permanent debarment from bidding;
 - 3) Termination of any present contracts;
 - 4) Withholding retainage;
 - 5) A negative evaluation of good-faith effort on future bids;
 - 6) Withholding of payments.

ARTICLE 22 - FEDERAL REQUIREMENTS

In the event this Contract is paid in whole or in part from any federal government agency or source, the specific terms, regulations and requirements governing the disbursement of these funds shall be specified herein and become a part of this clause.

All Contracts in excess of one hundred and fifty thousand dollars (\$150,000) shall comply with all the requirements of Section 114 of the Clean Air Act (42 USC 7401 et seq.) as amended and Section 308 of the Federal Water Pollution Control Act (33 USC 1251 et seq.) as amended.

ARTICLE 23 – VERBAL ORDERS

The Project Manager under the following conditions may issue verbal change orders to the contract:

- A. To address bona fide emergency requirements. Emergency requirements are described as those requiring immediate action due to (1) an imminent or existing threat to the health, safety or welfare of persons or property and (2) conditions which poses serious economic damage to the County.
- B. To ensure the continuity of critical elements of contract performance.

Any such verbal direction shall be confirmed in writing by the Project Manager to the contractor within five (5) calendar days after issuance. Concurrently, a copy of the written direction shall be provided to the Manager, Procurement Division with documentation in the form of an emergency justification to support the action taken.

A formal change order and associated contract amendment, if applicable, will be negotiated in conjunction with the Procurement Division and shall succeed the written confirmation not later than thirty (30) calendar days after issuance of the verbal direction.

Board approval, as applicable, shall be obtained.

ARTICLE 24 – MISCELLANEOUS

Whenever any provision of the Contract Documents requires the giving of written notice, it shall be deemed to have been validly given if delivered in person to the individual, to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail (postage prepaid) to the last business address known to the County.

All Specifications, Drawings and copies thereof furnished by the County shall remain its property. They shall not be used on another Project and, with the exception of those sets which have been signed in connection with the execution of the Contract, shall be returned to the County upon completion of the Work.

The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon the Contractor and the rights and remedies available to the County thereunder shall be in addition to and not a limitation of any otherwise imposed or available by law, by special guarantee or other provisions of the Contract Documents.

Should the County or the Contractor suffer injury or damage to its person or property because of any error, omission or act of the other or of any of his employees, agents or others for whose acts he is legally liable, claim should be made in writing to the other party within a reasonable time of the first observance of such injury or damage.

This Contract shall be governed by the laws of the State of Florida. Any and all legal action necessary to enforce the provisions of this Contract will be held in Orange County, Florida. Venue for any litigation involving this Contract shall be the Ninth Circuit Court in and for Orange County, Florida.

The obligations of Orange County under this award are subject to the availability of funds lawfully appropriated for its purpose by the State of Florida and the Board of County Commissioners, or other specified funding source for this contract.

The County will be represented on site by one or more Inspectors who are employed by the County or by a Construction Engineering and Inspection (CEI) firm under contract to the County. The Contractor is to follow all directions provided by these Inspectors. Provided, however, that any such directions shall not be construed to:

- a. Authorize any deviation from the Contract Documents that:
 - Requires a change in the Contract Price or Contract Time;
 - Materially changes any aspect of the work covered by a permit to the extent that the regulatory agency having jurisdiction would require modification of the permit;
 - Materially changes any aspect of the work to the extent that the intent of the design is compromised;

- b. Approve any substitute materials or equipment;
- c. Undertake any of the responsibilities of Contractor, subcontractors or Contractor's superintendent, or expedite the Work; Direct the Contractor as to any aspect of the means, methods, techniques, sequences or procedures of construction unless such is specifically called for in the Contract Documents;
- d. Advise on or issue directions as to safety precautions and programs in connection with the Work.

ARTICLE 25 – CONTRACT CLAIMS

"Claim" as used in this provision means a written demand or written assertion by one of the contracting parties seeking as a matter of right, the payment of a certain sum of money, the adjustment or interpretation of contract terms, or other relief arising under or relating to this contract.

Claims made by a Contractor against the County relating to a particular contract shall be submitted to the Procurement Division Manager in writing clearly labeled "Contract Claim" requesting a final decision.

"Claim" as used in this provision applies after failure of the parties to agree to an adjustment as provided in Article 13, Change of Contract Amount and Contract Time.

The Contractor also shall provide with the claim a certification as follows: "I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the County is liable; and that I am duly authorized to certify the claim on behalf of the Contractor."

Failure to document a claim in this manner shall render the claim null and void. Moreover, no claim shall be accepted after final payment of the contract.

The decision of the Procurement Division Manager shall be issued in writing and shall be furnished to the Contractor.

The decision shall state the reasons for the decision reached. The Procurement Division Manager shall render the final decision within sixty (60) days after receipt of Contractor's written request for a final decision. The Procurement Division Manager's decision shall be final and conclusive.

The Contractor shall proceed diligently with performance of this contract pending final resolution of any request for relief, claim, appeal or action arising under the contract and shall comply with any final decision rendered by the Manager of the Procurement Division.

ARTICLE 26 - VALUE ENGINEERING

A. Intent and Objective: This Section applies to any cost reduction proposal (hereinafter referred to as a Value Engineering Change Proposal or VECP) initiated and developed by the CONTRACTOR for the purpose of refining the Contract Documents so as to contribute to design cost effectiveness or significantly improve the quality of the Work. This Section does not, however, apply to any such proposal unless it is identified by the CONTRACTOR, at the time of its submission to the COUNTY, as a proposal submitted pursuant to this Section.

VECPs contemplated are those that would result in net savings to the COUNTY by providing either: (A) a decrease in the cost of performance of the Work, or; (B) a reduction in cost of ownership (hereinafter referred to as collateral costs) of the Work, regardless of acquisition costs. VECPs must result in savings without impairing essential functions and characteristics such as safety, service, life, reliability, economy of operation, ease of maintenance, aesthetics and necessary standard design features. However, nothing herein prohibits the submittal of VECPs where the required functions and characteristics could be combined, reduced or eliminated as being nonessential or excessive. Plan errors which are identified by the CONTRACTOR and which result in a cost reduction, will not qualify for submittal as a VECP.

The COUNTY reserves the right to reject at its discretion any VECP submitted. Substitution of another design alternate, which is detailed in the Plans, for the one on which the CONTRACTOR bid, will not be allowed under this Section. Pending execution of a formal supplemental Agreement, implementing an approved VECP, the CONTRACTOR shall remain obligated to perform in accordance with the terms of the existing Contract. No time extensions will be granted due to the time required to review a VECP.

B. Subcontractors: The CONTRACTOR is encouraged to include the provisions of this Section in contracts with subcontractors. The CONTRACTOR shall encourage submission of VECPs from subcontractors, however, it is not mandatory that VECPs be submitted nor is it mandatory that the CONTRACTOR accept or transmit to the COUNTY VECPs proposed by his subcontractors.

C. Data Requirements: As a minimum, the following information shall be submitted by the CONTRACTOR with each VECP;

- (1) A description of the difference between the existing requirements and the proposed change, and the comparative advantages and disadvantages.
- (2) Separate detailed cost estimates for both the existing requirements and the proposed change. The cost estimates shall be broken down by item numbers indicating quantity increases or decreases and deleted pay items.

Additional proposed Work, now covered by the Contract Documents, shall be identified by current COUNTY pay item numbers. In preparing the estimates, the CONTRACTOR shall include overhead, profit and bond. No separate pay item(s) for these costs will be allowed.

- (3) An itemization of plan details, plan sheets, design standards and Specifications that must be changed or added if the VECP is adopted. Preliminary plan drawings must be sufficient to describe the proposed changes.
- (4) An estimate of the effects the VECP would have on collateral costs to the COUNTY.
- (5) Engineering Incentive or other analysis in sufficient detail to identify and describe specific features of the Contract Documents which must be changed if the VECP is accepted, with a proposal as to how these

changes can be accomplished and an assessment of their effect on other Project elements. The COUNTY may require that Engineering Incentive analyses be performed by a prequalified consultant in the applicable class of Work. Any design changes which result from the VECP must be supported by computations sealed by a Professional registered in the State of Florida.

- (6) A statement of the time by which approval of the VECP must be issued by the COUNTY to obtain the total estimated cost reduction during the remainder of this Contract noting any effect on the Contract completion time or delivery schedule.

D. Processing Procedures: Two copies of each VECP shall be submitted to the County's Project Manager, or his/her duly authorized representative, VECPs will be processed expeditiously; however, the COUNTY will not be liable for any delay in acting upon a VECP submitted pursuant to this Section. The CONTRACTOR may withdraw, in whole or in part, a VECP not accepted by the COUNTY within the period specified in the VECP.

The COUNTY shall not be liable for any VECP development cost in the case where a VECP is rejected or withdrawn.

The COUNTY shall be the sole judge of the acceptability of a VECP and of the estimated net savings in construction and/or collateral costs from the adoption of all or any part of such proposal. In determining the estimated net savings, the right is reserved to disregard the Contract prices if, in the judgment of the COUNTY, such prices do not represent a fair measure of the value of Work to be performed or to be deleted. Prior to approval, the COUNTY may modify a VECP, with the concurrence of the CONTRACTOR, to make it acceptable. If any modification increases or decreases the net savings resulting from the VECP, the CONTRACTOR'S fair share will be determined upon the basis of the VECP modified and upon determination of final quantities. The net savings shall be computed by subtracting the revised total cost of all bid items affected by the VECP design from the total cost of the same bid items as represented in the Contract Documents. Prior to approval of the VECP, which initiates the supplemental Contract, the CONTRACTOR shall provide acceptable contract quality Plan sheets revised to show all details consistent with the VECP design.

E. Computations for Change in Contract Cost of Performance: CONTRACTOR development and implementation costs for the VECP will not be recoverable. If the VECP is adopted, the CONTRACTOR'S share of the net savings as defined hereinafter shall be considered full compensation to the CONTRACTOR for the VECP. COUNTY costs of processing or implementation of a VECP will not normally be considered in the estimate.

However, the COUNTY reserves the right, where it deems such action appropriate, to require the CONTRACTOR to pay the COUNTY'S cost of investigating and implementing a VECP submitted by the CONTRACTOR as a condition of considering such proposal.

Where such a condition is imposed, the CONTRACTOR shall indicate his acceptance thereof in writing, and such acceptance shall constitute full authority for the COUNTY to deduct amounts payable to the COUNTY from any monies due or that may become due to the CONTRACTOR under the Contract.

- F. Computations for Collateral Costs:** When collateral cost savings are sought by the CONTRACTOR, separate estimates must be prepared for collateral costs of both the existing Contract requirement and the proposed change.

Each estimate shall consist of an itemized breakdown of all costs and the basis for the data used in the estimate. Cost benefits to the COUNTY include, but are not limited to: reduced costs of operation, maintenance or repair, and extended useful service life. Increased collateral costs include the converse of such factors. Computations shall be as follows:

- (1) Costs shall be calculated over a 20-year period on a uniform basis for each estimate.
- (2) If the difference in the estimates as approved by the COUNTY indicate a savings, the CONTRACTOR shall divide the resultant amount by 20 to arrive at the average annual net collateral savings. The resultant savings shall be shared as stipulated in paragraph G below.

- G. Sharing Arrangements:** If a VECP is approved by the COUNTY, the CONTRACTOR may be entitled to share in both construction savings and collateral savings to the full extent provided for in this subsection. Except for innovative ideas, the CONTRACTOR and COUNTY shall each receive 50 percent of net reduction in the cost of performance of this Contract. For innovative ideas, the reduction in the cost of performance shall be shared as follows:

ACCRUED NET SAVINGS	CONTRACTOR'S SHARE %	COUNTY'S SHARE %
Less than \$25,000	85	15
\$25,000 to \$50,000	75	25
Over \$50,000	50	50

If an approved change is identical or similar to a previously submitted VECP or an idea previously utilized by the COUNTY it will not be considered an innovative idea, thus, will only qualify for a 50 percent sharing of savings. When collateral savings occur, the CONTRACTOR shall receive 20 percent of the average one year's net collateral savings. The CONTRACTOR shall not receive construction savings or collateral savings on optional Work listed in this Contract until the COUNTY exercises its option to obtain that Work.

ARTICLE 27 – PATENTS AND ROYALTIES

Unless otherwise provided, the bidder shall be solely responsible for clearing the right to use any patented or copyrighted materials in the performance of the contract.

The Contractor, without exception, shall indemnify and save harmless the County and its employees from liability of any nature or kind, including cost and expenses for or on account of any copyrighted, patented, or unpatented invention, process, or article manufactured or supplied by the Contractor.

In the event of any claim against the County of copyright or patent infringement, the County shall promptly provide written notification to the Contractor. If such a claim is made, the Contractor shall use its best efforts to promptly purchase for the County any infringing products or services or procure a license, at no cost to the County, which will allow continued use of the service or product. If none of the alternatives are reasonably available, the County agrees to return the article on request to the Contractor and receive reimbursement, if any, as may be determined by a court of competent jurisdiction.

ARTICLE 28 – OWNER DIRECT PURCHASE

Pursuant to ***Florida Statutes***, Section 212.08(6), and ***Florida Administrative Code***, Number 12A-1.094, Orange County Florida is exempt from Florida Sales Tax for the purchase of construction materials, supplies and/or equipment incorporated into a construction project.

For construction Contracts valued at \$10,000,000, or lesser amounts as determined by the County, the County may, at its discretion, use the direct purchase method for large dollar value equipment and materials that realize a tax savings of at least \$5000.

Direct purchases will be negotiated with the Contractor based on those items identified by the Professional. The final determination as to whether to direct purchase any materials or equipment shall be made by the Manager of the Procurement Division after consultation with the County's Project Manager.

When it has been determined that the use of direct purchases is warranted, the, Orange County Owner Direct Purchase Provision in Exhibit 2 shall govern.

ARTICLE 29 – PUBLIC RECORDS COMPLIANCE (APPLICABLE FOR SERVICE CONTRACTS)

Orange County is a public agency subject to Chapter 119, Florida Statutes. The Contractor agrees to comply with Florida's Public Records Law. Specifically, the Contractor shall:

1. Keep and maintain public records required by Orange County to perform the service.
2. Upon request from Orange County's custodian of public records, provide Orange County with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in this chapter or as otherwise provided by law.

3. Ensure that public records that are exempt or confidential and exempt from the public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the Contractor does not transfer the records to Orange County.
4. Upon completion of the contract, Contractor agrees to transfer at no cost to Orange County all public records in possession of the Contractor or keep and maintain public records required by Orange County to perform the service. If the Contractor transfers all public record to Orange County upon completion of the contract, the Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Contractor keeps and maintains public records upon completion of the contract, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to Orange County, upon request from Orange County's custodian of public records, in a format that is compatible with the information technology systems of Orange County.
5. A Contractor who fails to provide the public records to Orange County within a reasonable time may be subject to penalties under section 119.10, Florida Statutes.
6. **IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT :**

**PROCUREMENT DIVISION PUBLIC RECORDS LIAISON
400 E. SOUTH STREET, 2ND FLOOR, ORLANDO, FL 32801
407-836-5897
ProcurementRecords@ocfl.net**

EXHIBIT A
LEASED EMPLOYEE AFFIDAVIT

CONTRACT #Y_____

I affirm that an employee leasing company provides my workers' compensation coverage. I further understand that my contract with the employee leasing company limits my workers' compensation coverage to enrolled worksite employees only. My leasing arrangement does not cover un-enrolled worksite employees, independent contractors, uninsured sub-contractors or casual labor exposure.

I hereby certify that 100% of my workers are covered as worksite employees with the employee leasing company. I certify that I do not hire any casual or uninsured labor outside the employee leasing arrangement. I agree to notify the County in the event that I have any workers not covered by the employee leasing workers' compensation policy. In the event that I have any workers not subject to the employee leasing arrangement, I agree to obtain a separate workers' compensation policy to cover these workers. I further agree to provide the County with a certificate of insurance providing proof of workers' compensation coverage prior to these workers entering any County jobsite.

I further agree to notify the County if my employee leasing arrangement terminates with the employee leasing company and I understand that I am required to furnish proof of replacement workers' compensation coverage prior to the termination of the employee leasing arrangement.

I certify that I have workers' compensation coverage for all of my workers through the employee leasing arrangement specified below:

Name of Employee Leasing Company: _____

Workers' Compensation Carrier: _____

A.M. Best Rating of Carrier: _____

Inception Date of Leasing Arrangement: _____

I further agree to notify the County in the event that I switch employee-leasing companies. I recognize that I have an obligation to supply an updated workers' compensation certificate to the County that documents the change of carrier.

Name of Contractor: _____

Signature of Owner/Officer: _____

Title: _____ Date: _____

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED CONSTRUCTION PROJECT(S) GENERAL AGGREGATE LIMIT

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Designated Construction Projects:

**“Any person or organization on whose behalf you are required to obtain
a Designated Construction Project under a written contract or agreement”**

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

- A.** For all sums which the insured becomes legally obligated to pay as damages caused by “occurrences” under COVERAGE A (SECTION I), and for all medical expenses caused by accidents under COVERAGE C (SECTION I), which can be attributed only to ongoing operations at a single designated construction project shown in the Schedule above:
 - 1.** A separate Designated Construction Project General Aggregate Limit applies to each designated construction project, and that limit is equal to the amount of the General Aggregate Limit shown in the Declarations.
 - 2.** The Designated Construction Project General Aggregate Limit is the most we will pay for the sum of all damages under COVERAGE A, except damages because of “bodily injury” or “property damage” included in the “products-completed operations hazard”, and for medical expenses under COVERAGE C regardless of the number of:
 - a. Insureds;
 - b. Claims made or “suits” brought or
 - c. Persons or organization making claims or bringing “suits”
 - 3.** Any payments made under COVERAGE A for damages or under COVERAGE C for medical expenses shall reduce the Designated Construction Project General Aggregate Limit for that designated construction project. Such payments shall not reduce the General Aggregate Limit shown in the Declarations nor shall they reduce any other Designated Construction Project General Aggregate Limit for any other designated construction project shown in the Schedule above.
- 4.** The limits shown in the Declarations for Each Occurrence, Fire Damage and Medical Expense continue to apply. However, instead of being subject to the General Aggregate Limit shown in the Declarations, such limits will be subject to the applicable Designated Construction Project General Aggregate Limit.
- B.** For all sums which the insured becomes legally obligated to pay as damages caused by “occurrences” under COVERAGE A (SECTION I), and for all medical expenses caused by accidents under COVERAGE C (SECTION I), which cannot be attributed only to ongoing operations at a single designated construction project shown in the Schedule above:
 - 1.** Any payments made under COVERAGE A for damages or under COVERAGE C for medical expenses shall reduce the amount available under the General Aggregate Limit or the Products-Completed Operations Aggregate Limit, whichever is applicable; and
 - 2.** Such payments shall not reduce any Designated Construction Project General Aggregate Limit.
- C.** When coverage for liability arising out of the “products- completed operations hazard” is provided, any payments for damages because of “bodily injury” or “property damage” included in the “products-completed operations hazard” will reduce the Products-Completed Operations Aggregate Limit, and not reduce the General Aggregate Limit nor the Designated Construction Project General Aggregate Limit.
- D.** If the applicable designated construction project has been abandoned, delayed, or abandoned and then

restarted, or if the authorized contracting parties deviate from plans, blueprints, designs, specifications or timetables, the project will still be deemed to be the same construction project.

- E. The provisions of Limits of Insurance (SECTION **III**) not otherwise modified by this endorsement shall continue to apply as stipulated.

EXHIBIT B

BUILDERS RISK COVERAGE FORM

Various provisions in this policy restrict coverage. Read the entire policy carefully to determine rights, duties and what is and is not covered.

Throughout this policy the words “you” and “your” refer to the Named Insured shown in the Declarations. The words “we”, “us” and “our” refer to the Company providing this insurance.

Other words and phrases that appear in quotation marks have special meaning. Refer to Section G., Definitions.

A. Coverage

We will pay for direct physical loss of or damage to Covered Property at the premises described in the Declarations caused by or resulting from any Covered Cause Loss.

1. Covered Property

Covered Property as used in this Coverage Part, means the type of property described in this section, **A.1.**, and limited in **A.2.**, Property Not Covered, If a Limit of Insurance is shown in the Declarations for that type of property.

Building Under Construction, meaning the building or structure described in the Declarations while in the course of construction, including:

a. Foundations;

b. The following property:

(1) Fixtures and machinery;

(2) Equipment used to service the building; and

(3) Your building materials and supplies used for construction;

Provided such property is intended to be permanently located in or on the building or structure described in the Declarations or within 100 feet of its premises;

c. If not covered by other insurance, temporary structures built or assembled on site, including cribbing, scaffolding and construction forms.

2. Property Not Covered

Covered Property does not include:

a. Land (including land on which the property is located) or water;

(b) Subject to (a) above, the amount we will pay for debris removal expense is limited to 25% of the sum of the deductible plus the amount that we pay for direct physical loss or damage to the Covered Property that has sustained loss or damage.

b. The following property when outside of buildings:

(1) Lawns, trees, shrubs or plants;

(2) Radio or television antennas (including satellite dishes) and their lead-in wiring, master or towers; or

(3) Signs (other than signs attached to buildings)

3. Covered Causes of Loss

See applicable Causes Of Loss Form as shown in the Declarations.

4. Additional Coverages

a. Debris Removal

(1) Subject to Paragraphs (3) and (4), we will pay your expense to remove debris of Covered Property caused by or resulting from a Covered Cause of Loss that occurs during the policy period. The expenses will be paid only if they are reported to us in writing within 180 days of the date of direct physical loss or damage.

(2) Debris Removal does not apply to costs to:

(a) Extract “pollutants” from land or water; or

(b) Remove, restore or replace polluted land or water.

(3) Subject to the exceptions in paragraph (4), the following provisions apply:

(a) The most we will pay for the total of direct physical loss or damage plus debris removal expense is the Limit of Insurance applicable to the Covered Property that has sustained loss or damage.

(4) We will pay up to an additional \$10,000 for debris removal expense, for each location, in any one occurrence of physical loss or damage to Covered Property if one or both of the following circumstances apply:

(a) The total of the actual debris removal expense plus the amount we pay for direct physical loss or damage exceeds the Limit of Insurance on

the Covered Property that has sustained loss or damage.

- (b) The actual debris removal expense exceeds 25% of the sum of the deductible plus the amount that we pay for direct physical loss or damage to the Covered Property that has sustained loss or damage.

Therefore if (4)(a) and/or (4)(b) apply, our total payment for direct physical loss or damage and debris removal expense may reach but will never exceed the Limit of Insurance on the Covered Property that has sustained loss or damage, plus \$10,000.

(5) Examples

The following examples assume that there is no Coinsurance penalty.

Example #1

Limit or Insurance:	\$90,000
Amount of Deductible:	\$ 500
Amount of Loss:	\$50,000
Amount of Loss Payable:	\$49,500
	(\$50,000 - \$500)
Debris Removal Expense:	\$10,000
Debris Removal Expense Payable:	\$10,000
	(\$10,000 is 20% of \$50,000.)

The debris removal expense is less than 25% of the sum of the loss payable plus the deductible. The sum of the loss payable and the debris removal expense (\$49,500 + \$10,000 = \$59,500.) is less than the Limit of Insurance. Therefore, the full amount of debris removal expense is payable in accordance with the terms of Paragraph (3).

Example #2

Limit of Insurance:	\$90,000
Amount of Deductible:	\$ 500
Amount of Loss:	\$80,000
Amount of Loss Payable:	\$79,500
	(\$80,000 - \$500)
Debris Removal Expense:	\$30,000
Debris Removal Expense Payable	
Basic Amount:	\$10,500
Additional Amount:	\$10,000

The basic amount payable for debris removal expense under the terms of Paragraph (3) is calculated as follows: \$80,000 (\$79,500 + \$500) x .25 = \$20,000; capped at \$10,500. The cap applies because the sum of the loss payable (\$79,500) and the basic amount payable for debris removal expense (\$10,500) cannot exceed the Limit of Insurance (\$90,000).

The additional amount payable for debris removal expense is provided in accordance with the terms of Paragraph (4), because the debris removal expense (\$30,000) exceeds 25% of the loss payable plus the deductible (\$30,000 is 37.5% of \$80,000), and because the sum of loss payable and debris removal expense (\$79,500 + \$30,000 = \$109,500) would exceed the Limit of Insurance (\$90,000). The additional amount of covered debris removal expense is \$10,000, the maximum payable under Paragraph (4). Thus the total payable for debris removal expense in this

example is \$20,500; \$9,500 of the debris removal expense is not covered.

b. Preservation Of Property

If it is necessary to move Covered Property from the described premises to preserve it from loss or damage by a Covered Cause of Loss, we will pay for any direct physical loss or damage to that property:

- (1) While it is being moved or while temporarily stored at another location; and
- (2) Only if the loss or damage occurs within 30 days after the property is first moved.

c. Fire Department Service Charge

When the fire department is called to save or protect Covered Property from a Covered Cause of Loss, we will pay up to \$1,000, unless a higher limit is shown in the Declarations, for your liability for fire department service charges:

- (1) Assumed by contract or agreement prior to loss; or
- (2) Required by local ordinance.

No Deductible applies to this Additional Coverage.

d. Pollutant Clean-up And Removal

We will pay your expense to extract "pollutants" from land or water at the described premises if the discharge, dispersal, seepage, migration, release or escape of the "pollutants" is caused by or results from a Covered Cause of Loss that occurs during the policy period. The expense will be paid only if they are reported to us in writing within 180 days of the date on which the Covered Cause of Loss occurs.

This Additional Coverage does not apply to costs to test for, monitor or assess the existence, concentration or effects of "pollutants". But we will pay for testing which is performed in the course of extracting the "pollutants" from the land or water.

The most we will pay under this Additional Coverage for each described premises is \$10,000 for the sum of all covered expenses arising out of Covered Causes of

Loss occurring during each separate 12 month period of this policy.

5. Coverage Extensions

a. Building Materials And Supplies Of Others

(1) You may extend the insurance provided by this Coverage Form to apply to building materials and supplies that are:

- (a) Owned by others;
- (b) In your care, custody or control;
- (c) Located in or on the building described in the Declarations, or within 100 feet of its premises; and
- (d) Intended to become a permanent part of the building.

(2) The most we will pay for loss or damage under this Extension is \$5,000 at each described premises, unless a higher Limit of Insurance is specified in the Declarations. Our payment for loss of or damage to property of others will only be for the account of the owner of the property.

b. Sod, Trees, Shrubs And Plants

You may extend the insurance provided by this Coverage Form to apply to loss or damage to sod, trees, shrubs and plants outside of buildings on the described premises, if the loss or damage is caused by or results from any of the following causes of loss:

- (1) Fire;
- (2) Lightning;
- (3) Explosion;
- (4) Riot or Civil Commotion; or
- (5) Aircraft.

The most we will pay for loss or damage under this Extension is \$1,000, but not more than \$250 for any one tree, shrub or plant. These limits apply to any one occurrence, regardless of the types or number of items lost or damaged in that occurrence.

B. Exclusions And Limitations

See applicable Causes Of Loss From as shown in the Declarations.

C. Limits Of Insurance

The most we will pay for loss or damage in any one occurrence is the applicable Limit of Insurance shown in the Declarations.

The most we will pay for the loss or damage to outdoor signs attached to buildings is \$2,500 per sign in any one occurrence.

The limits applicable to the Coverage Extensions and the Fire Department Service Charge and Pollutant Clean-up And Removal Additional Coverage are in addition to the Limit of insurance.

Payments under the Preservation Of Property Additional Coverage will not increase the applicable Limit of insurance.

D. Deductible

In any one occurrence of loss or damage (hereinafter referred to as loss), we will first reduce the amount of loss if required by Additional Condition – Need For Adequate Insurance. If the adjusted amount of loss is less than or equal to the Deductible, we will not pay for that loss. If the adjusted amount of loss exceeds the

Deductible, we will then subtract the Deductible from the adjusted amount of loss, and will pay the resulting amount or the Limit of Insurance, whichever is less.

When the occurrence involves loss to more than one item of Covered Property and separate Limits of Insurance apply, the losses will not be combined in determining application of the Deductible. But the Deductible will be applied only once per occurrence.

Example #1

(This example assumes there is no penalty for underinsurance.)

Deductible:	\$ 1,000
Limit of Insurance – Building #1:	\$ 60,000
Limit of Insurance – Building #2:	\$ 80,000
Loss to Building #1:	\$ 60,100
Loss to Building #2:	\$ 90,000

The amount of loss to Building #1 (\$60,100) is less than the sum (\$61,000) of the Limit of Insurance applicable to Building #1 plus the Deductible.

The Deductible will be subtracted from the amount of loss in calculating the loss payable for Building #1:

\$60,100
<u>- 1,000</u>
\$59,100 Loss Payable – Building #1

The Deductible applies once per occurrence and therefore is not subtracted in determining the amount of loss payable for Building #2. Loss payable for Building #2 is the Limit of Insurance of \$80,000.

Total amount of loss payable: \$59,100 + \$80,000 = \$139,100.

Example #2

(This example, too, assumes there is no penalty for underinsurance.)

The Deductible and Limits of Insurance are the same as those in Example #1

Loss to Building #1:	\$ 70,000
(Exceeds Limit of Insurance plus Deductible)	
Loss to Building #2	\$ 90,000
(Exceeds Limit of Insurance plus Deductible)	
Loss Payable - Building #1:	\$ 60,000
(Limit of Insurance)	
Loss Payable – Building #2	\$ 80,000
(Limit of Insurance)	
Total amount of loss payable:	\$140,000

E. Loss Conditions

The following conditions apply in addition to the Common Policy Conditions and the Commercial Property Conditions.

1. Abandonment

There can be no abandonment of any property to us.

2. Appraisal

If we and you disagree on the value of the property or the amount of loss, either may make written demand for an appraisal of the loss. In this event, each party will select a competent and impartial appraiser. The two appraisers will select and umpire. If they cannot agree, either may request that selection be made by a judge of a court having jurisdiction. The appraiser will state separately the value of the property and amount of loss. If they fail to agree, they will submit their differences to the umpire. A decision agreed to by any two will be binding. Each party will:

- a. Pay its chosen appraiser; and
- b. Bear the other expenses of the appraisal and umpire equally.

If there is an appraisal, we will still retain our right to deny claim.

3. Duties In The Event Of Loss Or Damage

- a. You must see that the following are done in the event of loss or damage to Covered Property:

- (1) Notify the police if a law may have been broken.
- (2) Give us prompt notice of the loss or damage. Include a description of the property involved.
- (3) As soon as possible, give us a description of how, when and where the loss or damage occurred.
- (4) Take all reasonable steps to protect the Covered Property from further damage, and keep a record of your expenses necessary to protect the Covered Property, for consideration in the settlement of the claim. This will not increase the Limit of Insurance. However, we will not pay for any subsequent loss or damage resulting from cause of loss that is not a Covered Cause of Loss. Also if feasible, set the damaged property aside and in the best possible order for examination.
- (5) At our request, give us complete inventories of the damaged and undamaged property. Include quantities, costs, values and amount of loss claimed.
- (6) As often as may be reasonably required, permit us to inspect the property proving the loss or damage and examine your books and records.
Also permit us to take samples of damaged and undamaged property for inspection, testing and analysis, and permit us to make copies from your books and records
- (7) Send us a signed, sworn proof of loss containing the information we request to investigate the claim. You must do this within 60 days after our request. We will supply you with the necessary forms.
- (8) Cooperate with us in the investigation or settlement of the claim.

- b. we may examine any insured under oath while not in the presence of any other insured and at such times as may be reasonably required, about any matter relating to this insurance or the claim, including an insured's books and records. In the event of an examination, an insured's answer must be signed.

4. Loss Payment

- a. In the event of loss or damage covered by this Coverage Form, at our option, we will either:

- (1) Pay the value of lost or damaged property;
- (2) pay the cost of repairing or replacing the lost or damaged property, subject to b. below;
- (3) Take all or any part of property at an agreed or appraised value; or
- (4) Repair, rebuild or replace the property with other property of like kind and quality, subject to b. below.

We will determine the value of lost or damaged property, or the cost of its repair or replacement, in accordance with the applicable terms of the Valuation Condition in this Coverage Form or any applicable provision which amends or supersedes the Valuation Condition.

- b. The cost to repair, rebuild or replace does not include the increased cost attributable to enforcement of any ordinance or law regulating the construction, use or repair of any property.
- c. We will give notice of our intentions within 30 days after we receive the sworn proof of loss.
- d. We will not pay you more than your financial interest in the Covered Property.
- e. We may adjust losses with the owners of lost or damaged property if other than you. If we pay the owners, such payments will satisfy your claims against us for the owners' property. We will not pay the owners more than their financial interest in the Covered Property.
- f. We may elect to defend you against suits arising from claims of owners of property. We will do this at our expense.
- g. We will pay for covered loss or damage within 30 days after we receive the sworn proof of loss, if you have complied with all of the terms of this Coverage Part and:
 - (1) We have reached agreement with you on the amount of loss; or
 - (2) An appraisal award has been made.
- h. A party wall is a wall that separates and is common to adjoining buildings that are owned by different parties. In settling covered losses involving a party wall, we will pay a portion of the loss to the party wall based on your interest in the wall in proportion to the interest of the owner of the adjoining building. However, if you elect to repair or replace your building and the owner of the adjoining building elects not to repair or replace the building, we will pay you the full value of the loss to the party wall, subject to all applicable policy

provisions including Limits of Insurance, the Valuation and Coinsurance Conditions and all other provisions of this Loss Payment Condition. Our payment under the provision of this paragraph does not alter any right of subrogation we may have against any entity, including the owner or insurer of the adjoining building, and does not alter the terms of the Transfer Of Rights Of Recovery Against Others To Us Condition in this policy.

5. Recovery Property

If either you or we recover any property after loss settlement, that party must give the other prompt notice. At your option, the property will be returned to you. You must then return to us the amount we paid to you for the property. We will pay recovery expenses and the expenses to repair the recovered property, subject to the Limit of Insurance.

6. Valuation

We will determine the value of Covered Property at actual cash value as of the time of loss or damage.

F. Additional Conditions

The following conditions apply in addition to the Common Policy Conditions and the Commercial Property Conditions.

1. Mortgageholders

- a. The term mortgageholder includes trustee.
- b. We will pay for covered loss of or damage to buildings or structures to each mortgageholder shown in the Declarations in their order of precedence, as interests may appear.
- c. The mortgageholder has the right to receive loss payment even if the mortgageholder has started foreclosure or similar action on the building or structure.
- d. If we deny your claim because of your acts or because you have failed to comply with the terms of this Coverage Part, the mortgageholder will still have the right to receive loss payment if the mortgageholder:
 - (1) Pays any premium due under this Coverage Part at our request if you have failed to do so;
 - (2) Submits a signed, sworn proof of loss within 60 days after receiving notice from us of your failure to do so; and
 - (3) Has notified us of any change in ownership, occupancy or substantial change in risk known to the mortgageholder.

All of the terms of this Coverage Part will then apply directly to the mortgageholder.

- e. If we pay the mortgageholder for any loss or damage and deny payment to you because of your acts or because you have failed to comply with the terms of this Coverage Part:
 - (1) The mortgageholder's rights under the mortgage will be transferred to us to the extent of the amount we pay; and
 - (2) The mortgageholder's right to recover the full amount of the mortgageholder's claim will not be impaired.

At our option, we may pay to the mortgageholder the whole principal on the mortgage plus any accrued interest. In this event, your mortgage and note will be transferred to us and you will pay your remaining mortgage debt to us.

- f. If we cancel this policy, we will give written notice to the mortgageholder at least:

- (1) 10 days before the effective date of cancellation if we cancel for your nonpayment of premium; or
- (2) 30 days before the effective date of cancellation if we cancel for any other reason.

- g. If we elect not to renew this policy, we will give written notice to the mortgageholder at least 10 days before the expiration date of this policy.

2. Need for Adequate Insurance

We will not pay a greater share of any loss than the portion that the Limit of Insurance bears to the value on the date of completion of the building described in the Declarations.

EXAMPLE #1 (UNDERINSURANCE)

When: The value of the building on the date of completion is: \$200,000
The Limit of Insurance for it is: \$100,000
The Deductible is: \$ 500 The amount of loss is: \$ 80,000

Step (1): $\$100,000 \div \$200,000 = .50$

Step (2): $\$80,000 \times .50 = \$40,000$

Step (3): $\$40,000 - \$500 = \$39,500$.

We will pay no more than \$39,500. The remaining \$40,500 is not covered.

EXAMPLE #2 (ADEQUATE INSURANCE)

When: The value of the building on the date of completion is: \$200,000
The Limit of Insurance for it is: \$200,000
The Deductible is: \$ 1,000
The amount of loss is: \$ 80,000

The limit of Insurance in the example is adequate and therefore no penalty applies. We will pay no more than \$79,000 (\$80,000 amount of loss minus the deductible of \$1,000).

3. Restriction Of Additional Coverage – Collapse

If the Causes Of Loss – Broad Form is applicable to this Coverage Form, Paragraph **C.2.f.** of the Additional Coverage – Collapse does not apply to this Coverage Form.

If the Cause Of Loss – Special Form is applicable to this Coverage Form, Paragraphs **D.2.c.** and **D.2.d** of the Additional Coverage Collapse do not apply to this Coverage Form.

4. When Coverage Ceases

The insurance provided by this Coverage Form will end when one of the following first occurs:

- a. This policy expires or is cancelled.
- b. The property is accepted by the purchaser;
- c. Your interest in the property ceases;
- d. You abandon the construction with no intention to complete it;
- e. Unless we specify otherwise in writing.
 - (1) 90 days after construction is complete or;
 - (2) 60 days after any building described in the Declarations is:
 - (a) Occupied in whole or in part; or
 - (b) Put to its intended use.

G. Definitions

“Pollutants” means any solid, liquid, gaseous or thermal irritant or contaminant, including smoke, vapor, soot, fumes, acids, alkalis, chemicals and waste. Waste includes materials to be recycled, reconditioned or reclaimed.

EXHIBIT D

COMMERCIAL PROPERTY
CP 10 30 06 07

CAUSES OF LOSS – SPECIAL FORM

Words and phrases that appear in quotation marks have special meaning. Refer to Section G., Definitions.

A. Covered Causes Of Loss

When Special is shown in the Declarations, Covered Causes of Loss means Risk of Direct Physical Loss unless the loss is:

1. Excluded in Section B., Exclusions; or
2. Limited in Section C., limitations; that follow.

B. Exclusions

1. We will not pay for loss or damage caused directly or indirectly by any of the following. Such loss or damage is excluded regardless of any other cause or event that contributes concurrently or in any sequence to the loss.

a. Ordinance or Law

The enforcement of any ordinance or law:

- (1) Regulating the construction, use or repair of any property; or
- (2) Requiring the tearing down of any property, including the cost of removing its debris.

This exclusion, Ordinance Or Law applies whether the loss results from:

- (a) An ordinance or law that is enforced even if the property has not been damaged; or
- (b) The increased costs incurred to comply with an ordinance or law in the course of construction, repair, renovation, remodeling or demolition of property, or removal of its debris, following a physical loss to that property.

b. Earth movement

- (1) Earthquake, including any earth sinking, rising or shifting related to such event;
- (2) Landslide including any earth sinking, rising or shifting related to such event.
- (3) Mine subsidence, meaning subsidence of a man-made mine, whether or not mining activity has ceased;
- (4) Earth sinking (other than sinkhole collapse), rising or shifting including soil conditions which cause settling, cracking or other disarrangement of foundations or other parts or realty. Soil conditions include contraction, expansion, freezing, thawing, erosion, improperly compacted soil and the action of water under the ground surface.

But if Earth Movement, as described in **b.(1)** through **(4)** above, results in fire or explosion, we

will pay for the loss or damage caused by that fire or explosion.

- (5) Volcanic eruption, explosion or effusion. But if volcanic eruption, explosion or effusion results in fire, building glass breakage or Volcanic Action, we will pay for the loss or damage caused by that fire, building glass breakage or Volcanic Action.

Volcanic Action means direct loss or damage resulting from the eruption of a volcano when the loss or damage is caused by:

- (a) Airborne volcanic blast or airborne shock waves;
- (b) Ash, dust or particulate matter; or
- (c) Lava flow.

All volcanic eruptions that occur within any 168-hour period will constitute a single occurrence.

Volcanic Action does not include the cost to remove ash, dust or particulate matter that does not cause direct physical loss or damage to the described property.

c. Governmental Action

Seizure or destruction of property by order of governmental authority.

But we will pay for loss or damage caused by or resulting from acts of destruction ordered by governmental authority and taken at the time of a fire to prevent its spread, if the fire would be covered under this Coverage Part.

d. Nuclear Hazard

Nuclear reaction or radiation, or radioactive contamination, however caused.

But if nuclear reaction or radiation, or radioactive contamination, results in fire, we

will pay for the loss or damage caused by that fire.

e. Utility Services

The failure of power, communication, water or other utility service supplied to the described premises, however caused, if the failure:

- (1) Originates away from the described premises; or
- (2) Originates at the described premises but only if such failure involves equipment used to supply the utility service to the described premises from a source away from the described premises.

Failure of any utility service includes lack of sufficient capacity and reduction in supply. Loss or damage caused by a surge of power is also excluded, if the surge would not have occurred but for an event causing failure of power.

But if the failure or surge of power, or the failure of communication, water or other utility service, results in Covered Cause of loss, we will pay for the loss or damage caused by that Covered Cause of Loss.

Communication services include but are not limited to service relating to Internet access or access to any electronic, cellular or satellite network.

f. War And Military Action

- (1) War, including undeclared or civil war;
- (2) Warlike action by military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or
- (3) Insurrection, rebellion, revolution, usurped power, or action taken by governmental authority in hindering or defending against any of these.

g. Water

- (1) Flood, surface water, waves, tides, tidal waves, overflow of any body of water or their spray, all whether driven by wind or not;
- (2) Mudslide or mudflow;
- (3) Water that backs up or overflows from a sewer, drain or sump; or
- (4) Water under the ground surface pressing on, or flowing or seeping through:
 - (a) Foundations, walls, floors or paved surfaces;
 - (b) Basements, whether paved or not; or
 - (c) Doors, windows or other openings.

But if Water, as described in **g.(1)**. Through **g.(4)**. above, results in fire, explosion or

sprinkler leakage, we will pay for the loss or damage caused by that fire explosion or sprinkler leakage.

h. "Fungus", Wet Rot, Dry Rot And Bacteria

Presence, growth, proliferation, spread or any activity of "fungus", wet or dry rot or bacteria.

But if "fungus", wet or dry rot or bacteria results in a "specified cause of loss", we will pay for the loss or damage caused by that "specified cause of loss".

This exclusion does not apply:

1. When "fungus", wet or dry rot or bacteria results from fire or lightning; or
2. To the extent that coverage is provided in the Additional Coverage – Limited Coverage For "Fungus", Wet Rot, Dry Rot And Bacteria with respect to loss or damage by a cause of loss other than fire or lightning.

Exclusions **B.1.a.** through **B.1h.** apply whether or not the loss event results in widespread damage or affects a substantial area.

2. We will not pay for loss or damage caused by or resulting from any of the following:

a. Artificially generated electrical, magnetic or electromagnetic energy that damages, disturbs, disrupts or otherwise interferes with any:

- (1) Electrical or electronic wire, device, appliance, system or network; or
- (2) Device, appliance, system or network utilizing cellular or satellite technology.

For the purpose of this exclusion, electrical, magnetic or electromagnetic energy includes but is not limited to:

- (a) Electrical current, including arcing;
- (b) Electrical charge produced or conducted by a magnetic or electromagnetic field;
- (c) Pulse of electromagnetic energy; or
- (d) Electromagnetic waves or microwaves.

But if fire results, we will pay for the loss or damage caused by the fire.

b. Delay, loss of use or loss of market.

c. Smoke, vapor or gas from agricultural smudging or industrial operations

- d. (1) Wear and tear;**
- (2) Rust or other corrosion, decay, deterioration, hidden or latent defect or any quality in property that causes it to damage or destroy itself;**
- (3) Smog;**
- (4) Setting, cracking, shrinking or expansion;**
- (5) Nesting or infestation, or discharge or release of waste products or secretions, by insects, birds, rodents or other animals.**
- (6) Mechanical breakdown, including rupture or bursting caused by centrifugal force. But if mechanical breakdown results in elevator collision, we will pay for the loss or damage caused by the elevator collision.**
- (7) The following causes of loss to personal property:**
 - (a) Dampness or dryness of atmosphere;**
 - (b) Changes in or extremes of temperature; or**
 - (c) Marring or scratching.**

But if an excluded cause of loss that is listed in **2.d.(1).** through **(7)** results in a “specified cause of loss” or building glass breakage, we will pay for the loss or damage caused by that “specified cause of loss” or building glass breakage.

- e. Explosion of steam boilers, steam pipes, steam engines or steam turbines owned or leased by you, or operated under your control. But if explosion of steam boilers, steam pipes, steam engines or steam turbines result in fire or combustion explosion, we will pay for the loss or damage caused by that fire or combustion explosion. We will also pay for loss or damage caused by or resulting from explosion of gases or fuel within the furnace of any fired vessel or within the flues or passages through which the gases of combustion pass.**
- f. Continuous or repeated seepage or leakage of water, or the presence or condensation of humidity, moisture or vapor, that occurs over period of 14 days or more.**
- g. Water, other liquids, powder or molten material that leaks or flows from plumbing, heating, air conditioning or other equipment (except fire protective systems) caused by or resulting from freezing, unless:**
 - (1) You do your best to maintain heat in the building or structure; or**
 - (2) You drain the equipment and shut off the supply if the heat is not maintained.**
- h. Dishonest or criminal act by you, any of your partners, members, officers, managers, employees (including leased employees), directors, trustees, authorized representatives or**

anyone to whom you entrust the property for any purpose.

- (1) Acting alone or in collusion with others; or**
- (2) You drain the equipment and shut off the supply if the heat is not maintained.**

This exclusion does not apply to acts of destruction by your employees (including leased employees); but theft by employees (including leased employees) is not covered.

- i. Voluntary parting with any property by you or anyone else to whom you have entrusted the property if induced to do so by any fraudulent scheme, trick, device or false pretense.**
- j. rain, snow, ice or sleet to personal property in the open.**
- k. Collapse, including any of the following conditions of property or any part of the property:**
 - (1) An abrupt falling down or caving in;**
 - (2) Loss of structural integrity, including separation of parts of the property or property in danger of falling down or caving in; or**
 - (3) Any cracking, bulging, sagging, bending, leaning, setting, shrinkage or expansion as such condition relates to (1) or (2) above.**

But if collapse results in a Covered Cause of Loss at the described premises, we will pay for the loss or damage caused by that Covered Cause of Loss.

The exclusion, **k.**, does not apply:

- (a) To the extent that coverage is provided under the Additional Coverage – Collapse; or**
- (b) To collapse caused by one or more of the following:**
 - (i) The “specified cause of loss”;**
 - (ii) Breakage of building glass;**
 - (iii) Weight of rain that collects on a roof; or**
 - (iv) Weight of people or personal property.**
- l. Discharge, dispersal, seepage, migration, release or escape of “pollutants” unless the discharge, dispersal, seepage, migration, release or escape is itself caused by any of the “specified causes of loss”. But if the discharge, dispersal, seepage, migration, release or escape of “pollutants” results in “specified cause of loss”, we will pay**

for the loss or damage caused by that “specified cause of loss”.

The exclusion, **I.**, does not apply to damage to glass caused by chemicals applied to glass.

m. Neglect of an insured to use all reasonable means to save and preserve property from further damage at and after the time loss.

3. We will not pay for loss or damage caused by or resulting from any of the following, **3.a.** through **3.c.** But if an excluded cause of loss that is listed in **3.a.** through **3.c.** results in a Covered Cause of Loss, we will pay for the loss or damage caused by that Covered Cause of Loss.

a. Weather conditions. But this exclusion only applies if weather conditions contribute in any way with a cause or event excluded in Paragraph **1.** above to produce the loss or damage.

b. Acts or decisions, including the failure to act or decide, of any person, group, organization or governmental body.

c. Faulty, inadequate or defective:

(1) Planning, zoning, development, surveying, siting;

(2) Design, specifications, workmanship, repair, construction, renovation, remodeling, grading, compaction;

(3) Materials used in repair, construction renovation or remodeling; or

(4) Maintenance;

of part or all of any property on or off the described premises.

4. Special Exclusions

The following provisions apply only to the specified Coverage Forms.

a. Business Income (And Extra Expense) Coverage Form, Business Income (Without Extra Expense) Coverage Form, Or Extra Expense Coverage Form

We will not pay for:

(1) Any loss caused by or resulting from:

(a) Damage or destruction of “finished stock”; or

(b) The time required to reproduce “finished stock”.

This exclusion does not apply to Extra Expense.

(2) Any loss caused by or resulting from direct physical loss or damage to radio or television antennas (including satellite dishes) and their lead in-wiring, masts or towers.

(3) Any increase of loss caused by or resulting from:

(a) Delay in rebuilding, repairing or replacing the property or resuming “operations”, due to interference at the location of the rebuilding, repair or

replacement by strikers or other persons; or

(b) Suspension, lapse or cancellation of any license, lease or contract. But if the suspension, lapse or cancellation is directly caused by the “suspension” of “operations”, we will cover such loss that affects your Business Income during the “period of restoration” and any extension of the “period of restoration” in accordance with the terms of the Extended business Income Additional Coverage and the Extended Periods Of Indemnity Optional Coverage or any variation of these.

(4) Any Extra Expense caused by or resulting from suspension, lapse or cancellation of any license, lease or contract beyond the “period of restoration”.

(5) Any other consequential loss.

b. Leasehold interest Coverage Form

(1) Paragraph **B.1.a.**, Ordinance Or Law, does not apply to insurance under this Coverage Form.

(2) We will not pay for any loss caused by:

(a) Your cancelling the lease;

(b) The suspension lapse or cancellation of any license; or

(c) Any other consequential loss.

c. Legal liability Coverage Form

(1) The following exclusions do not apply to insurance under this Coverage Form:

(a) Paragraph **B.1.a.**, Ordinance Or Law;

(b) Paragraph **B.1.c.**, Governmental Action

(c) Paragraph **B.1.d.**, Nuclear Hazard;

(d) Paragraph **B.1.e.**, Utility Services; and

(e) Paragraph **B.1.f.**, War And Military Action

(2) The following additional exclusions apply to insurance under this Coverage Form:

(a) Contractual Liability

We will not defend any claim or “suit”, or pay damages that you are legally liable to pay solely by reason of your assumption of liability in a contract or

agreement. But this exclusion does not apply to a written lease agreement in which you have assumed liability for building damage resulting from an actual or attempted burglary or robbery, provided that:

- (i) Your assumption of liability was executed prior to accident; and
- (ii) The building is Covered Property under this Coverage Form.

(b) Nuclear Hazard

We will not defend any claim or “suit”, or pay any damages, loss, expense or obligation, resulting from nuclear reaction or radiation, or radioactive contamination, however caused.

5. Additional Exclusion

The following provisions apply only to the specified property.

LOSS OR DAMAGE TO PRODUCTS

We will not pay for loss or damage to any merchandise, goods or other product caused by or resulting from error or omission by any person or entity (including those having possession under an arrangement where work or a portion of the work is outsourced) in any stage of the development, production or use of the product, including planning, testing, processing, packaging, installation, maintenance or repair. This exclusion applies to any effect that compromises the form, substance or quality of the product. But if such error or omission results in a Covered Cause loss, we will pay for the loss or damage caused by that Covered Cause of Loss.

C. Limitations

The following limitations apply to all policy forms and endorsements, unless otherwise stated.

- 1. We will not pay for loss of or damage to property, as described and limited in the section. In addition, we will not pay for any loss that is a consequence of loss or damage as described and limited in this section.
 - a. Steam boilers, steam pipes steam engines or steam turbines caused by or resulting from any condition or event inside such equipment. But we will pay for loss of or damage to such equipment caused by or resulting from an explosion of gases or fuel within the furnace of any fired vessel or within the flues or passages through which the gases of combustion pass.
 - b. Hot water boilers or other water heating equipment caused by or resulting from any condition or event inside such boilers or equipment, other than an explosion.

c. The interior of any building or structure or to personal property in the building or structure, caused by or resulting from rain, snow, sleet, ice, sand or dust, whether driven by wind or not, unless:

- (1) The building or structure first sustains damage by a Covered Cause of Loss to its roof or walls through which the rain, snow, sleet, ice, sand or dust enters; or
- (2) The loss or damage is caused by or results from thawing of snow, sleet or ice on the building or structure.

d. Building materials and supplies not attached as part of the building or structure caused by or resulting from theft.

However, this limitation does not apply to:

- (1) Building materials and supplies held for sale by you, unless they are insured under the Builders Risk Coverage Form; or
- (2) Business Income Coverage or Extra Expense Coverage.

e. Property that is missing, where the only evidence of the loss or damage is a shortage disclosed on taking inventory, or other instances where there is no physical evidence to show what happened to the property.

f. Property that has been transferred to a person or to a place outside the described premises on the basis of unauthorized instructions.

2. We will not pay for loss of or damage to the following types of property unless caused by the “specified causes of loss” or building glass breakage:

- a. Animals, and then only if they are killed or their destruction is made necessary.
- b. Fragile articles such as statuary, marbles, chinaware and porcelains, if broken. This restriction does not apply to:
 - (1) Glass; or
 - (2) Containers of property held for sale.

c. Builders' machinery, tools and equipment owned by you or entrusted to you, provided such property is Covered Property.

(1) If the property is located on or within 100 feet of the described premises, unless the premises is insured under the Builders Risk Coverage Form; or

(2) To Business Income Coverage or to Extra Expense Coverage.

3. The special limit shown for each category, a. through d., is the total limit for loss of or damage to all property in that category. The special limit applies to any one occurrence of theft, regardless of the types or number of articles that are lost or damaged in that occurrence. The special limits are:

a. \$2,500 for furs, fur garments and garments trimmed with fur.

b. \$2,500 for jewelry, watches, watch movements, jewels, pearls, precious and semiprecious stones, bullion, gold, silver, platinum, and other precious alloys or metals. This limit does not apply to jewelry and watches worth \$100 or less per item.

c. \$2,500 for patterns, dies, molds and forms.

d. \$250 for stamps, tickets, including lottery tickets held for sale, and letters for credit.

These special limits are part of, not in addition to, the Limit of Insurance applicable to the Covered Property.

This limitation, C.3., does not apply to Business Income Coverage or Extra Expense Coverage.

4. We will not pay the cost to repair any defect to a system or appliance from which water, other liquid, powder or molten material escapes. But we will pay the cost to repair or replace damaged parts of fire-extinguishing equipment if the damage:

a. Results in discharge of any substance from an automatic fire protection system; or

b. Is directly caused by freezing.

However, this limitation does not apply to Business Income Coverage or to Extra Expense Coverage.

D. Additional Coverage – Collapse

The coverage provided under this Additional Coverage – Collapse applies only to an abrupt collapse as described and limited in D.1., through D.7.,

1. For the purpose of this Additional Coverage – Collapse, abrupt collapse means an abrupt falling down or caving in of a building or any part of a building with the result that building or part of the building cannot be occupied for its intended purpose.

2. We will pay for direct physical loss or damage to Covered Property, caused by abrupt collapse of building or any part of a building that is insured under this Coverage Form or that contains

Covered Property insured under this Coverage Form, if such collapse is caused by one or more of the following.

a. Building decay that is hidden from view unless the presence of such decay is known to an insured prior to collapse;

b. Insect or vermin damage that is hidden from view, unless the presence of such damage is known to an insured prior to collapse;

c. Use of defective material or methods in construction, remodeling or renovation if the abrupt collapse occurs during the course of the construction, remodeling or renovation.

d. Use of defective material or methods in construction, remodeling or renovation if the abrupt collapse occurs after the construction, remodeling or renovation is complete but only if the collapse is caused in part by:

(1) A cause of loss listed in 2.a. or 2.b.;

(2) One or more of the "specified causes of loss";

(3) Breakage of building glass;

(4) Weight of people or personal property; or

(5) Weight of rain that collects on a roof.

3. This Additional Coverage – Collapse does not apply to:

a. A building or any part of a building that is in danger of falling down or caving in;

b. A part of a building that is standing, even if it has a separated from another part of the building; or

c. A building that is standing or any part of a building that is standing even if it shows evidence of cracking, bulging, sagging, bending, leaning, setting, shrinkage or expansion.

4. With respect to the following property:

a. Outdoor radio or television antennas (including satellite dishes) and their lead-in wiring, masts or towers;

b. Awnings, gutters and downspouts;

c. Yard fixtures;

d. Outdoor swimming pools;

e. Fences;

- f. Piers, wharves and docks;
 - g. Beach or diving platforms or appurtenances;
 - h. Retaining walls; and
 - i. Walks, roadways and other paved surfaces;
- if an abrupt collapse is caused by cause of loss listed in **2.a.** through **2.d.**, we will pay for loss or damage to that property only if:

- (1) Such loss or damage is a direct result of the abrupt collapse of a building insured under this Coverage Form.
- (2) The property is Covered Property under this Coverage Form.

5. If personal property abruptly falls down or caves in and such collapse is **not** the result of abrupt collapse of a building, we will pay for loss or damage to Covered property caused by such collapse of personal property only if:

- a. The collapse of personal property was caused by a cause of loss listed in **2.a.** through **2.d.**;
- b. The personal property which collapses is inside a building; and
- c. The property which collapses is not of a kind listed in **4.**, regardless of whether that kind of property is considered to be personal property or real property.

The coverage stated in the Paragraph **5.** does not apply to personal property if marring and/or scratching is the only damage to that personal property caused by the collapse.

- 6.** This Additional Coverage – Collapse does not apply to a personal property that has not abruptly fallen down or caved in, even if the personal property shows evidence of cracking, bulging, sagging, bending, leaning, settling, shrinkage or expansion.
- 7.** This Additional Coverage – Collapse will not increase the Limits of Insurance provided in this Coverage Part.
- 8.** The term Covered Cause of Loss includes the Additional Coverage – Collapse as described and limited in **D.1.** through **D.7.**

E. Additional Coverage – Limited Coverage For “Fungus”, Wet Rot, Dry Rot And Bacteria

1. The coverage described in **E.2.** and **E.6.** only applies when the “fungus”, wet or dry rot or bacteria is the result of one or more of the following causes that occurs during the policy period and only if all reasonable means were used to save and preserve the property from further damage at the time of and after that occurrence.

- a. A “specified cause of loss” other than fire or lightning; or
- b. Flood, if Flood Coverage Endorsement applies to the affected premises.

2. We will pay for loss or damage by “fungus” wet or dry rot or bacteria. As used in this Limited Coverage, the term loss or damage means:

- a. Direct physical loss or damage to Covered Property caused by “fungus”, wet or dry rot or bacteria including the cost of removal of the “fungus”, wet or dry rot or bacteria;
- b. The cost to tear out and replace any part of the building or other property as needed to gain access to the “fungus”, wet or dry rot or bacteria; and
- c. The cost of testing performed after removal, repair, replacement or restoration of the damaged property is completed, provided there is a reason to believe that “fungus”, wet or dry rot or bacteria are present.

3. The coverage described under **E.2.** of this Limited Coverage is limited to \$15,000. Regardless of the number of claims, this limit is the most we will pay for the total of all loss or damage arising out of all occurrences of “specified cause of loss” (other than fire or lightning) and Flood which take place in a 12 month period (starting with the beginning of the present annual policy period). With respect to a particular occurrence of loss which results in “fungus”, wet or dry rot or bacteria, we will not pay more than a total of \$15,000 even if the “fungus”, wet or dry rot or bacteria continues to be present or active, or recurs, in a later policy period.

4. The coverage provided under this Limited Coverage does not increase the applicable Limit of Insurance on any Covered Property. If a particular occurrence results in loss or damage by “fungus”, wet or dry rot or bacteria, and other loss or damage, we will not pay more, for the total of all loss or damage, than the applicable Limit of Insurance on the affected Covered Property.

If there is covered loss or damage to Covered Property, not caused by “fungus”, wet or dry rot or bacteria, loss payment will not be limited by the terms of this Limited Coverage, except to the extent that “fungus”, wet or dry rot or bacteria causes an increase in the loss. Any such increase

in the loss will be subject to the terms of this Limited Coverage.

5. The terms of this Limited Coverage do not increase or reduce the coverage provided under Paragraph F.2. (Water Damage, Other Liquids, Powder Or Molten Material Damage) of this Causes Of Loss Form or under the Additional Coverage – Collapse.

6. The following, 6.a or 6.b., applies only if Business Income and/or Extra Expense Coverage applies to the described premises and only if the “suspension” of “operations” satisfies all terms and conditions of the applicable Business Income and/or Extra Expense Coverage Form.

a. If the loss which resulted in “fungus”, wet rot or dry rot or bacteria does not in itself necessitate a “suspension” of “operations”, but such “suspension” is necessary due to loss or damage to property caused by “fungus” wet or dry rot or bacteria, then our payment under Business Income and/or Extra Expense is limited to the amount of loss and/or expense sustained in a period of not more than 30 days. The days need not be consecutive.

b. If a covered “suspension” of “operations” was caused by loss or damage other than “fungus”, wet or dry rot or bacteria but remediation of “fungus”, wet or dry rot or bacteria but remediation of “fungus”, wet or dry rot or bacteria prolongs the “period of restoration”, we will pay for loss and/or expense sustained during the delay (regardless of when such delay occurs during the “period of restoration”), but such coverage is limited to 30 days. The days need not be consecutive.

F. Additional Coverage Extensions

1. Property In Transit

This Extension applies only to your personal property to which this form applies.

a. You may extend the insurance provided by this Coverage Part to apply to your personal property (other than property in the care, custody or control of your salespersons) in transit more than 100 feet from the described premises. Property must be in or on a motor vehicle you own, lease or operate while between points in the coverage territory.

b. Loss or damage must be caused by or result from one of the following causes of loss:

(1) Fire, lightning, explosion, windstorm or hail riot or civil commotion, or vandalism.

(2) Vehicle collision, upset or overturn. Collision means accidental contact of your vehicle with another vehicle or object. It does not mean your vehicle’s contact with the roadbed.

(3) Theft of an entire bale, case or package by forced entry into a securely locked body or compartment of the vehicle. There must be visible marks of the forced entry.

c. The most we will pay for loss or damage under this Extension is \$5,000.

This Coverage Extension is additional insurance. The Additional Condition, Coinsurance, does not apply to this Extension.

2. Water Damage, Other Liquids, Powder Or Molten Material Damage

If loss or damage caused by or resulting from covered water or other liquid, powder or molten material damage loss occurs, we will also pay the cost to tear out and replace any part of the building or structure to repair damage to the system or appliance from which the water or other substance escapes. This Coverage Extension does not increase the Limit of Insurance.

3. Glass

a. We will pay for expenses incurred to put up temporary plates or board up openings if repair or replacement of damaged glass is delayed.

b. We will pay for expenses incurred to remove or replace obstructions when repairing or replacing glass that is part of a building. This does not include removing or replacing window displays.

The Coverage Extension, F.3., does not increase the Limit of Insurance.

G. Definitions

1. “Fungus” means type or form of fungus, including mold or mildew, and any mycotoxins, spores, scents or by-products produced or released by fungi.

2. “Specified cause of loss” means the following: fire; lightning; explosion; windstorm or hail; smoke; aircraft or vehicles; riot or civil commotion; vandalism; leakage from fire-extinguishing equipment; sinkhole collapse; volcanic action; falling objects; weight of snow, ice or sleet; water damage.

a. Sinkhole collapse means sudden sinking or collapse of land into underground empty spaces

created by the action of water on limestone or dolomite. This cause of loss does not include:

- (1) The cost of filling sinkholes; or
- (2) Sinking or collapse of land into manmade underground cavities.

b. Falling objects does not include loss or damage to:

- (1) Personal property in the open; or
- (2) The interior of a building or structure, or property inside a building or structure, unless the roof or an outside wall of the

building or structure is first damaged by a falling object.

c. Water damage means accidental discharge or leakage of water or steam as the direct result of the breaking apart or cracking of a plumbing, heating, air conditioning or other system or appliance (other than a sump system including its related equipment and system including its related equipment and parts), that is located on the described premises and contains water or steam.

EXHIBIT E
SAMPLE ONLY

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 37 04 13

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS
SCHEDULED PERSON – COMPLETED OPERATIONS**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):	Location(s) and Description Of Completed Operations
Orange County Board of County Commissioners Procurement Division 400 E. South Street Orlando, FL 32801	
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule but only with respect to liability for “bodily injury”, or “property damage” caused, in whole or in part by “your work” at the location designated and described in the Schedule of this endorsement performed for that additional insured and included in the “products-completed operations hazard”.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by laws; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required

by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following is added to Section III-Limits of Insurance:

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable Limits of Insurance shown in the Declarations; Whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

EXHIBIT F
SAMPLE ONLY

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 10 04 13

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS-
SCHEDULE PERSON OR ORGANIZATION**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):	Location(s) Of Covered Operations
Orange County Board of County Commissioners Procurement Division 400 E. South Street Orlando, FL 32801	
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	
<p>A. Section II – Who is An Insured is amended to include as an additional insured the person(s) or organizations(s) shown in the Schedule, but only with respect to liability for “bodily injury”, “property damage” or “personal and advertising injury” caused, in whole or in part, by:</p> <ol style="list-style-type: none">1. Your acts omissions; or2. The acts or omissions of those acting on your behalf; <p>In the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.</p> <p>However:</p> <ol style="list-style-type: none">3. The insurance afforded to such additional insured only applies to the extent permitted by law; and4. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.	<p>B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply: This insurance does not apply to “bodily injury” or property damage occurring after::</p> <ol style="list-style-type: none">1. All work , including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured (s) at the location of the covered operations has been completed; or2. That portion of “your work” out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project. <p>C. With respect to the insurance afforded to these additional insureds, the following is added to Section III- Limits of Insurance: If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:</p> <ol style="list-style-type: none">1. Required by the contract or agreement; or2. Available under the applicable Limits of Insurance shown in the Declarations; whichever is less. <p>This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.</p>

EXHIBIT G
SAMPLE ONLY

WORKERS COMPENSATION AND EMPLOYERS LIABILITY INSURANCE POLICY WC 00 03 13
(Ed. 4-84)

WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. (This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.)

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

Schedule

Name of Person or Organization:

ORANGE COUNTY BOARD OF COUNTY COMMISSIONERS
PROCUREMENT DIVISION
400 E. SOUTH STREET
ORLANDO, FL 32801

This endorsement changes the policy to which it is attached and is effective on the date issued unless otherwise stated.

(The information below is required only when this endorsement is issued subsequent to preparation of the policy.)

Endorsement

Effective Policy No.

Endorsement No.

Insured

Insurance Company

Countersigned by _____

WC 00 03 13

POLICY NUMBER: _____

COMMERCIAL GENERAL LIABILITY
CG 24 04 0509

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY

WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US

This endorsement modifies Insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization:

ORANGE COUNTY BOARD OF COUNTY COMMISSIONERS
PROCUREMENT DIVISION
400 E. SOUTH STREET
ORLANDO, FL 32801

(Information required to complete this Schedule, if not shown above, will be shown in the Declarations.)

The following is added to Paragraph 8, Transfer of rights of Recovery Against Others To Us of Section IV – Conditions:

We waive any right to recovery we may have against the person or organization shown in the Schedule above because of payments we make for injury or damage arising out of your ongoing operations or “your work” done under a contract with that person or organization and included in the “Products-completed operations hazard”. This waiver applies only to the person or organization shown in the Schedule above.

**ORANGE COUNTY
OWNER DIRECT PURCHASE PROVISION**

1. OBJECTIVE:

To provide guidelines for Owner Direct Purchases (ODP) in order to realize the benefits of owner tax exempt status for the procurement of materials for incorporation into a public works project.

2. AUTHORITY:

Pursuant to **Florida Statutes**, Section 212.08(6), and **Florida Administrative Code**, Number 12A-1.094, Orange County Florida is exempt from Florida Sales Tax for the purchase of construction materials, supplies and/or equipment incorporated into a construction project. Under this program, the Florida Sales Tax rate of 6% shall apply to purchases of \$5000.01 and above. For purchases of \$5000 or less 6.5% shall apply. For example on a \$100,000 purchase 6% sales tax would apply to the total purchase and the .5% would apply to the first \$5000 only. Total sales tax saved on a \$100,000 purchase would be \$6025.

3. DIRECTION:

The Owner has elected to exercise this right to direct purchase selected materials on all construction projects and such direct purchase shall be without any additional cost to the Owner. **All bids are to be submitted with all applicable taxes included.**

The Contractor shall be fully responsible for all matters relating to the receipt of materials, equipment, supplies and furnishings, including but not limited to providing and obtaining all warranties and guarantees in favor of and for the benefit of the County for all materials, equipment, supplies and furnishings as required by the Contract. At the time of and subsequent to the delivery of such materials, equipment, supplies and furnishings, the County shall be liable for all loss or damage to materials, equipment, supplies and furnishings purchased pursuant to the owner direct purchase provisions. Notwithstanding the foregoing, the County shall be responsible for payment of the invoices issued by the supplier, vendor or subcontractor. The County shall retain the risk of loss of and damage to County furnished materials, equipment, supplies and furnishings for the purpose of receiving a tax exemption under Section 212.08(6), Fla. Stat, which meets the criteria in Rule 12A 1.094(4)(b)(1-4), Fla. Admin. Code, to determine if the County is the purchaser for the purposes of the tax exemption under Section 212.08(6), Fla. Stat.

The procedures outlined here may change at any time without prior notice to Contractor.

4. TERMS - For the purpose of this document, the following terms are defined as:

- a. **Change Order (CO):** A written order authorizing a change in the scope of work, contract amount or contract time. (Attachment F)
- b. **Contractor:** A General Contractor (GC), Construction Manager (CM) or Design Builder.
- c. **Orange County Board of County Commissioners, Orange County, Florida:** OC or Owner.

**ORANGE COUNTY
OWNER DIRECT PURCHASE PROVISION**

- d. **Owner Direct Purchase Order (ODP):** A purchase order issued by the Owner directly to the Contractor's vendor for the purchase of materials exempt from sales tax.
- e. **Owner Direct Purchase Procedures:** Guidelines outlined in this document.
- f. **Material:** Any material, supplies, or equipment incorporated into an OC construction project.
- g. **Letter of Indemnification:** Agreement between Contractor and Owner that will undertake to indemnify Contractor from any and all liability for unpaid sales tax due to DPO. (Attachment E)
- h. **Letter of Understanding:** Agreement between Contractor and Owner that Contractor contractual duties remain the same insofar as the inspection, handling, storage, protection and installation of the direct purchase item into the work. (Attachment D)
- i. **Purchase Requisition (PR):** A request to purchase stated material or services for a quoted price. (Attachment A)
- j. **Purchase Order (PO):** A written authorization issued by the Owner for a vendor to delivery material or services at a specified price, which becomes a legally binding contract upon acceptance by the vendor.
- k. **Vendor:** A company supplying material to the Project, whether such provision includes installation or not.
- l. **Vendor List:** A list provided by the Contractor of the vendors the Owner will direct purchase material from.

5. FUNCTIONS:

The County reserves the right to require the Contractor to assign some or all of its subcontracts or other agreements with material suppliers directly to the County. This process will be referred to as ODP and is a method that may be utilized to create savings for the County.

A. Initial Requirements.

A purchase order may be awarded for supplies or materials without competition where such supplies or materials are being procured by the County as an ODP for incorporation into a public works project (as defined in Section 12A-1.094, 4c. of the Florida Department of Revenue, Florida Administrative Code), the contract for which was previously awarded by the County and which prior award included the cost of such supplies or materials. In such event, the County may procure the supplies or materials in compliance with the requirements of the Florida Department of Revenue, Florida Administrative Code Section 12A-1.094, as amended; for the direct purchase of materials and/or other tangible personal property that is incorporated into or becomes a part of a public facility pursuant to a public works contract, and that will not be used to furnish or equip the project in accordance with Section 12A-1.038(4) of the Florida Administrative Code, as amended. *Under no circumstances shall any materials which will not be incorporated into the public works project be purchased by the County as ODP materials, including but not limited to, any consumables such as fuel or any equipment related to the public works project which will not be affixed or otherwise incorporated into the public works project such as reusable construction equipment.*

**ORANGE COUNTY
OWNER DIRECT PURCHASE PROVISION**

B. Procedural Requirements.

The following steps are to be followed unless modified by the Manager of the Procurement Division, or designee, and may be enhanced based on individual project circumstances or at the discretion of the Manager of the Procurement Division:

- i. The price for all construction materials will be provided in the Contractor's bid. The Contractor's bid shall also include all Florida State Sales and other taxes normally applicable to such material. The County may consider purchasing any approved materials.
- ii. At any time upon the request of the County, the Contractor shall provide County with a list of all intended suppliers for such materials as specified by County for consideration for procurement by the County as ODP materials. The list shall include price quotes from the suppliers, as well as a description of the materials to be supplied, estimated quantities and prices. The Owner will purchase the material from Vendors selected by the Contractor for the price originally negotiated by the Contractor.
- iii. The Contractor shall be responsible for maintaining the project schedule and the execution of the terms and conditions of the ODP purchase order, including expediting the suppliers' delivery schedules. The Contractor shall assume all risk and remain fully responsible for all material incorporated into any project, directly purchased by the Owner or not. This will include, but not be limited to, insurance, theft, storage, damage during installation, coordination, quantities ordered, submittals, protection, scheduling, shipping, security, expediting, receiving, installation, cleaning and all applicable warranties, etc.
- iv. After receipt of the Purchase Requisition Form and all required documents, the County shall prepare a purchase order for all items of material which County chooses to purchase directly. The purchase order shall include the County's Consumer's Certificate of Exemption number and a copy of the Consumer's Certificate of Exemption, and a Certificate of Entitlement (See Attachment "B"). The County's purchase order shall be sent directly to the supplier by the County with a copy sent to the Contractor, including a copy of the Certificate of Entitlement. Pursuant to the purchase order, the supplier will provide the required quantities of material at the price established in the supplier's quote to the Contractor or subcontractor.
- v. In conjunction with the PR the Contractor shall submit the Letter of Understanding and a Letter of Indemnification.

**ORANGE COUNTY
OWNER DIRECT PURCHASE PROVISION**

- vi. In conjunction with the issuance by the County of Purchase Orders for ODP materials to suppliers, Owner shall submit a deductive change order to Contractor who shall execute and deliver to County deductive change orders, with a complete description referencing the full value of all ODP materials to be provided by each supplier from whom the County elected to purchase materials directly, plus all sales taxes associated with such materials in Contractor's bid to the County.
- vii. The Contractor shall be required to obtain consent from their Surety acknowledging that Surety's obligation under our Payment and Performance. Bond remains unmodified and in full force and effect, notwithstanding that Orange County has entered into a separate Purchase Order with (Supplier) for the direct purchase of the Materials that will be deducted and deleted from the Contract by the Deductive Change Order. This must accompany the deductive change order.
- viii. Notwithstanding the transfer of ODP materials by the County to the Contractor's possession, the County shall retain legal and equitable title to any and all ODP materials. The transfer of possession of ODP materials from the County to the Contractor shall constitute a bailment for the mutual benefit of the County and the Contractor. The County shall be considered the bailor and the Contractor the bailee of the ODP materials. Transfer of possession shall be deemed to occur immediately and automatically upon delivery of ODP materials to the County without notice from County to Contractor. ODP materials shall be considered returned to the County for purposes of their bailment at such time as they are incorporated into the project. While in Contractor's possession, Contractor shall handle and store all ODP materials in a manner consistent with the supplier's or manufacturer's instructions regarding handling and storage to ensure later installation of ODP materials in a sound and undamaged condition.
- ix. The County will make payment directly to the suppliers of the ODP materials.
- x. The Contractor shall purchase and maintain builders risk insurance sufficient to protect against any loss of or damage to ODP materials. Such insurance shall cover the full value of any ODP materials not yet incorporated into the work during the period between the time the County first takes title to any of such ODP materials and the time when the last of such is incorporated into the work. The Contractor shall purchase and maintain builders risk, "all-risk" insurance based on the completed value of the Project. The Contractor must name the County as additional insured on its policy with respect to all ODP materials and County shall be solely entitled to all proceeds related to the loss or damage of ODP materials.
- xi. The Contractor shall be required to review all invoices submitted to the County by suppliers of ODP materials and either concur or object to the County's issuance of payment to the suppliers, based upon Contractor's records of materials and any defects detected in such materials.

**ORANGE COUNTY
OWNER DIRECT PURCHASE PROVISION**

The County shall directly pay all suppliers with respect to ODP materials purchased by the County.

- xii. The Contractor shall ensure that ODP materials conform to all specifications contained in the contract documents.

Contractor shall determine prior to incorporation into the work if such materials are patently defective, and whether such materials are identical to the materials ordered and match the description on the bill of lading.

If the Contractor discovers defective or non-conformities in ODP materials upon such visual inspection, the Contractor shall not utilize such nonconforming or defective materials in the work and instead shall promptly notify the County of the defective or nonconforming condition so that repair or replacement of those materials can occur without any undue delay or interruption to the work.

If the Contractor fails to perform such inspection and otherwise incorporates into the work such defective or nonconforming ODP materials, the condition of which it either knew or should have known by performance of an inspection, Contractor shall be responsible for all damages to County resulting from Contractor's incorporation of such materials into the work, including liquidated or delay damages.

- xiii. In order to arrange for timely payment to the suppliers of ODP materials, Contractor shall promptly submit to County within five (5) days of County's receipt of an invoice from a supplier (i) a copy of the applicable purchase order as receiving report, (ii) copies of the delivery tickets, (iii) written acceptance of the delivered items by the Contractor, and (iv) such other documentation as may be reasonably required by the COUNTY. Upon receipt of the appropriate documentation, the County shall prepare a check drawn to the supplier based upon the data provided by Contractor. This check will be made payable and remitted directly to the supplier. The Contractor agrees to assist the County to immediately obtain partial or final release of waivers as appropriate.
- xiv. The Contractor shall maintain records of all ODP materials it incorporates into the work. The Contractor shall account monthly to the County for any ODP materials delivered into the Contractor's possession, indicating portions of all such materials which have been incorporated into the work
- xv. The Contractor shall be responsible for obtaining and managing all warranties and guarantees for all ODP materials in the same manner and on the same terms as materials obtained by the Contractor as required by the contract documents. All repair, maintenance or damage-repair calls shall be forwarded to the Contractor for resolution with the appropriate supplier or subcontractor.

**ORANGE COUNTY
OWNER DIRECT PURCHASE PROVISION**

The Contractor agrees and understands that it shall undertake all warranty enforcement and other related duties of the County for all ODP materials. Additionally, all ODP materials shall be warranted and guaranteed by the Contractor as part of the Contractor's warranty and guarantee of the work to the same extent and degree as other materials procured and provided to the work by Contractor. Contractor's warranty and guarantee duties shall be governed by and carried out pursuant to the terms of the contract documents. To that end, the Contractor expressly agrees it shall make no distinction in discharging such warranty and guarantee duties and obligations between ODP materials and equipment and materials otherwise supplied by the Contractor.

- xvi. The County shall in no way be liable for any interruption or delay in the public works project, for any defects or other problems with the public works project, or for any extra costs resulting from any delay in the delivery of, or defects in ODP materials. Contractor's sole or exclusive remedy shall be an extension of the time of completion of the public works project for such reasonable time as determined by County.

6. REQUIREMENTS FOR PURCHASE ORDER ISSUANCE:

The Procurement Division will issue a Purchase Order to the intended supplier and a deductive change order will be prepared by the County's Project Manager to reduce the amount of the contract with the Contractor by the cost of materials purchased through ODP (including tax savings).

Upon request from the County and in a timely manner, Contractor shall prepare a Purchasing Requisition Request Form which shall, in form and detail acceptable to County, specifically identify the materials which County, in its discretion, has identified and elected to purchase directly as ODP materials. The Purchasing Requisition Request Form shall include:

- a. the name, address, telephone number and a contact person for the material supplier;
 - b. the manufacturer or brand, model or specification number of the item;
 - c. quantity needed as estimated by Contractor;
 - d. the price quoted by the supplier for the materials identified;
 - e. any sales tax associated with such quote;
 - f. delivery dates as established by Contractor;
 - g. the PR and the quote must indicate FOB Destination or Job Site.
- The Owner will not pay shipping and handling charges.

Upon receipt of a Purchase Order Request Form, the PM will initiate a requisition specifying price, quantity, delivery, material/equipment description, etc. and provide a copy of the Purchase Order Request form and all backup to the Procurement Division. Upon receipt of the electronic requisition, the Procurement Division will review all submittals and issue the purchase order.

**ORANGE COUNTY
OWNER DIRECT PURCHASE PROVISION**

The original ODP purchase order, along with a copy of the County's Tax Exemption Certificate and the signed Certificate of Entitlement, will be either e-mailed or faxed and mailed to the material supplier; and a copy will be sent to the Contractor including a copy of the Certificate of Entitlement.

7. REQUIREMENTS FOR PURCHASE ORDER PAYMENT:

- a. Upon delivery of ODP materials to such locations as the County may designate, the Contractor shall visually inspect all shipments from suppliers, and sign off on all receiving reports for ODP material delivered or received. The Contractor shall assure that each delivery of ODP materials is accompanied by delivery tickets or such other documentation as is adequate to identify the purchase order against which the purchase is made. This documentation may consist of a delivery ticket and a copy of the invoice from the supplier conforming to the purchase order together with such additional information as the County may require. The Contractor will then forward the delivery tickets to the County to match up with the invoice for payment. The County shall be directly invoiced by the suppliers for all ODP materials. In the event that Contractor receives any invoices (other than copies of invoices the originals of which have been sent directly by the supplier to the County), Contractor shall not pay such invoice and shall immediately notify the supplier that the County must be directly invoiced on all ODP materials.
- b. Invoices for payment will be submitted by the materials supplier to the County. The purchase order number must be noted on all invoices.
- c. Except as expressly stated herein, Contractor shall be fully responsible for all matters relating to the procurement of ODP materials furnished by and incorporated into the public works project including, but not limited to, assuring the correct quantities, verifying documents and the placement of all orders in a timely manner, assuring coordination of purchases, providing and obtaining all warranties and guarantees required by the contract documents, and inspection and acceptance of the materials at the time of delivery. The Contractor shall coordinate delivery locations and schedules, sequence of delivery, loading orientation, and other arrangements normally required by the Contractor for the particular materials furnished. The Contractor shall provide all services required for the unloading, handling and storage of materials through installation. **The County assumes the risk of loss of ODP materials from the time title to such material passes from the supplier at purchase, or upon delivery if allowed by Laws and Regulations.**

8. REFERENCES:

Attachment "A" - Owner Direct Purchase Requisition Form
Attachment "B" - Certificate of Entitlement
Attachment "C" - Consumers Certificate of Exemption
Attachment "D" - Letter of Understanding
Attachment "E" - Letter of Indemnification
Attachment "F" - Change Order Form
Attachment "G" - Example Consent of Surety

DIRECT PURCHASE REQUISITION

Project Name: _____ Request No: _____

It is requested that Orange County make arrangements for Direct Purchase by the County of the following item which is included in the work to be done by the Contractor pursuant to the requirements set forth in Contract #Y18-727-RM

***ITEM* (Brief Description):**

COST (Value) of item to be purchased:

Total Cost (Value) including taxes and freight charges	\$
Amount of Florida State Sales Tax	\$
Direct Purchase Cost Less Florida State Sales Tax	\$

PURCHASE Directly from (Vendor):

Vendor's Complete Company Name:
Federal Employee Identification No.:

Mailing Address:

Contact Person:
Position/Title:

Telephone No.:
Email Address:

Purchase Deletion:

This Direct Purchase is to be deleted by Change Order to the contract which has been executed between the Contractor and:

Company/Trade/Sub Contractor Name
Trade/Sub Contract Execution Date

REQUEST MADE BY:

Construction Manager/General Contractor/Design Builder
By:
Title:
Date:

CERTIFICATE OF ENTITLEMENT

(For direct purchase of construction materials by a governmental entity pursuant to 212.08(6), F.S. and Rule 12A-1.094, F.A.C.)

The undersigned authorized representative of Orange County Board of County Commissioners (hereinafter "Governmental Entity"), Florida Consumer's Certificate of Exemption Number 85-8012622266C-O, affirms that the tangible personal property purchased pursuant to Purchase Order Number _____ from _____ (Vendor) on or after _____ (date) will be incorporated into or become a part of a public facility as part of a public works Contract # Y _____ with _____ (Name of Contractor) for the construction of _____.

Governmental Entity affirms that the purchase of the tangible personal property contained in the attached Purchase Order meets the following exemption requirements contained in Section 212.08(6), F.S., and Rule 12A-1.094, F.A.C.:

Initial each of the following requirements.

- _____ 1. The attached Purchase Order is issued directly to the vendor supplying the tangible personal property the Contractor will use in the identified public works.
- _____ 2. The vendor's invoice will be issued directly to Governmental Entity.
- _____ 3. Payment of the vendor's invoice will be made directly by Governmental Entity to the vendor from public funds.
- _____ 4. Governmental Entity will take title to the tangible personal property from the vendor at the time of purchase or of delivery by the vendor.
- _____ 5. Governmental Entity assumes the risk of damage or loss at the time of purchase or delivery by the vendor.

Governmental Entity affirms that if the tangible personal property identified in the attached Purchase Order does not qualify for the exemption provided in Section 212.08(6), F.S. and Rule 12A-1.094, F.A.C., Governmental Entity will be subject to the tax, interest, and penalties due on the tangible personal property purchased. If the Florida Department of Revenue determines that the tangible personal property purchased tax-exempt by issuing this Certificate does not qualify for the exemption, Governmental Entity will be liable for any tax, penalty, and interest determined to be due.

I understand that if I fraudulently issue this certificate to evade the payment of sales tax I will be liable for payment of the sales tax plus a penalty of 200% of the tax and may be subject to conviction of a third degree felony.

Under penalties of perjury, I declare that I have read the foregoing Certificate of Entitlement and the facts stated in it are true.

Carrie Woodell, MPA, CFCM, CPPO, C.P.M.
CPPB, APP, Manager, Procurement Division

Date

Federal Employer Identification Number: _____

Telephone Number: _____

You must attach a copy of the Purchase Order to this Certificate of Entitlement.

Do not send to the Florida Department of
Revenue.

This Certificate of Entitlement must be retained in the
vendor's and the contractor's books and records.



Consumer's Certificate of Exemption

Issued Pursuant to Chapter 212, Florida Statutes

DR-14
R. 10/15

85-8012622266C-0	10/31/2017	10/31/2022	COUNTY GOVERNMENT
Certificate Number	Effective Date	Expiration Date	Exemption Category

This certifies that

ORANGE COUNTY BOARD OF COUNTY
COMMISSIONERS
201 S ROSALIND AVE 4TH FL
ORLANDO FL 32801-3527

is exempt from the payment of Florida sales and use tax on real property rented, transient rental property rented, tangible personal property purchased or rented, or services purchased.



Important Information for Exempt Organizations

DR-14
R. 10/15

1. You must provide all vendors and suppliers with an exemption certificate before making tax-exempt purchases. See Rule 12A-1.038, Florida Administrative Code (F.A.C.).
2. Your *Consumer's Certificate of Exemption* is to be used solely by your organization for your organization's customary nonprofit activities.
3. Purchases made by an individual on behalf of the organization are taxable, even if the individual will be reimbursed by the organization.
4. This exemption applies only to purchases your organization makes. The sale or lease to others of tangible personal property, sleeping accommodations, or other real property is taxable. Your organization must register, and collect and remit sales and use tax on such taxable transactions. Note: Churches are exempt from this requirement except when they are the lessor of real property (Rule 12A-1.070, F.A.C.).
5. It is a criminal offense to fraudulently present this certificate to evade the payment of sales tax. Under no circumstances should this certificate be used for the personal benefit of any individual. Violators will be liable for payment of the sales tax plus a penalty of 200% of the tax, and may be subject to conviction of a third-degree felony. Any violation will require the revocation of this certificate.
6. If you have questions regarding your exemption certificate, please contact the Exemption Unit of Account Management at 800-352-3671. From the available options, select "Registration of Taxes," then "Registration Information," and finally "Exemption Certificates and Nonprofit Entities." The mailing address is PO Box 6480, Tallahassee, FL 32314-6480.

LETTER OF UNDERSTANDING

CM/DB/GC_____, in its capacity as Construction Manager/Design Builder/General Contractor, agrees that the direct purchase of _____ by Orange County, Owner, from _____, as Supplier/Vendor, does not in any way or manner diminish or modify the contractual duties of the Construction Manager/Design-Builder/General Contractor to the Owner insofar as the inspection, handling, storage, protection, and installation of the aforementioned direct purchase item into the Work is concerned and that such duties pertinent thereto as are set forth in the contract between CM/DB/GC, as Construction Manager/Design-Builder/General Contractor, and Orange County, as Owner, remain unchanged.

ORANGE COUNTY
BOARD OF COUNTY COMMISSIONERS

CM/DB/GC

By: _____
Carrie Woodell, MPA, CFCM, CPPO, C.P.M.
CPPB, APP, Manager, Procurement Division

By: _____

Name Typed

Date: _____

Title

LETTER OF INDEMNIFICATION

The County does hereby undertake to indemnify _____ (CM/DB/GC) from any and all liability for unpaid sales tax which the CM/DB/GC may suffer as a result of claims, demands, costs or judgments against the CM/DB/GC, made by or in favor of the State of Florida on occasion by any claim on account of failure of the CM/DB/GC to pay Florida State taxes on materials purchased by County under this Purchase Order. The County agrees to defend against any such claims or actions brought against the CM/DB/GC whether rightfully or wrongfully brought or filed. The CM/DB/GC agrees that it will promptly notify the County in writing of any such claim, demand or action.

ORANGE COUNTY
BOARD OF COUNTY COMMISSIONERS CM/DB/GC

By: _____ By: _____
Carrie Woodell, MPA, CFCM, CPPO, C.P.M.
CPPB, APP, Manager, Procurement Division

Name Printed

Date: _____

Title:

**ORANGE COUNTY PROCUREMENT DIVISION
CHANGE ORDER REQUEST FORM**

DATE	DEPARTMENT/DIVISION	CONTACT NAME			CONTACT PHONE

CHANGE ORDER NO.	VENDOR	DOCUMENT NO.	DOOC	POOC	CONTRACT NUMBER	ORIGINAL DOCUMENT APPROVAL BUYER/PA/CA NAME

INCREASE, DECREASE OR DELETE COMMODITY LINE

CMDTY. LINE NO.	ACTION		PREVIOUS LINE DOLLAR AMOUNT	NEW LINE DOLLAR AMOUNT	COMMODITY LINE DESCRIPTION/COMMENTS	NET DOLLAR CHANGE
	FROM					
	TO					
	FROM					
	TO					
	FROM					
	TO					

ADD COMMODITY LINE

CMDTY. LINE NO.	CMDTY. CODE	DESCRIPTION <small>FOR D.O. YOU MUST SPECIFY AN MA LINE</small>	MA LINE	QTY.	UNIT OF MEAS.	UNIT COST	ACCOUNTING LINE	NET DOLLAR CHANGE

ACCOUNTING LINE CHANGE

CMDTY. LINE NO.	ACCTG. LINE NO.	FROM AMOUNT	FROM ACCOUNTING LINE	TO AMOUNT	TO ACCOUNTING LINE

OTHER CHANGES

DESCRIBE

ENCUMBERED/DE-ENCUMBERED (REQUIRED FOR ALL TRANSACTIONS)

ORIGINAL PO/DO AMT.	NET DOLLARS PREVIOUS C/O <input type="checkbox"/> ADD <input type="checkbox"/> SUBTRACT	NET DOLLARS FOR THIS C/O <input type="checkbox"/> ADD <input type="checkbox"/> SUBTRACT	DOCUMENT TOTAL AFTER THIS C/O

CONTRACT AMOUNT

AWARD AMOUNT	NET DOLLARS PREVIOUS C/O <input type="checkbox"/> ADD <input type="checkbox"/> SUBTRACT	NET DOLLARS FOR THIS C/O <input type="checkbox"/> ADD <input type="checkbox"/> SUBTRACT	CONTRACT TOTAL AFTER THIS C/O

☐ CANCEL ENTIRE PO/DO

☐ DO NOT MAIL VENDOR COPY

JUSTIFICATION (REQUIRED FOR ALL TRANSACTIONS)

--

By signing this agreement, the Contractor hereby releases the County, its agents and employees from any and all liabilities under this contract for further equitable adjustments and/or claims associated with this change order.

VENDOR/ CONTRACTOR AUTHORIZATION _____	DATE: _____
DEPARTMENT APPROVAL SIGNATURE _____	DATE: _____

OFFICIAL PROCUREMENT DIVISION USE ONLY

PROCUREMENT DIVISION APPROVAL: _____	DATE: _____
ADD THE FOLLOWING TEXT TO PO/DO: _____	TRACK CHANGES: <input type="checkbox"/> YES <input type="checkbox"/> NO CHANGE AWARD AMOUNT TO : _____

Proc.(01/2014)

CHANGE ORDER REQUEST FORM CONTINUATION SHEET

CHANGE ORDER NO.	DOCUMENT NUMBER

INCREASE, DECREASE OR DELETE COMMODITY LINE

CMDTY. LINE NO.	ACTION		PREVIOUS LINE DOLLAR AMOUNT	NEW LINE DOLLAR AMOUNT	COMMODITY LINE DESCRIPTION/COMMENTS	NET DOLLAR CHANGE
	FROM					
	TO					
	FROM					
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	FROM					
	TO					
	FROM					
	TO					
	FROM					
	TO					
	FROM					
	TO					
	FROM					
	TO					

ADD COMMODITY LINE

CMDTY. LINE NO.	CMDTY. CODE	DESCRIPTION FOR D.O. YOU MUST SPECIFY AN MA LINE	MA LINE	QTY.	UNIT OF MEAS.	UNIT COST	ACCOUNTING LINE	NET DOLLAR CHANGE

ACCOUNTING LINE CHANGE

CMDTY. LINE NO.	ACCTG. LINE NO.	FROM AMOUNT	FROM ACCOUNTING LINE	TO AMOUNT	TO ACCOUNTING LINE

OTHER CHANGES

DESCRIBE

Proc (01/2014)

Date

Contractor/Trade Contractor/Subcontractors Name

Point of Contact

Address

Re:Orange County Project Name and Contract Number

Please be advised that we have reviewed a copy of Deductive Change Order No. _____ issued to (CM/DB/GC) and we acknowledge that its obligation under our Payment and Performance Bond remains unmodified and in full force and effect, notwithstanding that Orange County has entered into a separate Purchase Order with (Supplier) for the direct purchase of the Materials deducted and deleted from the Contract by the Deductive Change Order.

Sincerely,

(Name of Attorney in Fact for Surety)

Attorney in Fact

(Name of Surety)

NOTE: Must be accompanied by effectively dated Power of Attorney

PART G

SPECIAL CONDITIONS

PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS

DESCRIPTION

Work under this contract will consist of the installation of new and replacement of nonfunctional underdrain systems, including removal and replacement of existing damaged curbs, sidewalks and driveway approaches, sprinkler system repairs, roadway base and asphalt restoration, etc., as directed by the Manager of the Roads & Drainage Division or designee. There are no guarantees as to the quantities or frequency of items included in the contract.

The Contractor shall provide all labor, materials and all incidentals needed to complete this project. Unit prices shall include all labor, materials, maintenance of traffic, erosion control, dewatering/water control, mobilization/demobilization, bonds, insurance (limit as required by Orange County) and any other incidentals needed to complete the work as specified. Any damage that occurs outside of the designated work area shall be restored by the Contractor at no cost to the County.

1. **Project Supervision** – All work under this contract shall be performed under the supervision of the Manager of the Orange County Roads and Drainage Division or designee, 4200 South John Young Parkway, Orlando, Florida, 32839-9205; (407) 836-7874.
2. **FDOT Standards** – All work in this contract will conform to the Florida Department of Transportation (F.D.O.T.) "Standard Specifications for Road and Bridge Construction", 2017 edition. It is the responsibility of the Contractor to obtain current copies of and to know, understand, and apply the F.D.O.T. Specifications. The County does not provide this information.
3. **Inspections** – The Contractor shall coordinate all inspections with the County's Representative. The Contractor shall verify that all work scheduled to be inspected is complete. The Contractor shall be responsible for the solution of any problems or discrepancies that may arise during the inspection process.
4. **Quality Control** – The Contractor shall institute a quality control plan for this contract, which will be provided to the County for approval. The Contractor will supervise and direct the work efficiently with due care, skill and attendance. The Contractor will be responsible to ensure that the finished work complies accurately with the specifications. The Contractor shall be responsible for and shall verify all quality control actions to the County's Representative as directed.
5. **Survey** – The Contractor shall employ a Professional Surveyor and Mapper (PS&M), registered in the State of Florida and satisfactory to the County, to lay out the work for benchmarks, points and lines noted on the Contract Documents, established at the site, or supplied by the County. The Contractor shall provide to the County at the pre-

construction conference, the name of the Professional Surveyor and Mapper to perform Project survey work. All work of every description shall be laid out and checked by the Contractor who will be held solely responsible for its correctness.

Work may be checked by the County's Representative and, in the event of a discrepancy, the County's Representative's decision shall be final.

No special compensation will be made to the Contractor to defray costs of surveys and measurements, but such costs shall be considered as having been included in the price stipulated for the several items of work to be done under this contract.

Prior to the beginning of any construction the Contractor shall submit to the County a set of field notes verifying the existing benchmark elevations relative to the reference benchmarks shown on the construction plans. The Contractor shall also verify ties from project control points to reference points as shown on the construction plans. A set of field notes for all additional benchmark and reference point ties shall be submitted to the County's Representative. All submittals shall be signed and sealed by a Professional Surveyor and Mapper registered in the State of Florida.

All survey work shall comply with Chapter 5J-17, Florida Administrative Code (F.A.C.), regarding minimum technical standards for land surveying in the State of Florida.

The Contractor shall perform all calculations required, and set all stakes needed such as grade stakes, offset stakes, reference point stakes, slope stakes, and other reference marks or points necessary to provide lines and grades for construction of all items.

6. **As-Built Plans** – As-Built Plans shall be used for no other purpose than recording changes, shall be updated at least once weekly, and stored separate and apart from plans used on a routine basis. They shall show locations and elevations of underdrains, underdrain cleanouts, locations where the underdrain is vertically routed to avoid any conflicts, and all relocated or reset property corners, section corners and ¼ section corners. The As-Built Plans shall be available to the County's Representative upon request. Upon the completion of the project the Contractor shall submit to the County's Representative three sets of signed and sealed As-Built Plans and PDF file on CD. These As-Built Plans shall delineate all revised information in bold notation.

Deliverables as Follows:

- A paper copy of the plans available at all times at the job site during the entire duration of the project marked up in red by the Contractor, and showing all deviations from the design locations and elevations.
- A PDF file of the "As-Built Plans" prepared by an appropriately licensed professional on a CD of the construction drawings showing the design horizontal location and elevation of all facilities constructed or incorporated into the project with changed values struck through with a single line to maintain legibility and the new value added. Facilities constructed in a modified fashion from that shown on the construction plans shall be shown and identified in their originally designed and final as-constructed configurations. Facilities added shall be shown and identified.
- Three (3) paper copies of the "As-Built Plans", as described below, signed and sealed by the appropriately licensed professional that prepared them.

Upon the completion of the project the Contractor shall submit the As-Built Plans as an electronic file in PDF format and three (3) - 11"x17" paper drawings which shall have Statements of Certification certifying that the project was constructed according to the Construction Plans and Specifications, and that the As-Built Plans are a correct representation of what was constructed. The Contractor shall include the Statement of Certification on either the cover sheets of the As-Built Plans certifying **all** of the sheets or certify each individual sheet. The Statements of Certification shall be signed and sealed by a Professional Engineer and/or a Professional Surveyor and Mapper, both registered in the State of Florida. Payment is included in the price for bid item number 900-1 "As-Built Plans".

7. **Video Survey** – The Contractor shall submit a quality video documenting before and after construction field conditions for the entire project. The County's Representative will approve all views. Payment is included in the price for bid item number 101-1 "Mobilization".
8. **Maintenance of Traffic** (M.O.T.) shall conform to F.D.O.T.'s most current editions of the "Roadway and Traffic Design Standards" for Design, Construction, and Maintenance Systems and the Federal Highway Administration (F.H.W.A.) "Manual on Uniform Traffic Control Devices (M.U.T.C.D.) for Streets and Highways". These documents can be ordered from F.D.O.T., Maps, and Publications Department, 605 Suwannee Street, Tallahassee, Florida, 32399-0450, Phone (904) 488-9220. A proposed traffic control plan will be submitted to the County's Representative for approval, at least two (2) working days prior to start of work. The plan must include project name, location and performance period. A safe pedestrian way shall be included for work to be performed on all major/minor roads or for work to be performed within 1-mile of any school. An approved copy of the traffic plan shall be kept on the job site at all times. **IF THE CONTRACTOR DOES NOT COMPLY WITH F.H.W.A.'S M.U.T.C.D. (I.E. SIGNS, QUALIFIED FLAGGERS AND/OR BARRICADES), THE COUNTY RESERVES THE RIGHT TO DIRECT THE CONTRACTOR TO CEASE OPERATION UNTIL DEFICIENCIES ARE CORRECTED. IN ADDITION, NO ROAD CLOSURES WILL BE ALLOWED EXCEPT IN THE CASE OF EMERGENCIES.**
9. **THE USE OF PUBLIC ROADS AND STREETS BY THE CONTRACTOR WILL PROVIDE A MINIMUM INCONVENIENCE TO THE PUBLIC AND TRAFFIC.**
10. **Pedestrian Access** – The Contractor is required to secure the work zone with temporary fencing to prevent pedestrian traffic. The cost will be included in the price for bid item 110-1-1 "Clearing and Grubbing".
11. **Work Zone Safety** – The Contractor shall comply with the most current edition of the Accident Prevention Manual pertaining to employee safety and applicable Occupational Safety and Health Administration (O.S.H.A.) and Orange County Standards. The Contractor will be responsible for obtaining copies of these publications by contacting the F.D.O.T. Maps and Publications Department in Tallahassee, O.S.H.A. Regional Office in Atlanta, Ga. and Orange County Public Works in Orlando, respectively.

12. **Pre-work Conference – A mandatory Pre-work Conference will be conducted by the County's Representative to ensure understanding and cooperation of all parties.**
13. **Coordination** – The County's Representative will be entitled at all times to be advised, at his/her request, as to the status and details of the work being completed by the Contractor in a format he/she requires. The Contractor will maintain coordination with the County's Representative at all times. Either party may request and be granted a conference upon request in a timely manner. **The Contractor will inform the County's Representative daily in writing as to the locations to be worked and the areas completed the previous day.**
14. **Site Reconnaissance – It is the Contractor's responsibility to visit the work site prior to bid submission to ascertain site conditions. The Contractor will submit a work schedule prior to beginning any work ordered. The work schedule will contain the location of the work each day.** The Contractor will consult with the County's Representative prior to any schedule variance. The notification will occur the day before the day of the scheduled variance and must be agreed to by the County's Representative.
15. **Notice to Proceed** – No work will begin until a Purchase Order and a Notice to Proceed have been issued to the Contractor. The Purchase Order will contain a start date and completion date for this project.
16. **Damages** – Any damages caused by the Contractor to sidewalks, driveways, curbs, etc. not scheduled for replacement shall be removed and replaced at the Contractor's expense (entire affected section). Patching, surface repairs, coating or overlaying of affected sections shall not be allowed.
17. **Personnel** – The Contractor shall provide competent, suitable and qualified personnel to perform the work as required by the scope of services. The Contractor shall, at all times, maintain good discipline and order at the work site. The Contractor shall provide a list of all foreman and supervisors who will perform the work. This list shall also contain twenty-four (24) hour emergency telephone numbers. All staff (including Supervisors) shall be required to perform all obligations and functions on County property in a professional and business-like manner and must wear uniforms identifying the company name. At least one person who speaks and understands English shall be on the project during all working hours.
18. **Contractor's Representative** – The Contractor will designate a competent Contractor's Representative who will not be replaced without written notice to the County's Representative at least twenty-four (24) hours before the change. The Contractor's Representative will be present at the job site and will have the authority to act on behalf of the Contractor. All communications (both verbal and written) given to the Contractor's Representative will be binding as if given to the Contractor. All verbal communications will be followed up in writing within two (2) working days.

To effectively communicate with County staff while in the field, the Contractor's Representative shall have available communication devices with

internet access including email capability (e.g. laptop computer, tablet, smart phone, etc.). This mandatory requirement will ensure proper communication and documentation of problems while performing operations in contracted areas.

The use of Sub-Contractors does not relieve the Contractor from this requirement.

19. **Project Work Hours / Notification** – The Contractor shall notify all residents within the work area as to when (specific time frame) the work will take place and explain the level of inconvenience that will be involved, and expectations from residents with personal property within the right-of-way. This notification shall be submitted to the County for approval prior to distribution. Notification to residents must include Orange County's Government Information Number (311) and shall take place five (5) days prior to commencement of any work in that area. The notification will be by an approved door hanger to be placed on each house and any vehicles parked on the roadways. A copy of the notification shall be faxed to the County's Representative after distribution.

All personal property, except mailboxes, within the right-of-way not relocated by the property owner shall be removed by the Contractor as necessary to construct the project in accordance with the specifications. Mailboxes shall be relocated in accordance with F.D.O.T. Design Standard 532. The Contractor shall take all precautions to preserve private and public property from damages. Homeowners and utility companies shall be immediately notified of damages. Needed repairs to those shall be performed as specified herein. Work for this item shall be paid for under pay item 110-1-1 Clearing and Grubbing.

Project work hours shall be as follows:

- Monday through Friday from 7:00 am to 5:00 pm.
 - No work is to be performed on Saturdays, Sundays or Federal, State, and County holidays, unless authorized by the County's Representative. If the Contractor desires to work on Saturdays, Sundays, or official County holidays (New Year's Day, Martin Luther King Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the day after Thanksgiving, Christmas Eve and Christmas Day) he/she must request it in writing to obtain pre-approval from the Manager, Roads & Drainage Division.
20. **Schedule Delay** – Due to congested traffic or unusual conditions, the Contractor may be required to remove his/her operation from the right-of-way and County property at the discretion of the County's Representative. If the Contractor is required to remove his/her operation due to congested traffic, inclement weather (heavy rain, lightning, hail, tropical storm, hurricane, etc.) or other unusual conditions before 12:00 P.M. (noon), the County will consider allowing an additional one-half (1/2) day be added to the performance period, otherwise no adjustment will be made to the performance period. The County's Representative will determine and authorize such award after the Contractor makes a written application for this. The County will verify alleged conditions in the area prior to authorization. Once approved, the County will modify the completion date, accordingly, for the project and will notify the Contractor.

21. **Utility Coordination** – During the period of this contract the Contractor shall coordinate all utility relocations and adjustments necessary for the project.

The Contractor shall cooperate with owners of any underground or overhead utilities in their removal and relocation operations, in order that these operations may progress in a timely, reasonable and orderly manner and that service rendered by these parties will not be interrupted.

Excavators shall comply with Florida Statutes, Chapter 553.851, regarding notification of existing gas and oil pipeline company owners prior to excavating. **Evidence of such notice shall be furnished to the County's Representative prior to excavating.**

The Contractor shall conduct weekly meetings with all affected Utility Owners, and the minutes of those meetings shall be distributed to each Utility Owner, the County's Representative, and any other affected entity. The Contractor shall incorporate the durations listed in the Utility Relocation Schedules into his Contract Schedule, and transmit copies of that schedule to each Utility Owner. The Contractor shall constantly communicate the status of the progress of the project to the Utility Owners, and advise them of any potential impacts to the progress due to the presence of the utilities. The Contractor shall keep the County and the County's Representative apprised of all developments related to Utility Relocation and job progress. Contractor shall not be entitled to additional compensation from County as a result of failure of any utility to remove, relocate, or install their facilities within any particular time frame.

22. **Construction Staging** – The County **will not** provide staging or storage areas for the Contractor. On a case by case basis, in an area where County surplus property is available, the Contractor may, after obtaining permission from the person or persons responsible for the property, use said property for staging with the understanding that the Contractor shall restore the property to its original or better condition upon completion of the project prior to submitting an invoice for work completed and accepted. Agreements for utilizing areas for staging must be in writing and submitted to the County prior to starting operations.

Should the right-of-way and/or drainage easement be requested to be used for staging or storage area, an agreement must be submitted in writing to the County for approval prior to starting operations, and must include a plan for maintenance of traffic, pedestrian safety, protection to drainage structures and swales to prevent runoff obstructions, and restoration of the right-of-way and/or drainage easement to its original or better completion upon project completion. No staging of material or equipment shall be allowed near roadway intersections to avoid sight distance obstructions. No stockpiling of material near roadway curbs, intersections or over sidewalks shall be allowed.

Water needed on the project shall be coordinated between the Contractor and the utility company providing the water at no additional cost to the County.

23. **Minimum Production Rate:** The Contractor shall be capable of providing a **minimum production rate of six hundred (600) linear feet of underdrain (including restoration) per day** to meet the needs of this contract. Failure to meet this requirement may result in termination of the contract. Project performance periods shall be based on this rate.
24. **Construction Access** – The Contractor may access the work site from either Park Manor Drive at the intersection with State Road 50, or from Curameng Drive at the intersection with North Dean Road.
25. **Residential Access** – The Contractor shall maintain access to residential driveways at all times.
26. **Equipment** – The Contractor shall furnish necessary equipment to satisfactorily perform the work required under this contract. The Contractor and Sub-Contractor shall ensure all equipment used in the performance of the contract on County property is in good safe working order and properly maintained in order to protect the operator and the public. **All equipment onsite (including pick-up trucks) shall be identified with the company logo.**

All equipment used by the Contractor and Sub-Contractor is subject to inspection by the County's Representative. Any equipment on site, which is deemed by the County's Representative to be inoperable, unsafe, or improper for desired use, must be removed from the premises by the Contractor at his/her expense the same day of the County's determination.

The Contractor is required to use amber flashing lights, back-up alarms, etc. on all equipment and his/her employees must be provided with the required Personnel Protective Equipment as required by O.S.H.A. and the County.

Equipment authorized by the County to be left on the right-of-way or County property after designated work hours will be placed outside the clear and recovery area and will be the sole responsibility of the Contractor. If equipment is left on the right-of-way, it will be marked with barricades with approved steady burning amber lights.

Due to the presence of clay pipes in the project area, vibratory compaction of any kind shall not be allowed during construction. Allowable compaction methods include the use of non-vibratory equipment only (e.g., static smooth wheeled rollers, static pad rollers, or other non-vibratory methods). The Contractor's compaction methods shall be submitted to the County for written approval prior to use.

27. **Disposal** – The Contractor shall dispose of debris only in a County approved landfill in accordance with all Federal, State and Local rules and regulations in effect at the time of disposal. Cost involved with the disposal of debris shall be the responsibility of the Contractor. A copy of the disposal tickets shall be made available to the County upon request.

28. **Liquidated Damages** - Liquidated damages in the amount of two hundred dollars (\$200) per work day may be assessed if one or more of the following conditions occur:
- The project is not completed by the completion date as established in the purchase order or as authorized by the County's Representative – Liquidated damages will start the first work day after the date the project was scheduled to be completed and will continue for each work day thereafter until the project is completed.
 - The Contractor does not correct deficient areas as specified prior to the final completion date for the project – These liquidated damages will start the first work day after the final completion date and will continue for each work day thereafter until the reported deficiencies are corrected per contract specifications.
29. **Cleaning Up** – The Contractor will keep the premises free from accumulations of waste materials, rubbish, and other debris resulting from the Work. At the completion of the Work all waste materials, rubbish and debris will be removed from and about the premises, as well as all tools, construction equipment and machinery, and surplus materials, and the Contractor will leave the site clean and ready for occupancy by the County. The Contractor will restore to their original condition those portions of the Site not designated for alternation by the Contract Documents. If at any time during construction of this project, the Contractor fails to clean up on a daily basis, the County may do so. All costs associated with the County's cleanup activities on behalf of the Contractor shall be deducted from amounts due to the Contractor.
30. **Citizen Coordination** – The Contractor shall respond to any calls or emails the County receives from citizens in regards to the Contractor's workmanship and the Contractor shall coordinate with citizens to resolve their concerns. The Contractor is responsible for keeping the County informed of when each concern has been resolved.
31. **Testing** – The Contractor shall be responsible for any density testing required as per Orange County and FDOT specifications at no cost to the County.

IFB NO. Y18-727-RM **ISSUED: December 21, 2017**

INVITATION FOR BIDS

FOR

PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS

PART H

TECHNICAL SPECIFICATIONS

PART H
Volume II

TECHNICAL PROVISIONS

FOR

PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS

ORANGE COUNTY, FLORIDA



PREPARED FOR:

**ORANGE COUNTY PUBLIC WORKS DEPARTMENT
ROADS AND DRAINAGE DIVISION
4200 JOHN YOUNG PARKWAY
ORLANDO, FLORIDA 32839-9205**

PREPARED BY:



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NOVEMBER 2017

PART H TECHNICAL PROVISIONS

for:

PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS ORANGE COUNTY, FLORIDA

ACKNOWLEDGMENTS

As always, Inwood has enjoyed the opportunity to serve Orange County on this assignment, and would like to express our appreciation for the continued support of the County Commissioners.

Orange County Board of County Commissioners

- ☐ Teresa Jacobs, County Mayor
- ☐ Betsy VanderLey, District 1
- ☐ Bryan Nelson, District 2
- ☐ Pete Clarke, District 3
- ☐ Jennifer Thompson, District 4
- ☐ Emily Bonilla, District 5
- ☐ Victoria P. Siplin, District 6



CERTIFICATION

The engineering material and data contained within the following **Technical Provisions** was prepared by Inwood Consulting Engineers for the sole use by the Orange County Roads and Drainage Division.

_____, P.E.
Steven M. Sommerfeldt, P.E.
Florida Registration No. 64074
Date:

TABLE OF CONTENTS - TECHNICAL PROVISIONS

Orange County, Florida

for:

PARK MANOR ESTATES SECTIONS 9-10

UNDERDRAIN IMPROVEMENTS

ORANGE COUNTY, FLORIDA

GENERAL

A-1	Scope of Work
A-2	Index of Drawings
A-3	Schedule of Prices (a.k.a. BID Form)
A-4	Orange County Technical Provisions
A-5	Geotechnical Engineering Report

ORANGE COUNTY TECHNICAL PROVISIONS

✦ Orange County **Technical Provisions (TP's)** pertinent to this contract are listed below ✦

TP No.	Technical Provision Description
101	Mobilization
102	Maintenance of Traffic
104	Prevention, Control and Abatement of Erosion and Water Pollution
110	Clearing and Grubbing
270	Soil Cement Base (Primed)
334	Superpave Asphaltic Concrete Pavement
440	Underdrains
520	Concrete Gutter, Curb Elements and Traffic Separator
522	Concrete Sidewalks, 4 Inch and 6 Inch Thickness
570	Performance Turf
900-1	As-Built Plans
900-2	Indemnification

PART H TECHNICAL PROVISIONS

for

PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS ORANGE COUNTY, FLORIDA

SCOPE OF WORK

The Park Manor Estates Underdrain Assessment project is located within the Park Manor Estates subdivision roughly bounded by Rouse Road to the east, Dean Road to the west, Colonial Boulevard (S.R. 50) to the north, and Bloomfield Drive to the south. The project area is located in the County's Three Points Maintenance District, the Little Econlockhatchee Drainage Basin, and Commissioner District 3. The project area is within the jurisdiction of the St. Johns River Water Management District. This contract includes the work necessary to construct underdrain throughout the Park Manor Estates subdivision. The proposed work will occur within existing rights-of-way and easements. The purpose of the work will be to provide better stormwater conveyance and reduce ponding water within the Park Manor subdivision. The work required to complete the project includes, but is not limited to, the installation of new and replacement of nonfunctional underdrain systems, including removal and replacement of existing damaged curbs, sidewalks and driveway approaches (regardless of thickness), sprinkler system repairs, roadway base and asphalt restoration. The Contractor shall furnish all labor, materials, equipment, supervision, quality control, tools, transportation, supplies, and manpower as well as pay for any applicable fees to complete the work specified in this contract.

PART H TECHNICAL PROVISIONS

for

PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS ORANGE COUNTY, FLORIDA

INDEX OF DRAWINGS

(Prepared by Inwood Consulting Engineers)

Sheet	Description
	Park Manor Estates Underdrain Improvements Construction Plans
1	Overview Map
2	Underdrain Improvements
3A	Broken Curb Inventory
3B	Broken Curb Inventory
3C	Broken Curb Inventory
3D	Broken Curb Inventory
3E	Broken Curb Inventory
3F	Broken Curb Inventory
4	Summary of Quantities
5	Underdrain Typical Section
6	General Notes
7	Miscellaneous Details

PART H
TECHNICAL PROVISIONS

for

PARK MANOR ESTATES SECTIONS 9-10
UNDERDRAIN IMPROVEMENTS
ORANGE COUNTY, FLORIDA

TECHNICAL PROVISIONS

PART H

TECHNICAL PROVISIONS

for

PARK MANOR ESTATES SECTIONS 9-10 UNDERDRAIN IMPROVEMENTS ORANGE COUNTY, FLORIDA

“Standard Specifications” shall mean the Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction, dated 2017, and supplements thereto, and Orange County Road Construction Specifications. The project shall be constructed in accordance with these specifications and of the Florida Department of Transportation (FDOT) **“Standard Specifications for Road and Bridge Construction”** (dated 2017), and **“Supplemental Specifications for Road and Bridge Construction”** (dated 2017), hereafter referred to as the “Standard Specifications,” and **“Orange County Road Construction Specifications”** (latest edition). **“Additional Specifications”** (if any) may also be provided herein by the Engineer in an effort to more clearly define the Work under this Contract.

When reference is made to a Division, Section, or Article, it shall mean a Division, Section, or Article of said **“Standard Specification”**. Wherever the Standard Specifications indicate a mailing address for a State office or Agency, the office or agency and the address shown area hereby deleted and replaced by the following:

Orange County Roads and Drainage
Division – Public Works Department

4200 South John Young Parkway
Orlando, Florida 32839

Where duplication of specifications occur, the Florida Department of Transportation (FDOT) “Standard Specifications for Road and Bridge Construction (latest edition)” shall apply unless reference is made to a material or equipment specification as required by Orange County. Where discrepancies occur between the “Standard Specifications”, “Supplemental Specifications”, “Orange County Specifications” and the Engineer’s “Additional Specifications”, provisions of Section 5-2 of the Standard Specifications for Road and Bridge Construction (latest edition) shall apply.

Each reference to Basis of Payment in said “Standard Specifications” is superseded by the conditions contained in the Technical Provisions and all other conditions related to Basis of Payment contained in these specifications.

The work specified in this contract represents the type of services to be accomplished. Work under this contract is limited to specified areas as listed in the scope of work. Areas have been inventoried and calculated as to quantities. Any discrepancies or disagreements concerning quantities and limits of work shall be immediately reported in writing (shall reflect the new measurements taken by the Contractor and the contract measurements) to the County representative. Discrepancies or disagreements will be mutually resolved prior to beginning work in any area in question. The County will make the final determination on any unresolved matters.

The plans/drawings depict the general layout for work to be performed under this contract. The Contractor shall layout the work from benchmarks, control points and construction base lines established at the site, or supplied by County. All work of every description shall be laid out and checked by the Contractor who shall be held solely responsible for its correctness. A detailed quote including quantities and materials needed for requested projects (linear foot underdrain, PVC pipe, square yards of concrete (sidewalk, driveways, curb), asphalt, etc.), conflicts (utilities, structures, trees, mailboxes, etc.) and recommendations shall be submitted to the County's Representative for review no later than five (5) days after request from the County. The Contractor shall be responsible for direction of flow, high points, etc. The County's Representative must review submitted quote and authorize the Contractor to proceed with the layout of the project. The detailed layout for the project shall be submitted for review prior to starting operations and no later than three (3) days after notification, unless otherwise authorized by the County.

All measurement for payment shall be based on the completed and accepted work performed in strict accordance with drawings and specifications. All work completed under this contract shall be measured by the Contractor in the presence of the County's Representative. The quantities listed in the summary of Pay Items are estimated.

Unless otherwise specified herein, the Contractor shall be responsible for any testing and densities required as per Orange County and FDOT specifications at no cost to the County.

TECHNICAL PROVISIONS**TP 101 - Mobilization****MOBILIZATION**

Mobilization shall include all items detailed in Article 101 of the Standard Specifications, the Special Provisions and on the plans, except as directed by the Engineer.

Preservation of Property Corners including all items detailed in Section 7-11 of the Standard Specifications shall be included in the contract price for mobilization.

Basis of Payment

The work and incidental costs covered under Mobilization will be paid for at the contract lump sum price and will be paid in partial payments in accordance with the following:

Percent of Original Contract Amount Earned	Allowable Percent of the Lump Sum Price for the Items*
5	25
10	50
25	75
50	100

*Partial payments as detailed above will be limited to 5% of the original Contract amount for the roadway pay items. Any amount of mobilization in excess of 5% of the roadway pay items will be paid upon completion of all work.

No special compensation will be made to the Contractor to defray costs of any of the work or delays by making surveys and measurements, tests or inspections, but such costs shall be considered as having been included in the price stipulated for the several items of work to be done under this contract. The Contractor shall bear all costs of relocating and/or re-establishing damaged or lost monuments/control structures. Any claims for extras based on substrata or ground water table conditions shall not be allowed.

Payment shall be made under:

Pay Item:

101-1	Mobilization (5% of all other items)	Lump Sum
-------	--------------------------------------	----------

Pay Item Note No. 101-1

Includes all applicable survey costs and costs necessary for a video survey. The work site/area shall be videoed (CD) prior to work commencement and after work is completed. This video will be taken by the Contractor, and shall be submitted on CD to the County with the final pay request. Includes all efforts necessary to construct and dismantle a temporary staging area as needed to accommodate typical wet season rainfall events occurring during construction.

TECHNICAL PROVISIONS

TP 102 – Maintenance of Traffic

MAINTENANCE OF TRAFFIC

All Maintenance of Traffic work shall conform to the requirements of Section 102 of the Standard Specifications, Index 600 of the FDOT Design Standards, the plans, and/or as herein modified, except as directed by the Engineer.

The road shall be kept open to two-way traffic on a paved surface during construction except when full closures are allowed by the plans or by the Engineer. The Contractor shall not be permitted to isolate residences or places of business. Access shall be provided to all residences and all places of business whenever construction interferes with the existing means of access.

The Contractor shall furnish, erect and maintain all necessary traffic control devices, including flagmen, pilot cars and variable message boards, in accordance with the *Manual on Uniform Traffic Control Devices for Streets and Highways*, published by the U.S. Department of Transportation, Federal Highway Administration. The Contractor shall provide and maintain in a safe condition the entire project limits included, but not limited to pre existing conditions, driving lanes, temporary approaches, crossings, and intersections with trails, roads, streets, business parking lots, residences, garages and completed work. Contractor shall coordinate with Orange County to notify residents of this closure. The Contractor shall take all necessary precautions for the protection of the work and the safety of the public in accordance with Section 102.

The Contractor shall present his signed and sealed Maintenance of Traffic Plan to the Engineer at the preconstruction conference, and shall be fully and solely responsible for the adequacy of the Maintenance of Traffic plan regardless of the source. The plan shall be signed and sealed by a professional engineer licensed in the State of Florida.

The Contractor shall be responsible for installation of signs for all business along the project corridor. Signs should be manufactured and installed in accordance with FDOT design standards. No special compensation will be made to the contractor to defray costs of any of the work or delays for complying with the requirements of installing business signs, but such costs shall be considered as having been included in the price stipulated for the Maintenance of Traffic pay item.

A safe pedestrian way shall be maintained at all times during construction.

Basis of Payment

All materials, work and incidental costs related to Maintenance of Traffic will be paid for at the contract lump sum price. All material, labor and equipment necessary for the construction and maintenance of the entire project limits included, but not limited to pre-existing conditions, driving lanes, temporary approaches, crossings, intersections with trails, roads, streets, business

PART H

TECHNICAL PROVISIONS

TP 102 – Maintenance of Traffic



parking lots, residences, garages, temporary driving lanes, side streets, driveway connections, temporary fencing, and completed work, as may be directed by the Engineer shall be included in the contract price.

Payment will be made under:

Pay Item:

102-1	Maintenance of Traffic	Lump Sum
-------	------------------------	----------

Pay Item Note No. 102-1

Includes all necessary traffic control devices including flagmen, pilot cars and variable message boards, in accordance with the Manual on Uniform Traffic Control Devices for Streets and Highways (latest edition). Contractor shall secure construction site (i.e. temporary pedestrian safety fencing, barricades, signs, etc.) in order to prevent pedestrians from accessing work areas.



TECHNICAL PROVISIONS

**TP 104 – Prevention, Control and Abatement of
Erosion and Water Pollution**

**PREVENTION, CONTROL AND ABATEMENT OF EROSION AND WATER
POLLUTION**

Prevention, control and abatement of erosion and water pollution shall conform to the requirements of Section 104 of the Standard Specifications, National Pollution Discharge Elimination System (NPDES) requirements, except as modified by these Technical Provisions or as directed by the Engineer.

The Contractor shall present at the Preconstruction Conference its Storm Water Pollution Prevention Plan (SWPPP) and a separate schedule to manage erosion and water pollution. This schedule shall include a complete outline of the proposed construction of all erosion and pollution control and abatement items required.

The Contractor shall be responsible for the preparation and submittal of the Notice of Intent (NOI) and Notice of Termination (NOT) to the Florida Department of Environmental Protection (FDEP) and shall obtain the FDEP Generic Permit for Stormwater Discharge from Large and Small Construction Activities.

All roadways, driveways etc., must be kept clean and hazard free at all times. **Roadways must be swept daily to ensure the safety of the motoring public and protect existing drainage systems.** This operation shall be conducted in such a manner that shall minimize the potential of creating a traffic hazard and minimize air pollution.

Basis of Payment

All work and incidental costs required to comply with the articles of this specification will be paid at the contract lump sum price for Prevention, Control and Abatement of Erosion and Water Pollution.

Payment will be made under:

Pay Item:

104-1	Prevention, Control and Abatement of Erosion and Water Pollution	Lump Sum
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Pay Item Note No. 104-1

Includes the cost of all items required for erosion control including, but not limited to, synthetic bales, turbidity barriers, silt fence, and temporary grassing, as shown in the plans or as directed by the County.

TECHNICAL PROVISIONS

TP 110 – Clearing and Grubbing

CLEARING AND GRUBBING

All clearing and grubbing shall be performed in accordance with the requirements of Section 110 of the Standard Specifications, except as directed by the Engineer.

Scope of work to include but not be limited to, the removal of all rigid, asphalt pavement, Portland cement concrete pavement, curb, curb and gutter, ditch pavement, sidewalk, driveway aprons, concrete slabs, concrete structures, brick, fences, gravity walls, retaining walls, pipes, etc.

Clearing and Grubbing shall also include the removal of existing pavement and base course and backfilling with suitable material, as shown in the construction plans. Removal of the existing roadway shall also include the proper disposal of the removed materials as specified above.

All personal property, within the right of way and drainage easement not relocated by the property owner shall be removed by the Contractor as necessary to construct the project in accordance with the plans. It is the Contractor's responsibility to replace in-kind or better any damaged fencing identified to remain, damaged mailboxes or any other private property disturbed during construction and notify resident prior to commencement of work.

All existing functional and nonfunctional drainage structures and pipes within the right-of-way shall be evaluated and discussed with the County's Representative prior to removal, unless otherwise directed.

Basis of Payment

All work and incidental costs required to perform clearing and grubbing as herein specified will be paid for at the contract lump sum price.

Payment shall be made under:

Pay Item:

110-1-1	Clearing and Grubbing	Lump Sum
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Pay Item Note No. 110-1-1

Includes, but is not limited to, the sawcut, removal and disposal of existing pavement, driveway Concrete, curb and base required to construct the project. Includes the removal of underdrain. Includes the transport and disposal of all removed materials to an approved orange county Disposal site yard or as directed by the county. It is the contractor's responsibility to replace In-kind or better any damaged fencing, damaged mailboxes or any other private property disturbed During construction. Includes the cost of resident notification prior to the commencement of work. The contractor shall notify all residents within the work area as to when the work will take place and explain the level of inconvenience that will be involved. This notification shall take place Five (5) days prior to commencement of any work in that area. The notification will be by an approved Door hanger to be placed on each house and any vehicles parked on the roadways. Includes the cost of all materials, labor, testing and equipment required for construction of soil cement base.

TECHNICAL PROVISIONS

TP 270 – Soil Cement Base (Primed)

SOIL CEMENT BASE (PRIMED)

Construction of a Soil Cement Base shall consist of soil, water, and portland cement uniformly mixed, moistened, compacted, finished and cured in accordance with these specifications and shall conform to the lines, grades, thicknesses and typical cross-sections shown on the plans. Soil cement base that is not finished and cured within (36) hours after compaction has been achieved may be rejected and subject to removal and replacement if so directed by the Engineer.

Testing

A. The Contractor shall submit a mix design prepared by an independent Geotechnical Engineer to the Engineer for acceptance before using the material for road construction. Processing of the base shall proceed after the design mix is accepted by the Engineer. A modified Portland Cement Association (PCA) Short Cut Procedure for sand soil test method may be used in lieu of the wet dry/freeze thaw test method. However, a 7 day minimum laboratory compressive strength of 300 psi shall be used to determine the cement content when using the modified PCA test method.

B. Construction of the soil cement base shall proceed only after 48 hours prior notice has been received by the Engineer and the County's geotechnical engineer. The geotechnical engineer shall be present during construction. The following is the minimum information/test data to be obtained during construction:

1. Area & Date of Construction
2. Average Cement Content
3. Uniformity of Mix
4. Moisture Content at Time of Compaction
5. Percent Compaction
6. Compacted Thickness
7. 7 Day Compressive Strength Tests

The geotechnical engineer will prepare and submit to the Engineer a signed report documenting all field tests and observations.

Materials

A. Portland Cement

Portland Cement shall be Type I, II, III, or Type I-S or Type I-P and shall comply with FDOT Standard Specification Section 921. Portland Cement shall also comply with ASTM C-150 and/or AASHTO M-85 and be produced in the United States. Cement which is partially set, lumpy or caked shall not be used. One cubic foot of Portland Cement shall be considered to weigh 94 lbs.

TECHNICAL PROVISIONS

TP 270 – Soil Cement Base (Primed)

B. Water

Water shall be clean and free from substances deleterious to the hardening of the soil cement mixture.

C. Soil

Only soils which have proven themselves to produce a high quality soil cement base shall be acceptable. New sources of soil cement material shall be accepted by the County prior to use.

Specific Requirements for Soil:

Organic Material (As per FM 1-T267)	Maximum 5%
Total Clay and Silt Content (minus No. 200 [75µm sieve) (As per AASHTO T 88, no hydrometer test)	Maximum 25%
Plastic Index (As per AASHTO T 90)	Maximum 10%
Liquid Limit (As per AASHTO T 89)	Maximum 25%
Gradation: (As per AASHTO T 88)	

Passing 2 inch [50 mm] sieve	Minimum 100%
Passing No. 4 [4.75 mm] sieve	Minimum 55%
Passing No. 10 [2.00 mm] sieve	Minimum 37%

As an exception to the above requirements, the Contractor may use any material meeting the requirements for Limerock in Section 911 of the FDOT Standard Specifications.

D. Prime Coat

The prime coat shall be emulsified Asphalt Grades SS 1 or SS 1H, or Special MS-Emulsion, diluted per the manufacturer's recommendations.

Equipment

Soil Cement may be constructed with any machine, combination of machines or equipment that will produce the results meeting the requirements for soil pulverization, cement application, mixing, uniform depth control, water application, incorporation of materials, compaction, finishing and curing as required to comply with these specifications.

TECHNICAL PROVISIONS

TP 270 – Soil Cement Base (Primed)

Construction Methods

A. General

The Soil-Cement base shall be placed under the supervision of a competent superintendent having a minimum of two (2) years experience in the construction of soil-cement base courses. Soil-Cement base proportioning and construction shall only be performed when ambient temperatures measured in the shade are at 45°F and rising and that temperatures are not forecast to fall below 35°F for 48 hours following placement of the material. All mixing, shaping, finishing and compaction shall be completed within four hours starting from the time mixing commences.

B. Mix Proportioning

The Soil-Cement base shall be proportioned using Strength Design criteria. Proportioning of the soil, cement and water shall be performed in a pugmill at a central mix plant. Mixing shall be sufficiently achieved to prevent cement balls from forming when water is added. The Contractor shall continuously monitor plant batching and mixing of the materials and submit to the Engineer reports of the gradation, cement content and moisture content prepared by the independent Geotechnical Engineer. The County's Geotechnical Engineer shall monitor the installation and conduct applicable tests and inspections as outlined in this Section.

C. Preparation

Before construction operations are begun, the area to be paved shall be graded and shaped as required to receive the spread of soil-cement mixture delivered from the plant and allow construction in conformance with the grades, lines, thicknesses and typical cross sections shown on the plans. Additional soil needed, if any, shall be placed as directed. Unsuitable soil or materials shall be removed and replaced with acceptable soil. The subgrade shall be compacted to the density, thickness, lines, grades, and typical sections shown on the plans. The contractor shall maintain the required density until the base is placed on the subgrade.

D. Pulverization

The soil to be used in mixing shall be so pulverized that, at the completion of moist mixing, 100 percent by dry weight passes a 1" sieve, and a minimum of 80% passes a No. 4 sieve, exclusive of gravel or stone retained on these sieves.

TECHNICAL PROVISIONS

TP 270 – Soil Cement Base (Primed)

E. Application of Cement

The specified quantity of Portland Cement required for full depth treatment shall be metered out at the plant in accurate proportion in accordance with the mix design. The percentage of moisture in the soil, at the time of cement application at the plant, shall not exceed the quantity that will permit a uniform and intimate mixture of soil and cement during proportioning and shall not exceed 2% below the optimum moisture content for the soil cement mixture.

F. Mixing

After the cement has been applied, it shall be thoroughly mixed with the soil at the pugmill. Mixing shall continue until the cement has been thoroughly blended with the soil in order to prevent the formation of cement balls when water is applied. Any uncompacted soil and cement mixture that has not been compacted and finished shall not remain undisturbed for more than thirty (30) minutes.

G. Application of Water and Moist Mixing

Immediately after and/or during the mixing of soil and cement, the moisture content of the soil cement mixture shall be determined by the laboratory. Water shall be applied uniformly in quantities required to obtain the proper design moisture content within the range provided by the contractor's geotechnical engineer. After the final application of water, mixing shall continue until a uniform and intimate mixture of soil, cement and water is obtained.

When water application and mixing have been completed, the percentage of moisture in the mixture, based on oven dry weights, shall be no more than two percentage points above the specified optimum moisture content, and shall be less than that quantity which will cause the soil cement mixture to become unstable during compaction and finishing.

H. Spreading

The mixed base material shall be hauled to the placement site in trucks equipped with protective covers and immediately placed on top of the prepared subgrade. The material shall be graded to conform to the lines and grades of the finished pavement section as shown on the project drawings and shall be placed in a sufficient thickness to assure the minimum required compacted thickness free from high and low spots. No more than 60 minutes will be allowed between placement of adjacent passes of the spreader at any location, except at construction joints.

I. Compaction

The material shall be placed in a single, uniformly thick, loose layer and evenly compacted to a density not less than 97% of the modified maximum density determined by AASHTO T 134 on representative samples of soil cement mixture obtained from the roadway at the time compaction

TECHNICAL PROVISIONS

TP 270 – Soil Cement Base (Primed)

begins. Not more than four hours shall elapse from the time of batching to final compaction and the material shall not remain undisturbed for more than two hours. The surface of the base course may require the addition of water during the final rolling and shaping operation to prevent excessive surface moisture losses prior to sealing the base.

J. Finishing

After the mixture has been initially compacted, the surface of the soil cement shall be shaped to the required lines, grades and cross section. During the shaping operations, the surface shall be lightly scarified to loosen any imprints left by the compacting or shaping equipment, when deemed necessary. The resulting surface shall then be compacted to the specified density with a pneumatic tire roller. Rolling shall be supplemented by broom dragging, if required.

The moisture content of the surface material must be maintained at not less than its specified optimum moisture content during finishing operations. Surface compaction and finishing shall be done in such a manner as to produce a smooth, dense surface, free of surface compaction planes, cracks, ridges, or loose material. Surface finishing methods may vary, provided a smooth, dense surface free of surface compaction planes is produced. The moisture and density requirements shall be determined by the methods prescribed in AASHTO T 134.

K. Surface Requirements (Scalping or Hard Planing)

After completing compaction and finishing but not later than the beginning of the next calendar day after constructing any section of the base, the surface shall be tested with a template cut to the required crown and/or with a 15 foot straight edge laid parallel to the centerline. All irregularities greater than 1/4 inch shall be immediately corrected with a blade adjusted to the lightest cut which will insure a surface that does not contain depressions greater than 1/4 inch under the template or the straight edge. The material removed shall be wasted. Additional wetting during and after that final shaping operation shall be provided to keep the base continuously moist.

L. Prime/Curing

After finishing the soil cement it shall be protected against drying for 7 days by applying a bituminous curing material as soon as possible after completing finishing operations. The finished soil cement shall be kept continuously wet until the curing material is placed. Curing material shall consist of a mixture of 60% grade SS 1 and 40% water applied at the rate of 0.15 to 0.20 gallons per square yard.

The prime coat bituminous material specified shall be uniformly applied to the surface of the completed soil cement. The exact rate and temperature of application to give complete coverage without excessive runoff will be accepted by the Engineer. At the time the bituminous material is applied, the soil cement surface shall be dense, free of all loose and extraneous material, and

TECHNICAL PROVISIONS

TP 270 – Soil Cement Base (Primed)

contain sufficient moisture to prevent penetration of the bituminous material. Water shall be applied in sufficient quantity to fill the surface voids of the soil cement immediately before the bituminous curing material is applied. The bituminous material shall be sanded using a sufficient amount of clean sand to prevent bleeding or traffic pick up.

M. Construction Joints

Prior to the beginning of each day's construction, a straight transverse construction joint shall be formed by cutting back into the completed work to form a true vertical face.

N. Thickness

During various stages of construction test holes or trenches shall be dug in the mixture to determine the thickness. After completing the base, test holes shall be dug or drilled at intervals of not more than 300 feet (closer intervals if necessary) and the thickness of the base shall be determined from measurements made in these test holes.

Where the base is deficient in thickness by more than 1/2 inch, the area of deficient base shall be removed and replaced with base of the required thickness at the Contractor's sole expense. At the Engineer's option such deficient thickness base may be left in place, provided the deficiency is not more than one inch. This deficiency shall be made up in asphaltic concrete, provided the control grades can be maintained. Payment will be made on the basis of full depth soil cement. No additional payment will be made for asphaltic concrete required to make up deficiencies in soil cement base thicknesses.

Opening To Traffic

The Contractor will not be permitted to drive heavy equipment over the completed sections, but light weight pneumatic-tired equipment may be permitted after 24 hours, provided the surface has hardened sufficiently to prevent the equipment's marking the surface and provided the protection and curing specified are not impaired.

Maintenance

The Contractor shall maintain the base to a true and satisfactory surface until the wearing surface is constructed. Should any repairs or patching be necessary, they shall extend to the full depth of the base and shall be made in a manner that will assure restoration of a uniform base course conforming to the requirements of these specifications. The bituminous curing coating shall be maintained until the wearing surface is constructed.

TECHNICAL PROVISIONS

TP 270 – Soil Cement Base (Primed)

Inspection

The Engineer, Geotechnical Engineer and Contractor shall inspect the base for deficiencies after a minimum of seven 7 days have elapsed and prior to applying the asphalt wearing surface. All deficiencies shall be corrected and accepted by the Engineer 48 hours prior to commencing paving operations.

Method of Measurement

Quantities measured for payment under this Section shall be the actual area in square yards of soil cement base constructed to limits, thicknesses, lines and grades shown on the plans, completed and accepted.

Basis of Payment

Soil Cement Base will be paid for at the contract unit price per square yard completed and accepted. The cost of the cement, prime coat and cover material, including the spreading of each, shall be included in the contract unit price.

Payment shall be made under:

Pay Item:

270-9	Soil Cement Base (Primed) (9") (350 psi)	Per Square Yard
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Pay Item Note No. 270-9

Includes the cost of all materials, labor, testing and equipment for construction of soil cement base.

TECHNICAL PROVISIONS

TP 334 – Superpave Asphaltic Concrete Pavement



SUPERPAVE ASPHALTIC CONCRETE PAVEMENT

334-1 GENERAL

Work specified in this Provision consists of the application of Asphaltic Concrete structural courses properly produced and laid upon a prepared and accepted base in accordance with these specifications and in conformity with the lines, grades, thicknesses and cross-sections provided in the plans. Base preparation and Asphaltic Concrete Friction Courses are covered under separate provisions.

This Provision is intended to stand alone for the production and placement of structural course asphalt and replaces Sections 330 and 334 of the FDOT Standard Specifications for Road and Bridge Construction except when specific references are made to these or other Sections. Any references to FDOT Specification Sections shall mean the latest FDOT Standard Specifications for Road and Bridge Construction, including Supplements. Any incorrect references to or conflicts with the FDOT specifications, test methods, or standards shall be brought to the attention of the Engineer for clarification.

The Engineer will have the right to disapprove of any material or process that does not conform to these specifications.

The Contractor shall document all QC procedures, Process Control, inspection, and all test results and make them available for review by the Engineer throughout the Contract duration.

All test methods designated as FM refer to the FDOT Florida Sampling and Testing Methods.

Trench restorations, asphalt overlaps or lane width overlay will be affected by overall resurfacing schedules for areas where underdrains are installed and other field conditions. The County's Representative shall make the final determination on the final restoration of the open cuts. The Contractor shall be responsible to mill specified areas of asphalt overlaps and lane width overlays to a 1.5" depth, unless otherwise authorized by the County's Representative, prior to overlay. Asphalt restoration must be completed no later than forty-eight (48) hours after removal. Under no circumstance shall the Contractor leave open areas unattended for more than the specified time frame, unless otherwise authorized in writing by the County's Representative.

Asphalt repairs shall be made in kind and in accordance to all applicable FDOT standards and County regulations. A copy of asphalt tickets shall be provided to the County's Representative on a daily basis.

TECHNICAL PROVISIONS

TP 334 – Superpave Asphaltic Concrete Pavement



334-2 CONTRACTOR QUALITY CONTROL REQUIREMENTS

334-2.1 GENERAL: The Contractor shall be responsible for the overall quality of the materials and workmanship of the work covered under this Provision.

Ensure that the qualifications and certifications of personnel and laboratories are maintained throughout the Contract duration. Provide proof of qualifications and all applicable certifications to the County prior to construction operations commencing. Notify the County immediately when there is a change in any qualification or certification during the Contract duration.

334-2.2 PERSONNEL: Provide personnel who are both qualified and certified in all activities related to asphalt mix production at the plant and placement on the roadway, especially for the sampling, testing and inspection of materials and construction activities. At a minimum, a certified Paving Level II technician shall be present on site at all times during paving operations. Provide documentation to the Engineer that the personnel responsible for the production and placement of asphalt products under the Contract are qualified and certified.

334-2.3 TESTING LABORATORY: Furnish or have furnished a fully equipped asphalt laboratory (permanent or portable) at the production site. Provide documentation to the Engineer that any Laboratory used is FDOT qualified and certified.

334-2.4 EQUIPMENT: Provide equipment and methods conforming to Section 320 of the FDOT Standard Specifications for Road and Bridge Construction. Provide a sufficient number of trucks to transport the asphalt mixture from the plant to the job site such that paving of each lane can proceed in one smooth uninterrupted operation. In determining the number of trucks required the Contractor shall consider the capacity of the trucks, the length of the approved haul route from the plant to the job site, traffic conditions, weather conditions, and any other factors that could impact the round trip travel time. Stopping the paver to wait for trucks bringing the asphalt mixture will not be acceptable. In addition to meeting the requirements in Section 320-5, the paving machine shall be capable of pushing the asphalt truck as it dumps the asphalt mixture into the hopper. Stopping the paving machine to allow the next asphalt truck to back up to it to fill the hopper is not an acceptable procedure, and shall not be allowed.

Unless otherwise approved by the Engineer, the paving machine shall weigh a minimum of 26,000 pounds.

TECHNICAL PROVISIONS**TP 334 – Superpave Asphaltic Concrete Pavement**

334-2.5 MINIMUM QUALITY CONTROL REQUIREMENTS: Perform the following activities necessary to maintain quality and process control and meet specification requirements:

Stockpiles: Ensure each aggregate component is placed in an individual stockpile, and separated from adjacent stockpiles, either by space or by a system of bulkheads. Prevent the intermingling of different materials in stockpiles. Form and maintain stockpiles in a manner that will prevent separation, contamination, segregation, etc. Identify each individual stockpile, including RAP, as shown on the mix design.

Incoming Aggregate: Obtain gradations and bulk specific gravity (Gsb) values from aggregate supplier for reference; determine the gradation of all component materials; routinely compare gradations and Gsb values to mix design.

Cold Bins: Calibrate the cold gate/feeder belt for each material; determine cold gate/feeder belt settings; observe operation of cold feeder for uniformity.

Dryer: Observe pyrometer for aggregate temperature control; observe efficiency of the burner.

For Batch Plants: Determine percent used and weight to be pulled from each bin to assure compliance with Mix Design, check mixing time, and check operations of weigh bucket and scales.

For Drum Mixer Plants: Determine aggregate moisture content, and calibrate the weigh bridge on the charging conveyor.

Control Charts: Plot and keep charts updated daily for all Quality Control Sampling and Testing and post in the asphalt lab where they can be seen. Maintain the following charts:

1. Sample test results for the following: No. 8 sieve, No. 200 sieve, asphalt binder content, air voids, and density.
2. Gradation of incoming aggregate.
3. Gradation and asphalt content of RAP.
4. Any other test result or material characteristic (as determined by the Contractor) necessary for process control.

The above listed minimum activities are to be considered normal activities necessary to control the production of hot mix asphalt at an acceptable quality level. It is recognized, however, that depending on the type of process or materials, some of the activities listed may

TECHNICAL PROVISIONS

TP 334 – Superpave Asphaltic Concrete Pavement



not be necessary and in other cases, additional activities may be required. The frequency of these activities will also vary with the process and the materials. When the process varies from the defined process average and variability targets, the frequency of these activities will be increased until the proper conditions have been restored.

334-2.6 MINIMUM PROCESS CONTROL TESTING REQUIREMENTS:

Asphalt Plant

1. Hot Mix Asphalt: Determine the asphalt binder content; mix gradation and volumetric properties at a minimum frequency of one per day. In the event that the daily production exceeds 1,000 tons, perform these tests a minimum of two times per day.
2. Aggregate (Including RAP): One sample per 1,000 tons of incoming material as it is stockpiled for gradation. The testing of RAP material shall include the determination of asphalt binder content and gradation of extracted aggregate.
3. Monitor the mix temperature for the first five loads and every fifth load thereafter.
4. Monitor the aggregate moisture content from stockpiles or combined cold feed aggregate - one per day.
5. Other tests (as determined necessary by the Contractor) for process control.

Roadway

1. Monitor the mix temperature for the first five loads and every fifth load thereafter.
2. Monitor the prime/tack spread rate as needed to control operations and ensure that it meets or exceeds the target spread rate.
3. Monitor the pavement cross slope at a frequency necessary to fulfill the requirements of the plans and section 334-3.10.3 below, and identify a system to control the cross slope of each pavement layer during construction.
4. Monitor the mix spread rate at the beginning of each day's production, and as needed to control the operations, at a minimum of once per 200 tons placed to ensure that the spread rate meets or exceeds the target spread rate. When determining the spread rate, use an average of five truckloads of mix.
5. Monitor mat placement thickness every 25' to ensure the minimum design thickness is met.

TECHNICAL PROVISIONS**TP 334 – Superpave Asphaltic Concrete Pavement**

6. Monitor the pavement temperature with an infrared temperature device. Monitor the roadway density with either 6 inch diameter roadway cores, a nuclear density gauge, or other density measuring device, at a minimum frequency of once per 1,500 feet of pavement. When the layer thickness is greater than or equal to 1 inch (or the spread rate is greater than or equal to 105 lb/yd²) and an approved rolling pattern may be used in lieu of density testing, monitor the density (for informational purposes only) by cutting and testing a 6 inch diameter core at a minimum frequency of three cores per day. Maintain daily records of the testing results and make them available for review by the Engineer throughout the life of the Contract.

7. Monitor the pavement smoothness with a 15-foot rolling straightedge as required by section 334-3.10.4 below.

334-3 GENERAL CONSTRUCTION REQUIREMENTS**334-3.1 DESCRIPTION**

Construct plant-mixed hot bituminous pavements. Establish and maintain a quality control system in accordance with section 334-2 above that provides assurance that all materials, products and completed construction submitted for acceptance meet Contract requirements.

334-3.2 LIMITATIONS OF OPERATIONS

334-3.2.1 Weather Limitations: Do not transport asphalt mix from the plant to the roadway unless all weather conditions are suitable for the laying operations.

334-3.2.2 Limitations of Laying Operations:

334-3.2.2.1 General: Spread the mixture only when the surface upon which it is to be laid has been previously prepared, is intact, firm, and properly cured, and is substantially dry. Do not place friction course until the adjacent shoulder area has been dressed and grassed.

334-3.2.2.2 Temperature: Spread the mixture only when the air temperature in the shade and away from artificial heat is at least 40°F and rising for layers greater than 1 inch in thickness and at least 45°F and rising for layers 1 inch or less in thickness (including leveling courses). The minimum temperature requirement for leveling courses with a spread rate of 50 lb/yd² or less is 50°F and rising.

334-3.2.2.3 Wind: Do not spread the mixture when the wind is blowing to such an extent that proper and adequate compaction cannot be maintained or when sand, dust, etc., are being deposited on the surface being paved to the extent that the bond between layers will be diminished.

TECHNICAL PROVISIONS

TP 334 – Superpave Asphaltic Concrete Pavement



334-3.2.2.4 Night Paving: Provide sufficient lighting for night operations.

334-3.3 ROADWAY SURFACE PREPARATION

334-3.3.1 Cleaning: Prior to the laying of the mixture, clean the surface of the base or pavement to be covered of all loose and deleterious material by the use of a vacuum truck. Power brooms or blowers may be used when the use of a vacuum truck is impractical, supplemented by hand brooming where necessary.

334-3.3.2 Patching and Leveling Courses: Where an asphalt mix is to be placed on an existing pavement or old base which is irregular, or wherever the plans indicate, bring the existing surface to proper grade and cross-section by the application of patching or leveling courses. Wherever a patch is required, the width shall be taken out to the full width of each lane affected and the length shall extend far enough longitudinally to fully encompass the affected area. The existing pavement receiving a patch or leveling course shall be milled as shown on the plans or as required by the Engineer.

334-3.3.3 Application Over Surface Treatment: Where an asphalt mix is to be placed over a newly constructed surface treatment, sweep and dispose of all loose material from the paving area.

334-3.3.4 Coating Surfaces of Contacting Structures: Paint all structures which will be in actual contact with the asphalt mixture, with the exception of the vertical faces of existing pavements and curbs or curb and gutter, with a uniform coating of asphalt cement to provide a closely bonded, watertight joint.

334-3.3.5 Tack Coat:

334-3.3.5.1 Tack Coat Required: Apply a tack coat, meeting the requirements of Section 300 in the FDOT Standard Specifications for Road and Bridge Construction, on existing pavement structures that are to be overlaid with an asphalt mix and between successive layers of all asphalt mixes. The use of Trackless Polymer Modified Asphalt Emulsion Tack Coat (MTSS-1HM) is not allowed unless approved by the Engineer.

334-3.3.5.2 Tack Coat at Engineer's Option: Apply a tack coat on the following surfaces only when so directed by the Engineer:

1. Freshly primed bases.
2. Surface treatment.

TECHNICAL PROVISIONS

TP 334 – Superpave Asphaltic Concrete Pavement



334-3.4 ASPHALT PLANT PREPARATION

Ensure the following requirements are met at the asphalt plant:

Asphalt Cement

- Asphalt cement is delivered to the asphalt plant at a temperature not to exceed 370°F.
- Asphalt cement is maintained in storage within a range of 230 to 370°F in advance of mixing operations.
- Constant heating is maintained within these limits, and that high fluctuations in temperature during a day's production is avoided.

Aggregate Blending:

- All aggregates to be blended or proportioned are placed in separate bins at the cold hopper.
- Proportioning is performed by means of securely positioned calibrated gates or other approved devices.

Aggregate Cold Bins:

- Bin compartments are constructed to prevent any spilling or leakage of aggregate from one bin to another.
- Bin compartments have the capacity and design to permit a uniform flow of aggregates.
- Bin compartments are mounted over a feeder of uniform speed, which will deliver the specified proportions of aggregate to the drier.
- Bins are equipped with vibrators to ensure a uniform flow of aggregate at all times.
- Each bin compartment is provided with a gate which is adjustable in the vertical direction.
- Gates can be held securely at any specified vertical opening.
- Gates are equipped with a measuring device for measuring the vertical opening of the gates from a horizontal plane level with the bottom of the feeder.

Mineral Filler:

Mineral filler (if required in the mix design) is fed or weighed in separately from the other aggregates.

Aggregate Heating and Drying:

- Aggregates are heated and dried before screening.
- The temperature of the aggregates is controlled so that the temperature of the completed mixture at the plant falls within the permissible range allowed by this Section.

TECHNICAL PROVISIONS

TP 334 – Superpave Asphaltic Concrete Pavement

Aggregate Screening:

- Oversized pieces of aggregate are removed by the use of a scalping screen.
- Oversized material is not returned to the stockpile for reuse unless it has been crushed and reprocessed into sizes that will pass the scalping screen.
- The quantity of aggregates being discharged onto the screens does not exceed the capacity of the screens to actually separate the aggregates into the required sizes.
- A maximum of 10% plus-10 material in the minus-10 bin is maintained.

334-3.5 MIXTURE PREPARATION

Ensure the following requirements are met:

334-3.5.1 Batch Mixing: The dried aggregates and mineral filler (if required), prepared as specified and proportioned to meet the verified mix design, shall be conveyed to the empty mixer. The accurately measured hot asphalt binder shall be introduced into the mixer simultaneously with, or after, the hot aggregates. The blended materials shall be continuously mixed until thoroughly uniform with all particles fully coated. The mixing time begins when the measuring devices for both the asphalt and the aggregates indicate that all the material is in the mixer, and continues until the material begins to leave the mixing unit. In no case will the mixing time be less than 35 seconds.

334-3.5.2 Continuous Mixing: The dried aggregates and mineral filler (if required), prepared as specified and proportioned to meet the verified mix design, shall be introduced into the mixer in synchronization with the accurate feeding of the hot asphalt cement. The blended materials shall be sufficiently mixed until thoroughly uniform with all particles fully coated.

334-3.5.3 Mix Temperature: The ingredients of the mix shall be heated and combined in such a manner as to produce a mixture with a temperature, when discharged from the pugmill or surge bin, which is within the master range as defined below.

The temperature of the completed mixture shall be determined using a quick-reading thermometer through a hole in the side of the loaded truck immediately after loading. A 1/4 inch hole on both sides of the truck body within the middle third of the length of the body, and at a distance from 6 to 10 inches above the surface supporting the mixture shall be provided.

The normal frequency for taking asphalt mix temperatures will be for each day, for each design mix on the first five loads and once every five loads thereafter. The temperature of the asphalt mix at the plant and at the roadway shall be taken at the normal frequency before the mix is placed. The temperature shall be recorded on the front of the respective delivery ticket. The Engineer shall review the plant and roadway temperature readings and may take additional temperature measurements at any time.

The master range for all mix designs will be the established temperature from the mix design $\pm 30^{\circ}\text{F}$. Reject for use on the project any load or portion of a load of asphalt mix at

TECHNICAL PROVISIONS**TP 334 – Superpave Asphaltic Concrete Pavement**

the plant or at the roadway with a temperature outside of this master range. The Engineer will be immediately notified of the rejection.

If any single load at the plant or at the roadway is within the master range but differs from the established mix temperature by more than $\pm 25^{\circ}\text{F}$ or if the average difference of

the temperature measurements from the established mix temperature for five loads exceeds $\pm 15^{\circ}\text{F}$, the temperature of every load will be monitored until the temperature falls within the specified tolerance range in Table 334-1; at this time the normal frequency may be resumed.

Table 334-1 Temperature Tolerance From Verified Mix Design	
Any Single Measurement	$\pm 25^{\circ}\text{F}$
Average of Any Five Consecutive Measurements	$\pm 15^{\circ}\text{F}$

334-3.5.4 Maximum Period of Storage: The maximum time that any mix may be kept in a hot storage or surge bin shall be 72 hours.

334-3.5.5 Contractor's Responsibility for Mixture Requirements: Produce a homogeneous mixture, free from moisture and with no segregated materials, that meets all specification requirements. Also apply these requirements to all mixes produced by the drum mixer process and all mixes processed through a hot storage or surge bin, both before and after storage.

334-3.6 MIXTURE TRANSPORT

Transport the mixture in tight vehicles previously cleaned of all foreign material. After cleaning, thinly coat the inside surface of the truck bodies with soapy water or an asphalt release agent as needed to prevent the mixture from adhering to the beds. Do not allow excess liquid to pond in the truck body. Do not use diesel fuel or any other hazardous or environmentally detrimental material as a coating for the inside surface of the truck body. Cover each load during cool and cloudy weather and at any time there is a probability of rain.

334-3.7 MIXTURE PLACEMENT**334-3.7.1 Requirements Applicable to All Mixture Types:**

334-3.7.1.1 Alignment of Edges: Lay all asphalt concrete mixtures, including leveling courses, other than the pavement edge just adjacent to curb and gutter or other true edges, by the stringline method to obtain an accurate, uniform alignment of the pavement edge. Control the unsupported pavement edge to ensure that it will not deviate more than ± 1.5 inches from the stringline.

TECHNICAL PROVISIONS**TP 334 – Superpave Asphaltic Concrete Pavement**

334-3.7.1.2 Temperature of Spreading: Maintain the temperature of the mix at the time of spreading within the master range as defined in 334-3.5.3.

334-3.7.1.3 Rain and Surface Conditions: Immediately cease transportation of asphalt mixtures from the plant when rain begins at the roadway. Do not place asphalt mixtures while rain is falling, or when there is standing water on the surface to be covered. Once the rain has stopped and water has been removed from the tacked surface to the satisfaction of the Engineer and the temperature of the mixture caught in transit still meets the requirements as specified in 334-3.7.1.2, the Contractor may then place the mixture caught in transit.

334-3.7.1.4 Speed of Paver: Establish the forward speed of the asphalt paver based on the rate of delivery of the mix to the roadway but not faster than the optimum speed needed to adequately compact the pavement.

334-3.7.1.5 Number of Crews Required: For each paving machine operated, use a separate crew, each crew operating as a full unit. The technician who will be in charge of all paving operations shall be state approved and properly certified as deemed appropriate by the Engineer. The Contractor's technician in charge of the paving operations may be responsible for more than one crew but must be physically accessible to the Engineer at all times when placing mix.

334-3.7.1.6 Checking Depth of Layer: Check the depth of each layer at frequent intervals, and make adjustments when the thickness deviates from the design thickness. When making an adjustment, allow the paving machine to travel a minimum distance of 32 feet to stabilize before the second check is made to determine the effects of the adjustment.

334-3.7.1.7 Hand Spreading: In limited areas where the use of the spreader is impossible or impracticable, the Contractor may spread and finish the mixture by hand.

334-3.7.1.8 Straightedging and Back-patching: Straightedge and backpatch after obtaining initial compaction and while the material is still hot.

334-3.7.2 Requirements Applicable to Courses Other Than Leveling:

334-3.7.2.1 Spreading and Finishing: Upon arrival, dump the mixture in the approved mechanical spreader, and immediately spread and strike-off the mixture to the full width required, and to such loose depth for each course that, when the work is completed, the required specified thickness is placed. Carry a uniform amount of mixture ahead of the screed at all times.

TECHNICAL PROVISIONS

TP 334 – Superpave Asphaltic Concrete Pavement

334-3.7.2.2 Thickness of Layers: Construct each course of Type SP mixture in layers of thickness as shown in Section 334-4.1.3.

334-3.7.2.3 Laying Width: For regular roadways, pave to the full lane width, except in areas where physically constrained. For other applications such as sidewalks, provide a spreader capable of placing and screeding to the plan width. If necessary due to the traffic requirements, lay the mixture in strips in such a manner as to provide for the passage of traffic. As an option, where the road is closed to traffic, lay the mixture to the full width with machines traveling in echelon. Plan longitudinal joints such that they are not placed where a permanent wheel path will occur.

334-3.7.2.4 Correcting Defects: Before starting any rolling, check the surface. Correct any irregularities; remove all drippings, fat sandy accumulations from the screed, and fat spots from any source; and replace them with satisfactory material. Do not skin patch. When correcting a depression while the mixture is hot, scarify the surface and add fresh mixture.

334-3.7.3 Requirements Applicable Only to Leveling Courses:

334-3.7.3.1 Patching Depressions: Before spreading any leveling course, fill all depressions in the existing surface more than 1 inch deep by spot patching with leveling course mixture, and then compact them thoroughly.

334-3.7.3.2 Spreading Leveling Courses: Place all courses of leveling by the use of two motor graders, equip one with a spreader box. Other types of leveling devices may be used if approved by the Engineer.

334-3.7.3.3 Rate of Application: When using Type SP-9.5 (fine graded) for leveling, do not allow the average spread of a layer to be less than 50 lb/yd² or more than 75 lb/yd². The quantity of mix for leveling shown in the plans represents the average for the entire project.

334-3.8 MIXTURE COMPACTION

334-3.8.1 Equipment and Sequence: For each paving or leveling train in operation, furnish a separate set of rollers, with their operators.

Select equipment, sequence, and coverage of rolling to meet the specified mix design density. The coverage is the number of times the roller passes over a given area of pavement.

Regardless of the rolling procedure used, complete the final rolling before the surface temperature of the pavement drops to the extent that effective compaction may not be achieved or the rollers begin to damage the pavement.

TECHNICAL PROVISIONS



TP 334 – Superpave Asphaltic Concrete Pavement

334-3.8.2 Standard Rolling Procedure: Meet the following equipment, sequence, and coverage requirements:

1. Seal Rolling: Provide two coverages with a tandem steel-wheeled roller, weighing 5 to 12 tons, following as close behind the spreader as possible without pick-up, undue displacement, or blistering of the material. Use static mode only for all compaction. No vibration will be allowed.
2. Intermediate rolling: Provide five coverages with a self-propelled pneumatic-tired roller, following as close behind the seal rolling operation as the mix will permit.
3. Final rolling: Provide one coverage with a tandem steel-wheeled roller (static mode only), weighing 5 to 12 tons, after completing the seal rolling and intermediate rolling, but before the surface pavement temperature drops to the extent that effective compaction may not be achieved or the rollers begin to damage the pavement.

For patching and leveling courses, the first structural layer placed on a milled surface, and on the first overbuild course, use only a self-propelled pneumatic-tired roller.

The Contractor may use equipment, sequences, or coverages other than those specified in the standard rolling procedure if so authorized by the Engineer.

334-3.8.3 Compaction at Crossovers, Intersections, etc.: When using a separate paving machine to pave the crossovers, compact the crossovers with one, 8 to 12 ton tandem steel roller (static mode only). If placing crossovers, intersections, and acceleration and deceleration lanes with the main run of paving, also use a traffic roller to compact these areas.

334-3.8.4 Rolling Procedures: Ensure that the initial rolling is longitudinal.

Where the lane being placed is adjacent to a previously placed lane, pinch or roll the center joint prior to the rolling of the rest of the lane.

Roll across the mat, overlapping the adjacent pass by at least 6 inches. Roll slowly enough to avoid displacement of the mixture, and correct any displacement at once by the use of rakes and the addition of fresh mixture if required.

Continue final rolling to eliminate all roller marks.

334-3.8.5 Number of Pneumatic-tired Rollers Required: Use a sufficient number of self-propelled pneumatic-tired rollers to ensure that the rolling of the surface for the required number of passes does not delay any other phase of the laying operation and does not result in excessive cooling of the mixture before completing the rolling. In the event that the rolling falls behind, discontinue the laying operation until the rolling operations are sufficiently caught up.

TECHNICAL PROVISIONS**TP 334 – Superpave Asphaltic Concrete Pavement**

334-3.8.6 Compaction of Areas Inaccessible to Rollers: Use hand tamps or other satisfactory means to compact areas which are inaccessible to a roller, such as areas adjacent to curbs, headers, gutters, bridges, manholes, etc.

334-3.8.7 Correcting Defects: Do not allow the rollers to deposit gasoline, oil, or grease onto the pavement. Remove and replace any areas damaged by such deposits as directed by the Engineer. While rolling is in progress, test the surface continuously, and correct all discrepancies to comply with the surface requirements.

Remove and replace all drippings, fat or lean areas, and defective construction of any description. Remedy depressions that develop before completing the rolling by loosening the mixture and adding new mixture to bring the depressions to a true surface. Should any depression remain after obtaining the final compaction, remove the full depth of the mixture, and replace it with sufficient new mixture to form a true and even surface.

Correct all high spots, high joints, and honeycombing as directed by the Engineer.

Remove and replace any mixture remaining unbonded after rolling. Correct all defects prior to laying the subsequent course.

334-3.9 JOINTS

334-3.9.1 General: When laying fresh mixture against the exposed edges of joints (trimmed or formed as provided below), place it in close contact with the exposed edge to produce an even, well-compacted joint after rolling.

334-3.9.2 Transverse Joints: Place the mixture as continuously as possible. Do not pass the roller over the unprotected end of the freshly laid mixture except when discontinuing the laying operation long enough to permit the mixture to become chilled.

When thus interrupting the laying operation, construct a transverse joint by cutting back on the previous run to expose the full depth of the mat.

334-3.9.3 Longitudinal Joints: For all layers of pavement except the leveling course, place each layer so that longitudinal construction joints are offset 6 to 12 inches laterally between successive layers. The Engineer may waive this requirement where offsetting is not feasible due to the sequence of construction.

TECHNICAL PROVISIONS**TP 334 – Superpave Asphaltic Concrete Pavement****334-3.10 SURFACE REQUIREMENTS**

334-3.10.1 General: Construct a smooth pavement with good surface texture and the proper cross-slope.

334-3.10.2 Texture of the Finished Surface of Paving Layers: Produce a finished surface of uniform texture and compaction with no pulled, torn, raveled, crushed or loosened portions and free of segregation, bleeding, flushing, sand streaks, sand spots, or ripples. Correct any area of the surface that does not meet the foregoing requirements in accordance with 334-3.10.5.

Do not use asphalt concrete mixtures containing aggregates that cause a different color appearance in the final wearing surface in sections less than 1 mile in length and across the full width of the roadway unless approved by the Engineer.

334-3.10.3 Cross Slope: Construct a pavement surface with cross slopes in compliance with the requirements of the Contract Documents. Furnish a level with a minimum length of 4 feet or a digital measuring device approved by the Engineer for the control of cross slope. Make this level or measuring device available at the jobsite at all times during paving operations. Utilize electronic transverse screed controls on the paving machine (unless directed otherwise by the Engineer) to obtain an accurate transverse slope of the pavement surface.

The Contractor shall be responsible to ensure that cross slope and positive drainage is maintained at all times during paving operations. Areas determined not to be in compliance with this requirement shall be removed and replaced by the Contractor at no cost to the County.

334-3.10.3.1 Quality Control Checks: Measure the cross slope of the pavement surface by placing the measuring device perpendicular to the roadway centerline. Report the cross slope to the nearest 0.1%. Record all the measurements on an approved form and submit to the Engineer for documentation.

Measure the cross slope at a minimum frequency of one measurement every 100 feet during paving operations to ensure that the cross slope is uniform and in compliance with the design cross slope. When the difference between the measured cross slope and the design cross slope exceeds $\pm 0.2\%$ for travel lanes (including turn lanes) or $\pm 0.5\%$ for shoulders, make all corrections immediately to bring the cross slope into the acceptable range.

When the cross slope is consistently within the acceptable range, upon the approval of the Engineer, the frequency of the cross slope measurements can be reduced to one measurement every 250 feet during paving operations.

TECHNICAL PROVISIONS**TP 334 – Superpave Asphaltic Concrete Pavement**

For intersections, tapers, crossovers, transitions at beginning and end of project and similar areas, adjust the cross slope to match the actual site conditions or as directed by the Engineer.

334-3.10.4 Pavement Smoothness: Construct a smooth pavement meeting the requirements of this Specification. The County will provide a representative to be present when smoothness testing is performed.

334-3.10.4.1 General: Furnish a 15 foot manual and a 15 foot rolling straightedge meeting the requirements of FM 5-509. Make them available at the job site at all times during paving operations. Obtain a smooth surface on all pavement courses placed, and then straightedge all final structural and friction course layers in accordance with 334-3.10.4.5.

334-3.10.4.2 Test Method: Perform all straightedge testing in accordance with FM 5-509 with one pass of the rolling straightedge operated along the outside wheel path of each lane being tested. The Engineer may require additional testing at other locations within the lane.

334-3.10.4.3 Traffic Control: Provide traffic control in accordance with 334-3.2 and FDOT Design Standard Indices (600 series as applicable) during all testing. When traffic control cannot be provided in accordance with the applicable indices, submit an alternative Traffic Control Plan. The cost of this traffic control is included in the Contract bid prices for other pay items.

334-3.10.4.5 Quality Control Checks:

334-3.10.4.5.1 General: Straightedge the final Type SP structural layer and friction course layer with a rolling straightedge. Test all pavement lanes and ramps where the width is constant using a rolling straightedge and document all deficiencies on a form approved by the Engineer. Notify the Engineer of the location and time of all straightedge checks a minimum of 48 hours before beginning. Testing shall be conducted by a certified Paving Level I or higher technician. Maintain a field record during testing on a form approved by the Engineer identifying the areas tested and listing the location and degree of all deficiencies found. The field record shall be signed by the technician conducting the test and the Engineer or Engineer's Representative observing the test.

334-3.10.4.5.2 Rolling Straightedge Exceptions: Testing with the rolling straightedge will not be required in the following areas: intersections, tapers, crossovers, parking lots and similar areas. In addition, testing with the rolling straightedge will not be performed on the following areas when they are less than 50 feet in length: turn lanes, acceleration/deceleration lanes and side streets.

TECHNICAL PROVISIONS

TP 334 – Superpave Asphaltic Concrete Pavement

However, correct any individual surface irregularity in these areas that deviates from the plan grade in excess of 3/8 inch as determined by a 15 foot manual straightedge, and that the Engineer deems to be objectionable, in accordance with 334-3.10.5.

In addition, the Engineer may also waive the straightedging requirements on ramps and superelevated sections where the geometrical orientation of the pavement results in an inaccurate measurement with the rolling straightedge.

334-3.10.4.5.3 Intermediate Layers: Straightedge all intermediate Type SP layers (structural and overbuild) as necessary to construct a smooth pavement.

On roadways with a design speed 50 miles per hour or greater, when an intermediate Type SP layer will be opened to traffic, straightedge the pavement with a rolling straightedge and correct all deficiencies in excess of 3/8 inch within 72 hours of placement, unless directed otherwise by the Engineer. Correct all deficiencies in accordance with 334-3.10.5.

334-3.10.4.5.4 Final Type SP Structural Layer: Straightedge the final Type SP structural layer with a rolling straightedge, either behind the final roller of the paving train or as a separate operation. The Engineer will verify the straightedge testing by observing the Quality Control straightedging operations. Correct all deficiencies in excess of 3/16 inch in accordance with 334-3.10.5, and retest the corrected areas prior to placing the friction course.

For bicycle paths, straightedge the final structural layer with a rolling straightedge, either behind the final roller of the paving train or as a separate operation. Correct all deficiencies in excess of 5/16 inch in accordance with 334-3.10.5. Retest all corrected areas. If the Engineer determines that the deficiencies on the bicycle path are due to field geometrical conditions, the Engineer will waive corrections.

334-3.10.4.5.5 Friction Course Layer: Acceptance for pavement smoothness will be based on verified Quality Control measurements using the rolling straightedge. The Engineer will verify the straightedge testing by observing the Quality Control straightedging operations.

At the completion of all paving operations, straightedge the friction course as a separate operation. As an exception, if approved by the Engineer, straightedge the friction course behind the final roller of the paving train. Correct all deficiencies in excess of 3/16 inch in accordance with 334-3.10.5. Recheck all corrected areas.

334-3.10.5 Correcting Unacceptable Pavement: Correct all areas of unacceptable pavement at no cost to the County. Correct deficiencies in the Type SP structural layers or in the friction course by removing and replacing the full depth of the layer, extending for a distance on either side of the defective area as determined by the Engineer, but in no

TECHNICAL PROVISIONS

TP 334 – Superpave Asphaltic Concrete Pavement



case less than 50 feet on either side of the defective area for the full width of the paving lane. At the discretion of the Engineer, removal and replacement of the entire limits of the new pavement may be required.

334-3.11 FINISHED SURFACE PROTECTION

Keep sections of newly compacted asphalt concrete, which are to be covered by additional courses, clean until the successive course is laid.

Do not dump embankment or base material directly on the pavement. Dress shoulders before placing the friction course on adjacent pavement.

Equip blade graders operating adjacent to the pavement during shoulder construction with a 2 by 8 inch or larger board, or other attachment providing essentially the same results, attached to their blades in such manner that it extends below the blade edge in order to protect the pavement surface from damage by the grader blade.

To prevent rutting or other distortion, protect sections of newly finished dense graded friction course and the last structural layer prior to the friction course from traffic until the surface temperature has cooled below 160°F.

The Contractor may use artificial methods to cool the pavement to expedite paving operations. The County may direct the Contractor to use artificial cooling methods when maintenance of traffic requires opening the pavement to traffic at the earliest possible time.

334-3.12 STRIPING

Following final cooling and compaction of the mat and prior to opening to traffic, place temporary painted traffic stripes in accordance with TP-710 and Standard Specification 710 on each paved surface that will receive traffic, including intermediate structural courses, final structural courses that will serve as the surface course, and friction courses. Following thirty (30) days after placement of the final surface course, structural or friction, place thermoplastic striping in accordance with TP-711 and Standard Specification 711 and place raised reflective pavement markers. Final pavement markings are subject to a 180 day observation period under normal traffic. The observation period shall begin with the satisfactory completion and acceptance of the work. The pavement markings shall show no signs of failure due to blistering, excessive cracking, chipping, discoloration, poor adhesion to the pavement, loss of reflectivity or vehicular damage. The County reserves the right to check the color and retroreflectivity within 30 days prior to the end of the observation period. Replace, at no additional expense to the County, any pavement markings that do not perform satisfactorily under traffic during the 180 day observation period.

TECHNICAL PROVISIONS**TP 334 – Superpave Asphaltic Concrete Pavement****334-4 SUPERPAVE ASPHALTIC CONCRETE****334-4.1 DESCRIPTION**

334-4.1.1 General: Construct a Superpave Asphaltic Concrete pavement using the type of mixture specified in the Contract on a properly prepared and accepted base. Superpave mixes are identified as Type SP-9.5, Type SP-12.5 or Type SP-19.0.

Meet the requirements of 334-2 for personnel, plant, methods and equipment. Meet the general construction requirements of 334-3.

334-4.1.2 Traffic Levels: The requirements for Type SP Asphaltic Concrete mixtures are based on the design traffic level of the project, expressed in 18-Kip Equivalent Single Axle Loads (ESAL's). The traffic levels applicable for this specification are as shown in Table 1.

Table 1 Superpave Traffic Levels		
Traffic Level	Million ESAL's	Typical Applications
A	<0.3	Local roads, county roads, and city streets where truck traffic is light or prohibited
B	0.3 to <3	Arterial roads, Collector roads, access streets, medium duty city streets and the majority of county roadways
C	3 to < 10	

The traffic level(s) for the project are as specified in the Contract. A Type SP mix one traffic level higher than the traffic level specified in the Contract, up to a Traffic Level C mix, may be substituted at no cost to the County. In situations where the design traffic level is not specified in the Contract, a Traffic Level C mix shall be used.

334-4.1.3 Layers: Use only fine graded Superpave mixes.

334-4.1.3.1 Layer Thickness: The allowable structural layer thicknesses for fine Type SP Asphaltic Concrete mixtures are as follows:

Type SP-9.5.....	3/4 – 1 1/2 inches
Type SP-12.5.....	1 1/2 – 2 1/2 inches
Type SP-19.0.....	2- 3 inches

TECHNICAL PROVISIONS

TP 334 – Superpave Asphaltic Concrete Pavement

In addition to the minimum and maximum thickness requirements, the following restrictions are placed on fine mixes when used as a structural course:

Type SP-9.5 - Limited to the top two structural layers, two layers maximum.

Type SP-12.5 - May not be used in the first layer of courses over 3 1/2 inches thick, nor in the first layer of courses over 2 3/4 inches thick on limited access facilities.

Type SP-19.0 - May not be used in the final (top) structural layer.

334-4.1.3.2 Additional Requirements: The following requirements also apply to fine Type SP Asphaltic Concrete mixtures:

334-4.1.3.2.1 When construction includes the paving of adjacent shoulders (≤ 5 feet wide), the layer thickness for the upper pavement layer and shoulder shall be the same and paved in a single pass, unless called for differently in the contract documents.

334-4.1.3.2.2 All overbuild layers shall be Type SP Asphalt Concrete designed at the traffic level as stated in the Contract. Use the minimum and maximum layer thicknesses as specified above unless called for differently in the contract documents. On variable thickness overbuild layers, the minimum allowable thickness may be reduced by 1/4 inch, and the maximum allowable thickness may be increased 1/2 inch, unless called for differently in the contract documents.

334-4.2 MIX COMPOSITION

334-4.2.1 General: Compose the asphalt mixture using a combination of aggregates (coarse, fine or mixtures thereof), mineral filler, if required, and asphalt binder material. Size, grade and combine the aggregate proportions to meet the grading and physical properties of the approved mix design. Aggregates from various sources may be combined.

334-4.2.2 Mix Design: Submit to the Engineer the proposed mix design and proof that this mix design is on the FDOT District 5 accepted list. The Engineer will verify with the FDOT District 5 Bituminous Engineer that the mix is on the approved list. No mix design revisions will be allowed. A new design mix will be required for any substitution of an aggregate product, binder, or other design component unless approved by the Engineer. The Engineer will consider any marked variations from mix design parameters or any evidence of inadequate field performance of a mix design as sufficient evidence that the properties of the mix design have changed, and the Engineer will no longer allow the use of that mix design. Provide certification from the plant (either in a statement on the delivery ticket or on a separate sheet) that the mix provided is in conformance with the design mix.

TECHNICAL PROVISIONS**TP 334 – Superpave Asphaltic Concrete Pavement**

334-4.2.3 Additional Information: Provide the following information to the Engineer with each FDOT approved mix design submitted for use:

- The approved FDOT Mix Design Number.
- The design traffic level and the design number of gyrations (N_{design}).
- The source and description of the materials to be used.
- The FDOT source number product code of the aggregate components furnished from an FDOT approved source.
- The gradation and proportions of the raw materials as intended to be combined in the paving mixture. The gradation of the component materials shall be representative of the material at the time of use. Compensate for any change in aggregate gradation in handling and processing as necessary.
- A single percentage of the combined mineral aggregate passing each specified sieve. Degradation of the aggregate due to processing (particularly -No. 200 [-75 μm]) should be accounted for and identified for the applicable sieves.
- The bulk specific gravity value for each individual aggregate (and RAP) component, as identified in the FDOT aggregate control program.
- A single percentage of asphalt binder by weight of total mix intended to be incorporated in the completed mixture, shown to the nearest 0.1%.
- A target temperature at which the mixture is to be discharged from the plant and a target roadway temperature. Do not exceed a target temperature of 340°F for modified asphalts and 315°F for unmodified asphalts.
- The physical properties achieved at four different asphalt binder contents, one of which shall be at the optimum asphalt content, and must conform to all specified physical requirements.
- The ignition oven calibration factor.

334-4.3 MATERIALS

334-4.3.1 General Requirements: Meet the material requirements specified in Division III of the FDOT Standard Specifications for Road and Bridge Construction. Specific references are as follows:

Coarse Aggregate: Stone, Slag, Crushed Gravel, Crushed Reclaimed Portland
Cement Concrete Pavement, Crushed Glass.....Section 901
Fine Aggregate.....Section 902
Superpave PG Asphalt Binder Section 916-1

334-4.3.2 Superpave Asphalt Binder: Unless specified otherwise in the Contract, use a PG 67-22 asphalt binder unless the use of a different binder or recycling agent has been approved by the Florida Department of Transportation and the Engineer for a particular mix design.

TECHNICAL PROVISIONS

TP 334 – Superpave Asphaltic Concrete Pavement

334-4.3.3 Use of Reclaimed Asphalt Pavement (RAP) Material:

334-4.3.3.1 General Requirements: Reclaimed Asphalt Pavement (RAP) may be used as a component material of the asphalt mixture, with the exception of Friction Course mixes, subject to the following requirements:

- Assume responsibility for the production and placement of asphalt mixes which incorporate RAP as a component material.
- Use only RAP that has been approved by the FDOT. Provide documentation of the FDOT approval.
- Limit the amount of RAP material used in the mix to less than 20% by weight of total aggregate, unless otherwise approved the Engineer.
- Use any suitable means to prevent oversized RAP material from showing up in the completed recycled mixture. Take immediate corrective action if oversized RAP material appears in the completed recycled mix.
- Provide stockpiled RAP material that is reasonably consistent in characteristics and contains no aggregate particles which are soft or conglomerates of fines.
- Provide RAP having a minimum average asphalt content of 4.0% by weight. The Engineer may sample the stockpile to verify that this requirement is met.

334-4.4 ACCEPTANCE

334-4.4.1 General: The asphalt mixture will be accepted based on one of the following methods as determined by the Engineer and/or the Contract Documents:

- 1) Certification, Contractor Process Control Testing, and Acceptance Testing by the Engineer
- 2) Other method(s) as determined by the Contract

334-4.4.2 Certification by the Contractor: Submit a Notarized Certification of Specification Compliance letter by an officer of the company who is in responsible charge of paving operations. The letter shall be submitted on company letterhead to the Engineer and shall state that all material produced and placed on the project was in substantial compliance with the Specifications.

334-4.4.3 Contractor Process Control Testing: Provide supporting test data documenting all quality and process control testing as described in 334-2 above. A pre-qualified Independent Laboratory as approved by the Engineer may be utilized for the Process Control testing.

TECHNICAL PROVISIONS**TP 334 – Superpave Asphaltic Concrete Pavement**

334-4.4.4 Acceptance Testing by the Engineer: The Engineer may employ the use of a pre-qualified Independent Geotechnical Engineering firm and/or Laboratory to perform acceptance testing. For every 500 feet of pavement placed per lane per day, take a set of three (3) randomly placed cores, at least two (6”) inches in diameter, for determining density and thickness. A minimum of two sets of three cores will be taken per roadway. Acceptance will be based on the following:

334-4.4.4.1 Density: The minimum acceptable average density for each course of asphaltic concrete placed shall be ninety-two (92%) percent of the design unit weight (G_{mm}) of the job mix, with no test lower than ninety and eight tenths (90.8%) percent or higher than ninety-five (95%) percent.

334-4.4.4.2 Thickness: Meet the minimum design thickness on all cores. When a deficiency in thickness is found, the Engineer may require additional cores to be taken to determine the extent of the thickness deficiency. For any thickness that is less than the design thickness, remove and replace the full depth of the layer, extending for a distance on either side of the defective area as determined by the Engineer, but in no case less than 50 feet on either side of the defective area for the full width of the paving lane. At the discretion of the Engineer, removal and replacement of the entire limits of the new pavement may be required. For any thickness that is greater than the design thickness, the Engineer will make a determination about acceptance.

334-4.4.4.3 Surface Tolerance: The asphalt mixture will be accepted on the roadway with respect to surface tolerance in accordance with the applicable requirements of 334-3.10.

334-4.4.4.4 Additional Tests: The County reserves the right to run any test at any time for informational purposes and for determining the effectiveness of the Contractor's quality control and process control.

334-4.5 METHOD OF MEASUREMENT

For the work specified under this Section the quantity to be paid for shall be the actual area in Square Yards (SY) of asphaltic concrete placed and accepted within the limits of the contract.

PART H

TECHNICAL PROVISIONS

TP 334 – Superpave Asphaltic Concrete Pavement



334-4.6 BASIS OF PAYMENT

Type SP Asphaltic Concrete will be paid for at the contract unit price per square yard, completed and accepted. No additional payment will be made for thickness of asphalt greater than the design thickness.

The bid price for the asphalt mix will include the cost of the liquid asphalt or the asphalt recycling agent. There will be no separate payment for the asphalt binder material in the asphalt mix.

Payment shall be made under:

Pay Item:

334-1-12A	Superpave Asphaltic Concrete (Traffic B)(SP-9.5) (1 1/2")	Per Square Yard
334-1-12B	Superpave Asphaltic Concrete (Traffic B)(SP-12.5) (1 1/2")	Per Square Yard

TECHNICAL PROVISIONS

TP 440 – Underdrains



UNDERDRAINS

Roadway underdrain and underdrain cleanout structures shall be constructed in the locations indicated on the plans or as directed by the Engineer. Construction of the roadway underdrain and underdrain cleanout structures shall conform to the requirements of the latest editions of the FDOT Road and Traffic Design Standard Index No. 286 and FDOT standard specifications for Road and Bridge Construction (specifically section 440), as well as the requirements provided herein. It is the Contractor's responsibility to acquire, read, and understand these documents. Roadway underdrain pipe shall have a diameter of eight (8) inches, unless indicated otherwise on the plans. Construct underdrain inspection boxes in accordance with the Design Standards, Index No. 245 and the Plans.

The Contractor shall be responsible for connecting the drains to outlet structures. Private drains shall not be connected to underdrains or outlet structures unless otherwise authorized by the County's Representative. All inlet/manhole pipe joints (internal and external) shall be filled with non-shrink grout.

Materials

Materials used for this Section shall conform to the following requirements:

A. Filter Fabric:

In accordance with the Geotechnical Report recommendations, the filter fabric shall be a Type D woven geotextile, polypropylene monofilament with fiber diameter 700 µm, and shall conform to the requirements of FDOT Standard Specification 985. No woven slit film fabric is allowed.

The following filter fabrics are approved for use:

Terratex EP-10, or similar
Geotex 2 x 2 HF, or similar

B. Pipe Wrap:

No filter fabric sock or pipe wrap shall be utilized for this project.

C. Filter Aggregate (Fine Aggregate):

Sand: Fine sand with less than 7% passing the US#200 sieve and minimum remolded permeability of 7 ft/day.

Stone: Granite #57 stone shall be used for the trench backfill material.

D. Pipe

Perforated Underdrain Pipe: 8" diameter PVC pipe with 3/8" diameter perforations (not slots which are more prone to clog).

Underdrain Outlet Pipe: 8" diameter non-perforated PVC pipe. All bends shall be made using 1/8 (45 degree) elbows. All 90 degree bends shall be constructed with two 1/8

TECHNICAL PROVISIONS

TP 440 – Underdrains

elbows separated by at least 1' of straight pipe. Outlet pipes stubbed into inlets or other drainage structures shall be not less than 6" above the structure flow line. Outlet pipes discharging to grassed areas shall have concrete aprons, hardware cloth, and bordering sod as shown in Index No. 287 for edgedrain outlets.

In addition to the requirements specified herein, the materials used for this Section shall also conform to the requirements specified in the Plans and the Geotechnical Report.

Procedures

Construction procedures shall conform to the following:

Excavation Trench:

The trench shall be excavated carefully to such depth as is required to permit the pipe to be laid to the grade designed and to the dimensions shown in the plans.

The underdrain trench shall be constructed in a dry condition. This shall be accomplished by the use of a positive dewatering method.

Sprinkler systems must be removed before and restored immediately after the installation of the underdrain and must be coordinated with the homeowner. Sprinkler systems shall be restored for each residence or every 75' on open lots.

Placing Filter Fabric:

After the trench has been excavated, the filter fabric shall be rolled out over the trench and walked into the trench. Care shall be taken to prevent the excavated material from entering the trench after the fabric has been installed.

Laying Pipe:

After the filter fabric has been placed in the trench, approximately six (6) inches of filter aggregate shall be placed in the trench. The pipe shall be bedded firmly in the filter in the aggregate to the correct line and grade. The upper end of the run of roadway underdrain pipe shall terminate at the underdrain cleanout to prevent any filter aggregate from entering the pipe.

Construct underdrain cleanout structures of in-line wye fittings and stub for access where called for in the Plans.

Line and grade shall be maintained by the Contractor at all times during construction installation to ensure proper flow. At a minimum, Contractor shall survey underdrain invert elevations on the upstream and downstream ends of each segment and provide this information to the engineer.

Placing and Compacting Filter Aggregate:

After the pipe has been laid to grade, the pipe shall be firmly held in place by mechanical means while the filter aggregate is placed to a maximum height of five (5) inches plus one (1) inch (compacted) above the top of the pipe. After the first lift is placed and compacted to

TECHNICAL PROVISIONS

TP 440 – Underdrains

the satisfaction of the Engineer, the remainder of the filter aggregate shall be placed. The excavation of the trench, the placement of the filter fabric, the installation of the pipe, and the placement and compaction of the first lift of filter aggregate shall be accomplished in a single continuous operation.

Special care shall be taken to avoid displacement or damage to the pipe or filter fabric.

Backfill above Filter Aggregate:

The Contractor shall be responsible for all clean (free of deleterious material, trash, clay, muck, etc.) backfill material necessary to complete the installation of drains and restoration of the areas affected by the underdrain installation.

After the filter aggregate has been placed to the required height above the pipe, as shown on the plans, the filter fabric shall be lapped full width of trench from both sides. The portion of the trench above the filter aggregate shall be filled with fine filter aggregate which shall be placed and tamped in layers not thicker than twelve (12) inches to the proposed grade.

Cleanouts:

Cleanouts shall be installed evenly spaced no more than 300 feet apart depending on the length of the underdrain. Concrete pads (4" thick) shall be constructed around cleanouts for protection. These square pads shall extend six (6) inches from the edge of the pipe (the clean out pipe shall be located in the center of the pad) and flush with pad. Double cleanouts shall follow the same standards in only one pad; pipes can be placed six (6) inches apart (outside edge to outside edge).

Cleanout pipes shall have inverted standard pipe covers for easy access. All clean out locations shall be identified with embedded concrete curb cuts with minimum of 4" lettering, 1/4" width and 1/4" depth ("UD" is to be used for this purpose). The lettering must be legible. GPS coordinates shall be provided as part of the as-built drawings. Deviations from these standards shall be previously discussed with the County's Representative for approval.

Method of Measurement

Quantities measured for payment under this Section shall be the length in feet of underdrains measured in place, along the center line and gradient of the underdrain, completed and accepted. The measurement shall include the portion of the pipe extending into the walls or junction boxes, etc.

Basis of Payment

Underdrains will be paid for at the contract unit price per linear foot of underdrain and underdrain outlet pipe, completed and accepted. Payment shall be full compensation for all work described herein, including dewatering, excavation, perforated and non-perforated pipe and fittings, filter aggregate, filter fabric, underdrain cleanouts and concrete apron, hardware cloth for concrete aprons, junction boxes, pipe, backfilling, compacting, disposal of surplus material, stubbing into drainage structures, and removal and restoration of sprinklers.

The measurements for payment will be from outside of structure to outside of structure, cleanout to cleanout, or cleanout to outside of structure, installed and accepted as determined by the

PART H

TECHNICAL PROVISIONS

TP 440 – Underdrains



County Representative. Underdrains included in the contract price of other pay items will not be included in this Section for payment.

Payment shall be made under:

Pay Item:

440-1-60	Underdrain, Special, Perforated (8" Dia.)	Per Linear Foot
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Pay Item Note No. 440-1-60

Payment for underdrains includes, but is not limited to, the cost for pipe, perforated and non-perforated fittings, aggregate, filter fabric, underdrain cleanouts, underdrain outlet pipe, junction boxes, concrete aprons, and stubbing into drainage structures. Also includes the cost to coordinate with utility owners and field adjust underdrain to avoid impacts with utilities and private property.

TECHNICAL PROVISIONS



TP 520 – Concrete Gutter, Curb Elements, and Traffic Separator

CONCRETE GUTTER, CURB ELEMENTS, AND TRAFFIC SEPARATOR

Construction of concrete curb and gutter, concrete traffic separator, and concrete valley gutter shall conform to the requirements of Section 520 of the Standard Specifications, except as directed by the Engineer.

Foundation

Foundation material upon which the concrete is to be placed shall be compacted to a minimum QC density of 100% of the standard Proctor maximum density as determined by AASHTO T-99, Method C, per FDOT Standard Specification 120-10.2. The foundation material shall also be thoroughly wetted but free of standing water just prior to placing concrete.

Contraction Joints

Contraction joints shall be sawed to a minimum depth of 1 1/2 inches. Sawing shall begin as soon as the concrete has hardened to the degree that excessive raveling will not occur. Sawing shall progress in the same direction and sequence as the concrete placement. Every third joint shall be sawed first, then saw intermediate joints.

For concrete placed before noon, all joints shall be sawed the same day of placement. For concrete placed after noon, all third joints shall be sawed the day of placement; all other joints prior to noon the following day.

Curing

Concrete shall be cured as provided in Section 520-8, except as modified herein or as approved by the Engineer. Curing material shall be applied to the concrete surfaces after finishing as soon as the concrete has hardened sufficiently to prevent marring the surface or within one hour after finishing is completed, whichever occurs first. Applying curing materials shall not be held up due to other activities on the project. Contractor shall schedule and provide manpower necessary to conform to these requirements.

Spraying equipment, including spray tip and nozzle, shall be as recommended by manufacturer's printed literature, or an acceptable equal. Suggested equivalent spraying equipment is:

Pump Sprayer: Model No. 1949, Chapin Mfg., (800) 444-3140
Drum Pump Sprayer: 12 Volt DC # 6061, Chapin Mfg.

Equipment shall be maintained and nozzles replaced as required to provide consistent uniform spray pattern.

A uniform coating meeting the manufacturer's recommended minimum application rate shall be applied. Areas appearing to have insufficient curing compound, as determined solely by the

TECHNICAL PROVISIONS

TP 520 – Concrete Gutter, Curb Elements, and Traffic Separator

Engineer, shall be re-coated immediately to provide required uniform coverage.

Storage containers having greater than a five gallon capacity may be utilized only with prior approval by the Engineer. The contractor shall submit the manufacturer's descriptive literature describing the placement, storage and mixing requirements for storage containers exceeding five gallons. The contractor shall provide and utilize mechanical mixers for all containers larger than five gallons. The mixers shall be equivalent to the manufacture's requirements. The contractor shall conform to all storage, mixing and application requirements.

Repairs

Where replacement is necessary, complete sections between existing contraction joints shall be removed and replaced.

Method of Measurement

For curb or curb and gutter, the quantity to be paid will be plan quantity, in linear feet, measured along the face of the completed and accepted curb or curb and gutter.

For valley gutter or shoulder gutter, the quantity to be paid will be plan quantity, in linear feet, measured along the gutter line of the completed and accepted valley gutter or shoulder gutter.

For concrete traffic separator of constant width, the quantity to be paid will be plan quantity, in linear feet, measured along the center of its width, completed and accepted, including the length of the nose.

For concrete traffic separator of varying width, the quantity to be paid will be plan quantity, in square yards, completed and accepted.

Basis of Payment

Items covered by this Section will be paid for at the contract unit price. Payment shall constitute full compensation for all work described herein, including all labor, equipment, materials and incidentals necessary to complete each item of work.

Payment shall be made under:

Pay Item:

520-1-10	Concrete Curb and Gutter, Drop Curb (Match Existing)	Linear Feet
520-3	Concrete Valley Gutter	Linear Feet

Pay Item Note No. 520-1-10 & 520-3

Includes the cost of all materials, labor and equipment required for construction of curb and gutter and valley gutter.

TECHNICAL PROVISIONS



TP 522 – Concrete Sidewalks, 4 Inch and 6 Inch Thickness

CONCRETE SIDEWALKS, 4 INCH AND 6 INCH THICKNESS

Construction of 4-inch and 6-inch concrete sidewalk (and driveways) shall conform to the requirements of Section 522 of the Standard Specifications, and Indexes 304 and 310 of the FDOT Design Standards, except as directed by the Engineer.

Foundation

Foundation material shall be compacted to a minimum of 95% of AASHTO T-99 density per FDOT Standard Specification 522 and shall be thoroughly wetted but free of standing water just prior to placing concrete.

Contraction Joints

Contraction joints shall be sawed. All joints shall be straight lines oriented at 90 degrees to the edge of sidewalk, radially if in a curve, or as directed otherwise. The minimum depth of joints shall be 1 1/2 inches or 1/4 the nominal thickness of concrete placed, whichever is greater.

Joint installation shall proceed in the same direction and sequence as the concrete placement. Sawing shall begin as soon as the concrete has hardened to the degree that excessive raveling will not occur. Every third transverse joint and all longitudinal joints shall be sawcut within 8 hours after finishing. Remaining transverse joints, shall be sawcut by noon the following day.

Construction Joints

Construction joints shall be constructed at the end of all pours and at other locations where the concrete placement operations are stopped for as long as 30 minutes. They shall be placed at least 10 feet from any other transverse construction joint or end of pavement section.

Metal keyways shall be installed at all construction joints 6-inches and greater in thickness. Concrete thickness shall be increased by 2-inches for a minimum distance of 6-inches either side of construction joints.

Curing

Concrete shall be cured as provided in Section 520-8, except as modified herein. Curing material shall be applied to the concrete surfaces after finishing as soon as the concrete has hardened sufficiently to prevent marring the surface or within one hour after finishing is completed, whichever occurs first. Applying curing materials shall not be held up due to other activities on the project. Contractor shall schedule and provide manpower necessary to conform to these requirements.

TECHNICAL PROVISIONS



TP 522 – Concrete Sidewalks, 4 Inch and 6 Inch Thickness

Spraying equipment, including spray tip and nozzle, shall be as recommended by the manufacturers' printed literature, or an acceptable equal. Suggested equivalent spraying equipment is as follows:

Pump Sprayer:	Model No. 1949, Chapin Mfg., (800) 444-3140
Drum Pump Sprayer:	12 Volt DC # 6061, Chapin Mfg.

Equipment shall be maintained and nozzles replaced as required to provide a consistently uniform spray pattern.

A uniform coating meeting the manufacturer's recommended minimum application rate shall be applied. Areas appearing to have insufficient curing compound, as determined solely by the County, shall be re-coated immediately to provide the required uniform coverage.

Storage containers having greater than a five gallon capacity may be utilized only with prior approval of the Engineer. The Contractor shall submit the manufacturer's descriptive literature describing the placement, storage and mixing requirements for storage exceeding five gallons. The Contractor shall provide and utilize mechanical mixers for all containers larger than five gallons. The mixers shall be equivalent to or exceed the manufacture's requirements.

The Contractor shall conform to all storage, mixing and application requirements.

Replacement

Driveway approaches and sidewalk portions of driveways must be re-poured within 24 hours after removal. Residents at any driveway work location must have 24 hours notice prior to removing existing concrete. Residents must have reasonable access to the driveway area at all times.

Regular sidewalk panels that have been removed must be properly secured and re-poured within three (3) business days after removal. Sidewalk panels within one (1) mile of any school must be re-poured within 24 hours. All opened areas including areas with debris shall be barricaded at all times. No sidewalk panels shall be left open during Holidays or Holiday weekends.

Provide the new concrete with a neat broom finish and protect the new panels/sections from traffic and environmental effects until the area is suitable for traffic. Panels identified by the County's Representative not to be in compliance with the required broom-finish shall be removed and replaced at no additional cost to the County. Concrete edges must be straight and smooth, no sharp or rugged edges shall be allowed. No graffiti, coating, overlaying, exposed aggregates or surface repairs shall be allowed at any time.

TECHNICAL PROVISIONS



TP 522 – Concrete Sidewalks, 4 Inch and 6 Inch Thickness

When pedestrian traffic is impeded by work operations; barricades, restrictive tape or other approved restraints will be used to keep pedestrians from the work site.

Pedestrian ramps shall be constructed per F.D.O.T. "Standard Specifications for Road and Bridge Construction", latest edition unless otherwise specified on this contract or where authorized by the County's Representative.

Removal and construction of concrete curbs affected by ramp replacement or removed and replaced at the request of the County shall conform to the requirements of the FDOT "Standards Specifications", latest edition, except as authorized by the County Representative. Curb transitions (not associated to pedestrian ramps as specified above) and reconstructed curbs, regardless of type, will be paid as a separate line item.

Detectable surface mats shall be installed flush to the concrete; no gaps, lips or other defects shall be accepted. Deficiencies found shall be immediately corrected at no additional cost to the County.

No under-tolerances shall apply to the thickness of the required concrete for work to be performed under this contract. Areas determined not to be in compliance with the required uniform thickness shall be removed and replaced by the Contractor at no cost to the County.

Where 6-inch concrete has to be replaced due to cracks, it shall be replaced with a uniform thickness of 8-inch concrete covering no less than 40 square feet and extending to existing sawed contraction joints. Replacement concrete shall extend at least 3-inches beneath existing concrete at a minimum thickness of 3-inches.

Method of Measurement

Quantities measured for payment under this Section shall be the actual area in square yards of concrete constructed in place.

Basis of Payment

Concrete sidewalks including ramps, reconstructed sidewalks, walk around sidewalks, sidewalk landings, sidewalk curbs, detectable warning surfaces (armor tiled domes) and driveways will be paid for at the contract unit prices, completed and accepted. Payment shall constitute full compensation for all work described herein, and shall include all labor, equipment, materials, clearing and grubbing, excavation, grading, compaction, expansion material (asphalt impregnated), root removal, disposal of excess or waste, and all incidentals necessary to complete the work to the lines, grades, and thickness indicated on the plans. Includes construction of concrete curb cut ramps.

PART H

TECHNICAL PROVISIONS



TP 522 – Concrete Sidewalks, 4 Inch and 6 Inch Thickness

Subgrade preparation and additional concrete required for thickened slabs as indicated on the plans or as directed by the Engineer shall be included in the contract unit price for 6-inch Concrete Sidewalk.

Payment shall be made under:

Pay Item:

522-1	Concrete Sidewalk, 4" Thick	Per Square Yard
522-2	Concrete Sidewalk and Driveway, 6" Thick (for Driveways)	Per Square Yard

Pay Item Note No. 522-1 & 522-2

Includes the cost of all materials, labor, testing and equipment required for construction of concrete sidewalk and driveways.

TECHNICAL PROVISIONS

TP 570 – Performance Turf

PERFORMANCE TURF

The Contractor shall establish a stand of grass in all areas designated on the plans and disturbed by construction in accordance with Chapter 15, Environmental Control, Article XVII, Fertilizer Management Ordinance of the Orange County Code; Sections 162 and 570 of the Standard Specifications, except as directed by the Engineer.

Work under this Section shall include all seeding, mulching, sodding, fertilizing and watering necessary to provide routine maintenance of the grassed area until the work is accepted by the Engineer.

There must be at least 90% coverage of healthy grass prior to acceptance by the Engineer. The Engineer, at any time, may require replanting of any areas in which the establishment of the grass stand does not appear to be developing satisfactorily.

The Contractor shall mow grassed areas twice monthly, or as required by the Engineer, until final acceptance of the work.

Seeding and Mulching

Grass seed shall be common Bermuda and Bahia. In addition, brown top-millet will be included during summer months and annual rye in the winter months. All seed shall meet the requirements of the State Department of Agriculture.

Sodding

Sodding shall be Bahia. It may be placed in rolls or as individual pieces. In established areas, replacement sod shall be of the same type as the existing sod, unless otherwise approved by the Engineer.

Fertilizers

Fertilize as necessary based on soil testing performed in accordance with Section 162. For fertilizer rates and application times follow Chapter 15 Environmental Control, Article XVII Fertilizer Management Ordinance of the Orange County Code.

Method of Measurement

Payment shall be calculated based on the quantity in square yards as specified in the completed and accepted plans. The cost of establishing grass in other areas disturbed by construction activities shall be borne by the Contractor.



TECHNICAL PROVISIONS

TP 570 – Performance Turf

Basis of Payment

Payment shall be paid for at the contract unit price per square yard. Payment shall constitute full compensation for furnishing all materials and completing all the work specified herein, including ground preparation, fertilizing, seeding, mulching, sodding, watering, mowing and complete maintenance of the grassed area until final completion and acceptance by the Engineer.

Payment shall be made under:

Pay Item:

570-1	Performance Turf, Sod	Per Square Yard
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Pay Item Note No. 570-1

Includes the cost of pegging, fertilizer and water as required for establishment of permanent sodding. Sod placed on all slopes 1:3 or steeper shall be pegged. Also includes the cost of topsoil treatment on all permanent grass areas and mowing until the final project acceptance by the County.



TECHNICAL PROVISIONS

TP 900-1 – As-Built Plans

AS-BUILT PLANS

The As-Built Plans shall incorporate all the changes made to the red line As-Built plans. They shall show locations and elevations of paving, swales, ditches, pipe inverts and structures constructed and all relocated or reset property corners, section corners and 1/4 section corners.

Upon the completion of the project, the Contractor shall submit to the County the As-Built Plans as an electronic file in PDF format and three (3) sets of 11"x17" paper drawings with Statement of Certifications, certifying that the project was constructed according to the Construction Plans and Specifications, and that the AS BUILT PLANS are correct representation of what was constructed. The plans shall delineate all red line information contained on the As-Built Plans, and shall include a detailed sketch of the installed system including location of clean outs, measurement, GPS coordinates, locations of base repairs, etc. for the completed and accepted project.

The Contractor shall include the Statement of Certification on either the cover sheet certifying all of the sheets or certify each individual sheet. The Statement of Certifications shall be signed and sealed by a Professional Engineer and/or a Professional Surveyor and Mapper, both registered in the State of Florida.

Basis of Payment

Includes all efforts necessary for preparation of as-built (red-line) drawings showing approved deviations from plans and confirmed quantities to be used by engineer in the certification of as-built drawings.

As-Built Plans will be paid for at the contract lump sum price, completed and accepted.

Payment shall be made under:

Pay Item:

900-1	As-Built Plans	Lump Sum
-------	----------------	----------

PART H



TECHNICAL PROVISIONS

TP 900-2 – Indemnification

INDEMNIFICATION

The Contractor shall indemnify, defend, and hold harmless the COUNTY and all its officers, agents, and employees, from all claims, losses, damages, costs, charges, or expenses arising out of any acts, action, neglect, or omission by the Contractor during the performance of the Contract, whether direct or indirect, and whether to any person or property to which the COUNTY or said parties may be subject, except that neither the Contractor nor any of its Subcontractors are liable under this Section for damages arising out of the injury or damage to persons or property directly caused or resulting from the sole negligence of the COUNTY or any of its officers, agents, or employees. The County sets a lump sum fee of \$100 for indemnification.

Payment shall be made under:

Pay Item:

900-2	Indemnification	Lump Sum (\$100.00)
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PART H
TECHNICAL PROVISIONS

for

PARK MANOR ESTATES SECTIONS 9-10
UNDERDRAIN IMPROVEMENTS
ORANGE COUNTY, FLORIDA

GEOTECHNICAL ENGINEERING REPORT

(Prepared by Devo Engineering)

GEOTECHNICAL INVESTIGATION AND DRAINAGE ASSESSMENT FOR..

PARK MANOR SUBDIVISION

PARK MANOR DRIVE, ORANGE COUNTY, FLORIDA
[SECTIONS 20, 21 & 29; TOWNSHIP 22 SOUTH; RANGE 31 EAST]

PARK MANOR SUBDIVISION



Prepared by



DEVO SEEREERAM, PH.D., P.E., LLC.
5500 ALHAMBRA DR., ORLANDO, FL-32808
PHONE: (407) 290-2371 - FAX: (407) 298-9011

Prepared for



3000 Dovera Drive
Suite 200
Oviedo, Florida 32765

DEVO SEEREERAM, Ph.D., P.E., LLC
CONSULTING GEOTECHNICAL ENGINEER
FLORIDA REGISTRATION No. 48303



Geotechnical Engineering • Ground Water Modeling • Hydrogeologic/Geo-Environmental Engineering

5500 Alhambra Drive * Orlando, Florida 32808 * Phone: 407-290-2371 * Fax: 407-298-9011

devo@devoeng.com

www.devoeng.com

Date: February 3, 2016

Devo's Project No. 15-610.65

To:

INWOOD CONSULTING ENGINEERS, INC.

3000 Dovera Drive, Suite 200

Oviedo, FL 32765

phone: 407-971-8502; fax: 407-971-8955; ssommerfeldt@inwoodinc.com

attention: **STEVE SOMMERFELDT, P.E.**

Ref:

Geotechnical Investigation And Drainage Assessment For ...

PARK MANOR SUBDIVISION

Park Manor Drive, Orange County, Florida

[Section 20, 21, & 29, Township 22 South, Range 31 East]

Dear Mr. Sommerfeldt:

Attached is our geotechnical engineering report for the Park Manor Drainage Assessment Project.

Our site-specific geotechnical investigation included the drilling of eighty-five (85) hand auger borings, extraction of representative soil samples, installation of piezometers, measurements to the ground water table, inspection of the existing underdrains and observations of drainage issues following heavy rainfall events.

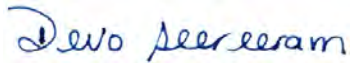
Included in this report are: ❶ our assessment of the geotechnical data, ❷ recommended location for new underdrains (as a minimum), and ❸ recommendations for cleaning, checking, and possible replacement of part of the existing underdrains based on these checks.

As a result of the presence of tannic ground water and associated ochre deposits noted in several areas, we have proposed a modified roadway underdrain detail to address the ochre problem.

We trust that the geotechnical data, evaluation, and recommendations communicated in this report are clear and responsive to the needs of Inwood and Orange County Public Works Department for this drainage retrofit project.

Please feel free to contact us if there are any questions or if any clarifications are needed.

Sincerely,



Devo Seereeram, Ph.D., P.E.
Florida Registration No. 48303
Date: February 3, 2016

TABLE OF CONTENTS

	<u>Page #</u>
I.0 BACKGROUND INFORMATION	6
2.0 OBJECTIVES	8
3.0 OBSERVATIONS FROM PRELIMINARY SITE VISIT	9
4.0 NRCS SOIL MAP UNITS	10
5.0 GEOTECHNICAL FIELD AND LABORATORY TEST PROGRAMS	15
6.0 SHALLOW SOIL AND WATER TABLE CONDITIONS	16
6.1 Presentation of Data	16
6.2 Shallow Soil Stratigraphy	16
6.3 Water Table	16
7.0 UNDERDRAIN INSPECTION	20
7.1 Underdrain Inspection	20
7.2 Underdrain Flow Measurements	21
7.3 Gradation Of Existing Underdrain Filter Material	22
8.0 OVERVIEW ON OCHRE DEPOSITS IN SUBSURFACE DRAINS	24
8.1 Roadway Underdrain Design for Iron Ochre	24
8.2 Cleaning Of Underdrains Subject to Ochre Deposits	27
9.0 ASSESSMENT AND RECOMMENDATIONS	28
9.1 General Assessment	28
9.2 Checks And Retrofit To Existing Underdrains And Stormwater Structures	29
9.3 Recommended Minimum New Underdrain Locations	29
9.4 Special Underdrain Recommendation For Areas With High Tannic Seepage	30
10.0 LIST OF REFERENCES	32

TABLE OF CONTENTS (CONTINUED)

Page #

List of Exhibits

Exhibit 1. Park Manor Drainage Assessment - Study Limits	6
Exhibit 2. Park Manor and vicinity on 1947 Aerial Image. Note the wetland strands	7
Exhibit 3.a Identification of clogging hazard	25
Exhibit 3.b Photos of ochre deposits on pipe as well as on fabric	25
Exhibit 3.c Ochre formation process and zone of interest	26
Exhibit 3.d Some remedial methods	27

List of Tables

Table 1. Key NRCS Data for Ona-Urban land complex (#27)	11
Table 2. Key NRCS Data for Pomello fine sand, 0 to 5 percent slopes (#34)	11
Table 3. Key NRCS Data for Pomello-Urban land complex (#35)	12
Table 4. Key NRCS Data for Smyrna fine sand (#44)	12
Table 5. Key NRCS Data for Smyrna-Urban land complex (#45)	13
Table 6. Key NRCS Data for Zolfo-Urban land complex (#55)	13
Table 7. Key NRCS Data for Arents, nearly level (#1)	14
Table 8. Key NRCS Data for Basinger fine sand, depressional (#3)	14
Table 9. Water Table Data	17
Table 10. Fine Fraction Test Results On Underdrain Filter Material	23
Table 11. Orange County Roadway Underdrain Design Matrix for Iron Ochre Control	31

TABLE OF CONTENTS (CONTINUED)

List of Attached Figures

Base Figures

Figure 1.1	Site Vicinity Map
Figure 1.2	Site Aerial Image (Photo Date: Jan. 2012)
Figure 1.2.a	Historical Site Aerial Image (February 1947)
Figure 1.3	NRCS Soils Map
Figure 1.4	Boring Location Plan
Figure 1.5	Underdrain Inspection Plan & Areas Of Wetness

Soil Profiles

Figure 2.01	Soil Profiles for HA-1 to HA-5
Figure 2.02	Soil Profiles for HA-6 to HA-10
Figure 2.03	Soil Profiles for HA-11 to HA-15
Figure 2.04	Soil Profiles for HA-16 to HA-20
Figure 2.05	Soil Profiles for HA-21 to HA-25
Figure 2.06	Soil Profiles for HA-26 to HA-30
Figure 2.07	Soil Profiles for HA-31 to HA-35
Figure 2.08	Soil Profiles for HA-36 to HA-40
Figure 2.09	Soil Profiles for HA-41 to HA-45
Figure 2.10	Soil Profiles for HA-46 to HA-50
Figure 2.11	Soil Profiles for HA-51 to HA-55
Figure 2.12	Soil Profiles for HA-56 to HA-60
Figure 2.13	Soil Profiles for HA-61 to HA-65
Figure 2.14	Soil Profiles for HA-66 to HA-70
Figure 2.15	Soil Profiles for HA-71 to HA-75
Figure 2.16	Soil Profiles for HA-76 to HA-80
Figure 2.17	Soil Profiles for HA-81 to HA-85

Underdrain Layout and Details

Figure 3.1	Recommended Underdrain Locations
Figure 3.2	Underdrain Details - Areas Of Tannic Ground Water

List of Appendices

Appendix A.	Photos Showing Typical Areas Of Wetness
Appendix B.	Underdrain Observations And Flow Measurements

I.0 BACKGROUND INFORMATION

Orange County issued an emergency authorization to Inwood Consulting Engineers (Inwood) to investigate the observed drainage issues within the Park Manor subdivision and provide recommendations to rectify the root causes on an expedited basis. These services are required on a fast track basis since the street repaving project is about to commence and hence the need for the County to repair any underlying drainage before the resurfacing. The project boundaries are shown on an aerial image in Exhibit 1 and the highlighted roads (~ 10.5 miles) are to be evaluated to determine where underdrains and/or additional stormwater drainage inlets are required to alleviate the flooding issues. Structural assessment of the pavement itself was not included in this scope of work.

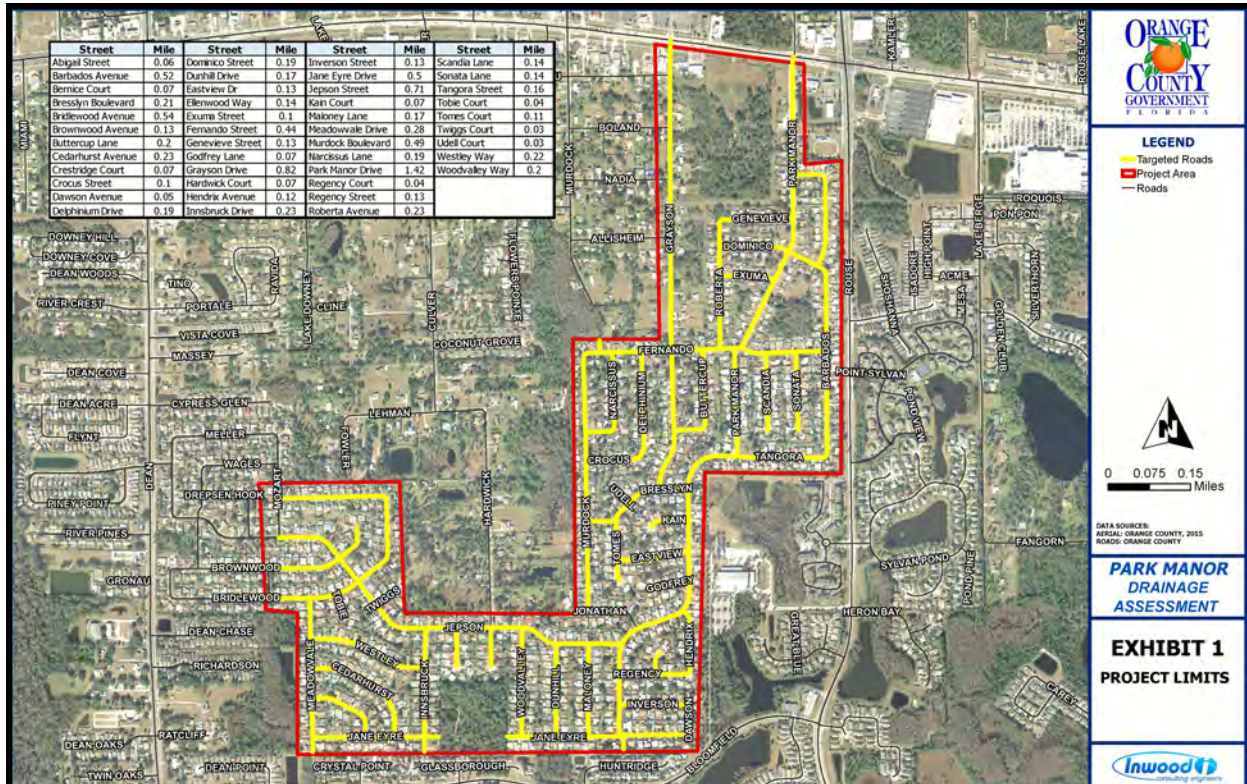


Exhibit 1. Park Manor Drainage Assessment - Study Limits

Inwood in turn requested that Devo Engineering provide the geotechnical engineering support services to provide data on perched water table and shallow subterranean soil conditions, which result in heavy seepage onto the pavement in certain parts of the subdivision.

Figure 1.1 (attached) shows the limits of the study area within Park Manor Subdivision on the USGS 7.5 minute series quadrangle map for Oviedo SW, Florida. As noted on Figure 1.1, the site lies within Sections 20, 21 & 29, Township 22 South, Range 31 East. According to information shown on the quadrangle map, the overall site is nearly level, but some areas are very gently sloping towards the east and southeast. Limited relative elevation surveys performed by Devo Engineering indicate that ground surface elevations at the test locations were typically in the range +65 ft to 80 ft NAVD.

Figure 1.2 shows the boundaries of the study area on a February 2015 aerial image. As noted on the image, the Park Manor Subdivision consists of single family lots and was predominantly built out. There is however, an undeveloped square section along Jane Eyre Drive between Innsbruck Drive and Woodvalley Way and some less dense areas in the northern part of the study area.

Exhibit 2 shows the historical wetlands which were impacted during the development of the subdivision and seepage in these areas are more prevalent since there is a natural tendency to re-establish their predevelopment flow paths following intense rainfall events. A magnified version of this image is shown with the site boundaries in Figure 1.2.a

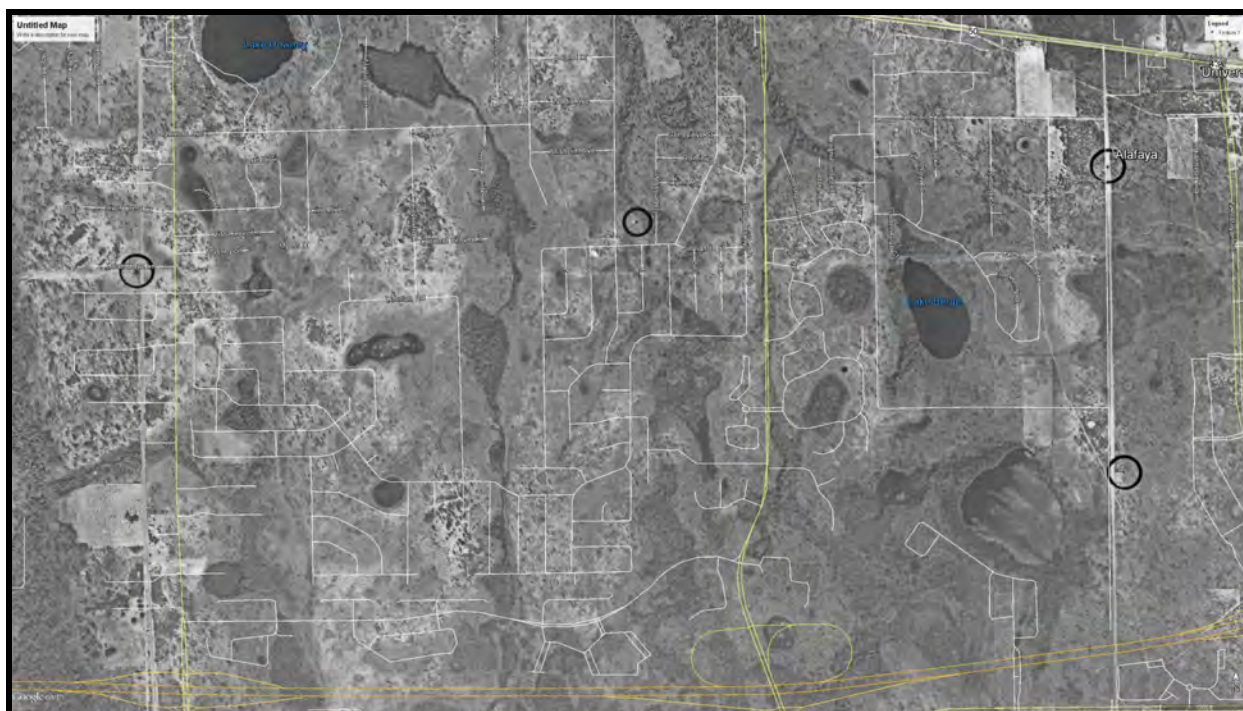


Exhibit 2. Park Manor and vicinity on 1947 Aerial Image. Note the wetland strands.

2.0 OBJECTIVES

The objectives of this investigation are as follows:

1. To provide geotechnical data at representative test locations within the subdivision, with a greater number of test locations in the critical and marginal zones as identified by Inwood.
2. To identify hydraulically restrictive zones within the subsoil strata which have a high propensity to create perched water table conditions.
3. To identify the true (or apparent) water table and the perched water table (if encountered) at each location on a depth below ground basis and provide estimates of the seasonal high conditions for long-term design.
4. To assess the flow rates and effectiveness of existing underdrains.
5. To provide recommended locations for new underdrains based on the soil and water table conditions disclosed during our intrusive exploration.
6. To provide an estimate of the typical baseflow that can be expected for the proposed underdrains based on grain size correlation.

We understand that Inwood will use this geotechnical data provided from this assessment to guide their designs of the roadway underdrains and positive stormwater conveyance to alleviate the flooding issues with the Park Manor Subdivision.

3.0 OBSERVATIONS FROM PRELIMINARY SITE VISIT

A senior engineer of our firm performed a preliminary site reconnaissance/inspection on September 22, 2015. This task included a drive-thru of the roadways and inspection for water table outcropping.

The following are the key observations/notes at the time of the inspection:

- The preliminary inspection was performed between the hours of 1:00 pm and 6:00 pm. There was no rainfall in the area prior to and during the visit on that day. Ambient conditions were dry and reasonably hot.
- Several of the roadway gutter drains showed wetness at the joints and in the adjacent landscaped areas, as shown on Figure 1.5. Selected photos of the wetness observed are included in Appendix A.
- The observed wetness was not prevalent through the entire study area, but within some localized sections.
- Given that the prevailing weather conditions were dry and reasonably hot during our inspection, it can be safely assumed that wet conditions immediately following an intense rainfall event would have been much more extensive.
- In many of the dry areas, there were signs of previous seepage and extensive rust colored stains on the driveways, walkways and roadway curb and gutters.
- The roadway landscaped areas are higher than the gutter, however in some cases it is mounded about a foot or more. Several of the yards are also highly mounded and it was in these areas that the groundwater daylighting problem was more prevalent, although seepage was also noted in some areas that were mounded very little.
- During the drive through, various types and severity of pavement distress were observed: These include, block cracking, longitudinal edge cracking, chicken wire cracking, pumping of base course, seepage (daylighting) through the roadway pavement, sidewalk slabs and adjacent driveways, numerous patches, etc.
- None of the pavement distress observed can be considered severe enough to adversely impact driveability at this time.

4.0 NRCS SOIL MAP UNITS

The Natural Resources Conservation Service (NRCS), an agency of the US Department of Agriculture, has mapped and published descriptions of the shallow soils (i.e., within 80 inches of land surface) in Orange County, Florida. In undeveloped areas (without the addition of impervious areas, the establishment of drainage systems, and/or site grading), the NRCS soil mapping is usually fairly reliable and it is good engineering practice to compare the published NRCS characterization data to the site-specific geotechnical data.

Figure 1.3 (attached) shows the limits of the study area with the Park Manor Subdivision overlaid on a NRCS web soils survey. This map is useful for detecting wetland areas which may contain surficial muck or poorly drained soils (i.e., highly corrosive soils). Review of this figure indicates that there are several NRCS soil map units within the road alignments. These soil map units are grouped according to their drainage characteristics as follows:

Moderately Well Drained Soils

- Pomello fine sand, 0 to 5 % slopes (#34).
- Pomello-Urban land complex, 0 to 5 % slopes (#35).

Somewhat Poorly Drained Soils

- Arents, nearly level (#1).
- Zolfo-Urban land complex (#55)

Poorly Drained Soils

- Ona-Urban land complex (#27).
- Smyrna fine sand (#44).
- Smyrna-Urban land complex (#45).

Very Poorly Drained Soils

- Basinger fine sand, depressional, 0 to 1 percent slopes (#3).

Pomello-Urban land complex, 0 to 5 % (#35) and Smyrna-Urban land complex (#45) are the dominant soil units being mapped in over 60% of streets within the study area. In these urban areas, the depth to the seasonal high water table depends on the functioning of the drainage system present.

In addition there are smaller areas mapped with Ona-Urban land complex (#27), Zolfo-Urban land complex (#55) and small isolated areas of Arents nearly level (#1), Basinger fine sand, depressional, 0 to 1 % slopes (#3). In urban areas #27 and #55, the depth to the seasonal high water table depends on the functioning of the drainage system present. Arents (#1) has a seasonal high water table that is at a depth of about 24 inches, while in Basinger fine sand (#3) the seasonal high water table can be as high as the ground surface.

Key characteristics of these NRCS soil map units are summarized in Tables 1 through 8, which follow.

Table 1. Key NRCS Data for Ona-Urban land complex (#27)

This complex consists of Ona soil that is nearly level and poorly drained and of areas of Urban land. This complex is on the flatwoods. In undrained areas, a seasonal high water table is within 10 inches of the surface for 1 month to 2 months. Drainage systems have been established in most areas. Depth to the high water table is dependent upon the functioning of the drainage system.		
Hydrologic Soil Group		B/D
Typical Soil Profile		
Depth	Soil Color & Texture	Permeability
0 - 3 in	Black fine sand	12 to 40 ft/day
3 - 16 in	Dark reddish brown fine sand	1.2 to 4 ft/day
16- 31 in	Gray fine sand	12 to 40 ft/day
31 - 80 in	Light gray fine sand	
Urban land		
0 - 80 in	n.a.	n.a.

Table 2. Key NRCS Data for Pomello fine sand, 0 to 5 percent slopes (#34)

This soil is nearly level to gently sloping and moderately well drained. It is on low ridges and knolls on the flatwoods. In most years, a seasonal high water table is at a depth of 24 to 40 inches for 1 month to 4 months and recedes to a depth of 40 to 60 inches during dry periods.		
Hydrologic Soil Group		C
Typical Soil Profile		
Depth	Soil Color & Texture	Permeability
0 - 3 in	Gray fine sand	> 40 ft/day
3 - 40 in	White fine sand	
40 - 48 in	Black fine sand	4 to 12.0 ft/day
48 - 55 in	Dark reddish brown fine sand	
55 - 80 in	Pale brown fine sand	12 to 40 ft/day

Table 3. Key NRCS Data for Pomello-Urban land complex (#35)

<p>This complex consists of Pomello soil that is nearly level to gently sloping and moderately well drained and of areas of Urban land. This complex is on low ridges and knolls on the flatwoods.</p> <p>This map unit consists of \approx 53% Pomello soil, \approx 40% Urban land, and \approx 7% small areas of Archbold, Pompano, and Smyrna soils. The proportions and patterns of Pomello soil and Urban land are relatively consistent in most delineations of the map unit. The individual areas of the soils in this map unit are too mixed or too small to map separately at the scale used.</p> <p>The Urban land part of this complex is covered by concrete, asphalt, buildings, or other impervious surfaces that obscure or alter the soils so that their identification is not feasible.</p> <p>In most years, a seasonal high water table is at a depth of 24 to 40 inches for 1 month to 4 months and recedes to a depth of 40 to 60 inches during dry periods. Where drainage systems have been established, depth to the high water table is dependent upon the functioning of the drainage system.</p>		
Hydrologic Soil Group		C
Typical Soil Profile		
Depth	Soil Color & Texture	Permeability
0 - 5 in	Dark gray fine sand	> 40 ft/day
5 - 42 in	White fine sand	
42 - 48 in	Dark reddish brown fine sand	4 to 12.0 ft/day
48 - 54 in	Dark brown fine sand	
54 - 80 in	Light gray fine sand	12 to 40 ft/day

Table 4. Key NRCS Data for Smyrna fine sand (#44)

<p>This soil is nearly level and poorly drained. It is on broad flatwoods. In most years, a seasonal high water table is within 10 inches of the surface for 1 month to 4 months. It recedes to a depth of 10 to 40 inches for more than 6 months.</p>		
Hydrologic Soil Group		B/D
Typical Soil Profile		
Depth	Soil Color & Texture	Permeability
0 - 4 in	Black fine sand	12 to 40 ft/day
4 - 17 in	Gray fine sand	
17 - 22 in	Black fine sand	1.2 to 12 ft/day
22 - 27 in	Dark brown fine sand	
27 - 53 in	Pale brown fine sand	12 to 40 ft/day
53 - 80 in	Light gray fine sand	

Table 5. Key NRCS Data for Smyrna-Urban land complex (#45)

This complex consists of Smyrna soil that is nearly level and poorly drained and of areas of Urban land. This complex is on the flatwoods. In undrained areas, a seasonal high water table is within 10 inches of the surface for 1 month to 4 months. Drainage systems have been established in most areas. Depth to the high water table is dependent upon the functioning of the drainage system.		
Hydrologic Soil Group		B/D
Typical Soil Profile		
Smyrna fine sand		
Depth	Soil Color & Texture	Permeability
0 - 5 in	Black fine sand	12 to 40 ft/day
5 - 18 in	Light gray fine sand	
18 - 22 in	Black fine sand	1.2 to 12 ft/day
22 - 28 in	Dark brown fine sand	
28 - 50 in	Grayish brown fine sand	12 to 40 ft/day
50 - 80 in	Pale brown fine sand	
Urban land		
0 - 80 in	n.a.	n.a.

Table 6. Key NRCS Data for Zolfo-Urban land complex (#55)

This complex consists of ① Zolfo soil that is nearly level and somewhat poorly drained, and ② areas of Urban land. Zolfo soil is on broad, slightly higher positions adjacent to the flatwoods. In most years, a seasonal high water table is at a depth of 24 to 40 inches for 2 to 6 months. It is at a depth of 10 to 24 inches during periods of heavy rains. It recedes to a depth of about 60 inches during extended dry periods. The Urban land part of this complex is covered by concrete, asphalt, buildings, or other impervious surfaces that obscure or alter the soils so that their identification is not feasible.		
Hydrologic Soil Group		C
Typical Soil Profile for Zolfo soil		
Depth	Soil Color & Texture	Permeability
0 - 6 in	Dark grayish brown fine sand	12 to 40 ft/day
6 - 18 in	Brown fine sand	
18 - 42 in	Light brownish gray fine sand	
42 - 64 in	Very pale brown fine sand	
64 - 72 in	Brown fine sand	1.2 to 4 ft/day
72 - 80 in	Dark brown fine sand	

Table 7. Key NRCS Data for Arents, nearly level (#1)

Arents consists of material dug from several areas that have different kinds of soil. This fill material is the result of earth moving operations. This soil is used to fill such areas as sloughs, marshes, shallow depressions, swamps, and other low-lying areas above their natural ground levels during land-leveling operations; or it is used as a cover for sanitary landfills. The slopes are smooth to concave and range from 0 to 2 percent. Most soil properties are variable. A seasonal high water table varies with the amount of fill material and artificial drainage in any mapped area. In most years, a seasonal high water table is at a depth of 24 to 36 inches for 2 to 4 months. It recedes to a depth of about 60 inches or more during extended dry periods.












Table 8. Key NRCS Data for Basinger fine sand, depressional (#3)

This soil is nearly level and very poorly drained. It is in shallow depressions and sloughs and along the edges of freshwater marshes and swamps. Under natural conditions, the water table is above the surface for 6 to 9 months or more each year and is within 12 inches of the surface for the rest of the year.

Hydrologic Soil Group		D
Typical Soil Profile		
Depth	Soil Color & Texture	Permeability
0 - 7 in	Black fine sand	12 to 40 ft/day
7 - 32 in	Gray fine sand	
32- 47 in	Dark brown and light brownish gray fine sand	
47 - 80 in	Pale brown fine sand	

5.0 GEOTECHNICAL FIELD AND LABORATORY TEST PROGRAMS

The following program of field and laboratory work was performed (refer to Figure 1.4 for test locations):

-  Stake-out boring and core locations and call-in utility clearance.
-  Prepare, submit, and obtain a right-of-way utilization permit.
-  Compliance with the requirements of the approved right-of-way utilization permit.
-  Visual inspection of the ground surface conditions along the landscaped areas directly adjacent to the roadway pavement.
-  Drilling of eighty-five (85) hand auger borings within the roadside landscaped areas, to a depth of 7 ft below ground surface. These test locations are labeled HA-1 to HA-85 in Figure 1.4.
-  Retrieval of selected soil samples from the boreholes and from the underdrain envelopes at selected locations within the existing underdrains. These locations are labeled P-1 to P-11 in Figure 1.4.
-  Installation of piezometers in each borehole and measurement of depth to stabilized water table in each piezometer.
-  Removal of the manhole covers and observation of the flow rates of existing underdrains. Actual flow rates were measured where practical and inspection for bacterial and other growth which may impede flow.
-  Performed a relative elevation survey of the ground surface at the boring locations, where needed for our evaluation.
-  Performed visual and tactile examination of the extracted soil samples.
-  Performed approximately fifty (50) fines fraction and natural moisture content tests on selected soil samples.

Site reconnaissance, field observations, measurements and borings were conducted over the period, September 22 through to October 25, 2015. Note that the test locations were approximated in the field using available aerial maps, drawings and site features and the coordinates were subsequently recorded by a handheld GPS instrument.

6.0 SHALLOW SOIL AND WATER TABLE CONDITIONS

6.1 Presentation of Data

Boring locations, as well as underdrain filter sand sampling locations, are shown in Figure 1.4 (attached). Soil profiles for borings HA-1 to HA-85 are presented in Figures 2.01 to 2.17 (attached).

Water table depth measurements and laboratory test results (where applicable) are annotated adjacent to the soil profiles. Table 9 lists the measure depths to the ground water table at the test locations.

6.2 Shallow Soil Stratigraphy [Ref: Figures 2.01 to 2.17]

Approximately sixty-five percent of the 85 borings disclosed layers of fine sand through their 7 ft depth of exploration. The other borings generally disclosed surficial layers of fine sand, 0.5 ft to 3 ft thick, underlain by either slightly silty fine sand, silty fine sand, slightly clayey fine sand and clayey fine sands, 0.5 ft to 3 ft thick, and then layers of fine sands through to the 7 ft of exploration. However, some buried layers of sandy clay and some cemented sands, were disclosed at a few boring locations.

6.3 Water Table

The stabilized ground water table was encountered at depths ranging from, 0.7 ft to 3.7 ft, below the ground surface as summarized in Table 9. Note also that a perched water table was recorded on the actual date of drilling at locations HA-31, HA-39 & HA-73. The perched water table, where present, appeared to be due to the presence of shallow buried hydraulically restrictive soils. The ground water table quite shallow at several locations, some of which had underdrains. This implies that not all the underdrains are fully effective.

The water table altitude fluctuates seasonally due to short-term and long-term differences in rainfall and evapotranspiration. The stabilized water table measurements were recorded on October 19, 2015, which is at the onset of a dry period when the ground water table would have just started falling from seasonal high levels. The water table altitude is influenced by short-term and long-term rainfall deficits/surpluses and artificial recharge sources, such as landscape irrigation. Based on observations made during the site visits, quite a few homeowners irrigate their yards and the adjacent roadside landscaped areas. The degree of irrigation was observed to vary from sparse or none at all, to heavy and even excessive. Well water was understood to be major source of irrigation water in several properties and this was felt to be major reason for the high degree of curb staining observed in some areas.

The seasonal high water table is estimated to between the measured level and 0.5 ft above the measured level. These estimates were developed by reviewing the measured depths to the water table, the soil stratigraphy, NRCS soil survey, the antecedent rainfall and the site topography.

Table 9. Water Table Data				
Boring No.	Ground surface elevation * (ft NAVD)	Perched WT depth on date of drilling (ft)	Depth to stabilized water table 10-19-15 (ft NAVD)	Water table elevation 10-19-15 (ft NAVD)
HA-1	71.6	-	3.1	68.5
HA-2	73.5	-	2.8	70.7
HA-3	74.0	-	1.4	72.6
HA-4	75.4	-	2.0	73.4
HA-5	75.1	-	2.0	73.1
HA-6	73.8	-	1.3	72.5
HA-7	63.4	-	3.4	60.0
HA-8	66.6	-	3.7	62.9
HA-9	67.6	-	1.0	66.6
HA-10	68.5	-	1.3	67.2
HA-11	69.0	-	1.4	67.6
HA-12	69.4	-	1.9	67.5
HA-13	69.0	-	1.7	67.3
HA-14	72.3	-	2.1	70.2
HA-15	73.5	-	1.9	71.6
HA-16	76.5	-	3.6	72.9
HA-17	76.5	-	1.7	74.8
HA-18	78.6	-	2.2	76.4
HA-19	77.7	-	2.5	75.2
HA-20	65.7	-	3.4	62.3
HA-21	67.1	-	1.7	65.4
HA-22	67.5	-	1.1	66.4
HA-23	67.7	-	1.1	66.6
HA-24	68.8	-	0.7	68.1
HA-25	67.1	-	3.3	63.8
HA-26	67.8	-	1.6	66.2
HA-27	69.1	-	3.3	65.8
HA-28	68.8	-	2.3	66.5
HA-29	74.5	-	1.7	72.8
HA-30	75.0	-	2.1	72.9
HA-31	72.0	1.0	1.2	70.8
HA-32	68.7	-	2.2	66.5
HA-33	74.6	-	1.7	72.9
HA-34	75.8	-	2.0	73.8
HA-35	65.0	-	3.4	61.6
HA-36	77.7	-	2.7	75.0

Table 9. Water Table Data				
Boring No.	Ground surface elevation * (ft NAVD)	Perched WT depth on date of drilling (ft)	Depth to stabilized water table 10-19-15 (ft NAVD)	Water table elevation 10-19-15 (ft NAVD)
HA-37	74.9	-	1.7	73.2
HA-38	75.8	-	1.7	74.1
HA-39	78.0	2.0	2.6	75.4
HA-40	77.4	-	2.1	75.3
HA-41	80.0	-	2.7	77.3
HA-42	74.7	-	1.7	73.0
HA-43	76.0	-	1.2	74.8
HA-44	77.6	-	2.5	75.1
HA-45	72.6	-	1.2	71.4
HA-46	74.0	-	1.6	72.4
HA-47	68.6	-	2.4	66.2
HA-48	69.5	-	2.2	67.3
HA-49	76.3	-	1.4	74.9
HA-50	79.1	-	1.5	77.6
HA-51	80.3	-	2.0	78.3
HA-52	78.4	-	1.3	77.1
HA-53	76.3	-	1.3	75.0
HA-54	76.9	-	2.9	74.0
HA-55	76.2	-	2.3	73.9
HA-56	75.9	-	1.9	74.0
HA-57	76.1	-	1.1	75.0
HA-58	76.7	-	1.0	75.7
HA-59	77.8	-	1.5	76.3
HA-60	76.9	-	1.5	75.4
HA-61	76.3	-	2.4	73.9
HA-62	76.3	-	3.4	72.9
HA-63	74.8	-	2.8	72.0
HA-64	74.4	-	2.6	71.8
HA-65	79.7	-	2.8	76.9
HA-66	78.0	-	3.0	75.0
HA-67	75.7	-	2.5	73.2
HA-68	75.8	-	2.0	73.8
HA-69	77.7	-	2.4	75.3
HA-70	77.6	-	2.5	75.1
HA-71	76.5	-	1.4	75.1
HA-72	76.8	-	1.9	74.9

Table 9. Water Table Data				
Boring No.	Ground surface elevation * (ft NAVD)	Perched WT depth on date of drilling (ft)	Depth to stabilized water table 10-19-15 (ft NAVD)	Water table elevation 10-19-15 (ft NAVD)
HA-73	78.9	1.5	2.1	76.8
HA-74	79.3	-	1.0	78.3
HA-75	79.5	-	1.8	77.7
HA-76	80.0	-	3.3	76.7
HA-77	79.5	-	1.7	77.8
HA-78	78.6	-	1.7	76.9
HA-79	79.0	-	1.6	77.4
HA-80	77.9	-	3.6	74.3
HA-81	76.5	-	3.6	72.9
HA-82	77.5	-	2.3	75.2
HA-83	76.9	-	2.0	74.9
HA-84	79.6	-	2.2	77.4
HA-85	78.2	-	1.8	76.4

* Ground surface elevations were approximated based on a relative elevation survey and are not to be relied upon for detailed designs.

7.0 UNDERDRAIN INSPECTION

7.1 Underdrain Inspection

A visual inspection was performed on the outlets of the existing roadway underdrains. The underdrain locations are shown in Figure 1.5 (attached). Pertinent notes were recorded on the type of pipe, relative flow rate, algae and any other form of growth, bacterial or otherwise, that may inhibit flow. These were the key observations made with respect to the underdrains:

- ☞ The dominant pipe material was corrugated polyethylene, although rigid PVC and clay pipes were observed at a few locations. According to information received, the underdrains were installed 2010, however, the clay underdrain pipes present were of the type that have no longer been used in the industry for many years now, therefore, these are believed to have been installed many years prior to 2010.
- ☞ The underdrains generally appeared to be 6" diameter pipes, except that clay pipes were closer to 4" diameter.
- ☞ In most of the structures there was no standing water, thus allowing the incoming flows from the underdrain pipe to be clearly observed. However, at a few locations, the underdrain pipes were partially or fully submerged (due to standing water in the stormwater structure) and therefore, underdrain flow, if present, could not have been detected just by visual observations alone. Measurement of underdrain flow was practical at some locations, while at some other locations it was impractical (See Section 7.2).
- ☞ Flow rates ranged from a very slow trickle to a very rapid flow (equivalent to an open tap).
- ☞ Growth and/or deposits of what appeared to be iron bacterial growth, or some other related deposit, was present at the few underdrain outfalls, within the pipe and the area directly where the water was trickling down. Based on a review of several technical publications which we were able to research, the signs of growth at the ends of the underdrain pipes appear to be formations of "*ochre deposits*". The topic, ochre deposits, is discussed separately in Section 8.0.
- ☞ The color of the underdrain flow was mostly clear. At one location however a slight green tinge was observed.
- ☞ While some underdrain cleanouts were easily visible, some were difficult to see and others were either buried or overgrown with sod and could not be found.

A tabular summary of the underdrain inspection observations and flow measurements is presented in Appendix "B".

7.2 Underdrain Flow Measurements

In addition, where practical to insert a collection device beneath the invert of the pipe, the flow rate was measured.

- ☞ The flow rates were measured, wherever practical. At some locations it was not possible to insert even a very shallow vessel beneath the underdrain pipe to catch the flow because the invert was too close to the base of the structure, or the projection through the structure wall was inadequate to permit a direct falling flow.
- ☞ Flow rates, where measured, ranged from 0.053 gpm to 4.76 gpm.
- ☞ The scope of the investigation did not include checking of the underdrain length, however, based on information provided to us by Inwood, we were able to estimate the lengths of the underdrain runs.
- ☞ Using the estimated length of the underdrain run and the measured flow rate we were able to calculate an average baseflow of 0.00022 gpm/linear foot to 0.0185 gpm/linear foot of underdrain.

Data collected from the flow measurements and estimates of the flow/unit length are also included in Appendix "B".

Although observations of the stormwater structures were not in our scope, during the underdrain observations, we had made some observations on some of the stormwater structures that are incidental to the underdrain inspection. These were the observations made:

- ☒ The penetration in the structure wall for the underdrain pipe was not properly sealed at several locations.
- ☒ Ground water seepage was observed coming from the soils surrounding the structures through joints in the riser segments and through improperly sealed underdrain penetrations.
- ☒ Ground water inflow, where present in structures, ranged in color from somewhat clear to a light rust brown stain.
- ☒ There was a rust brown stain on the internal walls at some manhole locations. In some cases there were just spots, while at other locations the staining was extensive.

7.3 Gradation Of Existing Underdrain Filter Material

Fine fraction tests were performed on samples of the existing underdrain filter material . The purpose of this was to check the suitability of gradation of the material, as excessive fines can inhibit underdrain effectiveness. A total of eleven (11) samples were retrieved from eleven (11) underdrain locations. The test results are summarized in Table 10. The results disclosed fines fraction contents ranging from 0.4% to 2.3%. Note that FDOT recommends a maximum of 2% fine fraction passing for underdrain filter material.

These values are generally within the acceptable limits, although somewhat exceeded at one location on Bresslyn Boulevard, where the FDOT fines fraction limit was exceeded by 0.3%.

Table 10. Fine Fraction Test Results On Underdrain Filter Material			
Street	Side	Sample Number	Fine fraction content
Murdock (north segment)	West	P-1	0.7%
Murdock (middle segment)	East	P-2	0.4%
Murdock (south segment)	West	P-3	0.8%
Bresslyn B'ld. (west segment)	North	P-4	2.3%
Bresslyn B'ld. (east segment)	South	P-5	1.1%
Scandia Lane	East	P-6	1.0%
Park Manor Drive (north segment)	East	P-7	0.5%
Park Manor Drive (north-middle segment)	West	P-8	0.7%
Park Manor Drive (middle segment)	East	P-9	1.0%
Park Manor Drive (south-middle segment)	West	P-10	0.7%
Park Manor Drive (south segment)	East	P-11	0.6%

FDOT recommends a maximum fine fraction of 2.0%

8.0 OVERVIEW ON OCHRE DEPOSITS IN SUBSURFACE DRAINS

8.1 Roadway Underdrain Design for Iron Ochre

In subsurface drains, there are four known types of sludge deposits that are associated with bacterial activity: ochre, manganese deposits, sulfur slime, and iron sulfide. Iron deposits, collectively named ochre, are the most serious and widespread. Ochre deposits and associated slimes are usually red, yellow, or tan in color. Ochre is filamentous (from bacterial filaments), amorphous (more than 90% water), and has a high iron content (2 to 65% dry wt.). It is a sticky mass combined with an organic matrix (2 to 50% dry wt.) that can clog drain entry slots, drain envelopes, filter fabric at trench interface, and the valleys of the corrugations between envelope and inlet slots.

A list of selected references on the subject is included at the end of this topic. Based on this literature review, there is no assured design method to completely eliminate iron ochre clogging issues in roadway subsurface drainage systems (a.k.a. underdrains). However, there are several design modifications which can mitigate the clogging impact. Most of the research on iron ochre clogging of subsurface drains (and methods to mitigate) emanates from Canadian universities (Quebec, British Columbia, etc.) and the University of Florida within USA, with a primary focus on agricultural drainage applications. Canadian, Dutch, and German research has also focused on the propensity of different types of filter fabrics to serve as conducive media for bacteria growth. Research has shown that the woven monofilament polypropylene fibers (700 μm is preferable over 450 μm) is least subject to clogging by iron ochre. It is therefore the fabric we recommend for use in the problematic underdrain sections {both @ pipe sock (if available) and the trench envelope}.

Exhibit 3.a to 3.d are from a presentation by Koerner (Feb 2012) which provides a ready synopsis of the iron ochre issue in highway applications.

2.2.4 Ferrous iron soils leading to "Ochre"

- Ochre is an orange substance rich in organic matter and high in iron oxides

Ochre Clogging Hazard Ranking

	Fe ²⁺ content (mg/L)		Clogging Hazard
Ford (1982)	< 0.5 > 2.5		None Severe
	Fe ²⁺ content (mg/L)		Clogging Hazard
	pH < 7	pH > 7	
Kuntze (1982)	< 0.5	< 1.0	None
	0.1-1.0	1.0-3.0	Slight
	1.0-3.0	3.0-6.0	Moderate
	3.0-6.0	6.0-9.0	Great
	> 6.0	> 90	Very Great
	Fe ²⁺ content (mg/L)	Clogging Hazard	
Maslov, et al. (1975)	3-5	Slight	
	5-8	Moderate	
	8-14	Great	
	> 14	Very Great	

Exhibit 3.a Identification of clogging hazard



Exhibit 3.b Photos of ochre deposits on pipe as well as on fabric

Exhibit 3.c shows the zone of fluctuating saturation at an underdrain pipe where conditions (moisture & oxygen) allow growth of iron ochre bacteria. If the soil were mostly dry or always inundated, the conditions will not allow growth of the bacteria so the focus is on the dynamic moisture zone. The soil matrix must contain iron producing bacteria and the soil must be sandy with hardpan type layers (dark reddish brown sands or organics). These conditions are typically found in east Orange County near or overlying wetlands and in zones with iron-rich hardpan. The ochre develops to maturity within a year after installation and then does not grow further as the iron source generally diminishes. However, if the underdrain is on a long slope with a good fetch of groundwater capture, the feed of iron-rich seepage can be extended for many years with continual regrowth.

Within this particular subdivision some of the existing underdrain runs are long and although it has been about three years since the majority of underdrains were installed, some ochre growth can likely continue.

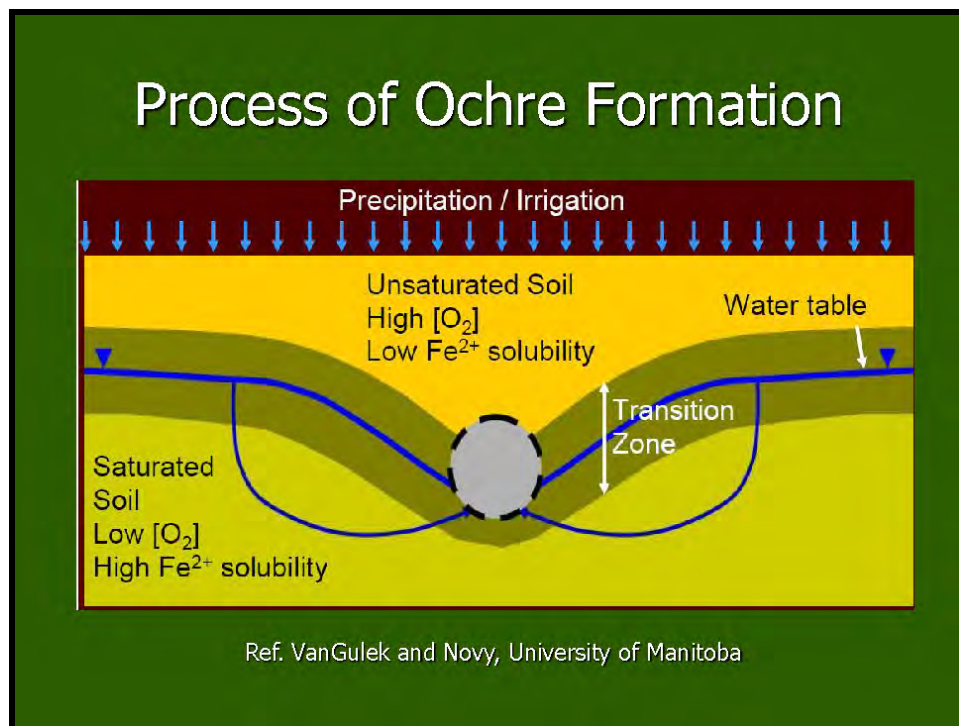


Exhibit 3.c Ochre formation process and zone of interest

8.2 Cleaning Of Underdrains Subject to Ochre Deposits

Jet cleaning the underdrains at the end of the first year following installation is recommended since the growth should be near maximum and still gelatinous enough to be pressure-washed off the pipe. Once the bacteria crystallizes, its harder to remove by jet cleaning. Some of the prevention/remedial measures are shown in Exhibit 3.d.

Possible (?) Strategies	
Preventing	Remediation*
<ul style="list-style-type: none">■ surface or trench lining■ aerating subsurface soil■ addition of iron complex material■ addition of bactericide,■ reduce the drain spacing■ submerge the drainage outlets	<ul style="list-style-type: none">■ flushing of drainage pipes■ high pressure cleaning■ chemical (biocide) cleaning <p>*only addresses the pipe and localized fabric adjacent to holes or slits</p>

Exhibit 3.d Some remedial methods

9.0 ASSESSMENT AND RECOMMENDATIONS

9.1 General Assessment

Most of the borings disclosed layers of fine sand though their 7 ft depth of exploration. Several other borings disclosed buried layers of sand with varying amounts of silts and clays and the odd layer of cemented sand and sandy clay.

The stabilized ground water table was encountered at depths ranging from, 0.7 ft to 3.7 ft, below the ground surface as summarized in Table 9. Note also that a perched water table was recorded on the actual date of drilling at locations, HA-31, HA-39 & HA-73. The perched water table, where present, appeared to be due to the presence of shallow buried hydraulically restrictive soils.

Visual inspection of the roadway landscaped areas conducted 24 hrs after a rainy period ceased, disclosed areas of wetness and water seeping into roadside gutters. In addition, several of these areas were evidently still very saturated and quite soft. Historical aerial imagery shows that prior to the development of the subdivision, wetlands occupied certain portions of the site. These areas, even though backfilled, displayed elevated water table conditions.

Maintaining adequate separation between the pavement base course and the ground water table is critical to the life of a pavement. At several locations the ground water table was observed to be very shallow and is certain to impact the pavement base. In fact, during the drainage assessment, we observed pumping and flushing of basecourse material through cracks in several areas of roadway pavement as a result of high ground water conditions.

The recommended method of lowering the ground water table along the roadways within this subdivision is by the use of properly designed and constructed roadway underdrains.

Note that several segments of the existing roadway underdrains are ineffective in lowering the water table and would have to be repaired or replaced due to clogging of the filter fabric. The main reason the fabric usually clogs is because of the tannic water source providing food for the algae which likes to latch onto and grow on the fabric media.

New underdrains should be installed in all other areas where elevated ground water conditions are present.

9.2 Checks And Retrofit To Existing Underdrains And Stormwater Structures

Detailed description of the observations of the existing underdrains and flow measurements taken, are included in Figure 1.5. Based on the flow measurements, some underdrain segments may be underperforming and this can be due to a variety of reasons. It is difficult to pinpoint the precise reason or reasons that a particular segment may not be functioning properly. Following are recommendations for checking and improving underdrain performance:

1. Locate, expose and mark the locations of all cleanouts.
2. Cleanout/clear each segment of underdrain with a conventional vacuum truck. Note it is important to observe the water flow before and after to see whether there was any improvement with flow.
3. The particular segments that showed bacterial buildup and restrictive flow usually means the fabric also has algae growth. Consider the use of environmentally friendly chemical agents which can remove algae or other bacterial related growth for the underdrain. However, if this proves to be costly, replacement of the underdrain would be necessary.
4. Clean stormwater structures and remove any algae or bacterial build up from within.
5. The staining within the structure is due to high iron surficial aquifer groundwater seeping through the leaky joints. Breaches in the stormwater structures can also lead to soil loss and subsidence of the surrounding areas and adjacent pavements. Seal the joints in the risers of stormwater structure and the improperly reinstated penetrations for the underdrain pipes.

Note: the inset table in Figure 1.5 lists the underdrain runs with sluggish flow rates and these are recommended for cleaning **as a first trial**. The ochre-clogged zones to be replaced are those which fail to respond to cleaning in this first trial. There may be significant economic waste if it is assumed all of the slow flowing underdrains are clogged by iron ochre and have to be replaced so it is best to make this decision based on their response to cleaning.

9.3 Recommended Minimum New Underdrain Locations

Based on the seasonal high water table data obtained from the test locations, an inspection of the roadway landscaped areas, historical data and existing pavement section, new underdrains are recommended at the locations shown on Figure 3.1, as a minimum. However, in designing the system, the actual underdrain segments may have to extend beyond the limits shown when taking into consideration the location of existing stormwater structures and practicality of flow direction. In light of the presence of tannic water and the ochre deposits observed, the use of typical underdrains is not recommended. Rather, a specially recommended underdrain detail for use in areas of tannic water is presented in Figure 3.2.

For the purpose of sizing the storm water system, the contribution from the roadway underdrains can be estimated to be 0.0075 gpm/linear foot of installed drain, but this does not include any sheetflow that enters the underdrain system from above.

9.4 Special Underdrain Recommendation For Areas With High Tannic Seepage

Table 11 lists modifications (ranked by level of assuredness) to the standard pavement underdrain design, which we recommend for the zones showing high tannic seepage water and with evidence of underdrain clogging. Different options are presented on Table 11 ranging from the most assured commercial-grade design (for building foundations) to the standard roadway underdrain detail.

The key design modifications are as follows:

- ⇒ Use the 8" diameter pipe instead of the 6" diameter pipe since the former will be easier to jet clean (this size increase is not related to conveyance capacity). Jet cleaning runs should not extend more than 400 ft for equipment limitations.
- ⇒ If PVC pipe with circular perforations (fairly large) are used in a gravel envelope, there will be no need to place a filter fabric sock or wrap at that interface; the circular perforations will be less likely to clog than slit perforations or the perforations in standard HDPE underdrain pipe.
- ⇒ Use the woven polypropylene monofilament (700 µm fibers) filter fabric on the external trench wrap to reduce bacteria formation (FDOT Index 199 still applies).
- ⇒ Perform jet cleaning (400 psi at the nozzle) after 1 year and inspect again after 6 months for ochre buildup. Note that jet cleaning will be ineffective if the ochre ages and becomes crystalline so it is important to do the first cleaning at about 12 months.

Figure 3.2 shows the modified underdrain detail that is recommended for use in areas of tannic water.

Our review of historical aerial imagery disclosed that on this site, there were uplands, wetlands, and the in-between zones. The existing underdrains are not restricted to the historical wetland areas alone. Therefore, historical wetland cover alone cannot be used the criteria for predicting areas where underdrains might be potentially clog-prone (due to ochre deposits). Consequently, we recommend the special type of underdrain throughout the subdivision, with "Option 1" in Table 11 being the most assured option.

Table 11. Orange County Roadway Underdrain Design Matrix for Iron Ochre Control

PARAMETER	UNDERDRAIN DESIGN OPTIONS LISTED IN ORDER OF ASSURANCE (1 IS MOST ASSURED)			
	1	2	3	4
Expected service life	25 to 30 yr for 8" pipe 10 to 15 yr for 6" pipe	15 to 20 yr for 8" pipe 8 to 10 yr for 6" pipe	8 to 12 yr for 8" pipe 6 to 8 yr for 6" pipe	1 to 5 yr (with maintenance) 1 yr (little or no maintenance)
Type of underdrain pipe	8" PVC with perforations (not slots which are more prone to clog); 8" diameter is preferred over 6" diameter to allow easier access for the jet cleaning tools; cleaning/jetting pressure of 400 psi at the nozzle is recommended for stability		8" HDPE underdrain; double wall to withstand jetting pressure; 8" diameter is preferred over 6" diameter to allow easier jet cleaning.	6" HDPE with non-woven sock (standard underdrains)
Type of filter around the pipe	none; as the circular perforations will be sized to keep the gravel out		woven fabric sock if available meeting requirements of trench filter fabric	non-woven (standard)
Trench backfill material	granite (#57)	limestone (#57); less suitable than granite but is allowed by some counties	FDOT 902.4 Sand (per Orange County roadway design)	
Trench surround filter fabric	woven geotextile, polypropylene monofilament with fiber diameter 700µm; no woven slit film fabric allowed Terratex EP-10 or Geotex 2 × 2 HF; this type of filter fabric is shown by experiments to be less prone to clogging from iron ochre; design per FDOT Index 199, Index No. 285 for gravel envelope and Index No. 286 for sand envelope			
Sand above trench envelope filter wrap, under sod	fine sand with less than 7% passing the US#200 sieve and minimum remolded permeability of 7 ft/day			
Scheduled Maintenance after installation	jet cleaning, 400 psi must be performed within 6 to 12 month of installation when most ochre buildup occurs. Drain cleaning provisions should be installed in such a way that the drains can be cleaned in an upstream or rising grade direction			
Anticipated Maintenance Frequency After First Year	every 10+ yr for 8" pipe every 5 yr for 6" pipe	every 8+ yr for 8" pipe every 3 to 5 yr for 6" pipe	every 5 yr for 8" pipe every 3 yr for 6" pipe	every 2 years
Cleanouts for jet cleaning	design such that the spacing is not more than 400 ft (or at bends) to facilitate jet cleaning			

10.0 LIST OF REFERENCES

- Gameda S., Jutras P.J., and Broughton R.S. **July 1982**. "Ochre In Subsurface Drains In A Quebec Fine Sandy Soil". Canadian Agricultural Engineering Journal, Vol. 25, No. 2, Winter 1983
- Bryant R. **January 1988**. "Iron Ochre Problems in Agricultural Drains." Drainage Factsheet, Order No. 543.300-1, British Columbia Ministry of Agriculture and Food
- Bryant R.G and Shaw K. **January 1988**. "Iron Ochre Control Methods". Drainage Factsheet, Order No. 543.300-2, British Columbia Ministry of Agriculture and Food
- Ford H.W., **January 1993** (reviewed December 2005). "Iron Ochre and Related Sludge Deposits In Subsurface Drain Lines". UF/IFAS Extension, Circular 671, University of Florida
- de Mendonca B., Marcos E., Mauricio C., and Magali C. **July 2003**. "Conditioning Factors of Iron Ochre Biofilm Formation on Geotextile Filters". Canadian Geotechnical Journal, Vol. 40, p. 1225-1234
- Stuyt, Dierickx, and Beltrán. **2005**. "Materials for subsurface land drainage systems". Food and Agriculture Organization of the United Nations Rome, 2005. FAO Irrigation and Drainage Paper 60 Rev. 1
- Lee S. and Phillippe L. Bordeau. **May 2006**. "Filter Performance and Design for Highway Drains". Technical Summary, Publication No.: FHWA/IN/JTRP-2005/1, SPR-2635, Purdue University.
- New Jersey NRCS. **March 2007**, "Subsurface Drainage". Water Management Guide, Chapter 3, Part NJ650.14,
- New Jersey NRCS. **July 2007**. "Interception Drainage". Water Management Guide, Chapter 4, Part NJ650.14, NRCS
- NRCS. **September 2011**, "Subsurface Drain". Natural Resources Conservation Service Conservation Practice Standard, Code 606
- Koerner, Robert. **February 2012**. "Geotextile Filter Failures". Presentation at the National Dam Safety Technical Seminar #19 "Filters, Drains, and Geotextiles in Dams and Levees" held February 22 - 23, 2012 at FEMA's Emergency Management Institute in Emmitsburg, MD
- Ruark, Matt, Cooley, Eric, Panuska, John, Pagel, Joe. **August 2013**. "Understanding and Locating Tile Drainage Systems". Tile Drainage in Wisconsin, UW-Discovery Farms Office
- Boman, Brian J., Tucker, D.P.H. **June 2015**. "Drainage Systems for Flatwoods Citrus in Florida". UF/IFAS Extension, Circular 1412, University of Florida

FIGURES

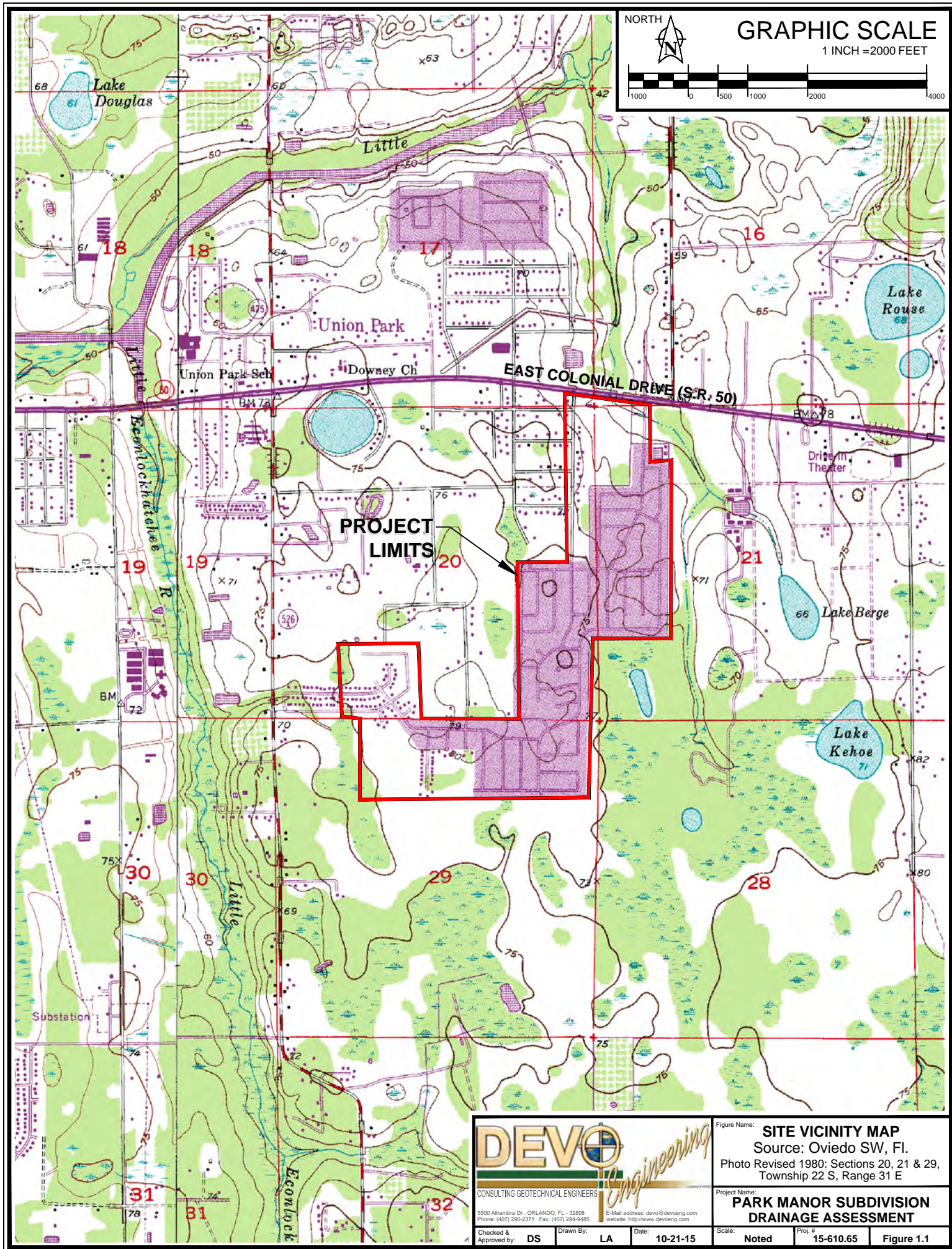
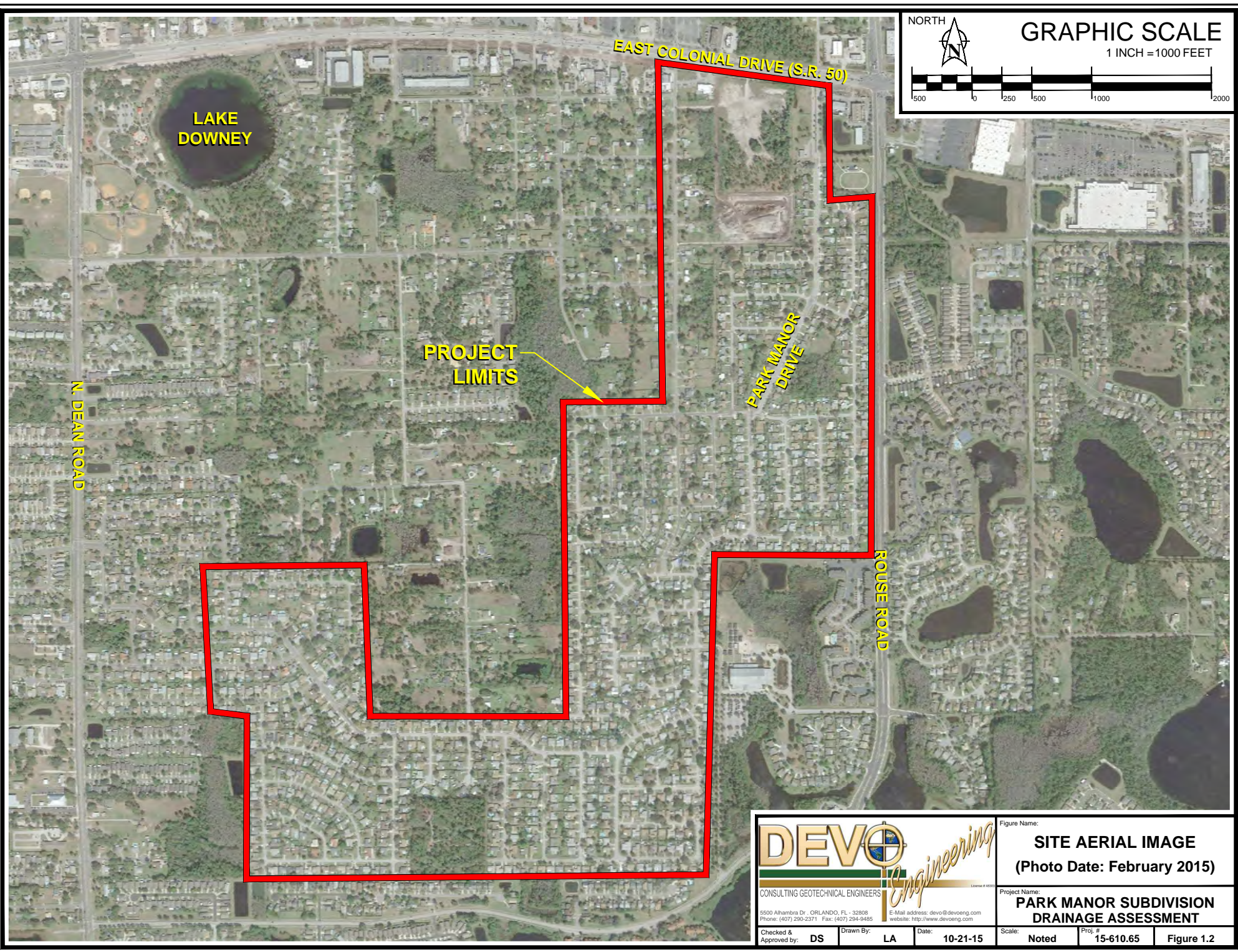


Figure Name:	SITE VICINITY MAP		
Source:	Oviedo SW, Fl.		
Photo Revised 1980:	Sections 20, 21 & 29, Township 22 S, Range 31 E		
Project Name:	PARK MANOR SUBDIVISION DRAINAGE ASSESSMENT		
Scale:	Noted	Proj. #	15-610.65
Figure 1.1			

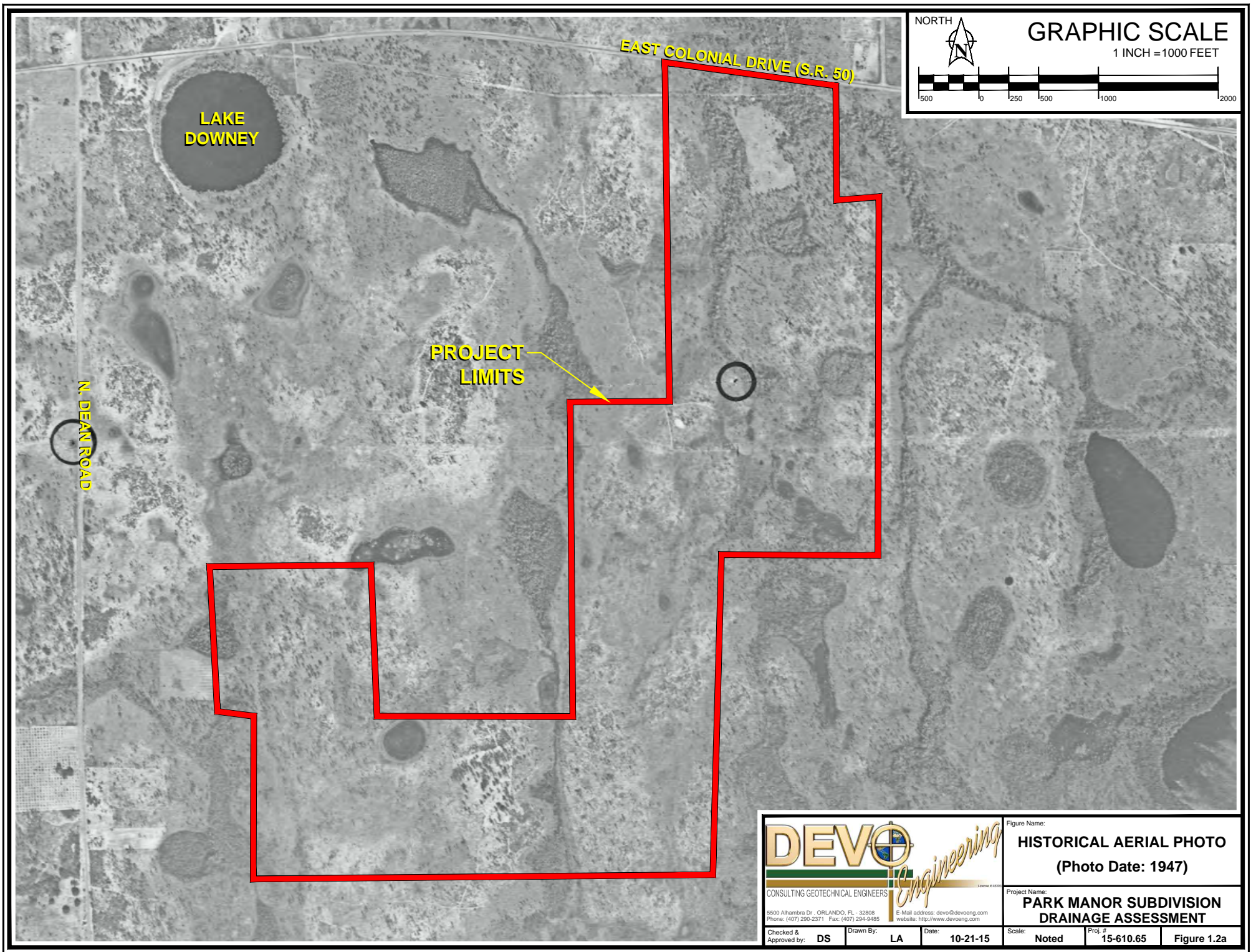
Checked & Approved by:	DS	Drawn By:	LA	Date:	10-21-15
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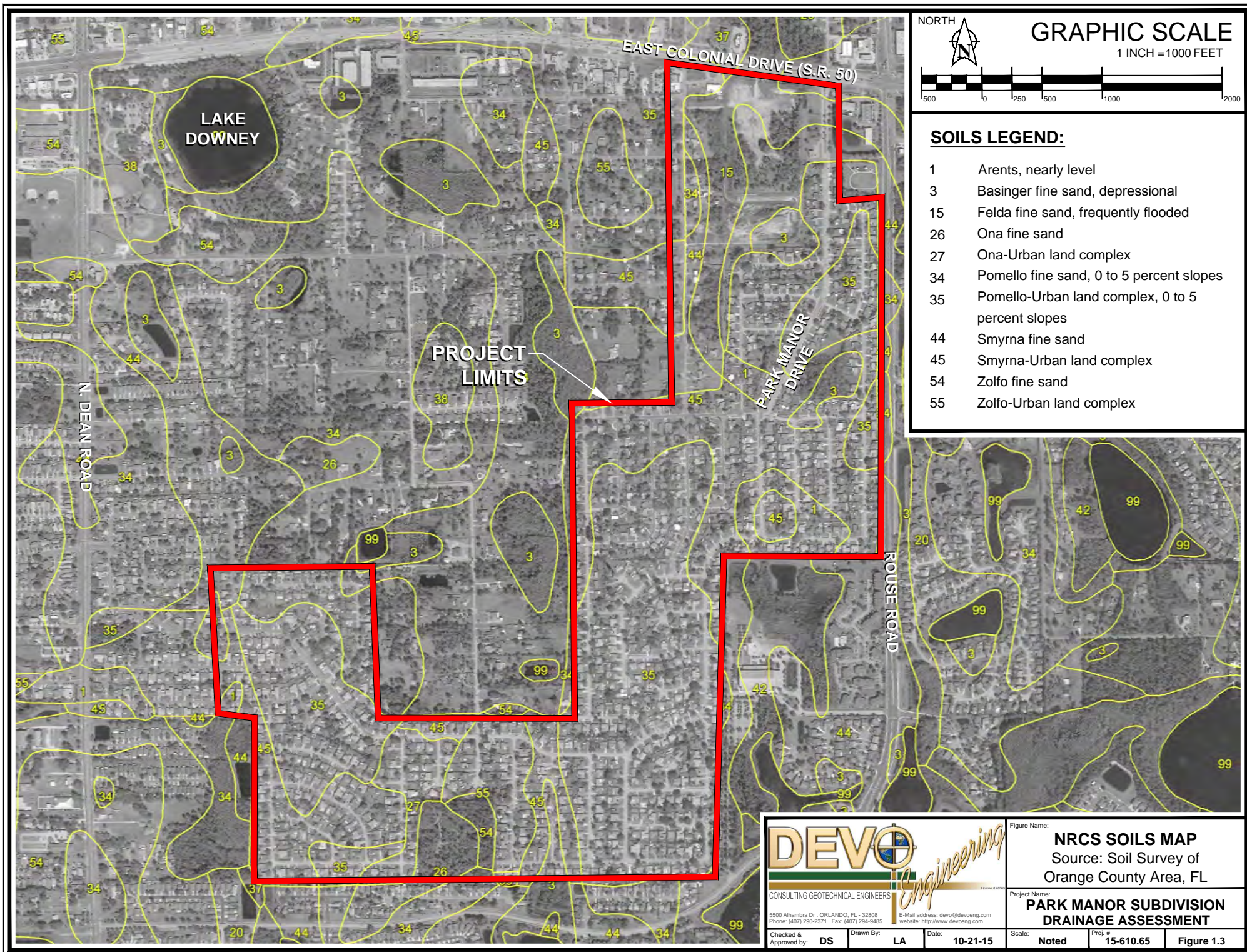
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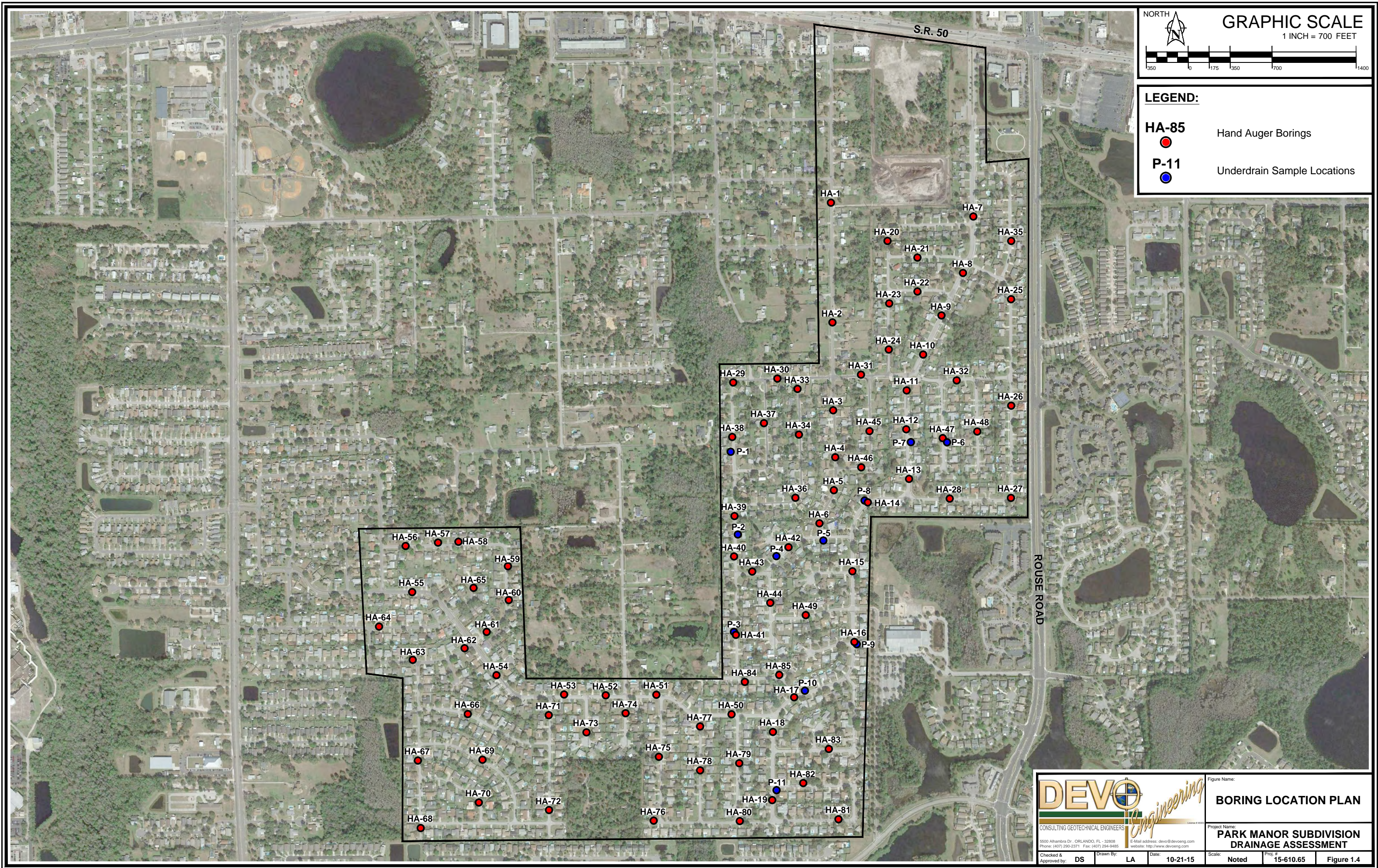
License # 001073

Figure Name: SITE AERIAL IMAGE (Photo Date: February 2015)			
Project Name: PARK MANOR SUBDIVISION DRAINAGE ASSESSMENT			
Checked & Approved by:	DS	Drawn By:	LA
Date:	10-21-15	Scale:	Noted
Proj. #	15-610.65	Figure 1.2	



 CONSULTING GEOTECHNICAL ENGINEERS 5500 Alhambra Dr. - ORLANDO, FL - 32808 Phone: (407) 290-2371 Fax: (407) 294-9485 E-Mail address: devo@devoeng.com website: http://www.devoeng.com	Figure Name: HISTORICAL AERIAL PHOTO (Photo Date: 1947)			
	Project Name: PARK MANOR SUBDIVISION DRAINAGE ASSESSMENT			
	Checked & Approved by: DS	Drawn By: LA	Date: 10-21-15	Scale: Noted
Figure 1.2a				





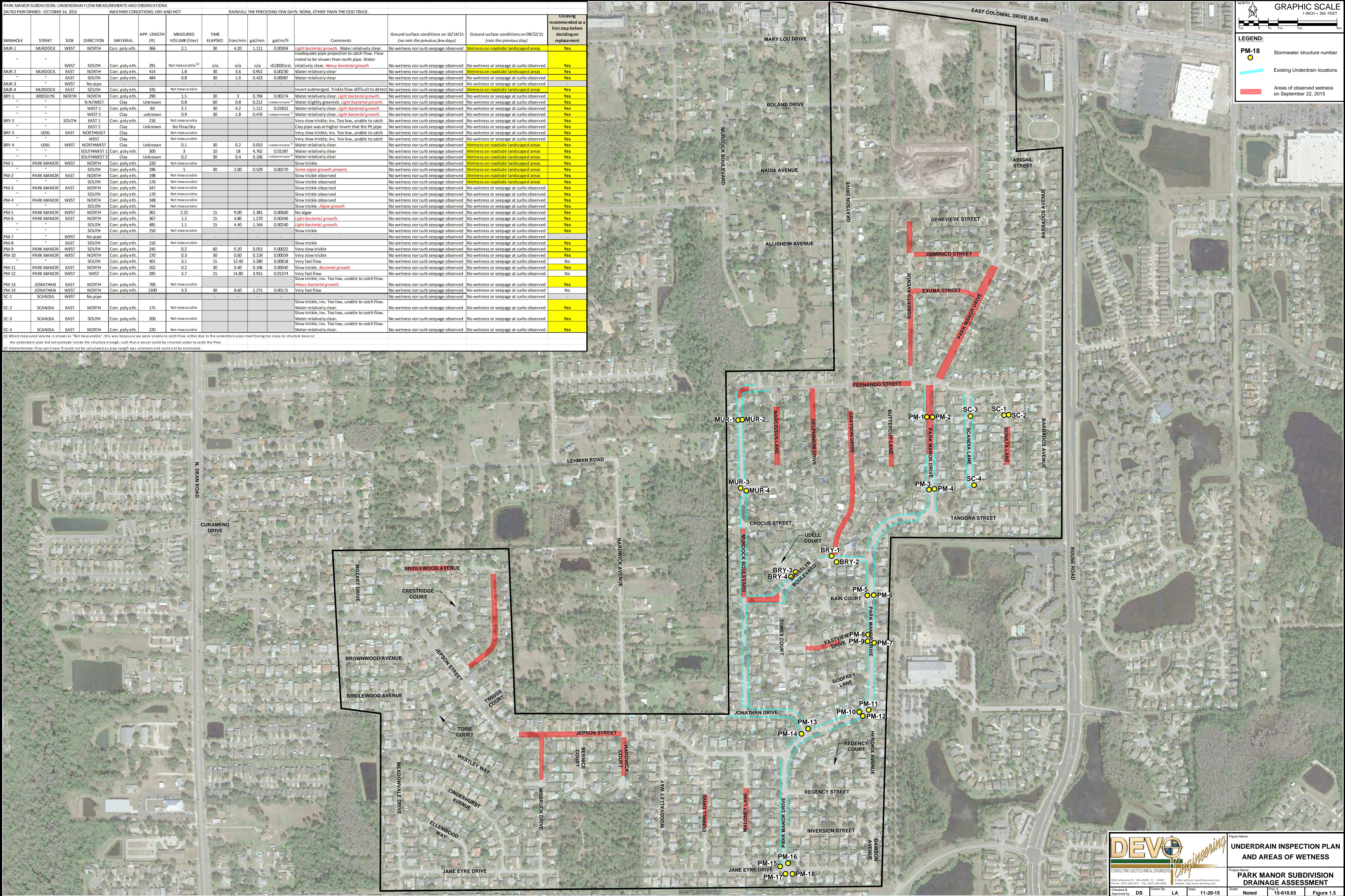
PARK MANOR SUBDIVISION: UNDERDRAIN FLOW MEASUREMENTS AND OBSERVATIONS										RAINFALL THE PRECEDING FEW DAYS: NONE, OTHER THAN THE ODD TRACE.										Cleaning recommended as a first step before deciding on replacement
DATED PERFORMED: OCTOBER 14, 2015										WEATHER CONDITIONS: DRY AND HOT										
MANHOLE	STREET	SIDE	DIRECTION	MATERIAL	APP. LENGTH (ft)	MEASURED VOLUME (liter)	TIME ELAPSED	liter/min	gal/min	gal/m/ft	Comments	Ground surface conditions on 10/14/15 (no rain the previous few days)	Ground surface conditions on 09/22/15 (rain the previous day)							
MUR-1	MURDOCK	WEST	NORTH	Corr. poly eth.	366	2.1	30	4.20	1.111	0.00304	Light bacterial growth. Water relatively clear, inadequate pipe projection to catch flow. Flow noted to be slower than north pipe. Water relatively clear. Heavy bacterial growth.	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes						
"	"	WEST	SOUTH	Corr. poly eth.	291	Not measurable ^[1]	n/a	n/a	n/a	<0.0030 est.	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Wetness on roadside landscaped areas	Yes						
MUR-2	MURDOCK	EAST	NORTH	Corr. poly eth.	414	1.8	30	3.6	0.952	0.00230	Water relatively clear	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes						
"	"	EAST	SOUTH	Corr. poly eth.	484	0.8	30	1.6	0.423	0.00087	Water relatively clear	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
MUR-3	"	WEST	No pipe	No pipe	-	-	-	-	-	-	-	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
MUR-4	MURDOCK	EAST	SOUTH	Corr. poly eth.	335	Not measurable	-	-	-	-	Invert submerged. Trickle flow difficult to detect	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes						
BRY-1	BRESSLYN	NORTH	NORTH	Corr. poly eth.	290	1.5	30	3	0.794	0.00274	Water relatively clear. Light bacterial growth.	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
"	"	N/N/WEST	Clay	Unknown	0.8	60	60	0.8	0.212	Indeterminate ^[2]	Water slightly greenish. Light bacterial growth.	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
"	"	WEST 1	WEST 2	Clay	60	2.1	30	4.2	1.111	0.01852	Water relatively clear. Light bacterial growth.	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
"	"	WEST 2	Clay	unknown	0.9	30	30	1.8	0.476	Indeterminate ^[2]	Water relatively clear. Light bacterial growth.	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
BRY-2	"	SOUTH	EAST 1	Corr. poly eth.	216	Not measurable	-	-	-	-	Very slow trickle; inv. Too low, unable to catch	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
"	"	EAST 2	Clay	Unknown	No flow/dry	-	-	-	-	-	Clay pipe was at higher invert than the PE pipe	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
BRY-3	UDEL	EAST	NORTHEAST	Clay	Not measurable	-	-	-	-	-	Very slow trickle; inv. Too low, unable to catch	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
"	"	WEST	Clay	Not measurable	-	-	-	-	-	-	Very slow trickle; inv. Too low, unable to catch	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
BRY-4	UDEL	WEST	NORTHWEST	Clay	Unknown	0.1	30	0.2	0.053	Indeterminate ^[2]	Water relatively clear	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes						
"	"	SOUTHWEST 1	Clay	Unknown	300	3	10	18	4.762	0.01587	Water relatively clear	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes						
"	"	SOUTHWEST 2	Clay	Unknown	0.2	30	30	0.4	0.106	Indeterminate ^[2]	Water relatively clear	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes						
PM-1	PARK MANOR	WEST	NORTH	Corr. poly eth.	220	Not measurable	-	-	-	-	Slow trickle.	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes						
"	"	SOUTH	Corr. poly eth.	195	1	30	30	2.00	0.529	0.00270	Some algae growth present.	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes						
PM-2	PARK MANOR	EAST	NORTH	Corr. poly eth.	198	Not measurable	-	-	-	-	Slow trickle observed	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes						
"	"	SOUTH	Corr. poly eth.	170	Not measurable	-	-	-	-	-	Slow trickle observed	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes						
PM-3	PARK MANOR	EAST	NORTH	Corr. poly eth.	347	Not measurable	-	-	-	-	Slow trickle observed	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
"	"	SOUTH	Corr. poly eth.	170	Not measurable	-	-	-	-	-	Slow trickle observed	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
PM-4	PARK MANOR	WEST	NORTH	Corr. poly eth.	348	Not measurable	-	-	-	-	Slow trickle observed	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
"	"	SOUTH	Corr. poly eth.	744	Not measurable	-	-	-	-	-	Slow trickle. Algae growth	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
PM-5	PARK MANOR	WEST	NORTH	Corr. poly eth.	361	2.25	15	9.00	2.381	0.00660	No algae	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
PM-6	PARK MANOR	EAST	NORTH	Corr. poly eth.	367	1.2	15	4.80	1.270	0.00346	Light bacterial growth.	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
"	"	SOUTH	Corr. poly eth.	485	1.1	15	15	4.40	1.164	0.00240	Light bacterial growth.	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
"	"	SOUTH	Clay	250	Not measurable	-	-	-	-	-	Slow trickle	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
PM-7	"	WEST	No pipe	No pipe	-	-	-	-	-	-	-	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
PM-8	"	EAST	SOUTH	Corr. poly eth.	150	Not measurable	-	-	-	-	Slow trickle	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
PM-9	PARK MANOR	WEST	SOUTH	Corr. poly eth.	245	0.2	60	0.20	0.053	0.00022	Very slow trickle	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
PM-10	PARK MANOR	WEST	NORTH	Corr. poly eth.	270	0.3	30	0.60	0.159	0.00059	Very slow trickle	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
"	"	SOUTH	Corr. poly eth.	401	3.1	15	12.40	3.280	0.00818	Very fast flow	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	No							
PM-11	PARK MANOR	EAST	NORTH	Corr. poly eth.	262	0.2	30	0.40	0.106	0.00040	Slow trickle. Bacterial growth	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
PM-12	PARK MANOR	WEST	WEST	Corr. poly eth.	285	3.7	15	14.80	3.915	0.01374	Very fast flow	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	No						
"	"	WEST	WEST	Corr. poly eth.	285	3.7	15	14.80	3.915	0.01374	Very fast flow	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	No						
PM-13	JONATHAN	EAST	NORTH	Corr. poly eth.	700	Not measurable	-	-	-	-	Slow trickle; inv. Too low, unable to catch flow.	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
PM-14	JONATHAN	WEST	NORTH	Corr. poly eth.	1300	4.3	30	8.60	2.275	0.00175	Very fast flow	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	No						
SC-1	SCANDIA	WEST	No pipe	-	-	-	-	-	-	-	-	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	-						
"	SCANDIA	EAST	NORTH	Corr. poly eth.	175	Not measurable	-	-	-	-	Slow trickle; inv. Too low, unable to catch flow.	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
SC-3	SCANDIA	EAST	SOUTH	Corr. poly eth.	200	Not measurable	-	-	-	-	Slow trickle; inv. Too low, unable to catch flow.	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						
"	SCANDIA	EAST	NORTH	Corr. poly eth.	220	Not measurable	-	-	-	-	Slow trickle; inv. Too low, unable to catch flow.	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes						

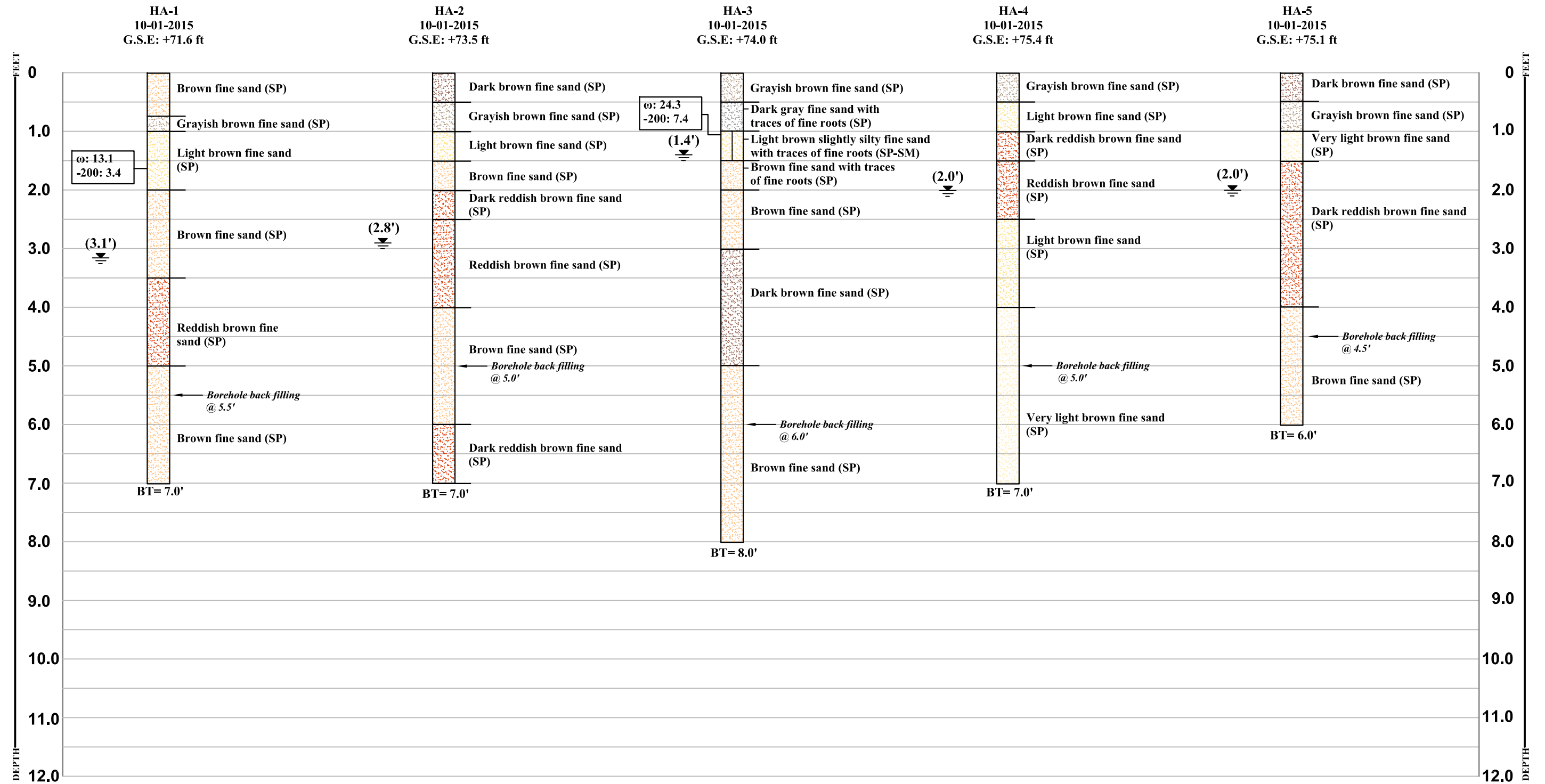
[1] Where measured volume is shown as "Not measurable", this was because we were unable to catch flow either due to the underdrain pipe invert being too close to structure base or the underdrain pipe did not protrude inside the structure enough, such that a vessel could be inserted under to catch the flow.

[2] Indeterminate: Flow per linear foot could not be calculated as pipe length was unknown and could not be estimated.

[1] Where measured volume is shown as "Not measurable", this was because we were unable to catch flow, either due to the underdrain pipe invert being too close to structure base or the underdrain pipe did not protrude inside the structure enough, such that a vessel could be inserted under to catch the flow.

[2] Indeterminate: Flow per linear ft could not be calculated as pipe length was unknown and could not be estimated.

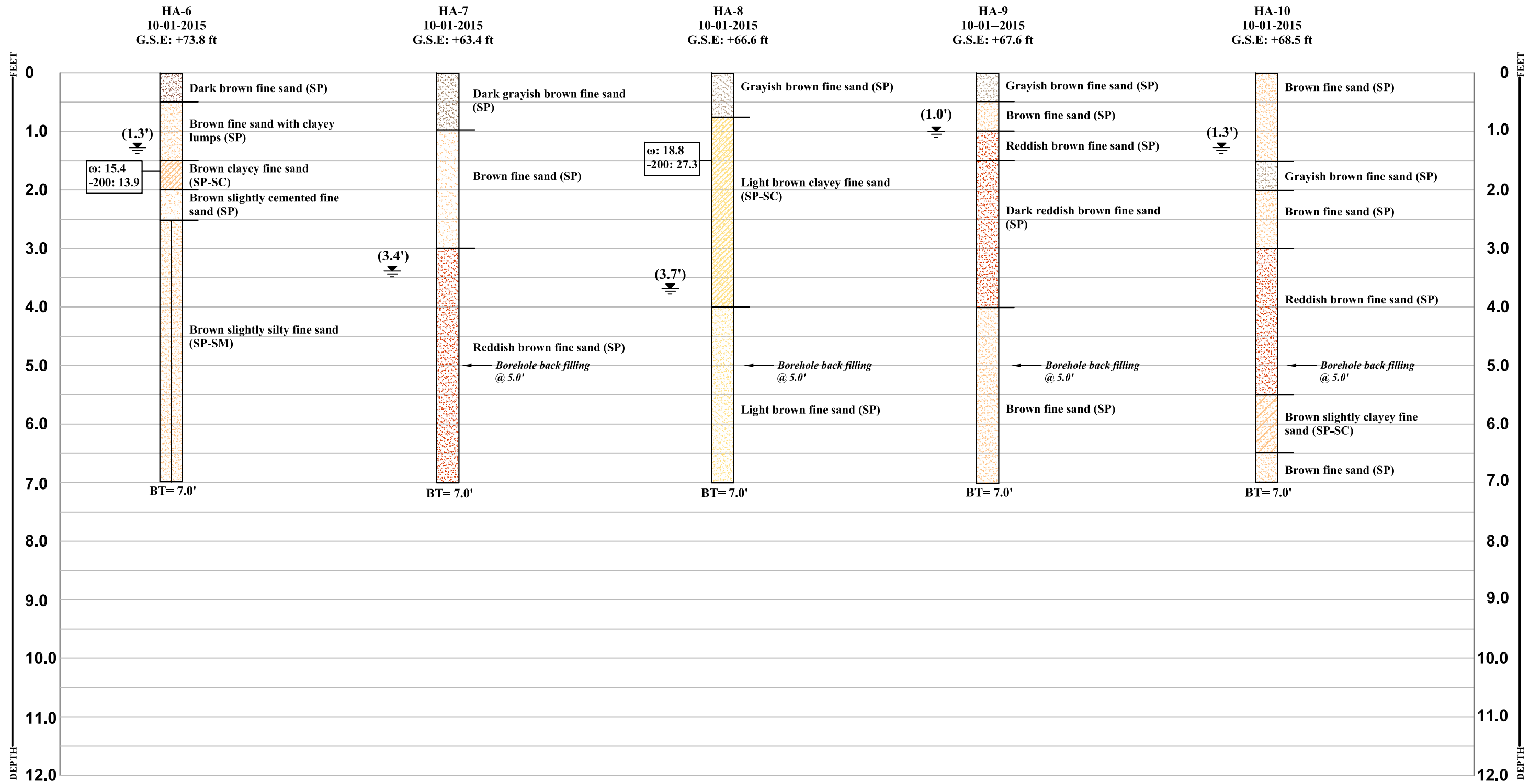




LEGEND

	STABILIZED WATER TABLE READINGS MEASURED ON OCTOBER 19, 2015
	PERCHED WATER TABLE READINGS MEASURED ON DATE OF DRILLING
	BORING TERMINATION DEPTH IN FEET
	NATURAL MOISTURE CONTENT %
	PERCENT PASSING US # 200 SIEVE
	SURVEYED GROUND SURFACE ELEVATION (FT NAVD)

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		Project Name: PARK MANOR UNDERDRAIN ASSESSMENTS	
Checked & Approved by: DS	Drawn By: DS	Date: 10-01-15	Scale: Noted
		Proj. # 15-610.65	Figure 2.01



LEGEND

STABILIZED WATER TABLE READINGS MEASURED ON OCTOBER 19, 2015

PERCHED WATER TABLE READINGS MEASURED ON DATE OF DRILLING

NATURAL MOISTURE CONTENT %

PERCENT PASSING US # 200 SIEVE

SURVEYED GROUND SURFACE ELEVATION (FT NAVD)

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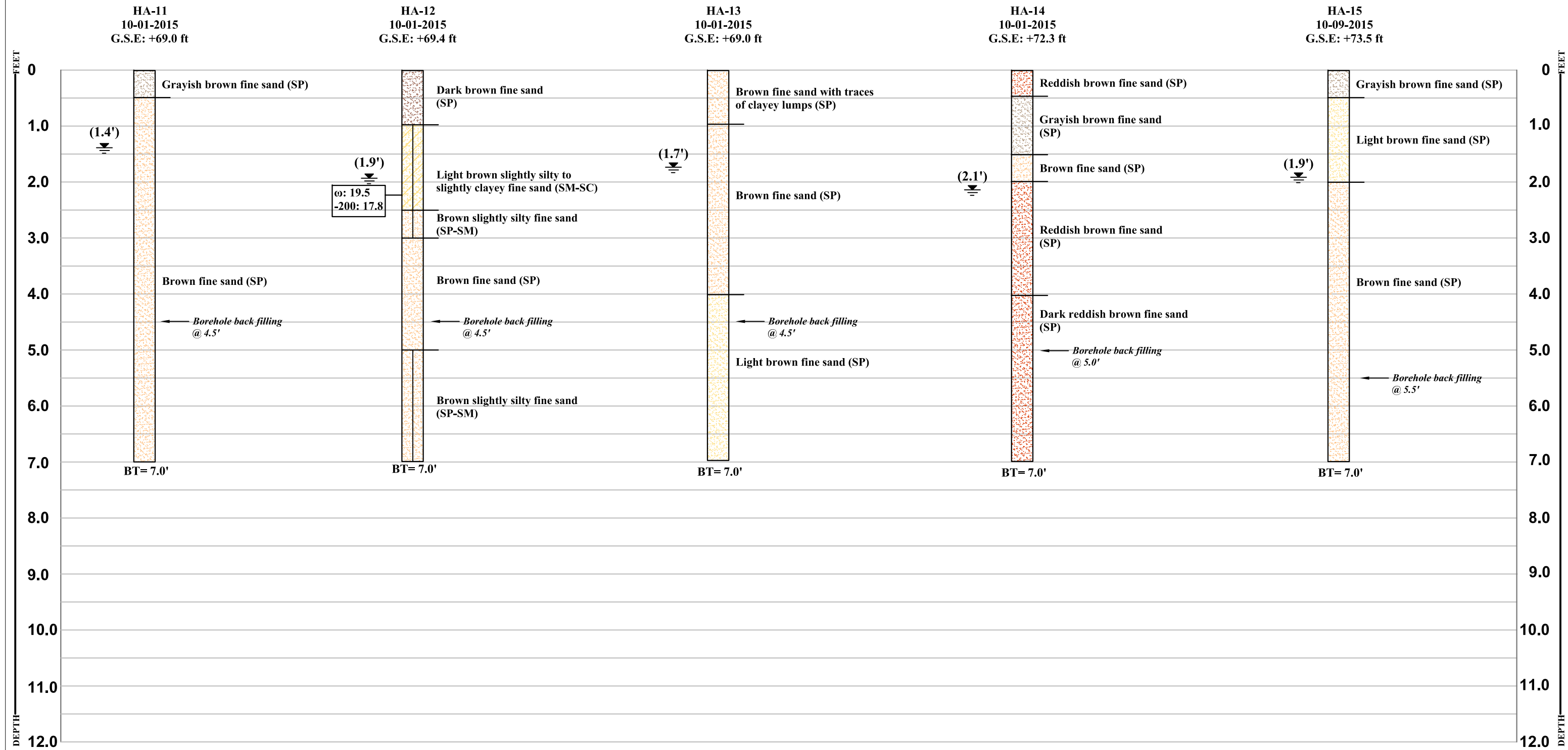
Figure Name:

**SOIL PROFILES FOR BORINGS
HA-6 TO HA-10**

Project Name:

**PARK MANOR
UNDERDRAIN ASSESSMENTS**

Checked & Approved by:	DS	Drawn By:	DS	Date:	10-01-15	Scale:	Noted	Proj. #	15-610.65	Figure 2.02
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LEGEND

STABILIZED WATER TABLE READINGS MEASURED ON OCTOBER 19, 2015
PERCHED WATER TABLE READINGS MEASURED ON DATE OF DRILLING
w NATURAL MOISTURE CONTENT %
-200 PERCENT PASSING US # 200 SIEVE
G.S.E SURVEYED GROUND SURFACE ELEVATION (FT NAVD)

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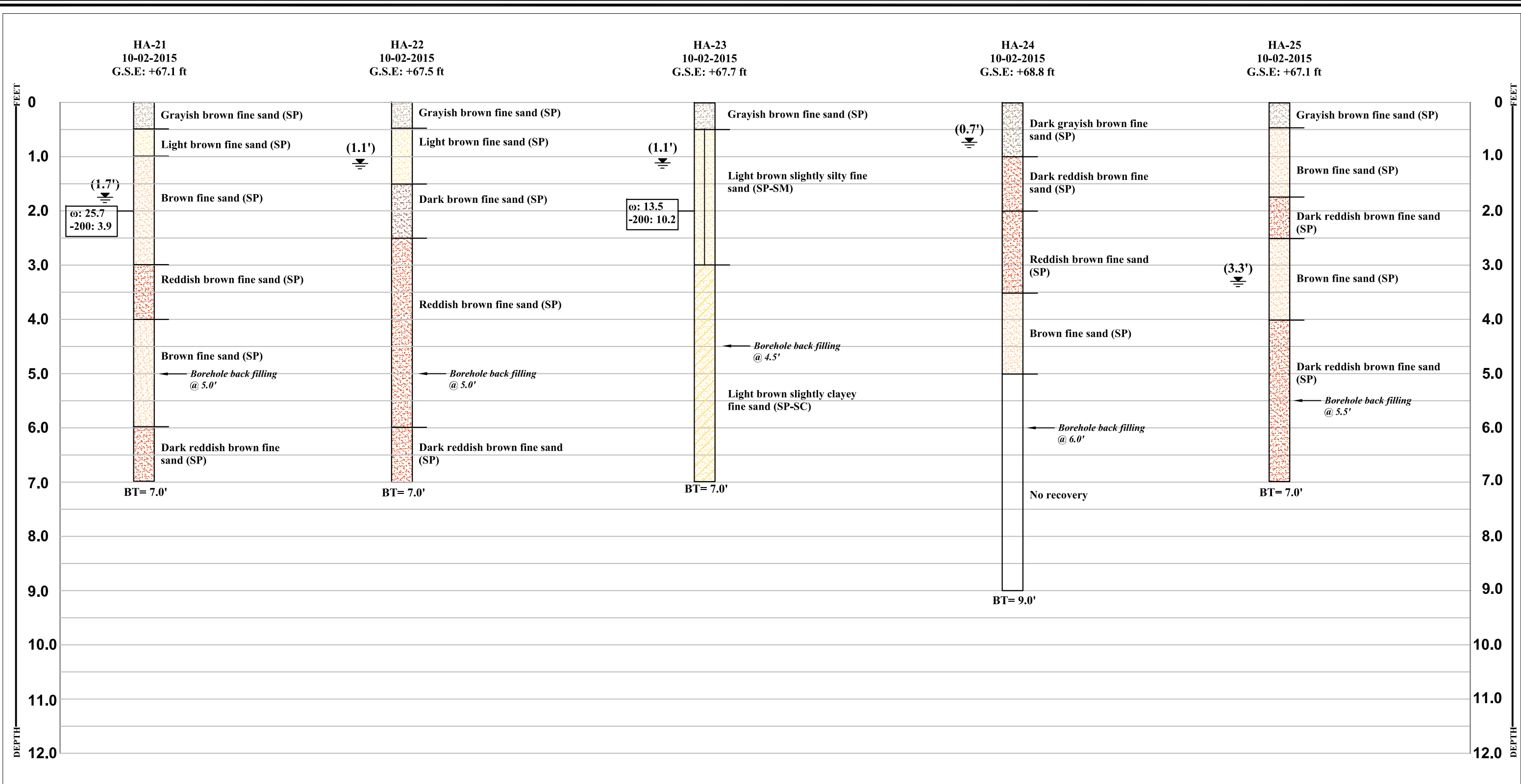
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Figure Name:
**SOIL PROFILES FOR BORINGS
HA-11 TO HA-15**

Project Name:
**PARK MANOR
UNDERDRAIN ASSESSMENTS**

Checked & Approved by: **DS** Drawn By: **DS** Date: **10-01-15** Scale: **Noted** Proj. # **15-610.65** Figure **2.03**



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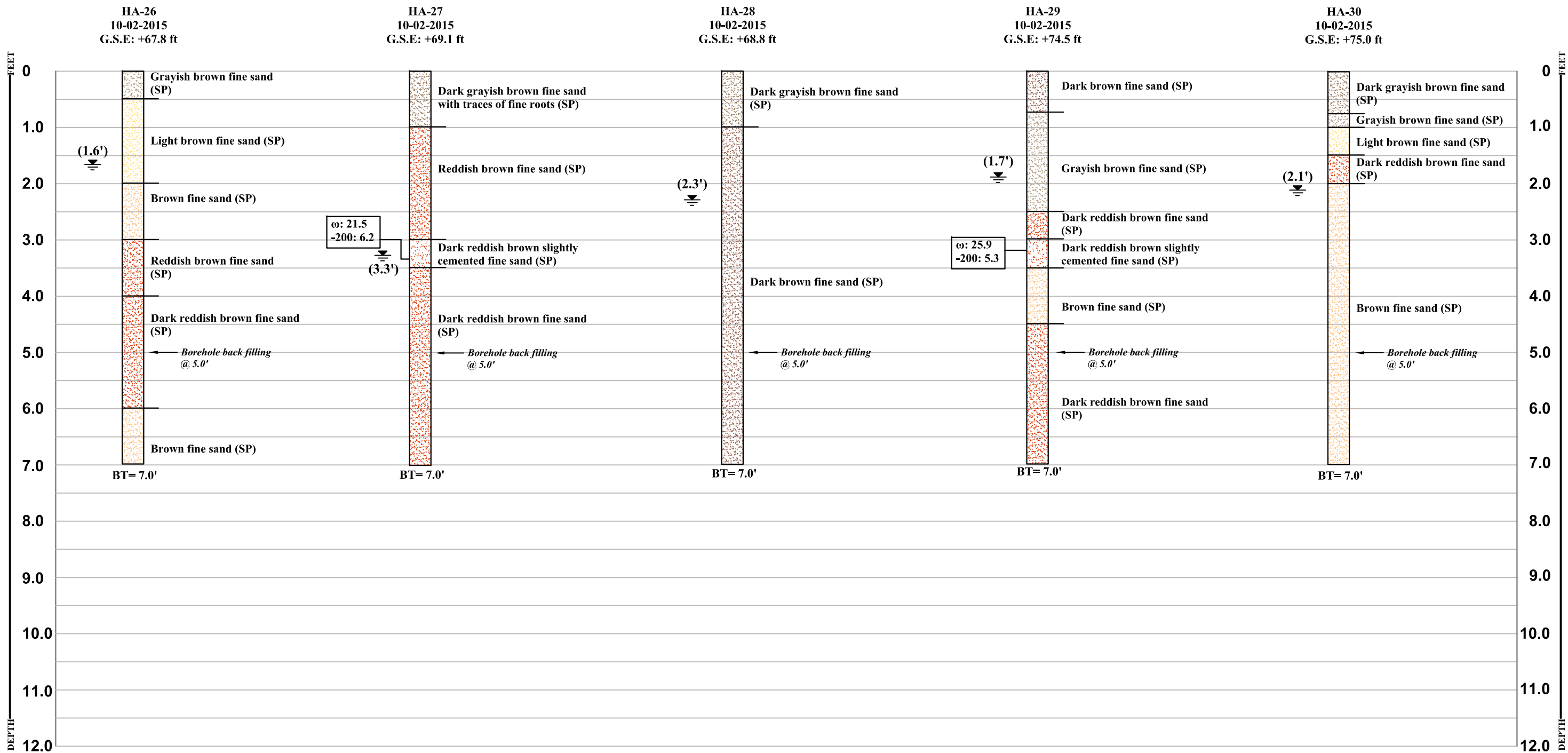
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PERCHED WATER TABLE READINGS MEASURED ON DATE OF DRILLING
w NATURAL MOISTURE CONTENT %
-200 PERCENT PASSING US # 200 SIEVE
G.S.E SURVEYED GROUND SURFACE ELEVATION (FT NAVD)

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Figure Name:
SOIL PROFILES FOR HA-21 TO HA-25

Project Name:
PARK MANOR UNDERDRAIN ASSESSMENTS

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LEGEND

STABILIZED WATER TABLE READINGS MEASURED ON OCTOBER 15, 2015
PERCHED WATER TABLE READINGS MEASURED ON DATE OF DRILLING
NATURAL MOISTURE CONTENT %
PERCENT PASSING US # 200 SIEVE
SURVEYED GROUND SURFACE ELEVATION (FT NAVD)

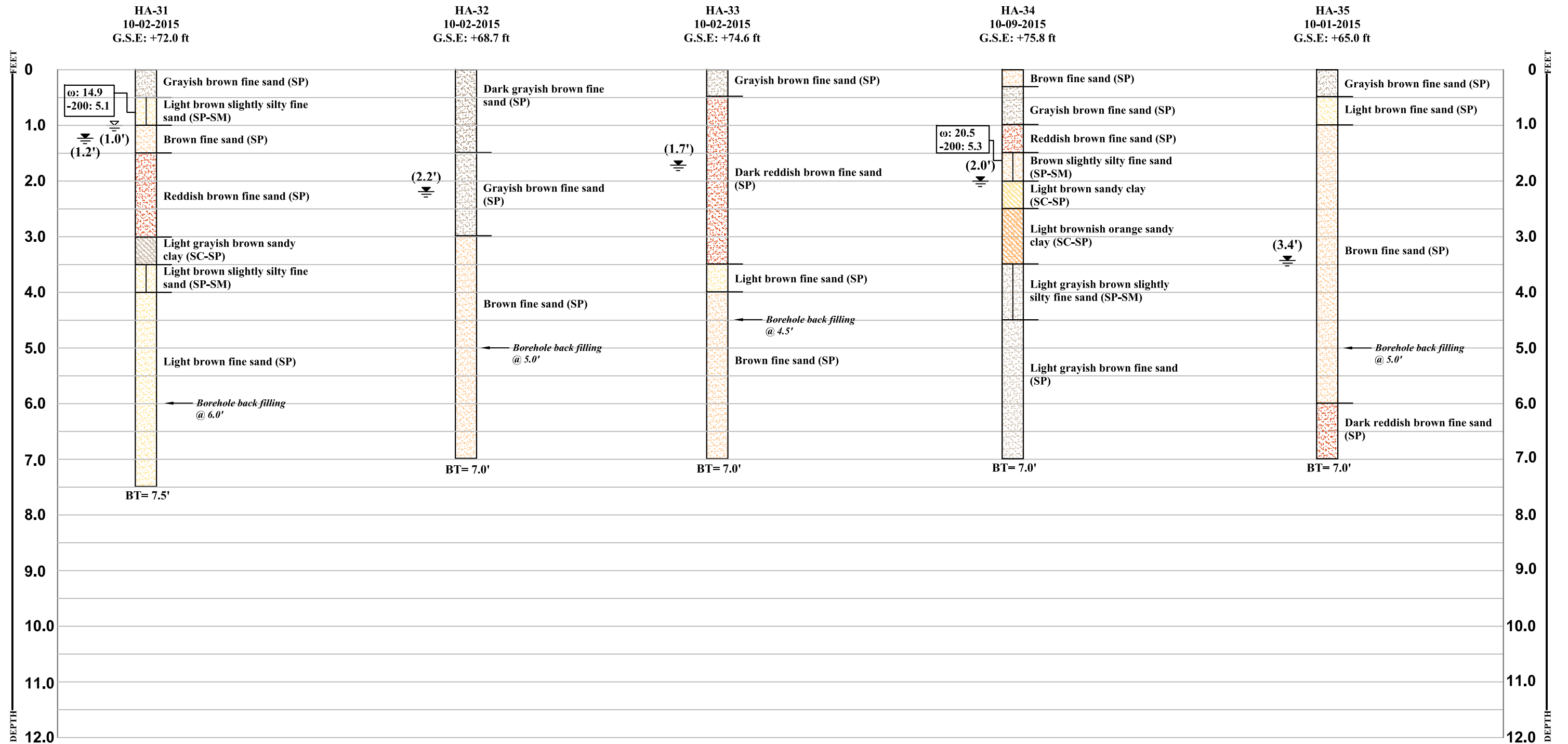
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Figure Name:
**SOIL PROFILES FOR
HA-26 TO HA-30**

Project Name:
**PARK MANOR
UNDERDRAIN ASSESSMENTS**

Checked & Approved by:	DS	Drawn By:	DS	Date:	10-02-15	Scale:	Noted	Proj. #	15-610.65	Figure	2.06
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LEGEND

- STABILIZED WATER TABLE READINGS MEASURED ON OCTOBER 19, 2015
- PERCHED WATER TABLE READINGS MEASURED ON DATE OF DRILLING
- NATURAL MOISTURE CONTENT %
- PERCENT PASSING US # 200 SIEVE
- SURVEYED GROUND SURFACE ELEVATION (FT NAVD)

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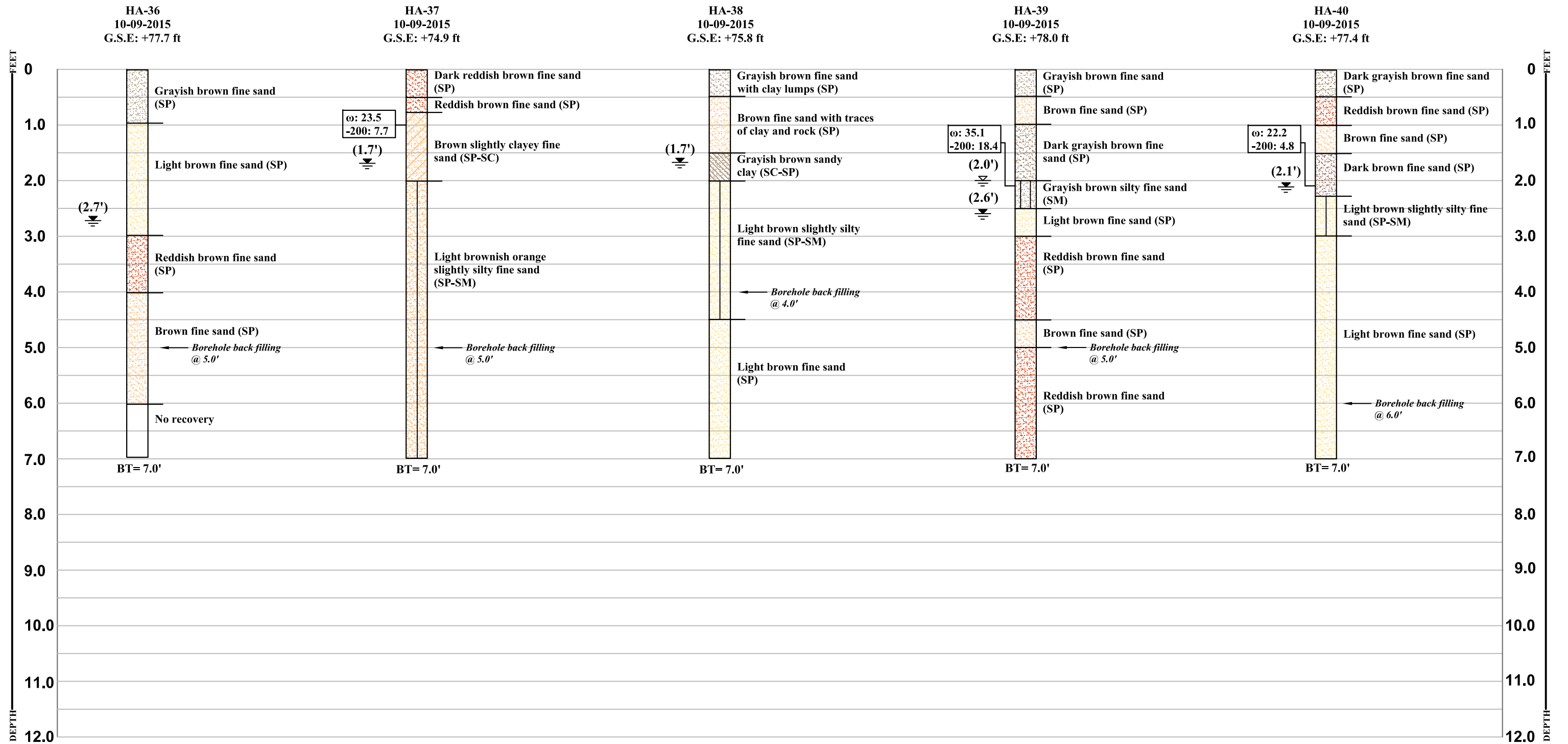
Figure Name:

SOIL PROFILES FOR HA-31 TO HA-35

Project Name:

PARK MANOR UNDERDRAIN ASSESSMENTS

Checked & Approved by:	DS	Drawn By:	DS	Date:	10-02-15	Scale:	Noted	Proj. #	15-610.65	Figure	2.07
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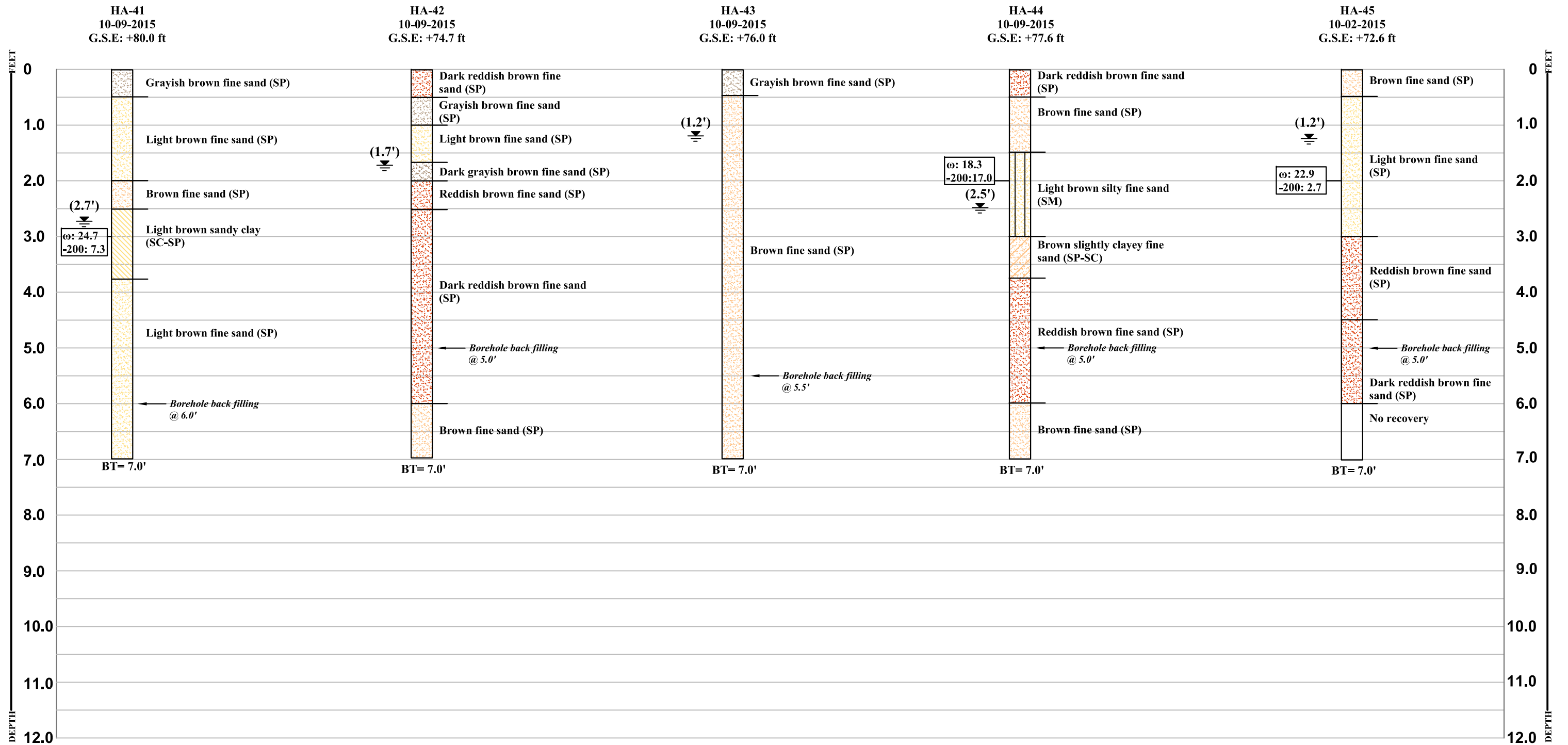
STABILIZED WATER TABLE READINGS MEASURED ON OCTOBER 19, 2015
PERCHED WATER TABLE READINGS MEASURED ON DATE OF DRILLING
NATURAL MOISTURE CONTENT %
-200 PERCENT PASSING US # 200 SIEVE
G.S.E SURVEYED GROUND SURFACE ELEVATION (FT NAVD)

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Figure Name:
**SOIL PROFILES FOR
HA-36 TO HA-40**

Project Name:
**PARK MANOR
UNDERDRAIN ASSESSMENTS**

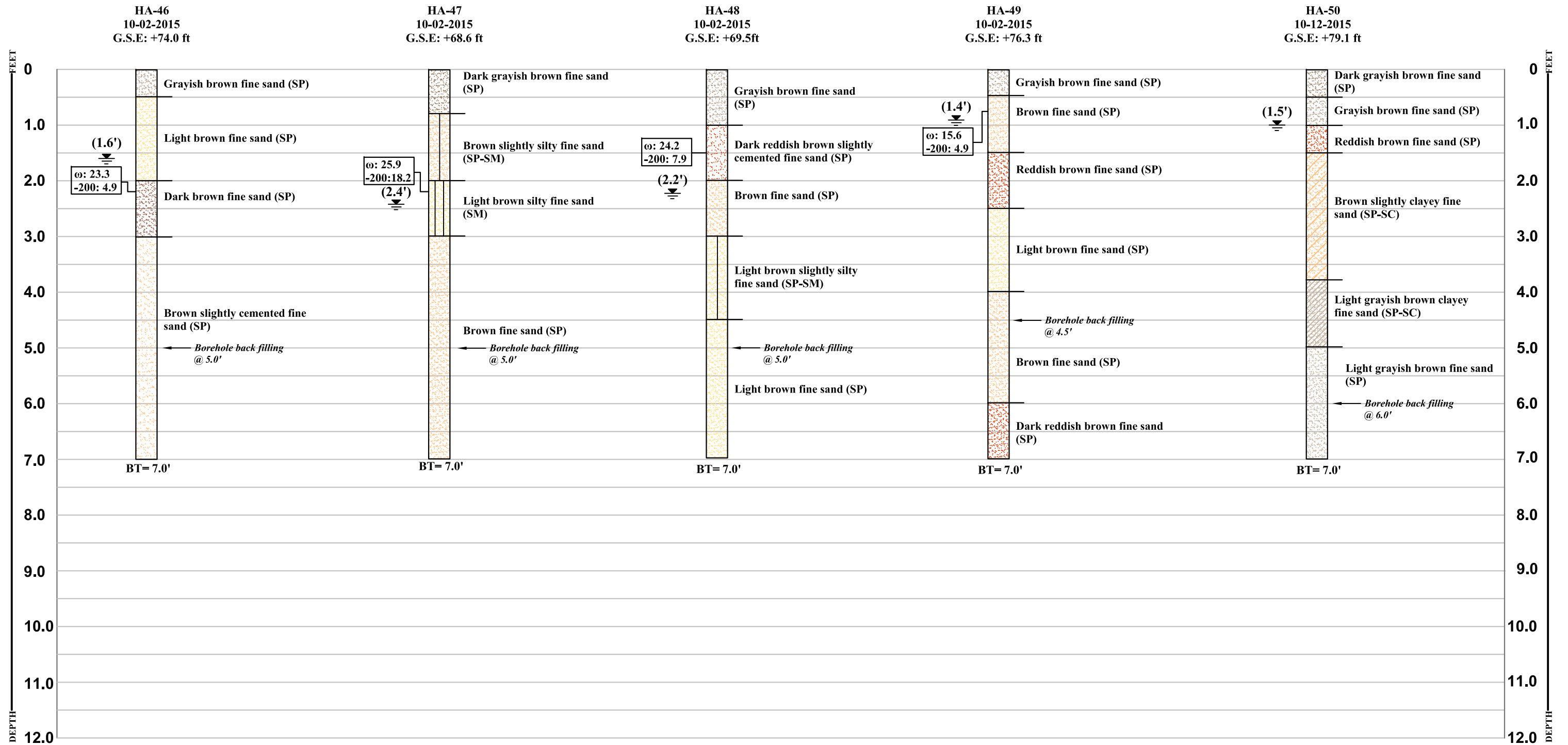
Checked & Approved by: **DS** Drawn By: **DS** Date: **10-05-15** Scale: **Noted** Proj. # **15-610.65** Figure **2.08**



LEGEND

STABILIZED WATER TABLE READINGS MEASURED ON OCTOBER 19, 2015
PERCHED WATER TABLE READINGS MEASURED ON DATE OF DRILLING
NATURAL MOISTURE CONTENT %
PERCENT PASSING US # 200 SIEVE
SURVEYED GROUND SURFACE ELEVATION (FT NAVD)

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Checked & Approved by: DS		Project Name: PARK MANOR UNDERDRAIN ASSESSMENTS	
Drawn By: DS		Scale: Noted	
Date: 10-02-15		Proj. # 15-610.65	
		Figure 2.09	



LEGEND


STABILIZED WATER TABLE READINGS MEASURED ON OCTOBER 19, 2015

PERCHED WATER TABLE READINGS MEASURED ON DATE OF DRILLING

w NATURAL MOISTURE CONTENT %

-200 PERCENT PASSING US # 200 SIEVE

G.S.E SURVEYED GROUND SURFACE ELEVATION (FT NAVD)



CONSULTING GEOTECHNICAL ENGINEERS

3200 Alhambra Dr. ORLANDO, FL - 32808
Phone: (407) 950-2371 - Fax: (407) 298-9011
E-Mail address: devo@devoeng.com
website: http://www.devoeng.com

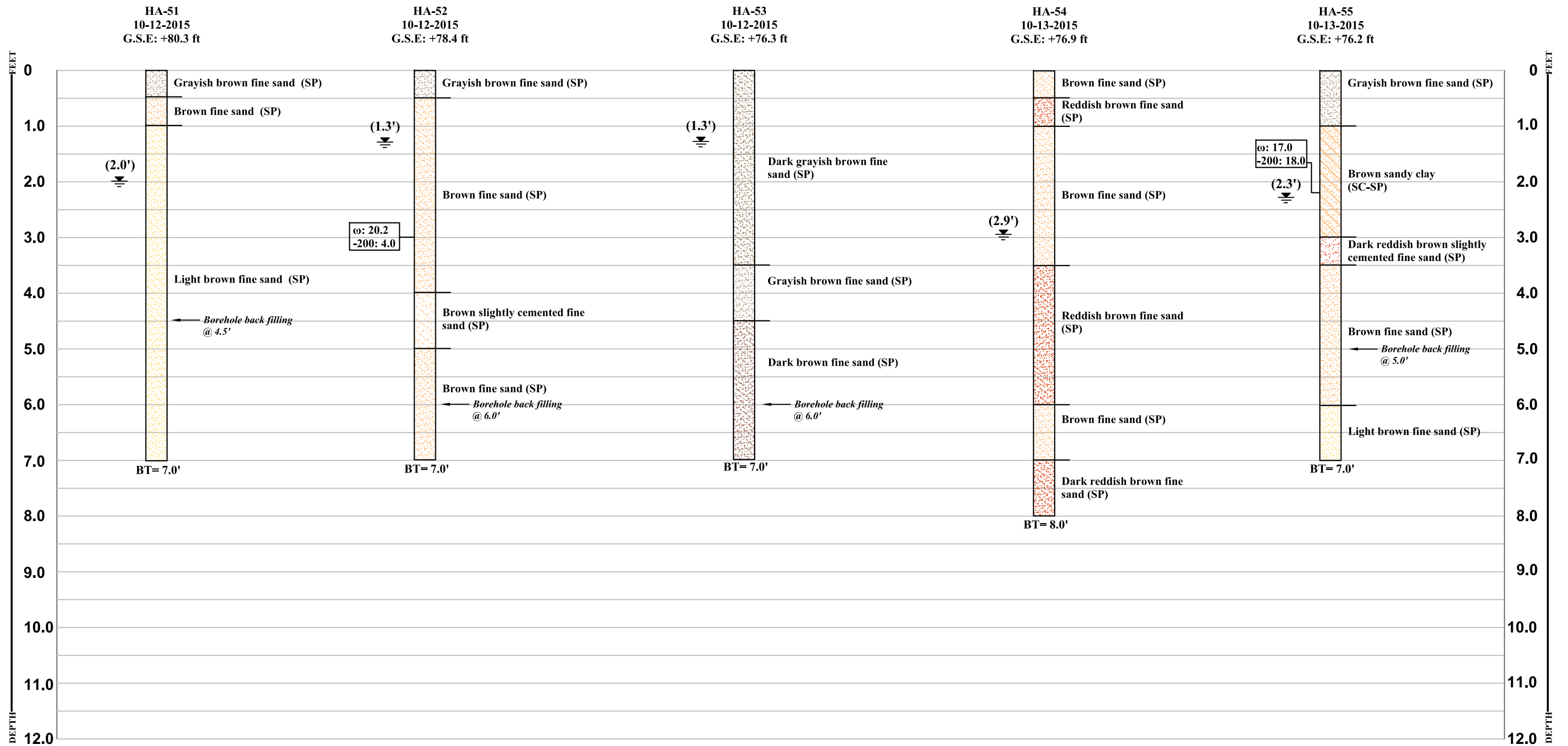
Figure Name:

**SOIL PROFILES FOR
HA-46 TO HA-50**

Project Name:


**PARK MANOR
UNDERDRAIN ASSESSMENTS**

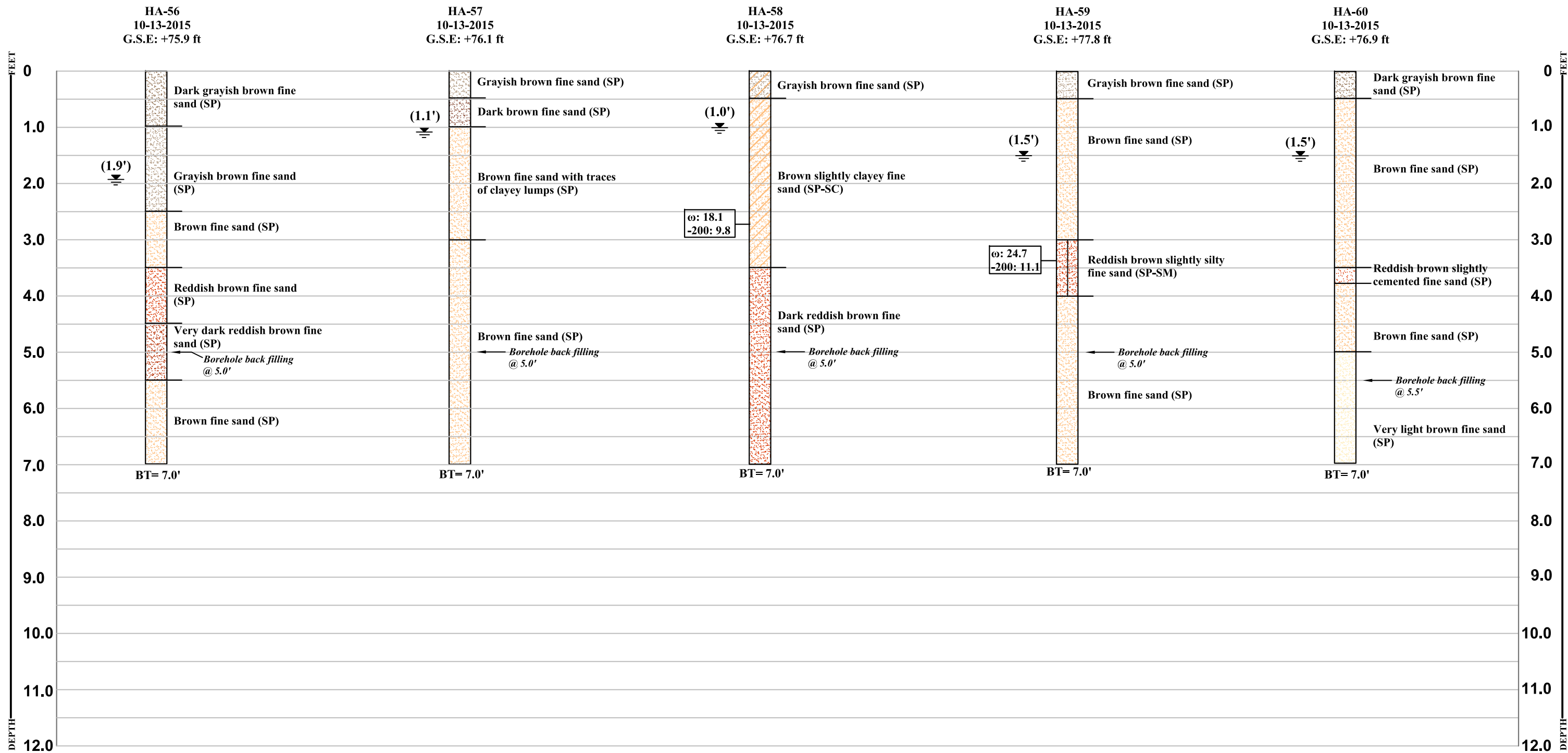
Checked & Approved by:	DS	Drawn By:	DS	Date:	10-02-15	Scale:	Noted	Proj. #	15-610.65	Figure 2.10
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LEGEND


STABILIZED WATER TABLE READINGS MEASURED ON OCTOBER 19, 2015
PERCHED WATER TABLE READINGS MEASURED ON DATE OF DRILLING
w NATURAL MOISTURE CONTENT %
-200 PERCENT PASSING US # 200 SIEVE
G.S.E SURVEYED GROUND SURFACE ELEVATION (FT NAVD)

 <p>CONSULTING GEOTECHNICAL ENGINEERS 3200 Alhambra Dr. ORLANDO, FL 32808 Phone: (407) 920-2371 Fax: (407) 298-9011 E-Mail address: devo@devoeng.com website: http://www.devoeng.com</p>		Figure Name: SOIL PROFILES FOR HA-51 TO HA-55	
Project Name: PARK MANOR UNDERDRAIN ASSESSMENTS		Scale: Noted	
Checked & Approved by: DS	Drawn By: DS	Date: 10-12-15	Proj. # 15-610.65
			Figure 2.11



LEGEND

STABILIZED WATER TABLE READINGS MEASURED ON OCTOBER 19, 2015
PERCHED WATER TABLE READINGS MEASURED ON DATE OF DRILLING
w NATURAL MOISTURE CONTENT %
-200 PERCENT PASSING US # 200 SIEVE
G.S.E SURVEYED GROUND SURFACE ELEVATION (FT NAVD)

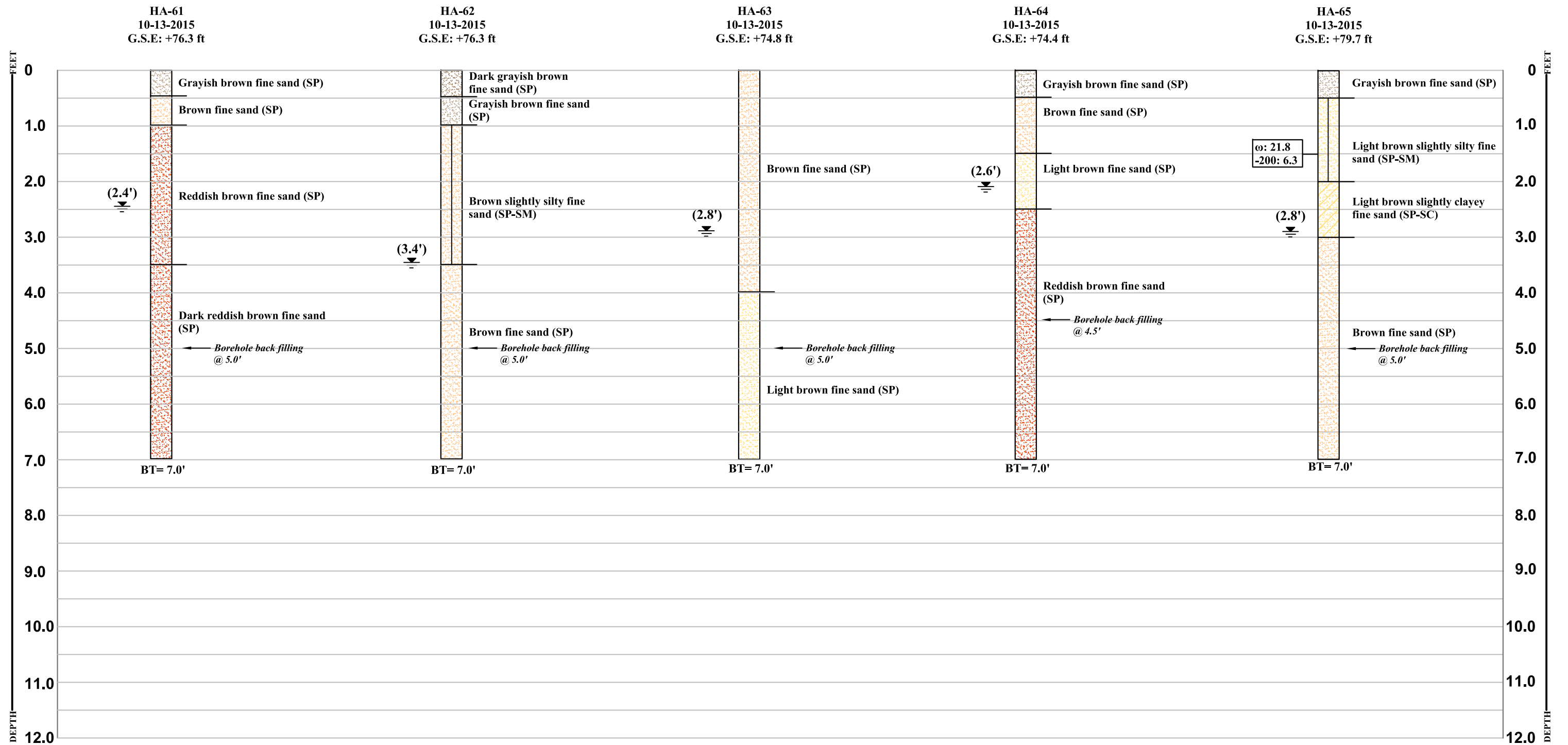


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Figure Name:
**SOIL PROFILES FOR
HA-56 TO HA-60**

Project Name:
**PARK MANOR
UNDERDRAIN ASSESSMENTS**

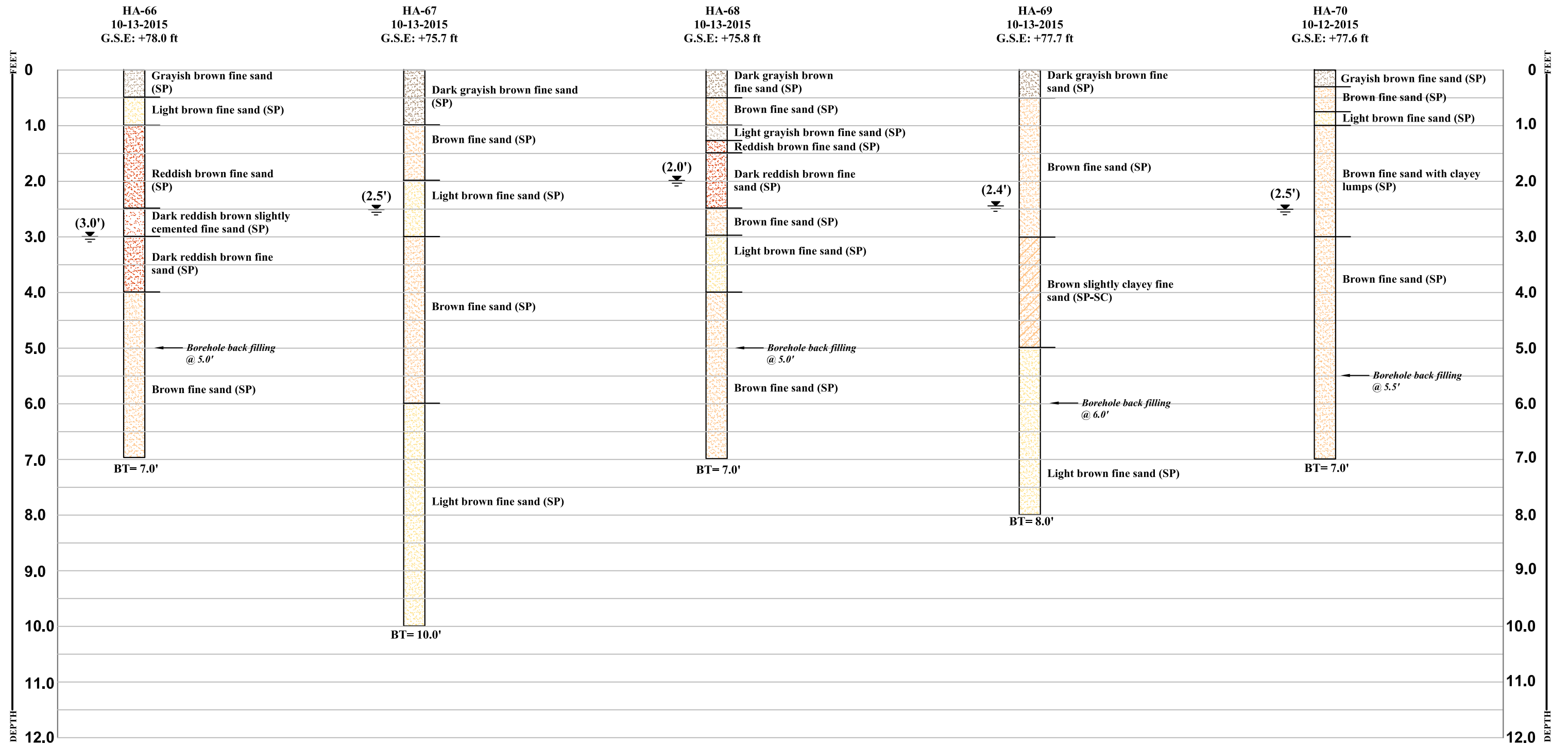
Checked & Approved by:	DS	Drawn By:	DS	Date:	10-13-15	Scale:	Noted	Proj. #	15-610.65	Figure 2.12
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LEGEND


STABILIZED WATER TABLE READINGS MEASURED ON OCTOBER 19, 2015
PERCHED WATER TABLE READINGS MEASURED ON DATE OF DRILLING
NATURAL MOISTURE CONTENT %
PERCENT PASSING US # 200 SIEVE
SURVEYED GROUND SURFACE ELEVATION (FT NAVD)

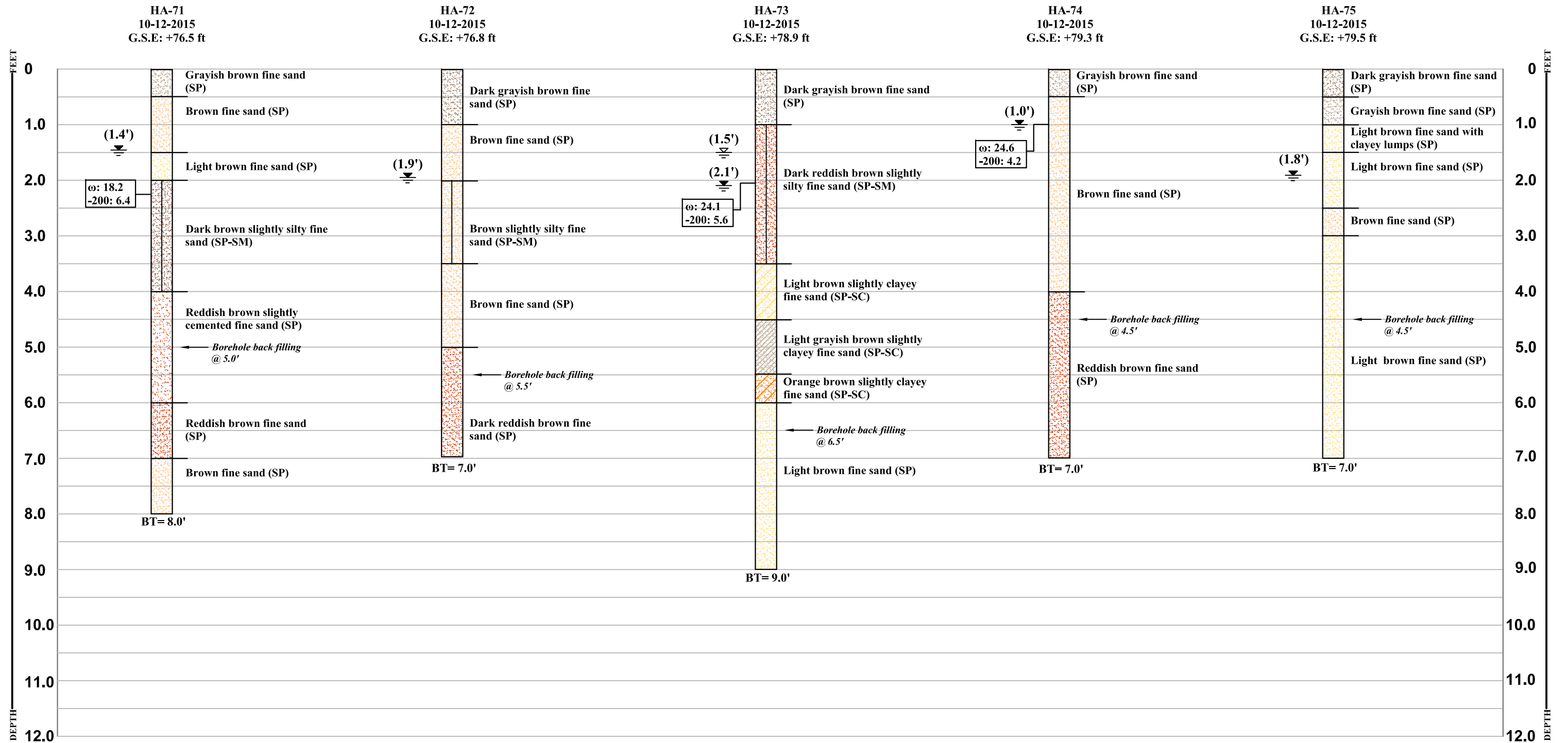
DEVO CONSULTING GEOTECHNICAL ENGINEERS 3200 Alhambra Dr. - ORLANDO, FL - 32808 Phone: (407) 920-2371 - Fax: (407) 298-9011 E-Mail address: devo@devoeng.com website: http://www.devoeng.com		Figure Name: SOIL PROFILES FOR HA-61 TO HA-65	
Checked & Approved by: DS		Project Name: PARK MANOR UNDERDRAIN ASSESSMENTS	
Drawn By: DS		Scale: Noted	
Date: 10-13-15		Proj. # 15-610.65	
		Figure 2.13	



LEGEND

STABILIZED WATER TABLE READINGS MEASURED ON OCTOBER 19, 2015
PERCHED WATER TABLE READINGS MEASURED ON DATE OF DRILLING
w NATURAL MOISTURE CONTENT %
-200 PERCENT PASSING US # 200 SIEVE
Kv VERTICAL HYDRAULIC CONDUCTIVITY (FT/DAY)
G.S.E SURVEYED GROUND SURFACE ELEVATION (FT NAVD)

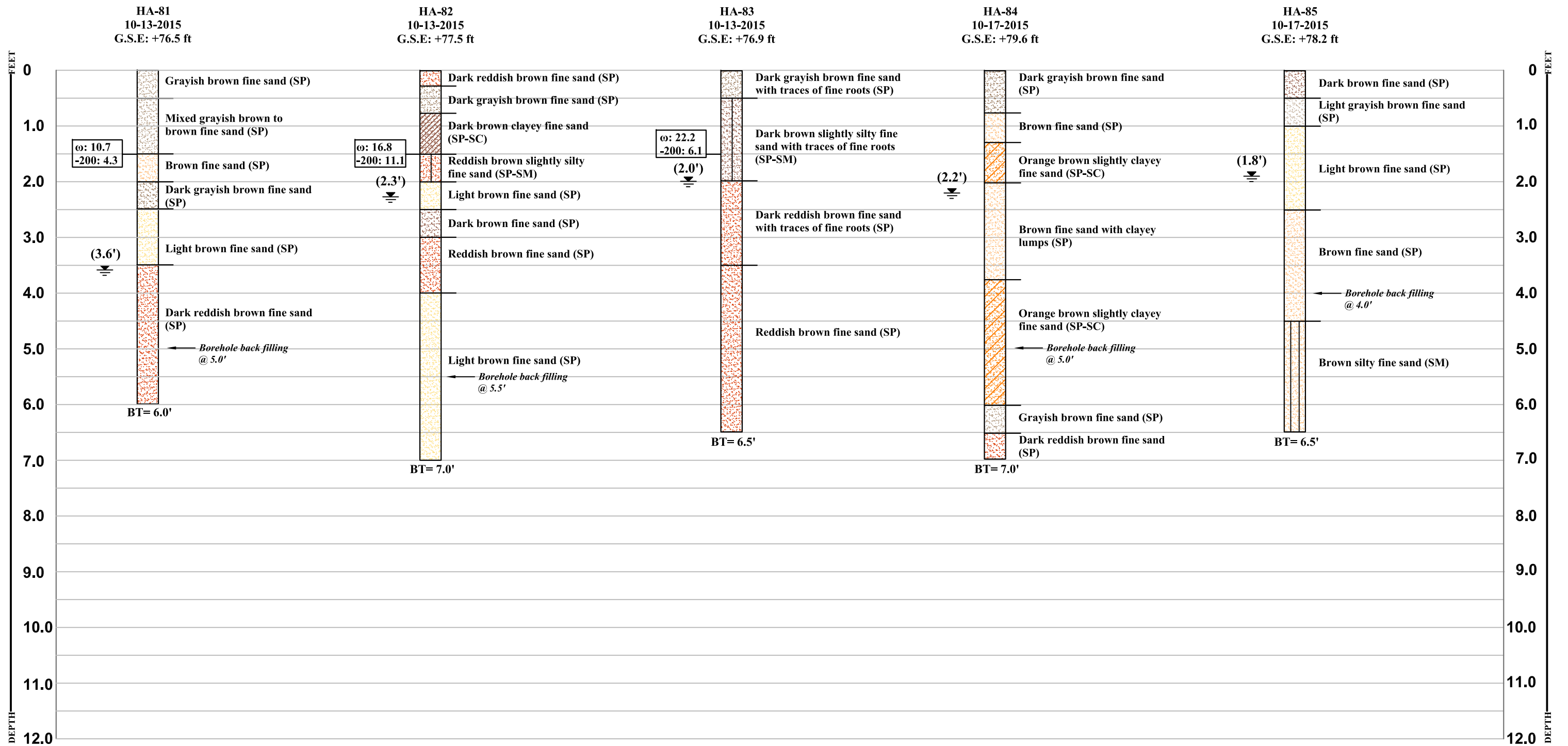
 CONSULTING GEOTECHNICAL ENGINEERS 3200 Alhambra Dr. ORLANDO, FL 32808 Phone: (407) 920-2371 • Fax: (407) 298-9011 E-Mail address: devo@devoeng.com website: http://www.devoeng.com	Figure Name: SOIL PROFILES FOR HA-66 TO HA-70	
	Project Name: PARK MANOR UNDERDRAIN ASSESSMENTS	
	Checked & Approved by: DS	Date: 10-12-15
Drawn By: DS	Scale: Noted	Proj. # 15-610.65
Figure 2.14		



LEGEND

STABILIZED WATER TABLE READINGS MEASURED ON OCTOBER 19, 2015
PERCHED WATER TABLE READINGS MEASURED ON DATE OF DRILLING
w NATURAL MOISTURE CONTENT %
-200 PERCENT PASSING US # 200 SIEVE
G.S.E SURVEYED GROUND SURFACE ELEVATION (FT NAVD)

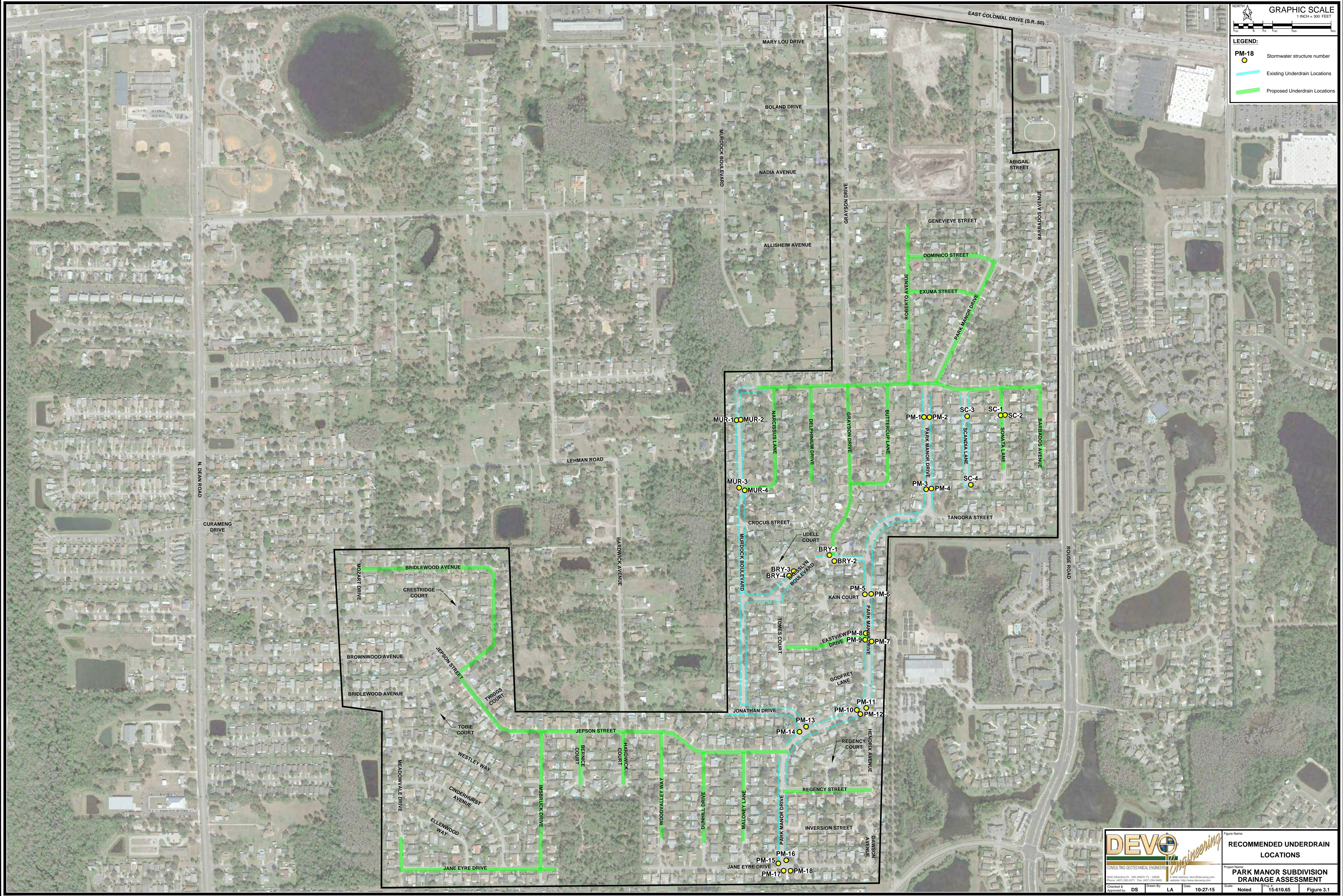
DEVO CONSULTING GEOTECHNICAL ENGINEERS 3200 Alhambra Dr. ORLANDO, FL 32808 Phone: (407) 920-2371 Fax: (407) 298-9011 E-Mail address: devo@devoeng.com website: http://www.devoeng.com		Figure Name: SOIL PROFILES FOR HA-71 TO HA-75	
Checked & Approved by: DS		Project Name: PARK MANOR UNDERDRAIN ASSESSMENTS	
Drawn By: DS	Date: 10-12-15	Scale: Noted	Proj. # 15-610.65 Figure 2.15



LEGEND

STABILIZED WATER TABLE READINGS MEASURED ON OCTOBER 19, 2015
PERCHED WATER TABLE READINGS MEASURED ON DATE OF DRILLING
NATURAL MOISTURE CONTENT %
-200 PERCENT PASSING US # 200 SIEVE
G.S.E SURVEYED GROUND SURFACE ELEVATION (FT NAVD)

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Checked & Approved by: DS		Project Name: PARK MANOR UNDERDRAIN ASSESSMENTS	
Drawn By: DS		Scale: Noted	
Date: 10-12-15		Proj. # 15-610.65	
		Figure 2.17	



GRAPHIC SCALE
1 INCH = 300 FEET

LEGEND:

- PM-18 Stormwater structure number
- Existing Underdrain Locations
- Proposed Underdrain Locations

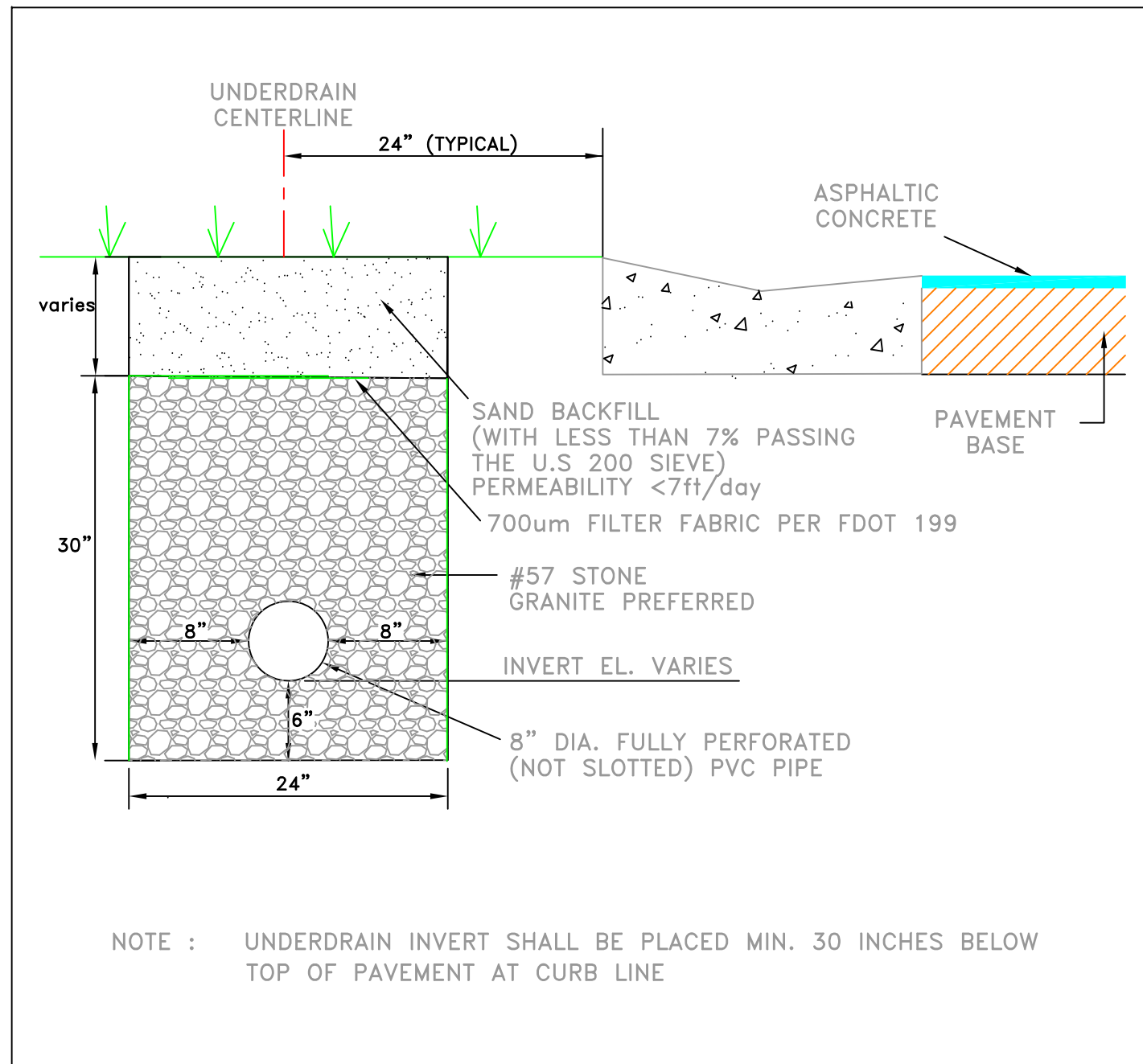


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Website: http://www.devoeng.com

Project Name:
**PARK MANOR SUBDIVISION
DRAINAGE ASSESSMENT**

Checked & Approved By:	DS	Drawn By:	LA	Date:	10-27-15	Scale:	Noted	Project:	15-610.65	Figure:	3.1
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CROSS-SECTION CURB LINE ROADWAY UNDERDRAIN IN AREAS OF TANNIC GROUND WATER



APPENDIX A
PHOTOS SHOWING
TYPICAL AREAS OF WETNESS



Photo #1. Seepage on Grayson Drive



Photo #2. Seepage on Bridlewood Avenue



Photo #3. Seepage on Jepson Street



Photo #4. Seepage on Roberta Avenue

APPENDIX B

**UNDERDRAIN OBSERVATIONS AND
FLOW MEASUREMENTS**

PARK MANOR SUBDIVISION: UNDERDRAIN FLOW MEASUREMENTS AND OBSERVATIONS

DATED PERFORMED: OCTOBER 14, 2015

WEATHER CONDITIONS: DRY AND HOT

RAINFALL THE PRECEDING FEW DAYS: NONE, OTHER THAN THE ODD TRACE.

MANHOLE	STREET	SIDE	DIRECTION	MATERIAL	APP. LENGTH (ft)	MEASURED VOLUME (liter)	TIME ELAPSED	liter/min	gal/min	gal/m/ft	Comments	Ground surface conditions on 10/14/15 <i>(no rain the previous few days)</i>	Ground surface conditions on 09/22/15 <i>(rain the previous day)</i>	Cleaning recommended as a first step before deciding on replacement
MUR-1	MURDOCK	WEST	NORTH	Corr. poly eth.	366	2.1	30	4.20	1.111	0.00304	<i>Light bacterial growth.</i> Water relatively clear.	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes
"	"	WEST	SOUTH	Corr. poly eth.	291	Not measurable ^[1]	n/a	n/a	n/a	<0.0030 est.	Inadequate pipe projection to catch flow. Flow noted to be slower than north pipe. Water relatively clear.	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
MUR-2	MURDOCK	EAST	NORTH	Corr. poly eth.	414	1.8	30	3.6	0.952	0.00230	<i>Heavy bacterial growth</i>	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes
"	"	EAST	SOUTH	Corr. poly eth.	484	0.8	30	1.6	0.423	0.00087	Water relatively clear	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
MUR-3	"	WEST	No pipe	-	-	-	-	-	-	-	-	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	-
MUR-4	MURDOCK	EAST	SOUTH	Corr. poly eth.	335	Not measurable					Invert submerged. Trickle flow difficult to detect	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes
BRY-1	BRESSLYN	NORTH	NORTH	Corr. poly eth.	290	1.5	30	3	0.794	0.00274	Water relatively clear. <i>Light bacterial growth.</i>	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
"	"		N N/WEST	Clay	Unknown	0.8	60	0.8	0.212	indeterminate ^[2]	Water slightly greenish. <i>Light bacterial growth.</i>	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
"	"		WEST 1	Corr. poly eth.	60	2.1	30	4.2	1.111	0.01852	Water relatively clear. <i>Light bacterial growth.</i>	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
"	"		WEST 2	Clay	unknown	0.9	30	1.8	0.476	indeterminate ^[2]	Water relatively clear. <i>Light bacterial growth.</i>	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
BRY-2	"	SOUTH	EAST 1	Corr. poly eth.	216	Not measurable					Very slow trickle; inv. Too low, unable to catch flow	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
"	"		EAST 2	Clay	Unknown	No flow/dry					Clay pipe was at higher invert that the PE pipe	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
BRY-3	UDEL	EAST	NORTHEAST	Clay		Not measurable					Very slow trickle; inv. Too low, unable to catch flow	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
"	"		WEST	Clay		Not measurable					Very slow trickle; inv. Too low, unable to catch flow	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
BRY-4	UDEL	WEST	NORTHWEST	Clay	Unknown	0.1	30	0.2	0.053	indeterminate ^[2]	Water relatively clear	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes
"	"		SOUTHWEST 1	Corr. poly eth.	300	3	10	18	4.762	0.01587	Water relatively clear	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes
"	"		SOUTHWEST 2	Clay	Unknown	0.2	30	0.4	0.106	indeterminate ^[2]	Water relatively clear	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes
PM-1	PARK MANOR	WEST	NORTH	Corr. poly eth.	220	Not measurable					Slow trickle.	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes
"	"		SOUTH	Corr. poly eth.	196	1	30	2.00	0.529	0.00270	<i>Some algae growth present.</i>	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes
PM-2	PARK MANOR	EAST	NORTH	Corr. poly eth.	198	Not measurable					Slow trickle observed	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes
"	"		SOUTH	Corr. poly eth.	170	Not measurable					Slow trickle observed	No wetness nor curb seepage observed	Wetness on roadside landscaped areas	Yes
PM-3	PARK MANOR	EAST	NORTH	Corr. poly eth.	347	Not measurable					Slow trickle observed	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
"	"		SOUTH	Corr. poly eth.	170	Not measurable					Slow trickle observed	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
PM-4	PARK MANOR	WEST	NORTH	Corr. poly eth.	348	Not measurable					Slow trickle observed	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
"	"		SOUTH	Corr. poly eth.	744	Not measurable					Slow trickle. <i>Algae growth</i>	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
PM-5	PARK MANOR	WEST	NORTH	Corr. poly eth.	361	2.25	15	9.00	2.381	0.00660	No algae	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
PM-6	PARK MANOR	EAST	NORTH	Corr. poly eth.	367	1.2	15	4.80	1.270	0.00346	<i>Light bacterialL growth.</i>	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
"	"		SOUTH	Corr. poly eth.	485	1.1	15	4.40	1.164	0.00240	<i>Light bacterialL growth.</i>	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
"	"		SOUTH	Corr. poly eth.	250	Not measurable					Slow trickle	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
PM-7	"	WEST	No pipe	-	-	-	-	-	-	-	-	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	-
PM-8	"	EAST	SOUTH	Corr. poly eth.	150	Not measurable					Slow trickle	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
PM-9	PARK MANOR	WEST	SOUTH	Corr. poly eth.	245	0.2	60	0.20	0.053	0.00022	Very slow trickle	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
PM-10	PARK MANOR	WEST	NORTH	Corr. poly eth.	270	0.3	30	0.60	0.159	0.00059	Very slow trickle	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
"	"		SOUTH	Corr. poly eth.	401	3.1	15	12.40	3.280	0.00818	Very fast flow	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	No
PM-11	PARK MANOR	EAST	NORTH	Corr. poly eth.	262	0.2	30	0.40	0.106	0.00040	Slow trickle. <i>Bacterial growth</i>	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
PM-12	PARK MANOR	WEST	WEST	Corr. poly eth.	285	3.7	15	14.80	3.915	0.01374	Very fast flow	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	No
PM-13	JONATHAN	EAST	NORTH	Corr. poly eth.	700	Not measurable					Slow trickle; inv. Too low, unable to catch flow.	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
PM-14	JONATHAN	WEST	NORTH	Corr. poly eth.	1300	4.3	30	8.60	2.275	0.00175	<i>Heavy bacterial growth.</i>	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	No
SC-1	SCANDIA	WEST	No pipe	-	-	-	-	-	-	-	-	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	-
SC-2	SCANDIA	EAST	NORTH	Corr. poly eth.	175	Not measurable					Slow trickle; inv. Too low, unable to catch flow.	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
SC-3	SCANDIA	EAST	SOUTH	Corr. poly eth.	200	Not measurable					Water relatively clear.	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes
SC-4	SCANDIA	EAST	NORTH	Corr. poly eth.	220	Not measurable					Slow trickle; inv. Too low, unable to catch flow.	No wetness nor curb seepage observed	No wetness or seepage at curbs observed	Yes

[1] Where measured volume is shown as "Not measurable", this was because we were unable to catch flow; either due to the underdrain pipe invert being too close to structure base or the underdrain pipe did not protrude inside the structure enough, such that a vessel could be inserted under to catch the flow.

[2] Indeterminate: Flow per linear ft could not be calculated as pipe length was unknown and could not be estimated.