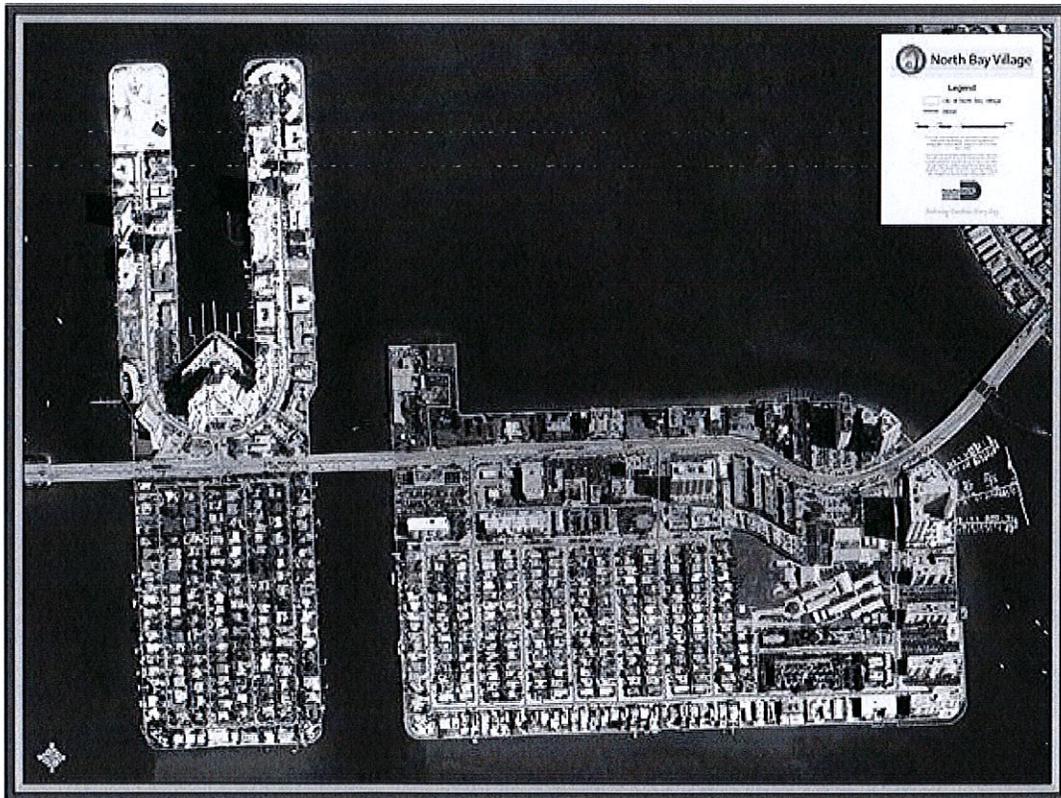


NORTH BAY VILLAGE, FLORIDA



INVITATION TO BID FOR SANITARY SEWER REHABILITATION PROGRAM

BID NO. NBV 2015-001



SEALED PROPOSALS WILL BE RECEIVED BY THE VILLAGE CLERK,
1666 KENNEDY CAUSEWAY, SUITE 300, NORTH BAY VILLAGE, FL 33141
ON OR BEFORE JANUARY 29, 2016 4:00 P.M.
NORTH BAY VILLAGE, FLORIDA

**SANITARY SEWER REHABILITATION PROGRAM
NORTH BAY VILLAGE**

CONTRACT DOCUMENTS

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**SANITARY SEWER REHABILITATION PROGRAM
NORTH BAY VILLAGE**

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**NORTH BAY VILLAGE
INVITATION TO BID**

**SANITARY SEWER REHABILITATION PROGRAM
NORTH BAY VILLAGE**

BID NO. NBV 2015-001

Public Notice is hereby given that North Bay Village, Florida is soliciting bids from experienced and qualified vendors for the furnishing of all materials, labor, equipment and supplies necessary for North Bay Village Sanitary Sewer Rehabilitation Program, including necessary appurtenances and all in accordance with the project specifications.

The nature and scope of this project is:

Furnish all labor, equipment and materials to repair and rehabilitate North Bay Village's gravity sewer system. The project will include but not be limited to sanitary sewer lining, sewer lateral lining, point repairs, lateral replacement, sanitary manhole replacement/lining, system grouting, utility testing, removal of existing sanitary sewer to be replaced, maintenance of traffic, roadway restoration, site restoration, and all other appurtenances necessary for a complete project. Construction of this project will require close coordination with the Owner and Engineer. Maximum Construction Project Duration is Seven (7) Months.

Sealed Responses clearly labeled with the BID title and number must be received by mail or hand delivered on or before January 29, 2016, no later than 4:00 p.m. local time, at which time they will be publicly opened. Late submittals and facsimile submissions will not be considered. The respondent shall bear all costs associated with the preparation and submission of the submittal documents.

All bids must be submitted as a Total Bid Amount with associated Contract Unit Pricing per the Proposal Form. Bid Security in the amount of five percent (5%) of the Bid must accompany each bid in accordance with the Instructions to Bidders.

Respondents must submit an original bound package, one unbound copy, five (5) bound additional copies, and one (1) CD ROM to the Office of the Village Clerk, North Bay Village, 1666 Kennedy Causeway, Suite 300, North Bay Village, Florida 33141.

Copies of this Proposals Document may be obtained at DemandStar by Onvia at www.demandstar.com, at the www.nbvillage.com; at the Village Administrative Offices, 1666 Kennedy Causeway, Suite 300, North Bay Village, Florida 33141 from 9:00 A.M. to 4:00 P.M., Monday through Friday, or by emailing yvonne.hamilton@nbvillage.com.

The Village reserves the right at any time to modify, waive or otherwise vary the terms and conditions of this BID including but not limited to deadlines for submission, submission requirements, informalities or irregularities in any submittal, and the Scope of Work. The Village further reserves the right to reject any or all submittals, to cancel or withdraw this BID at any time or take any other such actions that may be deemed in the best interest of the Village, to award in whole or in part to one or more respondents, or take any other such actions that may be deemed in the best interest of the Village.

Pursuant to Section 38.18 of the Village Code, "Ethics Ordinance", a Cone of Silence is hereby imposed whereby any communications between any potential bidder, service provider, lobbyist or consultant and the Village's staff and elected officials pertaining to this BID are prohibited.

Yvonne P. Hamilton, CMC
Village Clerk
(December 16, 2015)

SCHEDULE OF EVENTS

Below is the current schedule of the events that will take place in the procurement process. The Village reserves the right to make changes or alterations to the schedule as the Village determines is in the best interests of the public. Proposers will be notified sufficiently in advance of any changes or alterations in the schedule. Unless otherwise notified in writing by the Village, the dates indicated below for submission of items or for other actions on the part of a Proposer shall constitute absolute deadlines for those activities and failure to fully comply by the time stated shall cause a Proposer to be disqualified.

Date	Event
December 20, 2015	Advertisement
December 21, 2015	Documents Available for Public Inspection and digital copies
January 8, 2016	10:00 AM, pre-bid meeting at: 1666 Kennedy Causeway, Commission Chambers 1st Floor, North Bay Village, Florida 33141.
January 15, 2016	Last day opportunity for questions by emailing yvonne.hamilton@nbvillage.com , no later than 4:00 PM local time.
January 29, 2016	Bid Responses due to Village Clerk, no later than 4:00 PM local time.
February 1, 2016	Evaluation Committee Meeting
February 2, 2016	Award Recommendation to Village Clerk and Village Manager
February 9 2016	Commission Public Meeting to review and confirm Award Recommendation 7:30 pm local time

INSTRUCTIONS TO BIDDERS

SANITARY SEWER REHABILITATION PROGRAM NORTH BAY VILLAGE

Each bidder is encouraged to familiarize themselves with the North Bay Village Code of Ordinances and Consolidated Land Development Regulations. Below is an excerpt of the procurement requirements and general industry practices as they pertain to the Bond and Insurance requirements for North Bay Village. This is **not a full list** of the North Bay Village requirements.

North Bay Village Municode

Article 36.25 - Procurement requirements.

(B) *Responsibilities of the Village Manager.*

... The Village Manager may delegate responsibility for the administration of this Code as he or she deems necessary.

(D) (7) - *Bonds.*

a) *Construction contracts greater than \$50,000.00.* For construction contracts exceeding \$50,000.00, contractors shall submit the following with the bid documents:

- 1) A bid guarantee equal to five percent of the bid price;
- 2) A performance bond for 100 percent of the contract price; and
- 3) A payment bond for 100 percent of the contract price.

b) *All other contracts.* The Village Manager may require any or all of the three bonds or guarantees listed above. The bid specification shall include the amount and type of bond(s) or guarantees that are required.

Chapter 151 - Buildings

Article 151.12 – Bond

The Village will require a 10% bond of the bid price, to meet requirements of Article 151.12.

Standard General Conditions of the Construction Contract, EJCDC C-700 (2007 Edition)

1. DEFINED TERMS

Terms used in these Instructions to Bidders which are defined in the NSPE-ACEC Standard General Conditions of the Construction Contract, EJCDC C-700 (2007 Edition) have the meanings assigned to them in the General Conditions. The term "Successful Bidder" means the lowest, qualified, responsible Bidder to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award.

2. COPIES OF BIDDING DOCUMENTS

- 2.1 Complete sets of the Bidding Documents in the number and for the non-refundable sum, if any, stated in the Advertisement or Invitation to Bid may be obtained from Engineer (unless another issuing office is designated in the Advertisement or Invitation to Bid).
- 2.2 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.3 Owner and Engineer in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

3. QUALIFICATIONS OF BIDDERS

To demonstrate qualifications to perform the Work, each Bidder must be prepared to submit within five days of Owner's request written evidence of the types set forth in the Supplementary Conditions, such as financial data, previous experience and evidence of authority to conduct business in the jurisdiction where the Project is located. Each Bid must contain evidence of Bidder's qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the contract.

4. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

- 4.1 Before submitting a Bid, each Bidder must (a) examine the Contract Documents thoroughly, (b) visit the site to familiarize himself with local conditions that may in any manner affect cost, progress or performance of the Work, (c) familiarize himself with federal, state and local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the Work; and (d) study and carefully correlate Bidder's observations with the Contract Documents.
- 4.2 Reference is made to the Supplementary Conditions for the identification of those reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which have been relied upon by Engineer in preparing the Drawings and Specifications. Owner will make copies of such reports available to any Bidder requesting them. These reports are not guaranteed as to accuracy or completeness, nor are they part of the Contract Documents. Before submitting his Bid, each Bidder will, at his own expense, make such additional investigations and tests as the Bidder may deem necessary to determine his Bid for performance of the Work in accordance with the time, price and other terms and conditions of the Contract Documents.
- 4.3 On request, Owner will provide each Bidder access to the site to conduct such investigations and tests as each Bidder deems necessary for submission of his Bid.
- 4.4 The lands upon which the Work is to be performed, rights-of-way for access thereto and other lands designated for use by Contractor in performing the Work, are identified in the Supplementary Conditions, General Requirements or Drawings.
- 4.5 The submission of a Bid will constitute an incontrovertible representation by the Bidder that he has complied with every requirement of this Article 4 and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

5. INTERPRETATIONS

All questions about the meaning or intent of the Contract Documents shall be submitted to Owner in writing. Replies will be issued by Addenda mailed or delivered to all parties recorded by Owner as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids will not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

6. BID SECURITY

6.1 Bid Security shall be made payable to Owner in an amount of five percent (5%) of the Bidder's maximum Bid price and in the form of a certified or bank check or a Bid Bond (on form attached, if a form is prescribed) issued by a Surety as specified in the General Conditions.

6.2 The Bid Security of the Successful Bidder will be retained until such Bidder has executed the Agreement and furnished the required Contract Security, whereupon it will be returned; if the successful Bidder fails to execute and deliver the Agreement and furnish the required Contract Security within 10 days of the Notice of Award, Owner may annul the Notice of Award and the Bid Security of that Bidder will be forfeited. The Bid Security of any Bidder whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of the seventh day after the "effective date of the Agreement" (which term is defined in the General Conditions) by Owner to Contractor and the required Contract Security is furnished or the sixty-first day after the Bid opening. Bid Security of other Bidders will be returned within seven days of the Bid opening.

7. CONTRACT TIME

The number of days within which, or the date by which, the Work is to be completed (the Contract Time) is included in the Agreement.

8. LIQUIDATED DAMAGES

Provisions for liquidated damages, if any, are set forth in the Agreement.

9. 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 it is indicated in the Drawings or specified in the Specifications that a substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the "effective date of the Agreement". The procedure for submittal of any such application by Contractor and consideration by Engineer is set forth in the General Conditions which may be supplemented in the General Requirements.

10. SUBCONTRACTORS, ETC.

- 10.1 If the Supplementary Conditions require the identity of certain Subcontractors and other persons and organizations to be submitted to Owner in advance of the Notice of Award, the apparent Successful Bidder, and any other Bidder so requested, will within seven days after the day of the Bid opening submit to Owner a list of all Subcontractors and other persons and organizations (including those who are to furnish the principal items of material and equipment) proposed for those portions of the Work as to which such identification is so required. Such list shall be accompanied by an experience statement with pertinent information as to similar projects and other evidence of qualification for each such Subcontractor, person and organization if requested by Owner. If Owner or Engineer after due investigation has reasonable objection to any proposed Subcontractor, other person or organization, may before giving the Notice of Award request the apparent Successful Bidder to submit an acceptable substitute without an increase in the Bid price. If the apparent Successful Bidder declines to make any such substitution, the contract shall not be awarded to such Bidder, but his declining to make any such substitution will not constitute grounds for sacrificing his Bid Security. Any Subcontractor, other person or organization so listed and to whom Owner or Engineer does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer.
- 10.2 In contracts or portions thereof, where the Contract Price is on the basis of Cost-of-the-Work Plus a Fee, the apparent Successful Bidder, prior to the Notice of Award, shall identify in writing to Owner those portions of the Work that such Bidder proposes to subcontract and after the Notice of Award may only subcontract other portions of the Work with Owner's written consent.

10.3 No Contractor shall be required to employ any Subcontractor, other person or organization against whom he has reasonable objection.

11. BID FORM

11.1 The Bid Form is attached hereto; additional copies may be obtained from Engineer.

11.2 Bid Forms must be completed in ink or typed. The Bid price of each item on the form must be stated in numerals. Contractor must bid on all alternates in the bid form.

11.3 Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign), and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

11.4 Bids by partnerships or joint venture, must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature. Documentation supporting the partnership of joint venture may be requested at the discretion of the Village.

11.5 All names must be typed or printed below the signature.

11.6 The Bid shall contain an acknowledgement of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form).

11.7 The address to which communications regarding the Bid are to be directed must be shown.

12. SUBMISSION OF BIDS

Bids shall be submitted at the time and place indicated in the Invitation to Bid.

13. MODIFICATION AND WITHDRAWAL OF BIDS

13.1 Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

13.2 If, within twenty-four hours after Bids are opened, any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of his Bid, that Bidder may withdraw his Bid and the Bid Security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the Work.

14. OPENING OF BIDS

Bids will be opened publicly.

14.1 Bids are opened publicly, read aloud, and an abstract of the amounts of the base Bids and major alternates (if any) will be made available after the opening of Bids.

15. BIDS TO REMAIN OPEN

All Bids shall remain open for sixty days after the day of the Bid opening, but Owner may, in his sole discretion, release any Bid and return the Bid Security prior to that date.

16. AWARD OF CONTRACT

16.1 Owner reserves the right to reject any and all Bids, to waive any and all informalities and to negotiate contract terms with the Successful Bidder, and the right to disregard all nonconforming, nonresponsive or conditional Bids. Discrepancies between words and figures will be resolved in favor of words. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between the indicated value and the correct value as calculated by the product of the unit price and the estimated quantity will be resolved by using the stated unit price.

16.2 In evaluating Bids, Owner shall consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, alternates, additive/deductive amounts, and unit prices, if requested in the Bid forms. THE VILLAGE AT ITS SOLE DISCRETION SHALL AWARD THIS CONTRACT BASED ON THE TOTAL BID AMOUNT. It is Owner's intent to accept alternates (if any are accepted) in the order in which they are listed in the Bid form, but award will not be based on alternates and the Owner may accept them in any order or combination.

- 16.3 Owner will consider the qualifications and experience of the Contractor, Subcontractors, and other persons or organizations (including those who are to furnish the principal items of material or equipment) proposed for all portions of the Work. The identity of Subcontractors and other persons and organizations must be submitted as provided in the Supplementary Conditions. Operating costs, maintenance considerations, performance data and guarantees of materials and equipment will also be considered by Owner.
- 16.4 Owner will conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of the Bidders, proposed Subcontractors and other persons and organizations to do the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time. Issues such as past performance, adherence to schedule, and change order requests will be included in this evaluation. The weighing of these factors is at the discretion of the Village.
- 16.5 At the sole discretion of the Owner, the Owner reserves the right to reject the Bid of any Bidder based upon the evaluation noted in Section 16.4 above. References will NOT be limited to those submitted by the Contractor.
- 16.6 If the contract is to be awarded, it will be awarded to the lowest responsible Bidder whose evaluation by Owner indicates to Owner that the award will be in the best interests of the Project.
- 16.7 If the contract is to be awarded, Owner will give the Successful Bidder a Notice of Award within 10 days after the day of the Bid opening.

17. PERFORMANCE AND OTHER BONDS

Paragraph 5.01 of the General Conditions and the Supplementary Conditions set forth Owner's requirements as to Performance and Payment Bonds. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by the required Contract Security.

18. SIGNING OF AGREEMENT

When Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by at least six (6) unsigned counterparts of the Agreement and all other Contract Documents. Within ten days thereafter, Contractor shall sign and deliver at least six (6) counter-parts of the Agreement to Owner with all other Contract Documents attached. Within ten days thereafter, Owner will deliver all fully signed counterparts to Contractor.

Engineer will identify those portions of the Contract Documents not fully signed by Owner and Contractor and such identification shall be binding on all parties.

19. CONE OF SILENCE

You are hereby advised that this Invitation to Bid is subject to the “Cone of Silence” in accordance with Section 38.18 of North Bay Village Code of Ordinances. From the time of advertising until the Village Manager issues his recommendation, there is a prohibition on communication with the Village’s professional staff. This ordinance does not apply to oral communications at pre-submittal conferences, oral presentations before evaluation committees contract discussions made to Village Commission during any duly noticed public meeting, contract negotiations with the staff following the award of a bid by any Village Commission, or communication in writing at any time with any Village employee, official, or member of the Village Commission unless specifically prohibited. A copy of all written communications must be filed with the Village Clerk. A proposer who violates these provisions shall not be considered for this Invitation to Bid.

20. STATE REVOLVING FUND PROGRAM

This project is funded through the Florida Department of Environmental Protection State Revolving Fund Program and subject to the Supplementary Conditions included as Appendix B.

PROPOSAL
SANITARY SEWER REHABILITATION PROGRAM
NORTH BAY VILLAGE

North Bay Village
1666 Kennedy Causeway, Suite 300
North Bay Village, FL 33141

Gentlemen:

The undersigned, as Bidder, hereby declares that the only persons, company, or parties interested in the Proposal or the Contract to be entered into, as principals, are named herein; and that this Proposal is made without connection with any other person, company, or parties making a Bid or Proposal; and that it is in all respects fair and in good faith without collusion or fraud.

That the Bidder has carefully and to his full satisfaction examined the attached Instructions to Bidders, General Conditions, Special Conditions, Detailed Specifications, and Form of Contract and Bond, together with the accompanying Plans, and that he has read all addenda issued prior to the opening of Bids; and that he has made a full examination of the location of the propose work and hereby agrees to furnish, unless otherwise provided, all implements, machinery, equipment, transportation, tools, materials, supplies, labor, and other things necessary to the prosecution and completion of the work generally described as follows:

Sanitary Sewer Rehabilitation Program BID No. NBV 2015-001

Furnish all labor, equipment and materials to repair and rehabilitate North Bay Village's gravity sewer system. The project will include but not be limited to sanitary sewer lining, sewer lateral lining, point repairs, lateral replacement, sanitary manhole replacement/lining, system grouting, utility testing, removal of existing sanitary sewer to be replaced, maintenance of traffic, roadway restoration, site restoration, and all other appurtenances necessary for a complete project. Construction of this project will require close coordination with the Owner and Engineer. Maximum Construction Project Duration is Seven (7) Months.

It is proposed that the project herein described shall be constructed for the Total Bid Amount based on the Contract Unit Prices in this Proposal, all in accordance with the requirements and provisions of the Contract Documents. The Village at its sole discretion shall award this contract based on the Total Bid Amount and in accordance with Section 16 (Award of Contract) in the Instructions to Bidders.

TOTAL BID AMOUNT \$ _____

TOTAL BID AMOUNT (IN WORDS) _____

BID FORM

The following Bid Form is presented to assist the Village in evaluating the Bid. After award, the Village reserves the right to modify estimated quantities subject to the unit price, and eliminate line items if necessary. In the event of discrepancy or approved quantity change, the Unit Price for each item will govern. Payment shall be made for the items listed on the Bid Form on the basis of the Work actually performed and completed.

<u>Item</u>	<u>Description</u>	<u>Estimated Quantity</u>	<u>Unit</u>	<u>Price</u>	<u>Value</u>
1.	Mobilization, Bonds & Insurance	1	LS	_____	_____
2.	Maintenance of Traffic	1	LS	_____	_____
3.	8" Sanitary Sewer Liner	6,400	LF	_____	_____
4.	10" Sanitary Sewer Liner	700	LF	_____	_____
5.	12" Sanitary Sewer Liner	200	LF	_____	_____
6.	15" Sanitary Sewer Liner	200	LF	_____	_____
7.	18" Sanitary Sewer Liner	900	LF	_____	_____
8.	Sanitary Lateral Reinstatement	185	EA	_____	_____
9.	Sanitary Lateral Cleaning/CCTV - Prior to lining, No less than 6 feet up the lateral	50	EA	_____	_____
10.	Sanitary Lateral Cleaning/CCTV - Prior to lining, Additional after 6 feet	100	LF	_____	_____

11.	Sanitary Lateral Lining, No less than 6 feet up the lateral (Price includes cleanout if required)	50	EA	_____	_____
12.	Sanitary Lateral Lining, Additional after 6 feet	100	LF	_____	_____
13.	Sanitary Manhole Inspections/Lining	700	VF	_____	_____
14.	Sanitary Manhole Replacement	20	EA	_____	_____
15.	Sanitary Sewer Point Repair	20	EA	_____	_____
16.	Lateral Point Repair	50	EA	_____	_____
17.	Grouting	20	EA	_____	_____
18.	CCTV Entire Village System Post Completion of Work.	1	LS	_____	_____
19.	Site Restoration	1	LS	_____	_____
20.	Allowance	1	LS	<u>\$500,000.00</u>	<u>\$500,000.00</u>

TOTAL BID AMOUNT \$ _____

TOTAL BID AMOUNT (IN WORDS) _____

TRENCH SAFETY

Bidder acknowledges that included in the various items of the proposal and in the Total Bid Price are costs for complying with the Florida Trench Safety Act (90-96, Laws of Fla.) effective October 1, 1990. The bidder further identifies the costs to be summarized below.

	TRENCH SAFETY MEASURE <u>(DESCRIPTION)</u>	UNITS OF MEASURE <u>(LF, SY)</u>	UNIT <u>(QUANTITY)</u>	UNIT <u>COST</u>	EXTENDED <u>COST</u>
A.	_____	_____	_____	_____	_____
B.	_____	_____	_____	_____	_____
C.	_____	_____	_____	_____	_____

Failure to complete the above may result in the bid being declared non-responsive.

QUALIFICATION REQUIREMENTS

Only those Bidders and Subcontractor(s) who are qualified will be considered as bona fide bidders. As Bidder, we certify to have constructed at least three (3) similar projects in the last five (5) year period as indicated by the following:

- 1) NAME OF PROJECT _____
 - YEAR OF PROJECT _____
 - OWNER OF PROJECT _____
 - OWNER TELEPHONE NO. _____
 - LOCATION OF PROJECT _____
 - DESIGNING ENGINEER _____
 - ADDRESS _____
 - SCOPE OF WORK _____
 - APPROXIMATE VALUE \$ _____

- 2) NAME OF PROJECT _____
 - YEAR OF PROJECT _____
 - OWNER OF PROJECT _____
 - OWNER TELEPHONE NO. _____
 - LOCATION OF PROJECT _____
 - DESIGNING ENGINEER _____
 - ADDRESS _____
 - SCOPE OF WORK _____
 - APPROXIMATE VALUE \$ _____

- 3) NAME OF PROJECT _____
 - YEAR OF PROJECT _____
 - OWNER OF PROJECT _____
 - OWNER TELEPHONE NO. _____

LOCATION OF PROJECT _____
 DESIGNING ENGINEER _____
 ADDRESS _____
 SCOPE OF WORK _____
 APPROXIMATE VALUE \$ _____

List Subcontractors and other persons and organizations proposed by the Bidder to perform portions of the work:

- 1) NAME OF SUBCONTRACTOR _____
- 2) NAME OF SUBCONTRACTOR _____
- 3) NAME OF SUBCONTRACTOR _____

NOTE: For additional Subcontractors: Copy this form and attach additional pages as needed.

If awarded the Contract, the undersigned agrees to execute the attached Contract within ten (10) calendar days after the date on which Notice of Award is received and to be substantially complete within 180 calendar days and all work within not more than 210 calendar days after date of receipt of written Notice to Proceed with such extensions of time as are provided for in the General Conditions.

The undersigned understands the contract time starts on date of Notice to Proceed.

There is enclosed a Bid Guarantee consisting of five percent (5%) of Total Bid Amount.

The undersigned furthermore agrees that, in case of failure on his part to execute said contract and bond within ten (10) days after being awarded the contract, the check, bond or other security accompanying his bid and the money payable thereon, shall become the property of the Village, by forfeit as agreed and liquidated damages; otherwise the check or bond accompanying his proposal shall be returned to the undersigned.

The undersigned, if awarded the contract, agrees to furnish at time of signing of contract, Performance and Payment Bonds each in the amount of 100% of the contract as set forth in "Instructions to Bidders".

The undersigned states that this proposal is the only proposal for this project in which he is interested.

The undersigned further agrees to bear the full cost of maintaining all work until final acceptance.

SUBMITTED _____
FIRM NAME _____
BUSINESS ADDRESS _____
BUSINESS TELEPHONE _____
SIGNATURE OF RESPONSIBLE OFFICIAL _____
TITLE _____
STATE OF INCORPORATION _____

FULL NAMES & ADDRESSES OF
PERSONS OR PARTIES INTERESTED
IN THE FOREGOING BID, AS PRINCIPALS:

Addenda No(s) _____ received and attached hereto.

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, (hereinafter called the Principal), and _____ (hereinafter called the Surety), a Corporation chartered and existing under the laws of the State of with its principal offices in the City of _____ and authorized to do business in the State of Florida, and North Bay Village, and having an Agent resident therein, such Agent and Company acceptable to North Bay Village, are held and firmly bound unto North Bay Village (hereinafter called Owner), in the sum of Dollars (\$ _____), good and lawful money of the United States of America, to be paid upon demand of the said Owner, to which payment well and truly to be made we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally and firmly by these presents.

WHEREAS; the above bounded Principal contemplates submitting or has submitted a proposal to the said Owner for furnishing all necessary labor, materials, equipment, machinery, tools, apparatus, services, all State Workmen's Compensation and Unemployment Compensation Taxes incurred in the performance of the contract, and means of transportation for construction of:

**NORTH BAY VILLAGE
SANITARY SEWER REHABILITATION PROGRAM
BID No. NBV 2015-001**

for said Owner, and;

WHEREAS; the Principal desires to file this Bond in accordance with law, in lieu of a certified Bidder's check otherwise required to accompany this Proposal in the amount of five percent (5%) of the base bid.

NOW THEREFORE, the conditions of this obligation are such that, if the Proposal be accepted, the Principal shall within ten (10) days after receipt of notification of the acceptance thereof, execute a contract in accordance with the Proposal and upon the terms, conditions and price set forth therein, in the form and manner required by the Owner and execute sufficient and satisfactory Performance and Payment Bonds payable to North Bay Village, Florida, each in an amount of one hundred percent (100%) of the total contract price, as indicated in the Proposal, in form and with security satisfactory to the said Owner, then this obligation to be void, otherwise to be and remain in full force and virtue in law; and the Surety shall upon failure of the Principal to comply with any or all of the foregoing requirements within the time specified above immediately pay to the aforesaid Owner upon demand the amount hereof in good and lawful money of the United States of America, not as a penalty but as liquidated damages.

IN WITNESS WHEREOF, THE said _____, as "Principal" herein has caused these presents to be signed in its name, by its _____ under its corporation seal, and the said _____ as "Surety" herein, has caused these presents to be signed in its name by its _____, and attested by its _____, under its corporate seal, this ____ day of _____, A.D., 2015.

ATTEST:

BY: _____ (Title)
(Principal)

ATTEST:

BY:
(Surety) Attorney-in-Fact

(Attorneys-in-Fact who sign this bond must file with it a certified copy of their power-of-attorney to sign said Bond).

(The rest of this page was intentionally left blank)

NOTICE OF INTENT TO AWARD

TO: _____
Contractor

Address

ATT: _____
Name and Title

PROJECT: NORTH BAY VILLAGE
SANITARY SEWER REHABILITATION PROGRAM
BID No. NBV 2015-001

Gentlemen:

This is to advise that you have been awarded the contract for the above referenced project as a result of your bid of: _____

_____ (\$ _____) submitted to North Bay Village (Owner) on _____
_____ (Date).

Six (6) sets of the Project Manual for this project are attached. Each set contains an unexecuted Agreement and the requirement for attaching the Performance and Payment Bonds. Please execute all copies of the Agreement and attach a copy of the Performance and Payment Bonds to each Agreement and return the Project Manuals to our office for final execution by the Owner.

Your attention is invited to the provision whereby your proposal guarantee may be forfeited in the event the Agreement with satisfactory Performance and Payment Bonds attached is not executed and delivered to the Owner within ten (10) consecutive calendar days from _____
_____ (Date).

Sincerely yours,

By: _____
Gary R. Ratay, P.E.

AGREEMENT (CONTRACT)

BETWEEN OWNER AND CONTRACTOR

THIS AGREEMENT is dated as of the _____ day of _____ in the year 2015 by and between North Bay Village (hereinafter called OWNER) and _____ (hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK. CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

Furnish all labor, equipment and materials to repair and rehabilitate North Bay Village's gravity sewer system. The project will include but not be limited to sanitary sewer lining, sewer lateral lining, point repairs, lateral replacement, sanitary manhole replacement/lining, system grouting, utility testing, removal of existing sanitary sewer to be replaced, maintenance of traffic, roadway restoration, site restoration, and all other appurtenances necessary for a complete project. Construction of this project will require close coordination with the Owner and Engineer. Maximum Construction Project Duration is Seven (7) Months.

The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

**NORTH BAY VILLAGE
SANITARY SEWER REHABILITATION PROGRAM
BID No. NBV 2015-001**

Article 2. ENGINEER. The Project has been designed by the following:

ENGINEER

Kimley-Horn and Associates, Inc.
600 N Pine Island Road, Suite 450
Fort Lauderdale, FL 33324

who is hereinafter called ENGINEER and who will assume all duties and responsibilities and will have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

Article 3. CONTRACT TIME.

- 3.1 The Work will be substantially completed within 180 calendar days after the date when the Contract Time commences to run as provided in paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with paragraph 14.07 of the General Conditions within 210 calendar days after the date when the Contract Time commences to run.
- 3.2. Liquidated Damages. OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not substantially complete within the time specified in paragraph 3.1 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not substantially complete on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree, that as liquidated damages for delay (but not as a penalty), CONTRACTOR shall pay OWNER Five Hundred and 00/100 dollars (\$500) for each day that expires after the time specified in Paragraph 3.1 for substantial completion until the Work is substantially complete. Liquidated damages shall be deducted from the final CONTRACTOR pay request.

Article 4. CONTRACT TIME.

- 4.1 OWNER shall pay CONTRACTOR for performance of the Work in accordance with the Contract Document in current funds as follows:

According to the TOTAL BID AMOUNT contained in the proposal and the Schedule of Values provided for payment request purposes.

Article 5. PAYMENT PROCEDURES.

CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for payment will be processed by ENGINEER as provided in the General Conditions.

- 5.1. Progress Payments. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR'S Applications for Payment as recommended by ENGINEER, on or before the 28th day of each month during construction as provided below. The Applications for Payment shall be in AIA format. All progress payments will be on the basis of the progress of the Work measured by the schedule of values provided for in paragraph 14.01 of the General Conditions.
- 5.1.1 Prior to Substantial Completion, progress payments will be in an amount equal to: 90% of the Work completed and 90% of materials and equipment not incorporated in the Work but delivered and suitably stored, less in each case the aggregate of payments previously made.
- 5.1.2 Upon Substantial Completion, OWNER shall pay an amount sufficient to increase total payments to CONTRACTOR to 95% of the Contract Price, less such amounts as ENGINEER shall determine in accordance with paragraph 14.02.B.5 of the General Conditions.
- 5.2. Final Payment. Upon final completion and acceptance of the Work in accordance with paragraph 14.07.B.1 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said paragraph 14.07.B.1.

Article 6. INTEREST. Not Applicable

Article 7. CONTRACTOR'S REPRESENTATIONS.

In order to induce OWNER to enter into Procurement Agreement, CONTRACTOR makes the following representations:

- 7.1. CONTRACTOR has familiarized himself with the nature and extent of the Contract Documents, Work, locality, and with all local conditions and federal, state and local laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the Work.
- 7.2. CONTRACTOR has studied carefully all reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which were relied upon by ENGINEER in the preparation of the Drawings and Specifications and which have been identified in the Supplementary Conditions.

- 7.3. CONTRACTOR has made or caused to be made examinations, investigations and tests and studies of such reports and related data in addition to those referred to in paragraph 7.2 as he deems necessary for the performance of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports or similar data are or will be required by CONTRACTOR for such purposes.
- 7.4. CONTRACTOR has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.
- 7.5. CONTRACTOR has given ENGINEER written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

Article 8. CONTRACT DOCUMENTS.

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR are attached to this Agreement, made a part hereof and consists of the following:

- 8.1. This Agreement (all pages)
- 8.2. Exhibits and Appendices to this Contract Document/Agreement
- 8.3. Performance and Payment Bonds
- 8.4. Notice of Award
- 8.5. General Conditions (pages 1 to 62, inclusive)
- 8.6. Supplementary Conditions
- 8.7. Specifications bearing the following general title:
North Bay Village
Sanitary Sewer Rehabilitation Program
Bid No. NBV 2015-001
- 8.8. Drawings bearing the following general title:
North Bay Village
Sanitary Sewer Rehabilitation Program

Bid No. NBV 2015-001

- 8.9 Addenda
- 8.10. CONTRACTOR'S BID
- 8.11 Documentation submitted by CONTRACTOR prior to Notice of Award
- 8.12 Any Modifications, including Change Orders, duly delivered after execution of Agreement.

There are no Contract Documents other than those listed above in this Article 8. The Contract Documents may only be altered, amended or repealed by a Modification (as defined in Section 1 of the General Conditions).

Article 9. MISCELLANEOUS

- 9.1. Terms used in this Agreement which are defined in Article 1 of the General Conditions shall have the meanings indicated in the General Conditions.
- 9.2. No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may 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.
- 9.3. OWNER 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.

IN WITNESS WHEREOF, the parties hereto have signed six (6) sets of this Agreement. At least one counterpart each has been delivered to OWNER, CONTRACTOR, and ENGINEER. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or by ENGINEER on their behalf.

OWNER

North Bay Village

ADDRESS

1666 Kennedy Causeway, Suite 300

North Bay Village, FL 33141

BY _____
(CORPORATE SEAL)

ATTEST _____

CONTRACTOR

ADDRESS

BY _____
(CORPORATE SEAL)

ATTEST _____

**NORTH BAY VILLAGE
PERFORMANCE BOND**

**PROJECT TITLE: SANITARY SEWER REHABILITATION PROGRAM
BID No. NBV 2015-001**

CONTRACTOR:

CONTRACT NO:

CONTRACT DATED:

STATE OF § _____
 § _____
COUNTY OF § _____

KNOW ALL MEN BY THESE PRESENTS: That by this Bond, we, _____ of the City of _____, County of _____, and State of _____, as Principal, and _____, authorized, licensed and admitted to do business under the laws of the State of Florida to act as Surety on bonds, as Surety, are held and firmly bound unto North Bay Village, as Oblige, in the penal sum of _____ Dollars (\$ _____) for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, by these presents:

WHEREAS, the Principal has entered into a certain written Contract with Oblige, dated the _____ day of _____, 20____, for the construction of the Public Works Improvements (the "Contract"), which Contract is by reference made a part of this Bond.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION, IS SUCH THAT, if the said Principal shall faithfully perform said Contract and shall in all respects fully and faithfully observe and perform all and singular the covenants, conditions, warranties and agreements in and by said Contract agreed and covenanted by the Principal to be observed and performed, and according to the true intent and meaning of said Contract, then this obligation shall be void; otherwise it shall remain in full force and effect.

Whenever Principal shall be declared by Oblige to be in default under the Contract, Oblige having performed Oblige's obligations thereunder, the Surety shall promptly remedy the default, or shall promptly:

- (1) Complete the Contract in accordance with its terms and conditions; or

(2) Obtain a Bid or Bids for completion of the Contract in accordance with its terms and conditions and upon determination by Surety of the lowest responsive, responsible Bidder, or, if Oblige elects, upon determination by Oblige and the Surety jointly of the lowest responsive, responsible Bidder, arrange for a Contract between such Bidder and Surety for completion of the Contract in accordance with its terms and conditions, and make available as 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 cost of completion less the balance of the Contract price; but not exceeding the amounts set forth in the first paragraph hereof.

The term "balance of the Contract price" as used in this Bond, shall mean the total amount payable by Oblige to Principal under the Contract and amendments thereto, less the amount paid by Oblige to Principal and less amounts withheld by Oblige pursuant to its rights under the Contract.

Surety, for value received, stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to the work performed thereunder, or the plans, specifications, or drawings accompanying the same, shall in any way affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract, or to the work to be performed thereunder and further agrees to all of the terms contained in the Contract.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Oblige named herein or the heirs, successors, executors or administrators of the Oblige.

IN WITNESS WHEREOF, the said Principal and Surety have signed and sealed this instrument this ____ day of _____, 20__.

Witness: _____

Witness: _____

Principal

Surety

By: _____

By: _____

Name: _____

Name: _____

(Print)

(Print)

Title: _____

Title: _____

Address: _____

Address: _____

The name and address of the Resident Agent for service of process on Surety is:

Name: _____

Address: _____

Phone: _____

NORTH BAY VILLAGE

LABOR AND MATERIAL PAYMENT BOND

PROJECT TITLE: SANITARY SEWER REHABILITATION PROGRAM
BID No. NBV 2015-001

CONTRACTOR:
CONTRACT NO:

CONTRACT DATED:

STATE OF § _____
 § _____
COUNTY OF § _____

KNOW ALL MEN BY THESE PRESENTS: That, by this Bond, we _____, of the City of _____, _____ County of _____, State of _____, as Principal, and _____, a corporation, authorized, licensed and admitted to do business under the laws of the State of Florida, as Surety, are held and firmly bound to North Bay Village, as Oblige, in the sum of \$ _____ for the payment of which Principal and Surety bind ourselves our heirs, personal representatives, successors, and assigns, jointly and severally.

THE CONDITION OF THE BOND is that if Principal:

1. Promptly makes payments to all lienors or other claimants supplying labor, material, or supplies used directly or indirectly by Principal in the prosecution of the work provided in Contract No. () between Principal and oblige (the "Contract") for construction of the SANITARY SEWER REHABILITATION PROGRAM, the Contract being made a part of this Bond by reference; and
2. Pays Obligee all loss, damage, expenses, costs, and attorneys' fees, including appellate proceedings that Obligee sustains because of default by Principal under this Bond; then this Bond is void; otherwise, it remains in full force.

Any changes, extensions of time, alterations or additions in or under the Contract, Contract Documents, plans, specifications and/or drawings, or the work to be performed thereunder, and compliance or noncompliance with formalities connected with the Contract or with the changes do not affect Surety's obligations under this Bond, and Surety does hereby waive notice of any such changes, extensions of time, alterations or additions in or under the Contract, Contract Documents, plans, specifications and/or drawings, or the work to be performed thereunder.

This Bond is filed in accordance with Section 713.23, Florida Statutes, and/or Section 255.05, Florida Statutes, whichever or both as may be applicable.

DATED on _____, 20_____.

IN WITNESS WHEREOF, the said Principal and Surety have signed and sealed this instrument this ____ day of _____, 20__.

Witness: _____

Witness: _____

Principal

Surety

By: _____

By: _____

Name: _____

Name: _____

(Print)

(Print)

Title: _____

Title: _____

Date: _____

Date: _____

Address: _____

Address: _____

The name and address of the Resident Agent for service of process Surety is:

Name: _____

Address: _____

Phone: _____

NOTICE TO PROCEED

TO: _____
Contractor

Street Address

City

ATTN: _____
Name and Title

PROJECT: NORTH BAY VILLAGE
SANITARY SEWER REHABILITATION PROGRAM
BID No. NBV 2015-001

Gentlemen:

One executed copy of your contract for the above project has been forwarded to you through the Engineer. The Commencement date is _____, 20___. Completion date shall be _____, 20__.

Your attention is invited to the provision whereby you shall start to perform your obligations under the Contract Documents on the Commencement date. Said date shall begin the Contract Time.

The Engineer in charge of the Work for North Bay Village will be:

Gary R Ratay, P.E.

Kimley-Horn and Associates, Inc.
600 N Pine Island Road, Suite 450
Fort Lauderdale, FL 33324
(954) 535-5100

Sincerely yours,

Gary R Ratay, P.E.

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

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly by



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A Practice Division of the

NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Endorsed by



CONSTRUCTION SPECIFICATIONS INSTITUTE

These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor (EJCDC C-520 or C-525, 2007 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the Narrative Guide to the EJCDC Construction Documents (EJCDC C-001, 2007 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (EJCDC C-800, 2007 Edition).

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
 7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
 9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
 10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
 11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement.
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 1 of the Specifications.
22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an

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

1.02 *Terminology*

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

B. *Intent of Certain Terms or Adjectives:*

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

C. *Day:*

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

D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

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

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

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

2.02 *Copies of Documents*

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

2.03 *Commencement of Contract Times; Notice to Proceed*

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

2.04 *Starting the Work*

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

2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of

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

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

- A. Standards, Specifications, Codes, Laws, and Regulations
 1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

- A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:
 1. A Field Order;
 2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or

3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.

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

3.06 *Electronic Data*

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

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

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

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

4.01 *Availability of Lands*

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

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

- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

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

- 1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
- 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

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

- 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
- 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
- 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

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

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

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

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

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

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other

professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

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

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price

or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

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

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by

Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.

- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

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

ARTICLE 5 – BONDS AND INSURANCE

5.01 Performance, Payment, and Other Bonds

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 Licensed Sureties and Insurers

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

5.03 Certificates of Insurance

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

- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.
- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 - 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 - 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 - 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
 - 5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
 - 6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);
5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
6. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

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

5.06 *Property Insurance*

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

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;
 2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
 3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
 4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
 5. allow for partial utilization of the Work by Owner;
 6. include testing and startup; and
 7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.
- B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.
- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property

insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

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

5.07 *Waiver of Rights*

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:
 - 1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery

against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.
- B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

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

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

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

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

ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner’s written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.
- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.
1. "*Or-Equal*" Items: If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
 - 3) it has a proven record of performance and availability of responsive service.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

- a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
- b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
- c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
- d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - 1) shall certify that the proposed substitute item will:
 - a) perform adequately the functions and achieve the results called for by the general design,
 - b) be similar in substance to that specified, and
 - c) be suited to the same use as that specified;
 - 2) will state:
 - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
 - b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
 - 3) will identify:
 - a) all variations of the proposed substitute item from that specified, and
 - b) available engineering, sales, maintenance, repair, and replacement services; and

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

- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.
- C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.
- D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.
- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or

other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

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

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all

court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

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

6.11 *Use of Site and Other Areas*

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

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

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

- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor

shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

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

6.12 *Record Documents*

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

6.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
1. all persons on the Site or who may be affected by the Work;
 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.

- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

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

6.15 *Hazard Communication Programs*

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

6.16 *Emergencies*

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

6.17 *Shop Drawings and Samples*

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

1. *Shop Drawings:*
 - a. Submit number of copies specified in the General Requirements.
 - b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.
 2. *Samples:*
 - a. Submit number of Samples specified in the Specifications.
 - b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.
- B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Submittal Procedures:*
1. Before submitting each Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
 2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
 3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop

Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures:*

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

6.18 *Continuing the Work*

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

6.19 *Contractor's General Warranty and Guarantee*

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

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. use or occupancy of the Work or any part thereof by Owner;
 5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
 6. any inspection, test, or approval by others; or
 7. any correction of defective Work by Owner.

6.20 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor,

Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.
- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
 - 1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 - 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 - 3. the extent of such authority and responsibilities will be provided.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

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

8.02 *Replacement of Engineer*

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

8.03 *Furnish Data*

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

8.04 *Pay When Due*

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

8.05 *Lands and Easements; Reports and Tests*

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

8.06 *Insurance*

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

8.07 *Change Orders*

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

8.08 *Inspections, Tests, and Approvals*

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

8.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

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

8.11 *Evidence of Financial Arrangements*

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

8.12 *Compliance with Safety Program*

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

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

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

9.02 *Visits to Site*

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

and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

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

9.03 *Project Representative*

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

9.04 *Authorized Variations in Work*

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

9.05 *Rejecting Defective Work*

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

9.06 *Shop Drawings, Change Orders and Payments*

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

- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

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

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

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

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

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

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

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

10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

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

10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The

opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
1. deny the Claim in whole or in part;
 2. approve the Claim; or
 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.
- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

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

11.01 *Cost of the Work*

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on

Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

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

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.

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

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

11.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:*
1. Contractor agrees that:
 - a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance:*
1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

- D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 2. there is no corresponding adjustment with respect to any other item of Work; and
 3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

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

12.01 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).
- C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:
1. a mutually acceptable fixed fee; or
 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;

- c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
- d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
- e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
- f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.
- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the

control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

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

13.01 Notice of Defects

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

13.02 Access to Work

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

13.03 Tests and Inspections

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 - 3. as otherwise specifically provided in the Contract Documents.

- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.
- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.
- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

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

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. repair such defective land or areas; or
 - 2. correct such defective Work; or
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute

resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

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

13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and

equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

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

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 Schedule of Values

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

14.02 Progress Payments

A. Applications for Payments:

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

Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

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

B. Review of Applications:

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or

- b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
 - d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due:

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

D. Reduction in Payment:

- 1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or

- d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

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

14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities

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

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

14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
 - 2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
 - 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

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

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled; and
 - d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

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

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

C. *Payment Becomes Due:*

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

14.08 *Final Completion Delayed*

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

14.09 *Waiver of Claims*

- A. The making and acceptance of final payment will constitute:
 1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
 2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

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

15.02 *Owner May Terminate for Cause*

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

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
 2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
 3. Contractor's repeated disregard of the authority of Engineer; or
 4. Contractor's violation in any substantial way of any provisions of the Contract Documents.
- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:
1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);
 2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
 3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

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

15.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
 3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
 4. reasonable expenses directly attributable to termination.
- B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

- A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.
- B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.
- C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:
 - 1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
 - 2. agrees with the other party to submit the Claim to another dispute resolution process; or
 - 3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

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

17.02 *Computation of Times*

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

17.03 *Cumulative Remedies*

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

17.04 *Survival of Obligations*

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

17.05 *Controlling Law*

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

17.06 *Headings*

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

**SANITARY SEWER REHABILITATION PROGRAM
NORTH BAY VILLAGE**

SUPPLEMENTARY CONDITIONS

1.01 GENERAL:

These Supplementary Conditions amend or supplement the NSPE-ACEC Standard General Conditions of the Construction Contract, EJCDC C-700 (2007 Edition) and other provisions of the Contract Documents as indicated below. All provisions that are not so amended or supplemented remain in full force and effect. If there is a conflict between the Contract, General Conditions (EJCDC C-700 (2007 Edition)) and these Supplementary Conditions, the terms of the Supplementary Conditions shall control.

The Contractor shall note physically by cross out or cross reference notations all changes in the General Conditions called for in the Supplementary Conditions before submitting his Bid.

ARTICLE 1 - DEFINITIONS - Page 1

SC-1.01.A

The terms used in these Supplementary Conditions which are defined in the Standard General Conditions of the Construction Contract (EJCDC C-700 (2007) Edition) have the meanings assigned to them in the General Conditions, unless otherwise indicated.

Amend paragraph SC-1.01.A.28 by replacing the terminology Notice of Award with Notice of Intent to Award.

Amend paragraph SC-1.01.A.43 by replacing it with the following paragraph:

Subcontractor – An individual or entity having a direct contract with Contractor. Sub-Subcontractor is an individual or entity having a direct contract with any Subcontractor for the performance of a part of Work at the Project.

Amend paragraph SC-1.01.A.29 by replacing it with the following paragraph:

Village – The individual, entity, public body, Village Manager, or authority with whom Contractor has entered into the Contract and for whom the Work is to be performed.

Add SC-1.01.A.52 as the following paragraph:

Promptly – The period of time not exceeding five business days.

ARTICLE 2 - PRELIMINARY MATTERS - Page 6

SC-2.03

Amend paragraph 2.03.A by replacing the number of days from “30” to “90”.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS - Page 14

SC-4.04

Amend paragraph 4.04.B.2 by replacing the last sentence with the following:

If Village or Contractor is unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, a Claim may be made as provided in paragraph 10.05.

ARTICLE 5 - BONDS AND INSURANCE - Page 16

5.01

Amend paragraph 5.01.A by adding the following language at the end of the paragraph:

Any additional costs shall be borne by the Contractor.

5.04

Add the new paragraphs immediately after paragraph 5.04 of the General Conditions.

The limits of liability for the insurance required by paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by law:

5.04.A.1 and 5.04.A.2 Workers' Compensation, etc. under paragraphs 5.04.A.1 and 5.04.A.2 of the General Conditions:

1. Comprehensive General Liability:
 - (a) Coverage to include Premise/Operations, Broad Form Property Damage, Contractual and Personal Injury, and XCU (where applicable).

2. Limits:
 - (a) General Aggregate \$1,000,000
 - (b) Each Occurrence \$1,000,000
 - (c) Personal Injury \$1,000,000

3. Coverage is to be written on an "occurrence" basis.

4. Village's and Contractors Protection:
 - (a) Bodily Injury:

Annual Aggregate	\$1,000,000
Each Occurrence	\$1,000,000

 - (b) Property Damage:

Annual Aggregate	\$1,000,000
Each Occurrence	\$1,000,000

5. Worker's Compensation shall be in accordance with the provisions of the laws of the State of Florida.

- 5.04.A.7 Comprehensive Automobile Liability:
 - (a) Coverage to include all owned, hired, non-owned vehicles, and/or trailers and other equipment required to be licensed.
 - (b) Limits:

Combined Single Limit	\$1,000,000
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- 5.04.B.8 Umbrella:
 - (a) Limits:

Aggregate	\$1,000,000
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 - (b) Cover all claims arising out of the Contractor's operations or premises, anyone directly or indirectly employed by the Contractor or Subcontractor, and the Contractor's obligations under indemnification under this Contract.

- 5.04.B.9 North Bay Village, shall be included as a named insured party under the Contractors Liability Insurance. The following paragraph is required to appear unaltered on the Certificate of Insurance.

"North Bay Village, Florida is hereby named Additional Insured under the terms of this policy."

5.04.B.10 A thirty (30) day Notice of Cancellation is required and must be stated on the Certificate of Insurance.

5.04.B.11 The Certificate of Insurance shall be issued to North Bay Village, Florida at the following address:

North Bay Village
1666 Kennedy Causeway, Suite 300
North Bay Village, FL 33141

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES - INDEMNIFICATION - Page 22

SC-6.01

Add the new paragraphs immediately after paragraph 6.01.B of the General Conditions.

The Contractor shall perform all work in compliance with all applicable safety codes. A competent English speaking superintendent will be on the job at all times during working hours, and will be subject to call during off-duty hours for emergency situations. The superintendent shall have overall charge of the work with complete authority regarding the Contractor's workmen, equipment and material purchases. The superintendent shall have complete authority to act on behalf of the Contractor. This person must be sufficiently qualified and have read and understood the Drawings, Specifications and all Contract Documents.

SC-6.02

Modify paragraph 6.02.B to allow work on Saturday per the following new paragraph added immediately after paragraph 6.02.B of the General Conditions.

The Project sites being located in a single-family residential area, there shall be no undue noise created, whether by workers arriving at the sites or by actual construction work, before 9:00 a.m. or after 6:00 p.m. Monday through Saturday. No work shall be performed on Sunday or legal holidays as defined by the Village. There are no public sanitary facilities nearby the work sites, and the Contractor must therefore make arrangements for portable sanitary facilities as authorized by the Village.

SC-6.06

Amend paragraph 6.06.A by replacing the last sentence of the paragraph with the following sentence:

Contractor shall not be required to employ any Subcontractor, supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection, except as required by 6.06.B and the Instruction to Bidders.

Amend paragraph 6.06.B by adding the words "Instructions to Bidders" before Supplementary Conditions where ever it appears.

Amend paragraph 6.06.B by deleting the following sentence from the paragraph:

Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued or Written Amendment signed.

Amend paragraph 6.06.B by adding the following language at the end of the last sentence of the paragraph:

nor does such acceptance create a contractual relationship between the Village and any subcontractor, supplier, individual or entity.

SC-6.09

Amend paragraph 6.09.C by replacing the first sentence of the paragraph with the following sentence:

Changes in Laws or Regulations which become effective after the time of opening of Bids (or, on the Effective Date of the Contract if there were no Bids) having an effect on the cost or time of performance of the Work may be the subject of an adjustment in Contract Price or Contract Times.

Add the new paragraphs immediately after paragraph 6.09.C. of the General Conditions:

All vehicles used in connection with the Contractor's operations will be required to have identification signs.

SC-6.11

Amend paragraph 6.11.A.2 by adding the following language at the end of the last sentence:

, as set forth on the Resident Complaint Resolution Protocol attached hereto and made a part of the Contract Documents.

Add the new paragraphs immediately after paragraph 6.11.B. of the General Conditions:

Adjacent residents must have access to their driveways at all times. All barricades and warning signs for any traffic lane closures will be provided and maintained by the Contractor. Cost of all barricades and signs shall be the responsibility of the Contractor. Any off-duty officers as may be required in the maintenance of traffic shall be provided by the Contractor at the Contractor's expense.

SC-6.12

Amend paragraph 6.12.A by replacing the first sentence of the paragraph with the following sentence:

Contractor shall maintain in a safe place at the Project one record copy of all Drawings, Project Specifications, Addenda, Written Amendments, Change Orders, Work Change Directives, Field Orders, AsBuilts, and written interpretations and clarifications in good order and annotated to show changes made during construction.

SC-6.13

Amend paragraph 6.13.A.3 by replacing it with the following paragraph:

other property at the Project or adjacent thereto, including, but not limited, to trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and underground facilities not designated for removal, relocation, or replacement in course of construction.

SC-6.20

Amend the paragraphs 6.20.A.1 and 6.20.A.2 by replacing them with the following paragraph.

To the fullest extent permitted by Laws and Regulations, the Parties agree that in consideration of the first \$1,000.00 dollars to be paid by Village to Contractor hereunder and other specific consideration, the receipt and sufficiency of which is hereby acknowledged, the Contractor shall indemnify, defend and hold harmless the Village and Village Engineer and their consultants, agents, officers and employees, and the elected officials of the Village, from and against all claims, damages, losses and expenses, direct, indirect or consequential (including but not limited to fees and charges of engineers, architects, attorneys and other professional and court and arbitration costs) arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting therefrom and (b) is caused in whole or in part by any negligent act or omission of Contractor, any Subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder or arises by or is implied by Law and Regulations regardless of the negligence of any such party.

Amend paragraphs 6.20.B by replacing it with the following paragraph:

In any and all claims against Village and Village Engineer and their consultants, agents, officers and employees, and the elected officials of the Village by any Contractor, any Subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.20 shall not be limited in any way, by any limitation on the amount or type of damages, compensation or benefits payable by or for Contractor or any such Subcontractor or other person or organization under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 8 - VILLAGE'S RESPONSIBILITIES - Page 36

SC-8.02

Amend paragraph 8.02.A by replacing it with the following paragraph:

In case of termination of the employment of Village Engineer, Village shall appoint an engineer whose status under the Contract Documents shall be that of the former Village Engineer.

ARTICLE 9 - VILLAGE ENGINEER'S STATUS DURING CONSTRUCTION - Page 37

SC-9.03

Amend paragraph 9.03.A by adding the following language at the end of the paragraph:

The Village Engineer will provide a Resident Project Representative for this Project with duties, responsibilities and limitations of authority as outlined in Exhibit "B" attached at the end of these Supplementary Conditions. The Resident Project Representative will not be a full time Representative, but will work such periods of time so as to cover the Project in accordance with Exhibit "B".

SC-9.04

Amend paragraph 9.04.A by deleting the following sentence from the end of the paragraph:

If Village and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of a Field Order, a Claim may be made therefore as provided in paragraph 10.05.

SC-9.07

Amend paragraph 9.07.A by replacing the word "decision" in the second sentence with the word "recommendation" and adding the words "recommendation will be submitted to the Village Manager whose" into the third sentence between the words "written" and "decision".

SC-9.08

Amend paragraph 9.08.D by replacing the word "decision" with "recommendation" in the second paragraph and deleting the words "Village or" from the last sentence.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS - Page 40

SC-10.01

Amend paragraph 10.01.A by replacing the first sentence of the paragraph with the following sentence:

Without invalidating the Contract and without notice to any Surety, Village may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Written Amendment, a Change Order, a Work Change Directive, or a Field Directive.

Amend paragraph 10.05.D by adding the following sentence at the end of the paragraph:

Adherence to the terms of paragraph 10.05 is a condition precedent to bringing any further action in litigation.

SC-10.05

Amend paragraph 10.05.A by replacing it with the following paragraph:

B. Village Manager's Decision: Village Engineer will render a formal recommendation to the Village Manager for a binding decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any. Village Managers decision on such Claim, dispute, or other matter will be final and binding upon Village and Contractor:

ARTICLE 11 - COST OF THE WORK; CASH ALLOWANCE; UNIT PRICE WORK -
Page 42

SC-11.01

Amend paragraph 11.01.A.1 by deleting the word Saturday from the last sentence of the paragraph.

Delete paragraph 11.01.A.4 in its entirety.

SC-11.03.C

Amend paragraph 11.03.C by replacing it with the following paragraph:

C. A Claim may be made for an adjustment in the Contract Price in accordance with paragraph 10.05 if:

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES –
Page 46

SC-12.01.C

Amend paragraph 12.01.C.2.a. by replacing the entire sentence with the following sentence:

for costs incurred under paragraph 11.01.A.1 and 11.01.A.2, the CONTRACTOR's fee shall be 10 percent;

SC-12.01.C

Modify paragraph 12.01.C.2.c. to change the fee as follows in the first sentence:

Will be paid a fee of 10 percent of the costs incurred by such Subcontractor under paragraph 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

SC-12.03

Amend paragraph 12.03 by replacing the entire paragraph with the following paragraph:

Contractor will not be entitled to any adjustment in the Contract Price for delays extended general conditions, extended overhead, loss of productivity, acceleration or any damages or other compensation whatsoever in the event of any delays in the progress of the Work on account of hindrances or delays from any cause whatsoever. Such causes of delay include but are not limited to differing site conditions, difficulty in acquiring building permits, limited access to the Project, failure to approve plans and shop drawings on time, delays caused by governmental action, inaction or regulation, subsurface conditions, material shortages or delay in delivery of materials. It is the specific intent hereunder that an extension of time will be the sole and exclusive remedy for delay of any type, description of category. However, if occasioned by an act of God, or by any act or omission on the part of the Village such act, hindrance or delay may entitle the Contractor to an extension of time in which to complete the Work which shall be determined by the Village Engineer, provided that the Contractor will give notice as provided herein.

The foregoing limitations on adjustments to Contract Price also apply to any causes of delay which affect any subcontractor, materialman, supplier or laborer on the Project. In no event, if any such events of delay occur, shall any subcontractor, materialman, supplier or laborer be entitled to additional compensation for delays including claims for extended general conditions, extended overhead and the like against the Village or Village Engineer.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK - Page 48

SC-13.04

Amend paragraph 13.04.A by replacing it with the following paragraph:

If any Work is covered contrary to the Technical Specifications, Drawings or Contract Documents, it must, if requested by Village Engineer, be uncovered for Village Engineer's observation and replaced at Contractor's expense.

Amend paragraph 13.04.B by adding the following language at the end of the second sentence:

,or direct payment if remaining Contract funds are not sufficient.

SC-13.09

Amend paragraph 13.09.C by adding the following language at the end of the first sentence:

, or direct payment if remaining Contract funds are not sufficient.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION - Page 52

SC-14.02.A.2

Amend paragraph 14.02.A.2 by deleting the existing paragraph and replacing it with the following paragraph:

With each Application for Payment, the Contractor shall include a Partial Waiver Upon Progress Payment or Statutory Waiver and Final Release, as appropriate from each and every materialman, supplier and or laborer ("Potential Lienor") who has provided labor, services or materials for the Project. Contractor shall submit its own Statutory Waiver and Partial Release of Lien or Statutory Waiver and Final Release of Lien, as appropriate, with each Application for Payment. Moreover, Contractor shall ensure that no construction liens, or any encumbrances in the nature thereof or any other encumbrances whatsoever (including equitable lien claims), shall be filed or maintained by the Contractor or by any Potential Lienor in connection with any Work for which Village has made payment or for which payment is not yet due. As a condition precedent to the receipt of each progress payment from the Village, Contractor must furnish the Partial Waiver Upon Progress Payment Statutory Waiver and Final Release from each Potential Lienor, in the form prescribed by Village and/or Village Engineer, together with a Contractor's Affidavit and Partial Release, in the form prescribed by the Village and/or Village Engineer. Further, as a condition precedent to the receipt of the final payment, the Contractor shall provide Village with a Statutory Waiver and Final Release from each Potential Lienor in the form prescribed by Village and/or the Village Engineer, together with a Contractor's Affidavit and Final Release. Each Release given to the Village shall waive and release any lien rights of the Potential Lienor to the extent payment is made with respect to any Work performed through the date of the Release. For any Potential Lienor who has served a Notice to Village and/or Notice to Contractor, but who has not provided labor, services or materials during the period of time covered by an Application for Payment, the Contractor shall provide a Zero Dollar Release in the form prescribed by Village and/or Village Engineer. Contractor shall comply with all requirements of Florida Statutes, Chapter 713. Contractor agrees to indemnify, defend and hold the Village harmless from and against any and all liens or other claims whatsoever filed against the Village or the Village's property by any Potential Lienor for worked performed or materials or services furnished in connection with the Work for which Contractor has been paid or for which payment is not yet due at the time the Lien is recorded. In the event a Claim of Lien is recorded against the Village's property, the Contractor shall cause the same to be satisfied within ten (10) days following the date of recordation of the Claim of Lien, or in the alternative, shall cause the Claim of Lien to be transferred to a Bond. In the event any Liens are not cleared of record within ten (10) days of recordation, Village shall have the right to settle, satisfy, or transfer such Lien to a Bond at Contractor's sole cost and expense and Village may offset any such cost against the next payment due to Contractor, or Contractor shall make a direct payment if remaining Contract funds are not sufficient.

Village shall not be limited to and is entitled to all other remedies available at law or in equity. The provisions of this paragraph shall be deemed an independent covenant of the Contractor and shall be effective with respect to all Work performed and materials and services furnished under the Contract Documents, Change Orders or any other agreement for work with respect to the Project.

SC-14.02.D.1.b

Amend paragraph 14.02.D.1.b by deleting the existing paragraph and replacing it with the following:

Liens have been recorded in connection with the Work or the Project.

SC-14.07

Amend paragraph 14.07.A.1 by replacing it with the following paragraph:

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

Amend paragraph 14.07.A.2 by adding the following language at the end of the first sentence:

or claims made against the Bonds provided by Contractor under the Contract Documents.

Delete paragraph 14.07.A.3 in its entirety.

SC-14.09

Amend paragraph 14.09.A.1 by replacing it with the following paragraph:

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

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION - Page 59

SC-15.03

Delete paragraph 15.03.A.3 in its entirety.

Delete paragraph 15.03.A.4 in its entirety.

SC-15.04

Amend paragraph 15.04.B. by deleting the last sentence of the paragraph.

EXHIBIT "B"

**A LISTING OF THE DUTIES, RESPONSIBILITIES AND LIMITATIONS
OF AUTHORITY OF THE RESIDENT PROJECT REPRESENTATIVE**

Village Engineer shall furnish a Resident Project Representative (RPR), assistants and other field staff to assist Village Engineer in observing performance of the Work of the Contractor.

Through more extensive on-site observations of the Work in progress and field checks of materials and equipment by the RPR and assistants, Village Engineer shall endeavor to provide further protection for Village against defects and deficiencies in the Work; but, the furnishing of such services will not make Village Engineer responsible for or give Village Engineer control or supervisory control over construction means, methods, techniques, sequences or procedures or for safety precautions or programs, or responsibility for Contractor's failure to perform the Work in accordance with the Contract Documents.

The duties and responsibilities of the RPR are limited to those of Village Engineer in Village Engineer's agreement with the Village and in the construction Contract Documents, and are further limited and described as follows:

A. General

RPR is Village Engineer's agent at the site, will act as directed by and under the supervision of Village Engineer, and will confer with Village Engineer regarding RPR's actions. RPR's dealings in matters pertaining to the on-site work shall in general be with Village Engineer and Contractor keeping Village advised as necessary. RPR's dealings with subcontractors shall only be through or with the full knowledge and approval of Contractor. RPR shall generally communicate with Village with the knowledge of and under the direction of Village Engineer.

B. Duties and Responsibilities of RPR

1. Schedules: Review the progress schedule, schedule of Shop Drawing submittals and schedule of values prepared by Contractor and consult with Village Engineer concerning acceptability.
2. Conferences and Meetings: Attend meetings with Contractor, such as pre-construction conferences, progress meetings, job conferences and other Project-related meetings, and prepare and circulate copies of minutes thereof.
3. Liaison:
 - a. Serve as Village Engineer's liaison with Contractor, working principally through Contractor's superintendent and assist in understanding the intent of the Contract Documents; and assist Village Engineer in serving as Village's liaison with Contractor when Contractor's operation affect Village's on-site operations.
 - b. Assist in obtaining from Village additional details or information, when required for proper execution of the Work.
4. Shop Drawings and Samples:
 - a. Record date of receipt of Shop Drawings and samples.
 - b. Receive samples that are furnished at the site by Contractor, and notify Village Engineer of availability of samples for examination.
 - c. Advise Village Engineer and Contractor of the commencement of any Work requiring a Shop Drawing or sample if Village Engineer has not approved the submittal.

5. Review of Work, Rejection of Defective Work, Inspections and Tests:
 - a. Conduct on-site observations of the Work in progress to assist Village Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.
 - b. Report to Village Engineer whenever RPR believes that any Work is unsatisfactory, faulty or defective or does not conform to the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Village Engineer of Work that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
 - c. Verify that tests, equipment and systems startups and operating and maintenance training are conducted in the presence of appropriate personnel, and that Contractor maintains adequate records thereof; and observe, record and report to Village Engineer appropriate details relative to the test procedures and startups.
 - d. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections and report to Village Engineer.
6. Interpretation of Contract Documents: Report to Village Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Village Engineer.
7. Modifications: Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report with RPR's recommendations to Village Engineer. Transmit to Contractor decisions as issued by Village Engineer.
8. Records:
 - a. Maintain at the job site orderly files for correspondence, reports of job conferences, Shop Drawings and samples, reproductions of original Contract Documents including all Work Directive Changes, Addenda, Change Orders, Field Orders, additional Drawings issued subsequent to the execution of the Contract, Village Engineer's clarifications and interpretations of the Contract Documents, progress reports, and other Project related documents.

- b. Keep a diary or log book, recording Contractor hours on the job site, weather conditions, data relative to questions of Work Directive Changes, Change Orders or changed conditions, list of job site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to Village Engineer.
 - c. Record names, addresses and telephone numbers of all Contractors, subcontractors and major suppliers of materials and equipment.
9. Reports:
- a. Furnish Village Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Shop Drawing and sample submittals.
 - b. Consult with Village Engineer in advance of scheduled major tests, inspections or start of important phases of the Work.
 - c. Draft proposed Change Orders and Work Directive Changes, obtaining backup material from Contractor and recommend to Village Engineer Change Orders, Work Directive Changes, and Field Orders.
 - d. Report immediately to Village Engineer and Village upon the occurrence of any accident.
10. Payment Requests: Review applications for payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Village Engineer, noting particularly the relationship of the payment requested to the schedule of values. Work completed and materials and equipment delivered at the site but not incorporated in the Work.
11. Certificates, Maintenance and Operation Manuals: During the course of the Work, verify that certificates, maintenance and operation manuals and other data required to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have this material delivered to Village Engineer for review and forwarding to Village prior to final payment for the Work.
12. Completion:
- a. Before Village Engineer issues a Certificate of Substantial Completion, submit to Contractor a list of observed items requiring completion or correction.

- b. Conduct final inspection in the company of Village Engineer, Village and Contractor and prepare a final list of items to be completed or corrected.
- c. Observe that all items on final list have been completed or corrected and make recommendations to Village Engineer concerning acceptance.

C. Limitations of Authority

Resident Project Representative:

- 1. Shall not authorize any deviation from the Contract Documents or substitution of materials or equipment, unless authorized by Village Engineer.
- 2. Shall not exceed limitations of Village Engineer's authority as set forth in the Contract Documents.
- 3. Shall not undertake any of the responsibilities of Contractor, subcontractors or Contractor's superintendent.
- 4. Shall not advise on, issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction unless such advice or directions are specifically required by the Contract Documents.
- 5. Shall not advise on, issue directions regarding or assume control over safety precautions and programs in connection with the Work.
- 6. Shall not accept Shop Drawings or sample submittals from anyone other than Contractor.
- 7. Shall not authorize Village to occupy the Project in whole or in part.
- 8. Shall not participate in specialized field or laboratory tests or inspections conducted by others except as specifically authorized by Village Engineer.

END OF SECTION

**SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES**

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to _____
[print name of the public entity]

by _____
[print individual's name and title]

for _____
[print name of entity submitting sworn statement]

whose business address is

and (if applicable) its Federal Employer Identification Number (FEIN) is _____.

(If the entity has no FEIN, include the Social Security Number of the individual signing

This sworn statement: _____.)

2. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), **Florida Statutes**, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or of the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

3. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.
4. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means:
 1. A predecessor or successor of a person convicted of a public entity crime: or
 2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.
5. I understand that a "person" as defined in Paragraph 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.
6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. **[indicate which statement applies.]**

___ Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity, has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

___ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

___ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in public interest to place the entity submitting this sworn statement on the convicted vendor list. **[attach a copy of the final order]**

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND, THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED, I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED INT HIS FORM.

[signature]

Sworn to and subscribed before me this ____ day of _____, 20 ____.

Personally known _____

OR Produced identification _____

Notary Public - State of

My commission expires

(Type of identification)

(Printed typed or stamped commissioned name notary public)

Form PUR 7068 (Rev. 06/11/92)

SECTION 01000

GENERAL REQUIREMENTS

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

- A. Furnish all labor, equipment and materials to repair and rehabilitate North Bay Village's gravity sewer system. The project will include but not be limited to sanitary sewer lining, sewer lateral lining, point repairs, lateral replacement, sanitary manhole replacement/lining, system grouting, utility testing, removal of existing sanitary sewer to be replaced, maintenance of traffic, roadway restoration, site restoration, and all other appurtenances necessary for a complete project. Construction of this project will require close coordination with the Owner and Engineer.
- B. Omission of a specific item or component part of a system obviously necessary for the proper functioning of the system shall not relieve the Contractor of the responsibility of furnishing the item as part of the work at no additional cost to Owner.
- C. The Specification Divisions and Drawings are an integrated part of the Contract Documents and as such will not stand alone if used independently as individual Sections, Divisions, or Drawing Sheets. The Drawings and Specifications establish minimum standards of quality for this Project. They do not purport to cover all details entering into the design and construction of materials or equipment.
- D. Where portions of the work traverse or cross federal, state, county or local highways, roads, streets, or waterways, and the agency in control of such property has established standard specifications governing items of work that differ from these specifications, the most stringent requirements shall apply.
- E. The Contractor shall become familiar with the existing operating conditions of the Owner's wastewater system and pumping stations and take such into consideration in planning and scheduling work. No extra claims shall be made for work required to achieve conditions beyond those obtainable under normal operation of the existing transmission, collection and pumping facilities necessary to accomplish the work.

1.02 QUALITY ASSURANCE

- A. Laws and Regulations: Contractor shall give all notices and comply with all laws, ordinances, rules, and regulations applicable to the work. If Contractor observes that the Specifications or Drawings are at variance therewith, Contractor shall give Engineer prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate modification. If Contractor performs any work, knowing or having reason to know, that it is contrary to such laws, ordinances, rules, and regulations, and without such notice to Engineer, Contractor shall bear all costs arising therefrom. However, it shall not be Contractor's primary responsibility to make certain that the Specifications and Drawings are in accordance with such laws, ordinances, rules, and regulations.

1.03 PROJECT SPECIFICATIONS

- A. The Miami-Dade Standard Specifications and Details for Design and Construction of water and wastewater improvements, latest edition are hereby incorporated by reference and the Contractor shall comply with all requirements. Select Miami-Dade Water and Sewer specification and details are included in Appendix A for reference.
- B. Portions of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction and their Roadway and Traffic Design Standards, hereinafter referred to as the DOT Standard Specifications, are referred to herein and amended, in part, and the same are hereby made a part of this Contract to the extent of such references and shall be as binding upon the Contract as though reproduced herein. Such reference shall mean the current edition, including all supplements. In case of a conflict in the requirements of the DOT Specifications and the requirements stated herein, the requirements herein shall prevail.
- C. Contractor will be required to submit Maintenance of Traffic (MOT) plans for work on the Village streets and State highways. Contractor shall coordinate with MOTs for nearby or highway work and obtain approval for all traffic control as required by the permit jurisdiction having authority
- D. The applicable portions of North Bay Village Code and Florida Building Code shall apply to the project.

PART 2 SEQUENCE OF OPERATIONS

2.01 SCHEDULING

- A. General: Prepare and submit schedule in accordance with the provisions of Section 01300.
- B. Plan the Work and carry it out with minimum interference to the operation of the existing facilities. Prior to starting the work, confer with the Engineer and Owner's representative to develop an approved work schedule which will permit the facilities to function normally as practical. It may be necessary to do certain parts of the construction work outside normal working hours in order to avoid undesirable conditions. The Contractor shall do this work at such times and at no additional cost to the Owner. Do not make connections between existing work and new work until necessary inspection and tests have been completed on the new work and it is found to conform in all respects to the requirements of the Contract Documents.
- C. No work shall be started until the Contractor has received approved shop drawings, established material/delivery dates for all equipment, and received approval of the construction schedule from the Engineer or Owner. The Contractor shall have sufficient manpower, equipment, and material to complete the project.
- D. No work shall commence without express consent of the Engineer or Owner.
- E. If a privately owned staging area is required, no work shall commence until approval of the facility is obtained in accordance with Village requirements.

2.02 MOBILIZATION AND DEMOBILIZATION

- A. Contractor shall be responsible for mobilization and demobilization of labor, materials and equipment. Payment for mobilization and demobilization shall be included in the lump sum price for the Project.

2.03 COORDINATION

- A. Contractor shall cooperate in the coordination of separate activities in a manner that will provide the least interference with the Owner's operations and other contractors and utility companies working in the area, and in the interfacing and connection of the separate elements of the overall project work.

- B. If any difficulty or dispute should arise in the accomplishment of the above, the problem shall be brought immediately to the attention of the Project Manager or Owner.

2.04 SHUTDOWN OF EXISTING OPERATIONS OR UTILITIES

- A. Continuous operation of the Owner's service functions is of critical importance. The Contractor's work shall not result in the interruption of sewage, water, or solid waste service to any customers.
- B. Minimizing conflicts with the ongoing area-wide commercial activities is of critical importance. The Contractor's work shall minimize in the interruption of operations at any facility or business.
- C. Connections to existing services or utilities, or other work that requires the temporary shutdown of any existing operations or utilities shall be planned in detail with appropriate scheduling of the work and coordinated with the Owner or Project Manager. Two business days advanced notice shall be given in order that the Owner or Project Manager may witness the shutdown, tie-in, and startup. The temporary shutdown must be approved by the Owner. All tie-in and bypass operations shall be the responsibility of the Contractor and are considered incidental to the cost of construction and provided at no additional cost to the Owner.
- D. All materials and equipment (including emergency equipment) necessary to expedite the tie-in shall be on hand prior to the shutdown of existing services or utilities.

2.05 OPERATION OF EXISTING SYSTEM PROHIBITED

- A. At no time undertake to close off any utility lines or open valves or take any other action which would affect the operation of existing systems. The Owner's forces will operate all valves. Provide at least one business day notice to Owner prior to any operations.

2.06 BYPASS PUMPING

- A. Wastewater flows shall be controlled through the pipeline sections and pump stations where work is being performed. Under no circumstances, can portions of the system be removed from service for periods of time in excess of that approved by the Owner. The Contractor shall be responsible to assess conditions and capacities of the existing sewer lines and pump stations and accommodate it in the project work plan in order to implement an acceptable bypass plan at no additional cost to the Owner. Bypass pumping shall be in accordance with these specifications.

PART 3 SITE CONDITIONS

3.01 SITE INVESTIGATION AND REPRESENTATION

- A. The Contractor acknowledges satisfaction as to the general nature and location of the work, the general and local conditions, particularly those bearing upon availability of transportation, availability of labor, water, electric power, roads, and uncertainties of weather, or similar physical conditions, the character of equipment and facilities needed preliminary to and during the prosecution of the work, and all other matters which can in any way affect the work or the cost thereof under this Contract.
- B. Failure by the Contractor to become acquainted with the physical conditions and all the available information will not relieve the Contractor from responsibility for properly estimating the difficulty or cost of successfully performing the work.

3.02 UTILITIES

- A. The Contractor shall be responsible for determining and/or confirming, at his cost, the locations of all utilities within the project area, and shall be responsible for contacting each utility for location and notification prior to commencing work.
- B. The Contractor shall contact potentially affected utilities as needed.
- C. The Contractor shall contact Sunshine State One Call at 1-800-432-4770 at least 2 working days prior to any excavation and make arrangements for locating all utilities in the project area.

3.03 CONTRACTOR RESPONSIBILITY FOR UTILITY PROPERTIES AND SERVICE

- A. Where the Contractor's operations could cause damage or inconvenience to utilities, telephone, television, power, water, or sewer systems, the operations shall be suspended until all arrangements necessary for the protection of these utilities and services have been made by the Contractor with the owner of the utility affected.
- B. Notify all utility offices which are affected by the construction operation at least 2 working days in advance. Under no circumstances expose any utility without first obtaining permission from the appropriate agency. Once permission has been granted, locate, expose, and provide temporary support for all existing underground utilities.
- C. The Contractor shall be solely and directly responsible to the Owner and operators of such properties for any damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of any character brought because of any injuries or damage which may result from the construction operations under this Contract.
- D. Neither the Owner nor its officers or agents shall be responsible to the Contractor for damages as a result of the Contractor's failure to protect utilities encountered in the work.
- E. In the event of interruption to domestic water, sewer, storm drain, or other utility services as a result of accidental breakage due to construction operations, promptly notify the proper authority. Cooperate with said authority in restoration of service as promptly as possible and bear all costs of repair. In no case shall interruption of any water or utility service be allowed to exist outside working hours unless prior approval is granted.
- F. In the event the Contractor encounters water service lines or sewer laterals that interfere with trenching, he may, by obtaining prior approval of the property owner, the Engineer and the Owner, cut the service, dig through, and restore the service with similar and equal materials at the Contractor's expense.
- G. The Contractor shall replace, at his own expense, all existing utilities or structures removed or damaged during construction, unless otherwise provided for in these Contract documents or ordered by the Engineer.

3.04 INTERFERING STRUCTURES

- A. Take necessary precautions to prevent damage to existing structures whether on the surface, aboveground, or underground.
- B. Protect underground and aboveground existing structures from damage. Where such existing fences, gates, sheds, buildings, or any other structure must be removed in order to properly carry out the construction, or are damaged during construction, restore to their original condition to the satisfaction of the property owner involved at the Contractor's own expense. Notify the Project Manager of any damaged underground structure, and make repairs or replacements before backfilling.
- C. Without additional compensation, the Contractor may remove and shall replace in a condition as good as or better than original, such small miscellaneous structures as fences, mailboxes, and signposts that interfere with the Contractor's operations.

PART 4 SAFETY AND CONVENIENCE

4.01 SAFETY AND ACCESS

- A. The Contractor shall do all work necessary to protect the general public from hazards, including, but not limited to, surface irregularities or unramped grade changes in pedestrian sidewalk or walkway, and trenches or excavations in roadway. Barricades, lanterns, and proper signs shall be furnished in sufficient amount to safeguard the public and the work. All barricades and signs shall be clean and serviceable, in the opinion of the Project Manager.
- B. The Contractor shall notify all residences and businesses of planned construction at least 5 working days prior to the start of work in the block where they are located. Such notices shall be brochures or door-hangers with sufficient information to describe the extent and duration of the planned work. Notification activities shall be coordinated with the Village Engineer.
- C. Homeowners and business owners shall be provided reasonable access. The Contractor shall provide temporary sidewalks, bridges or driveway access, including safe passage over open excavations as required.

4.02 ACCIDENT REPORTS

- A. In addition, the Contractor must promptly report in writing to the Engineer all accidents whatsoever arising out of, or in connection with, the performance of the work whether on, or adjacent to, the site, giving full details and statements of witnesses. If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to the Project Manager.
- B. If a claim is made by anyone against the contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the Project Manager, giving full details of the claim.

4.03 PROTECTION OF PROPERTY

- A. Protect stored materials located adjacent to the proposed work. Notify property owners affected by the construction at least two business days in advance of the time construction begins. During construction operations, construct and maintain such facilities as may be required to provide access by all property owners to their property. No person shall be cut off from access to his residence or place of business for a period exceeding 2 hours, unless the Contractor has made special arrangements with the affected persons.
- B. The Contractor shall identify and isolate his active work zone in such a manner as to exclude all personnel not employed by him, the Project Manager, and the Owner.

4.04 FIRE PREVENTION AND PROTECTION

- A. The Contractor shall perform all work in a fire-safe manner. He shall supply and maintain on the site adequate fire-fighting equipment capable of extinguishing incipient fires. The Contractor shall comply with applicable federal, state, and local fire-prevention regulations. Where these regulations do not apply, applicable parts of the National Fire Prevention Standard for Safeguarding Building Construction Operations (NFPA No. 241) shall be followed.

4.05 ACCESS FOR POLICE, FIRE, AND POSTAL SERVICE

- A. Notify the fire department and police department before closing any street or portion thereof. No closing shall be made without the Owner's approval of MOT plan. Notify said departments when the streets are again passable for emergency vehicles. Do not block off emergency vehicle access to consecutive arterial crossings or dead-end streets, in excess of 300 linear feet, without special written permission from the fire department. Conduct operations with the least interference to fire equipment access, and at no time prevent such access.
- B. Maintain postal service facilities in accordance with the requirements of the U.S. Postal Service.

PART 5 PRESERVATION, RESTORATION, AND CLEANUP

5.01 SITE RESTORATION AND CLEANUP

- A. At all times during the work, keep the premises clean and orderly, and upon completion of the work, repair all damage caused by equipment and leave the project free of rubbish or excess materials of any kind.
- B. Stockpile excavated materials in a manner that will cause the least damage to adjacent lawns, grassed areas, gardens, shrubbery, or fences, regardless of whether these are on State or Village rights-of-way. Remove all excavated materials from grassed and planted areas, and leave these surfaces in a condition equivalent to their original condition.

5.02 FINISHING OF SITE, BORROW, AND STORAGE AREAS

- A. Upon completion of the project, all areas used by the Contractor shall be properly cleared of all temporary structures, rubbish, and waste materials and properly graded to drain and blend in with the abutting property. Areas used for the deposit of waste materials shall be finished to properly drain and blend with the surrounding terrain. Grassed areas shall be restored as specified.

PART 6 PERMITS

6.01 GENERAL

- A. Permits to be Obtained by the Contractor may include, but are not limited to the following:
1. Local Building permits.
 2. Local and State contracting licenses.
 3. State utility permit.
 4. State/County dewatering permit.

END OF SECTION

SECTION 01020

ALLOWANCE

PART 1 SCOPE OF WORK

1.01 DEFINITION

- A. Included in the contract sum is an allowance account for unforeseen conditions, potential construction changes and adjustments, if ordered and authorized by the Village in accordance with the contract documents.

1.02 ALLOWANCE ACCOUNT

- A. Monies in the allocation account will be used only with pre-approval in writing by the Village and issuance of change order.
- B. At the closeout of contract, monies remaining in the allowance account will be credited to the Village by change order.

1.03 SELECTION OF PRODUCTS UNDER ALLOWANCES

- A. Engineer's Duties:
 - 1. Consult with the Contractor in consideration of products and supplier or installers or changes in quantities of Proposal items.
 - 2. Make selection in consultation with the Owner. Obtain Owner's written decision, designating:
 - a. Product, model and/or class of materials.
 - b. Accessories and attachments.
 - c. Supplier and installer as applicable.
 - d. Cost to Contractor, delivered to the site or installed, as applicable.
 - e. Warranties
 - f. Quantities
 - 3. Transmit Owner's decision to the Contractor.
 - 4. Prepare change orders.

B. Contractor's Duties:

1. Assist Engineer and Owner in determining qualified suppliers, quantities or subcontractor.
2. Obtain proposals from a minimum of three (3) suppliers and/or subcontractors when requested by Engineer.
3. Make appropriate recommendations for consideration of the Engineer.
4. Notify Engineer promptly of:
 - a. Any reasonable objections Contractor may have against any supplier, or party under consideration for installation.
 - b. Any effect on the construction schedule anticipated by selection under consideration.

**1.04 CONTRACTOR RESPONSIBILITY FOR PURCHASE,
DELIVERY AND INSTALLATION**

- A. On notification of selection, execute purchase agreement with designated suppliers and/or subcontractors.
- B. Arrange for and process shop drawings, product data and samples, as required.
- C. Make all arrangements for delivery.
- D. Upon delivery, promptly inspect products for damage or defects.
- E. Submit claims for transportation damage.
- F. Install and finish products in compliance with requirements of referenced specification sections, including restoration.

1.05 ADJUSTMENT OF COSTS

- A. Should the net cost be more or less than the specified amount of the allowance, the contract sum will be adjusted accordingly by change order. Should work be changed by change order:

1. The amount of the change order will recognize any changes in handling costs at the site, equipment, labor, installation costs, overhead, profit, and other expenses caused by the change order.
 2. For products specified under a unit cost in the change order schedule of values, the unit cost shall apply to the additional quantities actually used.
- B. Submit any claims for anticipated additional costs at the site, or other expenses caused by the selection under the allowance, prior to execution of the work.
- C. Failure to submit claims within the designated time will constitute a waiver of claims for additional costs.
- D. At contract closeout, reflect all approved changes in contract amounts in the final statement of accounting.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01150

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 SCOPE OF THIS SECTION

- A. The following explanation of the Measurement and Payment for the Bid Form items is provided; however, the omission of reference to any item shall not alter the intent of the Bid Form or relieve the Contractor of the necessity of constructing a complete project under this Contract.

1.02 METHOD OF MEASUREMENT

- A. **Measurement of Length:** Unless otherwise specified for the particular items involved, all measurements of distance for items to be paid for on the basis of length shall be taken horizontally or vertically.
- B. **Measurement of Area:** In the measurement of items paid for on the basis of area of finished work, the lengths and/or widths to be used in the calculations shall be the actual dimensions measured along the surface of the completed work within the neat lines shown or designated. At intersections, the measurement used for length of side area will be measured from the outside edge of the width allowed along the main trench.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.01 BID ITEMS

A. BID ITEM NO. 1 - Mobilization, Bonds & Insurance

Measurement: Work as specified in this section shall consist of work preparatory to actual construction at the site. It shall include, but not be limited to, movement of personnel, equipment, supplies, and incidentals to the project site, and for the establishment of temporary offices, buildings, safety equipment and first aid supplies, sanitary and other facilities as required by these Specifications and state and local laws and regulations. This cost should include the construction of two (2) project signs that shall be displayed at approaches to the project area. The intent is that the signs will be freestanding. The sign shall display on both sides the project name, Village Logo, elected officials, and contact information. The costs of permits, bonds and any required insurance, and any other preconstruction expense necessary for the start of the work, excluding the cost of construction materials, shall be included in this section. Also included in this section will be all costs associated with meetings and coordination with the Owner and Engineer for the purpose of discussing project progress.

Payment: Payment shall be made as a lump sum quantity in accordance with the following schedule and the contract documents:

<u>Percentage</u> <u>Contract</u> <u>Amount Earned</u>	<u>Allowable</u> <u>Percentage of</u> <u>Lump Sum Price</u>
5%	25%
10%	50%
25%	75%
50%	100%

The standard retainage will be applied to these allowances.

B. BID ITEM NO. 2 – Maintenance of Traffic

Measurement: The cost shall include all work associated with Maintenance of Traffic throughout the project.

Payment: Payment for this work shall be made at the lump sum price and shall include all labor and equipment needed to maintain vehicular and pedestrian traffic. All crosswalks and sidewalks shall remain open and free of obstructions. Temporary painting for roadways and crosswalks shall be maintained throughout the project. Costs shall include the use of flagmen.

C. **BID ITEM NO. 3 through 8 – 8”, 10”, 12”, 15” and 18” Sanitary Sewer Liner**

Measurement: The cost shall include material and work associated with lining sanitary sewer piping on a lineal foot basis per pipe diameter lined in accordance with the unit prices contained in the proposal. Measurement shall be made from center of upstream manhole casting to center of downstream manhole casting. Payment shall include all bypass pumping, cleaning, pre- and post-construction televising, labor, equipment, material, installation, associated roadway restoration, safety, dust/erosion control, testing, and all other work specified or not which is reasonably required to provide a completed installation. Any item not specified shall be considered incidental to the work. Contractor shall include all incidental cost in the unit price for the cured-in-place pipe installation. Contractor shall receive payment for sewer lateral reinstatement, Bid Item 8, on a unit price basis per lateral connection reinstated in accordance with the unit prices contained in this proposal.

Payment: Payment for this work shall be made at the unit cost basis and shall include all labor and equipment needed. Payment for the work included in this section will be in accordance with the prices set forth in the proposal for the quantity of work performed.

D. **BID ITEM NO. 9 – Sanitary Lateral Cleaning/CCTV Prior to Lining**

Measurement: The cost of this work shall be in accordance with the units set forth in the proposal. Unit price shall include all labor, equipment, and materials required to complete the work as specified. The unit price shall include lateral cleaning/CCTV prior to lining and bypass pumping as needed.

Payment: Payment shall be made at the unit price for cleaning no less than 6 feet up the lateral prior to lining. Confirmation of cleaning shall be provided via video inspection/CCTV.

E. **BID ITEM NO. 10 – Sanitary Lateral Cleaning/CCTV Prior to Lining, Additional Footage.**

Measurement: The cost of this work shall be based on a linear foot basis in accordance with the units set forth in the proposal. Unit price shall include all labor, equipment and materials required to complete the work as specified. The unit price shall include each additional foot (after 6') of lateral cleaning/CCTV prior to lining if required.

Payment: Payment shall be made at the unit price for cleaning each additional foot (after 6') of lateral pipe prior to lining. Confirmation of cleaning shall be provided via video inspection/CCTV.

F. **BID ITEM NO. 11 – Sanitary Lateral Lining**

Measurement: The cost of this work shall be in accordance with the units set forth in the proposal. Unit price shall include all labor, equipment, materials, bypass pumping as needed, associated roadway restoration, safety, CIPP lining, testing and all incidentals necessary to provide a complete sanitary lateral lining as specification. The unit price shall include installation of cleanouts (if required by the lateral lining process).

Payment: Payment shall be made at the unit price for lining no less than 6 feet up the lateral. Confirmation of lining length shall be provided via field measurement of the liner prior to installation and via video inspection/CCTV.

G. **BID ITEM NO. 12 – Sanitary Lateral Lining, Additional Footage.**

Measurement: The cost of this work shall be based on a linear foot basis in accordance with the units set forth in the proposal. Unit price shall include all labor, equipment, materials, bypass pumping as needed, associated roadway restoration, safety, CIPP lining, testing and all incidentals necessary for each additional foot (after 6') of lateral lining.

Payment: Payment shall be made at the unit price for lining each additional foot (after 6') of lateral pipe. Confirmation of lining length shall be provided via field measurement of the liner prior to installation and via video inspection/CCTV.

H. **BID ITEM NO. 13 – Sanitary Manhole Lining**

Measurement: The cost shall include inspection of all sanitary manholes throughout the Village's wastewater system to assist in determining manhole lining requirements prior to start of work. The cost shall include material and work associated with lining sanitary sewer manholes in accordance with the unit price contained in the proposal.

Payment shall include all costs for inspections, lining recommendations, labor, equipment, materials, bypass pumping, associated roadway restoration, safety, surface preparation, patching, lining treatment, testing and all incidentals necessary to provide a complete sanitary manhole lining as specified. Any item not specified shall be considered incidental to the work. Contractor shall include all incidental cost in the unit price for lining a sanitary manhole.

Payment: Payment for this work shall be made per vertical foot and shall include all labor, equipment, and materials needed.

I. **BID ITEM NO. 14 – Sanitary Manhole Replacement**

Measurement: The cost shall include inspection of all sanitary manholes throughout the Village’s wastewater system to assist in determining manhole replacement requirements prior to start of work. The cost shall include material and work associated with removing an existing sanitary manhole and installing a new sanitary manhole as specified, complete and accepted.

Payment: Payment shall be at the contract unit price for the installation of sanitary manholes and shall include all costs for inspections, replacement recommendations, labor, equipment, materials, bypass pumping, existing manhole removal and disposal, manhole covers and frames, grouting, protective coatings, clearing, grubbing, excavation and back fill, dewatering, compaction, disposal of undesirable material, new fill, grading, roadway restoration, testing, utility cover adjustment, survey layout, record drawings, and repair or replacement of existing utilities impacted or damaged during construction for a complete sanitary manhole installation.

J. **BID ITEM NO. 15 – Sanitary Sewer Pipe Point Repair**

Measurement: The cost shall include material and work associated with installing a sanitary sewer point repair as specified, complete and accepted.

Payment: Payment shall be at the contract unit price for the installation of sanitary sewer point repair and shall include all materials, labor, equipment, bypass pumping, existing sanitary sewer removal and disposal, pipe couplings, installation, clearing, grubbing, excavation and back fill, dewatering, compaction, disposal of undesirable material, new fill, grading, associated roadway restoration, testing, survey layout, record drawings, and repair or replacement of existing utilities impacted or damaged during construction for a complete sanitary sewer point repair.

K. **BID ITEM NO. 16 – Lateral Point Repair**

Measurement: The cost shall include material and work associated with installing a sanitary sewer lateral point repair as specified, complete and accepted.

Payment: Payment shall be at the contract unit price for the installation of sanitary sewer lateral point repair and shall include all materials, labor, equipment, bypass pumping, existing sanitary lateral removal and disposal, pipe couplings, installation, clearing, grubbing, excavation and back fill, dewatering, compaction, disposal of undesirable material, new fill, grading, associated roadway restoration, testing, survey layout, record drawings, and repair or replacement of existing utilities impacted or damaged during construction for a complete sanitary lateral point repair.

L. **BID ITEM NO. 17 – Grouting**

Measurement: The cost shall include material and work associated with grouting defective pipe joints, circumferential pipe cracks and other small pipe defects in accordance with the unit pricing contained in this proposal and as shown on the plans. Payment shall include all bypass pumping, cleaning, televising, labor, equipment, material, installation, safety, dust/erosion control, testing, site restoration and all other work specified or not which is reasonably required to provide a completed installation. Any item not specified shall be considered incidental to the work. The Contractor shall include all incidental cost in the unit price for the chemical grouting.

Payment: Payment for this work shall be made at the unit cost basis and shall include all labor and equipment needed.

M. **BID ITEM NO. 18 – CCTV Entire Village System Post Completion of Work**

Measurement: The cost of this work shall be lump sum and shall include all labor and equipment required to perform a final CCTV inspection of the Villages entire sanitary sewer system after completion of all lining, repair, and replacement of sanitary sewer piping, manholes, and laterals.

Payment: Payment for the CCTV inspection shall be made at the lump sum price and shall include two final printed reports and two sets of DVD's.

N. **BID ITEM NO. 19 – Site Restoration**

Measurement: The cost shall include all general construction requirements for project restoration so that all areas disturbed or damaged during construction shall be restored to conditions existing prior to the work.

Payment: Payment for the site work shall be made at the lump sum price and shall include all materials, labor and equipment necessary to perform site restoration work including grading, planting, sodding, landscape, irrigation, lighting, striping, signage, fencing, monuments, removal and replacement of asphalt, sidewalk, driveway, curb and gutter, limerock, base material, clean-up, and any other work required to restore the project area to its original condition.

Restoration other than or in addition to what is indicated by the plans, specifications, and defined herein will be considered incidental to the construction and the costs of this incidental restoration should be included in the cost of project.

O. **BID ITEM NO. 20 – Allowance**

Measurement: The cost shall include a fixed amount per the Bid Form.

Payment: Use of the allowance account shall be for unforeseen conditions, for construction changes and for utility adjustments, if ordered and authorized by the Village. At the closeout of contract, monies remaining in the allowance account will be credited to the Owner by change order.

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.01 WORK INCLUDED

- A. This section covers the requirements for submittal procedures as they pertain to:
 - 1. Construction progress schedules
 - 2. Proposed Products list
 - 3. Shop drawings
 - 4. Product data

1.02 SUBMITTAL PROCEDURES

- A. Submittals shall be addressed to:
 - North Bay Village
 - 1666 Kennedy Causeway, Suite 300
 - North Bay Village FL 33141
- B. Identify Project, Contractor, Subcontractor or supplier, pertinent Drawing sheet and detail number(s), and specification Section number, as appropriate.
- C. Drawings and schedules shall be checked and coordinated with the work of all trades involved, before they are submitted for review by the Engineer and shall bear the Contractor's stamp of approval as evidence of such checking and coordination. Drawings or schedules submitted without this stamp of approval shall be returned to the Contractor for resubmission.

1.03 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial progress schedule in triplicate within 15 days after date established in the Notice to Proceed for Engineer review.

- B. Revise and resubmit as project conditions require. Revised schedules shall be submitted a minimum of two (2) weeks prior to commencement of Work covered by schedule.
- C. An updated project schedule in accordance with this section will be provided with every application for payment.

1.04 SHOP DRAWINGS

- A. When used in the Contract Documents, the term "Shop Drawings" shall be considered to mean, Contractor's drawings plans for material and equipment which become an integral part of the Project. These drawings shall be complete and detailed. Shop Drawings shall consist of fabrication, erection and setting drawings and schedule drawings, manufacturer's scale drawings, and wiring and control diagrams. Cuts, catalogs, pamphlets, descriptive literature, and performance and test data, shall be considered only as supportive to required Shop Drawings as defined above.
- B. Data on materials and equipment include, without limitation, materials and equipment lists, catalog data sheets, cuts, performance curves, diagrams, materials of construction and similar descriptive material. Materials and equipment lists shall give, for each item thereon, the name and location of the supplier or manufacturer, trade name, catalog reference, size, finish and all other pertinent data.

1.05 MANUFACTURER'S CERTIFICATES

- A. When specified in individual specification Sections, submit manufacturers' certificate to Engineer for review, in quantities specified for Product Data.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Engineer.

1.06 RECORD DOCUMENTS

- A. Engineer will review submitted record documents for compliance with specifications.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01400

QUALITY CONTROL

PART 1 GENERAL

1.01 WORK INCLUDED

- A. This section covers the work as required to provide and/or coordinate:
 - 1. Quality assurance and control of installation
 - 2. References
 - 3. Inspection
 - 4. Manufacturers' field services and reports

1.02 REFERENCES

- A. Conform to reference standard by date of current issue on date for receiving bids.
- B. Should specified reference standards conflict with Contract Documents, request clarification from Owner or Engineer before proceeding.
- C. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.03 QUALITY ASSURANCE/CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply fully with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Owner or Engineer before proceeding.
- D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

- E. Perform work by persons qualified to produce workmanship of specified quality.
- F. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Temporary Utilities: Electricity, lighting, heat, ventilation, telephone service, water, and sanitary facilities.
- B. Temporary Controls: Enclosures and fencing, protection of the Work, traffic control, temporary bypass sanitary pumping, and water control.
- C. Construction Facilities: Access roads, parking, progress cleaning, and temporary buildings.
- D. Some of the items specified herein are not specifically required for the project. However, these items shall be provided as required for the convenience of the Contractor or as required for proper completion of the Work.

1.02 TEMPORARY ELECTRICITY (AS APPLICABLE)

- A. Provide and pay for power service, as required, from Florida Power and Light source.
- B. Provide temporary electric feeder from electrical service. Power consumption shall not disrupt Owner's need for continuous service.
- C. Provide separate metering and pay Florida Power and Light for cost of energy used.
- D. Provide power outlets for construction operations, with branch wiring and distribution boxes located as required. Provide flexible power cords as required.
- E. Provide main service disconnect and overcurrent protection at a convenient location.
- F. Permanent convenience receptacles may not be utilized during construction.

1.03 TEMPORARY LIGHTING (AS APPLICABLE)

- A. Provide and maintain 1 watt/sq ft lighting to exterior staging and storage areas after dark for security purposes.
- B. Maintain lighting and provide routine repairs.

1.04 TEMPORARY VENTILATION

- A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- B. Provide ventilation and other equipment and procedures as required to meet OSHA Confined Spaces Entry Requirements.

1.05 TEMPORARY WATER SERVICE (AS APPLICABLE)

- A. Provide and maintain suitable quality water service, as required, for construction operations.
- B. All water used must be metered by Owner, but Contractor will not be charged for the metered water use.
- C. Extend branch piping with outlets located so water is available by hoses with threaded connections.
- D. Make arrangements with Owner for obtaining meter. Owner will also direct contractor as to where water may be obtained.

1.06 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Existing private facilities shall not be used.

1.07 FENCING

- A. Construction: Commercial grade chain link fence.
- B. Provide 6-foot high fence to secure material storage areas. Security fence shall be equipped with gates and locks.

1.08

TEMPORARY BYPASS SANITARY PUMPING

- A. The Contractor shall be prepared to bypass wastewater as a part of the construction process as specified. The Contractor shall provide all pumps, piping, and other equipment to accomplish this task; perform all construction; obtain all permits; pay all costs; and perform complete restoration of all existing facilities to equal or better condition and to the satisfaction of the Engineer. At no time will sewage be allowed to spill onto any surface. Any leaks in temporary piping, hoses, connectors or equipment shall be sealed immediately, the spill thoroughly cleaned and the area disinfected.

- A. The Contractor is required to have a vacuum/pumping truck on-site during periods when the Village's wastewater system is shut down and out of service. The truck must have adequate storage capacity to capture potential wastewater overages due to delays in Contractor operations or wastewater system failures.

- B. Pump and bypass lines shall be of adequate capacity, size, and integrity to handle the flow without sewer back-up or leakage. A noise barrier shall be provided for the pumps if required by the Engineer. Bypass operations shall be manned at all times. Back-up pumps and bypass lines shall be available immediately in the event they are required. Bypass operations shall be continuously manned to prevent accidental spillage.

- C. Under no circumstance shall the dumping of raw sewage be allowed. Such spills caused by the Contractor's operations shall be volumetrically measured, cleaned, and disinfected immediately by the Contractor using methods and disinfectants required by applicable law. Spills and other unpermitted discharges shall be immediately reported to the appropriate agency as required by applicable law. The Owner shall be so notified within the same time frame.

- D. Bypassing of sewage shall be considered an incidental obligation of the Contractor and no separate payment shall be made for work.

1.09

PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual specification Sections.

- B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.

- C. Prohibit traffic from landscaped areas.

1.10 SECURITY

- A. Provide security and facilities to protect Work, and existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

1.11 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Broom and vacuum clean interior areas prior to start of surface finishing and continue cleaning to eliminate dust.
- C. Remove waste materials, debris, and rubbish from sites weekly and dispose of at an approved site.

1.12 REMOVAL OF TEMPORARY UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary equipment, facilities, materials, prior to Final Inspection.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01700

CONTRACT CLOSE-OUT

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Contract Close-out Procedures.
- B. Final Inspection.
- C. Contract Close-out Submittals.
- D. Final Application for Payments.

1.02 SUBSTANTIAL COMPLETION

- A. When Contractor considers the Work is substantially complete, he shall submit to the Owner or Engineer:
 - 1. A written notice that the Work, or designated portion thereof, is substantially complete.
 - 2. A list of items to be completed or corrected.
- B. Within a reasonable time after receipt of such notice, the Owner or Engineer will make an inspection to determine the status of completion.
- C. Should the Owner or Engineer determine that the Work is not substantially complete:
 - 1. The Owner or Engineer will promptly notify the Contractor in writing, giving the reasons therefor.
 - 2. Contractor shall remedy the deficiencies in the Work, and send a second written notice of substantial completion to the Owner or Engineer.
 - 3. The Owner or Engineer will reinspect the Work.

- D. When the Owner or Engineer finds that the Work is substantially complete, he will:
1. Prepare and deliver to Owner a tentative Certificate of Substantial Completion with a tentative list of items to be completed or corrected before final payment.
 2. After consideration of any objections made by the Owner as provided in the Contract Documents, and when the Owner or Engineer considers the Work substantially complete, he will execute and deliver to the Owner and the Contractor a definite Certificate of Substantial Completion with a revised tentative list of items to be completed or corrected.

1.03 FINAL INSPECTION

- A. When Contractor considers the Work is complete, he shall submit written certification that:
1. Contract Documents have been reviewed.
 2. Work has been inspected for compliance with Contract Documents.
 3. Work has been completed in accordance with Contract Documents.
 4. Equipment and systems have been tested in the presence of the Owner's representative and are operational.
 5. Work is completed and ready for final inspection.
- B. The Owner or Engineer will make an inspection to verify the status of completion with reasonable promptness after receipt of such certification.
- C. Should the Owner or Engineer consider that the Work is incomplete or defective:
1. The Owner or Engineer will promptly notify the Contractor in writing, listing the incomplete or defective work.
 2. Contractor shall take immediate steps to remedy the stated deficiencies, and send a second written certification to the Owner or Engineer that the Work is complete.
 3. The Owner or Engineer will reinspect the Work.

- D. When the Owner or Engineer finds that the Work is acceptable under the Contract Documents, he shall request the Contractor to make closet submittals

1.04 RE-INSPECTION FEES

- A. Should the Owner or Engineer perform re-inspections due to failure of the Work to comply with the claims of status of completion made by the Contractor:
 - 1. Owner will compensate the engineer for such additional services.
 - 2. Owner will deduct the amount of such compensation from the final payment to the Contractor.

1.05 CONTRACTOR'S CLOSE-OUT SUBMITTALS TO OWNER OR ENGINEER

- A. Evidence of compliance with requirements of governing authorities.
- B. Shall be in accordance with Section 01720 - Project Record Documents.
- C. Spare Parts and Maintenance Materials: To requirements of the individual Specification Sections, as applicable.
- D. Evidence of Payment and Release of Liens: To requirements of Contract Documents, Supplementary Conditions, and Supplementary Conditions (Construction) Exhibit WWFS-04Li.
- E. Certificate of Insurance for Products and Completed Operations, as applicable.
- F. Consent of Surety for final payment.
- G. Final building permit inspection documents and Certificate of Occupancy as applicable.

1.06 FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit a final statement of accounting to the Owner or Engineer.
- B. Statement shall reflect all adjustments to the contract Sum:
 - 1. The original Contract Sum.

2. Additions and deductions resulting from:
 - a. Previous Change Orders.
 - b. Allowances.
 - c. Unit Prices.
 - d. Deductions for uncorrected Work.
 - e. Penalties and Bonuses.
 - f. Deductions for liquidated damages.
 - g. Deductions for re-inspection payments.
 - h. As-Built Quantities.
 - i. Other adjustments.
3. Total Contract Sum, as adjusted.
4. Previous payments.
5. Sum remaining due.

1.07 FINAL APPLICATION FOR PAYMENT

- A. Contractor shall submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01720

PROJECT RECORD DRAWINGS

PART 1 GENERAL

1.01 PROJECT RECORD DOCUMENTS

- A. Maintain at the site for the Owner one record copy of:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other Modifications to the Contract.
 - 5. Reviewed Shop Drawings.

1.02 RELATED SECTIONS

- A. Section 01300 – Submittals
- B. Section 01700 – Contact Closeout

1.03 MAINTENANCE OF DOCUMENTS

- A. Store documents in approved location apart from documents used for construction.
- B. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
- C. Make documents available at all times for inspection by Owner and Engineer.

1.04 MARKING DEVICES

- A. Provide felt tip marking pens for recording information in a color code.

1.05 RECORDING

- A. Label each document "RECORD DRAWINGS" in neat large printed letters.

- B. Record information currently with construction progress.
 - 1. Do not conceal any work until required information is recorded.
- C. Drawings; Legibly mark to record actual construction:
 - 1. Field changes of dimension and detail.
 - 2. Changes made by Field Order or by Change Order.
 - 3. Details not on original Contract Drawings.
- D. Specifications and Addenda; Legibly mark each Section to record:
 - 1. Manufacturer, trade name, catalog number, and supplier of each item actually installed.
 - 2. Changes made by Field Order or by Change Order.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.01 SUBMITTAL

- A. During the entire construction operation, the Contractor shall maintain records of all deviations from the Drawings and Specifications and shall prepare there from "Record Drawings" showing correctly and accurately all changes and deviations from the work made during construction to reflect the work as it was actually constructed. Each month with the Contractor's Application for Payment, or as otherwise agreed, the Contractor shall submit to the Engineer a current listing and description of each change incorporated into the work since the preceding submittal. These drawings shall conform to recognized standards of drafting, shall be neat and legible, and signed and sealed by a Florida Registered Professional Land Surveyor.

- B. At Contract Close-out, the Contractor is required to provide one (1) set of reproducible "Record Drawings" to the Engineer for the Owner. These drawings shall conform to recognized standards of drafting, shall be neat and legible, and signed and sealed by a Florida Registered Professional Land Surveyor.
- C. Accompany "Record Drawing" submittal with transmittal letter in duplicate, containing:
 - 1. Date.
 - 2. Project title and number.
 - 3. Contractor's name and address.
 - 4. Title and number of each record document.
 - 5. Signature of Contractor or his authorized representative.
- D. At Contract Close-out, the Contractor is to provide a CCTV inspection of the Village's entire sanitary sewer system post lining, repair, and replacement of sanitary sewer lines, manholes, and laterals. Provide two final printed reports and two sets of DVD's.

END OF SECTION

SECTION 02064

MODIFICATIONS AND REHABILITATION OF EXISTING STRUCTURES AND EQUIPMENT

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. The Contractor shall furnish all supervised labor, materials, equipment, and incidentals required to modify, rehabilitate, alter and/or convert existing structures as required.
- B. Rehabilitation includes but is not limited to the following:
 - 1. Removal of existing equipment and appurtenances as specified.
 - 2. Installation of proposed utilities and structures.

1.02 NOTICES

- A. The Contractor shall inform the Owner and the Engineer of the date of commencement and anticipated completion of the work one week before actual work begins. Sewage service must be maintained during rehabilitation work. The Contractor shall coordinate all work and scheduling with the Owner.

1.03 SAFETY

- A. The Contractor shall conform to all work safety requirements of pertinent regulatory agencies and shall secure the site for working condition in compliance with the same. The Contractor shall erect such signs and other devices as are necessary for the safety of the work site. The Contractor shall perform all work in accordance with the applicable OSHA standards. Emphasis is placed upon the requirements for entering confined spaces, scaffolding, and the handling and storage of chemicals.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.01 GENERAL

- A. The Contractor shall dismantle and remove all existing equipment, piping, and other appurtenances required for the completion of the Work. Where called for or required, the Contractor shall cut existing pipelines for the purpose of making connections thereto.
- B. No existing structure, equipment, or appurtenances shall be shifted, cut, removed, or otherwise altered except as indicated in the Contract Documents or with the express approval of and to the extent approved by the Engineer.
- C. All cutting of existing concrete or other material which requires bonding to new work shall be done in a manner to meet the requirements of the respective section of these Specifications covering the new work. If the work is not covered, the cutting shall be carried on in the manner and to the extent directed by the Engineer.
- D. The surfaces of any seals which are visible in the completed work shall be made to match as nearly as possible the adjacent surfaces.
- E. Where necessary or required for the purpose of making connections, the Contractor shall cut existing pipelines in a manner to provide an approved, restrained, joint. Where required, the Contractor shall weld beads, flanges, or provide Dresser couplings, as required.
- F. The Contractor shall supply, install and maintain all flumes, hoses, piping, plugs, bulkheads and other related items used to divert or hold back the flow of wastewater, water, or other liquids, as required in the performance of the work under this Contract.

3.02 CONNECTING TO EXISTING PIPING AND EQUIPMENT

- A. The Contractor shall verify exact location, material, alignment, joint, etc., of existing piping and equipment prior to making the connections called out in the Drawings. The verifications shall be performed with adequate time to correct any potential alignment or other problems prior to the actual time of connection.

3.03 REMOVAL AND REPLACEMENT OF PIPING AND APPURTENANCES

- A. Removal of piping, anchors and accessories shall be done in a manner that will cause as little damage to the structure as possible. Pipes and anchors shall be drilled or sawed out with as little hammering as possible. Care shall be made to preserve existing reinforcement as much as possible and not structurally damage the structure. Before grouting of new piping, anchors or appurtenances into place, the concrete surfaces shall be cleaned of all loose material curing compounds, grease oil, standing water. The cleaned surface shall receive a coating of epoxy bonding/grouting adhesive before application of grout.

3.04 FINAL ACCEPTANCE

- A. After the specified work has been completed, the structures shall be visually inspected and tested by the Contractor (as required and specified) in the presence of the Engineer and found to be acceptable.

END OF SECTION

SECTION 02113

CLOSED CIRCUIT TELEVISION INSPECTION OF SEWER LINES

PART 1 GENERAL

1.01 INTENT

- A. It is the intent of this Specification to provide for the inspection of pipelines utilizing closed-circuit television techniques to identify the location and extent of sewer line defects to allow for a determination of rehabilitation needs, to document pre-rehabilitation line condition, and/or to document post-rehabilitation line condition.

1.02 SCOPE OF WORK

- A. Prior to performing closed circuit television inspection activities, Contractor shall thoroughly clean the sewer line(s) and sanitary sewer lateral service connections designated to be televised as specified.
- B. Upon completion of all work, the Contractor is to perform a CCTV inspection of the Village's entire sanitary sewer system post lining, repair, and replacement of sanitary lines, manholes, and laterals.

1.03 SAFETY

- A. Contractor shall be solely responsible for safety during the performance of all Work. Contractor shall not enter into any sewer segment where hazardous conditions may exist until such time as the source of those conditions is identified and eliminated by Contractor and/or Owner. Contractor shall perform all work in accordance with the latest OSHA confined space entry regulations. Contractor shall coordinate his work with local fire, police and emergency rescue units.
- B. Contractor shall be responsible for any damage to public or private property resulting from his/her televising activities and shall repair or otherwise make whole such damage at no cost to Owner.

PART 2 PRODUCTS

2.01 EQUIPMENT

- A. Television inspection equipment shall have an accurate footage counter that displays on a remote monitor the exact distance of the camera from the centerline of the starting manhole. The camera shall be of the remotely operated pan and tilt type. The rotating camera and lighthouse configuration shall provide 240 degrees of pan and tilt angle measuring centerline to centerline and 70 degree lens viewing angle.
- B. The camera shall be color and shall provide a minimum of 460 lines of horizontal resolution and 400 lines of vertical resolution. The image pick-up device shall contain in excess of 379,000 picture elements (pixels). Geometrical distortion of the image shall not exceed one percent.
- C. The color camera shall be equipped with the necessary circuitry to allow for the remote adjustment of the optical focus and iris from the power control unit at the viewing station.

PART 3 EXECUTION

3.01 INSPECTION

- A. Inspection of pipelines shall be performed by experienced personnel trained in locating breaks, obstacles, and service connections by closed-circuit television inspection techniques. The interior of the pipeline shall be carefully inspected to determine the location and extent of all pipeline defects. The location of any conditions which may result in a limitation of rehabilitation techniques that could be used and/or prevent proper installation of designated rehabilitation materials in the pipelines shall be noted so that these conditions can be considered and, if necessary, corrected prior to actual rehabilitation.
- B. Contractor shall internally inspect, via closed circuit television inspection, the sewer segments as required. Generally, inspection shall be completed one sewer line section at a time. Access for televising purposes shall only be via existing manholes. Should access to particular sewer section be difficult and adjacent sections require television inspection, Contractor may be allowed to complete inspection in multiple sewer line sections.

When multiple sewer line sections are inspected using one setup, Contractor shall zero the camera's footage metering device at each subsequent sewer manhole to establish uniform starting location of Station 0+00, in middle of each manhole, for each line section televised.

- C. At all defects and service connections, the camera shall be stopped and the pan and tilt features shall be used to obtain a clear picture. The camera shall be panned to view up each lateral or point of connection no less than six (6) feet up the sanitary lateral service connection. Operator shall also pan the pipe face while at 0+00 showing detail regarding pipe connection to manhole structure

- D. Contractor shall record these inspections on indexed digital recordable disk. Video shall be recorded in a non-proprietary video format to allow for playback on any PC computer and/or DVD player. The video shall include a visual and audio narrative noting:
 - 1. Date, time of day, and depth of flow;
 - 2. Sewer segment number. Segment numbers shall be designated by Owner.
 - 3. Upstream manhole number.
 - 4. Downstream manhole number.
 - 5. Size of sewer
 - 6. Sewer materials of construction
 - 7. Closest street address and street name on which sewer is located
 - 8. Beginning and ending tape counter numbers for each run (manhole to next manhole) of sewer inspected
 - 9. Direction of movement of camera, heading, and direction of flow
 - 10. Locations of service connections into sewer by clock position and with counter distance in feet from beginning manhole's centerline and the sanitary lateral service inspection condition no less than six (6) feet up the lateral

11. Location (start and end counter distances in feet from the beginning manhole's centerline) and description of obstructions, structural defects, missing pieces of pipe, longitudinal and/or circumferential cracking, joint deterioration including open and/or offset joints, ovality, leakage or evidence thereof, corrosion, erosion, break-in connections, protruding connections, mineral deposits, roots, previous repairs, grease/fats/oil deposits on pipe walls, sags, and other abnormalities with respect to the sewer's condition with counter distance in feet from the beginning manhole's centerline.

Contractor's log shall contain the same information.

- E. Digital disk shall visually display at a minimum the date, pipe segment number (manhole number) and distance from the centerline of the upstream manhole. The distance between manholes shall be verified by measuring tape. If the counter distance and the taping distance differ by more than 2 feet per 100 feet, the run shall be re-televised by Contractor at no additional cost to Owner.
- F. Digital disk shall be maintained and delivered in a case, which shall display the project name, project number, and date of inspection, manhole segment number inspected, and crew ID number. The entire length of any one sewer segment shall be on one disk. No segment shall be split between two disks. A disk may have multiple segments, so long as an entire section is on one disk. Original disks of all sections shall be provided to Engineer along with the respective television inspection field logs.
- H. If during television operation television camera will not pass safely through entire sewer line section being investigated, Contractor shall, at no additional cost to Owner, set up equipment so that inspection can be performed from opposite (downstream) manhole. Where an obstruction is encountered and a reverse set up is required, the distance shall be entered into the log and verbally noted on the digital disk from which manhole the measurements are being made. If under the reverse set-up the camera again fails to pass through the entire sewer line section, inspection shall be considered complete. All obstructions in the sewer segment that prohibit passage of the television camera shall be immediately reported to the Engineer by Contractor referencing location and nature of the obstruction. No rehabilitation work shall proceed until Contractor receives direction from Owner regarding removal of the obstruction.

- I. Should Contractor's televising equipment become lodged in any sewer line, it shall be removed by Contractor at his expense. This shall include, if necessary, excavation and repair of the sewer, underground utility repairs, backfilling and surface restoration. Contractor shall re-televiser any line segment in which his equipment became lodged after said equipment has been removed to demonstrate to the Owner that no damage exists as a result of his televising operations.

3.02 BYPASS PUMPING / FLOW CONTROL

- A. Should bypass pumping or other form of sewage flow control be required by/of Contractor to facilitate sewer line televising, Contractor shall be solely responsible for providing all labor, equipment and materials necessary to control the flow of sewage in and/or around sewer segment(s) being televised as specified.

3.03 ACCEPTANCE

- A. Contractor shall present on digital disk a continuous image in complete conformance with these Specifications of not less than ninety percent (90%) of the internal pipe surface at all times, (not based on an average throughout the pipe segment) including sags in sewer lines. The digital disk shall be accompanied by a complete log. Maximum acceptable speed of camera through sewer shall be thirty (30) feet per minute. Lighting system shall be adequate for quality color picture at least 5 feet in front of the camera's lens. Contractor shall re-clean and televise any segment for which digital disk does not present a clear image of at least 90% of the internal pipe surface at all times, and/or is accompanied by an incomplete log.

END OF SECTION

SECTION 02134

CHEMICAL GROUTING PIPE LINER

PART 1 GENERAL

1.01 REQUIREMENTS

- A. The work specified in this section includes all labor, materials, accessories, equipment and tools necessary for grouting and sealing of:
 - 1. Leaks in defective joints or cracks that may affect the installation of the cured- in-place pipe liner.
 - 2. Open holes or voids associated with root penetration.

1.02 SUBMITTALS

- A. The Contractor shall submit the following in accordance with these specifications:
 - 1. A specimen product label showing the United States Environmental Protection Agency (EPA) registration number of the product.
 - 2. Material Safety Data Sheets (MSDS) for the products
 - 3. Grout, design mix, and testing reports.
 - 4. Brand name manufacturer of the chemical grout and equipment to be used.
- B. The above information data shall clearly indicate compliance with the specifications. The Contractor shall submit written exceptions to the specifications.

PART 2 PRODUCTS

2.01 CHEMICAL GROUT

- A. The Contractor shall provide a chemical sealant solution containing principal chemical sealant constituent, initiator, and catalyst specifically recommended for the purpose of sealing leaks in sanitary sewer lines.
- B. While being injected, the chemical sealant must be able to react / perform in the presence of water (groundwater and seawater).
- C. The cured material must withstand submergence in water without degradation.

- D. The resultant sealant (grout) formation must prevent the passage of water (infiltrations) through the sewer pipe joints.
- E. The sealant material, after curing, must be flexible as opposed to brittle.
- F. The chemical sealant shall be compatible with the CIPP resin as specified.
- G. The chemical sealant selected by the Contractor is subject to approval by the Engineer and shall be one of the following types:
 - 1. Acrylic chemical sealing material
 - 2. Acrylate chemical sealing material
 - 3. Urethane chemical sealing material
- H. The grout design mix shall meet the following standards: Recommended Specifications for Sewer Collection System Rehabilitation, as referenced in ASTM F1216-03.

PART 3 EXECUTION

3.01 SEALING PIPE DEFECTS AND JOINTS

- A. The Contractor shall perform chemical root treatment, if needed, as specified.
- B. Prior to performing chemical grouting, the Contractor shall remove roots and clean the sewer as specified.
- C. In every case, mixing and handling of chemical sealing materials shall be in accordance with the manufacturer's recommendations.
- D. The application of the sealing grout within the pipe shall be by means of remote-controlled equipment designed to be positioned at the specific point to be sealed and to apply the grout under sufficient pressure for the grout to pass through the opening and fill voids outside the pipe as well as the opening in the pipe wall. Review of the results shall be by closed-circuit television camera.
- E. The methods of sealing used shall not damage the pipe or change pipe alignment and the original cross sectional area shall not be permanently reduced or changed.

3.02 FLOW CONTROL

- A. Sewer service shall not be interrupted during root treatment. In situations where it is necessary, the Contractor shall block / bypass flow as specified.

3.03 PERSONAL PROTECTIVE EQUIPMENT

- A. The CONTRACTOR shall use appropriate protective clothing and equipment as recommended by the manufacturer during the use and handling of the material.

END OF SECTION

SECTION 02140

CURED-IN-PLACE PIPE LINER

PART 1 GENERAL

1.01 REQUIREMENTS

- A. The Work of this Section includes providing a cured-in-place-pipe (CIPP) liner to rehabilitate sewer lines which will stabilize structural defects and prevent inflow and infiltration. The liner shall be smooth, hard, strong, and chemically inert. Additionally, the interior surface shall closely follow the contours of the host pipe. Applicable standards (latest versions) include:
1. ASTM D-790
 2. ASTM D5813
 3. ASTM F-1216
 4. ASTM F-1743
 5. ASTM F-2019
- B. The scope of work requires the Contractor to provide all materials, labor, equipment, and services necessary for: bypass pumping and/or diversion of sewage flows, rehabilitation of existing sanitary sewers by lining the existing pipe, connecting into manhole, reconnecting service laterals, restoring affected manhole conditions, initial and final cleaning, CCTV inspection, and final testing of the pipe system.
- C. Measurement shall be based upon linear footage of pipe rehabilitated. Measurement for rehabilitation shall be the actual distance measured from manhole to manhole, of each sewer pipe lined.
- D. The basis of payment shall be made at the contract unit bid price per linear foot of liner installed. The unit prices shall include all labor, materials, equipment, and all incidentals such as bypass pumping and/or diversion of sewage flows, traffic control, pipe pre-conditioning, initial and final cleaning, pre and post CCTV inspection, and all testing of the CIPP system.

1.02 PRE-BID SUBMITTALS

A. Submit with Bid Documents:

1. Manufacturer's technical literature on the proposed lining system conforming to this specification and standards referenced herein, including an affidavit attesting to the previous successful use of the material for lining sanitary sewers and references for projects completed within the past 5 years that total a minimum of 500,000 linear feet (LF) of installed lining system.
2. Written certification from the manufacturer that the Contractor is an approved applicator of the proposed lining system, with a minimum of 5 years' experience with the proposed product rehabilitation. The Contractor's proposed superintendent for the work shall have a minimum of 5 years' experience with 2.5 years as a superintendent and shall be approved in writing as superintendent by the manufacturer of the lining system being bid. (Experience/References for the Contractor and superintendent shall be provided).

1.03 SUBMITTALS

A. Submit Prior to Mobilization:

1. The Contractor shall submit to the Engineer for review complete design calculations for the liner thickness per ASTM F1216. The design shall be signed and sealed by a professional Engineer and certified by the manufacturer as to the compliance of his material to the values used in the calculations. Review of the calculations shall not relieve the Contractor of any contractual obligations.
2. The Contractor shall submit an installation method statement to the Engineer. The installation method statement shall include details concerning curing methods, repairing sewer defects in conjunction with manholes, joints, laterals, active infiltration, and other requirements concerning quality control/quality assurance including testing of the material of which the repair is made. The Contractor shall include a typical schedule for "wet out" of the flexible tube in the method statement together with a typical insertion and curing schedule/plan at the outset of the Contract. For each and every lining section proposed, the Contractor shall submit a schedule for "wet out" of the flexible tube together with the specific insertion and curing schedule/plan at least 24 hours in advance of installation.

3. Submit proposed testing laboratory with qualifications, experience history, and references.
4. Provide an installation bypass pumping plan/ (including emergency plans).
5. Provide traffic management plans as required.

B. After Completion of Each Section:

1. Process control sheet to include temperature/time log information, tap cut information and curing cycle.
2. Pre and Post CCTV inspection tapes or DVD's.
3. CIPP supplier certification of proper installation.
4. Certified copies of test reports on CIPP samples obtained during actual installation in the presence of the Contractor.
5. Physical samples. Samples removed for testing as requested by the Engineer, shall be individually labeled and logged to record the following:
 - a. Owner's Project number and title.
 - b. Sample number.
 - c. Segment number of line as noted on plans.
 - d. Date and time of sample.
 - e. Name of Contractor.
 - f. Location and by whom tested.
 - g. Results of test.
 - h. Street name and address
 - i. Starting and ending manhole ID # for each length of pipe lined
 - j. Samples shall be labeled as Follows:
 - 1) Sample A: Restrain Sample
 - 2) Sample B: Restrain Sample

1.04 CONTRACTOR QUALIFICATIONS

- A. The Contractor or Subcontractor qualifications must be based on the firm's experience in performing this work. The Contractor or Subcontractor as a firm performing the work of this section shall be employees of the company manufacturing the CIPP system components, or shall be trained in the installation of the liner according to the manufacturer guidelines.
- B. The Contractor shall demonstrate experience as described above for the selected method of curing.

1.05 RESPONSIBILITY FOR OVERFLOWS OR SPILLS

- A. It shall be the responsibility of the Contractor to schedule and perform his work in a manner that does not cause or contribute to incidence of overflows or spills of sewage from the sewer system.
- B. In the event that the Contractor's work activities contribute to overflows or spills, the Contractor shall immediately take appropriate action to contain and stop the overflow, clean up the spillage, disinfect the area affected by the spill, and notify the designated Owner in a timely manner.
- C. Contractor shall indemnify and hold harmless the Owner and Engineer for any fines or third-party claims for personal or property damage arising out of a spill or overflow that is fully or partially the responsibility of the Contractor, including the legal, engineering, and administrative expenses of the Owner and Engineer in defending such fines and claims.

1.06 WARRANTY

- A. A written guarantee of 2 years in length shall be provided by the Contractor to the Owner against any breakdown of the liner material, inadequate structural strength or any shortcoming in workmanship.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Flexible Liner Tube:
 - 1. The flexible liner shall be a composite tube with one or more layers of needled felt or equivalent non-woven material manufactured under quality controlled conditions set by the manufacturer. Tube shall be sized for each section so that, when installed, it will fit snugly and firmly inside the existing sewer and produce the required thickness after the resin is cured.
 - 2. The flexible liner tube shall fit completely by length and diameter in the sewer, with allowance for proper longitudinal or circumferential stretching or shrinkage due to pressure or expansion being made. Maximum stretching allowances shall be as defined in ASTM F1216.

3. The Contractor shall verify the lengths in the field before cutting liner to length. The lining shall be fabricated in such a length that when installed, it will occupy exactly the length of the pipeline between the launch and reception manholes.
4. The lining shall be of the correct diameter so that after installation, it does not wrinkle by more than two percent for linings in sewers equal to or greater than 24 inches internal diameter, and by more than one percent for linings in sewers less than 24-inch internal diameter.
5. The tube shall contain no intermediate layers that may delaminate after resin curing. It shall not be possible to separate any layers with a probe or knife blade such that the layers separate cleanly or the probe or knife blade moves freely between the layers. Where several layers of felt are required, the inner layer shall be stitched to form a tube. Each successive layer shall be individually wrapped around the previous one and stitched together. The outer layer of felt shall have an installation tube pre-bonded to it, or a sheet of this material shall be wrapped around the completed felt tube. Where a pre-bonded material is used, a covering strip shall be bonded over the seam to form an airtight joint.
6. The dimensions of the lining shall account for any loss of pipe wall thickness due to hydrogen sulfide corrosion and deformation of the pipe to be lined where this is less than 10 percent of diameter.
7. The liner shall be fabricated from materials which when cured, will be chemically resistant to reagents as defined in ASTM D543.
8. A pre-liner shall be applied to the tube on what will become the interior wall of the finished CIPP. The pre-liner shall be polypropylene and shall be compatible with the resin system used and shall not adversely affect the adhesive properties of the resin used in either the mainline or the lateral liners. If a plastic film is applied to the CIPP after curing, this film shall be translucent enough that the resin is clearly visible, and it shall be firmly bonded to the felt material.
9. At the time of manufacture, each lot of liner shall be inspected and certified to be free of defects. The tube shall be marked for distance at regular intervals along its entire length.

B. Resin:

1. The resin used to impregnate the tube shall produce a cured tube that shall be resistant to shrinkage, shall not corrode or oxidize, and shall also be resistant to abrasion from solids, grit, and sand in wastewater. The resin shall have proven resistance to the municipal wastewater environment that may comprise, as a minimum, all of the following factors:
 - a. Immersion in septic sewage at temperatures up to 75 degrees F.
 - b. Exposure in hydrogen sulfide gas from septic sewage at temperatures up to 75 degrees F.
2. The resin shall have proven resistance to ultra-violet light (sunlight) at any stage prior to installation.
3. Resin systems shall be neat resins with no additives.
4. The resin system proposed shall be compatible with the lateral liners specified in Section 02143 and proposed for use on this project.
5. The internal wall color of the cured liner shall be a light reflective color so that a clear, detailed CCTV inspection can be accomplished.
6. The chemical resistance of the resin system selected shall have been tested by the resin manufacturer in accordance with ASTM C543. Exposure to the chemical solutions listed in Table 1 at temperatures of up to 75 degrees F shall be conducted for a minimum period of one month and shall result in a loss of not more than 20 percent of the initial structural properties.

Table 1. Minimum Chemical Resistance Requirements for Typical Municipal Sewer Applications – ASTM D F1216

<u>Chemical Solution</u>	<u>Concentration, %</u>
Tap Water	100
Nitric Acid	5
Phosphoric Acid	10
Sulfuric Acid	10
Gasoline	100
Vegetable Oil	100
Detergent or Soap	0.1

7. The resin system shall be manufactured by a company selected by the CIPP supplier. Polyester, vinylester, or epoxy resins complying with the requirements in Table 2 shall be used.

C. CIPP Properties:

1. The CIPP after curing shall meet the structural properties listed below:

Table 2. CIPP Initial Structural Properties

<u>Property</u>	<u>ASTM Method</u>	<u>Value (+/- 10%)</u>
Flexural Strength	D790	4,500 psi
Short Term Flexural Modulus of Elasticity	D790	250,000 psi

D. CIPP Thickness:

1. The minimum thickness for the CIPP, after curing, shall be calculated based on the following design conditions in accordance with ASTM F-1216:
 - a. Fully deteriorated pipe condition.
 - b. Ovality reduction factor C equal to 0.64
 - c. The CIPP is subjected to a full soil load of 120 pounds per cubic foot.
 - d. The CIPP is subjected to traffic live loads as calculated by AASHTO Standard Specifications for Highway Bridges, HS-20-44 Highway Loading.
 - e. The modulus of soil reaction for pipe zone backfill material is 1,000 psi.
 - f. The CIPP is subject to a groundwater elevation at ground surface.
 - g. The long-term flexural strength and long-term flexural modulus of elasticity for CIPP shall be equivalent to 50 percent of the initial flexural strength and initial flexural modulus of elasticity, respectively, as measured in accordance with ASTM D790.
 - h. The minimum overall factor of safety is 2.0.
 - i. The design life of the CIPP repair shall be 50 years.
 - j. The thickness of the CIPP shall be as specified in standards ASTM F 1216, ASTM F 1743, or ASTM F 2019.

E. Manufacturers:

1. Insituform / Insituform Technologies, Inc.
2. Inliner / Inliner Technologies, Inc.
3. Approved Equal

PART 3 EXECUTION

3.01 DELIVERY, STORAGE AND HANDLING

- A. If the flexible tube is impregnated with resin at the factory, it shall be transported, installed, and cured before expiration of the shelf life. The Contractor must have a wetout facility in the State of Florida.
- B. Impregnated tube shall be stored and transported under refrigerated, ultraviolet light-free conditions.
- C. No cuts, tears, or abrasions shall occur during handling. The Owner may inspect the tube before it is placed into the host pipe.

3.02 TEMPORARY FLOW BYPASS AND DIVERSION PUMPING

- A. The Contractor, shall provide for the transfer of flow, through or around section or sections of pipe that are to be repaired. The proposed bypassing system shall be approved in advance by the Engineer. The acceptance of the bypassing system in advance by the Engineer shall in no way relieve the Contractor of responsibility and/or public liability. Temporary flow bypass and diversion pumping shall be carried out as needed and in accordance with these specifications.

3.03 PRE-INSTALLATION PROCEDURES

- A. All requisite pre-installation submittals shall be approved by Engineer, including traffic management measures, safe pedestrian passage, provision of vehicular access to property, bypass/diversion pumping and emergency measures before any work can be commenced.
- B. Preconditioning shall be carried out as specified. In addition, the Contractor shall, prior to installation of the lining: high pressure flush and vacuum every sewer section to be rehabilitated including pertinent manholes, and remove grease buildup or any other obstruction that may interfere with lining operations.
- C. All debris removed from the sewer during cleaning shall be transported in watertight containers and disposed of in accordance with all local, State, and Federal regulations.
- D. Condition of existing line shall be verified following cleaning by CCTV as specified.
- E. Damaged sewers unsuitable for lining shall be reported to the Owner.

- F. CIPP liners shall be installed in any mainline sewer prior to any lateral lining planned along that segment of mainline sewer. In instances where lateral lining will occur along segments of mainline sewer that will also be lined, all mainline sewer lining shall be completed, tested and accepted by the Engineer before any lateral lining work can proceed. It is the responsibility of the Contractor to ensure the proper sequence of work between the mainline and lateral lining activities. Lining of mainline sewers after ANY lateral lining has occurred will require the Contractor to completely re-line all laterals that were previously lined at no cost to the Owner.
- G. The accurate location and serviceability of any existing laterals and/or service connections (taps) shall be confirmed. Serviceability shall be confirmed by flowing water, dye testing or visually with CCTV inspection.

3.04 GENERAL INSTALLATION PROCEDURES

- A. Wet Out:
 - 1. Thoroughly saturate flexible tube prior to installation. Catalyst system or additives compatible with the resin and flexible tube shall be as recommended by the manufacturer.
 - 2. Handle the resin impregnated flexible tube to retard or prevent resin setting until it is ready for insertion.
 - 3. The Contractor shall complete a wet-out process control sheet for every lining completed. The control sheets shall provide the following information:
 - a. Liner Manufacturer
 - b. Liner Diameter
 - c. Number of layers
 - d. Resin amount
 - e. Resin type
 - f. Resin Manufacturer
 - g. Batch number
 - h. Catalyst and accelerator name/type
 - i. Hardener name/type
 - j. Percent of filler, if any
 - k. Filler name/type
 - l. Batch number
 - m. Mixing ratios
 - n. Vacuum pressure of impregnation process
 - o. Wet-out start time and date

B. Insertion:

1. CIPP shall be installed in accordance with the practices outlined in ASTM F1216 for direct inversion installations and ASTM F 1743, or ASTM F2019 for pull-in installations.
2. Insert flexible tube through an existing manhole by a manufacturer approved method. The insertion method shall not cause abrasion or scuffing of the tube.
3. When using the inversion method, the addition of water pressure shall be adjusted to cause the impregnated flexible tube to invert from manhole to manhole, holding the tube tight against the host sewer pipe as described in the ASTM F 1216 standard.
4. The Contractor shall complete an installation process control sheet for every lining completed. The control sheets shall provide the following information:
 - a. Liner length
 - b. Hydrostatic head at the point of inversion
 - c. Hydrostatic head at the termination point
 - d. Time when inversion process starts
 - e. Time start cutting ends
 - f. Time start cutting laterals
 - g. Number of laterals cut

C. Curing:

1. Curing may be accomplished by the application of hot water as recommended by the liner manufacturer.
2. Curing shall be accomplished by utilizing hot water under hydrostatic pressure in accordance with the manufacturer's recommended cure schedule.
3. The heat source should be fitted with suitable monitors in accordance with the ASTM F 1216. The temperature of the incoming and outgoing heat source shall be recorded in order to determine when uniform temperature is achieved throughout the length of the liner. Thermocouples shall be installed at the top and bottom of the liner between the liner and the host pipe to appropriately control the curing process of the resin.

4. The Contractor shall complete a curing process control sheet for every lining completed. The control sheets shall provide the required temperatures and time for the different steps of the curing process such initial cure, post- cure, and cooling as outlined in ASTM F1216-03. Initial cure may be considered completed when exposed portions of the flexible tube pipe take a hard set and temperatures are adequate, as recommended by the manufacturer.

D. Cool Down:

1. A cool-down process shall be conducted that complies with the resin manufacturer's specification. Cool down may be accomplished by the introduction of cool water or air into the installation standpipe to replace the initial heating agent. The contractor shall cool the hardened pipe to a temperature below 100 degrees F before relieving the pressure in the pressure apparatus. If the installed tube is a fiberglass tube, it shall be cooled down in accordance with ASTM F2019.

E. Finish:

1. The finished CIPP shall be continuous and free from visual defects such as foreign inclusions, dry spots, pinholes, delamination, and wrinkles as specified above. Any section of lining with such defects shall be removed and replaced at no additional cost to the Owner.

F. Lateral Reconnection:

1. After the liner has been cured in placed, the Contractor shall reconnect the lateral (service) connections. Cutting of the liner pipe shall be done from the interior of the pipeline using a robotic cutter. Where the holes are cut through the liner, they shall be neat and smooth in order to prevent blockage at the service connections. Cut-in service connections shall be opened to a minimum of 95 percent of the flow capacity of the building sewer.
2. The annular space between the mainline CIPP liner and each service lateral shall be fully sealed with chemical grout in accordance with the specification 02134 unless lining of the service lateral is required.
3. All coupons shall be recovered at the downstream manhole and removed. The Contractor shall not reactivate any line sections until accepted by the Engineer.

G. Clean Up:

1. After the liner installation has been completed and accepted by Owner, the Contractor shall clean up the entire project area and restore the site to its original condition prior to the commencement of work. All excess material and debris not incorporated into the permanent installation shall be disposed of by the Contractor.

3.05 MANHOLES

- A. CIPP connections at the manhole opening shall be a watertight seal. The annular space between the CIPP and host pipe at each manhole shall be sealed with a chemical sealant according to specification 02134. Material and methods shall be submitted for approval to Engineer prior to commencing any work onsite.
- B. Manhole inverts shall be finished to provide a smooth transition between connections. CIPP liner material, an approved epoxy, or similar material may be used to form a smooth transition to eliminate sharp edges of CIPP, within the host pipe and in manholes at the concrete bench, and channel invert. Materials and methods shall be submitted for approval by Engineer prior to commencing any work onsite.
- C. CIPP connections and invert rehabilitation shall be compatible with manhole rehabilitation activities. Coordination and compatibility of materials and methods shall be submitted for approval prior to commencing any work onsite.

3.06 POST-TELEVISIONING OF COMPLETED WORK

- A. Following CIPP liner installation, a television survey shall be performed as specified, including preconstruction and post construction surveys. The finished inspections shall be continuous over the entire length of the sewer between two manholes. The completed line shall be completely free from visual defects that are deemed significant by the Engineer.
- B. Submit to the Owner color DVD compact discs showing completed work.
- C. Correction of failed CIPP or CIPP deemed defective from post-installation television inspection or test reports for structural values, thickness, etc., as determined by Owner and/or Engineer shall be repaired at no extra cost to the Owner. Method of repair, which may require field or workshop demonstration, shall be approved by Engineer prior to the commencement of work.

3.07**TESTING**

- A. Chemical Resistance - The CIPP shall meet the chemical resistance requirements of ASTM F1216, Appendix X2. CIPP samples for testing shall be of tube and resin system similar to that proposed for actual construction. It is required that CIPP samples with and without plastic coating meet these chemical testing requirements.
- B. Hydraulic Capacity - Overall, the hydraulic profile shall be maintained as large as possible. The CIPP shall have a minimum of the full flow capacity of the original pipe before rehabilitation. Calculated capacities may be derived using a commonly accepted roughness coefficient for the existing pipe material taking into consideration its age and condition.
- C. CIPP Field Samples - When requested by the Owner, the Contractor shall submit test results from past field installations in North America of the same resin system and tube materials as proposed for the actual installation. These test results must verify that the CIPP physical properties specified in Section 2.01 have been achieved in previous field applications.

END OF SECTION

SECTION 02143

FULL CIRCLE CURED-IN-PLACE LATERAL REHABILITATION

PART 1 GENERAL

1.01 SUMMARY

- A. The Work specified in this section consists of providing for the reconstruction of a particular mainline section and the adjacent lateral sewer pipe without excavation while providing a structural one piece leak free connection at the interface of the mainline and lateral pipelines.

- B. It is the intent of this portion of the specification to provide for the re-construction of a service lateral and connection in 8” through 24” mainline pipes, normally without excavation, by the installation of a one piece resin impregnated, flexible, non-woven felt tube installed into the existing lateral connection utilizing a pressure apparatus positioned in the mainline pipe. Curing shall be accomplished by use of ambient cure resin or other approved method to cure the resin into a hard impermeable cured-in-place (CIPP) pipe liner. When cured, the liner shall have a watertight connection seal at the mainline and extend over the length of the service lateral in a continuous one piece structural pipe-within-a-pipe.

1.02 QUALIFICATIONS OF CONTRACTOR

- A. The contractor or subcontractor performing the work of this section shall be employees of the company manufacturing the CIPP Lateral Lining system components, or shall be licensed by the system manufacturer. The Manufactured System must have a minimum of a five (5) year history of satisfactory performance with a minimum of 10,000 CIPP lateral installations. The contractor or subcontractor shall have a minimum of two (2) years of service continuous experience installing CIPP Lateral Lining in pipe of similar size, length and configuration as proposed in this project. In addition, the contractor or subcontractor shall have successfully installed 5,000 CIPP laterals in a wastewater collection system application. The onsite Superintendent must have installed over 2,500 CIPP laterals of like condition for this geographic area and have a minimum of 5 years of CIPP industry experience.

1.03 REFERENCES

- A. This specification references ASTM test methods which are made a part hereof by such reference and shall be the latest edition and revision thereof.

1. ASTM F1216 - Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube
2. ASTM F1743 - Standard Practice for Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP)
3. ASTM D5813 - Standard Specification for Cured In Place Thermosetting Resin Sewer Piping Systems

1.04 SUBMITTALS

- A. Product data
 1. Resin
 - a. Long term test creep data confirming the resin system's 50 year design life in accordance with ASTM D2990.
 - b. Chemical Resistance per ASTM F 1216
 - c. Certificate of Compliance with ASTM F 1216
 2. Tube
 - a. Certificate of Compliance with ASTM F1216
 - b. If glass fiber reinforcement is used, CIPP strain Corrosion testing data in accordance with ASTM D3681
- B. CIPP wall thickness design calculations (for lateral liner) in accordance with ASTM F1216
- C. Contractor Qualifications/References
 1. The contractor or subcontractor performing the lateral lining work shall provide a list of references, including Owner Name, Contact Name with phone number, Contract Name, start and completion dates and Quantity of Laterals Lined, with the CIPP Lateral Lining system used for that specific project provided, verifying compliance with these qualifications. Each project will include the name of the Contractor's Site Superintendent that completed the work. These references must satisfy the minimum requirements of:
 - a. A five (5) year history of satisfactory performance in the CIPP industry

- b. A minimum of 10,000 CIPP lateral installations
- c. A minimum of two (2) years continuous experience installing CIPP Lateral Lining in pipe of similar size, length and configuration as proposed in this project.
- d. A minimum of 5,000 CIPP laterals in a wastewater collection system application.
- e. The onsite Superintendent must have installed over 2,500 CIPP laterals of like condition for this geographic area and have a minimum of 5 years of CIPP industry experience
- f. License or Certification that the proposed installer is approved to install the proposed product

D. Product Qualifications/References

- 1. The CIPP Lateral Lining system proposed for this contract must meet the following minimum requirements. The Contractor or Subcontractor performing the lateral lining work shall provide a list of references verifying compliance with these qualifications.
 - a. A five (5) year history of sanitary sewer use
 - b. A minimum of 10,000 CIPP lateral installations in the United States

PART 2 PRODUCTS

2.01 MATERIALS

A. GENERAL REQUIREMENTS

- 1. Tube and resin will meet the requirements of ASTM F 1216, F1743 and D5813.
- 2. In industrial areas subject to possible flows other than domestic sewage, the Owner shall obtain samples of the dry weather sewage flow to be analyzed for chemical content. This analysis shall be supplied to the Installer for his information.

B. CIPP LATERAL MATERIALS

- 1. The liner shall be fabricated to a size that when installed will neatly fit the internal circumference of the conduit specified by the Owner. Allowance shall be made for circumferential stretching during insertion.

- The liner shall be a one piece joint-less polyester felt tube that will create a watertight seal at the mainline interface.
2. The minimum length shall be 36 inches (3 feet) to effectively span the distance from the lateral connection at the main or to the desired termination location in the service lateral pipe. For the purpose of this specification, the termination point shall be a distance within 18 inches of the intersection of a cleanout or property line. Lateral lining will be accomplished without a cleanout when possible. In the event a cleanout is required to complete the lining of the lateral, the Contractor is responsible for including the costs associated with the installation of the cleanout in his bid price for lateral lining (bid item 4 on page 8). When required, an overlap method is performed with a pull-in-process installation from a cleanout or access point back to the main. In either case, the lateral liner must provide a watertight seal at the mainline and a structural repair of the lateral over the specified length. The Installer shall verify the lengths in the field before impregnation of the resin.
 3. Unless otherwise specified, the Installer shall furnish a specially designed, unsaturated, Polyester or Vinylester resin catalyst system compatible with the cured-in-place process that provides cured physical strengths specified herein.

C. PHYSICAL STRENGTH

1. The structural performance of the finished pipe must be adequate to accommodate all anticipated loads throughout its design life. No cured-in-place pipe reconstruction technology will be allowed that requires bonding to the existing pipe for any part of its structural strength. Only resin vacuum impregnation will be allowed. If reinforcing materials (fiberglass, etc.) are used, the reinforcing material must be fully encapsulated within the resin to assure that the reinforcement is not exposed, either to the inside of the pipe or at the interface of the CIPP and the existing pipe.
2. Design methods are to be derived from traditionally accepted pipe formulas for various loading parameters and modes of failure. All equations will be modified to include ovality as a design parameter. The design method shall be submitted to the Engineer for approval prior to the pre-bid conference.
3. The CIPP lateral pipe shall conform to the minimum structural standards as listed below:

Property	ASTM Method	Results
Flexural Stress	ASTM D 790	4,500 psi
Flexural Modulus	ASTM D 790	250,000 psi

2.02 APPROVED MANUFACTURES/PRODUCTS

- A. BLD “Service Connection Seal + Lateral”
- B. or approved equal

PART 3 EXECUTION

3.01 INSTALLATION PREPARATIONS

- A. Access – If the Contractor requires access through a cleanout or access pit to complete the lateral lining, the costs associated with the cleanout or access pit will be the responsibility of the Contractor and must be included within bid item 4 on page 8. If a cleanout already exists or is required by the Owner, it shall be constructed of materials which provide a four inch (4”) minimum diameter circular opening, if service lateral is six inch (6”) than a six inch minimum diameter opening is required. Any cleanouts will comply with Page 10 and must be wye connections (Tee connection will not be permitted) to allow video inspection, cleaning and lining access.
- B. Safety – The Installer shall carry out his operations in strict accordance with all applicable OSHA standards. Particular attention is drawn to those safety requirements involving entering confined spaces.
- C. Cleaning of Sewer Line – The intent of this specification is for cleaning of the lateral to be accomplished from the mainline pipes via lateral launching equipment. If the lateral cannot be cleaned using industry standard cleaning heads that can be launched from the mainline then a cleanout will be required and considered changed conditions. The laterals shall be cleaned a sufficient length to ensure the specified length of sewer is ready for lining. It shall be the responsibility of the Installer to verify, prior to installation, that all internal debris has been removed from the sewer line. Internal debris consists of broken pipe sections, roots, loose gravel, etc.

- D. Inspection of Pipelines – It is the intent of this specification for inspection of the lateral to be accomplished from the mainline pipes via lateral launching equipment. If the lateral cannot be inspected using industry standard inspection equipment that can be launched from the mainline then a cleanout will be required and considered changed conditions. Inspection of pipelines shall be performed by experienced personnel trained in locating breaks and obstacles by closed circuit television. The interior of the pipeline shall be carefully inspected to determine the location of any conditions which may prevent proper installation of the lateral liner into the pipelines, and it shall be noted so that these conditions can be corrected. A DVD and suitable log shall be kept for later reference by the Owner.
- E. Bypassing Sewage – The Installer, when required, shall provide for the flow of sewage around the section or sections of mainline pipe where the service lateral designated for lining is located. The bypass shall be made by plugging the line at an existing upstream manhole and pumping the flow into a downstream manhole or adjacent system. The pump and bypass lines shall be of adequate capacity and size to handle the flow. It is assumed that flows in the lateral specified for lining will not require bypass pumping.
- F. It is required that the service lateral be inactive during the time of installation. This is normally accomplished by turning off the homeowner's services or requesting that the homeowner relinquish using his services during the period of installation. Notification will be distributed to impacted residents 24 hours in advance of the lateral liner installation.
- G. Line Obstructions – If inspection reveals an obstruction that cannot be removed by conventional sewer cleaning equipment, as in solids, dropped joints or collapsed pipe then the Installer shall make a point repair excavation to uncover and remove or repair the obstruction. Such excavation shall be approved in writing by the Owner's representative prior to the commencement of the work and shall be considered as a separate pay item.
- H. In the case of lined mainline pipes, the lateral connection specified for rehabilitation shall be reinstated to 100% of its original size to accept the CIPP lateral.

3.02

INSTALLATION OF LATERAL LINING

- A. The Installer shall designate a location where the liner will be vacuum impregnated prior to installation. The Installer shall allow the Owner to inspect the materials and “wet-out” procedure. A catalyst system compatible with the resin and liner shall be used.
- B. The wet-out liner shall be loaded inside a pressure apparatus above ground and utilizing a hydrophilic sealant (or equivalent) on the backside of the connection to enhance a watertight seal. Also, a two-part 100% solid epoxy (reference ASTM C-881) or a Silicate Resin shall be applied to the lateral full circle interface to enhance adhesion against the host pipe. The pressure apparatus, with an end attached to a robotic device, shall be winched through the mainline pipe to the service connection. The robotic device, together with a television camera, will be used to position the pressure apparatus’ inversion elbow at the service connection opening. Air pressure, supplied to the pressure apparatus through an inversion hose, shall be used to invert the wet-out liner through the lateral pipe to the cleanout/access point or “Right of Way” point. The inversion head will be adjusted to be of sufficient pressure to cause the impregnated liner to invert completely in the lateral pipe and hold the tube tight to the pipe wall. Care shall be taken during the curing process so as not to overstress the tube.
- C. Curing – In most circumstances, an accelerated ambient-temperature curing resin system will be utilized, however if a heat cure is required, the Installer shall supply a suitable heat source and recirculation equipment. The equipment shall be capable of delivering the approved heating medium throughout the section to the temperature required to affect a cure of the resin. This temperature shall be determined by the resin/catalyst system employed.
- D. If a heat cure is required, the heat source shall be fitted with suitable monitors to gauge the temperature of the incoming and outgoing air/steam or water supply. Fluid temperature in the line during the cure period shall be recommended by the resin manufacturer. NOTE: No UV cure systems will be allowed.
- E. Initial cure shall be deemed to be completed when inspection of the exposed portions of the CIPP appears to be hard and sound and/or the temperature gauge indicates that the temperature is of a magnitude to realize an exotherm. The cure period shall be of a duration recommended by the resin manufacturer, as modified for the installation process.

- F. Cool-down – The Installer shall cool the hardened CIPP to a temperature below 100°F before relieving the pressure in the pressure apparatus. Cool-down may be accomplished by the introduction of cool air into the pressure apparatus to replace water being forced out of the pressure apparatus. Care shall be taken to maintain proper pressure throughout the cure and cool-down period.
- G. Finish – The finished CIPP shall be a watertight connection seal at the mainline and extend continuous over the entire length of the service lateral and be free of dry spots, lifts, and delamination. This continuous one piece structural pipe-within-a-pipe shall not inhibit the closed circuit television post video inspection of the mainline or service lateral pipes.
- H. Testing – For every 50 laterals, one flat plate sample shall be taken and sent to a 3rd party test laboratory for confirmation of short term flexural modulus and strength properties in accordance with ASTM F1216. The test results shall meet or exceed the values used in the design of the CIPP lateral liner. If required a low pressure air test will be done in accordance with client’s specifications.
- I. During the warranty period, any defects which will affect the integrity or strength of the CIPP liner shall be repaired at the Installer’s expense in a manner mutually agreed upon by the Owner and the Installer.
- J. After the work is completed, the Installer will provide the Owner with a CD or DVD showing the completed work including the restored conditions.

3.03 CLEAN-UP

- A. Upon acceptance of the installation work, the Installer shall reinstate the project area affected by his operations.

3.04 WARRANTY

- A. Contractor warrants to Owner that all products and work provided by Contractor to Owner under this Agreement will be free from material defects in workmanship and materials for a period of one year from the earlier of the date on which Contractor’s work is accepted by Owner or the date on which the Contractor completes performance and leaves the worksite. In the event that a material defect in workmanship or materials supplied by Contractor is found during the one year period following acceptance of the work, then such defect shall be repaired, replaced or adjusted by Contractor at no additional cost to Owner.

- B. Owner's exclusive remedy in the event of any warranty claim hereunder is limited to correction of such defect, adjustment, repair or replacement as the Contractor shall at its sole option elect. The foregoing warranty is the exclusive warranty provided by contractor and is given in lieu of all other warranties, whether express, implied or statutory, including but not limited to, any implied warranties of merchantability or fitness or suitability for a particular purpose or use; and all other warranties are hereby expressly disclaimed.
- C. In no event shall Contractor's liability for warranties hereunder exceed the purchase price paid by the Owner for Contractor's work and materials.
- D. The warranty set out above shall be void and of no effect in the event that
1. Contractor is not notified of claim of defect within the one year period provided above
 2. Contractor is not provided timely and unrestricted access to the site at which the claimed defect is located in order to investigate and/or repair, adjust or replace the work or materials claimed to be defective or Contractor is not provided suitable working conditions to perform such investigation, repair, adjustment or replacement
 3. Any materials or work is exposed to chemicals or substances other than those listed in the Specifications to this Agreement as accepted by Contractor
 4. Site conditions or pipeline, conduit or access way conditions are other than those disclosed to and accepted by Contractor
 5. Owner's site, pipeline, conduit or access ways are cleaned or modified in a manner not disclosed in writing to and accepted in writing by Contractor in advance of commencement of Contractor's work or tampered with prior to, during or after completion of Contractor's work
 6. The work, the site at which the work is performed or the materials provided by Contractor are otherwise abused or misused.

END OF SECTION

SECTION 02158

STRUCTURAL MANHOLE LINING

PART 1 GENERAL

1.01 DESCRIPTION

- A. Section includes Work required for the various type of manhole linings identified in the repair schedule contained in the plans. The materials and methods included in this section are designed to eliminate infiltration through manhole walls and enhance structural integrity of severely deteriorated manholes. Materials of linings are spray applied polymeric (epoxy and polyurethane) resins.

1.02 SUBMITTALS

- A. Contractor shall submit manufacturer's technical literature on material and description of installation method including, but not limited to:
1. Requirements for application, such as temperature and humidity.
 2. Requirements for worker safety, such as ventilation and safe handling procedures.
 3. Maximum storage life
 4. Mixing and proportioning requirements for specific application
 5. Pot life
 6. Curing time
 7. Physical properties
 8. Test results on resistance to abrasive chemicals.

1.03 QUALITY ASSURANCE

- A. Product application shall be performed only by workmen trained and experienced with specified and trained in confined space entry.
1. Certification: Applicators for spray-applied coating installation shall be certified by the manufacturer.
 2. Contractor Experience: Minimum of five (5) years of experience with similar applications of the materials specified.

PART 2 PRODUCTS

2.01 SPRAY APPLIED RESINS

- A. The spray-applied coating shall be resistant to hydrogen sulfide gas, sulfuric acid, and other chemical typically found in sanitary sewers.
- B. The spray-applied coating shall also be resistant to damage due to impact and abrasion.
- C. The spray-applied coating shall be either Sherflex coating system, Raven coating system, or IET coating system or approved equal. The liner shall conform to the minimum physical requirements listed below:

Compressive strength, ASTM D695	10,500 psi
Flexural modulus (initial), ASTM D790	73,500
Flexural strength, ASTM D790	12,000 psi
Bond strength, ASTM D4541	Must exceed substrate tensile strength
Tensile strength, ASTM D638	7,000 psi
Chemical Resistance (ASTM D543) – Exposure to sodium hypochlorite (10 percent) and sulfuric acid (15 percent) for 168 hours	No degradation in physical or mechanical properties.

PART 3 EXECUTION

3.01 GENERAL

- A. All pipes in service shall be plugged or bypassed as specified before any work is started on the structure. No debris shall be flushed down the line.
- B. Only personnel who are aptly trained in confined space entry shall be permitted to enter the structure. All OSHA requirements for confined space entry equipment and permitting shall be complied with. The Contractor shall obtain a confined space entry permit prior to beginning any work.

3.02 PREINSTALLATION/SURFACE PREPARATION

- A. High Pressure grout: High pressure grout shall be injected from the interior of the manhole surfaces into cracks and voids in order to stop leaks. The use of hydraulic cement will not be allowed.
 - 1. Suitable equipment shall be utilized for pumping the grout from above ground through a hose and injecting the grout under pressure to fill voids beyond the manhole structures. The equipment shall have a means of measuring the amount of grout used in gallons.

2. Grout shall be used in accordance with the manufacturer's recommendations for the specific application.
 3. The following are acceptable grout products: Avanti AV-202 Multigrout or pre-approved equal.
- B. Patching cement: After all loose and deteriorated material has been removed from the interior surfaces of the manhole and after all leaks have been grouted, patching cement shall be applied to fill in any irregularities to achieve an acceptable smooth surface.
1. Patching cement shall be compatible with the liner material as specified in item 2.1.
- C. Evaluation of Atmosphere: Prior to entering structures, an evaluation of the atmosphere shall be conducted to determine the presence of toxic, flammable vapors or possible lack of oxygen. The evaluation shall be in accordance with local, state or federal safety regulations.
- D. Clean manhole ring and cover free of rust and debris so the lid will properly seat when reinstalling the lid. Use power brushing such as wire wheel on a grinder/needle gun as most types of debris cannot be removed by hand wire brushing.
- E. Surfaces to be lined shall be cleaned and abraded to produce a sound surface with adequate profile and porosity to provide strong bond between the lining and substrate.
- F. High pressure water jetting (NACE Standard No. 5/SSPC-SP12) abrasive (sand) blasting, and mechanical wire-brushing shall be the methods to remove previous coatings, laitance, and contaminated, disintegrated or chalky material. Detergent water cleaning and hot water blasting may be necessary to remove oil and grease.
- G. Use of acid for cleaning purposes, no matter how dilute, will not be allowed. Loose or protruding brick, mortar and concrete shall be removed by using a mason's hammer and chisel. Fill any large voids with quick setting cement patch mix recommended by the manufacturer of liner products. The surface to be repaired must be clean and free of any loose materials.
- H. Application of liner shall not be made unless the ambient Temperature inside the structure is 50 degrees F or higher.

- I. After the patched areas have cured sufficiently, prepare manhole wall surfaces in accordance with the manhole liner manufacturer's recommendations.
- J. All resurfaced or repaired surfaces shall be inspected for cleanliness and suitability to receive spray-applied liner. Additional surface preparation may be necessary prior to application.
- K. Apply manhole liner in accordance with manufacturer's recommendation regarding temperature and installation procedures and in accordance with these specifications. The liner shall be applied to the invert and walls of the manhole from the bench up to the bottom of the casting.
- L. Only manufacturer-certified personnel shall be permitted to install spray-applied liner.
- M. Spray equipment shall be specifically designed to accurately ration and apply the coating products and shall be in good working order.
- N. Prepared surfaces shall be lined by spray application to a minimum wet film thickness of 175 mils.
- O. During application, a wet film thickness gauge meeting ASTM D4414 shall be used. All necessary measurements shall be taken and attested to by the Contractor. Written reports signed by the Contractor shall be given to the Owner and Project Manager.
- P. Allow the final application to cure for the amount of time recommended by the manufacturer before being subjected to sewage flow, or installation of spray-applied liner.

3.03 QUALITY CONTROL

- A. Inspect lining system for holidays, crack, and pinholes using the spark-test method and equipment in accordance with NACE RPO 188. Especially check the lining over brick, block, and very rough surfaces.
- B. Repair voids and holidays per the manufacturer's instructions.

3.04 SAFETY

- A. The Contractor shall carry out operations under this section in strict accordance with all applicable OSHA Standards. Particular attention is drawn to those safety requirements involving entry into a confined space. It shall be the Contractor's responsibility to comply with OSHA Standard and Regulations pertaining to all aspects of the work.

PART 4 WARRENTY

- A. Provide a ten (10) year unlimited warranty on all workmanship and products. The work covered by the warranty shall include surface preparation, grouting, line application, as well as other work performed under this section. The warranty shall be effective beginning on the date of final acceptance by the Owner, and shall guarantee that the manhole will be protected from leaks and from failure due to corrosion from exposure to hydrogen sulfide and other corrosive chemicals normally encountered in raw sewage.

END OF SECTION

SECTION 02958-A

SHERFLEX MANHOLE COATING SYSTEM

PART 1 GENERAL

1.01 DESCRIPTION

- A. The specification covers all labor, material, equipment and services necessary to complete the manhole rehabilitation work using the SherFlex Elastomeric Polyurethane Coating System as herein specified.

1.02 SUBMITTALS

- A. Product data
 - 1. Technical data sheet on each product used. Material Safety Data Sheet (MSDS) for each product used.
 - 2. Copies of independent testing performed on the coating product indicating the product meets the requirements as specified herein.
 - 3. Technical data sheet and project data for repair materials to be topcoated with the coating product(s) including application, cure time and surface preparation procedures.
- B. Contractor Data:
 - 1. Current documentation from coating product manufacturer certifying contractor's training and equipment complies with the Quality assurance requirements specified herein.
 - 2. Five (5) recent reference of Contractor indicating successful application of coating product(s) of the same material type as specified herein, applied by spray application within the municipal wastewater environment.

1.03 QUALITY ASSURANCE

- A. Coating product(s) shall be capable of being installed and curing properly within a manhole environment. Coating product(s) shall be resistant to all forms of chemical or bacteriological attack found in municipal sanitary sewer systems; capable of adhering to the manhole structure substrates.

- B. Repair product(s) shall be fully compatible with coating product(s) including ability to bond effectively forming a composite system.
- C. Contractor shall utilize equipment for the spray application of the coating product(s) which have been approved by the coating product manufacturer; and, Contractor shall have received training on the operation and maintenance of said equipment from the coating product manufacturer.
- D. Contractor shall be certified by the coating product manufacturer for the handling, mixing, application, and inspection of the coating product(s) to be used as specified herein.
- E. Contractor shall initiate and enforce quality control procedures consistent with the coating product(s) manufacturer recommendations and applicable industry standards.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Materials are to be stored indoors and kept dry and protected from weather.
- B. Protective coating materials are to be stored between 40 F and 100 F. Do not agitate in air and moisture.
- C. Protective coating materials are to be handled according to their material safety data sheets.

1.05 SITE CONDITIONS

- A. All pipes in service shall be plugged or bypassed before any work is started on the structure. No debris is to be flushed down the line.
- B. Contractor shall conform to all local, state and federal regulations including those set forth by OSHA, RCRA, and the EPA and any other applicable authorities.
- C. Anyone entering the structure must conform to all OSHA requirements for "Confined Space Entry" equipment and permitting.
- D. Surface preparation shall meet the requirements of SherFlex Data Sheets on Concrete Preparation and interior surfaces of manhole shall be sound, porous, dry, and free of dust, dirt, oil, grease and other contaminants prior to application of lining.

- E. Interior surface of structure must be pressure washed at 5,000 psi and must be abrasive-blasted to remove all loose patching, old coating and any contamination in the concrete. No silica sand shall be used.
 - 1. New structures shall be abrasive-blasted to remove all oils and patch mud and to open pin holes and expose aggregate.
 - 2. Rehabilitated structures shall be abrasive-blasted to remove all loose patching, old coatings, and any contamination that penetrated the concrete. The finished interior of the structure shall be gray. The exposed invert/floor shall also be coated. Where there is severe deterioration of the mortar, place new concrete to match the original interior dimensions after abrasive-blasting and removal of all loose material and by-products of corrosion. Restore invert/floor to the original elevations.
 - 3. Vacuum to remove all abrasives and debris.
- F. Repair all leaks by injecting grout. Hydraulic cement shall not be used to stop any water leaks.
- G. Clean and remove dust material with pressure washing for maximum adhesion. Blow dry concrete at 250 cfm with 120 psi.

1.06 SPECIAL WARRANTY

- A. Contractor shall warranty all work against defects in materials and workmanship for a period of ten (10) years, unless otherwise noted, from the date of final acceptance of the project. Contractor shall, within a reasonable time after receipt of written notice thereof, repair defects in material or workmanship which may develop during said ten (10) year period, and any damage to other work caused by such defects or the repairing of same, at his own expense and without cost to the owner.

PART 2 PRODUCTS

2.01 EXISTING SURFACE

- A. Standard Portland cement or new concrete (not quick setting high strength cement) must be cured a minimum of 28 days prior to application of the coating product(s).
- B. Remove existing coatings prior to application of the coating product(s) which may affect the performance and adhesion of the coating product(s).

- C. Thoroughly clean and prepare existing products to effect a seal with the coating product(s).

2.02 REPAIR AND RESURFACING PRODUCTS

- A. Repair products shall be used to fill voids, bugholes, and/or smooth transitions between components prior to the installation of the coating product(s). Repair materials must be compatible with the specified coating product(s). Repair materials must be compatible with the manufacturer's recommendations.
- B. Resurfacing products shall be used to fill large voids, lost mortar in masonry structures, smooth deteriorated surfaces and rebuild severely deteriorated structures.
- C. The following products may be accepted and approved as compatible repair and resurfacing products for use within the specifications.
 - 1. 100% solids, solvent-free epoxy grout specifically formulated for epoxy topcoating compatibility.
 - 2. Factory blended, repair setting, high early strength, fiber reinforced, non-shrink repair mortar that can be trowelled or pneumatically spray applied may be approved if specifically formulated to be suitable for topcoating with the specified coating product(s).

2.03 COATING PRODUCTS

- A. Manufacturer: The Sherwin-Williams company, Cleveland, OH or approved equal.
- B. Product: SherFlex Elastomeric Polyurethane – 100% solids, spray applied, aromatic polyurethane coating and lining system exhibiting the following characteristics:
 - 1. Product Type: Elastomeric Polyurethane coating and lining.
 - 2. VOC Content: 0
 - 3. Adhesion to Concrete (ASTM D-4541): 350 psi (concrete failure)
 - 4. Dielectric Strength (ASTM D149-92a, method A): 430 volts/mil
 - 5. Tensile Strength (ASTM D-638): 1988 psi at 25 C
 - 6. Chemical Resistance (ASTM D5463/G20) all types of service for:
 - a. Municipal sanitary sewer environment

- b. Sulfuric acid, 25%
- c. Hydrogen Sulfide Gas, All concentrations
- d. Sodium hydroxide, 5%

2.04 COATING APPLICATION EQUIPMENT

- A. Manufacturer approved spray application equipment

PART 3 EXECUTION

3.01 EXAMINATION

- A. Appropriate actions shall be taken by contractor to comply with local, state, and federal regulatory and other applicable agencies with regard to environment, health and safety during Work.
- B. All structures to be coated shall be readily accessible to Contractor.
- C. New Portland cement concrete structures shall have endured a minimum of 28 days since manufacture prior to commencing coating installation.
- D. Any active flows shall be dammed, plugged or diverted as required to ensure all liquids are maintained below or away from the surfaces to be coated.
- E. Temperature of the surface to be coated should be maintained between -20 F and 120 F.
- F. Maximum Relative Humidity to be 85%.
- G. Specified surfaces should be shielded to avoid exposure of direct sunlight or other intense heat source. Where varying surface temperatures exist, coating installation should be scheduled when the temperature is falling versus rising.
- H. Prior to commencing surface preparation, Contractor shall inspect all surfaces specified to receive the coating and notify Owner, in writing, of any noticeable disparity in the site, structure or surfaces which may interfere with the Work, use of materials or procedures as specified herein.

3.02 SURFACE PREPARATION

- A. Oils, grease, incompatible existing coatings, waxes, form release, curing compounds, efflorescence, sealers, salts, or other contaminants which may affect the performance and adhesion of the coating to the substrate shall be removed.
- B. Concrete and/or mortar damaged by corrosion, chemical attack or other means of degradation shall be removed so that the only sound substrate remains.
- C. Choice of surface preparation method(s) should be based upon the condition of the structure and concrete or masonry surface, potential contaminants present, access to perform work, and required cleanliness and profile of the prepared surface to receive the coating product(s).
- D. Surface preparation method, or combination of methods, that may be used include high pressure water, cleaning, high pressure water jetting, abrasive blasting, shotblasting, grinding, scarifying, detergent water cleaning, hot water blasting, and others described in NACE no. 6/SSPC SP-13. Whichever method(s) are used, they shall be performed in a manner that provides a uniform, sound clean neutralized surface suitable for topcoating with the coating product(s).
- E. Infiltration shall be stopped by using a material which is compatible with the repair products and is suitable for topcoating with coating product(s).
- F. Termination points of the coating product(s) shall be made at the bottom of the manhole frame, and a minimum of 1" interfacing with each pipe penetration. The manhole frame and casting shall not be coated.

3.03 APPLICATION OF REPAIR AND RESURFACING PRODUCTS

- A. Areas where rebar has been exposed and is corroded shall be first prepared in accordance with these specifications. The exposed rebar shall then be abrasive blasted and coated with coating product specified.
- B. Repair products shall be used to fill voids, bugholes, and other surface defects which may affect the performance to adhesion of the coating product(s).
- C. Resurfacing products shall be used to repair, smooth or rebuild surfaces with rough profiles to provide a concrete or masonry substrate suitable for the coating product(s) to be applied. These products shall be installed to minimum thickness as recommended within manufacturers published guidelines.

- D. Repair and resurfacing products shall be handled, mixed, installed and cured in accordance with manufacturer guidelines.
- E. All repaired or resurfaces shall be inspected for cleanliness and suitability to receive the coating product(s). Additional surface preparation may be required prior to coating application.

3.04 APPLICATION OF COATING PRODUCT(S)

- A. Application procedures shall conform to the recommendations of the coating product(s) manufacturer, including environmental controls, product handling, mixing, application equipment and methods.
- B. Spray equipment shall be specifically designed to accurately ration and apply the coating product(s) and shall be in proper working order.
- C. Prepared surfaces shall be coated by spray application of the coating product(s) described herein to a minimum wet film thickness of 175 mils.
- D. Subsequent topcoating or additional coats of the coating product(s) shall occur within the products recoat window. Additional surface preparation procedures will be required if this recoat window is exceeded.
- E. Coating product(s) shall interface with adjoining construction material throughout the manhole structure to effectively seal and protect concrete or masonry substrates from infiltration and attack by corrosive elements. Procedures and material necessary to effect this interface shall be as recommended by the coating product(s) manufacturer.
- F. Termination points of the coating product(s) shall be made at the bottom of the manhole frame, and a minimum of 1" interfacing with each pipe penetration. The manhole frame and casting shall not be coated.
- G. Manhole inverts shall be coated.
- H. Sewage flow shall be stopped, bypassed or diverted for application of the coating product(s) to the invert and interface with pipe material.

3.05 TESTING AND INSPECTION

- A. During application a wet film thickness gauge, meeting ASTM D4414-Standard Practice for Measurement of Wet Film Thickness of Organic Coatings by Notched Gages, shall be used. Measurements shall be taken, documented and attested to by Contractor for submission to Owner.
- B. After the coating product(s) have set in accordance with manufacturer instructions, all surfaces shall be inspected for holidays with high voltage holiday detection equipment. Reference NACE RPO 188-99 for performing holiday detection. All detected holidays shall be marked and repaired by abrading the coating surface with grit disk paper or other hand tooling method. After abrading and cleaning, additional coating can be hand applied to the repair area. All touch-up/repair procedures shall follow the coating manufacturer's recommendations. Documentation on areas tested, results and repairs made shall be provided to Owner by Contractor.
- C. Visual inspection shall be made by the Project Manager and/or Inspector. Any deficiencies in the finished coating shall be marked and repaired according to the procedures set forth herein by contractor.
- D. The municipal sewer system may be returned to full operational services as soon as the final inspection has taken place.

END OF SECTION

SECTION 02958-B

IET COATING SYSTEM

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. This specification provides details for furnishing and installing the Integrated Environmental Technologies (IET) coating system for protection of concrete structures against hydrogen sulfide corrosion. Coating materials shall be as manufactured by Integrated Environmental Technologies or pre-approved equal. Installation shall be performed by workers experienced in the application of the coating to be used.

PART 2 PRODUCTS

2.01 IET COATING SYSTEM

- A. The IET Coating System shall be as distributed by Integrated Environment Technologies, Santa Barbara, VA or approved equal.
- B. Polymorphic Resin shall be a 100% solids, two-component, highly modified polyester resin system, exhibiting no adhesion-interfering shrinkage upon curing. Resin shall cure rapidly within fifteen minutes to one hour without the use of heat or cooling at surface temperatures ranging from -30 degrees Fahrenheit to over +150 degrees. Excellent resistance to a broad range of corrosive chemical, including sulfuric acid created by hydrogen sulfide gas as well as other chemicals typically found in sanitary sewer, and impact and abrasion attack shall be provided.

PART 3 EXECUTION

3.01 IET COATING

- A. All pipes in service shall be plugged or bypassed before any work is started on the structure. No debris is to be flushed down the line.
- B. Anyone entering the structure must conform to all ASHA requirements for "Confined Space Entry" equipment and permitting.

- C. Surface preparation shall meet the requirements of IET Systems Data Sheets on Concrete Preparation and interior surfaces of manhole shall be sound, porous, dry, and free of dust, dirt, oil, grease, and other contaminants prior to application of lining.
- D. Interior surface of structure must be pressure washed at 5,000 psi and must be abrasive-blasted with black beauty steel slag to remove all loose patching, old coatings and any contamination in the concrete. No silica sand shall be used.
 - 1. New structures shall be abrasive-blasted to remove all oils and patch mud and to open pin holes and expose aggregate.
 - 2. Rehabilitated structures shall be abrasive-blasted to remove all loose patching, old coatings, and any contamination that penetrated the concrete. The finished interior of the structure shall be gray. The exposed invert/floor shall also be coated. Where there is severe deterioration of the mortar, place new concrete to match the original interior dimensions after abrasive-blasting and removal of all loose material and by-products of corrosion. Restore invert/floor to the original elevations.
 - 3. Vacuum to remove all abrasives and debris.
- E. Repair all leaks by injecting grout using Avanti Multi-grout AV-202 or approved equivalent. Hydraulic cement shall not be used to stop and water leaks.
- F. Clean and remove dust material with pressure washing for maximum adhesion. Blow dry concrete at 250 cfm with 12- psi.
- G. Apply IET Systems Coating by the use of the IET Systems Spray Unit and IET Systems Spincaster. Apply IET coating at least three different intervals-prime coat, intermediate coat, and finish coat, per IET Systems manufacturer instructions and specifications. The total thickness of the IET coating shall be at least 175 mils.
- H. Inspect lining system for holidays, crack and pinholes. Take particular care to check lining over brick, block, heavy spalled surfaces, and other very rough surfaces and locate holes in the lining caused by voids in bricks, block, concrete and structure joints. Fill voids and holidays in accordance with the lining system manufacturer's instructions.

- I. Provide a ten (10) year unlimited warranty on all workmanship and products. The work includes the surface preparation and application of the IET coating system, shall protect the structure for at least ten (10) years from all leaks, and from failure due to corrosion from exposure to corrosive gases such as hydrogen sulfide.

END OF SECTION

SECTION 02958-C

RAVEN COATING SYSTEM

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. This specification covers all labor, materials, equipment and services necessary to complete the manhole rehabilitation work using the Raven Coating System as herein specified.

1.02 SUBMITTALS

- A. Product Data
 - 1. Technical data sheet on each product used.
 - 2. Material Safety Data Sheet (MSDS) for each product used.
 - 3. Copies of independent testing performed on the coating product indicating the product meets the requirements as specified herein.
 - 4. Technical data sheet and project specific data for repair materials to be topcoated with the coating product(s) including application, cure time and surface preparation procedures.
- B. Contractor Data:
 - 1. Current documentation from coating product manufacturer certifying contractor's training and equipment complies with the Quality assurance requirements specified herein.
 - 2. Five (5) recent references of Contractor indicating successful application of coating product(s) of the same material type as specified herein, applied by spray application within the municipal wastewater environment.

1.03 QUALITY ASSURANCE

- A. Coating product(s) shall be capable of being installed and curing properly within a manhole environment. Coating product(s) shall be resistant to all forms of chemical or bacteriological attack found in municipal sanitary sewer systems; capable of adhering to the manhole structure substrates.

- B. Repair product(s) shall be fully compatible with coating product(s) including ability to bond effectively forming a composite system.
- C. Contractor shall be certified by the coating product manufacturer for the handling, mixing, application and inspection of the coating product(s) to be used as specified herein.
- D. Inspectors shall be trained in the use of testing or inspection instrumentation and knowledgeable of the proper use, preparation and installation of coating product(s) to be used as specified herein.
- E. Inspectors shall be trained in the use of testing or inspection instrumentation and knowledgeable of the proper use, preparation and installation of coating product(s) to be used as specified herein.
- F. Contractor shall initiate and enforce quality control procedures consistent with the coating product(s) manufacturer recommendations and applicable industry standards.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Materials are to be kept dry, protected from weather and stored under cover.
- B. Protective coating materials are to be stored between 50 F and 90 F. Do not store near flame, heat or strong oxidants.
- C. Protective coating materials are to be handled according to their material safety data sheets.

1.05 SITE CONDITIONS

- A. Contractor shall conform with all local, state and federal regulations including those set forth by OSHA, RCRA, and the EPA and any other applicable authorities.
- B. Confined space entry, flow diversion and/or bypass plans shall be presented by Contractor as necessary to perform the specified work.

1.06 SPECIAL WARRANTY

- A. Contractor shall warrant all work against defects in materials and workmanship for a period of ten (10) years, unless otherwise noted, from the date of final acceptance of the project. Contractor shall, within a reasonable time after receipt of written notice thereof, repair defects in material or workmanship which may develop during said ten (10) year period, and any damage to other work caused by such defects or the repairing of same, at his own expense and with cost to Owner.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

- A. Standard Portland cement or new concrete (not quick setting high strength cement) must be cured a minimum of 28 days prior to application of the coating product(s).
- B. Remove existing coatings prior to application of the coating product(s) which may affect the performance and adhesion of the coating product(s).
- C. Thoroughly clean and prepare existing products to effect a seal with the coating product(s)

2.02 REPAIR AND RESURFACING PRODUCTS

- A. Repair products shall be used to fill voids, bugholes, and/or smooth transitions between components prior to the installation of the coating product(s). Repair materials must be compatible with the specified coating product(s) and shall be used and applied in accordance with the manufacturer's recommendations.
- B. Resurfacing products shall be used to fill large voids, lost mortar in masonry structures, smooth deteriorated surfaces and rebuild severely deteriorated structures.
- C. The following products may be accepted and approved as compatible repair and resurfacing products for use within the specifications:
 - 1. 100% solids, solvent-free epoxy grout specifically formulated for epoxy topcoating compatibility.

2. Factory blended, repair setting, high early strength, fiber reinforced, non-shrink repair mortar that can be trowelled or pneumatically spray applied may be approved is specifically formulated to be suitable for topcoating with the specified coating product(s).

2.03 COATING PRODUCTS

- A. Manufacturer: Raven Lining Systems, Broken Arrow, Oklahoma or approved equal.
- B. Product: Raven 405 – 100% solids, solvent-free ultra high-build epoxy system exhibiting the following characteristics:
 1. Product type: amine cured epoxy
 2. VOC Content (ASTM D2584): 0%
 3. Tensile Strength, psi (ASTM D695): 18,000 (minimum)
 4. Tensile Strength, psi (ASTM D638): 7,500 (minimum)
 5. Flexural Modulus, psi (ASTM D790): 600,000 (minimum)
 6. Adhesion to Concrete, mode of failure (ASTM D4541): Substrate (concrete) failure.
 7. Chemical Resistance (ASTM D5463/G20) all types of service for:
 - a. Municipal sanitary sewer environment
 - b. Sulfuric acid, 25%
 - c. Hydrogen Sulfide Gas, All concentrations
 - d. Sodium hydroxide, 5%

2.04 COATING APPLICATION EQUIPMENT

- A. Manufacturer approved heated plural component spray equipment.
- B. Hard to reach areas, primer application and touch-up may be performed using hand tools.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Appropriate actions shall be taken by contractor to comply with local, state and federal regulatory and other applicable agencies with regard to environment, health and safety during work.
- B. All structures to be coated shall be readily accessible to Contractor.
- C. New Portland cement concrete structures shall have endured a minimum of 28 days since manufacture prior to commencing coating installation
- D. Any active flows shall be dammed, plugged or diverted as required to ensure all liquids are maintained below or away from the surfaces to be coated.
- E. Temperature of the surface to be coated should be maintained between 40 F and 120 F
- F. Specified surfaces should be shielded to avoid exposure of direct sunlight or other intense heat source. Where varying surface temperature do exist, coating installation should be scheduled when the temperature is falling versus rising.
- G. Prior to commencing surface preparation, Contractor shall inspect all surfaces specified to receive the coating and notify Owner, in writing, of any noticeable disparity in the site, structure or surfaces which may interfere with the work, use of materials or procedures as specified herein.

3.02 SURFACE PREPARATION

- A. Oils, grease, incompatible existing coatings, waxes, form release, curing compounds, efflorescence, sealers, salts or other contaminants which may affect the performance and adhesion of the coating to the substrate shall be removed.
- B. Concrete and/or mortar damaged by corrosion, chemical attack or other means of degradation shall be removed so that only sound substrate remains.

- C. Choice of surface preparation method(s) should be based upon the condition of the structure and concrete or masonry surface, potential contaminants present, access to perform work, and required cleanliness and profile of the prepared surface to receive the coating product(s).
- D. Surface preparation method, or combination of methods, that may be used include high pressure water cleaning, high pressure water jetting, abrasive blasting, shotblasting, grinding, scarifying, detergent water cleaning, hot water blasting and others described in NACE no. 6/SSPC SP-13. Whichever method(s) are used, they shall be performed in a manner that provides uniform, sound clean neutralized surfaces suitable for topcoating with the coating product(s).
- E. Infiltration shall be stopped by using a material which is compatible with the repair products and is suitable for topcoating with the coating product(s).
- F. Termination points of the coating product(s) shall be made at the bottom of the manhole frame, a minimum of 1" interfacing with each pipe penetration. The manhole frame and casting shall not be coated.

3.03 APPLICATION OF REPAIR AND RESURFACING PRODUCTS

- A. Areas where rebar has been exposed and is corroded shall be first prepared in accordance with these specifications. The exposed rebar shall then be abrasive blasted and coated with coating product specified.
- B. Repair products shall be used to fill voids, bugoles, and other surface defects which may affect the performance or adhesion of the coating product(s).
- C. Resurfacing products shall be used to repair, smooth or rebuild surfaces with rough profiles to provide a concrete or masonry substrate suitable for the coating product(s) to be applied. These products shall be installed to minimum thickness as recommended within manufacturers published guidelines.
- D. Repair and resurfacing products shall be handled, mixed, installed and cured in accordance with manufacturer guidelines.
- E. All repaired or resurfaces shall be inspected for cleanliness and suitability to receive the coating product(s). Additional surface preparation may be required prior to coating application.

3.04 APPLICATION OF COATING PRODUCT(S)

- A. Application procedures shall conform to the recommendations of the coating product(s) manufacturer, including environmental controls, product handling, mixing, application equipment and methods.
- B. Spray equipment shall be specifically designed to accurately ratio and apply the coating product(s) and shall be in proper working order.
- C. Prepared surfaces shall be coated by spray application of the coating product(s) described herein to a minimum wet film thickness of 175 mils.
- D. Subsequent topcoating or additional coats of the coating product(s) shall occur within the products recoat window. Additional surface preparation procedures will be required if the recoat window is exceeded.
- E. Coating product(s) shall interface with adjoining construction materials throughout the manhole structure to effectively seal and protect concrete of masonry substrates from infiltration and attack by corrosive elements. Procedures and materials necessary to effect this interface shall be as recommended by the coating product(s) manufacturer.
- F. Termination points of the coating product(s) shall be made at the bottom of the manhole frame, and a minimum of 1" interfacing with each pipe penetration. The manhole frame and casting shall not be coated.
- G. Manhole inverts shall be coated.
- H. Sewage flow shall be stopped, bypassed or diverted for application of the coating product(s) to the invert and interface with pipe material.

3.05 TESTING AND INSPECTION

- A. During application a wet film thickness gauge, meeting ASTM D4414-Standard Practice for Measurement of Wet Film Thickness of Organic Coatings by Notched Gages, shall be used. Measurements shall be taken, documented and attested to by Contractor for submission to Owner.

- B. After the coating product(s) have set in accordance with manufacturer instructions, all surfaces shall be inspected for holidays with high voltage holiday detection equipment. Reference NACE RPO 188-89 for performing holiday detection. All detected holidays shall be marked and repaired by abrading the coating surface with grit disk paper or other hand tooling method. After abrading and cleaning, addition coating can be hand applied to the repair area. All touch-up/repair procedures shall follow the coating manufacturer's recommendations. Documentation on areas tested, results and repairs made shall be provided to Owner by Contractor.
- C. Visual inspection shall be made by the project Engineer and/or Inspector. Any deficiencies in the finished coating shall be marked and repaired according to the procedures set forth herein by Contractor.
- D. The municipal sewer system may be returned to full operational service as soon as the final inspection has taken place.

END OF SECTION

SECTION 02650

PREPARATORY CLEANING

PART 1 GENERAL

1.01 REQUIREMENTS

- A. This section covers the preparatory cleaning of sewer lines and manholes as needed prior to the internal survey of the sewer lines by closed-circuit television. It also includes preparatory cleaning and root removal of sewer lines and cleaning of manholes prior to rehabilitation. The Contractor shall furnish all necessary material, labor, equipment and services required for cleaning the specific sewer lines.

1.02 GENERAL

- A. Sewer Line Cleaning: The intent of sewer line cleaning is to remove foreign materials from the lines and restore the sewer to a minimum of 95% of the original carrying capacity or as required for proper installation of the cured-in-place pipe liner. Since the success of other phases of work depends a great deal on the cleanliness of the lines, the importance of this phase of the operation is emphasized. Sewer Line Cleaning must be performed no more than 48 hours prior to lining the sewer pipe. It is recognized that there are some conditions such as broken pipe and major blockages that prevent cleaning from being accomplished or where additional damage would result where cleaning were attempted or continued. Should such conditions be encountered and approved by Project Manager, the Contractor will not be required to clean those specific sewer sections.
- B. Manhole Cleaning: All concrete and masonry surfaces must be cleaned prior to repair. Grease, loose bricks, mortar, unsound concrete, and other materials must be completely removed. Water blasting (minimum 5,000 psi) utilizing proper nozzles shall be the primary method of cleaning; however, other methods such as concrete cleaners, degreasers or mechanical means may be required to properly clean the surface. Surfaces on which the other methods are used shall be thoroughly rinsed, scrubbed and neutralized to remove cleaning agents and their reactant products.

1.03 HYDRAULIC CLEANING EQUIPMENT

- A. Hydraulically Propelled Equipment: The equipment used shall be of a movable dam type and be constructed in such a way that a portion of the dam may be collapsed at any time during the cleaning operation to protect against flooding of the sewer. The movable dam shall be equal in diameter to the pipe being cleaned and shall provide a flexible scraper around the outer periphery to insure removal of grease. If sewer cleaning balls or other equipment which cannot be collapsed is used, special precautions to prevent flooding of the sewers and public or private property shall be taken.

- B. High Velocity Jet (Hydrocleaning) Equipment: All high velocity sewer cleaning equipment shall be constructed for ease and safety of operation. The equipment shall have a selection of two or more high-velocity nozzles. The nozzles shall be capable of producing a scouring action from 15 to 45 degrees in all size lines designed to be cleaned. Equipment shall also include a high-velocity gun for washing and scouring manhole walls and floor. The gun shall be capable of producing flows from a fine spray to a solid stream. The equipment shall carry its own water tank, auxiliary engines, pumps and hydraulically driven hose reel.

- C. Mechanically Powered Equipment: Bucket machines shall be in pairs with sufficient power to perform the work in an efficient manner. Machines shall be belt-operated or have an overload device. Machines with direct drive that could cause damage to the pipe will not be allowed. A power rodding machine shall be either a sectional or continuous rod type capable of holding a minimum of 750 feet of rod. The rod shall be specifically heat-treated steel. To insure safe operation, the machine shall be fully enclosed and have an automatic safety clutch or relief valve.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

- A. The designated sewer manhole sections shall be cleaned using hydraulically propelled, high-velocity jet or mechanically powered equipment according to the recommended Specification for Sewer Collection System Rehabilitation reference in ASTM 1216-09. The equipment shall be capable of removing dirt, grease, rocks and sand, and other materials and obstructions from the sewer lines and manhole and cleaning again attempted. Cleaning shall not occur until all root removal and treatment activities have been accomplished as specified.

3.02 CLEANING PRECAUTIONS

- A. During all cleaning and preparation operations, all necessary precautions shall be taken to protect the sewer from damage. During these operations, precautions shall also be taken to insure that no damage or back up is caused to public or private property adjacent to or served by the sewer or its branches.
- B. When possible, the flow of sewage in the sewer shall be utilized to provide the necessary pressure for hydraulic cleaning devices. When additional water from fire hydrants is necessary to avoid delay in normal work procedures, the water shall be conserved and not used unnecessarily. No fire hydrant shall be obstructed in case of a fire in the area served by the hydrant.

3.03 MATERIAL REMOVAL

- A. All sludge, dirt, sand, rocks, grout, and other solid or semisolid material resulting from the cleaning operation shall be removed at the downstream manhole of the section being cleaned. Passing material from manhole section to manhole section which could cause line stoppages, accumulations of sand in wet wells or damage pumping equipment shall not be permitted.
- B. Roots shall be removed where root intrusion is a problem. Special attention shall be used during the cleaning operation to assure as complete a removal of roots from the joints. Procedures may include the use of mechanical equipment such as rodding machines, winches using root cutters and equipment such as high-velocity jet cleaners.
- C. Under no circumstances shall sludge or other debris removed during these operations be dumped or spilled into the streets, ditches, storm drains or other sanitary sewers.
- D. The Contractor is advised that he shall not dispose of this material by legal or illegal dumping on private or public property, by sale to others or any means other than those stated herein. Any load of material or any portion thereof, disposed of in a non-permitted fashion will result in a charge to the Contractor in the amount of \$5,000.00 per load, or any portion thereof, which sum will be deducted by the Owner from any money due to the Contractor.

- E. The Contractor shall keep his haul route and work area(s) neat and clean and reasonably free of odor, and shall bear all responsibility for the cleanup of any spill which occurs during the transport of cleaning / surface preparation by products and the clean-up of any such material which is authorized by or pursuant to this contract and in accord with applicable law and regulations. The Contractor shall immediately cleanup any such spill or waste. If the Contractor fails to cleanup such spill or waste immediately, the Village shall have the right to cleanup or arrange for its cleanup and may charge to the Contractor all costs including administrative cost and overhead, incurred by the Village in connection with such cleanup. The Village may also charge to the Contractor any costs incurred or penalties imposed on the Village as a result of any spill, dump or discard. Under no circumstances is this material to be discharged into the waterways or any place other than where authorized to do so by the appropriate authority. The term "Contractor", as used in this section shall include the Contractor's subcontractors and other contractors.
- F. The general requirements for vehicles hauling such waste materials are as follows: Transport vehicles must be of type(s) approved for this application by the political jurisdictions involved. General requirements are that the vehicles have watertight bodies, that they be properly equipped and fitted with seals and covers to prohibit material spillage or drainage, and that they be cleaned as often as is necessary to prevent deposit of material on roadways. Vehicles must be loaded within legal weight limits and operated safely within all traffic and speed regulations.
- G. The routes used by the Contractor for the conveyance of the waste material on a regular basis shall be subject to approval by the governing authority having jurisdiction over such routes.

3.04 DISPOSAL OF MATERIALS

- A. All solids or semisolids resulting from the cleaning operations shall be removed from the site and disposed of by the Contractor in a legal and sanitary manner as approved by appropriate authorities at the Contractor's cost.

- B. Copies of records of all disposals shall be furnished to the Owner, indicating disposal site, date, amount and a brief description of material disposed. All materials shall be removed from the site no less often than at the end of each workday. Under no circumstances will the Contractor be allowed to accumulate debris, etc., on the site of work beyond each work day, except in totally enclosed containers, approved by Project Manager.

3.05 ACCEPTANCE OF CLEANING OPERATION

- A. Acceptance of the sewer line cleaning shall be made upon the successful completion of the television survey and shall be to the satisfaction of the Project Manager. If television survey shows the cleaning to be unsatisfactory, the Contractor shall be required to re-clean and re-inspect the sewer line until the cleaning is deemed satisfactory by Project Manager.

END OF SECTION

SECTION 02800

RESTORATION OF SURFACE FEATURES

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

- A. The work includes restoration of driveways, lawn areas, trees and plants, and any other existing areas affected by the utility relocation work. This section includes furnishing equipment, labor and materials, and performing all necessary and incidental operations to perform the required work.
- B. All areas disturbed or damaged during construction shall be restored to conditions existing prior to the work.

1.02 RELATED SECTIONS

- A. Section 01000 – General Requirements

1.04 SUBMITTALS

- A. Certification of quality by producer shall be delivered to Engineer ten days prior to use.
- B. Submit sod certification for grass species and location of sod source.
- C. Submit mix design for asphaltic concrete.
- D. Submit data on joint filter, concrete admixtures, and curing compound.
- E. Submit mix design for Portland cement concrete.

PART 2 PRODUCTS

2.01 SOD

- A. The sod used for restoration shall match the existing in the area. In areas without well-established sod, Argentine Bahia sod shall be used.

- B. The sod shall be sufficiently thick to secure a dense stand of live grass, with a minimum thickness of two inches. The sod shall be live, fresh, and uninjured at the time of planting. It shall be planted as soon as possible after being dug and shall be shaded and kept moist from the time it is dug until it is planted. The sod shall be approved by the Engineer before placing.
- C. The sod shall be a minimum age of 18 months, with root development that will support its own weight without tearing when suspended vertically by holding the upper two corners.

2.02 PLANTS

- A. Existing damaged plants shall be replaced by plants of equal type, quality and size whenever possible. All new plants shall be sound, healthy, vigorous, and free from defects, decay, disfigurement, bark abrasions, plant diseases, insects, and insect eggs/larvae. The new plants shall be approved by the Engineer before placing.
- B. Existing plants may be removed, preserved, and replaced at the Contractor's option. Plants shall be handled by an approved nursery.

2.03 COMMERCIAL FERTILIZER

- A. Commercial fertilizers shall comply with the state fertilizer laws.
- B. The numeral designations for fertilizer indicate the minimum percentages respectively of (1) total nitrogen, (2) available phosphoric acid, and (3) water soluble potash contained in the fertilizer.
- C. The chemical designation of the fertilizer shall be 12-8-8. At least 50 percent of the phosphoric acid shall be from normal super phosphate or an equivalent source that will provide a minimum of two units of sulfur. The amount of sulfur shall be indicated on the quantitative analysis card attached to each bag or other container.

2.04 WATER

- A. The water used in the grassing operations may be obtained from any approved spring, pond, lake, stream, or municipal water system. The water shall be free of excess and harmful chemicals, acids, alkalies, or any substance that might be harmful to plant growth or disruptive to traffic. Salt water shall not be used.

2.05 ASPHALTIC CONCRETE PAVING

- A. Asphaltic concrete for surface and base course applications shall be as specified in Section 331 of the FDOT Standard Specifications.
- B. Primer: In accordance with FDOT Section 300, Prime and Tack Coats of Basis Courses.
- C. Tack Coat: In accordance with FDOT Section 300.
- D. Perform work in accordance with FDOT Section 300.
- E. Pavement markings shall be replaced in their original location, color, and material where disturbed.
- F. All equipment associated with the operations of pavement placement and related work shall be entirely suitable for the applicable operations performed and shall be maintained in good condition.

2.06 PORTLAND CEMENT CONCRETE PAVING AND SIDEWALKS

- A. Portland cement concrete used in the performance of this concrete shall be Type I or Type II with a minimum 28-day compressive strength of 3,000 psi and shall conform to the requirements of Section 345 of the FDOT Standard Specifications.
- B. Form materials shall conform to ACI 301.
- C. Joint filter material shall be per FDOT Section 932.
- D. Reinforcement shall be welded steel and wire fabric: Deformed type, A497.
- E. Concrete materials shall be in accordance with FDOT Section 345 and related sections referenced under Section 345.
- F. Curing compound shall be in accordance with FDOT Section 350.
- G. Pavement markings shall be replaced in their original location, color, and material where disturbed.
- H. All equipment associated with the operations of pavement placement and related work shall be entirely suitable for the applicable operations performed and shall be maintained in good condition.

PART 3 EXECUTION

3.01 LANDSCAPING RESTORATION

- A. Any lawn area affected by the required work shall be restored to a condition equal to or better than the conditions existing before the work.
- B. Where required plants shall be adequately balled with firm natural balls of soil, sized as set forth in "Grades and Standards." Balls shall be firmly wrapped with burlap or equally approved strong cloth. No balled plant will be planted if the ball is cracked or broken before or during the process of planting.

3.02 SOD PLACEMENT

- A. The areas over which the sod is to be placed shall be scarified or loosened to suitable depth. On areas where the soil is sufficiently loose, particularly on shoulders and fill slopes, the Engineer may, at his discretion, authorize the elimination of the ground preparation.
- B. Contractor shall, at his expense, maintain the planted areas in a satisfactory condition until final acceptance of the project. Such maintenance shall include watering, filling, leveling, and repairing of any washed or eroded areas as necessary.

3.03 PAVEMENT REPLACEMENT

- A. Asphalt pavement shall be removed by saw cutting on a straight line with edges as vertical as possible. Concrete pavement or asphalt surfaced concrete shall be removed by cutting with a concrete saw in as straight a line and as vertically as possible.
- B. When placing the aggregate base course:
 - 1. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and recompacting.
 - 2. Place aggregate in maximum six inch layers and compact to 98% AASHTO T180.
 - 3. Add small quantities of fine aggregate as appropriate to assist compaction.

4. Add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.
 5. Use mechanical tamping equipment in areas inaccessible to compaction equipment.
 6. The following tolerances for the aggregate base course shall be maintained.
 - a. Flatness: maximum variation of 1/4 inch measured with 10 foot (3m) straight edge.
 - b. Scheduled compacted thickness: within 1/4 inch.
- C. When placing asphaltic concrete paving:
1. Verify that compacted granular base is dry and ready to support paving and imposed loads.
 2. Verify gradients and elevations of base are correct.
 3. Apply primer in accordance with FDOT Section 300.
 4. Apply tack coat in accordance with FDOT Section 300.
 5. Install Work in accordance with FDOT standards.
 6. Place asphalt within 24 hours of applying primer or tack coat.
 7. Compact pavement by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.
 8. Perform rolling with consecutive passes to achieve even and smooth finish without roller marks.
 9. All existing pavement edges shall be saw cut prior to placing new abutting asphalt pavement.
 10. The following tolerances for the asphaltic concrete paving shall be maintained.

- a) Flatness: maximum variation of 1/4 inch measured with 10 foot (3m) straight edge.
- b) Scheduled compacted thickness: within 1/4 inch.
- c) Variation from true elevation: within 1/4 inch.

D. When placing Portland cement concrete paving and sidewalks:

1. Verify compacted subgrade is acceptable and ready to support paving and imposed loads.
2. Verify gradients and elevations of base are correct.
3. Prepare subbase in accordance with FDOT Section 350 Compact Subgrade to 100% maximum density AASHTO T-99.
4. Moisten subgrade to minimize absorption of water from fresh concrete.
5. Notify Engineer at least 24 hours prior to commencement of concrete operations.
6. Place and secure forms to correct locations, dimension, profile, and gradient.
7. Place joint filler vertical in position, in straight lines. Secure to formwork during concrete placement.
8. Place reinforcement at bottom of slabs-on-grade, 2" clear.
9. Place concrete in accordance with FDOT Section 350.
10. Place joint filler between paving components and building or other appurtenances.
12. Sidewalk paving: Broom finished with even, dustless surface.
13. Immediately after placement, protect pavement from premature drying, excessive hot or cold temperatures, and mechanical injury.

3.04 CURB REMOVAL AND REPLACEMENT

- A. Curb removal and replacement required in the construction of this work shall be done by the Contractor. Reasonable care shall be exercised in removing the curb, and the Contractor shall either stockpile or dispose of this material as directed by the Engineer. Curb shall be replaced of like material in a manner and condition equal to or better than that existing at the time of removal. Materials and methods of replacing state highway sidewalks or curbs shall conform to the FDOT Standard Specifications.

3.05 CONCRETE SIDEWALK

- A. Concrete sidewalk shall be removed by saw cutting on a straight line with edges as vertical as possible. The new sidewalk segments shall match the existing sidewalk as to width, thickness, and elevation and have a medium broom finish.
- B. Expansion joints between the sidewalk and the curb or driveway or at fixed objects and sidewalk intersections shall be 1/2-inch joints formed with a preformed joint filler.

END OF SECTION

**SANITARY SEWER REHABILITATION PROGRAM
NORTH BAY VILLAGE**

BID No. NBV 2015-001

Appendix A

1. Miami-Dade Water and Sewer Department (WASD) Specifications for reference:
 1. Section UC-250 Gravity Sewer Systems
 2. Section UC-310 Gravity Sewer Service Laterals
 3. Section UC-320 Sewerage Bypass Pumping and Flow Control
2. WASD Details for reference:
 4. SS 1.0, 1 of 2 Gravity Sewer Service Lateral for “Shallow” Sewer
 5. SS 1.0, 2 of 2 Gravity Sewer Service Lateral for “Deep” Sewer
 6. SS 3.1 Wye Branch Connection
 7. SS 4.0, 1 of 2 Type “A” Manhole Frame and Cover
 8. SS 4.0, 2 of 2 Type “A” Manhole Frame and Cover
 9. SS 6.0, 1 of 3 Standard Manhole
 10. SS 6.0, 2 of 3 Standard Manhole
 11. SS 6.0, 3 of 3 Standard Manhole
 12. SS 6.1 Standard Manhole Flow Channels
 13. SS 6.2 New Connection to Existing Manhole
 14. SS 7.0 Shallow Manhole
 15. SS 18.0, 1 of 3 Typical Trench Construction, V.C. and DIP Sewer
 16. SS 18.0, 2 of 3 Typical Trench Construction, V.C. and PVC Sewer
 17. SS 18.0, 3 of 3 Typical Trench Construction, Unstable Soils

18. SS 22.1, 1 of 2 Sanitary Sewer Clean-out Lid
19. SS 22.1, 2 of 2 Sanitary Sewer Clean-out Box

SECTION UC-250**GRAVITY SEWER SYSTEMS****PART 1 - GENERAL**

1.01 SCOPE

- A. These Specifications shall govern the design, materials and installation requirements of the Department for gravity sanitary sewer systems constructed in its service area when using Poly (Vinyl Chloride)(PVC) pipe and fittings, Vitrified Clay (V.C.) pipe and fittings or Ductile Iron pipe and fittings. "PVC" shall mean Poly (Vinyl Chloride) as it relates to pipe and fittings.
- B. This Specification does not purport to cover all material or installation procedures which may be required, whether by the nature of the proposed work, or by the Department, or by other regulatory agencies.
- C. It is intent of the Department to obtain a complete and working installation under this project, and any items of labor, equipment or materials which may reasonably be assumed as necessary to accomplish this end shall be supplied whether or not they are specifically shown on the Plans or stated herein.

1.02 QUALITY ASSURANCE

- A. All material and installation shall be in accordance with the Department's Design and Construction Standard Specifications and Details.
- B. The material and installation for this project shall be in full compliance with all applicable standards listed in Section 01090, " Reference Standards"

1.03 DEFINITIONS

See Section 01005, "Defined Terms"

1.04 PROJECT APPROVAL

The approval of the Department shall be secured, in accordance with Section 17005, prior to any construction related activity.

1.05 SPECIAL CONDITIONS

The work shall proceed in accordance with the following specification sections, bound herein:

- A. Section 01011 - Site Conditions
- B. Section 01016 - Safety Requirements and Protection of Property
- C. Section 01031 - Grades, Lines and Levels
- D. Section 01100 - Special Project Procedures
- E. Section 01750 - Maintenance of Traffic and Public Streets

1.06 DESIGN REQUIREMENTS

A. GENERAL

1. Gravity sanitary sewer systems shall be designed in accordance with the State of Florida Department of Environmental Protection (DEP) Rules, Chapter 62-604 for Wastewater Facilities, with OSHA requirements and with the "Florida State Board Health Sewage Guide" and the recommendations of Chapter 12 of the ASCE Manual No. 37, "Sewer Design and Construction", except as otherwise provided herein. Wet wells and manholes shall be classified as hazardous areas, Class 1, Division 2, Group C.
2. In addition, systems shall be designed in accordance with the requirements of the Miami-Dade County Department of Environmental Resource Management (DERM), the requirements of the latest edition of the South Florida Building Code and the Miami-Dade Water and Sewer Department Standards and Specifications.
3. The use of PVC pipe or AWWA C900 PVC pipe within a public water supply wellfield cone of influence or in areas zoned industrial or commercial shall be as stated under "Tightness Standards" in Section UC-370.
4. Manhole to manhole runs shall be kept in the range of no more than 400 feet without permission.
5. Slope shall be such as to maintain two feet per second minimum velocity when running full or half full when calculated using the Manning Equation with a roughness coefficient of .013.
6. Minimum slope for terminal runs shall be 0.40 percent for eight inch pipe. This slope shall be maintained for a minimum of 300 feet and longer if loading is abnormally light.
7. Design shall be performed by experienced personnel who have previously designed sewerage collection systems in Miami-Dade County. Proof of experience shall be provided if required by the Department. All design work submitted for approval shall be signed, sealed and dated by a registered professional engineer licenced to practice in the State of Florida.
8. The Department reserves the right request complete design calculations, which shall be submitted and shall be in a format easily read.
9. Design shall be conservative with sufficient peaking and infiltration factors included. Absolute minimum slopes shall not be used since minor field construction variations will reduce slopes and give actual velocity of less than two feet per second.
10. The Department reserves the absolute right to require greater slopes, higher peaking or infiltration factors if this is considered necessary upon review of design. The design/build firm shall conform with any such requirements and supply said design and construct same at no extra cost to the County.
11. The use of PVC pipe and fittings will only be permitted for gravity sanitary sewers (and service laterals) 15-inches in diameter and smaller.

1.07 PERMITS, INSPECTIONS AND FEES

- A. The Contractor shall obtain and pay for all permits, official inspections and all other fees in accordance with Section 01740, "Permits".
- B. Inspection by Department personnel is required in addition to, not in lieu of, municipal and County department inspections (if any).
- C. No installation will be accepted until it has passed all inspections, including pavement installation or replacement.

1.08 PRECONSTRUCTION CONFERENCE

Prior to commencement of the work, the Contractor shall attend a "Preconstruction Conference" in accordance with Section 01150, "Preconstruction Conference".

1.09 SUBMITTALS

- A. The Contractor shall furnish "As-Builts" in accordance with Section 01725. Project Record Documents shall be submitted in accordance with Section 01720. The Contractor shall submit operating and maintenance instructions and all other submittals in accordance with Section 01730.
- B. Where the Specifications require test certification or certification that certain products or material furnished are as specified, the Contractor shall deliver such certification to the Department. No material or equipment shall be approved for use in the work until individual certification has been received.

1.10 SAFETY REQUIREMENTS

- A. The Contractor shall be in compliance with all applicable provisions of the Occupational Safety and Health Act of 1970, in general, and any subsequent amendments and revisions thereto and specifically to the provisions concerning confined space entry.
- B. The Contractor's personnel will be in the vicinity of raw sewage. For his own protection, as well as for his employees, he shall check with Metropolitan Dade County Health Department, and based upon their recommendation, shall have his personnel properly immunized against disease.
- C. Under this project, personnel may be required to enter the existing manholes/sewers to perform certain items of work. Before entering, the Contractor shall be in compliance with Dade County Manhole Ordinance No. 83-3 (which mandates, in part, that above-ground safety personnel shall be on duty at all times when someone enters or works in a manhole/sewer and the air within a manhole / sewer shall be tested with a combination oxygen deficiency meter-explosion meter to determine oxygen content and explosion potential). A test for the presence of hydrogen sulfide shall also be performed. The work area must be ventilated mechanically by the use of an air blower, before entry and during occupancy, to insure that an adequate quantity of oxygen is supplied to the work area.

- D. The Contractor shall conduct his operations in such a manner, utilizing warning devices such as traffic cones, barricades and warning lights, and personnel such as flagmen and uniformed police officers, that the public is given adequate warning of hazards of the work site as may be deemed necessary by the authority having jurisdiction and/or the Department. See Section 01750, "Maintenance of Traffic and Public Streets."
- E. In the instance of men working within the manholes, the Contractor shall provide safety provisions to cover any possible consequences of structural failure and/or flooding. Such provisions might take the form of, but not be limited to, ladders in position to permit rapid egress; safety harnesses ; stand-by pumping equipment; extra air supplies; and such other measures as the situation and good construction practices might indicate.
- F. Certain products specified in these Specifications contain warnings by the manufacturers that under certain conditions, if instructions for use of the product are not followed, a hazardous condition may exist. It is the Contractor's responsibility to instruct his workmen in the safe use of the product, or any product substitution.

PART 2 - PRODUCTS

2.01 GENERAL

- A. All material for use in the Project shall be new and of recent domestic manufacture and shall be the products of reliable manufacturers or suppliers who, unless otherwise specified, have been regularly engaged in the manufacture of such materials and equipment for at least five (5) years.
- B. All fittings and components shall, wherever possible, be standard stock articles of well known manufacturers.
- C. Where the Specifications designate the products of a particular manufacturer, the product specified has been found suitable for the intended use, but, unless otherwise provided, articles or products of similar characteristics may be offered for the approval of the Department, upon approval by the Engineer of Record.
- D. Copies of complete descriptive data shall be furnished regarding all material, consisting of dimension drawings, catalog references and other information necessary to clearly identify each article.
- E. When substitutions are permitted, the Contractor shall make all necessary changes in adjacent or connected structures and equipment, at his expense
- F. Unless otherwise specified, all steel bolts, nuts, washers and all other miscellaneous ferrous metal items (except cast iron) furnished by the Contractor shall be hot-dip galvanized in accordance with ASTM A386, "Zinc Coating (Hot-Dip) on Assembled Steel Products" and ASTM A385, Providing High-Quality Zinc Coatings (Hot-Dip)". Where the word "galvanized" or its abbreviation is used on the Plans or in the Specifications, it shall mean hot-dip galvanized. Fabricated items shall be hot-dip galvanized after fabrication. Internal threads shall be tapped or re-tapped after galvanizing.

- G. Where miscellaneous materials are required for a complete installation the Contractor shall provide such materials in conformance with Section 15065, "Miscellaneous Material".
- H. See Section 01100 for water used in construction.

2.02 CASTINGS

A. GENERAL

1. Material used in the manufacture of the castings shall conform to ASTM A48, "Gray Iron Castings", for Class 30 iron. Manhole and valve box covers shall have a roadway or pedestrian type surface as required by location, and shall be non-rocking.
2. Castings shall be in compliance with Section 05550. Castings shall be as manufactured by U.S.F. Fabrication, Inc., Neenah Foundry, or approved equal.
3. Castings shall be delivered unpainted with a shotblasted finish.

B. MANHOLE FRAMES AND COVERS

Manhole covers and frames shall be Department Type "A" U.S.F.&F No. 310 as manufactured by U.S.F. Fabricating, Inc., Hialeah, Florida, or approved equal. The covers shall be cast labeled "SANITARY SEWER".

2.03 BRICK

- A. Clay Brick: Bricks for manhole construction shall be dense, hard burned, common clay brick conforming to ASTM Standard C62, "Building Brick (Solid Masonry Units made from Clay or Shale)".
- B. Concrete Brick: Concrete bricks shall conform to ASTM Standard C55, "Concrete Building Brick".
- C. All bricks shall have true edges and sharp corners and shall have been cured for at least 14 days before being placed.

2.04 CONCRETE, MORTAR AND GROUT

See Section 17033, " Concrete, Mortar and Grout (Short)"

2.05 EMBEDMENT MATERIAL

Embedment material, for bedding, haunching and initial backfill, shall conform with the requirements of Section UC-300 "Gravity Sewer Pipe Foundation".

2.06 MANHOLE

- A. Shallow manholes shall be constructed of brick or precast concrete. All other manholes shall be constructed of precast concrete. See Section 02536, "Precast Manholes & Covers"

- B. Castings for manhole frames, covers and other items shall conform to Subsection 2.02, above. Casting patterns shall conform to those designated in the Miami-Dade Water and Sewer Standard Details.
- C. Concrete shall conform to Section 17033.
- D. Brick for manhole construction shall be clay brick, in accordance with Subsection 2.03, above.
- E. Cement mortar for manhole construction shall conform to Section 17033. It shall be mixed dry and then wetted to proper consistency for use. No mortars that have stood for more than one hour shall be used. Brick manholes shall be coated with 3/4-inch thickness of mortar both inside and outside.
- F. The invert channels shall be formed of brick or brick rubble thoroughly bedded and covered with sand-cement grout, accurately shaped to a semicircular bottom conforming to the inside of the adjacent sewer section. Steep slopes outside the invert channels shall be avoided. Changes in size and grade shall be made gradually and evenly. Changes in the direction of the sewer or entering branch shall be a smooth curve with radius as long as practical.
- G. Frames and covers shall be set accurately to grade with a minimum of 3 and a maximum of 5 courses of brick provided as a leveling course. It shall be the Contractor's responsibility to assure that the frames and covers are set to match existing and/or proposed finish paving grades at the manhole locations.
- H. For PVC Sewers:
 - 1. The first joint at both influent and effluent sewers at each manhole, including service laterals, shall consist of an approved manhole coupling grouted into the manhole wall, and providing a continuous watertight elastomeric gasket seal between the coupling and the pipe inserted therein. The coupling shall have an increasing tapered interior from the gasket groove to allow flexibility for the pipe in the event of future settlement of the manhole or pipeline.
 - 2. The first length of PVC pipe into or out of the manhole shall be 2-feet long, maximum, and shall be either plain-end by plain-end, or plain-end by bell. In the first option, the next joint shall be a double bell PVC repair coupling (no stop) with a maximum 1-inch gap between the pipes inserted therein. In the latter option, the next joint shall be another 2-foot long section, maximum, of plain-end by bell PVC pipe.
- I. For Ductile Iron and Vitrified Clay Sewers

The first length of pipe into or out of the manhole shall be a 2-foot length of plain end by plain end ductile iron pipe (i.e. 2' as measured from the outside wall) grouted directly into the opening in the manhole wall. This P.E. X P.E. short shall be joined to the spigot end of an adjacent ductile iron sewer main by use of a ductile iron solid sleeve. In the instance of a vitrified clay main, the ductile iron P.E. X P.E. short manhole stub out shall be joined to the V.C. spigot by use of a double hub connector for vitrified clay pipe. Note that C-900 PVC repair couplings shall not be used in ductile iron or vitrified clay mains.

- J. Where shown on the drawings, the Contractor shall provide stub-outs for future extensions. Both ends of all such stubouts shall be closed with specified PVC plugs.
- K. Precast manholes shall conform to Section 02536, "Precast Manholes & Covers". In precast concrete manholes, holes for sewer line connections, with a diameter equal to the outside diameter of the connecting sewer plus an additional four inches (4"), shall be formed in the manhole walls. No cutting or chipping at pre-formed holes, or cutting additional holes in precast concrete walls will be allowed.
- L. A minimum of three to a maximum of five courses of brick shall be constructed atop each manhole corbel.
- M. Prior to acceptance of manhole, the Contractor shall verify that he has installed required manhole accessories and coating/lining (See Section 02536)

2.07 POLY (VINYL CHLORIDE) PIPE

Pipe for use in gravity sewer systems shall be Vitrified Clay, Ductile Iron with polyethylene or ceramic epoxy (Protecto 401) lined, PVC SDR 35, or AWWA C900, C905 PVC as shown on the plans or called out elsewhere herein. For further information on these types of pipe, see Section 15060, "Piping and Fittings".

2.08 REINFORCING STEEL

- A. Bar reinforcement for concrete structures shall conform to the requirements of ASTM Standard A615 "Deformed and Plain Billet-Steel Bars for Concrete Reinforcement", Grade 60, Deformed, except that steel manufactured by the Bessemer Process will not be accepted. Wire mesh reinforcing for concrete paving or driveway repairs, if required, shall be welded wire fabric meeting the requirements of ASTM Standard A185, "Steel Welded Wire, Fabric, Plain, for Concrete Reinforcement".
- B. The Contractor shall furnish the Department with manufacturer's test certificates showing the steel to meet the above requirements, in addition to which the Department may take representative samples from the material on the job and have them tested by an independent testing laboratory. Completely detailed shop drawings and bending schedules shall be submitted by the Contractor for the approval of the Engineer of Record. Such approval shall be obtained before the bars are cut and bent.

2.09 DUCTILE IRON CASING PIPE

Ductile iron casing pipe shall be ANSI/AWWA Standard C151/A21.51, Class 50, no lining required. Casing pipe shall be one size larger than PVC pipe to be encased, unless otherwise approved.

2.10 DUCTILE IRON SEWER PIPE

- A. Ductile iron sewer pipe shall be ANSI/AWWA Standard C151/A21.51, Class 53 for 6-inch, Class

52 for 8-inch, Class 50 for 10-inch through 15-inch. Ductile iron pipe shall conform to Section 15060.

- B. All ductile iron pipe and fittings 8-inches and larger in diameter for use in force mains and gravity sewers, except riser pipes, shall be delivered with either heat fused virgin polyethylene lining or ceramic epoxy lining (See Section 15060). The only ceramic epoxy material approved by the Department at this time is a high-build multi-component Amine cured Novalac epoxy, Protecto 401, by Vulcan Painters, Inc. of Bessemer, AL 35021.

2.11 MISCELLANEOUS MATERIAL

- A. The Contractor shall furnish and install all miscellaneous material and appurtenances required for a complete installation. Section 15065 specifies material necessary for a complete installation, not specified herein. These material, including the following, shall be installed when required, whether shown on the Plans or not.

1. Paint, Bituminous
2. Caulking Compound
3. Manhole Couplings
4. PVC double bell repair couplings, No-stop (sleeves)
5. PVC double bell transition couplings or adapters PSM SDR-35 PVC Sewer Pipe to ductile-iron or AWWA C900 CI-PVC Pressure pipe.
6. Stainless steel repair clamps, with stainless steel bolts

PART 3 - EXECUTION

3.01 PIPE INSTALLATION, GENERAL

- A. Proper and suitable tools and appliances for the safe convenient handling and laying of pipe shall be used and, in general, conform with manufacturer's recommendations. At the time of laying, the pipe shall be examined carefully for defects, and should any pipe be discovered to be defective after being laid, it shall be removed and replaced with sound pipe by the Contractor at his expense.
- B. Pipe and fittings shall, at all times, be handled with great care to avoid damage. In loading and unloading, they shall be lifted with cranes or hoists or slid or rolled on skidways in such manner as to avoid shock. Under no circumstances shall this material be dropped or allowed to roll or slide against obstructions. Pipe and other material shall be distributed along the right-of-way in advance of installation only to the extent approved by the Department. Such materials shall be so placed as to keep obstruction to traffic minimum.
- C. Upon satisfactory completion of the pipe bedding, a continuous trough for the pipe barrel and recesses for the pipe bells, or couplings, shall be excavated by hand digging. When the pipe is laid in the prepared trench, true to line and grade, the pipe barrel shall receive continuous, uniform support with no pressure being exerted on the pipe joints from the trench bottom.
- D. Pipe shall be installed in accordance with the manufacturer's recommendation. Before being lowered into the trench, the pipes and accessories shall be carefully examined and the interior of

the pipes shall be thoroughly cleaned of all foreign matter and other deleterious materials by methods acceptable to the Department. During suspension of work, for any reason, at any time, a suitable stopper shall be placed in the end of the pipe last laid to prevent mud, dirt, groundwater or other foreign material from entering the pipe. Any pipe which is disturbed or found defective shall be immediately removed and replaced with sound pipe.

- E. Gaskets shall be thoroughly checked for breaks, cuts or other damage, and shall be free of oil, grease, dirt or other foreign matter. Pipe joints shall be assembled with care. Lubricant, if required shall be as recommended by the manufacturer of the pipe, and shall have no deteriorating effects on the gasket and pipe materials. If assembly is under water, lubricant recommended by the manufacturer for underwater use is required.
- F. Good alignment of the pipe is required for assembly. Align the spigot to the bell of the previously laid pipe and insert the spigot into the bell until it uniformly contacts the gasket. Apply steady pressure until the spigot easily slips through the gasket. Do not push or swing the spigot into the bell. Smaller diameter pipe and fitting may be assembled manually. Mechanical means such as bars and blocks, ratchets or jacks shall be used for joining larger pipe and fittings. Power equipment such as a backhoe bucket, shall not be used to assemble pipe and fittings, since excessive force may damage the gasket or bell.
- G. Cutting the pipe in the field shall be done by the Contractor in a neat and workmanlike manner using manual or power saws. The pipe shall be marked around its entire circumference before cutting to assure a square cut. After cutting, the end shall be beveled with a beveling tool, rasp, or other approved equipment, to the proper taper. Mark the proper insertion depth on the cut and beveled end before installing the cut pipe into the pipeline. Pipe laying shall proceed up-grade from the lowest point of the proposed system, with spigot ends pointing in the direction of flow.
- H. All pipe shall be laid straight, true to the lines and grades shown on the Plans, or matching existing grade, in each section between manholes. The pipe shall be laid so that the identification markings are located on the top of the installed pipelines.
- I. Each individual length of pipe shall be solidly and evenly bedded and haunched throughout its length on a prepared bed on the floor of the trench and not supported in position on blocks or wedges. Pipe shall only be laid when the two preceding lengths have been thoroughly embedded in place to prevent any movement or disturbance of the finished joint. Any pipe which is disturbed or found to be defective after laying shall be taken up and relaid or replaced.
- J. Any work within the pipe and fittings shall be performed with care to prevent damage to the interior wall of the pipe. Damaged interior walls shall be repaired or the pipe section or fitting replaced as required by the Department. No cables, lifting arms, hooks or other devices shall be inserted into the pipe or fitting. All lifting, pulling or pushing mechanisms shall be applied to the exterior of the pipe or fitting.
- K. After pipe has been laid, reviewed and found satisfactory, sufficient backfill shall be placed along the pipe barrel to hold the pipe securely in place during the conduction of the required tests.

3.02 INSTALLATION OF DUCTILE IRON AND VITRIFIED CLAY PIPE

- A. Installation of gravity sewers shall conform to the applicable requirements of ANSI/AWWA Standard C600-93, "Installation of Ductile Iron Water Mains and Appurtenances".
- B. Cutting of ductile iron pipe for fittings and other connections shall be done by the Contractor in a neat and workmanlike manner without damage to the pipe, the lining, or the coating. Pipe shall be cut with a mechanical pipe saw. After cutting the pipe, the plain ends shall be filed to remove all sharp edges and burrs.

- C. Polyethylene encasement of valves, cast iron pipe and fittings, if required by the Department, shall be installed in accordance with ANSI/AWWA C105/A21.5, "Polyethylene Encasement for Ductile-Iron Piping for Water and Other Liquids" Method A, B or C.
- D. If any difficulty is experienced in assembling lengths of pipe together in the trench, the pipe sections shall be tried on the surface of the ground and each length of pipe plainly marked for position and sequence in which they are to be installed.
- E. Ductile iron solid sleeves shall be used to connect D.I. pipe spigots to existing D.I. manhole stub spigots. Vitrified clay double hub connectors shall be used to connect D.I. manhole stub outs to V.C. pipe spigots.
- F. All bolts, nuts, gaskets or other joint materials for use in the pipeline shall be properly protected.
- G. Gaskets shall be properly stored, and care shall be exercised to keep them away from heat, light, oil, gasoline or other petroleum products. Gaskets shall be kept clean at all times and not handled with greasy or dirty hands.

3.03 INSTALLATION OF POLY VINYL CHLORIDE (PVC) PIPE

- A. Each length of pipe, immediately prior to being placed in position in the trench, shall be inspected, cleaned and prepared for installation. Gaskets shall be thoroughly checked for breaks, cuts or other damage, and shall be free of oil, grease, dirt or other foreign matter. Pipe joints shall be assembled with care. Lubricant, if required, shall be as recommended by the manufacturer of the pipe, and shall have no deteriorating effects on the gasket and pipe materials. If assembly is underwater, lubricant recommended by the manufacturer for underwater use is required. Good alignment of the pipe is required for assembly. Align the spigot to the bell of the previously laid pipe and insert the spigot into the bell until it uniformly contacts the gasket. Apply steady pressure until the spigot easily slips through the gasket. Do not push or swing the spigot into the bell. Small diameter pipe and fittings may be assembled manually. mechanical means such as bars and blocks, ratchets or jacks shall be used for joining larger pipe and fittings. Power equipment, such as backhoe bucket, shall be not be used to assemble pipe and fittings, since excessive force may damage the gasket or bell.
- B. Cutting the pipe in the field shall be done by the Contractor in a neat and workmanlike manner using manual or power saws. The pipe shall be marked around its entire circumference before cutting to assure a square cut. After cutting, the end shall be beveling tool, rasp, or other approved equipment, to the proper taper. Mark the proper insertion depth on the cut and beveled end before installing the cut pipe into the pipeline. Pipe laying shall proceed up-grade from the lowest point of the proposed system, with spigot ends pointing in the direction of flow. All pipe shall be laid straight, true to the lines and matching existing grade, in each section between manholes. The pipe shall be laid so that the identification markings are located on the top of the installed pipelines. At all times when work is not in progress, the exposed ends of all pipes shall be fully protected by an approved stopper to prevent groundwater, dirt, rocks or other substances from entering the pipe.

3.04 PIPE-TO-PIPE CONNECTIONS

Pipe-to-pipe connections shall be made by using solid sleeves for Ductile Iron, double hub

connectors for vitrified clay and double bell couplings for PVC.

3.05 PIPE-TO-PIPE MANHOLE CONNECTIONS

When a sound pipe stub-out exists at a manhole to which connection is to be made, a pipe-to-pipe connection shall be made as described above. If a stub-out is not present or is faulty, an opening shall be cut in the manhole wall and the connection made. The connection shall be constructed as specified above in paragraphs 2.06 H and I with the pipe material/method chosen to match that of the new line. The invert/shelf area inside the manhole shall be cut and reshaped as necessary to construct the new channels in compliance with WASD Standard Details

3.06 GRAVITY SEWER SERVICE LATERALS

See Section UC-310, "Gravity Sewer Service Laterals".

3.07 MODIFICATIONS OF EXISTING MANHOLES

See Section UC-330, "Repairs to Department Sewers"

3.08 EXCAVATION

See Section 02315, "Trenching and Backfilling for Piping Systems"

3.09 SEWER PIPE FOUNDATION

See Section UC-300, "Gravity Sewer Pipe Foundation"

3.10 CLEANING AND TESTING

See Section UC-370, "Cleaning and Testing Gravity Sewers"

3.11 SEWERAGE REMOVAL

See Section UC-290, "Removal of Sanitary Sewerage and Debris"

3.12 SEWAGE FLOW CONTROL

See Section UC-320, "Sewerage Bypass Pumping and Flow Control"

3.13 REPAIR OF DAMAGE TO DEPARTMENT MAINS & SEALING LEAKS

See Section UC-330, "Repairs to Department Sewers"

3.14 DEFLECTION TEST

See Section UC-350, "Sewer Deflection Test"

END OF SECTION

SECTION UC-310**GRAVITY SEWER SERVICE LATERALS****PART 1 - GENERAL****1.01 SCOPE**

The Contractor shall furnish all labor, material, equipment and appurtenances necessary for the installation of gravity sewer service laterals, complete, in accordance with these specifications.

1.02 RELATED SECTIONS

Section 01016 - Safety Requirements and Protection of Property
Section 02315 - Trenching and Backfilling for Piping Systems
Section UC-250 - Gravity Sewer Systems

1.03 QUALITY ASSURANCE

- A. Lateral sewers shall be installed in accordance with all the applicable requirements for pipe installation. Branch fittings shall be installed in the main line sewer as it is constructed, in the locations and configuration of the original laterals or as designated by the Engineer.
- B. All excavations shall be executed in accordance with the South Florida Building Codes, OSHA requirements, the State of Florida Trench Safety Act (TSA), the State of Florida Trench Safety Act (TSA) and all applicable requirements of Section 01016, including notification of the Sunshine State One-Call Center (1-800-432-4770), 48 hours prior to any excavation.

PART 2 - PRODUCTS

See Part 2 of Section UC-250, "Gravity Sewer Systems" & "Tightness Standards" under Section UC-370.

PART 3 - EXECUTION**3.01 INSTALLATION OF LATERALS**

- A. Service laterals shall be installed in accordance with the requirements for gravity main installation. Branch fittings shall be installed in the main line sewer as it is constructed. The branch fittings shall be either a tee set for a modified riser when the top of the sewer is 7 feet or deeper, or a wye set and connected as shown in the Miami-Dade Water and Sewer Department's Standard Details SS 1.0 and 2.0, respectively. In no case shall the branch be covered until its location has been measured and recorded.
- B. Where a service lateral enters a manhole at an elevation of 2 feet or more above the

sewer main invert, a drop connection shall be required.

- C. Each service lateral shall be plugged at the point shown on the Standard Details. Plug shall provide a watertight seal, without the use of adhesives or epoxies, and shall be subject to approval by the Department. In no case shall a service lateral be covered until its exact location is measured and recorded, nor until a two-inch square by two feet long, pressure-treated pine stake, with the top stained or painted green, has been set by the Contractor at the end of the service lateral.
- D. The Contractor shall not excavate trenches for service laterals to both sides of the street at the same time unless written permission has been secured in advance to close the street.

3.02 REMOVAL AND REPLACEMENT OF LATERALS

- A. Excavate in accordance with Section 02315, "Trenching and Backfilling for Piping Systems"
- B. The existing laterals shall be hand excavated to a joint, disassembled, or if necessary saw cut, clean and square and the appropriate adapter installed to connect the replacement lateral. Care shall be taken to maintain the slopes of the existing lateral. The lateral shall be removed and replaced from the main line to a point along the existing lateral determined by the Engineer of Record to be in acceptable condition.
- C. Placement of bedding/cover materials in the trench shall be the same for laterals as provided in Section UC-300, "Gravity Sewers Pipe Foundation".

END OF SECTION

SECTION UC-320**SEWERAGE BYPASS PUMPING AND FLOW CONTROL****PART 1 - GENERAL****1.01 SCOPE**

The Contractor shall furnish and install all labor, material and equipment necessary to control the flow of sewage in accordance with this Section. This Section also contains provisions regarding surcharging sewers and sewage spills.

1.02 SUBMITTAL

The Contractor shall submit complete, detailed plans for this aspect of the work to the MD-WASD for approval.

1.03 SPECIAL PROVISIONS

- A. All applicable requirements in the following specification sections shall apply during execution of the work:

Section 01100 - Special Project Procedures
Section 01750 - Maintenance of Traffic and Public Streets

- B. For projects where twenty-four (24) hour by-pass pumping of sewage is required, the Contractor shall provide personnel for manning and maintenance.
- C. The Contractor shall be completely responsible for conditions at the job site, until acceptance of the project; he shall provide for traffic safety, traffic control and protection of property; and he shall be directly responsible to property owner(s) for any damage, injury, expense, loss, suits, or claims in accordance with Section 01016, "Safety Requirements and Protection of Property".

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION**3.01 BYPASS PUMPING/FLOW CONTROL, GENERAL**

- A. The Contractor shall be prepared to bypass pump the sewage effluent as a part of his operations, if necessary. The Contractor shall provide all necessary pumps, piping, and other equipment to accomplish this task with each mobilized crew and shall be prepared to perform all construction; obtain all permits; pay all costs; and perform complete restoration of all existing facilities to equal or better condition and to the satisfaction of the MD-WASD. Bypass

pumping will occur where high flow rates and insufficient upstream storage capacity make this necessary. All costs of accomplishing the bypass pumping tasks, at whatever volume, and all associated work, such as, for example, construction of intake and discharge points, and restoration, shall be considered as incidental to the work.

- B. When sewer line flows at the upstream manhole of the gravity main being replaced or the pump station wet well are above the maximum allowable requirements for the replacement, the flows shall be reduced to the levels indicated by one of the following methods: manual operation of pumping stations by MD-WASD forces, by the Contractor plugging/blocking of the flows, or by the Contractor pumping/bypassing of the flows all as acceptable to the MD-WASD.
- C. In some applications, the sewer may be plugged and wastewater contained within the capacity of the collection system. This shall only be done when it has been determined that the system can accommodate the surcharging without any adverse impact.
- D. When sewer line flows at the upstream manhole of the line being removed and replaced, in the opinion of the Engineer of Record, are too excessive to plug while the work is being performed; the Contractor shall submit for approval by the MD-WASD, a written plan and pump/bypass the flow.
- E. For all service lateral reestablishment, testing and sealing, the depth of flow within the sewer shall not exceed that shown below for the respective pipe sizes as measured in the manhole.

Maximum Depth of Flow

4-inch - 12-inch Pipe	25 percent of pipe diameter
15-inch - 18-inch Pipe	30 percent of pipe diameter

3.02 PLUGGING AND BLOCKING

A sewer line plug shall be inserted into the line at a manhole upstream from the section being removed and replaced or pump station wet well being re-worked. The plug shall be so designed that all or any portion of the operation flows can be released. During removals and replacement, the flows shall be shut off and monitored or pumped / bypassed, as acceptable to the MD-WASD. After the work tasks have been completed, flows shall be restored to normal.

3.03 PUMPING AND BYPASSING

- A. When pumping / bypassing is required, as approved by the MD-WASD, the Contractor shall supply the necessary pumps, conduits and other equipment to divert the flow of sewage around the sewer section or pump station in which work is to be performed. The bypass system shall be of sufficient capacity to handle existing flows plus additional flow that may occur during periods of rain storms. The Contractor shall be responsible for furnishing the necessary labor and supervision to set up and operate the pumping and bypassing system. A "setup" consists of the necessary pumps (including backup pumps if required), conduits and other equipment to divert the flow of sewage around the pump station or sewer section, from the start to finish of work performed in the pump station or sewer section.
- B. Pumps and equipment shall be continuously monitored by a maintenance person capable of starting, stopping, refueling and maintaining these pumps during the construction. If pumping

is required on a 24-hour basis, engines shall be equipped in a manner to keep noise to a minimum. In the instance of work on a pump station, the Contractor may be required to provide, at his sole expense, a temporary electric service, electrically driven pump(s) and engine driven backup pump(s).

3.04 SURCHARGING SEWERS

- A. Where the raw sewage flow is blocked or plugged, sufficient precautions must be taken to protect the public health. Upstream flow shall be monitored. The sewer lines shall also be protected from damage. The following occurrences will not be allowed:
 - 1. No sewage shall be allowed to back up into any homes or buildings.
 - 2. No sewage shall overflow any manholes, cleanouts or any other access to the sewers.
 - 3. Users upstream of the repair area shall be able to use all their water and sewer utilities without interruption.
- B. If any of the above occur or are expected to occur, the Contractor shall bypass pump to alleviate one or all of the conditions. Additionally, the Contractor is required to observe the conditions upstream of the plug and be prepared to immediately start bypass pumping, if needed.

3.05 PUMP DISCHARGE

Any sump pumps, bypass pumps, trash pumps or any other type pump which pulls sewage/water or any type of material out of the manhole or sewer shall discharge this material into another manhole, or appropriate vehicle or container acceptable to the Engineer of Record. Under no circumstances shall this material be discharged, stored or deposited on the ground, swale, road or open environment.

3.06 MAINTENANCE OF TRAFFIC FOR BYPASS PUMPING

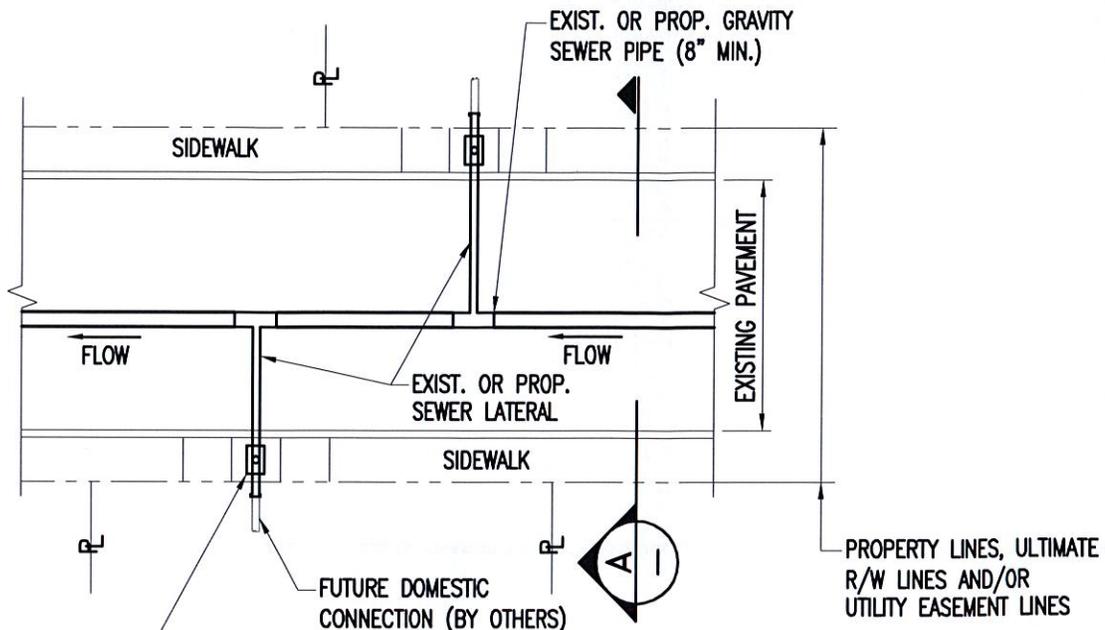
The Contractor shall take appropriate steps to ensure that all pumps, piping and hoses that carry raw sewage are protected from vehicular traffic and pedestrian traffic. Maintenance of traffic shall be performed in accordance with Section 01750, "Maintenance of Traffic and Public Streets"

3.07 SEWAGE SPILLS

- A. In the event, during any form of "Sewage Flow Control," that raw sewage is spilled, discharged, leaked or otherwise deposited in the open environment, due to the Contractor's work, the Contractor is responsible for any cleanup of solids and disinfection of the area affected and liability for any claims. This work shall be performed at the Contractor's expense with no cost to the MD-WASD.
- B. The Contractor is also responsible for notifying the sewer system maintenance personnel and complying with any and all regulatory requirements in regard to the size of spill with no cost to the MD-WASD.

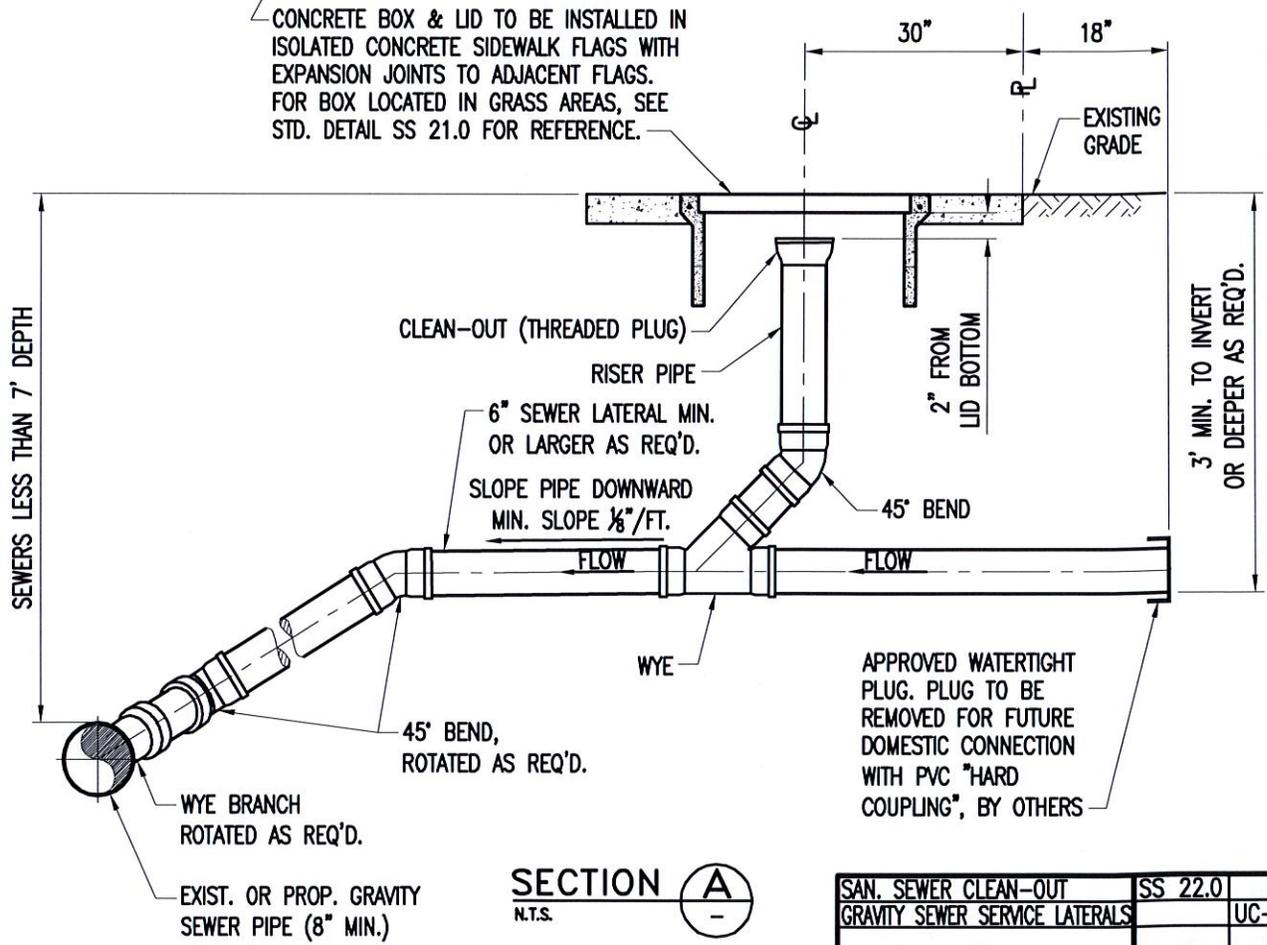
- C. The Contractor shall be backcharged for any fines, penalties or other costs or damages imposed upon the MD-WASD by any agency or private party as a result of a spill or improper discharge by the Contractor.

END OF SECTION



PLAN
N.T.S.

CONCRETE BOX & LID TO BE INSTALLED IN ISOLATED CONCRETE SIDEWALK FLAGS WITH EXPANSION JOINTS TO ADJACENT FLAGS. FOR BOX LOCATED IN GRASS AREAS, SEE STD. DETAIL SS 21.0 FOR REFERENCE.



SECTION A-A
N.T.S.

SAN. SEWER CLEAN-OUT	SS 22.0	
GRAVITY SEWER SERVICE LATERALS		UC-310
ITEM	CROSS REF.	SPEC. REF.



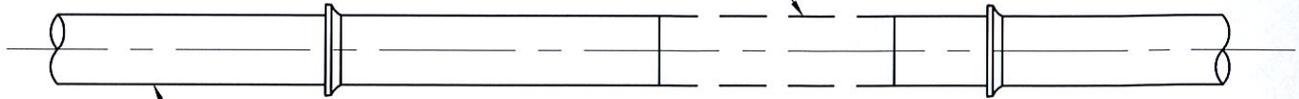
ISSUE DATE	APPROVED BY
08/26/2010	V.F.C.

STANDARD DETAIL
GRAVITY SEWER SERVICE LATERAL
FOR "SHALLOW" SEWERS

SS
1.0
SHEET 1 OF 2

DETAIL FOR CLAY AND P.V.C. PIPE ONLY

CUT AND REMOVE NECESSARY LENGTH
OF EXISTING PIPE FROM SPIGOT END

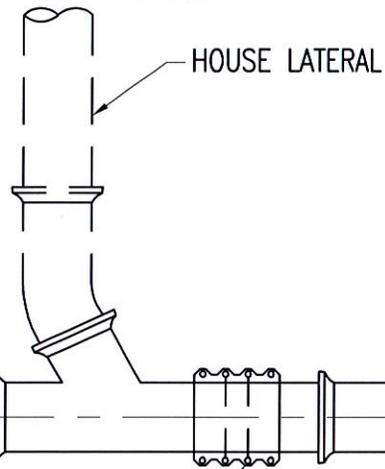


STEP-1

EXISTING MAIN LINE SEWER
WITHIN DEDICATED R/W OR
EASEMENT (MIN. 8")

INSERT SPIGOT END OF EXISTING
MAIN INTO BELL OF NEW "Y" SECTION

MODIFIED MAIN LINE SEWER



STEP-2

SECURE PLAIN ENDS WITH ADJUSTABLE STAINLESS STEEL
REPAIR COUPLING (FOR VCP), DOUBLE BELL P.V.C. REPAIR
COUPLING (FOR P.V.C.), & SOLID SLEEVE (FOR D.I.)

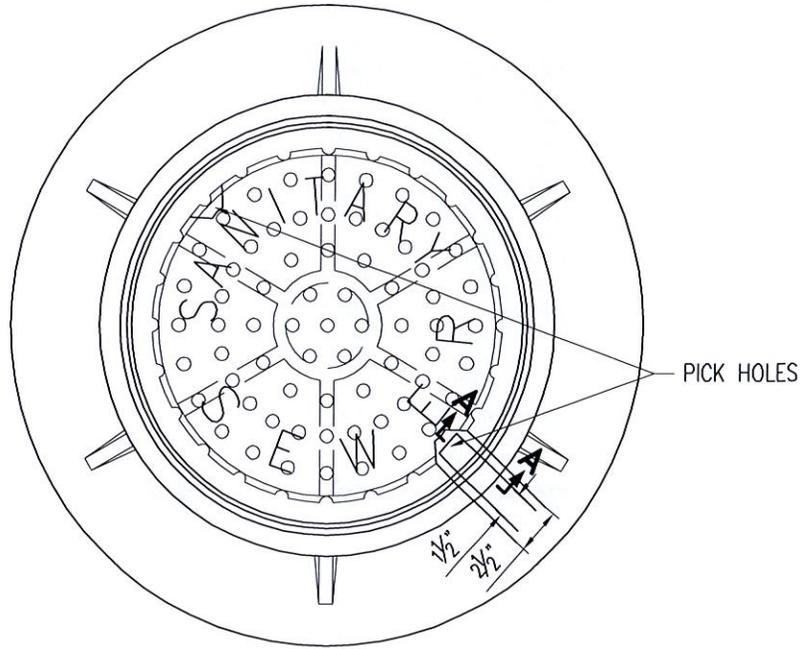
NOTES:

1. LENGTH OF THE REPAIR COUPLING TO BE AT LEAST THE SAME SIZE AS THE DIAMETER OF THE PIPE BEING REPAIRED.
2. NEW LATERALS FOR EXISTING DEEP SEWER MAINS WILL ONLY BE ALLOWED FROM MANHOLES OR AS APPROVED BY THE DEPARTMENT.
3. FOR D.I.P. MAIN CUT IN NEW D.I. TEE OR WYE.

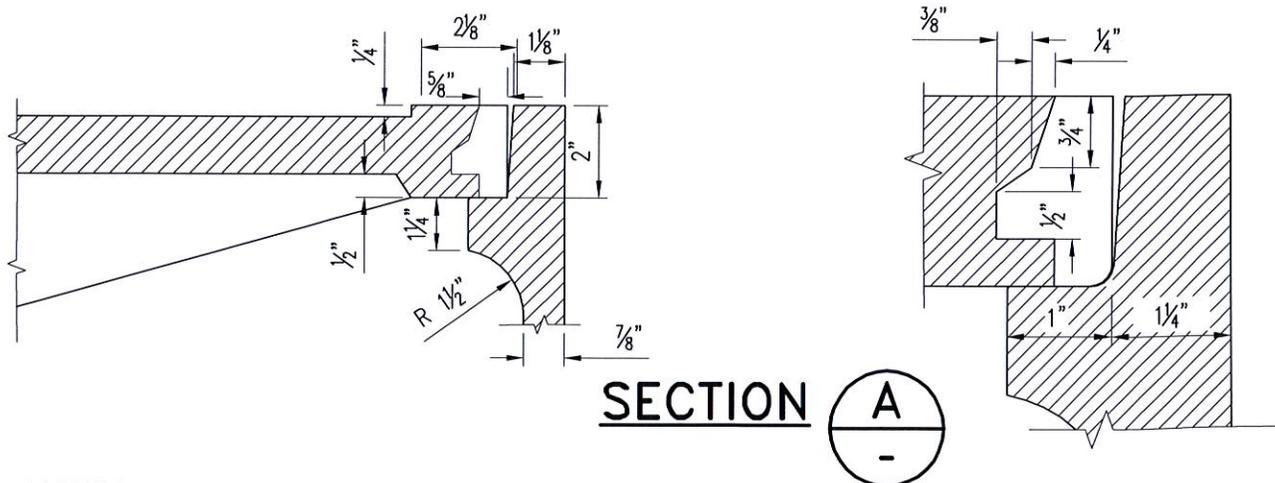
4. WHEN INSTALLING A NEW 'Y' ASSEMBLY TO AN EXISTING CLAY SEWER MAIN, THE MAIN MUST BE TV'D BEFORE AND AFTER INSTALLATION.

WYE BRANCH AND LATERAL	SS 1.0	
I T E M	CROSS REF.	SPEC. REF.

 WATER & SEWER DEPARTMENT	ISSUE DATE	APPROVED BY	STANDARD DETAIL	
	11/17/2009	V.F.C.	WYE BRANCH CONNECTION FOR EXISTING SHALLOW MAIN	SS
				3.1
				SHEET 1 OF 1



PLAN
SCALE: N.T.S.



NOTES:

1. LETTERS ON COVER TO BE ARRANGED WITH A RADIUS OF 6 1/2" TO CENTER OF LETTERS.
2. EACH LETTER TO BE 2" LONG, 3/8" DEEP, 1/4" TO 5/16" THICK, AND FLUSH WITH TOP OF BEADS.
3. BEADS TO BE 3/8" HIGH WITH A RADIUS OF 1/2" AT BOTTOM AND 3/8" AT TOP.
4. ALL BEARING SURFACES TO BE MACHINED (IRON TO IRON).
5. MIN. WEIGHTS
COVER: 168 LBS
FRAME: 365 LBS.

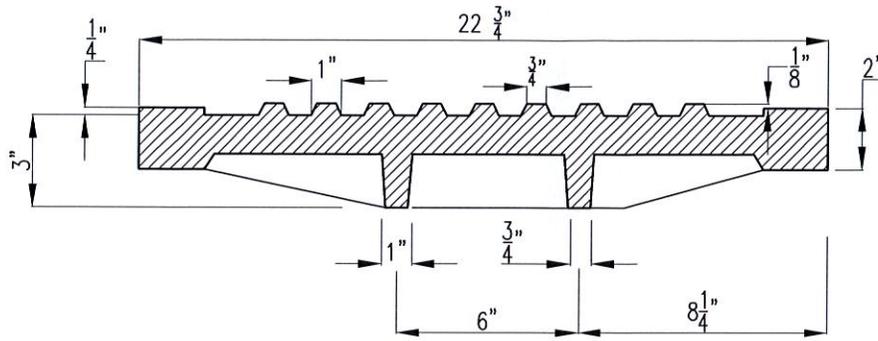
ITEM	CROSS REF.	SPEC. REF.



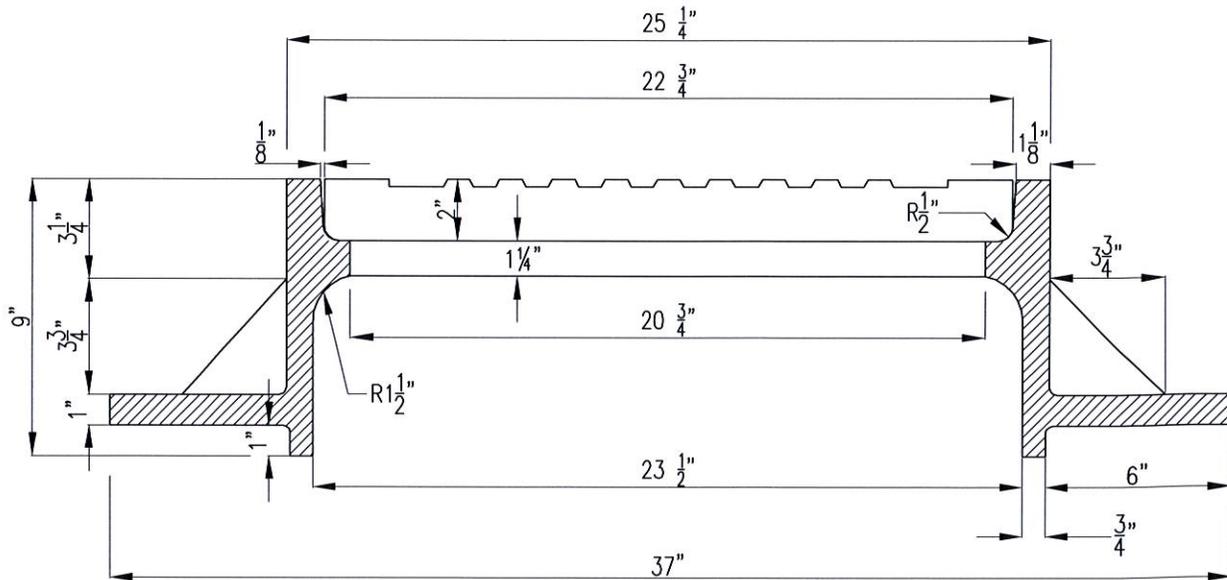
ISSUE DATE	APPROVED BY
06/01/2008	V.F.C.

STANDARD DETAIL
TYPE "A" MANHOLE
COVER & FRAME

SS
4.0
SHEET 1 OF 2



COVER SECTION



FRAME SECTION

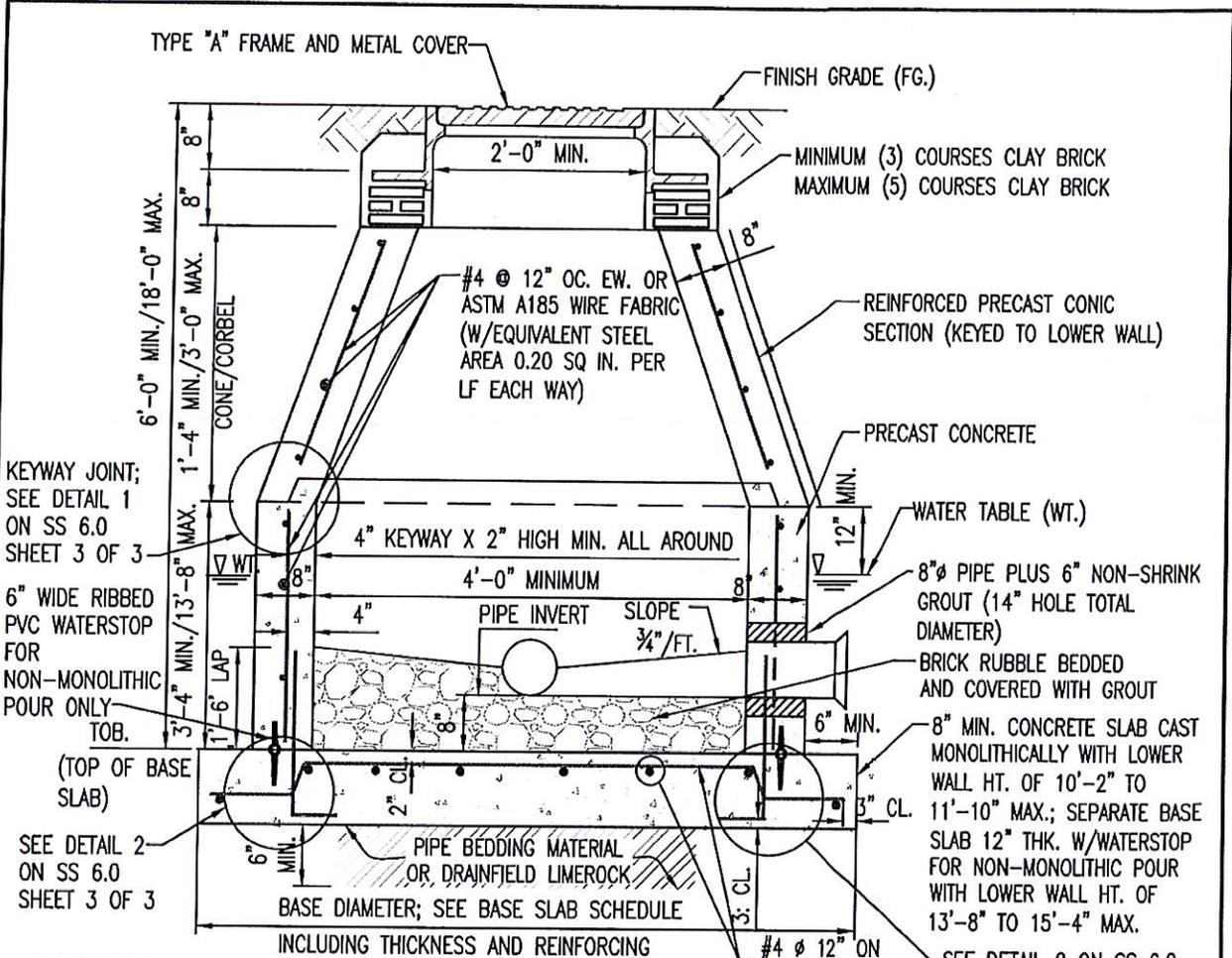
ITEM	CROSS REF.	SPEC. REF.



ISSUE DATE	APPROVED BY
11/01/2006	V.F.C.

STANDARD DETAIL
 TYPE "A" MANHOLE
 COVER & FRAME

SS
 4.0
 SHEET 2 OF 2



NOTES:

1. BRICK MASONRY CONSTRUCTION TO BE STUCCOED WITH 3/4" MORTAR INSIDE AND OUTSIDE.
2. SEE DETAIL SS 7.0 FOR INFLUENT/EFFLUENT ARRANGEMENT.
3. CONCRETE INSIDE TO BE SEAL COATED WITH 16 MIL THICKNESS APPROVED COATING/LINER.
4. LIFT HOLES THROUGH PRECAST STRUCTURE ARE NOT PERMITTED.
5. SEE TECHNICAL SPECIFICATIONS FOR PLACEMENT OF CONSTRUCTION JOINTS & REQUIRED ACCESSORIES.
6. ECCENTRIC CORBELS FOR MANHOLES 8 FEET AND DEEPER (OPTIONAL).
7. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM. ALL OPENINGS SHALL BE SEALED WITH NON-SHRINK GROUT.
8. NO CONSTRUCTION JOINT WILL BE ALLOWED BELOW AN ELEVATION OF FOUR FEET (4.0) ABOVE MEAN SEA LEVEL. CONSTRUCTION JOINTS WILL BE ALLOWED ABOVE ELEVATION +4.0 IF ADEQUATE KEY-WAYS AND WATER STOPS, APPROVED BY THE ENGINEER, ARE PROVIDED. SUBMIT SHOP DRAWINGS WITH COMPLETE DETAILS FOR APPROVAL
9. IF CONSHIELD ANTI-MICROBIAL AGENT IS USED IN THE CONCRETE MIXTURE, INTERIOR COATINGS AND LINERS CAN BE ELIMINATED.
10. FOR BASE SLAB DETAIL, SCHEDULE AND ADDITIONAL NOTES SEE SS 6.0 SHEET 2 OF 3 FOR THE STANDARD MANHOLE
11. SEE SPECIFICATIONS SEC. 03300 AND SEC. 03410 FOR REQUIREMENTS OF CONCRETE, FORMWORK AND REINFORCING
12. FOR ANY DEVIATION FROM MONOLITHIC WALL MAX. HEIGHT AND THE USE OF WATER-STOP, SUBMIT PRECAST MANUF. SHOP DRAWINGS FOR APPROVAL

SHALLOW MANHOLE	SS 7.0	
FLOW PATTERNS	SS 6.1	
MANHOLE COVER	SS 4.0	
ITEM	CROSS REF.	SPEC. REF.

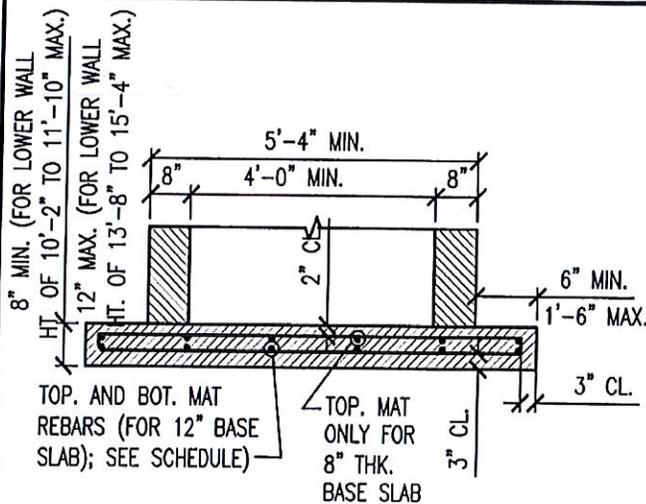


ISSUE DATE	APPROVED BY
9-30-2014	J.B.F.

STANDARD DETAIL

STANDARD MANHOLE

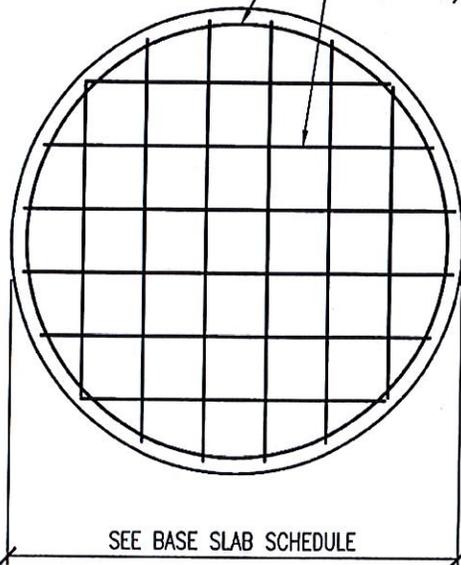
SS
6.0
SHEET 1 OF 3



BASE SLAB DETAIL

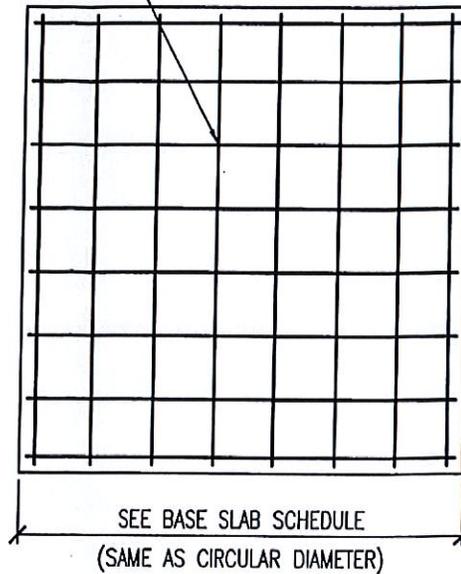
(PVC WATERSTOP NOT SHOWN FOR 12" THK. BASE SLAB; SEE DETAIL 2 ON SS.6.0 SHT. 3 OF 3)

#4 CIRCULAR PERIMETER EDGE REBAR (FOR TOP AND BOT. MAT REBARS) FOR TOP AND BOT. MAT REBARS (SEE BASE SLAB SCHEDULE)



CIRCULAR BASE SLAB

FOR TOP AND BOT. MAT REBARS (SEE BASE SLAB SCHEDULE)



SQUARE BASE SLAB

(OPTIONAL)

NOTES: (SEE STANDARD DETAIL SS 6.0 SHEET 1 OF 3)

- OVERALL DEPTH IS MEASURED FROM FINISH GRADE (FG.) TO TOP OF BASE SLAB (TOB.)
- WATER TABLE ELEVATION ASSUMED AT MINIMUM 1'-0" BELOW THE BOTTOM OF CONCRETE CONE/CORBEL 3'-0" HEIGHT MAXIMUM
- MANHOLE WITH METAL COVER DESIGNED FOR A TRUCK WHEEL LOAD OF 16000 LBS.
- CONTRACTOR SHALL SUBMIT SIGNED AND SEALED CALCULATIONS AND DETAILS FOR ANY MANHOLE SIZE/DEPTH THAT DOES NOT CONFORM TO ABOVE DESIGN CRITERIA AND CONDITIONS
- ALLOWABLE SOIL BEARING CAPACITY ASSUMED AT 2000 PSF MINIMUM. IF SOIL FOUNDATION APPEARS TO CONTAIN ORGANIC OR SILTY MATERIALS, CONTRACTOR SHALL SUBMIT SIGNED AND SEALED GEOTECHNICAL REPORT WITH SOIL BORINGS, INCLUDING RECOMMENDATION FOR SAFE SOIL BEARING CAPACITY TO VERIFY ADEQUACY OF BASE SLAB SIZE/DIAMETER AND/OR REINFORCING

MANHOLE BASE SLAB SCHEDULE

BASE SLAB DIA.	THKNESS	(*) MANHOLE OVERALL DEPTH	STEEL REINFORCEMENT
6'-4"	8" MIN./12" MAX.	4'-0" MIN. 14'-6" MAX.	#4 @ 12" OC. TOP EW.
7'-4"	12"	14'-6" TO 17'-0" MAX.	#4 @ 12" OC. T. & B. EW.
8'-4"	12"	17'-0" TO 18'-0" MAX.	#4 @ 12" OC. T. & B. EW.

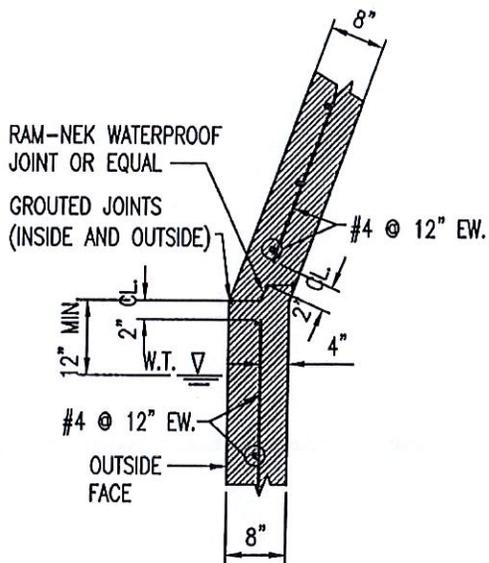
ITEM	CROSS REF.	SPEC. REF.
SHALLOW MANHOLE	SS 7.0	
FLOW PATTERNS	SS 6.1	
MANHOLE COVER	SS 4.0	



ISSUE DATE	APPROVED BY
9-30-2014	J.B.F.

STANDARD DETAIL
STANDARD MANHOLE

SS
6.0
SHEET 2 OF 3

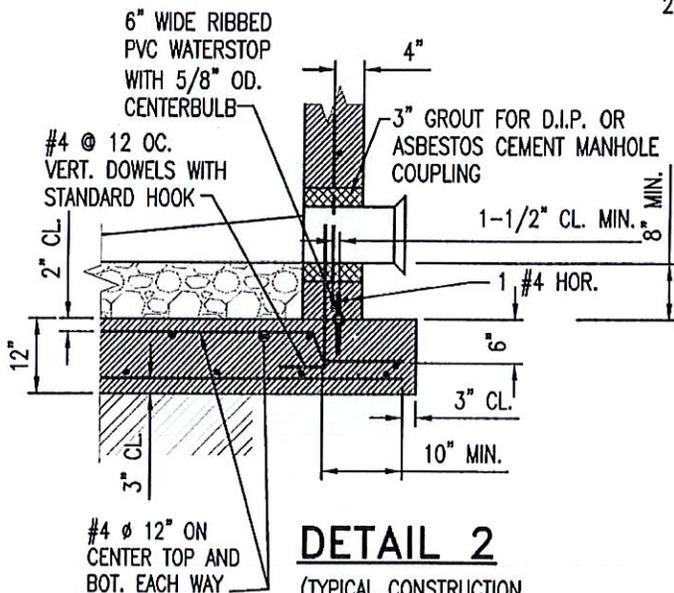


(ONLY PERMITTED 1 FT. ABOVE THE HIGHEST GROUND WATER TABLE ACCORDING TO PUBLIC WORK WC.-2.1)

DETAIL 1

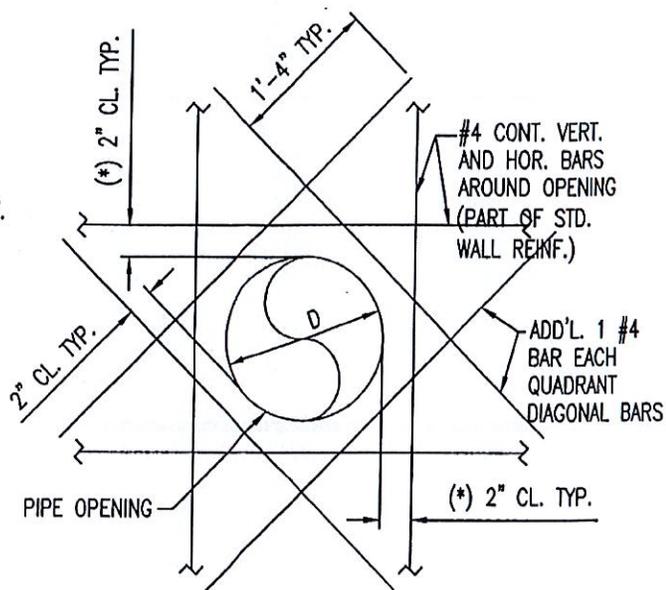
(KEYWAY JOINT DETAIL)

NOTE: NOT REQUIRED FOR MONOLITHIC POUR OF LOWER WALL WITH CONE/CORBEL



DETAIL 2

(TYPICAL CONSTRUCTION JOINT DETAIL AT 12" THK. BASE SLAB WITH PVC WATERSTOP)



DETAIL 3

(TYPICAL ADDITIONAL WALL REINFORCING AROUND HOLE OPENINGS) (ROUND OR SQUARE)

(* ANY VERT. OR HOR. BAR AT MORE THAN 3" AWAY FROM EDGE OF OPENING SHALL HAVE ADD'L. 1 #4 BAR WITH LENGTH = $(D+36")$ PLACED AT 2" CL. FROM OPENING

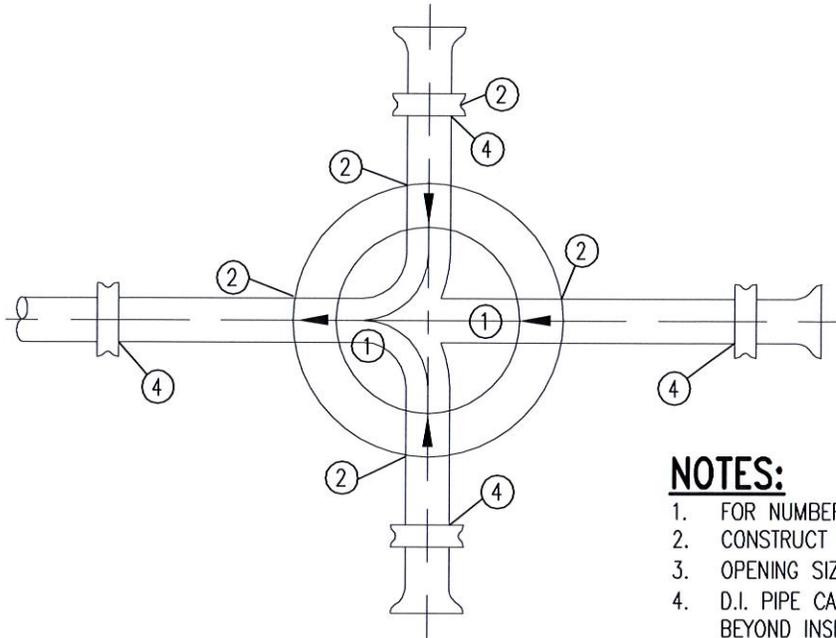
SHALLOW MANHOLE	SS 7.0	
FLOW PATTERNS	SS 6.1	
MANHOLE COVER	SS 4.0	
ITEM	CROSS REF.	SPEC. REF.



ISSUE DATE	APPROVED BY
9-30-2014	J.B.F.

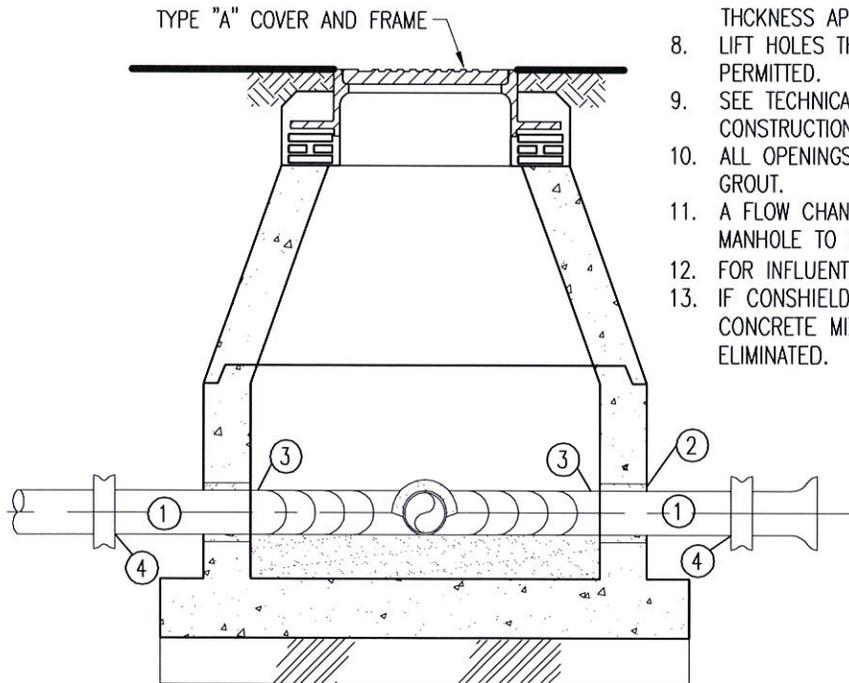
KEYWAY JOINT DETAIL
STANDARD MANHOLE

SS
6.0
SHEET 3 OF 3



NOTES:

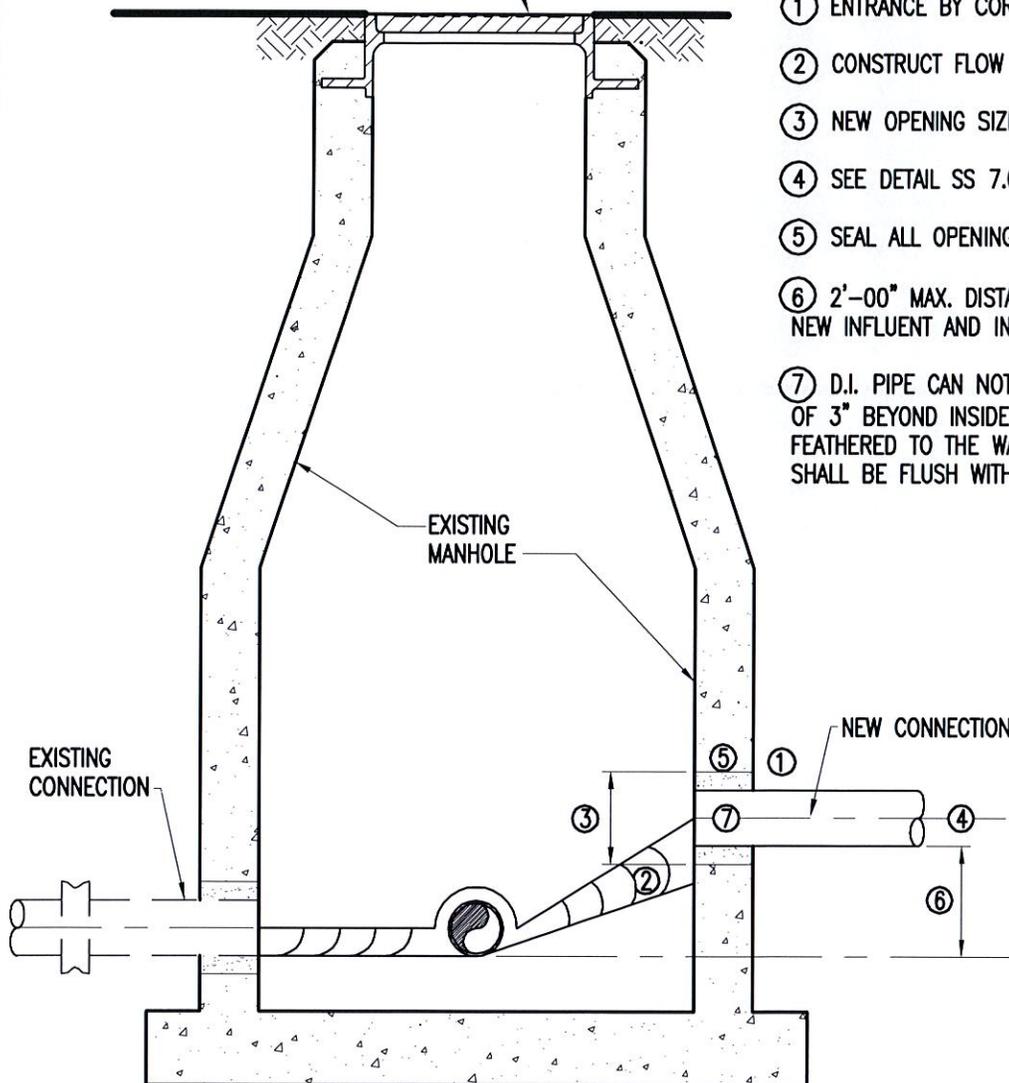
1. FOR NUMBER REFERENCES SEE SS 7.0.
2. CONSTRUCT FLOW CHANNELS AS PER SS 10.0
3. OPENING SIZE TO BE OF THE PIPE OD + 4"
4. D.I. PIPE CAN NOT EXTEND MORE THAN A MAX. OF 3" BEYOND INSIDE WALL AND MUST BE FEATHERED TO THE WALL WITH CEMENT. P.V.C. PIPE SHALL BE FLUSH WITH INSIDE WALL OF MANHOLE.
5. APPROVED GASKET.
6. FOR REINFORCING STEEL SEE SS 6.0
7. CONCRETE TO BE SEAL COATED INSIDE WITH 16 MIL. THCKNESS APPROVED COATING/LINER.
8. LIFT HOLES THROUGH PRECAST STRUCTURE ARE NOT PERMITTED.
9. SEE TECHNICAL SPECIFICATIONS FOR PLACEMENT OF CONSTRUCTION JOINTS & REQUIRED ACCESSORIES.
10. ALL OPENINGS SHALL BE SEALED WITH NON-SHRINK GROUT.
11. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
12. FOR INFLUENT/EFFLUENT PIPING ARRANGEMENT SEE SS 7.0
13. IF CONSHIELD ANTI-MICROBIAL AGENT IS USED IN THE CONCRETE MIXTURE, COATINGS AND LINERS CAN BE ELIMINATED.



PIPING	SS 7.0	
PIPE CONN.	SS 6.0	
FLOW PATTERNS	SS 10.0	
MANHOLE COVER	SS 4.0	
ITEM	CROSS REF.	SPEC. REF.

 WATER & SEWER DEPARTMENT	ISSUE DATE	APPROVED BY	STANDARD DETAIL STANDARD MANHOLE FLOW CHANNELS	SS 6.1 SHEET 1 OF 1
	04/13/2009	V.F.C.		

TYPE "A" COVER AND FRAME



INDEX

- ① ENTRANCE BY CORE DRILLING ONLY.
- ② CONSTRUCT FLOW CHANNELS AS PER SS 10.0
- ③ NEW OPENING SIZE TO BE AT THE PIPE OD+4
- ④ SEE DETAIL SS 7.0 FOR PIPING ARRANGEMENT.
- ⑤ SEAL ALL OPENINGS WITH NON-SHRINK GROUT.
- ⑥ 2'-00" MAX. DISTANCE BETWEEN INVERT OF NEW INFLUENT AND INVERT OF EXISTING MANHOLE.
- ⑦ D.I. PIPE CAN NOT EXTEND MORE THAN A MAX. OF 3" BEYOND INSIDE WALL AND MUST BE FEATHERED TO THE WALL WITH CEMENT. P.V.C. PIPE SHALL BE FLUSH WITH INSIDE WALL OF MANHOLE.

THE MIAMI-DADE WATER AND SEWER DEPARTMENT MUST BE NOTIFIED 2 BUSINESS DAY BEFORE CONNECTION IS MADE.

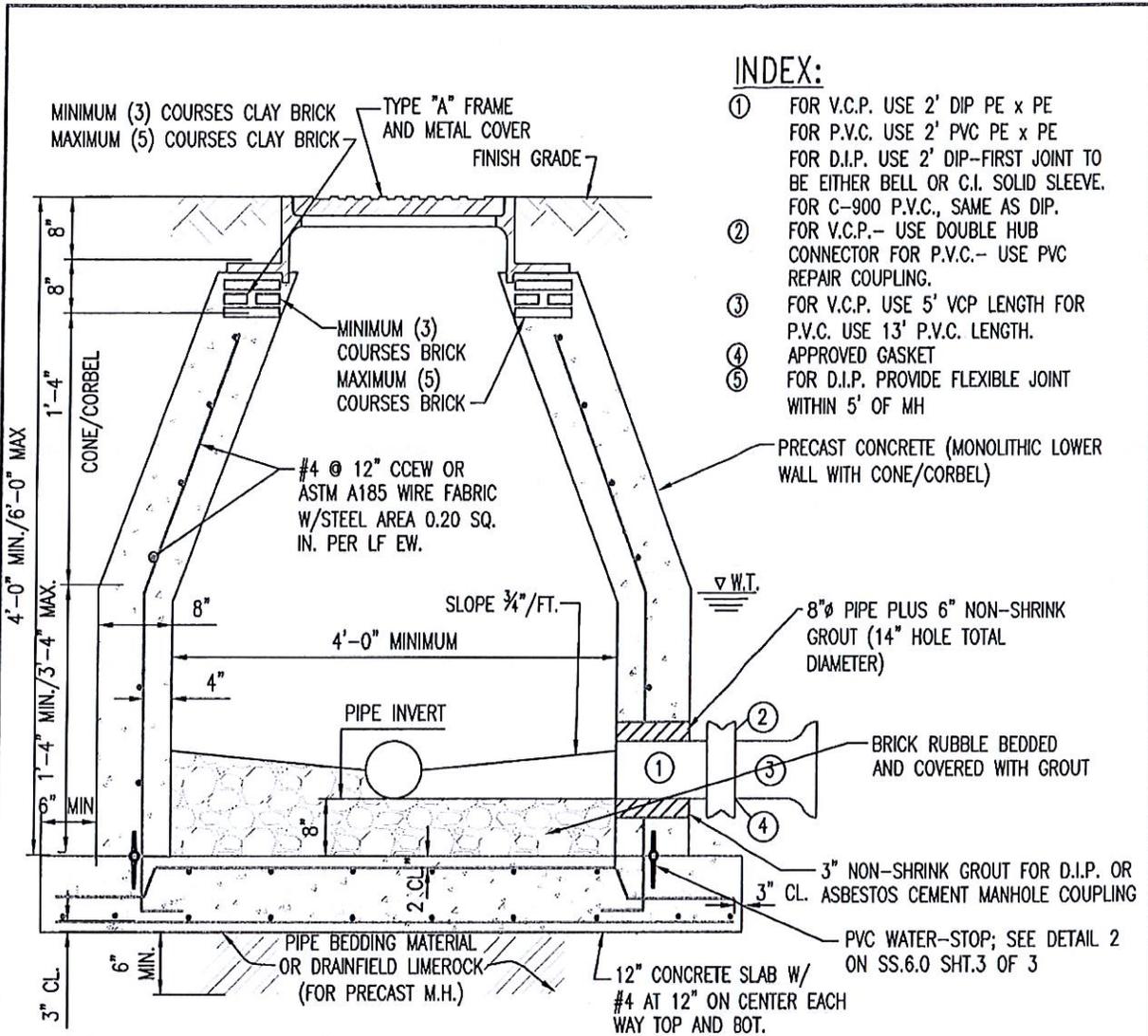
SHALLOW MANHOLE	SS 7.0	
STANDARD MANHOLE	SS 6.0	
FLOW PATTERNS	SS 10.0	
MANHOLE COVER	SS 4.0	
ITEM	CROSS REF.	SPEC. REF.



ISSUE DATE	APPROVED BY
11/01/2006	V. E. F.

STANDARD DETAIL
 NEW CONNECTION TO
 EXISTING MANHOLE
 (WHERE NO STUB-OUT EXISTS)

SS
 6.2
 SHEET 1 OF 1



INDEX:

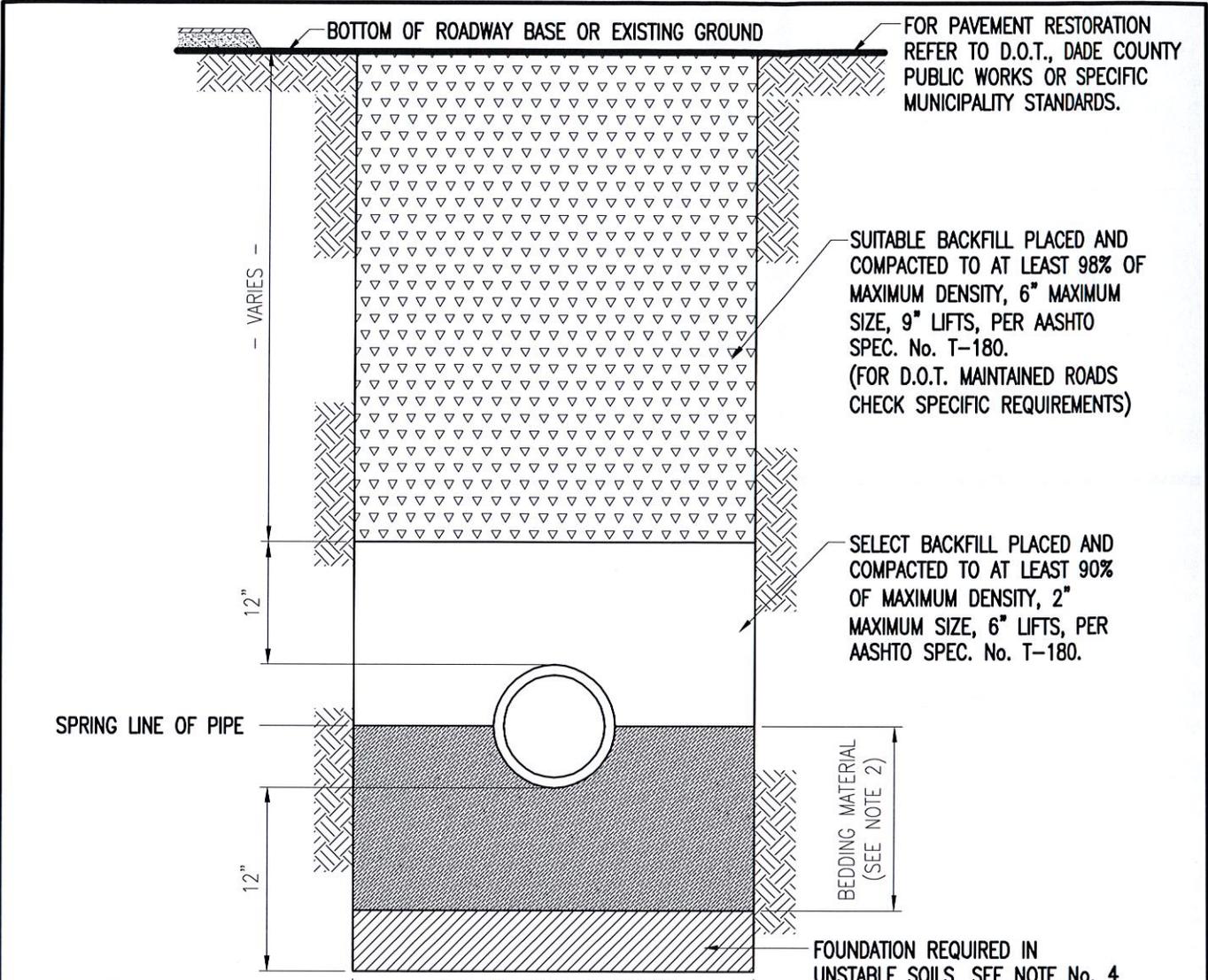
- ① FOR V.C.P. USE 2' DIP PE x PE
FOR P.V.C. USE 2' PVC PE x PE
FOR D.I.P. USE 2' DIP—FIRST JOINT TO
BE EITHER BELL OR C.I. SOLID SLEEVE.
FOR C-900 P.V.C., SAME AS DIP.
- ② FOR V.C.P.— USE DOUBLE HUB
CONNECTOR FOR P.V.C.— USE PVC
REPAIR COUPLING.
- ③ FOR V.C.P. USE 5' VCP LENGTH FOR
P.V.C. USE 13' P.V.C. LENGTH.
- ④ APPROVED GASKET
- ⑤ FOR D.I.P. PROVIDE FLEXIBLE JOINT
WITHIN 5' OF MH

NOTES:

1. FOR REINFORCING STEEL SEE SS 6.0
2. CONCRETE TO BE SEAL COATED INSIDE WITH 16 MIL THICKNESS APPROVED COATING.
3. LIFT HOLES THROUGH PRECAST STRUCTURE ARE NOT PERMITTED.
4. SEE TECHNICAL SPECIFICATIONS FOR PLACEMENT OF CONSTRUCTION JOINTS.
5. ALL OPENINGS SHALL BE SEALED WITH NON-SHRINK GROUT.
6. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
7. BRICK MASONRY TO BE STUCCOED WITH 3/4" MORTAR INSIDE AND OUTSIDE.
8. DUCTILE IRON PIPE CANNOT EXTEND MORE THAN A MAXIMUM OF 3" BEYOND INSIDE WALL OF MANHOLE AND MUST BE FEATHERED TO THE WALL WITH CEMENT. PVC PIPE SHALL BE FLUSH WITH INSIDE WALL OF MANHOLE.
9. IF CONSHIELD ANTI-MICROBIAL AGENT IS USED IN THE CONCRETE MIXTURE, COATINGS AND LINERS CAN BE ELIMINATED.
10. FOR BASE SLAB DETAIL, SCHEDULE AND ADDITIONAL NOTES SEE SS 6.0 SHEET 2 OF 3 FOR THE STANDARD MANHOLE
11. SEE SPECIFICATIONS SEC. 03300 AND SEC. 03410 FOR REQUIREMENTS OF CONCRETE FORMWORK AND REINFORCING
12. FOR ANY DEVIATION FROM MONOLITHIC WALL MAX. HEIGHT AND THE USE OF WATER-STOP, SUBMIT PRECAST MANUF. SHOP DRAWINGS FOR APPROVAL

STANDARD MANHOLE	SS 6.0	
FLOW PATTERNS	SS 6.1	
MANHOLE COVER	SS 4.0	
ITEM	CROSS REF.	SPEC. REF.

	ISSUE DATE	APPROVED BY	STANDARD DETAIL SHALLOW MANHOLE	SS 7.0 SHEET 1 OF 1
	9-30-2014	J.B.F.		

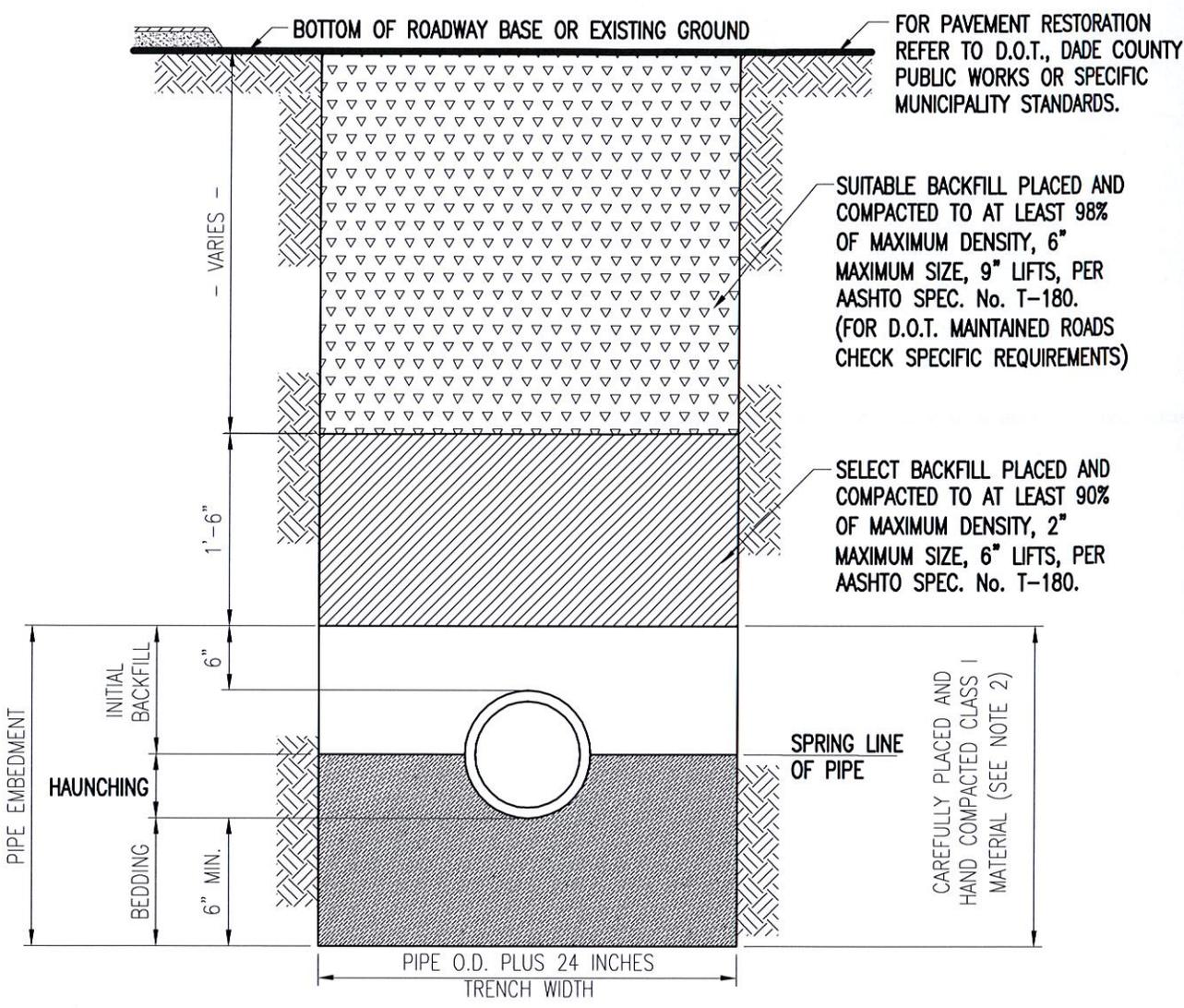


NOTES:

1. FOR EXCAVATION AND BACKFILL AROUND MANHOLES, APPURTENANCES, OR IN WATER, REFER TO PROVISIONS WITHIN THE SPECIFICATIONS.
2. UNLESS OTHERWISE SPECIFIED, BEDDING MATERIAL SHALL CONSIST OF COMPACTED WASHED AND GRADED LIMEROCK (3/8"-7/8"), 6" LIFTS.
3. WHERE REQUIRED, SHEETING AND SHORING SHALL BE IN ACCORDANCE WITH SPECIFICATIONS.
4. WHERE UNSTABLE SOILS ARE ENCOUNTERED, INCLUDING PEAT, MUCK OR OTHER ORGANIC SOILS, ELASTIC SILT AND CLAYS (BELOW THE WATER TABLE, A FOUNDATION IS REQUIRED. FOUNDATION MATERIAL SHALL BE SELECT BACKFILL MATERIAL, 2" MAXIMUM SIZE. 6" LIFTS, COMPACTED TO AT LEAST 90% OF MAX). DENSITY PER AASHTO SPEC: NO. T-180. EXTEND EXCAVATION AT LEAST 2' DEEPER FOR FOUNDATION UNLESS SUITABLE MATERIAL IS FOUND AT A LESSER DEPTH. GREATER DEPTHS MAY BE REQUIRED FOR EXTREMELY POOR CONDITIONS.
5. POLYETHYLENE ENCASUREMENT OF CAST IRON VALVES, PIPE AND FITTINGS, IF REQUIRED BY THE DEPARTMENT, SHALL BE PER ANSI/AWWA C105/A21.5, METHOD A, B OR C FOR TYPE I CLASS C TUBE, MIN. 8 MILS THICK.

ITEM	CROSS REF.	SPEC. REF.
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	ISSUE DATE	APPROVED BY	STANDARD DETAIL TYPICAL TRENCH CONSTRUCTION (FOR V.C. AND D.I. PIPE GRAVITY SEWER)	SS 18.0 SHEET 1 OF 3
	11/01/2006	V.E.F.		



NOTES:

1. FOR EXCAVATION AND BACKFILL AROUND MANHOLES, APPURTENANCES, OR IN WATER, REFER TO PROVISIONS WITHIN THE SPECIFICATIONS.
2. CLASS I MATERIALS ARE ANGULAR, 1/4 TO 3/4 INCH WELL GRADED STONE INCLUDING WASHED AND GRADED LIMEROCK.
3. WHERE REQUIRED, SHEETING AND SHORING SHALL BE IN ACCORDANCE WITH SPECIFICATIONS.
4. WHERE UNSTABLE SOILS ARE ENCOUNTERED, INCLUDING PEAT, MUCK OR OTHER ORGANIC SOILS, ELASTIC SILT AND CLAYS BELOW THE WATER TABLE, AND FINE SANDS BELOW THE WATER TABLE, TRENCH CONSTRUCTION SHALL CONFORM TO STANDARD DETAIL SS18.0, SHEET 3 OF 3.

ITEM	CROSS REF.	SPEC. REF.



ISSUE DATE	APPROVED BY
11/01/2006	V.E.F.

STANDARD DETAIL
**TYPICAL TRENCH CONSTRUCTION
(PVC PIPE GRAVITY SEWERS IN
STABLE SOILS)**

**SS
18.0**
SHEET 2 OF 3

BOTTOM OF ROADWAY BASE OR EXISTING GROUND

FOR PAVEMENT RESTORATION REFER TO D.O.T., DADE COUNTY PUBLIC WORKS OR SPECIFIC MUNICIPALITY STANDARDS.

TABLE No. 1

PIPE SIZE	TRENCH WIDTH
6"	30"
8"	40"
10"	50"
12"	60"
15"	75"

SELECT BACKFILL PLACED AND COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY, 2" MAXIMUM SIZE, 6" LIFTS, PER AASHTO SPEC. No. T-180.

SUITABLE BACKFILL PLACED AND COMPACTED TO AT LEAST 98% OF MAXIMUM DENSITY, 6" MAXIMUM SIZE, 9" LIFTS, PER AASHTO SPEC. No. T-180. (FOR D.O.T. MAINTAINED ROADS CHECK SPECIFIC REQUIREMENTS) AND ANY OTHER JURISDICTION.

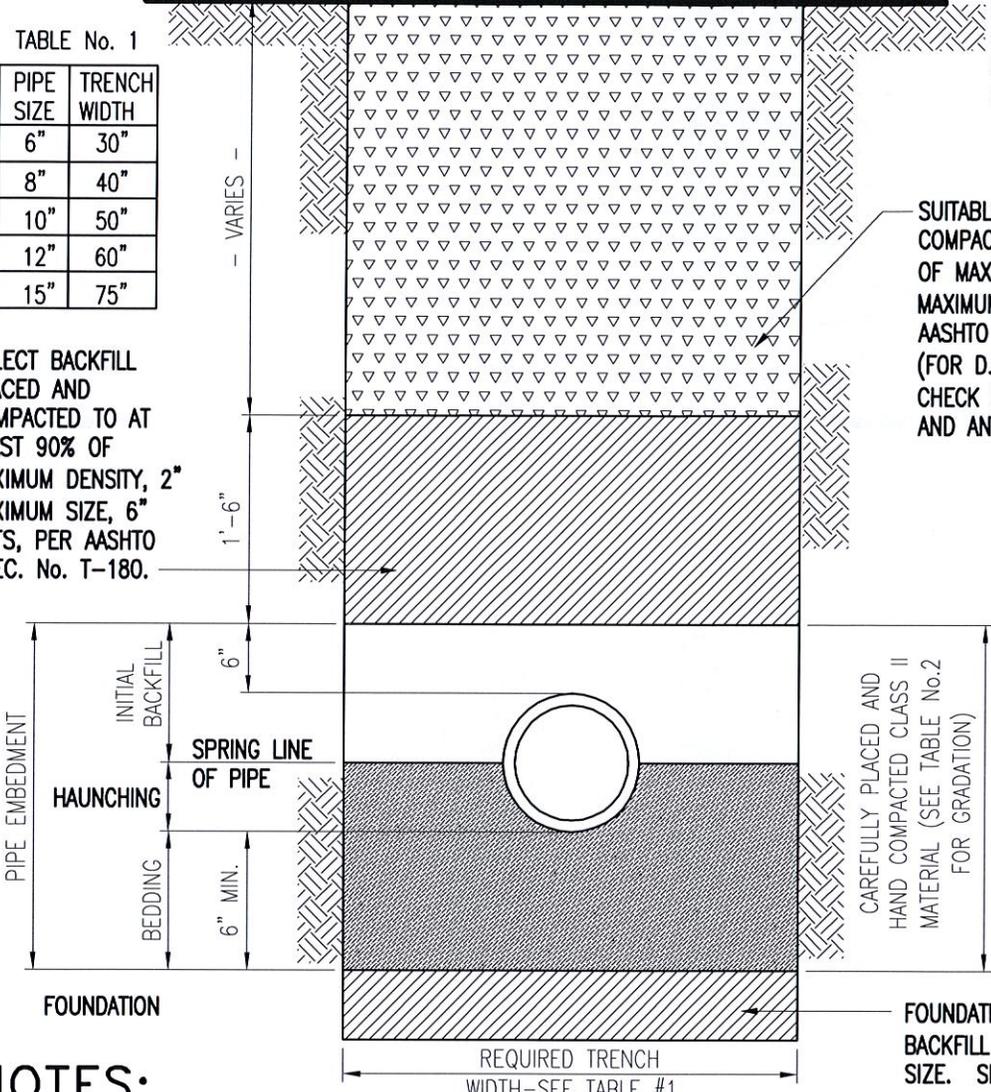


TABLE No. 2

SLEVE SIZE	PERCENT PASSING BY WEIGHT
3/4"	100
3/8"	85-100
#8	40-60
#30	5-30

CAREFULLY PLACED AND HAND COMPACTED CLASS II MATERIAL (SEE TABLE No.2 FOR GRADATION)

FOUNDATION OF SELECT BACKFILL MATERIAL, 2" MAXIMUM SIZE. SEE NOTE 5

NOTES:

1. FOR EXCAVATION AND BACKFILL AROUND MANHOLES, APPURTENANCES, OR IN WATER, REFER TO PROVISIONS WITHIN THE SPECIFICATIONS.
2. CLASS II MATERIALS ARE WELL GRADED COURSE SANDS AND GRAVEL SEE TABLE No. 2 FOR GRADATION REQUIREMENTS.
3. WHERE REQUIRED, SHEETING AND SHORING SHALL BE IN ACCORDANCE WITH SPECIFICATIONS AND CODES.
4. UNSTABLE SOILS ARE PEAT, MUCK OR OTHER ORGANIC SOILS, ELASTIC SILT AND CLAYS BELOW THE WATER TABLE, AND FINE SANDS BELOW THE WATER TABLE.
5. EXTEND EXCAVATION AT LEAST 2' DEEPER FOR FOUNDATION UNLESS SUITABLE MATERIAL IS FOUND AT A LESSER DEPTH. GREATER DEPTHS MAY BE REQUIRED FOR EXTREMELY POOR CONDITIONS.

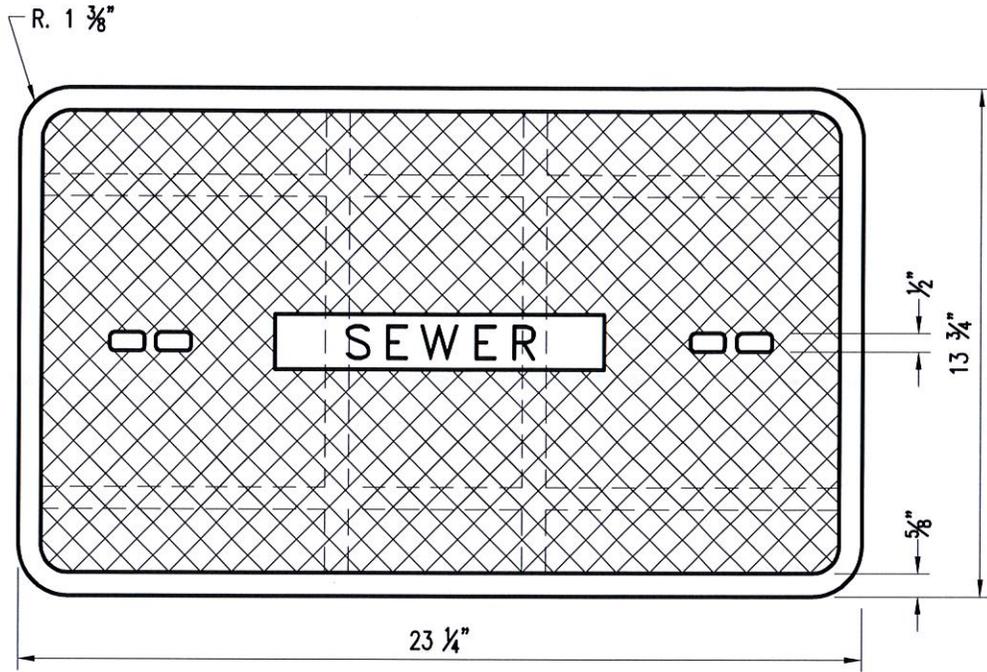
ITEM	CROSS REF.	SPEC. REF.



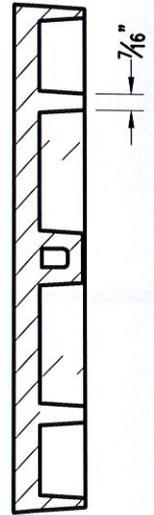
ISSUE DATE	APPROVED BY
11/01/2006	V.E.F.

STANDARD DETAIL
**TYPICAL TRENCH CONSTRUCTION
 (PVC PIPE GRAVITY SEWERS IN
 UNSTABLE SOILS)**

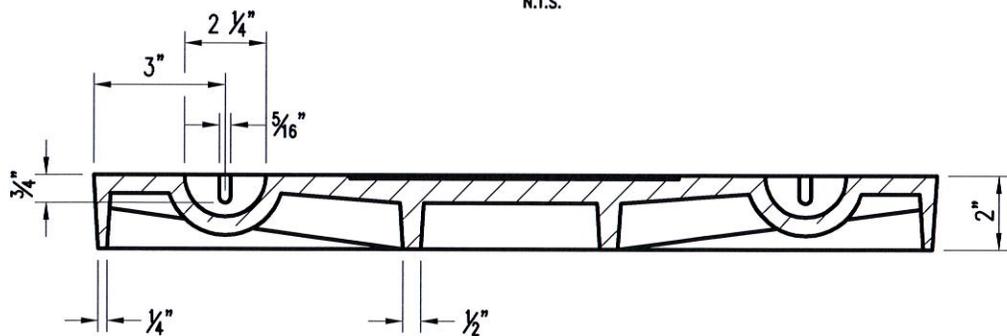
SS
 18.0
 SHEET 3 OF 3



TOP VIEW
N.T.S.



SIDE VIEW
N.T.S.



FRONT SECTION
N.T.S.

NOTES:

1. CAST IRON LID TO BE A MODIFIED VERSION OF USF No. 7715 (OR EQUIVALENT) WITHOUT BOLT HOLES, MARKED "SEWER" AND A.D.A. COMPLIANT FOR USE IN SIDEWALKS.
LID WT.: APPROX. 55 LBS.

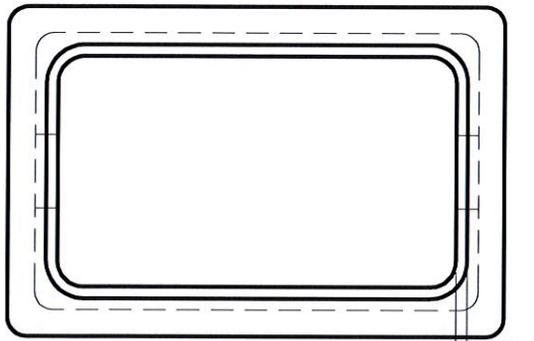
WYE BRANCH CONNECTION	SS 1.0	
ITEM	CROSS REF.	SPEC. REF.



ISSUE DATE	APPROVED BY
01/14/2010	V.F.C.

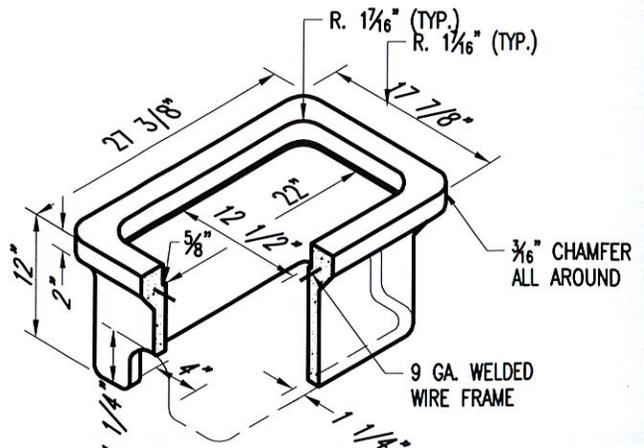
STANDARD DETAIL
SANITARY SEWER
CLEAN-OUT LID DETAIL

SS
22.0
SHEET 1 OF 2



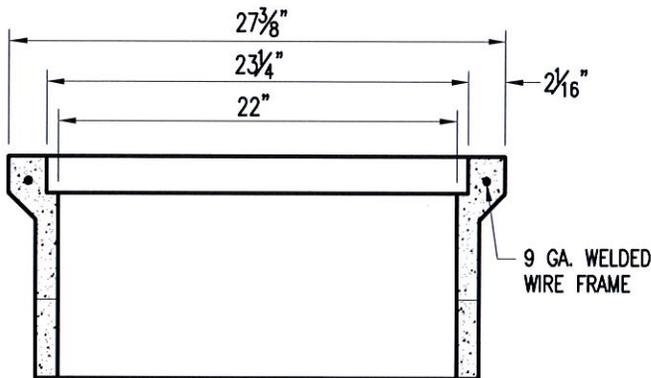
TOP VIEW

N.T.S.



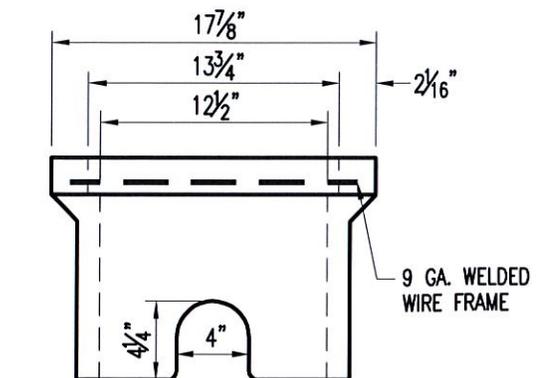
ISOMETRIC VIEW

N.T.S.



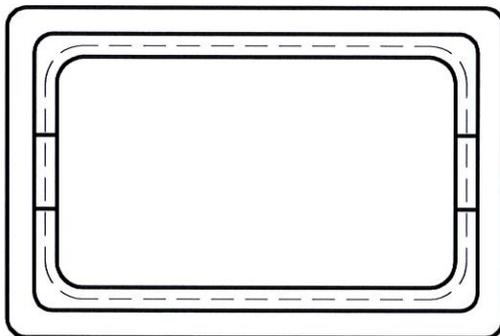
FRONT SECTION

N.T.S.



SIDE VIEW

N.T.S.



BOTTOM VIEW

N.T.S.

WYE BRANCH CONNECTION	SS 1.0	
ITEM	CROSS REF.	SPEC. REF.



ISSUE DATE	APPROVED BY
01/14/2010	V.F.C.

STANDARD DETAIL
 SANITARY SEWER CLEAN-OUT
 CONCRETE BOX DETAIL

SS
 22.0
 SHEET 2 OF 2

**SANITARY SEWER REHABILITATION PROGRAM
NORTH BAY VILLAGE**

BID No. NBV 2015-001

Appendix B

1. Florida Department of Environmental Protection State Revolving Fund Program Supplementary Conditions. The Contactor is required to comply with these Supplementary Conditions and include all costs associated with complying with these Supplemental Conditions in the overall cost of the Total Bid Amount.
2. Wage Rates, FL168 – Heavy Construction Projects

SUPPLEMENTARY CONDITIONS (CONSTRUCTION)

Florida Department of Environmental Protection

State Revolving Fund Program

Supplementary Conditions

for

Formally Advertised

Construction Procurement

Revised July 2015

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ENVIRONMENTAL PROTECTION
SUPPLEMENTARY CONDITIONS**

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3	PROCUREMENT REQUIREMENTS	FDEP-2
4	RESOLUTION OF PROTESTS AND CLAIMS/DISPUTES	FDEP-2
5	CHANGES TO THE BIDDING AND CONTRACT DOCUMENTS	FDEP-3
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7	AWARD OF AGREEMENT/CONTRACT	FDEP-4
8	ITEMIZED CONSTRUCTION COST BREAKDOWN; CONSTRUCTION AND PAYMENT SCHEDULES	FDEP-4
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B	GOALS AND TIMETABLES FOR MINORITIES AND FEMALES	FDEP-14
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FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION SUPPLEMENTARY CONDITIONS

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

ARTICLE 1 - DEFINITIONS

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

- 1.1 Addendum - A written or graphic instrument that is issued prior to the opening of bids and that clarifies, corrects, or changes the Bidding Documents.
- 1.2 Agreement or Contract - The written agreement between the Owner and the Contractor covering the Work to be performed and furnished; these Supplementary Conditions and other Contract Documents are attached to the Agreement/Contract and made a part thereof as provided therein.
- 1.3 Bid - The offer or proposal of a bidder submitted on the prescribed form and setting forth the price(s) for the Work to be performed and furnished.
- 1.4 Bidder - Any person, firm, or corporation that submits a bid directly to the Owner.
- 1.5 Bidding Documents - The Advertisement for Bids or the Invitation to Bid, the Instructions to Bidders or the Information for Bidders, the Bid Form, the proposed Contract Documents, and all addenda.
- 1.6 Bond - An instrument of security.
- 1.7 Change Order - A document that is recommended by the Engineer and signed by the Contractor and the Owner; that authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Time; and that is issued on or after the Effective Date of the Agreement/Contract.
- 1.8 Contract Documents - The Agreement/Contract; the Contractor's Bid when attached as an exhibit to the Agreement/Contract; the Performance and Payment Bond(s); the General Conditions; the Supplementary Conditions (including these Supplementary Conditions); the Specifications (written technical descriptions of material, equipment, construction systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto); the Drawings (drawings that show the character and scope of the Work to be performed and furnished); all addenda that pertain to the Contract Documents; and all change orders.
- 1.9 Contract Time - The number of days or the date stated in the Contract Documents for completion of the Work.
- 1.10 Contractor - The person, firm, or corporation with whom or which the Owner enters into the Agreement/Contract.
- 1.11 Effective Date of the Agreement/Contract - The date indicated in the Agreement/Contract on which the Agreement/Contract becomes effective, or if no such date is indicated in the Agreement/Contract, the date on which the Agreement/Contract is signed and delivered by the last of the two parties to sign and deliver the Agreement/Contract.
- 1.12 Engineer - The person, firm, or corporation named as such in the Contract Documents.
- 1.13 Minority Business Enterprise (MBE) - A historically Black college or university or a business that is (a) certified as socially and economically disadvantaged by the Small Business Administration, (b) certified as an MBE by a state or federal agency, or (c) an independent business concern which is at least 51-percent owned and controlled by minority group members. (A minority group member is an individual who is a citizen of the United States and one of the following: [i] Black American; [ii] Hispanic American [with origins from Puerto Rico, Mexico, Cuba, or South or Central America]; [iii] Native American [American Indian, Eskimo, Aleut, or native Hawaiian]; or [iv] Asian-Pacific American

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

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

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

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

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

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

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

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

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

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

ARTICLE 2 - PRIVACY OF AGREEMENT/CONTRACT

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

ARTICLE 3 - PROCUREMENT REQUIREMENTS

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

ARTICLE 4 - RESOLUTION OF PROTESTS AND CLAIMS/DISPUTES

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

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

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

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

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

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

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

ARTICLE 5 - CHANGES TO THE BIDDING AND CONTRACT DOCUMENTS

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

ARTICLE 6 - BONDS AND INSURANCE

Bid Guarantees:

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

Performance and Payment Bond(s):

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

Insurance:

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

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

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

ARTICLE 7 - AWARD OF AGREEMENT/CONTRACT

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

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

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

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

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

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

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

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

NOTE: ARTICLE 10 ONLY APPLIES TO FEDERAL CAP GRANT PROJECTS

ARTICLE 10 - DISADVANTAGED BUSINESS ENTERPRISES

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

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

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

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

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

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

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

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

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

ARTICLE 11 - DEBARMENT AND SUSPENSION (EXECUTIVE ORDER 12549)

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

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

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

11.3. The bidder also certifies that it and its principals:

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

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

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

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

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

ARTICLE 12 - EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)

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

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

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

Goal for female participation: 6.9 percent statewide

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

12.3.1. As used in these specifications:

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

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

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

d. "Minority" includes:

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

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

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

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

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

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

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

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

- a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
- b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

- c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
- d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
- e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 12.3.7b above.
- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

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

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

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

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

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

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

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

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

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

12.3.14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

12.3.15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

12.4. Pursuant to 41 CFR 60-1.7, if the price of this bid exceeds \$10,000, the bidder, by signing and submitting this proposal, certifies the following:

12.4.1. Affirmative action programs pursuant to 41 CFR 60-2 have been developed and are on file;

12.4.2. Documentation of a previous contract or subcontract subject to the equal opportunity clause is available;

12.4.3. All reports due under the applicable filing requirements have been filed with the Joint Reporting Committee, the Deputy Assistant Secretary or the Equal Employment Opportunity Commission; and

12.4.4. Each prospective construction subcontractor that may be awarded a lower-tier construction subcontract with a price exceeding \$10,000 shall meet the above requirements 12.4.1 through 12.4.3.

12.5. Pursuant to 41 CFR 60-1.8, if the price of this bid exceeds \$10,000, the bidder, by signing and submitting this proposal, certifies the following:

12.5.1. That he/she does not maintain or provide for his/her employees any segregated facility at any of his/her establishments;

12.5.2. That he/she does not permit employees to perform their services at any location, under his/her control, where segregated facilities are maintained;

12.5.3. That he/she will not maintain or provide for employees any segregated facilities at any of his/her establishments;

12.5.4. That he/she will not permit employees to perform their services at any location under his/her control where segregated facilities are maintained;

12.5.5. That a breach of this certification is violation of the Equal Opportunity Clause of this contract; and

12.5.6. That he/she will obtain identical certifications from proposed Subcontractors prior to the award of Subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause, and that he will retain such certifications in his/her files.

As used in this certification, the term "segregated facilities" means any waiting rooms, work eating areas, time clocks, locker rooms, and other storage or dressing areas, transportation and housing facilities provided for employees which are in fact segregated on the basis of race, color, religion, or otherwise.

12.6. If the price of this Agreement/Contract exceeds \$10,000, the Owner shall give written notice to the Director of the Office of Federal Contract Compliance Programs within ten working days of award of this Agreement/Contract. The notice is to include the name, address, and telephone number of the Contractor; the employer identification number of the Contractor; the dollar amount of this Agreement/Contract; the estimated starting and completion dates of this Agreement/Contract; the number of this Agreement/Contract; and the geographical area in which the Work is to be performed.

12.7. If the price of this Agreement/Contract equals or exceeds \$50,000 and if the Contractor has 50 or more employees, the Contractor shall electronically file Standard Form 100 (EEO-1) online at <https://egov.eeoc.gov/eo1/eo1.jsp> within 30 calendar days after the award of this Agreement/Contract, unless the Contractor has submitted such a report within 12 months preceding the date of award of this Agreement/Contract. In addition, the Contractor shall ensure that each construction subcontractor having 50 or more employees and a lower-tier construction subcontract with a price equaling or exceeding \$50,000 also electronically files this form within 30 calendar days after the award to it of the lower-tier construction subcontract, unless the construction subcontractor has submitted such a report within 12 months preceding the date of award of the lower-tier construction subcontract.

ARTICLE 13 - IMMIGRATION REFORM AND CONTROL ACT OF 1986 (STATE OF FLORIDA EXECUTIVE ORDER 11-116)

The Immigration Reform and Control Act of 1986 prohibits employers from knowingly hiring illegal workers. The Contractor shall only employ individuals who may legally work in the United States – either U.S. citizens or foreign citizens who are authorized to work in the U.S. The Contractor shall use the U.S. Department of Homeland Security’s E-Verify Employment Eligibility Verification system (<http://www.uscis.gov/portal/site/uscis>) to verify the employment eligibility of:

- all new employees, during the term of this Agreement, to perform employment duties within Florida; and,
- all new employees (including subcontractors and subrecipients) assigned by the Contractor to perform work pursuant to this Agreement.

The Contractor shall include this provision in all subcontracts/subgrants it enters into for the performance of work under this Agreement.

ARTICLE 14 – ENVIRONMENTAL COMPLIANCE

The Contractor, and all subcontractors at any tier, shall comply with all applicable standards, orders, or requirements issued under Section 306 of the Clean Air Act (42 U.S.C. 1857[h]), Section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738 (Administration of the Clean Air Act and the Federal Water Pollution Control Act with Respect to Federal Contracts, Grants, or Loans), and 40 CFR Part 15.

ARTICLE 15 – FEDERAL LABOR STANDARDS PROVISION

Contracts being constructed with assistance from the State Revolving Fund Program are currently required to comply with the Federal Labor Standards Provisions as provided in Appendix C. Signing Appendix A certifies compliance with these provisions.

ARTICLE 16 – AMERICAN IRON AND STEEL PROVISION

Contracts being constructed with assistance from the State Revolving Fund Program are currently required to comply with The American Iron and Steel Provision as provided in Appendix D. Signing Appendix A certifies compliance with these provisions.

ARTICLE 17 - PROHIBITED LOCAL GOVERNMENT CONSTRUCTION PREFERENCES

- A. Pursuant to Section 255.0991, F.S., for a competitive solicitation for construction services in which 50 percent or more of the cost will be paid from state-appropriated funds which have been appropriated at the time of the competitive solicitation, a state, college, county, municipality, school district, or other political subdivision of the state may not use a local ordinance or regulation that provides a preference based upon:
1. The contractor’s maintaining an office or place of business within a particular local jurisdiction;
 2. The contractor’s hiring employees or subcontractors from within a particular local jurisdiction; or
 3. The contractor’s prior payment of local taxes, assessments, or duties within a particular local jurisdiction.
- B. For any competitive solicitation that meets the criteria in Paragraph A., a state college, county, municipality, school district, or other political subdivision of the state shall disclose in the solicitation document that any applicable local ordinance or regulation does not include any preference that is prohibited by Paragraph A.

**APPENDIX A TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
SUPPLEMENTARY CONDITIONS**

**CERTIFICATION OF COMPLIANCE WITH THE FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION SUPPLEMENTARY CONDITIONS**

This certification relates to a construction contract proposed by _____,
(insert the name of the Owner)

which expects to finance the proposed construction contract with assistance from the Florida Department of Environmental Protection (which administers a State Revolving Fund loan program supported in part with funds directly made available by grants from the United States Environmental Protection Agency). I am the undersigned prospective construction contractor or subcontractor.

I certify that I have read the Florida Department of Environmental Supplementary Conditions and agree to incorporate the following articles into the bid and/or contract:

- ARTICLE 11 DEBARMENT AND SUSPENSION (EXECUTIVE ORDER 12549)
- ARTICLE 12 EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)
- ARTICLE 13 IMMIGRATION REFORM AND CONTROL ACT OF (STATE OF FLORIDA EXECUTIVE ORDER 11-116)
- ARTICLE 14 ENVIRONMENTAL COMPLIANCE
- ARTICLE 15 FEDERAL LABOR STANDARDS PROVISION
- ARTICLE 16 AMERICAN IRON AND STEEL PROVISION

I agree that I will obtain identical certifications from prospective lower-tier construction subcontractors prior to the award of any lower-tier construction subcontracts with a price exceeding \$10,000. I also agree that I will retain such certifications in my files.

(Signature of Authorized Official)

(Date)

(Name and Title of Authorized Official [Print or Type])

(Name of Prospective Construction Contractor or Subcontractor [Print or Type])

(Address and Telephone Number of Prospective Construction Contractor or Subcontractor [Print or Type])

(Employer Identification Number of Prospective Construction Contractor or Subcontractor)

**APPENDIX B TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
SUPPLEMENTARY CONDITIONS**

GOALS AND TIMETABLES FOR MINORITIES AND FEMALES

[Note: These goals and timetables are the goals and timetables referred to in Paragraph 2 of the "Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246)"; these goals and timetables are to be included in all FDEP assisted construction contracts and subcontracts with a price exceeding \$10,000 and in all solicitations for such contracts and subcontracts.]

The following goals and timetables for female utilization shall be included in all federal and federally assisted construction contracts and subcontracts in excess of \$10,000. The goals are applicable to the contractor's aggregate on-site construction workforce whether or not part of that workforce is performing work on a federal or federally assisted construction contract or subcontract.

Area covered: Goals for Women apply nationwide.

Goals and Timetables

Timetable	Goals (percent)
Indefinite	6.9

Goals for minority utilization can be found in the Department of Labor's Technical Assistance Guide for Federal Construction Contractors (May 2009), available on the internet at <http://www.dol.gov/ofccp/TAGuides/consttag.pdf>. These goals shall be included for each craft and trade in all federal or federally assisted construction contracts and subcontracts in excess of \$10,000 to be performed in the respective geographical areas. The goals are applicable to each nonexempt contractor's total onsite construction workforce, regardless of whether or not part of that workforce is performing work on a federal, federally assisted or non-federally related project, contract or subcontract.

Construction contractors which are participating in an approved Hometown Plan (see 41 CFR 60-4.5) are required to comply with the goals of the Hometown Plan with regard to construction work they perform in the area covered by the Hometown Plan. With regard to all their other covered construction work, such contractors are required to comply with the applicable SMSA or EA goal contained in this Appendix.

**APPENDIX C
TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
SUPPLEMENTARY CONDITIONS**

Davis-Bacon Requirements

FEDERAL LABOR STANDARDS PROVISIONS

(Davis-Bacon Act, Copeland Act, and Contract Works Hours & Safety Standards Act)

The Project to which the construction work covered by this contract pertains is being assisted by the United States of America and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such federal assistance.

1 Minimum Wages.

(i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act, 29 CFR Part 3, the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR Part 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii) (a) The sponsor, on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The FDEP shall approve a request for an additional classification and wage rate and fringe benefits; therefore, only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(b) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the sponsor(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the sponsor to the FDEP. The FDEP will transmit the request to the Administrator of the Wage and Hour Division, employment Standards Administration, U. S. Department of Labor. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional

classification action within 30 days of receipt and so advise the FDEP or will notify FEDP within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB control number 1215-0140.)

(c) In the event that the Contractor, the laborers or mechanics to be employed in the Classification or their representatives, and the sponsor do not agree on the proposed classification and wage rate (including the amount designed for fringe benefits, where appropriate), the FDEP shall refer the request and the local wage determination, including the views of all interested parties and the recommendation of FDEP, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

(d) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (1)(b) or (c) of this paragraph, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account, assets for the meeting of obligations under the plan or program. (Approved by the Office of Management and Budget under OMB Control Number 1215-0140.)

2. Withholding.

The sponsor shall, upon written request of the EPA or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, EPA may, after written notice to the contractor, sponsor, applicant, or owners, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and Basic Records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs. (Approved by the Office of Management and Budget under OMB Control Numbers 1215-0140 and 1215-0017).

(ii) (a) The contractor shall submit weekly for each week in which any contract work is performed, a copy of all payrolls to the sponsor. Such documentation shall be available upon request by FDEP. As to each payroll copy received, the sponsor shall provide a certification that the project is in compliance with the requirements of 29 CFR 5.5(a)(1) with each disbursement request. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR Part 5.5(a)(3)(I), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead, the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site <http://www.dol.gov/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current addresses of each covered worker, and shall provide them upon request to the sponsor for transmission to the FDEP or EPA if requested by EPA, the FDEP, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the sponsor. (Approved by the Office of Management and Budget under OMB Control Number 1215-0149).

(b) Each payroll submitted shall be accompanied by a Statement of Compliance, signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR Part 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR Part 5.5 (a)(3)(I), and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Option Form WH-347 shall satisfy the requirement for submission of the Statement of Compliance required by paragraph A. 3(ii)(b) of this section.

(d) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 231 of Title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph A.3(I) of this section available for inspection, copying, or transcription by authorized representatives of the FDEP or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FDEP may, after written notice to the contractor, or sponsor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request to make such records available may be grounds for debarment action pursuant to 29 CFR Part 5.12.

4. Apprentices and Trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U. S. Department of Labor, the Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio

of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program, shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with the determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U. S. Department of Labor, the Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program the contract will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal Employment Opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

5. Compliance with Copeland Act Requirements.

The contractor shall comply with the requirements of 29 CFR Part 3 which are incorporated by reference in this contract.

6. Subcontracts.

The contractor or subcontractor will insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR Part 5.5.

7. Contract Termination, Debarment.

A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act Requirements.

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR Parts 1, 3 and 5 are herein incorporated by referenced in this contract.

9. Disputes Concerning Labor Standards.

Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6 and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the sponsor, FDEP, EPA, the U. S. Department of Labor, or the employees or their representatives.

10. Certification of Eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded EPA contracts or participate in EPA programs pursuant to Executive Order 12549.

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or to be awarded EPA contracts or participate in EPA programs pursuant to Executive Order 12549.

(iii) The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 U. S. C. 1001. Additionally, U. S. Criminal Code, Section 1010, Title 18, U. S. C., Federal Housing Administration transactions, provides in part "Whoever, for the purpose of . . . influencing in any way the action of such Administration . . . makes, utters or publishes any statement, knowing the same to be false . . . shall be fined not more than \$5,000 or imprisoned not more than two years, or both".

11. Complaints, Proceedings, or Testimony by Employees.

A. No laborer or mechanic to whom the wage, salary, or other labor standards provisions of this contract are applicable shall be discharged or in any other manner discriminated against by the contractor or any subcontractor because such employee has filed any complaint or instituted or caused to be instituted any proceeding or has testified or is about to testify in any proceeding under or relating to the labor standards applicable under this contract to his employer.

B. Contract Work Hours and Safety Standards Act. The sponsor shall insert the following clauses set forth in paragraphs B.(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by item 3 above or 29 CFR 4.6. As used in the paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in subparagraph (1) of this paragraph, the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in subparagraph (1) of this paragraph, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in subparagraph (1) of this paragraph.

(3) Withholding for unpaid wages and liquidated damages. The sponsor, upon written request of the FDEP or an authorized representative of the Department of Labor, may withhold or cause to be withheld, from any moneys payable on

account of work performed by the contractor or subcontractor under any such contract or any other federal contract with the same prime contract, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in subparagraph (2) of this paragraph.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in subparagraph (1) through (4) of this paragraph and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in subparagraphs (1) through (4) of this paragraph.

C. Health and Safety

(1) No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.

(2) The contractor shall comply with all regulations issued by the Secretary of Labor pursuant to Title 29 Part 1926 (formerly part 1518) and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (Public Law 91-54.83 State 96).

(3) The contractor shall include the provisions of this Article in every subcontract so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontract as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

12. Guidance to Contractor for Compliance with Labor Standards Provisions

a) Contracts with Two Wage Decisions

If the contract includes two wage decisions, the contractor, and each subcontractor who works on the site, must submit either two separate payrolls (one for each wage decision) or one payroll which identifies each worker twice and the hours worked under each wage decision. One single payroll, reflecting each worker once, may be submitted provided the Contractor uses the higher rate in the wage decisions for each identical job classification. However, where a job classification is not listed in a wage decision and is needed for that portion of the work, the classification **must** be added to the wage decision. A worker may not be paid at the rate for a classification using the hourly rate for that same classification in another wage decision. After the additional classification is approved, the contractor may pay the higher of the two rates and submit one payroll, if desired.

b) Complying with Minimum Hourly Amounts

- 1) The minimum hourly amount due to a worker in each classification is the total of the amounts in the Rates and Fringe Benefits (if any) columns of the applicable wage decision.
- 2) The contractor may satisfy this minimum hourly amount by any combination of cash and bona fide fringe benefits, regardless of the individual amounts reflected in the Rates and Fringe Benefits columns.
- 3) A contractor payment for a worker which is required by law is not a fringe benefit in meeting the minimum hourly amount due under the applicable wage decision. For example, contractor payments for FICA or unemployment insurance are not a fringe benefit; however, contractor payments for health insurance or retirement are a fringe benefit. Generally, a fringe benefit is bona fide if (a) it is available to most workers and (b) involves payments to a third party.
- 4) The hourly value of the fringe benefit is calculated by dividing the contractor's annual cost (excluding any amount contributed by the worker) for the fringe benefit by 2080. Therefore, for workers with overtime, an additional payment may be required to meet the minimum hourly wages since generally fringe benefits have no value for any time worked over 40 hours weekly. (If a worker is paid more than the minimum rates required by the wage decision, this should not be a problem. As long as the total wages received by a worker for straight time equals the hours worked times the minimum hourly rate in the wage decision, the requirement of the Davis-Bacon and Related Acts has been satisfied.)

c) Overtime

For any project work over 40 hours weekly, a worker generally must be paid 150% of the actual hourly cash rate received, not the minimum required by the wage decision. (The Davis-Bacon and Related Acts only establishes minimum rates and does not address overtime. The Contract Work Hours Act contains the overtime requirement and uses basic rate of pay as the base for calculation, not the minimum rates established by the Davis-Bacon and Related Acts.)

d) Deductions

Workers who have deductions, not required by law, from their pay must authorize these deductions in writing. The authorization must identify the purpose of each deduction and the amount, which may be a specific dollar amount or a percentage. A copy of the authorization must be submitted with the first payroll containing the deduction. If deducted amounts increase, another authorization must be submitted. If deducted amounts decrease, no revision to the original authorization is needed. Court-ordered deductions, such as child support, may be identified by the responsible payroll person in a separate document. This document should identify the worker, the amount deducted and the purpose. A copy of the court order should be submitted.

e) Classifications Not Included in the Wage Decision

If a classification not in the wage decision is required, please advise the owner's representative in writing and identify the job classification(s) required. In some instances, the state agency may allow the use of a similar classification in the wage decision.

Otherwise, the contractor and affected workers must agree on a minimum rate, which cannot be lower than the lowest rate for any trade in the wage decision. Laborers (including any subcategory of the laborer classification) and truck drivers are not considered a trade for this purpose. If the classification involves a power equipment operator, the minimum cannot be lower than the lowest rate for any power equipment operator in the wage decision. The owner will provide forms to document agreement on the minimum rate by the affected workers and contractor.

The U.S. Department of Labor (USDOL) must approve the proposed classification and rate. The contractor may pay the proposed rate until the USDOL makes a determination. Should the USDOL require a higher rate, the contractor must make wage restitution to the affected worker(s) for all hours worked under the proposed rate.

f) Supervisory Personnel

Foremen and other supervisory personnel who spend at least 80% of their time supervising workers are not covered by the Davis-Bacon and Related Acts. Therefore, a wage decision will not include such supervisory classifications and their wages are not subject to any minimums under the Davis-Bacon and Related Act or overtime payments under the Contract Work Hours and Safety Standards Act. However, foremen and other supervisory personnel who spend less than 80% of their time engaged in supervisory activities are considered workers/mechanics for the time spent engaged in manual labor and must be paid at least the minimum in the wage decision for the appropriate classification(s) based on the work performed.

g) Sole Proprietorships / Independent Contractors / Leased Workers

The nature of the relationship between a prime contractor and a worker does not affect the requirement to comply with the labor standards provisions of this contract. The applicability of the labor standards provisions is based on the nature of the work performed.

If the work performed is primarily manual in nature, the worker is subject to the labor standards provisions in this contract. For example, if John Smith is the owner of ABC Plumbing and performs all plumbing work himself, then Mr. Smith is subject to the labor standards provisions, including minimum wages and overtime. His status as owner is irrelevant for labor standards purposes.

If a worker meets the IRS standards for being an independent contractor, and is employed as such, this means that the worker must submit a separate payroll as a subcontractor rather than be included on some other payroll. The worker is still subject to the labor standards provisions in this contract, including minimum wages and overtime.

If a contractor or subcontractor leases its workers, they are subject to the labor standards provisions in this contract, including minimum wages and overtime. The leasing firm must submit payrolls and these payrolls must reflect information required to determine compliance with the labor standards provisions of this contract, including a classification for each worker based on the nature of the work performed, number of regular hours worked, and number of overtime hours worked.

h) Apprentices / Helpers

A worker may be classified as an apprentice **only if participating in a federal or state program**. Documentation of participation must be submitted. Generally, the apprentice program specifies that the apprentice will be compensated at a percentage of journeyman rate. For Davis-Bacon Act purposes, the hourly rate cannot be lower than the percentage of the hourly rate for the classification in the applicable wage decision.

If the worker does not participate in a federal or state apprentice program, then the worker must be classified according to duties performed. This procedure may require classification in the trade depending on tools used, or as a laborer if specialized tools of the trade are not used. The contractor may want to consult with the Wage and Hour Division of the U.S. Department of Labor located in most large cities regarding the appropriate classification.

Presently, no worker may be classified as a helper. As with apprentices not participating in a formal apprentice program, the worker must be classified according to duties performed and tools used.

**APPENDIX D TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
SUPPLEMENTARY CONDITIONS**

American Iron and Steel Requirement

The Contractor acknowledges to and for the benefit of the _____ (“Owner”) and the State of Florida (the “State”) that it understands that iron and steel products to be installed as a part of this contract must be in compliance with the requirements in H.R. 3547, “Consolidated Appropriations Act, 2014,” (Appropriations Act). H.R. 3547 includes the following language in Division G, Title IV, Sec. 436, under the heading, "Use of American Iron and Steel,":

(a) (1) None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are produced in the United States.

(2) In this section, the term "iron and steel products" means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

(b) Subsection (a) shall not apply in any case or category of cases in which the Administrator of the Environmental Protection Agency (in this section referred to as the "Administrator") finds that--

(1) applying subsection (a) would be inconsistent with the public interest;

(2) iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or

(3) inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

(c) If the Administrator receives a request for a waiver under this section, the Administrator shall make available to the public on an informal basis a copy of the request and information available to the Administrator concerning the request, and shall allow for informal public input on the request for at least 15 days prior to making a finding based on the request. The Administrator shall make the request and accompanying information available by electronic means, including on the official public Internet Web site of the Environmental Protection Agency.

(d) This section shall be applied in a manner consistent with United States obligations under international agreements.

Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney’s fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

For waivers to these requirements based on (2)(b) above, contact Sheryl Parsons at USEPA Region IV. She can be reached by phone at (404) 562-9337.

General Decision Number: FL150168 03/20/2015 FL168

Superseded General Decision Number: FL20140168

State: Florida

Construction Type: Heavy

County: Miami-Dade County in Florida.

HEAVY CONSTRUCTION PROJECTS (Including Sewer and Water Lines)

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of \$10.10 for 2015 that applies to all contracts subject to the Davis-Bacon Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/02/2015
1	01/09/2015
2	03/20/2015

ELEC0349-007 09/01/2014

	Rates	Fringes
ELECTRICIAN.....	\$ 30.11	10.06

ENGI0487-017 07/01/2013

	Rates	Fringes
OPERATOR: Backhoe (Except Loader Combo).....	\$ 28.32	8.80
OPERATOR: Crane All Tower Cranes (Must have 2 operators) Mobile, Rail, Climbers, Static- Mount; All Cranes with Boom Length 150 Feet & Over (With or without jib) Friction, Hydro, Electric or Otherwise; Cranes 150 Tons & Over (Must have 2 operators); Cranes with 3 Drums (When 3rd drum is rigged for work); Gantry & Overhead Cranes; Hydro Cranes Over 25 Tons but not more than 50 Tons (Without Oiler/Apprentice); Hydro/Friction Cranes without Oiler/Apprentices when Approved by Union; & All Type of Flying Cranes;	\$ 29.05	8.80
Boom Truck.....	\$ 28.32	8.80
Cranes with Boom Length Less than 150 Feet (With or without jib); Hydro Cranes 25 Tons & Under, & Over 50 Tons (With Oiler/Apprentice); Boom Truck.....	\$ 25.80	8.80
OPERATOR: Drill.....	\$ 25.64	8.80
OPERATOR: Loader.....	\$ 22.99	8.80
OPERATOR: Oiler.....		

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Rates Fringes

IRONWORKER, STRUCTURAL.....	\$ 23.76	7.78

LABO1652-004 06/01/2013		
	Rates	Fringes
LABORER: Grade Checker.....	\$ 14.50	4.92

PAIN0365-007 08/01/2014		
	Rates	Fringes
PAINTER: Brush, Roller and Spray.....	\$ 19.50	8.83

SUFL2009-164 06/24/2009		
	Rates	Fringes
CARPENTER, Includes Form Work....	\$ 17.00	2.51
CEMENT MASON/CONCRETE FINISHER...	\$ 16.61	5.52
LABORER: Common or General.....	\$ 13.09	1.26
LABORER: Landscape.....	\$ 7.25	0.00
LABORER: Power Tool Operator (Hand Held Drills/Saws, Jackhammer and Power Saws Only).....	\$ 10.63	2.20
OPERATOR: Asphalt Paver.....	\$ 11.59	0.00
OPERATOR: Backhoe Loader Combo.....	\$ 16.10	2.44
OPERATOR: Bulldozer.....	\$ 14.95	0.81
OPERATOR: Excavator.....	\$ 21.16	1.67
OPERATOR: Grader/Blade.....	\$ 16.00	2.84
OPERATOR: Mechanic.....	\$ 14.32	0.00
OPERATOR: Roller.....	\$ 10.95	0.00
OPERATOR: Scraper.....	\$ 11.00	1.74
OPERATOR: Trackhoe.....	\$ 20.92	5.50
OPERATOR: Tractor.....	\$ 10.54	0.00
TRUCK DRIVER, Includes Dump Truck.....	\$ 9.60	0.00
TRUCK DRIVER: Lowboy Truck.....	\$ 12.73	0.00
TRUCK DRIVER: Off the Road Truck.....	\$ 12.21	1.97

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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 Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical

order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the

Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION